

FCC Test Report

Equipment	:	Wifi repeater
Brand Name	:	Technicolor
Model No.	:	TG213
FCC ID	:	G95-TG213
Standard	:	47 CFR FCC Part 15.407
Operating Band	:	5725 MHz – 5850 MHz
FCC Classification	:	NII
Applicant	:	Technicolor USA, Inc. 101 West 103rd Street, Indianapolis, Indiana 46290, United States

The product sample received on Aug. 19, 2014 and completely tested on Sep. 04, 2014. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2009 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

James Fan / Assistant Manager





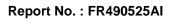
Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information	5
1.2	Support Equipment	7
1.3	Testing Applied Standards	7
1.4	Testing Location Information	7
1.5	Measurement Uncertainty	8
2	TEST CONFIGURATION OF EUT	9
2.1	The Worst Case Modulation Configuration	9
2.2	The Worst Case Power Setting Parameter	9
2.3	The Worst Case Measurement Configuration	10
2.4	Test Setup Diagram	11
3	TRANSMITTER TEST RESULT	12
3.1	AC Power-line Conducted Emissions	12
3.2	Emission Bandwidth	15
3.3	RF Output Power	
3.4	Peak Power Spectral Density	21
3.5	Transmitter Radiated Unwanted Emissions and Band Edge	24
3.6	Frequency Stability	47
4	TEST EQUIPMENT AND CALIBRATION DATA	49
APPE	ENDIX A. TEST PHOTOS	A1-A3



Summary of Test Result

	Conformance Test Specifications							
Report Clause	Ref. Std. Clause	Description	Measured	Limit	Result			
1.1.2	15.203	Antenna Requirement	Antenna connector mechanism complied	FCC 15.203	Complied			
3.1	15.207	AC Power-line Conducted Emissions	[dBuV]: 0.4612220MHz 48.63 (Margin 8.04dB) – QP 40.64 (Margin 6.03dB) – AV	FCC 15.207	Complied			
3.2	15.407(e)	Emission Bandwidth	6dB Bandwidth [MHz] 20M: 16.17 / 40M: 35.83 80M: 75.13	500kHz for 6dB bandwidth	Complied			
3.3	15.407(a)	RF Output Power (Maximum Conducted (Average) Output Power)	Power [dBm] 5725-5850MHz: 20.25	Power [dBm] 5725-5850MHz: 30	Complied			
3.4	15.407(a)	Peak Power Spectral Density	PPSD [dBm/MHz] 5725-5850MHz: 6.80	PPSD [dBm/500kHz] 5725-5850MHz: 30	Complied			
3.5	15.407(b)	Transmitter Unwanted Emissions and Band Edge	Restricted Bands [dBuV/m at 3m]: 5860.00MHz 67.20 (Margin 1.00dB) – PK	Non-Restricted Bands: ≤ -27dBm (68.2dBuV/m@3m) Restricted Bands: FCC 15.209	Complied			
3.6	15.407(g)	Frequency Stability	2.93 ppm	Signal shall remain in-band	Complied			





Revision History

Version	Description	Issued Date
Rev. 01	Initial issue of report	Mar. 20, 2015



1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information								
IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (Ν _{τx})	RF Output Power (dBm)	Co-location			
а	5745-5825	149-165 [5]	1	20.25	Yes			
n(HT20)	5745-5825	149-165 [5]	1	20.11	Yes			
n(HT40)	5755-5795	151-159 [2]	1	19.31	Yes			
ac(VHT20)	5745-5825	149-165 [5]	1	20.24	Yes			
ac(VHT40)	5755-5795	151-159 [2]	1	19.47	Yes			
ac(VHT80)	5775	155 [1]	1	14.22	Yes			
	a n(HT20) n(HT40) ac(VHT20) ac(VHT40)	IEEE Std. 802.11 (MHz) a 5745-5825 n(HT20) 5745-5825 n(HT40) 5755-5795 ac(VHT20) 5745-5825 ac(VHT40) 5755-5795	IEEE Std. 802.11(MHz)Numbera5745-5825149-165 [5]n(HT20)5745-5825149-165 [5]n(HT40)5755-5795151-159 [2]ac(VHT20)5745-5825149-165 [5]ac(VHT40)5755-5795151-159 [2]	IEEE Std. 802.11(MHz)NumberChains (NTX)a5745-5825149-165 [5]1n(HT20)5745-5825149-165 [5]1n(HT40)5755-5795151-159 [2]1ac(VHT20)5745-5825149-165 [5]1ac(VHT40)5755-5795151-159 [2]1	IEEE Std. 802.11(MHz)NumberChains (NTX)Power (dBm)a5745-5825149-165 [5]120.25n(HT20)5745-5825149-165 [5]120.11n(HT40)5755-5795151-159 [2]119.31ac(VHT20)5745-5825149-165 [5]120.24ac(VHT40)5755-5795151-159 [2]119.47			

Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.

Note 2: 802.11a/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.

Note 3: 802.11ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.

Note 4: Co-location, Co-location is generally defined as simultaneously transmitting (co-transmitting) antennas within 20 cm of each other. (i.e., EUT has simultaneously co-transmitting that operating 2.4GHz and 5GHz.)

1.1.2 Antenna Information

	Antenna Category							
	Equ	ipment placed on the market without antennas						
\square	Inte	Integral antenna (antenna permanently attached)						
		Temporary RF connector provided						
	No temporary RF connector provided Transmit chains bypass antenna and soldered temporary RF connector provided for connect measurement. In case of conducted measurements the transmitter shall be connected to t measuring equipment via a suitable attenuator and correct for all losses in the RF path.							
	Exte	ernal antenna (dedicated antennas)						
		Single power level with corresponding antenna(s).						
	Multiple power level and corresponding antenna(s).							
	RF connector provided							
	Unique antenna connector. (e.g., MMCX, U.FL, IPX, and RP-SMA, RP-N type)							
		Standard antenna connector. (e.g., SMA, N, BNC, and TNC type)						

	Antenna General Information						
No.	No. Ant. Cat. Ant. Type Connector Gain (dBi)						
1	Integral	PIFA	N/A	3			



1.1.3 Type of EUT

	Identify EUT				
EUT	Serial Number	N/A			
Pres	sentation of Equipment	Production ; Pre-Production ; Prototype			
		Type of EUT			
\square	Stand-alone				
	Combined (EUT where the radio part is fully integrated within another device)				
	Combined Equipment - Brand Name / Model No.:				
	Plug-in radio (EUT intended for a variety of host systems)				
	Host System - Brand Name / Model No.:				
	Other:				

1.1.4 Test Signal Duty Cycle

	Operated Mode for Worst Duty Cycle						
	Operated normally mode for worst duty cycle						
\boxtimes	Operated test mode for worst duty cycle						
Test Signal Duty Cycle (x)Power Duty Factor[dB] - (10 log 1/x)							
\boxtimes	99.32% - IEEE 802.11a	0.00					
\square	99.28% - IEEE 802.11ac (VHT20)	0.00					
\boxtimes	98.00% - IEEE 802.11ac (VHT40)	0.00					
\boxtimes	94.93% - IEEE 802.11ac (VHT80)	0.23					

1.1.5 EUT Operational Condition

Supply Voltage	⊠ 100-240Vac		
Test Voltage	🛛 Vnom (120 V)	🛛 Vmax (138 V)	🛛 Vmin (102 V)
Test Climatic	Tnom (20°C)	🖾 Tmax (50°C)	Tmin (-30°C)



1.2 Support Equipment

	Support Equipment						
No.	Io. Equipment Brand Name Model Name FCC ID						
1	Notebook	DELL	E6430	DoC			

1.3 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2009
- 789033 D02 General UNII Test Procedures New Rules v01
- 644545 D03 Guidance for IEEE 802 11ac New Rules v01
- FCC KDB 662911 v02r01
- FCC KDB 412172 v01

1.4 Testing Location Information

	Testing Location							
\boxtimes	HWA YA	ADD	ADD : No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.					
		TEL	:	886-3-327-3450	6 FAX : 886	6-3-327-0973		
Te	Test Condition Test Site No. Test Engineer Test Environment Test Date					Test Date		
R	RF Conducted			TH01-HY	Mark Liao	23°C / 64%	Sep. 04, 2014	
AC Conduction		n		CO04-HY	Skys Huang	23°C / 66%	Sep. 04, 2014	
Rad	Radiated Emission03CH03-HYJack Li20°C / 60%Aug. 19 ~ Aug. 21, 20					Aug. 19 ~ Aug. 21, 2014		
	Test site registered number [643075] with FCC Test site registered number [4086B-1] with IC							



1.5 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

	Measurement Uncertainty					
Test Item	Test Item					
AC power-line conducted emissions	AC power-line conducted emissions					
Emission bandwidth	±1.42 %	N/A				
RF output power, conducted	±0.63 dB	N/A				
Power density, conducted	±0.81 dB	N/A				
Unwanted emissions, conducted	30 – 1000 MHz	±0.51 dB	N/A			
	1 – 18 GHz	±0.67 dB	N/A			
	18 – 40 GHz	±0.83 dB	N/A			
	40 – 200 GHz	N/A	N/A			
All emissions, radiated	30 – 1000 MHz	±2.56 dB	N/A			
	1 – 18 GHz	±3.59 dB	N/A			
	18 – 40 GHz	±3.82 dB	N/A			
	40 – 200 GHz	N/A	N/A			
Temperature	·	±0.8 °C	N/A			
Humidity		±3 %	N/A			
DC and low frequency voltages		±3 %	N/A			
Time		±1.42 %	N/A			
Duty Cycle		±1.42 %	N/A			



2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration

Worst	Worst Modulation Used for Conformance Testing (5150-5250MHz)										
Modulation Mode	Transmit Chains (N _{TX})	Data Rate / MCS	Worst Data Rate / MCS								
11a	1	6-54Mbps	6 Mbps								
HT20	1	MCS 0-7	MCS 0								
HT40	1	MCS 0-7	MCS 0								
VHT20	1	MCS 0-8	MCS 0								
VHT40	1	MCS 0-9	MCS 0								
VHT80	1	MCS 0-9	MCS 0								

2.2 The Worst Case Power Setting Parameter

The	The Worst Case Power Setting Parameter (5150-5250MHz band)										
Test Software	MT76	ИТ7620									
Test Software Version	V1.0.6.0										
				Test Fre	quency (MI	Hz)					
Modulation Mode	N _{TX}		NCB: 20MH	z	NCB:	40MHz	NCB: 80MHz				
		5745	5785	5825	5755	5795	5775				
11a,6-54Mbps	1	17	20	1D							
HT20,M0-7	1	16	20	1D							
HT40,M0-7	1				13	1E					
VHT20,M0-8	1	16	20	1D							
VHT40,M0-9	1				13	1E					
VHT80,M0-9	1						0F				



2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests						
Tests Item AC power-line conducted emissions						
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz					
Operating Mode	Operating Mode Description					
1	AC Power & Radio link (WLAN)					

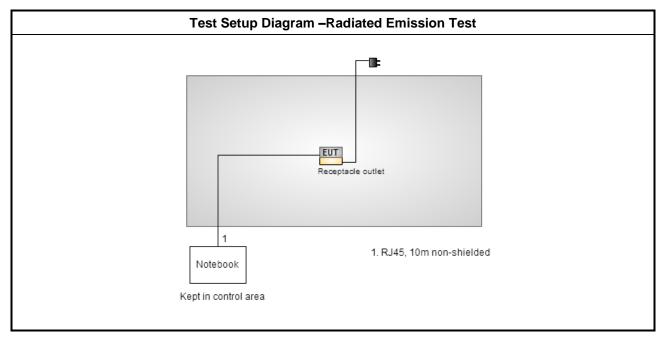
Th	The Worst Case Mode for Following Conformance Tests					
Tests Item RF Output Power						
Test Condition Conducted measurement at transmit chains						
Modulation Mode	11a, HT20, HT40, VHT20, VHT40, VHT80					
Operating Mode Operating Mode Description						
1	AC Power & Radio link (WLAN)					

