

# FCC C2PC Test Report

Equipment	:	R6100 WiFi Router
Brand Name	:	NETGEAR
Model No.	:	R6100
FCC ID	:	PY312400225
Standard	:	47 CFR FCC Part 15.407
Operating Band	:	5250 MHz – 5350 MHz 5470 MHz – 5725MHz
FCC Classification	:	NII
Applicant Manufacturer	:	NETGEAR, Inc. 350 East Plumeria Drive, San Jose, California 95134, USA

The product sample received on Apr. 19, 2013 and completely tested on Aug. 24, 2013. 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.

Approved and Reviewed by:

Gary Chang / Manager





## **Table of Contents**

1	GENERAL DESCRIPTION	5
1.1	Information	5
1.2	Accessories and Support Equipment	8
1.3	Testing Applied Standards	8
1.4	Testing Location Information	9
1.5	Measurement Uncertainty	9
2	TEST CONFIGURATION OF EUT	10
2.1	The Worst Case Modulation Configuration	10
2.2	The Worst Case Power Setting Parameter	
2.3	The Worst Case Measurement Configuration	
2.4	Test Setup Diagram	
3	TRANSMITTER TEST RESULT	14
3.1	AC Power-line Conducted Emissions	14
3.2	Emission Bandwidth	
3.3	RF Output Power	21
3.4	Peak Power Spectral Density	
3.5	Peak Excursion	
3.6	Transmitter Radiated Bandedge Emissions	
3.7	Transmitter Radiated Unwanted Emissions	
3.8	Frequency Stability	
4	TEST EQUIPMENT AND CALIBRATION DATA	127
APPE	ENDIX A. TEST PHOTOS	A1-A4



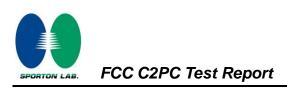
## Summary of Test Result

	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			Complied			
3.2	15.407(a)	Emission Bandwidth	Bandwidth [MHz] 20M:26.61 / 40M:51.25 / 80M: 102.96	Information only	Complied			
3.3	15.407(a)	RF Output Power (Maximum Conducted Output Power)	Power [dBm] 5250-5350MHz:23.65 5470-5725MHz:23.55	Power [dBm] 24	Complied			
3.4	15.407(a)	Peak Power Spectral Density	PPSD [dBm/MHz] 10.94	PPSD [dBm/MHz] 11	Complied			
3.5	15.407(a)	Peak Excursion	10.49 dB	13 dB	Complied			
3.6	15.407(b)	Transmitter Radiated Bandedge Emissions	Restricted Bands [dBuV/m at 3m]: 5350.39MHz 73.89 (Margin 0.11dB) - AV	Non-Restricted Bands: ≤ -27dBm (68.3dBuV/m@3m) Restricted Bands: FCC 15.209	Complied			
3.7	15.407(b)	Transmitter Radiated Unwanted Emissions	Restricted Bands [dBuV/m at 3m]: 375.24MHz 42.91 (Margin 3.09dB) – QP and 43.60MHz 36.91 (Margin 3.09dB) - QP	Non-Restricted Bands: ≤ -27dBm (68.3dBuV/m@3m) Restricted Bands: FCC 15.209	Complied			
3.8	15.407(g)	Frequency Stability	4.0132 ppm	Signal shall remain in-band	Complied			



## **Revision History**

Report No.	Version	Description	Issued Date
FR330625AN-C2A	Rev. 01	Initial issue of report	Oct. 01, 2013



### 1 General Description

### 1.1 Information

#### 1.1.1 RF General Information

	RF General Information							
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (Ν <sub>τx</sub> )	RF Output Power (dBm)	Co-location		
5250-5350	а	5260-5320	52-64 [4]	2	23.59	Yes		
5250-5350	n(HT20)	5260-5320	52-64 [4]	2	23.65	Yes		
5250-5350	n(HT40)	5270-5310	54-62 [2]	2	23.55	Yes		
5250-5350	ac(VHT20)	5260-5320	52-64 [4]	2	23.65	Yes		
5250-5350	ac(VHT40)	5270-5310	54-62 [2]	2	23.51	Yes		
5250-5350	ac(VHT80)	5290	58 [1]	2	15.19	Yes		

Note 1: RF output power specifies that Maximum Conducted 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.)

	RF General Information							
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (Ν <sub>TX</sub> )	RF Output Power (dBm)	Co-location		
5470-5725	а	5500-5700	100-140 [8]	2	23.54	Yes		
5470-5725	n(HT20)	5500-5700	100-140 [8]	2	23.55	Yes		
5470-5725	n(HT40)	5510-5670	102-134 [3]	2	23.52	Yes		
5470-5725	ac(VHT20)	5500-5700	100-140 [8]	2	23.50	Yes		
5470-5725	ac(VHT40)	5510-5670	102-134 [3]	2	23.54	Yes		
5470-5725	ac(VHT80)	5530	106 [1]	2	14.38	Yes		

Note 1: RF output power specifies that Maximum Conducted 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.)

#### Note:

This is a C2PC report. The difference between original and C2PC report is adding 5250~5350MHz and 5470~5725 MHz band by software setting.



#### 1.1.2 Antenna Information

	Antenna Category							
	Equipment placed on the market without antennas							
$\square$	Inte	gral antenna (antenna permanently attached)						
	$\boxtimes$	Temporary RF connector provided						
	No temporary RF connector provided Transmit chains bypass antenna and soldered temporary RF connector provided for connected measurement. In case of conducted measurements the transmitter shall be connected to the 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.	D. Ant. Cat. Ant. Type Connector Gain (dBi)							
1	Integral	Printed	UFL	2.9				

### 1.1.3 Type of EUT

	Identify EUT				
EUT	Serial Number	N/A			
Pre	sentation of Equipment	Production ;  Pre-Production ;  Prototype			
		Type of EUT			
$\square$	Stand-alone				
	Combined (EUT where th	e 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:				

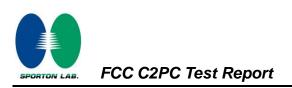


### 1.1.4 Test Signal Duty Cycle

Operated Mode for V	Operated Mode for Worst Duty Cycle					
Operated normally mode for worst duty cycle						
Operated test mode for worst duty cycle						
Test Signal Duty Cycle (x)Power Duty Factor[dB] - (10 log 1/x)						
⊠ 98.96% - IEEE 802.11a	0.05					
⊠ 98.32% - IEEE 802.11n (HT20)	0.07					
⊠ 98.83% - IEEE 802.11n (HT40)	0.05					
99.37% - IEEE 802.11ac (VHT20)	0.03					
⊠ 98.79% - IEEE 802.11ac (VHT40)	0.05					
⊠ 98.21% - IEEE 802.11ac (VHT80)	0.08					

### 1.1.5 EUT Operational Condition

Supply Voltage	AC mains	DC	
Type of DC Source	Internal DC supply	External DC adapter	Host
Test Voltage (Host)	Vnom (110 Vac)	🛛 Vmax (126.5 Vac)	🛛 Vmin (93.5 Vac)
Test Climatic	Tnom (20°C)	🖾 Tmax (55°C)	⊠ Tmin (-20°C)



### **1.2** Accessories and Support Equipment

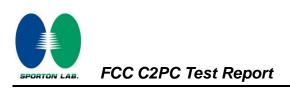
	Accessories							
No.	Equipment	Brand Name	Model Name	P/N	Spec.			
1	Adapter 1	NETGEAR	AD817F20	332-10307-02	I/P:100-240Vac, 50~60Hz, 0.56A O/P:12Vdc, 1.5A Power cord: 1.85m non-shielded cable w/o core			
2	Adapter 2	NETGEAR	SAL018F1 NA	332-10375-01	I/P:100-120Vac, 47~63Hz, 0.6A O/P:12Vdc, 1.5A Power cord: 1.85m non-shielded cable w/o core			
3	Adapter 3	NETGEAR	MU18-D1201 50-A1	332-10268-01	I/P:100-240Vac, 50~60Hz, 0.6A O/P:12Vdc, 1.5A Power cord: 1.85m non-shielded cable w/o core			
4	Adapter 4	NETGEAR	AD817F10	332-10301-02	I/P:100-120Vac, 50~60Hz, 0.56A O/P:12Vdc, 1.5A Power cord: 1.85m non-shielded cable w/o core			
5	RJ45 Cable				1.5m shielded cable w/o core			

	Support Equipment						
No.	Equipment         Brand Name         Model Name         Serial No.						
1	Notebook	DELL	E5420	DoC			
2	Notebook	DELL	E5420	DoC			
3	USB Flash	Transcend	JetFlash V85				

### 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
- FCC KDB 789033 v01r03
- FCC KDB 662911 v02
- FCC KDB 412172 v01



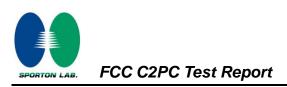
### 1.4 Testing Location Information

	Testing Location									
$\bowtie$	HWA YA	ADD	ADD : No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.							
		TEL	FEL : 886-3-327-3456 FAX : 886-3-327-0973							
Т	Test Condition Test Site No. Test Engineer Test Environment Test Date									
AC Conduction				CO04-HY Skys Huang		21°C / 52%	Apr. 19, 2013			
Radiated Emission         03CH05-HY         Sam Chang         23-25°C / 62-64%         Aug. 02 ~ 05, 32				Aug. 02 ~ 05, 2013						
F	RF Conducted         TH01-HY         Mark Liao         22.7°C / 61.5%         Aug. 24, 2013									
	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	1	
Test Item		Uncertainty	Limit
AC power-line conducted emissions	±2.26 dB	N/A	
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 <sub>TX</sub> )	Data Rate / MCS	Worst Data Rate / MCS				
11a	2	6-54Mbps	6 Mbps				
HT20	2	M0-15	M0				
HT40	2	M0-15	M0				
VHT20	2	M0-9	MO				
VHT40	2	M0-9	MO				
VHT80	2	M0-9	MO				
Note 1: Modulation modes consist of below configuration: 11a: IEEE 802.11a, HT20/HT40: IEEE 802.11n, VHT20/VHT40/VHT80: IEEE 802.11ac Note 2: IEEE Std. 802.11n/ac modulation consists of HT20, HT40, VHT20, VHT40, VHT80 and VHT160. Then EUT support HT20, HT40, VHT20, VHT40 and VHT80.							

### 2.2 The Worst Case Power Setting Parameter

The Worst Case Power Setting Parameter (5250-5350 MHz band)								
Test Software Version CART, V4.9								
		Test Frequency (MHz)						
Modulation Mode	Ντχ	NCB: 20MHz				40MHz	NCB: 80MHz	
		5260	5300	5320	5270	5310	5290	
11a,6-54Mbps	2	20	20	17.5	-	-	-	
HT20,M0-15	2	20	20	17.5	-	-	-	
HT20,M0-15	2	-	-	-	20	18.5	-	
VHT20,M0-9	2	20	20	17	-	-	-	
VHT40,M0-9	2	-	-	-	20	18.5	-	
VHT80,M0-9	2	-	-	-	-	-	12.5	



Test Software Version	CAR	T, V4.9							
		Test Frequency (MHz)							
Modulation Mode	N <sub>TX</sub> NCB: 20		ICB: 20MH	: 20MHz NCB: 40MHz			Iz	NCB: 80MHz	
		5500	5580	5700	5510	5550	5670	5530	
11a,6-54Mbps	2	17.5	20	14.5	-	-	-	-	
HT20,M0-15	2	17	20	14	-	-	-	-	
HT20,M0-15	2	-	-	-	17	20.5	20.5	-	
VHT20,M0-9	2	17	20	14	-	-	-	-	
VHT40,M0-9	2	-	-	-	17	20.5	20.5	-	
VHT80,M0-9	2	-	-	-	-	-	-	11.5	

#### The Worst Case Measurement Configuration 2.3

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), Adapter 2				
Note <sup>.</sup>				

Note:

Adapter 1, adapter 2, adapter 3 and adapter 4 had been pretested and found that the adapter 2 was the worst case and was selected for final test.

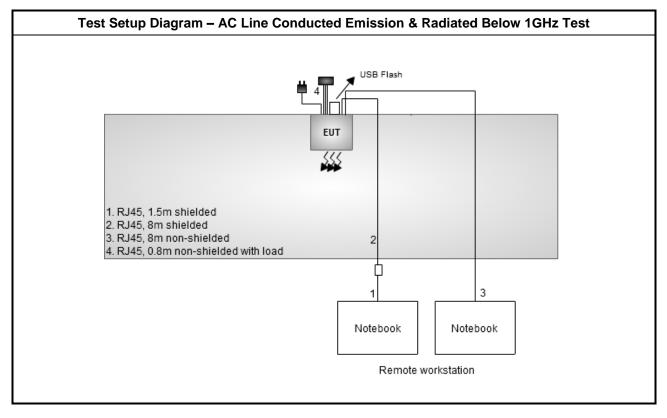
ТІ	The Worst Case Mode for Following Conformance Tests				
Tests Item	Tests ItemRF Output Power, Peak Power Spectral Density, Emission Bandwidth, Peak Excursion				
Test Condition	Test Condition Conducted measurement at transmit chains				
Modulation Mode	Modulation Mode 11a, HT20, HT40, VHT20, VHT40, VHT80				
Operating Mode Operating Mode Description					
1	AC Power & Radio link (WLAN), Adapter 2				

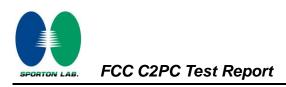


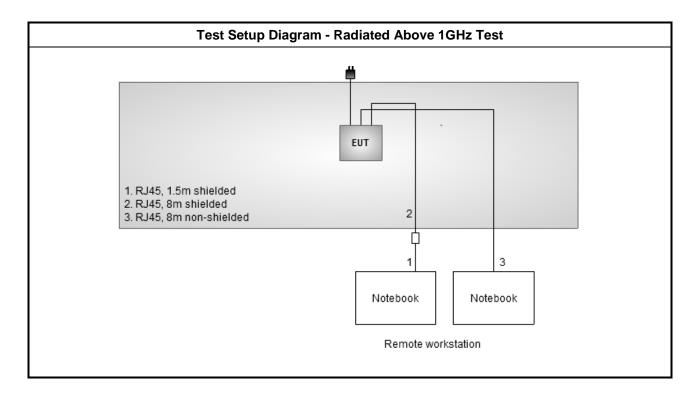
Th	The Worst Case Mode for Following Conformance Tests					
Tests Item	Transmitter Radiated Unwanted Emissions Transmitter Radiated Bandedge Emissions					
Test Condition	<b>Condition</b> If EUT consist of multiple antenna assembly (multiple antenna are used in regardless of spatial multiplexing MIMO configuration), the radiated test s 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 two orthogonal planes. The worst planes is X.					
	EUT will be operating multiple positions. The dipole antenna of EUT was pre-tested on the positioned of each 3 axis. The worst plane is Y.					
Operating Mode < 1GHz	AC Power & Radio link (WLAN), Adapter 2					
Modulation Mode 11a, HT20, HT40, VHT20, VHT40, VHT80						
Note:	bter 3 and adapter 4 had been protected and found that the adapter 2 was the					

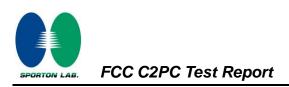
Adapter 1, adapter 2, adapter 3 and adapter 4 had been pretested and found that the adapter 2 was the worst case and was selected for final test.

## 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 c	of the frequency				

ecreases with the logarithm of the frequency

#### 3.1.2 Measuring Instruments

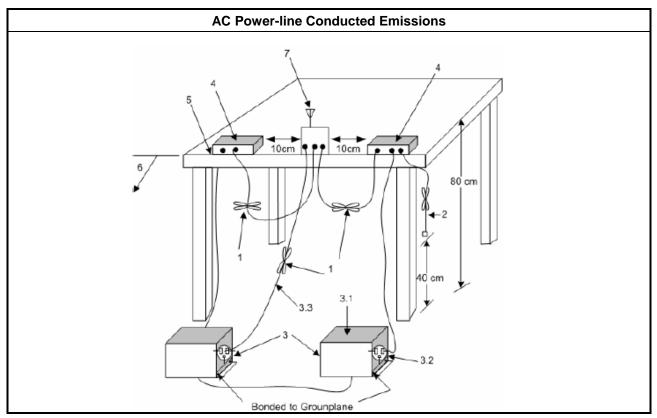
Refer a test equipment and calibration data table in this test report.

#### 3.1.3 **Test Procedures**

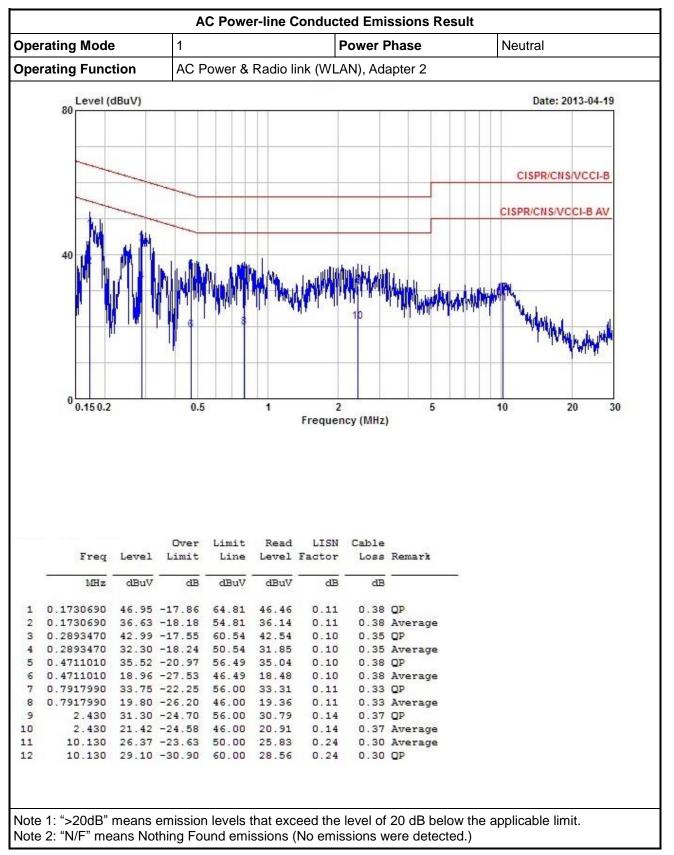
**Test Method** 

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

#### 3.1.4 Test Setup

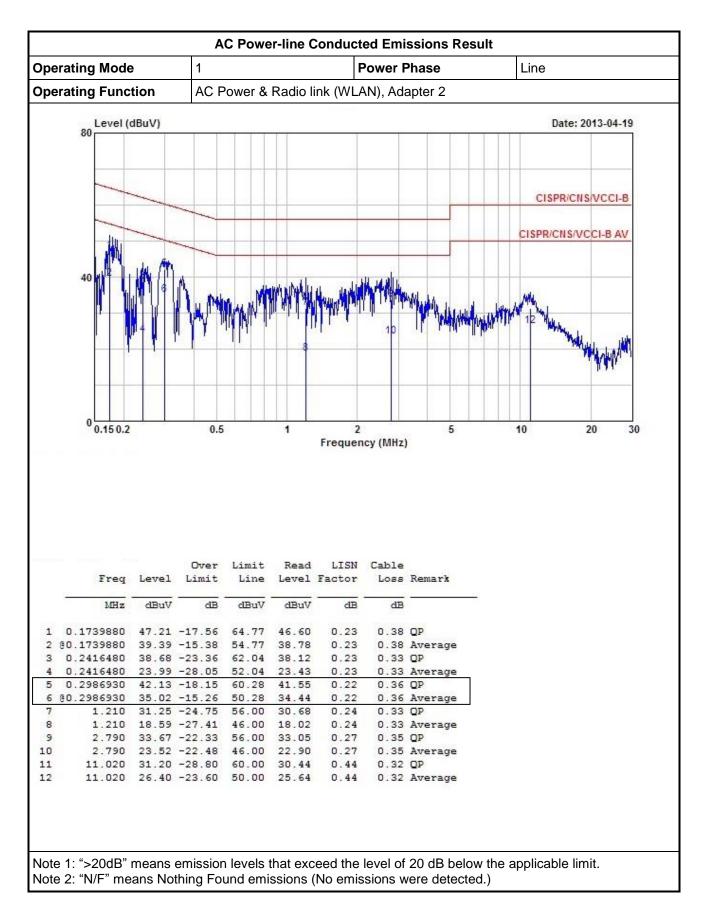


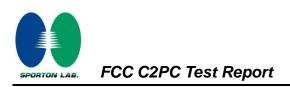




#### 3.1.5 Test Result of AC Power-line Conducted Emissions







### 3.2 Emission Bandwidth

#### 3.2.1 Emission Bandwidth (EBW) Limit

	Emission Bandwidth (EBW) Limit
UN	I Devices
	For the 5.15-5.25 GHz band, the maximum conducted output power shall not exceed the lesser of 50 mW or 4 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
$\bowtie$	For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
$\bowtie$	For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
	For the 5.725-5.825 GHz band, the maximum conducted output power shall not exceed the lesser of 1 W or 17 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz
LE-	LAN Devices
	For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
	For the 5.725-5.825 GHz band, the maximum e.i.r.p. shall not exceed 4.0 W or 23 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.

### 3.2.2 Measuring Instruments

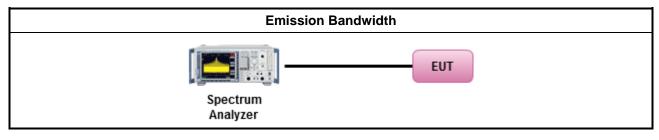
Refer a test equipment and calibration data table in this test report.

#### 3.2.3 Test Procedures

	Test Method						
$\square$	For	the emission bandwidth shall be measured using one of the options below:					
	$\square$	Refer as FCC KDB 789033 v01r03, clause C for EBW and clause D for OBW measurement.					
		Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.					
	$\square$	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.					
$\square$	S For conducted measurement.						
		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.					
	$\square$	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





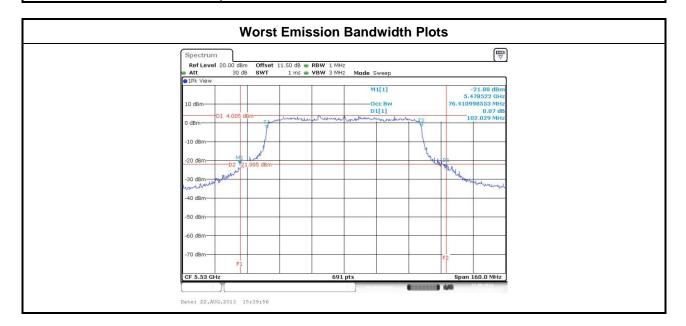
3.2.5	Test Result of	Emission	Bandwidth
-------	----------------	----------	-----------

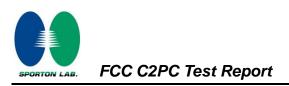
		UNII Em	nission	Bandw	idth Re	sult (52	250-535	0MHz b	and)				
Condi	tion					Emiss	ion Bar	ndwidth	(MHz)				
Modulation		Freq.	9	9% Ba	ndwidtl	h	26dB Bandwidth				Powe	Power Limit	
Mode	Ντχ	(MHz)	Chain- Port 1	Chain- Port 2	Chain- Port 3	Chain- Port 4	Chain- Port 1	Chain- Port 2	Chain- Port 3	Chain- Port 4	99% BW	26dB BW	
11a	2	5260	17.13	17.08	-	-	25.91	24.17	-	-	23.32	24.00	
11a	2	5300	17.13	17.02	-	-	25.51	24.41	-	-	23.31	24.00	
11a	2	5320	17.19	17.08	-	-	25.97	24.06	-	-	23.32	24.00	
HT20	2	5260	18.23	18.29	-	-	25.62	25.97	-	-	23.61	24.00	
HT20	2	5300	18.18	18.23	-	-	25.80	26.09	-	-	23.60	24.00	
HT20	2	5320	18.18	18.18	-	-	25.74	25.97	-	-	23.60	24.00	
HT40	2	5270	37.28	37.40	-	-	49.04	49.28	-	-	24.00	24.00	
HT40	2	5310	37.40	37.40	-	-	51.25	48.46	-	-	24.00	24.00	
VHT20	2	5260	18.23	18.29	-	-	26.32	25.91	-	-	23.61	24.00	
VHT20	2	5300	18.18	18.29	-	-	26.20	26.14	-	-	23.60	24.00	
VHT20	2	5320	18.29	18.00	-	-	26.43	25.33	-	-	23.55	24.00	
VHT40	2	5270	37.16	36.93	-	-	49.28	48.35	-	-	24.00	24.00	
VHT40	2	5310	37.28	37.51	-	-	50.09	49.97	-	-	24.00	24.00	
VHT80	2	5290	76.64	76.18	-	-	102.96	97.16	-	-	24.00	24.00	
Res	ult						Com	plied					





		UNII Em	nission	Bandw	idth Re	sult (54	170-572	5MHz b	and)						
Cond	ition			Emission Bandwidth (MHz)											
Modulation		Freq.	99% Bandwidth				2	6dB Ba	ndwidt	h	Power	r Limit			
Mode	Ντχ	(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	99% BW	26dB BW			
11a	2	5500	17.13	17.02	-	-	25.91	24.29	-	-	23.31	24.00			
11a	2	5580	17.19	16.96	-	-	25.68	24.58	-	-	23.29	24.00			
11a	2	5700	17.08	17.02	-	-	23.35	24.81	-	-	23.31	24.00			
HT20	2	5500	18.35	18.18	-	-	26.61	25.74	-	-	23.60	24.00			
HT20	2	5580	18.12	18.00	-	-	26.26	25.57	-	-	23.55	24.00			
HT20	2	5700	18.18	18.06	-	-	25.80	25.74	-	-	23.57	24.00			
HT40	2	5510	37.05	37.28	-	-	49.28	49.74	-	-	24.00	24.00			
HT40	2	5550	37.16	37.16	-	-	49.51	48.93	-	-	24.00	24.00			
HT40	2	5670	37.40	37.51	-	-	48.70	48.81	-	-	24.00	24.00			
VHT20	2	5500	18.00	18.00	-	-	25.68	25.16	-	-	23.55	24.00			
VHT20	2	5580	18.06	18.00	-	-	25.86	25.28	-	-	23.55	24.00			
VHT20	2	5700	18.18	18.06	-	-	25.28	25.86	-	-	23.57	24.00			
VHT40	2	5510	37.63	37.51	-	-	49.74	48.81	-	-	24.00	24.00			
VHT40	2	5550	37.16	37.05	-	-	49.28	47.88	-	-	24.00	24.00			
VHT40	2	5670	37.16	37.05	-	-	48.93	48.23	-	-	24.00	24.00			
VHT80	2	5530	76.18	76.41	-	-	100.17	102.03	-	-	24.00	24.00			
Res	ult	•			•		Com	plied		•		•			





### 3.3 RF Output Power

#### 3.3.1 RF Output Power Limit

	Maximum Conducted Output Power Limit									
UN	I Devices									
	For the 5.15-5.25 GHz band, the maximum conducted output power ( $P_{Out}$ ) shall not exceed the lesser of 50 mW or 4 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$ .									
	For the 5.25-5.35 GHz band, the maximum conducted output power ( $P_{Out}$ ) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$ .									
	For the 5.47-5.725 GHz band, the maximum conducted output power ( $P_{Out}$ ) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$ .									
	For the 5.725-5.825 GHz band:									
	Point-to-multipoint systems (P2M): the maximum conducted output power ( $P_{Out}$ ) shall not exceed the lesser of 1 W or 17 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ .									
	Point-to-point systems (P2P): the maximum conducted output power ( $P_{Out}$ ) shall not exceed the lesser of 1 W or 17 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 30 - (G_{TX} - 23)$ .									
LE-	LAN Devices									
	For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.									
	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz									
$\square$	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz									
	For the 5.725-5.825 GHz band, the maximum e.i.r.p. shall not exceed 4.0 W or 23 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.									
	Point-to-multipoint systems (P2M): the maximum e.i.r.p. shall not exceed 4.0 W or 23 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.									
	$\label{eq:point-to-point systems (P2P): the maximum e.i.r.p. shall not exceed 4.0 W or 23 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. If e.i.r.p. > 36 dBm, G_{TX} \leq P_{Out}$									
	= maximum conducted output power in dBm, = the maximum transmitting antenna directional gain in dBi.									

