

## FCC Test Report

**Report No.:** RF200326C09-3

**FCC ID:** H8NTN230A2

**Test Model:** TN230A2

**Received Date:** Mar. 26, 2020

**Test Date:** Apr. 07 ~ Apr. 18, 2020

**Issued Date:** May 08, 2020

**Applicant:** ASKEY COMPUTER CORP.

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

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**FCC Registration /  
Designation Number:** 788550 / TW0003



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### Release Control Record

Issue No.	Description	Date Issued
RF200326C09-3	Original Release	May 08, 2020

## 1 Certificate of Conformity

**Product:** Smart watch

**Brand:** TURBONET

**Test Model:** TN230A2

**Sample Status:** Engineering Sample

**Applicant:** ASKEY COMPUTER CORP.

**Test Date:** Apr. 07 ~ Apr. 18, 2020

**Standards:** 47 CFR FCC Part 15, Subpart E (Section 15.407)  
ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

**Prepared by :** Gina Liu , **Date:** May 08, 2020  
Gina Liu / Specialist

**Approved by :** Dylan Chiou , **Date:** May 08, 2020  
Dylan Chiou / Senior Project Engineer

## 2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -19.53 dB at 0.55234 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -5.8 dB at 11000 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note:

- For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.
- For U-NII-1, U-NII-2A, U-NII-2C band compliance with rule 15.407(b) of the band-edge items, the test plots were recorded in Annex B. Test Procedures refer to report 4.1.3.
- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.79 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

<b>Product</b>	Smart watch
<b>Brand</b>	TURBONET
<b>Test Model</b>	TN230A2
<b>Status of EUT</b>	Engineering Sample
<b>Power Supply Rating</b>	5.35 Vdc (adapter) 5.0 Vdc (host equipment) 3.7 Vdc (Li-ion battery)
<b>Modulation Type</b>	64QAM, 16QAM, QPSK, BPSK
<b>Modulation Technology</b>	OFDM
<b>Transfer Rate</b>	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to 150.0 Mbps
<b>Operating Frequency</b>	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5720 MHz, 5745 ~ 5825 MHz
<b>Number of Channel</b>	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5500 ~ 5720 MHz: 12 for 802.11a, 802.11n (HT20) 6 for 802.11n (HT40) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40)
<b>Output Power (Measured Max. Average)</b>	25.763 mW for 5180 ~ 5240 MHz 25.823 mW for 5260 ~ 5320 MHz 21.429 mW for 5500 ~ 5720 MHz 13.996 mW for 5745 ~ 5825 MHz
<b>Antenna Type</b>	PIFA
<b>Antenna Connector</b>	N/A
<b>Accessory Device</b>	Refer to Note as below
<b>Data Cable Supplied</b>	0.95m shielded USB cable without core

**Note:**

1. There're 3 configurations for the EUT listed as below.

Configuration	Brand	Model	Difference
1	TURBONET	TN230A2	All function
2			Without heartbeat detection and camera function
3			Without heartbeat detection but with camera function

\*The Configuration 1 was chosen for final test.

2. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

Modulation Mode	Tx Function
802.11a	1TX
802.11n (HT20)	1TX
802.11n (HT40)	1TX

3. The antenna information is listed.

Ant. Type	Frequency (MHz)										
	2402	2442	2484	5180	5220	5320	5420	5520	5620	5720	5825
PIFA	2.50 dBi	2.30 dBi	2.20 dBi	0.91 dBi	0.85 dBi	0.90 dBi	1.54 dBi	2.23 dBi	2.12 dBi	2.20 dBi	2.00 dBi

4. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

5. The following accessories were for the End-product.

Product	Brand	Model	Description
Adapter	Sunny ELECTRONICS CORP.	SYS1561-1105-1	I/P: 100-240 Vac, 50-60 Hz, 1.0 A MAX O/P: 5.35 Vdc, 2 A
Battery	ETI	BP19-002750	3.7 Vdc, 800 mAh

6. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

### 3.2 Description of Test Modes

#### For 5180 ~ 5240 MHz

4 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
40	5200	48	5240

2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230

#### For 5260 ~ 5320 MHz

4 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	60	5300
56	5280	64	5320

2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
54	5270	62	5310



### For 5500 ~ 5720 MHz

12 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	124	5620
104	5520	128	5640
108	5540	132	5660
112	5560	136	5680
116	5580	140	5700
120	5600	144	5720

6 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
102	5510	126	5630
110	5550	134	5670
118	5590	142	5710

### For 5745 ~ 5825 MHz:

5 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	161	5805
153	5765	165	5825
157	5785		

2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795

### 3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE $\geq$ 1G	RE $<$ 1G	PLC	APCM	
A	√	√	√	√	EUT with Adapter
B	-	√	√	-	EUT with Notebook

Where **RE $\geq$ 1G**: Radiated Emission above 1 GHz      **RE $<$ 1G**: Radiated Emission below 1 GHz  
**PLC**: Power Line Conducted Emission      **APCM**: Antenna Port Conducted Measurement

**Note:**

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane**.
2. "-" means no effect.
3. For radiated emission (below 1GHz) and power line conducted emission test items, the worst maximum power was selected.

#### **Radiated Emission Test (Above 1 GHz):**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)	
A	5180-5240	802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6.0	
		802.11n (HT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5	
		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	13.5	
	5260-5320	802.11a	52 to 64	52, 60, 64	52, 60, 64	OFDM	BPSK	6.0
		802.11n (HT20)	52 to 64	52, 60, 64	52, 60, 64	OFDM	BPSK	6.5
		802.11n (HT40)	54 to 62	54, 62	54, 62	OFDM	BPSK	13.5
	5500-5720	802.11a	100 to 144	100, 116, 140, 144	100, 116, 140, 144	OFDM	BPSK	6.0
		802.11n (HT20)	100 to 144	100, 116, 140, 144	100, 116, 140, 144	OFDM	BPSK	6.5
		802.11n (HT40)	102 to 142	102, 110, 134, 142	102, 110, 134, 142	OFDM	BPSK	13.5
	5745-5825	802.11a	149 to 165	149, 157, 165	149, 157, 165	OFDM	BPSK	6.0
		802.11n (HT20)	149 to 165	149, 157, 165	149, 157, 165	OFDM	BPSK	6.5
		802.11n (HT40)	151 to 159	151, 159	151, 159	OFDM	BPSK	13.5

#### **Radiated Emission Test (Below 1 GHz):**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A, B	5260-5320	802.11a	52 to 64	60	OFDM	BPSK	6.0

### Power Line Conducted Emission Test:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A, B	5260-5320	802.11a	52 to 64	60	OFDM	BPSK	6.0

### Antenna Port Conducted Measurement:

- This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A	5180-5240	802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6.0
		802.11n (HT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	13.5
	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	6.5
		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	13.5
	5500-5720	802.11a	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.0
		802.11n (HT20)	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
		802.11n (HT40)	102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	13.5

### Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Han Wu, Greg Lin
RE $<$ 1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Han Wu, Greg Lin
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Greg Lin
APCM	25 deg. C, 65 % RH	3.7 Vdc	Ted Chang

### 3.3 Duty Cycle of Test Signal

#### MODULATION TYPE: BPSK

Duty cycle of test signal is < 98 %, duty factor is required.

**802.11a:** Duty cycle =  $2.567/2.77 = 0.927$ , Duty factor =  $10 * \log(1/0.927) = 0.33$

**802.11n (HT20):** Duty cycle =  $2.307/2.53 = 0.912$ , Duty factor =  $10 * \log(1/0.912) = 0.40$

**802.11n (HT40):** Duty cycle =  $1.507/1.712 = 0.880$ , Duty factor =  $10 * \log(1/0.880) = 0.55$



### 3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	Lenovo	80Q7	PF0KUGU6	N/A	Provided by Lab

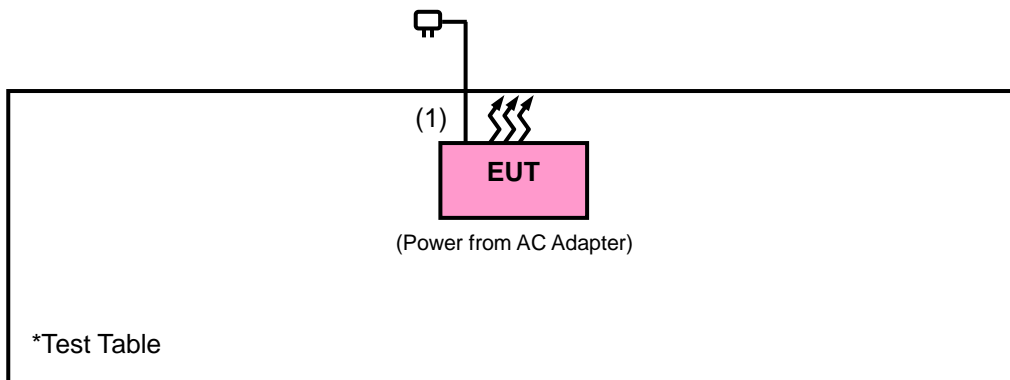
Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as communication partner to transfer data.