Th	The Worst Case Mode for Following Conformance Tests					
Tests Item Peak Power Spectral Density, Emission Bandwidth						
Test Condition Conducted measurement at transmit chains						
Modulation Mode	11a, VHT20, VHT40, VHT80					
Operating Mode	Operating Mode Description					
1	AC Power & Radio link (WLAN)					



Th	e Worst Case Mode for Fo	ollowing Conformance Te	sts			
Tests Item	Transmitter Radiated Unwa Transmitter Radiated Banc					
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.					
	EUT will be placed in	fixed position.				
User Position	EUT will be placed in mobile position and operating multiple positions. EUT shall be performed three orthogonal planes. The worst planes is Y.					
	EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. EUT shall be performed two or three orthogonal planes. The worst planes is X.					
Operating Mode	🛛 1. AC Power & Radi	o link (WLAN)				
Modulation Mode	11a, VHT20, VHT40, VHT8	30				
	X Plane	Y Plane	Z Plane			
Orthogonal Planes of EUT						

2.4 Test Setup Diagram





Transmitter Test Result 3

3.1 **AC Power-line Conducted Emissions**

3.1.1 **AC Power-line Conducted Emissions Limit**

AC Power-line Conducted Emissions Limit								
Frequency Emission (MHz) Quasi-Peak Average								
0.15-0.5	66 - 56 *	56 - 46 *						
0.5-5	56	46						
5-30	60	50						
Note 1: * Decreases with the logarithm of the frequency.								

ecreases with the logarithm of the frequency

3.1.2 Measuring Instruments

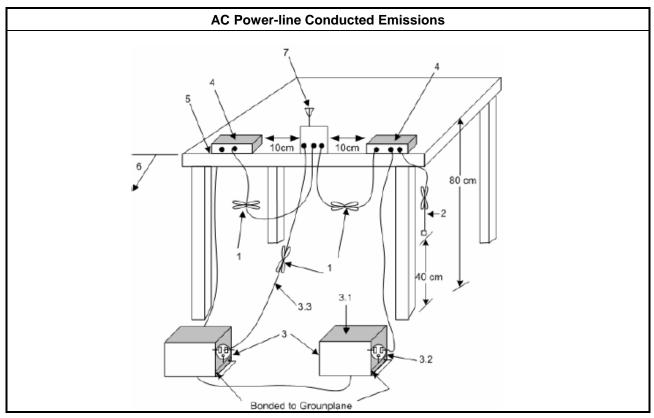
Refer a test equipment and calibration data table in this test report.

3.1.3 **Test Procedures**

Test Method

Refer as ANSI C63.10-2009, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup

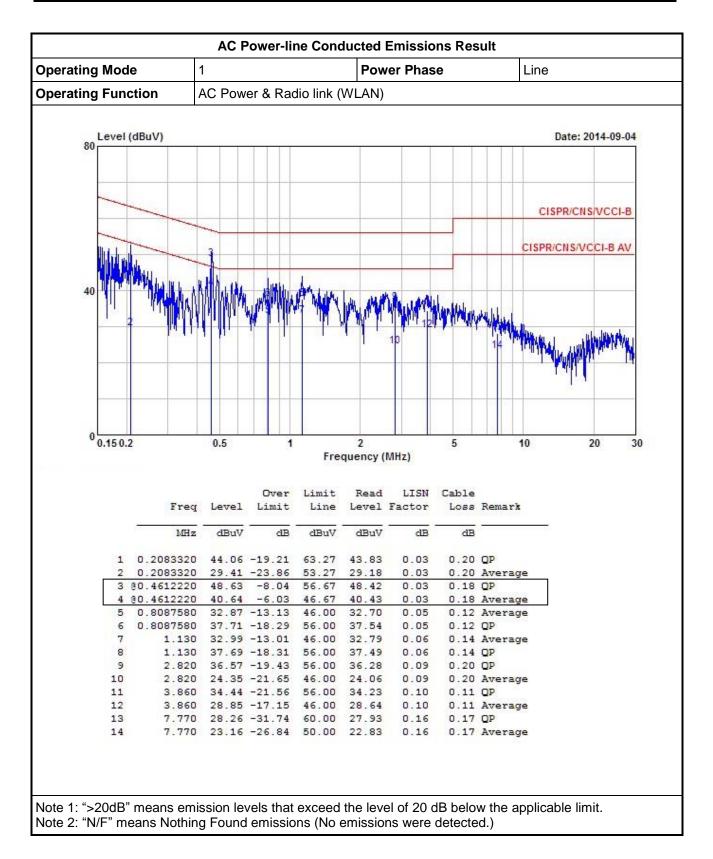




A				Pow	or Phace	2	Neutra	al	
50	1 Power Phase Neutral AC Power & Radio link (WLAN)								
	C POWE		io iink (v	VLAN)					
0						10.00	1 1 1 1 1	Date: 2014-09-04	
-				- 24		-	CIS	PR/CNS/VCCI-B	
	~								
-							CISPR/	CNS/VCCI-B AV	
				_					
3									
	ile			11					
	VALUEL.			Lat K	L. L. Info				
	71 M			THE AP			And I I	10000000	
	1 YUN	IN'I INN		1. 191		MINN	Photo and a distant	11111111111111	
	1171 10			1 "[[]]" 0		d codich	IT THE REAL PROPERTY OF		
	111		l ll			1	4		
L.			1.0					trol	
- <u>1</u>	0.5	1		2		5	10	20 3	
			Freq	uency (I	MHz)				
		Over	Limit	Read		C 1 1			
	Level	1 dani t			LISN	Cable			
Freq	DEVET	Limit	Line	Level	Factor		Remark		
0.000	1222546-555	2 2.02645049434 		545953567523	Factor	Loss	Remark		
Freq MHz	dBuV	2 2.02645049434 	dBuV	Level dBuV	Factor		Remark		
0.000	dBuV	dB	dBuV	dBuV	Factor 	Loss dB			
MHz 1712450	dBuV 48.02	2 2.02645049434 	dBuV 64.90	545953567523	Factor dB 0.02	Loss dB 0.22			
MHz 1712450 1712450	dBuV 48.02 32.73	dB -16.88	dBuV 64.90 54.90	dBuV	Factor dB 0.02	Loss dB 0.22	QP Average		
MHz 1712450 1712450 1636720 1636720	dBuV 48.02 32.73 44.42 37.35	dB -16.88 -22.17 -12.21 -9.28	dBuV 64.90 54.90 56.63 46.63	dBuV 47.78 32.49	Factor dB 0.02 0.02 0.03 0.03	Loss dB 0.22 0.22 0.18 0.18	QP Average QP Average		
MHz 1712450 1712450 1636720 1636720 3393170	dBuV 48.02 32.73 44.42 37.35 31.00	dB -16.88 -22.17 -12.21 -9.28 -25.00	dBuV 64.90 54.90 56.63 46.63 56.00	dBuV 47.78 32.49 44.21 37.14 30.83	Factor dB 0.02 0.02 0.03 0.03 0.05	Loss dB 0.22 0.22 0.18 0.18 0.12	QP Average QP Average QP		
MHz 1712450 1712450 1636720 1636720 3393170 3393170	dBuV 48.02 32.73 44.42 37.35 31.00 17.42	dB -16.88 -22.17 -12.21 -9.28 -25.00 -28.58	dBuV 64.90 54.90 56.63 46.63 56.00 46.00	dBuV 47.78 32.49 44.21 37.14 30.83 17.25	Factor dB 0.02 0.02 0.03 0.03 0.05 0.05	Loss dB 0.22 0.22 0.18 0.18 0.12 0.12	OP Average OP Average OP Average		
MHz 1712450 1712450 1636720 1636720 3393170 3393170 1.120	dBuV 48.02 32.73 44.42 37.35 31.00 17.42 31.63	dB -16.88 -22.17 -12.21 -9.28 -25.00 -28.58 -24.37	dBuV 64.90 54.90 56.63 46.63 56.00 46.00 56.00	dBuV 47.78 32.49 44.21 37.14 30.83 17.25 31.45	Factor dB 0.02 0.02 0.03 0.03 0.03 0.05 0.05 0.05	Loss dB 0.22 0.22 0.18 0.18 0.12 0.12 0.12 0.13	OP Average OP Average OP Average OP		
MHz 1712450 1712450 4636720 4636720 3393170 3393170 1.120 1.120	dBuV 48.02 32.73 44.42 37.35 31.00 17.42 31.63 27.06	dB -16.88 -22.17 -12.21 -9.28 -25.00 -28.58 -24.37 -18.94	dBuV 64.90 54.90 56.63 46.63 56.00 46.00 56.00 46.00	dBuV 47.78 32.49 44.21 37.14 30.83 17.25 31.45 26.88	Factor dB 0.02 0.03 0.03 0.03 0.05 0.05 0.05 0.05	dB 0.22 0.22 0.18 0.18 0.12 0.12 0.12 0.13 0.13	OP Average OP Average OP Average OP Average		
MHz 1712450 1712450 4636720 4636720 3393170 3393170 1.120 1.120 2.510	dBuV 48.02 32.73 44.42 37.35 31.00 17.42 31.63 27.06 31.92	dB -16.88 -22.17 -12.21 -9.28 -25.00 -28.58 -24.37 -18.94 -24.08	dBuV 64.90 54.90 56.63 46.63 56.00 46.00 56.00 46.00 56.00	dBuV 47.78 32.49 44.21 37.14 30.83 17.25 31.45 26.88 31.62	Factor dB 0.02 0.03 0.03 0.05 0.05 0.05 0.05 0.05 0.07	dB 0.22 0.22 0.18 0.18 0.12 0.12 0.13 0.13 0.23	OP Average OP Average OP Average OP Average OP		
MHz 1712450 1712450 4636720 4636720 3393170 3393170 1.120 1.120 2.510 2.510	dBuV 48.02 32.73 44.42 37.35 31.00 17.42 31.63 27.06 31.92 19.54	dB -16.88 -22.17 -12.21 -9.28 -25.00 -28.58 -24.37 -18.94 -24.08 -26.46	dBuV 64.90 54.90 56.63 46.63 56.00 46.00 56.00 46.00 56.00 46.00	dBuV 47.78 32.49 44.21 37.14 30.83 17.25 31.45 26.88 31.62 19.24	Factor dB 0.02 0.03 0.03 0.05 0.05 0.05 0.05 0.05 0.07 0.07	Loss dB 0.22 0.22 0.18 0.18 0.12 0.12 0.13 0.13 0.23 0.23	QP Average QP Average QP Average QP Average QP Average		
MHz 1712450 1712450 1636720 1636720 1636720 3393170 1.120 1.120 1.120 2.510 2.510 3.900	dBuV 48.02 32.73 44.42 37.35 31.00 17.42 31.63 27.06 31.92 19.54 19.11	dB -16.88 -22.17 -12.21 -9.28 -25.00 -28.58 -24.37 -18.94 -24.08 -26.46 -26.89	dBuV 64.90 54.90 56.63 46.63 56.00 46.00 56.00 46.00 56.00 46.00 46.00	dBuV 47.78 32.49 44.21 37.14 30.83 17.25 31.45 26.88 31.62 19.24 18.91	Factor dB 0.02 0.03 0.03 0.05 0.05 0.05 0.05 0.05 0.07 0.07 0.09	Loss dB 0.22 0.22 0.18 0.12 0.12 0.12 0.13 0.13 0.23 0.23 0.11	QP Average QP Average QP Average QP Average QP Average Average		
MHz 1712450 1712450 1636720 1636720 1636720 1393170 1.120 1.120 1.120 2.510 2.510 3.900 3.900	dBuV 48.02 32.73 44.42 37.35 31.00 17.42 31.63 27.06 31.92 19.54 19.11 28.79	dB -16.88 -22.17 -12.21 -9.28 -25.00 -28.58 -24.37 -18.94 -24.08 -26.46	dBuV 64.90 54.90 56.63 46.63 56.00 46.00 56.00 46.00 56.00 46.00 56.00 46.00 56.00	dBuV 47.78 32.49 44.21 37.14 30.83 17.25 31.45 26.88 31.62 19.24 18.91 28.59	Factor dB 0.02 0.03 0.03 0.05 0.05 0.05 0.05 0.05 0.07 0.07 0.09 0.09	Loss dB 0.22 0.22 0.18 0.18 0.12 0.12 0.13 0.13 0.23 0.23	QP Average QP Average QP Average QP Average QP Average QP		
		0.5		Freq	Frequency (I	Frequency (MHz)	Frequency (MHz)		

3.1.5 Test Result of AC Power-line Conducted Emissions







3.2 Emission Bandwidth

3.2.1 Emission Bandwidth (EBW) Limit

Emission Bandwidth (EBW) Limit

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz

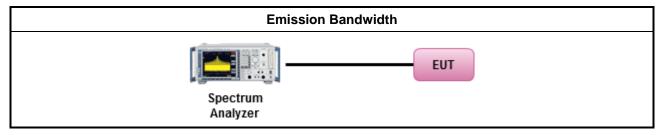
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

	Test Method								
\boxtimes	For	the emission bandwidth shall be measured using one of the options below:							
	\boxtimes	Refer as 789033 D02 General UNII Test Procedures New Rules v01, clause C for EBW / $6dB$ bandwidth and clause D for OBW measurement.							
		Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.							
	\boxtimes	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.							
\boxtimes	For	conducted measurement.							
	\boxtimes	The EUT supports single transmit chain and measurements performed on this transmit chain.							
		The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.							
		The EUT supports multiple transmit chains using options given below:							
		Option 1: Multiple transmit chains measurements need to be performed on one of the active transmit chains (antenna outputs). All measurement had be performed on transmit chains 1.							
		Option 2: Multiple transmit chains measurements need to be performed on each transmit chains individually (antenna outputs). All measurement had be performed on all transmit chains.							