#### 3.3.2 Measuring Instruments

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

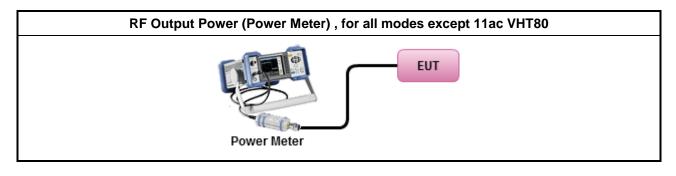


#### 3.3.3 Test Procedures

		Test Method
$\square$	Max	imum Conducted Output Power
		Refer as FCC KDB 789033 v01r03, clause E Method SA-1 (spectral trace averaging).
		Refer as FCC KDB 789033 v01r03, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
		Refer as FCC KDB 789033 v01r03, clause E Method SA-2 (spectral trace averaging).
	$\boxtimes$	Refer as FCC KDB 789033 v01r03, clause E Method SA-2 Alt. (RMS detection with slow sweep speed) For 11ac VHT80 mode
	Wid	eband RF power meter and average over on/off periods with duty factor
	$\boxtimes$	Refer as FCC KDB 789033 v01r03, clause E Method PM-G (using a gated RF average power meter). For all modes except 11ac VHT80
$\square$	For	conducted measurement.
		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.
	$\boxtimes$	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.
	$\boxtimes$	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 <sub>total</sub> = P <sub>total</sub> + DG

#### 3.3.4 Test Setup

RF Output Power (Spectrum Analyzer) , for 11ac VHT 80
Spectrum
Analyzer





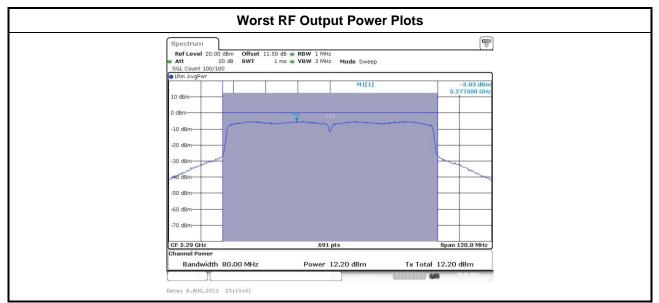
	Dire	ectional Gain (D	G) Result		
Transmit Chains No.		1	2	-	-
Maximum G <sub>ANT</sub> (dBi)		2.9	2.9	-	-
Modulation Mode DG (dBi)		Ν <sub>τχ</sub>	N <sub>ss</sub>	STBC	Array Gain (dB)
11a,6-54Mbps	2.9	2	1	-	-
HT20,M0-15	2.9	2	1	-	-
HT40,M0-15	2.9	2	1	-	-
VHT20,M0-9	2.9	2	1	-	-
VHT40,M0-9	2.9	2	1	-	-
VHT80,M0-9	2.9	2	1	-	-
Note 1: For all transmitter outputs Any transmit signals are con All transmit signals are con Note 2: For all transmitter outputs Any transmit signals are con All transmit signals are con Note 3: For Spatial Multiplexing, D where Nss = the number of Note 4: For CDD transmissions, di Directional Gain (DG) = G, Array Gain = 0 dB (i.e., no Array Gain = 0 dB (i.e., no	orrelated npletely with une orrelated npletely irectiona f indepe rectional ant + Arra array ga	I, Directional Gai uncorrelated, Di qual antenna ga I, Directional Gai uncorrelated, Diu I Gain (DG) = G, ndent spatial stru I gain is calculate ay Gain, where A sin) for $N_{TX} \leq 4$ ;	n = $G_{ANT}$ + 10 log rectional Gain = ins, directional gain n =10 log[(10 <sup>G1/2</sup> rectional Gain = ANT + 10 log(N <sub>TX</sub> /1 eams data. ed as power mea Array Gain is as f	$g(N_{TX})$ $G_{ANT}$ $ain is to be comp ^{0} + + 10^{GN/20})^{2}10 \log[(10^{G1/10} + N_{SS}),asurements:follows:$	outed as follows: /N <sub>T×</sub> ]

### 3.3.5 Directional Gain for Power Measurement



#### 3.3.6 Test Result of Maximum Conducted Output Power

			Мах	imum	Condu	cted O	utput	Power	Result	(dBm)				
Condition			5250-5350 and 5470~5725 MHz band											
Modulation Mode	Ντχ	Freq. (MHz)	Chain Port 1 w/o Duty Factor (dB)	Port 1 Port 2 Port 3 w/o w/o w/o Duty Duty Duty Duty Eactor (dB) Chain Port 1 Port 2 Port 3 Chain Sum Power DG Ed Factor Factor Factor CdB)					EIRP Power	EIRP Limit				
VHT80	2	5290	12.01	12.20	-	0.08	12.09	12.28	-	15.19	24.00	2.90	18.09	30.00
VHT80	2	5530	10.98	11.59	-	0.08	11.06	11.67	-	14.38	24.00	2.90	17.28	30.00
Result			Complied											



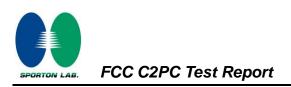
Note 1: RF Output Power Plots w/o Duty Factor



	М	aximum	Conduct	ted Out	out Pow	er (5250	-5350M	Hz band	)		
Condi	tion					RF Outp	out Powe	er (dBm)	)		
Modulation Mode	Ντχ	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	2	5260	20.48	20.69	-	-	23.59	24.00	2.90	26.49	30.00
11a	2	5300	20.41	20.67	-	-	23.55	24.00	2.90	26.45	30.00
11a	2	5320	17.85	18.63	-	-	21.26	24.00	2.90	24.16	30.00
HT20	2	5260	20.49	20.71	-	-	23.62	24.00	2.90	26.52	30.00
HT20	2	5300	20.52	20.75	-	-	23.65	24.00	2.90	26.55	30.00
HT20	2	5320	17.80	18.32	-	-	21.08	24.00	2.90	23.98	30.00
HT40	2	5270	20.41	20.66	-	-	23.55	24.00	2.90	26.45	30.00
HT40	2	5310	18.24	18.83	-	-	21.56	24.00	2.90	24.46	30.00
VHT20	2	5260	20.42	20.66	-	-	23.55	24.00	2.90	26.45	30.00
VHT20	2	5300	20.57	20.72	-	-	23.65	24.00	2.90	26.55	30.00
VHT20	2	5320	17.62	17.93	-	-	20.79	24.00	2.90	23.69	30.00
VHT40	2	5270	20.36	20.63	-	-	23.51	24.00	2.90	26.41	30.00
VHT40	2	5310	18.60	19.12	-	-	21.88	24.00	2.90	24.78	30.00
Resi	Result					C	Complie	d			



	М	aximum	Conduct	ted Out	out Pow	er (5470	-5725M	Hz band	)		
Condi	tion					RF Outp	out Pow	er (dBm)	)		
Modulation Mode	Ντχ	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	2	5500	17.46	17.72	-	-	20.60	24.00	2.90	23.50	30.00
11a	2	5580	20.43	20.63	-	-	23.54	24.00	2.90	26.44	30.00
11a	2	5700	14.19	14.27	-	-	17.24	24.00	2.90	20.14	30.00
HT20	2	5500	16.82	17.25	-	-	20.05	24.00	2.90	22.95	30.00
HT20	2	5580	20.48	20.59	-	-	23.55	24.00	2.90	26.45	30.00
HT20	2	5700	13.58	13.86	-	-	16.74	24.00	2.90	19.64	30.00
HT40	2	5510	16.62	16.85	-	-	19.75	24.00	2.90	22.65	30.00
HT40	2	5550	20.22	20.70	-	-	23.48	24.00	2.90	26.38	30.00
HT40	2	5670	20.35	20.67	-	-	23.52	24.00	2.90	26.42	30.00
VHT20	2	5500	16.93	17.38	-	-	20.17	24.00	2.90	23.07	30.00
VHT20	2	5580	20.32	20.65	-	-	23.50	24.00	2.90	26.40	30.00
VHT20	2	5700	13.56	13.78	-	-	16.68	24.00	2.90	19.58	30.00
VHT40	2	5510	16.79	17.01	-	-	19.91	24.00	2.90	22.81	30.00
VHT40	2	5550	20.36	20.68	-	-	23.54	24.00	2.90	26.44	30.00
VHT40	2	5670	20.33	20.69	-	-	23.53	24.00	2.90	26.43	30.00
Resi	ult					C	Complie	d			



### 3.4 Peak Power Spectral Density

#### 3.4.1 Peak Power Spectral Density Limit

	Peak Power Spectral Density Limit
UN	II Devices
	For the 5.15-5.25 GHz band, the peak power spectral density (PPSD) $\leq$ 4 dBm/MHz. If G <sub>TX</sub> > 6 dBi, then PPSD = 4 - (G <sub>TX</sub> - 6).
$\boxtimes$	For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) $\leq$ 11 dBm/MHz. If G <sub>TX</sub> > 6 dBi, then PPSD= 11 - (G <sub>TX</sub> - 6).
$\square$	For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) $\leq$ 11 dBm/MHz. If G <sub>TX</sub> > 6 dBi, then PPSD= 11 - (G <sub>TX</sub> - 6).
	For the 5.725-5.825 GHz band:
	Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) $\leq$ 17 dBm/MHz. If G <sub>TX</sub> > 6 dBi, then PPSD= 17 - (G <sub>TX</sub> - 6).
	Point-to-point systems (P2P): the peak power spectral density (PPSD) $\leq$ 17 dBm/MHz. If G <sub>TX</sub> > 23 dBi, then PPSD = 17 - (G <sub>TX</sub> - 23).
LE-	LAN Devices
	For the 5.15-5.25 GHz band, the peak power spectral density (PPSD) $\leq$ 4 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) $\leq$ 10 dBm/MHz.
$\square$	For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) $\leq$ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) $\leq$ 17 dBm/MHz.
$\square$	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) $\leq$ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) $\leq$ 17 dBm/MHz.
	For the 5.725-5.825 GHz band, the peak power spectral density (PPSD) $\leq$ 17 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) $\leq$ 23 dBm/MHz.
pov	SD = peak power spectral density that he same method as used to determine the conducted output ver shall be used to determine the power spectral density. And power spectral density in dBm/MHz = the maximum transmitting antenna directional gain in dBi.

#### 3.4.2 Measuring Instruments

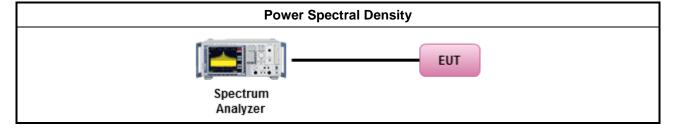
Refer a test equipment and calibration data table in this test report.



#### 3.4.3 Test Procedures

		Test Method
	outp func	k power spectral density procedures that the same method as used to determine the conducted but 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 I be measured using below options:
		Refer as FCC KDB 789033 v01r03, 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 FCC KDB 789033 v01r03, clause E Method SA-1 (spectral trace averaging). For all modes except 11ac VHT80
		Refer as FCC KDB 789033 v01r03, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
		Refer as FCC KDB 789033 v01r03, clause E Method SA-2 (spectral trace averaging).
	$\boxtimes$	Refer as FCC KDB 789033 v01r03, clause E Method SA-2 Alt. (RMS detection with slow sweep speed) 11ac VHT80 mode
$\boxtimes$	For	conducted measurement.
		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.
	$\boxtimes$	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]) $EIRP_{total} = PPSD_{total} + DG$
	$\boxtimes$	Each individually PPSD plots refer as test report clause 3.3.5 with each individually PPSD plots.

#### 3.4.4 Test Setup





Directional Gain (DG) Result							
Transmit Chains No.		1	2	-	-		
Maximum G <sub>ANT</sub> (dBi)		2.9	2.9	-	-		
Modulation Mode	Ν <sub>τx</sub>	N <sub>ss</sub>	STBC	Array Gain (dB)			
11a,6-54Mbps	5.91	2	1	-	3.01		
HT20,M0-15	5.91	2	1	-	3.01		
HT40,M0-15	5.91	2	1	-	3.01		
VHT20,M0-9	5.91	2	1	-	3.01		
VHT40,M0-9	5.91	2	1	-	3.01		
VHT80,M0-9	5.91	2	1	-	3.01		
Note 1: For all transmitter outputs Any transmit signals are con All transmit signals are con Note 2: For all transmitter outputs Any transmit signals are con All transmit signals are con Note 3: For Spatial Multiplexing, Di where Nss = the number o Note 4: For CDD transmissions, di Directional Gain (DG) = G	orrelated npletely with une orrelated npletely irectiona f indepe rectional	, Directional Gai uncorrelated, Di qual antenna ga , Directional Gai uncorrelated, Din I Gain (DG) = G, ndent spatial stro gain is calculate	n = $G_{ANT}$ + 10 log rectional Gain = 0 ins, directional gain = 0 n =10 log[(10 <sup>G1/2)</sup> rectional Gain = 0 ANT + 10 log(N <sub>TX</sub> /1 eams data. ed as power mea	$g(N_{TX})$ $G_{ANT}$ ain is to be comp $^{0} + + 10^{GN/20})^{2}$ $10 \log[(10^{G1/10} +)^{3}]$ $N_{SS})$ , surements:	outed as follows: /N <sub>T×</sub> ]		

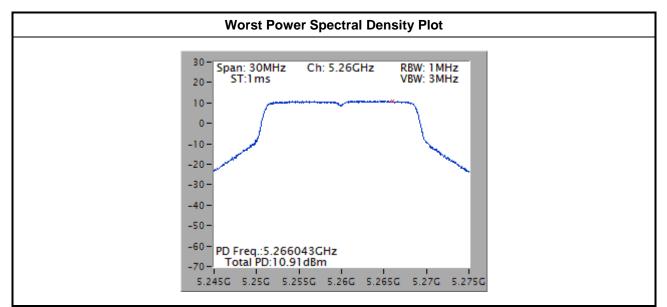
#### 3.4.5 Directional Gain for Power Spectral Density Measurement

Array Gain = 0 dB (i.e., no array gain) for  $N_{TX} \le 4$ ; Array Gain = 0 dB (i.e., no array gain) for channel widths  $\ge 40$  MHz for any  $N_{TX}$ ;



	Peak Power Spectral Density Result (5250-5350MHz band)								
Cond	ition		Peak Power Spectral Density (dBm/MHz)						
Modulation Mode	Ντχ	Freq. (MHz)	Sum Chain	PSD Limit	DG (dBi)	EIRP PSD	EIRP Limit		
11a	2	5260	10.85	11.00	5.91	16.76	17		
11a	2	5300	10.65	11.00	5.91	16.56	17		
11a	2	5320	9.02	11.00	5.91	14.93	17		
HT20	2	5260	10.62	11.00	5.91	16.53	17		
HT20	2	5300	10.77	11.00	5.91	16.68	17		
HT20	2	5320	8.62	11.00	5.91	14.53	17		
HT40	2	5270	7.39	11.00	5.91	13.30	17		
HT40	2	5310	6.00	11.00	5.91	11.91	17		
VHT20	2	5260	10.94	11.00	5.91	16.85	17		
VHT20	2	5300	10.82	11.00	5.91	16.73	17		
VHT20	2	5320	7.90	11.00	5.91	13.81	17		
VHT40	2	5270	7.31	11.00	5.91	13.22	17		
VHT40	2	5310	5.93	11.00	5.91	11.84	17		
VHT80	2	5290	-4.22	11.00	5.91	1.69	17		
Res	ult	•			Complied				

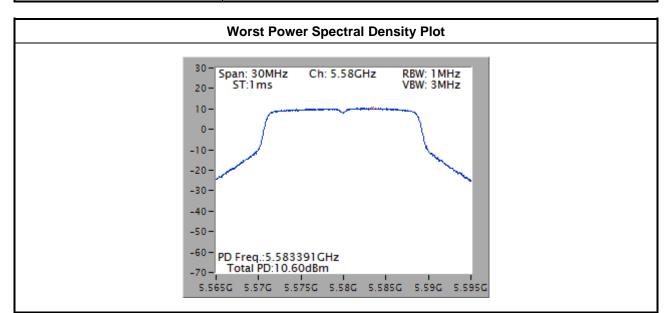
#### 3.4.6 Test Result of Peak Power Spectral Density



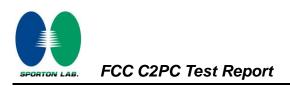
Note 1: Power Spectral Density plot w/o Duty Factor



Peak Power Spectral Density Result (5470-5725MHz band)									
Cond	lition		Peak Power Spectral Density (dBm/MHz)						
Modulation Mode N <sub>TX</sub> Freq. (MHz)		Sum Chain	PSD Limit	DG (dBi)	EIRP PSD	EIRP Limit			
11a	2	5500	8.86	11.00	5.91	14.77	17		
11a	2	5580	10.63	11.00	5.91	16.54	17		
11a	2	5700	5.08	11.00	5.91	10.99	17		
HT20	2	5500	7.86	11.00	5.91	13.77	17		
HT20	2	5580	10.59	11.00	5.91	16.50	17		
HT20	2	5700	3.92	11.00	5.91	9.83	17		
HT40	2	5510	4.42	11.00	5.91	10.33	17		
HT40	2	5550	8.02	11.00	5.91	13.93	17		
HT40	2	5670	7.55	11.00	5.91	13.46	17		
VHT20	2	5500	7.55	11.00	5.91	13.46	17		
VHT20	2	5580	10.63	11.00	5.91	16.54	17		
VHT20	2	5700	3.98	11.00	5.91	9.89	17		
VHT40	2	5510	4.33	11.00	5.91	10.24	17		
VHT40	2	5550	8.03	11.00	5.91	13.94	17		
VHT40	2	5670	7.53	11.00	5.91	13.44	17		
VHT80	2	5530	-5.21	11.00	5.91	0.70	17		
Res	sult				Complied				







### 3.5 Peak Excursion

#### 3.5.1 Peak Excursion Limit

	Peak Excursion Limit							
UN	II Devices							
	Peak excursion $\leq$ 13 dB. The ratio of the maximum of the peak-max-hold spectrum to the maximum of the average spectrum for continuous transmission does not exceed 13 dB. (Earlier procedures that required computing the ratio of the two spectra at each frequency across the emission bandwidth can lead to unintended failures at band edges and will no longer be required.)							
LE-	LAN Devices							
$\square$	N/A							

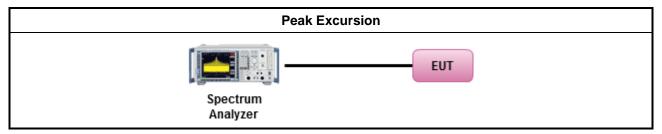
#### 3.5.2 Measuring Instruments

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

#### 3.5.3 Test Procedures

	Test Method									
$\square$	Refer as FCC KDB 789033 v01r03, clause G peak excursion method.									
$\boxtimes$	Testing each modulation mode on a single channel is sufficient to demonstrate compliance with the peak excursion requirement									
$\boxtimes$	For conducted measurement.									
	$\boxtimes$	Testing a single output port is sufficient to demonstrate compliance with the peak excursion.								
	$\boxtimes$	Test result plots refer as test report clause 3.3.5 with peak excursion ratio of the maximum of the peak-max-hold spectrum to the maximum of the average spectrum.								

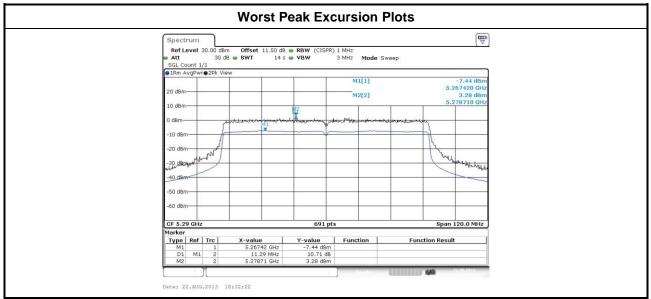
#### 3.5.4 Test Setup





#### 3.5.5 Test Result of Peak Excursion

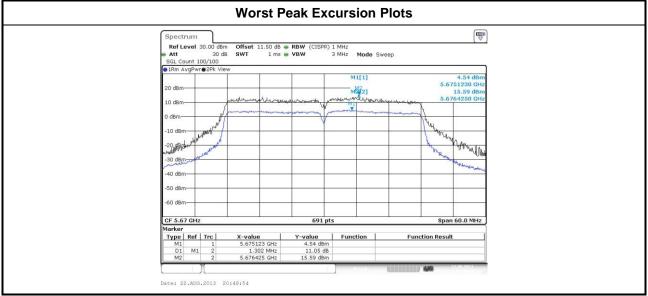
	UNII Peak Excursion Result (5250-5350MHz band)								
Cond	ition		Peak Excursion (dB)						
Modulation Mode	N <sub>TX</sub>	Freq. (MHz)	BPSK	QPSK	16QAM	64QAM	256QAM	Limit	
11a	2	5260	7.90	8.26	7.17	8.55	-	13.0	
HT20	2	5300	7.79	8.31	7.97	8.40	-	13.0	
HT40	2	5270	7.74	8.70	8.53	8.40	-	13.0	
VHT20	2	5300	7.71	7.99	8.23	8.47	8.46	13.0	
VHT40	2	5270	7.86	8.54	8.36	8.59	7.78	13.0	
VHT80	2	5290	9.52	10.49	10.10	8.83	8.78	13.0	
Res	ult				Com	plied			



Note 1: Peak excursion = Mark2 value - ( Mark 1 value + duty factor)



		UNII	Peak Excurs	ion Result	(5470-5725N	IHz band)				
Cond	ition			Peak Excursion (dB)						
Modulation Mode	Ντχ	Freq. (MHz)	BPSK	QPSK	16QAM	64QAM	256QAM	Limit		
11a	2	5580	8.16	8.76	7.83	7.38	-	13.0		
HT20	2	5580	7.89	7.69	9.31	8.65	-	13.0		
HT40	2	5500	8.00	8.20	7.91	8.35	-	13.0		
VHT20	2	5580	7.42	8.95	8.44	8.94	9.03	13.0		
VHT40	2	5670	8.38	8.45	7.91	10.40	8.59	13.0		
VHT80	2	5530	9.12	9.78	10.37	9.33	9.28	13.0		
Result				•	Com	plied				

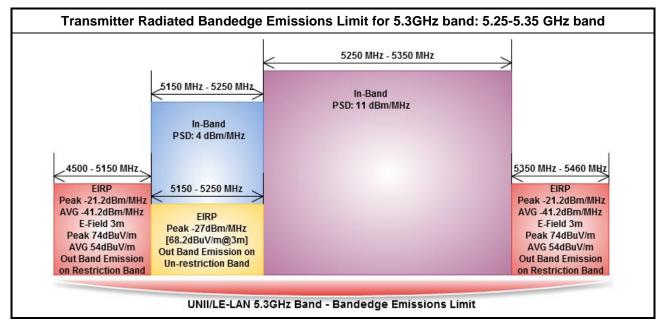


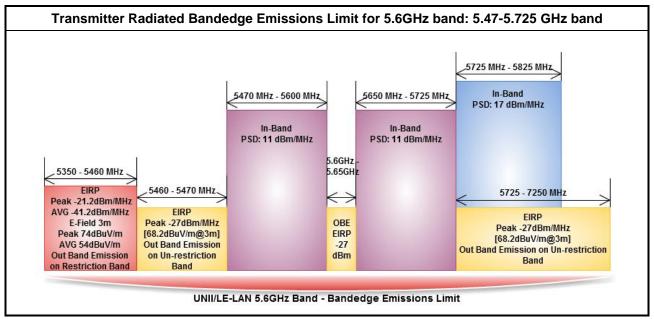
Note 1: Peak excursion = Mark2 value - (Mark 1 value + duty factor)



### 3.6 Transmitter Radiated Bandedge Emissions

#### 3.6.1 Transmitter Radiated Bandedge Emissions Limit





#### 3.6.2 Measuring Instruments

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



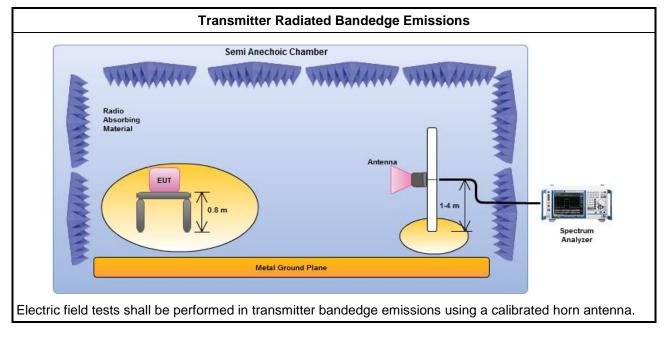
#### 3.6.3 Test Procedures

		Test Method
	perfe equi extra dista mea	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. When performing measurements at a distance other than that specified, the results shall be apolated 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 isurements). Measurements in the bandedge are typically made at a closer distance 3m, because nstrumentation noise floor is typically close to the radiated emission limit.
$\square$	The	average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].
$\square$		er as ANSI C63.10, clause 6.9.2.2 bandedge testing shall be performed at the lowest frequency onel and highest frequency channel within the allowed operating band.
	char will at lo	UT operate in adjacent contiguous bands, bandedge testing performed at the lowest frequency onel at lower-band and highest frequency channel at higher-band. Transmitter in-band emissions consist of adjacent contiguous bands (e.g., IEEE 802.11ac VHT160 The lowest frequency channel ower-band and highest frequency channel at higher-band in-band emissions will consist of two cent contiguous bands.)
		Operating in 5.15-5.25 GHz band (lower-band) and 5.25-5.35 GHz band (higher-band).
		Operating in 5.47-5.725 GHz band (lower-band) and 5.725-5.825 GHz band (higher-band).
	char	JT operate in individual non-contiguous bands, bandedge testing performed at the lowest frequency need and highest frequency channel within lower-band and higher-band. (e.g., (e.g., IEEE 802.11ac 160)
	$\square$	Operating in 5.25-5.35 GHz band (lower-band) and 5.47-5.725 GHz band (higher-band).
		Operating in 5.15-5.25 GHz band (lower-band) and 5.725-5.825 GHz band (higher-band).
$\square$	For	the transmitter unwanted emissions shall be measured using following options below:
	$\square$	Refer as FCC KDB 789033 v01r03, clause H)2) for unwanted emissions into non-restricted bands.
	$\square$	Refer as FCC KDB 789033 v01r03, clause H)1) for unwanted emissions into restricted bands.
		Refer as FCC KDB 789033 v01r03, H)6) Method AD (Trace Averaging).
		Refer as FCC KDB 789033 v01r03, H)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 FCC KDB 789033 v01r03, clause H)5) measurement procedure peak limit.
		Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
		$\boxtimes$ Integration Method is used for emissions within 2 MHz of the band edge
$\bowtie$	For	the transmitter bandedge emissions shall be measured using following options below:
		Refer as FCC KDB 789033 v01r03, clause H)3)d) for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
	$\boxtimes$	Refer as ANSI C63.10, clause 6.9.2 for band-edge testing.
		Refer as ANSI C63.10, clause 6.9.3 for marker-delta method for band-edge measurements.
$\boxtimes$	For	radiated measurement, refer as ANSI C63.10, clause 6.5 for radiated emissions from above 1 GHz.



