10.2. RADIATED POWER (ERP & EIRP), UAT

EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
1.4MHz Band QPSK	1/0	1850.7	19.43	87.70
		1880.0	19.33	85.70
		1909.3	**19.69**	93.11
1.4MHz Band 16QAM	1/0	1850.7	**18.60**	72.44
		1880.0	**18.54**	71.45
		1909.3	18.39	69.02

EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
3.0MHz Band QPSK	1/0	1851.5	19.20	83.18
		1880.0	**19.26**	84.33
		1908.5	19.01	79.62
3.0MHz Band 16QAM	1/0	1851.5	18.15	65.31
		1880.0	**18.31**	67.76
		1908.5	17.99	62.95

EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
5.0MHz Band QPSK	1/0	1852.5	19.19	82.99
		1880.0	**19.25**	84.14
		1907.5	19.01	79.62
5.0MHz Band 16QAM	1/0	1852.5	18.14	65.16
		1880.0	**18.32**	67.92
		1907.5	18.02	63.39

EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
10.0MHz Band QPSK	1/0	1855.0	19.00	79.43
		1880.0	**19.48**	88.72
		1905.0	18.97	78.89
10.0MHz Band 16QAM	1/0	1855.0	17.97	62.66
		1880.0	**18.43**	69.66
		1905.0	17.97	62.66

EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
15MHz Band QPSK	1/0	1857.5	18.94	78.34
		1880.0	**19.21**	83.37
		1902.5	18.95	78.52
15MHz Band 16QAM	1/0	1857.5	17.89	61.52
		1880.0	**18.28**	67.30
		1902.5	17.97	62.66

EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
20.0MHz Band QPSK	1/0	1860.0	18.89	77.45
		1880.0	**19.29**	84.92
		1900.0	18.73	74.64
20MHz Band 16QAM	1/0	1860.0	18.03	63.53
		1880.0	**18.44**	69.82
		1900.0	17.81	60.39

EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
1.4 MHZ BAND QPSK	1/0	1710.7	18.74	74.82
		1732.5	18.85	76.74
		1754.3	**19.19**	82.99
1.4 MHZ BAND 16QAM	1/0	1710.7	17.98	62.81
		1732.5	17.47	55.85
		1754.3	**18.18**	65.77

EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	1711.5	18.01	63.24
		1732.5	18.45	69.98
		1753.5	**19.18**	82.79
3.0 MHZ BAND 16QAM	1/0	1711.5	17.03	50.47
		1732.5	17.45	55.59
		1753.5	**18.17**	65.61

EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
5.0 MHZ BAND QPSK	1/0	1712.5	18.00	63.10
		1732.5	18.68	73.79
		1752.5	**19.35**	86.10
5.0 MHZ BAND 16QAM	1/0	1712.5	17.00	50.12
		1732.5	17.67	58.48
		1752.5	**18.54**	71.45

EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	1715.0	18.01	63.24
		1732.5	18.69	73.96
		1750.0	**19.41**	87.30
10.0 MHZ BAND 16QAM	1/0	1715.0	17.02	50.35
		1732.5	17.68	58.61
		1750.0	**18.46**	70.15

EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
15.0 MHZ BAND QPSK	1/0	1717.5	18.52	71.12
		1732.5	18.84	76.56
		1747.5	**19.45**	88.10
15.0 MHZ BAND 16QAM	1/0	1717.5	17.58	57.28
		1732.5	17.85	60.95
		1747.5	**18.44**	69.82

EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
20.0 MHZ BAND QPSK	1/0	1720.0	18.48	70.47
		1732.5	18.82	76.21
		1745.0	**19.47**	88.51
20.0 MHZ BAND 16QAM	1/0	1720.0	17.59	57.41
		1732.5	17.82	60.53
		1745.0	**18.47**	70.31

ERP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
1.4MHz Band QPSK	1/0	824.7	14.90	30.90
		836.5	15.51	35.56
		848.3	**16.23**	41.98
1.4MHz Band 16QAM	1/0	824.7	14.18	26.18
		836.5	**15.18**	32.96
		848.3	14.84	30.48

ERP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	825.5	15.38	34.51
		836.5	15.80	38.02
		847.5	**15.88**	38.73
3.0 MHZ BAND 16QAM	1/0	825.5	14.45	27.86
		836.5	**14.88**	30.76
		847.5	**14.88**	30.76

ERP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
5MHz Band QPSK	1/0	826.5	15.30	33.88
		836.5	15.91	38.99
		846.5	**16.01**	39.90
5MHz Band 16QAM	1/0	826.5	14.28	26.79
		836.5	14.96	31.33
		846.5	**15.10**	32.36

ERP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	829.0	15.25	33.50
		836.5	15.75	37.58
		844.0	**15.77**	37.76
10.0 MHZ BAND 16QAM	1/0	829.0	14.28	26.79
		836.5	**14.80**	30.20
		844.0	14.70	29.51

EIRP POWER FOR LTE BAND 7 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP (Average)	
			dBm	mW
5.0 MHZ BAND QPSK	25/0	2502.5	18.81	76.03
		2535.0	**19.74**	94.19
		2567.5	18.76	75.16
5.0 MHZ BAND 16QAM	25/0	2502.5	17.92	61.94
		2535.0	**18.26**	66.99
		2567.5	17.35	54.33

EIRP POWER FOR LTE BAND 7 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP (Average)	
			dBm	mW
10.0 MHZ BAND QPSK	50/0	2505.0	18.78	75.51
		2535.0	**19.34**	85.90
		2565.0	18.90	77.62
10.0 MHZ BAND 16QAM	50/0	2505.0	18.10	64.57
		2535.0	**18.54**	71.45
		2565.0	17.92	61.94

EIRP POWER FOR LTE BAND 7 (15.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP (Average)	
			dBm	mW
15.0 MHZ BAND QPSK	75/0	2507.5	18.76	75.16
		2535.0	**19.35**	86.10
		2562.5	18.88	77.27
15.0 MHZ BAND 16QAM	75/0	2507.5	18.20	66.07
		2535.0	**18.52**	71.12
		2562.5	17.89	61.52

EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP (Average)	
			dBm	mW
20.0 MHZ BAND QPSK	100/0	2510.0	18.85	76.74
		2535.0	**19.78**	95.06
		2560.0	18.78	75.51
20.0 MHZ BAND 16QAM	100/0	2510.0	17.95	62.37
		2535.0	**18.30**	67.61
		2560.0	17.37	54.58

ERP POWER FOR LTE BAND 12 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
1.4MHz Band QPSK	1/0	699.7	**13.42**	21.98
		707.5	13.15	20.65
		715.3	13.21	20.94
1.4MHz Band 16QAM	1/0	699.7	12.79	19.01
		707.5	12.54	17.95
		715.3	**13.03**	20.09

ERP POWER FOR LTE BAND 12 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	700.5	13.45	22.13
		707.5	13.25	21.13
		714.5	**13.64**	23.12
3.0 MHZ BAND 16QAM	1/0	700.5	12.51	17.82
		707.5	12.36	17.22
		714.5	**12.71**	18.66

ERP POWER FOR LTE BAND 12 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
5MHz Band QPSK	1/0	701.5	13.44	22.08
		707.5	13.25	21.13
		713.5	**13.79**	23.93
5MHz Band 16QAM	1/0	701.5	12.57	18.07
		707.5	12.37	17.26
		713.5	**12.91**	19.54

ERP POWER FOR LTE BAND 12 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	704.0	13.22	20.99
		707.5	**13.65**	23.17
		711.0	13.47	22.23
10.0 MHZ BAND 16QAM	1/0	704.0	12.33	17.10
		707.5	**12.66**	18.45
		711.0	12.65	18.41

ERP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
5.0 MHZ BAND QPSK	1/0	779.5	13.16	20.70
		782.0	**13.35**	21.63
		784.5	13.29	21.33
5.0 MHZ BAND 16QAM	1/0	779.5	12.25	16.79
		782.0	**12.34**	17.14
		784.5	12.33	17.10

ERP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
10 MHZ BAND QPSK	1/0	782.0	**13.39**	21.83
10 MHz BAND 16QAM	1/0		**12.42**	17.46

ERP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
5MHz Band QPSK	1/0	706.5	12.99	19.91
		710.0	13.40	21.88
		713.5	**13.65**	23.17
5MHz Band 16QAM	1/0	706.5	12.09	16.18
		710.0	12.43	17.50
		713.5	**12.70**	18.62

EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	710.0	**13.54**	22.59
10.0 MHZ BAND 16QAM		710.0	**12.50**	17.78

EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
1.4 MHZ BAND QPSK	1/0	1850.7	18.35	68.39
		1882.5	**19.09**	81.10
		1914.3	19.03	79.98
1.4 MHZ BAND 16QAM	1/0	1850.7	17.40	54.95
		1882.5	**18.49**	70.63
		1914.3	17.84	60.81

EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	1851.5	18.61	72.61
		1882.5	**19.33**	85.70
		1913.5	19.24	83.95
3.0 MHZ BAND 16QAM	1/0	1851.5	17.59	57.41
		1882.5	**18.36**	68.55
		1913.5	18.23	66.53

EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
5.0 MHZ BAND QPSK	1/0	1852.5	18.62	72.78
		1882.5	**19.35**	86.10
		1912.5	19.25	84.14
5.0 MHZ BAND 16QAM	1/0	1852.5	17.61	57.68
		1882.5	**18.33**	68.08
		1912.5	18.24	66.68

EIRP POWER FOR LTE BAND 25 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	1855.0	18.60	72.44
		1882.5	**19.34**	85.90
		1910.0	19.23	83.75
10.0 MHZ BAND 16QAM	1/0	1855.0	17.68	58.61
		1882.5	**18.35**	68.39
		1910.0	18.25	66.83

EIRP POWER FOR LTE BAND 25 (15.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
15.0 MHZ BAND QPSK	1/0	1857.5	18.60	72.44
		1882.5	**19.44**	87.90
		1907.5	19.29	84.92
15.0 MHZ BAND 16QAM	1/0	1857.5	17.59	57.41
		1882.5	**18.49**	70.63
		1907.5	18.30	67.61

EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
20.0 MHZ BAND QPSK	1/0	1860.0	18.68	73.79
		1882.5	**19.48**	88.72
		1905.0	19.27	84.53
20.0 MHZ BAND 16QAM	1/0	1860.0	17.68	58.61
		1882.5	**18.61**	72.61
		1905.0	18.29	67.45

ERP POWER FOR LTE BAND 26 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
1.4 MHZ BAND QPSK	1/0	814.7	16.28	42.46
		819.0	**16.43**	43.95
		823.3	16.25	42.17
1.4 MHZ BAND 16QAM	1/0	814.7	16.06	40.36
		819.0	16.16	41.30
		823.3	**16.39**	43.55

ERP POWER FOR LTE BAND 26 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	815.5	15.86	38.55
		819.0	16.16	41.30
		822.5	**16.23**	41.98
3.0 MHZ BAND 16QAM	1/0	815.5	14.84	30.48
		819.0	15.06	32.06
		822.5	**15.33**	34.12

ERP POWER FOR LTE BAND 26 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
5.0 MHZ BAND QPSK	1/0	816.5	15.81	38.11
		819.0	**16.16**	41.30
		821.5	16.13	41.02
5.0 MHZ BAND 16QAM	1/0	816.5	14.82	30.34
		819.0	15.09	32.28
		821.5	**15.12**	32.51

ERP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	819.0	**16.21**	41.78
10.0 MHZ BAND 16QAM	1/0	819.0	**15.24**	33.42

ERP POWER FOR LTE BAND 27 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
1.4 MHZ BAND QPSK	1/0	814.7	16.39	43.55
		819.0	16.69	46.67
		823.3	**16.95**	49.55
1.4 MHZ BAND 16QAM	1/0	814.7	15.65	36.73
		819.0	15.86	38.55
		823.3	**16.25**	42.17

ERP POWER FOR LTE BAND 27 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	815.5	15.08	32.21
		819.0	**15.81**	38.11
		822.5	15.67	36.90
3.0 MHZ BAND 16QAM	1/0	815.5	14.19	26.24
		819.0	**14.79**	30.13
		822.5	14.74	29.79

ERP POWER FOR LTE BAND 27 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
5.0 MHZ BAND QPSK	1/0	816.5	15.43	34.91
		819.0	15.69	37.07
		821.5	**16.17**	41.40
5.0 MHZ BAND 16QAM	1/0	816.5	14.47	27.99
		819.0	14.77	29.99
		821.5	**15.19**	33.04

ERP POWER FOR LTE BAND 27 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	819.0	**15.56**	35.97
10.0 MHZ BAND 16QAM	1/0	819.0	**14.62**	28.97

EIRP POWER FOR LTE BAND 30 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
5MHz Band QPSK	1/0	2307.5	18.75	74.99
		2310.0	18.27	67.14
		2312.5	**18.88**	77.27
5MHz Band 16QAM	1/0	2307.5	17.73	59.29
		2310.0	17.27	53.33
		2312.5	**17.85**	60.95

EIRP POWER FOR LTE BAND 30 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	2310.0	**18.52**	71.12
10.0 MHZ BAND 16QAM		2310.0	**17.56**	57.02

EIRP POWER FOR LTE BAND 41 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
5.0 MHZ BAND QPSK	25/0	2498.5	19.44	87.90
		2593.0	**20.89**	122.74
		2687.5	20.26	106.17
5.0 MHZ BAND 16QAM	25/0	2498.5	18.91	77.80
		2593.0	**19.88**	97.27
		2687.5	19.04	80.17

EIRP POWER FOR LTE BAND 41 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	50/0	2501.0	19.25	84.14
		2593.0	**20.87**	122.18
		2685.0	20.24	105.68
10.0 MHZ BAND 16QAM	50/0	2501.0	18.87	77.09
		2593.0	**19.51**	89.33
		2685.0	18.98	79.07

EIRP POWER FOR LTE BAND 41 (15.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
15.0 MHZ BAND QPSK	75/0	2503.5	19.57	90.57
		2593.0	**20.79**	119.95
		2682.5	20.10	102.33
15.0 MHZ BAND 16QAM	75/0	2503.5	18.82	76.21
		2593.0	**19.49**	88.92
		2682.5	19.01	79.62

EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
20.0 MHZ BAND QPSK	100/0	2506.0	19.77	94.84
		2593.0	**20.96**	124.74
		2680.0	20.30	107.15
20.0 MHZ BAND 16QAM	100/0	2506.0	18.82	76.21
		2593.0	**19.48**	88.72
		2680.0	19.00	79.43

10.2.1. LTE BAND 2

QPSK EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)

High Frequency Fundamental Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/27/2016
Test Engineer: 52279
Configuration: EUT only
Mode: LTE Band 2 QPSK 1.4MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.851	-0.7	V	0.98	8.05	6.38	33.0	-26.6	
1.851	12.4	H	0.98	8.05	19.43	33.0	-13.6	
Mid Ch								
1.880	0.9	V	0.98	8.03	7.94	33.0	-25.1	
1.880	12.3	H	0.98	8.03	19.33	33.0	-13.7	
High Ch								
1.909	-0.6	V	0.98	8.05	6.49	33.0	-26.5	
1.909	12.6	H	0.98	8.05	19.69	33.0	-13.3	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/27/2016
Test Engineer: 52279
Configuration: EUT only
Mode: LTE Band 2 16QAM 1.4MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.851	-1.5	V	0.98	8.05	5.61	33.0	-27.4	
1.851	11.5	H	0.98	8.05	18.60	33.0	-14.4	
Mid Ch								
1.880	0.6	V	0.98	8.03	7.62	33.0	-25.4	
1.880	11.5	H	0.98	8.03	18.54	33.0	-14.5	
High Ch								
1.909	-1.7	V	0.98	8.05	5.34	33.0	-27.7	
1.909	11.3	H	0.98	8.05	18.39	33.0	-14.6	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/27/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 QPSK 3MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.852	-1.2	V	0.98	8.05	5.86	33.0	-27.1	
1.852	12.1	H	0.98	8.05	19.20	33.0	-13.8	
Mid Ch								
1.880	0.9	V	0.98	8.03	7.92	33.0	-25.1	
1.880	12.2	H	0.98	8.03	19.26	33.0	-13.7	
High Ch								
1.909	-1.1	V	0.98	8.05	6.02	33.0	-27.0	
1.909	11.9	H	0.98	8.05	19.01	33.0	-14.0	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/27/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 16QAM 3MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.852	-2.1	V	0.98	8.05	4.96	33.0	-28.0	
1.852	11.1	H	0.98	8.05	18.15	33.0	-14.9	
Mid Ch								
1.880	-0.1	V	0.98	8.03	6.91	33.0	-26.1	
1.880	11.3	H	0.98	8.03	18.31	33.0	-14.7	
High Ch								
1.909	-2.0	V	0.98	8.05	5.03	33.0	-28.0	
1.909	10.9	H	0.98	8.05	17.99	33.0	-15.0	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/27/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.853	-1.2	V	0.98	8.05	5.87	33.0	-27.1	
1.853	12.1	H	0.98	8.05	19.19	33.0	-13.8	
Mid Ch								
1.880	0.9	V	0.98	8.03	7.90	33.0	-25.1	
1.880	12.2	H	0.98	8.03	19.25	33.0	-13.8	
High Ch								
1.908	-1.1	V	0.98	8.04	5.99	33.0	-27.0	
1.908	12.0	H	0.98	8.04	19.01	33.0	-14.0	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/27/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.853	-2.1	V	0.98	8.05	4.98	33.0	-28.0	
1.853	11.1	H	0.98	8.05	18.14	33.0	-14.9	
Mid Ch								
1.880	-0.1	V	0.98	8.03	6.90	33.0	-26.1	
1.880	11.3	H	0.98	8.03	18.32	33.0	-14.7	
High Ch								
1.908	-2.1	V	0.98	8.04	4.99	33.0	-28.0	
1.908	11.0	H	0.98	8.04	18.02	33.0	-15.0	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/27/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.855	-1.2	V	0.98	8.05	5.83	33.0	-27.2	
1.855	11.9	H	0.98	8.05	19.00	33.0	-14.0	
Mid Ch								
1.880	0.8	V	0.98	8.03	7.87	33.0	-25.1	
1.880	12.4	H	0.98	8.03	19.48	33.0	-13.5	
High Ch								
1.905	-1.1	V	0.98	8.04	5.96	33.0	-27.0	
1.905	11.9	H	0.98	8.04	18.97	33.0	-14.0	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/27/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.855	-2.2	V	0.98	8.05	4.92	33.0	-28.1	
1.855	10.9	H	0.98	8.05	17.97	33.0	-15.0	
Mid Ch								
1.880	-0.2	V	0.98	8.03	6.87	33.0	-26.1	
1.880	11.4	H	0.98	8.03	18.43	33.0	-14.6	
High Ch								
1.905	-2.1	V	0.98	8.04	4.95	33.0	-28.1	
1.905	10.9	H	0.98	8.04	17.97	33.0	-15.0	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/27/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.858	-1.2	V	0.98	8.04	5.82	33.0	-27.2	
1.858	11.9	H	0.98	8.04	18.94	33.0	-14.1	
Mid Ch								
1.880	0.8	V	0.98	8.03	7.87	33.0	-25.1	
1.880	12.2	H	0.98	8.03	19.21	33.0	-13.8	
High Ch								
1.903	-1.2	V	0.98	8.03	5.90	33.0	-27.1	
1.903	11.9	H	0.98	8.03	18.95	33.0	-14.1	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/27/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 16QAM 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.858	-2.1	V	0.98	8.04	4.97	33.0	-28.0	
1.858	10.8	H	0.98	8.04	17.89	33.0	-15.1	
Mid Ch								
1.880	-0.1	V	0.98	8.03	6.96	33.0	-26.0	
1.880	11.2	H	0.98	8.03	18.28	33.0	-14.7	
High Ch								
1.903	-2.0	V	0.98	8.03	5.03	33.0	-28.0	
1.903	10.9	H	0.98	8.03	17.97	33.0	-15.0	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/26/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.860	-1.6	V	0.98	8.04	5.49	33.0	-27.5	
1.860	11.8	H	0.98	8.04	18.89	33.0	-14.1	
Mid Ch								
1.880	0.9	V	0.98	8.03	7.95	33.0	-25.1	
1.880	12.2	H	0.98	8.03	19.29	33.0	-13.7	
High Ch								
1.900	-0.9	V	0.98	8.02	6.19	33.0	-26.8	
1.900	11.7	H	0.98	8.02	18.73	33.0	-14.3	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/26/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.860	-2.3	V	0.98	8.04	4.74	33.0	-28.3	
1.860	11.0	H	0.98	8.04	18.03	33.0	-15.0	
Mid Ch								
1.880	-0.1	V	0.98	8.03	6.91	33.0	-26.1	
1.880	11.4	H	0.98	8.03	18.44	33.0	-14.6	
High Ch								
1.900	-1.7	V	0.98	8.02	5.38	33.0	-27.6	
1.900	10.8	H	0.98	8.02	17.81	33.0	-15.2	

Rev. 10.24.13

10.2.2. LTE BAND 4

QPSK EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 52279
Configuration: EUT only
Mode: LTE Band 4 QPSK 1.4MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.711	7.9	V	0.95	8.27	15.25	30.0	-14.7	
1.711	11.4	H	0.95	8.27	18.74	30.0	-11.3	
Mid Ch								
1.733	10.0	V	0.95	8.23	17.31	30.0	-12.7	
1.733	11.6	H	0.95	8.23	18.85	30.0	-11.2	
High Ch								
1.754	7.7	V	0.95	8.18	14.94	30.0	-15.1	
1.754	12.0	H	0.95	8.18	19.19	30.0	-10.8	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 52279
Configuration: EUT only
Mode: LTE Band 4 16QAM 1.4MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.711	6.3	V	0.95	8.27	13.59	30.0	-16.4	
1.711	10.7	H	0.95	8.27	17.98	30.0	-12.0	
Mid Ch								
1.733	9.6	V	0.95	8.23	16.83	30.0	-13.2	
1.733	10.2	H	0.95	8.23	17.47	30.0	-12.5	
High Ch								
1.754	7.6	V	0.95	8.18	14.83	30.0	-15.2	
1.754	11.0	H	0.95	8.18	18.18	30.0	-11.8	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 4 QPSK 3MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.712	7.0	V	0.95	8.27	14.36	30.0	-15.6	
1.712	10.7	H	0.95	8.27	18.01	30.0	-12.0	
Mid Ch								
1.733	10.0	V	0.95	8.23	17.30	30.0	-12.7	
1.733	11.2	H	0.95	8.23	18.45	30.0	-11.6	
High Ch								
1.754	7.6	V	0.95	8.18	14.85	30.0	-15.1	
1.754	12.0	H	0.95	8.18	19.18	30.0	-10.8	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 4 16QAM 3MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.712	6.0	V	0.95	8.27	13.36	30.0	-16.6	
1.712	9.7	H	0.95	8.27	17.03	30.0	-13.0	
Mid Ch								
1.733	9.0	V	0.95	8.23	16.25	30.0	-13.8	
1.733	10.2	H	0.95	8.23	17.45	30.0	-12.6	
High Ch								
1.754	6.6	V	0.95	8.18	13.85	30.0	-16.1	
1.754	10.9	H	0.95	8.18	18.17	30.0	-11.8	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 4 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.713	7.0	V	0.95	8.27	14.34	30.0	-15.7	
1.713	10.7	H	0.95	8.27	18.00	30.0	-12.0	
Mid Ch								
1.733	10.0	V	0.95	8.23	17.29	30.0	-12.7	
1.733	11.4	H	0.95	8.23	18.68	30.0	-11.3	
High Ch								
1.753	6.7	V	0.95	8.18	13.95	30.0	-16.0	
1.753	12.1	H	0.95	8.18	19.35	30.0	-10.6	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 4 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.713	6.0	V	0.95	8.27	13.33	30.0	-16.7	
1.713	9.7	H	0.95	8.27	17.00	30.0	-13.0	
Mid Ch								
1.733	9.0	V	0.95	8.23	16.29	30.0	-13.7	
1.733	10.4	H	0.95	8.23	17.67	30.0	-12.3	
High Ch								
1.753	5.8	V	0.95	8.18	13.05	30.0	-16.9	
1.753	11.3	H	0.95	8.18	18.54	30.0	-11.5	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 4 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.715	7.0	V	0.95	8.26	14.35	30.0	-15.6	
1.715	10.7	H	0.95	8.26	18.01	30.0	-12.0	
Mid Ch								
1.733	10.0	V	0.95	8.23	17.27	30.0	-12.7	
1.733	11.4	H	0.95	8.23	18.69	30.0	-11.3	
High Ch								
1.750	6.8	V	0.95	8.19	14.02	30.0	-16.0	
1.750	12.2	H	0.95	8.19	19.41	30.0	-10.6	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 4 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.715	6.0	V	0.95	8.26	13.31	30.0	-16.7	
1.715	9.7	H	0.95	8.26	17.02	30.0	-13.0	
Mid Ch								
1.733	9.0	V	0.95	8.23	16.28	30.0	-13.7	
1.733	10.4	H	0.95	8.23	17.68	30.0	-12.3	
High Ch								
1.750	4.9	V	0.95	8.19	12.16	30.0	-17.8	
1.750	11.2	H	0.95	8.19	18.46	30.0	-11.5	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 4 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.718	7.0	V	0.95	8.26	14.33	30.0	-15.7	
1.718	11.2	H	0.95	8.26	18.52	30.0	-11.5	
Mid Ch								
1.733	10.0	V	0.95	8.23	17.26	30.0	-12.7	
1.733	11.6	H	0.95	8.23	18.84	30.0	-11.2	
High Ch								
1.748	6.9	V	0.95	8.19	14.11	30.0	-15.9	
1.748	12.2	H	0.95	8.19	19.45	30.0	-10.5	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 4 16QAM 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.718	6.0	V	0.95	8.26	13.31	30.0	-16.7	
1.718	10.3	H	0.95	8.26	17.58	30.0	-12.4	
Mid Ch								
1.733	9.0	V	0.95	8.23	16.27	30.0	-13.7	
1.733	10.6	H	0.95	8.23	17.85	30.0	-12.2	
High Ch								
1.748	5.8	V	0.95	8.19	13.03	30.0	-17.0	
1.748	11.2	H	0.95	8.19	18.44	30.0	-11.6	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 4 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.720	7.0	V	0.95	8.25	14.31	30.0	-15.7	
1.720	11.2	H	0.95	8.25	18.48	30.0	-11.5	
Mid Ch								
1.733	10.0	V	0.95	8.23	17.28	30.0	-12.7	
1.733	11.5	H	0.95	8.23	18.82	30.0	-11.2	
High Ch								
1.745	6.6	V	0.95	8.20	13.83	30.0	-16.2	
1.745	12.2	H	0.95	8.20	19.47	30.0	-10.5	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 4 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.720	6.0	V	0.95	8.25	13.34	30.0	-16.7	
1.720	10.3	H	0.95	8.25	17.59	30.0	-12.4	
Mid Ch								
1.733	9.0	V	0.95	8.23	16.29	30.0	-13.7	
1.733	10.5	H	0.95	8.23	17.82	30.0	-12.2	
High Ch								
1.745	5.7	V	0.95	8.20	12.97	30.0	-17.0	
1.745	11.2	H	0.95	8.20	18.47	30.0	-11.5	

Rev. 10.24.13

10.2.3. LTE BAND 5

QPSK EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5 QPSK 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
824.70	8.61	V	0.6	0.0	7.99	10.14	38.45	40.60	-30.5	
824.70	15.52	H	0.6	0.0	14.90	17.05	38.45	40.60	-23.6	
Mid Ch										
836.50	9.54	V	0.6	0.0	8.92	11.07	38.45	40.60	-29.5	
836.50	16.13	H	0.6	0.0	15.51	17.66	38.45	40.60	-22.9	
High Ch										
848.30	8.95	V	0.6	0.0	8.33	10.48	38.45	40.60	-30.1	
848.30	16.85	H	0.6	0.0	16.23	18.38	38.45	40.60	-22.2	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5 16QAM 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
824.70	7.93	V	0.6	0.0	7.31	9.46	38.45	40.60	-31.1	
824.70	14.80	H	0.6	0.0	14.18	16.33	38.45	40.60	-24.3	
Mid Ch										
836.50	9.14	V	0.6	0.0	8.52	10.67	38.45	40.60	-29.9	
836.50	15.80	H	0.6	0.0	15.18	17.33	38.45	40.60	-23.3	
High Ch										
848.30	7.72	V	0.6	0.0	7.10	9.25	38.45	40.60	-31.3	
848.30	15.46	H	0.6	0.0	14.84	16.99	38.45	40.60	-23.6	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5 QPSK 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
825.50	9.09	V	0.6	0.0	8.47	10.62	38.45	40.60	-30.0	
825.50	16.00	H	0.6	0.0	15.38	17.53	38.45	40.60	-23.1	
Mid Ch										
836.50	9.68	V	0.6	0.0	9.06	11.21	38.45	40.60	-29.4	
836.50	16.42	H	0.6	0.0	15.80	17.95	38.45	40.60	-22.7	
High Ch										
847.50	9.01	V	0.6	0.0	8.39	10.54	38.45	40.60	-30.1	
847.50	16.50	H	0.6	0.0	15.88	18.03	38.45	40.60	-22.6	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5 16QAM 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
825.50	8.25	V	0.6	0.0	7.63	9.78	38.45	40.60	-30.8	
825.50	15.07	H	0.6	0.0	14.45	16.60	38.45	40.60	-24.0	
Mid Ch										
836.50	8.69	V	0.6	0.0	8.07	10.22	38.45	40.60	-30.4	
836.50	15.50	H	0.6	0.0	14.88	17.03	38.45	40.60	-23.6	
High Ch										
847.50	8.12	V	0.6	0.0	7.50	9.65	38.45	40.60	-30.9	
847.50	15.50	H	0.6	0.0	14.88	17.03	38.45	40.60	-23.6	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
826.50	9.29	V	0.6	0.0	8.67	10.82	38.45	40.60	-29.8	
826.50	15.92	H	0.6	0.0	15.30	17.45	38.45	40.60	-23.2	
Mid Ch										
836.50	9.93	V	0.6	0.0	9.31	11.46	38.45	40.60	-29.1	
836.50	16.53	H	0.6	0.0	15.91	18.06	38.45	40.60	-22.5	
High Ch										
846.50	9.43	V	0.6	0.0	8.81	10.96	38.45	40.60	-29.6	
846.50	16.63	H	0.6	0.0	16.01	18.16	38.45	40.60	-22.4	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
826.50	8.41	V	0.6	0.0	7.79	9.94	38.45	40.60	-30.7	
826.50	14.90	H	0.6	0.0	14.28	16.43	38.45	40.60	-24.2	
Mid Ch										
836.50	8.96	V	0.6	0.0	8.34	10.49	38.45	40.60	-30.1	
836.50	15.58	H	0.6	0.0	14.96	17.11	38.45	40.60	-23.5	
High Ch										
846.50	8.47	V	0.6	0.0	7.85	10.00	38.45	40.60	-30.6	
846.50	15.72	H	0.6	0.0	15.10	17.25	38.45	40.60	-23.4	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
829.00	9.00	V	0.6	0.0	8.38	10.53	38.45	40.60	-30.1	
829.00	15.87	H	0.6	0.0	15.25	17.40	38.45	40.60	-23.2	
Mid Ch										
836.50	9.69	V	0.6	0.0	9.07	11.22	38.45	40.60	-29.4	
836.50	16.37	H	0.6	0.0	15.75	17.90	38.45	40.60	-22.7	
High Ch										
844.00	9.40	V	0.6	0.0	8.78	10.93	38.45	40.60	-29.7	
844.00	16.39	H	0.6	0.0	15.77	17.92	38.45	40.60	-22.7	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
829.00	8.10	V	0.6	0.0	7.48	9.63	38.45	40.60	-31.0	
829.00	14.90	H	0.6	0.0	14.28	16.43	38.45	40.60	-24.2	
Mid Ch										
836.50	8.79	V	0.6	0.0	8.17	10.32	38.45	40.60	-30.3	
836.50	15.42	H	0.6	0.0	14.80	16.95	38.45	40.60	-23.7	
High Ch										
844.00	8.41	V	0.6	0.0	7.79	9.94	38.45	40.60	-30.7	
844.00	15.32	H	0.6	0.0	14.70	16.85	38.45	40.60	-23.8	

Rev. 10.24.13

10.2.4. LTE BAND 7

QPSK EIRP POWER FOR LTE BAND 7 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 52268
Configuration: EUT only
Mode: LTE Band 7 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T344 and Chamber F SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.503	5.6	V	1.15	9.34	13.83	33.0	-19.2	
2.503	10.6	H	1.15	9.34	18.81	33.0	-14.2	
Mid Ch								
2.535	6.5	V	1.16	9.38	14.73	33.0	-18.3	
2.535	11.5	H	1.16	9.38	19.74	33.0	-13.3	
High Ch								
2.568	6.7	V	1.17	9.43	15.00	33.0	-18.0	
2.568	10.5	H	1.17	9.43	18.76	33.0	-14.2	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 7 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 52268
Configuration: EUT only
Mode: LTE Band 7 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T344 and Chamber F SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.503	4.7	V	1.15	9.34	12.87	33.0	-20.1	
2.503	9.7	H	1.15	9.34	17.92	33.0	-15.1	
Mid Ch								
2.535	5.6	V	1.16	9.38	13.80	33.0	-19.2	
2.535	10.0	H	1.16	9.38	18.26	33.0	-14.7	
High Ch								
2.568	5.8	V	1.17	9.43	14.07	33.0	-18.9	
2.568	9.1	H	1.17	9.43	17.35	33.0	-15.6	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 7 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 52268
Configuration: EUT only
Mode: LTE Band 7 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T344 and Chamber F SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.505	5.1	V	1.15	9.34	13.30	33.0	-19.7	
2.505	10.6	H	1.15	9.34	18.78	33.0	-14.2	
Mid Ch								
2.535	6.0	V	1.16	9.38	14.23	33.0	-18.8	
2.535	11.1	H	1.16	9.38	19.34	33.0	-13.7	
High Ch								
2.565	6.4	V	1.17	9.43	14.63	33.0	-18.4	
2.565	10.6	H	1.17	9.43	18.90	33.0	-14.1	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 7 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 52268
Configuration: EUT only
Mode: LTE Band 7 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T344 and Chamber F SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.505	4.3	V	1.15	9.34	12.50	33.0	-20.5	
2.505	9.9	H	1.15	9.34	18.10	33.0	-14.9	
Mid Ch								
2.535	5.2	V	1.16	9.38	13.46	33.0	-19.5	
2.535	10.3	H	1.16	9.38	18.54	33.0	-14.5	
High Ch								
2.565	5.6	V	1.17	9.43	13.89	33.0	-19.1	
2.565	9.7	H	1.17	9.43	17.92	33.0	-15.1	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 7 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 52268
Configuration: EUT only
Mode: LTE Band 7 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T344 and Chamber F SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.508	5.1	V	1.15	9.34	13.32	33.0	-19.7	
2.508	10.6	H	1.15	9.34	18.76	33.0	-14.2	
Mid Ch								
2.535	6.1	V	1.16	9.38	14.27	33.0	-18.7	
2.535	11.1	H	1.16	9.38	19.35	33.0	-13.6	
High Ch								
2.563	6.4	V	1.17	9.42	14.64	33.0	-18.4	
2.563	10.6	H	1.17	9.42	18.88	33.0	-14.1	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 7 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 52268
Configuration: EUT only
Mode: LTE Band 7 16QAM 15MHz BW

Test Equipment:
Receiving: Horn T344 and Chamber F SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.508	4.3	V	1.15	9.34	12.53	33.0	-20.5	
2.508	10.0	H	1.15	9.34	18.20	33.0	-14.8	
Mid Ch								
2.535	5.3	V	1.16	9.38	13.49	33.0	-19.5	
2.535	10.3	H	1.16	9.38	18.52	33.0	-14.5	
High Ch								
2.563	5.6	V	1.17	9.42	13.89	33.0	-19.1	
2.563	9.6	H	1.17	9.42	17.89	33.0	-15.1	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 7 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T344 and Chamber F SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.510	5.7	V	1.15	9.35	13.88	33.0	-19.1	
2.510	10.7	H	1.15	9.35	18.85	33.0	-14.2	
Mid Ch								
2.535	6.5	V	1.16	9.38	14.76	33.0	-18.2	
2.535	11.6	H	1.16	9.38	19.78	33.0	-13.2	
High Ch								
2.560	6.8	V	1.17	9.42	15.03	33.0	-18.0	
2.560	10.5	H	1.17	9.42	18.78	33.0	-14.2	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 7 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T344 and Chamber F SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.510	4.7	V	1.15	9.35	12.93	33.0	-20.1	
2.510	9.8	H	1.15	9.35	17.95	33.0	-15.1	
Mid Ch								
2.535	5.6	V	1.16	9.38	13.85	33.0	-19.1	
2.535	10.1	H	1.16	9.38	18.30	33.0	-14.7	
High Ch								
2.560	5.9	V	1.17	9.42	14.10	33.0	-18.9	
2.560	9.1	H	1.17	9.42	17.37	33.0	-15.6	

Rev. 05.26.16

10.2.5 LTE BAND 12

QPSK EIRP POWER FOR LTE BAND 12 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12 QPSK 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
699.70	4.22	V	0.55	0.0	3.67	5.82	34.77	36.99	-31.2	
699.70	13.97	H	0.55	0.0	13.42	15.57	34.77	36.99	-21.4	
Mid Ch										
707.50	4.11	V	0.55	0.0	3.56	5.71	34.77	36.99	-31.3	
707.50	13.70	H	0.55	0.0	13.15	15.30	34.77	36.99	-21.7	
High Ch										
715.30	4.33	V	0.55	0.0	3.78	5.93	34.77	36.99	-31.1	
715.30	13.76	H	0.55	0.0	13.21	15.36	34.77	36.99	-21.6	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 12 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12 16QAM 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
699.70	3.23	V	0.55	0.0	2.68	4.83	34.77	36.99	-32.2	
699.70	13.30	H	0.55	0.0	12.75	14.90	34.77	36.99	-22.1	
Mid Ch										
707.50	3.36	V	0.55	0.0	2.81	4.96	34.77	36.99	-32.0	
707.50	13.09	H	0.55	0.0	12.54	14.69	34.77	36.99	-22.3	
High Ch										
715.30	3.38	V	0.55	0.0	2.83	4.98	34.77	36.99	-32.0	
715.30	13.58	H	0.55	0.0	13.03	15.18	34.77	36.99	-21.8	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 12 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12 QPSK 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
700.50	4.17	V	0.55	0.0	3.62	5.77	34.77	36.99	-31.2	
700.50	14.00	H	0.55	0.0	13.45	15.60	34.77	36.99	-21.4	
Mid Ch										
707.50	4.56	V	0.55	0.0	4.01	6.16	34.77	36.99	-30.8	
707.50	13.80	H	0.55	0.0	13.25	15.40	34.77	36.99	-21.6	
High Ch										
714.50	4.63	V	0.55	0.0	4.08	6.23	34.77	36.99	-30.8	
714.50	14.19	H	0.55	0.0	13.64	15.79	34.77	36.99	-21.2	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 12 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12 16QAM 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
700.50	3.33	V	0.55	0.0	2.78	4.93	34.77	36.99	-32.1	
700.50	13.06	H	0.55	0.0	12.51	14.66	34.77	36.99	-22.3	
Mid Ch										
707.50	3.68	V	0.55	0.0	3.13	5.28	34.77	36.99	-31.7	
707.50	12.91	H	0.55	0.0	12.36	14.51	34.77	36.99	-22.5	
High Ch										
714.50	3.71	V	0.55	0.0	3.16	5.31	34.77	36.99	-31.7	
714.50	13.26	H	0.55	0.0	12.71	14.86	34.77	36.99	-22.1	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 12 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
701.50	4.27	V	0.55	0.0	3.72	5.87	34.77	36.99	-31.1	
701.50	13.99	H	0.55	0.0	13.44	15.59	34.77	36.99	-21.4	
Mid Ch										
707.50	4.81	V	0.55	0.0	4.26	6.41	34.77	36.99	-30.6	
707.50	13.80	H	0.55	0.0	13.25	15.40	34.77	36.99	-21.6	
High Ch										
713.50	4.70	V	0.55	0.0	4.15	6.30	34.77	36.99	-30.7	
713.50	14.24	H	0.55	0.0	13.69	15.84	34.77	36.99	-21.1	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 12 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
701.50	3.40	V	0.55	0.0	2.85	5.00	34.77	36.99	-32.0	
701.50	13.12	H	0.55	0.0	12.57	14.72	34.77	36.99	-22.3	
Mid Ch										
707.50	3.87	V	0.55	0.0	3.32	5.47	34.77	36.99	-31.5	
707.50	12.92	H	0.55	0.0	12.37	14.52	34.77	36.99	-22.5	
High Ch										
713.50	3.83	V	0.55	0.0	3.28	5.43	34.77	36.99	-31.6	
713.50	13.46	H	0.55	0.0	12.91	15.06	34.77	36.99	-21.9	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 12 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
704.00	4.37	V	0.55	0.0	3.82	5.97	34.77	36.99	-31.0	
704.00	13.77	H	0.55	0.0	13.22	15.37	34.77	36.99	-21.6	
Mid Ch										
707.50	4.66	V	0.55	0.0	4.11	6.26	34.77	36.99	-30.7	
707.50	14.20	H	0.55	0.0	13.65	15.80	34.77	36.99	-21.2	
High Ch										
711.00	4.75	V	0.55	0.0	4.20	6.35	34.77	36.99	-30.6	
711.00	14.02	H	0.55	0.0	13.47	15.62	34.77	36.99	-21.4	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 12 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
704.00	3.43	V	0.55	0.0	2.88	5.03	34.77	36.99	-32.0	
704.00	12.88	H	0.55	0.0	12.33	14.48	34.77	36.99	-22.5	
Mid Ch										
707.50	3.72	V	0.55	0.0	3.17	5.32	34.77	36.99	-31.7	
707.50	13.21	H	0.55	0.0	12.66	14.81	34.77	36.99	-22.2	
High Ch										
711.00	3.82	V	0.55	0.0	3.27	5.42	34.77	36.99	-31.6	
711.00	13.20	H	0.55	0.0	12.65	14.80	34.77	36.99	-22.2	

Rev. 05.26.16

10.2.6. LTE BAND 13

QPSK EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 13 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
779.50	6.81	V	0.55	0.0	6.26	8.41	34.77	36.99	-28.6	
779.50	13.71	H	0.55	0.0	13.16	15.31	34.77	36.99	-21.7	
Mid Ch										
782.00	7.33	V	0.55	0.0	6.78	8.93	34.77	36.99	-28.1	
782.00	13.90	H	0.55	0.0	13.35	15.50	34.77	36.99	-21.5	
High Ch										
784.50	7.43	V	0.55	0.0	6.88	9.03	34.77	36.99	-28.0	
784.50	13.76	H	0.55	0.0	13.21	15.36	34.77	36.99	-21.6	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 13 16QAM5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
779.50	5.90	V	0.55	0.0	5.35	7.50	34.77	36.99	-29.5	
779.50	12.80	H	0.55	0.0	12.25	14.40	34.77	36.99	-22.6	
Mid Ch										
782.00	6.31	V	0.55	0.0	5.76	7.91	34.77	36.99	-29.1	
782.00	12.89	H	0.55	0.0	12.34	14.49	34.77	36.99	-22.5	
High Ch										
784.50	6.38	V	0.55	0.0	5.83	7.98	34.77	36.99	-29.0	
784.50	12.88	H	0.55	0.0	12.33	14.48	34.77	36.99	-22.5	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 13 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
782.00	7.38	V	0.55	0.0	6.83	8.98	34.77	36.99	-28.0	
782.00	13.84	H	0.55	0.0	13.29	15.44	34.77	36.99	-21.5	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 13 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
782.00	6.25	V	0.55	0.0	5.70	7.85	34.77	36.99	-29.1	
782.00	12.97	H	0.55	0.0	12.42	14.57	34.77	36.99	-22.4	