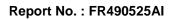
3.2.4 Test Setup



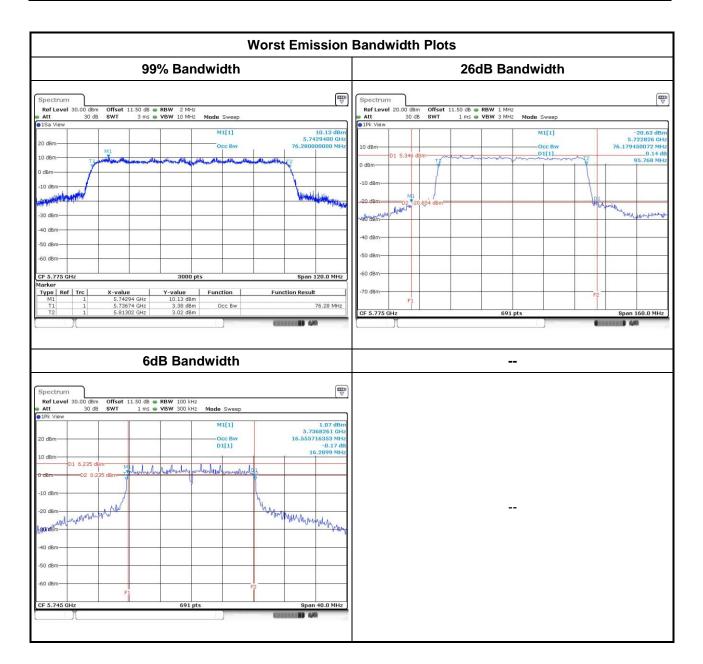


3.2.5 Test Result of Emission Bandwidth

	UNII Emission Bandwidth Result													
Cone		Emission Bandwidth (MHz)												
Modulation		Freq.	g	9% Ba	ndwidt	h	2	6dB Ba	Indwidt	h		6dB Bandwidth		
Mode	N _{TX}	(MHz)	Chain- Port 1	Chain- Port 2	Chain- Port 3	Chain- Port 4	Chain- Port 1	Chain- Port 2	Chain- Port 3	Chain- Port 4	Chain- Port 1	Chain- Port 2	Chain- Port 3	Chain- Port 4
11a	1	5745	16.99				30.00				16.29			
11a	1	5785	20.93				42.10				16.29			
11a	1	5825	17.92				37.90				16.29			
VHT20	1	5745	17.72				35.51				17.04			
VHT20	1	5785	21.51				47.61				16.17			
VHT20	1	5825	18.76				44.28				16.52			
VHT40	1	5755	36.46				50.78				35.83			
VHT40	1	5795	38.08				89.57				35.94			
VHT80	1	5775	76.28				95.77				75.13			
Re	sult							Com	plied					









3.3 **RF Output Power**

3.3.1 RF Output Power Limit

Maximum Conducted Output Power Limit

The maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

3.3.2 Measuring Instruments

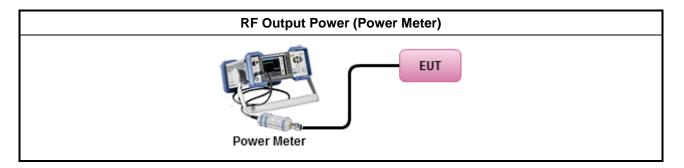
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

		Test Method
\square	Мах	imum Conducted Output Power
		Refer as 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-1 (spectral trace averaging).
		Refer as 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
		Refer as 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-2 (spectral trace averaging).
		Refer as 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wid	eband RF power meter and average over on/off periods with duty factor
	\square	Refer as 789033 D02 General UNII Test Procedures New Rules v01, clause E Method PM-G (using a gated RF average power meter).
\square	For	conducted measurement.
	\boxtimes	The EUT supports single transmit chain and measurements performed on this transmit chain.
		The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.
		The EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
		If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) EIRP _{total} = P _{total} + DG



3.3.4 Test Setup



3.3.5 Directional Gain for Power Measurement

	Dire	ectional Gain (D	G) Result		
Transmit Chains No.		1	-	-	-
Maximum G _{ANT} (dBi)		3	-	-	-
Modulation Mode	DG (dBi)	Ν _{τχ}	N _{ss}	STBC	Array Gain (dB)
11a,6-54Mbps	3	1	1	-	-
HT20,M0-7	3	1	1	-	-
HT40,M0-7	3	1	1	-	-
VHT20,M0-8	3	1	1	-	-
VHT40,M0-9	3	1	1	-	-
VHT80,M0-9	3	1	1		-



		Maxi	mum Co	onducte	d (Avera	age) Out	put Pov	ver						
Condi	tion		RF Output Power (dBm)											
Modulation Mode	N _{TX}	Freq. (MHz)	Chain Port 1	Chain Port 2	Chain Port 3	Chain Port 4	Sum Chain	Power Limit	DG (dBi)	EIRP Power	EIRP Limit			
11a	1	5745	17.72				17.72	30.00	3.00	20.72	36.00			
11a	1	5785	20.25				20.25	30.00	3.00	23.25	36.00			
11a	1	5825	18.96				18.96	30.00	3.00	21.96	36.00			
HT20	1	5745	17.16				17.16	30.00	3.00	20.16	36.00			
HT20	1	5785	20.11				20.11	30.00	3.00	23.11	36.00			
HT20	1	5825	18.75				18.75	30.00	3.00	21.75	36.00			
HT40	1	5755	15.72				15.72	30.00	3.00	18.72	36.00			
HT40	1	5795	19.31				19.31	30.00	3.00	22.31	36.00			
VHT20	1	5745	17.25				17.25	30.00	3.00	20.25	36.00			
VHT20	1	5785	20.24				20.24	30.00	3.00	23.24	36.00			
VHT20	1	5825	18.91				18.91	30.00	3.00	21.91	36.00			
VHT40	1	5755	15.86				15.86	30.00	3.00	18.86	36.00			
VHT40	1	5795	19.47				19.47	30.00	3.00	22.47	36.00			
VHT80	1	5775	14.22				14.22	30.00	3.00	17.22	36.00			
Resu	ılt					C	Complie	d						

3.3.6 Test Result of Maximum Conducted Output Power



3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit

The maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

3.4.2 Measuring Instruments

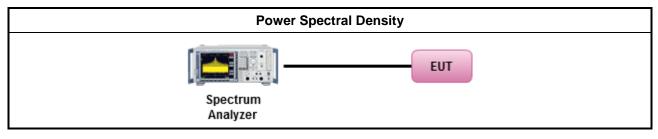
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

		Test Method
	outp func	c power spectral density procedures that the same method as used to determine the conducted ut power shall be used to determine the peak power spectral density and use the peak search tion on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density be measured using below options:
		Refer as 789033 D02 General UNII Test Procedures New Rules v01, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth
	\boxtimes	Refer as 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-1 (spectral trace averaging). (For 11a / VHT20 / VHT40)
		Refer as 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
		Refer as 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-2 (spectral trace averaging).
	\boxtimes	Refer as 789033 D02 General UNII Test Procedures New Rules v01, clause E Method SA-2 Alt. (RMS detection with slow sweep speed) (For VHT80)
\square	For	conducted measurement.
	\boxtimes	The EUT supports single transmit chain and measurements performed on this transmit chain.
		The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.
		The EUT supports multiple transmit chains using options given below:
		Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
		Option 2: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.
		If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$
		Each individually PPSD plots refer as test report clause 3.3.5 with each individually PPSD plots.



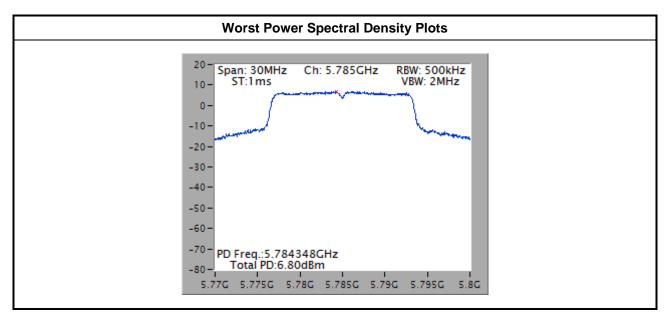
3.4.4 Test Setup





			Peak Power S	pectral Densit	y Result		
Cond	ition		F	Peak Power Sp	ectral Density	/ (dBm/500kH	z)
Modulation Mode	Ντχ	Freq. (MHz)	Sum Chain	PSD Limit	DG (dBi)	EIRP PSD	EIRP Limit
11a	1	5745	4.31	30.00	3.00	7.31	36.00
11a	1	5785	6.80	30.00	3.00	9.80	36.00
11a	1	5825	5.44	30.00	3.00	8.44	36.00
VHT20	1	5745	3.48	30.00	3.00	6.48	36.00
VHT20	1	5785	6.51	30.00	3.00	9.51	36.00
VHT20	1	5825	5.20	30.00	3.00	8.20	36.00
VHT40	1	5755	-1.22	30.00	3.00	1.78	36.00
VHT40	1	5795	2.87	30.00	3.00	5.87	36.00
VHT80	1	5775	-5.56	30.00	3.00	-2.56	36.00
Res	ult				Complied	•	·

3.4.5 Test Result of Peak Power Spectral Density





3.5 Transmitter Radiated Unwanted Emissions and Band Edge

3.5.1 Transmitter Radiated Unwanted Emissions and Band Edge Limit

Unwanted emiss	sions below 1 GHz and re	estricted band emissions a	bove 1GHz limit
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3
Note 1: Test distance for fr	equencies at or above 30 I	MHz. measurements may be	performed at a distance

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

	In-restricted band emissions above 1GHz Limit
Operating Band	Limit
5.15 - 5.25 GHz	e.i.r.p27 dBm [68.2 dBuV/m@3m]
5.25 - 5.35 GHz	e.i.r.p27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p27 dBm [68.2 dBuV/m@3m]
5.725 - 5.85 GHz	5.715~ 5.725 GHz: e.i.r.p17 dBm [78.2 dBuV/m@3m] 5.85 ~5.86 GHz: e.i.r.p17 dBm [78.2 dBuV/m@3m] Other un-restricted band: e.i.r.p27 dBm [68.2 dBuV/m@3m]