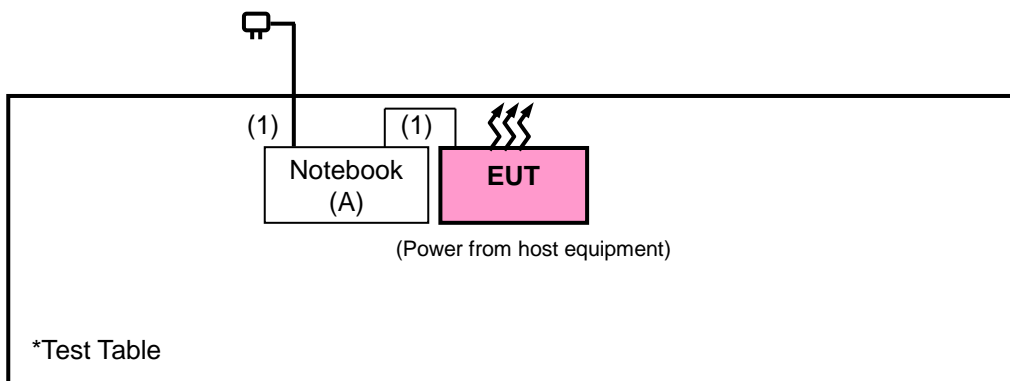
ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB Cable	1	0.95	Y	0	Accessory of the EUT

#### 3.4.1 Configuration of System under Test

##### Mode A



##### Mode B



### **3.5 General Description of Applied Standards and References**

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and references:

#### **Test Standard:**

##### **FCC Part 15, Subpart E (15.407)**

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

#### **References Test Guidance:**

##### **KDB 789033 D02 General UNII Test Procedures New Rules v02r01**

All test items have been performed as a reference to the above KDB test guidance.

## 4 Test Types and Results

### 4.1 Radiated Emission and Bandedge Measurement

#### 4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

**Note:**

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Limits of Unwanted Emission Out of the Restricted Bands

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v02r01		Field Strength at 3 m	
		PK: 74 (dBµV/m)	AV: 54 (dBµV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBµV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	<input checked="" type="checkbox"/> 15.407(b)(4)(i)	PK:-27 (dBm/MHz) <sup>*1</sup> PK:10 (dBm/MHz) <sup>*2</sup> PK:15.6 (dBm/MHz) <sup>*3</sup> PK:27 (dBm/MHz) <sup>*4</sup>	PK: 68.2 (dBµV/m) <sup>*1</sup> PK:105.2 (dBµV/m) <sup>*2</sup> PK: 110.8 (dBµV/m) <sup>*3</sup> PK:122.2 (dBµV/m) <sup>*4</sup>
	<input type="checkbox"/> 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

<sup>\*1</sup> beyond 75 MHz or more above of the band edge.

<sup>\*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

<sup>\*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

<sup>\*4</sup> from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

**Note:**

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \quad \mu\text{V/m, where P is the eirp (Watts).$$



#### 4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 16, 2020	Apr. 15, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 12, 2019	Jun. 11, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSV40	100980	Apr. 23, 2019	Apr. 22, 2020
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 07, 2019	Nov. 06, 2020
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 24, 2019	Nov. 23, 2020
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 24, 2019	Nov. 23, 2020
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jul. 11, 2019	Jul. 10, 2020
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 18, 2020	Feb. 17, 2021
Preamplifier EMC	EMC184045B	980175	Sep. 05, 2019	Sep. 04, 2020
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	Feb. 18, 2020	Feb. 17, 2021
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(2507 95/4)	Jul. 11, 2019	Jul. 10, 2020
RF signal cable Woken	8D-FB	Cable-CH9-01	Jul. 30, 2019	Jul. 29, 2020
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5 5190004/MY55190 007/MY55210005	Jul. 15, 2019	Jul. 14, 2020
STANDARD TEMPERATURE &HUMIDITY CHAMBER TERCHY	MHU-225AU	920842	May 31, 2019	May 30, 2020
DC power supply Keysight	U8002A	MY56330015	NA	NA
Digital Multimeter Fluke	87-III	70360742	Jun. 27, 2019	Jun. 26, 2020

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.  
2. The test was performed in HwaYa Chamber 9.

#### 4.1.3 Test Procedures

##### **For Radiated Emission below 30 MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

##### **Note:**

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.

##### **For Radiated Emission above 30 MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

##### **Note:**

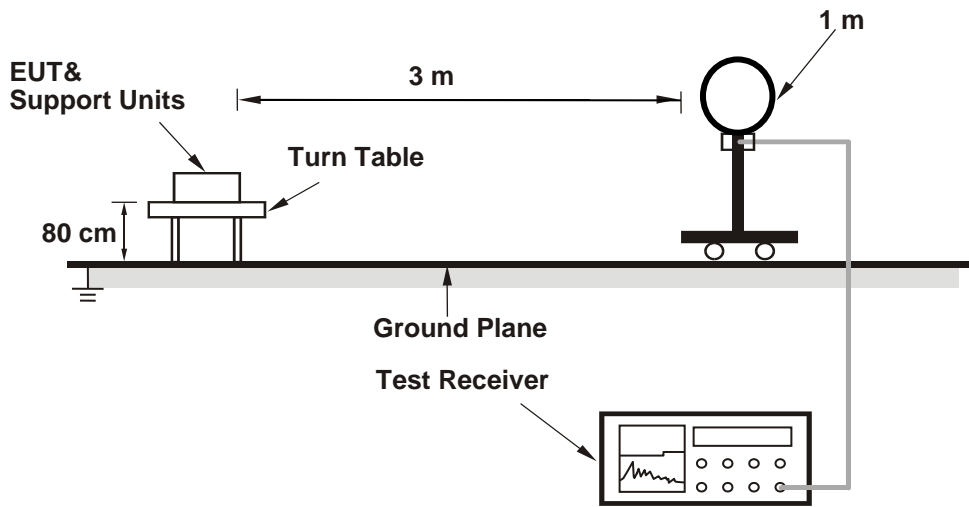
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is  $\geq 1/T$  (Duty cycle < 98 %) or 10 Hz (Duty cycle  $\geq 98$  %) for Average detection (AV) at frequency above 1 GHz.  
(11a: RBW = 1 MHz, VBW = 1 kHz ; 11n (HT20): RBW = 1 MHz, VBW = 1 kHz ;  
11n (HT40): RBW = 1 MHz, VBW = 1 kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

#### 4.1.4 Deviation from Test Standard

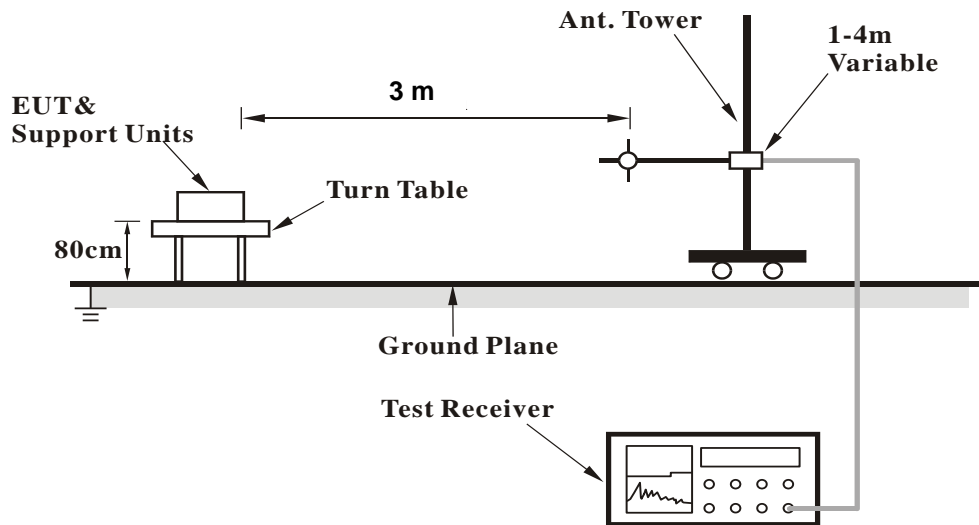
No deviation.

4.1.5 Test Setup

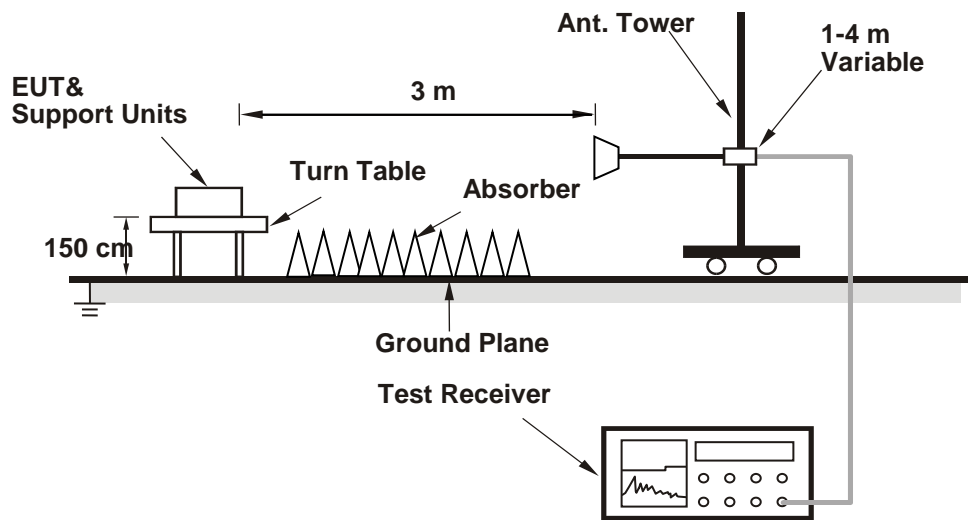
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT Operating Conditions