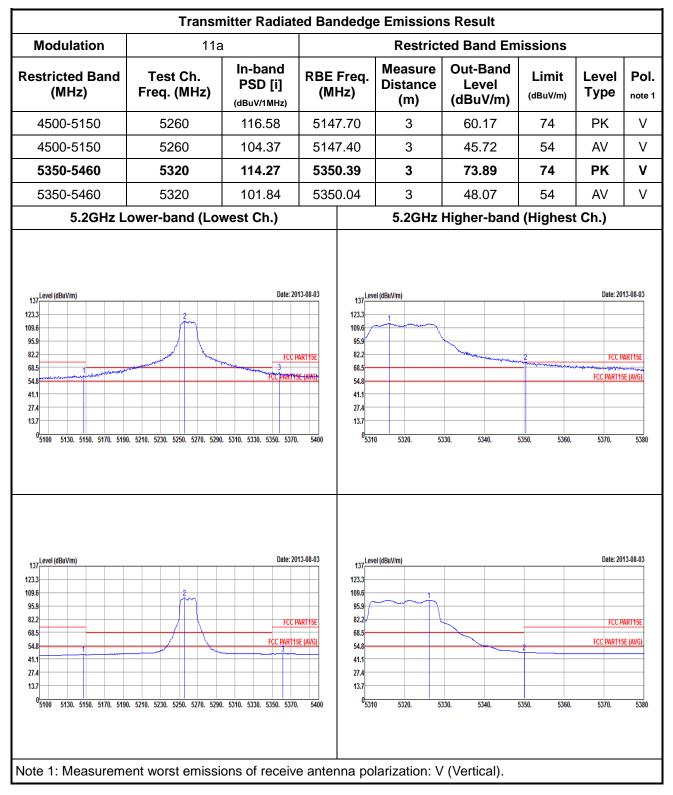
	Test Method
For	conducted and cabinet radiation measurement, refer as FCC KDB 789033 v01r03, clause H)3).
	For conducted unwanted emissions into non-restricted bands (relative emission limits). Devices with multiple transmit chains: Refer as FCC KDB 662911, when testing out-of-band and spurious emissions 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

### 3.6.4 Test Setup

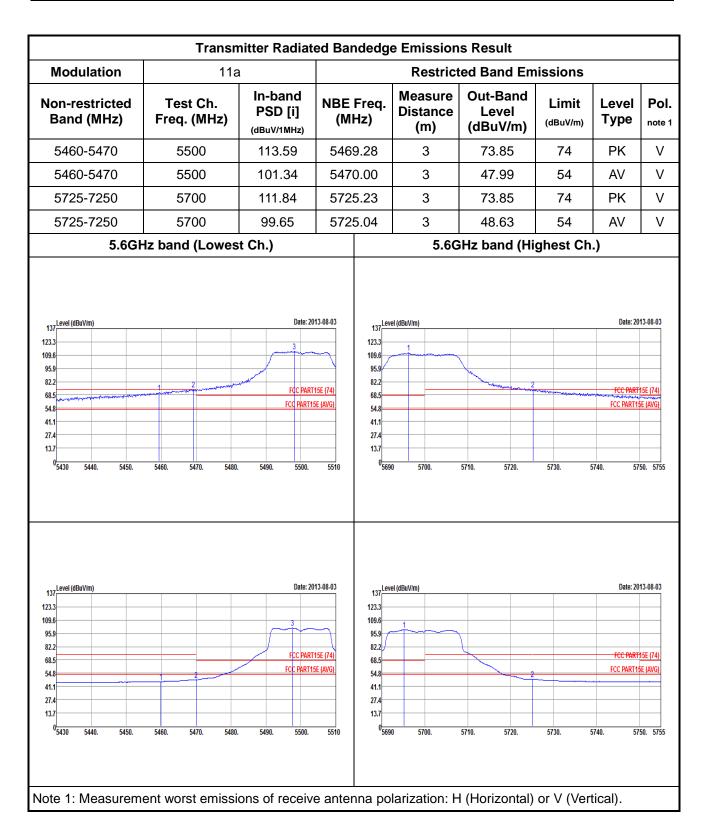




#### 3.6.5 Test Result of Transmitter Radiated Bandedge Emissions









	Transr	nitter Radiat	ed Ba	ndedg	e Emission	s Result			
Modulation	HT2	0			Restrict	ed Band Em	nissions		
Restricted Band (MHz)	Test Ch. Freq. (MHz)	In-band PSD [i] (dBuV/1MHz)		Freq. Hz)	Measure Distance (m)	Out-Band Level (dBuV/m)	Limit (dBuV/m)	Level Type	Pol note
4500-5150	5260	115.99	514	8.60	3	61.14	74	PK	V
4500-5150	5260	104.22	514	7.10	3	45.36	54	AV	V
5350-5460	5320	113.46	535	0.25	3	73.84	74	PK	V
5350-5460	5320	101.20	535	0.25	3	47.13	54	AV	V
5.2GHz L	ower-band (Lo	west Ch.)			5.2GHz	Higher-band	l (Highes	t Ch.)	
123.3	2			123.3 109.6					
137		Date: 20	13-08-03	137	el (dBuV/m)	1		Date: 20	)13-08-03
95.9				95.9					
82.2	man mar has	FCC P	ART15E	82.2 68.5			2	FCC F	PART15E
54.8	···	FCC PARTH	<del>5E (AVG)</del>	54.8				FCC PART1	5E (AVG)
41.1				41.1 27.4					
13.7				13.7					
137 Level (dBuV/m)		Date: 20	13-08-03	137	el (dBuV/m)			Date: 20	)13-08-03
123.3	2			123.3 109.6					
95.9				95.9	+				
82.2		FCC P	ART15E	82.2 68.5				FCC F	PART15E
54.8		FCC PART1:	5E (AVG)	54.8			2	FCC PART1	5E (AVG)
41.1				41.1 27.4					
13.7				13.7					
0 <mark>5100 5130. 5150. 5170. 519</mark>	0. 5210. 5230. 5250. 5270. 529	). 5310. 5330. 5350. 5370.	. 5400	0 <mark>531</mark>	0 5320. 5	330. 5340.	5350. 5360.	5370.	5380



	HT2	0			Restrict	ed Band Err	issions		
Von-restricted Band (MHz)	Test Ch. Freq. (MHz)	In-band PSD [i] (dBuV/1MHz)		Freq. IHz)	Measure Distance (m)	Out-Band Level (dBuV/m)	Limit (dBuV/m)	Level Type	Po note
5460-5470	5500	112.73	546	9.52	3	73.79	74	PK	V
5460-5470	5500	100.39	546	9.92	3	47.89	54	AV	V
5725-7250	5700	111.10	572	25.17	3	73.84	74	PK	V
5725-7250	5700	99.08	572	25.04	3	47.52	54	AV	V
5.6GI	Hz band (Lowes	t Ch.)	•		5.60	Hz band (Hi	ghest Ch	.)	
137_Level (dBuV/m) 23.3 09.6		3	013-08-03	123.3 109.6	el (dBuV/m)				13-08-03
95.9				95.9					
32.2 58.5	1 2 martine and a second secon	FCC PAR		82.2 68.5		2		FCC PART	15E (74)
i4.8		FCC PART1	15E (AVG)	54.8				FCC PART1	SE (AVG)
41.1				41.1					
27.4				27.4 13.7					
	5460. 5470. 5480.	5490. 5500.	5510	0569	0 5700.	5710. 5720.	5730.	5740. 57	50. 575
13.7	5460. 5470. 5480.	5490. 5500.	5510		0 5700.	5710. 5720.	5730.	5740. 57	50. 575
13.7 0 <sup>5</sup> 430 5440. 5450.	5460. 5470. 5480.		5510	0569	0 5700. el (dBuV/m)	5710. 5720.	5730. !		50. 575
13.7 0 5430 5440. 5450. 137 Level (dBuV/m) 23.3	5460. 5470. 5480.			0 569 137 Leve 123.3		5710. 5720.	5730.		
13.7 0 5430 5440. 5450. 137 Level (dBuV/m) 23.3 98.6	5460. 5470. 5480.			0 <u>-569</u> 137 123.3 109.6		5710. 5720.	5730.		
13.7 0 5430 5440. 5450. 137 Level (dBuV/m) 23.3 09.6 95.9 137	5460. 5470. 5480.	Date: 21	013-08-03	0 569 137 Leve 123.3		5710. 5720.	5730.		
13.7 0 5430 5440. 5450. 137 Level (dBuV/m) 23.3 08.6 95.9 82.2 	5460. 5470. 5480.	Date: 2	013-08-03	0 569 137 1233 109.6 95.9		5710. 5720.	5730.	Date: 20	13-08-03 15E (74)
13.7 0 5430 5440. 5450. 137 Level (dBuV/m) 23.3 09.6 95.9 82.2 88.5 54.8	5460. 5470. 5480.	Date: 21	013-08-03	0 569 137 1233 109.6 95.9 82.2 68.5 54.8		5710. 5720.	5730.	Date: 20	13-08-03 15E (74)
13.7 0 5430 5440. 5450. 137 137 23.3 09.6 95.9 82.2 68.5 54.8	5460. 5470. 5480.	Date: 2	013-08-03	0 569 137 1233 109.6 95.9 82.2 68.5 54.8 41.1		5710. 5720.	5730.	Date: 20	13-08-03 15E (74)
13.7 0 5430 5440. 5450. 137 137 137 137 137 137 137 137	5460. 5470. 5480.	Date: 2	013-08-03	0 569 137 1233 109.6 95.9 82.2 68.5 54.8		5710. 5720.	5730.	Date: 20	13-08-03 15E (74)



Madulation				ge Emission				
Modulation Restricted Band	HT4 Test Ch.	0 In-band PSD [i]	RBE Freq	Moasuro	ted Band Err Out-Band Level	Limit	Level	Pol
(MHz)	Freq. (MHz)	(dBuV/1MHz)	(MHz)	(m)	(dBuV/m)	(dBuV/m)	Туре	note
4500-5150	5270	111.66	5133.90	3	58.56	74	PK	V
4500-5150	5270	98.89	5148.60	3	44.63	54	AV	V
5350-5460	5310	111.47	5350.00	3	69.60	74	PK	V
5350-5460	5310	97.75	5350.00	3	53.82	54	AV	V
5.2GHz L	ower-band (Lov	west Ch.)		5.2GHz	Higher-band	l (Highes	t Ch.)	
54.8 41.1 27.4 13.7	0. 5210. 5230. 5250. 5270. 5290	Date: 20	13-08-03 13-08-08 10-08-08 10-08-08 10-	290 5300. 5310.	5320. 5330. 5340.	5350. 5360.		13-08-03
41.1 27.4 13.7 0 5100 5130. 5150. 5170. 519	0. 5210. 5230. 5250. 5270. 5290	. 5310. 5330. 5350. 5370.	41.1 27.4 13.7 . 5400 02	290 5300. 5310.	5320. 5330. 5340.	5350. 5360.	5370. 5380	. 5390



Band (MHz)         Freq. (MHz)         PSD [1] (dBuV/1MHz)         (MHz)         Distance (m)         Level (dBuV/m)         (dBuV/m)         Type           5460-5470         5510         109.34         5469.90         3         69.54         74         PK           5460-5470         5510         96.10         5470.00         3         53.86         54         AV           5725-7250         5670         114.16         5725.00         3         69.69         74         PK           5725-7250         5670         100.58         5725.00         3         52.75         54         AV           5.6GHz band (Lowest Ch.)         Dist 2013080	Band (MHz)				Freq.			Limit						
5460-5470       5510       96.10       5470.00       3       53.86       54       AV         5725-7250       5670       114.16       5725.80       3       69.69       74       PK         5725-7250       5670       100.58       5725.00       3       52.75       54       AV         S.6GHz band (Lowest Ch.)       S.6GHz band (Highest Ch.)         Date: 2013.08.03         137       Date: 2013         0       Ceree(dBaV/m)       Date: 2013         0       Ceree(dBaV/m) <th cere<="" colspan="4" th=""><th>5460-5470</th><th></th><th>(dBuV/1MHz)</th><th>(M</th><th>Hz)</th><th></th><th></th><th></th><th></th><th>Po note</th></th>	<th>5460-5470</th> <th></th> <th>(dBuV/1MHz)</th> <th>(M</th> <th>Hz)</th> <th></th> <th></th> <th></th> <th></th> <th>Po note</th>				5460-5470		(dBuV/1MHz)	(M	Hz)					Po note
5725-7250       5670       114.16       5725.80       3       69.69       74       PK         5725-7250       5670       100.58       5725.00       3       52.75       54       AV         5.6GHz band (Lowest Ch.)         137_Evel (@BU/Im)       Date: 2013/06.03         141.1       141.1         141.1       141.1         141.1       141.1         141.1		5510	109.34	546	9.90	3	69.54	74	PK	V				
5725-7250     5670     100.58     5725.00     3     52.75     54     AV       S.6GHz band (Lowest Ch.)       137       137       1213       137       137       121       137       137       121       137	5460-5470	5510	96.10	547	0.00	3	53.86	54	AV	V				
Image: Second	5725-7250	5670	114.16	572	5.80	3	69.69	74	PK	V				
137     Level (dBuV/m)     Date: 2013-08-03       137     137       137     137       137     137       137     137       137     137       137     137       137     137       137     137       137     137       137     137       137     137       137     137       137     137       137     137	5725-7250	5670	100.58	572	5.00	3	52.75	54	AV	V				
23.3 09.6 95.9 22.2 68.5 64.8 11.1 12.4 12.3 10.6 95.9 82.2 FCC PARTISE (AVG) 12.3 10.6 95.9 82.2 FCC PARTISE (AVG) 12.3 10.6 95.9 82.2 12.3 10.6 95.9 82.2 12.3 10.6 95.9 82.2 12.3 10.6 95.9 82.2 12.3 10.6 95.9 82.2 12.3 10.6 95.9 82.2 12.3 10.6 95.9 82.2 12.3 10.6 95.9 82.2 12.3 10.6 95.9 82.2 12.3 10.6 95.9 82.2 12.3 10.6 95.9 82.2 12.3 10.6 95.9 82.2 12.3 10.6 95.9 82.2 12.3 10.6	5.6GH	z band (Lowes	t Ch.)	•		5.60	Hz band (Hi	ghest Ch	.)					
FCC PARTISE (AVG)         FCC PARTISE (AVG)         68.3         FCC PARTISE           54.8         -         -         -         -         -         FCC PARTISE           41.1         - <th>09.6 95.9 82.2</th> <th></th> <th></th> <th>15E (74)</th> <th>109.6 95.9 82.2</th> <th></th> <th></th> <th>*****</th> <th>2 FCC PART</th> <th>15E (74)</th>	09.6 95.9 82.2			15E (74)	109.6 95.9 82.2			*****	2 FCC PART	15E (74)				
68.5         FCC PARTISE (74)         68.5         Control of the second secon	95.9		3		109.6 95.9									
41.1     41.1	wanter and and a support of the and and and and and and a support of the support							and the second sec	Terre and a second s	SE (AVG)				
13.7					41.1									
0 5430 5440. 5450. 5460. 5470. 5480. 5490. 5500. 5510. 5520. 5530 0 56550 5660. 5670. 5680. 5690. 5700. 5710. 5720. 5730. 5740.														
137_Level (dBuV/m) Date: 2013-08-03 137_Level (dBuV/m) Date: 2013	137Level (dBuV/m)		Date: 20	13-08-03	137	el (dBuV/m)			Date: 20	13-08-03				
							+							
822 FCC PARTISE (74)			FCC PART	15E (74)	[ [				FCC PART	15E (74)				
08.0		2	FCC PART1						FCC PART1	5E (AVG)				
54 8 2 FCC PAR(15E (AVG) 54 8 2 FCC PAR(15E					41.1									
94.0	27.4				27.4									
94.0 41.1 27.4 27.4					13.7									



Transn	nitter Radiat	ed Bar	ndedg	e Emission	s Result			
VHT	20			Restrict	ed Band Em	nissions		
Test Ch. Freq. (MHz)	In-band PSD [i] (dBuV/1MHz)			Measure Distance (m)	Out-Band Level (dBuV/m)	Limit (dBuV/m)	Level Type	Pol.
5260	116.59	535	7.40	3	64.11	74	PK	V
5260	103.98	514	2.30	3	45.49	54	AV	V
5320	113.03	535	0.25	3	73.81	74	PK	V
5320	100.38	535	0.04	3	47.34	54	AV	V
_ower-band (Lov	west Ch.)	•		5.2GHz	Higher-band	l (Highes	t Ch.)	
90. 5210. 5230. 5250. 5270. 5290	S S S S S S S S S S S S S S S S S S S	i <del>E (AVG)</del>	68.5 54.8 41.1 27.4 13.7 0 531	0 5320. 5	330. 5340.	5350. 5360.	5370.	-
90. 5210. 5230. 5250. 5270. 5290	FCC P	ART15E 5E (AVG)	123.3 109.6 95.9 82.2 68.5 54.8 41.1 27.4 13.7		330. 5340.	2		2013-08-03
	VHT2 Test Ch. Freq. (MHz) 5260 5260 5320 5320 -ower-band (Lov 90. 5210. 5230. 5250. 5270. 5290	VHT20           Test Ch. Freq. (MHz)         In-band PSD [i] (dBuV/1MHz)           5260         116.59           5260         103.98           5320         113.03           5320         100.38           -ower-band (Lowest Ch.)           Date: 20           -ower-band           -ower-band         -o	VHT20         In-band PSD [i] (dBuV/1MHz)         RBE (MI           5260         116.59         535           5260         103.98         514           5320         100.38         535           5320         100.38         535           cower-band (Lowest Ch.)         Date: 2013.08.03           Date: 2013.08.03           Cower-band (Lowest Ch.)	VHT20         In-band PSD [i] (dBuV/1MHz)         RBE Freq. (MHz)           5260         116.59         5357.40           5260         103.98         5142.30           5320         113.03         5350.25           5320         100.38         5350.04           Oute: 2013.08.03           Oute: 2013.08.03	VHT20         Restrict           Test Ch. Freq. (MHz)         In-band PSD [i] (dBuV/1MHz)         RBE Freq. (MHz)         Measure Distance (m)           5260         116.59         5357.40         3           5260         103.98         5142.30         3           5320         113.03         5350.25         3           5320         100.38         5350.04         3           -ower-band (Lowest Ch.)         5.2GHz           Date: 2013.08.0 100.5210.5230.5250.5270.5290.5310.5330.5550.5370.5400           Date: 2013.08.0 100.5210.5230.5250.5270.5290.5310.5330.5550.5370.5400           Date: 2013.08.0 100.5210.5230.5250.5270.5290.5310.5330.5550.5370.5400	Test Ch. Freq. (MHz)         In-band PSD [i] (dBu//rMHz)         RBE Freq. (MHz)         Measure Distance (m)         Out-Band Level (dBu//m)           5260         116.59         5357.40         3         64.11           5260         103.98         5142.30         3         45.49           5320         113.03         5350.25         3         73.81           5320         100.38         5350.04         3         47.34           ower-band (Lowest Ch.)         5.2GHz Higher-band         5.2GHz Higher-band           0         0         70.70000000000000000000000000000000000	VHT20         Restricted Band Emissions           Test Ch. Freq. (MHz)         In-band PSD [I] (dBuV/IMHz)         RBE Freq. (MHz)         Measure Distance (m)         Out-Band Level (dBuV/m)         Limit (dBuV/m)           5260         116.59         5357.40         3         64.11         74           5260         103.98         5142.30         3         45.49         54           5320         100.38         5350.25         3         73.81         74           5320         100.38         5350.04         3         47.34         54           cower-band (Lowest Ch.)         5.2GHz Higher-band (Highes)         5.2GHz Higher-band (Highes)           0         0         100.48.93         100.38.93         100.38.93         100.38.93           0         0         0         0         5.2GHz Higher-band (Highes)         100.38.93           0         0         0         0         0         5.30.596.576.596         5.30.596.596.596.597.596         5.30.596.596.596.597.596         5.30.596.596.596.596.596.596.596.596.596.596	VHT20         Restricted Band Emissions           Test Ch. Freq. (MHz)         In-band PSD [i] (dBuV/mHz)         RBE Freq. (MHz)         Measure (m)         Out-Band Level (dBuV/m)         Limit (dBuV/m)         Level Type           5260         116.59         5357.40         3         64.11         74         PK           5260         103.98         5142.30         3         45.49         54         AV           5320         100.38         5350.04         3         47.34         54         AV           cower-band (Lowest Ch.)         5.2GHz Higher-band (Highest Ch.)         0.0000         1000000         1000000         1000000         1000000         1000000         1000000         1000000         1000000         1000000         10000000         10000000 <t< td=""></t<>



	VHT	20		Restrict	ed Band Err	nissions		
estricted Band (MHz)	Test Ch. Freq. (MHz)	In-band PSD [i] (dBuV/1MHz)	RBE Freq. (MHz)	Measure Distance (m)	Out-Band Level (dBuV/m)	Limit (dBuV/m)	Level Type	Po note
5460-5470	5500	112.69	5470.00	3	73.77	74	PK	V
5460-5470	5500	100.54	5470.00	3	48.47	54	AV	V
5725-7250	5700	111.18	5725.43	3	73.80	74	PK	V
5725-7250	5700	98.80	5724.97	3	48.79	54	AV	V
5.2GHz L	ower-band (Lov	west Ch.)		5.2GHz	Higher-band	l (Highes	t Ch.)	
09.6 95.9 82.2 68.5	1	3 FCC PART					FCC PART	
68.5 Marchan	And and the second s	FCC PART FCC PART15	08.0			and a start of the second start of the	FCC PART FCC PART1	
54.8		TCCPARTIC	54.8 41.1				TCC PARTI	JE (AVO)
27.4			27.4					
13.7			13.7					
137		Date: 20	13-08-03 137	el (dBuV/m)			Date: 20	)13-08-03
23.3			123.3					
09.6		3	109.6	1				
95.9			95.9					
82.2		FCC PART			$\times$		FCC PART	
54.8		FCC PART1	5E (AVG) 54.8				FCC PART1	<b>5</b> E (AVG)
41.1			41.1		+			
27.4			27.4					
			13.7					
13.7 0 5430 5440. 5450.			5510 0569					



Modulation	VHT	40		Restrict	ed Band Em	nissions		
estricted Band (MHz)	Test Ch. Freq. (MHz)	In-band PSD [i] (dBuV/1MHz)	RBE Freq. (MHz)	Measure Distance (m)	Out-Band Level (dBuV/m)	Limit (dBuV/m)	Level Type	Po note
4500-5150	5270	111.99	5352.90	3	61.12	74	PK	V
4500-5150	5270	99.10	5142.30	3	44.60	54	AV	V
5350-5460	5310	110.91	5350.10	3	69.34	74	PK	V
5350-5460	5310	96.93	5350.00	3	53.87	54	AV	V
5.2GHz L	ower-band (Lo	west Ch.)		5.2GHz	Higher-band	l (Highes	t Ch.)	
34.8 41.1 27.4 13.7	JU. 5210. 5230. 5250. 5270. 529	PCC PP 	60.5	90 5300. 5310.	5320. 5330. 5340.	5350. 5360.	5370. 5380	
137 Level (dBuVim) 123.3 95.9 8.2.2 68.5 54.8 1		Date: 201	123.3 109.6 95.9 ART15E 82.2 E (AVG) 54.8 41.1	rel (dBuV/m)				)13-08-03 PART15E 5E (AVG)
41.1			27.4					
41.1 27.4 13.7			13.7					



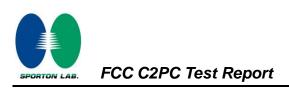
	HT4	40			Restrict	ed Band Em	nissions		
Non-restricted Band (MHz)	Test Ch. Freq. (MHz)	In-band PSD [i] (dBuV/1MHz)		Freq. Hz)	Measure Distance (m)	Out-Band Level (dBuV/m)	Limit (dBuV/m)	Level Type	Po note
5460-5470	5510	109.35	547	0.00	3	68.96	74	PK	V
5460-5470	5510	96.13	547	0.00	3	53.85	54	AV	V
5725-7250	5670	114.43	572	6.40	3	69.98	74	PK	V
5725-7250	5670	100.99	572	5.10	3	52.77	54	AV	V
5.6GI	Hz band (Lowes	st Ch.)			5.6G	Hz band (Hi	ghest Ch	.)	
82.2 68.5 54.8 41.1 47.4 13.7 0 5430 5440. 5450. 546	i0. 5470. 5480. 5490.	FCC PART1 FCC PART1	<u>5E (AVG)</u>	82.2 68.5 54.8 41.1 27.4 13.7 0 565	0 5660. 5670.	5680. 5690. 5700.	5710. 5720.	2 FCC PART FCC PART 1 FCC PART 1	<u>SE (ÁVG)</u>
23.3		Date: 20	)13-08-03	13/	el (dBuVim)			Date: 20	13-08-03
23.3		Date: 20	)13-08-03	13/	el (dBuVim)			Date: 20	13-08-03
23.3 09.6 95.9 82.2				137 123.3 109.6 95.9 82.2	l (dBuV/m)			Date: 20	
23.3 09.6 95.9 82.2 68.5		3	15E (74)	137 123.3 109.6 95.9 82.2 68.5	SI (dBuV/m)				15E (74)
23.3 95.9 95.9 82.2 68.5 54.8		3 FCC PART	15E (74)	137 123.3 109.6 95.9 82.2	2I (dBuV/m)			FCC PART	15E (74)
23.3 95.9 95.9 82.2 68.5 54.8		3 FCC PART	15E (74)	137 123.3 109.6 95.9 82.2 68.5 54.8	l (dBuV/m)			FCC PART	15E (74)
137 23.3 96.6 95.9 82.2 68.5 54.8 41.1 7.4 13.7		3 FCC PART	15E (74)	137 123.3 109.6 95.9 82.2 68.5 54.8 41.1	l (dBuVim)			FCC PART	15E (74)



Madulation	VHT	20		Destriet	ed Band Em	laolono		
Modulation Restricted Band (MHz)	Test Ch. Freq. (MHz)	In-band PSD [i] (dBuV/1MHz)	RBE Freq. (MHz)	Measure Distance (m)	Out-Band Level (dBuV/m)	Limit	Level Type	Pol.
4500-5150	5290	100.56	5114.40	3	57.83	74	PK	V
4500-5150	5290	85.66	5149.50	3	44.14	54	AV	V
5350-5460	5290	100.56	5350.20	3	67.93	74	PK	V
5350-5460	5290	85.66	5350.20	3	53.55	54	AV	V
		5.2GHz Lo	wer-band (L	owest Ch.)		1		1
	109.6 95.9 82.2 68.5 14.8 41.1 27.4 13.7 0 5100	5130. 5150. 5170. 5190.	5210. 5230. 5250. 5270.		FCC PARTISE PARTISE (AUC) . 5370. 5400			
	137 123.3 109.6 95.9 82.2 68.5 54.8 41.1 27.4 13.7 0 5100		5210. 5230. 5250. 5270.		Date: 2013-08-03			



Modulation	VHT	80		Restrict	ted Band Err	nissions		
Restricted Band (MHz)	Test Ch. Freq. (MHz)	In-band PSD [i] (dBuV/1MHz)	RBE Freq. (MHz)	Measure Distance (m)	Out-Band Level (dBuV/m)	Limit (dBuV/m)	Level Type	Pol note
5460-5470	5530	101.11	5470.00	3	69.42	74	PK	V
5460-5470	5530	86.35	5470.00	3	53.84	54	AV	V
5725-7250	5530	101.11	5736.56	3	59.73	74	PK	V
5725-7250	5530	86.35	5748.72	3	45.38	54	AV	V
		5.2GHz Lo	wer-band (L	owest Ch.)		L		
	82.2 68.5 54.8 41.1 27.4 13.7 0 5430	5460. 5480. 5500. 5520. 55	540. 5560. 5580. 5600. 5620	and an an and a second s	C PARTISE (74) PARTISE (74) 0. 5720. 5750			
	137 1233 109.6 95.9 82.2 68.5 54.8 41.1 27.4	JBuV/m)		FC	Date: 2013-08-03			



# 3.7 Transmitter Radiated Unwanted Emissions

#### 3.7.1 Transmitter Radiated Unwanted Emissions Limit

ions below 1 GHz and re	stricted band emissions a	bove 1GHz limit
Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
2400/F(kHz)	48.5 - 13.8	300
24000/F(kHz)	33.8 - 23	30
30	29	30
100	40	3
150	43.5	3
200	46	3
500	54	3
	Field Strength (uV/m)         2400/F(kHz)         24000/F(kHz)         30         100         150         200	2400/F(kHz)         48.5 - 13.8           24000/F(kHz)         33.8 - 23           30         29           100         40           150         43.5           200         46

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 - 5.825 GHz	5.715 5.725 GHz: e.i.r.p17 dBm [78.2 dBuV/m@3m] 5.825 5.835 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]

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).

