



<FR1 n77_Aux Ant_Default Power> (Part 27Q)							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		16.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		15.37		16.0
100	PI/2 BPSK	1	137		15.63		
100	PI/2 BPSK	1	271		15.34		
100	PI/2 BPSK	135	0		15.54		16.0
100	PI/2 BPSK	135	69		15.67		16.0
100	PI/2 BPSK	135	138		15.45		16.0
100	PI/2 BPSK	270	0		15.58		
100	QPSK	1	1		15.26		16.0
100	QPSK	1	137		15.58		
100	QPSK	1	271		15.19		
100	QPSK	135	0		15.64		16.0
100	QPSK	135	69		15.67		
100	QPSK	135	138		15.45		
100	QPSK	270	0		15.56		16.0
100	16QAM	1	1		15.18		16.0
100	64QAM	1	1		14.93		16.0
100	256QAM	1	1		15.40		16.0
Channel				632668	633332	634000	16.0
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	15.35	15.40	15.45	16.0
Channel				632000	633332	634666	16.0
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	15.36	15.43	15.43	16.0
Channel				631668	633332	635000	16.0
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	15.42	15.46	15.53	16.0
Channel				631334	633332	635332	16.0
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	15.52	15.40	15.39	16.0
Channel				630668	633332	636000	16.0
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	15.50	15.41	15.47	16.0
Channel				630500	633332	636166	16.0
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	15.34	15.41	15.43	16.0
Channel				630334	633332	636332	16.0
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	15.45	15.46	15.40	16.0



<FR1 n77 HPUE_Main Ant_Reduced Power> (Part 270)							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	17.5
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	16.10	16.25	16.39	
100	PI/2 BPSK	1	137	16.38	16.60	16.74	17.5
100	PI/2 BPSK	1	271	16.31	16.51	16.72	
100	PI/2 BPSK	135	0	16.37	16.45	16.64	
100	PI/2 BPSK	135	69	16.50	16.64	16.85	17.5
100	PI/2 BPSK	135	138	16.45	16.56	16.77	
100	PI/2 BPSK	270	0	16.38	16.57	16.69	
100	QPSK	1	1	15.87	16.08	16.22	17.5
100	QPSK	1	137	16.28	16.54	16.71	
100	QPSK	1	271	16.18	16.37	16.53	
100	QPSK	135	0	16.31	16.44	16.62	17.5
100	QPSK	135	69	16.55	16.60	16.82	
100	QPSK	135	138	16.48	16.61	16.82	
100	QPSK	270	0	16.28	16.54	16.62	17.5
100	16QAM	1	1	15.81	15.95	16.18	
100	64QAM	1	1	15.67	15.81	15.95	
100	256QAM	1	1	16.14	16.26	16.42	17.5
Channel				649334	656000	662666	
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	16.11	16.21	16.36	17.5
Channel				648668	656000	663332	
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	16.05	16.30	16.33	17.5
Channel				648334	656000	663666	
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	16.09	16.30	16.34	17.5
Channel				648000	656000	664000	
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	16.04	16.20	16.39	17.5
Channel				647334	656000	664666	
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	16.18	16.31	16.34	17.5
Channel				647168	656000	664832	
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	16.13	16.27	16.30	17.5
Channel				647000	656000	665000	
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	16.16	16.27	16.38	17.5



<FR1 n77 HPUE_Main Ant_Reduced Power> (Part 27Q)							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		17.5
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		16.40		17.5
100	PI/2 BPSK	1	137		16.91		
100	PI/2 BPSK	1	271		16.87		
100	PI/2 BPSK	135	0		16.81		17.5
100	PI/2 BPSK	135	69		17.00		17.5
100	PI/2 BPSK	135	138		16.88		17.5
100	PI/2 BPSK	270	0		16.84		
100	QPSK	1	1		16.33		17.5
100	QPSK	1	137		16.89		
100	QPSK	1	271		16.87		
100	QPSK	135	0		16.80		17.5
100	QPSK	135	69		16.88		
100	QPSK	135	138		16.93		
100	QPSK	270	0		16.82		17.5
100	16QAM	1	1		16.21		17.5
100	64QAM	1	1		16.05		17.5
100	256QAM	1	1		16.50		17.5
Channel				632668	633332	634000	17.5
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	16.20	16.49	16.31	17.5
Channel				632000	633332	634666	17.5
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	16.19	16.42	16.30	17.5
Channel				631668	633332	635000	17.5
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	16.15	16.40	16.24	17.5
Channel				631334	633332	635332	17.5
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	16.30	16.33	16.32	17.5
Channel				630668	633332	636000	17.5
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	16.30	16.37	16.36	17.5
Channel				630500	633332	636166	17.5
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	16.21	16.47	16.24	17.5
Channel				630334	633332	636332	17.5
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	16.16	16.34	16.33	17.5



<b>&lt;FR1 n77_HPUE_MIMO2 Ant_Reduced Power&gt; (Part 270)</b>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	20.0
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	18.54	18.61	18.76	20.0
100	PI/2 BPSK	1	137	19.17	19.38	19.06	
100	PI/2 BPSK	1	271	18.94	18.95	18.55	
100	PI/2 BPSK	135	0	19.11	19.22	19.19	20.0
100	PI/2 BPSK	135	69	19.16	19.45	19.15	20.0
100	PI/2 BPSK	135	138	19.08	19.30	18.88	20.0
100	PI/2 BPSK	270	0	19.19	19.17	19.02	
100	QPSK	1	1	18.52	18.57	18.75	20.0
100	QPSK	1	137	19.02	19.15	18.91	
100	QPSK	1	271	18.98	18.84	18.65	
100	QPSK	135	0	18.97	19.19	19.03	20.0
100	QPSK	135	69	19.28	19.32	18.91	
100	QPSK	135	138	19.12	19.32	18.73	
100	QPSK	270	0	18.90	19.24	18.98	20.0
100	16QAM	1	1	18.42	18.62	18.62	20.0
100	64QAM	1	1	18.14	18.39	18.42	20.0
100	256QAM	1	1	18.53	18.76	18.83	20.0
Channel				649334	656000	662666	20.0
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	18.61	18.59	18.77	20.0
Channel				648668	656000	663332	20.0
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	18.46	18.55	18.76	20.0
Channel				648334	656000	663666	20.0
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	18.46	18.52	18.81	20.0
Channel				648000	656000	664000	20.0
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	18.53	18.63	18.85	20.0
Channel				647334	656000	664666	20.0
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	18.56	18.63	18.66	20.0
Channel				647168	656000	664832	20.0
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	18.61	18.51	18.70	20.0
Channel				647000	656000	665000	20.0
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	18.61	18.59	18.82	20.0



<b>&lt;FR1 n77 HPUE_MIMO2 Ant_Reduced Power&gt; (Part 27Q)</b>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		20.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		19.36		20.0
100	PI/2 BPSK	1	137		19.84		
100	PI/2 BPSK	1	271		19.66		
100	PI/2 BPSK	135	0		19.59		20.0
100	PI/2 BPSK	135	69		19.95		20.0
100	PI/2 BPSK	135	138		19.72		20.0
100	PI/2 BPSK	270	0		19.74		
100	QPSK	1	1		19.30		20.0
100	QPSK	1	137		19.81		
100	QPSK	1	271		19.48		
100	QPSK	135	0		19.67		20.0
100	QPSK	135	69		19.89		
100	QPSK	135	138		19.76		
100	QPSK	270	0		19.69		20.0
100	16QAM	1	1		19.16		20.0
100	64QAM	1	1		18.82		20.0
100	256QAM	1	1		19.28		20.0
Channel				632668	633332	634000	20.0
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	19.38	19.35	19.26	20.0
Channel				632000	633332	634666	20.0
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	19.37	19.27	19.25	20.0
Channel				631668	633332	635000	20.0
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	19.20	19.26	19.33	20.0
Channel				631334	633332	635332	20.0
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	19.26	19.41	19.30	20.0
Channel				630668	633332	636000	20.0
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	19.20	19.45	19.23	20.0
Channel				630500	633332	636166	20.0
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	19.33	19.40	19.34	20.0
Channel				630334	633332	636332	20.0
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	19.31	19.38	19.27	20.0



<b>&lt;FR1 n77 HPUE_Main Ant_Default Power&gt; (Part 270)</b>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	26.5
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	24.86	24.66	24.84	
100	PI/2 BPSK	1	137	25.42	25.59	25.23	26.0
100	PI/2 BPSK	1	271	24.83	25.02	24.91	
100	PI/2 BPSK	135	0	25.32	25.48	25.33	26.5
100	PI/2 BPSK	135	69	25.28	25.52	25.20	
100	PI/2 BPSK	135	138	25.21	25.46	25.36	26.0
100	PI/2 BPSK	270	0	25.11	25.14	25.11	
100	QPSK	1	1	24.81	24.71	24.72	26.5
100	QPSK	1	137	25.29	25.43	25.35	
100	QPSK	1	271	24.59	24.73	24.98	
100	QPSK	135	0	24.96	25.25	25.14	26.5
100	QPSK	135	69	25.15	25.29	25.28	
100	QPSK	135	138	25.20	25.39	25.16	
100	QPSK	270	0	25.39	25.22	25.30	26.0
100	16QAM	1	1	24.71	24.76	24.38	25.0
100	64QAM	1	1	24.50	24.52	24.42	25.0
100	256QAM	1	1	23.87	23.75	23.88	24.0
Channel				649334	656000	662666	26.5
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	24.77	24.80	24.75	
Channel				648668	656000	663332	26.5
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	24.96	24.74	25.01	
Channel				648334	656000	663666	26.5
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	24.86	24.66	24.71	
Channel				648000	656000	664000	26.5
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	25.02	24.57	24.85	
Channel				647334	656000	664666	26.5
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	24.87	24.81	24.70	
Channel				647168	656000	664832	26.5
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	24.95	24.55	24.66	
Channel				647000	656000	665000	26.5
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	24.72	24.61	24.76	



<FR1 n77 HPUE_Main Ant_Default Power> (Part 27Q)							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		26.5
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		24.96		26.5
100	PI/2 BPSK	1	137		25.75		
100	PI/2 BPSK	1	271		25.59		
100	PI/2 BPSK	135	0		25.58		26.0
100	PI/2 BPSK	135	69		25.80		26.5
100	PI/2 BPSK	135	138		25.60		26.0
100	PI/2 BPSK	270	0		25.72		
100	QPSK	1	1		25.16		26.5
100	QPSK	1	137		25.70		
100	QPSK	1	271		25.52		
100	QPSK	135	0		25.50		26.5
100	QPSK	135	69		25.54		
100	QPSK	135	138		25.68		
100	QPSK	270	0		25.78		26.0
100	16QAM	1	1		24.39		25.0
100	64QAM	1	1		24.34		25.0
100	256QAM	1	1		22.88		24.0
Channel				632668	633332	634000	26.5
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	24.99	24.80	24.62	26.5
Channel				632000	633332	634666	26.5
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	24.85	24.95	24.93	26.5
Channel				631668	633332	635000	26.5
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	25.04	24.76	24.71	26.5
Channel				631334	633332	635332	26.5
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	25.03	25.03	24.90	26.5
Channel				630668	633332	636000	26.5
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	25.01	24.99	25.02	26.5
Channel				630500	633332	636166	26.5
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	25.19	24.90	24.64	26.5
Channel				630334	633332	636332	26.5
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	24.89	24.98	24.97	26.5



<FR1 n77 HPUE_MIMO2 Ant_Default Power> ( Part 270)							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	27.0
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	25.65	25.53	25.91	
100	PI/2 BPSK	1	137	26.22	26.22	26.62	26.5
100	PI/2 BPSK	1	271	25.86	25.83	26.10	
100	PI/2 BPSK	135	0	26.15	26.30	26.10	27.0
100	PI/2 BPSK	135	69	26.42	26.48	26.59	
100	PI/2 BPSK	135	138	25.75	26.13	26.19	26.5
100	PI/2 BPSK	270	0	26.00	26.04	26.36	
100	QPSK	1	1	25.44	25.47	25.57	27.0
100	QPSK	1	137	26.11	26.41	26.42	
100	QPSK	1	271	25.45	25.64	26.01	
100	QPSK	135	0	25.80	26.26	26.41	27.0
100	QPSK	135	69	26.04	26.33	26.49	
100	QPSK	135	138	25.97	26.17	26.32	
100	QPSK	270	0	25.98	26.38	26.32	27.0
100	16QAM	1	1	25.44	25.60	25.69	26.0
100	64QAM	1	1	24.77	24.60	24.83	25.0
100	256QAM	1	1	23.51	23.69	23.67	24.0
Channel				649334	656000	662666	27.0
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	25.77	25.69	26.06	
Channel				648668	656000	663332	27.0
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	25.82	25.67	26.09	
Channel				648334	656000	663666	27.0
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	25.82	25.66	26.09	
Channel				648000	656000	664000	27.0
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	25.79	25.63	26.10	
Channel				647334	656000	664666	27.0
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	25.75	25.67	26.05	
Channel				647168	656000	664832	27.0
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	25.83	25.72	26.11	
Channel				647000	656000	665000	27.0
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	25.85	25.71	26.06	