- a. Placed the EUT on a testing table.
- b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1 GHz Data :

802.11a

<b>CHANNEL</b>	TX Channel 36	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	52.7 PK	74.0	-21.3	2.25 H	174	50.6	2.1
2	5150.00	39.8 AV	54.0	-14.2	2.25 H	174	37.7	2.1
3	*5180.00	95.5 PK			2.25 H	174	59.2	36.3
4	*5180.00	84.8 AV			2.25 H	174	48.5	36.3
5	#10360.00	60.7 PK	68.2	-7.5	2.10 H	253	45.6	15.1

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	53.3 PK	74.0	-20.7	2.40 V	156	51.2	2.1
2	5150.00	40.5 AV	54.0	-13.5	2.40 V	156	38.4	2.1
3	*5180.00	97.6 PK			2.40 V	156	61.3	36.3
4	*5180.00	86.9 AV			2.40 V	156	50.6	36.3
5	#10360.00	57.2 PK	68.2	-11.0	3.47 V	162	42.1	15.1

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 40	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	95.3 PK			2.27 H	171	59.1	36.2
2	*5200.00	84.7 AV			2.27 H	171	48.5	36.2
3	#10400.00	61.1 PK	68.2	-7.1	2.18 H	261	45.9	15.2

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	97.4 PK			2.43 V	151	61.2	36.2
2	*5200.00	86.8 AV			2.43 V	151	50.6	36.2
3	#10400.00	57.9 PK	68.2	-10.3	3.51 V	167	42.7	15.2

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 48	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	96.4 PK			2.23 H	172	60.3	36.1
2	*5240.00	85.5 AV			2.23 H	172	49.4	36.1
3	5350.00	51.8 PK	74.0	-22.2	2.23 H	172	49.8	2.0
4	5350.00	39.2 AV	54.0	-14.8	2.23 H	172	37.2	2.0
5	#10480.00	60.6 PK	68.2	-7.6	2.05 H	243	45.5	15.1

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	98.6 PK			2.53 V	183	62.5	36.1
2	*5240.00	87.6 AV			2.53 V	183	51.5	36.1
3	5350.00	52.4 PK	74.0	-21.6	2.53 V	183	50.4	2.0
4	5350.00	39.5 AV	54.0	-14.5	2.53 V	183	37.5	2.0
5	#10480.00	57.5 PK	68.2	-10.7	3.43 V	158	42.4	15.1

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 52	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	51.9 PK	74.0	-22.1	2.26 H	181	49.8	2.1
2	5150.00	39.1 AV	54.0	-14.9	2.26 H	181	37.0	2.1
3	*5260.00	96.2 PK			2.26 H	181	60.1	36.1
4	*5260.00	85.8 AV			2.26 H	181	49.7	36.1
5	#10520.00	60.7 PK	68.2	-7.5	2.11 H	245	45.5	15.2

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	52.3 PK	74.0	-21.7	2.59 V	147	50.2	2.1
2	5150.00	39.4 AV	54.0	-14.6	2.59 V	147	37.3	2.1
3	*5260.00	98.3 PK			2.59 V	147	62.2	36.1
4	*5260.00	87.8 AV			2.59 V	147	51.7	36.1
5	#10520.00	57.9 PK	68.2	-10.3	3.53 V	158	42.7	15.2

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



<b>CHANNEL</b>	TX Channel 60	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	96.4 PK			2.18 H	179	60.3	36.1
2	*5300.00	85.9 AV			2.18 H	179	49.8	36.1
3	10600.00	61.0 PK	74.0	-13.0	2.18 H	249	45.4	15.6
4	10600.00	46.6 AV	54.0	-7.4	2.18 H	249	31.0	15.6

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	98.5 PK			2.53 V	153	62.4	36.1
2	*5300.00	88.0 AV			2.53 V	153	51.9	36.1
3	10600.00	58.3 PK	74.0	-15.7	3.41 V	167	42.7	15.6
4	10600.00	44.2 AV	54.0	-9.8	3.41 V	167	28.6	15.6

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<b>CHANNEL</b>	TX Channel 64	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	94.9 PK			2.25 H	181	58.7	36.2
2	*5320.00	84.6 AV			2.25 H	181	48.4	36.2
3	5350.00	53.2 PK	74.0	-20.8	2.25 H	181	51.2	2.0
4	5350.00	39.8 AV	54.0	-14.2	2.25 H	181	37.8	2.0
5	10640.00	61.3 PK	74.0	-12.7	2.11 H	262	45.5	15.8
6	10640.00	47.0 AV	54.0	-7.0	2.11 H	262	31.2	15.8

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	96.9 PK			2.58 V	180	60.7	36.2
2	*5320.00	86.5 AV			2.58 V	180	50.3	36.2
3	5350.00	53.6 PK	74.0	-20.4	2.58 V	180	51.6	2.0
4	5350.00	40.3 AV	54.0	-13.7	2.58 V	180	38.3	2.0
5	10640.00	58.4 PK	74.0	-15.6	3.55 V	164	42.6	15.8
6	10640.00	44.6 AV	54.0	-9.4	3.55 V	164	28.8	15.8

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<b>CHANNEL</b>	TX Channel 100	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	51.4 PK	74.0	-22.6	2.27 H	175	48.7	2.7
2	5460.00	38.8 AV	54.0	-15.2	2.27 H	175	36.1	2.7
3	#5470.00	51.5 PK	68.2	-16.7	2.27 H	175	48.8	2.7
4	*5500.00	93.9 PK			2.27 H	175	56.9	37.0
5	*5500.00	83.0 AV			2.27 H	175	46.0	37.0
6	11000.00	62.9 PK	74.0	-11.1	2.10 H	247	46.0	16.9
7	11000.00	48.1 AV	54.0	-5.9	2.10 H	247	31.2	16.9

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	51.4 PK	74.0	-22.6	2.21 V	151	48.7	2.7
2	5460.00	41.5 AV	54.0	-12.5	2.21 V	151	38.8	2.7
3	#5470.00	52.2 PK	68.2	-16.0	2.21 V	151	49.5	2.7
4	*5500.00	95.8 PK			2.21 V	151	58.8	37.0
5	*5500.00	85.0 AV			2.21 V	151	48.0	37.0
6	11000.00	58.7 PK	74.0	-15.3	3.56 V	157	41.8	16.9
7	11000.00	45.6 AV	54.0	-8.4	3.56 V	157	28.7	16.9

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 116	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	93.2 PK			2.26 H	174	56.3	36.9
2	*5580.00	83.0 AV			2.26 H	174	46.1	36.9
3	11160.00	61.1 PK	74.0	-12.9	2.09 H	258	45.4	15.7
4	11160.00	47.0 AV	54.0	-7.0	2.09 H	258	31.3	15.7

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	95.5 PK			2.36 V	143	58.6	36.9
2	*5580.00	85.2 AV			2.36 V	143	48.3	36.9
3	11160.00	57.7 PK	74.0	-16.3	3.41 V	169	42.0	15.7
4	11160.00	44.5 AV	54.0	-9.5	3.41 V	169	28.8	15.7

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<b>CHANNEL</b>	TX Channel 140	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	94.9 PK			2.15 H	173	57.7	37.2
2	*5700.00	84.2 AV			2.15 H	173	47.0	37.2
3	#5725.00	53.3 PK	68.2	-14.9	2.15 H	173	50.4	2.9
4	11400.00	61.8 PK	74.0	-12.2	2.04 H	260	45.9	15.9
5	11400.00	47.4 AV	54.0	-6.6	2.04 H	260	31.5	15.9

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	96.8 PK			2.61 V	144	59.6	37.2
2	*5700.00	86.2 AV			2.61 V	144	49.0	37.2
3	#5725.00	56.3 PK	68.2	-11.9	2.61 V	144	53.4	2.9
4	11400.00	58.5 PK	74.0	-15.5	3.50 V	163	42.6	15.9
5	11400.00	45.0 AV	54.0	-9.0	3.50 V	163	29.1	15.9

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 144	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	50.7 PK	74.0	-23.3	2.15 H	172	48.0	2.7
2	5460.00	38.2 AV	54.0	-15.8	2.15 H	172	35.5	2.7
3	#5470.00	50.3 PK	68.2	-17.9	2.15 H	172	47.6	2.7
4	*5720.00	92.5 PK			2.15 H	172	55.3	37.2
5	*5720.00	83.1 AV			2.15 H	172	45.9	37.2
6	#5850.00	50.9 PK	68.2	-17.3	2.15 H	172	47.6	3.3
7	11440.00	60.9 PK	74.0	-13.1	2.16 H	251	45.3	15.6
8	11440.00	46.7 AV	54.0	-7.3	2.16 H	251	31.1	15.6

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	51.2 PK	74.0	-22.8	2.69 V	141	48.5	2.7
2	5460.00	38.3 AV	54.0	-15.7	2.69 V	141	35.6	2.7
3	#5470.00	51.9 PK	68.2	-16.3	2.69 V	141	49.2	2.7
4	*5720.00	94.8 PK			2.69 V	141	57.6	37.2
5	*5720.00	85.3 AV			2.69 V	141	48.1	37.2
6	#5850.00	51.7 PK	68.2	-16.5	2.69 V	141	48.4	3.3
7	11440.00	57.9 PK	74.0	-16.1	3.48 V	170	42.3	15.6
8	11440.00	44.4 AV	54.0	-9.6	3.48 V	170	28.8	15.6