#### **3.7.2 Measuring Instruments**

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



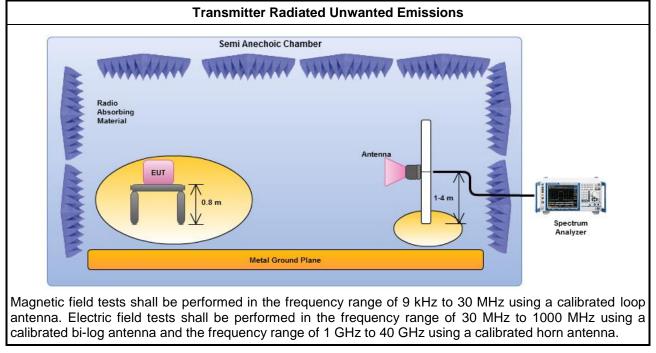
### 3.7.3 Test Procedures

		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 ve 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).
		Measurements in the frequency range 5 GHz - 10GHz are typically made at a closer distance 3m, because the instrumentation noise floor is typically close to the radiated emission limit.
		Measurements in the frequency range 10 GHz - 18GHz are typically made at a closer distance 1m, because the instrumentation noise floor is typically close to the radiated emission limit.
		Measurements in the frequency range above 18 GHz - 40GHz are typically made at a closer distance 0.5m, because the instrumentation noise floor is typically close to the radiated emission limit.
$\boxtimes$	The	average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].
$\square$	For	the transmitter unwanted emissions shall be measured using following options below:
	$\square$	Refer as FCC KDB 789033 v01r03, clause H)2) for unwanted emissions into non-restricted bands.
	$\boxtimes$	Refer as FCC KDB 789033 v01r03, clause H)1) for unwanted emissions into restricted bands.
		Refer as FCC KDB 789033 v01r03, H)6) Method AD (Trace Averaging).
		Refer as FCC KDB 789033 v01r03, H)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 FCC KDB 789033 v01r03, clause H)5) measurement procedure peak limit.
		Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
$\boxtimes$	For	radiated measurement.
	$\square$	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz.
	$\boxtimes$	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.

	Test Method
For	conducted and cabinet radiation measurement, refer as FCC KDB 789033 v01r03, clause H)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



### 3.7.4 Test Setup



Note: Test distance is 3m.

### 3.7.5 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.



Nodulation Mode		11a			Tes	t Freq. (I	MHz)		5580		
Operating Mode		1			Pola	arization			V		
90 Level	(dBuV/m)									Date: 201	3-08-06
81.0											
72.0											
63.0											
54.0										FCC C	LASS-B
45.0				4			5			6	
36.0	J						5			-ĭ	
27.0											
18.0											
9.0											
030	100.	200.	300.	400.	500. Frequenc	600. v (MH7)	7(	)0.	800.	900.	1000
			0ver				Cable	Dnoomn	A /Pos	T /Pos	
	Freq	l evel	Limit			Antenna Factor				1/205	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1				40.00				31.62			QP
2				40.00				31.54			QP
3		5 36.42						31.52			Peak
4		3 41.15 L 38.85		46.00				31.01 30.25			Peak Peak
6		2 39.58						29.85			Peak
0	0/5.12		-0.42	40.00	45.57	25.10	2.50	27.05			TEak
								= :			
ote 1: ">20dB" me	ans spu	rious emi	ssion le	evels that	t excee	d the lev	el of 20	) dB be	low the	e applic	able lin

# 3.7.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)





Modulation Mode		11a			Tes	t Freq. (	MHz)		5580					
Operating Mode		1			Pola	arization			Н					
on Level	(dBuV/m)								I	Date: 201	13-08-06			
81.0														
72.0														
63.0										FCC C	LASS-B			
54.0	_													
45.0		- 3		4			5			6				
36.0	1 2													
27.0				_										
18.0									_					
9.0														
030	100.	200.	300.	400.	500.	600.	7	00.	800.	900.	1000			
50	100.	200.	500.		Frequenc	y (MHz)								
	Freq	Level	Over Limit			Antenna Factor			-	T/Pos	Remark			
	MHz	dBuV/m	dB	dBuV/m		dB/m	dB	dB	cm	deg				
1		5 32.09			51.23			31.54						
2		3 32.96			51.70	11.28		31.27			Peak			
3		1 <u>39.97</u> 4 42.91			56.70			30.90 31.01			Peak OP			
5		6 40.18			47.43			30.25			Peak			
6		5 42.26						29.85			Peak			
			la al c a l		4	al 41a - 1					able P			
Note 1: ">20dB" me Note 2: "N/F" mean Note 3: Measureme	s Nothir	ig Found	spuriou	s emissi	ons (No	o spuriou	is emis	sions w						

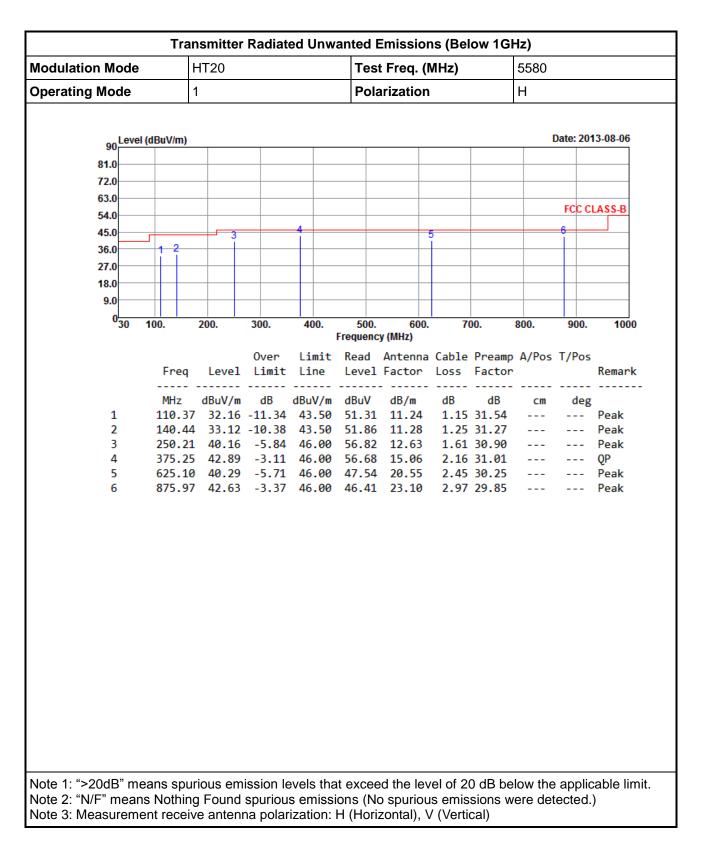




Modulation Mode	ŀ	HT20			Tes	t Freq. (	MHz)		5580		
Operating Mode	1				Pola	arizatior	١		V		
90 <mark>Level (</mark>	dBuV/m)									)ate: 201	13-08-06
90											
81.0											
72.0											
63.0										FCC C	LASS-B
54.0									_		
45.0	r <del> </del>			4			5			6	
36.0											
27.0											
18.0											
9.0											
030 1	100.	200.	300.	400.	500. Frequenc	600	. 70	) <b>0.</b>	800.	900.	1000
			0ver			Antenna	Cabla	Decomp	A /Pos	T /Poc	
	Freq	Level				Factor				1/205	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	 ст	deg	
1	36.53				51.80	-	0.66	31.62			QP
2	43.75	36.88	-3.12	40.00	56.59	11.12	0.71	31.54			QP
3	68.75			40.00	60.90			31.52			Peak
4	375.25			46.00	55.08			31.01			Peak
5		38.95			46.20			30.25			Peak
0	0/3.23	39.66	-0.54	40.00	43.45	23.10	2.90	29.85			Peak
lote 1: ">20dB" mea	ans spur	ious emi	ssion le	evels that	t excee	d the lev	vel of 20	dB be	low the	applic	able lim
lote 2: "N/F" means											





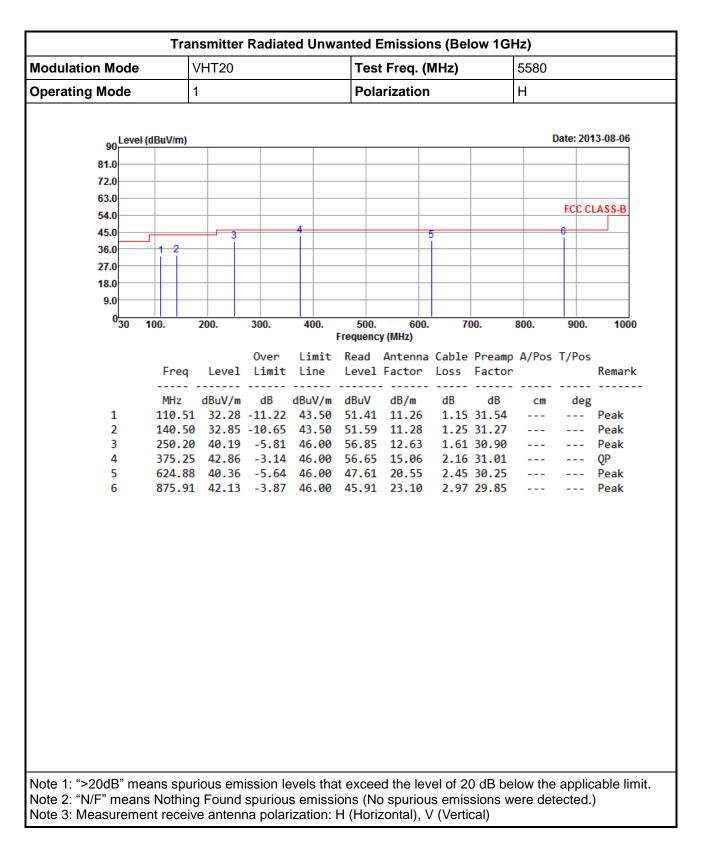




Modulation Mode	V	/HT20			Tes	t Freq. (	MHz)		5580		
Operating Mode	1				Pola	arization	1		V		
90 Level (dl	BuV/m)								I	Date: 20'	13-08-06
81.0											
72.0											
63.0										FCC C	LASS-B
54.0											
45.0				4			5			6	
36.0											
27.0											
18.0											
9.0		_									
0 <mark>11  </mark> 30 10	0.	200.	300.	400.	500. Frequenc	600. v (MHz)	. 7	<b>DO.</b>	800.	900.	1000
			0ver	Limit		Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor		Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	35.73	36.29		40.00			0.67	31.62			QP
2	43.59	36.84	-3.16	40.00	56.46		0.70	31.54			QP
3	68.75			40.00				31.52			Peak
				46.00				31.01			Peak
				46.00				30.25			Peak
6	075.20	39.66	-0.34	40.00	43.45	25.10	2.96	29.85			Peak
lote 1: ">20dB" mea	ns spur	ious emi	ssion le	evels that	at excee	ed the lev	vel of 2	0 dB be	low the	applic	able lim









Modulation Mode	H	IT40			Tes	t Freq. (	MHz)		5550					
Operating Mode	1				Pola	arization	1		V					
90 Level (dB	uV/m)								1	Date: 201	3-08-06			
81.0														
72.0														
63.0										ECC CI	ASS-B			
54.0											A33-0			
45.0				4			5			6				
36.0							-							
27.0		_		_										
18.0														
9.0														
		200	200						000					
<sup>0</sup> 30 100	).	200.	300.	400.	500. Frequenc	600. y (MHz)	. /	00.	800.	900.	1000			
			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	 ст	deg				
						-		31.62			OP			
	43.60	36.91		40.00	56.54			31.54			QP			
	68.73	36.71	-3.29	40.00	61.10	6.20		31.52			Peak			
4 3	375.13	41.25	-4.75	46.00	55.05	15.05	2.16	31.01			Peak			
	525.45	38.99		46.00	46.24			30.25			Peak			
6 8	375.19	39.94	-6.06	46.00	43.73	23.10	2.96	29.85			Peak			
Note 1: ">20dB" mean														
Note 2: "N/F" means N	lothing	Found	souriou	e omieci	ons (Ni	n enuriou	ie omie	eione w	ara dat	botod	۱ ۱			





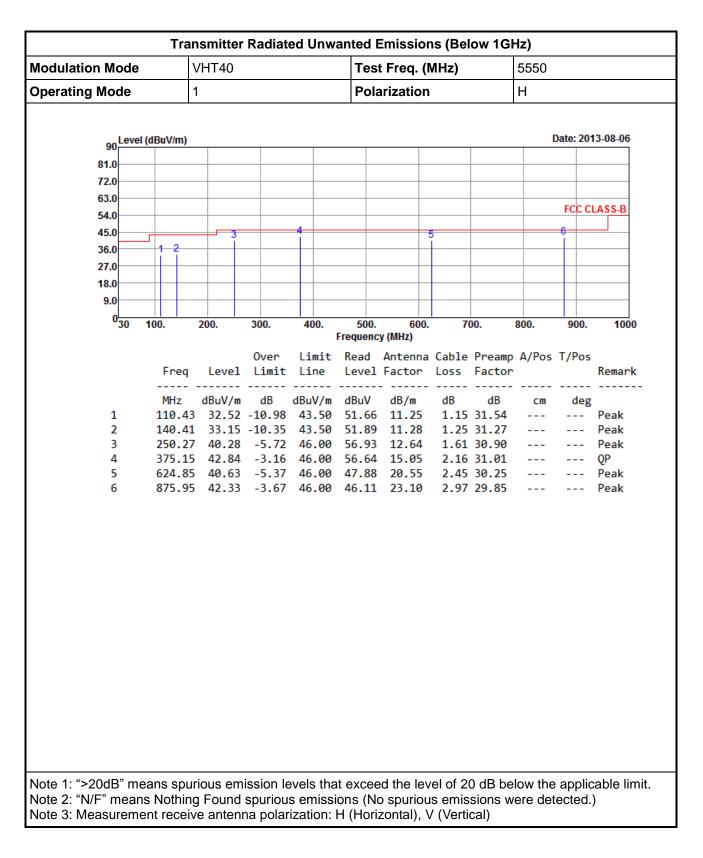
Iodulation Mode	•	HT40			Tes	t Freq. (I	MHz)		5550		
perating Mode		1			Pola	arization			Η		
Leve	el (dBuV/m)									Date: 201	13-08-06
81.0											
72.0											
63.0									_	FCC C	LASS-B
54.0										TUCU	
45.0		- 3		4			5			6	
36.0	1 2										
27.0											
18.0											
9.0											
0	100.	200.	300.	400.	500.	600.	70	)0.	800.	900.	1000
					Frequenc						
	Freq	امريما ا	Over Limit			Antenna Factor				T/Pos	Remark
	MHz	dBuV/m		dBuV/m		dB/m	dB	dB	cm	deg	
1		2 32.25						31.54			
2		1 33.21						31.27			Peak
3		1 40.16 6 42.78			56.82			30.90 31.01			Peak QP
5		.0 40.22						30.25			vr Peak
6		5 42.26						29.85			Peak
-											
ote 1: ">20dB" m	eans sp	urious en	nission le	evels that	at excee	d the lev	el of 20	dB be	low the	applic	able lin
ote 2: "N/F" mea											



Nodulation Mode	N	/HT40			Tes	t Freq. (	MHz)		5550				
Operating Mode	1				Pola	arizatior	1		V				
90	dBuV/m)								I	Date: 20	13-08-06		
81.0													
72.0													
63.0										FCC C	LASS-B		
54.0									_				
45.0 12-3	r			4			5			6			
36.0													
27.0													
18.0													
9.0				_						_			
030 1	100.	200.	300.	400.	500.	600	7	00.	800.	900.	1000		
50	100.	200.	500.		Frequenc				000.	500.	1000		
	Frea	Level	Over Limit			Antenna Factor				T/Pos	; Remark		
	MHz	dBuV/m	dB	dBuV/m		dB/m	dB	dB	cm	deg			
1	35.67			40.00	51.23			31.62			QP		
2	43.61		-3.15		56.48			31.54			QP		
3	68.71	36.58		40.00	60.98	6.20		31.53			Peak		
4	375.25			46.00 46.00	55.14 46.18			31.01 30.25			Peak Peak		
6		39.68						29.85			Peak		
0	075.42	55.00	-0.52	40.00	45.47	25.10	2.50	25.05			TCak		
Note 1: ">20dB" mea	ans sour	ious emi	ssion le	evels that	t excee	d the le	vel of 2	0 dB be	low the	appli	cable lim		
2.2 ·· 0.2 ····0			spuriou							~~~~	22210 111		





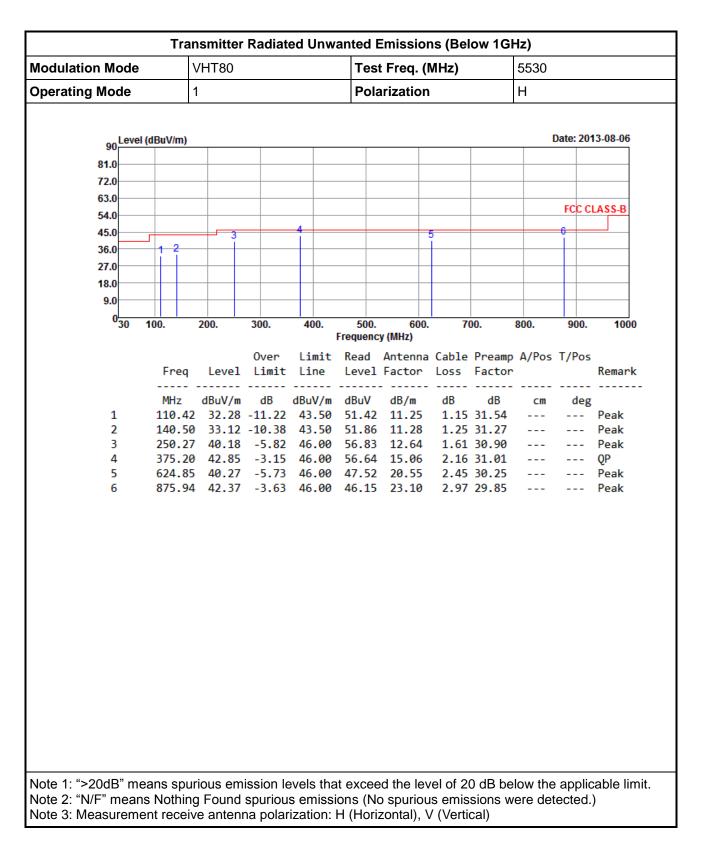




Iodulation Mode	N	/HT80			Tes	t Freq. (	MHz)		5530		
Dperating Mode	1				Pola	arization	1		V		
90	(dBuV/m)								I	Date: 20	13-08-06
81.0											
72.0											
63.0										FCC C	LASS-B
54.0									_		
45.0	<u>۱</u>	+		4			5			6	
36.0											
27.0											
18.0											
9.0											
030	100.	200.	300.	400.	500.	600	70	00.	800.	900.	1000
50	100.	200.	500.		Frequenc				000.	500.	1000
	Freq	Level	Over Limit			Antenna Factor				T/Pos	Remark
1	MHz 35.69	dBuV/m	dB	dBuV/m		dB/m	dB	dB 31.62	cm	deg	
1 2	43.42		-3.35	40.00 40.00	51.42 56.35			31.54			QP QP
3	68.75		-3.75		60.64			31.52			Peak
4	375.16			46.00	55.13			31.01			Peak
5	625.75				46.70			30.25			Peak
6		40.29						29.85			Peak
loto 1: ">20dD" ~~	000 00U		ecion la	wole the	toxoco	d the les			low the	annli	obla li~
lote 1: ">20dB" me	ans spul	ious emi	รรเบม เย	evers ind		u uie iev	/ei 01 Z(	u u b be	iow the	; appill	Janie IIII







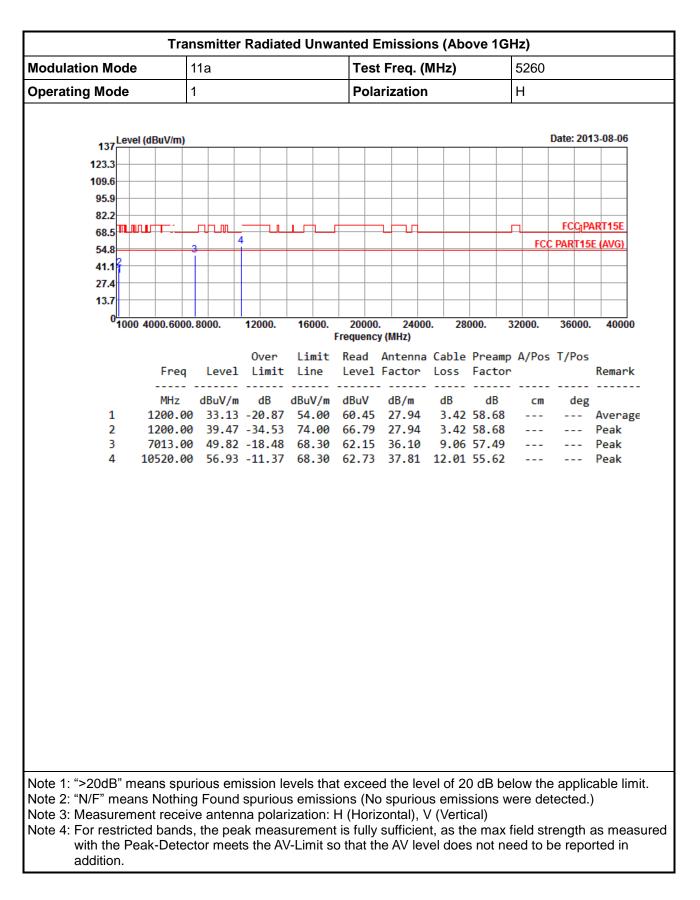


## 3.7.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11a

Modulation M	ode	1	1a					Tes	st F	req. (	(MH:	z)		52	60			
Operating Mo	de	1						Po	lariz	zatio	n			V				
137	Level (dBuV	//m)														Date: 201	3-08-06	<b>i</b>
123.3														_				
109.6														_				
95.9														_				
82.2														_		ECC-DA	DTAFE	
68.5				4					-4						TCC	FCC <sub>I</sub> PA		
54.8	b													+	FUL	PART15	E (AVG)	
41.1														+				
27.4														-				
13.7															$\rightarrow$			
C	1000 4000.	6000.	8000.	120	00.	160		2000		2400	D <b>O</b> .	28	000. 3	3200	)0.	36000.	4000	00
								Frequen	-									
	F.				/er								Preamp		Pos	T/Pos		
	FI	req	Level	L1	mit	Lin	ie	Level	L Fa	ctor	LO	ss 	Factor				Remar	°K
	М	Ηz	dBuV/m	d	IB	dBuV	//m	dBuV	d	IB/m	d	В	dB		cm	deg		
1			34.45							7.94		.42	58.68	-			Avera	ige
2			40.27										58.68	-			Peak	
3			50.57										57.49	-			Peak	
4	1052	0.00	58.37	-9	.95	00.	50	04.1/	כ י	1.01	12	.01	55.02	-			Peak	
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu Note 4: For res	neans No rement re	thing ceive inds,	Found e anten the pea	spu na p ak m	iriou olar neas	s em izatio urem	issi on: I nent	ons (N H (Hor ∷is full	lo s izor y su	purio ntal), Ifficie	us e V (V nt, a	mis 'ertio s th	sions w cal) e max f	ere field	e det d str	ected.) ength a	as me	asui











