

# **FCC Test Report**

FCC ID : VQK-F04G

**Equipment**: Mobile Phone

Model No. : F-04G

Brand Name : FUJITSU

Applicant : FUJITSU LIMITED

Address : 1-1, Kamikodanaka 4-chome, Nakahara-ku,

Kawasaki 211-8588, Japan

Standard : 47 CFR FCC Part 15.407

Received Date : Dec. 17, 2014

Tested Date : Mar. 05 ~ Mar. 12, 2015

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Approved & Reviewed by:

Gary Chang / Manager

Ilac-MRA

TAF)
Testing Laboratory

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Report No.: FR4D1701AN



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## **Release Record**

Report No.	Version	Description	Issued Date
FR4D1701AN	Rev. 01	Initial issue	Apr. 01, 2015

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# **Summary of Test Results**

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.520MHz 41.34 (Margin -4.66dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5725.00MHz 65.09 (Margin -3.11dB) - PK	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(e)	6dB bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: 5150~5250MHz: 13.73 5250~5350MHz: 13.71 5470~5725MHz: 12.93	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

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## 1 General Description

### 1.1 Information

#### 1.1.1 Product Details

Product Name	Mobile Phone
Brand Name	FUJITSU
Model Name	F-04G
IMEI Code	357241060024329 / 357241060024287
H/W Version	v2.1.0
S/W Version	R21.5e

## 1.1.2 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N <sub>TX</sub> )	Data Rate / MCS
5150-5250 5250-5350 5470-5725	а	5180-5240 5260-5320 5500-5700	36-48 [4] 52-64 [4] 100-140 [11]	1	6-54 Mbps
5150-5250 5250-5350 5470-5725	n (HT20)	5180-5240 5260-5320 5500-5700	36-48 [4] 52-64 [4] 100-140 [11]]	2	MCS 0-15
5150-5250 5250-5350 5470-5725	n (HT40)	5190-5230 5270-5310 5510-5670	38-46 [2] 54-62 [2] 102-134 [5]	2	MCS 0-15
5150-5250 5250-5350 5470-5725	ac (VHT20)	5180-5240 5260-5320 5500-5700	36-48 [4] 52-64 [4] 100-140 [11]	2	MCS 0-9, N <sub>SS</sub> = 1 / 2
5150-5250 5250-5350 5470-5725	ac (VHT40)	5190-5230 5270-5310 5510-5670	38-46 [2] 54-62 [2] 102-134 [5]	2	MCS 0-9, N <sub>SS</sub> = 1 / 2
5150-5250 5250-5350 5470-5725	ac (VHT80)	5210 5290 5530-5610	42 [1] 58 [1] 106-122 [2]	2	MCS 0-9, N <sub>SS</sub> = 1 / 2

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

Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.

#### 1.1.3 Antenna Details

Ant.	Туре	Gain (dBi)	Connector	Remark
0	λ/4 Monopole	1.40		
1	λ /4 Monopole	-5.78		

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## 1.1.4 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	AC adapter: (normal output rating) 5.0Vdc, 1.8A (quick charge output rating) 9.0Vdc, 1.8A Battery: 3.75Vdc
-------------------	--

### 1.1.5 Accessories

No.	Equipment	Description
1	Cradle	Brand Name: Fujitsu Limited Model Name: F50 Input rating: (quick charge) 9.0Vdc, 1.5A Output rating: (quick charge) 9.0Vdc, 1.5A
2	Battery (Unremovable)	Brand Name: NTT Docomo Model Name: CA54310-0061 Power Rating: 3.75Vdc, 3120mAh, 12Wh

### 1.1.6 Channel List

802.11 a / HT20 / VHT20		HT40 /	VHT40
Channel	Frequency(MHz)	Channel	Frequency(MHz)
36	5180	38	5190
40	5200	46	5230
44	5220	54	5270
48	5240	62	5310
52	5260	102	5510
56	5280	110	5550
60	5300	118	5590
64	5320	126	5630
100	5500	134	5670
104	5520	VH	T80
108	5540	42	5210
112	5560	58	5290
116	5580	106	5530
120	5600	122	5610
124	5620		
128	5640		
132	5660		
136	5680		
140	5700		

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## 1.1.7 Test Tool and Duty Cycle

Test Tool	QRCT, version 3.0.54.0		
	Mode	Duty cycle (%)	Duty factor (dB)
	11a	99.38%	0.03
Duty Cycle and Duty Factor	HT20	98.21%	0.08
	HT40	93.86%	0.28
	VHT80	87.64%	0.57

## 1.1.8 Power Setting

For Frequency band 5150-5250 MHz			
Modulation Mode	Test Frequency (MHz)	Power Set	
11a	5180	17	
11a	5200	17	
11a	5240	17	
HT20	5180	15	
HT20	5200	15	
HT20	5240	15	
HT40	5190	15	
HT40	5230	15	
VHT20	5180	14	
VHT20	5200	14	
VHT20	5240	14	
VHT40	5190	14	
VHT40	5230	14	
VHT80	5210	13	

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For Frequency band 5250~5350 MHz				
Modulation Mode	Test Frequency (MHz)	Power Set		
11a	5260	17		
11a	5300	17		
11a	5320	17		
HT20	5260	15		
HT20	5300	15		
HT20	5320	15		
HT40	5270	15		
HT40	5310	15		
VHT20	5260	14		
VHT20	5300	14		
VHT20	5320	14		
VHT40	5270	14		
VHT40	5310	14		
VHT80	5290	13		

	For Frequency band 5470~5725 MHz	
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5500	17
11a	5580	17
11a	5700	17
HT20	5500	15
HT20	5580	15
HT20	5700	15
HT40	5510	15
HT40	5590	15
HT40	5670	15
VHT20	5500	14
VHT20	5580	14
VHT20	5700	14
VHT40	5510	14
VHT40	5590	14
VHT40	5670	14
VHT80	5530	13
VHT80	5610	13

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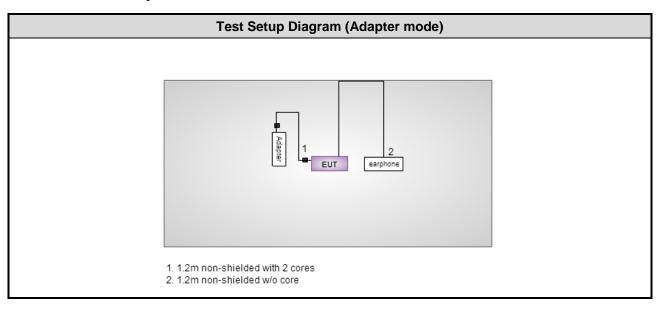


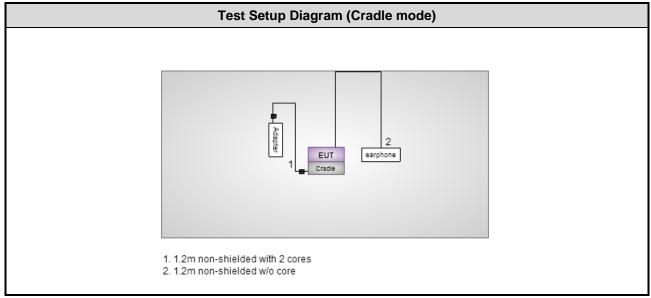
## 1.2 Local Support Equipment List

	Support Equipment List											
No.	Equipment	Brand	Model	S/N	FCC ID	Signal cable / Length (m)						
1	Adapter	NTT docomo	AC Adaptor 05									
2	Earphone	APPLE	MD827FE/A	6		1.2m non-shielded w/o core						

Note: Item 1 was provided by client.

## 1.3 Test Setup Chart





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## 1.4 The Equipment List

01-WS) Manufacturer	Model No.			
Manufacturer	Model No.			
		Serial No.	Calibration Date	Calibration Until
R&S	FSV40	101063	Feb. 03, 2015	Feb. 02, 2016
IANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Dec. 03, 2014	Dec. 02, 2015
Anritsu	ML2495A	1241002	Sep. 29, 2014	Sep. 28, 2015
Anritsu	MA2411B	1207366	Sep. 29, 2014	Sep. 28, 2015
Sporton	Sporton_1	1.3.30	NA	NA
	Anritsu Anritsu Sporton	Anritsu ML2495A Anritsu MA2411B	Anritsu         ML2495A         1241002           Anritsu         MA2411B         1207366           Sporton         Sporton_1         1.3.30	Anritsu         ML2495A         1241002         Sep. 29, 2014           Anritsu         MA2411B         1207366         Sep. 29, 2014           Sporton         Sporton_1         1.3.30         NA

Test Item	Radiated Emission				
Test Site	966 chamber 3 / (030	CH03-WS)			
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	Agilent	N9010A	MY53400091	Sep. 16, 2014	Sep. 15, 2015
Receiver	Agilent	N9038A	MY53290044	Oct. 21, 2014	Oct. 20, 2015
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-562	Jan. 19, 2015	Jan. 18, 2016
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Feb. 03, 2015	Feb. 02, 2016
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 10, 2014	Nov. 09, 2015
Loop Antenna	R&S	HFH2-Z2	11900	Nov. 10, 2014	Nov. 09, 2015
Preamplifier	EMC	EMC02325	980187	Sep. 26, 2014	Sep. 25, 2015
Preamplifier	Agilent	83017A	MY53270014	Sep. 17, 2014	Sep. 16, 2015
Preamplifier	EMC	EMC184045B	980192	Aug. 26, 2014	Aug. 25, 2015
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Feb. 09, 2015	Feb. 08, 2016
RF cable-8M	HUBER+SUHNER	SUCOFLEX104	MY22601/4	Feb. 09, 2015	Feb. 08, 2016
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Feb. 09, 2015	Feb. 08, 2016
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Feb. 09, 2015	Feb. 08, 2016
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Feb. 09, 2015	Feb. 08, 2016
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Feb. 09, 2015	Feb. 08, 2016
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Int	erval of instruments lis	ted above is one year.			

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Test Item	Conducted Emission										
Test Site	Conduction room 1 / (CO01-WS)										
Instrument	Manufacturer	Manufacturer Model No. Serial No. Calibration Date Calibration Uni									
EMC Receiver	R&S	ESCS 30	100169	Oct. 17, 2014	Oct. 16, 2015						
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 17, 2014	Nov. 16, 2015						
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Dec. 31, 2014	Dec. 30, 2015						
Measurement Software AUDIX e3 6.120210k NA NA NA											
Note: Calibration Inte	rval of instruments liste	Note: Calibration Interval of instruments listed above is one year.									

### 1.5 Testing Applied Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.407

ANSI C63.10-2013

FCC 789033 D02 General UNII Test Procedures New Rules v01

FCC KDB 644545 D03 Guidance for IEEE 802 11ac New Rules v01

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

FCC KDB 412172 D01 Determining ERP and EIRP v01

## 1.6 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							
Parameters	Uncertainty						
Bandwidth	±34.134 Hz						
Conducted power	±0.808 dB						
Frequency error	±34.134 Hz						
Power density	±0.463 dB						
Conducted emission	±2.670 dB						
AC conducted emission	±2.92 dB						
Radiated emission ≤ 1GHz	±3.99 dB						
Radiated emission > 1GHz	±5.52 dB						
Time	±0.1%						
Temperature	±0.6 °C						

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## 2 Test Configuration

## 2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	18°C / 76%	Peter Lin
Radiated Emissions	03CH03-WS	20-21°C / 63-64%	Aska Huang
RF Conducted	TH01-WS	22°C / 65%	Brad Wu

➤ FCC site registration No.: 390588➤ IC site registration No.: 10807C-1

#### 2.2 The Worst Test Modes and Channel Details

Frequency band		5150~5350 MHz	5150~5350 MHz / 5470~5725 MHz					
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps) / MCS	Test Configuration				
Conducted Emissions	HT40	5230	MCS 8	1, 2				
Radiated Emissions ≤1GHz	HT40	5230	MCS 8	1, 2				
	11a	5180 / 5200 / 5240 / 5260 / 5300 5320 / 5500 / 5580 / 5700	6 Mbps					
	HT20	5180 / 5200 / 5240 / 5260 / 5300 5320 / 5500 / 5580 / 5700	MCS 8					
RF Output Power	HT40	5190 / 5230/ 5270 / 5310 / 5510 5590 / 5670	MCS 8	1				
	VHT20	5180 / 5200 / 5240 / 5260 / 5300 5320 / 5500 / 5580 / 5700	MCS 0, N <sub>SS</sub> =2					
	VHT40	5190 / 5230/ 5270 / 5310 / 5510 5590 / 5670	MCS 0, N <sub>SS</sub> =2					
	VHT80	5210 / 5290 / 5530 / 5610	MCS 0, N <sub>SS</sub> =2					
	11a	5180 / 5200 / 5240 / 5260 / 5300 5320 / 5500 / 5580 / 5700	6 Mbps					
Radiated Emissions >1GHz Emission Bandwidth	HT20	5180 / 5200 / 5240 / 5260 / 5300 5320 / 5500 / 5580 / 5700	MCS 8	1				
Peak Power Spectral Density	HT40	5190 / 5230/ 5270 / 5310 / 5510 5590 / 5670	MCS 8					
	VHT80	5210 / 5290 / 5530 / 5610	MCS 0, N <sub>SS</sub> =2					
Frequency Stability	Un-modulation	5320		1				

#### NOTE:

- 1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement X, Y, and Z-plane. The **Y-plane** results were found as the worst case and were shown in this report.
- 2. The EUT had been tested by following test configurations for radiated emission below 1GHz.
  - 1) Configuration 1 : Adapter mode
  - 2) Configuration 2 : Cradle mode
- Adapter and cradle mode had been pretested for radiated emission above 1GHz and found that the adapter mode was the worst case and was selected for final test.