Rev. 05.26.16

10.2.7. LTE BAND 17

QPSK EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 17 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
706.50	5.11	V	0.55	0.0	4.56	6.71	34.77	36.99	-30.3	
706.50	13.48	H	0.55	0.0	12.93	15.08	34.77	36.99	-21.9	
Mid Ch										
710.00	5.18	V	0.55	0.0	4.63	6.78	34.77	36.99	-30.2	
710.00	13.95	H	0.55	0.0	13.40	15.55	34.77	36.99	-21.4	
High Ch										
713.50	5.17	V	0.55	0.0	4.62	6.77	34.77	36.99	-30.2	
713.50	14.20	H	0.55	0.0	13.65	15.80	34.77	36.99	-21.2	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 17 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
706.50	4.17	V	0.55	0.0	3.62	5.77	34.77	36.99	-31.2	
706.50	12.58	H	0.55	0.0	12.03	14.18	34.77	36.99	-22.8	
Mid Ch										
710.00	4.18	V	0.55	0.0	3.63	5.78	34.77	36.99	-31.2	
710.00	12.98	H	0.55	0.0	12.43	14.58	34.77	36.99	-22.4	
High Ch										
713.50	4.25	V	0.55	0.0	3.70	5.85	34.77	36.99	-31.1	
713.50	13.25	H	0.55	0.0	12.70	14.85	34.77	36.99	-22.1	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 17 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
710.00	4.98	V	0.55	0.0	4.43	6.58	34.77	36.99	-30.4	
710.00	14.09	H	0.55	0.0	13.54	15.69	34.77	36.99	-21.3	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/2/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 17 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
710.00	3.98	V	0.55	0.0	3.43	5.58	34.77	36.99	-31.4	
710.00	13.05	H	0.55	0.0	12.50	14.65	34.77	36.99	-22.3	

Rev. 05.26.16

10.2.8. LTE BAND 25

QPSK EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 52279
Configuration: EUT only
Mode: LTE Band 25 QPSK 1.4MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.851	7.5	V	0.98	8.05	14.53	33.0	-18.5	
1.851	11.3	H	0.98	8.05	18.35	33.0	-14.7	
Mid Ch								
1.883	7.6	V	0.98	8.03	14.63	33.0	-18.4	
1.883	12.0	H	0.98	8.03	19.09	33.0	-13.9	
High Ch								
1.914	8.5	V	0.98	8.07	15.62	33.0	-17.4	
1.914	11.9	H	0.98	8.07	19.03	33.0	-14.0	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 52279
Configuration: EUT only
Mode: LTE Band 25 16QAM 1.4MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.851	6.9	V	0.98	8.05	13.96	33.0	-19.0	
1.851	10.3	H	0.98	8.05	17.40	33.0	-15.6	
Mid Ch								
1.883	7.2	V	0.98	8.03	14.24	33.0	-18.8	
1.883	11.4	H	0.98	8.03	18.49	33.0	-14.5	
High Ch								
1.914	7.6	V	0.98	8.07	14.66	33.0	-18.3	
1.914	10.8	H	0.98	8.07	17.84	33.0	-15.2	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 QPSK 3MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.852	7.7	V	0.98	8.05	14.78	33.0	-18.2	
1.852	11.5	H	0.98	8.05	18.61	33.0	-14.4	
Mid Ch								
1.883	8.1	V	0.98	8.03	15.11	33.0	-17.9	
1.883	12.3	H	0.98	8.03	19.33	33.0	-13.7	
High Ch								
1.914	8.6	V	0.98	8.07	15.72	33.0	-17.3	
1.914	12.2	H	0.98	8.07	19.24	33.0	-13.8	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 16QAM 3MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.852	6.7	V	0.98	8.05	13.79	33.0	-19.2	
1.852	10.5	H	0.98	8.05	17.59	33.0	-15.4	
Mid Ch								
1.883	7.0	V	0.98	8.03	14.05	33.0	-19.0	
1.883	11.3	H	0.98	8.03	18.36	33.0	-14.6	
High Ch								
1.914	7.6	V	0.98	8.07	14.72	33.0	-18.3	
1.914	11.1	H	0.98	8.07	18.23	33.0	-14.8	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.853	7.8	V	0.98	8.05	14.83	33.0	-18.2	
1.853	11.6	H	0.98	8.05	18.62	33.0	-14.4	
Mid Ch								
1.883	8.0	V	0.98	8.03	15.08	33.0	-17.9	
1.883	12.3	H	0.98	8.03	19.35	33.0	-13.7	
High Ch								
1.913	8.6	V	0.98	8.06	15.72	33.0	-17.3	
1.913	12.2	H	0.98	8.06	19.25	33.0	-13.7	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.853	6.8	V	0.98	8.05	13.88	33.0	-19.1	
1.853	10.5	H	0.98	8.05	17.61	33.0	-15.4	
Mid Ch								
1.883	7.0	V	0.98	8.03	14.07	33.0	-18.9	
1.883	11.3	H	0.98	8.03	18.33	33.0	-14.7	
High Ch								
1.913	7.7	V	0.98	8.06	14.74	33.0	-18.3	
1.913	11.2	H	0.98	8.06	18.24	33.0	-14.8	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 25 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.855	7.8	V	0.98	8.05	14.86	33.0	-18.1	
1.855	11.5	H	0.98	8.05	18.60	33.0	-14.4	
Mid Ch								
1.883	8.0	V	0.98	8.03	15.06	33.0	-17.9	
1.883	12.3	H	0.98	8.03	19.34	33.0	-13.7	
High Ch								
1.910	8.7	V	0.98	8.05	15.73	33.0	-17.3	
1.910	12.2	H	0.98	8.05	19.23	33.0	-13.8	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 25 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.855	6.8	V	0.98	8.05	13.88	33.0	-19.1	
1.855	10.6	H	0.98	8.05	17.68	33.0	-15.3	
Mid Ch								
1.883	7.0	V	0.98	8.03	14.05	33.0	-19.0	
1.883	11.3	H	0.98	8.03	18.35	33.0	-14.7	
High Ch								
1.910	7.7	V	0.98	8.05	14.75	33.0	-18.2	
1.910	11.2	H	0.98	8.05	18.25	33.0	-14.7	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 25 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.858	7.8	V	0.98	8.04	14.87	33.0	-18.1	
1.858	11.5	H	0.98	8.04	18.60	33.0	-14.4	
Mid Ch								
1.883	8.0	V	0.98	8.03	15.02	33.0	-18.0	
1.883	12.4	H	0.98	8.03	19.44	33.0	-13.6	
High Ch								
1.908	8.7	V	0.98	8.04	15.71	33.0	-17.3	
1.908	12.2	H	0.98	8.04	19.29	33.0	-13.7	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 25 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 16QAM 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.858	6.8	V	0.98	8.04	13.89	33.0	-19.1	
1.858	10.5	H	0.98	8.04	17.59	33.0	-15.4	
Mid Ch								
1.883	7.0	V	0.98	8.03	14.02	33.0	-19.0	
1.883	11.4	H	0.98	8.03	18.49	33.0	-14.5	
High Ch								
1.908	7.7	V	0.98	8.04	14.78	33.0	-18.2	
1.908	11.2	H	0.98	8.04	18.30	33.0	-14.7	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.860	7.8	V	0.98	8.04	14.89	33.0	-18.1	
1.860	11.6	H	0.98	8.04	18.68	33.0	-14.3	
Mid Ch								
1.883	7.9	V	0.98	8.03	14.91	33.0	-18.1	
1.883	12.4	H	0.98	8.03	19.48	33.0	-13.5	
High Ch								
1.905	8.9	V	0.98	8.04	15.99	33.0	-17.0	
1.905	12.2	H	0.98	8.04	19.27	33.0	-13.7	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 5/31/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.860	7.0	V	0.98	8.04	14.03	33.0	-19.0	
1.860	10.6	H	0.98	8.04	17.68	33.0	-15.3	
Mid Ch								
1.883	6.9	V	0.98	8.03	13.94	33.0	-19.1	
1.883	11.6	H	0.98	8.03	18.61	33.0	-14.4	
High Ch								
1.905	7.9	V	0.98	8.04	14.97	33.0	-18.0	
1.905	11.2	H	0.98	8.04	18.29	33.0	-14.7	

Rev. 10.24.13

10.2.9. LTE BAND 26

QPSK EIRP POWER FOR LTE BAND 26 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/11/2016
Test Engineer: 52279
Configuration: EUT only
Mode: LTE Band 26 QPSK 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
814.70	12.04	V	0.62	0.0	11.42	13.57	38.45	40.60	-27.0	
814.70	16.90	H	0.62	0.0	16.28	18.43	38.45	40.60	-22.2	
Mid Ch										
819.00	11.44	V	0.62	0.0	10.82	12.97	38.45	40.60	-27.6	
819.00	17.05	H	0.62	0.0	16.43	18.58	38.45	40.60	-22.0	
High Ch										
823.30	12.58	V	0.62	0.0	11.96	14.11	38.45	40.60	-26.5	
823.30	16.87	H	0.62	0.0	16.25	18.40	38.45	40.60	-22.2	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 26 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/11/2016
Test Engineer: 52279
Configuration: EUT only
Mode: LTE Band 26 16QAM 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
814.70	11.09	V	0.62	0.0	10.47	12.62	38.45	40.60	-28.0	
814.70	16.68	H	0.62	0.0	16.06	18.21	38.45	40.60	-22.4	
Mid Ch										
819.00	11.25	V	0.62	0.0	10.63	12.78	38.45	40.60	-27.8	
819.00	16.78	H	0.62	0.0	16.16	18.31	38.45	40.60	-22.3	
High Ch										
823.30	11.53	V	0.62	0.0	10.91	13.06	38.45	40.60	-27.5	
823.30	17.01	H	0.62	0.0	16.39	18.54	38.45	40.60	-22.1	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 26 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 26 QPSK 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
815.50	10.36	V	0.62	0.0	9.74	11.89	38.45	40.60	-28.7	
815.50	16.48	H	0.62	0.0	15.86	18.01	38.45	40.60	-22.6	
Mid Ch										
819.00	10.57	V	0.62	0.0	9.95	12.10	38.45	40.60	-28.5	
819.00	16.78	H	0.62	0.0	16.16	18.31	38.45	40.60	-22.3	
High Ch										
822.50	10.64	V	0.62	0.0	10.02	12.17	38.45	40.60	-28.4	
822.50	16.85	H	0.62	0.0	16.23	18.38	38.45	40.60	-22.2	

Rev. 10.24.1 Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 26 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 26 16QAM 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
815.50	9.40	V	0.62	0.0	8.78	10.93	38.45	40.60	-29.7	
815.50	15.46	H	0.62	0.0	14.84	16.99	38.45	40.60	-23.6	
Mid Ch										
819.00	9.64	V	0.62	0.0	9.02	11.17	38.45	40.60	-29.4	
819.00	15.68	H	0.62	0.0	15.06	17.21	38.45	40.60	-23.4	
High Ch										
822.50	9.58	V	0.62	0.0	8.96	11.11	38.45	40.60	-29.5	
822.50	15.95	H	0.62	0.0	15.33	17.48	38.45	40.60	-23.1	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 26 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 26 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
816.50	10.63	V	0.62	0.0	10.01	12.16	38.45	40.60	-28.4	
816.50	16.43	H	0.62	0.0	15.81	17.96	38.45	40.60	-22.6	
Mid Ch										
819.00	10.69	V	0.62	0.0	10.07	12.22	38.45	40.60	-28.4	
819.00	16.78	H	0.62	0.0	16.16	18.31	38.45	40.60	-22.3	
High Ch										
821.50	10.49	V	0.62	0.0	9.87	12.02	38.45	40.60	-28.6	
821.50	16.75	H	0.62	0.0	16.13	18.28	38.45	40.60	-22.3	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 26 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 26 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
816.50	9.49	V	0.62	0.0	8.87	11.02	38.45	40.60	-29.6	
816.50	15.44	H	0.62	0.0	14.82	16.97	38.45	40.60	-23.6	
Mid Ch										
819.00	9.68	V	0.62	0.0	9.06	11.21	38.45	40.60	-29.4	
819.00	15.71	H	0.62	0.0	15.09	17.24	38.45	40.60	-23.4	
High Ch										
821.50	9.51	V	0.62	0.0	8.89	11.04	38.45	40.60	-29.6	
821.50	15.74	H	0.62	0.0	15.12	17.27	38.45	40.60	-23.3	

Rev. 05.26.16

QPSK EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 26 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin EIRP (dB)	Notes
Mid Ch										
819.00	10.57	V	0.62	0.0	9.95	12.10	38.45	40.60	-28.5	
819.00	16.83	H	0.62	0.0	16.21	18.36	38.45	40.60	-22.2	

Rev. 05.26.16

16QAM EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 26 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Mid Ch										
819.00	9.47	V	0.62	0.0	8.85	11.00	38.45	40.60	-29.6	
819.00	15.86	H	0.62	0.0	15.24	17.39	38.45	40.60	-23.2	

Rev. 05.26.16

10.2.10. LTE BAND 27

QPSK EIRP POWER FOR LTE BAND 27 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/11/2016
Test Engineer: 52279
Configuration: EUT only
Mode: LTE Band 27 QPSK 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Low Ch								
814.70	10.66	V	0.62	0.0	10.04	50.00	-40.0	
814.70	17.01	H	0.62	0.0	16.39	50.00	-33.6	
Mid Ch								
819.00	11.86	V	0.62	0.0	11.24	50.00	-38.8	
819.00	17.31	H	0.62	0.0	16.69	50.00	-33.3	
High Ch								
823.30	12.27	V	0.62	0.0	11.65	50.00	-38.3	
823.30	17.57	H	0.62	0.0	16.95	50.00	-33.0	

Rev. 04.28.15

16QAM EIRP POWER FOR LTE BAND 27 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/11/2016
Test Engineer: 52279
Configuration: EUT only
Mode: LTE Band 27 16QAM 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Low Ch								
814.70	9.95	V	0.62	0.0	9.33	50.00	-40.7	
814.70	16.27	H	0.62	0.0	15.65	50.00	-34.3	
Mid Ch								
819.00	11.04	V	0.62	0.0	10.42	50.00	-39.6	
819.00	16.48	H	0.62	0.0	15.86	50.00	-34.1	
High Ch								
823.30	11.57	V	0.62	0.0	10.95	50.00	-39.0	
823.30	16.87	H	0.62	0.0	16.25	50.00	-33.7	

Rev. 04.28.15

QPSK EIRP POWER FOR LTE BAND 27 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 27 QPSK 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Low Ch								
815.50	10.65	V	0.62	0.0	10.03	50.00	-40.0	
815.50	15.70	H	0.62	0.0	15.08	50.00	-34.9	
Mid Ch								
819.00	10.39	V	0.62	0.0	9.77	50.00	-40.2	
819.00	16.43	H	0.62	0.0	15.81	50.00	-34.2	
High Ch								
822.50	10.62	V	0.62	0.0	10.00	50.00	-40.0	
822.50	16.29	H	0.62	0.0	15.67	50.00	-34.3	

Rev. 04.28.15

16QAM EIRP POWER FOR LTE BAND 27 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 27 16QAM 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Low Ch								
815.50	9.65	V	0.62	0.0	9.03	50.00	-41.0	
815.00	14.81	H	0.62	0.0	14.19	50.00	-35.8	
Mid Ch								
819.00	9.43	V	0.62	0.0	8.81	50.00	-41.2	
819.00	15.41	H	0.62	0.0	14.79	50.00	-35.2	
High Ch								
822.50	9.57	V	0.62	0.0	8.95	50.00	-41.0	
822.50	15.36	H	0.62	0.0	14.74	50.00	-35.3	

Rev. 04.28.15

QPSK EIRP POWER FOR LTE BAND 27 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 27 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Low Ch								
816.50	10.67	V	0.62	0.0	10.05	50.00	-39.9	
816.50	16.05	H	0.62	0.0	15.43	50.00	-34.6	
Mid Ch								
819.00	10.47	V	0.62	0.0	9.85	50.00	-40.1	
819.00	16.31	H	0.62	0.0	15.69	50.00	-34.3	
High Ch								
821.50	10.63	V	0.62	0.0	10.01	50.00	-40.0	
821.50	16.79	H	0.62	0.0	16.17	50.00	-33.8	

Rev. 04.28.15

16QAM EIRP POWER FOR LTE BAND 27 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 27 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Low Ch								
816.50	9.64	V	0.62	0.0	9.02	50.00	-41.0	
816.50	15.09	H	0.62	0.0	14.47	50.00	-35.5	
Mid Ch								
819.00	9.46	V	0.62	0.0	8.84	50.00	-41.2	
819.00	15.39	H	0.62	0.0	14.77	50.00	-35.2	
High Ch								
821.50	9.59	V	0.62	0.0	8.97	50.00	-41.0	
821.50	15.81	H	0.62	0.0	15.19	50.00	-34.8	

Rev. 04.28.15

QPSK EIRP POWER FOR LTE BAND 27 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 27 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Mid Ch								
819.00	10.63	V	0.62	0.0	10.01	50.00	-40.0	
819.00	16.18	H	0.62	0.0	15.56	50.00	-34.4	

Rev. 04.28.15

16QAM EIRP POWER FOR LTE BAND 27 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/3/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 27 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
High Ch								
819.00	9.72	V	0.62	0.0	9.10	50.00	-40.9	
819.00	15.24	H	0.62	0.0	14.62	50.00	-35.4	

Rev. 04.28.15

10.2.11. LTE BAND 30

QPSK EIRP POWER FOR LTE BAND 30 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 30 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.308	9.9	V	1.15	9.37	18.11	24.0	-5.9	
2.308	10.5	H	1.15	9.37	18.75	24.0	-5.2	
Mid Ch								
2.310	10.0	V	1.16	9.37	18.18	24.0	-5.8	
2.310	10.1	H	1.16	9.37	18.27	24.0	-5.7	
High Ch								
2.313	10.1	V	1.17	9.37	18.31	24.0	-5.7	
2.313	10.7	H	1.17	9.37	18.88	24.0	-5.1	

Rev. 04.24.15

16QAM EIRP POWER FOR LTE BAND 30 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 30 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.308	8.9	V	1.15	9.37	17.16	24.0	-6.8	
2.308	9.5	H	1.15	9.37	17.73	24.0	-6.3	
Mid Ch								
2.310	9.0	V	1.16	9.37	17.22	24.0	-6.8	
2.310	9.1	H	1.16	9.37	17.27	24.0	-6.7	
High Ch								
2.313	9.3	V	1.17	9.37	17.45	24.0	-6.6	
2.313	9.7	H	1.17	9.37	17.85	24.0	-6.2	

Rev. 04.24.15

QPSK EIRP POWER FOR LTE BAND 30 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 30 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
2.310	9.7	V	1.15	9.37	17.91	24.0	-6.1	
2.310	10.3	H	1.15	9.37	18.52	24.0	-5.5	

Rev. 04.24.15

16QAM EIRP POWER FOR LTE BAND 30 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 30 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
2.310	8.6	V	1.15	9.37	16.81	24.0	-7.2	
2.310	9.3	H	1.15	9.37	17.56	24.0	-6.4	

Rev. 04.24.15

10.2.12 LTE BAND 41

QPSK EIRP POWER FOR LTE BAND 41 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 41 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.499	8.3	V	1.15	9.33	16.51	33.0	-16.5	
2.499	11.3	H	1.15	9.33	19.44	33.0	-13.6	
Mid Ch								
2.593	8.6	V	1.16	9.47	16.90	33.0	-16.1	
2.593	12.6	H	1.16	9.47	20.89	33.0	-12.1	
High Ch								
2.688	8.2	V	1.17	9.78	16.85	33.0	-16.1	
2.688	11.7	H	1.17	9.78	20.26	33.0	-12.7	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 41 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 41 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.499	7.4	V	1.15	9.33	15.53	33.0	-17.5	
2.499	10.7	H	1.15	9.33	18.91	33.0	-14.1	
Mid Ch								
2.593	7.4	V	1.16	9.47	15.70	33.0	-17.3	
2.593	11.6	H	1.16	9.47	19.88	33.0	-13.1	
High Ch								
2.688	7.3	V	1.17	9.78	15.91	33.0	-17.1	
2.688	10.4	H	1.17	9.78	19.04	33.0	-14.0	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 41 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 41 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.501	8.4	V	1.15	9.33	16.53	33.0	-16.5	
2.501	11.1	H	1.15	9.33	19.25	33.0	-13.7	
Mid Ch								
2.593	8.5	V	1.16	9.47	16.83	33.0	-16.2	
2.593	12.6	H	1.16	9.47	20.87	33.0	-12.1	
High Ch								
2.685	8.2	V	1.17	9.77	16.82	33.0	-16.2	
2.685	11.6	H	1.17	9.77	20.24	33.0	-12.8	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 41 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 41 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.501	7.3	V	1.15	9.33	15.52	33.0	-17.5	
2.501	10.7	H	1.15	9.33	18.87	33.0	-14.1	
Mid Ch								
2.593	7.3	V	1.16	9.47	15.65	33.0	-17.4	
2.593	11.2	H	1.16	9.47	19.51	33.0	-13.5	
High Ch								
2.685	7.2	V	1.17	9.77	15.84	33.0	-17.2	
2.685	10.4	H	1.17	9.77	18.98	33.0	-14.0	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 41 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 41 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.504	8.3	V	1.15	9.34	16.52	33.0	-16.5	
2.504	11.4	H	1.15	9.34	19.57	33.0	-13.4	
Mid Ch								
2.593	8.5	V	1.16	9.47	16.83	33.0	-16.2	
2.593	12.5	H	1.16	9.47	20.79	33.0	-12.2	
High Ch								
2.683	8.3	V	1.17	9.76	16.85	33.0	-16.1	
2.683	11.5	H	1.17	9.76	20.10	33.0	-12.9	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 41 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 41 16QAM 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.504	7.4	V	1.15	9.34	15.59	33.0	-17.4	
2.504	10.6	H	1.15	9.34	18.82	33.0	-14.2	
Mid Ch								
2.593	7.5	V	1.16	9.47	15.81	33.0	-17.2	
2.593	11.2	H	1.16	9.47	19.49	33.0	-13.5	
High Ch								
2.683	7.3	V	1.17	9.76	15.88	33.0	-17.1	
2.683	10.4	H	1.17	9.76	19.01	33.0	-14.0	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 41 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.506	8.4	V	1.15	9.34	16.54	33.0	-16.5	
2.506	11.6	H	1.15	9.34	19.77	33.0	-13.2	
Mid Ch								
2.593	8.6	V	1.16	9.47	16.86	33.0	-16.1	
2.593	12.7	H	1.16	9.47	20.96	33.0	-12.0	
High Ch								
2.680	8.3	V	1.17	9.76	16.84	33.0	-16.2	
2.680	11.7	H	1.17	9.76	20.30	33.0	-12.7	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23309
Date: 6/28/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 41 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.506	7.4	V	1.15	9.34	15.55	33.0	-17.4	
2.506	10.6	H	1.15	9.34	18.82	33.0	-14.2	
Mid Ch								
2.593	7.5	V	1.16	9.47	15.79	33.0	-17.2	
2.593	11.2	H	1.16	9.47	19.48	33.0	-13.5	
High Ch								
2.680	7.3	V	1.17	9.76	15.85	33.0	-17.2	
2.680	10.4	H	1.17	9.76	19.00	33.0	-14.0	

Rev. 10.24.13

10.3. PEAK-TO-AVERAGE RATIO

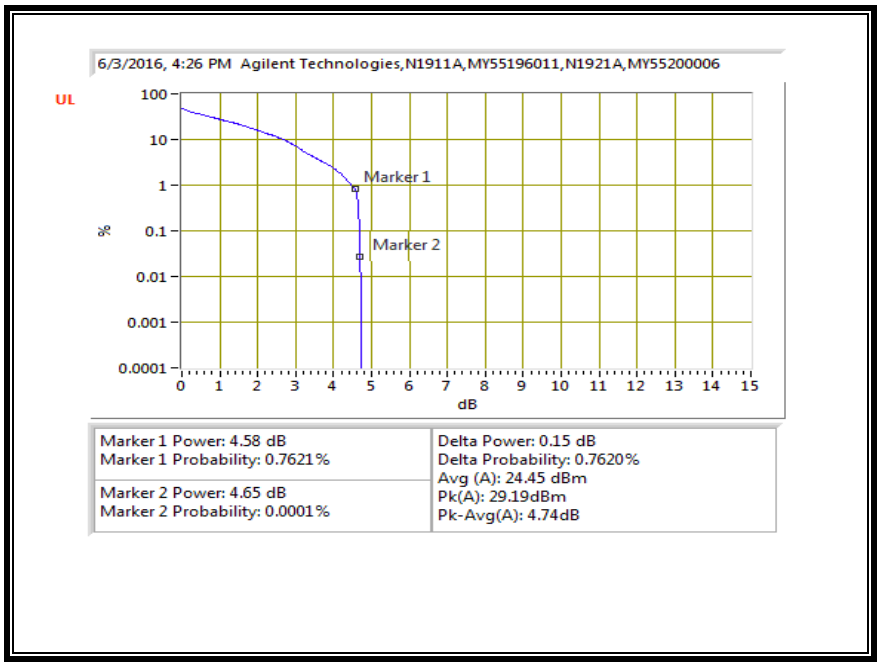
In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB

RESULT

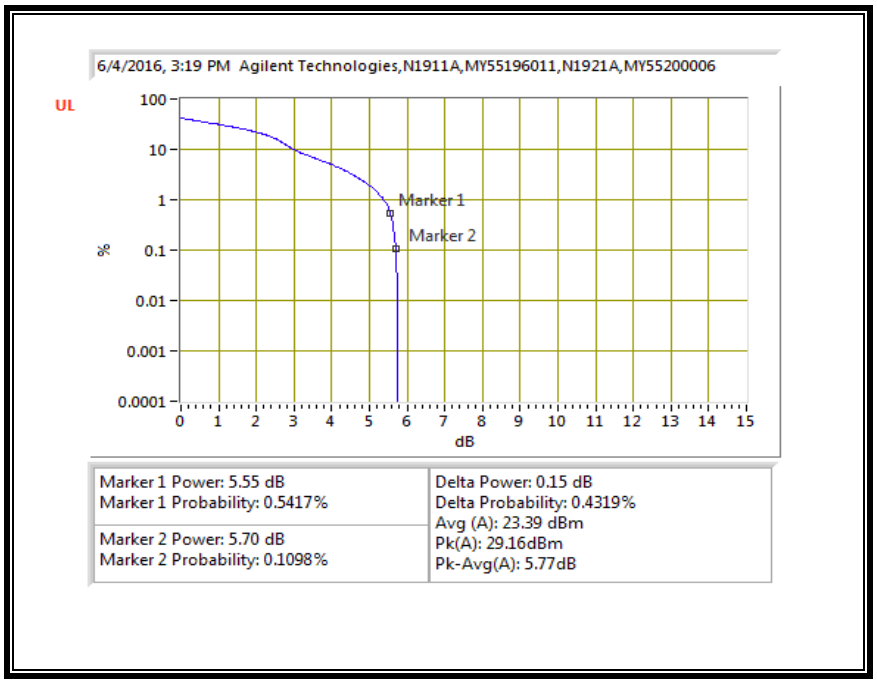
The results from all CCDF plots are passed with 13dB peak-to-average ratio criteria.

10.3.1. LTE BAND 2

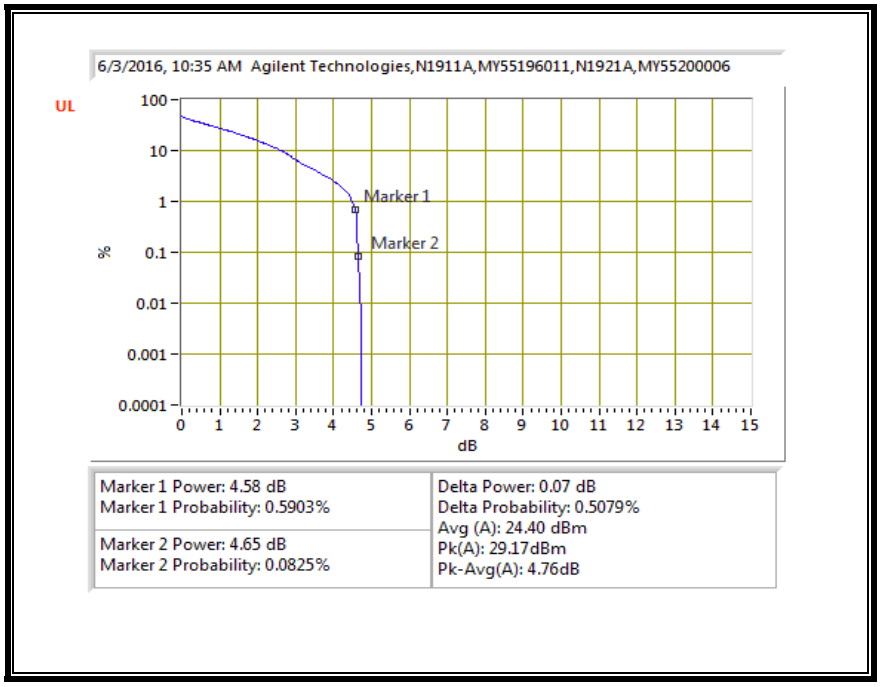
QPSK, (1.4 MHz BAND WIDTH)



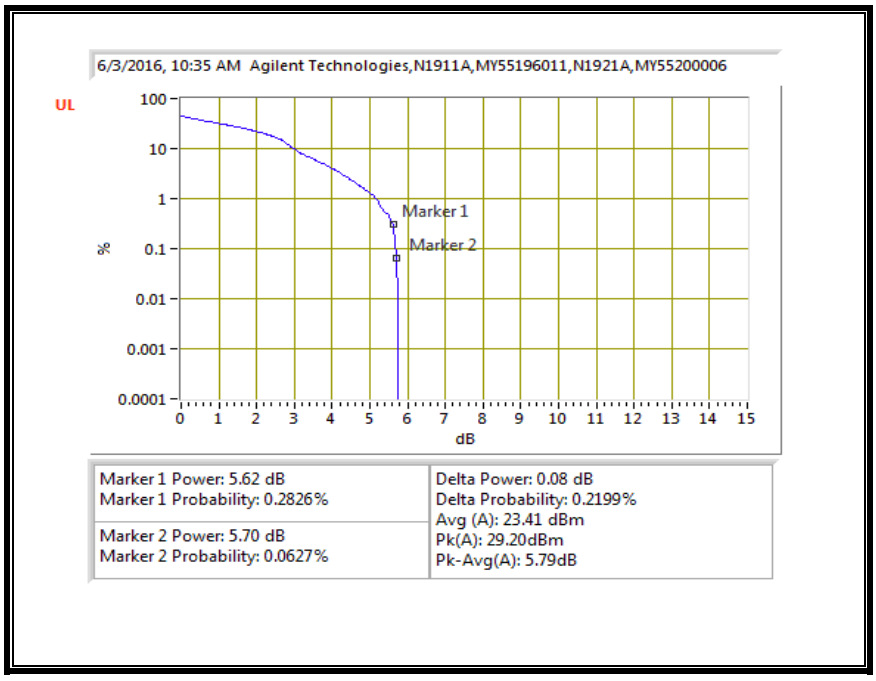
16QAM, (1.4 MHz BAND WIDTH)



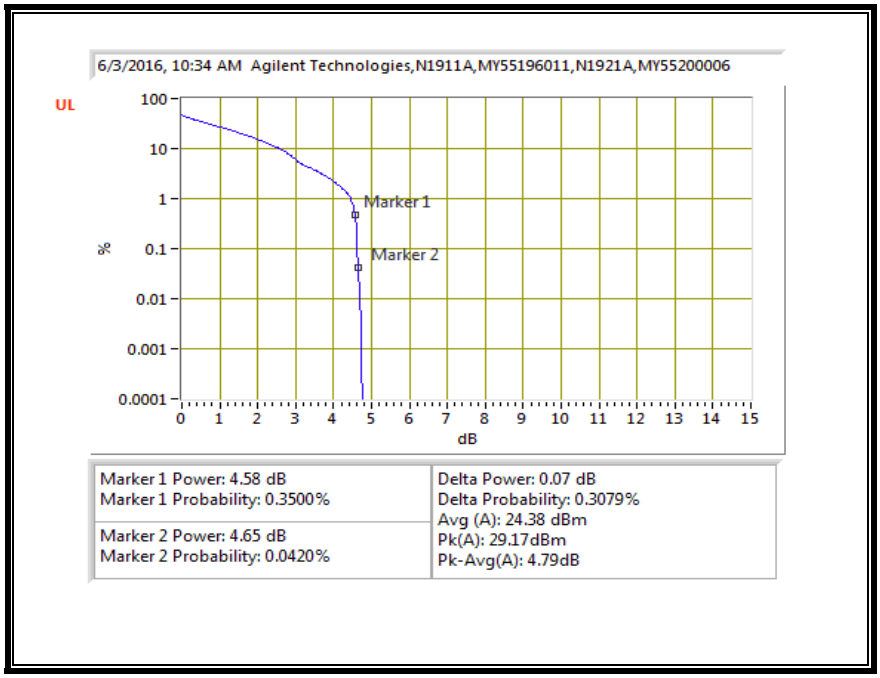
QPSK, (3.0 MHz BAND WIDTH)



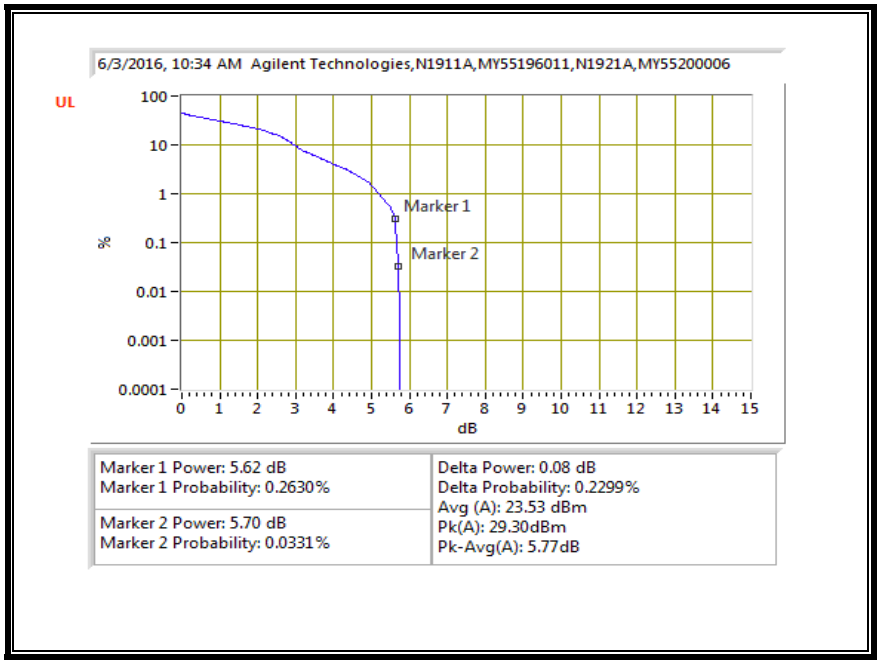
16QAM, (3.0 MHz BAND WIDTH)



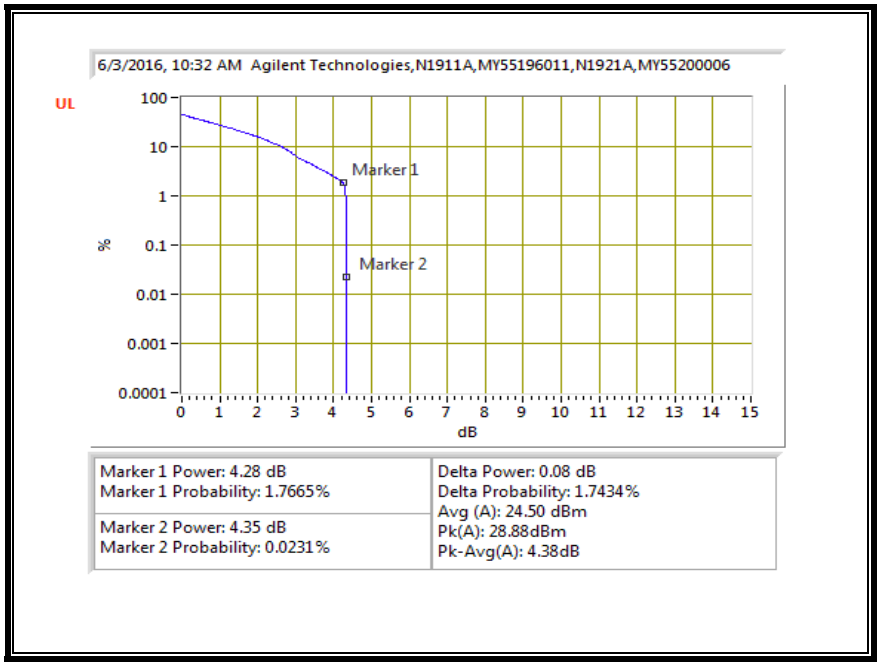
QPSK, (5.0 MHz BAND WIDTH)



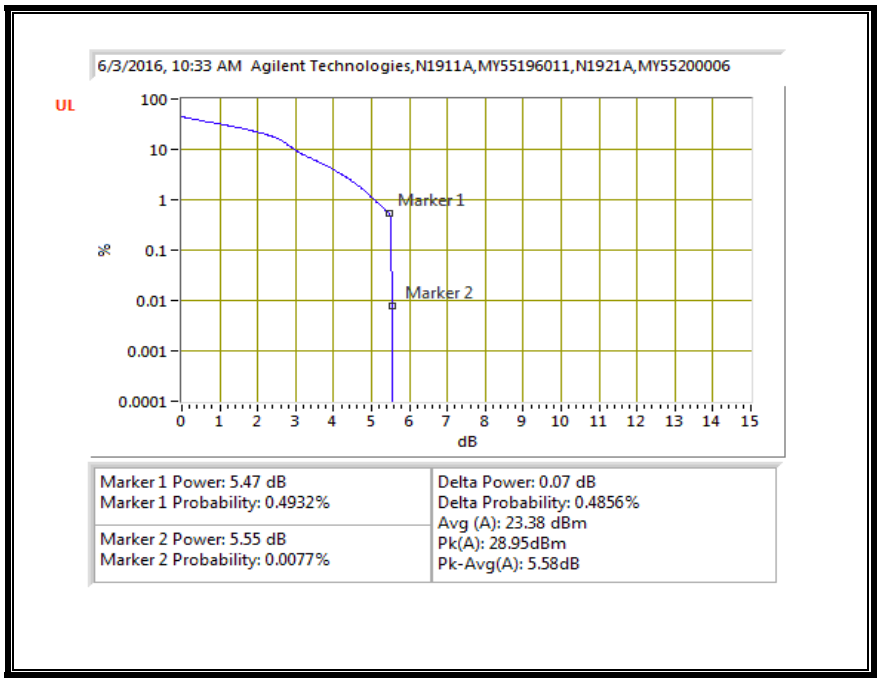
16QAM, (5.0 MHz BAND WIDTH)



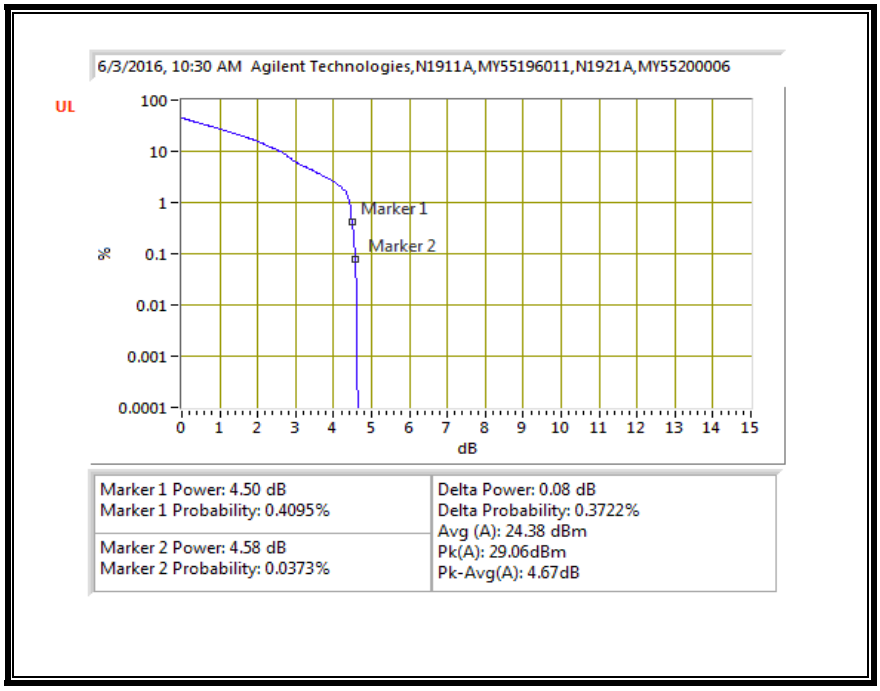
QPSK, (10.0 MHz BAND WIDTH)



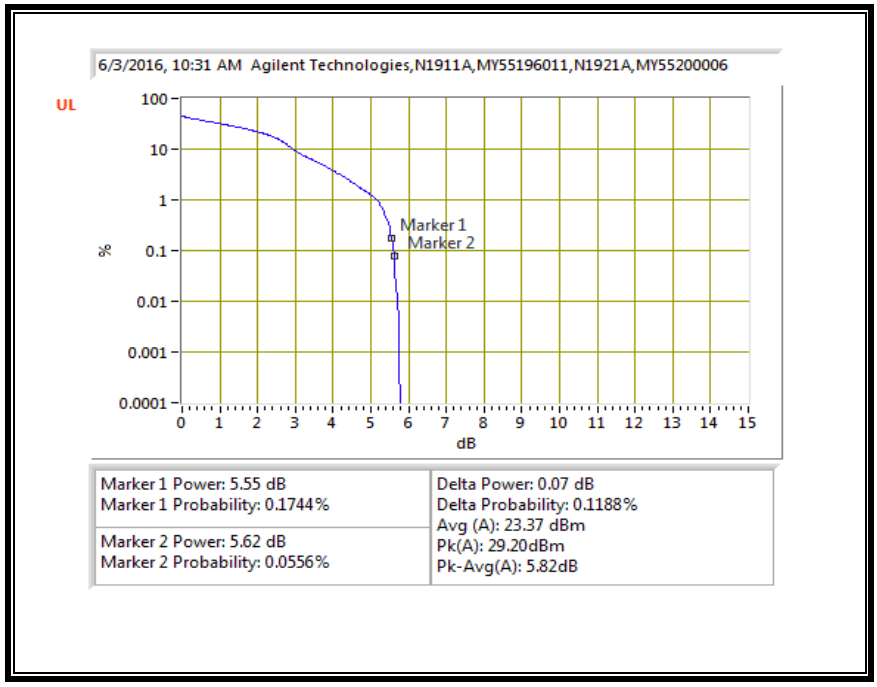
16QAM, (10.0 MHz BAND WIDTH)



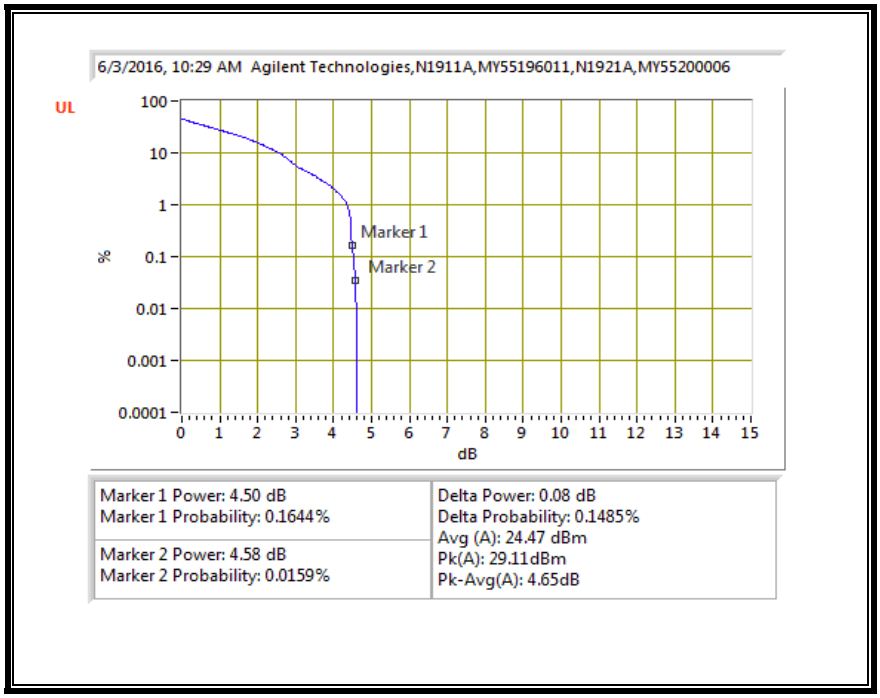
QPSK, (15.0 MHz BAND WIDTH)