Modulation M	ode		11	а					Tes	st F	req. (	(MHz)			5300				
Operating Mo	de		1						Pol	ariz	zatior	า		V					
427	,Level (	dBuV/m	)													Date	: 201	3-08-06	
123.3																			
109.6		_																	
95.9		_											_						
82.2	2					_							_					_	
68.5				ւրյու	5	<u>†</u> -1.L				-4			_		<b></b>	-		RT15E	
54.8		_	3		4								_		FC	C PAF	RT15	e (AVG)	
41.1	<u>}</u>												_						
27.4	↓ <mark> </mark>	_																	
13.7	/												-						
(	1000 4	1000.600	00.80	000.	12	2000.	160	) 000. F	2000 Frequent		2400 /Hz)	)0. 2	8000	D. :	32000.	36	000.	4000	0
					(	)ver	Lir		Read			a Cabl	e Pi	reamp	A/Po:	5 T/	Pos		
		Free	9	Leve		imit			Level	. Fa		Loss			-			Remark	k
		MHz		lBuV/ı		dB			dBuV	Ċ	lB/m	dB		dB	cm		deg		
1		1200.0										3.4						Averag	ge
2		1200.0										3.4						Peak Peak	
		.0600.0																Averag	Øe
		0600.0																Peak	5-
Note 1: ">20dE Note 2: "N/F" r Note 3: Measu Note 4: For res with th additio	neans remei stricte e Pea	Nothi nt rece d banc	ing l eive ds, t	Found antei he pe	d sp nna eak	ouriou polar meas	s en izati suren	nissio on: H nent	ons (N H (Hor is fully	lo s izoi / su	purio ntal), ufficie	us em V (Ver nt, as	ssio tica the	ons w I) max	/ere de field si	etect	ed.) gth a	as mea	asu





Modulation M	ode		11	а					Tes	t F	req. (	MHz)		5	300				
Operating Mo	de		1	1							zation	1	F	Н					
42	,Level (	dBuV/m	)	Date: 201												013-0	8-06		
123.3																			
123.																			
95.9																			
82.2																			
68 /				տու	_					-1						FCC	PART	15E	
54.8			2		5										FCC	: PART	15E (A	VG)	
41.1	<b>b</b>		Ŭ		4														
27.4																			
13.7																			
13.1					12	000	4.00		2000			0 00		201		2000			
	1000 4	000.60	00.80	000.	12	000.	160	)00. F	2000 requen		2400 IHz)	0. 28	000.	320	000.	3600	<i>.</i>	40000	
					0	ver	Li	mit	Read	An	tenna	Cable	Pream	ıp A	A/Pos	T/Pc	s		
		Free	q	Leve!	l L	imit						Loss		or			Re	mark	
		MHz		dBuV/r	 n	dB			dBuV		IB/m	dB	dB		cm	de	eg		
		1200.0	00	33.19	9 -2	0.81	54	.00	60.51	. 2	7.94	3.42	58.68	3			- Av	erage	
2												3.42						ak	
												8.97						ak	
												12.13 12.13						erage ak	
Note 1: ">20df Note 2: "N/F" r Note 3: Measu Note 4: For res with th additio	neans iremei stricteo e Pea	Nothint rece d band	ing l eive ds, t	Found anter the pe	d sp nna eak i	uriou polar neas	s en izati surer	nissio on: H nent	ons (N H (Hor is full <u>y</u>	o s izor / su	puriou ntal), N Ifficier	us emis V (Verti	sions cal) ie max	wei k fie	re de eld sti	tecte	d.) n as	meas	





Modulation M	ode		11	а					Tes	st F	req. (	(MHz)			5320				
Operating Mo	de		1						Pol	ariz	zatio	n			V				
427	,Level (d	dBuV/m	)													Date	: 201	3-08-06	
123.3																			
109.6																			
95.9		_											_						
82.2		_											_						
68.5	, mi wi			ւրու	_	╞┶╙				-4								RT15E	
54.8			3		5								_		FC	C PAF	RT15	E (AVG)	
41.1	2				1								_					_	
27.4													_						
13.7	,												_						
		000.600	0.80	000.	12	000.	160	000.	2000	0.	2400	)0.	280	00. :	32000.	36	000.	4000	0
							1.4.		requen			- C-h1		D	A /D-	- T/	D		
		Free	1	Leve		)ver .imit								Preamp Factor	-	5 1/1	POS	Remar	k
		MHz	 d	IBuV/I	 m	dB	dBu	/m	dBuV		IB/m	dB	-	dB	 Cm		deg		
1	. :	1200.0	90	34.4	1 -1	9.59	54	.00	61.73		-	3.4	2	58.68			-	Avera	ge
2														58.68				Peak	
Е														57.62				Peak	
4														55.59 55.59				Avera Peak	ge
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu Note 4: For res with th additio	neans remer stricteo e Pea	Nothint rece d banc	ng I eive Is, t	Found antei he pe	d sp nna eak	uriou polai meas	s en izati suren	nissio on: H nent	ons (N H (Hor is full <u>)</u>	lo s izoi / su	purio ntal), ufficie	us em V (Ve nt, as	iss rtic the	sions w al) e max	/ere de field s	etect	ed.) gth a	as mea	asu





Modulation M	ode		11	а					Tes	st F	req. (	MHz)		5	320				
Operating Mo	de		1	1							zatior	)	ŀ	Н					
423	,Level (d	dBuV/m	)	Date: 20'												2013-0	8-06		
123.3																			
123.																			
95.9																			
82.2																			
68 /	muu			տո												FCC	PART	15E	
54.8			3		5										FCC	: PART	15E (A	VG)	
41.1	h				4														
27.4																			
13.7																			
13.1																			
	1000 4	000.600	00.8	000.	12	000.	160	000. F	2000 requen		2400 NHz)	0. 28	000.	32	000.	360	)0. 4	10000	
						ver						Cable				T/Po	s		
		Free	9	Leve	1 L	imit						Loss		or			Re	mark	
		MHz		lBuV/r	 n	dB			dBuV		IB/m	dB	dB		cm	de	eg		
1		1200.0		-		0.63		-			-	3.42	58.68	8			-	erage	
2												3.42							
3												8.93							
4												12.15 12.15						erage	
-	. 1	0040.0	00	55.2	+ -1	0.70	/4	.00	00.02		7.00	12.15	55.5				- Pe	aĸ	
Note 1: ">20dE Note 2: "N/F" r Note 3: Measu Note 4: For res with th additio	neans remer stricteo e Peal	Nothi nt rece d banc	ng l eive ds, t	Found antei the pe	d sp nna eak i	uriou polar neas	s en izati surer	nissio on: H nent	ons (N H (Hor is fully	o s izor / su	puriou ntal), ` Ifficier	us emis V (Verti	sions cal) ie ma:	we x fie	re de eld sti	tecte rengt	d.) h as	meas	





Modulatior	n Mod	e	11a	I					Tes	t Fr	eq. (I	MHz)		Ę	5500				
Operating	Mode		1						Pol	ariza	ation			١	V				
	Lev	/el (dBuV/m)														Date:	201:	3-08-06	
	23.3																		
	09.6																		
	95.9																		
	82.2					- 1		л г							1	FC	C1 PA	RT15E	
	00.5	/****			6										4			(AVG)	
	54.8		4		5														
	41.1																		
	27.4				+														
	13.7																		
	0 <mark>100</mark>	00 4000.600	0.800	)0.	120	000.	160	)00. F	2000 Frequence		2400( Hz)	0. 28	000.	32	000.	360	00.	40000	)
					0	ver	1.11					Cable	Pnos	mn		т/р	05		
		Free	l I	.evel			Li	ne	Level	Fac	tor	Loss	Fact		AJFUS	171		Remark	¢
		MHz	dE	BuV/m		dB			dBuV		3/m	dB	dE	3	 ст	d	eg		
	1	1200.0	<b>0</b> 3	34.38	-1	9.62	54	.00	61.70	27	7.94	3.42	58.6	8			-	Averag	e
	2	1200.0																Peak	
	3	7331.0																Averag	e
	4	7331.0										9.86						Peak	
	5 6	11000.0																Averag Peak	e
	0	11000.0			-1	0.50	/4	.00	01.50	50		11.01	55.4				-	reak	
Note 1: ">2	0dB" n	neans sp	uriou	ıs em	iss	ion le	evels	tha	t excee	ed th	ne lev	el of 2	0 dB	belo	ow the	e apr	olica	able lin	nit.
		ans Nothi																	
NOLO Z. 19/1																	,		
	abaror																		
Note 3: Mea														ax fie	eld st	rena	th a	s mea	su
lote 3: Mea lote 4: For	restric		s, th	ie pea	ak r	neas	uren	nent	is fully	/ suf	ficien	nt, as th	ne ma						su





Modulation Mod	le	11a				Tes	Freq.	(MHz)		5	500			
Operating Mode	•	1				Pola	rizatio	'n		Н	l			
Le	vel (dBuV/m)			Date: 2013-08-06										
123.3														
109.6														
95.9														
82.2			n		1 г							FCC	PART15E	
00.5			6		<u> </u>						FCO		5E (AVG)	
54.8		4	5											
41.1		•												
27.4														
13.7														
0 <mark>10</mark>	00 4000.6000	). 8000.	12000.	160		20000 requenc		00. 28	3000.	320	000.	3600	0. 4000	0
			0ver	Lin				a Cable	Prea	mp A	/Pos	T/Po:	5	
	Freq	Level	Limit		ne			Loss		or			Remar	k
	MHz	dBuV/m				dBuV	dB/m	dB	dB		cm	de		
1		33.35							58.6					ge
2		0 40.14 0 38.12												
4		9 30.12 9 49.78						9.86					'	ge
5	11000.00													σe
6	11000.00												_	8-
Note 1: ">20dB" Note 2: "N/F" me Note 3: Measure Note 4: For restri with the f addition.	ans Nothin ment recei	g Found ve anten s, the pea	spuriou na pola ak meas	is em rizatio suren	iissio on: H nent	ons (No I (Hori: is fully	o spuric zontal), sufficie	ous emis V (Vert ent, as t	ssions ical) he ma	wer x fie	re de Id sti	tected	l.) Las mea	asu





Modulation M	lod	е		11a	l					Tes	st F	req. (	MHz)			5580			
Operating Mo	ode			1						Po	ariz	zation	)			V			
13	-	vel (dB	uV/m)														Date:	201:	3-08-06
123.																			
123.																			
95.																			
82.	2		<b>-</b>			_	n		- г		_						FCC	∏PA	RT15E
						6										FC	C PART	_	
54.	b			3		5													
41.																			
27.									1										
13.																			
	0 <mark>1</mark> 00	00 400	0.6000	. 800	)0.	120	00.	16	000. F	2000 requen		2400 (Hz)	0. 2	8000.	3	32000.	360	00.	40000
						0\	er	Li	mit	Read	An	tenna	Cabl	e Pr	eamp	A/Pos	T/P	os	
			Freq	l	evel			Li	ne	Leve]	l Fa	ctor	Loss	Fa					Remark
		-	MHz	 dF	 BuV/m		IB			dBuV		 B/m	dB		dB	 ст	d	eg	
	1				-					61.74		-						-	Averag
	2									67.70									Peak
	3									52.26								-	Averag
	4									62.97			9.6					-	Peak
	5		160.00							51.30									Averag
	6	111	160.00	0 5	58.29	-15	5.71	74	.00	63.76	5 3	8.16	11.7	7 55	.40			-	Peak
Note 1: ">20d	R" r	nean	IS SNI	ILIO	IS em	jeci	on la	مامريد	the	terre	ed 1	he lo	/el of '	20 Y	R ho	low th	e anr	olica	ahle lim
			10 U III I	91	Junu	JAC		0 01	1000	2113 (1)	.03	punot				Sic ue		·u.)	
Note 2: "N/F"		nent			anten	na r	olar	izati	on · F		izor	ntal) \	/ (\/or	tical					
Note 2: "N/F" Note 3: Measu	urer		recei	ve a												field st	renat	th a	s meas
Note 2: "N/F"	urer stri	cted I	recei <sup>;</sup> bands	ve a s, th	ie pea	ak n	neas	urer	nent	is full	y su	ifficier	nt, as f	he n	nax f				





Modulation M	ode		11a	a					Tes	st F	req. (	MHz)		5	580				
Operating Mo	de		1						Ро	ari	zatior	1		ł	1				
	Level (d	BuV/m)														Date:	2013	3-08-06	
123.3																			
109.6																			
95.9 82.2																			
	muuu					7 0		л г								FC	C <sub>II</sub> PAI	RT15E	
					6										FC	C PAR	T15E	(AVG)	
54.8	h		1		5														
41.1																			
27.4																			
13.7																			
ι ι	1000 40	00.600	0.80	00.	1200	)0.	160	)00. F	2000 requen		2400 //Hz)	0. 28	000.	32	000.	360	000.	4000	)
					0ve	er	Lir	nit	Read	Ar	ntenna	a Cable	Prea	mp /	A/Pos	T/P	os		
		Freq	I	Level					Leve!	L Fa		Loss						Remark	¢
		MHz	dl	BuV/m	dl	в	dBu\	V/m	dBuV		1B/m	dB	dB		cm	d	leg		
1				33.32									58.6					Averag	ge
2				39.59									58.6					Peak	
3				38.34							36.01		58.2					Averag	ge
4				49.88							36.01		58.2					Peak	
5				44.64								11.77 11.77						Averag Peak	ze
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu Note 4: For res with the additio	neans remen tricted e Peak	Nothir t recei band	ng F ive a s, th	ound antenr ne pea	spui na p ik m	riou: olar eas	s err izati uren	nissio on: H nent	ons (N H (Hor is full	lo s izo y sı	puriountal), ` ufficier	us emis V (Verti nt, as th	sions cal) ie ma	we x fie	re de eld st	reng	ed.) th a	s mea	asu





Modulation Mode	1	1a				Test	Freq.	(MHz	z)		5700			
Operating Mode	1					Pola	rizatio	on			V			
137 Level (dl	BuV/m)											Date	201	3-08-06
123.3 109.6														
95.9														
82.2 68.5			— <u> </u>		- -							FC	C <sub>II</sub> PA	RT15E
			6				<b>–</b> –				FC			(AVG)
54.8		3	5											
41.15														
27.4				1										
13.7				1										
01000 40	00.6000.	8000.	12000.	160	000. I	20000 Frequenc		000.	280	000.	32000.	36	000.	40000
			0ver	Lii	mit	Read	Anten	na Cal	hle	Pream	ο Δ/Ρο	ς Τ/Ι	205	
	Freq	Level	Limit			Level	Facto	r Los			-	5 .7.		Remark
	MHz	dBuV/m				dBuV	dB/m	dl	в В	dB	сm		deg	
		34.42								58.68				Average
		40.28								58.68				Peak
		40.28								58.25				Average
		49.74 46.28								58.25				Peak Average
		58.64								55.26				Peak
Note 1: ">20dB" mean Note 2: "N/F" means I Note 3: Measurement Note 4: For restricted with the Peak	Nothing t receive bands,	Found e anten the pea	spuriou na pola ak mea	us en rizati surer	nissi on: I nent	ons (No H (Horiz : is fully	o spurie zontal) sufficie	ous ei , V (V ent, a	mis: ertic s th	sions v cal) e max	vere d	etecto treng	ed.) th a	is meas

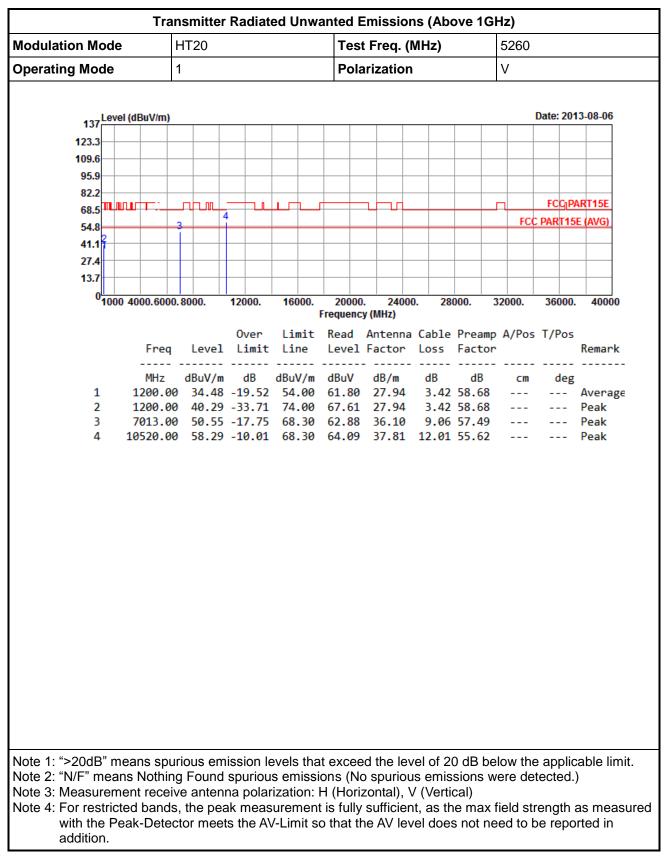




Modulation Mo	de	11	la					Tes	st F	req. (	MHz)		5	5700				
Operating Mod	le	1						Po	ari	zatior	1		ŀ	1				
مما	.evel (dBuV/	m)													Date:	2013	3-08-06	
		Í																
123.3																		
109.6 95.9																		
82.2		·			-		<u>п</u> г		_						FC	C <sub>II</sub> PA	RT15E	
		$\top$		6										FC			(AVG)	
54.8			3	5														
41.1																		
27.4																		
13.7																		
01	000 4000.6	000.8	000.	120	000.	160	)00. I	2000 Frequen		2400 //Hz)	0. 28	000.	32	000.	360	000.	4000	0
				0	ver	Lir	mit	Read	Ar	ntenna	a Cable	Prea	mp /	A/Pos	T/P	05		
	Fr	eq	Level					Leve]	l Fa	actor	Loss			.,	.,.		Remarl	k
	МН		dBuV/m		dB			dBuV		lB/m	dB	dB		cm		leg		
1			33.35							27.94		58.6					Averag	ge
2			39.54									58.6					Peak	
3			38.47 50.31							36.02		58.2 58.2					Averag Peak	ge
4											9.65						reak Averag	πe
6			57.29														Peak	50
Note 1: ">20dB' Note 2: "N/F" m Note 3: Measur Note 4: For rest with the addition	eans Not ement rec ricted bar Peak-De	hing ceive nds,	Found anter the pe	l spi ina ak r	uriou polar neas	s en izati uren	nissio on: I nent	ons (N H (Hor is full	lo s izo y sı	puriountal), ` ufficier	us emis V (Verti nt, as th	sions cal) ne ma	we x fie	re de eld st	tecte reng	ed.) th a	s mea	asu

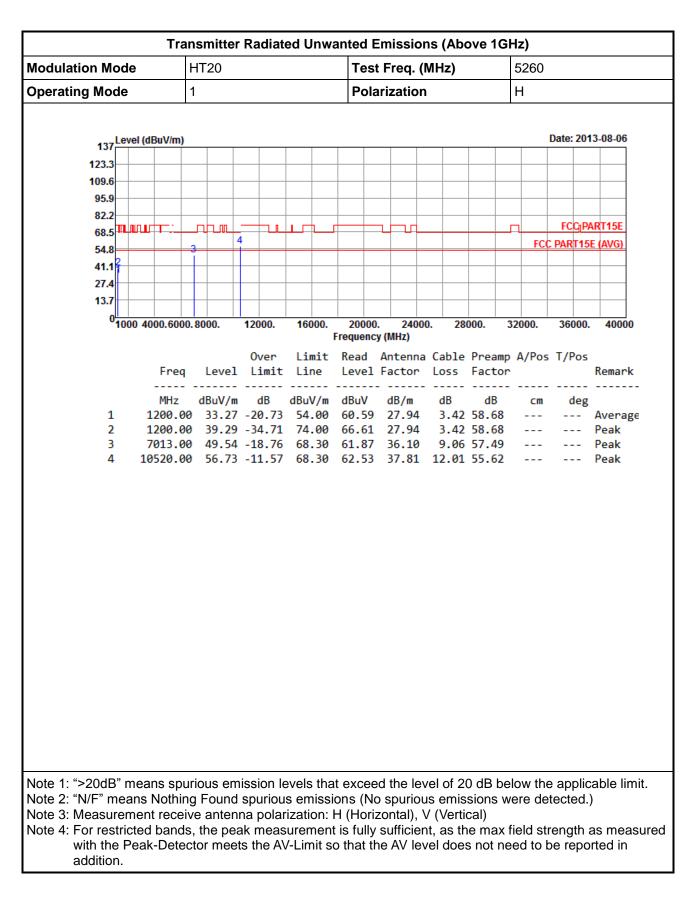


## 3.7.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT20



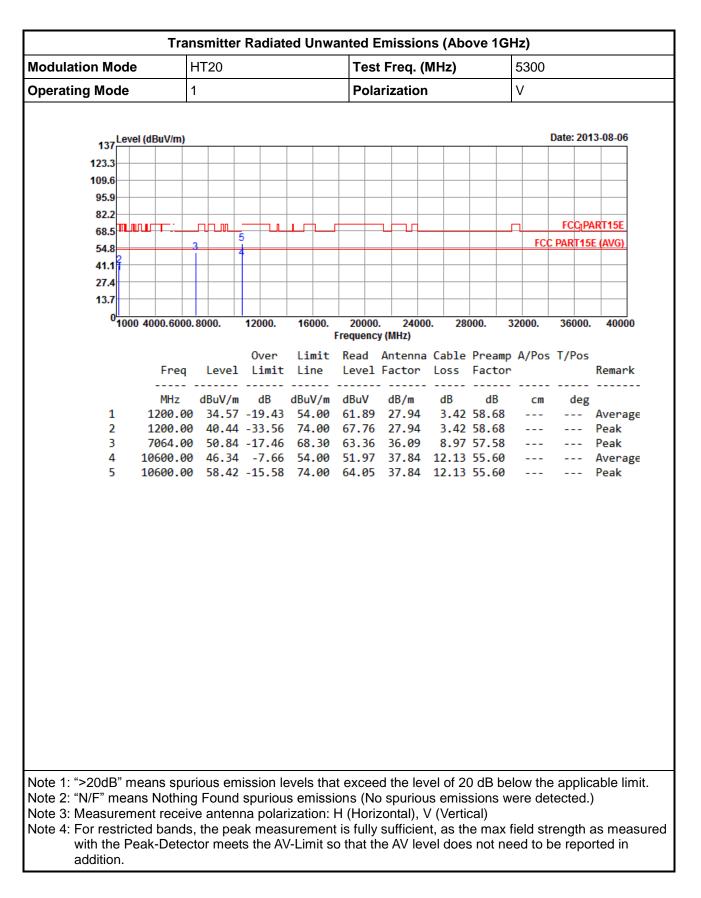
















Modulation Mo	de	Н	IT20					Tes	st F	req. (	(MHz)		53	800			
Operating Mod	е	1						Pol	ari	zatio	n		Н				
427	evel (dBu	ıV/m)													Date:	2013	-08-06
13/																	
109.6																	
95.9																	
82.2																	
68.5				_											FC	C <sub>I</sub> PAF	T15E
54.8		3		5										FCC	PAR	<b>F15E</b>	(AVG)
41.1		Ĭ		4													
27.4																	
13.7	_			_													
	000 4000	0003	8000	12	000.	160	000.	2000	0	2400	10 28	000.	3200	0	360	00.	40000
	000 4000		5000.	12	000.	100		Frequen			JU. 20	000.	5200	<i>.</i>	500	00.	40000
				C	ver	Li	mit	Read	Ar	ntenna	a Cable	Pream	p A/	/Pos	T/P	os	
	I	Freq	Leve]	. L	imit						Loss		r			F	Remark
	-	MHz	dBuV/n	·	dB		V/m	dBuV		dB/m	dB	dB		cm	d	eg	
1	120	00.00	33.12	2 -2	0.88		-			27.94	3.42	58.68				-	Average
2											3.42					- F	Peak
3											8.97						Peak
4											12.13 12.13						Average Peak
Note 1: ">20dB'	means	s spuri	ous en	niss	ion le	evels	tha	t exce	ed	the le	vel of 2	0 dB be	elov	v the	e app	olica	ble lim
Note 2: "N/F" m Note 3: Measure Note 4: Ear rost	ement r	eceive	e anter	nna	polar	izati	on: ŀ	H (Hor	izo	ntal),	V (Verti	cal)					- moor
Note 4: For rest with the																	





Modulation M	ode		H	T20					Tes	st F	req. (	(MHz)		5	5320		
Operating Mo	de		1						Ро	ari	zatio	n		١	/		
	Level (	dBuV/m)	)													Date: 201	3-08-06
			,														
123.3 109.6																	
95.9																	
82.2																	
	muuu			ιι	_											FCC <sub>II</sub> P/	ART15E
54.8			3		5										FC	CPART15	E (AVG)
41.1	b				4												
27.4					_												
13.7					_												
(		000.600	10.8	000	12	000.	16(	000.	2000	0	2400	0 28	000.	32	000.	36000.	40000
	1000 4								requen			. 20		52		50000.	40000
		-			-	ver						a Cable			A/Pos	T/Pos	Demos
		Free	۹ 	Leve.	L L 	1m1t			Leve.			Loss		or 			Remark
		MHz		dBuV/r		dB			dBuV		dB/m	dB	dB		cm	deg	
1												3.42					Average
2												3.42 8.93					
4												12.15					
												12.15					
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu Note 4: For res with th additio	neans remei stricteo e Pea	Nothi nt rece d banc	ng eive ds, t	Found anter the pe	d sp nna eak i	uriou polar neas	s en rizati surer	nissio on: H nent	ons (N H (Hor is full	lo s izo y sı	purio ntal), ufficie	us emis V (Verti	sions cal) ne ma	we x fie	re de eld st	tected.)	) as meas