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### 3 Transmitter Test Results

#### 3.1 Conducted Emissions

#### 3.1.1 Limit of Conducted Emissions

Conducted Emissions Limit								
Frequency Emission (MHz)	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 logarith	m of the frequency.	·						

#### 3.1.2 Test Procedures

- 1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
- 2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50  $\Omega$  LISN port.
- 3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
- 4. This measurement was performed with AC 120V/60Hz

#### 3.1.3 Test Setup



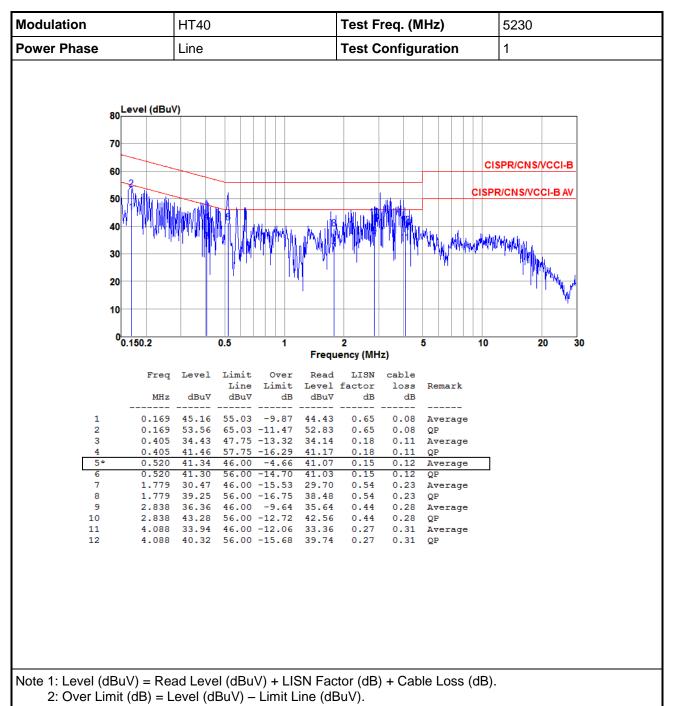
Note: 1. Support units were connected to second LISN.

Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

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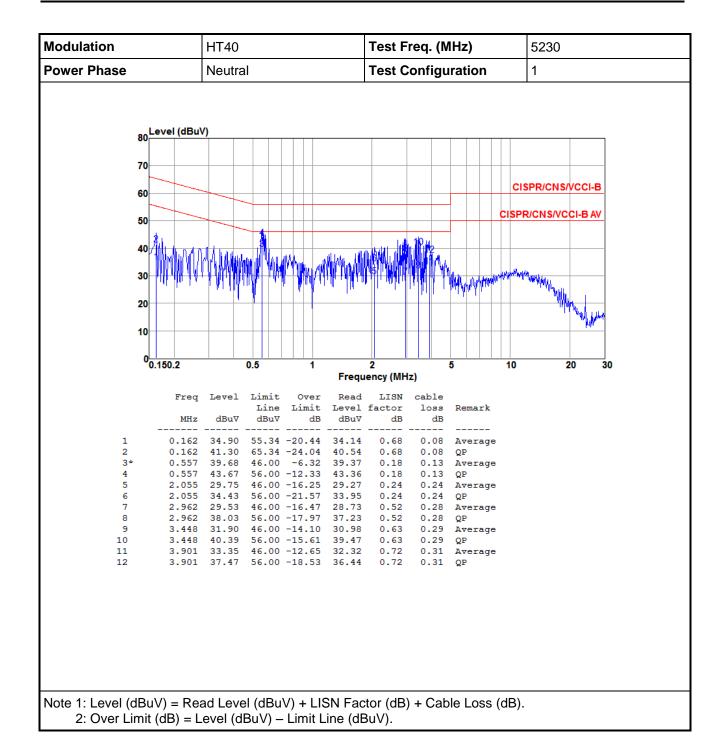


#### 3.1.4 Test Result of Conducted Emissions



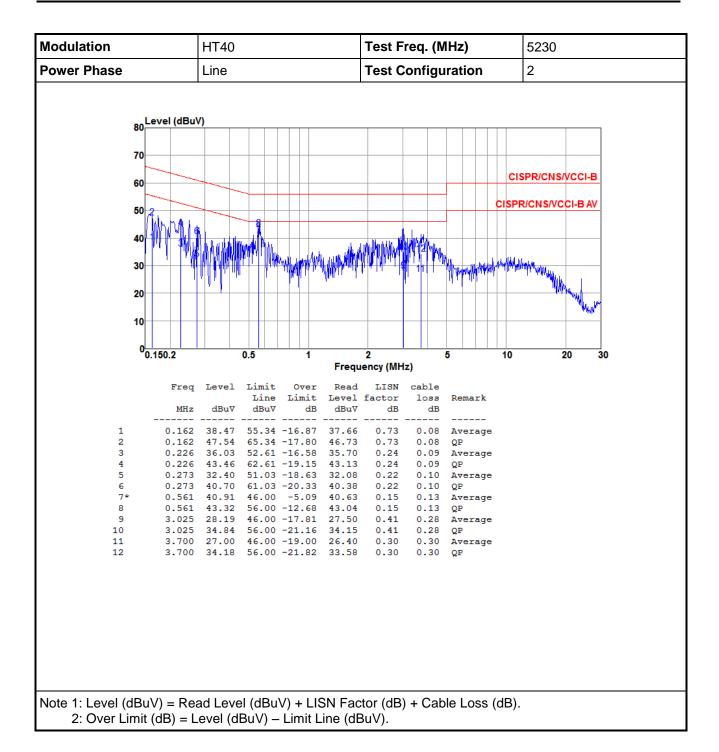
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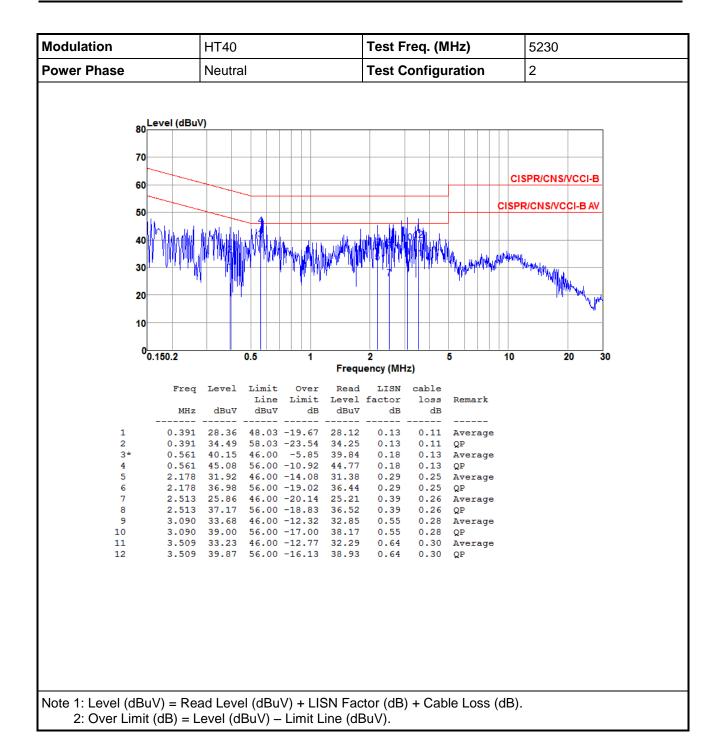
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#### 3.2 Emission Bandwidth

#### 3.2.1 Limit of Emission Bandwidth

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

#### 3.2.2 Test Procedures

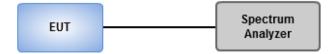
#### 26dB Bandwidth

- 1. Set RBW = approximately 1% of the emission bandwidth.
- 2. Set the VBW > RBW, Detector = Peak.
- 3. Trace mode = max hold.
- 4. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.

#### **Occupied Bandwidth**

- 1. Set RBW = 1 % to 5 % of the OBW
- 2. Set VBW ≥ 3 RBW
- 3. Sample detection and single sweep mode shall be used
- 4. Use the 99 % power bandwidth function of the instrument

### 3.2.3 Test Setup



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## 3.2.4 Test Result of Emission Bandwidth

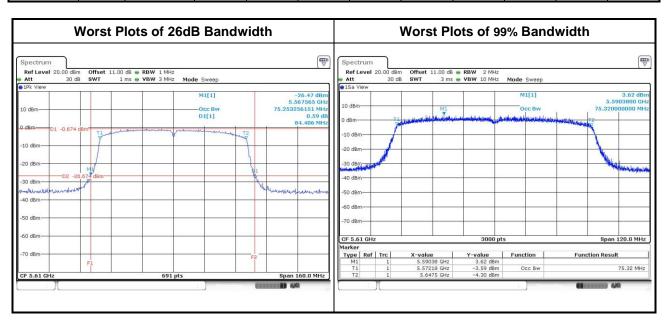
	For Frequency band 5150~5250 MHz													
NA - d -		Freq.	2	6dB Band	width (MHz	z)	9	99% Bandy	width (MHz	:)				
Mode	N <sub>TX</sub>	(MHz)	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3				
11a	1	5180	19.83				16.33							
11a	1	5200	19.71				16.32							
11a	1	5240	20.23				16.34							
HT20	2	5180	20.17	20.58			17.43	17.43						
HT20	2	5200	20.00	20.58			17.42	17.42						
HT20	2	5240	20.06	20.58			17.42	17.43						
HT40	2	5190	41.16	41.97			35.88	36.00						
HT40	2	5230	41.28	41.97			35.86	35.98						
VHT80	2	5210	82.32	83.94			75.08	75.28						

	For Frequency band 5250~5350 MHz													
Mode			26dB Bandwidth (MHz)				99	9% Bandv	vidth (MH	z)	Power Limit			
Wode	N <sub>TX</sub> Freq. (MHz)	(MHz)	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3	(dBm)			
11a	1	5260	20.06				16.32				24.00			
11a	1	5300	20.41				16.34				24.00			
11a	1	5320	20.29				16.34				24.00			
HT20	2	5260	20.12	20.64			17.42	17.43			24.00			
HT20	2	5300	20.17	20.64			17.43	17.43			24.00			
HT20	2	5320	20.12	20.41			17.42	17.43			24.00			
HT40	2	5270	41.86	41.97			35.90	35.94			24.00			
HT40	2	5310	41.39	41.86			35.90	35.96			24.00			
VHT80	2	5290	83.25	82.78			75.12	75.24			24.00			

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			Fo	r Frequer	ncy band	5470~572	25 MHz				
Mode	Made N Freq.			26dB Bandwidth (MHz)				9% Bandv	vidth (MH	lz)	Power
Mode	N <sub>TX</sub> (MHz)	Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3	Limit (dBm)	
11a	1	5500	20.23				16.32				24.00
11a	1	5580	20.93				16.32				24.00
11a	1	5700	20.12				16.33				24.00
HT20	2	5500	20.17	20.35			17.42	17.45			24.00
HT20	2	5580	20.17	20.23			17.43	17.43			24.00
HT20	2	5700	20.17	20.64			17.42	17.44			24.00
HT40	2	5510	41.86	42.09			35.90	35.98			24.00
HT40	2	5590	43.48	42.32			35.94	36.02			24.00
HT40	2	5670	42.20	42.44			35.96	36.04			24.00
VHT80	2	5530	83.48	84.41			75.28	75.24			24.00
VHT80	2	5610	83.71	84.41			75.12	75.32			24.00



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## 3.3 RF Output Power

### 3.3.1 Limit of RF Output Power

	Frequency band 5150-5250 MHz						
Оре	erating Mode	Limit					
	Outdoor access point	Conducted Power: 1 W The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm)					
	Indoor access point	Conducted Power: 1 W					
	Fixed point-to-point access points	Conducted Power: 1 W					
$\boxtimes$	Mobile and portable client devices	Conducted Power: 250 mW					

Frequency Band (MHz)		Limit				
	5250 ~ 5350	250mW or 11dBm+10 log B				
Note	Note: "B" is the 26dB emission bandwidth in MHz.					