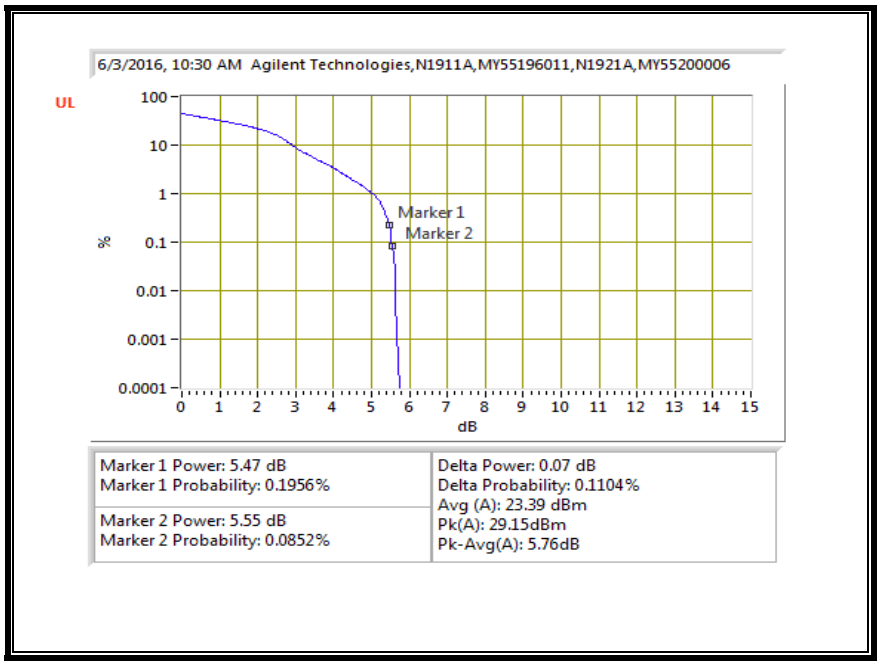
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)

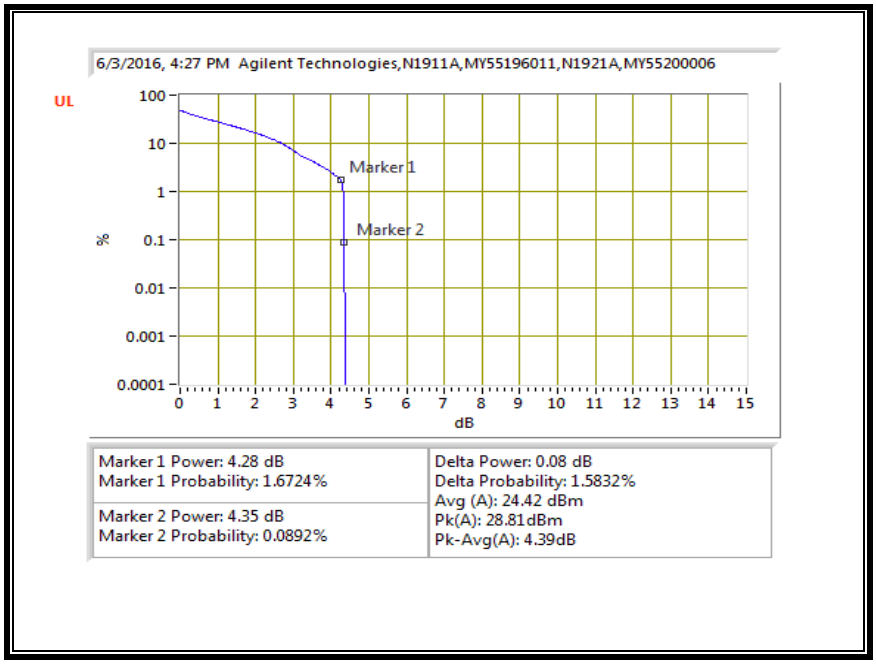


16QAM, (20.0 MHz BAND WIDTH)

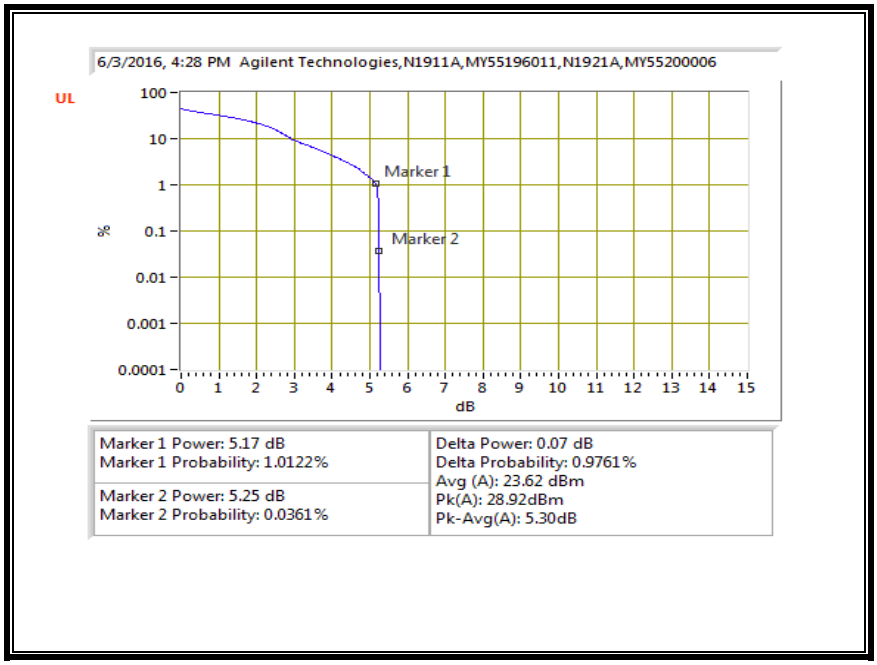


10.3.2. LTE BAND 4

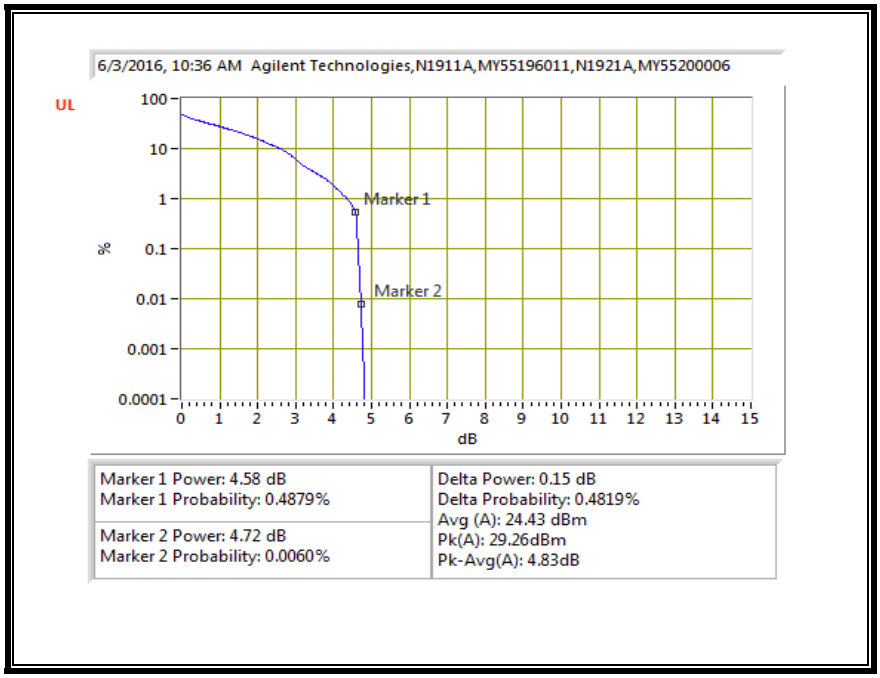
QPSK, (1.4 MHz BAND WIDTH)



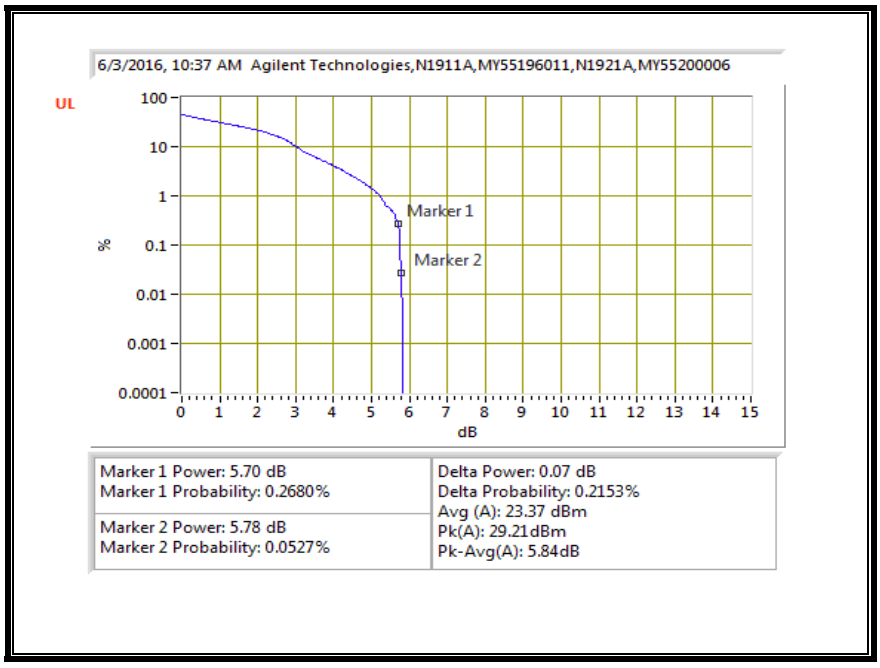
16QAM, (1.4 MHz BAND WIDTH)



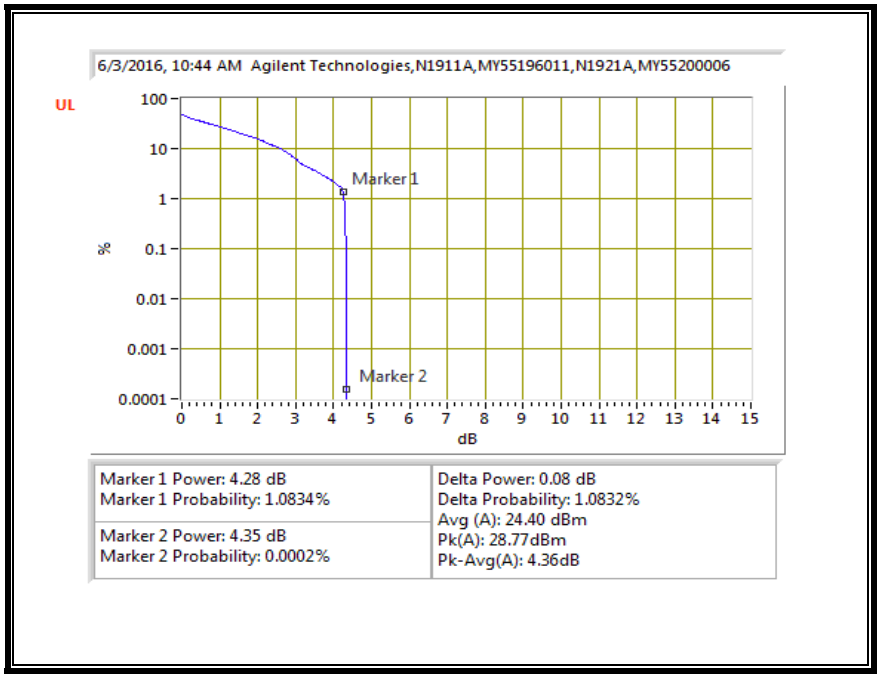
QPSK, (3.0 MHz BAND WIDTH)



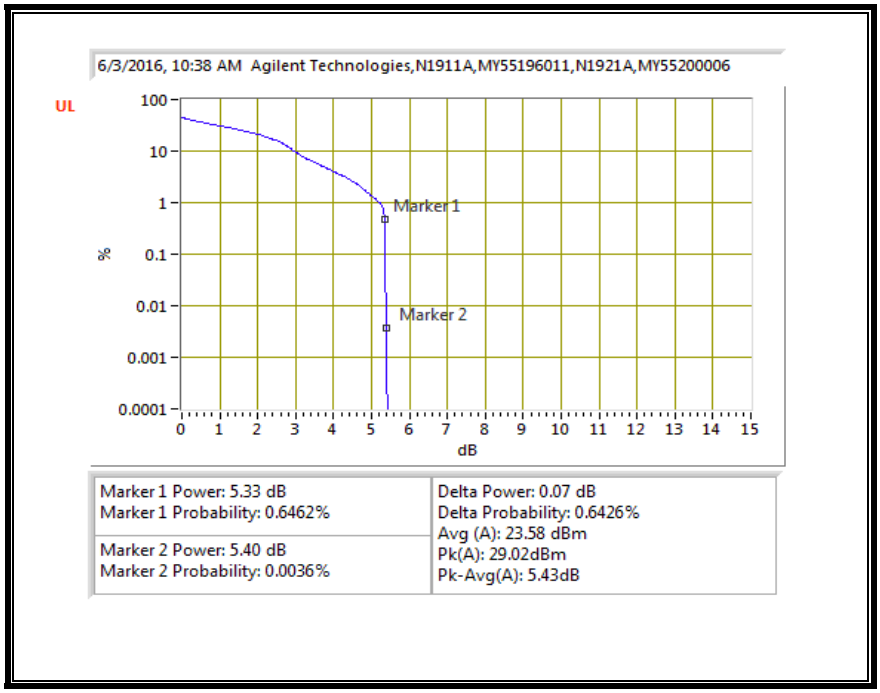
16QAM, (3.0 MHz BAND WIDTH)



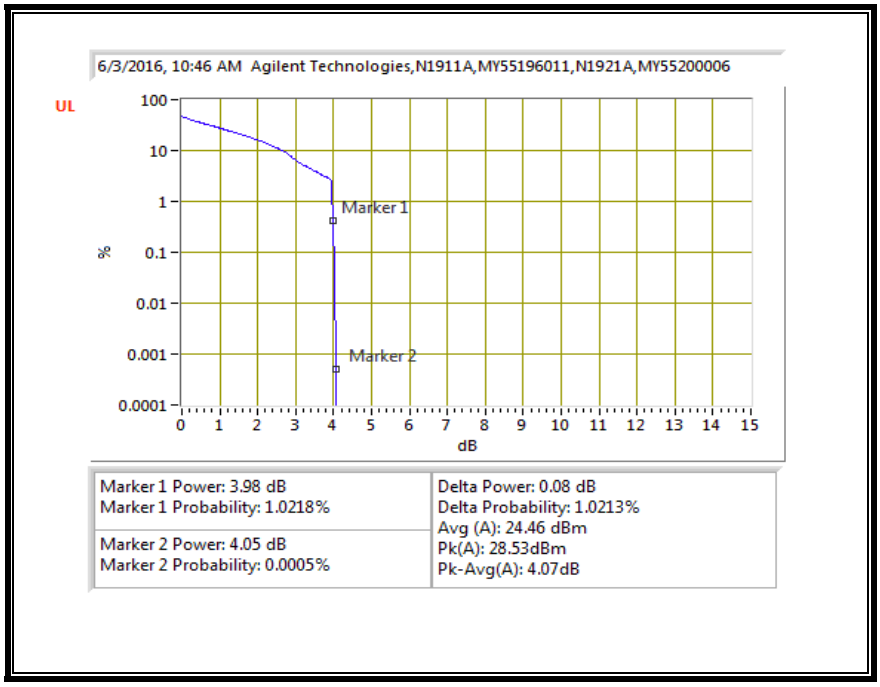
QPSK, (5.0 MHz BAND WIDTH)



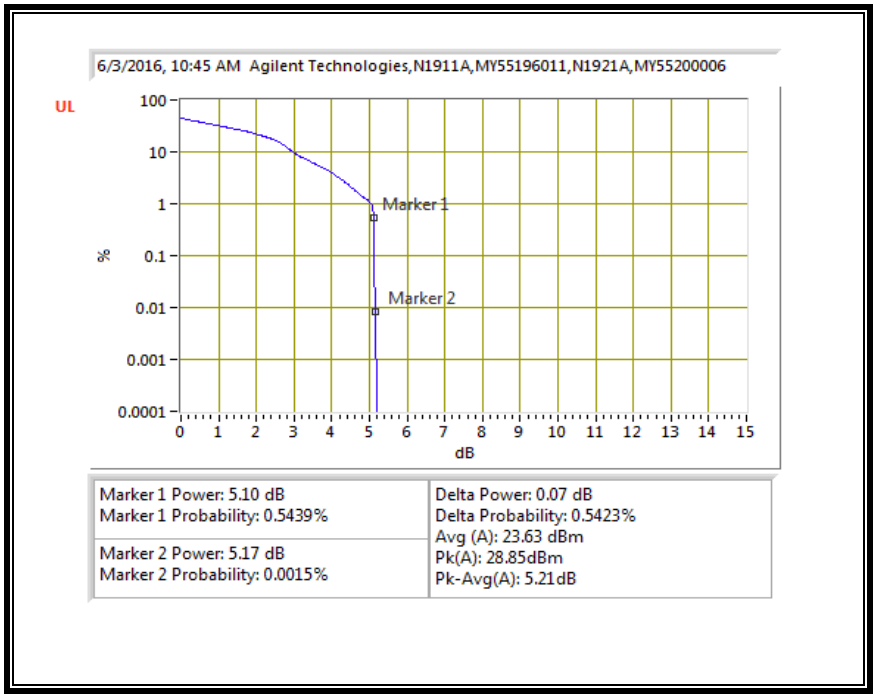
16QAM, (5.0 MHz BAND WIDTH)



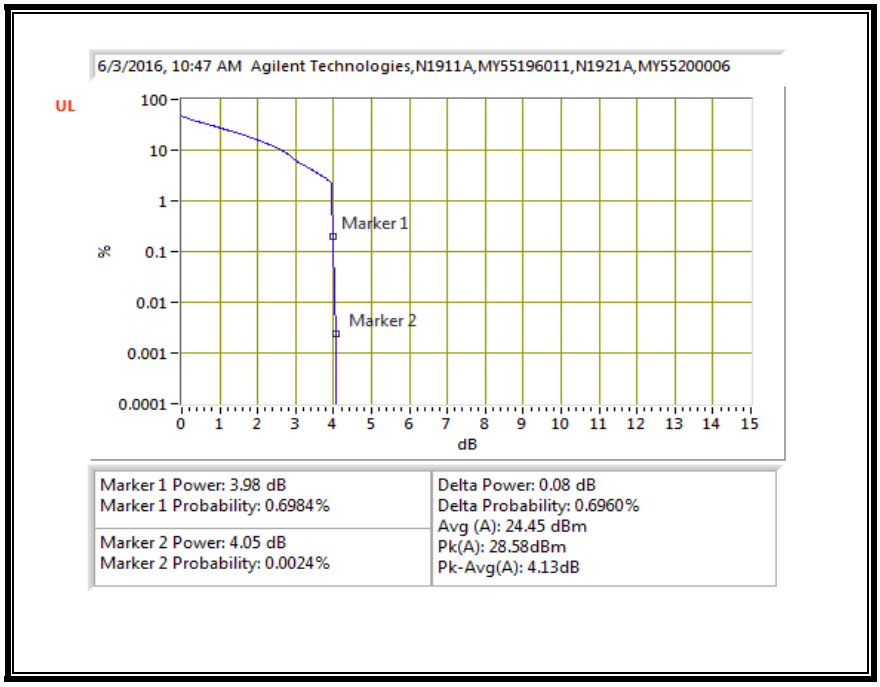
QPSK, (10.0 MHz BAND WIDTH)



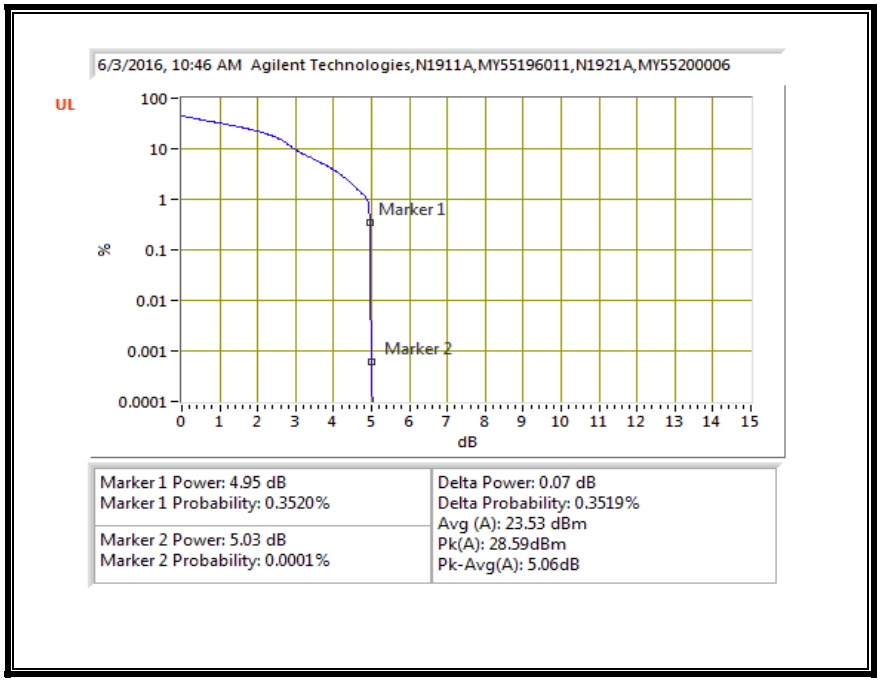
16QAM, (10.0 MHz BAND WIDTH)



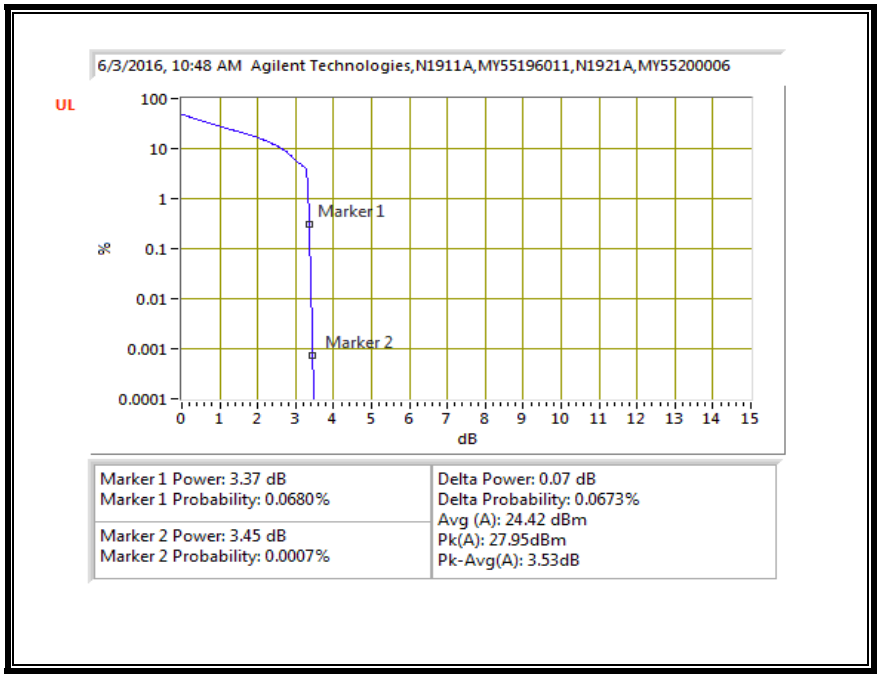
QPSK, (15.0 MHz BAND WIDTH)



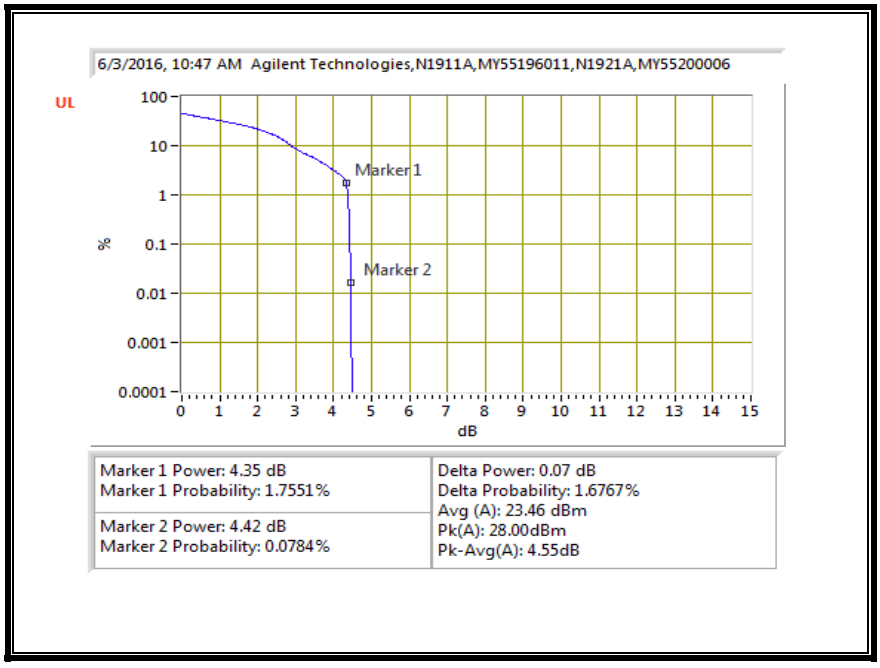
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)

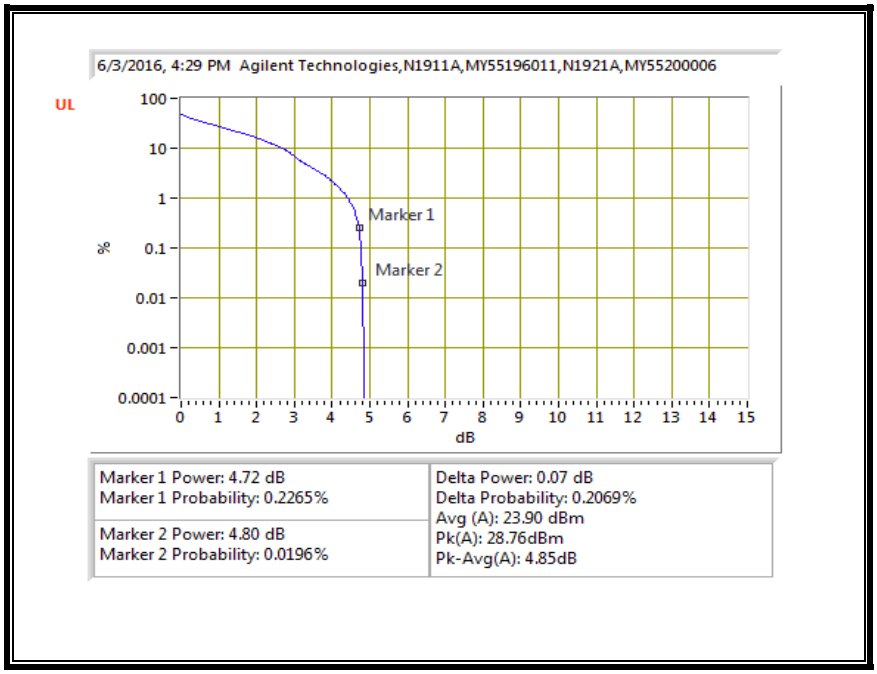


16QAM, (20.0 MHz BAND WIDTH)

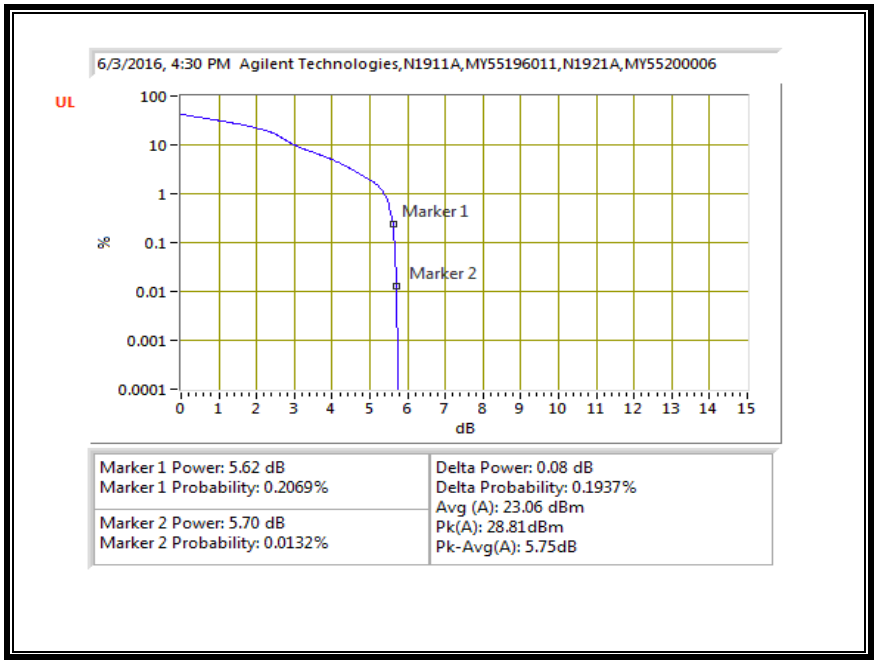


10.3.3. LTE BAND 5

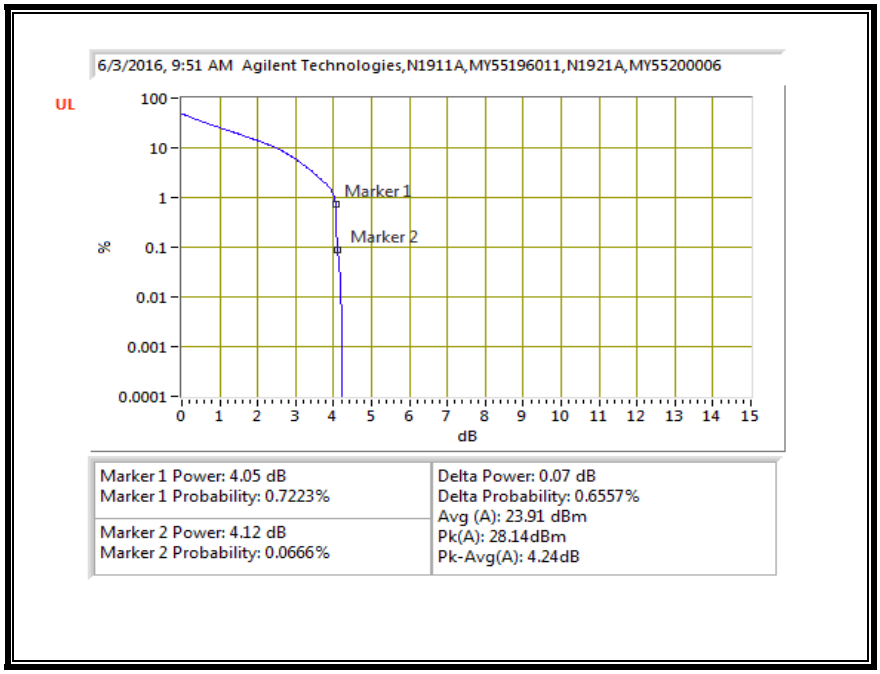
QPSK, (1.4 MHz BAND WIDTH)



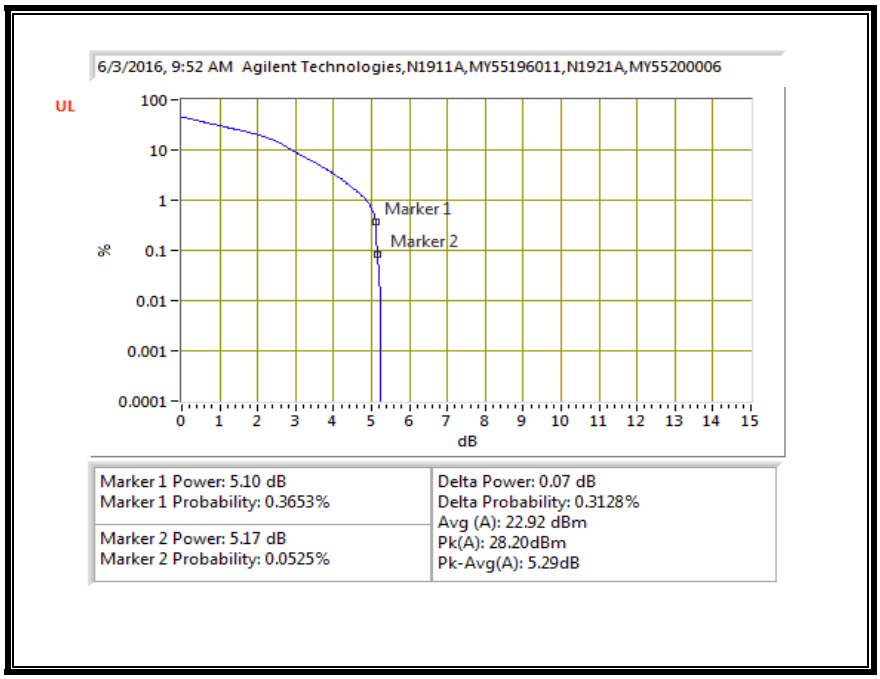
16QAM, (1.4 MHz BAND WIDTH)



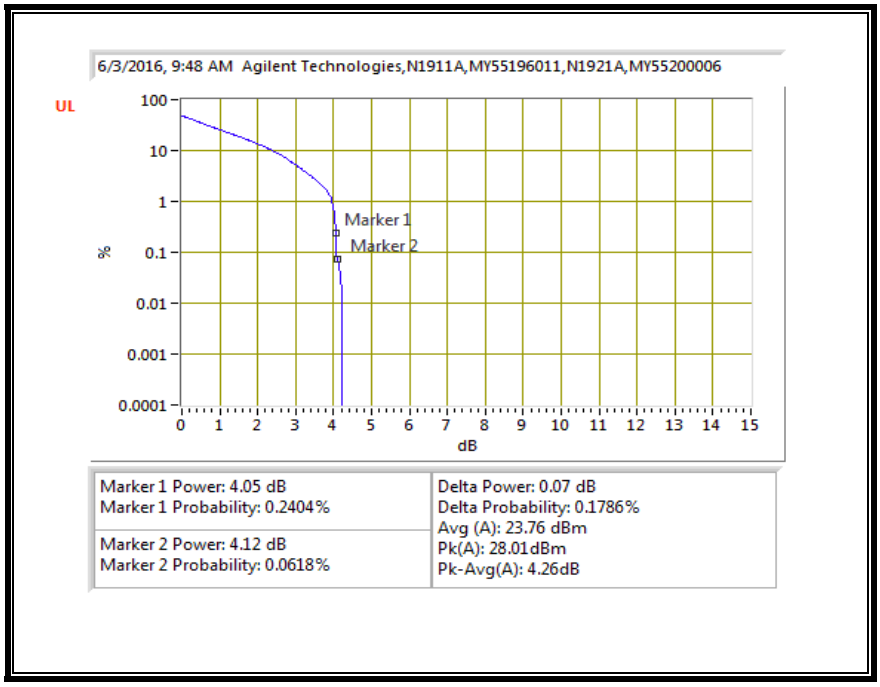
QPSK, (3.0 MHz BAND WIDTH)



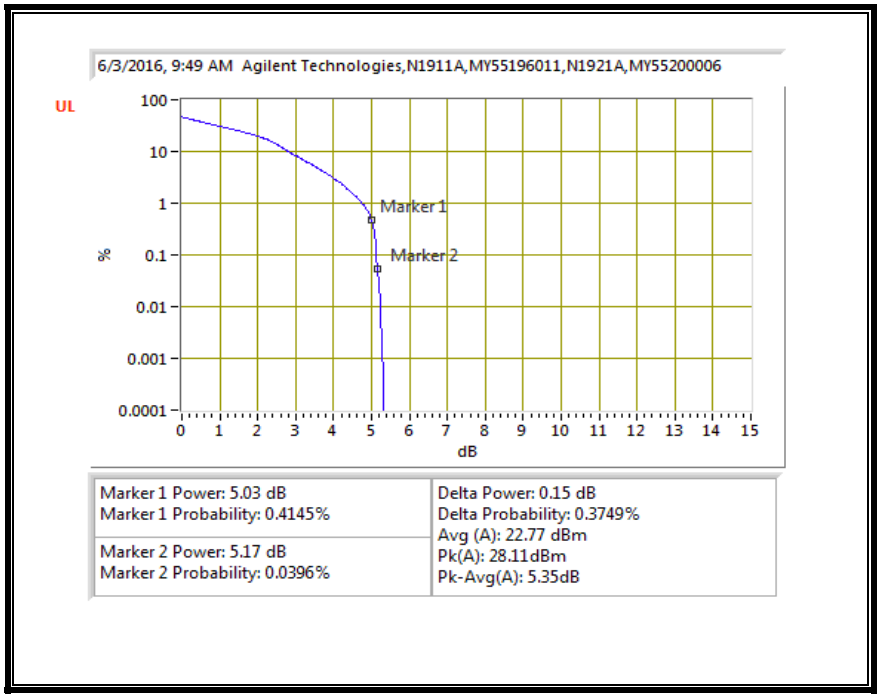
16QAM, (3.0 MHz BAND WIDTH)



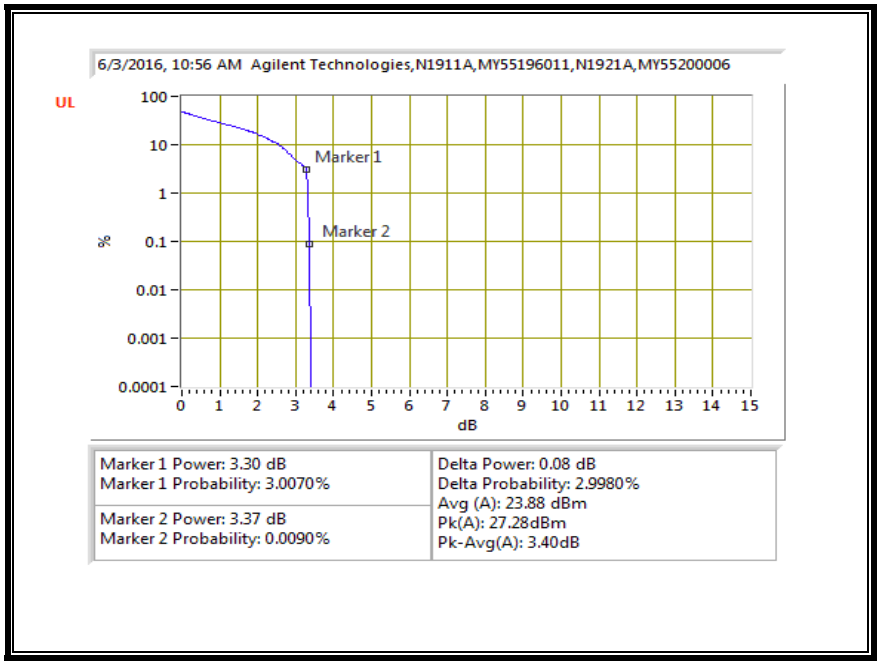
QPSK, (5.0 MHz BAND WIDTH)



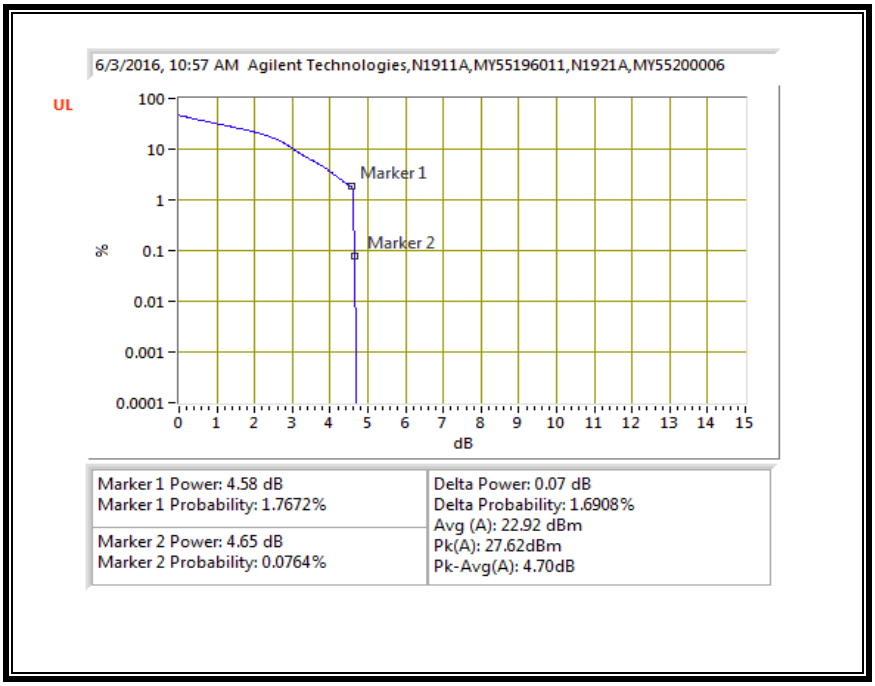
16QAM, (5.0 MHz BAND WIDTH)



QPSK, (10.0 MHz BAND WIDTH)

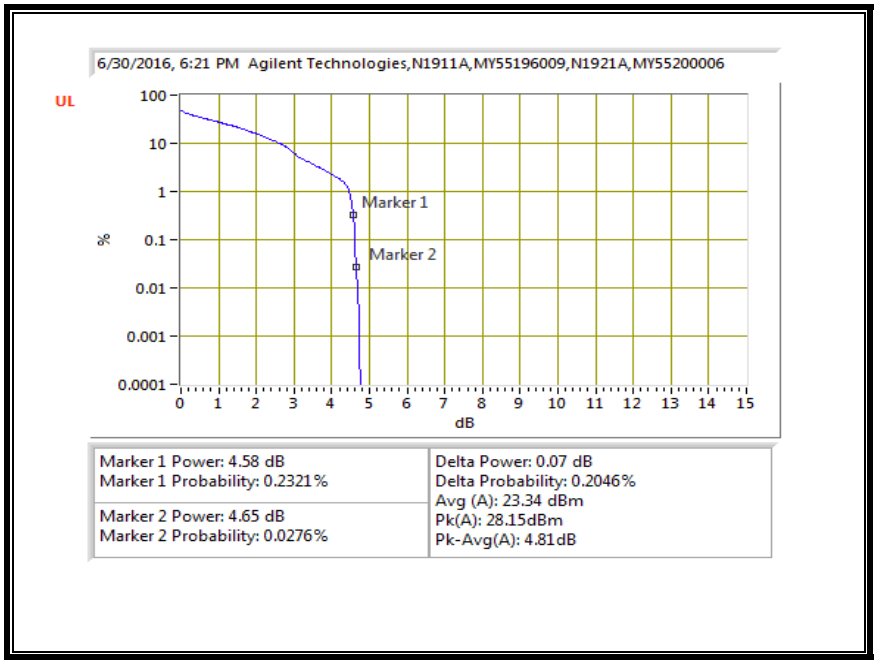


16QAM, (10.0 MHz BAND WIDTH)