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 149	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	93.1 PK			2.22 H	170	55.8	37.3
2	*5745.00	82.7 AV			2.22 H	170	45.4	37.3
3	11490.00	60.1 PK	74.0	-13.9	2.23 H	248	44.6	15.5
4	11490.00	45.9 AV	54.0	-8.1	2.23 H	248	30.4	15.5

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	95.2 PK			2.64 V	142	57.9	37.3
2	*5745.00	84.8 AV			2.64 V	142	47.5	37.3
3	11490.00	58.0 PK	74.0	-16.0	3.37 V	158	42.5	15.5
4	11490.00	43.9 AV	54.0	-10.1	3.37 V	158	28.4	15.5

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<b>CHANNEL</b>	TX Channel 157	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	93.2 PK			2.29 H	173	55.7	37.5
2	*5785.00	82.7 AV			2.29 H	173	45.2	37.5
3	11570.00	59.4 PK	74.0	-14.6	2.16 H	255	44.2	15.2
4	11570.00	45.0 AV	54.0	-9.0	2.16 H	255	29.8	15.2

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	95.0 PK			2.61 V	143	57.5	37.5
2	*5785.00	84.5 AV			2.61 V	143	47.0	37.5
3	11570.00	57.6 PK	74.0	-16.4	3.31 V	243	42.4	15.2
4	11570.00	43.5 AV	54.0	-10.5	3.31 V	243	28.3	15.2

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.



<b>CHANNEL</b>	TX Channel 165	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	93.6 PK			2.32 H	181	56.2	37.4
2	*5825.00	83.1 AV			2.32 H	181	45.7	37.4
3	11650.00	57.7 PK	74.0	-16.3	3.43 H	167	42.5	15.2
4	11650.00	43.5 AV	54.0	-10.5	3.43 H	167	28.3	15.2

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	95.7 PK			2.71 V	138	58.3	37.4
2	*5825.00	85.2 AV			2.71 V	138	47.8	37.4
3	11650.00	59.6 PK	74.0	-14.4	2.07 V	264	44.4	15.2
4	11650.00	45.5 AV	54.0	-8.5	2.07 V	264	30.3	15.2

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

802.11n (HT20)

<b>CHANNEL</b>	TX Channel 36	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	51.8 PK	74.0	-22.2	2.23 H	179	49.7	2.1
2	5150.00	39.4 AV	54.0	-14.6	2.23 H	179	37.3	2.1
3	*5180.00	93.5 PK			2.23 H	179	57.2	36.3
4	*5180.00	83.0 AV			2.23 H	179	46.7	36.3
5	#10360.00	59.8 PK	68.2	-8.4	2.17 H	258	44.7	15.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	52.4 PK	74.0	-21.6	2.31 V	146	50.3	2.1
2	5150.00	39.7 AV	54.0	-14.3	2.31 V	146	37.6	2.1
3	*5180.00	95.4 PK			2.31 V	146	59.1	36.3
4	*5180.00	84.8 AV			2.31 V	146	48.5	36.3
5	#10360.00	57.7 PK	68.2	-10.5	3.52 V	166	42.6	15.1

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 40	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	93.4 PK			2.17 H	183	57.2	36.2
2	*5200.00	82.9 AV			2.17 H	183	46.7	36.2
3	#10400.00	59.8 PK	68.2	-8.4	2.13 H	247	44.6	15.2

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	95.5 PK			2.43 V	142	59.3	36.2
2	*5200.00	85.0 AV			2.43 V	142	48.8	36.2
3	#10400.00	57.6 PK	68.2	-10.6	3.56 V	159	42.4	15.2

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 48	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	93.3 PK			2.32 H	185	57.2	36.1
2	*5240.00	83.1 AV			2.32 H	185	47.0	36.1
3	5350.00	52.2 PK	74.0	-21.8	2.32 H	185	50.2	2.0
4	5350.00	39.2 AV	54.0	-14.8	2.32 H	185	37.2	2.0
5	#10480.00	59.4 PK	68.2	-8.8	2.12 H	261	44.3	15.1

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	95.4 PK			2.57 V	147	59.3	36.1
2	*5240.00	85.2 AV			2.57 V	147	49.1	36.1
3	5350.00	52.5 PK	74.0	-21.5	2.57 V	147	50.5	2.0
4	5350.00	39.6 AV	54.0	-14.4	2.57 V	147	37.6	2.0
5	#10480.00	57.4 PK	68.2	-10.8	3.41 V	157	42.3	15.1

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 52	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	51.8 PK	74.0	-22.2	2.37 H	187	49.7	2.1
2	5150.00	38.8 AV	54.0	-15.2	2.37 H	187	36.7	2.1
3	*5260.00	96.1 PK			2.37 H	187	60.0	36.1
4	*5260.00	85.8 AV			2.37 H	187	49.7	36.1
5	#10520.00	60.7 PK	68.2	-7.5	2.10 H	259	45.5	15.2

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	52.0 PK	74.0	-22.0	2.52 V	146	49.9	2.1
2	5150.00	38.9 AV	54.0	-15.1	2.52 V	146	36.8	2.1
3	*5260.00	98.0 PK			2.52 V	146	61.9	36.1
4	*5260.00	87.6 AV			2.52 V	146	51.5	36.1
5	#10520.00	57.8 PK	68.2	-10.4	3.39 V	151	42.6	15.2

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 60	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	96.2 PK			2.23 H	177	60.1	36.1
2	*5300.00	85.7 AV			2.23 H	177	49.6	36.1
3	10600.00	61.0 PK	74.0	-13.0	2.11 H	261	45.4	15.6
4	10600.00	46.5 AV	54.0	-7.5	2.11 H	261	30.9	15.6

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	98.3 PK			2.47 V	146	62.2	36.1
2	*5300.00	87.8 AV			2.47 V	146	51.7	36.1
3	10600.00	58.1 PK	74.0	-15.9	3.39 V	157	42.5	15.6
4	10600.00	44.2 AV	54.0	-9.8	3.39 V	157	28.6	15.6

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<b>CHANNEL</b>	TX Channel 64	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	94.4 PK			2.21 H	169	58.2	36.2
2	*5320.00	84.0 AV			2.21 H	169	47.8	36.2
3	5350.00	52.2 PK	74.0	-21.8	2.21 H	169	50.2	2.0
4	5350.00	39.0 AV	54.0	-15.0	2.21 H	169	37.0	2.0
5	10640.00	61.0 PK	74.0	-13.0	2.24 H	261	45.2	15.8
6	10640.00	46.6 AV	54.0	-7.4	2.24 H	261	30.8	15.8

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	96.7 PK			2.41 V	148	60.5	36.2
2	*5320.00	86.3 AV			2.41 V	148	50.1	36.2
3	5350.00	52.8 PK	74.0	-21.2	2.41 V	148	50.8	2.0
4	5350.00	39.8 AV	54.0	-14.2	2.41 V	148	37.8	2.0
5	10640.00	58.2 PK	74.0	-15.8	3.42 V	155	42.4	15.8
6	10640.00	44.3 AV	54.0	-9.7	3.42 V	155	28.5	15.8

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<b>CHANNEL</b>	TX Channel 100	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	50.5 PK	74.0	-23.5	2.17 H	171	47.8	2.7
2	5460.00	38.5 AV	54.0	-15.5	2.17 H	171	35.8	2.7
3	#5470.00	51.0 PK	68.2	-17.2	2.17 H	171	48.3	2.7
4	*5500.00	92.3 PK			2.17 H	171	55.3	37.0
5	*5500.00	81.4 AV			2.17 H	171	44.4	37.0
6	11000.00	62.1 PK	74.0	-11.9	2.02 H	262	45.2	16.9
7	11000.00	48.2 AV	54.0	-5.8	2.02 H	262	31.3	16.9

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	50.5 PK	74.0	-23.5	2.66 V	147	47.8	2.7
2	5460.00	38.8 AV	54.0	-15.2	2.66 V	147	36.1	2.7
3	#5470.00	51.9 PK	68.2	-16.3	2.66 V	147	49.2	2.7
4	*5500.00	94.2 PK			2.66 V	147	57.2	37.0
5	*5500.00	83.4 AV			2.66 V	147	46.4	37.0
6	#5725.00	52.1 PK	68.2	-16.1	2.66 V	147	49.2	2.9
7	11000.00	59.2 PK	74.0	-14.8	3.49 V	159	42.3	16.9
8	11000.00	45.9 AV	54.0	-8.1	3.49 V	159	29.0	16.9

**REMARKS:**

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
- Margin value = Emission Level – Limit value
- The other emission levels were very low against the limit.
- " \* ": Fundamental frequency.
- " # ": The radiated frequency is out of the restricted band.