#### 3.3.2 Test Procedures

#### Power meter

Measurements is performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required

### 3.3.3 Test Setup



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## 3.3.4 Test Result of Maximum Conducted Output Power

	For Frequency band 5150~5250 MHz										
BA - d -			Conducted Power (dBm)				Total	Total	Limit		
Mode	N <sub>TX</sub>	Freq. (MHz)	Chain 0	Chain 1	Chain 2	Chain 3	Power (mW)	Power (dBm)	(dBm)		
11a	1	5180	13.26				21.184	13.26	24.00		
11a	1	5200	13.28				21.281	13.28	24.00		
11a	1	5240	13.19				20.845	13.19	24.00		
HT20	2	5180	10.92	9.43			21.129	13.25	24.00		
HT20	2	5200	10.75	9.40			20.595	13.14	24.00		
HT20	2	5240	10.99	9.64			21.765	13.38	24.00		
HT40	2	5190	11.25	10.02			23.381	13.69	24.00		
HT40	2	5230	11.33	10.00			23.583	13.73	24.00		
VHT20	2	5180	9.78	8.34			16.329	12.13	24.00		
VHT20	2	5200	9.76	8.35			16.301	12.12	24.00		
VHT20	2	5240	9.79	8.61			16.789	12.25	24.00		
VHT40	2	5190	10.32	9.07			18.837	12.75	24.00		
VHT40	2	5230	10.42	9.02			18.995	12.79	24.00		
VHT80	2	5210	9.30	8.04			14.879	11.73	24.00		

For Frequency band 5250~5350 MHz										
			С	Conducted Power (dBm)				Total	Limit	
Mode	N <sub>TX</sub>	Freq. (MHz)	Chain 0	Chain 1	Chain 2	Chain 3	Power (mW)	Power (dBm)	(dBm)	
11a	1	5260	13.17				20.749	13.17	24.00	
11a	1	5300	12.90				19.498	12.90	24.00	
11a	1	5320	12.81				19.099	12.81	24.00	
HT20	2	5260	10.68	9.50			20.608	13.14	24.00	
HT20	2	5300	10.77	9.53			20.914	13.20	24.00	
HT20	2	5320	10.42	9.55			20.031	13.02	24.00	
HT40	2	5270	11.21	10.11			23.469	13.71	24.00	
HT40	2	5310	11.07	9.99			22.771	13.57	24.00	
VHT20	2	5260	9.72	8.51			16.471	12.17	24.00	
VHT20	2	5300	9.42	8.65			16.078	12.06	24.00	
VHT20	2	5320	9.33	8.48			15.617	11.94	24.00	
VHT40	2	5270	10.17	9.16			18.641	12.70	24.00	
VHT40	2	5310	10.05	9.14			18.319	12.63	24.00	
VHT80	2	5290	8.89	8.00			14.054	11.48	24.00	

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	For Frequency band 5470~5725 MHz										
			Conducted Power (dBm)			Total	Total	Limit			
Mode	N <sub>TX</sub>	Freq. (MHz)	Chain 0	Chain 1	Chain 2	Chain 3	Power (mW)	Power (dBm)	(dBm)		
11a	1	5500	11.25				13.335	11.25	24.00		
11a	1	5580	11.62				14.521	11.62	24.00		
11a	1	5700	11.28				13.428	11.28	24.00		
HT20	2	5500	9.01	8.98			15.868	12.01	24.00		
HT20	2	5580	9.36	9.21			16.967	12.30	24.00		
HT20	2	5700	9.07	8.63			15.367	11.87	24.00		
HT40	2	5510	9.56	9.50			17.949	12.54	24.00		
HT40	2	5590	9.95	9.88			19.613	12.93	24.00		
HT40	2	5670	9.76	9.20			17.780	12.50	24.00		
VHT20	2	5500	8.03	7.98			12.634	11.02	24.00		
VHT20	2	5580	8.57	8.04			13.562	11.32	24.00		
VHT20	2	5700	8.15	7.31			11.914	10.76	24.00		
VHT40	2	5510	8.68	8.63			14.674	11.67	24.00		
VHT40	2	5590	9.28	8.53			15.601	11.93	24.00		
VHT40	2	5670	8.85	8.28			14.403	11.58	24.00		
VHT80	2	5530	7.70	7.52			11.538	10.62	24.00		
VHT80	2	5610	7.90	7.36			11.611	10.65	24.00		

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## 3.4 Peak Power Spectral Density

## 3.4.1 Limit of Peak Power Spectral Density

	Frequency band 5150-5250 MHz						
Оре	erating Mode	Limit					
	Outdoor access point	17 dBm / MHz					
	Indoor access point	17 dBm / MHz					
	Fixed point-to-point access points	17 dBm / MHz					
$\boxtimes$	Mobile and portable client devices	11 dBm / MHz					

Fred	quency Band (MHz)	Limit
$\boxtimes$	5250 ~ 5350	11 dBm / MHz
$\boxtimes$	5470 ~ 5725	11 dBm / MHz

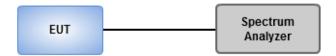
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#### 3.4.2 Test Procedures

- Method SA-1 (for 11a, HT20)
  - 1. Set RBW = 1 MHz, VBW = 3 MHz, Sweep time = auto, Detector = RMS.
  - 2. Trace average 100 traces.
  - 3. Use the peak marker function to determine the maximum amplitude level.
- Method SA-2 Alternative (for HT40, VHT80)
  - 1. Set RBW = 1 MHz, VBW = 3 MHz, Detector = RMS.
  - 2. Set sweep time ≥ 10 \* (number of points in sweep) \* (total on/off period of the transmitted signal).
  - 3. Perform a single sweep.
  - 4. Use the peak marker function to determine the maximum amplitude level.
  - 5. Add  $10 \log(1/x)$ , where x is the duty cycle.

#### 3.4.3 Test Setup



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## 3.4.4 Test Result of Peak Power Spectral Density

Free	quency	band	5150~5250 MHz / 5250~5350 MHz					
(	Conditio	on	Peak Power Spectral Density (dBm/MHz)					
Mode	N <sub>TX</sub>	Freq. (MHz)	PPSD w/o D.F (dBm/MHz)	Duty Factor (dB)	PPSD with D.F (dBm/MHz)	PPSD Limit (dBm/MHz)		
11a	1	5180	0.18	0.00	0.18	11		
11a	1	5200	0.22	0.00	0.22	11		
11a	1	5240	-0.46	0.00	-0.46	11		
HT20	2	5180	0.73	0.00	0.73	11		
HT20	2	5200	0.75	0.00	0.75	11		
HT20	2	5240	0.76	0.00	0.76	11		
HT40	2	5190	-2.44	0.28	-2.16	11		
HT40	2	5230	-1.71	0.28	-1.43	11		
VHT80	2	5210	-7.82	0.57	-7.25	11		
11a	1	5260	-0.49	0.00	-0.49	11		
11a	1	5300	-0.59	0.00	-0.59	11		
11a	1	5320	-0.73	0.00	-0.73	11		
HT20	2	5260	0.87	0.00	0.87	11		
HT20	2	5300	0.68	0.00	0.68	11		
HT20	2	5320	0.71	0.00	0.71	11		
HT40	2	5270	-2.36	0.28	-2.08	11		
HT40	2	5310	-2.55	0.28	-2.27	11		
VHT80	2	5290	-7.98	0.57	-7.41	11		

#### Note:

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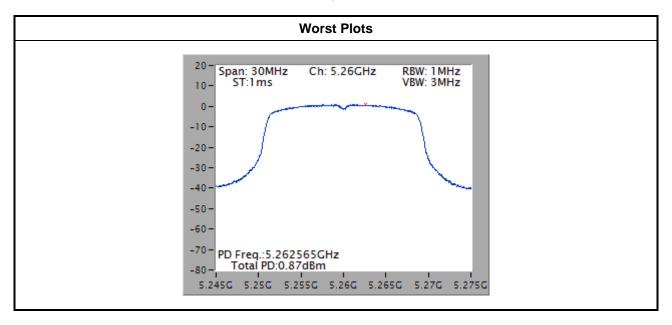
D.F is duty factor.
 Test result is bin-by-bin for HT20/HT40/VHT80 summing measured value of each TX port.



Fred	quency	band	5475~5725 MHz						
(	Conditio	on	F	Peak Power Spectral Density (dBm/MHz)					
Mode	N <sub>TX</sub>	Freq. (MHz)	PPSD w/o D.F (dBm/MHz)	Duty Factor (dB)	PPSD with D.F (dBm/MHz)	PPSD Limit (dBm/MHz)			
11a	1	5500	-1.88	0.00	-1.88	11			
11a	1	5580	-1.67	0.00	-1.67	11			
11a	1	5700	-2.08	0.00	-2.08	11			
HT20	2	5500	-0.32	0.00	-0.32	11			
HT20	2	5580	-0.17	0.00	-0.17	11			
HT20	2	5700	-0.88	0.00	-0.88	11			
HT40	2	5510	-3.53	0.28	-3.25	11			
HT40	2	5590	-3.31	0.28	-3.03	11			
HT40	2	5670	-3.82	0.28	-3.54	11			
VHT80	2	5530	-8.88	0.57	-8.31	11			
VHT80	2	5610	-8.95	0.57	-8.38	11			

#### Note:

- 1. D.F is duty factor.
- 2. Test result for HT20/HT40/VHT80 is bin-by-bin summing measured value of each TX port.



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### 3.5 Transmitter Radiated and Band Edge Emissions

### 3.5.1 Limit of Transmitter Radiated and Band Edge Emissions

Restricted Band Emissions Limit								
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)					
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300					
0.490~1.705	24000/F(kHz)	33.8 - 23	30					
1.705~30.0	30	29	30					
30~88	100	40	3					
88~216	150	43.5	3					
216~960	200	46	3					
Above 960	500	54	3					

#### Note 1:

Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit **Note 2**:

Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

Un-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 - 5.850 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]				

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

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#### 3.5.2 Test Procedures

- Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
- 2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
- 3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

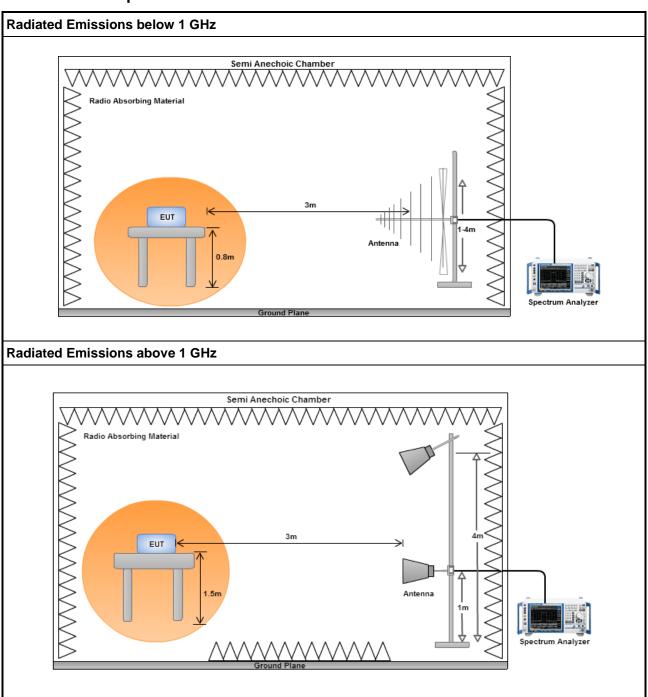
#### Note:

- 1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
- 2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
- RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

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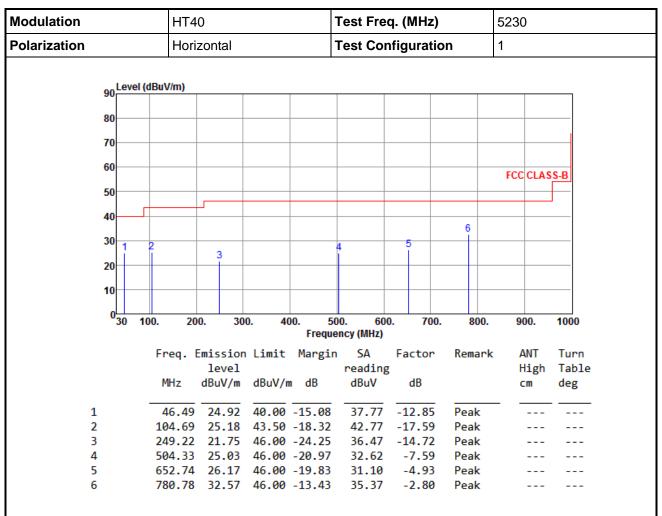
### 3.5.3 Test Setup