<b>&lt;FR1 n77 HPUE_MIMO2 Ant_Default Power&gt; ( Part 27Q)</b>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		27.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		25.80		27.0
100	PI/2 BPSK	1	137		26.40		
100	PI/2 BPSK	1	271		25.84		
100	PI/2 BPSK	135	0		26.14		26.5
100	PI/2 BPSK	135	69		26.36		27.0
100	PI/2 BPSK	135	138		26.32		26.5
100	PI/2 BPSK	270	0		26.37		
100	QPSK	1	1		25.46		27.0
100	QPSK	1	137		26.23		
100	QPSK	1	271		25.93		
100	QPSK	135	0		26.07		27.0
100	QPSK	135	69		26.32		
100	QPSK	135	138		26.36		
100	QPSK	270	0		26.04		27.0
100	16QAM	1	1		25.66		26.0
100	64QAM	1	1		24.56		25.0
100	256QAM	1	1		23.52		24.0
Channel				632668	633332	634000	27.0
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	25.78	25.86	25.85	27.0
Channel				632000	633332	634666	27.0
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	25.76	25.68	25.94	27.0
Channel				631668	633332	635000	27.0
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	25.66	25.71	25.76	27.0
Channel				631334	633332	635332	27.0
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	25.81	25.81	25.87	27.0
Channel				630668	633332	636000	27.0
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	25.78	25.80	25.91	27.0
Channel				630500	633332	636166	27.0
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	25.69	25.68	25.77	27.0
Channel				630334	633332	636332	27.0
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	25.69	25.84	25.87	27.0



-<FR1 n78_Main Ant_Reduced Power							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		14.5
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		13.00		14.5
100	PI/2 BPSK	1	137		13.41		
100	PI/2 BPSK	1	271		13.15		
100	PI/2 BPSK	135	0		13.32		14.5
100	PI/2 BPSK	135	69		13.48		14.5
100	PI/2 BPSK	135	138		13.35		14.5
100	PI/2 BPSK	270	0		13.38		
100	QPSK	1	1		12.95		14.5
100	QPSK	1	137		13.32		
100	QPSK	1	271		13.09		
100	QPSK	135	0		13.34		14.5
100	QPSK	135	69		13.46		
100	QPSK	135	138		13.34		
100	QPSK	270	0		13.33		14.5
100	16QAM	1	1		12.89		14.5
100	64QAM	1	1		12.64		14.5
100	256QAM	1	1		13.07		14.5
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	12.96	13.02	13.00	14.5
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	12.79	12.99	12.93	14.5
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	12.80	12.99	12.89	14.5
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	12.98	13.08	12.92	14.5
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	12.96	12.90	13.00	14.5
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	12.90	12.94	13.01	14.5
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	12.83	13.00	12.92	14.5



<b>&lt;FR1 n78 HPUE_Main Ant_Reduced Power</b>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		15.96		17.5
100	PI/2 BPSK	1	137		16.42		
100	PI/2 BPSK	1	271		16.13		
100	PI/2 BPSK	135	0		16.32		17.5
100	PI/2 BPSK	135	69		16.45		17.5
100	PI/2 BPSK	135	138		16.35		17.5
100	PI/2 BPSK	270	0		16.37		
100	QPSK	1	1		15.94		17.5
100	QPSK	1	137		16.22		
100	QPSK	1	271		16.07		
100	QPSK	135	0		16.30		17.5
100	QPSK	135	69		16.42		
100	QPSK	135	138		16.32		
100	QPSK	270	0		16.25		17.5
100	16QAM	1	1		15.88		17.5
100	64QAM	1	1		15.60		17.5
100	256QAM	1	1		16.04		17.5
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	15.87	16.04	16.01	17.5
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	15.87	16.05	15.97	17.5
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	15.88	15.97	15.99	17.5
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	15.82	16.04	15.84	17.5
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	15.98	16.03	16.03	17.5
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	15.90	16.06	16.02	17.5
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	15.98	15.94	15.88	17.5



<FR1 n78_MIMO2 Ant_Reduced Power>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		15.64		17.0
100	PI/2 BPSK	1	137		16.27		
100	PI/2 BPSK	1	271		16.12		
100	PI/2 BPSK	135	0		16.09		17.0
100	PI/2 BPSK	135	69		16.32		17.0
100	PI/2 BPSK	135	138		16.28		17.0
100	PI/2 BPSK	270	0		16.23		
100	QPSK	1	1		15.62		17.0
100	QPSK	1	137		16.18		
100	QPSK	1	271		16.07		
100	QPSK	135	0		16.10		17.0
100	QPSK	135	69		16.29		
100	QPSK	135	138		16.28		
100	QPSK	270	0		16.16		17.0
100	16QAM	1	1		15.53		17.0
100	64QAM	1	1		15.32		17.0
100	256QAM	1	1		15.75		17.0
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	15.69	15.63	15.68	17.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	15.56	15.72	15.71	17.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	15.64	15.68	15.72	17.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	15.57	15.73	15.73	17.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	15.59	15.69	15.75	17.0
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	15.54	15.57	15.65	17.0
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	15.56	15.67	15.70	17.0



<FR1 n78 HPUE_MIMO2 Ant_Reduced Power>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		20.0
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		18.67		20.0
100	PI/2 BPSK	1	137		19.17		
100	PI/2 BPSK	1	271		19.11		
100	PI/2 BPSK	135	0		19.13		20.0
100	PI/2 BPSK	135	69		19.32		20.0
100	PI/2 BPSK	135	138		19.24		20.0
100	PI/2 BPSK	270	0		19.27		
100	QPSK	1	1		18.56		20.0
100	QPSK	1	137		19.25		
100	QPSK	1	271		19.10		
100	QPSK	135	0		19.14		20.0
100	QPSK	135	69		19.19		
100	QPSK	135	138		19.25		
100	QPSK	270	0		19.09		20.0
100	16QAM	1	1		18.63		20.0
100	64QAM	1	1		18.26		20.0
100	256QAM	1	1		18.65		20.0
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	18.58	18.76	18.73	20.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	18.59	18.57	18.53	20.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	18.48	18.68	18.72	20.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	18.64	18.68	18.61	20.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	18.49	18.69	18.53	20.0
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	18.56	18.72	18.61	20.0
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	18.55	18.60	18.57	20.0



<FR1 n78_Main Ant_Default Power>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		24.0
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		22.22		24.0
100	PI/2 BPSK	1	137		23.17		
100	PI/2 BPSK	1	271		22.31		
100	PI/2 BPSK	135	0		22.83		23.5
100	PI/2 BPSK	135	69		23.05		24.0
100	PI/2 BPSK	135	138		22.85		23.5
100	PI/2 BPSK	270	0		22.93		
100	QPSK	1	1		22.15		24.0
100	QPSK	1	137		22.95		
100	QPSK	1	271		22.26		
100	QPSK	135	0		23.00		24.0
100	QPSK	135	69		23.13		
100	QPSK	135	138		22.95		
100	QPSK	270	0		22.99		23.5
100	16QAM	1	1		22.26		22.5
100	64QAM	1	1		21.97		22.5
100	256QAM	1	1		21.33		21.5
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	22.18	22.57	22.59	24.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	22.20	22.34	22.40	24.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	22.29	22.39	22.40	24.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	22.33	22.19	22.68	24.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	22.37	22.27	22.62	24.0
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	22.49	22.16	22.72	24.0
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	22.47	22.23	22.49	24.0



<FR1 n78 HPUE_ Main Ant_Default Power							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		24.81		26.5
100	PI/2 BPSK	1	137		25.64		
100	PI/2 BPSK	1	271		24.81		
100	PI/2 BPSK	135	0		25.15		26.0
100	PI/2 BPSK	135	69		25.52		26.5
100	PI/2 BPSK	135	138		25.36		26.0
100	PI/2 BPSK	270	0		25.26		
100	QPSK	1	1		24.84		26.5
100	QPSK	1	137		25.43		
100	QPSK	1	271		24.72		
100	QPSK	135	0		25.34		26.5
100	QPSK	135	69		25.62		
100	QPSK	135	138		25.46		
100	QPSK	270	0		25.41		25.5
100	16QAM	1	1		24.80		25.0
100	64QAM	1	1		24.57		25.0
100	256QAM	1	1		23.98		24.0
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	24.64	24.91	24.87	26.5
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	24.85	24.90	24.96	26.5
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	24.82	24.78	24.99	26.5
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	24.74	24.79	25.06	26.5
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	24.86	24.74	24.96	26.5
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	24.91	24.98	24.94	26.5
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	24.90	24.73	25.04	26.5



<FR1 n78_MIMO2 Ant_Default Power							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		24.0
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		22.12		24.0
100	PI/2 BPSK	1	137		22.89		
100	PI/2 BPSK	1	271		22.51		
100	PI/2 BPSK	135	0		22.63		23.5
100	PI/2 BPSK	135	69		22.92		24.0
100	PI/2 BPSK	135	138		22.79		23.5
100	PI/2 BPSK	270	0		22.72		
100	QPSK	1	1		22.19		24.0
100	QPSK	1	137		22.80		
100	QPSK	1	271		22.47		
100	QPSK	135	0		22.64		24.0
100	QPSK	135	69		22.89		
100	QPSK	135	138		22.82		
100	QPSK	270	0		22.73		24.0
100	16QAM	1	1		21.93		23.0
100	64QAM	1	1		21.71		23.0
100	256QAM	1	1		20.63		22.0
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	22.32	22.30	22.14	24.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	22.39	22.05	22.35	24.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	22.30	22.19	22.07	24.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	22.28	22.25	22.18	24.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	22.08	22.24	22.32	24.0
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	22.03	22.12	22.38	24.0
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	22.42	22.21	22.16	24.0





<FR1 n78 HPUE_MIMO2 Ant_Default Power >							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		27.0
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		25.14		27.0
100	PI/2 BPSK	1	137		25.69		
100	PI/2 BPSK	1	271		25.47		
100	PI/2 BPSK	135	0		25.73		26.5
100	PI/2 BPSK	135	69		25.81		27.0
100	PI/2 BPSK	135	138		25.69		26.5
100	PI/2 BPSK	270	0		25.63		
100	QPSK	1	1		25.09		27.0
100	QPSK	1	137		25.73		
100	QPSK	1	271		25.39		
100	QPSK	135	0		25.45		27.0
100	QPSK	135	69		25.80		
100	QPSK	135	138		25.74		
100	QPSK	270	0		25.75		27.0
100	16QAM	1	1		24.95		26.0
100	64QAM	1	1		24.83		26.0
100	256QAM	1	1		23.83		25.0
Channel				649334	650000	650666	27.0
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	25.23	25.20	25.06	27.0
Channel				648668	650000	651332	27.0
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	25.13	25.24	25.05	27.0
Channel				648334	650000	651666	27.0
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	25.26	25.13	25.04	27.0
Channel				648000	650000	652000	27.0
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	25.12	25.15	25.11	27.0
Channel				647334	650000	652666	27.0
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	25.15	25.11	25.05	27.0
Channel				647168	650000	652832	27.0
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	25.23	25.11	25.16	27.0
Channel				647000	650000	653000	27.0
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	25.12	25.17	25.11	27.0



<b>&lt;FR1 n78_MIMO1 Ant_Default Power&gt;</b>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		15.16		16.5
100	PI/2 BPSK	1	137		15.74		
100	PI/2 BPSK	1	271		15.46		
100	PI/2 BPSK	135	0		15.55		16.5
100	PI/2 BPSK	135	69		15.76		16.5
100	PI/2 BPSK	135	138		15.64		16.5
100	PI/2 BPSK	270	0		15.68		
100	QPSK	1	1		15.13		16.5
100	QPSK	1	137		15.64		
100	QPSK	1	271		15.37		
100	QPSK	135	0		15.60		16.5
100	QPSK	135	69		15.70		
100	QPSK	135	138		15.68		
100	QPSK	270	0		15.61		16.5
100	16QAM	1	1		15.07		16.5
100	64QAM	1	1		14.82		16.5
100	256QAM	1	1		15.27		16.5
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	15.16	15.05	15.08	16.5
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	15.04	15.15	15.21	16.5
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	15.10	15.18	15.12	16.5
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	15.21	15.14	15.10	16.5
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	15.16	15.05	15.13	16.5
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	15.15	15.17	15.13	16.5
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	15.07	15.12	15.20	16.5



<b>&lt;FR1 n78_Aux Ant_Default Power&gt;</b>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		16.0
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		14.71		16.0
100	PI/2 BPSK	1	137		15.26		
100	PI/2 BPSK	1	271		15.12		
100	PI/2 BPSK	135	0		15.07		16.0
100	PI/2 BPSK	135	69		15.32		16.0
100	PI/2 BPSK	135	138		15.20		16.0
100	PI/2 BPSK	270	0		15.19		
100	QPSK	1	1		14.67		16.0
100	QPSK	1	137		15.20		
100	QPSK	1	271		14.90		
100	QPSK	135	0		15.12		16.0
100	QPSK	135	69		15.29		
100	QPSK	135	138		15.19		
100	QPSK	270	0		15.21		16.0
100	16QAM	1	1		14.60		16.0
100	64QAM	1	1		14.59		16.0
100	256QAM	1	1		14.81		16.0
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	14.73	14.81	14.68	16.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	14.71	14.77	14.84	16.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	14.75	14.83	14.78	16.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	14.70	14.69	14.76	16.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	14.74	14.81	14.70	16.0
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	14.70	14.77	14.78	16.0
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	14.84	14.78	14.65	16.0

## **13. SAR Test Results**

### **General Note:**

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
  - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
  - b. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)\*Tune-up Scaling Factor
  - c. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)\* Tune-up Scaling Factor\* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
  - $\leq 0.8$  W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is  $\leq 100$  MHz
  - $\leq 0.6$  W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
  - $\leq 0.4$  W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is  $\geq 200$  MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is  $\geq 0.8$ W/kg.
4. For the exposure positions that proximity sensor power reduction is applied for SAR compliance, additional SAR testing with EUT transmitting full power in sensor trigger distance was performed according to section 4. The test results just verification the sensor trigger distance to meet KDB 616217 requirement, when in normal usage will not operate at trigger distance, therefore, these results were not using performed Sim-Tx analysis.