Note 1: Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

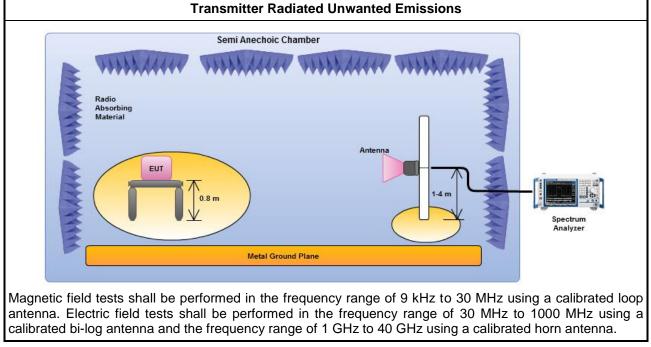


3.5.3 Test Procedures

		Test Method
	perfe equi abov are i be e dista	surements may be performed at a distance other than the limit distance provided they are not ormed in the near field and the emissions to be measured can be detected by the measurement pment. Measurements shall not be performed at a distance greater than 30 m for frequencies /e 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less mpractical. When performing measurements at a distance other than that specified, the results shall xtrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear ance for field-strength measurements, inverse of linear distance-squared for power-density surements).
\square	For	the transmitter unwanted emissions shall be measured using following options below:
		Refer as 789033 D02 General UNII Test Procedures New Rules v01, clause G)2) for unwanted emissions into non-restricted bands.
		Refer as 789033 D02 General UNII Test Procedures New Rules v01, clause G)1) for unwanted emissions into restricted bands.
		Refer as 789033 D02 General UNII Test Procedures New Rules v01, G)6) Method AD (Trace Averaging).
		Refer as 789033 D02 General UNII Test Procedures New Rules v01, G)6) Method VB (Reduced VBW).
		Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW \geq 1/T, where T is pulse time.
		Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
		Refer as 789033 D02 General UNII Test Procedures New Rules v01, clause G)5) measurement procedure peak limit.
		Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
\square	For	radiated measurement.
	\square	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz.
	\square	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1000 MHz.
	\square	Refer as ANSI C63.10, clause 6.6 for radiated emissions from above 1 GHz.
		conducted and cabinet radiation measurement, refer as 789033 D02 General UNII Test Procedures Rules v01, clause G)3).
		For conducted unwanted emissions into non-restricted bands (relative emission limits). Devices with multiple transmit chains: Refer as FCC KDB 662911, when testing out-of-band and spurious emissions against relative emission limits, tests may be performed on each output individually without summing or adding 10 log(N) if the measurements are made relative to the in-band emissions on the individual outputs.
		For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
		For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.



3.5.4 Test Setup



Note: Test distance is 3m.

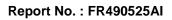
3.5.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.



Modulation Mode		11a			Tes	t Freq. (MHz)		5785		
Polarization		Н						1			
Level	dBuV/m)									Date: 201	4-08-19
90											
81.0											
72.0 63.0											
54.0										FCC CI	LASS-B
45.0											
36.0	, <u> </u>										
27.0		3		5	6						
18.0											
9.0											
0 30 1	100.	200.	300.	400.	500. Frequenc	600. y (MHz)	. 70	00.	800.	900.	1000
			0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit			Factor					Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	57.45	28.94					0.43	31.70			Peak
2		32.94						31.52			Peak
3		28.46						31.47			Peak
4		32.73 28.23						31.38 31.36			Peak Peak
6		30.57						31.25			Peak
Ŭ	500123		10110			10.50	1.10	52.25			. cuit

3.5.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)





Modulation Mo	de		11a				Test	Freq. ((MHz)		5785		
Polarization			V						<i>,</i>		2.00		
90	evel (d	IBuV/m)								1		Date: 201	14-08-19
81.0													
72.0													
63.0													
54.0												FCC C	LASS-B
45.0	F					6							
36.0		2.4	5										
27.0	2	34											
18.0	_												
9.0													
0 <mark>3</mark>	0 1	00.	200.	300.	40	0.	500.	600). 7(00.	800.	900.	1000
			200.		-10		Frequency						1000
				0ver					a Cable			T/Pos	
		Freq	Level	Limit	Lir	ne	Level	Factor	Loss	Factor			Remark
		MHz	dBuV/m	dB	dBu\	//m	dBuV	dB/m	dB	dB	 ст	deg	
1		31.42		-13.62		-				31.75		ueg	Peak
2			26.96							31.70			Peak
3		102.85	28.51	-14.99	43.	.50	49.86	9.66	0.57	31.58			Peak
4			28.15							31.55			Peak
5			32.52							31.47			Peak
6		410.24	40.63	-5.37	46.	. 00	54.05	16.70	1.25	31.37			Peak
Note 1: ">20dB"	mea	ins sou	rious em	ission le	vels	tha	t excee	d the le	vel of 20	0 dB be	low the	applic	able lim
Note 2: "N/F" me													
Note 3: Measure													/



Modulation Mo	ode		1	11a					Tes	t Fr	e q. (l	MHz)		5	5745			
N _{TX}			1	1					Pola	ariza	ation			ŀ	1			
90	Level	(dBu\	//m)					_								Date: 2	2014	-08-21
81.0			3															
		∎	11Ž			÷.		<u> </u>		╕┢				_	FCC	PART1	6E	B4-74
63.0			<u> </u>		5													
54.0															FC	C PART	15E	(AVG)
45.0		_																
36.0		_																
27.0	_																	
18.0	_					_												
9.0																		
0	1000	1000	0000	0000	41	000	40	000	20000		2400	0 20		22	000	200	00	40000
	1000 4	+000.	.0000.	8000.	12	000.	16	000.	20000 Frequenc		2400 iz)	0. 28	000.	32	000.	3600	00.	40000
					0)ver	Li		Read			Cable	Prea	mp 4	4/Pos	T/Pa	5	
		F	req	Leve		imit						Loss			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,		Remark
			Hz	dBuV/ı		dB			dBuV		/m	dB	dB		cm		≥g	_
1				52.1							.90		33.9					Average
2				70.6					65.03 71.57		.90		33.9 33.9					Peak Peak
4	1			49.5		4.41			35.02		.01		35.2					Average
5				60.7									35.2					Peak
Note 1: ">20dB																		ble limit
Note 2: "N/F" m														we	re de	tecte	d.)	
Note 3: Measur																		
Note 4: For rest																		
with the additior		ак-D	etec	tor mee	ets t	ne A	v-Lir	nit so	o that t	ne A	v lev	ei doe	s not	nee	d to	oe rep	por	ied in
addiilor	1.																	

3.5.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11a



90 1	Iulation Mode	11a	Test Freq. (MHz)	5745
81.0 72.0		1	Polarization	V
81.0 3				
72.0 1 1 5 1	90 Level (dBuV/m)			Date: 2014-08-21
72.0 1 1 5 1	81.0			
63.0 64.0 64.0 65.0 64.0 65.0 77.0 77.0 77.0 77.0 77.0 77.0 77.0 77.0 77.0 77.0 77.0 77.0 77.0 77.5 74.00 75.21 7	3			
54.0 FCC PARTISE (A 45.0 36.0 27.0 1000 4000.6000.8000. 1000 1000.000 1000 1000.00 1000.00 1.4.39 </td <td></td> <td></td> <td></td> <td></td>				
45.0 36.0 27.0 10.0 10.0 10.0 10.0 10.0 20.00. 24.00. 2800. 3200. 36000. 9.0 0 10.0 40.0 10.0 100.0 100.0 2000. 2400. 2800. 3200. 3600. 9.0 0 10.0 40.0 10.0 10.0 2000. 2400. 2800. 3200. 3600. 9.0 0 0 0 0 10.0 40.0 20.0 2400. 2800. 3200. 3600. 9.0 0 0 0 0 0 0 0 200.0 2400. 2800. 3200. 3600. 7 9.0 0 0 0 0 0 0 200.0 2400.0 2800. 3200. 3600. 7 1 5715.00 50.16 -3.84 54.00 44.58 31.90 7.60 33.92 Av 2 5715.00 73.81 -4.39 78.20 68.23 31.91 7.52.21				FCC PART15E (AVG)
36.0 27.0 18.0 2000. 16000. 20000. 24000. 28000. 32000. 36000. 9.0 0 000 4000.6000.8000. 12000. 16000. 20000. 24000. 28000. 32000. 36000. Freq Level Limit Line Level Factor Loss Factor Red MHz dBuV/m dB dBuV/m dBV dB/m dB dB dB cm deg 1 5715.00 50.16 -3.84 54.00 44.58 31.90 7.60 33.92 3 5725.00 73.81 -4.39 78.20 68.23 31.91 7.59 33.92 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21				
27.0 18.0 1000 4000.6000.8000. 12000. 16000. 20000. 24000. 28000. 32000. 36000. 1000 4000.6000.8000. 12000. 16000. 20000. 24000. 28000. 32000. 36000. Freq Level Limit Line Level Factor Loss Factor Re MHz dBuV/m dB dBuV/m dB dBuV dB dB cm deg 1 5715.00 50.16 -3.84 54.00 44.58 31.90 7.60 33.92 Av 2 5715.00 66.22 -7.78 74.00 66.43 1.90 7.60 33.92 Av 3 5725.00 73.81 -4.39 78.20 68.23 31.91 7.59 3.92 Av 4 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Av 5 11490.00 63.14 -10.86 74.00				
18.0				
9.0 0 1000 4000.6000.8000. 12000. 16000. 20000. 24000. 28000. 32000. 36000. Freq Level Limit Line Read Antenna Cable Preamp A/Pos T/Pos MHz dBuV/m dB dB cm deg 1 5715.00 50.16 -3.84 54.00 44.58 31.90 7.60 33.92 Av 2 5715.00 66.22 -7.78 74.00 60.64 31.90 7.60 33.92 Av 2 5715.00 63.11 -4.39 78.20 68.23 31.91 7.59 33.92 Av 4 11490.00 50.97 -3.03 54.00 36.40 40.01 9.77 35.21 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 -				
0 1000 4000.6000.8000. 12000. 16000. 2000. 28000. 32000. 36000. Frequency (MHz) Over Limit Read Antenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Re MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 5715.00 50.16 -3.84 54.00 44.58 31.90 7.60 33.92 Av 2 5715.00 66.22 -7.78 74.00 60.64 31.90 7.60 33.92 Av 2 5715.00 73.81 -4.39 78.20 68.23 31.91 7.59 33.92 Av 4 11490.00 50.97 -3.03 54.00 36.40 40.01 9.77 35.21 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Pe				
Frequency (MHz) Over Limit Read Antenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Read MHz dBuV/m dB dBuV/m dB dB/V/m dB dB m deg 1 5715.00 50.16 -3.84 54.00 44.58 31.90 7.60 33.92 Av 2 5715.00 66.22 -7.78 74.00 60.64 31.90 7.60 33.92 Av 3 5725.00 73.81 -4.39 78.20 68.23 31.91 7.59 33.92 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Pe	9.0			
Frequency (MHz) Over Limit Read Antenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Read MHz dBuV/m dB dBuV/m dB dBuV/m dB dB m deg 1 5715.00 50.16 -3.84 54.00 44.58 31.90 7.60 33.92 Av 2 5715.00 66.22 -7.78 74.00 60.64 31.90 7.60 33.92 Av 3 5725.00 73.81 -4.39 78.20 68.23 31.91 7.59 33.92 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Pe	01000 4000 6000		20000 24000 28000 *	32000. 36000. 40000
Freq Level Limit Line Level Factor Re MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 5715.00 50.16 -3.84 54.00 44.58 31.90 7.60 33.92 Av 2 5715.00 66.22 -7.78 74.00 60.64 31.90 7.60 33.92 Av 3 5725.00 73.81 -4.39 78.20 68.23 31.91 7.59 33.92 Av 4 11490.00 50.97 -3.03 54.00 36.40 40.01 9.77 35.21 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Pe	1000 4000.0000.	Fr		2000. 00000. 40000
Freq Level Limit Line Level Factor Re MHz dBuV/m dB dBuV/m dBuV dB dB cm deg 1 5715.00 50.16 -3.84 54.00 44.58 31.90 7.60 33.92 Av 2 5715.00 66.22 -7.78 74.00 60.64 31.90 7.60 33.92 Av 3 5725.00 73.81 -4.39 78.20 68.23 31.91 7.59 33.92 Av 4 11490.00 50.97 -3.03 54.00 36.40 40.01 9.77 35.21 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Pe		Over limit	Read Antenna Cable Preamn	A/Pos T/Pos
MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 5715.00 50.16 -3.84 54.00 44.58 31.90 7.60 33.92 Av 2 5715.00 66.22 -7.78 74.00 60.64 31.90 7.60 33.92 Pe 3 5725.00 73.81 -4.39 78.20 68.23 31.91 7.59 33.92 Pe 4 11490.00 50.97 -3.03 54.00 36.40 40.01 9.77 35.21 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Pe Iote 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicab	Freq			
1 5715.00 50.16 -3.84 54.00 44.58 31.90 7.60 33.92 Av 2 5715.00 66.22 -7.78 74.00 60.64 31.90 7.60 33.92 Pe 3 5725.00 73.81 -4.39 78.20 68.23 31.91 7.59 33.92 Pe 4 11490.00 50.97 -3.03 54.00 36.40 40.01 9.77 35.21 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Pe				
1 5715.00 50.16 -3.84 54.00 44.58 31.90 7.60 33.92 Av 2 5715.00 66.22 -7.78 74.00 60.64 31.90 7.60 33.92 Pe 3 5725.00 73.81 -4.39 78.20 68.23 31.91 7.59 33.92 Pe 4 11490.00 50.97 -3.03 54.00 36.40 40.01 9.77 35.21 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Pe Idote 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicab	MHz	dBuV/m dB dBuV/m	lBuV dB∕m dB dB	cm deg
3 5725.00 73.81 -4.39 78.20 68.23 31.91 7.59 33.92 Pe 4 11490.00 50.97 -3.03 54.00 36.40 40.01 9.77 35.21 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Pe	1 5715.00		4.58 31.90 7.60 33.92	Averag
4 11490.00 50.97 -3.03 54.00 36.40 40.01 9.77 35.21 Av 5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Pe ote 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicab	2 5715.00	0 66.22 -7.78 74.00	50.64 31.90 7.60 33.92	Peak
5 11490.00 63.14 -10.86 74.00 48.57 40.01 9.77 35.21 Pe	3 5725.00	0 73.81 -4.39 78.20	58.23 31.91 7.59 33.92	Peak
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicab				Averag
	5 11490.00	0 63.14 -10.86 74.00	48.57 40.01 9.77 35.21	Peak
	e 1: ">20dB" means spur	rious emission levels that	exceed the level of 20 dB be	low the applicable lim
$1000 \simeq$. The mound pointing Found spundus emissions (no spundus emissions were deleted.)				
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)				/
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as				field strength as meas
with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reporte				