<b>CHANNEL</b>	TX Channel 116	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	92.3 PK			2.32 H	172	55.4	36.9
2	*5580.00	82.1 AV			2.32 H	172	45.2	36.9
3	11160.00	60.9 PK	74.0	-13.1	2.15 H	258	45.2	15.7
4	11160.00	47.2 AV	54.0	-6.8	2.15 H	258	31.5	15.7

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	94.6 PK			2.77 V	140	57.7	36.9
2	*5580.00	84.3 AV			2.77 V	140	47.4	36.9
3	11160.00	57.4 PK	74.0	-16.6	3.43 V	169	41.7	15.7
4	11160.00	44.8 AV	54.0	-9.2	3.43 V	169	29.1	15.7

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<b>CHANNEL</b>	TX Channel 140	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	93.0 PK			2.29 H	175	55.8	37.2
2	*5700.00	82.3 AV			2.29 H	175	45.1	37.2
3	#5725.00	53.0 PK	68.2	-15.2	2.77 H	178	50.1	2.9
4	11400.00	61.4 PK	74.0	-12.6	2.17 H	262	45.5	15.9
5	11400.00	47.1 AV	54.0	-6.9	2.17 H	262	31.2	15.9

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	94.9 PK			2.60 V	141	57.7	37.2
2	*5700.00	84.3 AV			2.60 V	141	47.1	37.2
3	#5725.00	51.4 PK	68.2	-16.8	2.60 V	141	48.5	2.9
4	11400.00	58.2 PK	74.0	-15.8	3.45 V	160	42.3	15.9
5	11400.00	44.8 AV	54.0	-9.2	3.45 V	160	28.9	15.9

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 144	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	50.6 PK	74.0	-23.4	2.18 H	175	47.9	2.7
2	5460.00	38.2 AV	54.0	-15.8	2.18 H	175	35.5	2.7
3	#5470.00	50.9 PK	68.2	-17.3	2.18 H	175	48.2	2.7
4	*5720.00	92.2 PK			2.18 H	175	55.0	37.2
5	*5720.00	81.9 AV			2.18 H	175	44.7	37.2
6	#5850.00	50.6 PK	68.2	-17.6	2.18 H	175	47.3	3.3
7	11440.00	61.2 PK	74.0	-12.8	2.19 H	263	45.6	15.6
8	11440.00	46.8 AV	54.0	-7.2	2.19 H	263	31.2	15.6

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	51.5 PK	74.0	-22.5	2.69 V	140	48.8	2.7
2	5460.00	38.4 AV	54.0	-15.6	2.69 V	140	35.7	2.7
3	#5470.00	51.4 PK	68.2	-16.8	2.69 V	140	48.7	2.7
4	*5720.00	94.1 PK			2.69 V	140	56.9	37.2
5	*5720.00	83.9 AV			2.69 V	140	46.7	37.2
6	#5850.00	51.9 PK	68.2	-16.3	2.69 V	140	48.6	3.3
7	11440.00	57.4 PK	74.0	-16.6	3.44 V	157	41.8	15.6
8	11440.00	44.3 AV	54.0	-9.7	3.44 V	157	28.7	15.6

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 149	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	92.8 PK			2.35 H	171	55.5	37.3
2	*5745.00	82.4 AV			2.35 H	171	45.1	37.3
3	11490.00	59.4 PK	74.0	-14.6	2.03 H	268	43.9	15.5
4	11490.00	45.2 AV	54.0	-8.8	2.03 H	268	29.7	15.5

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	94.8 PK			2.67 V	142	57.5	37.3
2	*5745.00	84.4 AV			2.67 V	142	47.1	37.3
3	11490.00	57.8 PK	74.0	-16.2	3.35 V	156	42.3	15.5
4	11490.00	43.7 AV	54.0	-10.3	3.35 V	156	28.2	15.5

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<b>CHANNEL</b>	TX Channel 157	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	92.6 PK			2.31 H	180	55.1	37.5
2	*5785.00	82.2 AV			2.31 H	180	44.7	37.5
3	11570.00	59.5 PK	74.0	-14.5	2.03 H	257	44.3	15.2
4	11570.00	44.9 AV	54.0	-9.1	2.03 H	257	29.7	15.2

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	94.5 PK			2.27 V	143	57.0	37.5
2	*5785.00	84.1 AV			2.27 V	143	46.6	37.5
3	11570.00	57.6 PK	74.0	-16.4	3.38 V	169	42.4	15.2
4	11570.00	43.7 AV	54.0	-10.3	3.38 V	169	28.5	15.2

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<b>CHANNEL</b>	TX Channel 165	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	92.3 PK			2.26 H	174	54.9	37.4
2	*5825.00	81.9 AV			2.26 H	174	44.5	37.4
3	11650.00	59.4 PK	74.0	-14.6	2.11 H	252	44.2	15.2
4	11650.00	45.1 AV	54.0	-8.9	2.11 H	252	29.9	15.2

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	94.2 PK			2.45 V	142	56.8	37.4
2	*5825.00	83.8 AV			2.45 V	142	46.4	37.4
3	11650.00	57.1 PK	74.0	-16.9	3.36 V	154	41.9	15.2
4	11650.00	43.4 AV	54.0	-10.6	3.36 V	154	28.2	15.2

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

802.11n (HT40)

<b>CHANNEL</b>	TX Channel 38	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.3 PK	74.0	-16.7	2.37 H	186	55.2	2.1
2	5150.00	46.9 AV	54.0	-7.1	2.37 H	186	44.8	2.1
3	*5190.00	90.8 PK			2.37 H	186	54.6	36.2
4	*5190.00	80.7 AV			2.37 H	186	44.5	36.2
5	#10380.00	59.5 PK	68.2	-8.7	2.23 H	257	44.3	15.2

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.0 PK	74.0	-17.0	2.57 V	184	54.9	2.1
2	5150.00	42.9 AV	54.0	-11.1	2.57 V	184	40.8	2.1
3	*5190.00	92.7 PK			2.57 V	184	56.5	36.2
4	*5190.00	82.5 AV			2.57 V	184	46.3	36.2
5	#10380.00	57.4 PK	68.2	-10.8	3.39 V	153	42.2	15.2

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 46	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	90.5 PK			2.27 H	184	54.3	36.2
2	*5230.00	80.3 AV			2.27 H	184	44.1	36.2
3	5350.00	51.7 PK	74.0	-22.3	2.27 H	184	49.7	2.0
4	5350.00	38.8 AV	54.0	-15.2	2.27 H	184	36.8	2.0
5	#10460.00	59.7 PK	68.2	-8.5	2.15 H	246	44.6	15.1

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	92.3 PK			2.58 V	145	56.1	36.2
2	*5230.00	82.1 AV			2.58 V	145	45.9	36.2
3	5350.00	52.3 PK	74.0	-21.7	2.58 V	145	50.3	2.0
4	5350.00	39.2 AV	54.0	-14.8	2.58 V	145	37.2	2.0
5	#10460.00	57.5 PK	68.2	-10.7	3.31 V	152	42.4	15.1

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



<b>CHANNEL</b>	TX Channel 54	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	52.1 PK	74.0	-21.9	2.18 H	172	50.0	2.1
2	5150.00	39.0 AV	54.0	-15.0	2.18 H	172	36.9	2.1
3	*5270.00	90.5 PK			2.18 H	172	54.4	36.1
4	*5270.00	80.4 AV			2.18 H	172	44.3	36.1
5	#10540.00	60.2 PK	68.2	-8.0	2.12 H	244	44.8	15.4

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	52.4 PK	74.0	-21.6	2.46 V	154	50.3	2.1
2	5150.00	39.3 AV	54.0	-14.7	2.46 V	154	37.2	2.1
3	*5270.00	92.4 PK			2.46 V	154	56.3	36.1
4	*5270.00	82.3 AV			2.46 V	154	46.2	36.1
5	#10540.00	57.7 PK	68.2	-10.5	3.52 V	160	42.3	15.4

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 62	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	89.9 PK			2.31 H	167	53.8	36.1
2	*5310.00	79.4 AV			2.31 H	167	43.3	36.1
3	5350.00	55.1 PK	74.0	-18.9	2.31 H	167	53.1	2.0
4	5350.00	41.2 AV	54.0	-12.8	2.31 H	167	39.2	2.0
5	10620.00	59.9 PK	74.0	-14.1	2.02 H	257	44.3	15.6
6	10620.00	46.0 AV	54.0	-8.0	2.02 H	257	30.4	15.6

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	92.1 PK			2.37 V	181	56.0	36.1
2	*5310.00	81.5 AV			2.37 V	181	45.4	36.1
3	5350.00	57.3 PK	74.0	-16.7	2.37 V	181	55.3	2.0
4	5350.00	42.1 AV	54.0	-11.9	2.37 V	181	40.1	2.0
5	10620.00	57.7 PK	74.0	-16.3	3.56 V	164	42.1	15.6
6	10620.00	44.0 AV	54.0	-10.0	3.56 V	164	28.4	15.6

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<b>CHANNEL</b>	TX Channel 102	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	50.8 PK	74.0	-23.2	2.24 H	172	48.1	2.7
2	5460.00	40.0 AV	54.0	-14.0	2.24 H	172	37.3	2.7
3	#5470.00	52.9 PK	68.2	-15.3	2.24 H	172	50.2	2.7
4	*5510.00	90.2 PK			2.24 H	172	53.3	36.9
5	*5510.00	78.7 AV			2.24 H	172	41.8	36.9
6	11020.00	59.7 PK	74.0	-14.3	2.02 H	262	43.0	16.7
7	11020.00	45.2 AV	54.0	-8.8	2.02 H	262	28.5	16.7

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	50.9 PK	74.0	-23.1	2.40 V	143	48.2	2.7
2	5460.00	40.5 AV	54.0	-13.5	2.40 V	143	37.8	2.7
3	#5470.00	51.9 PK	68.2	-16.3	2.40 V	143	49.2	2.7
4	*5510.00	92.1 PK			2.40 V	143	55.2	36.9
5	*5510.00	80.7 AV			2.40 V	143	43.8	36.9
6	11020.00	58.8 PK	74.0	-15.2	3.57 V	172	42.1	16.7
7	11020.00	45.6 AV	54.0	-8.4	3.57 V	172	28.9	16.7