### **UMTS Note:**

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is  $\leq \frac{1}{4}$  dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than  $\frac{1}{4}$  dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

### **LTE Note:**

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4/B5/B12/B17/B26/B38/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 2/4/5/17/38 SAR test was covered by Band 25/66/26/12/41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
  - a. The maximum output power, including tolerance, for the smaller band is  $\leq$  the larger band to qualify for the SAR test exclusion.
  - b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

**5G NR Note:**

1. The device support SCS 15KHz and 30KHz for NR FDD and TDD and have the same maximum power, in this report only select SCS 15KHz for NR FDD and SCS 30KHz for NR TDD power measurement, due to SCS 15KHz for FDD and SCS 30KHz for TDD have highest support bandwidth, and the NR SAR is < 1g SAR 1.45W/kg. Output power and SAR measurement for SCS30KHz for FDD and SCS15KHz for TDD shall be not necessary.
2. Referencing the procedure in KDB 941225, the test procedures are outlined as below:
  - a. To start SAR test for the largest channel bandwidth for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for PI/2 BPSK SAR testing using 1RB PI/2 BPSK allocation procedure
  - b. For PI/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
  - c. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not  $\frac{1}{2}$  dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
  - d. Smaller bandwidth output power for each RB allocation configuration for this device is not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg, smaller bandwidth SAR testing is not required for this device
  - e. For 5G FR1 n5/n41/n71/n77, the maximum channel bandwidth does not support three non-overlapping channels in the frequency band, the middle channel of the group of overlapping channels were selected for testing.
  - f. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission. And only for TDD power class2 was performed using Factory Test Mode software to establish the connection and perform SAR with 50% transmission.



13.1 Body SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	15mm	Main	OFF	9538	1907.6	Amphenol	23.80	24.50	1.175	-0.01	0.266	0.313
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	9538	1907.6	Amphenol	15.99	16.50	1.125	0.02	0.730	0.821
01	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	9262	1852.4	Amphenol	15.68	16.50	1.208	0	0.739	0.893
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	9400	1880	Amphenol	15.89	16.50	1.151	0.18	0.723	0.832
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	9262	1852.4	NVC	15.68	16.50	1.208	0.03	0.660	0.797
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	15mm	MIMO2	OFF	9538	1907.6	Amphenol	23.57	24.00	1.104	0.13	0.334	0.369
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	0mm	MIMO2	ON	9538	1907.6	Amphenol	15.78	16.50	1.180	-0.16	0.687	0.811
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	0mm	MIMO2	ON	9262	1852.4	Amphenol	15.40	16.50	1.288	-0.01	0.647	0.833
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	0mm	MIMO2	ON	9400	1880	Amphenol	15.67	16.50	1.211	-0.02	0.664	0.804
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	0mm	MIMO2	ON	9262	1852.4	NVC	15.40	16.50	1.288	0.04	0.538	0.693
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	15mm	Main	OFF	1312	1712.4	Amphenol	23.81	24.50	1.172	0.02	0.437	0.512
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	1312	1712.4	Amphenol	17.02	17.50	1.117	-0.04	0.576	0.643
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	1413	1732.6	Amphenol	16.98	17.50	1.127	-0.09	0.626	0.706
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	1513	1752.6	Amphenol	16.92	17.50	1.143	0.17	0.678	0.775
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	1513	1752.6	NVC	16.92	17.50	1.143	-0.01	0.780	0.891
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	1312	1712.4	NVC	17.02	17.50	1.117	0.12	0.698	0.780
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	1413	1732.6	NVC	16.98	17.50	1.127	-0.12	0.745	0.840
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	15mm	MIMO2	OFF	1513	1752.6	Amphenol	23.65	24.00	1.084	0.15	0.465	0.504
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	MIMO2	ON	1413	1732.6	Amphenol	16.72	17.50	1.197	-0.01	0.843	1.009
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	MIMO2	ON	1312	1712.4	Amphenol	16.64	17.50	1.219	0.06	0.771	0.940
02	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	MIMO2	ON	1513	1752.6	Amphenol	16.69	17.50	1.205	0.01	0.882	1.063
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	MIMO2	ON	1513	1752.6	NVC	16.69	17.50	1.205	-0.18	0.750	0.904
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	MIMO2	ON	1312	1712.4	NVC	16.64	17.50	1.219	0.11	0.758	0.924
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	MIMO2	ON	1413	1732.6	NVC	16.72	17.50	1.197	-0.17	0.796	0.953
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	15mm	Main	OFF	4182	836.4	Amphenol	23.18	24.50	1.355	-0.07	0.258	0.350
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	4182	836.4	Amphenol	19.63	20.00	1.089	0.03	0.725	0.789
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	4132	826.4	Amphenol	19.58	20.00	1.102	-0.12	0.659	0.726
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	4233	846.6	Amphenol	19.60	20.00	1.096	-0.15	0.738	0.809
03	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	4233	846.6	NVC	19.60	20.00	1.096	-0.01	0.901	0.988
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	4132	826.4	NVC	19.58	20.00	1.102	0.03	0.761	0.838
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	0mm	Main	ON	4182	836.4	NVC	19.63	20.00	1.089	-0.08	0.848	0.923



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1	49	Bottom of Laptop	15mm	Main	OFF	21350	2560	Amphenol	23.58	24.00	1.102	0.06	0.452	0.498
	LTE Band 7	20M	QPSK	50	24	Bottom of Laptop	15mm	Main	OFF	21350	2560	Amphenol	22.50	23.00	1.122	0.01	0.352	0.395
	LTE Band 7	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	21350	2560	Amphenol	15.29	16.00	1.178	0.08	0.886	1.043
	LTE Band 7	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	20850	2510	Amphenol	15.01	16.00	1.256	-0.14	0.781	0.981
	LTE Band 7	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	21100	2535	Amphenol	15.16	16.00	1.213	-0.11	0.841	1.020
	LTE Band 7	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	21350	2560	Amphenol	15.23	16.00	1.194	0.13	0.912	1.089
	LTE Band 7	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	20850	2510	Amphenol	15.05	16.00	1.245	0.09	0.809	1.007
	LTE Band 7	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	21100	2535	Amphenol	15.18	16.00	1.208	-0.01	0.877	1.059
	LTE Band 7	20M	QPSK	100	0	Bottom of Laptop	0mm	Main	ON	21350	2560	Amphenol	15.21	16.00	1.199	0	0.921	1.105
	LTE Band 7C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	20850+21048	2510	Amphenol	14.66	16.00	1.361	-0.18	0.657	0.894
	LTE Band 7C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	21100+20902	2535	Amphenol	14.83	16.00	1.309	-0.12	0.662	0.867
	LTE Band 7C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	21350+21152	2560	Amphenol	14.95	16.00	1.274	0.14	0.709	0.903
	LTE Band 7	20M	QPSK	100	0	Bottom of Laptop	0mm	Main	ON	21350	2560	NVC	15.21	16.00	1.199	-0.16	0.691	0.829
	LTE Band 7	20M	QPSK	1	49	Bottom of Laptop	15mm	MIMO2	OFF	21100	2535	Amphenol	23.55	24.00	1.109	0.01	0.527	0.585
	LTE Band 7	20M	QPSK	50	24	Bottom of Laptop	15mm	MIMO2	OFF	21100	2535	Amphenol	22.28	23.00	1.180	-0.19	0.413	0.487
	LTE Band 7	20M	QPSK	1	49	Bottom of Laptop	0mm	MIMO2	ON	21100	2535	Amphenol	16.73	17.50	1.194	-0.18	0.719	0.858
	LTE Band 7	20M	QPSK	1	49	Bottom of Laptop	0mm	MIMO2	ON	20850	2510	Amphenol	16.64	17.50	1.219	-0.09	0.660	0.805
	LTE Band 7	20M	QPSK	1	49	Bottom of Laptop	0mm	MIMO2	ON	21350	2560	Amphenol	16.71	17.50	1.199	0.04	0.767	0.920
	LTE Band 7	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	21100	2535	Amphenol	16.77	17.50	1.183	0.15	0.717	0.848
	LTE Band 7	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	20850	2510	Amphenol	16.67	17.50	1.211	-0.08	0.667	0.807
	LTE Band 7	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	21350	2560	Amphenol	16.73	17.50	1.194	0.08	0.779	0.930
	LTE Band 7	20M	QPSK	100	0	Bottom of Laptop	0mm	MIMO2	ON	21100	2535	Amphenol	16.73	17.50	1.194	-0.05	0.714	0.853
	LTE Band 7C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	20850+21048	2510	Amphenol	15.78	17.50	1.486	-0.02	0.632	0.939
	LTE Band 7C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	21100+20902	2535	Amphenol	16.03	17.50	1.403	-0.04	0.666	0.934
	LTE Band 7C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	21350+21152	2560	Amphenol	16.04	17.50	1.400	0.09	0.691	0.967
	LTE Band 7	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	21350	2560	NVC	16.73	17.50	1.194	0.08	0.964	1.151
04	LTE Band 7	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	20850	2510	NVC	16.67	17.50	1.211	0	0.974	1.179
	LTE Band 7	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	21100	2535	NVC	16.77	17.50	1.183	-0.08	0.970	1.148
	LTE Band 12	10M	QPSK	1	25	Bottom of Laptop	15mm	Main	OFF	23095	707.5	Amphenol	24.23	25.00	1.194	-0.04	0.247	0.295
	LTE Band 12	10M	QPSK	25	0	Bottom of Laptop	15mm	Main	OFF	23095	707.5	Amphenol	23.23	24.00	1.194	0.1	0.188	0.224
	LTE Band 12	10M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	23095	707.5	Amphenol	21.61	22.50	1.227	-0.05	0.882	1.083
	LTE Band 12	10M	QPSK	25	0	Bottom of Laptop	0mm	Main	ON	23095	707.5	Amphenol	21.47	22.50	1.268	-0.17	0.895	1.135
05	LTE Band 12	10M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	23095	707.5	Amphenol	21.44	22.50	1.276	-0.05	0.911	1.163
	LTE Band 12	10M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	23095	707.5	NVC	21.44	22.50	1.276	-0.07	0.705	0.900
	LTE Band 13	10M	QPSK	1	25	Bottom of Laptop	15mm	Main	OFF	23230	782	Amphenol	24.42	25.00	1.143	-0.17	0.335	0.383
	LTE Band 13	10M	QPSK	25	12	Bottom of Laptop	15mm	Main	OFF	23230	782	Amphenol	23.12	24.00	1.225	0.1	0.267	0.327
	LTE Band 13	10M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	23230	782	Amphenol	21.09	22.00	1.233	0.19	0.850	1.048
	LTE Band 13	10M	QPSK	25	0	Bottom of Laptop	0mm	Main	ON	23230	782	Amphenol	20.89	22.00	1.291	0.17	0.839	1.083
06	LTE Band 13	10M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	23230	782	Amphenol	20.94	22.00	1.276	0.03	0.863	1.102
	LTE Band 13	10M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	23230	782	NVC	20.94	22.00	1.276	-0.03	0.732	0.934
	LTE Band 14	10M	QPSK	1	0	Bottom of Laptop	15mm	Main	OFF	23330	793	Amphenol	24.15	25.00	1.216	-0.02	0.324	0.394
	LTE Band 14	10M	QPSK	25	0	Bottom of Laptop	15mm	Main	OFF	23330	793	Amphenol	23.09	24.00	1.233	0.04	0.263	0.324
	LTE Band 14	10M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	23330	793	Amphenol	21.01	21.50	1.119	-0.05	0.906	1.014
	LTE Band 14	10M	QPSK	25	0	Bottom of Laptop	0mm	Main	ON	23330	793	Amphenol	20.87	21.50	1.156	0.11	0.937	1.083
07	LTE Band 14	10M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	23330	793	Amphenol	20.79	21.50	1.178	-0.07	0.958	1.128
	LTE Band 14	10M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	23330	793	NVC	20.79	21.50	1.178	0.05	0.797	0.939





Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25	20M	QPSK	1	49	Bottom of Laptop	15mm	Main	OFF	26590	1905	Amphenol	23.18	24.00	1.208	-0.16	0.349	0.422
	LTE Band 25	20M	QPSK	50	24	Bottom of Laptop	15mm	Main	OFF	26590	1905	Amphenol	22.13	23.00	1.222	-0.01	0.279	0.341
	LTE Band 25	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	26590	1905	Amphenol	17.07	18.00	1.239	0.14	0.870	1.078
	LTE Band 25	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	26140	1860	Amphenol	16.92	18.00	1.282	0.15	0.913	1.171
	LTE Band 25	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	26340	1880	Amphenol	16.95	18.00	1.274	-0.08	0.904	1.151
	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	26590	1905	Amphenol	17.05	18.00	1.245	-0.03	0.905	1.126
08	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	26140	1860	Amphenol	16.99	18.00	1.262	0.02	0.939	1.185
	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	26340	1880	Amphenol	16.97	18.00	1.268	0.12	0.887	1.124
	LTE Band 25	20M	QPSK	100	0	Bottom of Laptop	0mm	Main	ON	26590	1905	Amphenol	16.95	18.00	1.274	-0.14	0.921	1.173
	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	26140	1860	NVC	16.99	18.00	1.262	-0.03	0.776	0.979
	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	26340	1880	NVC	16.97	18.00	1.268	0.07	0.729	0.924
	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	26590	1905	NVC	17.05	18.00	1.245	0.02	0.699	0.870
	LTE Band 25	20M	QPSK	1	49	Bottom of Laptop	15mm	MIMO2	OFF	26590	1905	Amphenol	23.07	24.00	1.239	0.01	0.424	0.525
	LTE Band 25	20M	QPSK	50	24	Bottom of Laptop	15mm	MIMO2	OFF	26590	1905	Amphenol	21.76	23.00	1.330	0	0.341	0.454
	LTE Band 25	20M	QPSK	1	49	Bottom of Laptop	0mm	MIMO2	ON	26590	1905	Amphenol	17.61	18.00	1.094	0.15	0.873	0.955
	LTE Band 25	20M	QPSK	1	49	Bottom of Laptop	0mm	MIMO2	ON	26140	1860	Amphenol	17.39	18.00	1.151	-0.06	0.833	0.959
	LTE Band 25	20M	QPSK	1	49	Bottom of Laptop	0mm	MIMO2	ON	26340	1880	Amphenol	17.59	18.00	1.099	-0.13	0.866	0.952
	LTE Band 25	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	26590	1905	Amphenol	17.59	18.00	1.099	0	0.897	0.986
	LTE Band 25	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	26140	1860	Amphenol	17.43	18.00	1.140	0.09	0.856	0.976
	LTE Band 25	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	26340	1880	Amphenol	17.55	18.00	1.109	0.17	0.865	0.959
	LTE Band 25	20M	QPSK	100	0	Bottom of Laptop	0mm	MIMO2	ON	26590	1905	Amphenol	17.51	18.00	1.119	-0.06	0.867	0.971
	LTE Band 25	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	26590	1905	NVC	17.59	18.00	1.099	-0.05	0.938	1.031
	LTE Band 25	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	26140	1860	NVC	17.43	18.00	1.140	0.12	0.895	1.021
	LTE Band 25	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	26340	1880	NVC	17.55	18.00	1.109	0.16	0.884	0.981
	LTE Band 26	15M	QPSK	1	37	Bottom of Laptop	15mm	Main	OFF	26865	831.5	Amphenol	24.26	25.00	1.186	0.02	0.321	0.381
	LTE Band 26	15M	QPSK	36	0	Bottom of Laptop	15mm	Main	OFF	26865	831.5	Amphenol	23.17	24.00	1.211	0.01	0.245	0.297
	LTE Band 26	15M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	26865	831.5	Amphenol	20.72	21.00	1.067	0.11	0.926	0.988
	LTE Band 26	15M	QPSK	36	0	Bottom of Laptop	0mm	Main	ON	26865	831.5	Amphenol	20.58	21.00	1.102	0.08	0.943	1.039
	LTE Band 26	15M	QPSK	75	0	Bottom of Laptop	0mm	Main	ON	26865	831.5	Amphenol	20.55	21.00	1.109	-0.09	0.977	1.084
	LTE Band 5B	10M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	20575+20476	841.5	Amphenol	20.06	21.00	1.242	0.02	0.839	1.042
09	LTE Band 26	15M	QPSK	75	0	Bottom of Laptop	0mm	Main	ON	26865	831.5	NVC	20.55	21.00	1.109	0.05	0.985	1.093
	LTE Band 30	10M	QPSK	1	0	Bottom of Laptop	15mm	Main	OFF	27710	2310	Amphenol	22.25	23.00	1.189	0.12	0.241	0.286
	LTE Band 30	10M	QPSK	25	0	Bottom of Laptop	15mm	Main	OFF	27710	2310	Amphenol	21.32	22.00	1.169	-0.07	0.196	0.229
	LTE Band 30	10M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	27710	2310	Amphenol	16.16	17.00	1.213	-0.06	0.730	0.886
	LTE Band 30	10M	QPSK	25	0	Bottom of Laptop	0mm	Main	ON	27710	2310	Amphenol	16.13	17.00	1.222	-0.11	0.715	0.874
	LTE Band 30	10M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	27710	2310	Amphenol	16.06	17.00	1.242	-0.13	0.699	0.868
10	LTE Band 30	10M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	27710	2310	NVC	16.16	17.00	1.213	-0.04	0.820	0.995
	LTE Band 30	10M	QPSK	1	0	Bottom of Laptop	15mm	MIMO2	OFF	27710	2310	Amphenol	21.98	23.00	1.265	-0.01	0.324	0.410
	LTE Band 30	10M	QPSK	25	0	Bottom of Laptop	15mm	MIMO2	OFF	27710	2310	Amphenol	20.60	22.00	1.380	0.19	0.251	0.346
	LTE Band 30	10M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	27710	2310	Amphenol	15.26	16.00	1.186	0.11	0.432	0.512
	LTE Band 30	10M	QPSK	25	0	Bottom of Laptop	0mm	MIMO2	ON	27710	2310	Amphenol	15.19	16.00	1.205	-0.19	0.413	0.498
	LTE Band 30	10M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	27710	2310	NVC	15.26	16.00	1.186	-0.06	0.636	0.754





Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 66	20M	QPSK	1	49	Bottom of Laptop	15mm	Main	OFF	132072	1720	Amphenol	23.29	24.00	1.178	-0.13	0.375	0.442
	LTE Band 66	20M	QPSK	50	50	Bottom of Laptop	15mm	Main	OFF	132072	1720	Amphenol	22.10	23.00	1.230	0	0.295	0.363
	LTE Band 66	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	132322	1745	Amphenol	16.96	17.50	1.132	0.06	0.824	0.933
	LTE Band 66	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	132072	1720	Amphenol	16.94	17.50	1.138	0.16	0.783	0.891
	LTE Band 66	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	132572	1770	Amphenol	16.83	17.50	1.167	0.04	0.915	1.068
	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	132322	1745	Amphenol	16.87	17.50	1.156	0.03	0.932	1.077
	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	132072	1720	Amphenol	16.85	17.50	1.161	-0.08	0.809	0.940
11	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	132572	1770	Amphenol	16.85	17.50	1.161	0	0.934	1.085
	LTE Band 66	20M	QPSK	100	0	Bottom of Laptop	0mm	Main	ON	132322	1745	Amphenol	16.85	17.50	1.161	0.14	0.859	0.998
	LTE Band 66B	15M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	132322+132229	1745	Amphenol	16.48	17.50	1.265	-0.07	0.802	1.014
	LTE Band 66B	15M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	132047+132140	1717.5	Amphenol	16.44	17.50	1.276	-0.18	0.765	0.976
	LTE Band 66B	15M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	132597+132504	1772.5	Amphenol	16.39	17.50	1.291	0.05	0.839	1.083
	LTE Band 66C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	132322+132124	1745	Amphenol	16.65	17.50	1.216	-0.02	0.803	0.977
	LTE Band 66C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	132072+132270	1720	Amphenol	16.62	17.50	1.225	0.08	0.731	0.895
	LTE Band 66C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	132572+132374	1770	Amphenol	16.31	17.50	1.315	-0.02	0.816	1.073
	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	132072	1720	NVC	16.85	17.50	1.161	0.14	0.765	0.889
	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	132322	1745	NVC	16.87	17.50	1.156	-0.11	0.851	0.984
	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	132572	1770	NVC	16.85	17.50	1.161	0.08	0.887	1.030
	LTE Band 66	20M	QPSK	1	0	Bottom of Laptop	15mm	MIMO2	OFF	132572	1770	Amphenol	23.02	24.00	1.253	-0.16	0.406	0.509
	LTE Band 66	20M	QPSK	50	24	Bottom of Laptop	15mm	MIMO2	OFF	132572	1770	Amphenol	21.68	23.00	1.355	0.12	0.320	0.434
	LTE Band 66	20M	QPSK	1	49	Bottom of Laptop	0mm	MIMO2	ON	132322	1745	Amphenol	16.90	17.50	1.148	0.14	0.834	0.958
	LTE Band 66	20M	QPSK	1	49	Bottom of Laptop	0mm	MIMO2	ON	132072	1720	Amphenol	16.87	17.50	1.156	-0.08	0.760	0.879
	LTE Band 66	20M	QPSK	1	49	Bottom of Laptop	0mm	MIMO2	ON	132572	1770	Amphenol	16.86	17.50	1.159	0.12	0.853	0.988
	LTE Band 66	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	132322	1745	Amphenol	16.88	17.50	1.153	-0.18	0.890	1.027
	LTE Band 66	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	132072	1720	Amphenol	16.87	17.50	1.156	0.06	0.815	0.942
	LTE Band 66	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	132572	1770	Amphenol	16.86	17.50	1.159	0.1	0.893	1.035
	LTE Band 66	20M	QPSK	100	0	Bottom of Laptop	0mm	MIMO2	ON	132322	1745	Amphenol	16.85	17.50	1.161	0	0.894	1.038
	LTE Band 66B	15M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	132322+132229	1745	Amphenol	16.37	17.50	1.297	0.08	0.750	0.973
	LTE Band 66B	15M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	132047+132140	1717.5	Amphenol	16.18	17.50	1.355	-0.02	0.712	0.965
	LTE Band 66B	15M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	132597+132504	1772.5	Amphenol	16.21	17.50	1.346	0.02	0.738	0.993
	LTE Band 66C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	132322+132124	1745	Amphenol	16.42	17.50	1.282	0.14	0.765	0.981
	LTE Band 66C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	132072+132270	1720	Amphenol	16.30	17.50	1.318	0.01	0.710	0.936
	LTE Band 66C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	132572+132374	1770	Amphenol	16.24	17.50	1.337	0.06	0.761	1.017
	LTE Band 66	20M	QPSK	100	0	Bottom of Laptop	0mm	MIMO2	ON	132322	1745	NVC	16.85	17.50	1.161	-0.09	0.833	0.967
	LTE Band 71	20M	QPSK	1	49	Bottom of Laptop	15mm	Main	OFF	133297	680.5	Amphenol	24.40	25.00	1.148	0.13	0.222	0.255
	LTE Band 71	20M	QPSK	50	0	Bottom of Laptop	15mm	Main	OFF	133297	680.5	Amphenol	23.48	24.00	1.127	-0.05	0.190	0.214
	LTE Band 71	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	133297	680.5	Amphenol	22.26	23.00	1.186	-0.19	0.839	0.995
	LTE Band 71	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	133297	680.5	Amphenol	22.24	23.00	1.191	0.01	0.948	1.129
12	LTE Band 71	20M	QPSK	100	0	Bottom of Laptop	0mm	Main	ON	133297	680.5	Amphenol	22.22	23.00	1.197	-0.05	0.984	1.178
	LTE Band 71	20M	QPSK	100	0	Bottom of Laptop	0mm	Main	ON	133297	680.5	NVC	22.22	23.00	1.197	0.03	0.596	0.713