Modulation Mode	11a			Tes	t Freq. (MHz)		5785		
N _{TX}	1			Pola	rization			Н		
90 Level (dBu	//m)								Date: 201	4-08-21
81.0										
72.0								F F	CC PART	15E_B4
63.0		6								
54.0		-						FCC	PART15	e (AVG)
45.0								_		
36.0										
27.0										
18.0										
9.0										
⁰ 1000 4000	6000.8000.	12000.	16000.	20000		0. 28	000. 3	2000.	36000.	40000
				Frequenc						
_		0ver			Antenna -				T/Pos	
F	req Level	. Limit	Line	Level	Factor	Loss	Factor			Remark
	Hz dBuV/n	ı dB	dBuV/m	dBuW	dB/m	dB	dB		dog	
	5.00 58.99		-	53.41			33.92	Cm	deg	Peak
	5.00 61.18			55.60	31.91		33.92			Peak
	0.00 58.88			53.26	32.09		33.96			Peak
	0.00 58.46						33.97			Peak
5 1157	0.00 49.56	-4.44	54.00	35.07	39.85	9.86	35.22			Averag
6 1157	0.00 62.20	-11.80	74.00	47.71	39.85	9.86	35.22			Peak
Note 1: ">20dB" means Note 2: "N/F" means No Note 3: Measurement ro Note 4: For restricted ba	thing Found ceive anter	l spuriou: na polari	s emissi zation: l	ons (No H (Hori:	o spuriou zontal), \	is emis / (Verti	sions w cal)	ere de	tected.))



Modulation Mode	•	11a			Tes	t Freq. ((MHz)		5785		
N _{TX}		1			Pola	arizatio	n		V		
90 Lev	el (dBuV/m)									Date: 201	4-08-21
81.0											
72.0	╟╖╻┍╧┲╌╢╷┤									CC PART	15E B4
63.0											
54.0	ī		-						FC	PART15	e (AVG)
45.0											
36.0											
27.0											
18.0											
9.0											
0 <mark></mark>	0 4000.600	0.8000.	12000.	16000.	20000	. 2400	0. 28	000. :	32000.	36000.	40000
					Frequenc	y (MHz)					
			0ver	Limit	Read	Antenna	a Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	•		Remark
	MHz	dBuV/m		-	dBuV	dB/m	dB	dB	cm	deg	
1		0 58.04						33.92			Peak
2	5725.0		-19.90					33.92			Peak
3		0 58.28						33.96			Peak
4		0 58.09						33.97			Peak
5		0 51.17 0 63.15				39.85		35.22			Average Peak
0	11570.0	6 05.15	-10.05	74.00	40.00	39.03	9.00	35.22			геак
Note 1: ">20dB" m	neans sn	urious em	ission la	evels th	at excee	d the le	vel of 2	0 dB be	low the	annlic	able lim
Note 2: "N/F" mea											
Note 3: Measurem											,
Note 4: For restric									field st	renath :	as meas
with the P											



Modulation M	od	e		11	а					Tes	t Fr	eq. (MHz)		5825		
N _{TX}				1						Pola	ariz	ation			Н		
90	Lev	el (dE	BuV/m)												Date: 201	4-08-21
81.0																	
72.0			TF								┓┢				FCC	PART15E	_B4-74
63.0						- 5					_						
54.0			- 1												FC	C PART15	E (AVG)
45.0																	
36.0																	
27.0																	
18.0																	
9.0																	
	100	0 40	00.60	00.80	000.	12	000.	160)00. F	20000 Frequenc		2400 Hz)	0. 28	000.	32000.	36000.	40000
						0	ver	Lir					Cable	Pream	n A/Po	s T/Pos	
			Fre	q	Leve								Loss			.,	Remark
1		E (MHz		BuV/i		dB			dBuV 66.37		B/m	dB	dB	Cm		Peak
1					52.5					46.95				33.96 33.97			-
3										62.47				33.97			Ŭ
- 4					50.5					36.16				35.24			Average
5										47.30				35.24			Peak
Note 1: ">20dE	}" n	near	ns er	ouric		niss	ion la	avela	tha	texce	th he	ne lev	/el of 2	0 dR h	elow th	e annlic	ahle lim
Note 2: "N/F" r																	
Note 3: Measu																	,
Note 4: For res															field s	trenath a	as meas
with th	e P	eak	-Det	ecto	r mee	ets t	he A۱	/-Lim	nit so	o that t	he A	۹V lev	/el doe	s not n	eed to	be repo	rted in