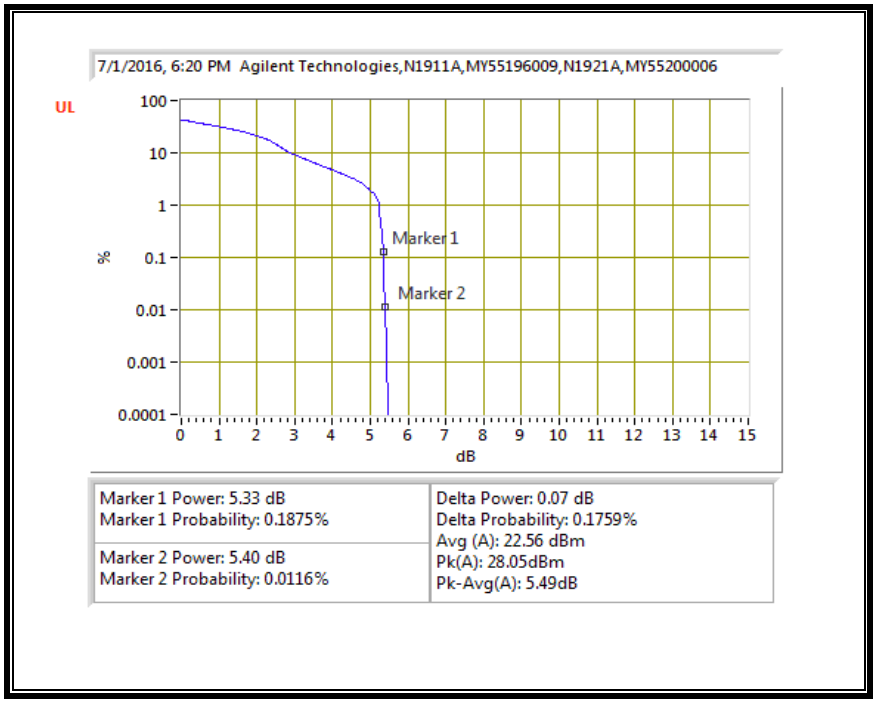


10.3.4. LTE BAND 7

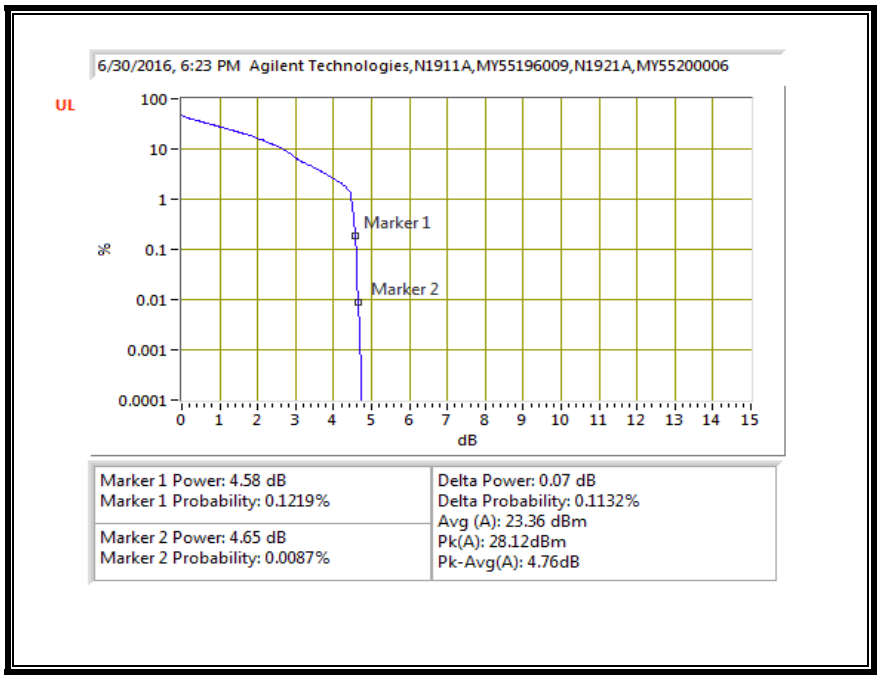
QPSK, (5.0 MHz BAND WIDTH)



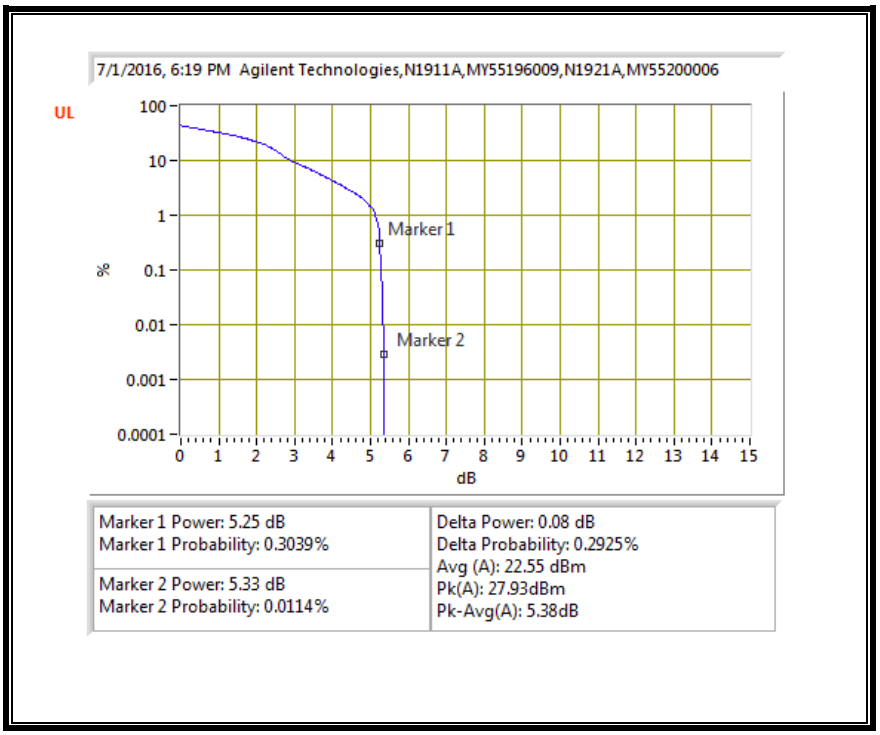
16QAM, (5.0 MHz BAND WIDTH)



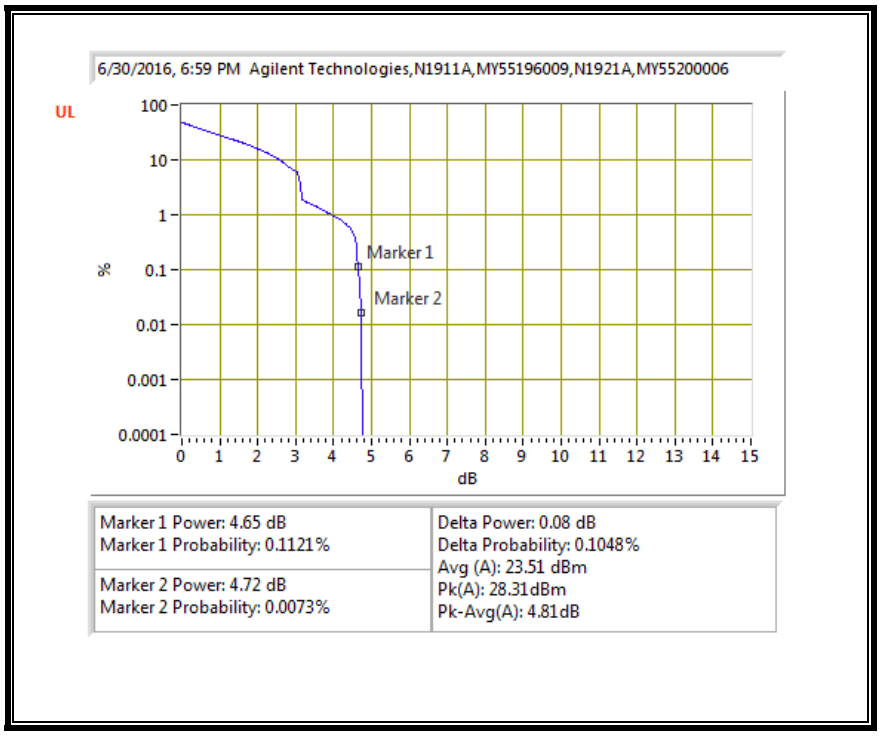
QPSK, (10.0 MHz BAND WIDTH)



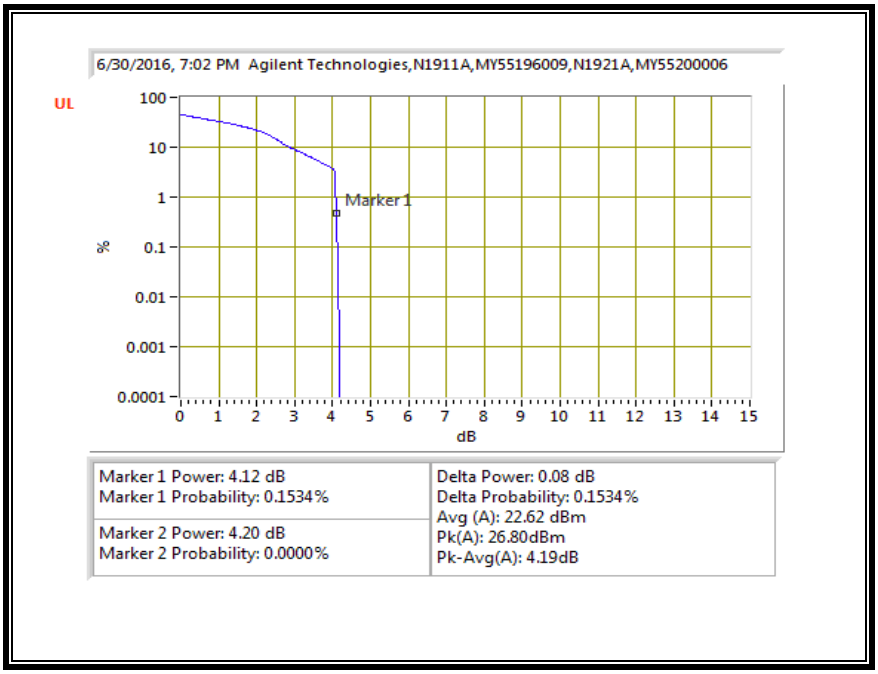
16QAM, (10.0 MHz BAND WIDTH)



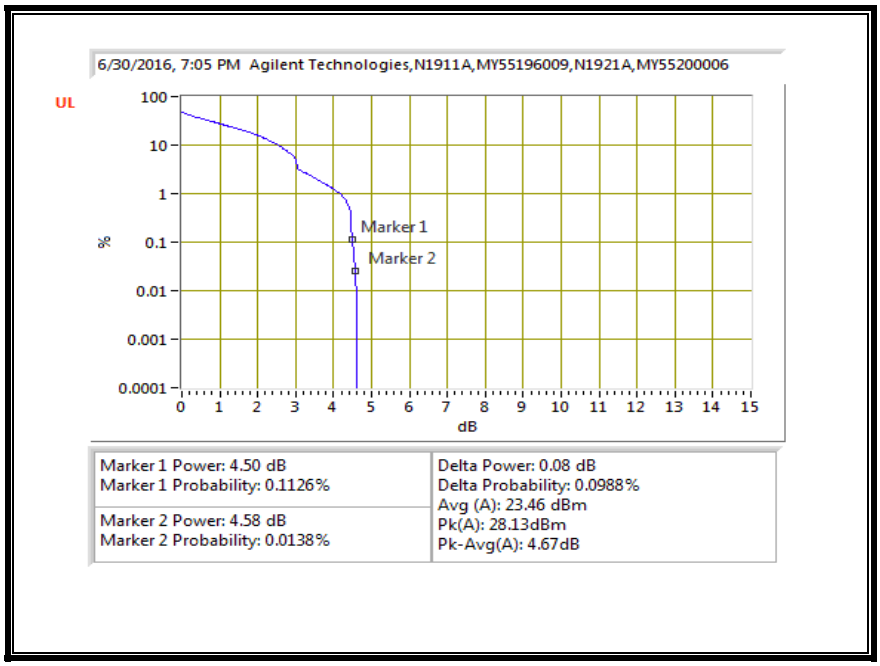
QPSK, (15.0 MHz BAND WIDTH)



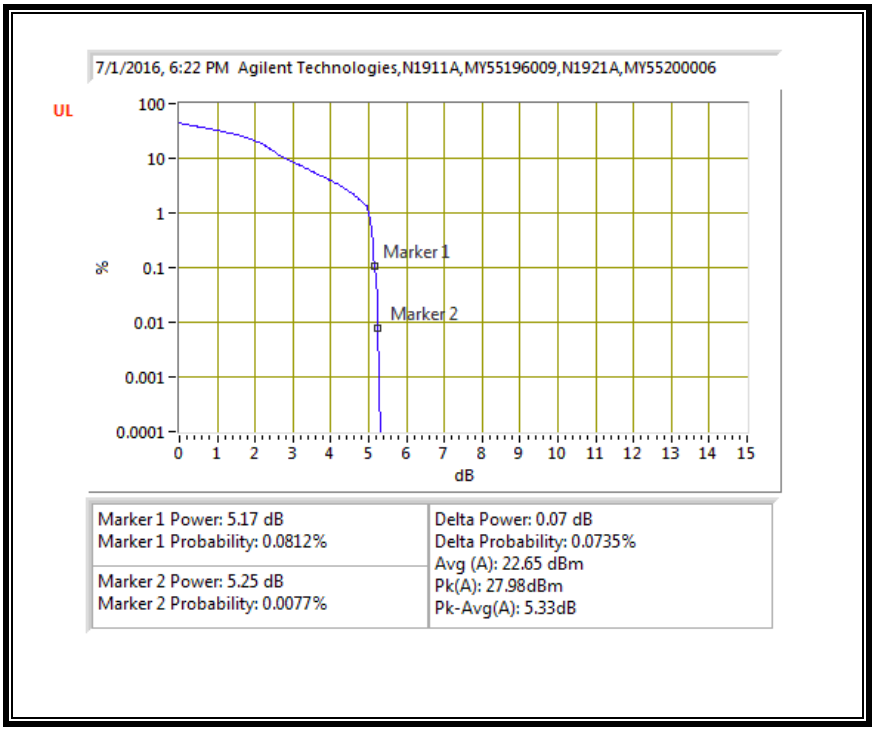
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)

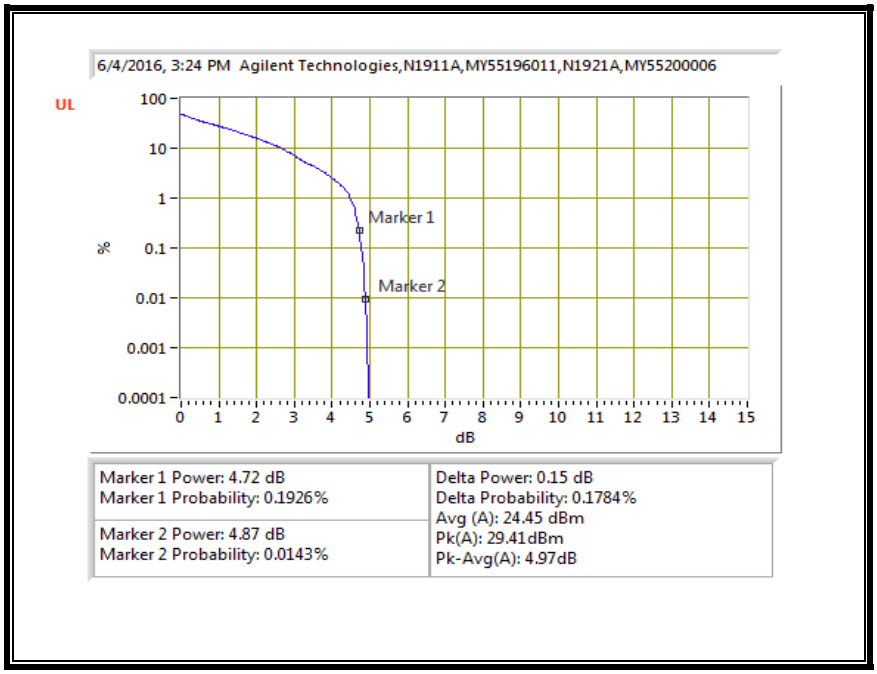


16QAM, (20.0 MHz BAND WIDTH)

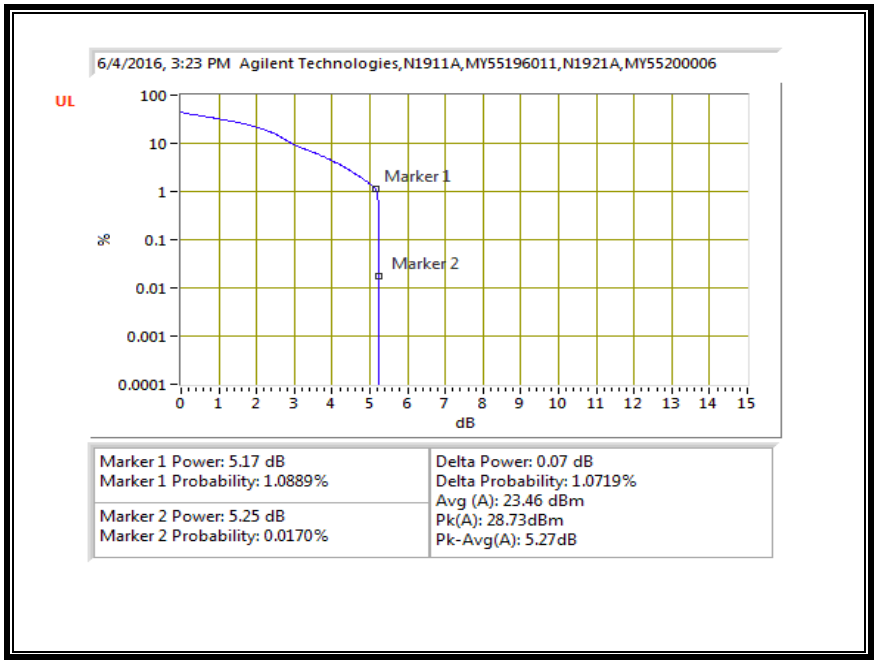


10.3.5. LTE BAND 12

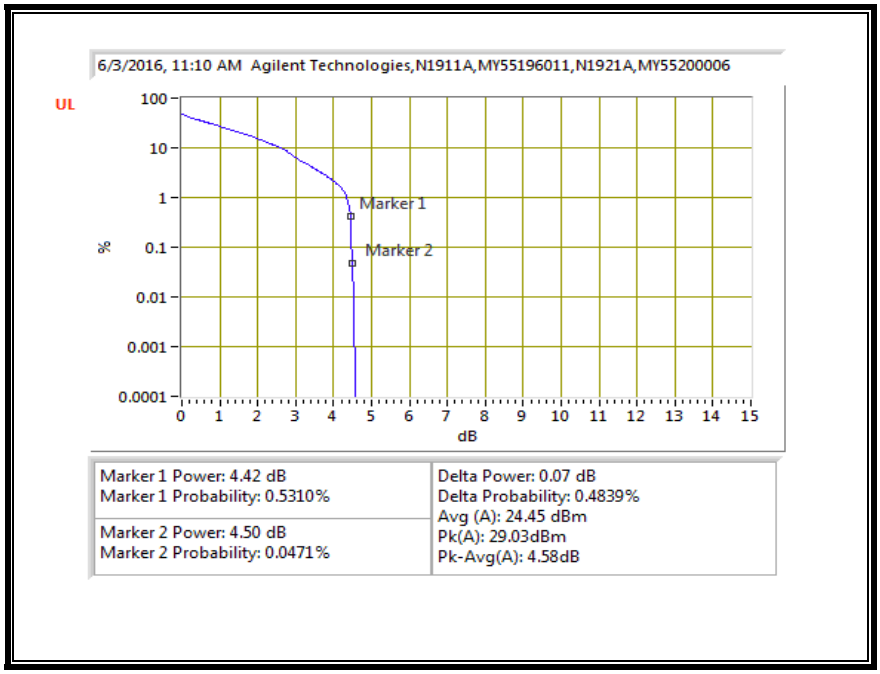
QPSK, (1.4 MHz BAND WIDTH)



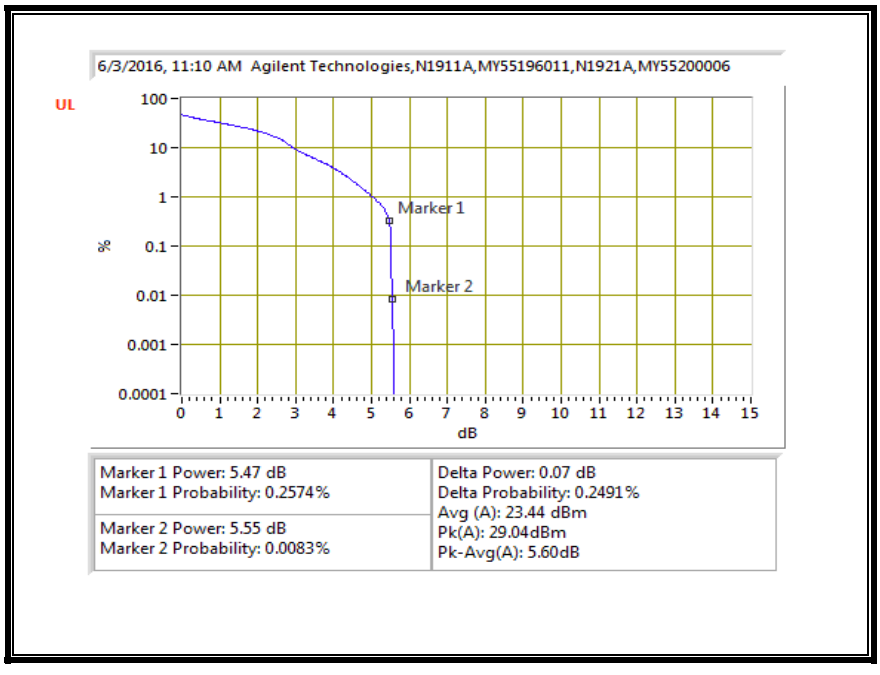
16QAM, (1.4 MHz BAND WIDTH)



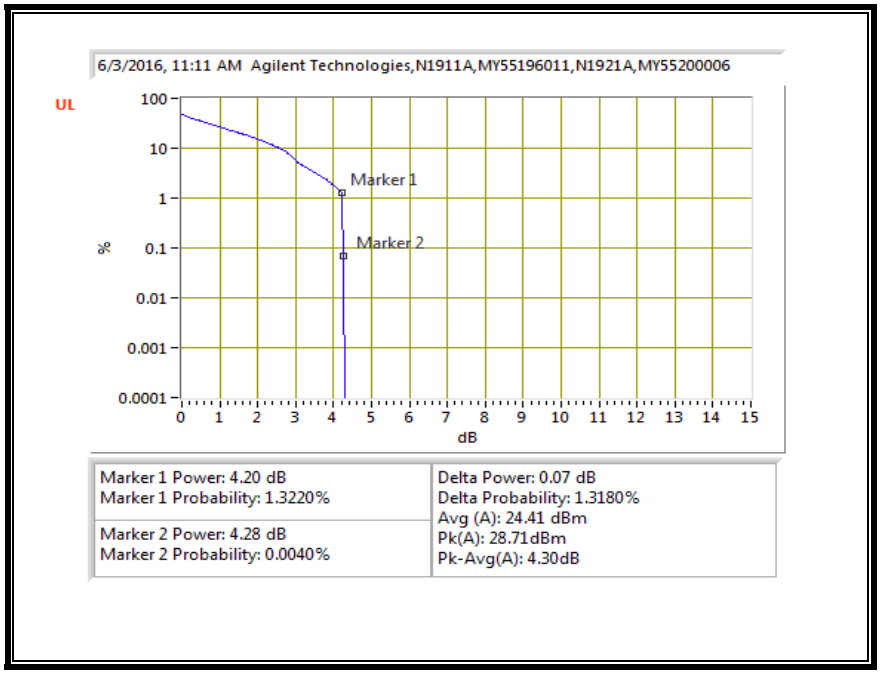
QPSK, (3.0 MHz BAND WIDTH)



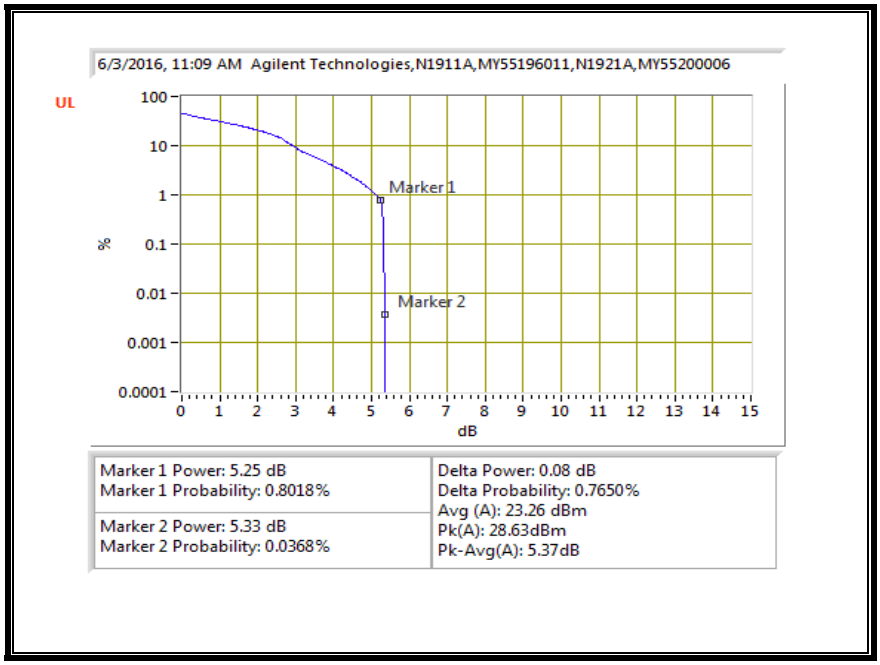
16QAM, (3.0 MHz BAND WIDTH)



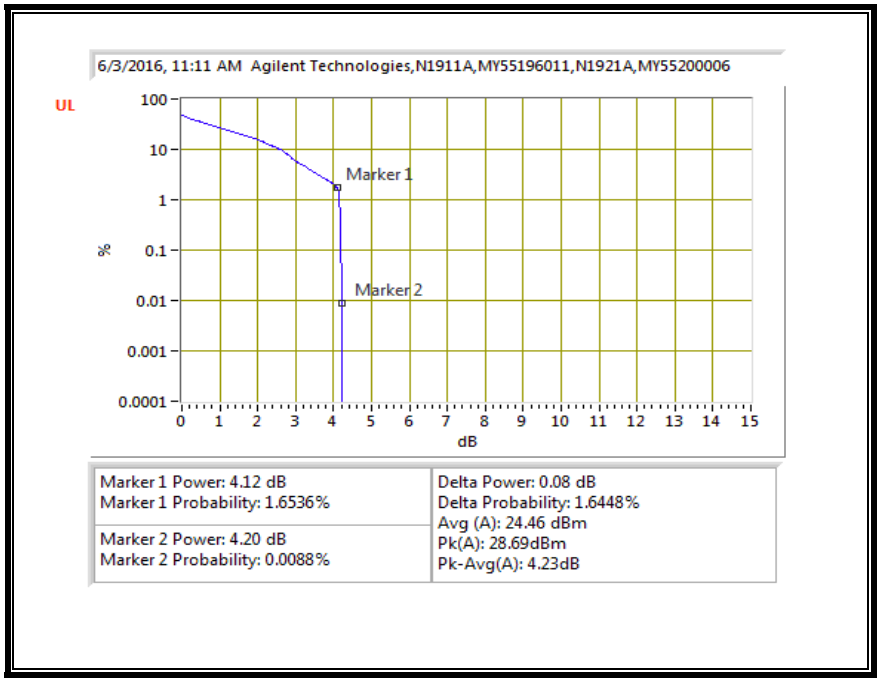
QPSK, (5.0 MHz BAND WIDTH)



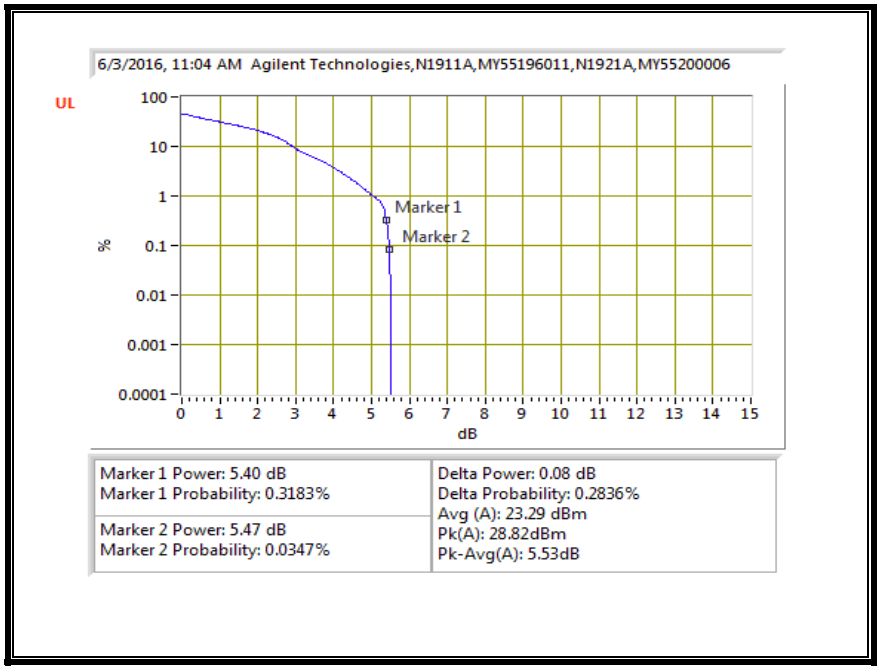
16QAM, (5.0 MHz BAND WIDTH)



QPSK, (10.0 MHz BAND WIDTH)

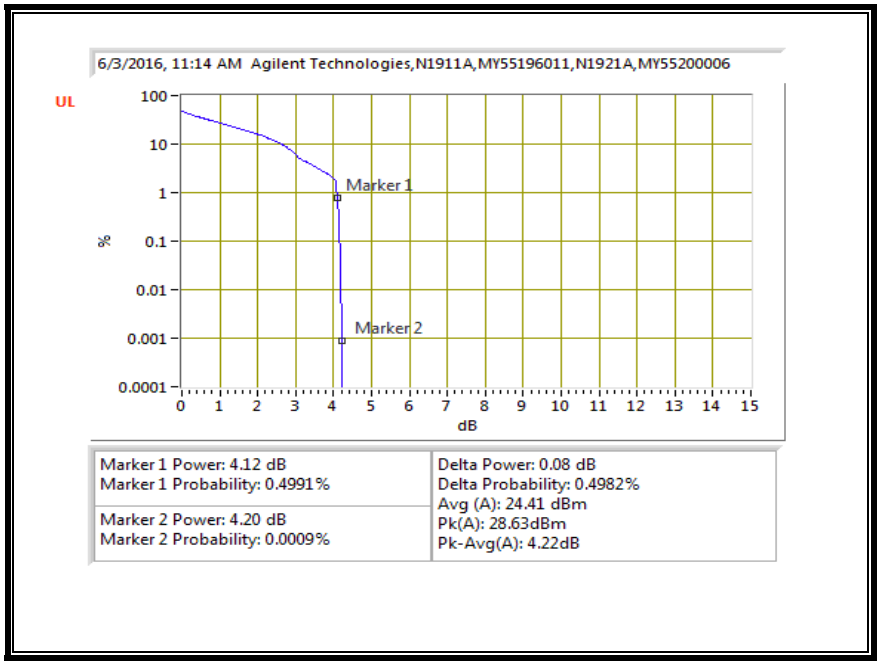


16QAM, (10.0 MHz BAND WIDTH)



10.3.6. LTE BAND 13

QPSK, (5.0 MHz BAND WIDTH)



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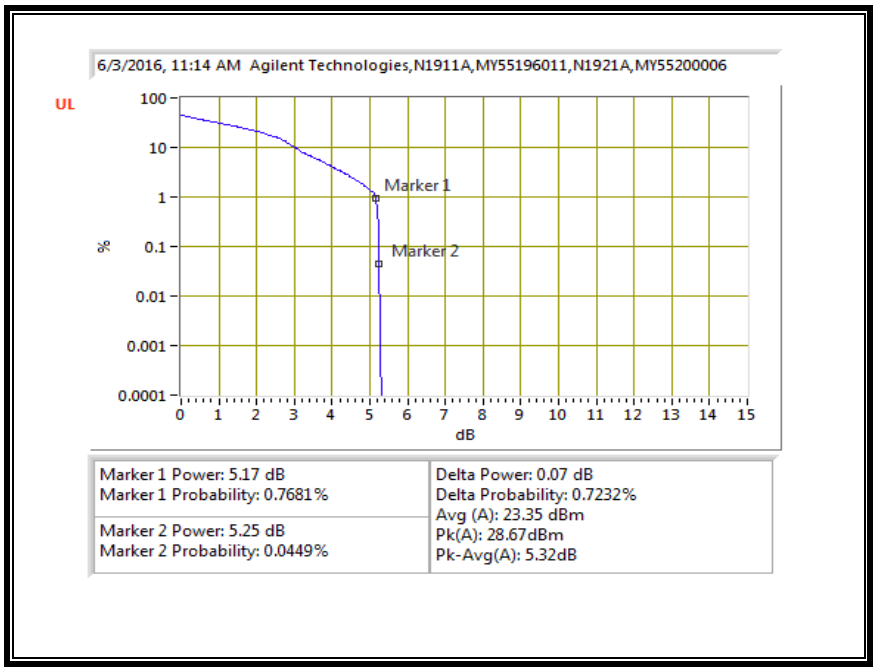
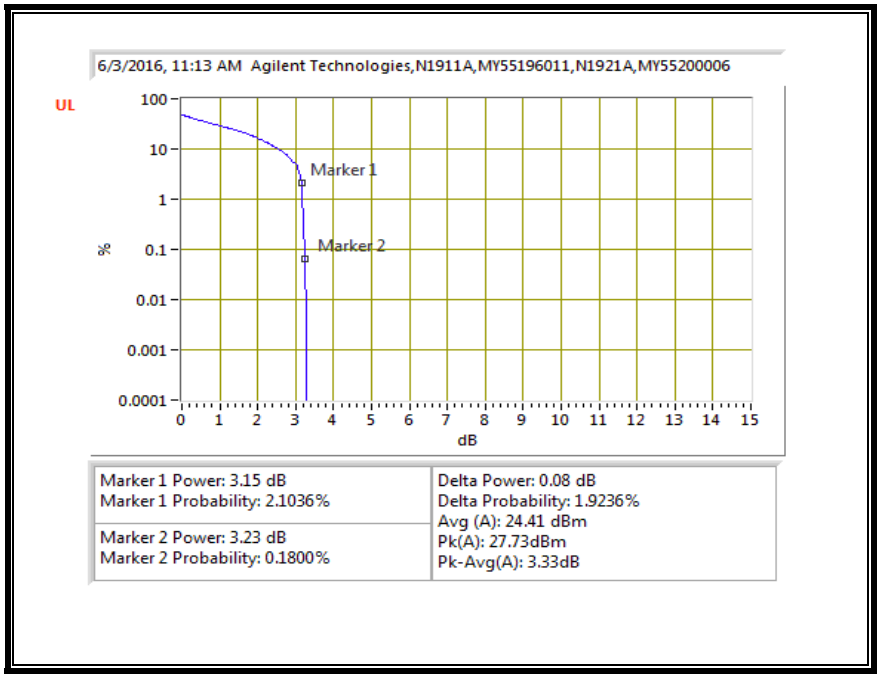


QPSK, (10.0 MHz BAND WIDTH)



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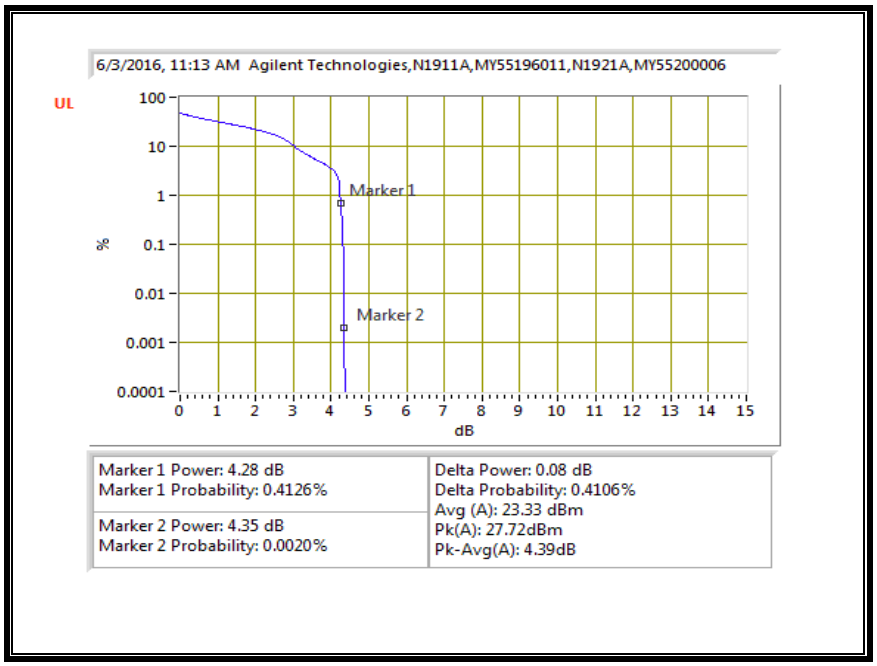
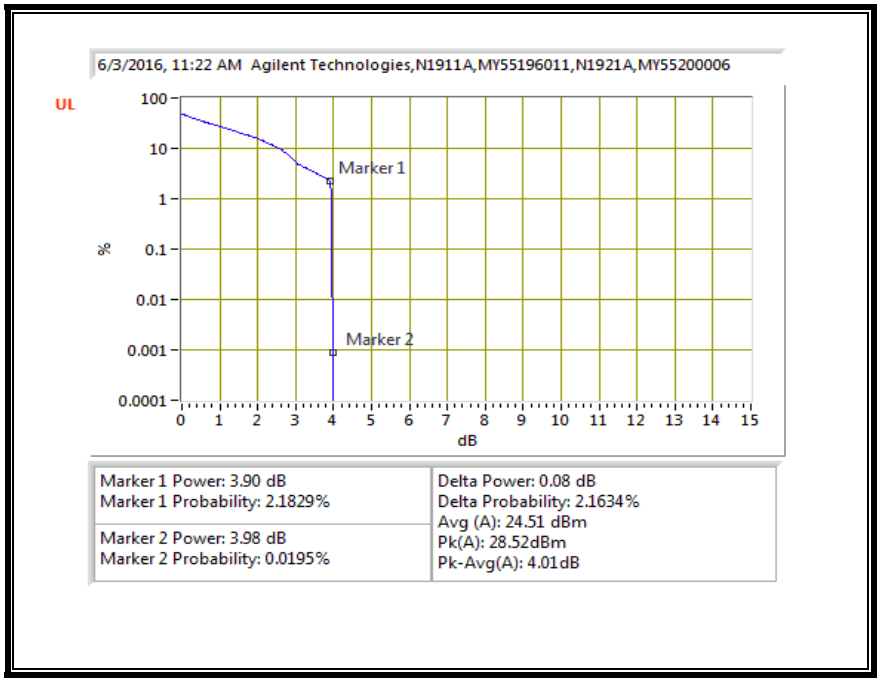


10.3.7. LTE BAND 17

QPSK, (5.0 MHz BAND WIDTH)



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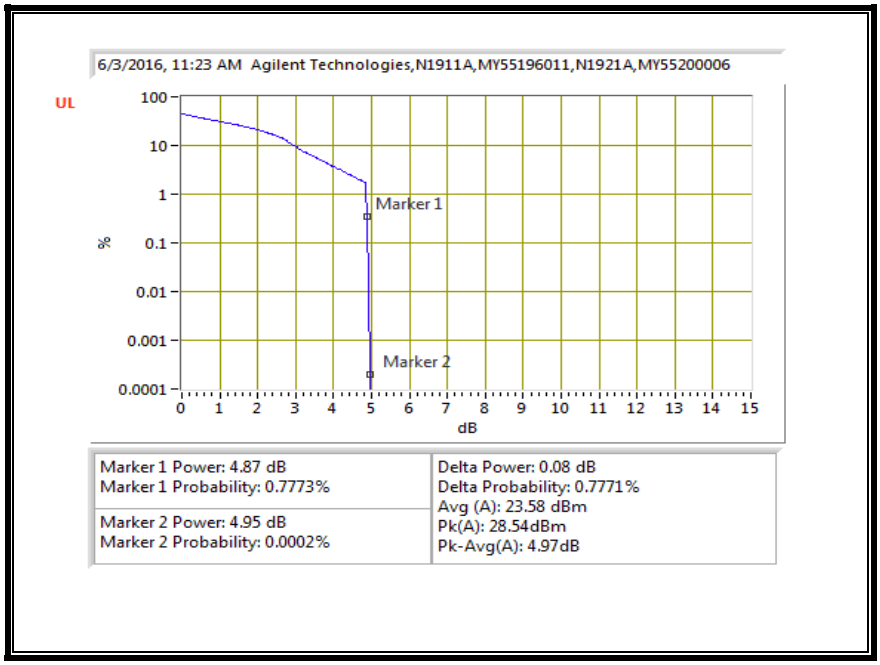

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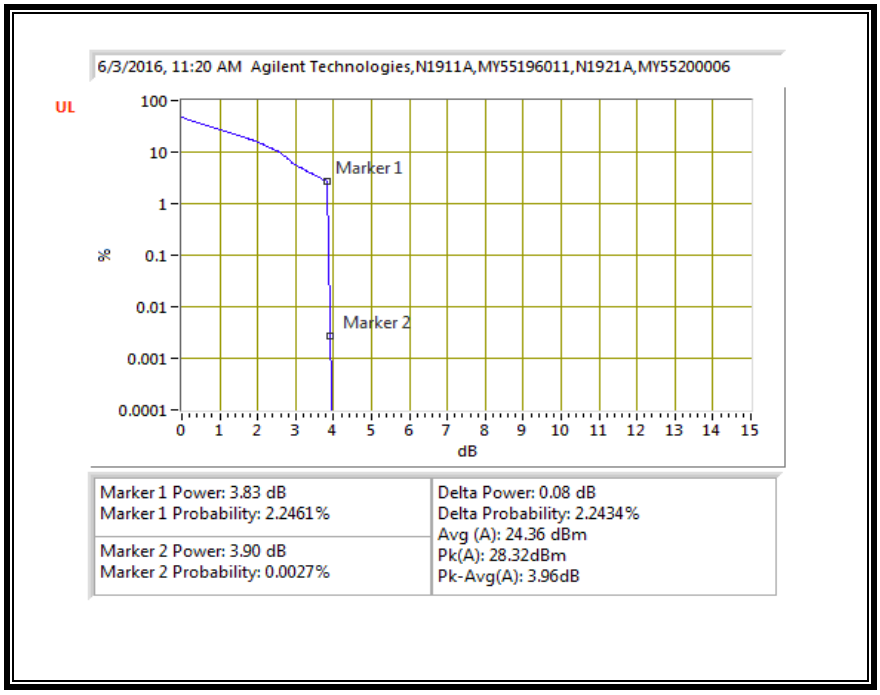
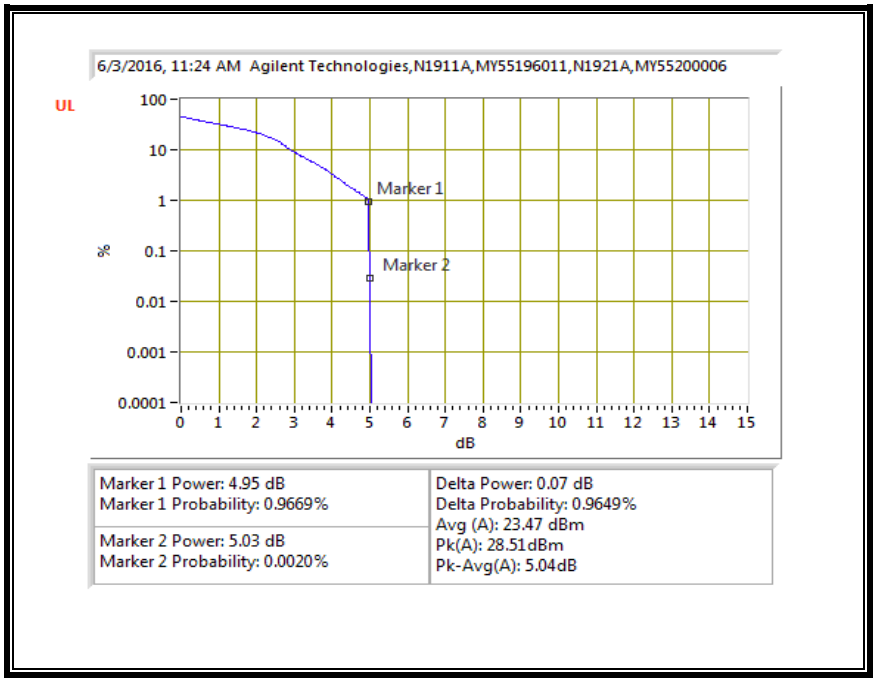
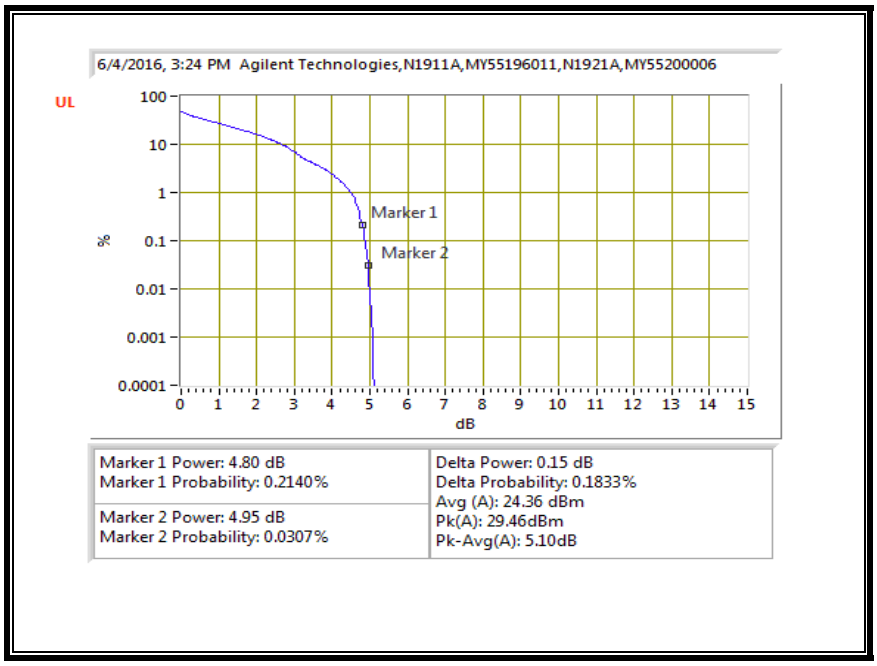