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 38	20M	QPSK	1	0	Bottom of Laptop	15mm	Main	OFF	38000	2595	Amphenol	23.34	24.00	1.164	62.9	1.006	0.13	0.305	0.357
	LTE Band 38	20M	QPSK	50	0	Bottom of Laptop	15mm	Main	OFF	38000	2595	Amphenol	22.40	23.00	1.148	62.9	1.006	0.18	0.296	0.342
13	LTE Band 38	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	38000	2595	Amphenol	16.38	17.00	1.153	62.9	1.006	0.03	0.351	0.407
	LTE Band 38	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	38000	2595	Amphenol	16.36	17.00	1.159	62.9	1.006	0.18	0.344	0.401
	LTE Band 38C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	37901+38099	2585.1	Amphenol	15.88	17.00	1.294	62.9	1.006	0.06	0.304	0.396
	LTE Band 38	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	38000	2595	NVC	16.38	17.00	1.153	62.9	1.006	0	0.114	0.133



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	49	Bottom of Laptop	15mm	Main	OFF	41055	2636.5	Amphenol	21.89	22.00	1.026	62.9	1.006	0.03	0.292	0.301
	LTE Band 41	20M	QPSK	50	24	Bottom of Laptop	15mm	Main	OFF	41055	2636.5	Amphenol	20.95	21.00	1.012	62.9	1.006	0.09	0.230	0.234
14	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	41055	2636.5	Amphenol	16.54	17.00	1.112	62.9	1.006	-0.03	0.925	1.035
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	39750	2506	Amphenol	16.26	17.00	1.186	62.9	1.006	0.16	0.516	0.616
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	40185	2549.5	Amphenol	15.45	17.00	1.429	62.9	1.006	-0.09	0.463	0.666
	LTE Band 41	20M	QPSK	1	99	Bottom of Laptop	0mm	Main	ON	40620	2593	Amphenol	16.10	17.00	1.230	62.9	1.006	-0.19	0.561	0.694
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	41490	2680	Amphenol	16.13	17.00	1.222	62.9	1.006	0.03	0.765	0.940
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	41055	2636.5	Amphenol	16.72	17.00	1.067	62.9	1.006	0.19	0.923	0.990
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	39750	2506	Amphenol	16.18	17.00	1.208	62.9	1.006	-0.17	0.494	0.600
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	40185	2549.5	Amphenol	15.35	17.00	1.462	62.9	1.006	-0.16	0.443	0.652
	LTE Band 41	20M	QPSK	50	50	Bottom of Laptop	0mm	Main	ON	40620	2593	Amphenol	16.03	17.00	1.250	62.9	1.006	0.11	0.606	0.762
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	41490	2680	Amphenol	16.21	17.00	1.199	62.9	1.006	-0.05	0.778	0.939
	LTE Band 41	20M	QPSK	100	0	Bottom of Laptop	0mm	Main	ON	41055	2636.5	Amphenol	16.69	17.00	1.074	62.9	1.006	0.14	0.914	0.988
	LTE Band 41_HPUE	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	41055	2636.5	Amphenol	16.52	17.00	1.117	42.9	1.009	-0.13	0.599	0.675
	LTE Band 41_HPUE	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	39750	2506	Amphenol	16.28	17.00	1.180	42.9	1.009	0.01	0.355	0.423
	LTE Band 41_HPUE	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	40185	2549.5	Amphenol	15.39	17.00	1.449	42.9	1.009	0.13	0.314	0.459
	LTE Band 41_HPUE	20M	QPSK	1	99	Bottom of Laptop	0mm	Main	ON	40620	2593	Amphenol	16.02	17.00	1.253	42.9	1.009	-0.14	0.379	0.479
	LTE Band 41_HPUE	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	41490	2680	Amphenol	16.07	17.00	1.239	42.9	1.009	0.15	0.513	0.641
	LTE Band 41C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	41055+40857	2636.5	Amphenol	16.08	17.00	1.236	62.9	1.006	-0.08	0.755	0.939
	LTE Band 41C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	39750+39948	2506	Amphenol	15.89	17.00	1.291	62.9	1.006	-0.11	0.472	0.613
	LTE Band 41C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	40185+39987	2549.5	Amphenol	15.09	17.00	1.552	62.9	1.006	0.16	0.433	0.676
	LTE Band 41C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	40620+40422	2593	Amphenol	15.02	17.00	1.578	62.9	1.006	-0.11	0.536	0.851
	LTE Band 41C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	41490+41292	2680	Amphenol	15.76	17.00	1.330	62.9	1.006	0.06	0.747	1.000
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	41055	2636.5	NVC	16.54	17.00	1.112	62.9	1.006	0	0.333	0.372
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	15mm	MIMO2	OFF	41055	2636.5	Amphenol	23.69	24.00	1.074	62.9	1.006	0.11	0.366	0.395
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	15mm	MIMO2	OFF	41055	2636.5	Amphenol	22.71	23.00	1.069	62.9	1.006	-0.09	0.296	0.318
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	40620	2593	Amphenol	16.48	17.00	1.127	62.9	1.006	0.08	0.476	0.540
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	39750	2506	Amphenol	16.28	17.00	1.180	62.9	1.006	0.02	0.414	0.492
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	40185	2549.5	Amphenol	16.32	17.00	1.169	62.9	1.006	0.17	0.498	0.586
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	41055	2636.5	Amphenol	16.47	17.00	1.130	62.9	1.006	-0.01	0.570	0.648
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	41490	2680	Amphenol	16.41	17.00	1.146	62.9	1.006	-0.19	0.522	0.602
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	40620	2593	Amphenol	16.61	17.00	1.094	62.9	1.006	0.01	0.498	0.548
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	39750	2506	Amphenol	16.36	17.00	1.159	62.9	1.006	0.03	0.441	0.514
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	40185	2549.5	Amphenol	16.31	17.00	1.172	62.9	1.006	-0.09	0.490	0.578
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	41055	2636.5	Amphenol	16.54	17.00	1.112	62.9	1.006	0.08	0.574	0.642
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	41490	2680	Amphenol	16.50	17.00	1.122	62.9	1.006	-0.01	0.552	0.623
	LTE Band 41_HPUE	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	40620	2593	Amphenol	16.51	17.00	1.119	42.9	1.009	0.05	0.366	0.413
	LTE Band 41C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	40620+40422	2593	Amphenol	16.08	17.00	1.236	62.9	1.006	-0.1	0.464	0.577
	LTE Band 41C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	39750+39948	2506	Amphenol	15.88	17.00	1.294	62.9	1.006	0.01	0.378	0.492
	LTE Band 41C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	40185+39987	2549.5	Amphenol	15.78	17.00	1.324	62.9	1.006	0.15	0.472	0.629
	LTE Band 41C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	41055+40857	2636.5	Amphenol	15.96	17.00	1.271	62.9	1.006	-0.06	0.445	0.569
	LTE Band 41C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	41490+41292	2680	Amphenol	15.83	17.00	1.309	62.9	1.006	0.08	0.469	0.618
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	41055	2636.5	NVC	16.47	17.00	1.130	62.9	1.006	0.07	0.514	0.584



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 48	20M	QPSK	1	49	Bottom of Laptop	15mm	Main	OFF	56150	3641	Amphenol	20.93	21.00	1.016	62.9	1.006	-0.09	0.124	0.127
	LTE Band 48	20M	QPSK	50	50	Bottom of Laptop	15mm	Main	OFF	56150	3641	Amphenol	19.93	20.00	1.016	62.9	1.006	-0.14	0.102	0.104
	LTE Band 48	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	56150	3641	Amphenol	19.52	20.00	1.117	62.9	1.006	0.16	0.925	1.039
	LTE Band 48	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	55340	3560	Amphenol	19.35	20.00	1.161	62.9	1.006	-0.05	0.705	0.824
	LTE Band 48	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	55830	3609	Amphenol	19.39	20.00	1.151	62.9	1.006	0.09	0.868	1.005
	LTE Band 48	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	56640	3690	Amphenol	19.14	20.00	1.219	62.9	1.006	-0.06	0.827	1.014
	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	56150	3641	Amphenol	19.47	20.00	1.130	62.9	1.006	-0.14	0.952	1.082
	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	55340	3560	Amphenol	19.37	20.00	1.156	62.9	1.006	-0.12	0.728	0.847
	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	55830	3609	Amphenol	19.40	20.00	1.148	62.9	1.006	-0.14	0.907	1.048
	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	56640	3690	Amphenol	19.12	20.00	1.225	62.9	1.006	0.09	0.833	1.026
	LTE Band 48	20M	QPSK	100	0	Bottom of Laptop	0mm	Main	ON	56150	3641	Amphenol	19.43	20.00	1.140	62.9	1.006	0.07	0.938	1.076
	LTE Band 48C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	56150+55952	3641	Amphenol	19.18	20.00	1.208	62.9	1.006	0.18	0.755	0.917
	LTE Band 48C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	55340+55538	3560	Amphenol	19.00	20.00	1.259	62.9	1.006	-0.07	0.687	0.870
	LTE Band 48C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	55830+55632	3609	Amphenol	18.85	20.00	1.303	62.9	1.006	0.16	0.740	0.970
	LTE Band 48C	20M	QPSK	1	0	Bottom of Laptop	0mm	Main	ON	56640+56642	3690	Amphenol	18.61	20.00	1.377	62.9	1.006	-0.07	0.708	0.981
	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	56150	3641	NVC	19.47	20.00	1.130	62.9	1.006	-0.08	0.496	0.564
	LTE Band 48	20M	QPSK	1	49	Bottom of Laptop	15mm	MIMO2	OFF	55830	3609	Amphenol	20.94	22.00	1.276	62.9	1.006	0.02	0.183	0.235
	LTE Band 48	20M	QPSK	50	24	Bottom of Laptop	15mm	MIMO2	OFF	55830	3609	Amphenol	19.94	21.00	1.276	62.9	1.006	0.09	0.147	0.189
	LTE Band 48	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	55830	3609	Amphenol	19.03	20.00	1.250	62.9	1.006	-0.19	0.614	0.772
	LTE Band 48	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	55340	3560	Amphenol	18.89	20.00	1.291	62.9	1.006	-0.16	0.683	0.887
	LTE Band 48	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	56150	3641	Amphenol	18.92	20.00	1.282	62.9	1.006	0.12	0.629	0.811
	LTE Band 48	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	56640	3690	Amphenol	18.46	20.00	1.426	62.9	1.006	0.09	0.729	1.046
	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	55830	3609	Amphenol	19.00	20.00	1.259	62.9	1.006	0.02	0.610	0.773
	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	55340	3560	Amphenol	18.87	20.00	1.297	62.9	1.006	0.13	0.700	0.913
	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	56150	3641	Amphenol	18.88	20.00	1.294	62.9	1.006	0.1	0.634	0.825
	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	56640	3690	Amphenol	18.38	20.00	1.452	62.9	1.006	-0.07	0.766	1.119
	LTE Band 48	20M	QPSK	100	0	Bottom of Laptop	0mm	MIMO2	ON	55830	3609	Amphenol	18.91	20.00	1.285	62.9	1.006	-0.07	0.620	0.802
	LTE Band 48C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	55830+55632	3609	Amphenol	18.69	20.00	1.352	62.9	1.006	-0.07	0.589	0.801
	LTE Band 48C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	55340+55538	3560	Amphenol	18.53	20.00	1.403	62.9	1.006	0.12	0.680	0.960
	LTE Band 48C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	56150+55952	3641	Amphenol	18.53	20.00	1.403	62.9	1.006	-0.01	0.600	0.847
	LTE Band 48C	20M	QPSK	1	0	Bottom of Laptop	0mm	MIMO2	ON	56640+56642	3690	Amphenol	18.04	20.00	1.570	62.9	1.006	0.04	0.719	1.136
15	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	56640	3690	NVC	18.38	20.00	1.452	62.9	1.006	0.02	0.791	1.156
	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	55830	3609	NVC	19.00	20.00	1.259	62.9	1.006	-0.1	0.577	0.731
	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	55340	3560	NVC	18.87	20.00	1.297	62.9	1.006	-0.1	0.642	0.838
	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	56150	3641	NVC	18.88	20.00	1.294	62.9	1.006	-0.15	0.605	0.788