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### 3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*Factor includes antenna factor, cable loss and amplifier gain

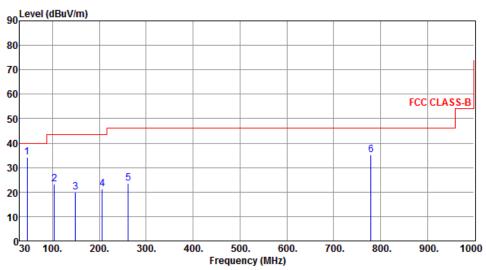
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

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Modulation	HT40	Test Freq. (MHz)	5230
Polarization	Vertical	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV		Remark	ANT High cm	Turn Table deg
1	45.52	34.18	40.00	-5.82	47.01	-12.83	Peak		
2	103.72	23.16	43.50	-20.34	40.92	-17.76	Peak		
3	149.31	19.90	43.50	-23.60	33.34	-13.44	Peak		
4	206.54	21.11	43.50	-22.39	37.60	-16.49	Peak		
5	261.83	23.58	46.00	-22.42	37.86	-14.28	Peak		
6	779.81	35.19	46.00	-10.81	38.00	-2.81	Peak		

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

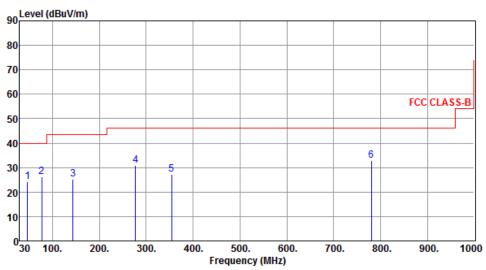
\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

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Modulation	HT40	Test Freq. (MHz)	5230		
Polarization	Horizontal	Test Configuration	2		



	Freq. MHz	Emission level dBuV/m		Ū	SA reading dBuV		Remark	ANT High cm	Turn Table deg
_									
1	46.49	24.34	40.00	-15.66	37.19	-12.85	Peak		
2	77.53	26.23	40.00	-13.77	43.21	-16.98	Peak		
3	143.49	25.22	43.50	-18.28	38.85	-13.63	Peak		
4	277.35	30.77	46.00	-15.23	44.30	-13.53	Peak		
5	353.98	27.07	46.00	-18.93	38.41	-11.34	Peak		
6	780.78	32.77	46.00	-13.23	35.57	-2.80	Peak		

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

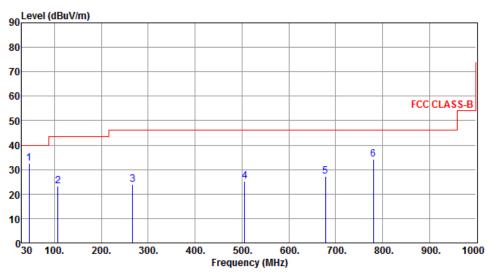
\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

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Modulation	HT40	Test Freq. (MHz)	5230		
Polarization	Vertical	Test Configuration	2		



	Freq.	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	45.52	32.48	40.00	-7.52	45.31	-12.83	Peak		
2	107.60	23.17	43.50	-20.33	40.22	-17.05	Peak		
3	266.68	24.01	46.00	-21.99	38.04	-14.03	Peak		
4	506.27	25.19	46.00	-20.81	32.76	-7.57	Peak		
5	677.96	27.16	46.00	-18.84	31.76	-4.60	Peak		
6	780.78	34.09	46.00	-11.91	36.89	-2.80	Peak		

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

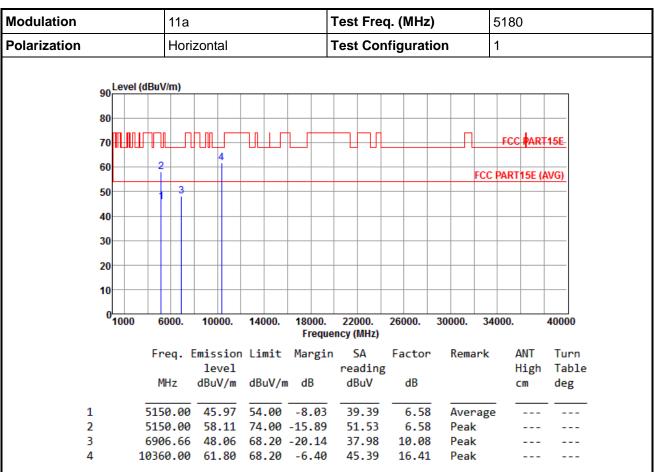
\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

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



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

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30 20

Modulation Polarization									•	Test Freq. (MHz)						į	5180 1			
									•	Test Configuration					•					
	80 70	evel (c				4										П		FCC	<b>P</b> AR	T15E
	60		2			Ĺ											FCC	PART	15E (	(AVG)
	50	-	1	3						-										

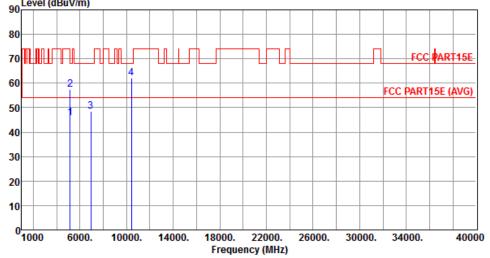
	1000	6000.	10000.	14000.	18000. Freque	22000. ncy (MHz)	26000.	30000.	34000.	40000
		Freq.	Emission level	Limit	Margin	SA reading	Factor	Remar	k ANT High	Turn Table
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1		5150.00	45.80	54.00	-8.20	39.22	6.58	Avera	ge	
2		5150.00	58.54	74.00	-15.46	51.96	6.58	Peak		
3		6906.66	49.41	68.20	-18.79	39.33	10.08	Peak		
4		10360.00	60.80	68.20	-7.40	44.39	16.41	Peak		

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)
\*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5200		
Polarization	Horizontal	Test Configuration	1		
90 Level (dl	BuV/m)				



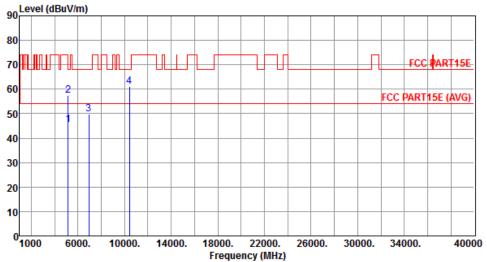
	Freq.	Emission	Limit	Margin			Remark	ANT	Turn
		level			reading			High	Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	45.83	54.00	-8.17	39.25	6.58	Average		
2	5150.00	57.57	74.00	-16.43	50.99	6.58	Peak		
3	6933.33	48.48	68.20	-19.72	38.35	10.13	Peak		
4	10400.00	61.94	68.20	-6.26	45.45	16.49	Peak		

\*Factor includes antenna factor, cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5200		
Polarization Vertical		<b>Test Configuration</b>	1		
90 Level (d	iBuV/m)				



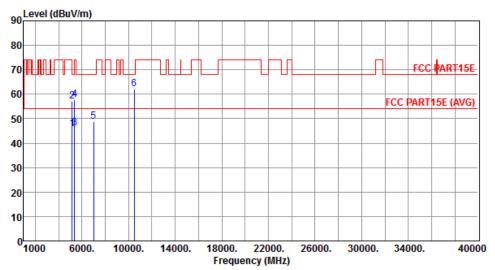
	Freq.	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	45.61	54.00	-8.39	39.03	6.58	Average		
2	5150.00	57.47	74.00	-16.53	50.89	6.58	Peak		
3	6933.33	49.75	68.20	-18.45	39.62	10.13	Peak		
4	10400.00	60.98	68.20	-7.22	44.49	16.49	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal	Test Configuration	1



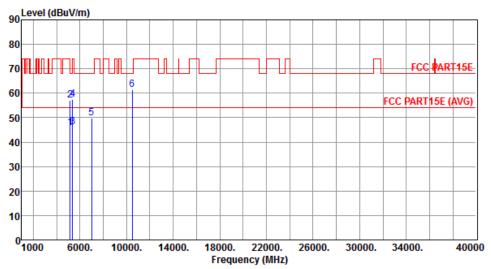
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.91	54.00	-8.09	39.33	6.58	Average		
2	5150.00	57.12	74.00	-16.88	50.54	6.58	Peak		
3	5350.00	46.28	54.00	-7.72	39.25	7.03	Average		
4	5350.00	57.81	74.00	-16.19	50.78	7.03	Peak		
5	6986.66	48.79	68.20	-19.41	38.57	10.22	Peak		
6	10480.00	62.15	68.20	-6.05	45.49	16.66	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical	Test Configuration	1



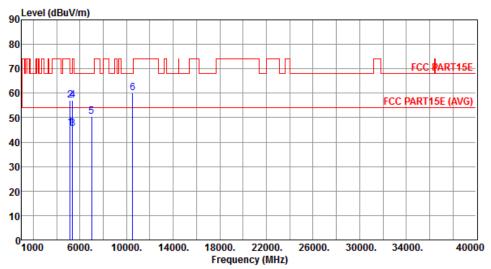
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	45.74	54.00	-8.26	39.16	6.58	Average		
2	5150.00	57.26	74.00	-16.74	50.68	6.58	Peak		
3	5350.00	46.23	54.00	-7.77	39.20	7.03	Average		
4	5350.00	57.60	74.00	-16.40	50.57	7.03	Peak		
5	6986.66	49.67	68.20	-18.53	39.45	10.22	Peak		
6	10480.00	61.28	68.20	-6.92	44.62	16.66	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5260
Polarization	Horizontal	Test Configuration	1



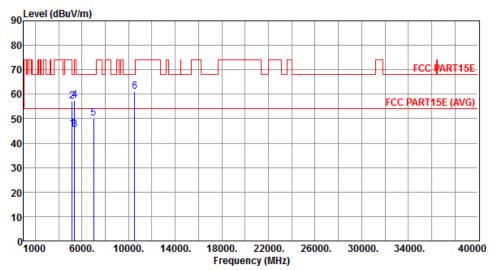
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	45.90	54.00	-8.10	39.32	6.58	Average		
2	5150.00	57.14	74.00	-16.86	50.56	6.58	Peak		
3	5350.00	45.65	54.00	-8.35	38.62	7.03	Average		
4	5350.00	57.27	74.00	-16.73	50.24	7.03	Peak		
5	7013.33	50.59	68.20	-17.61	40.31	10.28	Peak		
6	10520.00	60.18	68.20	-8.02	43.46	16.72	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5260
Polarization	Vertical	Test Configuration	1



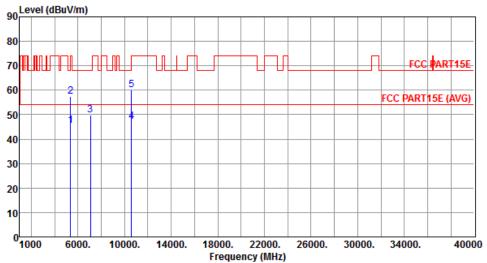
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.70	54.00	-8.30	39.12	6.58	Average		
2	5150.00	57.01	74.00	-16.99	50.43	6.58	Peak		
3	5350.00	45.56	54.00	-8.44	38.53	7.03	Average		
4	5350.00	57.45	74.00	-16.55	50.42	7.03	Peak		
5	7013.33	50.21	68.20	-17.99	39.93	10.28	Peak		
6	10520.00	61.26	68.20	-6.94	44.54	16.72	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5300
Polarization	Horizontal	Test Configuration	1
go Level (dBu	J/m)		



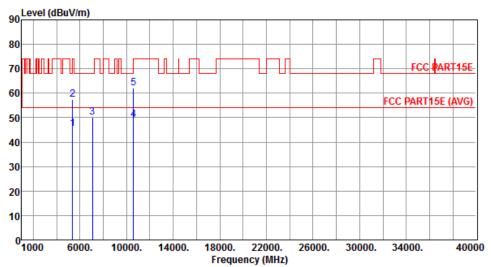
	Freq. MHz	Emission level dBuV/m		Ü	SA reading dBuV		Remark	ANT High cm	Turn Table deg
1	5350.00	45.45	54.00	-8.55	38.42	7.03	Average		
2	5350.00	57.34	74.00	-16.66	50.31	7.03	Peak		
3	7066.66	49.74	68.20	-18.46	39.34	10.40	Peak		
4	10600.00	47.24	54.00	-6.76	30.45	16.79	Average		
5	10600.00	60.17	74.00	-13.83	43.38	16.79	Peak		

\*Factor includes antenna factor, cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5300
Polarization	Vertical	Test Configuration	1