16QAM, (10.0 MHz BAND WIDTH)



10.3.8. LTE BAND 25

QPSK, (1.4 MHz BAND WIDTH)



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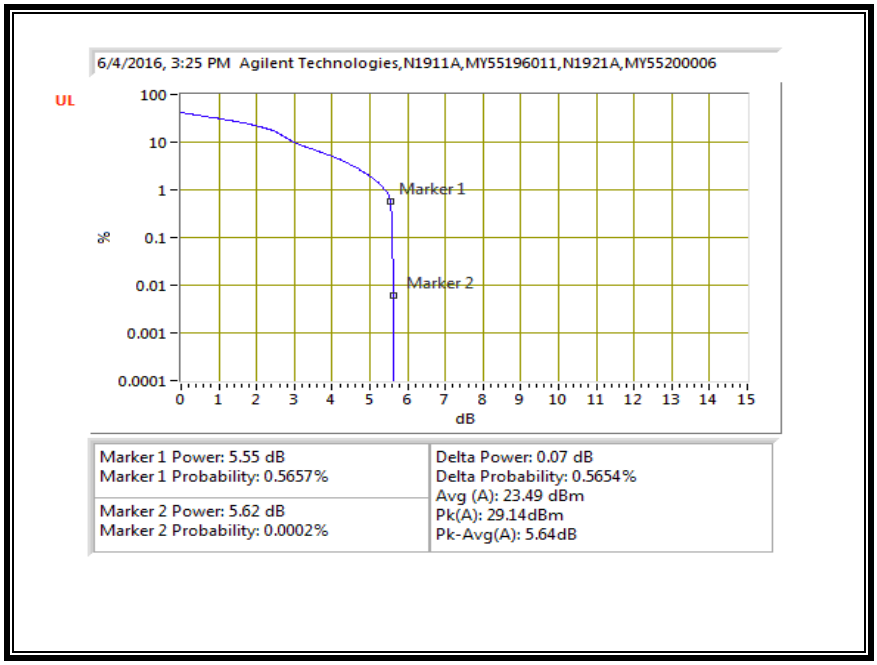

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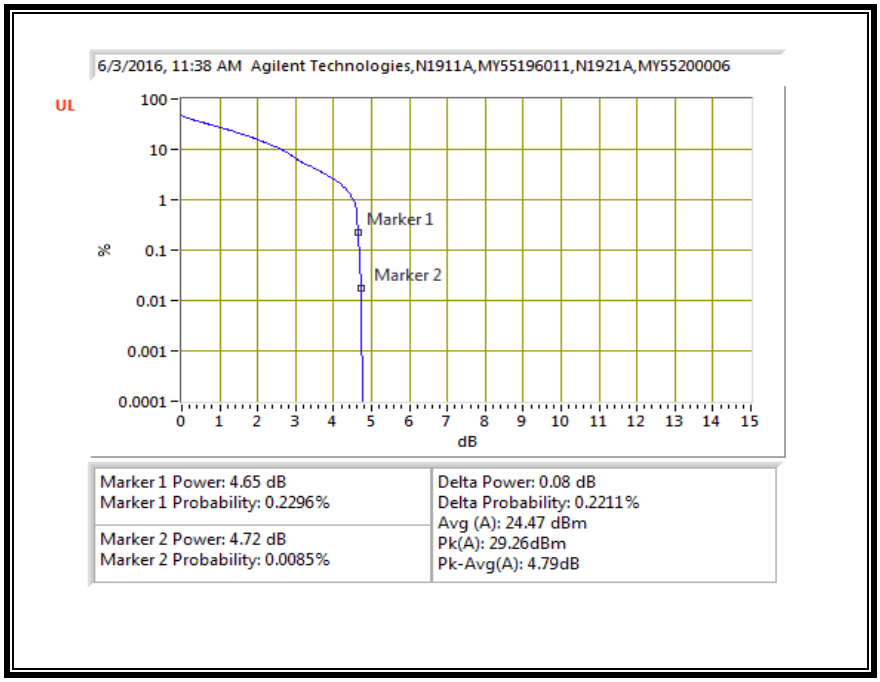

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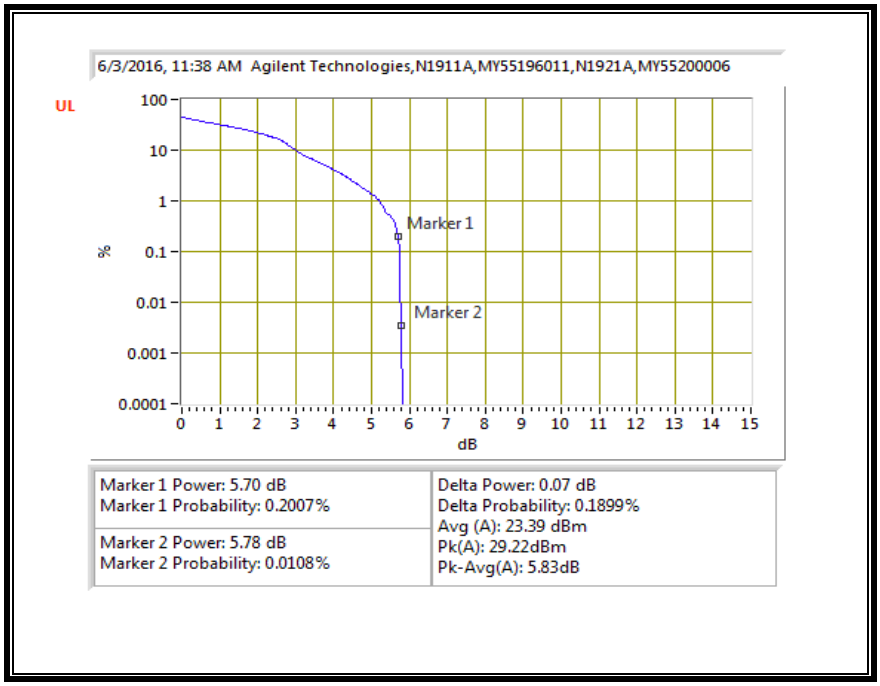
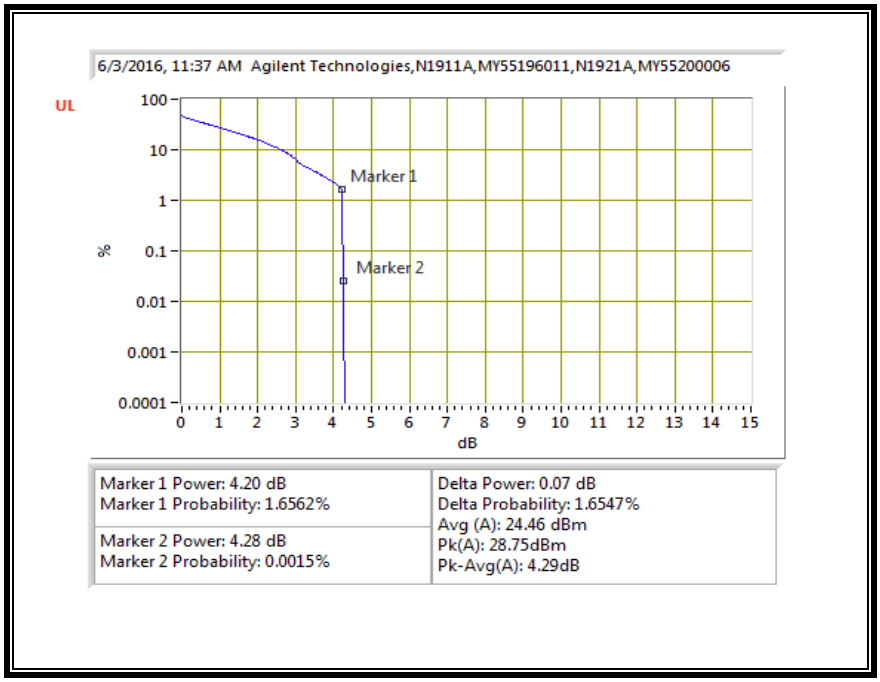


QPSK, (5.0 MHz BAND WIDTH)



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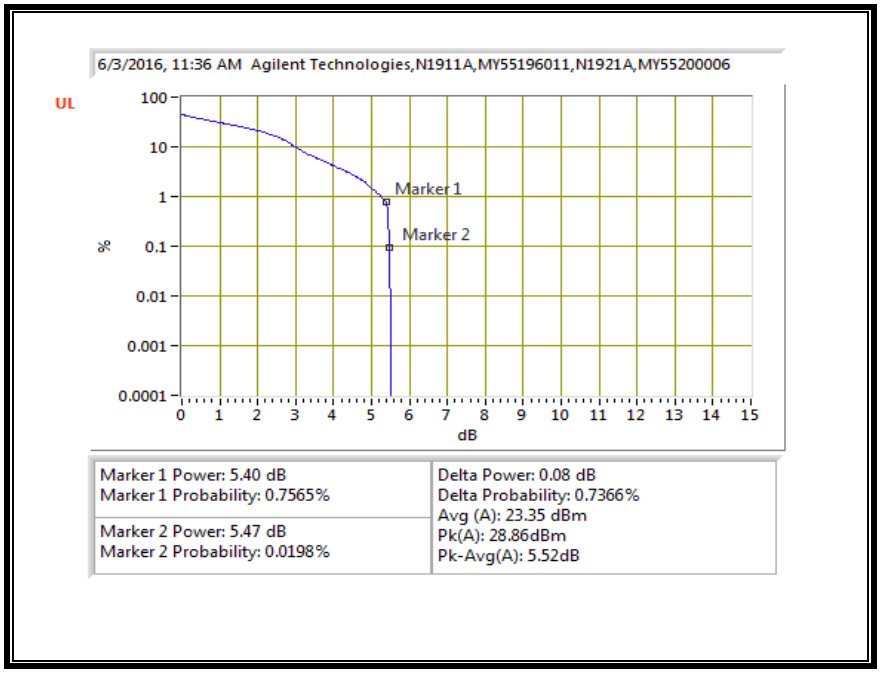

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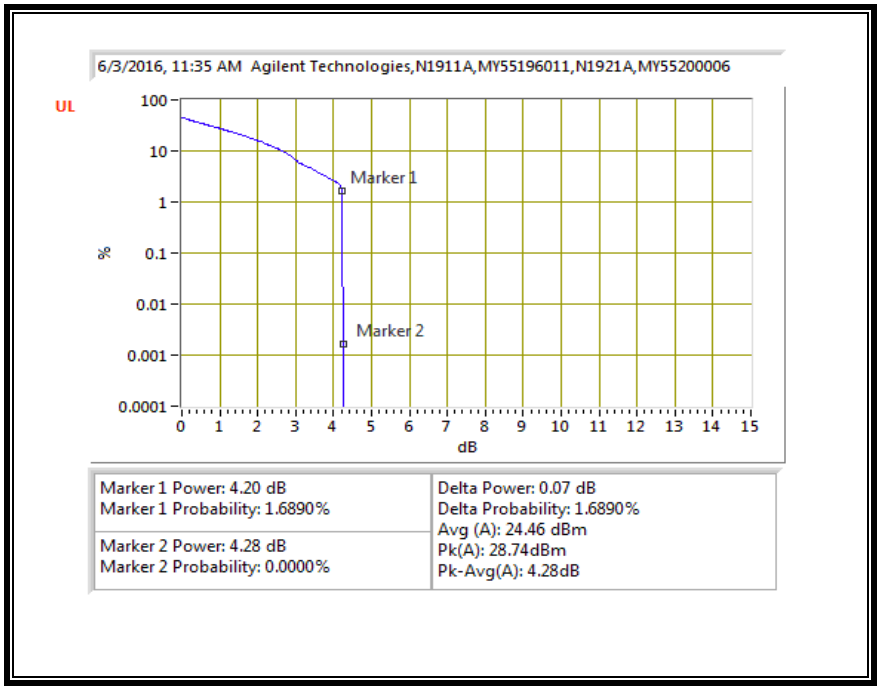
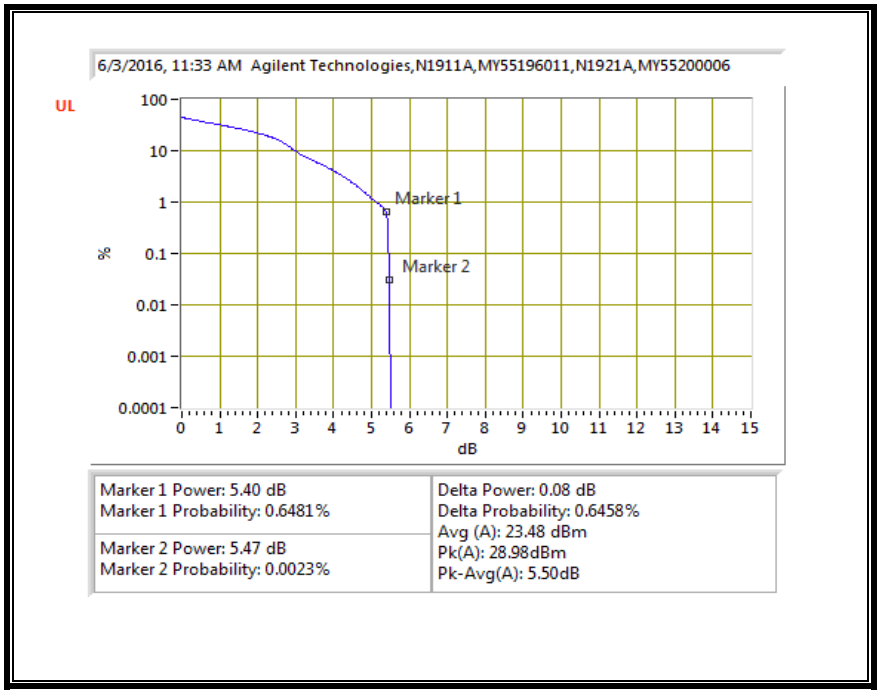
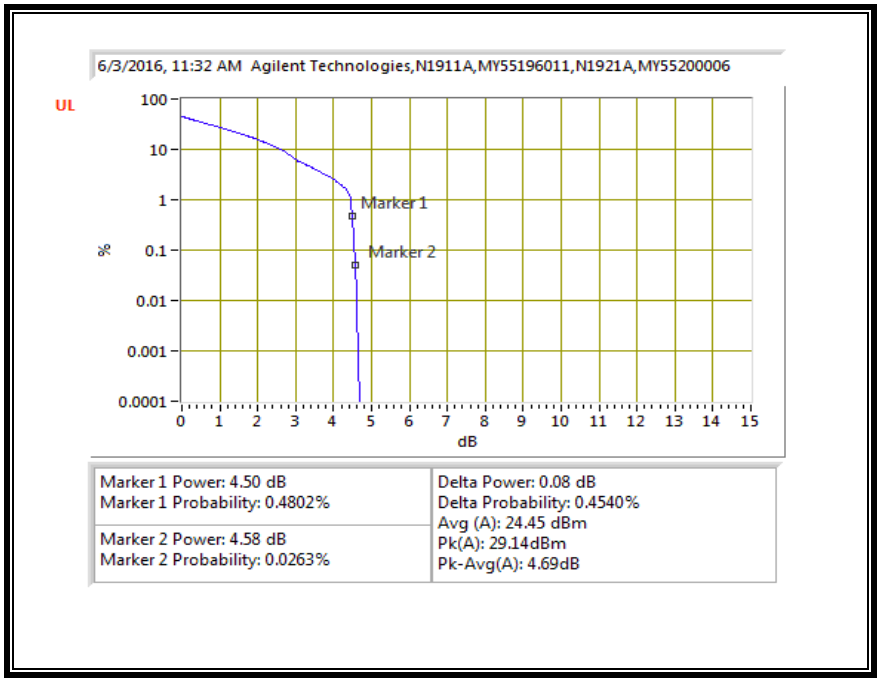


16QAM, (10.0 MHz BAND WIDTH)



QPSK, (15.0 MHz BAND WIDTH)



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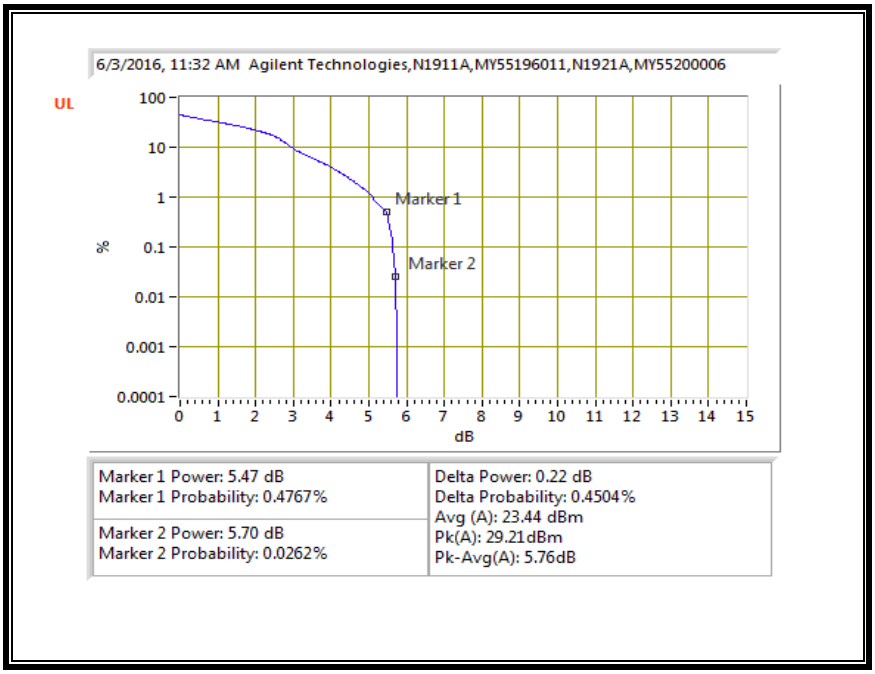
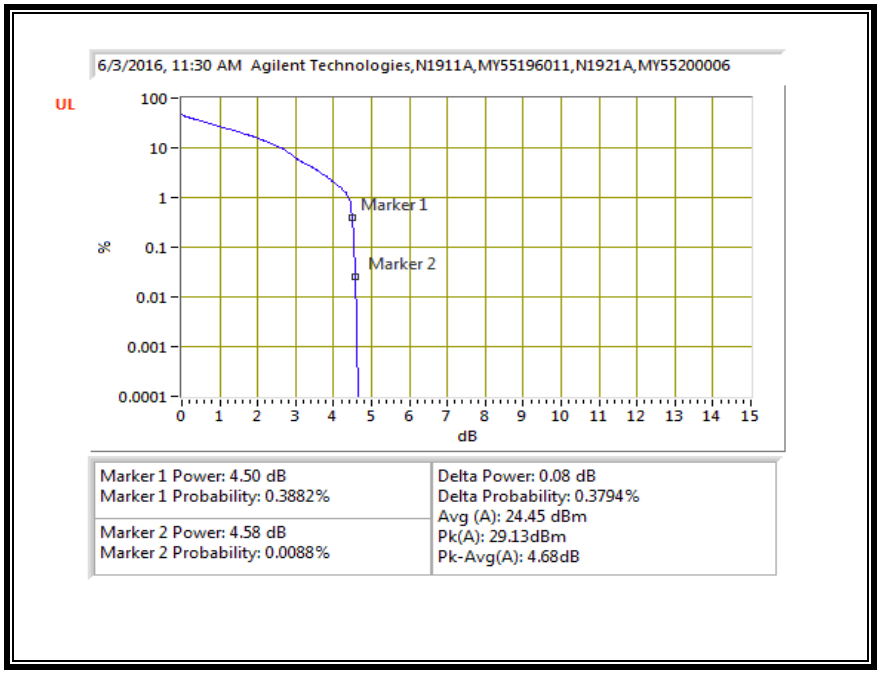


QPSK, (20.0 MHz BAND WIDTH)



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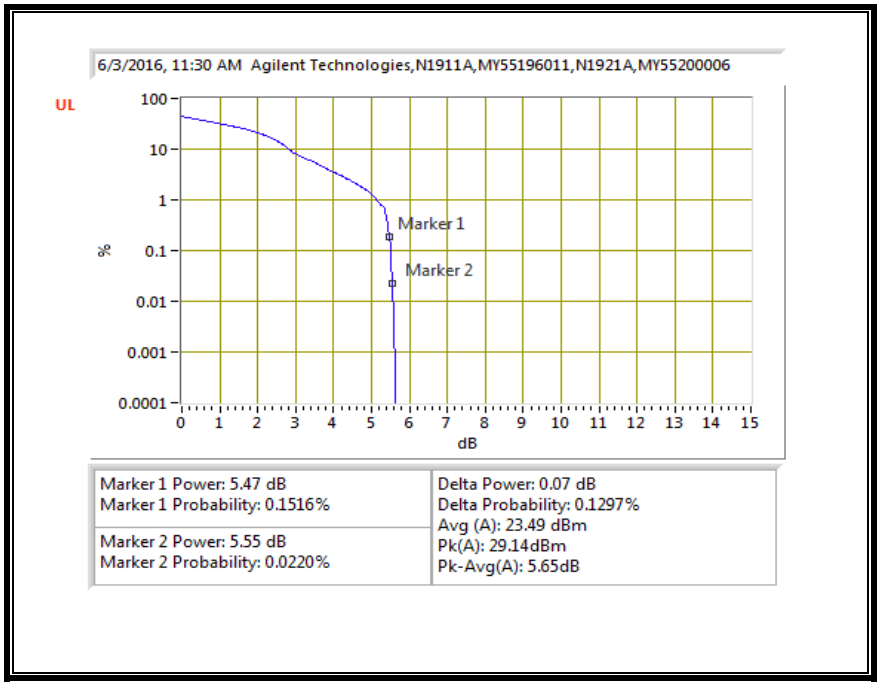
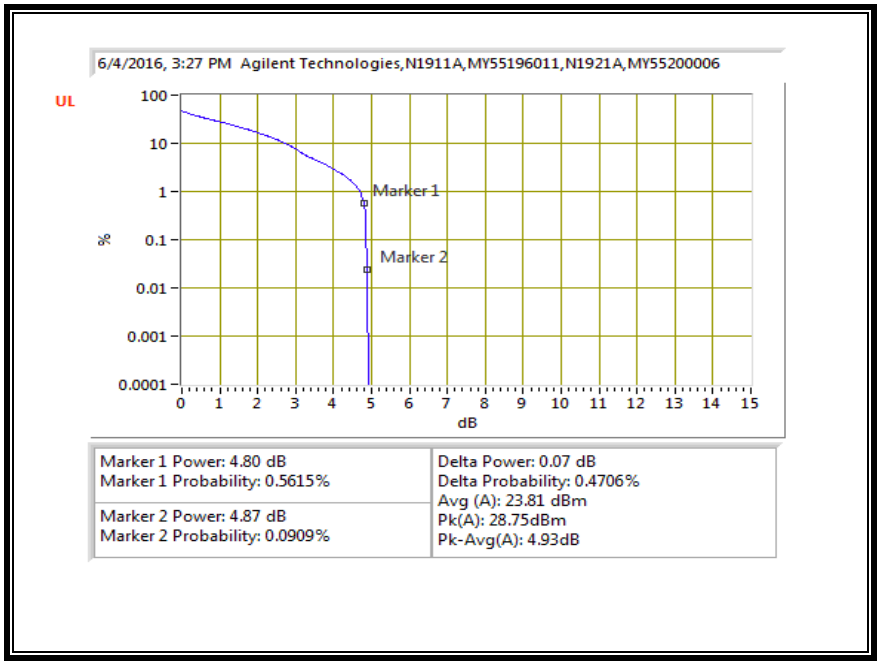


10.3.9. LTE BAND 26

QPSK, (1.4 MHz BAND WIDTH)



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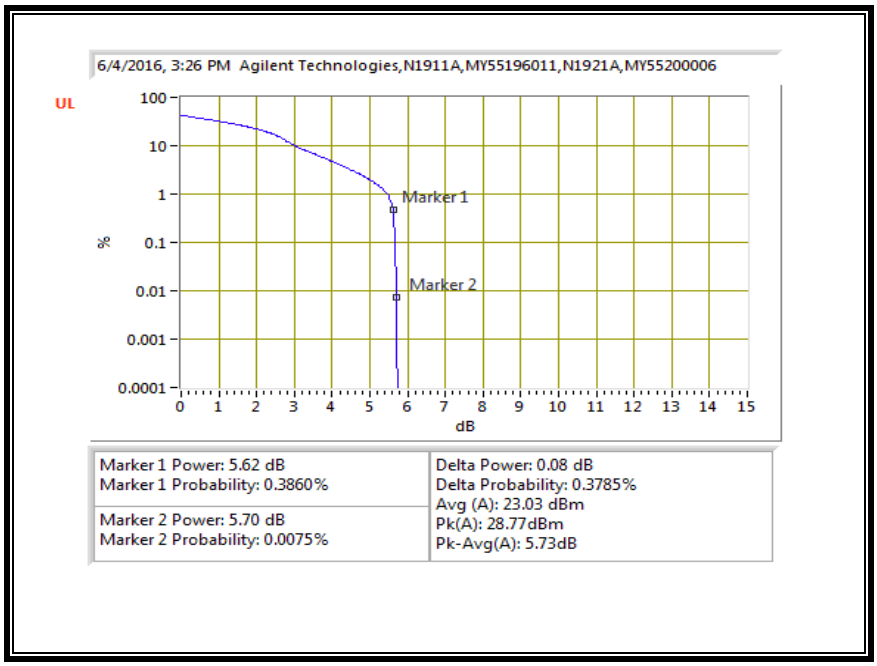
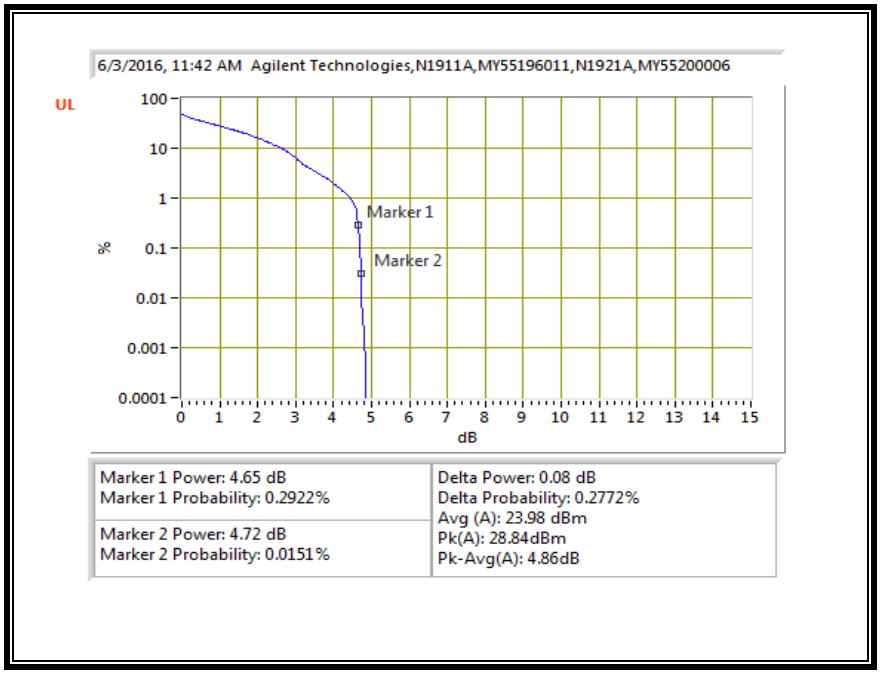


QPSK, (3.0 MHz BAND WIDTH)



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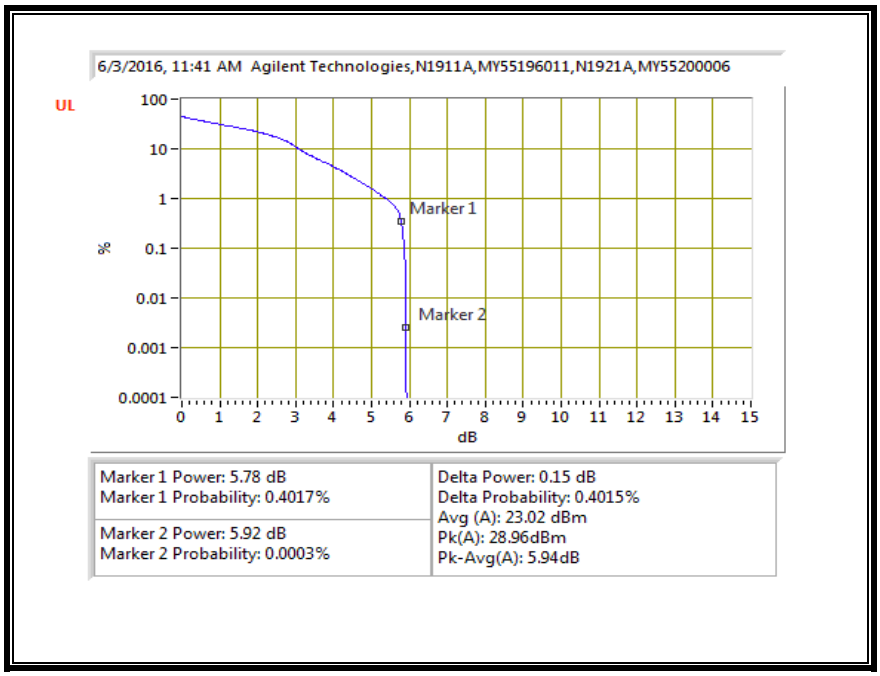
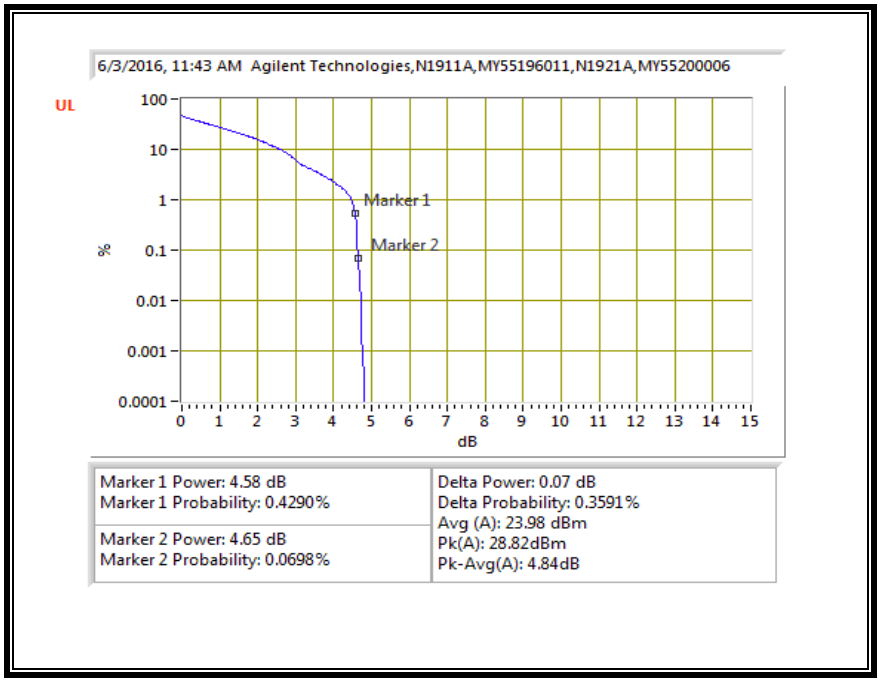


QPSK, (5.0 MHz BAND WIDTH)



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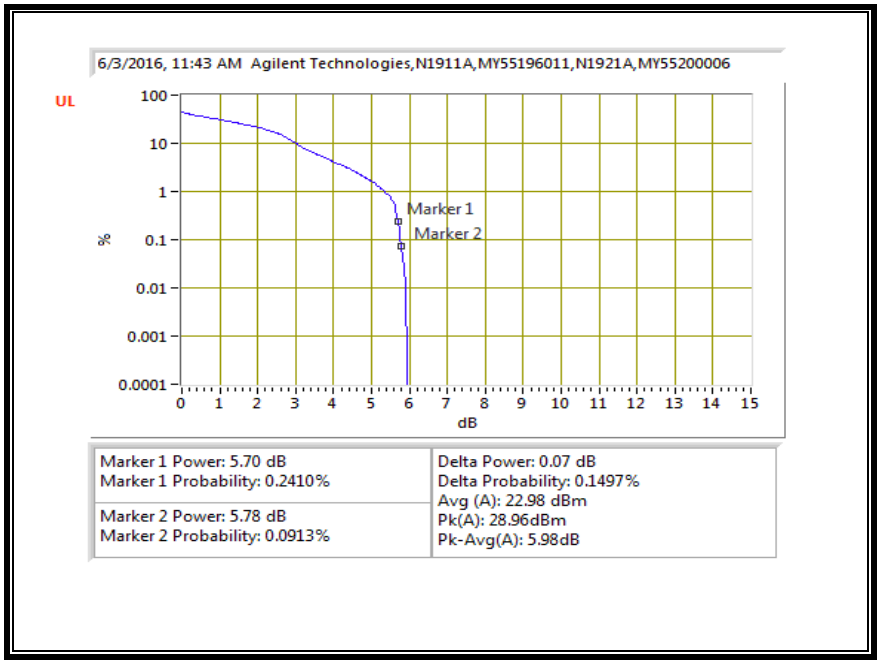
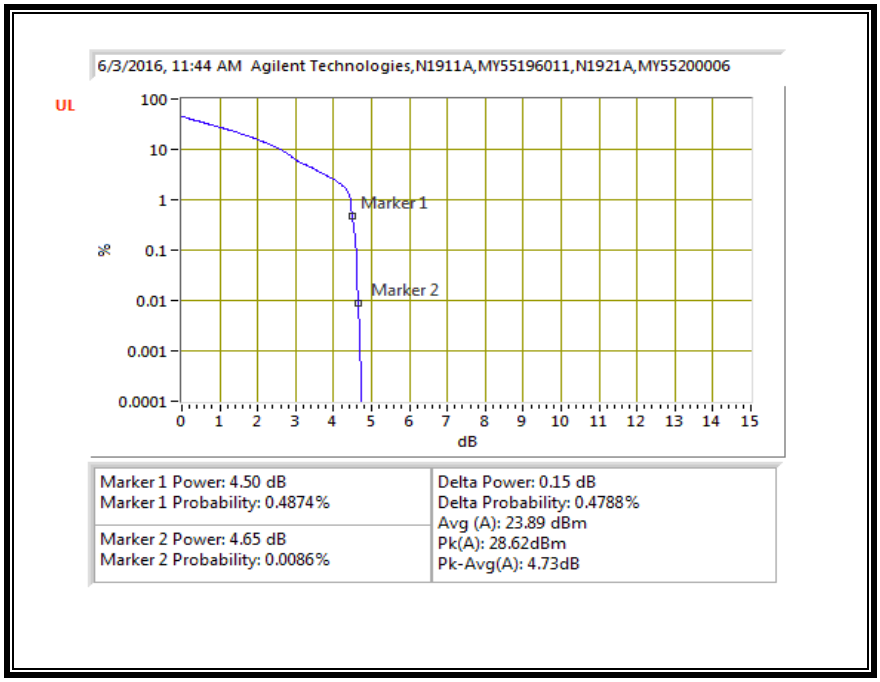


QPSK, (10.0 MHz BAND WIDTH)



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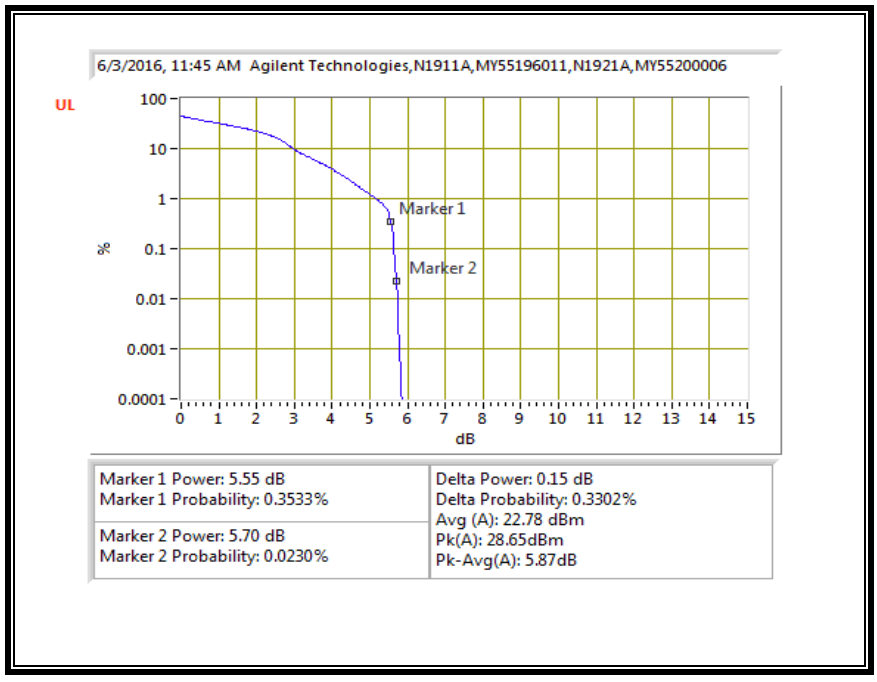
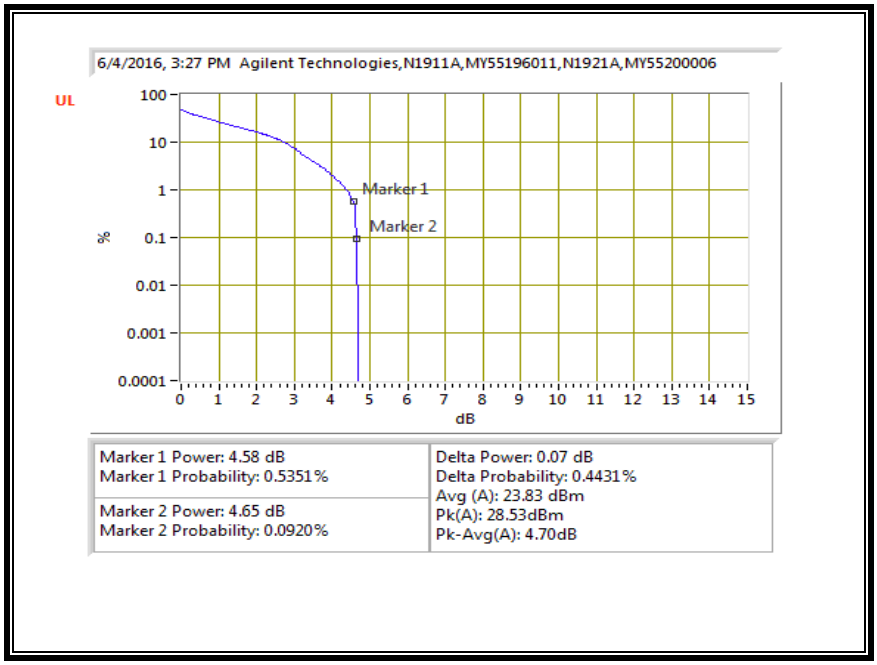


10.3.10. LTE BAND 27

QPSK, (1.4 MHz BAND WIDTH)



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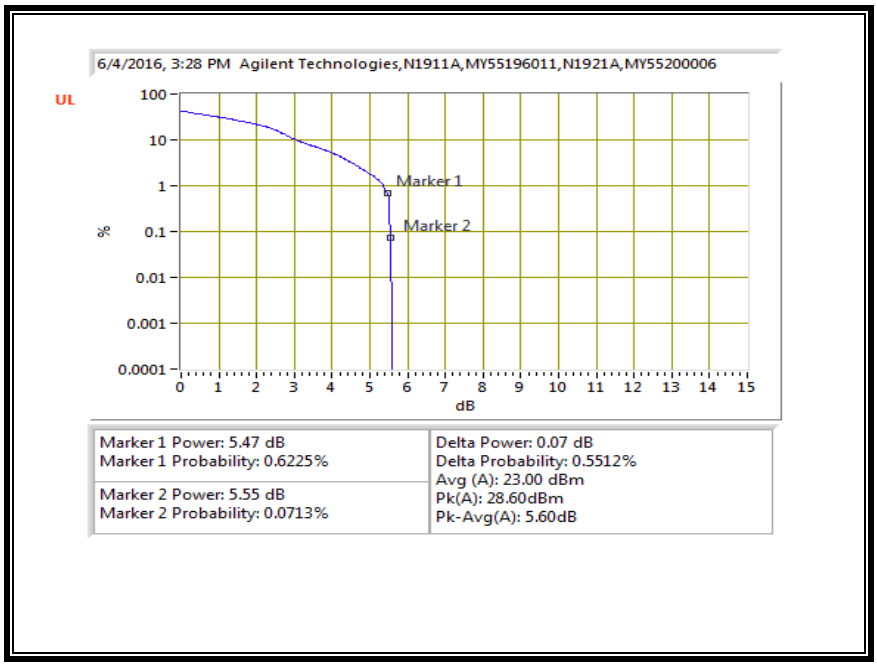
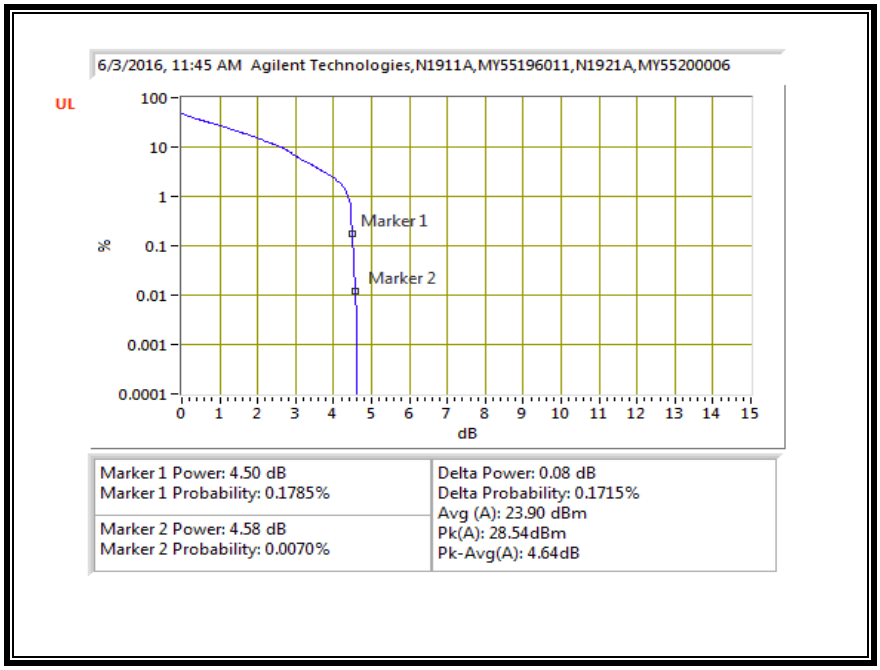