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 110	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	88.6 PK			2.30 H	176	51.7	36.9
2	*5550.00	78.3 AV			2.30 H	176	41.4	36.9
3	11100.00	58.4 PK	74.0	-15.6	2.18 H	246	42.5	15.9
4	11100.00	44.4 AV	54.0	-9.6	2.18 H	246	28.5	15.9

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	90.7 PK			2.40 V	142	53.8	36.9
2	*5550.00	80.4 AV			2.40 V	142	43.5	36.9
3	11100.00	56.9 PK	74.0	-17.1	3.53 V	172	41.0	15.9
4	11100.00	42.6 AV	54.0	-11.4	3.53 V	172	26.7	15.9

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<b>CHANNEL</b>	TX Channel 134	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	88.7 PK			2.15 H	176	51.7	37.0
2	*5670.00	77.7 AV			2.15 H	176	40.7	37.0
3	#5725.00	51.7 PK	68.2	-16.5	2.15 H	176	48.8	2.9
4	11340.00	58.1 PK	74.0	-15.9	2.12 H	260	42.0	16.1
5	11340.00	44.6 AV	54.0	-9.4	2.12 H	260	28.5	16.1

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	91.0 PK			2.30 V	143	54.0	37.0
2	*5670.00	79.9 AV			2.30 V	143	42.9	37.0
3	#5725.00	53.6 PK	68.2	-14.6	2.30 V	143	50.7	2.9
4	11340.00	56.8 PK	74.0	-17.2	3.44 V	165	40.7	16.1
5	11340.00	42.9 AV	54.0	-11.1	3.44 V	165	26.8	16.1

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 142	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	50.2 PK	74.0	-23.8	2.17 H	170	47.5	2.7
2	5460.00	38.0 AV	54.0	-16.0	2.17 H	170	35.3	2.7
3	#5470.00	50.3 PK	68.2	-17.9	2.17 H	170	47.6	2.7
4	*5710.00	88.3 PK			2.17 H	170	51.1	37.2
5	*5710.00	78.2 AV			2.17 H	170	41.0	37.2
6	#5850.00	51.3 PK	68.2	-16.9	2.17 H	170	48.0	3.3
7	11420.00	58.5 PK	74.0	-15.5	2.03 H	249	42.7	15.8
8	11420.00	44.3 AV	54.0	-9.7	2.03 H	249	28.5	15.8

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	51.4 PK	74.0	-22.6	2.25 V	148	48.7	2.7
2	5460.00	38.2 AV	54.0	-15.8	2.25 V	148	35.5	2.7
3	#5470.00	50.9 PK	68.2	-17.3	2.25 V	148	48.2	2.7
4	*5710.00	90.2 PK			2.25 V	148	53.0	37.2
5	*5710.00	80.2 AV			2.25 V	148	43.0	37.2
6	#5850.00	51.4 PK	68.2	-16.8	2.25 V	148	48.1	3.3
7	11420.00	56.8 PK	74.0	-17.2	3.56 V	166	41.0	15.8
8	11420.00	42.5 AV	54.0	-11.5	3.56 V	166	26.7	15.8

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

<b>CHANNEL</b>	TX Channel 151	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5755.00	88.7 PK			2.37 H	184	51.4	37.3
2	*5755.00	78.4 AV			2.37 H	184	41.1	37.3
3	11510.00	59.0 PK	74.0	-15.0	2.05 H	263	43.7	15.3
4	11510.00	44.7 AV	54.0	-9.3	2.05 H	263	29.4	15.3

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5755.00	90.6 PK			2.54 V	140	53.3	37.3
2	*5755.00	80.3 AV			2.54 V	140	43.0	37.3
3	11510.00	57.0 PK	74.0	-17.0	3.53 V	172	41.7	15.3
4	11510.00	43.1 AV	54.0	-10.9	3.53 V	172	27.8	15.3

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.

<b>CHANNEL</b>	TX Channel 159	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	89.3 PK			2.29 H	178	51.8	37.5
2	*5795.00	78.7 AV			2.29 H	178	41.2	37.5
3	11590.00	58.4 PK	74.0	-15.6	2.17 H	256	43.3	15.1
4	11590.00	44.2 AV	54.0	-9.8	2.17 H	256	29.1	15.1

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	91.3 PK			2.72 V	139	53.8	37.5
2	*5795.00	80.7 AV			2.72 V	139	43.2	37.5
3	11590.00	56.8 PK	74.0	-17.2	3.31 V	169	41.7	15.1
4	11590.00	42.7 AV	54.0	-11.3	3.31 V	169	27.6	15.1

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency.



**30 MHz ~ 1 GHz Worst-Case Data:**

802.11a

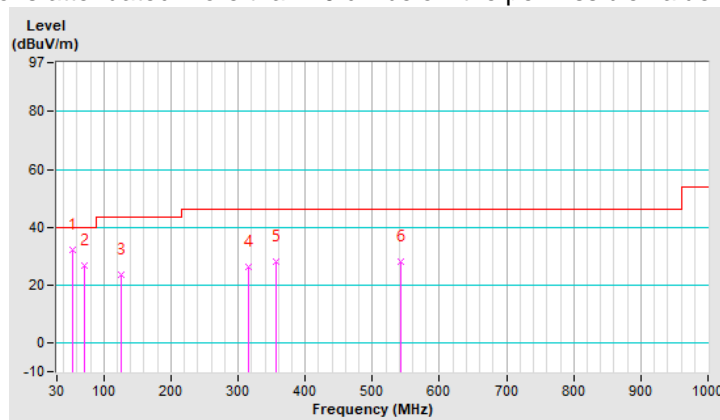
Mode A

<b>CHANNEL</b>	TX Channel 60	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	54.25	32.3 QP	40.0	-7.7	1.00 H	125	42.2	-9.9
2	70.74	26.7 QP	40.0	-13.3	1.00 H	140	38.3	-11.6
3	125.06	23.4 QP	43.5	-20.1	1.00 H	128	34.5	-11.1
4	315.18	26.3 QP	46.0	-19.7	1.00 H	241	34.0	-7.7
5	356.89	28.1 QP	46.0	-17.9	1.00 H	216	34.8	-6.7
6	543.13	27.9 QP	46.0	-18.1	1.00 H	15	30.9	-3.0

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



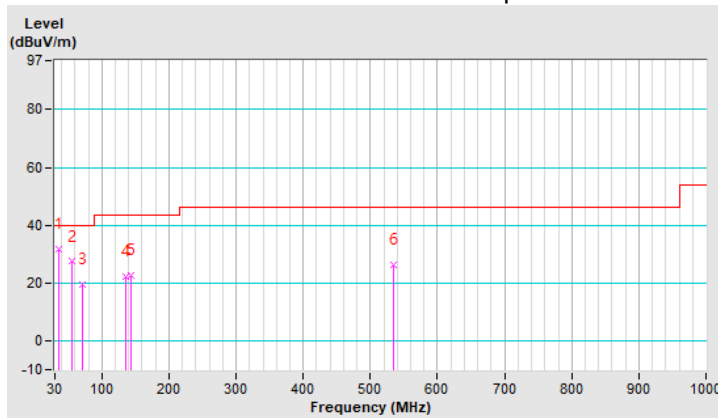
<b>CHANNEL</b>	TX Channel 60	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	30MHz ~ 1GHz		

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	36.79	31.8 QP	40.0	-8.2	1.00 V	85	42.7	-10.9
2	56.19	27.4 QP	40.0	-12.6	1.00 V	128	37.3	-9.9
3	70.74	19.6 QP	40.0	-20.4	1.00 V	288	31.2	-11.6
4	135.73	22.2 QP	43.5	-21.3	1.00 V	18	32.3	-10.1
5	142.52	22.5 QP	43.5	-21.0	1.00 V	144	32.2	-9.7
6	535.37	26.3 QP	46.0	-19.7	1.00 V	240	29.4	-3.1

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



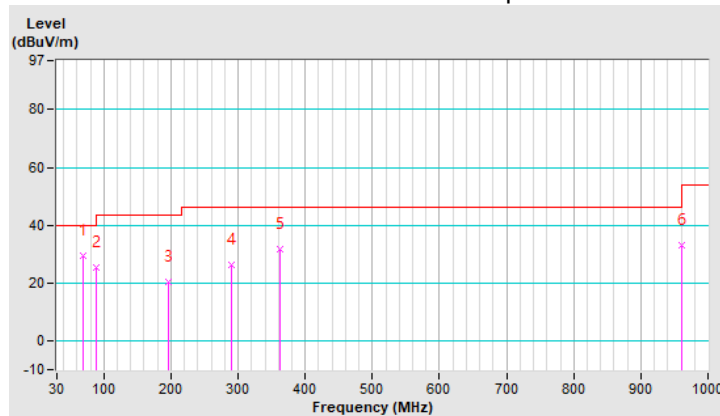
**Mode B**

<b>CHANNEL</b>	TX Channel 60	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	69.77	29.3 QP	40.0	-10.7	1.00 H	6	40.8	-11.5
2	89.17	25.2 QP	43.5	-18.3	1.25 H	259	40.1	-14.9
3	195.87	20.5 QP	43.5	-23.0	1.00 H	144	32.7	-12.2
4	290.93	26.1 QP	46.0	-19.9	1.25 H	284	34.3	-8.2
5	362.71	31.6 QP	46.0	-14.4	1.00 H	225	38.1	-6.5
6	960.23	32.9 QP	54.0	-21.1	1.50 H	119	28.2	4.7