<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n5	20M	BPSK	1	53	Bottom of Laptop	15mm	Main	OFF	167300	836.5	Amphenol	24.01	25.00	1.256	0.08	0.269	0.338
	FR1 n5	20M	BPSK	50	28	Bottom of Laptop	15mm	Main	OFF	167300	836.5	Amphenol	24.12	25.00	1.225	-0.08	0.263	0.322
16	FR1 n5	20M	BPSK	1	104	Bottom of Laptop	0mm	Main	ON	167300	836.5	Amphenol	20.96	21.50	1.132	0	0.974	1.103
	FR1 n5	20M	BPSK	50	28	Bottom of Laptop	0mm	Main	ON	167300	836.5	Amphenol	21.04	21.50	1.112	0.02	0.951	1.057
	FR1 n5	20M	BPSK	100	0	Bottom of Laptop	0mm	Main	ON	167300	836.5	Amphenol	21.00	21.50	1.122	-0.17	0.975	1.094
	FR1 n5	20M	BPSK	1	104	Bottom of Laptop	0mm	Main	ON	167300	836.5	NVC	20.96	21.50	1.132	0.11	0.355	0.402



**FCC SAR TEST REPORT**

**Report No. : FA2O2026**

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n7	20M	BPSK	1	53	Bottom of Laptop	15mm	Main	OFF	507000	2535	Amphenol	22.96	24.00	1.271	0	0.421	0.535
	FR1 n7	20M	BPSK	50	28	Bottom of Laptop	15mm	Main	OFF	507000	2535	Amphenol	23.08	24.00	1.236	0.18	0.435	0.538
	FR1 n7	20M	BPSK	1	53	Bottom of Laptop	0mm	Main	ON	507000	2535	Amphenol	15.18	16.50	1.355	0.03	0.753	1.020
	FR1 n7	20M	BPSK	1	53	Bottom of Laptop	0mm	Main	ON	502000	2510	Amphenol	14.88	16.50	1.452	0.19	0.704	1.022
	FR1 n7	20M	BPSK	1	53	Bottom of Laptop	0mm	Main	ON	512000	2560	Amphenol	15.16	16.50	1.361	-0.05	0.811	1.104
	FR1 n7	20M	BPSK	50	56	Bottom of Laptop	0mm	Main	ON	507000	2535	Amphenol	15.19	16.50	1.352	0.19	0.749	1.013
	FR1 n7	20M	BPSK	50	56	Bottom of Laptop	0mm	Main	ON	502000	2510	Amphenol	14.87	16.50	1.455	-0.18	0.703	1.023
	FR1 n7	20M	BPSK	50	56	Bottom of Laptop	0mm	Main	ON	512000	2560	Amphenol	15.17	16.50	1.358	-0.04	0.797	1.083
	FR1 n7	20M	BPSK	100	0	Bottom of Laptop	0mm	Main	ON	507000	2535	Amphenol	15.18	16.50	1.355	-0.09	0.748	1.014
	FR1 n7	20M	BPSK	1	53	Bottom of Laptop	0mm	Main	ON	512000	2560	NVC	15.16	16.50	1.361	0.06	0.577	0.786
	FR1 n7	20M	BPSK	1	53	Bottom of Laptop	15mm	MIMO2	OFF	512000	2560	Amphenol	23.27	24.00	1.183	0.17	0.433	0.512
	FR1 n7	20M	BPSK	50	28	Bottom of Laptop	15mm	MIMO2	OFF	512000	2560	Amphenol	23.34	24.00	1.164	0.11	0.441	0.513
	FR1 n7	20M	BPSK	1	53	Bottom of Laptop	0mm	MIMO2	ON	512000	2560	Amphenol	17.07	18.00	1.239	-0.04	0.461	0.571
	FR1 n7	20M	BPSK	1	53	Bottom of Laptop	0mm	MIMO2	ON	502000	2510	Amphenol	16.61	18.00	1.377	-0.12	0.389	0.536
	FR1 n7	20M	BPSK	1	53	Bottom of Laptop	0mm	MIMO2	ON	507000	2535	Amphenol	16.78	18.00	1.324	-0.05	0.409	0.542
	FR1 n7	20M	BPSK	50	28	Bottom of Laptop	0mm	MIMO2	ON	512000	2560	Amphenol	17.09	18.00	1.233	-0.06	0.457	0.564
	FR1 n7	20M	BPSK	1	53	Bottom of Laptop	0mm	MIMO2	ON	512000	2560	NVC	17.07	18.00	1.239	-0.16	0.813	1.007
17	FR1 n7	20M	BPSK	1	53	Bottom of Laptop	0mm	MIMO2	ON	502000	2510	NVC	16.61	18.00	1.377	0	0.820	1.129
	FR1 n7	20M	BPSK	1	53	Bottom of Laptop	0mm	MIMO2	ON	507000	2535	NVC	16.78	18.00	1.324	-0.15	0.807	1.069
	FR1 n7	20M	BPSK	50	28	Bottom of Laptop	0mm	MIMO2	ON	512000	2560	NVC	17.09	18.00	1.233	-0.06	0.817	1.007
	FR1 n7	20M	BPSK	50	28	Bottom of Laptop	0mm	MIMO2	ON	502000	2510	NVC	16.61	18.00	1.377	-0.01	0.806	1.110
	FR1 n7	20M	BPSK	50	28	Bottom of Laptop	0mm	MIMO2	ON	507000	2535	NVC	16.80	18.00	1.318	0.12	0.809	1.066
	FR1 n7	20M	BPSK	100	0	Bottom of Laptop	0mm	MIMO2	ON	512000	2560	NVC	17.08	18.00	1.236	-0.07	0.869	1.074
	FR1 n25	20M	BPSK	1	53	Bottom of Laptop	15mm	Main	OFF	381000	1905	Amphenol	23.31	24.00	1.172	0.05	0.428	0.502
	FR1 n25	20M	BPSK	50	28	Bottom of Laptop	15mm	Main	OFF	381000	1905	Amphenol	23.37	24.00	1.156	0.18	0.361	0.417
	FR1 n25	20M	BPSK	1	53	Bottom of Laptop	0mm	Main	ON	381000	1905	Amphenol	16.91	18.00	1.285	-0.15	0.766	0.985
	FR1 n25	20M	BPSK	1	53	Bottom of Laptop	0mm	Main	ON	372000	1860	Amphenol	16.59	18.00	1.384	0.04	0.670	0.927
18	FR1 n25	20M	BPSK	1	53	Bottom of Laptop	0mm	Main	ON	376500	1882.5	Amphenol	16.82	18.00	1.312	-0.07	0.778	1.021
	FR1 n25	20M	BPSK	50	28	Bottom of Laptop	0mm	Main	ON	381000	1905	Amphenol	16.93	18.00	1.279	-0.08	0.742	0.949
	FR1 n25	20M	BPSK	50	28	Bottom of Laptop	0mm	Main	ON	372000	1860	Amphenol	16.58	18.00	1.387	0.14	0.706	0.979
	FR1 n25	20M	BPSK	50	28	Bottom of Laptop	0mm	Main	ON	376500	1882.5	Amphenol	16.85	18.00	1.303	0.17	0.766	0.998
	FR1 n25	20M	BPSK	100	0	Bottom of Laptop	0mm	Main	ON	381000	1905	Amphenol	16.76	18.00	1.330	-0.1	0.694	0.923
	FR1 n25	20M	BPSK	1	53	Bottom of Laptop	0mm	Main	ON	376500	1882.5	NVC	16.82	18.00	1.312	-0.01	0.694	0.911
	FR1 n25	20M	BPSK	1	53	Bottom of Laptop	0mm	Main	ON	372000	1860	NVC	16.59	18.00	1.384	-0.13	0.597	0.826
	FR1 n25	20M	BPSK	1	53	Bottom of Laptop	0mm	Main	ON	381000	1905	NVC	16.91	18.00	1.285	-0.02	0.670	0.861
	FR1 n25	20M	BPSK	1	53	Bottom of Laptop	15mm	MIMO2	OFF	381000	1905	Amphenol	23.93	24.00	1.016	0	0.529	0.538
	FR1 n25	20M	BPSK	50	28	Bottom of Laptop	15mm	MIMO2	OFF	381000	1905	Amphenol	23.41	24.00	1.146	-0.07	0.451	0.517
	FR1 n25	20M	BPSK	1	53	Bottom of Laptop	0mm	MIMO2	ON	381000	1905	Amphenol	16.74	18.00	1.337	-0.12	0.740	0.989
	FR1 n25	20M	BPSK	1	53	Bottom of Laptop	0mm	MIMO2	ON	372000	1860	Amphenol	16.66	18.00	1.361	0.19	0.679	0.924
	FR1 n25	20M	BPSK	1	53	Bottom of Laptop	0mm	MIMO2	ON	376500	1882.5	Amphenol	16.73	18.00	1.340	0.16	0.740	0.991
	FR1 n25	20M	BPSK	50	28	Bottom of Laptop	0mm	MIMO2	ON	381000	1905	Amphenol	16.80	18.00	1.318	-0.08	0.765	1.008
	FR1 n25	20M	BPSK	50	28	Bottom of Laptop	0mm	MIMO2	ON	372000	1860	Amphenol	16.63	18.00	1.371	0.02	0.697	0.956
	FR1 n25	20M	BPSK	50	28	Bottom of Laptop	0mm	MIMO2	ON	376500	1882.5	Amphenol	16.76	18.00	1.330	-0.06	0.746	0.993
	FR1 n25	20M	BPSK	100	0	Bottom of Laptop	0mm	MIMO2	ON	381000	1905	Amphenol	16.66	18.00	1.361	0.11	0.734	0.999
	FR1 n25	20M	BPSK	50	28	Bottom of Laptop	0mm	MIMO2	ON	381000	1905	NVC	16.80	18.00	1.318	0.16	0.672	0.886
	FR1 n25	20M	BPSK	50	28	Bottom of Laptop	0mm	MIMO2	ON	372000	1860	NVC	16.63	18.00	1.371	-0.14	0.597	0.818
	FR1 n25	20M	BPSK	50	28	Bottom of Laptop	0mm	MIMO2	ON	376500	1882.5	NVC	16.76	18.00	1.330	-0.01	0.623	0.829