QPSK, (3.0 MHz BAND WIDTH)



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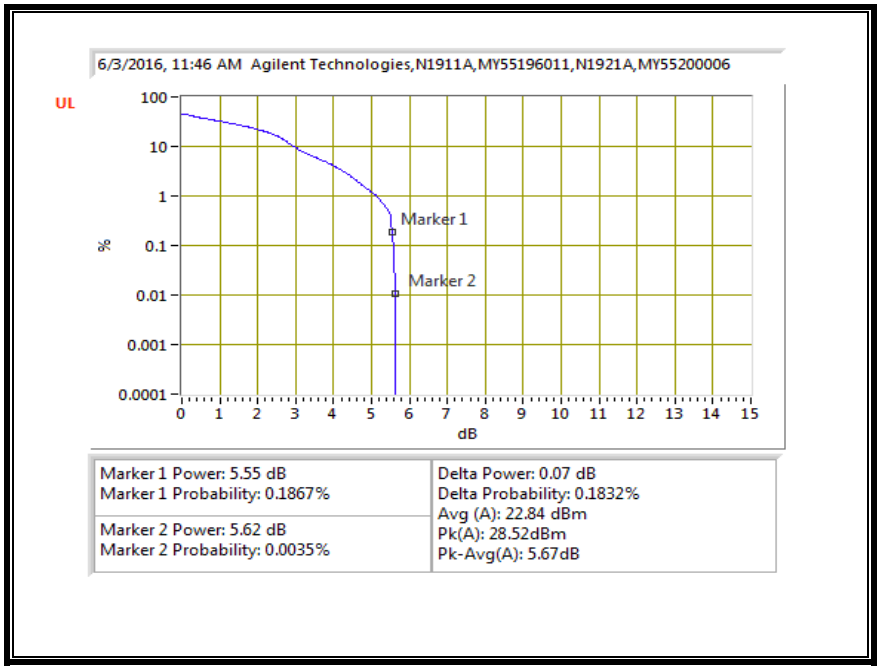
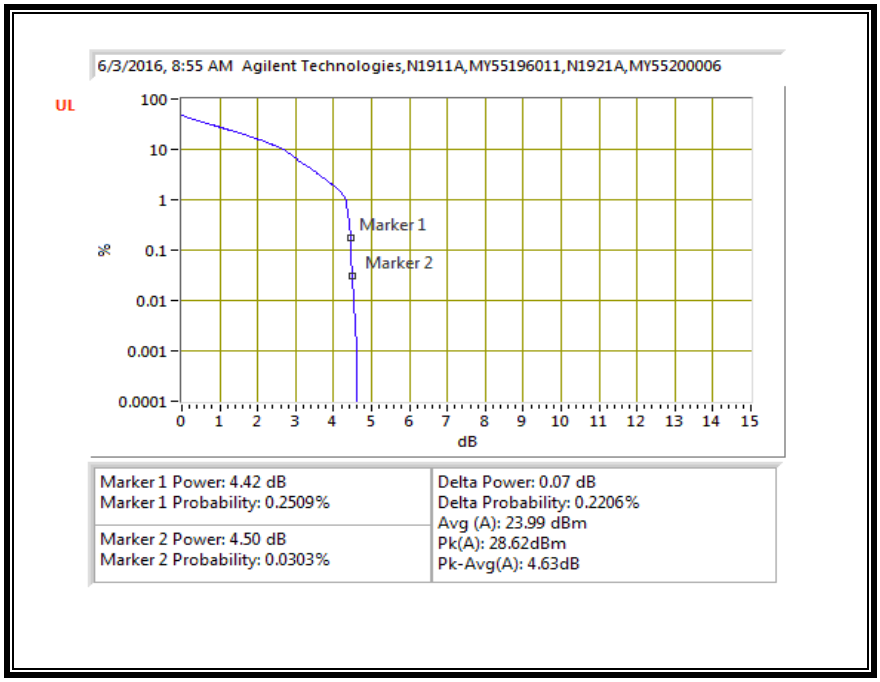
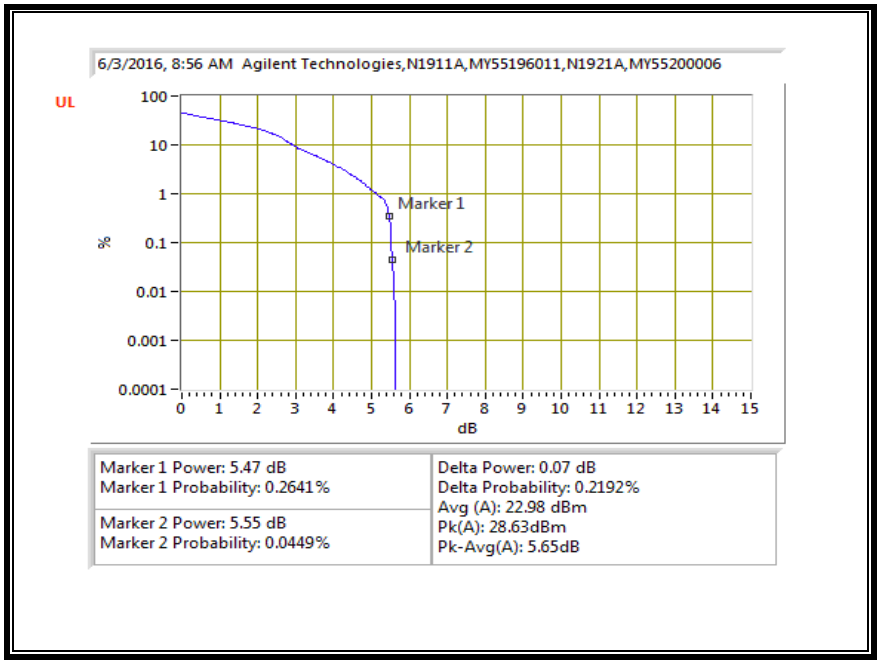


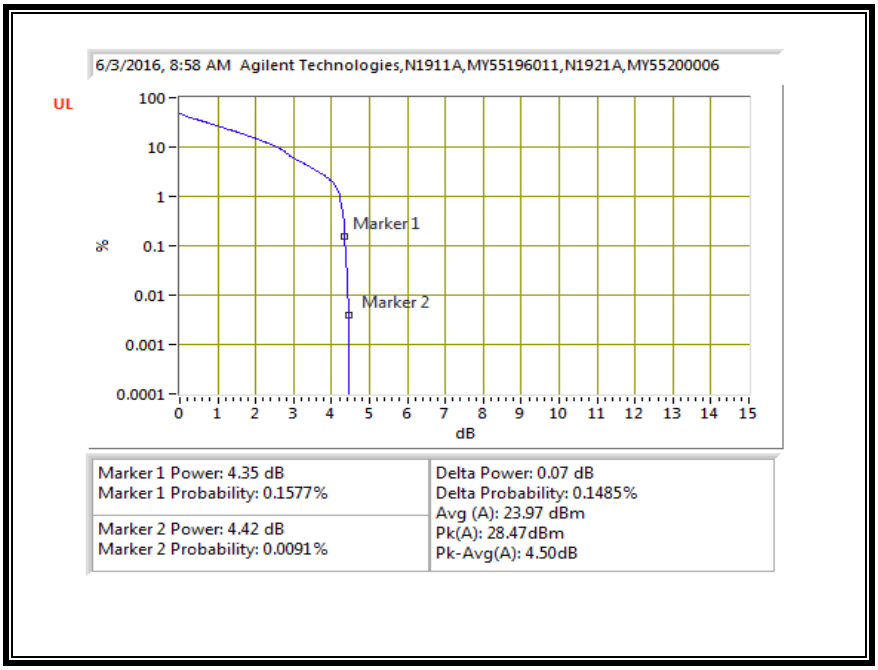
QPSK, (5.0 MHz BAND WIDTH)



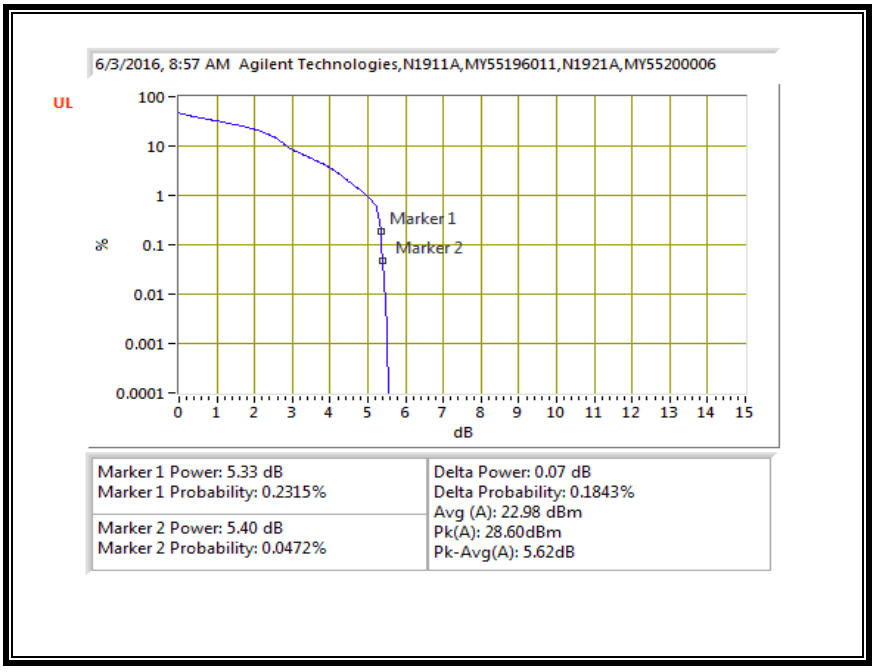
16QAM, (5.0 MHz BAND WIDTH)



QPSK, (10.0 MHz BAND WIDTH)

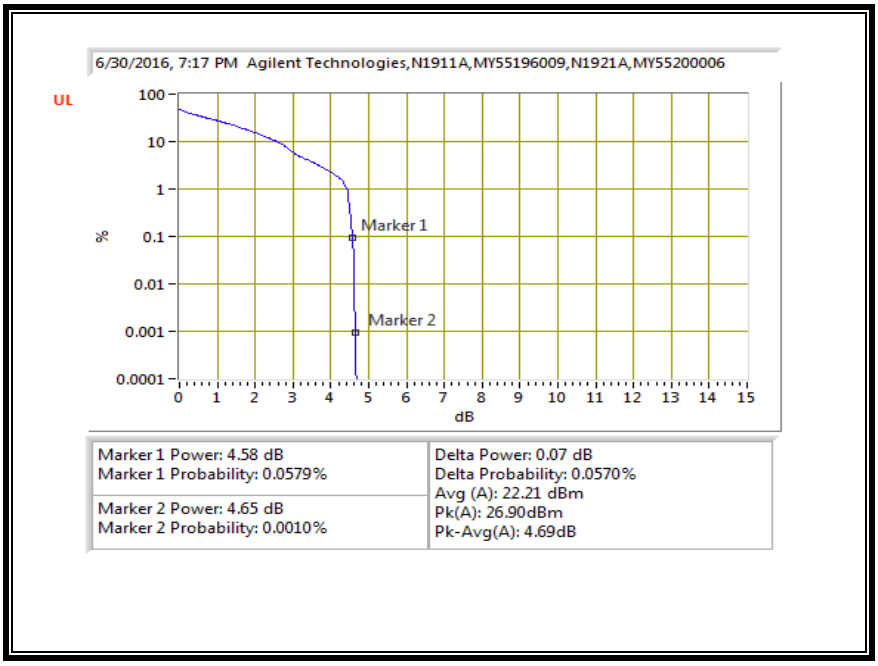


16QAM, (10.0 MHz BAND WIDTH)

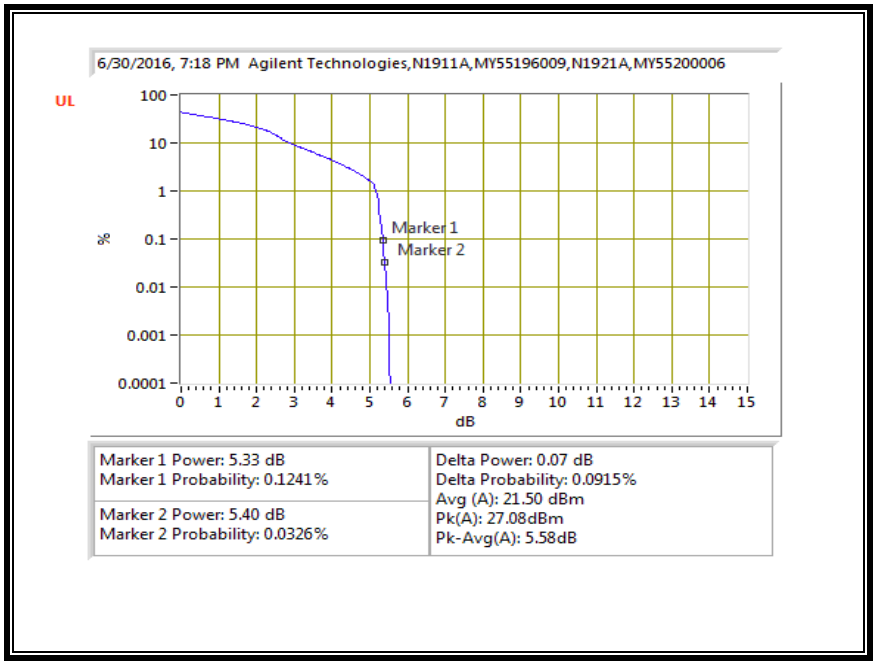


10.3.11. LTE BAND 30

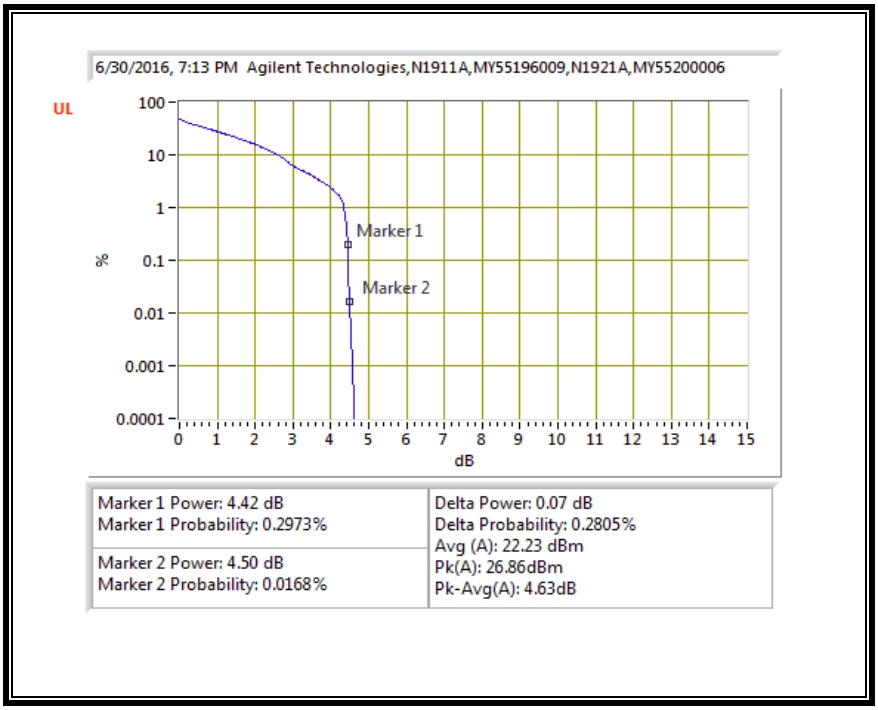
QPSK, (5.0 MHz BAND WIDTH)



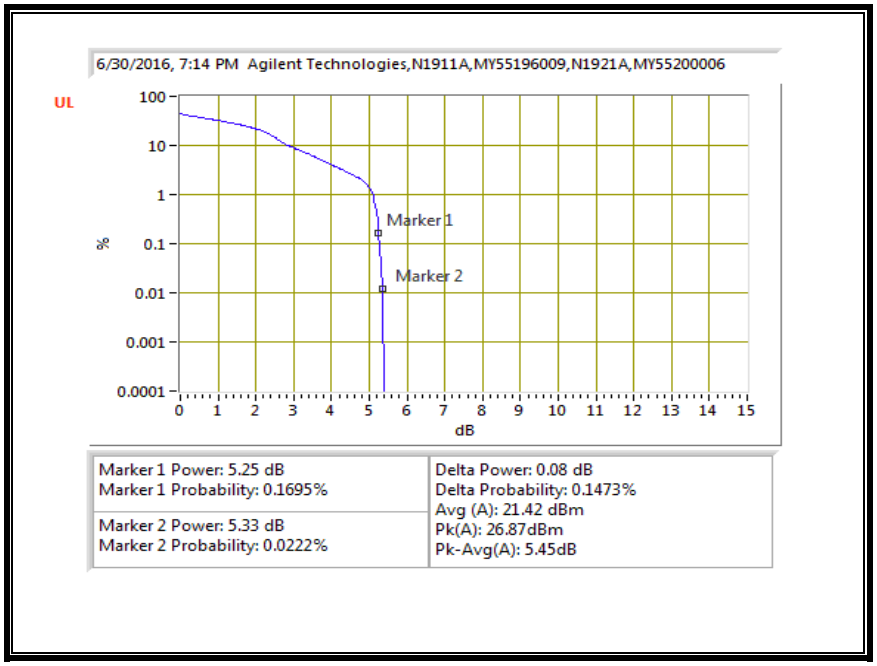
16QAM, (5.0 MHz BAND WIDTH)



QPSK, (10.0 MHz BAND WIDTH)

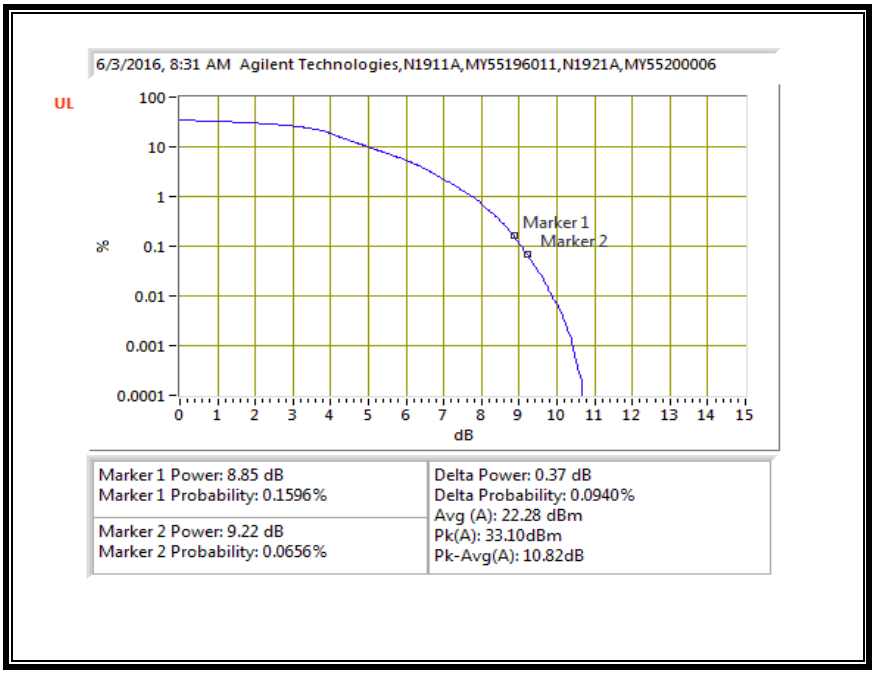


16QAM, (10.0 MHz BAND WIDTH)

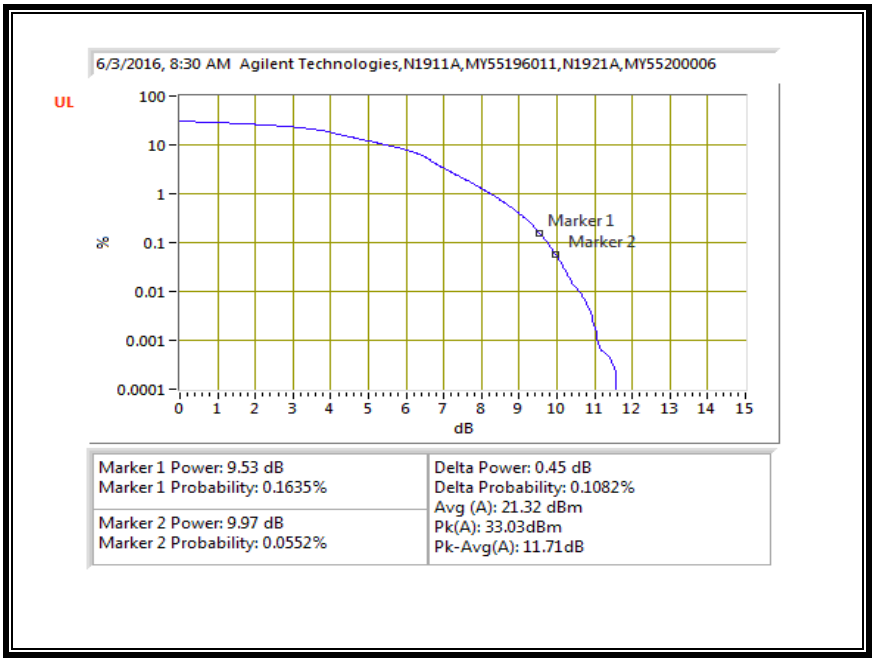


10.3.12. LTE BAND 41

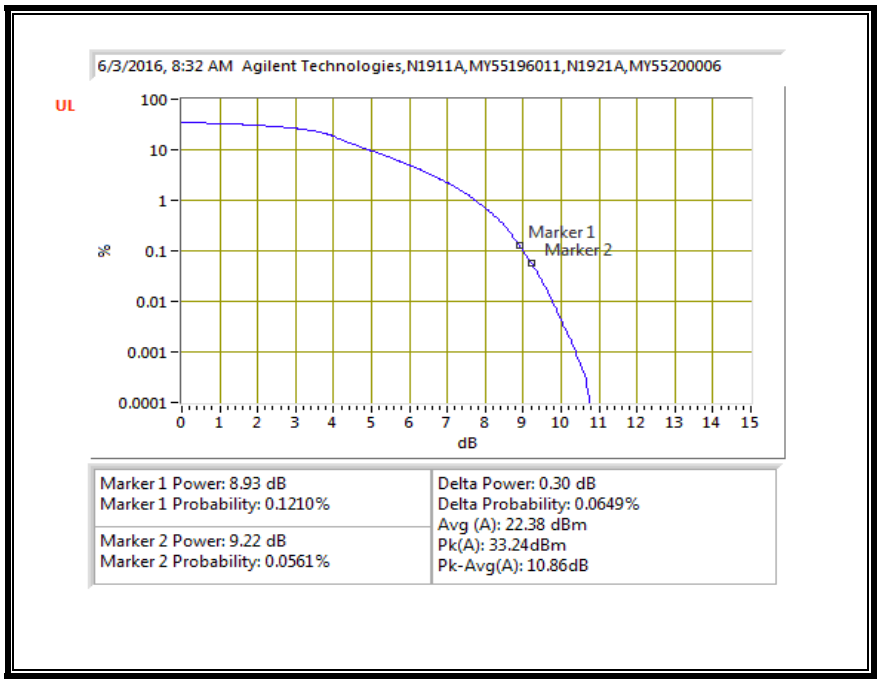
QPSK, (5.0 MHz BAND WIDTH)



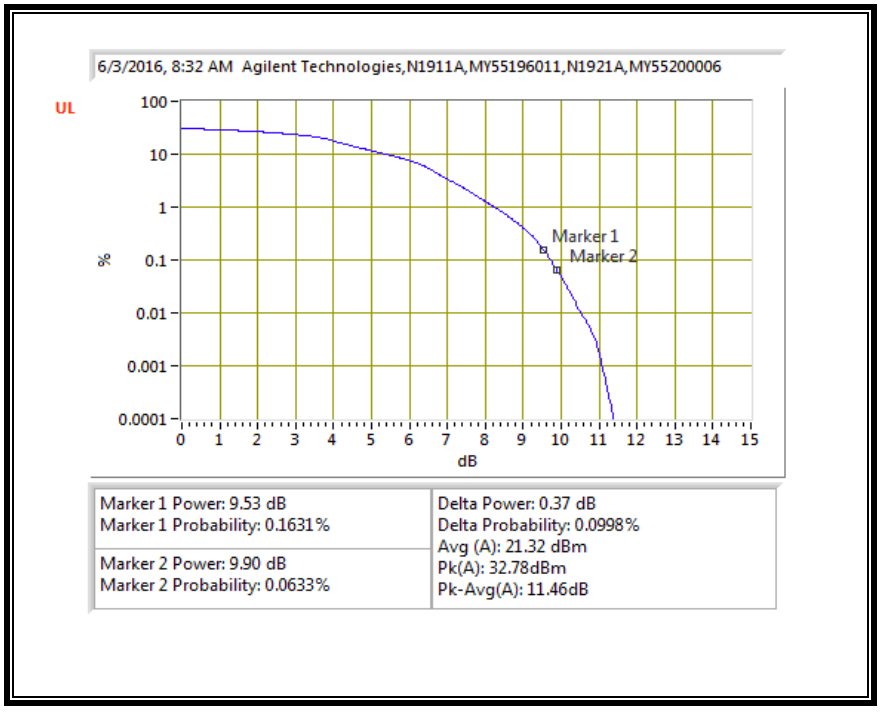
16QAM, (5.0 MHz BAND WIDTH)



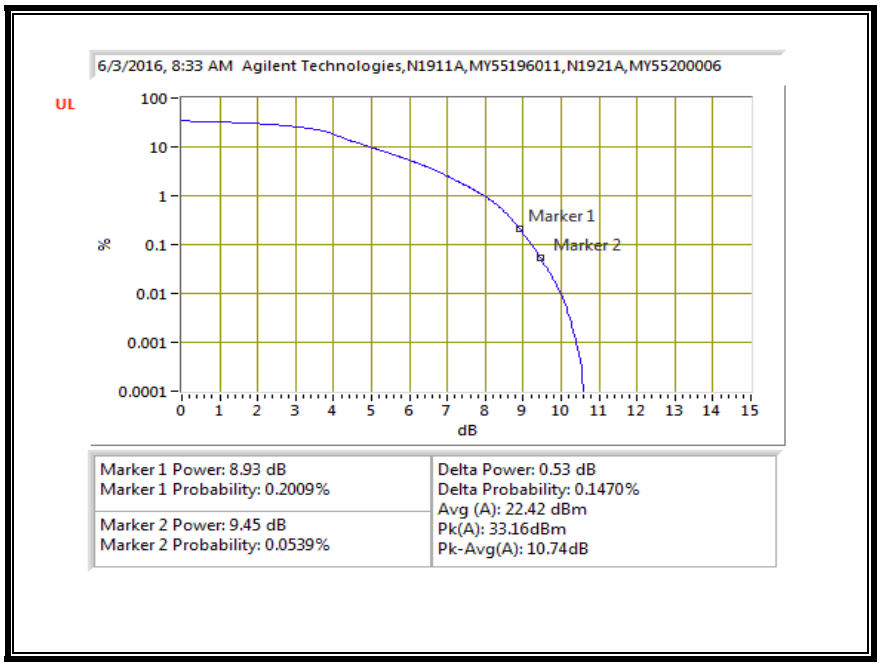
QPSK, (10.0 MHz BAND WIDTH)



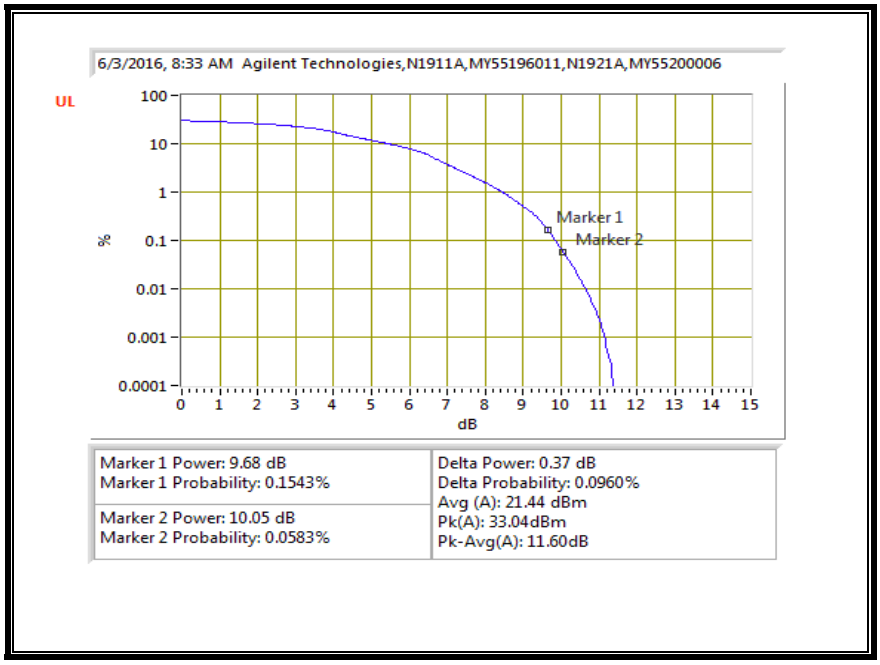
16QAM, (10.0 MHz BAND WIDTH)



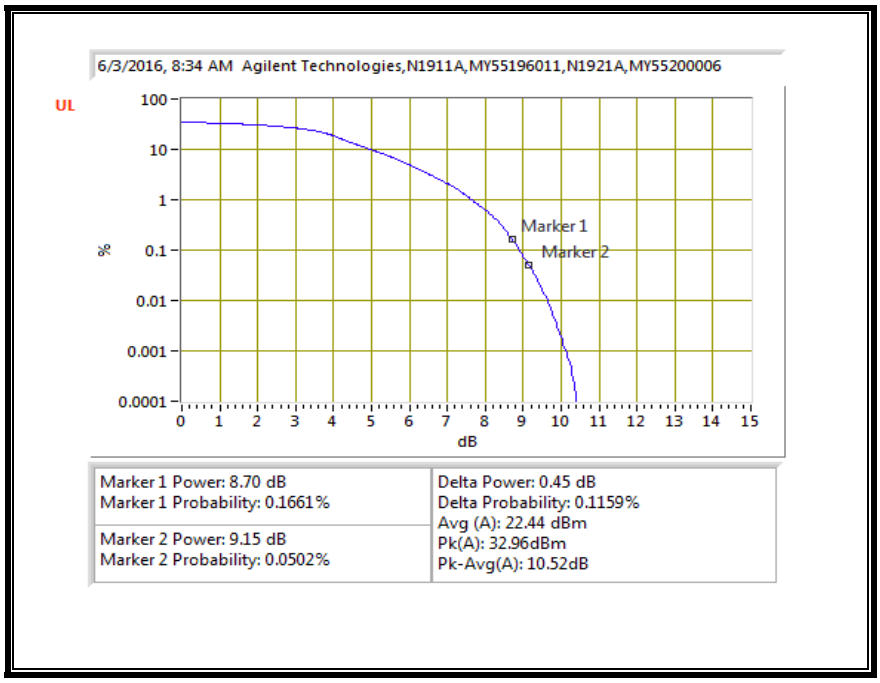
QPSK, (15.0 MHz BAND WIDTH)



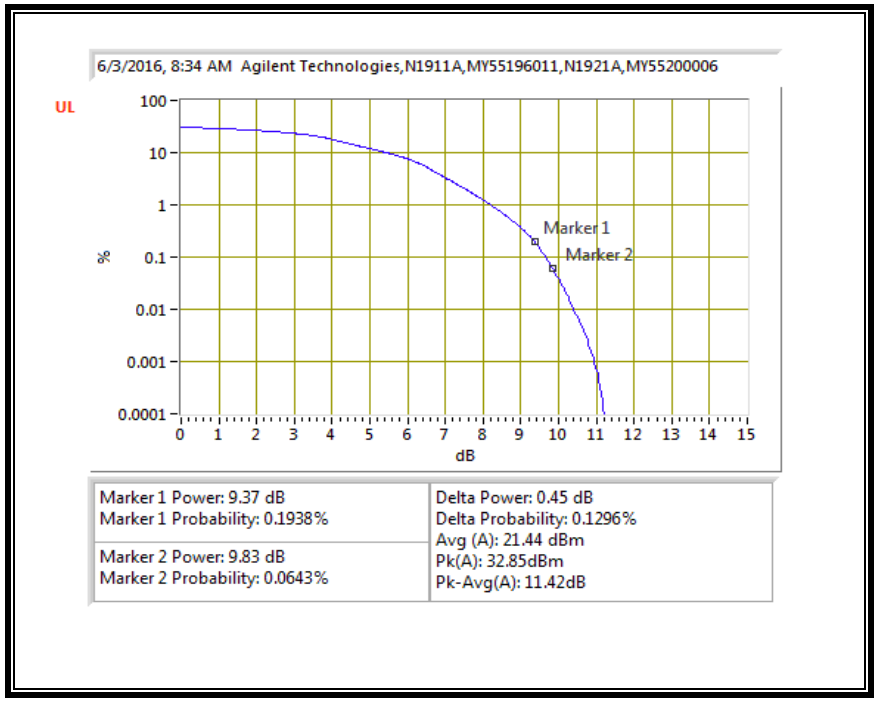
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)



16QAM, (20.0 MHz BAND WIDTH)



10.4. FIELD STRENGTH OF SPURIOUS RADIATION, LAT

RULE PART(S)

FCC: §2.1053, §22.917, §24.238,§27.53 and §90.691

LIMIT

§22.917 (e) and §24.238 (a): Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

§27.53 (g) For operations in the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB.

§27.53 (h) For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

§90.691 Emission mask requirements for EA-based systems.

(a) Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10 (f/6.1) decibels or 50 + 10 Log10 (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10 (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

The unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth in the 1 MHz band immediately outside and adjacent to the channel edge of the equipment. Beyond the 1 MHz band immediately outside the channel edge of the equipment, a resolution bandwidth of 1 MHz shall be employed. A narrower resolution bandwidth is allowed to be used provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz or 1% of the occupied bandwidth as applicable.

The power of any unwanted emissions measured from the channel edge of the equipment shall be attenuated below the transmitter power, P (dBW), as follows:

a. for base station and subscriber equipment, other than mobile subscriber equipment, the attenuation shall not be less than 43 + 10 Log10 (p), dB; and

b. for mobile subscriber equipment, the attenuation shall not be less than 43 + 10 Log10 (p), dB at the channel edges and 55 + 10 Log10 (p) at 5.5 MHz away and beyond the channel edges where p in (a) and (b) is the transmitter power measured in watts.

MODES TESTED

- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 27
- LTE Band 30
- LTE Band 38
- LTE Band 41

RESULTS

10.4.1. LTE BAND 2

QPSK EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 15U22288
Date: 04/27/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 2, 20MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)										
3.72	-63.1	H	3.0	-16.3	36.2	1.0	-51.5	-13.0	-38.5	
5.58	-63.7	H	3.0	-13.3	36.1	1.0	-48.4	-13.0	-35.4	
7.44	-64.6	H	3.0	-11.5	35.2	1.0	-45.7	-13.0	-32.7	
9.30	-65.0	H	3.0	-10.1	33.9	1.0	-43.0	-13.0	-30.0	
3.72	-63.4	V	3.0	-16.2	36.2	1.0	-51.4	-13.0	-38.4	
5.58	-64.0	V	3.0	-13.8	36.1	1.0	-49.0	-13.0	-36.0	
7.44	-64.1	V	3.0	-11.1	35.2	1.0	-45.2	-13.0	-32.2	
9.30	-65.2	V	3.0	-10.5	33.9	1.0	-43.3	-13.0	-30.3	
Mid Channel (1880MHz)										
3.76	-63.0	H	3.0	-16.1	36.2	1.0	-51.3	-13.0	-38.3	
5.64	-63.4	H	3.0	-12.9	36.1	1.0	-48.0	-13.0	-35.0	
7.52	-64.5	H	3.0	-11.3	35.1	1.0	-45.4	-13.0	-32.4	
9.40	-64.7	H	3.0	-9.7	33.8	1.0	-42.5	-13.0	-29.5	
3.76	-62.9	V	3.0	-15.6	36.2	1.0	-50.8	-13.0	-37.8	
5.64	-63.5	V	3.0	-13.2	36.1	1.0	-48.3	-13.0	-35.3	
7.52	-64.0	V	3.0	-10.9	35.1	1.0	-45.0	-13.0	-32.0	
9.40	-64.1	V	3.0	-9.3	33.8	1.0	-42.1	-13.0	-29.1	
High Channel (1900MHz)										
3.80	-62.9	H	3.0	-15.9	36.2	1.0	-51.1	-13.0	-38.1	
5.70	-64.4	H	3.0	-13.8	36.1	1.0	-48.9	-13.0	-35.9	
7.60	-64.2	H	3.0	-10.9	35.1	1.0	-45.0	-13.0	-32.0	
9.50	-64.4	H	3.0	-9.3	33.7	1.0	-42.1	-13.0	-29.1	
3.80	-63.2	V	3.0	-15.8	36.2	1.0	-50.9	-13.0	-37.9	
5.70	-64.0	V	3.0	-13.6	36.1	1.0	-48.7	-13.0	-35.7	
7.60	-64.5	V	3.0	-11.3	35.1	1.0	-45.4	-13.0	-32.4	
9.50	-65.3	V	3.0	-10.4	33.7	1.0	-43.1	-13.0	-30.1	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 15U22288
Date: 04/27/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 2, 20MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)										
3.72	-62.7	H	3.0	-15.9	36.2	1.0	-51.1	-13.0	-38.1	
5.58	-64.5	H	3.0	-14.1	36.1	1.0	-49.2	-13.0	-36.2	
7.44	-64.6	H	3.0	-11.5	35.2	1.0	-45.7	-13.0	-32.7	
9.30	-65.0	H	3.0	-10.1	33.9	1.0	-43.0	-13.0	-30.0	
3.72	-63.5	V	3.0	-16.3	36.2	1.0	-51.5	-13.0	-38.5	
5.58	-64.1	V	3.0	-13.9	36.1	1.0	-49.1	-13.0	-36.1	
7.44	-64.2	V	3.0	-11.2	35.2	1.0	-45.3	-13.0	-32.3	
9.30	-65.2	V	3.0	-10.5	33.9	1.0	-43.3	-13.0	-30.3	
Mid Channel (1880MHz)										
3.76	-63.4	H	3.0	-16.5	36.2	1.0	-51.7	-13.0	-38.7	
5.64	-64.0	H	3.0	-13.5	36.1	1.0	-48.6	-13.0	-35.6	
7.52	-64.4	H	3.0	-11.2	35.1	1.0	-45.3	-13.0	-32.3	
9.40	-64.9	H	3.0	-9.9	33.8	1.0	-42.7	-13.0	-29.7	
3.76	-63.2	V	3.0	-15.9	36.2	1.0	-51.1	-13.0	-38.1	
5.64	-63.8	V	3.0	-13.5	36.1	1.0	-48.6	-13.0	-35.6	
7.52	-64.6	V	3.0	-11.5	35.1	1.0	-45.6	-13.0	-32.6	
9.40	-64.8	V	3.0	-10.0	33.8	1.0	-42.8	-13.0	-29.8	
High Channel (1900MHz)										
3.80	-62.5	H	3.0	-15.5	36.2	1.0	-50.7	-13.0	-37.7	
5.70	-63.6	H	3.0	-13.0	36.1	1.0	-48.1	-13.0	-35.1	
7.60	-64.6	H	3.0	-11.3	35.1	1.0	-45.4	-13.0	-32.4	
9.50	-65.0	H	3.0	-9.9	33.7	1.0	-42.7	-13.0	-29.7	
3.80	-62.8	V	3.0	-15.4	36.2	1.0	-50.5	-13.0	-37.5	
5.70	-64.2	V	3.0	-13.8	36.1	1.0	-48.9	-13.0	-35.9	
7.60	-64.8	V	3.0	-11.6	35.1	1.0	-45.7	-13.0	-32.7	
9.50	-65.2	V	3.0	-10.3	33.7	1.0	-43.0	-13.0	-30.0	

Rev. 05.21.15

10.4.2. LTE BAND 4

QPSK EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 15U22288
Date: 04/27/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4, 20MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1720MHz)										
3.44	-65.2	H	3.0	-19.0	36.4	1.0	-54.4	-13.0	-41.4	
5.16	-63.5	H	3.0	-13.8	36.3	1.0	-49.1	-13.0	-36.1	
6.88	-64.6	H	3.0	-12.1	35.6	1.0	-46.7	-13.0	-33.7	
8.60	-64.8	H	3.0	-10.6	34.4	1.0	-44.0	-13.0	-31.0	
3.44	-64.9	V	3.0	-18.6	36.4	1.0	-54.0	-13.0	-41.0	
5.16	-63.3	V	3.0	-13.8	36.3	1.0	-49.1	-13.0	-36.1	
6.88	-64.8	V	3.0	-12.4	35.6	1.0	-46.9	-13.0	-33.9	
8.60	-65.4	V	3.0	-11.3	34.4	1.0	-44.7	-13.0	-31.7	
Mid Channel (1732.5MHz)										
3.50	-64.8	H	3.0	-18.5	36.4	1.0	-53.8	-13.0	-40.8	
5.26	-64.4	H	3.0	-14.6	36.3	1.0	-49.8	-13.0	-36.8	
7.02	-63.2	H	3.0	-10.5	35.5	1.0	-45.0	-13.0	-32.0	
8.78	-64.5	H	3.0	-10.1	34.2	1.0	-43.3	-13.0	-30.3	
3.50	-64.7	V	3.0	-18.2	36.4	1.0	-53.6	-13.0	-40.6	
5.26	-63.9	V	3.0	-14.3	36.3	1.0	-49.6	-13.0	-36.6	
7.02	-64.1	V	3.0	-11.4	35.5	1.0	-45.9	-13.0	-32.9	
8.78	-65.1	V	3.0	-10.8	34.2	1.0	-44.1	-13.0	-31.1	
High Channel (1745MHz)										
3.49	-64.8	H	3.0	-18.5	36.4	1.0	-53.9	-13.0	-40.9	
5.24	-64.4	H	3.0	-14.6	36.3	1.0	-49.9	-13.0	-36.9	
6.98	-64.5	H	3.0	-11.8	35.5	1.0	-46.3	-13.0	-33.3	
8.73	-65.0	H	3.0	-10.7	34.3	1.0	-43.9	-13.0	-30.9	
3.49	-64.2	V	3.0	-17.7	36.4	1.0	-53.1	-13.0	-40.1	
5.24	-64.6	V	3.0	-15.0	36.3	1.0	-50.3	-13.0	-37.3	
6.98	-64.9	V	3.0	-12.3	35.5	1.0	-46.8	-13.0	-33.8	
8.73	-65.7	V	3.0	-11.5	34.3	1.0	-44.8	-13.0	-31.8	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 15U22288
Date: 04/27/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4, 20MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1720MHz)										
3.44	-65.0	H	3.0	-18.8	36.4	1.0	-54.2	-13.0	-41.2	
5.16	-63.7	H	3.0	-14.0	36.3	1.0	-49.3	-13.0	-36.3	
6.88	-64.2	H	3.0	-11.7	35.6	1.0	-46.3	-13.0	-33.3	
8.60	-65.1	H	3.0	-10.9	34.4	1.0	-44.3	-13.0	-31.3	
3.44	-65.1	V	3.0	-18.8	36.4	1.0	-54.2	-13.0	-41.2	
5.16	-62.6	V	3.0	-13.1	36.3	1.0	-48.4	-13.0	-35.4	
6.88	-64.5	V	3.0	-12.1	35.6	1.0	-46.6	-13.0	-33.6	
8.60	-65.4	V	3.0	-11.3	34.4	1.0	-44.7	-13.0	-31.7	
Mid Channel (1732.5MHz)										
3.50	-65.2	H	3.0	-18.9	36.4	1.0	-54.2	-13.0	-41.2	
5.26	-64.4	H	3.0	-14.6	36.3	1.0	-49.8	-13.0	-36.8	
7.02	-64.7	H	3.0	-12.0	35.5	1.0	-46.5	-13.0	-33.5	
8.78	-64.8	H	3.0	-10.4	34.2	1.0	-43.6	-13.0	-30.6	
3.50	-65.1	V	3.0	-18.6	36.4	1.0	-54.0	-13.0	-41.0	
5.26	-63.8	V	3.0	-14.2	36.3	1.0	-49.5	-13.0	-36.5	
7.02	-64.3	V	3.0	-11.6	35.5	1.0	-46.1	-13.0	-33.1	
8.78	-65.0	V	3.0	-10.7	34.2	1.0	-44.0	-13.0	-31.0	
High Channel (1745MHz)										
3.49	-65.2	H	3.0	-18.9	36.4	1.0	-54.3	-13.0	-41.3	
5.24	-63.9	H	3.0	-14.1	36.3	1.0	-49.4	-13.0	-36.4	
6.98	-64.5	H	3.0	-11.8	35.5	1.0	-46.3	-13.0	-33.3	
8.73	-64.5	H	3.0	-10.2	34.3	1.0	-43.4	-13.0	-30.4	
3.49	-65.3	V	3.0	-18.8	36.4	1.0	-54.2	-13.0	-41.2	
5.24	-63.0	V	3.0	-13.4	36.3	1.0	-48.7	-13.0	-35.7	
6.98	-64.0	V	3.0	-11.4	35.5	1.0	-45.9	-13.0	-32.9	
8.73	-64.7	V	3.0	-10.5	34.3	1.0	-43.8	-13.0	-30.8	