Image Image <th< th=""><th>Modulation</th><th>Мо</th><th>de</th><th></th><th>11</th><th>а</th><th></th><th></th><th></th><th></th><th>Tes</th><th>st Fi</th><th>req.</th><th>(M⊦</th><th>łz)</th><th></th><th>5</th><th>825</th><th></th><th></th></th<>	Modulation	Мо	de		11	а					Tes	st Fi	req.	(M⊦	łz)		5	825		
81.0 72.0 FCC PARTIBE_84.74 63.0 5 63.0 54.0 2 63.0 72.0 70.0 70.0 18.0 70.0 70.0 9.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 18.0 70.0 70.0 19.0 1000.0 20000.0 28000.0 36000.0 10.0 1000.0 20000.0 28000.0 36000.0 40000 Freq Limit Line Level <th>N_{TX}</th> <th></th> <th></th> <th></th> <th>1</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Pol</th> <th>ariz</th> <th>atio</th> <th>n</th> <th></th> <th></th> <th>V</th> <th>,</th> <th></th> <th></th>	N _{TX}				1						Pol	ariz	atio	n			V	,		
81.0 72.0 FCC PARTIBE_84-74 63.0 5 63.0 54.0 2 63.0 77.0 70.0 70.0 10.0 2 70.0 10.0 2 70.0 10.0 2 70.0 10.0 2 70.0 10.0 10.0 20000.0 24000.0 28000.0 36000.0 40000 10.0 1000 4000.0 1000.0 20000.0 24000.0 28000.0 36000.0 40000 Freq Level Limit Read Antenna Cable Preamp A/Pos T/Pos MHz dBuV/m dB dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m 33.96																				
81.0 72.0 FCC PART \$E=84.74 63.0 5 63.0 54.0 70.0 72.0 70.0 72.0 70.0 72.0 70.0 72.0 70.0 72.0 70.0 72.0 70.0 72.0 70.0 72.0 70.0 72.0 70.0 72.0 70.0 72.0 70.0 70.0 <t< th=""><th></th><th>90</th><th>evel (d</th><th>BuV/m</th><th>)</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>Date: 201</th><th>4-08-21</th></t<>		90	evel (d	BuV/m)														Date: 201	4-08-21
72.0 1 1 5 1	1																			
63.0 5 63.0 FCC PART15E (AVG) 54.0 65.0 64.0 64.0 64.0 36.0 7.0 7.0 7.0 7.0 18.0 9.0 7.0 7.0 7.0 1000 4000.6000.8000. 12000. 16000. 20000. 24000. 28000. 32000. 36000. 40000 Freq Level Limit Line Level Factor Loss Factor MHz dBuV/m dB dBuV/m dBv dB/m dB dB cm deg 1 5850.00 69.70 -8.50 78.20 64.08 32.09 7.49 33.96 Peak 2 5860.00 50.07 -3.93 54.00 44.45 32.10 7.49 33.97 Peak 3 5860.00 50.88 -3.12 54.00 36.49 39.67 9.96 35.24 Average								╞┑╻		а г		_						FCC		R4 74
54.0 2 4 4 54.0 FCC PARTISE (AVG) 45.0 36.0 36.0 4				1 1 3			5											100	FAILT PL	_04-14
45.0 36.0 40000 Frequency (MHz) 36.0 36000. 40000 36.0 40000 Frequency (MHz) 36.0 36000. 40000 36.0 40000 Frequency (MHz) 36.0 36000. 40000 36.0 40000 36.0 36.0 40000 36.0 36.0 40000 36.0 <td></td> <td>FCO</td> <td>C PART15</td> <td>E (AVG)</td>																		FCO	C PART15	E (AVG)
36.0 27.0 28.00 28.00 36.00 40000 20.00 28.00 36.00 40.00 28.00 28.00 7.49<				f																
27.0 18.0 1 </td <td></td>																				
18.0 9.0																				
9.0 9.0 0 1000 4000.6000.8000. 12000. 16000. 20000. 24000. 28000. 32000. 36000. 40000 Frequency (MHz) 0ver Limit Read Antenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 5850.00 69.70 -8.50 78.20 64.08 32.09 7.49 33.96 Peak 2 5860.00 50.07 -3.93 54.00 44.45 32.10 7.49 33.97 Average 3 5860.00 64.93 -9.07 74.00 59.31 32.10 7.49 33.97 Peak 4 11650.00 50.88 -3.12 54.00 36.49 39.67 9.96 35.24 Average												\neg								
0 1000 4000.6000.8000. 12000. 12000. 12000. 16000. 20000. 24000. 2800. 28000.	1	18.0	-																	
Frequency (MHz) Over Limit Read Antenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dBuV dB/m dB cm deg 1 5850.00 69.70 -8.50 78.20 64.08 32.09 7.49 33.96 Peak 2 5860.00 50.07 -3.93 54.00 44.45 32.10 7.49 33.97 Average 3 5860.00 64.93 -9.07 74.00 59.31 32.10 7.49 33.97 Peak 4 11650.00 50.88 -3.12 54.00 36.49 39.67 9.96 35.24 Average		9.0				-														
Frequency (MHz) Over Limit Read Antenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dBuV dB/m dB cm deg 1 5850.00 69.70 -8.50 78.20 64.08 32.09 7.49 33.96 Peak 2 5860.00 50.07 -3.93 54.00 44.45 32.10 7.49 33.97 Average 3 5860.00 64.93 -9.07 74.00 59.31 32.10 7.49 33.97 Peak 4 11650.00 50.88 -3.12 54.00 36.49 39.67 9.96 35.24 Average		0 10	00.40	00 60	00.94		12	000	160	000	2000	0	240	00	29		320	000	36000	40000
Freq Level Limit Line Level Factor Remark MHz dBuV/m dB dBuV/m dBuV/m dBuV dB dB cm deg 1 5850.00 69.70 -8.50 78.20 64.08 32.09 7.49 33.96 Peak 2 5860.00 50.07 -3.93 54.00 44.45 32.10 7.49 33.97 Average 3 5860.00 64.93 -9.07 74.00 59.31 32.10 7.49 33.97 Peak 4 11650.00 50.88 -3.12 54.00 36.49 39.67 9.96 35.24 Average			/00 40	00.00	00.00		12	000.	100					00.	200		J20		50000.	40000
Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV/m dBuV dB/m dB dB cm deg 1 5850.00 69.70 -8.50 78.20 64.08 32.09 7.49 33.96 Peak 2 5860.00 50.07 -3.93 54.00 44.45 32.10 7.49 33.97 Average 3 5860.00 64.93 -9.07 74.00 59.31 32.10 7.49 33.97 Peak 4 11650.00 50.88 -3.12 54.00 36.49 39.67 9.96 35.24 Average							0	ver	Lir	nit	Read	Δn	tenn	a C	ahle	Pream	in Δ	Pos	T/Pos	
MHz dBuV/m dB dBuV/m dBuV/m dBuV dB/m dB dB cm deg 1 5850.00 69.70 -8.50 78.20 64.08 32.09 7.49 33.96 Peak 2 5860.00 50.07 -3.93 54.00 44.45 32.10 7.49 33.97 Average 3 5860.00 64.93 -9.07 74.00 59.31 32.10 7.49 33.97 Peak 4 11650.00 50.88 -3.12 54.00 36.49 39.67 9.96 35.24 Average				Fre	a	Leve												,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1/103	Remark
1 5850.00 69.70 -8.50 78.20 64.08 32.09 7.49 33.96 Peak 2 5860.00 50.07 -3.93 54.00 44.45 32.10 7.49 33.97 Average 3 5860.00 64.93 -9.07 74.00 59.31 32.10 7.49 33.97 Peak 4 11650.00 50.88 -3.12 54.00 36.49 39.67 9.96 35.24 Average																				
1 5850.00 69.70 -8.50 78.20 64.08 32.09 7.49 33.96 Peak 2 5860.00 50.07 -3.93 54.00 44.45 32.10 7.49 33.97 Average 3 5860.00 64.93 -9.07 74.00 59.31 32.10 7.49 33.97 Peak 4 11650.00 50.88 -3.12 54.00 36.49 39.67 9.96 35.24 Average				MHz	c	lBuV/ı	n	dB	dBu\	V/m	dBuV	d	B/m		dB	dB		cm	deg	
3 5860.00 64.93 -9.07 74.00 59.31 32.10 7.49 33.97 Peak 4 11650.00 50.88 -3.12 54.00 36.49 39.67 9.96 35.24 Averag		1	5	850.				8.50					2.09		7.49				-	Peak
4 11650.00 50.88 -3.12 54.00 36.49 39.67 9.96 35.24 Averag		2	5	860.	00	50.0	7 -	3.93	54	.00	44.45	3	2.10		7.49	33.97	,			Average
-		3	5	860.	00	64.93	3 -	9.07	74	.00	59.31	. 3	2.10		7.49	33.97	,			Peak
5 11650.00 63.17 -10.83 74.00 48.78 39.67 9.96 35.24 Peak		4	11	650.	00	50.8	8 -	3.12	54	.00	36.49	3	9.67	9	9.96	35.24	Ļ			Average
		5	11	650.	00	63.1	7 -1	0.83	74.	.00	48.78	3	9.67	9	9.96	35.24	Ļ			Peak
	Note 1: ">20)dB"	mea	ns sp	ouric	ous er	niss	ion le	evels	tha	t exce	ed t	he le	evel	of 20) dB b	elo	w the	e applic	able lim
lote 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable lim																				
																			,	
lote 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)																	(fie	ld st	rength a	as meas
lote 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) lote 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)																				
		ition.																		



Modulation Mode		VHT20			Test	Freq. ((MHz)	5745				
N _{TX}		1			Pola	rizatio	n		Н			
90 Leve	l (dBuV/m)									Date: 20	14-08-21	
81.0	2											
72.0										CC PART	15E_B4	
63.0			4									
54.0			3						FC	C PART15	E (AVG)	
45.0												
36.0												
27.0												
18.0												
9.0												
01000	4000.600	0.8000.	12000.	16000.	20000 Frequenc		0. 28	000.	32000.	36000	40000	
			0ver				a Cable	Proom		T/Pos		
	Freq	Level	Limit				Loss			5 1/103	Remark	
						10 (
1	MHz 5715 0	dBuV/m 0 66.54		dBuV/m				dB 33.92		deg	Peak	
2		0 76.94						33.92			- .	
3		0 49.47						35.21				
4	11490.0	0 60.59	-13.41	74.00	46.02	40.01	9.77	35.21			Peak	
Note 1: ">20dB" m Note 2: "N/F" mear Note 3: Measurem Note 4: For restrict with the Pe addition.	ns Nothir ent recei	ig Found ve anteni s, the pea	spuriou na polar ak meas	s emissi ization: l surement	ons (No H (Horiz : is fully	o spurio zontal), sufficie	us emis V (Verti nt, as th	sions w cal) ie max	vere de field st	etected.) as measu	

3.5.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT20



Modulation Mod	VHT20			Te	st Freq	. (MHz)	5745	5745				
Ντχ		1			Ро	larizati	on		V			
90 <mark>Le</mark>	vel (dBuV/m))								Date: 201	4-08-21	
81.0												
72.0									- T F	CC PART	15E B4	
63.0			4									
54.0									FC	C PART15	e (AVG)	
45.0												
36.0												
27.0												
18.0												
9.0												
0 <mark>10</mark>	00 4000.600	0.8000.	12000.	160				28000.	32000.	36000.	40000	
					Frequen	cy (MHz)						
			0ver		nit Read					T/Pos		
	Free	l Level	Limi	t Lin	e Leve	l Facto	or Los	s Facto	or		Remark	
										·		
	MHz	dBuV/m			//m dBuV					deg		
1					20 58.6			60 33.92				
2					20 67.3	7 31.5 8 40.6		59 33.92			Peak	
4		0 50.75			00 47.8			77 35.21 77 35.21			Average Peak	
4	11450.0	0 02.41	-11.5	, ,4.	47.0	+ 40.0	<u>, , , , , , , , , , , , , , , , , , , </u>	//)).2]			reak	
Note 1: ">20dB" ı												
Note 2: "N/F" me	ans Nothi	ng Found	spurio	us em	issions (N	lo spur	ious en	nissions	were de	tected.))	
Note 3: Measure	ment rece	ive anter	na pola	arizatio	on: H (Hò	rizontal), V (Ve	rtical)		,		
Note 4: For restri	cted band	ls. the pe	ak mea	surem	nent is full	v suffic	ient. as	the max	k field st	rength a	as meas	
	Peak-Dete										rted in	



Modulation Mode		VHT20			Tes	t Freq. (I	MHz)		5785		
N _{TX}		1			Pola	arization			Н		
90 Level	(dBuV/m)									Date: 201	4-08-21
81.0											
72.0	╽┫┍╧┲╾╢┥┝								F F	CC PART	ISE B4
63.0	2		6								
54.0	ĺ		-						FCC	CPART15	e (AVG)
45.0			1								
36.0											
27.0											
18.0											
9.0											
01000	4000.600	0.8000.	12000.	16000.	20000	. 2400	0. 28	000. :	32000.	36000.	40000
				I	Frequenc	y (MHz)					
			0ver		Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	•		Remark
	MHz	dBuV/m	dB	dBuV/m		dB/m	dB	dB	cm	deg	
1		0 59.47						33.92			
2		0 62.04			56.46 53.75			33.92			Peak
4		0 59.37 0 58.72			53.10			33.96 33.97			Peak Peak
		0 49.41				39.85		35.22			Average
		0 61.98						35.22			Peak
										••	
Note 1: ">20dB" me											
Note 2: "N/F" mean									ere de	tected.))
Note 3: Measureme									e		
Note 4: For restricte											
with the Pe addition.	ak-Dete	ctor meet	s the AV	/-Limit se	o that ti	ne AV lev	vel does	s not ne	ea to t	be repo	rtea in



Modulation Mo	de		VHT2	0				Tes	t Fr	eq. (I	MHz)		5785		
N _{TX}			1					Pol	ariza	ation			V		
														D (00)	
90	evel (dB	uV/m)												Date: 201	4-08-21
81.0				_					_						
72.0	▆▋▋▋▛▋₣╪	┲╥┼		ו⊢ ד	<u></u>				٦F				F F	CC PART	15E_B4
63.0		- 2			6										
54.0		Ĩ			5								FC	C PART15	e (AVG)
45.0															
36.0															
27.0															
18.0															
9.0															
0 ¹	000 400	0.600	0.8000.	1	2000.	160	000.	2000).	24000). 28	000.	32000.	36000.	40000
							1	Frequence	y (M	Hz)					
					0ver	Li	mit	Read	Ant	tenna	Cable	Pream	p A/Pos	T/Pos	
		Freq	Lev	el	Limit	Li	ne	Level	Fac	tor	Loss	Facto	r		Remark
	-														
		MHz	dBuV		dB		-	dBuV		3/m	dB	dB	cm	deg	
1								52.60		1.90		33.92			Peak
2		/25.0			19.64			52.98		1.91		33.92			Peak
3			0 58.					53.06		2.09		33.96			Peak
4			0 58.					52.58		2.10		33.97			Peak
5			0 50.					36.38				35.22			Average
6	115	5/0.0	0 62.	94 -	11.06	/4	.00	48.45	39	9.85	9.86	35.22			Peak
Note 1: ">20dB'	' mean	is spi	urious	emis	sion le	evels	s tha	t excee	ed th	ne lev	el of 2	0 dB b	elow the	e applic	able lim
Note 2: "N/F" m															
Note 3: Measur														,	
Note 4: For rest													field st	rength a	as meas
with the															
addition															



Modulation Mode		VHT20				Test	Freq.	(MHz)		5825		
N _{TX}		1				Pola	rizatio	n		Н		
											D-4- 000	
90 Level ((dBuV/m)										Date: 201	4-08-21
81.0	1											
72.0	▋▎▎▁▁▌						┶┝┶┎			FCC	PART15E	_B4-74
63.0			5	<u> </u>								
54.0	- 2		4							FC	CPART15	e (AVG)
45.0												
36.0												
27.0												
18.0												
9.0												
01000 /	4000.600	0.8000.	12000.	160	000.	20000		00. 28	000.	32000.	36000.	40000
						requenc						
			0ver					na Cable			T/Pos	
	Freq	Level	Limit	Li	ne			Loss	Factor	•		Remark
		10.11/										
1	MHz	dBuV/m				dBuV			dB		deg	Deals
1 2		0 73.84 0 52.89							33.96 33.97			Peak Average
3		0 69.96							33.97			Peak
		0 50.44				36.05			35.24			Average
		0 61.60							35.24			Peak
Noto 1. ". 00dD"	000.05		ionian '	0.101-	. +		ا ما الم		이 쉬다 눈 -			
Note 1: ">20dB" me												
Note 2: "N/F" means										vere de	lected.))
Note 3: Measureme										field of	ronath	
						IS HIMV						
Note 4: For restricte with the Pea												