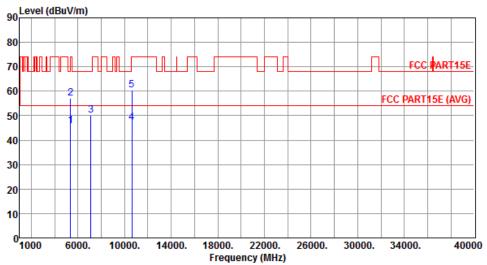
	Freq. MHz	Emission level dBuV/m		Ü	SA reading dBuV		Remark	ANT High cm	Turn Table deg
1	5350.00	45.62	54.00	-8.38	38.59	7.03	Average		
2	5350.00	57.44	74.00	-16.56	50.41	7.03	Peak		
3	7066.66	50.16	68.20	-18.04	39.76	10.40	Peak		
4	10600.00	49.04	54.00	-4.96	32.25	16.79	Average		
5	10600.00	62.05	74.00	-11.95	45.26	16.79	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5320
Polarization Horizontal		Test Configuration	1
Level (dRu)	lim)		



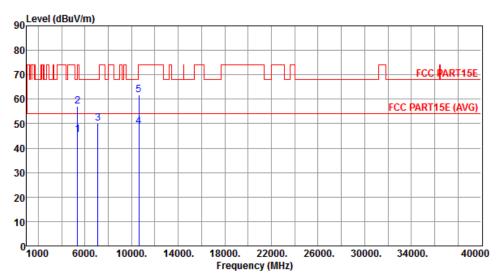
	Freq. 6	Emission level dBuV/m	Limit dBuV/m	Ü	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	45.69	54.00	-8.31	38.66	7.03	Average		
2	5350.00	57.16	74.00	-16.84	50.13	7.03	Peak		
3	7093.33	50.12	68.20	-18.08	39.65	10.47	Peak		
4	10640.00	47.32	54.00	-6.68	30.50	16.82	Average		
5	10640.00	60.57	74.00	-13.43	43.75	16.82	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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	lodulation	11a	Test Freq. (MHz)	5320
Polarization   Vertical   Test Configuration   1	olarization	Vertical	Test Configuration	1



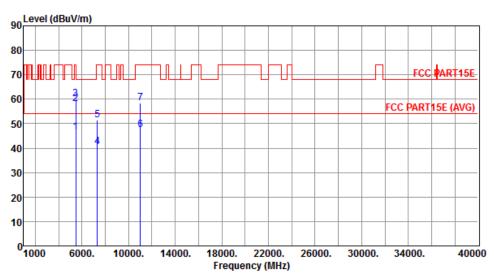
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5350.00	45.36	54.00	-8.64	38.33	7.03	Average		
2	5350.00	57.23	74.00	-16.77	50.20	7.03	Peak		
3	7093.33	50.02	68.20	-18.18	39.55	10.47	Peak		
4	10640.00	48.90	54.00	-5.10	32.08	16.82	Average		
5	10640.00	61.79	74.00	-12.21	44.97	16.82	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5500
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m		SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	46.39	54.00	-7.61	39.25	7.14	Average		
2	5460.00	58.26	74.00	-15.74	51.12	7.14	Peak		
3	5470.00	60.05	68.20	-8.15	52.90	7.15	Peak		
4	7333.33	40.43	54.00	-13.57	29.42	11.01	Average		
5	7333.33	51.59	74.00	-22.41	40.58	11.01	Peak		
6	11000.00	47.46	54.00	-6.54	30.35	17.11	Average		
7	11000.00	58.48	74.00	-15.52	41.37	17.11	Peak		

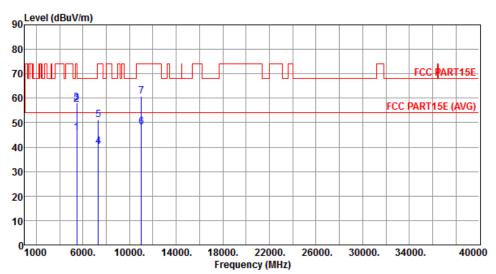
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB) \*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5500
Polarization	Vertical	Test Configuration	1



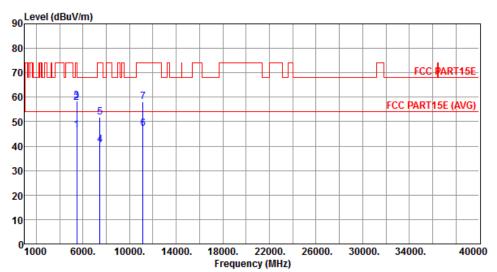
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	45.79	54.00	-8.21	38.65	7.14	Average		
1	3400.00	43.75	34.00	-0.21	30.03	7.14	Average		
2	5460.00	57.39	74.00	-16.61	50.25	7.14	Peak		
3	5470.00	58.02	68.20	-10.18	50.87	7.15	Peak		
4	7333.33	40.32	54.00	-13.68	29.31	11.01	Average		
5	7333.33	51.03	74.00	-22.97	40.02	11.01	Peak		
6	11000.00	48.13	54.00	-5.87	31.02	17.11	Average		
7	11000.00	60.73	74.00	-13.27	43.62	17.11	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5580
Polarization	Horizontal	Test Configuration	1



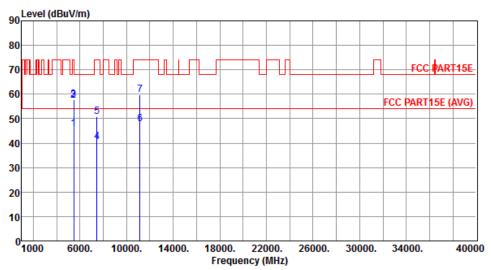
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	46.56	54.00	-7.44	39.42	7.14	Average		
2	5460.00	57.66	74.00	-16.34	50.52	7.14	Peak		
3	5470.00	58.49	68.20	-9.71	51.34	7.15	Peak		
4	7440.00	40.52	54.00	-13.48	29.25	11.27	Average		
5	7440.00	51.70	74.00	-22.30	40.43	11.27	Peak		
6	11160.00	47.31	54.00	-6.69	30.14	17.17	Average		
7	11160.00	58.22	74.00	-15.78	41.05	17.17	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5580
Polarization	Vertical	Test Configuration	1



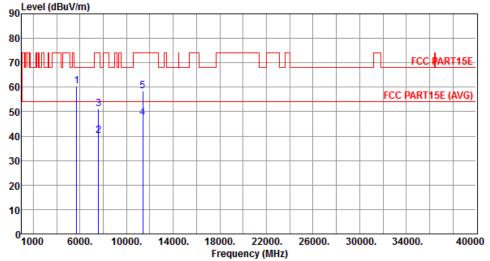
	Freq. MHz	Emission level dBuV/m	Limit M	argin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
		usur,							
1	5460.00	45.66	54.00 -	8.34	38.52	7.14	Average		
2	5460.00	57.56	74.00 -1	6.44	50.42	7.14	Peak		
3	5470.00	57.66	68.20 -1	0.54	50.51	7.15	Peak		
4	7440.00	40.53	54.00 -1	3.47	29.26	11.27	Average		
5	7440.00	50.83	74.00 -2	3.17	39.56	11.27	Peak		
6	11160.00	47.68	54.00 -	6.32	30.51	17.17	Average		
7	11160.00	59.84	74.00 -1	4.16	42.67	17.17	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5700	
Polarization	Horizontal	Test Configuration	1	
90 Leve	el (dBuV/m)			



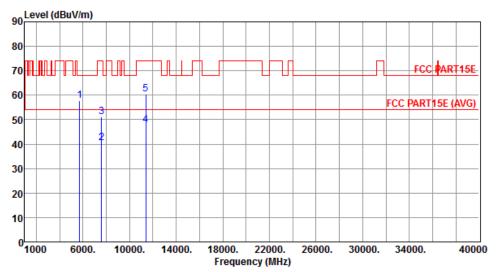
	Freq.	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5725.00	60.52	68.20	-7.68	52.95	7.57	Peak		
2	7600.00	40.32	54.00	-13.68	28.65	11.67	Average		
3	7600.00	51.22	74.00	-22.78	39.55	11.67	Peak		
4	11400.00	47.38	54.00	-6.62	30.14	17.24	Average		
5	11400.00	58.31	74.00	-15.69	41.07	17.24	Peak		

\*Factor includes antenna factor, cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	11a	Test Freq. (MHz)	5700
Polarization	Vertical	Test Configuration	1
	•		•



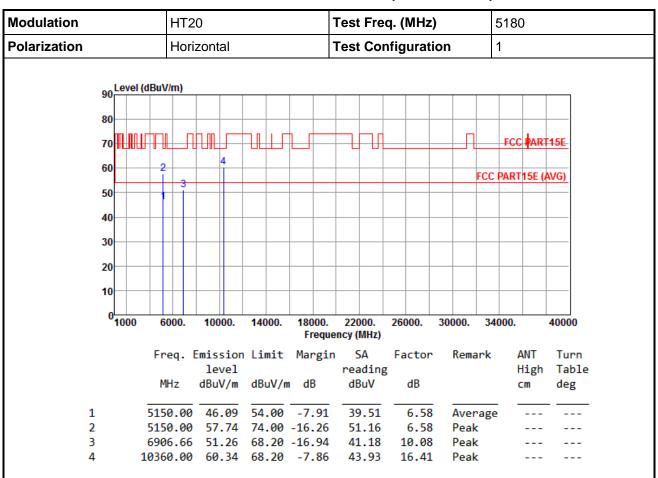
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5725.00	57.80	68.20	-10.40	50.23	7.57	Peak		
2	7600.00	40.63	54.00	-13.37	28.96	11.67	Average		
3	7600.00	51.22	74.00	-22.78	39.55	11.67	Peak		
4	11400.00	47.80	54.00	-6.20	30.56	17.24	Average		
5	11400.00	60.46	74.00	-13.54	43.22	17.24	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

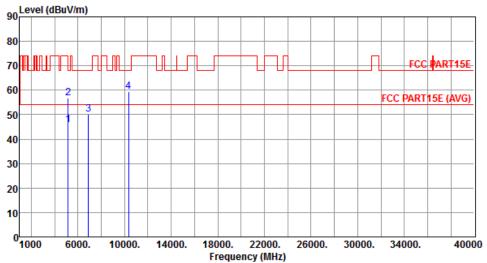
\*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5180
Polarization	Vertical	Test Configuration	1
l evel (dBu\	//m)		



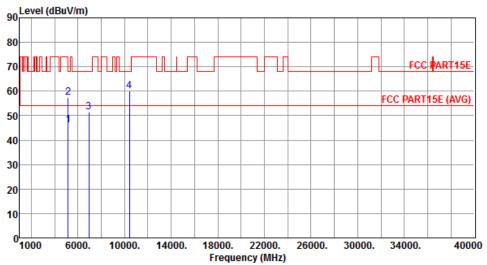
	Freq.	Emission level		Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	45.71	54.00	-8.29	39.13	6.58	Average		
2	5150.00	56.85	74.00	-17.15	50.27	6.58	Peak		
3	6906.66	50.30	68.20	-17.90	40.22	10.08	Peak		
4	10360.00	59.38	68.20	-8.82	42.97	16.41	Peak		

\*Factor includes antenna factor, cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5200	
Polarization	Horizontal	Test Configuration	1	
90 Level (c	IBuV/m)			



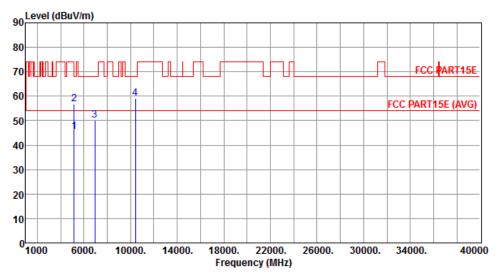
	Freq.	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	46.01	54.00	-7.99	39.43	6.58	Average		
2	5150.00	57.41	74.00	-16.59	50.83	6.58	Peak		
3	6933.33	51.41	68.20	-16.79	41.28	10.13	Peak		
4	10400.00	60.06	68.20	-8.14	43.57	16.49	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5200
Polarization	Vertical	Test Configuration	1



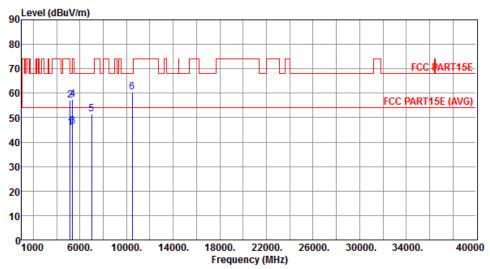
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn
		level			reading			High	Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	45.61	54.00	-8.39	39.03	6.58	Average		
2	5150.00	56.73	74.00	-17.27	50.15	6.58	Peak		
3	6933.33	50.15	68.20	-18.05	40.02	10.13	Peak		
4	10400.00	58.98	68.20	-9.22	42.49	16.49	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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	lodulation H	HT20	Test Freq. (MHz)	5240
Polarization Horizontal Test Configuration 1	olarization	Horizontal	Test Configuration	1