Rev. 05.21.15

10.4.3. LTE BAND 5

QPSK EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/29/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5, 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (829MHz)										
1.66	-65.6	H	3.0	-24.1	37.8	1.0	-61.0	-13.0	-48.0	
2.49	-65.9	H	3.0	-22.7	36.5	1.0	-58.2	-13.0	-45.2	
3.32	-66.1	H	3.0	-20.1	36.5	1.0	-55.6	-13.0	-42.6	
4.15	-65.3	H	3.0	-17.6	36.0	1.0	-52.7	-13.0	-39.7	
1.66	-65.7	V	3.0	-23.9	37.8	1.0	-60.8	-13.0	-47.8	
2.49	-65.6	V	3.0	-21.5	36.5	1.0	-56.9	-13.0	-43.9	
3.32	-66.0	V	3.0	-20.0	36.5	1.0	-55.6	-13.0	-42.6	
4.15	-65.3	V	3.0	-17.1	36.0	1.0	-52.1	-13.0	-39.1	
Mid Channel (836.5MHz)										
1.67	-66.1	H	3.0	-24.6	37.8	1.0	-61.4	-13.0	-48.4	
2.51	-64.5	H	3.0	-21.3	36.4	1.0	-56.7	-13.0	-43.7	
3.35	-65.3	H	3.0	-19.3	36.5	1.0	-54.8	-13.0	-41.8	
4.18	-65.1	H	3.0	-17.4	36.1	1.0	-52.4	-13.0	-39.4	
1.67	-65.3	V	3.0	-23.5	37.8	1.0	-60.3	-13.0	-47.3	
2.51	-65.5	V	3.0	-21.3	36.4	1.0	-56.6	-13.0	-43.6	
3.35	-65.3	V	3.0	-19.3	36.5	1.0	-54.7	-13.0	-41.7	
4.18	-64.9	V	3.0	-16.6	36.1	1.0	-51.7	-13.0	-38.7	
High Channel (844MHz)										
1.69	-65.5	H	3.0	-24.0	37.8	1.0	-60.8	-13.0	-47.8	
2.53	-65.9	H	3.0	-22.6	36.4	1.0	-58.0	-13.0	-45.0	
3.38	-65.6	H	3.0	-19.5	36.5	1.0	-55.0	-13.0	-42.0	
4.22	-65.7	H	3.0	-17.9	36.1	1.0	-53.0	-13.0	-40.0	
1.69	-65.2	V	3.0	-23.4	37.8	1.0	-60.2	-13.0	-47.2	
2.53	-65.7	V	3.0	-21.4	36.4	1.0	-56.8	-13.0	-43.8	
3.38	-66.0	V	3.0	-19.9	36.5	1.0	-55.3	-13.0	-42.3	
4.22	-65.1	V	3.0	-16.8	36.1	1.0	-51.8	-13.0	-38.8	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/29/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5, 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (829MHz)										
1.66	-66.1	H	3.0	-24.6	37.8	1.0	-61.5	-13.0	-48.5	
2.49	-66.0	H	3.0	-22.8	36.5	1.0	-58.3	-13.0	-45.3	
3.32	-66.5	H	3.0	-20.5	36.5	1.0	-56.0	-13.0	-43.0	
4.15	-65.6	H	3.0	-17.9	36.0	1.0	-53.0	-13.0	-40.0	
1.66	-65.8	V	3.0	-24.0	37.8	1.0	-60.9	-13.0	-47.9	
2.49	-66.0	V	3.0	-21.9	36.5	1.0	-57.3	-13.0	-44.3	
3.32	-66.2	V	3.0	-20.2	36.5	1.0	-55.8	-13.0	-42.8	
4.15	-65.9	V	3.0	-17.7	36.0	1.0	-52.7	-13.0	-39.7	
Mid Channel (836.5MHz)										
1.67	-65.5	H	3.0	-24.0	37.8	1.0	-60.8	-13.0	-47.8	
2.51	-66.6	H	3.0	-23.4	36.4	1.0	-58.8	-13.0	-45.8	
3.35	-65.8	H	3.0	-19.8	36.5	1.0	-55.3	-13.0	-42.3	
4.18	-65.0	H	3.0	-17.3	36.1	1.0	-52.3	-13.0	-39.3	
1.67	-66.0	V	3.0	-24.2	37.8	1.0	-61.0	-13.0	-48.0	
2.51	-65.6	V	3.0	-21.4	36.4	1.0	-56.7	-13.0	-43.7	
3.35	-65.3	V	3.0	-19.3	36.5	1.0	-54.7	-13.0	-41.7	
4.18	-65.4	V	3.0	-17.1	36.1	1.0	-52.2	-13.0	-39.2	
High Channel (844MHz)										
1.69	-66.2	H	3.0	-24.7	37.8	1.0	-61.5	-13.0	-48.5	
2.53	-66.3	H	3.0	-23.0	36.4	1.0	-58.4	-13.0	-45.4	
3.38	-66.1	H	3.0	-20.0	36.5	1.0	-55.5	-13.0	-42.5	
4.22	-65.8	H	3.0	-18.0	36.1	1.0	-53.1	-13.0	-40.1	
1.69	-66.2	V	3.0	-24.4	37.8	1.0	-61.2	-13.0	-48.2	
2.53	-65.9	V	3.0	-21.6	36.4	1.0	-57.0	-13.0	-44.0	
3.38	-65.9	V	3.0	-19.8	36.5	1.0	-55.2	-13.0	-42.2	
4.22	-65.9	V	3.0	-17.6	36.1	1.0	-52.6	-13.0	-39.6	

Rev. 05.21.15

10.4.4. LTE BAND 7

QPSK EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/28/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 7, 20MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B7

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)										
5.02	-67.3	H	3.0	-17.9	36.2	1.0	-53.2	-25.0	-28.2	
7.53	-68.0	H	3.0	-14.8	35.1	1.0	-48.9	-25.0	-23.9	
10.04	-67.9	H	3.0	-12.4	33.3	1.0	-44.7	-25.0	-19.7	
12.55	-69.8	H	3.0	-13.5	32.1	1.0	-44.6	-25.0	-19.6	
5.02	-66.8	V	3.0	-17.5	36.2	1.0	-52.8	-25.0	-27.8	
7.53	-68.4	V	3.0	-15.3	35.1	1.0	-49.4	-25.0	-24.4	
10.04	-67.6	V	3.0	-12.2	33.3	1.0	-44.6	-25.0	-19.6	
12.55	-69.7	V	3.0	-13.8	32.1	1.0	-44.9	-25.0	-19.9	
Mid Channel (2535MHz)										
5.07	-66.0	H	3.0	-16.5	36.3	1.0	-51.8	-25.0	-26.8	
7.61	-67.5	H	3.0	-14.2	35.1	1.0	-48.3	-25.0	-23.3	
10.14	-68.4	H	3.0	-12.8	33.3	1.0	-45.1	-25.0	-20.1	
12.68	-69.8	H	3.0	-13.5	32.1	1.0	-44.6	-25.0	-19.6	
5.07	-66.5	V	3.0	-17.2	36.3	1.0	-52.4	-25.0	-27.4	
7.61	-67.3	V	3.0	-14.1	35.1	1.0	-48.2	-25.0	-23.2	
10.14	-67.7	V	3.0	-12.3	33.3	1.0	-44.6	-25.0	-19.6	
12.68	-69.6	V	3.0	-13.7	32.1	1.0	-44.8	-25.0	-19.8	
High Channel (2560MHz)										
5.12	-67.0	H	3.0	-17.4	36.3	1.0	-52.7	-25.0	-27.7	
7.68	-65.8	H	3.0	-12.5	35.0	1.0	-46.5	-25.0	-21.5	
10.24	-67.8	H	3.0	-12.2	33.2	1.0	-44.4	-25.0	-19.4	
12.80	-69.9	H	3.0	-13.6	32.1	1.0	-44.7	-25.0	-19.7	
5.12	-67.2	V	3.0	-17.8	36.3	1.0	-53.1	-25.0	-28.1	
7.68	-66.3	V	3.0	-13.0	35.0	1.0	-47.1	-25.0	-22.1	
10.24	-68.0	V	3.0	-12.6	33.2	1.0	-44.8	-25.0	-19.8	
12.80	-69.9	V	3.0	-14.0	32.1	1.0	-45.1	-25.0	-20.1	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/28/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 7, 20MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B7

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)										
5.02	-67.5	H	3.0	-18.1	36.2	1.0	-53.4	-25.0	-28.4	
7.53	-67.8	H	3.0	-14.6	35.1	1.0	-48.7	-25.0	-23.7	
10.04	-67.9	H	3.0	-12.4	33.3	1.0	-44.7	-25.0	-19.7	
12.55	-69.7	H	3.0	-13.4	32.1	1.0	-44.5	-25.0	-19.5	
5.02	-66.8	V	3.0	-17.5	36.2	1.0	-52.8	-25.0	-27.8	
7.53	-67.7	V	3.0	-14.6	35.1	1.0	-48.7	-25.0	-23.7	
10.04	-67.5	V	3.0	-12.1	33.3	1.0	-44.5	-25.0	-19.5	
12.55	-69.8	V	3.0	-13.9	32.1	1.0	-45.0	-25.0	-20.0	
Mid Channel (2535MHz)										
5.07	-66.8	H	3.0	-17.3	36.3	1.0	-52.6	-25.0	-27.6	
7.61	-67.0	H	3.0	-13.7	35.1	1.0	-47.8	-25.0	-22.8	
10.14	-67.8	H	3.0	-12.2	33.3	1.0	-44.5	-25.0	-19.5	
12.68	-69.9	H	3.0	-13.6	32.1	1.0	-44.7	-25.0	-19.7	
5.07	-66.6	V	3.0	-17.3	36.3	1.0	-52.5	-25.0	-27.5	
7.61	-67.3	V	3.0	-14.1	35.1	1.0	-48.2	-25.0	-23.2	
10.14	-67.6	V	3.0	-12.2	33.3	1.0	-44.5	-25.0	-19.5	
12.68	-69.5	V	3.0	-13.6	32.1	1.0	-44.7	-25.0	-19.7	
High Channel (2560MHz)										
5.12	-66.9	H	3.0	-17.3	36.3	1.0	-52.6	-25.0	-27.6	
7.68	-67.0	H	3.0	-13.7	35.0	1.0	-47.7	-25.0	-22.7	
10.24	-69.5	H	3.0	-13.9	33.2	1.0	-46.1	-25.0	-21.1	
12.80	-69.6	H	3.0	-13.3	32.1	1.0	-44.4	-25.0	-19.4	
5.12	-66.5	V	3.0	-17.1	36.3	1.0	-52.4	-25.0	-27.4	
7.68	-66.4	V	3.0	-13.1	35.0	1.0	-47.2	-25.0	-22.2	
10.24	-68.2	V	3.0	-12.8	33.2	1.0	-45.0	-25.0	-20.0	
12.80	-69.6	V	3.0	-13.7	32.1	1.0	-44.8	-25.0	-19.8	

Rev. 05.21.15

10.4.5. LTE BAND 12

QPSK EIRP POWER FOR LTE BAND 12 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/29/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12, 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (704MHz)										
1.41	-66.6	H	3.0	-26.0	37.5	1.0	-62.5	-13.0	-49.5	
2.11	-67.0	H	3.0	-24.7	37.6	1.0	-61.3	-13.0	-48.3	
2.82	-66.6	H	3.0	-22.1	36.6	1.0	-57.7	-13.0	-44.7	
3.52	-66.2	H	3.0	-19.8	36.4	1.0	-55.2	-13.0	-42.2	
1.41	-66.2	V	3.0	-25.0	37.5	1.0	-61.6	-13.0	-48.6	
2.11	-66.6	V	3.0	-24.2	37.6	1.0	-60.7	-13.0	-47.7	
2.82	-66.5	V	3.0	-21.8	36.6	1.0	-57.4	-13.0	-44.4	
3.52	-66.5	V	3.0	-19.9	36.4	1.0	-55.3	-13.0	-42.3	
Mid Channel (707.5MHz)										
1.42	-66.4	H	3.0	-25.7	37.6	1.0	-62.3	-13.0	-49.3	
2.12	-66.9	H	3.0	-24.6	37.6	1.0	-61.1	-13.0	-48.1	
2.83	-66.6	H	3.0	-22.0	36.6	1.0	-57.6	-13.0	-44.6	
3.54	-66.6	H	3.0	-20.2	36.3	1.0	-55.5	-13.0	-42.5	
1.42	-66.2	V	3.0	-25.0	37.6	1.0	-61.5	-13.0	-48.5	
2.12	-65.8	V	3.0	-23.3	37.6	1.0	-59.9	-13.0	-46.9	
2.83	-66.9	V	3.0	-22.2	36.6	1.0	-57.8	-13.0	-44.8	
3.54	-65.7	V	3.0	-19.1	36.3	1.0	-54.4	-13.0	-41.4	
High Channel (711MHz)										
1.42	-66.5	H	3.0	-25.8	37.6	1.0	-62.4	-13.0	-49.4	
2.13	-66.8	H	3.0	-24.4	37.5	1.0	-61.0	-13.0	-48.0	
2.84	-66.6	H	3.0	-22.0	36.6	1.0	-57.6	-13.0	-44.6	
3.56	-66.3	H	3.0	-19.8	36.3	1.0	-55.2	-13.0	-42.2	
1.42	-66.1	V	3.0	-24.8	37.6	1.0	-61.4	-13.0	-48.4	
2.13	-66.3	V	3.0	-23.8	37.5	1.0	-60.3	-13.0	-47.3	
2.84	-66.5	V	3.0	-21.8	36.6	1.0	-57.4	-13.0	-44.4	
3.56	-66.3	V	3.0	-19.6	36.3	1.0	-54.9	-13.0	-41.9	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 12 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/29/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12, 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (704MHz)										
1.41	-66.5	H	3.0	-25.9	37.5	1.0	-62.4	-13.0	-49.4	
2.11	-66.6	H	3.0	-24.3	37.6	1.0	-60.9	-13.0	-47.9	
2.82	-66.5	H	3.0	-22.0	36.6	1.0	-57.6	-13.0	-44.6	
3.52	-65.7	H	3.0	-19.3	36.4	1.0	-54.7	-13.0	-41.7	
1.41	-66.0	V	3.0	-24.8	37.5	1.0	-61.4	-13.0	-48.4	
2.11	-66.1	V	3.0	-23.7	37.6	1.0	-60.2	-13.0	-47.2	
2.82	-65.9	V	3.0	-21.2	36.6	1.0	-56.8	-13.0	-43.8	
3.52	-66.2	V	3.0	-19.6	36.4	1.0	-55.0	-13.0	-42.0	
Mid Channel (707.5MHz)										
1.42	-66.4	H	3.0	-25.7	37.6	1.0	-62.3	-13.0	-49.3	
2.12	-66.9	H	3.0	-24.6	37.6	1.0	-61.1	-13.0	-48.1	
2.83	-66.5	H	3.0	-21.9	36.6	1.0	-57.5	-13.0	-44.5	
3.54	-66.1	H	3.0	-19.7	36.3	1.0	-55.0	-13.0	-42.0	
1.42	-65.3	V	3.0	-24.1	37.6	1.0	-60.6	-13.0	-47.6	
2.12	-66.0	V	3.0	-23.5	37.6	1.0	-60.1	-13.0	-47.1	
2.83	-66.1	V	3.0	-21.4	36.6	1.0	-57.0	-13.0	-44.0	
3.54	-66.1	V	3.0	-19.5	36.3	1.0	-54.8	-13.0	-41.8	
High Channel (711MHz)										
1.42	-66.0	H	3.0	-25.3	37.6	1.0	-61.9	-13.0	-48.9	
2.13	-66.6	H	3.0	-24.2	37.5	1.0	-60.8	-13.0	-47.8	
2.84	-66.5	H	3.0	-21.9	36.6	1.0	-57.5	-13.0	-44.5	
3.56	-66.4	H	3.0	-19.9	36.3	1.0	-55.3	-13.0	-42.3	
1.42	-65.7	V	3.0	-24.4	37.6	1.0	-61.0	-13.0	-48.0	
2.13	-66.0	V	3.0	-23.5	37.5	1.0	-60.0	-13.0	-47.0	
2.84	-66.4	V	3.0	-21.7	36.6	1.0	-57.3	-13.0	-44.3	
3.56	-66.3	V	3.0	-19.6	36.3	1.0	-54.9	-13.0	-41.9	

Rev. 05.21.15

10.4.6. LTE BAND 13

QPSK EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/29/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 13, 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B13

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (782MHz)										
1.56	-65.5	H	3.0	-24.2	37.9	1.0	-61.0	-40.0	-21.0	
2.35	-66.3	H	3.0	-23.4	37.2	1.0	-59.6	-13.0	-46.6	
3.13	-66.2	H	3.0	-20.6	36.6	1.0	-56.3	-13.0	-43.3	
3.91	-65.5	H	3.0	-18.3	36.1	1.0	-53.4	-13.0	-40.4	
4.69	-65.9	H	3.0	-17.2	36.2	1.0	-52.3	-13.0	-39.3	
1.56	-66.0	V	3.0	-24.3	37.9	1.0	-61.1	-40.0	-21.1	
2.35	-66.2	V	3.0	-22.9	37.2	1.0	-59.1	-13.0	-46.1	
3.13	-66.1	V	3.0	-20.7	36.6	1.0	-56.4	-13.0	-43.4	
3.91	-65.5	V	3.0	-17.7	36.1	1.0	-52.8	-13.0	-39.8	
4.69	-65.4	V	3.0	-16.5	36.2	1.0	-51.7	-13.0	-38.7	

16QAM EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/29/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 13, 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B13

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (782MHz)										
1.56	-66.0	H	3.0	-24.7	37.9	1.0	-61.5	-40.0	-21.5	
2.35	-65.1	H	3.0	-22.2	37.2	1.0	-58.4	-13.0	-45.4	
3.13	-66.1	H	3.0	-20.5	36.6	1.0	-56.2	-13.0	-43.2	
3.91	-65.3	H	3.0	-18.1	36.1	1.0	-53.2	-13.0	-40.2	
4.69	-65.1	H	3.0	-16.4	36.2	1.0	-51.5	-13.0	-38.5	
1.56	-66.0	V	3.0	-24.3	37.9	1.0	-61.1	-40.0	-21.1	
2.35	-65.6	V	3.0	-22.3	37.2	1.0	-58.5	-13.0	-45.5	
3.13	-65.7	V	3.0	-20.3	36.6	1.0	-56.0	-13.0	-43.0	
3.91	-65.4	V	3.0	-17.6	36.1	1.0	-52.7	-13.0	-39.7	
4.69	-65.0	V	3.0	-16.1	36.2	1.0	-51.3	-13.0	-38.3	

10.4.7. LTE BAND 17

QPSK EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/29/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 17, 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (710MHz)										
1.42	-65.0	H	3.0	-24.3	37.6	1.0	-60.9	-13.0	-47.9	
2.13	-65.7	H	3.0	-23.4	37.5	1.0	-59.9	-13.0	-46.9	
2.84	-66.4	H	3.0	-21.8	36.6	1.0	-57.4	-13.0	-44.4	
3.55	-65.6	H	3.0	-19.2	36.3	1.0	-54.5	-13.0	-41.5	
4.26	-65.6	H	3.0	-17.7	36.1	1.0	-52.8	-13.0	-39.8	
1.42	-65.2	V	3.0	-24.0	37.6	1.0	-60.5	-13.0	-47.5	
2.13	-65.5	V	3.0	-23.0	37.5	1.0	-59.5	-13.0	-46.5	
2.84	-66.0	V	3.0	-21.3	36.6	1.0	-56.9	-13.0	-43.9	
3.55	-65.9	V	3.0	-19.2	36.3	1.0	-54.6	-13.0	-41.6	
4.26	-65.1	V	3.0	-16.7	36.1	1.0	-51.8	-13.0	-38.8	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/29/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 17, 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (710MHz)										
1.42	-66.1	H	3.0	-25.4	37.6	1.0	-62.0	-13.0	-49.0	
2.13	-66.9	H	3.0	-24.6	37.5	1.0	-61.1	-13.0	-48.1	
2.84	-66.7	H	3.0	-22.1	36.6	1.0	-57.7	-13.0	-44.7	
3.55	-66.3	H	3.0	-19.9	36.3	1.0	-55.2	-13.0	-42.2	
4.26	-65.6	H	3.0	-17.7	36.1	1.0	-52.8	-13.0	-39.8	
1.42	-66.0	V	3.0	-24.8	37.6	1.0	-61.3	-13.0	-48.3	
2.13	-65.9	V	3.0	-23.4	37.5	1.0	-59.9	-13.0	-46.9	
2.84	-66.3	V	3.0	-21.6	36.6	1.0	-57.2	-13.0	-44.2	
3.55	-66.2	V	3.0	-19.5	36.3	1.0	-54.9	-13.0	-41.9	
4.26	-65.6	V	3.0	-17.2	36.1	1.0	-52.3	-13.0	-39.3	

Rev. 05.21.15

10.4.8. LTE BAND 25

QPSK EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 15U22288
Date: 04/27/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 25, 20MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)										
3.72	-62.2	H	3.0	-15.4	36.2	1.0	-50.6	-13.0	-37.6	
5.58	-63.7	H	3.0	-13.3	36.1	1.0	-48.4	-13.0	-35.4	
7.44	-64.3	H	3.0	-11.2	35.2	1.0	-45.4	-13.0	-32.4	
9.30	-65.1	H	3.0	-10.2	33.9	1.0	-43.1	-13.0	-30.1	
3.72	-63.2	V	3.0	-16.0	36.2	1.0	-51.2	-13.0	-38.2	
5.58	-64.3	V	3.0	-14.1	36.1	1.0	-49.3	-13.0	-36.3	
7.44	-63.6	V	3.0	-10.6	35.2	1.0	-44.7	-13.0	-31.7	
9.30	-65.2	V	3.0	-10.5	33.9	1.0	-43.3	-13.0	-30.3	
Mid Channel (1882.5MHz)										
3.77	-62.8	H	3.0	-15.9	36.2	1.0	-51.1	-13.0	-38.1	
5.65	-64.4	H	3.0	-13.9	36.1	1.0	-49.0	-13.0	-36.0	
7.53	-64.5	H	3.0	-11.3	35.1	1.0	-45.4	-13.0	-32.4	
9.41	-65.2	H	3.0	-10.2	33.8	1.0	-43.0	-13.0	-30.0	
3.77	-62.8	V	3.0	-15.5	36.2	1.0	-50.6	-13.0	-37.6	
5.65	-63.9	V	3.0	-13.6	36.1	1.0	-48.7	-13.0	-35.7	
7.53	-64.6	V	3.0	-11.5	35.1	1.0	-45.6	-13.0	-32.6	
9.41	-65.5	V	3.0	-10.7	33.8	1.0	-43.4	-13.0	-30.4	
		V								
High Channel (1905MHz)										
3.81	-63.5	H	3.0	-16.5	36.1	1.0	-51.7	-13.0	-38.7	
5.72	-64.4	H	3.0	-13.8	36.1	1.0	-48.9	-13.0	-35.9	
7.62	-64.6	H	3.0	-11.3	35.1	1.0	-45.4	-13.0	-32.4	
9.53	-65.4	H	3.0	-10.3	33.7	1.0	-43.0	-13.0	-30.0	
3.81	-63.3	V	3.0	-15.8	36.1	1.0	-51.0	-13.0	-38.0	
5.72	-64.5	V	3.0	-14.1	36.1	1.0	-49.2	-13.0	-36.2	
7.62	-64.7	V	3.0	-11.5	35.1	1.0	-45.6	-13.0	-32.6	
9.53	-65.6	V	3.0	-10.7	33.7	1.0	-43.4	-13.0	-30.4	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 15U22288
Date: 04/27/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 25, 20MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)										
3.72	-62.5	H	3.0	-15.7	36.2	1.0	-50.9	-13.0	-37.9	
5.58	-63.5	H	3.0	-13.1	36.1	1.0	-48.2	-13.0	-35.2	
7.44	-64.4	H	3.0	-11.3	35.2	1.0	-45.5	-13.0	-32.5	
9.30	-65.1	H	3.0	-10.2	33.9	1.0	-43.1	-13.0	-30.1	
3.72	-62.3	V	3.0	-15.1	36.2	1.0	-50.3	-13.0	-37.3	
5.58	-63.7	V	3.0	-13.5	36.1	1.0	-48.7	-13.0	-35.7	
7.44	-64.3	V	3.0	-11.3	35.2	1.0	-45.4	-13.0	-32.4	
9.30	-65.4	V	3.0	-10.7	33.9	1.0	-43.5	-13.0	-30.5	
Mid Channel (1882.5MHz)										
3.77	-63.4	H	3.0	-16.5	36.2	1.0	-51.7	-13.0	-38.7	
5.65	-64.2	H	3.0	-13.7	36.1	1.0	-48.8	-13.0	-35.8	
7.53	-65.1	H	3.0	-11.9	35.1	1.0	-46.0	-13.0	-33.0	
9.41	-65.2	H	3.0	-10.2	33.8	1.0	-43.0	-13.0	-30.0	
3.77	-62.5	V	3.0	-15.2	36.2	1.0	-50.3	-13.0	-37.3	
5.65	-63.8	V	3.0	-13.5	36.1	1.0	-48.6	-13.0	-35.6	
7.53	-64.6	V	3.0	-11.5	35.1	1.0	-45.6	-13.0	-32.6	
9.41	-65.1	V	3.0	-10.3	33.8	1.0	-43.0	-13.0	-30.0	
High Channel (1905MHz)										
3.81	-63.1	H	3.0	-16.1	36.1	1.0	-51.3	-13.0	-38.3	
5.72	-64.4	H	3.0	-13.8	36.1	1.0	-48.9	-13.0	-35.9	
7.62	-64.7	H	3.0	-11.4	35.1	1.0	-45.5	-13.0	-32.5	
9.53	-65.1	H	3.0	-10.0	33.7	1.0	-42.7	-13.0	-29.7	
3.81	-63.2	V	3.0	-15.7	36.1	1.0	-50.9	-13.0	-37.9	
5.72	-64.1	V	3.0	-13.7	36.1	1.0	-48.8	-13.0	-35.8	
7.62	-65.1	V	3.0	-11.9	35.1	1.0	-46.0	-13.0	-33.0	
9.53	-65.3	V	3.0	-10.4	33.7	1.0	-43.1	-13.0	-30.1	

Rev. 05.21.15

10.4.9. LTE BAND 26

QPSK EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/29/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 26 (90S), 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819MHz)										
1.64	-66.2	H	3.0	-24.8	37.8	1.0	-61.6	-13.0	-48.6	
2.46	-66.3	H	3.0	-23.2	36.7	1.0	-58.9	-13.0	-45.9	
3.28	-65.5	H	3.0	-19.6	36.5	1.0	-55.1	-13.0	-42.1	
4.10	-65.7	H	3.0	-18.1	36.0	1.0	-53.2	-13.0	-40.2	
4.91	-65.4	H	3.0	-16.2	36.2	1.0	-51.4	-13.0	-38.4	
1.64	-66.3	V	3.0	-24.5	37.8	1.0	-61.4	-13.0	-48.4	
2.46	-60.0	V	3.0	-16.1	36.7	1.0	-51.8	-13.0	-38.8	
3.28	-65.9	V	3.0	-20.1	36.5	1.0	-55.6	-13.0	-42.6	
4.10	-65.1	V	3.0	-16.9	36.0	1.0	-52.0	-13.0	-39.0	
4.91	-65.0	V	3.0	-15.8	36.2	1.0	-51.1	-13.0	-38.1	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/29/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 26 (90S), 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819MHz)										
1.64	-65.0	H	3.0	-23.6	37.8	1.0	-60.4	-13.0	-47.4	
2.46	-66.1	H	3.0	-23.0	36.7	1.0	-58.7	-13.0	-45.7	
3.28	-66.3	H	3.0	-20.4	36.5	1.0	-55.9	-13.0	-42.9	
4.10	-65.7	H	3.0	-18.1	36.0	1.0	-53.2	-13.0	-40.2	
4.91	-65.5	H	3.0	-16.3	36.2	1.0	-51.5	-13.0	-38.5	
1.64	-66.2	V	3.0	-24.4	37.8	1.0	-61.3	-13.0	-48.3	
2.46	-66.4	V	3.0	-22.5	36.7	1.0	-58.2	-13.0	-45.2	
3.28	-65.7	V	3.0	-19.9	36.5	1.0	-55.4	-13.0	-42.4	
4.10	-65.7	V	3.0	-17.5	36.0	1.0	-52.6	-13.0	-39.6	
4.91	-64.8	V	3.0	-15.6	36.2	1.0	-50.9	-13.0	-37.9	

Rev. 05.21.15

10.4.10. LTE BAND 27

QPSK EIRP POWER FOR LTE BAND 27 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/29/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 27, 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819.0 MHz)										
1.64	-65.4	H	3.0	-24.0	37.8	1.0	-60.8	-13.0	-47.8	
2.46	-65.2	H	3.0	-22.1	36.7	1.0	-57.7	-13.0	-44.7	
3.26	-66.0	H	3.0	-20.1	36.5	1.0	-55.7	-13.0	-42.7	
4.08	-65.7	H	3.0	-18.2	36.0	1.0	-53.2	-13.0	-40.2	
4.89	-65.1	H	3.0	-16.0	36.2	1.0	-51.2	-13.0	-38.2	
1.63	-65.5	V	3.0	-23.7	37.8	1.0	-60.6	-13.0	-47.6	
2.45	-66.1	V	3.0	-22.3	36.8	1.0	-58.0	-13.0	-45.0	
3.26	-65.5	V	3.0	-19.7	36.5	1.0	-55.3	-13.0	-42.3	
4.08	-66.2	V	3.0	-18.0	36.0	1.0	-53.1	-13.0	-40.1	
4.89	-65.5	V	3.0	-16.4	36.2	1.0	-51.6	-13.0	-38.6	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 27 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/29/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 27, 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819.0 MHz)										
1.63	-65.8	H	3.0	-24.4	37.8	1.0	-61.2	-13.0	-48.2	
2.45	-66.0	H	3.0	-22.9	36.8	1.0	-58.6	-13.0	-45.6	
3.26	-65.9	H	3.0	-20.0	36.5	1.0	-55.6	-13.0	-42.6	
4.08	-65.8	H	3.0	-18.3	36.0	1.0	-53.3	-13.0	-40.3	
4.89	-65.3	H	3.0	-16.2	36.2	1.0	-51.4	-13.0	-38.4	
1.63	-66.0	V	3.0	-24.2	37.8	1.0	-61.1	-13.0	-48.1	
2.45	-66.1	V	3.0	-22.3	36.8	1.0	-58.0	-13.0	-45.0	
3.26	-65.3	V	3.0	-19.5	36.5	1.0	-55.1	-13.0	-42.1	
4.08	-65.5	V	3.0	-17.3	36.0	1.0	-52.4	-13.0	-39.4	
4.89	-65.4	V	3.0	-16.3	36.2	1.0	-51.5	-13.0	-38.5	

Rev. 05.21.15

10.4.11. LTE BAND 30

QPSK EIRP POWER FOR LTE BAND 30 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/28/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 30, 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B30

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (2310MHz)										
4.62	-67.6	H	3.0	-13.8	37.9	1.0	-50.7	-40.0	-10.7	
6.93	-68.4	H	3.0	-9.8	36.5	1.0	-45.2	-40.0	-5.2	
9.24	-71.6	H	3.0	-10.1	34.9	1.0	-43.9	-40.0	-3.9	
4.62	-68.0	V	3.0	-14.3	37.9	1.0	-51.2	-40.0	-11.2	
6.93	-69.2	V	3.0	-9.7	36.5	1.0	-45.2	-40.0	-5.2	
9.24	-71.4	V	3.0	-9.6	34.9	1.0	-43.5	-40.0	-3.5	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 30 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/28/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 30, 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B30

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (2310MHz)										
4.62	-68.5	H	3.0	-14.7	37.9	1.0	-51.6	-40.0	-11.6	
6.93	-69.6	H	3.0	-11.0	36.5	1.0	-46.4	-40.0	-6.4	
9.24	-71.7	H	3.0	-10.2	34.9	1.0	-44.0	-40.0	-4.0	
4.62	-69.1	V	3.0	-15.4	37.9	1.0	-52.3	-40.0	-12.3	
6.93	-69.3	V	3.0	-9.8	36.5	1.0	-45.3	-40.0	-5.3	
9.24	-71.3	V	3.0	-9.5	34.9	1.0	-43.4	-40.0	-3.4	

Rev. 05.21.15

10.4.12 LTE BAND 41

QPSK EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/28/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 41, 20MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B41

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz)										
5.01	-67.8	H	3.0	-18.4	36.2	1.0	-53.7	-25.0	-28.7	
7.52	-68.0	H	3.0	-14.8	35.1	1.0	-48.9	-25.0	-23.9	
10.02	-68.0	H	3.0	-12.5	33.3	1.0	-44.8	-25.0	-19.8	
12.53	-69.4	H	3.0	-13.1	32.1	1.0	-44.2	-25.0	-19.2	
5.01	-68.0	V	3.0	-18.7	36.2	1.0	-54.0	-25.0	-29.0	
7.52	-68.4	V	3.0	-15.3	35.1	1.0	-49.4	-25.0	-24.4	
10.02	-68.5	V	3.0	-13.1	33.3	1.0	-45.5	-25.0	-20.5	
12.53	-69.4	V	3.0	-13.5	32.1	1.0	-44.6	-25.0	-19.6	
Mid Channel (2593MHz)										
5.19	-68.0	H	3.0	-18.3	36.3	1.0	-53.6	-25.0	-28.6	
7.78	-67.1	H	3.0	-13.7	34.9	1.0	-47.6	-25.0	-22.6	
10.37	-69.5	H	3.0	-13.8	33.1	1.0	-46.0	-25.0	-21.0	
12.97	-69.3	H	3.0	-13.0	32.1	1.0	-44.1	-25.0	-19.1	
5.19	-67.8	V	3.0	-18.3	36.3	1.0	-53.6	-25.0	-28.6	
7.78	-67.3	V	3.0	-14.0	34.9	1.0	-47.9	-25.0	-22.9	
10.37	-69.6	V	3.0	-14.1	33.1	1.0	-46.3	-25.0	-21.3	
12.97	-69.9	V	3.0	-14.0	32.1	1.0	-45.0	-25.0	-20.0	
High Channel (2680MHz)										
5.36	-66.8	H	3.0	-16.8	36.2	1.0	-52.0	-25.0	-27.0	
8.04	-68.2	H	3.0	-14.5	34.8	1.0	-48.3	-25.0	-23.3	
10.72	-68.8	H	3.0	-13.0	32.9	1.0	-44.9	-25.0	-19.9	
13.40	-70.0	H	3.0	-13.7	32.1	1.0	-44.8	-25.0	-19.8	
5.36	-65.7	V	3.0	-15.9	36.2	1.0	-51.1	-25.0	-26.1	
8.04	-68.4	V	3.0	-14.8	34.8	1.0	-48.6	-25.0	-23.6	
10.72	-68.5	V	3.0	-13.0	32.9	1.0	-44.9	-25.0	-19.9	
13.40	-69.6	V	3.0	-13.6	32.1	1.0	-44.7	-25.0	-19.7	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 04/28/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 41, 20MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B41

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz)										
5.01	-66.7	H	3.0	-17.3	36.2	1.0	-52.6	-25.0	-27.6	
7.52	-68.8	H	3.0	-15.6	35.1	1.0	-49.7	-25.0	-24.7	
10.02	-68.5	H	3.0	-13.0	33.3	1.0	-45.3	-25.0	-20.3	
12.53	-69.5	H	3.0	-13.2	32.1	1.0	-44.3	-25.0	-19.3	
5.01	-67.3	V	3.0	-18.0	36.2	1.0	-53.3	-25.0	-28.3	
7.52	-67.3	V	3.0	-14.2	35.1	1.0	-48.3	-25.0	-23.3	
10.02	-68.4	V	3.0	-13.0	33.3	1.0	-45.4	-25.0	-20.4	
12.53	-69.6	V	3.0	-13.7	32.1	1.0	-44.8	-25.0	-19.8	
Mid Channel (2593MHz)										
5.19	-67.2	H	3.0	-17.5	36.3	1.0	-52.8	-25.0	-27.8	
7.78	-67.4	H	3.0	-14.0	34.9	1.0	-47.9	-25.0	-22.9	
10.37	-69.0	H	3.0	-13.3	33.1	1.0	-45.5	-25.0	-20.5	
12.97	-69.7	H	3.0	-13.4	32.1	1.0	-44.5	-25.0	-19.5	
5.19	-67.4	V	3.0	-17.9	36.3	1.0	-53.2	-25.0	-28.2	
7.78	-67.2	V	3.0	-13.9	34.9	1.0	-47.8	-25.0	-22.8	
10.37	-69.3	V	3.0	-13.8	33.1	1.0	-46.0	-25.0	-21.0	
12.97	-70.0	V	3.0	-14.1	32.1	1.0	-45.1	-25.0	-20.1	
High Channel (2680MHz)										
5.36	-66.0	H	3.0	-16.0	36.2	1.0	-51.2	-25.0	-26.2	
8.04	-68.5	H	3.0	-14.8	34.8	1.0	-48.6	-25.0	-23.6	
10.72	-68.7	H	3.0	-12.9	32.9	1.0	-44.8	-25.0	-19.8	
13.40	-70.0	H	3.0	-13.7	32.1	1.0	-44.8	-25.0	-19.8	
5.36	-66.1	V	3.0	-16.3	36.2	1.0	-51.5	-25.0	-26.5	
8.04	-68.6	V	3.0	-15.0	34.8	1.0	-48.8	-25.0	-23.8	
10.72	-69.2	V	3.0	-13.7	32.9	1.0	-45.6	-25.0	-20.6	
13.40	-69.7	V	3.0	-13.7	32.1	1.0	-44.8	-25.0	-19.8	

Rev. 05.21.15

10.5. FIELD STRENGTH OF SPURIOUS RADIATION, UAT

10.5.1. LTE BAND 2

QPSK EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/02/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 2, 20MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)										
3.72	-65.4	H	3.0	-18.6	36.2	1.0	-53.8	-13.0	-40.8	
5.58	-65.4	H	3.0	-15.0	36.1	1.0	-50.1	-13.0	-37.1	
7.44	-65.7	H	3.0	-12.6	35.2	1.0	-46.8	-13.0	-33.8	
9.30	-66.3	H	3.0	-11.4	33.9	1.0	-44.3	-13.0	-31.3	
3.72	-64.2	V	3.0	-17.0	36.2	1.0	-52.2	-13.0	-39.2	
5.58	-65.5	V	3.0	-15.3	36.1	1.0	-50.5	-13.0	-37.5	
7.44	-65.9	V	3.0	-12.9	35.2	1.0	-47.0	-13.0	-34.0	
9.30	-67.4	V	3.0	-12.7	33.9	1.0	-45.5	-13.0	-32.5	
Mid Channel (1880MHz)										
3.76	-64.9	H	3.0	-18.0	36.2	1.0	-53.2	-13.0	-40.2	
5.64	-65.9	H	3.0	-15.4	36.1	1.0	-50.5	-13.0	-37.5	
7.52	-66.4	H	3.0	-13.2	35.1	1.0	-47.3	-13.0	-34.3	
9.40	-67.4	H	3.0	-12.4	33.8	1.0	-45.2	-13.0	-32.2	
3.76	-65.4	V	3.0	-18.1	36.2	1.0	-53.3	-13.0	-40.3	
5.64	-64.6	V	3.0	-14.3	36.1	1.0	-49.4	-13.0	-36.4	
7.52	-65.1	V	3.0	-12.0	35.1	1.0	-46.1	-13.0	-33.1	
9.40	-66.7	V	3.0	-11.9	33.8	1.0	-44.7	-13.0	-31.7	
High Channel (1900MHz)										
3.80	-65.1	H	3.0	-18.1	36.2	1.0	-53.3	-13.0	-40.3	
5.70	-66.3	H	3.0	-15.7	36.1	1.0	-50.8	-13.0	-37.8	
7.60	-66.7	H	3.0	-13.4	35.1	1.0	-47.5	-13.0	-34.5	
9.50	-66.9	H	3.0	-11.8	33.7	1.0	-44.6	-13.0	-31.6	
3.80	-65.3	V	3.0	-17.9	36.2	1.0	-53.0	-13.0	-40.0	
5.70	-65.3	V	3.0	-14.9	36.1	1.0	-50.0	-13.0	-37.0	
7.60	-66.0	V	3.0	-12.8	35.1	1.0	-46.9	-13.0	-33.9	
9.50	-67.6	V	3.0	-12.7	33.7	1.0	-45.4	-13.0	-32.4	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/02/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 2, 20MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)										
3.72	-65.0	H	3.0	-18.2	36.2	1.0	-53.4	-13.0	-40.4	
5.58	-65.6	H	3.0	-15.2	36.1	1.0	-50.3	-13.0	-37.3	
7.44	-65.7	H	3.0	-12.6	35.2	1.0	-46.8	-13.0	-33.8	
9.30	-67.6	H	3.0	-12.7	33.9	1.0	-45.6	-13.0	-32.6	
3.72	-65.5	V	3.0	-18.3	36.2	1.0	-53.5	-13.0	-40.5	
5.58	-65.0	V	3.0	-14.8	36.1	1.0	-50.0	-13.0	-37.0	
7.44	-66.3	V	3.0	-13.3	35.2	1.0	-47.4	-13.0	-34.4	
9.30	-67.5	V	3.0	-12.8	33.9	1.0	-45.6	-13.0	-32.6	
Mid Channel (1880MHz)										
3.76	-65.7	H	3.0	-18.8	36.2	1.0	-54.0	-13.0	-41.0	
5.64	-65.4	H	3.0	-14.9	36.1	1.0	-50.0	-13.0	-37.0	
7.52	-66.2	H	3.0	-13.0	35.1	1.0	-47.1	-13.0	-34.1	
9.40	-67.4	H	3.0	-12.4	33.8	1.0	-45.2	-13.0	-32.2	
3.76	-65.1	V	3.0	-17.8	36.2	1.0	-53.0	-13.0	-40.0	
5.64	-65.8	V	3.0	-15.5	36.1	1.0	-50.6	-13.0	-37.6	
7.52	-66.7	V	3.0	-13.6	35.1	1.0	-47.7	-13.0	-34.7	
9.40	-67.5	V	3.0	-12.7	33.8	1.0	-45.5	-13.0	-32.5	
High Channel (1900MHz)										
3.80	-64.7	H	3.0	-17.7	36.2	1.0	-52.9	-13.0	-39.9	
5.70	-65.9	H	3.0	-15.3	36.1	1.0	-50.4	-13.0	-37.4	
7.60	-66.4	H	3.0	-13.1	35.1	1.0	-47.2	-13.0	-34.2	
9.50	-67.6	H	3.0	-12.5	33.7	1.0	-45.3	-13.0	-32.3	
3.80	-64.7	V	3.0	-17.3	36.2	1.0	-52.4	-13.0	-39.4	
5.70	-65.2	V	3.0	-14.8	36.1	1.0	-49.9	-13.0	-36.9	
7.60	-67.0	V	3.0	-13.8	35.1	1.0	-47.9	-13.0	-34.9	
9.50	-67.7	V	3.0	-12.8	33.7	1.0	-45.5	-13.0	-32.5	