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



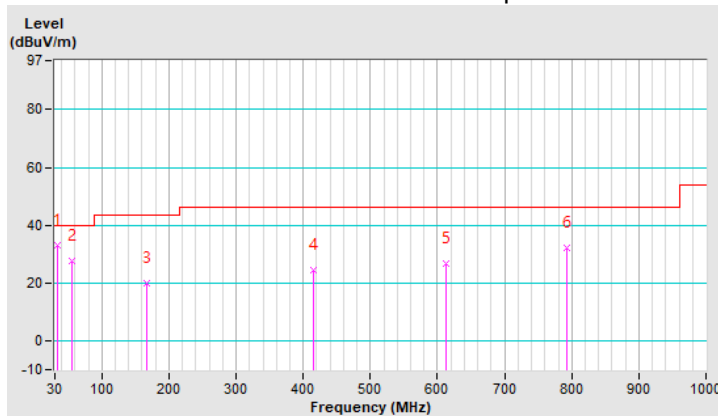
<b>CHANNEL</b>	TX Channel 60	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	30MHz ~ 1GHz		

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	33.88	33.1 QP	40.0	-6.9	1.50 V	318	44.4	-11.3
2	56.19	27.7 QP	40.0	-12.3	1.25 V	136	37.6	-9.9
3	166.77	19.7 QP	43.5	-23.8	1.00 V	10	29.0	-9.3
4	416.06	24.3 QP	46.0	-21.7	1.25 V	189	29.9	-5.6
5	612.00	26.9 QP	46.0	-19.1	1.50 V	85	28.6	-1.7
6	792.42	32.1 QP	46.0	-13.9	1.00 V	199	30.7	1.4

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



## 4.2 Conducted Emission Measurement

### 4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

- Note: 1. The lower limit shall apply at the transition frequencies.  
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

### 4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESR3	102412	Feb. 17, 2020	Feb. 16, 2021
RF signal cable Woken	5D-FB	Cable-cond2-01	Sep. 05, 2019	Sep. 04, 2020
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 20, 2020	Jan. 19, 2021
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Aug. 13, 2019	Aug. 12, 2020
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.  
 2. The test was performed in HwaYa Shielded Room 2.  
 3. The VCCI Site Registration No. is C-12047.

#### 4.2.3 Test Procedures

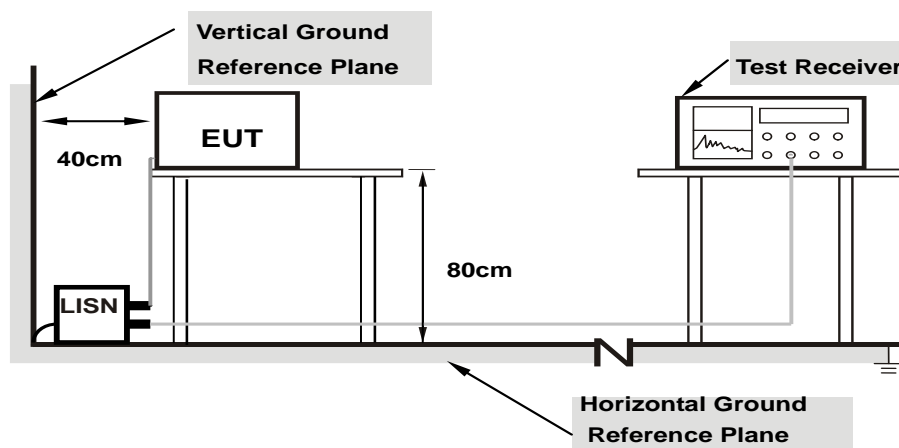
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit -20 dB) was not recorded.

**Note:** All modes of operation were investigated and the worst-case emissions are reported.

#### 4.2.4 Deviation from Test Standard

No deviation.

#### 4.2.5 Test Setup



- Note:**
1. Support units were connected to second LISN.
  2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.2.6 EUT Operating Conditions

- a. Placed the EUT on a testing table.
- b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

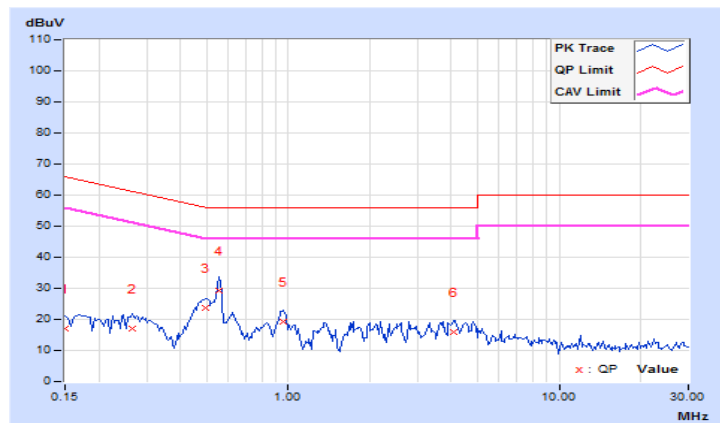
#### 4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 75%RH
Tested by	Greg Lin	Test Date	2020/4/18
Test Mode	Mode A		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.19	16.80	9.07	16.99	9.26	66.00	56.00	-49.01	-46.74
2	0.26719	0.22	16.93	13.40	17.15	13.62	61.20	51.20	-44.05	-37.58
3	0.49375	0.24	23.46	20.97	23.70	21.21	56.10	46.10	-32.40	-24.89
4	0.55234	0.25	28.86	26.22	29.11	26.47	56.00	46.00	-26.89	-19.53
5	0.96250	0.30	19.04	16.10	19.34	16.40	56.00	46.00	-36.66	-29.60
6	4.06250	0.42	15.66	10.55	16.08	10.97	56.00	46.00	-39.92	-35.03

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

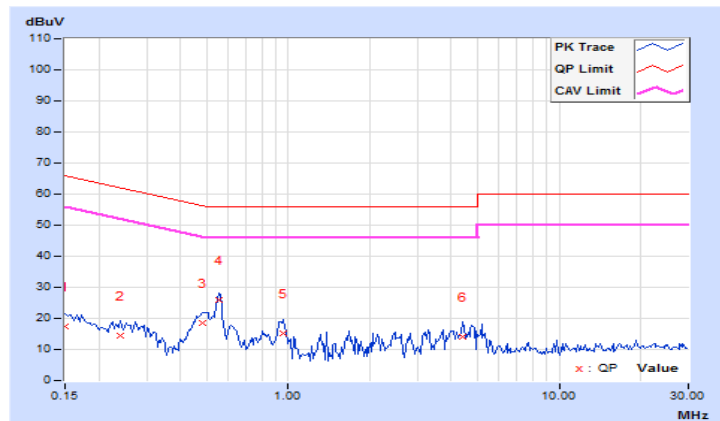


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 75%RH
Tested by	Greg Lin	Test Date	2020/4/18
Test Mode	Mode A		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.16	17.28	11.06	17.44	11.22	66.00	56.00	-48.56	-44.78
2	0.23984	0.18	14.09	7.99	14.27	8.17	62.10	52.10	-47.83	-43.93
3	0.48203	0.22	18.26	11.42	18.48	11.64	56.30	46.30	-37.82	-34.66
4	0.55625	0.23	25.81	18.28	26.04	18.51	56.00	46.00	-29.96	-27.49
5	0.95859	0.28	14.98	7.47	15.26	7.75	56.00	46.00	-40.74	-38.25
6	4.38672	0.43	13.69	3.93	14.12	4.36	56.00	46.00	-41.88	-41.64

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



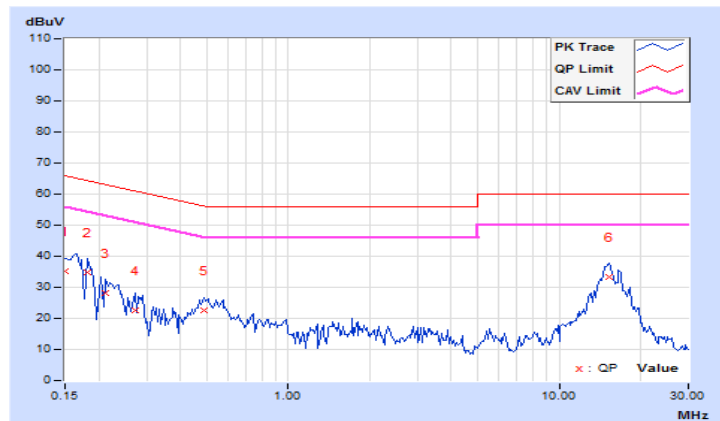


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 75%RH
Tested by	Greg Lin	Test Date	2020/4/17
Test Mode	Mode B		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.14	35.21	9.90	35.35	10.04	66.00	56.00	-30.65	-45.96
2	0.18125	0.15	34.54	17.52	34.69	17.67	64.43	54.43	-29.74	-36.76
3	0.21250	0.16	28.17	13.55	28.33	13.71	63.11	53.11	-34.78	-39.40
4	0.27109	0.17	22.52	12.31	22.69	12.48	61.08	51.08	-38.39	-38.60
5	0.48594	0.21	22.39	12.31	22.60	12.52	56.24	46.24	-33.64	-33.72
6	15.25000	0.56	32.77	26.36	33.33	26.92	60.00	50.00	-26.67	-23.08