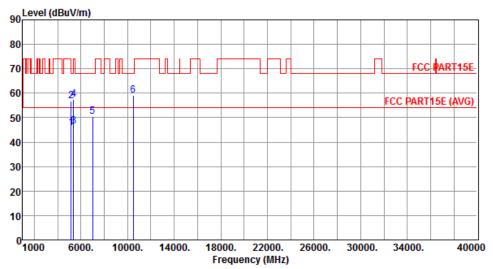
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	45.83	54.00	-8.17	39.25	6.58	Average		
2	5150.00	57.07	74.00	-16.93	50.49	6.58	Peak		
3	5350.00	46.36	54.00	-7.64	39.33	7.03	Average		
4	5350.00	57.51	74.00	-16.49	50.48	7.03	Peak		
5	6986.66	51.46	68.20	-16.74	41.24	10.22	Peak		
6	10480.00	60.40	68.20	-7.80	43.74	16.66	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5240
Polarization	Vertical	Test Configuration	1



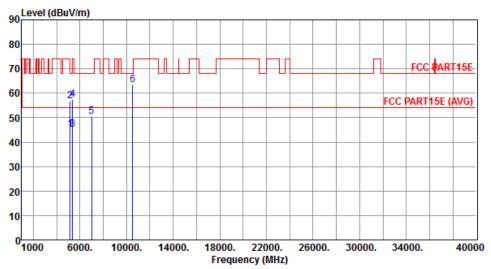
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	45.84	54.00	-8.16	39.26	6.58	Average		
2	5150.00	56.77	74.00	-17.23	50.19	6.58	Peak		
3	5350.00	46.33	54.00	-7.67	39.30	7.03	Average		
4	5350.00	57.48	74.00	-16.52	50.45	7.03	Peak		
5	6986.66	50.49	68.20	-17.71	40.27	10.22	Peak		
6	10480.00	59.22	68.20	-8.98	42.56	16.66	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5260
Polarization	Horizontal	Test Configuration	1



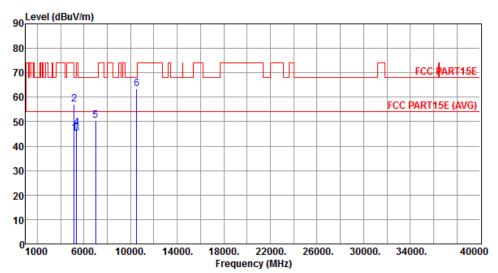
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	45.14	54.00	-8.86	38.56	6.58	Average		
2	5150.00	56.86	74.00	-17.14	50.28	6.58	Peak		
3	5350.00	45.24	54.00	-8.76	38.21	7.03	Average		
4	5350.00	57.51	74.00	-16.49	50.48	7.03	Peak		
5	7013.33	50.59	68.20	-17.61	40.31	10.28	Peak		
6	10520.00	63.49	68.20	-4.71	46.77	16.72	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5260
Polarization	Vertical	Test Configuration	1



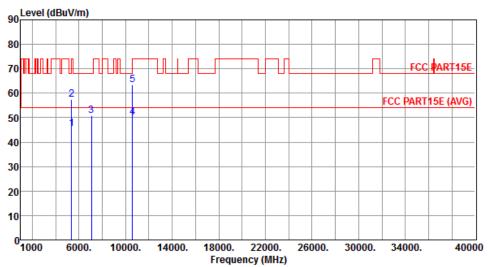
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	45.15	54.00	-8.85	38.57	6.58	Average		
2	5150.00	57.10	74.00	-16.90	50.52	6.58	Peak		
3	5350.00	45.31	54.00	-8.69	38.28	7.03	Average		
4	5350.00	47.45	74.00	-26.55	40.42	7.03	Peak		
5	7013.33	50.41	68.20	-17.79	40.13	10.28	Peak		
6	10520.00	63.59	68.20	-4.61	46.87	16.72	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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	5300
Polarization Horizontal Test Configuration	1



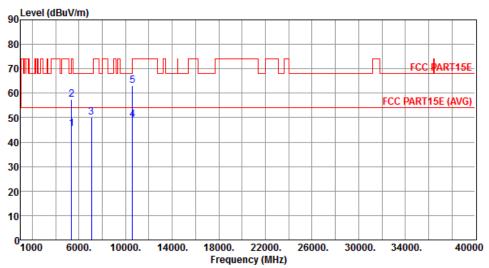
	Freq. E	Emission level dBuV/m	Limit dBuV/m	Ü	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	45.45	54.00	-8.55	38.42	7.03	Average		
2	5350.00	57.40	74.00	-16.60	50.37	7.03	Peak		
3	7066.66	50.65	68.20	-17.55	40.25	10.40	Peak		
4	10600.00	50.00	54.00	-4.00	33.21	16.79	Average		
5	10600.00	63.54	74.00	-10.46	46.75	16.79	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5300
Polarization	Vertical	Test Configuration	1



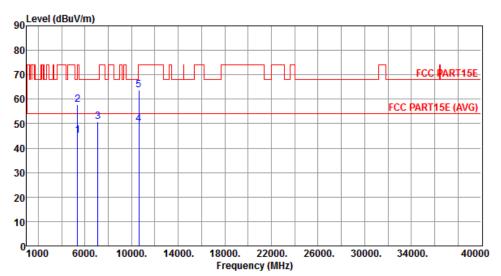
	Freq. MHz	Emission level dBuV/m		Ū	SA reading dBuV		Remark	ANT High cm	Turn Table deg
1	5350.00	45.58	54.00	-8.42	38.55	7.03	Average		
2	5350.00	57.45	74.00	-16.55	50.42	7.03	Peak		
3	7066.66	50.09	68.20	-18.11	39.69	10.40	Peak		
4	10600.00	49.21	54.00	-4.79	32.42	16.79	Average		
5	10600.00	63.13	74.00	-10.87	46.34	16.79	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5320
Polarization	Horizontal	Test Configuration	1



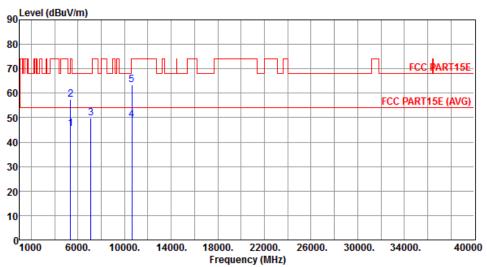
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5350.00	45.17	54.00	-8.83	38.14	7.03	Average		
2	5350.00	57.68	74.00	-16.32	50.65	7.03	Peak		
3	7093.33	50.81	68.20	-17.39	40.34	10.47	Peak		
4	10640.00	49.92	54.00	-4.08	33.10	16.82	Average		
5	10640.00	63.77	74.00	-10.23	46.95	16.82	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5320
Polarization	Vertical	Test Configuration	1



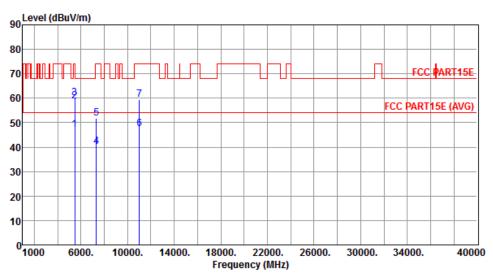
	Freq.   MHz	Emission level dBuV/m		Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00				38.34	7.03	Average		
2		57.61			50.58	7.03	Peak		
3	7093.33	49.87	68.20	-18.33	39.40	10.47	Peak		
4	10640.00	49.04	54.00	-4.96	32.22	16.82	Average		
5	10640.00	63.36	74.00	-10.64	46.54	16.82	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5500
Polarization	Horizontal	Test Configuration	1



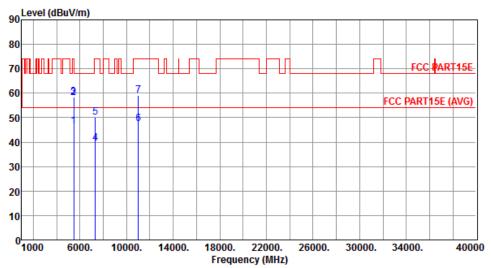
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	47.16	54.00	-6.84	40.02	7.14	Average		
2	5460.00	58.69	74.00	-15.31	51.55	7.14	Peak		
3	5470.00	60.11	68.20	-8.09	52.96	7.15	Peak		
4	7333.33	40.25	54.00	-13.75	29.24	11.01	Average		
5	7333.33	51.86	74.00	-22.14	40.85	11.01	Peak		
6	11000.00	47.52	54.00	-6.48	30.41	17.11	Average		
7	11000.00	59.55	74.00	-14.45	42.44	17.11	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5500
Polarization	Vertical	Test Configuration	1



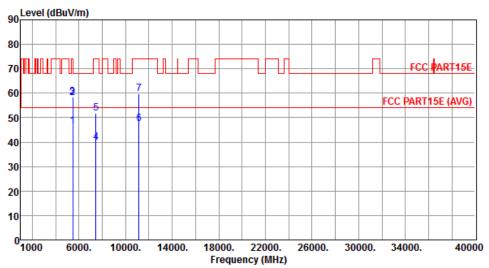
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	46.49	54.00	-7.51	39.35	7.14	Average		
2	5460.00	58.16	74.00	-15.84	51.02	7.14	Peak		
3	5470.00	58.49	68.20	-9.71	51.34	7.15	Peak		
4	7333.33	39.54	54.00	-14.46	28.53	11.01	Average		
5	7333.33	50.13	74.00	-23.87	39.12	11.01	Peak		
6	11000.00	47.38	54.00	-6.62	30.27	17.11	Average		
7	11000.00	59.17	74.00	-14.83	42.06	17.11	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5580
Polarization	Horizontal	Test Configuration	1



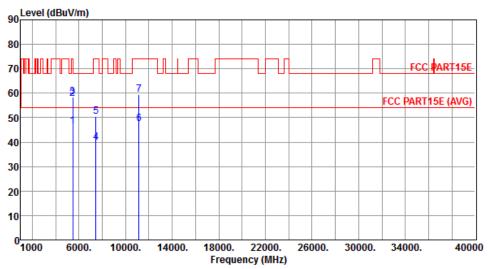
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	46.34	54.00	-7.66	39.20	7.14	Average		
2	5460.00	58.12	74.00	-15.88	50.98	7.14	Peak		
3	5470.00	58.60	68.20	-9.60	51.45	7.15	Peak		
4	7440.00	39.95	54.00	-14.05	28.68	11.27	Average		
5	7440.00	51.71	74.00	-22.29	40.44	11.27	Peak		
6	11160.00	47.54	54.00	-6.46	30.37	17.17	Average		
7	11160.00	59.62	74.00	-14.38	42.45	17.17	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5580
Polarization	Vertical	Test Configuration	1



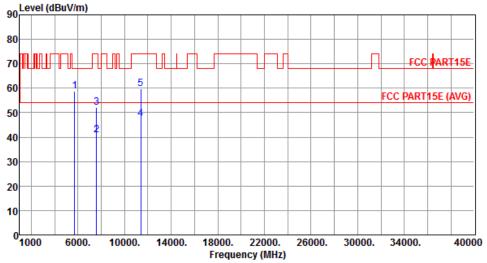
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	46.52	54 00	-7.48	39.38	7.14	Average		
2	5460.00		74.00		50.68	7.14	Peak		
3	5470.00		68.20		51.21	7.15	Peak		
4	7440.00	39.85	54.00	-14.15	28.58	11.27	Average		
5	7440.00	50.41	74.00	-23.59	39.14	11.27	Peak		
6	11160.00	47.51	54.00	-6.49	30.34	17.17	Average		
7	11160.00	59.37	74.00	-14.63	42.20	17.17	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5700
Polarization	Horizontal	Test Configuration	1
90 Level (dBu	V/m)		



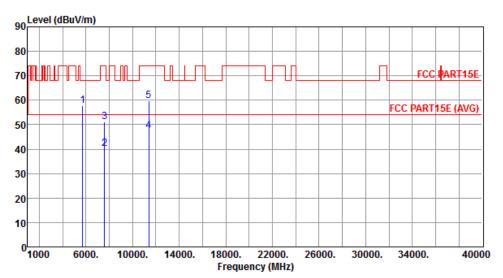
	Freq.	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5725.00	58.74	68.20	-9.46	51.17	7.57	Peak		
2	7600.00	40.88	54.00	-13.12	29.21	11.67	Average		
3	7600.00	52.05	74.00	-21.95	40.38	11.67	Peak		
4	11400.00	47.58	54.00	-6.42	30.34	17.24	Average		
5	11400.00	59.92	74.00	-14.08	42.68	17.24	Peak		