Rev. 05.21.15

10.5.2. LTE BAND 4

QPSK EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/02/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4, 20MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1720MHz)										
3.44	-66.4	H	3.0	-20.2	36.4	1.0	-55.6	-13.0	-42.6	
5.16	-64.7	H	3.0	-15.0	36.3	1.0	-50.3	-13.0	-37.3	
6.88	-65.4	H	3.0	-12.9	35.6	1.0	-47.5	-13.0	-34.5	
8.60	-66.8	H	3.0	-12.6	34.4	1.0	-46.0	-13.0	-33.0	
3.44	-66.5	V	3.0	-20.2	36.4	1.0	-55.6	-13.0	-42.6	
5.16	-65.4	V	3.0	-15.9	36.3	1.0	-51.2	-13.0	-38.2	
6.88	-66.0	V	3.0	-13.6	35.6	1.0	-48.1	-13.0	-35.1	
8.60	-66.8	V	3.0	-12.7	34.4	1.0	-46.1	-13.0	-33.1	
Mid Channel (1732.5MHz)										
3.50	-66.0	H	3.0	-19.7	36.4	1.0	-55.0	-13.0	-42.0	
5.26	-65.5	H	3.0	-15.7	36.3	1.0	-50.9	-13.0	-37.9	
7.02	-65.8	H	3.0	-13.1	35.5	1.0	-47.6	-13.0	-34.6	
8.78	-66.0	H	3.0	-11.6	34.2	1.0	-44.8	-13.0	-31.8	
3.50	-66.1	V	3.0	-19.6	36.4	1.0	-55.0	-13.0	-42.0	
5.26	-65.4	V	3.0	-15.8	36.3	1.0	-51.1	-13.0	-38.1	
7.02	-66.3	V	3.0	-13.6	35.5	1.0	-48.1	-13.0	-35.1	
8.78	-66.9	V	3.0	-12.6	34.2	1.0	-45.9	-13.0	-32.9	
High Channel (1745MHz)										
3.49	-65.9	H	3.0	-19.6	36.4	1.0	-55.0	-13.0	-42.0	
5.24	-65.8	H	3.0	-16.0	36.3	1.0	-51.3	-13.0	-38.3	
6.98	-65.7	H	3.0	-13.0	35.5	1.0	-47.5	-13.0	-34.5	
8.73	-66.6	H	3.0	-12.3	34.3	1.0	-45.5	-13.0	-32.5	
3.49	-66.2	V	3.0	-19.7	36.4	1.0	-55.1	-13.0	-42.1	
5.24	-65.3	V	3.0	-15.7	36.3	1.0	-51.0	-13.0	-38.0	
6.98	-66.4	V	3.0	-13.8	35.5	1.0	-48.3	-13.0	-35.3	
8.73	-66.6	V	3.0	-12.4	34.3	1.0	-45.7	-13.0	-32.7	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/02/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4, 20MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1720MHz)										
3.44	-66.2	H	3.0	-20.0	36.4	1.0	-55.4	-13.0	-42.4	
5.16	-65.3	H	3.0	-15.6	36.3	1.0	-50.9	-13.0	-37.9	
6.88	-65.2	H	3.0	-12.7	35.6	1.0	-47.3	-13.0	-34.3	
8.60	-66.7	H	3.0	-12.5	34.4	1.0	-45.9	-13.0	-32.9	
3.44	-65.9	V	3.0	-19.6	36.4	1.0	-55.0	-13.0	-42.0	
5.16	-64.7	V	3.0	-15.2	36.3	1.0	-50.5	-13.0	-37.5	
6.88	-66.8	V	3.0	-14.4	35.6	1.0	-48.9	-13.0	-35.9	
8.60	-66.8	V	3.0	-12.7	34.4	1.0	-46.1	-13.0	-33.1	
Mid Channel (1732.5MHz)										
3.50	-65.8	H	3.0	-19.5	36.4	1.0	-54.8	-13.0	-41.8	
5.26	-66.2	H	3.0	-16.4	36.3	1.0	-51.6	-13.0	-38.6	
7.02	-65.8	H	3.0	-13.1	35.5	1.0	-47.6	-13.0	-34.6	
8.78	-67.0	H	3.0	-12.6	34.2	1.0	-45.8	-13.0	-32.8	
3.50	-65.1	V	3.0	-18.6	36.4	1.0	-54.0	-13.0	-41.0	
5.26	-65.9	V	3.0	-16.3	36.3	1.0	-51.6	-13.0	-38.6	
7.02	-66.2	V	3.0	-13.5	35.5	1.0	-48.0	-13.0	-35.0	
8.78	-67.5	V	3.0	-13.2	34.2	1.0	-46.5	-13.0	-33.5	
High Channel (1745MHz)										
3.49	-65.5	H	3.0	-19.2	36.4	1.0	-54.6	-13.0	-41.6	
5.24	-65.3	H	3.0	-15.5	36.3	1.0	-50.8	-13.0	-37.8	
6.98	-65.9	H	3.0	-13.2	35.5	1.0	-47.7	-13.0	-34.7	
8.73	-66.9	H	3.0	-12.6	34.3	1.0	-45.8	-13.0	-32.8	
3.49	-66.0	V	3.0	-19.5	36.4	1.0	-54.9	-13.0	-41.9	
5.24	-64.6	V	3.0	-15.0	36.3	1.0	-50.3	-13.0	-37.3	
6.98	-66.1	V	3.0	-13.5	35.5	1.0	-48.0	-13.0	-35.0	
8.73	-66.7	V	3.0	-12.5	34.3	1.0	-45.8	-13.0	-32.8	

Rev. 05.21.15

10.5.3. LTE BAND 5

QPSK EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/02/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5, 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (829MHz)										
1.66	-64.8	H	3.0	-23.3	37.8	1.0	-60.2	-13.0	-47.2	
2.49	-65.0	H	3.0	-21.8	36.5	1.0	-57.3	-13.0	-44.3	
3.32	-65.3	H	3.0	-19.3	36.5	1.0	-54.8	-13.0	-41.8	
4.15	-65.8	H	3.0	-18.1	36.0	1.0	-53.2	-13.0	-40.2	
1.66	-65.8	V	3.0	-24.0	37.8	1.0	-60.9	-13.0	-47.9	
2.49	-64.6	V	3.0	-20.5	36.5	1.0	-55.9	-13.0	-42.9	
3.32	-66.2	V	3.0	-20.2	36.5	1.0	-55.8	-13.0	-42.8	
4.15	-65.0	V	3.0	-16.8	36.0	1.0	-51.8	-13.0	-38.8	
Mid Channel (836.5MHz)										
1.67	-65.6	H	3.0	-24.1	37.8	1.0	-60.9	-13.0	-47.9	
2.51	-66.1	H	3.0	-22.9	36.4	1.0	-58.3	-13.0	-45.3	
3.35	-65.8	H	3.0	-19.8	36.5	1.0	-55.3	-13.0	-42.3	
4.18	-65.0	H	3.0	-17.3	36.1	1.0	-52.3	-13.0	-39.3	
1.67	-66.3	V	3.0	-24.5	37.8	1.0	-61.3	-13.0	-48.3	
2.51	-66.1	V	3.0	-21.9	36.4	1.0	-57.2	-13.0	-44.2	
3.35	-65.1	V	3.0	-19.1	36.5	1.0	-54.5	-13.0	-41.5	
4.18	-65.2	V	3.0	-16.9	36.1	1.0	-52.0	-13.0	-39.0	
High Channel (844MHz)										
1.69	-66.0	H	3.0	-24.5	37.8	1.0	-61.3	-13.0	-48.3	
2.53	-66.2	H	3.0	-22.9	36.4	1.0	-58.3	-13.0	-45.3	
3.38	-65.8	H	3.0	-19.7	36.5	1.0	-55.2	-13.0	-42.2	
4.22	-64.7	H	3.0	-16.9	36.1	1.0	-52.0	-13.0	-39.0	
1.69	-65.5	V	3.0	-23.7	37.8	1.0	-60.5	-13.0	-47.5	
2.53	-66.0	V	3.0	-21.7	36.4	1.0	-57.1	-13.0	-44.1	
3.38	-66.2	V	3.0	-20.1	36.5	1.0	-55.5	-13.0	-42.5	
4.22	-65.2	V	3.0	-16.9	36.1	1.0	-51.9	-13.0	-38.9	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/02/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5, 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (829MHz)										
1.66	-66.4	H	3.0	-24.9	37.8	1.0	-61.8	-13.0	-48.8	
2.49	-66.9	H	3.0	-23.7	36.5	1.0	-59.2	-13.0	-46.2	
3.32	-66.2	H	3.0	-20.2	36.5	1.0	-55.7	-13.0	-42.7	
4.15	-64.7	H	3.0	-17.0	36.0	1.0	-52.1	-13.0	-39.1	
1.66	-65.6	V	3.0	-23.8	37.8	1.0	-60.7	-13.0	-47.7	
2.49	-65.2	V	3.0	-21.1	36.5	1.0	-56.5	-13.0	-43.5	
3.32	-66.1	V	3.0	-20.1	36.5	1.0	-55.7	-13.0	-42.7	
4.15	-65.5	V	3.0	-17.3	36.0	1.0	-52.3	-13.0	-39.3	
Mid Channel (836.5MHz)										
1.67	-65.1	H	3.0	-23.6	37.8	1.0	-60.4	-13.0	-47.4	
2.51	-66.4	H	3.0	-23.2	36.4	1.0	-58.6	-13.0	-45.6	
3.35	-66.0	H	3.0	-20.0	36.5	1.0	-55.5	-13.0	-42.5	
4.18	-65.4	H	3.0	-17.7	36.1	1.0	-52.7	-13.0	-39.7	
1.67	-65.2	V	3.0	-23.4	37.8	1.0	-60.2	-13.0	-47.2	
2.51	-65.8	V	3.0	-21.6	36.4	1.0	-56.9	-13.0	-43.9	
3.35	-65.5	V	3.0	-19.5	36.5	1.0	-54.9	-13.0	-41.9	
4.18	-65.6	V	3.0	-17.3	36.1	1.0	-52.4	-13.0	-39.4	
High Channel (844MHz)										
1.69	-65.9	H	3.0	-24.4	37.8	1.0	-61.2	-13.0	-48.2	
2.53	-66.1	H	3.0	-22.8	36.4	1.0	-58.2	-13.0	-45.2	
3.38	-66.2	H	3.0	-20.1	36.5	1.0	-55.6	-13.0	-42.6	
4.22	-65.1	H	3.0	-17.3	36.1	1.0	-52.4	-13.0	-39.4	
1.69	-66.6	V	3.0	-24.8	37.8	1.0	-61.6	-13.0	-48.6	
2.53	-66.2	V	3.0	-21.9	36.4	1.0	-57.3	-13.0	-44.3	
3.38	-66.2	V	3.0	-20.1	36.5	1.0	-55.5	-13.0	-42.5	
4.22	-65.1	V	3.0	-16.8	36.1	1.0	-51.8	-13.0	-38.8	

Rev. 05.21.15

10.5.4. LTE BAND 7

QPSK EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/04/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 7, 20MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B7

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)										
5.02	-68.1	H	3.0	-18.7	36.2	1.0	-54.0	-25.0	-29.0	
7.53	-68.5	H	3.0	-15.3	35.1	1.0	-49.4	-25.0	-24.4	
10.04	-68.7	H	3.0	-13.2	33.3	1.0	-45.5	-25.0	-20.5	
12.55	-71.3	H	3.0	-15.0	32.1	1.0	-46.1	-25.0	-21.1	
5.02	-67.5	V	3.0	-18.2	36.2	1.0	-53.5	-25.0	-28.5	
7.53	-68.3	V	3.0	-15.2	35.1	1.0	-49.3	-25.0	-24.3	
10.04	-68.7	V	3.0	-13.3	33.3	1.0	-45.7	-25.0	-20.7	
12.55	-69.8	V	3.0	-13.9	32.1	1.0	-45.0	-25.0	-20.0	
Mid Channel (2535MHz)										
5.07	-67.3	H	3.0	-17.8	36.3	1.0	-53.1	-25.0	-28.1	
7.61	-67.4	H	3.0	-14.1	35.1	1.0	-48.2	-25.0	-23.2	
10.14	-68.6	H	3.0	-13.0	33.3	1.0	-45.3	-25.0	-20.3	
12.68	-70.2	H	3.0	-13.9	32.1	1.0	-45.0	-25.0	-20.0	
5.07	-68.2	V	3.0	-18.9	36.3	1.0	-54.1	-25.0	-29.1	
7.61	-68.6	V	3.0	-15.4	35.1	1.0	-49.5	-25.0	-24.5	
10.14	-68.4	V	3.0	-13.0	33.3	1.0	-45.3	-25.0	-20.3	
12.68	-70.2	V	3.0	-14.3	32.1	1.0	-45.4	-25.0	-20.4	
High Channel (2560MHz)										
5.12	-67.8	H	3.0	-18.2	36.3	1.0	-53.5	-25.0	-28.5	
7.68	-67.5	H	3.0	-14.2	35.0	1.0	-48.2	-25.0	-23.2	
10.24	-68.7	H	3.0	-13.1	33.2	1.0	-45.3	-25.0	-20.3	
12.80	-70.2	H	3.0	-13.9	32.1	1.0	-45.0	-25.0	-20.0	
5.12	-68.1	V	3.0	-18.7	36.3	1.0	-54.0	-25.0	-29.0	
7.68	-67.4	V	3.0	-14.1	35.0	1.0	-48.2	-25.0	-23.2	
10.24	-68.9	V	3.0	-13.5	33.2	1.0	-45.7	-25.0	-20.7	
12.80	-70.4	V	3.0	-14.5	32.1	1.0	-45.6	-25.0	-20.6	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/04/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 7, 20MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B7

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)										
5.02	-68.3	H	3.0	-18.9	36.2	1.0	-54.1	-25.0	-29.1	
7.53	-68.6	H	3.0	-15.4	35.1	1.0	-49.5	-25.0	-24.5	
10.04	-68.9	H	3.0	-13.3	33.3	1.0	-45.7	-25.0	-20.7	
12.55	-70.1	H	3.0	-13.8	32.1	1.0	-44.9	-25.0	-19.9	
5.02	-67.9	V	3.0	-18.6	36.2	1.0	-53.8	-25.0	-28.8	
7.53	-68.6	V	3.0	-15.5	35.1	1.0	-49.6	-25.0	-24.6	
10.04	-68.4	V	3.0	-13.0	33.3	1.0	-45.3	-25.0	-20.3	
12.55	-70.0	V	3.0	-14.1	32.1	1.0	-45.2	-25.0	-20.2	
Mid Channel (2535MHz)										
5.07	-67.9	H	3.0	-18.4	36.3	1.0	-53.6	-25.0	-28.6	
7.61	-68.1	H	3.0	-14.8	35.1	1.0	-48.9	-25.0	-23.9	
10.14	-68.8	H	3.0	-13.2	33.3	1.0	-45.5	-25.0	-20.5	
12.68	-70.1	H	3.0	-13.8	32.1	1.0	-44.9	-25.0	-19.9	
5.07	-68.0	V	3.0	-18.6	36.3	1.0	-53.9	-25.0	-28.9	
7.61	-68.3	V	3.0	-15.1	35.1	1.0	-49.1	-25.0	-24.1	
10.14	-69.0	V	3.0	-13.6	33.3	1.0	-45.9	-25.0	-20.9	
12.68	-70.1	V	3.0	-14.2	32.1	1.0	-45.3	-25.0	-20.3	
High Channel (2560MHz)										
5.12	-68.2	H	3.0	-18.6	36.3	1.0	-53.9	-25.0	-28.9	
7.68	-67.3	H	3.0	-13.9	35.0	1.0	-48.0	-25.0	-23.0	
10.24	-69.0	H	3.0	-13.4	33.2	1.0	-45.6	-25.0	-20.6	
12.80	-70.8	H	3.0	-14.5	32.1	1.0	-45.6	-25.0	-20.6	
5.12	-67.7	V	3.0	-18.3	36.3	1.0	-53.5	-25.0	-28.5	
7.68	-67.3	V	3.0	-14.0	35.0	1.0	-48.0	-25.0	-23.0	
10.24	-69.2	V	3.0	-13.8	33.2	1.0	-46.0	-25.0	-21.0	
12.80	-70.1	V	3.0	-14.2	32.1	1.0	-45.2	-25.0	-20.2	

Rev. 05.21.15

10.5.5. LTE BAND 12

QPSK EIRP POWER FOR LTE BAND 12 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/03/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12, 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (704MHz)										
1.41	-64.8	H	3.0	-24.2	37.5	1.0	-60.7	-13.0	-47.7	
2.11	-64.0	H	3.0	-21.7	37.6	1.0	-58.3	-13.0	-45.3	
2.82	-63.7	H	3.0	-19.2	36.6	1.0	-54.8	-13.0	-41.8	
3.52	-65.2	H	3.0	-18.8	36.4	1.0	-54.2	-13.0	-41.2	
1.41	-65.0	V	3.0	-23.8	37.5	1.0	-60.4	-13.0	-47.4	
2.11	-64.5	V	3.0	-22.1	37.6	1.0	-58.6	-13.0	-45.6	
2.82	-64.9	V	3.0	-20.2	36.6	1.0	-55.8	-13.0	-42.8	
3.52	-64.3	V	3.0	-17.7	36.4	1.0	-53.1	-13.0	-40.1	
Mid Channel (707.5MHz)										
1.42	-64.2	H	3.0	-23.5	37.6	1.0	-60.1	-13.0	-47.1	
2.12	-63.9	H	3.0	-21.6	37.6	1.0	-58.1	-13.0	-45.1	
2.83	-65.1	H	3.0	-20.5	36.6	1.0	-56.1	-13.0	-43.1	
3.54	-64.9	H	3.0	-18.5	36.3	1.0	-53.8	-13.0	-40.8	
1.42	-64.3	V	3.0	-23.1	37.6	1.0	-59.6	-13.0	-46.6	
2.12	-64.2	V	3.0	-21.7	37.6	1.0	-58.3	-13.0	-45.3	
2.83	-65.0	V	3.0	-20.3	36.6	1.0	-55.9	-13.0	-42.9	
3.54	-64.9	V	3.0	-18.3	36.3	1.0	-53.6	-13.0	-40.6	
High Channel (711MHz)										
1.42	-64.6	H	3.0	-23.9	37.6	1.0	-60.5	-13.0	-47.5	
2.13	-63.7	H	3.0	-21.3	37.5	1.0	-57.9	-13.0	-44.9	
2.84	-65.2	H	3.0	-20.6	36.6	1.0	-56.2	-13.0	-43.2	
3.56	-65.5	H	3.0	-19.0	36.3	1.0	-54.4	-13.0	-41.4	
1.42	-64.1	V	3.0	-22.8	37.6	1.0	-59.4	-13.0	-46.4	
2.13	-64.6	V	3.0	-22.1	37.5	1.0	-58.6	-13.0	-45.6	
2.84	-65.4	V	3.0	-20.7	36.6	1.0	-56.3	-13.0	-43.3	
3.56	-65.3	V	3.0	-18.6	36.3	1.0	-53.9	-13.0	-40.9	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 12 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/03/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12, 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (704MHz)										
1.41	-67.0	H	3.0	-26.4	37.5	1.0	-62.9	-13.0	-49.9	
2.11	-66.9	H	3.0	-24.6	37.6	1.0	-61.2	-13.0	-48.2	
2.82	-67.9	H	3.0	-23.4	36.6	1.0	-59.0	-13.0	-46.0	
3.52	-67.4	H	3.0	-21.0	36.4	1.0	-56.4	-13.0	-43.4	
1.41	-67.1	V	3.0	-25.9	37.5	1.0	-62.5	-13.0	-49.5	
2.11	-67.2	V	3.0	-24.8	37.6	1.0	-61.3	-13.0	-48.3	
2.82	-66.9	V	3.0	-22.2	36.6	1.0	-57.8	-13.0	-44.8	
3.52	-66.5	V	3.0	-19.9	36.4	1.0	-55.3	-13.0	-42.3	
Mid Channel (707.5MHz)										
1.42	-66.9	H	3.0	-26.2	37.6	1.0	-62.8	-13.0	-49.8	
2.12	-66.6	H	3.0	-24.3	37.6	1.0	-60.8	-13.0	-47.8	
2.83	-67.8	H	3.0	-23.2	36.6	1.0	-58.8	-13.0	-45.8	
3.54	-67.3	H	3.0	-20.9	36.3	1.0	-56.2	-13.0	-43.2	
1.42	-66.7	V	3.0	-25.5	37.6	1.0	-62.0	-13.0	-49.0	
2.12	-66.3	V	3.0	-23.8	37.6	1.0	-60.4	-13.0	-47.4	
2.83	-67.6	V	3.0	-22.9	36.6	1.0	-58.5	-13.0	-45.5	
3.54	-67.6	V	3.0	-21.0	36.3	1.0	-56.3	-13.0	-43.3	
High Channel (711MHz)										
1.42	-66.5	H	3.0	-25.8	37.6	1.0	-62.4	-13.0	-49.4	
2.13	-66.9	H	3.0	-24.5	37.5	1.0	-61.1	-13.0	-48.1	
2.84	-66.7	H	3.0	-22.1	36.6	1.0	-57.7	-13.0	-44.7	
3.56	-67.2	H	3.0	-20.7	36.3	1.0	-56.1	-13.0	-43.1	
1.42	-66.5	V	3.0	-25.2	37.6	1.0	-61.8	-13.0	-48.8	
2.13	-67.1	V	3.0	-24.6	37.5	1.0	-61.1	-13.0	-48.1	
2.84	-67.0	V	3.0	-22.3	36.6	1.0	-57.9	-13.0	-44.9	
3.56	-66.4	V	3.0	-19.7	36.3	1.0	-55.0	-13.0	-42.0	

Rev. 05.21.15

10.5.6. LTE BAND 13

QPSK EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/03/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 13, 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B13

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (782MHz)										
1.56	-66.3	H	3.0	-25.0	37.9	1.0	-61.8	-40.0	-21.8	
2.35	-66.8	H	3.0	-23.9	37.2	1.0	-60.1	-13.0	-47.1	
3.13	-66.7	H	3.0	-21.1	36.6	1.0	-56.8	-13.0	-43.8	
3.91	-66.2	H	3.0	-19.0	36.1	1.0	-54.1	-13.0	-41.1	
4.69	-67.2	H	3.0	-18.5	36.2	1.0	-53.6	-13.0	-40.6	
1.56	-66.1	V	3.0	-24.4	37.9	1.0	-61.2	-40.0	-21.2	
2.35	-67.0	V	3.0	-23.7	37.2	1.0	-59.9	-13.0	-46.9	
3.13	-66.6	V	3.0	-21.2	36.6	1.0	-56.9	-13.0	-43.9	
3.91	-66.1	V	3.0	-18.3	36.1	1.0	-53.4	-13.0	-40.4	
4.69	-66.7	V	3.0	-17.8	36.2	1.0	-53.0	-13.0	-40.0	

16QAM EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/03/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 13, 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B13

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (782MHz)										
1.56	-66.2	H	3.0	-24.9	37.9	1.0	-61.7	-40.0	-21.7	
2.35	-67.4	H	3.0	-24.5	37.2	1.0	-60.7	-13.0	-47.7	
3.13	-67.6	H	3.0	-22.0	36.6	1.0	-57.7	-13.0	-44.7	
3.91	-67.1	H	3.0	-19.9	36.1	1.0	-55.0	-13.0	-42.0	
4.69	-67.2	H	3.0	-18.5	36.2	1.0	-53.6	-13.0	-40.6	
1.56	-66.8	V	3.0	-25.1	37.9	1.0	-61.9	-40.0	-21.9	
2.35	-66.8	V	3.0	-23.5	37.2	1.0	-59.7	-13.0	-46.7	
3.13	-67.4	V	3.0	-22.0	36.6	1.0	-57.7	-13.0	-44.7	
3.91	-67.3	V	3.0	-19.5	36.1	1.0	-54.6	-13.0	-41.6	
4.69	-67.3	V	3.0	-18.4	36.2	1.0	-53.6	-13.0	-40.6	

10.5.7. LTE BAND 17

QPSK EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/03/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 17, 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (710MHz)										
1.42	-65.4	H	3.0	-24.7	37.6	1.0	-61.3	-13.0	-48.3	
2.13	-65.6	H	3.0	-23.3	37.5	1.0	-59.8	-13.0	-46.8	
2.84	-65.8	H	3.0	-21.2	36.6	1.0	-56.8	-13.0	-43.8	
3.55	-65.9	H	3.0	-19.5	36.3	1.0	-54.8	-13.0	-41.8	
4.26	-65.7	H	3.0	-17.8	36.1	1.0	-52.9	-13.0	-39.9	
1.42	-65.3	V	3.0	-24.1	37.6	1.0	-60.6	-13.0	-47.6	
2.13	-64.7	V	3.0	-22.2	37.5	1.0	-58.7	-13.0	-45.7	
2.84	-66.0	V	3.0	-21.3	36.6	1.0	-56.9	-13.0	-43.9	
3.55	-65.5	V	3.0	-18.8	36.3	1.0	-54.2	-13.0	-41.2	
4.26	-65.6	V	3.0	-17.2	36.1	1.0	-52.3	-13.0	-39.3	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/03/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 17, 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (710MHz)										
1.42	-66.6	H	3.0	-25.9	37.6	1.0	-62.5	-13.0	-49.5	
2.13	-66.7	H	3.0	-24.4	37.5	1.0	-60.9	-13.0	-47.9	
2.84	-67.6	H	3.0	-23.0	36.6	1.0	-58.6	-13.0	-45.6	
3.55	-67.4	H	3.0	-21.0	36.3	1.0	-56.3	-13.0	-43.3	
4.26	-66.7	H	3.0	-18.8	36.1	1.0	-53.9	-13.0	-40.9	
1.42	-67.1	V	3.0	-25.9	37.6	1.0	-62.4	-13.0	-49.4	
2.13	-67.0	V	3.0	-24.5	37.5	1.0	-61.0	-13.0	-48.0	
2.84	-67.4	V	3.0	-22.7	36.6	1.0	-58.3	-13.0	-45.3	
3.55	-67.4	V	3.0	-20.7	36.3	1.0	-56.1	-13.0	-43.1	
4.26	-67.0	V	3.0	-18.6	36.1	1.0	-53.7	-13.0	-40.7	

Rev. 05.21.15

10.5.8. LTE BAND 25

QPSK EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/04/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 25, 20MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)										
3.72	-65.5	H	3.0	-18.7	36.2	1.0	-53.9	-13.0	-40.9	
5.58	-65.6	H	3.0	-15.2	36.1	1.0	-50.3	-13.0	-37.3	
7.44	-66.0	H	3.0	-12.9	35.2	1.0	-47.1	-13.0	-34.1	
9.30	-66.4	H	3.0	-11.5	33.9	1.0	-44.4	-13.0	-31.4	
3.72	-64.5	V	3.0	-17.3	36.2	1.0	-52.5	-13.0	-39.5	
5.58	-65.5	V	3.0	-15.3	36.1	1.0	-50.5	-13.0	-37.5	
7.44	-66.0	V	3.0	-13.0	35.2	1.0	-47.1	-13.0	-34.1	
9.30	-67.4	V	3.0	-12.7	33.9	1.0	-45.5	-13.0	-32.5	
Mid Channel (1882.5MHz)										
3.77	-65.0	H	3.0	-18.1	36.2	1.0	-53.3	-13.0	-40.3	
5.65	-65.9	H	3.0	-15.4	36.1	1.0	-50.5	-13.0	-37.5	
7.53	-66.3	H	3.0	-13.1	35.1	1.0	-47.2	-13.0	-34.2	
9.41	-67.4	H	3.0	-12.4	33.8	1.0	-45.2	-13.0	-32.2	
3.77	-65.4	V	3.0	-18.1	36.2	1.0	-53.2	-13.0	-40.2	
5.65	-64.9	V	3.0	-14.6	36.1	1.0	-49.7	-13.0	-36.7	
7.53	-65.1	V	3.0	-12.0	35.1	1.0	-46.1	-13.0	-33.1	
9.41	-66.6	V	3.0	-11.8	33.8	1.0	-44.5	-13.0	-31.5	
		V								
High Channel (1905MHz)										
3.81	-65.1	H	3.0	-18.1	36.1	1.0	-53.3	-13.0	-40.3	
5.72	-66.1	H	3.0	-15.5	36.1	1.0	-50.6	-13.0	-37.6	
7.62	-66.7	H	3.0	-13.4	35.1	1.0	-47.5	-13.0	-34.5	
9.53	-67.0	H	3.0	-11.9	33.7	1.0	-44.6	-13.0	-31.6	
3.81	-65.4	V	3.0	-17.9	36.1	1.0	-53.1	-13.0	-40.1	
5.72	-65.3	V	3.0	-14.9	36.1	1.0	-50.0	-13.0	-37.0	
7.62	-65.9	V	3.0	-12.7	35.1	1.0	-46.8	-13.0	-33.8	
9.53	-67.6	V	3.0	-12.7	33.7	1.0	-45.4	-13.0	-32.4	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/04/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 25, 20MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)										
3.72	-65.3	H	3.0	-18.5	36.2	1.0	-53.7	-13.0	-40.7	
5.58	-65.6	H	3.0	-15.2	36.1	1.0	-50.3	-13.0	-37.3	
7.44	-66.0	H	3.0	-12.9	35.2	1.0	-47.1	-13.0	-34.1	
9.30	-67.6	H	3.0	-12.7	33.9	1.0	-45.6	-13.0	-32.6	
3.72	-65.6	V	3.0	-18.4	36.2	1.0	-53.6	-13.0	-40.6	
5.58	-65.2	V	3.0	-15.0	36.1	1.0	-50.2	-13.0	-37.2	
7.44	-66.3	V	3.0	-13.3	35.2	1.0	-47.4	-13.0	-34.4	
9.30	-67.4	V	3.0	-12.7	33.9	1.0	-45.5	-13.0	-32.5	
Mid Channel (1882.5MHz)										
3.77	-65.5	H	3.0	-18.6	36.2	1.0	-53.8	-13.0	-40.8	
5.65	-65.4	H	3.0	-14.9	36.1	1.0	-50.0	-13.0	-37.0	
7.53	-66.2	H	3.0	-13.0	35.1	1.0	-47.1	-13.0	-34.1	
9.41	-67.5	H	3.0	-12.5	33.8	1.0	-45.3	-13.0	-32.3	
3.77	-65.2	V	3.0	-17.9	36.2	1.0	-53.0	-13.0	-40.0	
5.65	-66.0	V	3.0	-15.7	36.1	1.0	-50.8	-13.0	-37.8	
7.53	-66.7	V	3.0	-13.6	35.1	1.0	-47.7	-13.0	-34.7	
9.41	-67.4	V	3.0	-12.6	33.8	1.0	-45.3	-13.0	-32.3	
High Channel (1905MHz)										
3.81	-65.0	H	3.0	-18.0	36.1	1.0	-53.2	-13.0	-40.2	
5.72	-65.9	H	3.0	-15.3	36.1	1.0	-50.4	-13.0	-37.4	
7.62	-66.5	H	3.0	-13.2	35.1	1.0	-47.3	-13.0	-34.3	
9.53	-67.6	H	3.0	-12.5	33.7	1.0	-45.2	-13.0	-32.2	
3.81	-64.8	V	3.0	-17.3	36.1	1.0	-52.5	-13.0	-39.5	
5.72	-65.4	V	3.0	-15.0	36.1	1.0	-50.1	-13.0	-37.1	
7.62	-67.0	V	3.0	-13.8	35.1	1.0	-47.9	-13.0	-34.9	
9.53	-67.5	V	3.0	-12.6	33.7	1.0	-45.3	-13.0	-32.3	

Rev. 05.21.15

10.5.9. LTE BAND 26

QPSK EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/02/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 26 (90S), 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819MHz)										
1.64	-67.0	H	3.0	-25.6	37.8	1.0	-62.4	-13.0	-49.4	
2.46	-65.6	H	3.0	-22.5	36.7	1.0	-58.2	-13.0	-45.2	
3.28	-65.2	H	3.0	-19.3	36.5	1.0	-54.8	-13.0	-41.8	
4.10	-65.3	H	3.0	-17.7	36.0	1.0	-52.8	-13.0	-39.8	
4.91	-65.6	H	3.0	-16.4	36.2	1.0	-51.6	-13.0	-38.6	
1.64	-66.2	V	3.0	-24.4	37.8	1.0	-61.3	-13.0	-48.3	
2.46	-66.5	V	3.0	-22.6	36.7	1.0	-58.3	-13.0	-45.3	
3.28	-65.6	V	3.0	-19.8	36.5	1.0	-55.3	-13.0	-42.3	
4.10	-64.8	V	3.0	-16.6	36.0	1.0	-51.7	-13.0	-38.7	
4.91	-65.2	V	3.0	-16.0	36.2	1.0	-51.3	-13.0	-38.3	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/02/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 26 (90S), 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819MHz)										
1.64	-66.5	H	3.0	-25.1	37.8	1.0	-61.9	-13.0	-48.9	
2.46	-66.6	H	3.0	-23.5	36.7	1.0	-59.2	-13.0	-46.2	
3.28	-65.7	H	3.0	-19.8	36.5	1.0	-55.3	-13.0	-42.3	
4.10	-65.9	H	3.0	-18.3	36.0	1.0	-53.4	-13.0	-40.4	
4.91	-66.0	H	3.0	-16.8	36.2	1.0	-52.0	-13.0	-39.0	
1.64	-66.6	V	3.0	-24.8	37.8	1.0	-61.7	-13.0	-48.7	
2.46	-66.5	V	3.0	-22.6	36.7	1.0	-58.3	-13.0	-45.3	
3.28	-65.7	V	3.0	-19.9	36.5	1.0	-55.4	-13.0	-42.4	
4.10	-65.4	V	3.0	-17.2	36.0	1.0	-52.3	-13.0	-39.3	
4.91	-65.2	V	3.0	-16.0	36.2	1.0	-51.3	-13.0	-38.3	

Rev. 05.21.15

10.5.10. LTE BAND 27

QPSK EIRP POWER FOR LTE BAND 27 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/02/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 27, 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819.0 MHz)										
1.63	-66.5	H	3.0	-25.0	37.8	1.0	-61.9	-13.0	-48.9	
2.45	-67.3	H	3.0	-24.1	36.8	1.0	-59.9	-13.0	-46.9	
3.26	-66.5	H	3.0	-20.6	36.5	1.0	-56.1	-13.0	-43.1	
4.08	-67.3	H	3.0	-19.7	36.0	1.0	-54.8	-13.0	-41.8	
4.89	-66.3	H	3.0	-17.1	36.2	1.0	-52.3	-13.0	-39.3	
1.63	-66.2	V	3.0	-24.4	37.8	1.0	-61.2	-13.0	-48.2	
2.45	-67.1	V	3.0	-23.2	36.8	1.0	-59.0	-13.0	-46.0	
3.26	-67.0	V	3.0	-21.2	36.5	1.0	-56.7	-13.0	-43.7	
4.08	-66.8	V	3.0	-18.6	36.0	1.0	-53.6	-13.0	-40.6	
4.89	-66.1	V	3.0	-16.9	36.2	1.0	-52.1	-13.0	-39.1	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 27 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/02/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 27, 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819.0 MHz)										
1.63	-66.3	H	3.0	-24.9	37.8	1.0	-61.7	-13.0	-48.7	
2.45	-66.2	H	3.0	-23.1	36.8	1.0	-58.8	-13.0	-45.8	
3.26	-65.6	H	3.0	-19.7	36.5	1.0	-55.3	-13.0	-42.3	
4.08	-65.4	H	3.0	-17.9	36.0	1.0	-52.9	-13.0	-39.9	
4.89	-84.5	H	3.0	-35.4	36.2	1.0	-70.6	-13.0	-57.6	
1.63	-66.0	V	3.0	-24.2	37.8	1.0	-61.1	-13.0	-48.1	
2.45	-66.1	V	3.0	-22.3	36.8	1.0	-58.0	-13.0	-45.0	
3.26	-66.2	V	3.0	-20.4	36.5	1.0	-56.0	-13.0	-43.0	
4.08	-65.8	V	3.0	-17.6	36.0	1.0	-52.7	-13.0	-39.7	
4.89	-65.9	V	3.0	-16.8	36.2	1.0	-52.0	-13.0	-39.0	

Rev. 05.21.15

10.5.11. LTE BAND 30

QPSK EIRP POWER FOR LTE BAND 30 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/03/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 30, 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B30

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (2310MHz)										
4.62	-68.0	H	3.0	-14.2	37.9	1.0	-51.1	-40.0	-11.1	
6.93	-69.6	H	3.0	-11.0	36.5	1.0	-46.4	-40.0	-6.4	
9.24	-71.8	H	3.0	-10.3	34.9	1.0	-44.1	-40.0	-4.1	
4.62	-68.5	V	3.0	-14.8	37.9	1.0	-51.7	-40.0	-11.7	
6.93	-69.5	V	3.0	-10.0	36.5	1.0	-45.5	-40.0	-5.5	
9.24	-71.8	V	3.0	-10.0	34.9	1.0	-43.9	-40.0	-3.9	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 30 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/03/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 30, 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B30

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (2310MHz)										
4.62	-68.9	H	3.0	-15.1	37.9	1.0	-52.0	-40.0	-12.0	
6.93	-70.2	H	3.0	-11.6	36.5	1.0	-47.0	-40.0	-7.0	
9.24	-71.8	H	3.0	-10.3	34.9	1.0	-44.1	-40.0	-4.1	
4.62	-69.5	V	3.0	-15.8	37.9	1.0	-52.7	-40.0	-12.7	
6.93	-69.6	V	3.0	-10.1	36.5	1.0	-45.6	-40.0	-5.6	
9.24	-71.8	V	3.0	-10.0	34.9	1.0	-43.9	-40.0	-3.9	

Rev. 05.21.15

10.5.12 LTE BAND 41

QPSK EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/04/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 41, 20MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B41

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz)										
5.01	-68.5	H	3.0	-19.1	36.2	1.0	-54.4	-25.0	-29.4	
7.52	-69.6	H	3.0	-16.4	35.1	1.0	-50.5	-25.0	-25.5	
10.02	-69.8	H	3.0	-14.3	33.3	1.0	-46.6	-25.0	-21.6	
12.53	-70.8	H	3.0	-14.5	32.1	1.0	-45.6	-25.0	-20.6	
5.01	-68.2	V	3.0	-18.9	36.2	1.0	-54.2	-25.0	-29.2	
7.52	-68.7	V	3.0	-15.6	35.1	1.0	-49.7	-25.0	-24.7	
10.02	-69.6	V	3.0	-14.2	33.3	1.0	-46.6	-25.0	-21.6	
12.53	-70.4	V	3.0	-14.5	32.1	1.0	-45.6	-25.0	-20.6	
Mid Channel (2593MHz)										
5.19	-68.6	H	3.0	-18.9	36.3	1.0	-54.2	-25.0	-29.2	
7.78	-68.4	H	3.0	-15.0	34.9	1.0	-48.9	-25.0	-23.9	
10.37	-70.3	H	3.0	-14.6	33.1	1.0	-46.8	-25.0	-21.8	
12.97	-71.4	H	3.0	-15.1	32.1	1.0	-46.2	-25.0	-21.2	
5.19	-69.0	V	3.0	-19.5	36.3	1.0	-54.8	-25.0	-29.8	
7.78	-67.6	V	3.0	-14.3	34.9	1.0	-48.2	-25.0	-23.2	
10.37	-70.2	V	3.0	-14.7	33.1	1.0	-46.9	-25.0	-21.9	
12.97	-70.9	V	3.0	-15.0	32.1	1.0	-46.0	-25.0	-21.0	
High Channel (2680MHz)										
5.36	-67.5	H	3.0	-17.5	36.2	1.0	-52.7	-25.0	-27.7	
8.04	-69.4	H	3.0	-15.7	34.8	1.0	-49.5	-25.0	-24.5	
10.72	-70.0	H	3.0	-14.2	32.9	1.0	-46.1	-25.0	-21.1	
13.40	-71.0	H	3.0	-14.7	32.1	1.0	-45.8	-25.0	-20.8	
5.36	-67.0	V	3.0	-17.2	36.2	1.0	-52.4	-25.0	-27.4	
8.04	-69.1	V	3.0	-15.5	34.8	1.0	-49.3	-25.0	-24.3	
10.72	-69.8	V	3.0	-14.3	32.9	1.0	-46.2	-25.0	-21.2	
13.40	-70.4	V	3.0	-14.4	32.1	1.0	-45.5	-25.0	-20.5	

Rev. 05.21.15

16QAM EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 16U23309
Date: 05/04/16
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 41, 20MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber G	3m Chamber G	Filter	LTE B41

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz)										
5.01	-67.3	H	3.0	-17.9	36.2	1.0	-53.2	-25.0	-28.2	
7.52	-69.2	H	3.0	-16.0	35.1	1.0	-50.1	-25.0	-25.1	
10.02	-68.7	H	3.0	-13.1	33.3	1.0	-45.5	-25.0	-20.5	
12.53	-70.4	H	3.0	-14.1	32.1	1.0	-45.2	-25.0	-20.2	
5.01	-68.0	V	3.0	-18.7	36.2	1.0	-53.9	-25.0	-28.9	
7.52	-68.8	V	3.0	-15.6	35.1	1.0	-49.8	-25.0	-24.8	
10.02	-69.0	V	3.0	-13.6	33.3	1.0	-45.9	-25.0	-20.9	
12.53	-70.0	V	3.0	-14.1	32.1	1.0	-45.2	-25.0	-20.2	
Mid Channel (2593MHz)										
5.19	-67.6	H	3.0	-17.8	36.3	1.0	-53.1	-25.0	-28.1	
7.78	-67.7	H	3.0	-14.2	34.9	1.0	-48.2	-25.0	-23.2	
10.37	-70.1	H	3.0	-14.4	33.1	1.0	-46.5	-25.0	-21.5	
12.97	-70.6	H	3.0	-14.3	32.1	1.0	-45.4	-25.0	-20.4	
5.19	-67.9	V	3.0	-18.4	36.3	1.0	-53.7	-25.0	-28.7	
7.78	-67.9	V	3.0	-14.5	34.9	1.0	-48.5	-25.0	-23.5	
10.37	-70.0	V	3.0	-14.5	33.1	1.0	-46.6	-25.0	-21.6	
12.97	-70.6	V	3.0	-14.6	32.1	1.0	-45.7	-25.0	-20.7	
High Channel (2680MHz)										
5.36	-66.7	H	3.0	-16.6	36.2	1.0	-51.9	-25.0	-26.9	
8.04	-68.6	H	3.0	-14.9	34.8	1.0	-48.6	-25.0	-23.6	
10.72	-68.8	H	3.0	-13.0	32.9	1.0	-44.9	-25.0	-19.9	
13.40	-69.9	H	3.0	-13.6	32.1	1.0	-44.6	-25.0	-19.6	
5.36	-67.4	V	3.0	-17.6	36.2	1.0	-52.8	-25.0	-27.8	
8.04	-68.5	V	3.0	-14.9	34.8	1.0	-48.6	-25.0	-23.6	
10.72	-69.0	V	3.0	-13.4	32.9	1.0	-45.3	-25.0	-20.3	
13.40	-70.2	V	3.0	-14.2	32.1	1.0	-45.2	-25.0	-20.2	

Rev. 05.21.15