Modulation M	ode		ΗТ	20					Tes	st F	req. (	(MHz)		5	320		
Operating Mo	de		1						Pol	ari	zatio	า		ŀ	ł		
	l evel (r	dBuV/m)														Date: 201	13-08-06
123.3																	
109.6																	
95.9 82.2																	
																FCC <sub>II</sub> P/	ART15E
54.8			2		5										FC	PART15	E (AVG)
54.a 41.1	<b>b</b>		Ĭ		4												
27.4																	
13.7																	
,	1000 4	000.600	0.80	00.	12	000.	160	000. F	2000 requen		2400 //Hz)	0. 28	000.	32(	000.	36000.	40000
					0	ver	Li	mit	Read	Ar	ntenna	a Cable	Pream	ip 4	A/Pos	T/Pos	
		Freq		Level	L	imit	Li	ne		. Fa	actor	Loss	Facto			-	Remark
		MHz	d	BuV/m	1	dB			dBuV		dB/m	dB	dB		cm	deg	
1												3.42					Average
2												3.42					
3												8.93 12.15					
												12.15					0
Note 1: ">20dE Note 2: "N/F" r Note 3: Measu Note 4: For res with th	neans remer stricteo	Nothin nt rece d band	ng F ive s, tl	-ounc anter he pe	l spi ina ak r	uriou polar neas	s en izati surer	nissio on: H nent	ons (N H (Hor is full <u>y</u>	lo s izo / sı	purio ntal), ufficie	us emis V (Verti nt, as th	sions cal) ie max	wei k fie	re de eld st	tected.	) as meas





Modulation Mod	е	HT20				Tes	t Freq.	(MHz)		5	5500			
Operating Mode		1				Pola	arizatio	on		١	V			
Lev	vel (dBuV/m)											Date: 3	2013-(	)8-06
123.3														
109.6														
95.9														
82.2 68.5					<u> </u>		-					FCC	) APART	15E
00.5		4	6									C PART		
54.8		3	5											
41.1														
27.4														
13.7														
0100	0 4000.6000	). 8000.	12000	. 16	000. I	20000 Frequenc		)00.	28000.	32	000.	360	00.	40000
			0ve	r Li	mit	Read	Antenr	na Cabl	e Pre	amp	A/Pos	T/P	os	
	Freq	Level	Lim	it Li			Factor							emark
1	MHz 1200 00	dBuV/m 34.48				dBuV	dB/m 27.94		d 2 58.		сm		eg	/erage
2		0 40.59						4 3.4						erage
3		39.55												/erage
4	7331.00	51.39	-22.	61 74	.00	63.52	36.03	9.8	86 58.	ð2			- Pe	eak 🗍
5	11000.00							9 11.8						/erage
6	11000.00	55.67	-18.	33 74	.00	61.35	38.00	9 11.8	31 55.	49			- Pe	eak
	neane enu	irious en	niceior	ו בעבו	s tha	t avcar	nd tha l	مريما مر	20 4B	hela	w th	o anr	licat	le limi
Noto 1. ">20dP" r														
Note 1: ">20dB" r Note 2 <sup>.</sup> "N/F" mea		g i ounu	opun	545 61						5 110			,	
Note 2: "N/F" mea		ve anten	na po	larizat	ion: I	H (Hori	zontal)	. V (Ve	rtical)					
Note 2: "N/F" mea Note 3: Measurer	nent recei <sup>,</sup>									ax fie	eld st	renat	th as	meas
Note 2: "N/F" mea Note 3: Measurer Note 4: For restric	nent recei <sup>,</sup>	s, the pe	ak me	asure	ment	is fully	sufficie	ent, as	the m					





Modulation M	ode		ŀ	HT20						Те	st F	req. (	(MHz	:)		5	500			
Operating Mo	de		1							Ро	lari	zatio	n			ŀ	ł			
	Leve	l (dBı	ıV/m)															Date: 20	013-08-	06
123.																				
109.0 95.1																				
95.																				
	, m. m			ппг	n -		<b>1</b>		л г									FCC	PART15	E
54.						6											FC	C PART1	5E (AV	G)
54. 41.	b			3		5														
27.4																				
13.																				
	<b>'1</b> 000	400	0.6000.	8000.		1200	)0.	160	)00. I	2000 Frequer		240( MHz)	00.	280	000.	32	000.	3600	0. 40	000
						0v	er	Lir	nit	Read	Α	ntenn	a Cab	le	Pream	ıp 4	A/Pos	T/Po	s	
			Freq	Lev	el	Li	mit	Li	ne	Leve	1 F	actor	Los	s	Facto				Rem	ark
		-	MHz	dBu\	/m	d	в			dBuV		dB/m	dB	3	dB		сm	de	 g	
1	L	12	00.00	33.	58	-20	.42	54	.00	60.9	0	27.94	3.	42	58.68	3			Ave	rage
1	2		00.00												58.68				Pea	k
	3		31.00												58.02					
	Ļ		31.00												58.02					
	5														55.49 55.49					rage
,	)	110	00.00		01	-20	.19	74	.00	59.4	9	50.00	11.	01	55.49	,			Pea	ĸ
Note 1: ">20dl	3" m	eans	s spur	ious	emi	ssio	on le	evels	tha	t exce	ed	the le	vel o	f 20	) dB b	elo	w the	e appl	icable	limit
Note 2: "N/F" r																				
Note 3: Measu																				
Note 4: For res																c fie	eld st	renath	as m	easu
with th additic	e Pe																			





Modulation M	ode		Н	T20					Tes	t Fre	q. (I	MHz)		5	5580			
Operating Mo	de		1						Pol	ariza	tion			١	/			
137	Level	(dBuV/n	1)													Date: 2	2013	3-08-06
123.3																		
123.3																		
95.9																		
82.2																		
02.2		╨╪┲╌╴		חח ריור				а г			п					FCC	∂PA	RT15E
					6										FCC	: PART	15E	(AVG)
54.8	b				5													
41.1																		
27.4																		
13.7			1															
C	1000	4000.60	00.8	000.	12	000.	160	000. F	2000 Frequence		24000 2)	0. 28	000.	32	000.	360	00.	40000
					C	)ver	Li	mit	Read	Ante	enna	Cable	Prea	no /	A/Pos	T/Po	os	
		Fre	q	Leve]			Li	ne	Level	Fact	or	Loss	Facto		,	.,		Remark
		MHz		dBuV/n	·	dB			dBuV	dB/		dB	dB		 ст	de	eg	
1		1200.	00	34.58	3 -1	19.42	54	.00	61.90	27.	94	3.42	58.68	8				Averag
2												3.42					-	Peak
3												9.68						Averag
4												9.68						Peak
5												11.77						Averag Peak
0		11100.	00	50.00	, -1	19.94	/4	.00	04.15	50.	10	11.77	55.40	0			-	reak
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu	nean	s Noth	ing	Found	l sp	ouriou	s en	nissio	ons (N	o spu	iriou	is emis	sions					able lin
Note 4: For res with the additio	stricte e Pea	ed ban	ds,	the pe	ak	meas	uren	nent	is fully	suffi	cien	nt, as th	e ma					





Modulation Mode	1	HT20				Tes	t Freq.	(M	Hz)		5	580			
Operating Mode		1				Pola	arizatio	on			Н	ł			
Leve	l (dBuV/m)												Date:	2013	3-08-06
123.3															
109.6															
95.9															
82.2 68.5			n		1_ г								FC	C <sub>II</sub> PAI	RT15E
00.5			6									FCO	: PAR		
54.8		3	5												
41.1															
27.4															
13.7															
01000	4000.6000	. 8000.	12000.	160		20000 Frequenc		000.	28	000.	320	)00.	360	00.	40000
			0ver	Lin	nit	Read	Anten	na (	Cable	Prear	nn Δ	/Pos	T/P	05	
	Freq	Level	Limit				Facto								Remark
	MHz	dBuV/m				dBuV	dB/m		dB	dB		cm		eg	
1 2	1200.00					60.93				58.68					Average
2	1200.00 7438.00					50.95				58.68					Peak Average
4	7438.00									58.20					Peak
5	11160.00									55.40					Average
6	11160.00	57.47	-16.53	3 74.	.00	62.94									Peak
Note 1: ">20dB" m Note 2: "N/F" mear Note 3: Measurem Note 4: For restrict with the Pe addition.	ns Nothing ent receiv ed bands	g Found /e anten , the pe	l spurio na pola ak mea	us em irizatio suren	nissio on: H nent	ons (Ne H (Hori is fully	o spurie zontal) sufficie	ous , V ent,	emis (Verti , as th	sions cal) ie max	wer x fie	e de Id st	tecte	ed.) th a	s meas





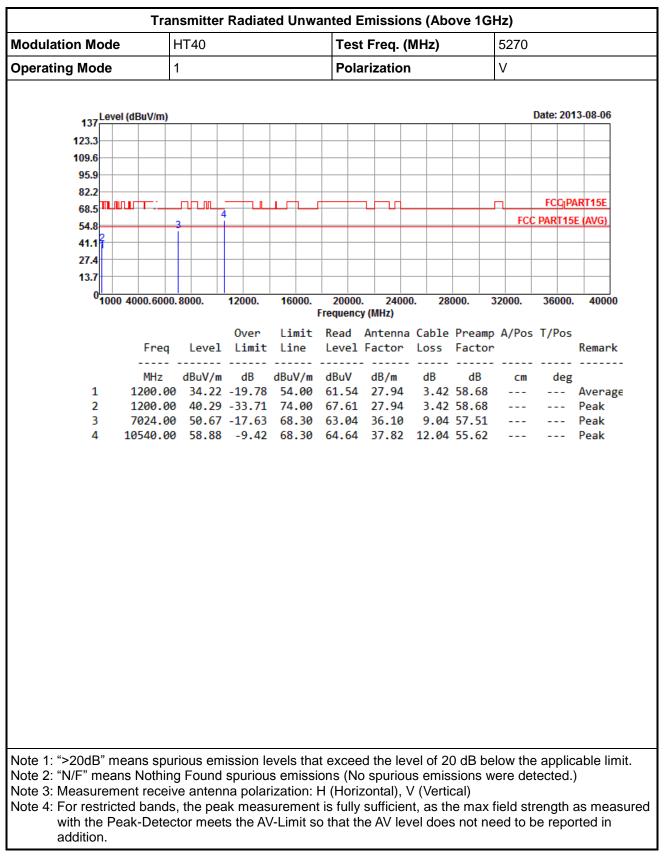
Modulation N	lode	;		ΗT	20					Te	st F	req. (	MHz)			5700	)			
Operating Mo	ode			1						Ро	lari	zatior	า			V				
	Leve	el (dB	uV/m)														D	ate: 201	3-08-06	
123.																				
109.																				
95.																				
82.			<b>T</b> .				-		<b>ч</b> г		_							FCCIPA	RT15E	
			•			6										F	сс	PART15		
54.	b			3		5														
41.																				
27.																	+			
13.	7																+			
	0 <mark>100</mark>	0 400	00.600	0.80	00.	12	000.	160	000. I	2000 Frequen		2400 MHz)	0. 2	8000	0. 3	32000.	_	36000.	4000	D
						0	ver	Lii					a Cabl	ρP	reamn	Δ/Pr	15	T/Pos		
			Freq		Level	_		Li	ne		1 Fa	actor	Loss	F				1,105	Remark	¢
			MHz	d	BuV/m		dB			dBuV		dB/m	dB		dB	cn	n	deg		
	1									62.0					8.68				Averag	ge
	2									67.9					8.68				Peak	
	3									52.8					8.25					ge
	4 5									62.1			9.8		8.25				Peak Averag	
	5												11.8						`	3e
Note 1: ">20d																				nit
lote 2: "N/F"																ere d	lete	ected.)		
Note 3: Measu																				
Note 4: For re																				
14 L 4 L																				
with th additio		eak-	Dete	ctoi	r mee	ts t	he A\	/-Lin	nit so	o that	the	AV le	vel do	es r	not ne	ed to	b be	e repo	rted in	





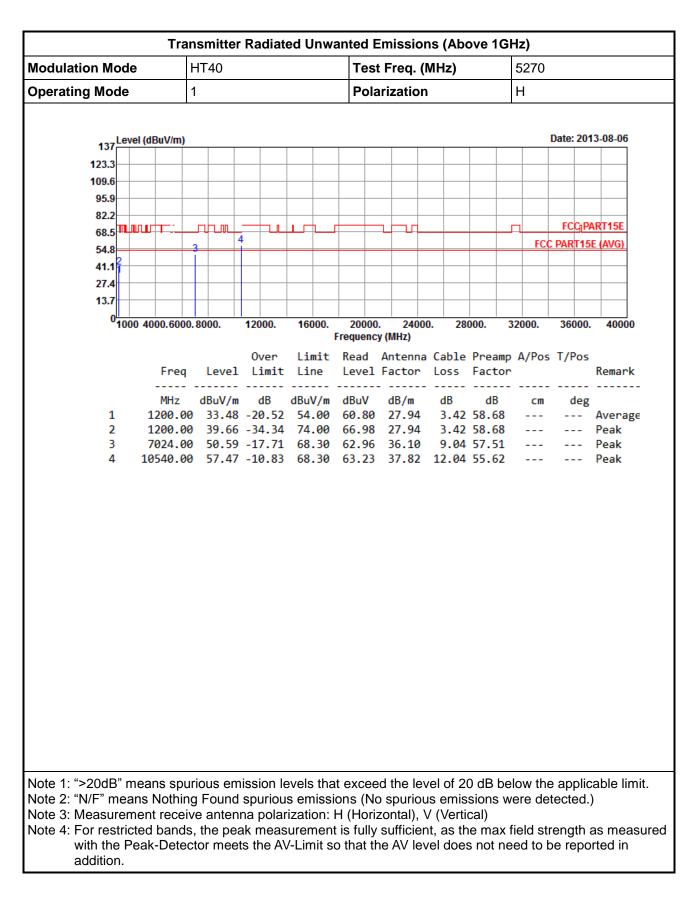
Modulation M	ode		H	Г20					Tes	t Fre	q. (I	MHz)		57	00		
Operating Mo	de		1						Pola	ariza	tion			Η			
137	Level (	dBuV/m	)												I	Date: 201	13-08-06
123.3																	
109.6																	
95.9																	
82.2																	
60 5				บาณ							1n					FCC <sub>II</sub> P	ART15E
					6										FCC	PART15	E (AVG)
54.8	0				5												
41.1																	
27.4																	
13.7																	
C	1000 4	4000.60	00.8	000.	12	000.	160	000. F	20000 requence		24000 z)	). 28	000.	3200	0.	36000.	40000
					0	ver	Lir	mit	Read	Anto	enna	Cable	Pream	ο A/	Pos	T/Pos	
		Fre	q	Level			Li	ne	Level	Fac	tor	Loss	Facto			.,	Remark
		MHz		dBuV/m		dB	dBu	V/m	dBuV	dB	/m	dB	dB		cm	deg	
1									60.89			3.42					0
2												3.42					
3												9.85 9.85					
5												11.88					-
6												11.88					
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu Note 4: For res with the additio	neans reme stricte e Pea	s Nothi nt rece d band	ing eive ds, t	Founc anter he pe	l sp ina ak i	uriou polar meas	s en izati uren	nissio on: H nent	ons (N H (Hori is fully	o spi zonta suff	uriou al), \ icien	is emis / (Verti it, as th	sions v cal) ie max	vere fielo	de d str	tected.	) as mea:

## 3.7.9 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT40









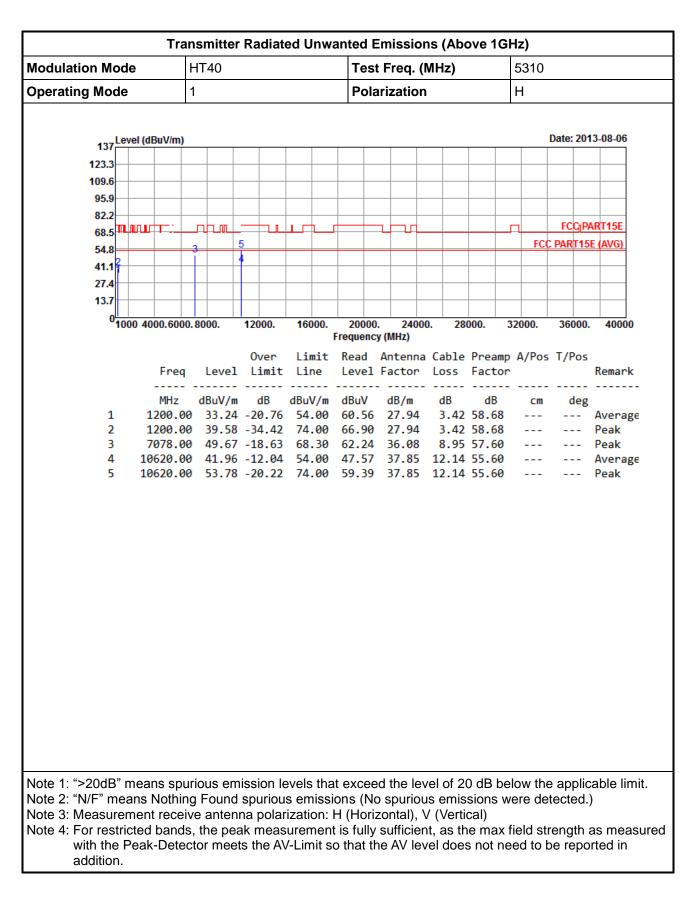




Modulation M	ode		H	T40					Tes	st F	req. (	(MHz	:)		53	10				
Operating Mo	de		1						Po	lari	zatio	n			V					
427	Level (	dBuV/m	)														Date:	201:	3-08-06	i
123.3																				
109.6																				
95.9																				
82.2																				
68.5				าาาก													FC	C <sub>l</sub> PA	RT15E	
54.8			3		5											FCC	PAR	T15E	(AVG)	
41.1	b				4															
27.4																				
13.7																				
		000.60	00.8	000	1	2000.	160	000.	2000	0	2400	0	280	000.	3200	0	360	000.	4000	0
	1000 4		00.0	000.		2000.	100		requen				200		5200		500		4000	•
						Over								Pream	-	Pos	T/P	os		
		Fre	q	Leve	1	Limit	Li	ne					55	Facto	•				Remar	k
		MHz	(	dBuV/ı	 n	dB	dBu	V/m	dBuV		1B/m	dE	3	dB		cm	d	leg		
1		1200.	00	34.4	8 -			-			-	3.	42	58.68	-			-	Avera	ge
2														58.68					Peak	
З														57.60					Peak	
4														55.60 55.60					Avera Peak	ge
Note 1: ">20dE Note 2: "N/F" r Note 3: Measu Note 4: For res with th additio	neans remer stricteo e Pea	Noth nt rece d bane	ing eive ds, t	Found anter the pe	d sp nna eak	puriou polar meas	s en izati surer	nissio on: H nent	ons (N H (Hor is full	lo s izo y sı	purio ntal), ufficie	us er V (Ve nt, as	mis: ertic s th	sions v cal) e max	vere field	e de d str	tecte	ed.) th a	is me	ası











Modulation M	ode		ΗT	Г40					Tes	t Fr	eq. (I	MHz)		5	5510			
Operating Mo	de		1						Pol	ariz	ation	1		١	V			
427	Level (	dBuV/m	1)													Date:	201:	3-08-06
137																		
123.3																		
95.9																		
82.2	muuu	IL+T		חח ריז ה				л г							1	FC	C <sub>II</sub> PA	RT15E
					6										FC			(AVG)
54.8	b		1		5													
41.1			Ī															
27.4																		
13.7																		
0	1000 4	000.60	00.8	000.	12	000.	160	)00. I	2000 Frequence		24000 Hz)	0. 28	000.	32	000.	360	000.	40000
					6	)ver	1.50					Cable	Pros	mn		Т/Р	05	
		Fre	q	Leve					Level	Fa	ctor	Loss			A/103			Remark
		MHz		lBuV/r		dB			dBuV	d	 B/m	dB	dE		cm	d	leg	
1		1200.							61.79				58.6					Averag
2												3.42						Peak
3		7344.							51.79 62.59			9.84						Averag
4									49.40			9.84 11.73						Peak Averag
6												11.73						Peak
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu Note 4: For res with the additio	neans reme stricte e Pea	Noth nt rece d bane	ing l eive ds, t	Found anter the pe	d sp nna eak	ouriou polar meas	s en izati suren	nissi on: I nent	ons (N H (Hori is fully	o sp izon / sui	ouriou ital), \ fficien	is emis / (Verti ht, as th	sions cal) ne ma	s we ax fie	ere de eld st	tecte	ed.) th a	is meas





Modulation Mo	ode	HT40				Test	Freq.	(M)	Hz)		5	510			
Operating Moo	de	1				Pola	rizatio	on			ŀ	ł			
497	Level (dBuV/m	)											Date:	2013	-08-06
123.3															
109.6															
95.9															
82.2	<b>TR</b> 010 8												FC		T15E
	┉┉┈┈	╺╾╾┙└┩└╍┛╜└╸	6										C PAR		
54.8	0	4	4									- ru	- PAN	TIJE	(AVO)
41.1	<b>f</b>	3													
27.4															
13.7															
0	1000 4000.60	00.8000.	12000.	160	)00.	20000		000.	28	000.	32	000.	360	)00.	40000
			0ver	Lir		Frequenc Read		na C	able	Prea	mp /	4/Pos	; T/P	os	
	Fre	q Leve	l Limi	t Lin		Level		r L	oss			-			Remark
	MHz			dBu\	V/m	dBuV	dB/m		dB	dB		cm		leg	
1		00 33.2								58.6					Average
2		00 39.74 00 37.99								58.6					Peak
4		00 37.9								58.0 58.0					Average Peak
5		00 49.0								55.4					Average
6		00 53.5													Peak
Note 1: ">20dB Note 2: "N/F" m Note 3: Measu Note 4: For res with the additior	eans Nothi ement rece tricted band Peak-Dete	ng Found aive anter ds, the pe	d spurio nna pola eak mea	us em arizati Isuren	nissio on: I nent	ons (No H (Horiz : is fully	o spuri zontal) suffici	ous , V ( ent,	emis Verti as th	sions cal) ie ma	we x fie	re de eld st	reng	ed.) th a	s meas





Modulation M	ode		Н	T40					Tes	st F	req. (	MHz)			5550			
Operating Mo	de		1						Po	ari	zatior	า			V			
	l evel	(dBuV/m	1)													Date: 201	13-08-06	
123.3																		
109.6																		
95.9																		
82.2										_					7	FCC <sub>1</sub> P	ART15E	
		<b>AU   1</b>			6										-	C PART15		
54.8	b			a k	5												2 (110)	
41.1																		
27.4		_																
13.7			<u> </u>		-									+				
(	1000	4000.60	00.8	3000.	12	000.	160	)00. F	2000 Frequen		2400 MHz)	0. 28	000.	3	2000.	36000.	40000	D
					0	ver	1.50			-		Cable	Pno	200	A /Pos	T/Pos		
		Fre	q	Level	_				Leve]	L Fa		Loss	Fac			, 1/103	Remark	ĸ
		MHz		dBuV/m		dB	dBu	V/m	dBuV		dB/m	dB		В	cm	deg		
1				34.74													Averag	ge
2				40.84														
3				39.78														ge
4				51.26														
5				46.27 58.56														ge
· · · ·		11100.	00	50.50	-1	5.44	/4	.00	04.40	, .	50.10	11.45	55.	4)			reak	
Note 1: "> 20dF	)"				iaa			46.0		<b>a</b> al	<u> </u>		0 40	hal				
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu	nean: reme	s Noth	ing eive	Found anten	sp na	uriou polar	s en izati	nissio on: H	ons (N H (Hor	lo s izo	spurio ntal), '	us emis V (Vert	sion cal)	S W	ere de	tected.	)	
Note 4: For res with th additio	e Pea															rength be repo		





Modulation M	ode		ΗТ	40					Tes	st F	req. (	MHz)		5	5550				
Operating Mo	de		1						Pol	ari	zatior	Ì		ŀ	4				
407	Level (	dBuV/m)														Date:	2013	-08-06	
123.3																			
109.6																			
95.9 82.2																			
82.2						ח ר		л г								FC	C <sub>II</sub> PAF	RT15E	
					6										FC	C PAR	T15E	(AVG)	
54.8	h		1		5														
41.1			Ť																
27.4																			
13.7																			
C	1000 4	000.600	0.80	00.	1200	0.	160	)00. F	2000 requen		2400 //Hz)	0. 28	000.	32	000.	360	000.	4000	D
					0ve	er	Lir	nit	Read	Ar	ntenna	Cable	Prea	mp /	A/Pos	; Т/Р	os		
		Freq		Level			Lin		Leve]	. Fa		Loss						Remarl	ĸ
		MHz		IBuV/m	dE		dBu\	//m	dBuV	c	dB∕m	dB	dB		cm	d	leg		
1				33.31									58.6					Avera	ge
2				39.57									58.6					Peak	
3				38.30									58.1					Avera	ge
4				49.78 44.55							36.02	9.76	58.1					Peak Avera	
6												11.43						Peak	se
lote 1: ">20dE lote 2: "N/F" n lote 3: Measu lote 4: For res with the additio	neans remer stricteo e Pea	Nothin nt rece d band	ng F ive s, tl	-ound antenr he pea	spur na po ak mo	iou olar eas	s err izati uren	nissio on: H nent	ons (N H (Hor is full <u>y</u>	lo s izoi / sı	puriountal), N ufficier	us emis √ (Verti	sions cal) ie ma	we x fie	re de eld st	reng	∋d.) th a	s mea	asui





Modulation M	ode			Η	T40					Tes	t F	req. (	MHz)		:	5670		
Operating Mo	de			1						Pol	ariz	zation	1		,	V		
	Leve	l (dB	uV/m)														Date: 20 <sup>4</sup>	13-08-06
123.																		
109.0																		
95.9																		
82.3		n 🛛 🕂	<b>T</b> · ·	Г	ח ריור				<b>ч</b> г							7	FCCIP	ART15E
			• • •			6											C PART15	
54.0	b			-		5												2 11 0/
41.1																		
27.4																		
13.7		-																
	1000	400	0.600	0.8	000.	12	000.	160	000. I	2000 Frequence		2400 (Hz)	0. 28	000.	32	2000.	36000	40000
						6	)ver	1.11					Cable	Pno	ວຫກ		T/Pos	
			Freq	1	Leve]					Level	Fa		Loss	Fac			, 1/103	Remark
			MHz		dBuV/n		dB		-	dBuV	d	IB/m	dB	d	В	cm	deg	
1										61.84								Average
2										67.98								
	} L									52.44 63.28								
	5									51.33								
	5									63.55								<sup>_</sup>
Note 1: ">20d																		
Note 2: "N/F" r																		
Note 3: Measu																		
Note 4: For res	strict	ed l	band	ls, t	the pe	ak	meas	urer	nent	is fully	/ su	Ifficier	nt, as tl	ne m				
with th additic		eak-	Dete	ecto	or mee	ets t	he A	/-Lin	nit so	o that t	he	AV lev	vel doe	s no	t nee	ed to l	be repo	orted in