\*Factor includes antenna factor, cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	HT20	Test Freq. (MHz)	5700
Polarization	Vertical	Test Configuration	1



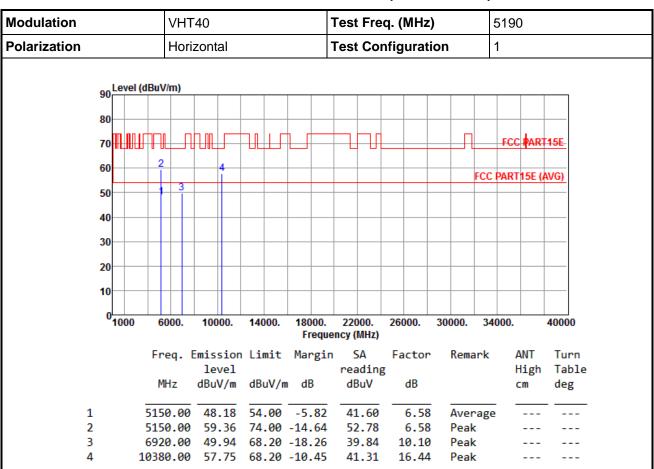
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5725.00	57.81	68.20	-10.39	50.24	7.57	Peak		
2	7600.00	40.33	54.00	-13.67	28.66	11.67	Average		
3	7600.00	51.12	74.00	-22.88	39.45	11.67	Peak		
4	11400.00	47.37	54.00	-6.63	30.13	17.24	Average		
5	11400.00	59.79	74.00	-14.21	42.55	17.24	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

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	Test Freq. (MHz)	5190
Polarization Vertical	Test Configuration	1

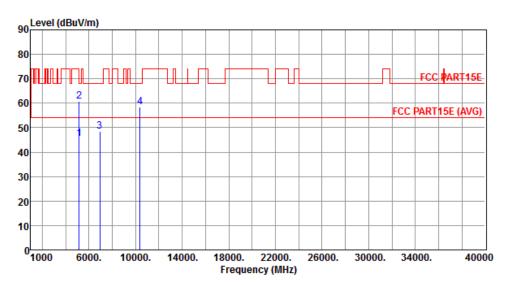


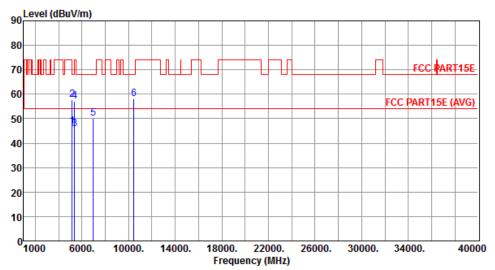
Table
deg

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal	Test Configuration	1



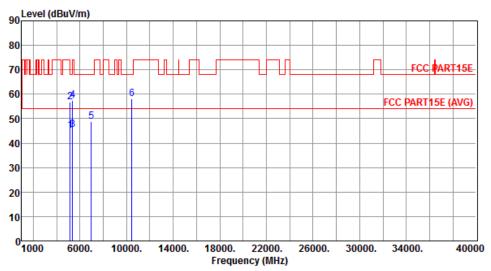
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.80	54.00	-7.20	40.22	6.58	Average		
2	5150.00	57.72	74.00	-16.28	51.14	6.58	Peak		
3	5350.00	45.68	54.00	-8.32	38.65	7.03	Average		
4	5350.00	57.15	74.00	-16.85	50.12	7.03	Peak		
5	6973.33	50.03	68.20	-18.17	39.83	10.20	Peak		
6	10460.00	58.22	68.20	-9.98	41.59	16.63	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical	Test Configuration	1



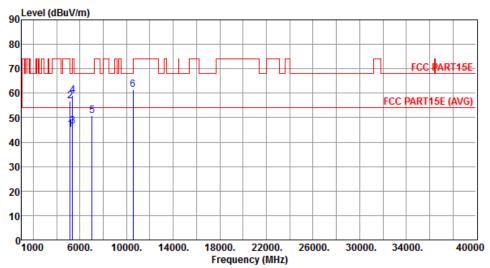
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.15	54 00	8 85	38.57	6.58	Average		
_	3130.00	45.15	34.00	-0.03	30.37	0.30	Average		
2	5150.00	56.83	74.00	-17.17	50.25	6.58	Peak		
3	5350.00	45.45	54.00	-8.55	38.42	7.03	Average		
4	5350.00	57.34	74.00	-16.66	50.31	7.03	Peak		
5	6973.33	48.73	68.20	-19.47	38.53	10.20	Peak		
6	10460.00	58.10	68.20	-10.10	41.47	16.63	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT40	Test Freq. (MHz)	5270
Polarization	Horizontal	Test Configuration	1



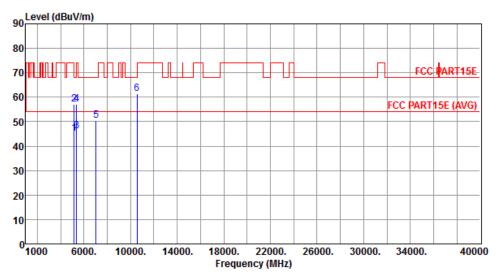
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	45.23	54.00	-8.77	38.65	6.58	Average		
2	5150.00	56.87	74.00	-17.13	50.29	6.58	Peak		
3	5350.00	46.34	54.00	-7.66	39.31	7.03	Average		
4	5350.00	59.24	74.00	-14.76	52.21	7.03	Peak		
5	7026.66	50.88	68.20	-17.32	40.56	10.32	Peak		
6	10540.00	61.49	68.20	-6.71	44.75	16.74	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT40	Test Freq. (MHz)	5270
Polarization	Vertical	Test Configuration	1



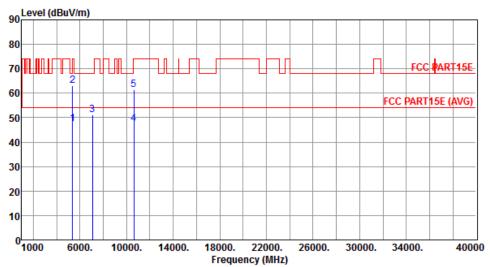
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	45.25	54.00	-8.75	38.67	6.58	Average		
2	5150.00	57.01	74.00	-16.99	50.43	6.58	Peak		
3	5350.00	46.15	54.00	-7.85	39.12	7.03	Average		
4	5350.00	57.27	74.00	-16.73	50.24	7.03	Peak		
5	7026.66	50.59	68.20	-17.61	40.27	10.32	Peak		
6	10540.00	61.36	68.20	-6.84	44.62	16.74	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT40	Test Freq. (MHz)	5310
Polarization	Horizontal	Test Configuration	1



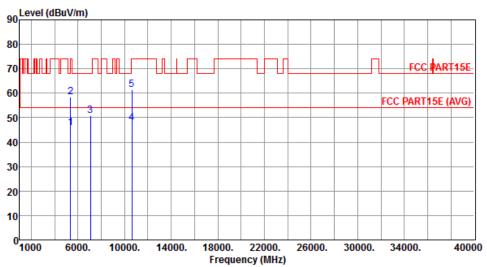
	Freq. 6	Emission level dBuV/m	Limit dBuV/m	Ü	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	47.45	54.00	-6.55	40.42	7.03	Average		
2	5350.00	63.21	74.00	-10.79	56.18	7.03	Peak		
3	7080.00	51.23	68.20	-16.97	40.79	10.44	Peak		
4	10620.00	47.52	54.00	-6.48	30.72	16.80	Average		
5	10620.00	61.42	74.00	-12.58	44.62	16.80	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT40	Test Freq. (MHz)	5310
Polarization	Vertical	Test Configuration	1



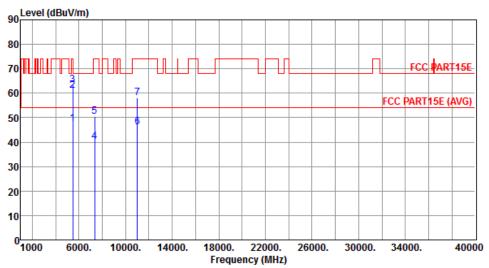
	Freq. E	Emission level dBuV/m	Limit dBuV/m	Ü	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	45.73	54.00	-8.27	38.70	7.03	Average		
2	5350.00	58.30	74.00	-15.70	51.27	7.03	Peak		
3	7080.00	50.65	68.20	-17.55	40.21	10.44	Peak		
4	10620.00	47.79	54.00	-6.21	30.99	16.80	Average		
5	10620.00	61.31	74.00	-12.69	44.51	16.80	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT40	Test Freq. (MHz)	5510
Polarization	Horizontal	Test Configuration	1



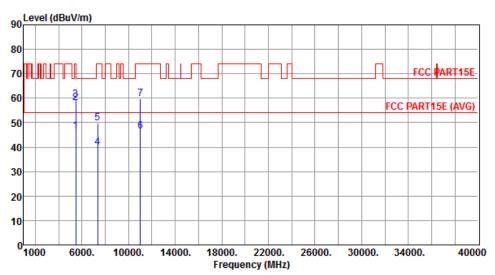
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	47.35	54.00	-6.65	40.21	7.14	Average		
2	5460.00	60.96	74.00	-13.04	53.82	7.14	Peak		
3	5470.00	63.35	68.20	-4.85	56.20	7.15	Peak		
4	7346.66	40.17	54.00	-13.83	29.13	11.04	Average		
5	7346.66	50.58	74.00	-23.42	39.54	11.04	Peak		
6	11020.00	46.08	54.00	-7.92	28.96	17.12	Average		
7	11020.00	58.15	74.00	-15.85	41.03	17.12	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT40	Test Freq. (MHz)	5510
Polarization	Vertical	Test Configuration	1



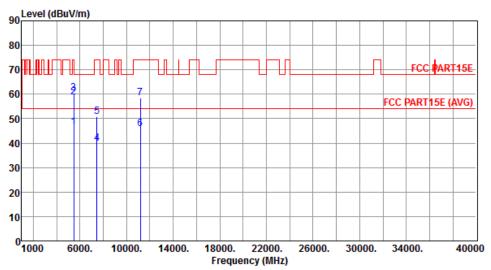
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	46.38	54.00	-7.62	39.24	7.14	Average		
2	5460.00	58.20	74.00	-15.80	51.06	7.14	Peak		
3	5470.00	59.38	68.20	-8.82	52.23	7.15	Peak		
4	7346.66	39.74	54.00	-14.26	28.70	11.04	Average		
5	7346.66	49.78	74.00	-24.22	38.74	11.04	Peak		
6	11020.00	46.59	54.00	-7.41	29.47	17.12	Average		
7	11020.00	59.76	74.00	-14.24	42.64	17.12	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT40	Test Freq. (MHz)	5550
Polarization	Horizontal	Test Configuration	1



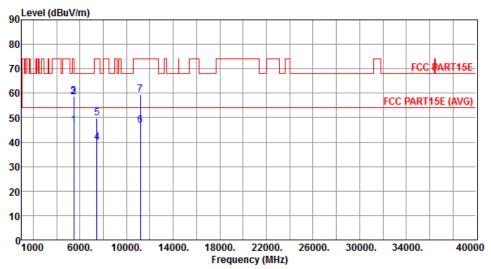
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	46.34	54 00	-7.66	39.20	7.14	Average		
2	5460.00		74.00		51.68	7.14	Peak		
3	5470.00		68.20		53.34	7.15	Peak		
4	7453.33	40.00	54.00	-14.00	28.68	11.32	Average		
5	7453.33	50.73	74.00	-23.27	39.41	11.32	Peak		
6	11180.00	45.81	54.00	-8.19	28.65	17.16	Average		
7	11180.00	58.55	74.00	-15.45	41.39	17.16	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT40	Test Freq. (MHz)	5550
Polarization	Vertical	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
_									
1	5460.00	46.69	54.00	-7.31	39.55	7.14	Average		
2	5460.00	58.34	74.00	-15.66	51.20	7.14	Peak		
3	5470.00	58.77	68.20	-9.43	51.62	7.15	Peak		
4	7453.33	39.87	54.00	-14.13	28.55	11.32	Average		
5	7453.33	49.95	74.00	-24.05	38.63	11.32	Peak		
6	11180.00	46.74	54.00	-7.26	29.58	17.16	Average		
7	11180.00	59.51	74.00	-14.49	42.35	17.16	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation				VHT	40					7	Γest	Fre	q. (	(MHz	2)		;	5670	0		
Polarization				Hori	zon	al				1	Гest	Co	nfig	gurat	ion			1			
	90 <mark>L</mark>	evel	(dBuV	/m)																	ı
	80-																				
	70							F										FCC		T15E	
	60			<u> </u>		5															
	50			3													FCC	PART	15E (	AVG)	
	30					1															
	40	+		+																	
	30	-						_													
	20	-																			
	10	_																			
	0																				
	<sup>0</sup> 1	000	6	000.	100	000.	1400	0.	180 Fr	00. eque	220 ncy (		26	000.	300	000.	34	000.		4000	0
			Fr	eq.	Emis	sior	Limi	t	Mar	rgin	9	A	Fa	actor	•	Rem	ark		ΔNT	Tu	rn
						vel						ding	g					H	High	Tal	ble
			М	Hz	dBu	V/m	dBu\	//m	dE	3	dE	₿uV		dB				(	cm	de	g
:	1		572	5.00	65	.09	68.2	20	-3.	.11	57	7.52	_	7.57	7	Peal	k			_	
	2			0.00		.01	54.6					.42		11.59			rage	•		-	
	3			0.00		.97						.38		11.59		Peal				-	
4	4		1134	0.00	45	. /6	54.6	10	-8.	. 24	28	.54	1	17.22	2	Ave	rage	2		-	