Modulation M	ode	;		٧H	HT20					Tes	t Fre	eq. (I	MHz)		5825		
N _{TX}				1						Pola	ariza	tion			V		
																Data: 204	4 00 24
90	Lev	el (dB	uV/m)												Date: 201	4-08-21
81.0	\vdash										_						
72.0			TI			F,		LF			┶╴	υL			FCC	PART15E	_B4-74
63.0	\vdash					5					_						
54.0			-2								_				FC	CPART15	E (AVG)
45.0															_		
36.0															_		
27.0															_		
18.0																	
9.0																	
	100	0 400	00.600	0.80	000.	12	000.	160)00.	20000 Frequenc		24000). 28	000. 3	32000.	36000.	40000
																T (D	
			F	_			ver							Preamp		I/Pos	Demente
			Free	4	Leve	L L	1m10	LI	ne	rever	гас	tor	LOSS	Factor			Remark
		-	MHz	 d	IBuV/I	 n	dB	dBul	//m	dBuV	dB	/m	dB	dB	cm	deg	
1		58								62.95		.09		33.96			Peak
2					50.3					44.73		.10		33.97			Averag
3					65.6					60.05		.10		33.97			Peak
4	Ļ	116	550.0	90	50.78		3.22			36.39		.67		35.24			Averag
5		116	550.0	90	62.8	8 -1	1.12	74	.00	48.49	39	.67	9.96	35.24			Peak
Note 1: ">20dE	3" m	near	ns sp	urio	ous er	niss	ion le	evels	tha	t excee	d th	e lev	el of 20) dB be	low the	e applic	able lim
Note 2: "N/F" r																	
Note 3: Measu																	
Note 4: For res															field st	rength a	as meas
														s not ne			
		oun	2010								1071		01 0000			50 i Opo	



Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea	Modulation M	ode	•		V	/HT40)				Tes	st F	req.	(Mł	łz)		5	5755						
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable link Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable link	N _{TX}				1						Pol	ariz	zatio	n			ŀ	4						
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable link Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable link																								
720 100 100 5 100 100 100 100 1000<	90	Leve	el (dB	BuV/n	n)														Date:	201	4-08-2	20		
63.0 63.0	81.0						_														_	_		
63.0 1 5 1	72.0			TIÉ	2		⊢F	<u> </u>	I F	h 6							-	FCC	PART	1 5 E	B4-74	1		
34.0 46.0				•••			+-	5														-		
36.0 27.0 10.0 16000. 2000. 2000. 2000. 2000. 32000. 36000. 4000 18.0 9.0 1000 4000.6000.8000. 1200. 16000. 20000. 20000. 28000. 32000. 36000. 4000 Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dB v dB/m dB dB cm deg 1 5715.00 52.68 -1.32 54.00 47.10 31.90 7.60 33.92 Avera 2 5715.00 69.58 -4.42 74.00 64.00 31.90 7.60 33.92 Peak 3 5725.00 71.34 -6.86 78.20 65.76 31.91 7.59 33.92 Avera 5 11510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 Avera 5 11510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 Peak Note 1: ">>20dB" means spurious emission levels that exceed the level of 20 dB below the applicable line to the too to the too to the too to the too to too too too too too too too too	54.0						-	4										FC	C PAR	T15	E (AVG)		
27.0 18.0 2000. 2000. 24000. 22000. 32000. 36000. 4000 0 0 0000.000.8000. 12000. 16000. 20000. 24000. 22000. 32000. 36000. 4000 Freq Level Limit Line Level Factor Loss Factor Remar MHz dBuV/m dB dB cm deg 1 5715.00 52.68 -1.32 54.00 47.10 31.90 7.60 33.92 Avera 2 5715.00 69.58 -4.42 74.00 64.00 31.90 7.60 33.92 Avera 3 5725.00 71.34 -6.86 78.20 65.76 31.91 7.59 33.92 Avera 5 11510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 Avera 5 11510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 Peak <td>45.0</td> <td></td> <td><u> </u></td> <td></td> <td>_</td>	45.0																			<u> </u>		_		
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable lin to 15.29 74.00 44.16 39.98 9.78 35.21 Peak	36.0						-														_	_		
9.0 0 1000 4000.6000.8000. 12000. 16000. 20000. 28000. 32000. 36000. 4000 Frequency (MHz) Over Limit Read Antenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Reman MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 5715.00 52.68 -1.32 54.00 47.10 31.90 7.60 33.92 Avera 2 5715.00 69.58 -4.42 74.00 64.00 31.90 7.60 33.92 Peak 3 5725.00 71.34 -6.86 78.20 65.76 31.91 7.59 33.92 Peak 4 11510.00 48.53 -5.47 54.00 33.98 9.78 35.21 Avera 5 11510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 Peak Note 1: ">>20dB" means spurious emission levels that exceed the level of 20 dB below the appl	27.0						-														_	_		
0 1000 4000.6000.8000. 12000. 1600. 2000. 24000. 28000. 32000. 36000. 4000 Freq Level Limit Read Antenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remar MHz dBuV/m dB dBuV/m dBu dBm dB dB Construction deg 1 5715.00 52.68 -1.32 54.00 47.10 31.90 7.60 33.92 Avera 2 5715.00 69.58 -4.42 74.00 64.00 31.90 7.60 33.92 Avera 3 5725.00 71.34 -6.86 78.20 65.76 31.91 7.59 33.92 Avera 5 11510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 Peak Note 1: "> ">20dB" means spurious emission levels that excceed the level of 20 dB below the applicable lin	18.0						+													<u> </u>	_	_		
Frequency (MHz) Over Limit Read Antenna Cable Preamp A/Pos T/Pos MHz dBuV/m dB dBuV/m Colspan="2">Colspan="2">Colspan="2">Colspan="2" Reman MHz dBuV/m dB dB dB Colspan="2" Reman MHz dBuV/m dB dB Colspan="2" Reman 1 5715.00 69.58 -4.42 74.00 45.00 7.60 33.92 Peak 3 5725.00 7.13 -6.66 78.20 65.71 Peak 1 1510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 <td <="" colspan="2" td=""><td>9.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>_</td><td>-</td></td>	<td>9.0</td> <td></td> <td>_</td> <td>-</td>		9.0																				_	-
Frequency (MHz) Over Limit Read Antenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Reman MHz dBuV/m dB dBuV/m dB dB UV/m dB dB UV/m dB dB cm deg 1 5715.00 52.68 -1.32 54.00 47.10 31.90 7.60 33.92 Avera 2 5715.00 69.58 -4.42 74.00 64.00 31.90 7.60 33.92 Peak 3 5725.00 71.34 -6.86 78.20 65.76 31.91 7.59 33.92 Peak 4 11510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 Peak Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable lin Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) <	0	1000	0 400	00.60	000.8	8000.	1	2000.	16	000.	2000	0.	240	00.	28	000.	32	000.	36	000.	400	000		
Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV/m dBuV										1														
MHz dBuV/m dB dBuV/m dB/m dB dB cm deg 1 5715.00 52.68 -1.32 54.00 47.10 31.90 7.60 33.92 Avera 2 5715.00 69.58 -4.42 74.00 64.00 31.90 7.60 33.92 Peak 3 5725.00 71.34 -6.86 78.20 65.76 31.91 7.59 33.92 Peak 4 11510.00 48.53 -5.47 54.00 33.98 39.98 9.78 35.21 Avera 5 11510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 Peak Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable lin Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measurement is fully sufficient. The max field strength as measurement is fully sufficient.								0ver	Li	mit	Read	An	tenn	na C	able	Prea	mp /	A/Pos	i T/F	os				
1 5715.00 52.68 -1.32 54.00 47.10 31.90 7.60 33.92 Avera 2 5715.00 69.58 -4.42 74.00 64.00 31.90 7.60 33.92 Peak 3 5725.00 71.34 -6.86 78.20 65.76 31.91 7.59 33.92 Peak 4 11510.00 48.53 -5.47 54.00 33.98 39.98 9.78 35.21 Avera 5 11510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 Peak Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable lin Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measurement is fully sufficient, as the max field strength as measurement is fully sufficient, as the max field strength as measurement is fully sufficient, as the max field strength as measurement is fully s				Fre	pe	Leve	1	Limit	Li	ne	Leve]	. Fa	ctor	۰ L	oss	Facto	or				Rema	rk		
1 5715.00 52.68 -1.32 54.00 47.10 31.90 7.60 33.92 Avera 2 5715.00 69.58 -4.42 74.00 64.00 31.90 7.60 33.92 Peak 3 5725.00 71.34 -6.86 78.20 65.76 31.91 7.59 33.92 Peak 4 11510.00 48.53 -5.47 54.00 33.98 39.98 9.78 35.21 Avera 5 11510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 Peak Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable lin Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measurement is fully sufficient, as the max field strength as measurement is fully sufficient, as the max field strength as measurement is fully sufficient, as the max field strength as measurement is fully sufficient, as the m			-	 мц-		dBull	 /m		d Dui		dBull													
2 5715.00 69.58 -4.42 74.00 64.00 31.90 7.60 33.92 Peak 3 5725.00 71.34 -6.86 78.20 65.76 31.91 7.59 33.92 Peak 4 11510.00 48.53 -5.47 54.00 33.98 39.98 9.78 35.21 Avera 5 11510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 Peak	1		57							-											Aver	age		
3 5725.00 71.34 -6.86 78.20 65.76 31.91 7.59 33.92 Peak 4 11510.00 48.53 -5.47 54.00 33.98 39.98 9.78 35.21 Avera 5 11510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 Peak Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable lin Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mean																						· ·		
5 11510.00 58.71 -15.29 74.00 44.16 39.98 9.78 35.21 Peak Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable lin Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea	3		57	725.	00	71.3	34	-6.86	78	.20	65.76	3	1.91								Peak	:		
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable li Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																						_		
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea	5		115	510.	.00	58.7	1 -	15.29	74	.00	44.16	3	9.98	8	9.78	35.2	1				Peak			
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																								
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																								
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																								
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																								
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																								
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																								
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																								
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																								
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																								
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																								
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																								
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																								
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea								· ·																
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																						limit.		
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea																	we	re de	tect	ed.)				
																	v fir	JA ~*	rona	uth r		22011		
with the Peak-liptector meats the /\v-limit so that the /\v/lipvel does not need to be reported in																								
with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.			ak-	-Del	lect	or me	eis	uie Al	/-LI(int SC	Junati	ne.	r v ie	evel	uues		nee	u 10		sho	ieu	11		

3.5.9 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT40



Modulation Mo	de		VH	IT40					Tes	st Fi	req.	(MH	z)		5	755		
N _{TX}			1						Po	ariz	atio	n			V	/		
90 ¹	evel (d	BuV/m))														Date: 201	4-08-20
81.0																		
72.0		12				╞┑╻		1 f		-	٦л				П	FCC	PART 16E	_B4-74
63.0		•••			5													
54.0		1														FCC	PART15	e (AVG)
45.0					_1													
36.0																		
27.0																		
18.0																		
9.0																		
0,	1000 40	00.600	0.80	00.	12	000.	160)00.	2000 Frequen		240	00.	280	000.	320	000.	36000.	40000
					_									_				
		-		Level		ver										A/Pos	T/Pos	Description
		Free	4	rever	L	1 m 1t	LI	ne	Level	. Fa	ctor	LC)SS	Facto	r			Remark
		MHz	d	BuV/m		dB	dBu	//m	dBuV	d	B/m		IB	dB		cm	deg	
1	5								46.10		1.90			33.92			-	Averag
2	5	715.0	90	69.40	-	4.60	74.	.00	63.82					33.92				Peak
3	5	725.0	90	69.69	-	8.51	78	. 20	64.11	. 3	1.91	7	.59	33.92				Peak
4	11	510.0	90	47.40	-	6.60	54	.00	32.85	5 3	9.98	9	.78	35.21				Averag
5	11	510.0	90	59.69	-1	4.31	74	.00	45.14	3	9.98	9	9.78	35.21				Peak
Note 1: ">20dB	' mea	ns sp	urio	us en	niss	ion le	evels	tha	t exce	ed t	he le	evel	of 20) dB b	elo	w the	e applic	able lim
Note 2: "N/F" m																		
Note 3: Measur																-	,	
Note 4: For rest															fie	ld sti	rength a	as meas
with the																		
additior																	-	