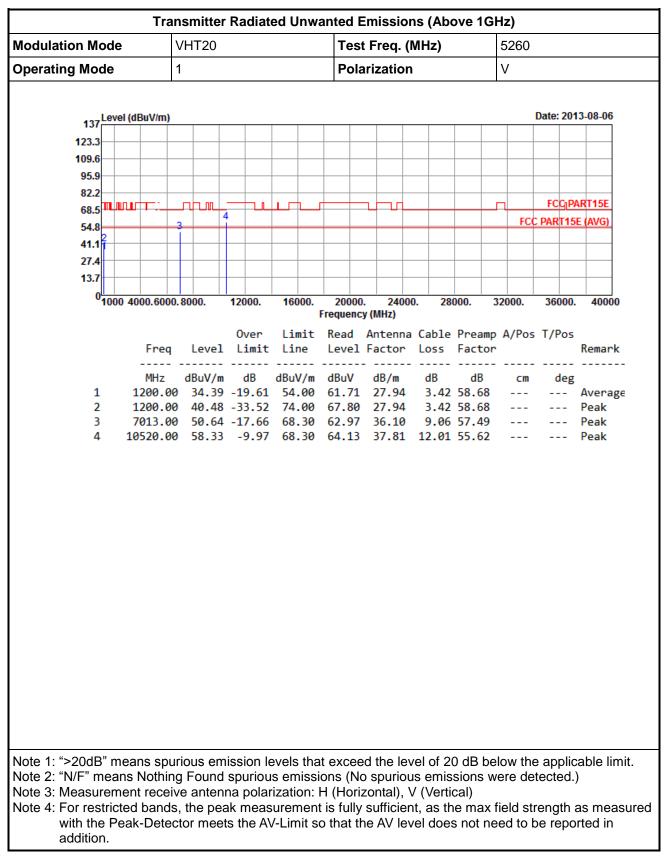




Modulation M	ode	e	1	HT4	0					Те	st F	req. (	(MHz	z)		Ę	5670				
Operating Mo	de			1						Ро	lari	zatio	n			ł	4				
42	,Lev	el (dBı	uV/m)															Date:	201:	3-08-06	
123.3																					
109.6																					
95.9																					
82.2									- r		_						1	FC	CıPA	RT15E	
					┛╜┖┿╾	6						┦╴┺┛┡								(AVG)	
54.8	h			4		5							-					2 FAIL	1130		
41.1	1					+														+	
27.4	╟┼					+			<u> </u>											+	
13.7	′  -																			+	
	0 <mark>1100</mark>	0 400	0.6000	. 8000	).	120	)00.	160	000.	2000 Frequer		240( MH7)	)0.	280	000.	32	000.	360	000.	40000	D
						0	ver	Li				ntenna	a Cal	ble	Prea	amp	A/Pos	T/P	os		
			Freq	Le	evel			Li	ne	Leve	1 F	actor	Los	55	Fact					Remark	¢
		-	MHz	dBu	uV/m		dB		V/m	dBuV		dB/m	dl		dE	3	cm	d	leg		
1										61.1		27.94			58.6					Averag	ge
2												27.94			58.6					Peak	
3												36.01			58.2					Averag	ge
2										62.1		36.01			58.2					Peak	
										49.4		38.34 38.34								Averag Peak	ge
· · · · ·		115	40.00		•	-		/ 4		02.0		50.54								r cuix	
													<u> </u>	(							
Note 1: ">20d																				able lir	nit
Note 2: "N/F" r																s we	re de	tecte	ed.)		
Note 3: Measu																			41-		
lote 4: For res																					ISL
with th		eak-l	Detec		neet	ST	ie A\	/-டா	nt so	o mat	me	AV IE	vei c	ioes	s not	nee	u (0 l	be re	por	ied in	
additio	n																				

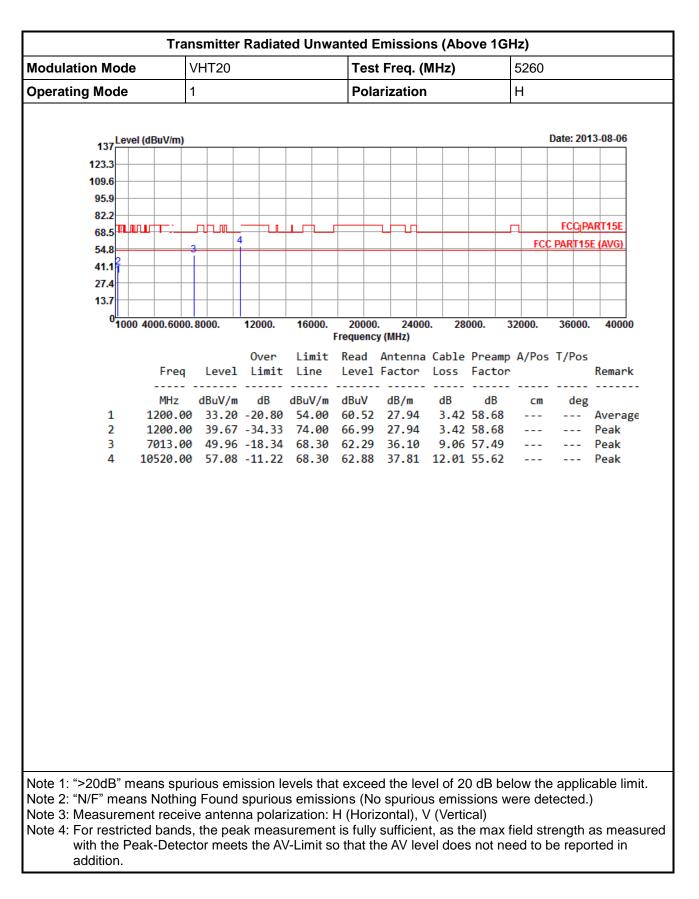


## 3.7.10 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT20



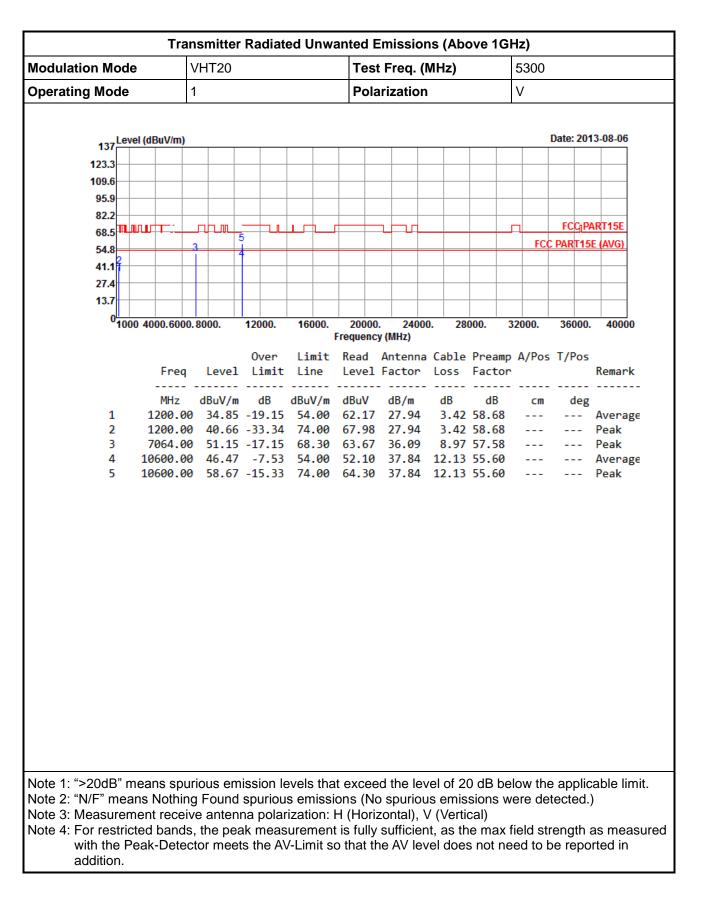






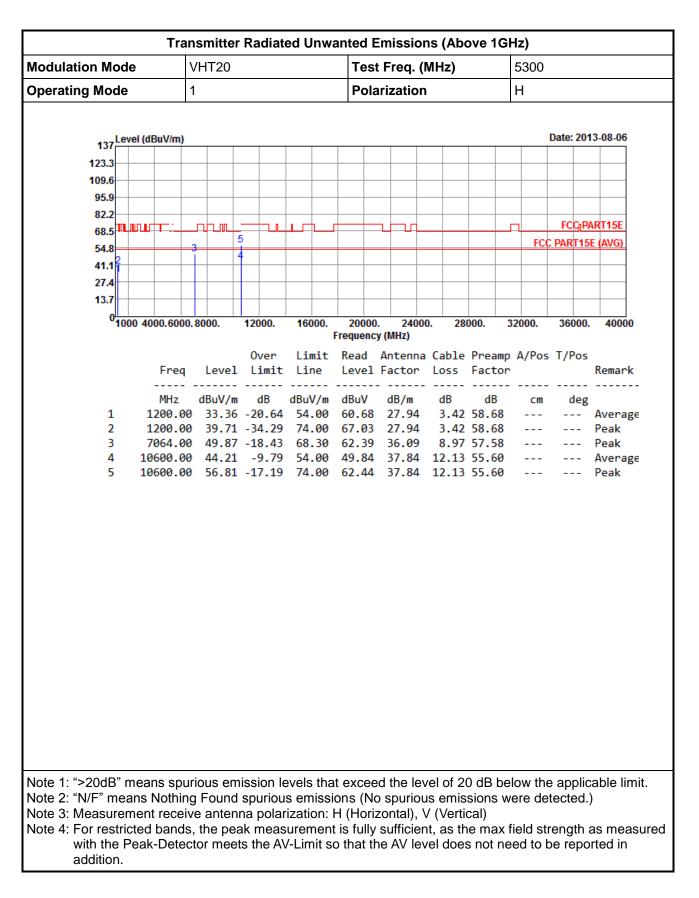






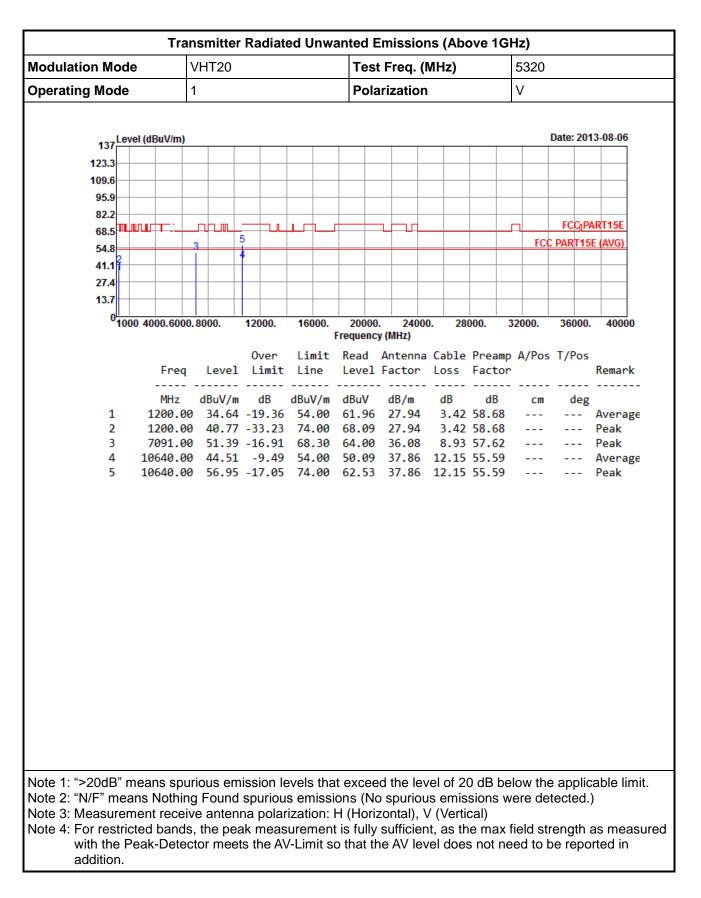






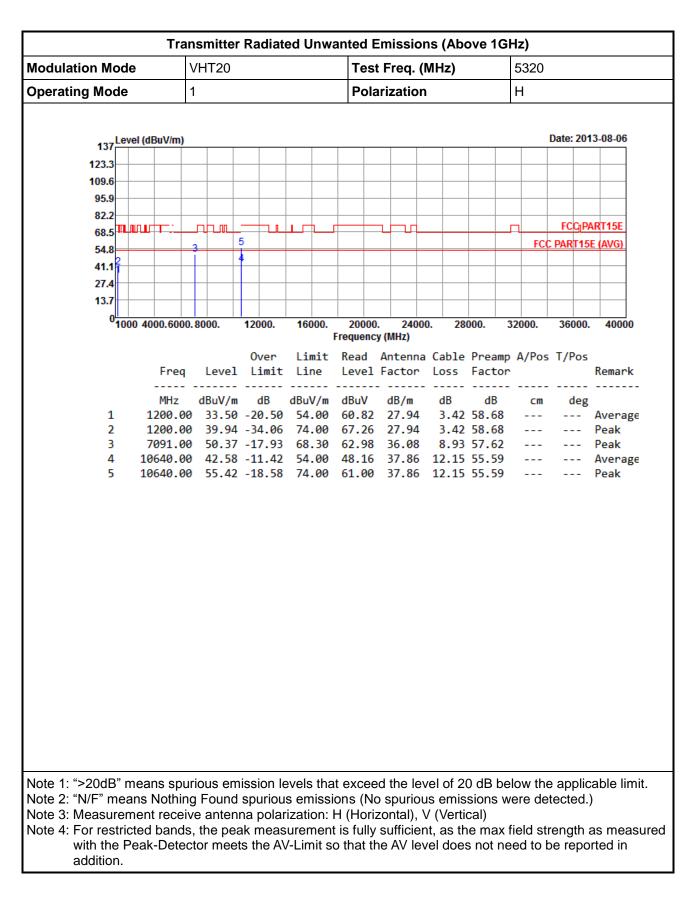
















Modulation Mode	V	/HT20				Tes	t Freq.	(MHz)		ę	5500			
Operating Mode	1					Pola	arizatio	on		V	V			
137	dBuV/m)											Date: 20	)13-08-06	5
														]
123.3														
109.6														1
95.9														1
82.2	u+ <b>-</b>				-						1	FCC	PART15E	
00.5			6										5E (AVG)	1
54.8		1	5								10			1
41.1		<b>*</b>												1
27.4										<u> </u>				1
13.7														
01000 4	000.6000.	8000.	12000	. 16	5000.	20000 Frequence		000. 2	8000.	32	000.	3600	0. 4000	00
			0ve	- Li				na Cabl	o Pro	200		T/Po	-	
	Freq	Level				Level	Factor	- Loss			A/103	, 1/10	Remar	ĸ
	MHz	dBuV/m				dBuV	dB/m			B	cm	de		
	1200.00								2 58.				Avera	ige
	1200.00							4 3.4					Peak	
	7331.00 7331.00							3 9.8	5 58.0 6 58.0				Avera Peak	ige
	1000.00												-	σe
	1000.00												_	'Sc
Note 1: ">20dB" mea Note 2: "N/F" means Note 3: Measuremen Note 4: For restricted with the Pea addition.	Nothing nt receive d bands,	Found e anten the pea	spuri na po ak me	ous er larizat asure	nissi ion: l ment	ons (N H (Hori ∷is fully	o spurio zontal), sufficie	ous emi , V (Ver ent, as f	ssion tical) the ma	s we ax fi	ere de eld st	tectec rength	l.) as me	ası





Modulation M	ode		V	'HT20					Tes	st F	req. (	MHz)		!	5500			
Operating Mo	de		1						Pol	ari	zatior	1		I	Η			
	Level (	dBuV/m	1)													Date: 20 <sup>4</sup>	13-08-06	
			1															
123.3																		
109.6																		
95.9																		
82.2	munu							л г		_				Г	1	FCCIP	ART15E	
					6											C PART15		
54.8	<b>b</b>			4	5												2	
41.1			<u> </u>		Ŧ													
27.4																		
13.7			-		+													
0	1000 4	1000.60	00.8	8000.	12	000.	160	)00. I	2000 Frequen		2400 //Hz)	0. 28	000.	32	2000.	36000	40000	)
					0	ver	1.11					Cable	Pnos	mn		T/Pos		
		Fre	q	Level	_		Li		Leve]	. Fa		Loss	Fact		A/103	, 1/103	Remark	c
		MHz		dBuV/m		dB			dBuV		dB∕m	dB	dE	3	cm	deg		
1				33.65									58.6	58			Averag	ge
2				40.47									58.6					
3				38.31									58.0					ζe
4				49.44									58.0					
5				41.42 54.27														<u>j</u> e
0	-	1000.	00	54.27	-1		/4	.00	55.55	· -	0.00	11.01	55.4	-			TEak	
Note 1: ">20dE																		nit.
Note 2: "N/F" n														s we	ere de	etected.	)	
Note 3: Measu														-				
Note 4: For res																		ISU
with the	e Nea	ικ-Det	ect	or mee	ts t	ne A\	/-LIM	nit so	o that f	ne	AV Iev	vei doe	s not	nee	ea to l	be repo	rted in	
additio											-					•		





Modulation Mode	V	/HT20				Tes	t Freq.	. (N	/Hz)		5	580			
Operating Mode	1					Pola	arizatio	on			V	'			
137 Level (dE	BuV/m)												Date:	2013	3-08-06
123.3								$\square$							
109.6								$\square$							
95.9															
82.2			n		- r			-					FC	CiPAI	RT15E
00.5			6									FCC	: PAR		
54.8		4	5									10		TIJL	
41.1			-					-							
27.4								-							
13.7								-	_						
0 <mark>11000 400</mark>	00.6000.	8000.	12000.	160	000.	20000 Frequenc		000	. 28	<b>D00.</b>	320	)00.	360	00.	40000
			0ver	Li		Read		na	Cable	Pream	np A	/Pos	T/P	os	
	Freq	Level	Limit	: Li	ne	Level	Facto	r 		Facto	or _				Remark
		dBuV/m				dBuV	dB/m		dB	dB		cm		eg	
		34.24				61.56				58.68					Average
		40.41 39.46				51.97				58.68					Peak
		59.46								58.20					Average Peak
		46.01				51.48			11.77						reak Average
		58.17													Peak
Note 1: ">20dB" mear Note 2: "N/F" means I Note 3: Measurement Note 4: For restricted with the Peak addition.	Nothing receive bands,	Found e anten the pea	spurio na pola ak mea	us en irizati surer	nissi on: I nent	ons (Ne ⊣ (Hori ∷is fully	o spuri zontal) suffici	ous , V ent	s emis (Vertio t, as th	sions cal) e max	wer x fie	e de Id st	tecte	ed.) th a	s meas





Modulation Mod	le	VHT20			Tes	t Freq. (	MHz)		5580		
Operating Mode	•	1			Pola	arizatior	1		Н		
427 Le	vel (dBuV/m)									Date: 201	3-08-06
123.3											
109.6											
95.9											
82.2											
										FCC <sub>II</sub> P/	ART15E
54.8		4	6						FC	C PART15	E (AVG)
54.8 41.1		3	5								
27.4											
13.7											
<sup>0</sup> 10	00 4000.6000	). 8000.	12000.	16000	20000 Frequenc		0. 28	000.	32000.	36000.	40000
			0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit			Factor			-		Remark
	MHz	dBuV/m			ı dBuV	dB/m	dB	dB	cm	deg	
1		33.49									
2		<ul><li>39.94</li><li>38.58</li></ul>									
4		3 49.94				36.01					
5		44.28									-
6		57.47									Peak
Note 1: ">20dB"	means spu	irious em	ission le	evels th	at excee	ed the lev	vel of 2	0 dB be	elow the	e applic	able limit
Note 2: "N/F" me	•										
Note 3: Measure									-	,	
Note 4: For restri	cted bands	s, the pea	ak meas	ureme	nt is fully	sufficier	nt, as th	ie max			
with the I	Peak-Deteo	ctor meet	s the A	/-l imit	so that t	he AV lev	vel does	s not ne	ed to l	he reno	rted in
addition.											





Modulation M	od	е		٧ŀ	HT20					Tes	st F	req. (	MHz)			57	700				
Operating Mo	de			1						Pol	ariz	zation	1			V					
42	,Lev	vel (dE	BuV/m	)														Date:	201	3-08-06	į
123.3																					
109.6																					
95.9																					
82.2																					
60.0					ນາມ													FC	c <sub>ii</sub> pa	RT15E	
						6											FC		_	(AVG)	
54.8	b			1	3	5															
41.1	1																				
27.4														$\uparrow$							
13.7							-														
(	100	0 40	00.600	00.80	000.	12	2000.	160	000. I	2000 Frequen		2400 /Hz)	0. 2	280	00.	320	00.	360	000.	4000	0
						(	Over	Lii	mit	Read	Δr	tenna	Cabl	P	Pream	nΔ	/Pos	T/P	205		
			Free	9	Leve		imit			Leve]	. Fa	actor	Loss		Facto		/103	.,.		Remar	k
			MHz		lBuV/	m	dB	dBu	V/m	dBuV		IB/m	dB	-	dB		 ст	d	leg		
1	L	1	200.0	90	34.2	7 -:	19.73	54	.00	61.59	) 2	27.94	3.4	2	58.68					Avera	ge
2	2									67.55					58.68				-	Peak	
							13.81			52.57					58.25					Avera	ge
4										62.10					58.25					Peak	
-	5						-7.59			51.39 63.56										Avera; Peak	ge
C	)	11	400.0	00	20.2	o	15.42	74	.00	05.50	, 2	0.40	11.0	0	55.20				-	геак	
	o"					mia	Nice 1	ovel-	, +h -	+ 0.4	م	he le		20			AV 41-		olia	able l'	m <sup>14</sup>
Note 1: ">20d																					mit
Note 2: "N/F" r																ver	e ae	iecie	зu.)		
Note 3: Measu																fici	ld of		th a	0	
Note 4: For res with th																					
additio		eak	-Dele	5010	n me	612	u ie A	v-∟!!1	nt S(	unat i	пе	Av ie/		62	noth	eec		Je le	pol	ieu III	
	11.																				





Modulation M	ode		٧ŀ	HT20					Tes	t Fr	eq. (I	MHz)		5	5700				
Operating Mo	de		1						Pol	ariz	ation			ŀ	1				
137	Level (	dBuV/m)														Date:	201	3-08-06	
123.3																			
123.3																			
95.9																			
82.2																			
60.5				บาณ						┓┢						FC	c <sub>li</sub> pa	RT15E	
					6										FC	: PAR	T15E	(AVG)	
54.8	b		1		5														
41.1			Ĩ																
27.4																			
13.7																			
0	1000 4	000.600	0.80	000.	12	000.	160	)00. F	2000 Frequence		24000 Hz)	). 28	000.	32	000.	360	00.	4000	0
					0	ver	Lii	mit	Read	Δnt	tenna	Cable	Prea	nn /	A/Pos	T/P	05		
		Free	1	Level					Level	Fac	ctor	Loss			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.,.		Remar	k
		MHz		lBuV/m		dB			dBuV		 B/m	dB	dB		cm	d	eg		
1		1200.0							60.96				58.6					Avera	ge
2												3.42						Peak	
3		7598.0							50.99				58.2					Avera	ge
4									62.79				58.2					Peak	
6												11.88						Avera Peak	ge
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu Note 4: For res with the additio	neans remer stricteo e Pea	Nothi nt rece d banc	ng l ive ls, t	Found anten he pea	sp na ak r	uriou polar neas	s en izati uren	nissio on: H nent	ons (N H (Hori is fully	o sp zon ' suf	ouriou tal), V fficien	is emis / (Verti it, as th	sions cal) ie ma	we x fie	re de eld st	tecte	ed.) th a	as mea	asu

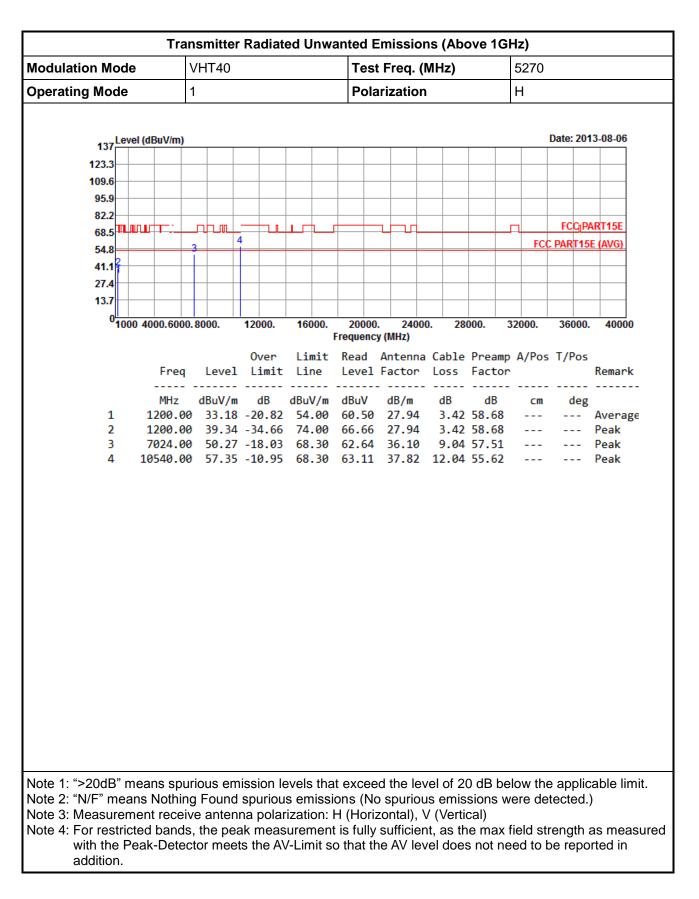


## 3.7.11 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT40

Iodulation M	ode		VH	Г40					Tes	t F	req. (	MHz	)		5270			
Operating Mo	de		1						Pol	ari	zatior	า			V			
137	Level (	dBuV/m)	)													Date: 20	13-08-0	<b>)</b> 1
123.3																		-
109.6																		-
95.9																		-
82.2																		-
68.5		┢╋┲╌┥		un													ART15E	
54.8			3		4										FC	C PART1	5E (AVG)	
41.1	0																	-
27.4																		-
13.7																		-
	1000 4	000.600	0.800	0.	120	00.	160	000. F	2000 requent		2400 MHz)	)0.	280	000. 3	2000.	36000	. 400	00
						/er								Preamp		5 T/Pos	;	
		Free	l L	evel	L:	imit	Li						S	Factor			Remai	rk
1		MHz 1200 0		uV/m ∕I63		ქВ э. 37			dBuV 61.95		dB/m 27 9/1			dB 58.68		-	Avera	206
2									68.00					58.68			_	<u> </u>
3									63.15					57.51			Peak	
4														55.62			Peak	
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu Note 4: For res with the additio	neans remer stricteo e Pea	Nothi nt rece d banc	ng Fo eive a ls, th	ound nten e pea	spı na j ak n	uriou polar neas	s en izati surer	nissio on: H nent	ons (N H (Hori is fully	0 S ZO / SI	spurio ntal), ' ufficie	us en V (Ve nt, as	nis ertic th	sions w cal)	ere de ield st	rength	.) as me	easi