17.22

Peak

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB) \*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

11340.00 58.69 74.00 -15.31 41.47

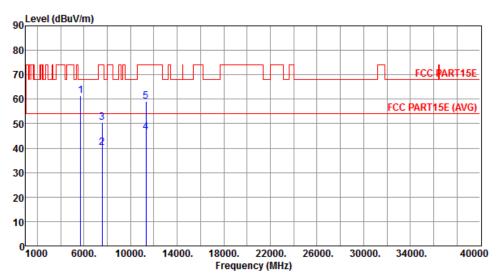
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Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Vertical	Test Configuration	1



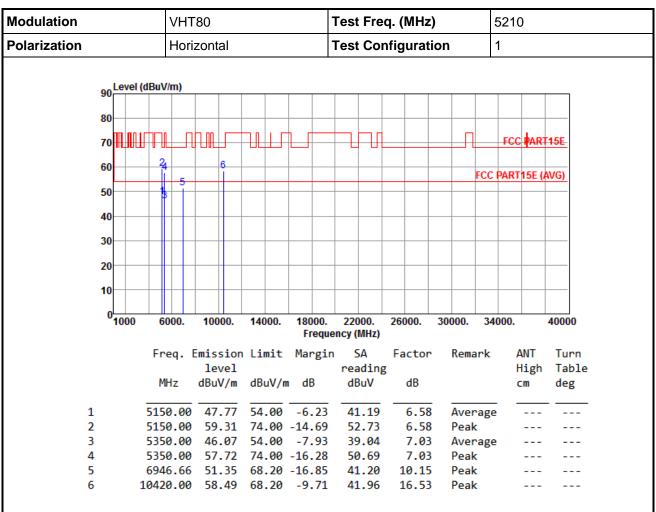
	Freq.	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5725.00	61.57	68.20	-6.63	54.00	7.57	Peak		
2	7560.00	40.21	54.00	-13.79	28.62	11.59	Average		
3	7560.00	50.52	74.00	-23.48	38.93	11.59	Peak		
4	11340.00	46.43	54.00	-7.57	29.21	17.22	Average		
5	11340.00	59.21	74.00	-14.79	41.99	17.22	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

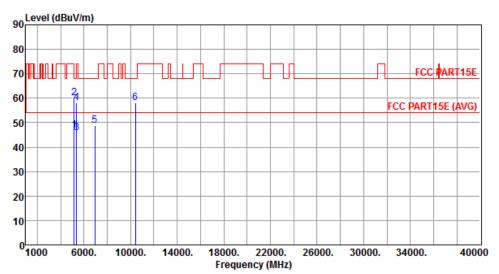
\*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

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Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical	Test Configuration	1



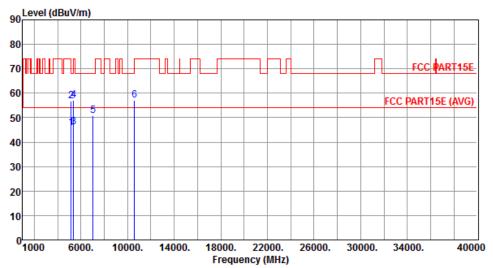
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ü	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.87	54.00	-7.13	40.29	6.58	Average		
2	5150.00	60.04	74.00	-13.96	53.46	6.58	Peak		
3	5350.00	45.87	54.00	-8.13	38.84	7.03	Average		
4	5350.00	58.18	74.00	-15.82	51.15	7.03	Peak		
5	6946.66	48.91	68.20	-19.29	38.76	10.15	Peak		
6	10420.00	58.06	68.20	-10.14	41.53	16.53	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT80	Test Freq. (MHz)	5290
Polarization	Horizontal	Test Configuration	1



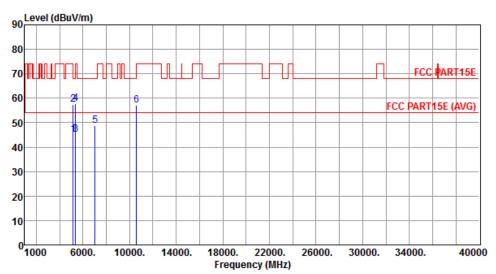
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5150.00	45.71	54.00	-8.29	39.13	6.58	Average		
2	5150.00	56.87	74.00	-17.13	50.29	6.58	Peak		
3	5350.00	46.02	54.00	-7.98	38.99	7.03	Average		
4	5350.00	57.25	74.00	-16.75	50.22	7.03	Peak		
5	7053.33	50.81	68.20	-17.39	40.43	10.38	Peak		
6	10580.00	57.19	68.20	-11.01	40.42	16.77	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT80	Test Freq. (MHz)	5290
Polarization	Vertical	Test Configuration	1



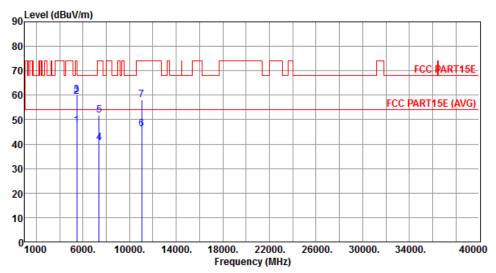
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.21	54.00	-8.79	38.63	6.58	Average		
2	5150.00	57.34	74.00	-16.66	50.76	6.58	Peak		
3	5350.00	45.19	54.00	-8.81	38.16	7.03	Average		
4	5350.00	57.74	74.00	-16.26	50.71	7.03	Peak		
5	7053.33	48.89	68.20	-19.31	38.51	10.38	Peak		
6	10580.00	57.10	68.20	-11.10	40.33	16.77	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT80	Test Freq. (MHz)	5530
Polarization	Horizontal	Test Configuration	1



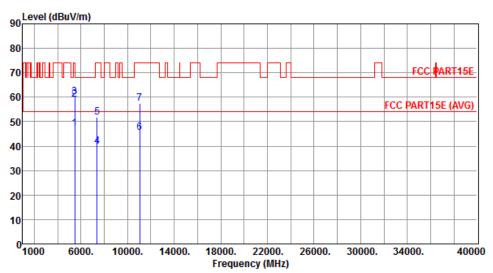
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	5460.00	47.59	54.00	-6.41	40.45	7.14	Average		
2	5460.00	59.50	74.00	-14.50	52.36	7.14	Peak		
3	5470.00	60.11	68.20	-8.09	52.96	7.15	Peak		
4	7373.33	40.55	54.00	-13.45	29.45	11.10	Average		
5	7373.33	51.71	74.00	-22.29	40.61	11.10	Peak		
6	11060.00	46.09	54.00	-7.91	28.96	17.13	Average		
7	11060.00	58.09	74.00	-15.91	40.96	17.13	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT80	Test Freq. (MHz)	5530
Polarization	Vertical	Test Configuration	1



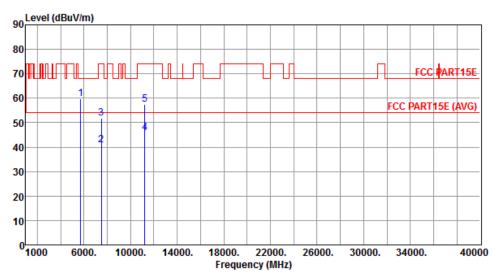
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ü	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	47.17	54.00	-6.83	40.03	7.14	Average		
2	5460.00	59.26	74.00	-14.74	52.12	7.14	Peak		
3	5470.00	60.00	68.20	-8.20	52.85	7.15	Peak		
4	7373.33	39.94	54.00	-14.06	28.84	11.10	Average		
5	7373.33	51.82	74.00	-22.18	40.72	11.10	Peak		
6	11060.00	45.66	54.00	-8.34	28.53	17.13	Average		
7	11060.00	57.44	74.00	-16.56	40.31	17.13	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT80	Test Freq. (MHz)	5610
Polarization	Horizontal	Test Configuration	1



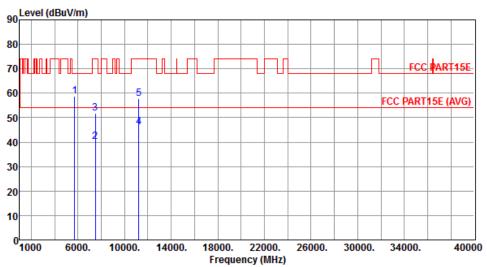
	Freq. 6	Emission level dBuV/m	Limit dBuV/m		SA reading dBuV		Remark	ANT High cm	Turn Table deg
	1112	abav/iii	ubuv/iii	ub	abav	ub		CIII	ucg
1	5725.00	59.77	68.20	-8.43	52.20	7.57	Peak		
2	7480.00	40.95	54.00	-13.05	29.55	11.40	Average		
3	7480.00	51.96	74.00	-22.04	40.56	11.40	Peak		
4	11220.00	45.83	54.00	-8.17	28.64	17.19	Average		
5	11220.00	57.55	74.00	-16.45	40.36	17.19	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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Modulation	VHT80	Test Freq. (MHz)	5610
Polarization	Vertical	Test Configuration	1



	Freq. 6	Emission level dBuV/m		Ü	SA reading dBuV		Remark	ANT High cm	Turn Table deg
1	5725.00	58.90	68.20	-9.30	51.33	7.57	Peak		
2	7480.00	40.15	54.00	-13.85	28.75	11.40	Average		
3	7480.00	51.71	74.00	-22.29	40.31	11.40	Peak		
4	11220.00	46.14	54.00	-7.86	28.95	17.19	Average		
5	11220.00	57.63	74.00	-16.37	40.44	17.19	Peak		

\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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# 3.6 Frequency Stability

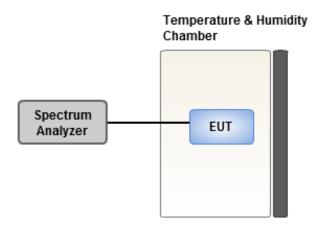
## 3.6.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

### 3.6.2 Test Procedures

- 1. The EUT is installed in an environment test chamber with external power source.
- Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage of EUT.
- 3. A sufficient stabilization period at each temperature is used prior to each frequency measurement.
- 4. When temperature is stabled, measure the frequency stability.
- 5. The test shall be performed under -30 to 55 centigrade and 85 to 115 percent of the nominal voltage. Change setting of chamber and external power source to complete all conditions.

## 3.6.3 Test Setup



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# 3.6.4 Test Result of Frequency Stability

Frequency: 5320 MHz	Frequency Drift (ppm)							
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes				
T20°CVmax	5.10	5.70	5.02	5.22				
T20°CVmin	4.02	4.84	3.81	3.89				
T55CVnom	3.57	3.46	3.50	3.87				
T50CVnom	3.23	3.31	3.53	3.22				
T40°CVnom	2.85	3.10	2.39	3.14				
T30°CVnom	2.37	2.11	2.60	2.73				
T20°CVnom	2.21	2.46	2.63	2.44				
T10°CVnom	2.95	2.98	2.81	3.34				
T0°CVnom	1.72	1.80	2.14	1.82				
T-10°CVnom	0.79	1.59	1.06	1.08				
T-20°CVnom	0.43	0.61	1.09	0.61				
T-30°CVnom	-0.11	0.34	-0.47	0.15				
Vnom [Vac]: 120		Vmax [Vac]: 138	Vmax [Vac]: 138					
Tnom [°C]: 20		Tmax [°C]: 55	Tmax [°C]: 55					

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# 4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp, it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan Hsiang. Location map can be found on our website <a href="http://www.icertifi.com.tw">http://www.icertifi.com.tw</a>.

#### Linkou

Tel: 886-2-2601-1640 No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan, R.O.C.

### Kwei Shan

Tel: 886-3-271-8666 No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C.

### Kwei Shan Site II

Tel: 886-3-271-8640 No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information

Tel: 886-3-271-8666 Fax: 886-3-318-0155

Email: ICC\_Service@icertifi.com.tw

==END==

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