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n30	10M	BPSK	1	26	Bottom of Laptop	15mm	Main	OFF	462000	2310	Amphenol	22.21	23.00	1.199	0.14	0.246	0.295
	FR1 n30	10M	BPSK	25	14	Bottom of Laptop	15mm	Main	OFF	462000	2310	Amphenol	22.20	23.00	1.202	-0.16	0.241	0.290
	FR1 n30	10M	BPSK	1	26	Bottom of Laptop	0mm	Main	ON	462000	2310	Amphenol	17.29	18.00	1.178	0.19	0.862	1.015
	FR1 n30	10M	BPSK	25	14	Bottom of Laptop	0mm	Main	ON	462000	2310	Amphenol	17.21	18.00	1.199	-0.17	0.810	0.972
	FR1 n30	10M	BPSK	50	0	Bottom of Laptop	0mm	Main	ON	462000	2310	Amphenol	17.20	18.00	1.202	-0.18	0.829	0.997
19	FR1 n30	10M	BPSK	1	26	Bottom of Laptop	0mm	Main	ON	462000	2310	NVC	17.29	18.00	1.178	-0.07	0.992	1.168
	FR1 n30	10M	BPSK	1	26	Bottom of Laptop	15mm	MIMO2	OFF	462000	2310	Amphenol	22.75	23.00	1.059	0.07	0.349	0.370
	FR1 n30	10M	BPSK	25	14	Bottom of Laptop	15mm	MIMO2	OFF	462000	2310	Amphenol	22.76	23.00	1.057	0.08	0.351	0.371
	FR1 n30	10M	BPSK	1	50	Bottom of Laptop	0mm	MIMO2	ON	462000	2310	Amphenol	17.63	18.50	1.222	0.05	0.743	0.908
	FR1 n30	10M	BPSK	25	14	Bottom of Laptop	0mm	MIMO2	ON	462000	2310	Amphenol	17.61	18.50	1.227	0	0.736	0.903
	FR1 n30	10M	BPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	462000	2310	Amphenol	17.52	18.50	1.253	0.18	0.731	0.916
	FR1 n30	10M	BPSK	50	0	Bottom of Laptop	0mm	MIMO2	ON	462000	2310	NVC	17.52	18.50	1.253	-0.01	0.870	1.090
	FR1 n66	40M	BPSK	1	108	Bottom of Laptop	15mm	Main	OFF	349000	1745	Amphenol	23.10	24.00	1.230	0.06	0.397	0.488
	FR1 n66	40M	BPSK	108	54	Bottom of Laptop	15mm	Main	OFF	349000	1745	Amphenol	23.21	24.00	1.199	-0.09	0.405	0.486
	FR1 n66	40M	BPSK	1	108	Bottom of Laptop	0mm	Main	ON	349000	1745	Amphenol	18.89	19.00	1.026	0	1.120	1.149
	FR1 n66	40M	BPSK	108	54	Bottom of Laptop	0mm	Main	ON	349000	1745	Amphenol	18.97	19.00	1.007	-0.07	1.110	1.118
	FR1 n66	40M	BPSK	216	0	Bottom of Laptop	0mm	Main	ON	349000	1745	Amphenol	18.75	19.00	1.059	-0.15	1.050	1.112
	FR1 n66	40M	BPSK	1	108	Bottom of Laptop	0mm	Main	ON	349000	1745	NVC	18.89	19.00	1.026	0.09	1.070	1.097
	FR1 n66	40M	BPSK	1	108	Bottom of Laptop	15mm	MIMO2	OFF	349000	1745	Amphenol	22.99	24.00	1.262	-0.12	0.441	0.556
	FR1 n66	40M	BPSK	108	54	Bottom of Laptop	15mm	MIMO2	OFF	349000	1745	Amphenol	23.15	24.00	1.216	-0.14	0.452	0.550
	FR1 n66	40M	BPSK	1	108	Bottom of Laptop	0mm	MIMO2	ON	349000	1745	Amphenol	18.72	19.00	1.067	-0.11	1.060	1.131
	FR1 n66	40M	BPSK	108	54	Bottom of Laptop	0mm	MIMO2	ON	349000	1745	Amphenol	18.77	19.00	1.054	-0.17	1.070	1.128
	FR1 n66	40M	BPSK	216	0	Bottom of Laptop	0mm	MIMO2	ON	349000	1745	Amphenol	18.58	19.00	1.102	0.08	0.993	1.094
20	FR1 n66	40M	BPSK	1	108	Bottom of Laptop	0mm	MIMO2	ON	349000	1745	NVC	18.72	19.00	1.067	0.02	1.090	1.163
	FR1 n71	20M	BPSK	1	53	Bottom of Laptop	15mm	Main	OFF	136100	680.5	Amphenol	23.84	25.00	1.306	0	0.141	0.184
	FR1 n71	20M	BPSK	50	28	Bottom of Laptop	15mm	Main	OFF	136100	680.5	Amphenol	23.85	25.00	1.303	-0.02	0.143	0.186
	FR1 n71	20M	BPSK	1	53	Bottom of Laptop	0mm	Main	ON	136100	680.5	Amphenol	22.45	23.00	1.135	0.17	0.959	1.088
	FR1 n71	20M	BPSK	50	28	Bottom of Laptop	0mm	Main	ON	136100	680.5	Amphenol	22.50	23.00	1.122	-0.19	0.881	0.988
21	FR1 n71	20M	BPSK	100	0	Bottom of Laptop	0mm	Main	ON	136100	680.5	Amphenol	22.18	23.00	1.208	-0.14	0.926	1.118
	FR1 n71	20M	BPSK	100	0	Bottom of Laptop	0mm	Main	ON	136100	680.5	NVC	22.18	23.00	1.208	-0.15	0.667	0.806
	FR1 n41	100M	BPSK	1	1	Bottom of Laptop	15mm	Main	OFF	518598	2592.99	Amphenol	22.45	24.00	1.429	0.09	0.536	0.766
	FR1 n41	100M	BPSK	135	69	Bottom of Laptop	15mm	Main	OFF	518598	2592.99	Amphenol	22.43	24.00	1.435	0.04	0.509	0.731
	FR1 n41	100M	BPSK	1	1	Bottom of Laptop	0mm	Main	ON	518598	2592.99	Amphenol	13.96	15.50	1.426	-0.09	0.718	1.024
	FR1 n41	100M	BPSK	135	138	Bottom of Laptop	0mm	Main	ON	518598	2592.99	Amphenol	14.54	15.50	1.247	-0.08	0.774	0.965
	FR1 n41	100M	BPSK	270	0	Bottom of Laptop	0mm	Main	ON	518598	2592.99	Amphenol	14.35	15.50	1.303	-0.16	0.760	0.990
	FR1 n41_HPUE	100M	BPSK	1	1	Bottom of Laptop	0mm	Main	ON	518598	2592.99	Amphenol	16.94	18.50	1.432	0.1	0.672	0.962
	FR1 n41	100M	BPSK	1	1	Bottom of Laptop	0mm	Main	ON	518598	2592.99	NVC	13.96	15.50	1.426	-0.17	0.221	0.315
22	FR1 n41	100M	BPSK	1	271	Bottom of Laptop	0mm	MIMO1	OFF	518598	2592.99	Amphenol	17.55	18.00	1.109	0	0.943	1.046
	FR1 n41	100M	BPSK	135	138	Bottom of Laptop	0mm	MIMO1	OFF	518598	2592.99	Amphenol	17.64	18.00	1.086	-0.03	0.838	0.910
	FR1 n41	100M	BPSK	270	0	Bottom of Laptop	0mm	MIMO1	OFF	518598	2592.99	Amphenol	17.45	18.00	1.135	-0.1	0.799	0.907
	FR1 n41	100M	BPSK	1	271	Bottom of Laptop	0mm	MIMO1	OFF	518598	2592.99	NVC	17.55	18.00	1.109	-0.09	0.345	0.383
	FR1 n41	100M	BPSK	1	137	Bottom of Laptop	15mm	MIMO2	OFF	518598	2592.99	Amphenol	23.13	24.00	1.222	0.03	0.387	0.473
	FR1 n41	100M	BPSK	135	69	Bottom of Laptop	15mm	MIMO2	OFF	518598	2592.99	Amphenol	23.43	24.00	1.140	-0.05	0.405	0.462
	FR1 n41	100M	BPSK	1	137	Bottom of Laptop	0mm	MIMO2	ON	518598	2592.99	Amphenol	14.12	15.50	1.374	0.06	0.408	0.561
	FR1 n41	100M	BPSK	135	69	Bottom of Laptop	0mm	MIMO2	ON	518598	2592.99	Amphenol	14.33	15.50	1.309	-0.01	0.430	0.563
	FR1 n41_HPUE	100M	BPSK	135	69	Bottom of Laptop	0mm	MIMO2	ON	518598	2592.99	Amphenol	17.35	18.50	1.303	-0.1	0.394	0.513
	FR1 n41	100M	BPSK	135	69	Bottom of Laptop	0mm	MIMO2	ON	518598	2592.99	NVC	14.33	15.50	1.309	0.1	0.201	0.263
	FR1 n41	100M	BPSK	1	137	Bottom of Laptop	0mm	Aux	OFF	518598	2592.99	Amphenol	15.32	16.00	1.169	0	0.472	0.552
	FR1 n41	100M	BPSK	135	69	Bottom of Laptop	0mm	Aux	OFF	518598	2592.99	Amphenol	15.57	16.00	1.104	0.18	0.475	0.524
	FR1 n41	100M	BPSK	1	137	Bottom of Laptop	0mm	Aux	OFF	518598	2592.99	NVC	15.32	16.00	1.169	0	0.342	0.400





Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	15mm	Main	OFF	656000	3840	Amphenol	22.97	24.00	1.268	0.04	0.424	0.537
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	15mm	Main	OFF	656000	3840	Amphenol	22.96	24.00	1.271	-0.06	0.416	0.529
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	0mm	Main	ON	656000	3840	Amphenol	13.64	14.50	1.219	0.14	0.478	0.583
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	0mm	Main	ON	656000	3840	Amphenol	13.68	14.50	1.208	0.02	0.486	0.587
	FR1 n77_HPUE	100M	BPSK	135	69	Bottom of Laptop	0mm	Main	ON	656000	3840	Amphenol	16.64	17.50	1.219	0.06	0.451	0.550
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	0mm	Main	ON	656000	3840	NVC	13.68	14.50	1.208	-0.1	0.496	0.599
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	15mm	Main	OFF	633332	3499.98	Amphenol	23.22	24.00	1.197	0.07	0.223	0.267
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	15mm	Main	OFF	633332	3499.98	Amphenol	23.27	24.00	1.183	0.19	0.224	0.265
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	0mm	Main	ON	633332	3499.98	Amphenol	13.95	14.50	1.135	0.02	0.304	0.345
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	0mm	Main	ON	633332	3499.98	Amphenol	14.01	14.50	1.119	0.16	0.291	0.326
	FR1 n77_HPUE	100M	BPSK	1	137	Bottom of Laptop	0mm	Main	ON	633332	3499.98	Amphenol	16.91	17.50	1.146	0.17	0.289	0.331
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	0mm	Main	ON	633332	3499.98	NVC	13.95	14.50	1.135	-0.14	0.376	0.427
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	0mm	MIMO1	OFF	656000	3840	Amphenol	15.84	16.50	1.164	-0.05	0.829	0.965
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	0mm	MIMO1	OFF	656000	3840	Amphenol	15.87	16.50	1.156	-0.06	0.832	0.962
	FR1 n77	100M	BPSK	270	0	Bottom of Laptop	0mm	MIMO1	OFF	656000	3840	Amphenol	15.82	16.50	1.169	-0.07	0.848	0.992
	FR1 n77	100M	BPSK	270	0	Bottom of Laptop	0mm	MIMO1	OFF	656000	3840	NVC	15.82	16.50	1.169	-0.04	0.746	0.872
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	0mm	MIMO1	OFF	633332	3499.98	Amphenol	15.33	16.50	1.309	-0.06	0.778	1.019
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	0mm	MIMO1	OFF	633332	3499.98	Amphenol	15.34	16.50	1.306	-0.05	0.788	1.029
	FR1 n77	100M	BPSK	270	0	Bottom of Laptop	0mm	MIMO1	OFF	633332	3499.98	Amphenol	15.23	16.50	1.340	-0.05	0.776	1.040
	FR1 n77	100M	BPSK	270	0	Bottom of Laptop	0mm	MIMO1	OFF	633332	3499.98	NVC	15.23	16.50	1.340	-0.12	0.580	0.777
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	15mm	MIMO2	OFF	656000	3840	Amphenol	23.66	24.00	1.081	0.01	0.419	0.453
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	15mm	MIMO2	OFF	656000	3840	Amphenol	23.69	24.00	1.074	0.05	0.416	0.447
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	0mm	MIMO2	ON	656000	3840	Amphenol	16.35	17.00	1.161	-0.01	0.568	0.660
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	0mm	MIMO2	ON	656000	3840	Amphenol	16.37	17.00	1.156	0.04	0.560	0.647
	FR1 n77_HPUE	100M	BPSK	1	137	Bottom of Laptop	0mm	MIMO2	ON	656000	3840	Amphenol	19.38	20.00	1.153	0.18	0.516	0.595
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	0mm	MIMO2	ON	656000	3840	NVC	16.35	17.00	1.161	0.01	0.633	0.735
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	15mm	MIMO2	OFF	633332	3499.98	Amphenol	23.38	24.00	1.153	0.01	0.468	0.540
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	15mm	MIMO2	OFF	633332	3499.98	Amphenol	23.37	24.00	1.156	0.16	0.464	0.536
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	0mm	MIMO2	ON	633332	3499.98	Amphenol	16.84	17.00	1.038	0.02	0.744	0.772
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	0mm	MIMO2	ON	633332	3499.98	Amphenol	16.88	17.00	1.028	-0.1	0.747	0.768
	FR1 n77_HPUE	100M	BPSK	1	137	Bottom of Laptop	0mm	MIMO2	ON	633332	3499.98	Amphenol	19.84	20.00	1.038	-0.06	0.708	0.735
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	0mm	MIMO2	ON	633332	3499.98	NVC	16.84	17.00	1.038	0.09	0.686	0.712
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	0mm	Aux	OFF	656000	3840	Amphenol	15.23	16.00	1.194	0.14	0.549	0.655
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	0mm	Aux	OFF	656000	3840	Amphenol	15.25	16.00	1.189	0.17	0.554	0.658
23	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	0mm	Aux	OFF	656000	3840	NVC	15.25	16.00	1.189	-0.03	0.915	1.087
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	0mm	Aux	OFF	656000	3840	NVC	15.23	16.00	1.194	-0.12	0.849	1.014
	FR1 n77	100M	BPSK	270	0	Bottom of Laptop	0mm	Aux	OFF	656000	3840	NVC	15.13	16.00	1.222	-0.11	0.888	1.085
	FR1 n77	100M	BPSK	1	137	Bottom of Laptop	0mm	Aux	OFF	633332	3499.98	Amphenol	15.63	16.00	1.089	-0.05	0.364	0.396
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	0mm	Aux	OFF	633332	3499.98	Amphenol	15.67	16.00	1.079	-0.14	0.378	0.408
	FR1 n77	100M	BPSK	135	69	Bottom of Laptop	0mm	Aux	OFF	633332	3499.98	NVC	15.67	16.00	1.079	-0.05	0.430	0.464