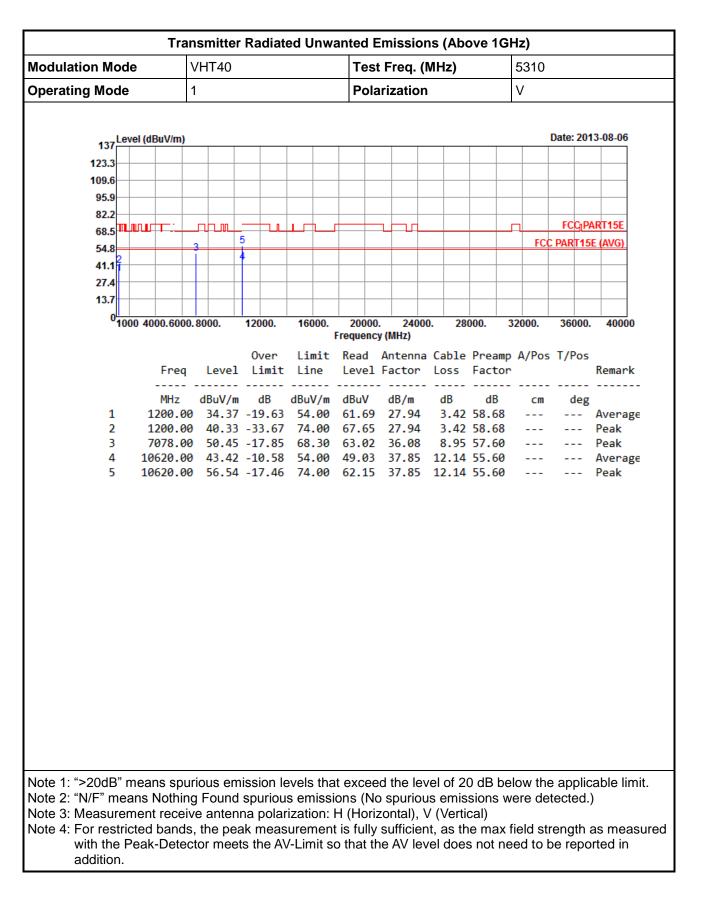






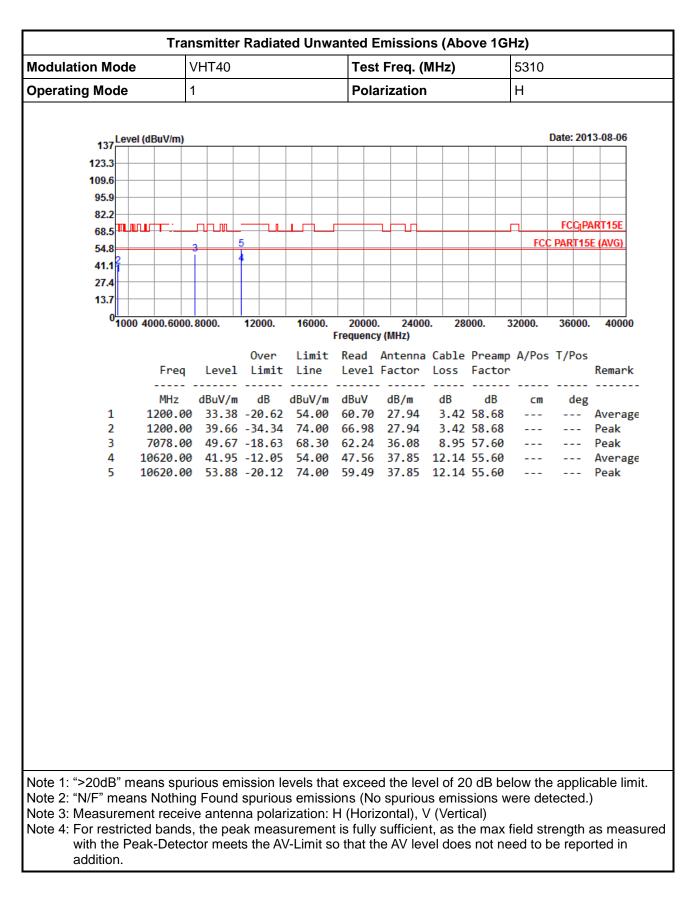
















Modulation Mode	N	/HT40					Tes	t Fr	eq. (I	MHz)		5	5510			
Operating Mode	1						Pol	ariz	ation	l		١	/			
137	dBuV/m)													Date:	2013	3-08-06
123.3																
109.6																
95.9																
82.2 68.5			_	- n		л г		_						FC	C <sub>II</sub> PA	RT15E
00.5			6										FC			(AVG)
54.8		3	5													
41.1																
27.4																
13.7																
01000 4	000.6000.	8000.	1200	00.	160	)00. F	2000 requent		2400( Hz)	0. 28	000.	32	000.	360	00.	40000
			0v	er	Lir	nit	Read	Ant	tenna	Cable	Prea	mp /	A/Pos	T/P	os	
	Freq	Level	Li	mit						Loss						Remark
1	MHz 1200.00	dBuV/m					dBuV		B/m	dB	dB		cm		eg	A
	1200.00								7.94		58.6					Averag Peak
	7344.00									9.84						Averag
	7344.00															Peak
	1020.00									11.73					-	Average
6 1	1020.00	56.34	-17	.66	74.	.00	62.07	- 38	8.02	11.73	55.4	8			-	Peak
Note 1: ">20dB" mea Note 2: "N/F" means Note 3: Measuremer Note 4: For restricted with the Pea addition.	Nothing nt receiv d bands,	Found e anten the pea	spu na p ak m	riou: olar neas	s em izati uren	nissio on: H nent	ons (N I (Hori is fully	o sp izon / suf	ouriou tal), \ fficien	is emis / (Verti ht, as th	sions cal) ne ma	s we ax fie	re de eld st	tecte	ed.) th a	s meas





Modulation M	ode		ľ	√НТ	40					Те	st F	req. (	(MHz	:)		5	510			
Operating Mo	de			1						Ро	lari	zatio	n			ŀ	ł			
	Leve	l (dB	uV/m)															Date: 20	13-08-0	6
																				7
123. 109.0																				
95.																				
82.																				
		n∎r	<u></u>			_												FCC <sub>II</sub> F	PART15	E
54.						6											FC	C PART1	5E (AVG	)
41.	b			3		5														
27.4																				
13.																				
15.																				
	1000	) 400	0.6000	.800	0.	120	00.	160	)00. F	2000 Frequer		240( MHz)	00.	280	000.	32	000.	36000	). 400	000
						0	ver	Li	mit	Read	Α	ntenn	a Cab	le	Pream	ıp 4	A/Pos	T/Pos	5	
			Freq	L	evel	L	imit	Li	ne					s	Facto	or			Rema	rk
		-	MHz	dB	uV/m		dB	dBu	/m	dBuV		dB/m	dE		dB		сm	deg	 ,	
	L		200.00		-							-			58.68				Aver	age
	2		00.00												58.68					· ·
3	3	73	44.00	3	7.77	-1(	5.23	54	.00	49.9	4	36.03	9.	84	58.04	Ļ			Aver	age
4	1		44.00												58.04				Peak	
			20.00																	<u> </u>
	5	110	20.00	5	3.44	-20	0.56	/4	.00	59.1	/	38.02	11.	/3	55.48	5			Peak	
Note 1: ">20dl																				limit
Note 2: "N/F" r																				
Note 3: Measu	Irem	ent	receiv	/e a	ntenr	na p	oolar	izati	on: ŀ	H (Ho	rizo	ntal),	V (Ve	ertio	cal)					
Note 4: For rea																				
	- D.		<b>D</b> (																	
with th additio		еак-	Detec	tor	meets	s tr	ne Al	/-Lin	nit so	o that	the	AV le	vel d	oes	s not r	nee	d to I	be rep	orted I	n





Modulation M	ode		٧ŀ	HT40					Te	st F	req. (	(MHz	)		5	550			
Operating Mo	de		1						Ро	lari	zatio	n			٧	/			
	Level (d	iBuV/m)															Date: 20 <sup>4</sup>	13-08-06	;
123.3																			
109.6																			
95.9																			
82.2	munu			וח ריו				л г		_							FCC <sub>II</sub> P	ART15E	
		/ <b>• • • • •</b>	_		6											FC	C PART15		
54.8	b		4		5													2 111 01	
41.1			Ť																
27.4																			
13.7			-																
0	1000 4	000.600	0.80	000.	120	00.	160	)00. F	2000 Frequen		2400 MHz)	)0.	280	000.	32	000.	36000	4000	0
					0	/er	Lie					a Cab	10	Pream	nn /		T/Pos		
		Free	1	Level				ne		1 Fa	actor	Los				.,	, 1,105	Remar	k
		MHz		lBuV/m				V/m	dBuV		dB/m	dB		dB		cm	deg		
1				34.85										58.68				Avera	ge
2				40.96										58.68					
3				39.81										58.13					ge
4				51.27 46.48										58.13					an
6				58.67															Be
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu	neans remer	Nothint rece	ng I eive	Found anteni	spu na p	uriou polar	s en izati	nissio on: H	ons (N H (Ho	lo s rizo	spurio ntal),	us er V (Ve	nis: ertio	sions cal)	we	re de	tected.	)	
Note 4: For res with the additio	e Peal																		





Modulation Mod	le	VHT40			Tes	t Freq. (	(MHz)		5550		
Operating Mode	)	1			Pola	arizatior	า		Н		
1376	vel (dBuV/m)									Date: 201	3-08-06
123.3											
123.5											
95.9											
82.2 68.5			n							FCC <sub>II</sub> P/	ART15E
00.5			6						FC	C PART15	
54.8		3	5								
41.1											
27.4											
13.7											
0 <mark>'</mark> 10	00 4000.6000	0.8000.	12000.	16000.	20000 Frequenc		0. 28	000.	32000.	36000.	40000
			0ver	Limit	Read	Antenna	a Cable	Pream	A/Pos	T/Pos	
	Freq	Level	Limit			Factor			-	.,	Remark
	MHz	dBuV/m			dBuV	dB/m	dB	dB	cm	deg	
1		0 33.47						58.68			
2		0 39.68									
3		0 38.39 0 49.75									0
5		0 49.75 0 44.42				38.10					-
6		0 57.14									Peak
Note 1: ">20dB"	means spi	irious em	ission le	evels th	at excee	ed the le	vel of 2	0 dB be	elow th	e applic	able limit
Note 2: "N/F" me	•										
Note 3: Measure										,	•
Note 4: For restr									field st	rength a	as measu
	Peak-Dete										
addition.							101 000	0 1101 110	000.00		





Modulation M	ode		VH	HT40				Tes	Freq.	(MHz)			5670			
Operating Mo	de		1					Pola	rizatio	n			V			
137	Level (	(dBuV/m	)											Date: 20	13-08-06	5
123.3																]
123.5																
95.9																1
82.2		u++:-	Г	חח ריו	n		h r							FCCIF	ART15E	1
					6								FC	PART1		1
54.8	0		3		5											1
41.1																1
27.4																1
13.7																
C	1000 4	4000.60	00.80	000.	12000.	160	000. F	20000 requence		00. 2	8000.	3	2000.	36000	4000	00
					0ver	Li	mit	Read	Antenn	a Cabl	e Pre	amp	A/Pos	T/Pos		
		Fre	q	Level	Limit								-	.,	Remar	۰k
1		MHz		BuV/m				dBuV	dB/m	dB		IB co	cm	deg	-	
1					-19.13 -33.04					3.4						ige
3					-13.76											ore
4					-22.87											'8'-
5	1				-7.53										-	ige
6	1	1340.	00	58.88	-15.12	74	.00	63.85	38.34	11.9	3 55.	29			Peak	-
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu Note 4: For res with the additio	neans reme stricte e Pea	s Nothi nt rece d band	ing l eive ds, t	Found anten he pea	spuriou na pola	is en rizati surer	nissio on: H nent	ons (Ne I (Hori is fully	o spuric zontal), sufficie	ous emi V (Ver ent, as f	ssior tical) he m	ns w nax f	ere de ïeld st	tected	.) as me	ası





Modulation M	ode		VHT	40					Te	st F	req. (	(MHz)			5670			
Operating Mo	de		1						Ро	lari	zatio	n			Η			
437	Level (d	BuV/m)														Date:	201	3-08-06
123.3																		
109.6																		
95.9 82.2																		
82.2				י חח ו												FC	C <sub>II</sub> PA	RT15E
					6										FC	C PAR	T15E	(AVG)
54.8	2		4		5													
41.1			1															
27.4																		
13.7													1					
0	1000 40	00.600	0.800	0.	120	00.	160	)00. F	2000 Frequen		2400 MHz)	)0. 2	8000	. :	32000.	360	000.	40000
					0	/er	Lii	mit	Read	Δι	ntenna	a Cabl	e Pr	reamp	A/Po	5 T/F	05	
		Freq	L	evel			Li		Leve	l Fa		Loss	Fa			, .		Remark
		MHz		uV/m	d		dBu	V/m	dBuV	(	dB/m	dB		dB	cm		leg	
1									60.8					3.68				Average
2									67.1					8.68				Peak
3									50.7 62.4		36.01			3.27 3.27				Average Peak
5												11.9						Average
6												11.9						Peak
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu Note 4: For res with the addition	neans remen tricted e Peak	Nothir t rece band	ng Fo ive a s, the	ound ntenr e pea	spu na p ak m	iriou bolar neas	s en izati uren	nissio on: H nent	ons (N H (Hoi is full	lo s izo y si	spurio ntal), ufficie	us emi V (Ver nt, as f	ssic tical the i	ons w ) max f	ere de field st	etecte	ed.) ith a	is meas

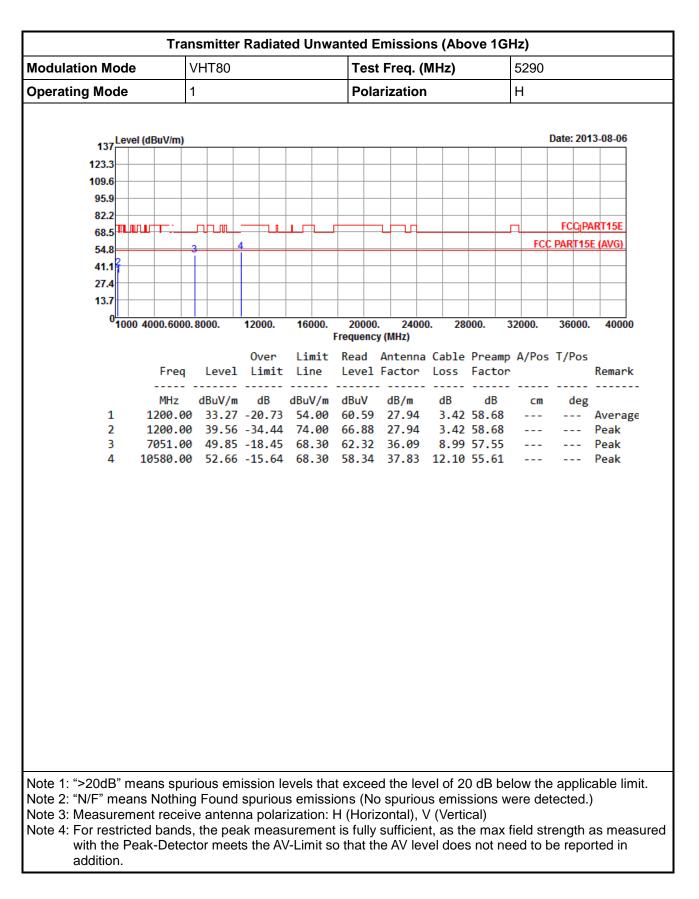


## 3.7.12 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT80

Modulation Mo	ode		VHT8	0				Tes	t Fi	req. (	MHz)		5	290		
Operating Mod	de		1					Pola	ariz	atior	า		V	/		
		D													Dato: 20	13-08-06
137	Level (d	BUV/M)													Date. 20	13-08-00
123.3																
109.6				_												
95.9				_												
82.2																
68.5	THE AUTOR	<b>  </b>		_		┝┻┎╴	┝──		╶┶				л			ART15E
54.8			3	4					_					FCC	PART15	e (AVG)
41.1	2								_			_				
27.4																
13.7																
	1000 40	00.6000	. 8000.	1	12000.	16	000. F	20000 requenc		2400 IHz)	0. 2	8000.	320	000.	36000	40000
					0ver							e Pream		/Pos	T/Pos	
		Freq	Lev	el	Limit	Li	ne	Level	Fa	ctor	Loss	Facto	r			Remark
				·								 				
1	1	MHz	dBuV		dB			dBuV 61.54		B/m		dB 2 58.68		сm	deg	Averag
2								67.26				2 58.68				Peak
3								63.32				9 57.55				Peak
4												55.61				Peak
Note 1: ">20dB Note 2: "N/F" m Note 3: Measu Note 4: For res with the addition	reans rement tricted e Peak	Nothin t recei bands	g Fou ve ant s, the p	nd s enn beal	spuriou a polai < meas	is en rizati surer	nissio on: H nent	ons (N H (Hori is fully	o s  zor ′ su	puriou ntal), ' ifficier	us emi V (Verl nt, as t	ssions v ical) he max	ver fie	re det eld str	tected. ength	) as mea









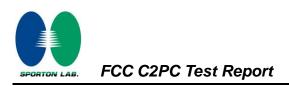


Modulation Mode	V	/HT80					Tes	t Fr	eq. (I	MHz)		5	530			
Operating Mode	1						Pol	ariz	ation			١	/			
137	iBuV/m)													Date:	2013	3-08-06
123.3																
109.6																
95.9																
82.2				1 1		1 г								FC	Ci PAI	RT15E
00.5	┙┼╹╴╴┿━━		6											: PAR		
54.8		4	5					-					10.	21700	TUL	(110)
41.1		1 +														
27.4																
13.7			-													
0 <mark>11000 4</mark>	000.6000.	8000.	1200	0.	160		2000 requent		2400( H7)	0. 28	000.	32	000.	360	00.	40000
			0ve	er	Lin					Cable	Prea	mp /	\/Pos	T/P	os	
	Freq	Level	Lin	nit	Lir	ne -		Fac	ctor	Loss	Fact	or				Remark
	MHz	dBuV/m					dBuV	dE	B/m	dB	dB		cm		eg	
	1200.00						61.77		7.94		58.6					Averag
	1200.00 7371.00									3.42 9.80						Peak Averag
	7371.00															Peak
	1060.00															Averag
	1060.00															Peak
Note 1: ">20dB" mea Note 2: "N/F" means Note 3: Measuremer Note 4: For restricted with the Peal addition.	Nothing nt receive d bands,	Found e anten the pea	spur na po ak me	ious olari easu	s em zatio urem	issio on: H nent	ons (N H (Hor is fully	o sp izon / suf	ouriou tal), \ fficien	is emis / (Verti it, as th	sions cal) ie ma	we x fie	re de eld st	tecte	ed.) th a	s meas





Modulation M	ode		VHT8	0				Tes	t Fi	req. (I	MHz)		5	530				
Operating Mo	de		1					Pol	ariz	ation	1		ŀ	ł				
	Level (dE	SuV/m)													Date:	2013	3-08-06	
123.3																		
109.6																		
95.9 82.2																		
69.5				<u></u> -											FC	c <sub>i</sub> pai	RT15E	
54.8					6									FC	C PAR	T15E	(AVG)	
41.1	<b>b</b>		3		5													
27.4																		
13.7																		
13.7																		
· · · ·	1000 40	00.6000	.8000.		12000.	160	000. I	2000 Frequen		2400 IHz)	0. 28	000.	32	000.	360	000.	40000	)
					0ver	Li	mit	Read	An	tenna	Cable	Prea	mp/	A/Pos	T/F	os		
		Freq	Lev	el	Limit			Leve]	Fa	ctor	Loss						Remark	¢
		MHz	dBu\	//m	dB	dBu	V/m	dBuV		 B/m	dB	dB		cm	d	leg		
1					-20.59												Averag	ge
2					-34.33												Peak	
3					-15.66					6.03							Averag	зe
4					-23.92 -13.03					6.03	9.80 11.58						Peak Averag	
6											11.58						Peak	se
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu Note 4: For res with the additio	neans I rement stricted e Peak	Nothin receiv bands	g Fou ve ant s, the	nd s enn pea	spuriou a pola k meas	is en rizati surer	nissi on: I nent	ons (N H (Hor is fully	o s  izor / su	puriou ntal), \ ifficier	is emis / (Verti ht, as th	sions cal) ie ma	we x fie	re de eld st	reng	ed.) th a	s mea	



## 3.8 Frequency Stability

#### 3.8.1 Frequency Stability Limit

	Frequency Stability Limit					
UNII D	Devices					
	-band emission is maintained within the band of operation under all conditions of normal operation as becified in the user's manual.					
LE-LA	N Devices					
⊠ N/	Α					
IEEE S	IEEE Std. 802.11n-2009					
	he transmitter center frequency tolerance shall be $\pm$ 20 ppm maximum for the 5 GHz band and $\pm$ 25 pm maximum for the 2.4 GHz band.					

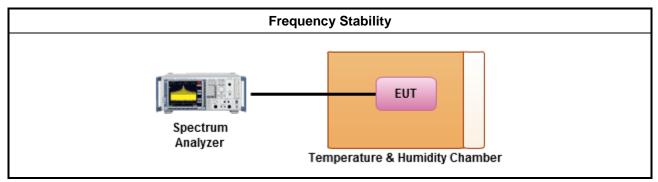
#### 3.8.2 Measuring Instruments

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

#### 3.8.3 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 a not the maximum emitted power level.						

#### 3.8.4 Test Setup





## 3.8.5 Test Result of Frequency Stability

		Frequency Stability Result			
Мо	de	Frequency Stability (ppm)			
Condition	Freq. (MHz)	Test Frequency (MHz)	Frequency Stability (ppm)		
T <sub>20°C</sub> Vmax	5320	5319.99968	-0.0602		
$T_{20^\circ C}Vmin$	5320	5320.02049	3.8515		
T <sub>50°C</sub> Vnom	5320	5320.02135	4.0132		
$T_{40^\circ C}$ Vnom	5320	5319.98832	-2.1955		
T <sub>30°C</sub> Vnom 5320		5319.99696	-0.5714		
T <sub>20°C</sub> Vnom 5320		5320.00226	0.4248		
T <sub>10°C</sub> Vnom	5320	5319.99711 -0.5432			
$T_{0^{\circ}C}$ Vnom	5320	5319.99864	-0.2556		
T <sub>-10°C</sub> Vnom	5320	5319.99865	-0.2538		
T <sub>-20°C</sub> Vnom	5320	5319.99977	-0.0432		
Limit (ppm)		20			
Res	ult	Complied			



# 4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz ~ 2.75GHz	Mar. 26, 2013	Conduction (CO04-HY)
LISN	SCHWARZBECK MESS-ELEKTRO NIK	NSLK 8127	8127-477	9kHz ~ 30MHz	Jan. 21, 2013	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz ~ 30MHz	Apr. 18, 2013	Conduction (CO04-HY)
RF Cable-CON	HUBER+SUHNE R	RG213/U	7.61183201e+01 2	9kHz ~ 30MHz	Nov. 09, 2012	Conduction (CO04-HY)
ISN	TESEQ	ISN T800	30330	9kHz ~ 30MHz	Mar. 15, 2013	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)
CDN	TESEQ	M016	25100	150kHz ~ 26MHz	Mar. 11, 2013	Conduction (CO04-HY)
CDN	TESEQ	M016	25103	150kHz ~ 26MHz	Mar. 11, 2013	Conduction (CO04-HY)
50 ohm terminal	N/A	N/A	TM012	N/A	Feb. 26, 2013	Conduction (CO04-HY)
50 ohm terminal	N/A	N/A	CON-04-02	N/A	Feb. 26, 2013	Conduction (CO04-HY)
50 ohm terminal	N/A	N/A	CON-04-01	N/A	Apr. 22, 2013	Conduction (CO04-HY)
50 ohm terminal	N/A	N/A	CON-04-03	N/A	Feb. 26, 2013	Conduction (CO04-HY)
50 ohm terminal	N/A	N/A	CON-01-04	N/A	Feb. 26, 2013	Conduction (CO04-HY)
ISN	TESEQ	ISN T400	21653	N/A	Jun. 25, 2013	Conduction (CO04-HY)

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



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSV	101498	10Hz – 40GHz	Jan. 24, 2013	Radiation (03CH05-HY)
Receiver	R&S	ESIB26	100337	20Hz – 26.5GHz	Dec. 14, 2012	Radiation (03CH05-HY)
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH05-HY	30 MHz - 1 GHz 3m	N/A	Radiation (03CH05-HY)
Amplifier	COM-POWER	PA-103	161075	1KHz - 1GHz	Feb. 26, 2013	Radiation (03CH05-HY)
Amplifier	MITEQ	AMF-7D-001018 00-30-10P	1590074	1GHz – 26.5 GHz	Jul. 09, 2013	Radiation (03CH05-HY)
Horn Antenna	ETS-LINDGREN	3117	66584	1GHz~18GHz	Aug. 07, 2013	Radiation (03CH05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2725	30 MHz - 1 GHz	Oct. 06, 2012	Radiation (03CH05-HY)
RF Cable-R03m	Jye Bao	RG142	03CH05-HY	30 MHz - 1 GHz	Oct. 14, 2012	Radiation (03CH05-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX104	03CH05-HY	1GHz~40GHz	Oct. 14, 2012	Radiation (03CH05-HY)
Turn Table	HD	HD100	420/611	0 - 360 degree	N/A	Radiation (03CH05-HY)
Antenna Mast	HD	HD100	240/666	1 m - 4 m	N/A	Radiation (03CH05-HY)
Antenna Mast	HD	HD100	240/666	1 m - 4 m	N/A	Radiation (03CH05-HY)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5GHz ~ 40GHz	Apr. 19, 2013	Radiation (03CH05-HY)
Loop Antenna	R&S	HFH2-Z2	860004/0001	9 kHz - 30 MHz	Jul. 03, 2012	Radiation (03CH05-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. 18, 2013	Conducted (TH01-HY)
Spectrum Analyzer	R&S	FSP 40	100305	9KHz~40GHz	Mar. 20, 2013	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-SP- SD	MAA1112-007	-20 ~ 100℃	Nov. 21, 2012	Conducted (TH01-HY)
Signal Generator	R&S	SMB100A	175727	10MHz ~ 40GHz	Jan. 14, 2013	Conducted (TH01-HY)
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	Feb. 02, 2013	Conducted (TH01-HY)
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	Feb. 02, 2013	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Jun. 21, 2013	Conducted (TH01-HY)
AC Power Source	G.W	APS-9102	EL920581	AC 0V ~ 300V	Jul. 16, 2013	Conducted (TH01-HY)

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