Modulation N	Nod	е		٧H	IT40					Tes	t Fr	eq. (l	MHz)		5795			
N _{TX}				1						Pol	ariza	ation			Н			
																Data: 001	1 00 00	
ç	90	vel (dE	BuV/m)				1									Date: 201	4-08-20	
81	.0—																	
							<u>+</u> ∎-		h f		╕┢					CC PART	15E B4	
63																		
54						4									FC	PART15	e (AVG)	
45						3												
36																		
27																		
18	.0																	
9	.0																	
	0	00 400	00.600	0.80	000	12	000.	160	000.	2000).	2400	0. 29	000. :	32000.	36000.	4000	0
										Frequence					2000	00000.	1000	-
						C	ver	Lir	mit	Read	Ant	tenna	Cable	Preamp	A/Pos	T/Pos		
			Fred	1	Leve								Loss			.,	Remar	k
			MHz	d	BuV/	m	dB	dBu\	V/m	dBuV	dE	3/m	dB	dB	cm	deg		
	1	58	850.0	00	71.5	2 -	6.68	78	.20	65.90	32	2.09	7.49	33.96			Peak	
	2	- 58	860.0)0	67.2	0 -	1.00	68	.20	61.58	- 32	2.10	7.49	33.97				_
	3									33.83				35.23			Avera	ge
	4	115	590.0	00	58.2	7 -1	5.73	74.	.00	43.82	- 39	9.80	9.88	35.23			Peak	
Noto 1. "> 20d																e applic		mit
	mea	ans N	Vothi	ng F	oun	d sp	uriou	s en				ouriou			/ere de	tected.))	
Note 2: "N/F"																		
Note 2: "N/F" Note 3: Meas	urer	nent	rece															
Note 2: "N/F" Note 3: Meas Note 4: For re	urer estri	nent cted	rece band	ls, t	he pe	eak	meas	suren	nent	is fully	/ suf	ficier	nt, as th	e max				
Note 2: "N/F" Note 3: Meas Note 4: For re	urer estri he F	nent cted	rece band	ls, t	he pe	eak	meas	suren	nent	is fully	/ suf	ficier	nt, as th	e max		rength a		



Modulation Mo	ode		V۲	T40					Tes	t Fr	eq. (MHz)		5795		
N _{TX}			1						Pol	ariz	ation	1		V		
															Data: 204	4 09 20
90	Level (d	BuV/m))												Date: 201	4-08-20
81.0	_															
72.0								1							CC PART	15E_B4
63.0					- 4					_						
54.0														FC	C PART15	e (AVG)
45.0					3											
36.0																
27.0																
18.0																
9.0																
0;	1000 40	00.600	0.80	00.	12	000.	160	00.	2000		2400	0. 28	000.	32000.	36000.	40000
									requent							
					-	ver									s T/Pos	
		Free	1	Leve]	L L	imit						Loss		r		Remark
			·													
		MHz		BuV/r					dBuV		B/m		dB			
1												7.49				Peak
2												7.49				Peak Average
4									45.30			9.88	35.23			Peak
4	11	550.0	0	JJ.7.) -1	4.25	/4.	.00	43.50	5		9.00	55.25			reak
Note 1: ">20dB	" mea	ns sn	urio		nise	ion la	avele	that	texce	tt he	ne lev	/el of ?	0 dR h	elow th	e annlic	able lim
Note 2: "N/F" m																
Note 3: Measur																,
Note 4: For rest														field e	trenath	as mees
															be repo	



Modulation M	ode	9	V	/HT80				Test	Fre	əq. (MHz)			5775			
N _{TX}			1					Pola	riza	atior	1			Н			
	Lau														Dato:	201/	1-08-20
90	Lev	el (dBuV/	m) 												Date.	201-	
81.0									_								
72.0		┉┉╼╖	2						Ŧ	υĹ				T F	CC PA	RT1	5E_B4
63.0			3		6												
54.0					Ť.				_					FC	: PAR	[15E	(AVG)
45.0					- I												
36.0																	
27.0				_													
18.0																	
9.0																	
U	100	0 4000.6	000.	8000.	12000.	1600		20000 requenc		2400 iz)	0. 28	000.	32	2000.	360	00.	40000
					0ver	Limi	t	Read	Ant	enna	Cable	Prea	mp	A/Pos	T/P	os	
		Fr	eq	Level	Limit						Loss						Remark
		MH		dBuV/m	dB			dBuV		/m	dB	dE		cm		eg	
1				67.18	-1.02			61.60		.90	7.60						Peak
2		5725		70.21 61.63	-7.99			64.63 56.01		.91 .09	7.59 7.49						Peak Peak
4				61.00				55.38		.10	7.49						Peak
5				48.32				33.82		.89	9.83						Average
6				56.95							9.83						Peak
Note 1: ">20dE	" n	boone e	nur		ission la	avole t	hat		d th		vel of 2		bol	ow the			able lim
Note 2: "N/F" m																	
Note 3: Measu			-		•			•	•								
Note 4: For res													ax fi	eld st	rena	th a	s meas
				or meet													
additio																r 01	



Modulation Mode	VHT80	1	Test Freq. (M	/IHz)	5775	
N _{TX}	1		Polarization		V	
					D-4 20	
90 Level (dBuV/n	n)				Date: 20	14-08-20
81.0						
72.0		▋▏▋▕て゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚゚			FCC PART	15E_B4
63.0						
54.0	0				FCC PART15	e (AVG)
45.0	5					
36.0						
27.0						
18.0						
9.0						
0 1000 4000.60	00.8000. 12000	16000. 2	20000. 24000). 28000. 3	2000. 36000	. 40000
		Freq	quency (MHz)			
	0ve	Limit Re	ad Antenna	Cable Preamp	A/Pos T/Pos	
Fre	q Level Limi			Loss Factor		Remark
MHz		-		dB dB	cm deg	
	00 65.89 -2.3			7.60 33.92		
	00 68.20 -10.0			7.59 33.92		Peak
	00 61.33 -16.8		5.71 32.09	7.49 33.96		Peak
	00 59.44 -8.7		3.82 32.10			Peak
	00 44.04 -9.9		9.54 39.89			Average
6 11550.	00 56.43 -17.5	67 74.00 41	1.93 39.89	9.83 35.22		Peak
Note 1: ">20dB" means s Note 2: "N/F" means Noth						
Note 3: Measurement rec Note 4: For restricted ban with the Peak-De	eive antenna po ds, the peak me	arization: H (asurement is	Horizontal), V fully sufficien	<pre>(Vertical) t, as the max f</pre>	ield strength	as meas



3.6 Frequency Stability

3.6.1 Frequency Stability Limit

Frequency Stability Limit	
UNII Devices	
In-band emission is maintained within the band of operation under all conditions of normal ope specified in the user's manual.	ration as
LE-LAN Devices	
⊠ N/A	
IEEE Std. 802.11n-2009	
The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band a ppm maximum for the 2.4 GHz band.	and ± 25

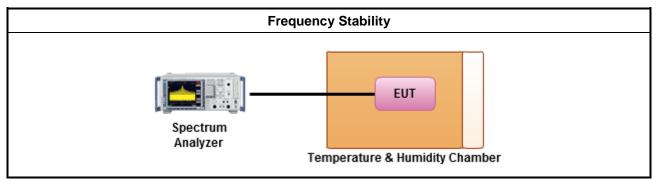
3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

	Test Method						
\square	Refer as ANSI C63.10, clause 6.8 for frequency stability tests						
	\boxtimes	Frequency stability with respect to ambient temperature					
	\boxtimes	Frequency stability when varying supply voltage					
\square	For	conducted measurement.					
	\boxtimes	For conducted measurements on devices with multiple transmit chains: Measurements need only to be performed on one of the active transmit chains (antenna outputs)					
		radiated measurement. The equipment to be measured and the test antenna shall be oriented to in the maximum emitted power level.					

3.6.4 Test Setup





Frequency Stability Result							
Мос	le	Frequency Stability (ppm)					
Condition	Freq. (MHz)	Test Frequency (MHz)	Frequency Stability (ppm)				
T _{20°C} Vmax 5785		5785.00208	0.36				
T _{20°C} Vmin	5785	5785.00828	1.43				
$T_{50^{\circ}C}Vnom$	5785	5785.00623	1.08				
$T_{40^\circ C}$ Vnom	5785	5785.00051	0.09				
T _{30°C} Vnom 5785		5785.01031	1.78				
$T_{20^{\circ}C}Vnom$	5785	5785.01365	2.36				
T _{10°C} Vnom	5785	5785.01076	1.86				
T _{0°C} Vnom 5785 T _{-10°C} Vnom 5785 T _{-20°C} Vnom 5785		5785.00440 5785.00821 5784.99630	0.76				
			1.42				
			-0.64				
T _{-30°C} Vnom	5785	5785.01694	2.93				
Limit (opm)	20					
Resi	ult	Complied					

3.6.5 Test Result of Frequency Stability



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	May 05, 2014	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02373	1GHz ~ 26.5GHz	Aug. 28, 2013	Radiation (03CH03-HY)
Spectrum	R&S	FSP40	100004	9kHz ~ 40GHz	Mar. 27, 2014	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30MHz ~ 1GHz	Sep. 21, 2013	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6741	1GHz ~ 18GHz	Jun. 11, 2014	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15GHz ~ 40GHz	Jan. 10, 2014	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Nov. 16, 2013	Radiation (03CH03-HY)
RF Cable-high	SUHNER	SUCOFLEX 106	03CH03-HY	1GHz ~ 40GHz	Dec. 11, 2013	Radiation (03CH03-HY)
Turn Table	EM Electronics	EM Electronics	060615	0 ~ 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	MF	MF-7802	MF780208179	1 ~ 4 m	N/A	Radiation (03CH03-HY)

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	EM	EM18G40G	060604	18GHz ~ 40GHz	Oct. 17.2013	Radiation (03CH03-HY)
Loop Antenna	TESEQ	HLA 6120	31244	9kHz ~ 30MHz	Dec. 02, 2012	Radiation (03CH03-HY)

Note: Calibration Interval of instruments listed above is two year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSV 40	101063	9KHz~40GHz	Feb. 17, 2014	Conducted (TH01-HY)
Spectrum Analyzer	Agilent	N9010A	MY53400091	9KHz~44GHz	Oct. 07, 2013	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-SP- SD	MAA1112-007	-20 ~ 100°C	Nov. 21, 2013	Conducted (TH01-HY)
Signal Generator	R&S	SMB100A	175727	10MHz ~ 40GHz	Jan. 07, 2014	Conducted (TH01-HY)
Power Sensor	Anritsu	MA2411B	1207366	300MHz ~ 40GHz	Oct. 24, 2013	Conducted (TH01-HY)
Power Meter	Anritsu	ML2495A	1241002	300MHz ~ 40GHz	Oct. 24, 2013	Conducted (TH01-HY)
AC Power Source	G.W	APS-9102	EL920581	AC 0V ~ 300V	Jul. 15, 2014	Conducted (TH01-HY)

Note: Calibration Interval of instruments listed above is one year.



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz ~ 2.75GHz	Mar. 26, 2014	Conduction (CO04-HY)
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	Jan. 21, 2014	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz ~ 30MHz	Apr. 21, 2014	Conduction (CO04-HY)
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832010012	9kHz ~ 30MHz	Oct. 30, 2013	Conduction (CO04-HY)
50 ohm terminal	N/A	N/A	CON-01-04	N/A	Feb. 25, 2014	Conduction (CO04-HY)

Note: Calibration Interval of instruments listed above is one year.