13.2 Repeated SAR Measurement

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	LTE Band 7	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	20850	2510	NVC	16.67	17.50	1.211			0	0.974	-	1.179
2nd	LTE Band 7	20M	QPSK	50	24	Bottom of Laptop	0mm	MIMO2	ON	20850	2510	NVC	16.67	17.50	1.211			-0.18	0.925	1.053	1.120
1st	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	26140	1860	Amphenol	16.99	18.00	1.262			0.02	0.939	-	1.185
2nd	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	26140	1860	Amphenol	16.99	18.00	1.262			-0.05	0.814	1.154	1.027
1st	LTE Band 26	15M	QPSK	75	0	Bottom of Laptop	0mm	Main	ON	26865	831.5	NVC	20.55	21.00	1.109			0.05	0.985	-	1.093
2nd	LTE Band 26	15M	QPSK	75	0	Bottom of Laptop	0mm	Main	ON	26865	831.5	NVC	20.55	21.00	1.109			0.11	0.905	1.088	1.004
1st	LTE Band 71	20M	QPSK	100	0	Bottom of Laptop	0mm	Main	ON	133297	680.5	Amphenol	22.22	23.00	1.197			-0.05	0.984	-	1.178
2nd	LTE Band 71	20M	QPSK	100	0	Bottom of Laptop	0mm	Main	ON	133297	680.5	Amphenol	22.22	23.00	1.197			-0.07	0.844	1.166	1.010
1st	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	56150	3641	Amphenol	19.47	20.00	1.130	62.9	1.006	-0.14	0.952	-	1.082
2nd	LTE Band 48	20M	QPSK	50	0	Bottom of Laptop	0mm	Main	ON	56150	3641	Amphenol	19.47	20.00	1.130	62.9	1.006	0.04	0.895	1.064	1.017
1st	FR1 n5	20M	BPSK	100	0	Bottom of Laptop	0mm	Main	ON	167300	836.5	Amphenol	21.00	21.50	1.122			-0.17	0.975	-	1.094
2nd	FR1 n5	20M	BPSK	100	0	Bottom of Laptop	0mm	Main	ON	167300	836.5	Amphenol	21.00	21.50	1.122			-0.08	0.968	1.007	1.086
1st	FR1 n30	10M	BPSK	1	26	Bottom of Laptop	0mm	Main	ON	462000	2310	NVC	17.29	18.00	1.178			-0.07	0.992	-	1.168
2nd	FR1 n30	10M	BPSK	1	26	Bottom of Laptop	0mm	Main	ON	462000	2310	NVC	17.29	18.00	1.178			0.09	0.948	1.046	1.116
1st	FR1 n66	40M	BPSK	1	108	Bottom of Laptop	0mm	Main	ON	349000	1745	Amphenol	18.89	19.00	1.026			0	1.120	-	1.149
2nd	FR1 n66	40M	BPSK	1	108	Bottom of Laptop	0mm	Main	ON	349000	1745	Amphenol	18.89	19.00	1.026			0.11	1.010	1.109	1.036

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is  $\geq 0.8W/kg$ .
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is  $\leq 1.2$  and the measured SAR  $< 1.45W/kg$ , only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.



**13.3 Power Class 2 and Power Class 3 Linearity**

This device support Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg, Separate SAR testing for Power Class 2 is not required  
 Use PC3 power level and SAR to estimated PC2 SAR linearly, and check if the deviation from the measured PC2 SAR is <10%

LTE Band 41_Main Ant	LTE Band 41	LTE Band 41
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	17	17
Reported 1g SAR (W/kg)	1.035	0.675
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	31.73	21.70
Linearity SAR(W/kg)	0.71	
% deviation from expected linearity		-4.66%

LTE Band 41_MIMO2 Ant	LTE Band 41	LTE Band 41
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	17	17
Reported 1g SAR (W/kg)	0.648	0.413
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	31.73	21.70
Linearity SAR(W/kg)	0.44	
% deviation from expected linearity		-6.83%





**13.4 FR1 n41/n77 Power Class 2 and Power Class 3 Linearity**

This device support Power Class 2 and Power Class 3 operations for FR1 n41/n77. The highest available duty cycle for Power Class 2 operation is 50% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each FR1 configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg, Separate SAR testing for Power Class 2 is not required.

Use PC3 power level and SAR to estimated PC2 SAR linearly, and check if the deviation from the measured PC2 SAR is <10%

FR1 n41_Main Ant	FR1 n41	FR1 n41
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	15.5	18.5
Reported 1g SAR (W/kg)	1.024	0.962
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	35.48	35.40
Linearity SAR(W/kg)	1.02	
% deviation from expected linearity		-5.83%

FR1 n41_MIMO2 Ant	FR1 n41	FR1 n41
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	15.5	18.5
Reported 1g SAR (W/kg)	0.563	0.513
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	35.48	35.40
Linearity SAR(W/kg)	0.56	
% deviation from expected linearity		-8.66%

FR1 n77_Main Ant	FR1 n77_Par270	FR1 n77_Par270
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	14.5	17.5
Reported 1g SAR (W/kg)	0.599	0.550
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	28.18	28.12
Linearity SAR(W/kg)	0.60	
% deviation from expected linearity		-7.96%

FR1 n77_MIMO2 Ant	FR1 n77_Par270	FR1 n77_Par270
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	17	20
Reported 1g SAR (W/kg)	0.772	0.735
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	50.12	50.00
Linearity SAR(W/kg)	0.77	
% deviation from expected linearity		-4.57%

**14. Simultaneous Transmission Analysis**

NO.	Simultaneous Transmission Configurations	Body
1.	WWAN Main + WWAN MIMO 2 + 2.4GHz WLAN Main + 2.4GHz WLAN Aux	Yes
2.	WWAN Main + WWAN MIMO 2 + 2.4GHz WLAN Main + Bluetooth Aux	Yes
3.	WWAN Main + WWAN MIMO 2 + 5/6GHz WLAN Main + 5/6GHz WLAN Aux + Bluetooth Aux	Yes
4.	WWAN MIMO 1 + 2.4GHz WLAN Main + 2.4GHz WLAN Aux	Yes
5.	WWAN MIMO 1 + 2.4GHz WLAN Main + Bluetooth Aux	Yes
6.	WWAN MIMO 1 + 5/6GHz WLAN Main + 5/6GHz WLAN Aux + Bluetooth Aux	Yes
7.	WWAN Aux+ 2.4GHz WLAN Main + 2.4GHz WLAN Aux	Yes
8.	WWAN Aux + 2.4GHz WLAN Main + Bluetooth Aux	Yes
9.	WWAN Aux + 5/6GHz WLAN Main + 5/6GHz WLAN Aux + Bluetooth Aux	Yes

**General Note:**

1. The Intel AX211D2W WLAN/BT module is also integrated into this host. The WLAN 2.4GHz/5GHz and Bluetooth SAR results are referenced from Intel SAR report, report number: 201120-03.TR10 (FCC ID: PD9AX211D2), WLAN 6GHz SAR refers new report No.:201120-03.TR50 (FCC ID: PD9AX211D2)
2. Referenced from FCC ID: PD9AX211D2, Report No.: 201120-03.TR10 and 201120-03.TR50, WLAN modular SAR tested at 8mm separation does not exceed 0.8 W/kg and integration into this host is qualified according to KDB 616217. WiFi/BT SAR of 1.6 W/kg was used conservatively for the purpose of simultaneous transmission analysis. For the WLAN main and WLAN Aux Sim-Tx analysis include in WLAN modular SAR report. In this report only assessment WWAN to each WLAN antenna.
3. The worst case SAR from each WWAN transmit antenna is used for Sim-Tx analysis. Therefore, the following summations represent the absolute worst cases for simultaneous transmission for this device and it is conservative.
4. The Sim-Tx analysis for EN-DC active is choose the worst case standalone SAR from the WWAN main and MIMO2 antenna within the exposure positions, regardless of whether the EN-DC combinations. Therefore, the following summations represent the absolute worst cases for simultaneous transmission for this device and it is conservative.
5. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
  - i) Scalar SAR summation < 1.6W/kg.
  - ii)  $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$ , and the peak separation distance is determined from the square root of  $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$ , where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
  - iii) If  $SPLSR \leq 0.04$ , simultaneously transmission SAR measurement is not necessary.
  - iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
  - v) The SPLSR calculated results please refer to section 14.2.



**14.1 Body Exposure Conditions**

**<WWAN Main + WWAN MIMO 2 + WLAN + Bluetooth>**

Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4 Summed 1g SAR (W/kg)	1+2+5 Summed 1g SAR (W/kg)	SPLSR	Case No
	Maximum WWAN Main	Maximum WWAN MIMO2	WLAN Main	WLAN Aux	Bluetooth Aux					
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)					
Bottom of Laptop at 0mm	1.185	1.179	1.600	1.600	1.600	3.964	3.964	3.964	0.02	Case 1

**<WWAN MIMO 1 + WLAN + Bluetooth>**

Exposure Position	1	3	4	5	1+3 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	1+5 Summed 1g SAR (W/kg)	SPLSR	Case No
	Maximum WWAN MIMO1	WLAN Main	WLAN Aux	Bluetooth Aux					
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)					
Bottom of Laptop at 0mm	1.046	1.600	1.600	1.600	2.646	2.646	2.646	0.02	Case 2

**<WWAN Aux + WLAN + Bluetooth>**

Exposure Position	1	3	4	5	1+3 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	1+5 Summed 1g SAR (W/kg)	SPLSR	Case No
	Maximum WWAN Aux	WLAN Main	WLAN Aux	Bluetooth Aux					
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)					
Bottom of Laptop at 0mm	1.087	1.600	1.600	1.600	2.687	2.687	2.687	0.02	Case 3



**14.2 SPLSR Evaluation and Analysis**

**General Note:**

1. According to antenna location of appendix D, the minimum distance between each WWAN/WLAN/BT transmit antenna are using for SPLSR analysis.
2. For SPLSR analysis is selected highest standalone SAR from each WWAN transmit antenna to be evaluated and it is conservative.
3.  $SPLSR = (SAR_1 + SAR_2)^{1.5} / (\text{min. separation distance, mm})$ . If  $SPLSR \leq 0.04$ , simultaneously transmission SAR measurement is not necessary

	Band	Position	SAR (W/kg)	Gap	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)				
Case 1	Maximum WWAN Main Ant	Bottom of Laptop	1.185	0	227.5	2.36	0.02	Not required
	Maximum WWAN MIMO 2 Ant		1.179	0				
	Maximum WWAN Main Ant	Bottom of Laptop	1.185	0	216.3	2.79	0.02	Not required
	WLAN_Main		1.6	0				
	Maximum WWAN Main Ant	Bottom of Laptop	1.185	0	228.2	2.79	0.02	Not required
	WLAN_Aux		1.6	0				
	Maximum WWAN Main Ant	Bottom of Laptop	1.185	0	228.2	2.79	0.02	Not required
	Bluetooth_Aux		1.6	0				
	Maximum WWAN MIMO 2 Ant	Bottom of Laptop	1.179	0	251.6	2.78	0.02	Not required
	WLAN_Main		1.6	0				
	Maximum WWAN MIMO 2 Ant	Bottom of Laptop	1.179	0	208.6	2.78	0.02	Not required
	WLAN_Aux		1.6	0				
Maximum WWAN MIMO 2 Ant	Bottom of Laptop	1.179	0	208.6	2.78	0.02	Not required	
Bluetooth_Aux		1.6	0					
Case 2	Maximum WWAN MIMO 1 Ant	Bottom of Laptop	1.046	0	219.4	2.65	0.02	Not required
	WLAN_Main		1.6	0				
	Maximum WWAN MIMO 1 Ant	Bottom of Laptop	1.046	0	241.2	2.65	0.02	Not required
	WLAN_Aux		1.6	0				
	Maximum WWAN MIMO 1 Ant	Bottom of Laptop	1.046	0	241.2	2.65	0.02	Not required
	Bluetooth_Aux		1.6	0				
Case 3	Maximum WWAN Aux Ant	Bottom of Laptop	1.087	0	245.5	2.69	0.02	Not required
	WLAN_Main		1.6	0				
	Maximum WWAN Aux Ant	Bottom of Laptop	1.087	0	210.8	2.69	0.02	Not required
	WLAN_Aux		1.6	0				
	Maximum WWAN Aux Ant	Bottom of Laptop	1.087	0	210.8	2.69	0.02	Not required
	Bluetooth_Aux		1.6	0				

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## **15. Uncertainty Assessment**

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be  $\leq 30\%$ , for a confidence interval of  $k = 2$ . If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg. Therefore, the measurement uncertainty table is not required in this report.

Declaration of Conformity:

The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

## **16. References**

- [1] FCC 47 CFR Part 2 "Frequency Allocations and Radio Treaty Matters; General Rules and Regulations"
- [2] ANSI/IEEE Std. C95.1-1992, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz", September 1992
- [3] IEEE Std. 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [6] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [7] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [8] FCC KDB 941225 D05A v01r02, "Rel. 10 LTE SAR Test Guidance and KDB Inquiries", Oct 2015
- [9] FCC KDB 616217 D04 v01r02, "SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers", Oct 2015
- [10] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [11] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.