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

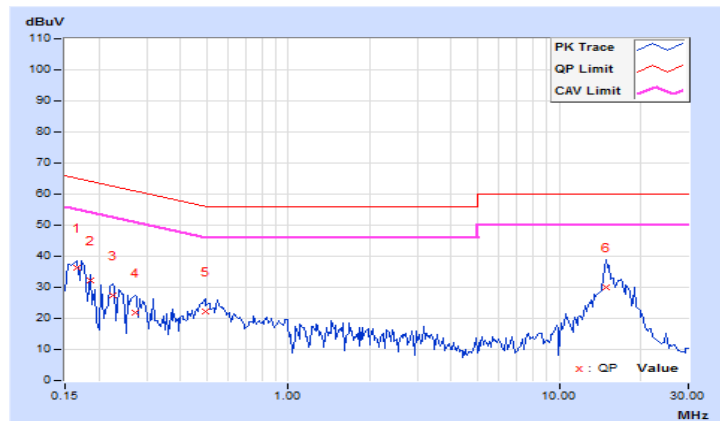


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 75%RH
Tested by	Greg Lin	Test Date	2020/4/17
Test Mode	Mode B		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	0.13	36.23	21.46	36.36	21.59	65.18	55.18	-28.82	-33.59
2	0.18516	0.14	32.20	15.97	32.34	16.11	64.25	54.25	-31.91	-38.14
3	0.22422	0.14	27.30	11.53	27.44	11.67	62.66	52.66	-35.22	-40.99
4	0.27109	0.15	21.85	10.21	22.00	10.36	61.08	51.08	-39.08	-40.72
5	0.49375	0.19	22.18	12.15	22.37	12.34	56.10	46.10	-33.73	-33.76
6	14.89844	0.64	29.27	22.11	29.91	22.75	60.00	50.00	-30.09	-27.25

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



### 4.3 Transmit Power Measurement

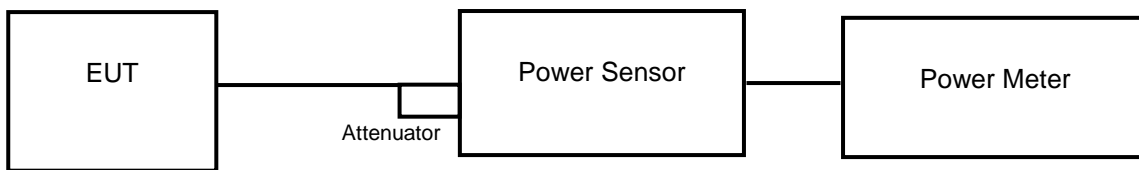
#### 4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category	Limit
U-NII-1	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125 mW (21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	Fixed point-to-point Access Point	1 Watt (30 dBm)
	Indoor Access Point	1 Watt (30 dBm)
	√ Mobile and Portable client device	250 mW (24 dBm)
U-NII-2A	√	250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-2C	√	250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-3	√	1 Watt (30 dBm)

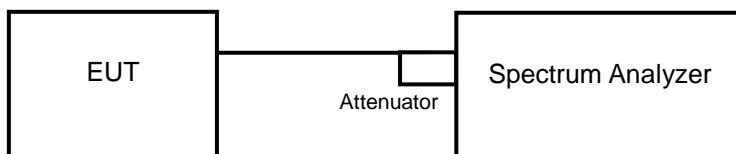
\*B is the 26 dB emission bandwidth in megahertz

#### 4.3.2 Test Setup

##### <Power Output Measurement>



##### <26 dB Bandwidth>



#### 4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

#### 4.3.4 Test Procedure

##### **Average Power Measurement**

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

##### **26 dB Bandwidth**

- a. Set RBW = approximately 1 % of the emission bandwidth.
- b. Set the VBW  $\geq 3 \times$  RBW.
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

#### 4.3.5 Deviation from Test Standard

No deviation.

#### 4.3.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

#### 4.3.7 Test Results

##### Power Output:

##### 802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	25.763	14.11	24	Pass
40	5200	25.293	14.03	24	Pass
48	5240	25.351	14.04	24	Pass
52	5260	25.468	14.06	24	Pass
60	5300	25.823	14.12	24	Pass
64	5320	25.763	14.11	24	Pass
100	5500	20.559	13.13	24	Pass
116	5580	20.091	13.03	24	Pass
140	5700	21.429	13.31	24	Pass
144	5720 (U-NII-2C)	10.839	10.35	24	Pass
144	5720 (U-NII-3)	2.328	3.67	30	Pass
149	5745	13.032	11.15	30	Pass
157	5785	13.996	11.46	30	Pass
165	5825	13.9	11.43	30	Pass

##### Note:

##### For U-NII-2A, U-NII-2C Band:

- $11 \text{ dBm} + 10\log (31.39) = 25.97 \text{ dBm} > 24 \text{ dBm}$ .
- $11 \text{ dBm} + 10\log (30.88) = 25.90 \text{ dBm} > 24 \text{ dBm}$ .
- $11 \text{ dBm} + 10\log (29.55) = 25.71 \text{ dBm} > 24 \text{ dBm}$ .
- $11 \text{ dBm} + 10\log (25.78) = 25.11 \text{ dBm} > 24 \text{ dBm}$ .
- $11 \text{ dBm} + 10\log (24.62) = 24.91 \text{ dBm} > 24 \text{ dBm}$ .
- $11 \text{ dBm} + 10\log (24.93) = 24.97 \text{ dBm} > 24 \text{ dBm}$ .
- $11 \text{ dBm} + 10\log (16.35) = 23.14 \text{ dBm} > 24 \text{ dBm}$ .

### 802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	16.634	12.21	24	Pass
40	5200	16.866	12.27	24	Pass
48	5240	16.943	12.29	24	Pass
52	5260	16.904	12.28	24	Pass
60	5300	17.1	12.33	24	Pass
64	5320	17.022	12.31	24	Pass
100	5500	13.213	11.21	24	Pass
116	5580	12.647	11.02	24	Pass
140	5700	13.677	11.36	24	Pass
144	5720 (U-NII-2C)	8.185	9.13	24	Pass
144	5720 (U-NII-3)	2.234	3.49	30	Pass
149	5745	10.139	10.06	30	Pass
157	5785	10.666	10.28	30	Pass
165	5825	10.765	10.32	30	Pass

**Note:**

**For U-NII-2A, U-NII-2C Band:**

1.  $11 \text{ dBm} + 10\log (23.49) = 24.71 \text{ dBm} > 24 \text{ dBm}$ .
2.  $11 \text{ dBm} + 10\log (28.97) = 25.62 \text{ dBm} > 24 \text{ dBm}$ .
3.  $11 \text{ dBm} + 10\log (33.50) = 26.25 \text{ dBm} > 24 \text{ dBm}$ .
4.  $11 \text{ dBm} + 10\log (22.86) = 24.59 \text{ dBm} > 24 \text{ dBm}$ .
5.  $11 \text{ dBm} + 10\log (22.76) = 24.57 \text{ dBm} > 24 \text{ dBm}$ .
6.  $11 \text{ dBm} + 10\log (22.93) = 24.60 \text{ dBm} > 24 \text{ dBm}$ .
7.  $11 \text{ dBm} + 10\log (16.20) = 23.10 \text{ dBm} > 24 \text{ dBm}$ .

### 802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	16.827	12.26	24	Pass
46	5230	15.959	12.03	24	Pass
54	5270	15.885	12.01	24	Pass
62	5310	16.069	12.06	24	Pass
102	5510	13.002	11.14	24	Pass
110	5550	12.735	11.05	24	Pass
134	5670	13.677	11.36	24	Pass
142	5710 (U-NII-2C)	8.65	9.37	24	Pass
142	5710 (U-NII-3)	0.8204	-0.86	30	Pass
151	5755	10.046	10.02	30	Pass
159	5795	10.139	10.06	30	Pass

**Note:**

**For U-NII-2A, U-NII-2C Band:**

1.  $11 \text{ dBm} + 10\log (55.04) = 28.41 \text{ dBm} > 24 \text{ dBm}$ .
2.  $11 \text{ dBm} + 10\log (59.83) = 28.77 \text{ dBm} > 24 \text{ dBm}$ .
3.  $11 \text{ dBm} + 10\log (74.44) = 29.72 \text{ dBm} > 24 \text{ dBm}$ .
4.  $11 \text{ dBm} + 10\log (60.39) = 28.81 \text{ dBm} > 24 \text{ dBm}$ .
5.  $11 \text{ dBm} + 10\log (56.04) = 28.48 \text{ dBm} > 24 \text{ dBm}$ .
6.  $11 \text{ dBm} + 10\log (44.24) = 27.46 \text{ dBm} > 24 \text{ dBm}$ .

**26 dB Bandwidth:**

**802.11a**

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	28.03
40	5200	28.25
48	5240	25.13
52	5260	31.39
60	5300	30.88
64	5320	29.55
100	5500	25.78
116	5580	24.62
140	5700	24.93
144	5720 (U-NII-2C)	16.35
144	5720 (U-NII-3)	6.90

**802.11n (HT20)**

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	23.43
40	5200	26.65
48	5240	23.08
52	5260	23.49
60	5300	28.97
64	5320	33.50
100	5500	22.86
116	5580	22.76
140	5700	22.93
144	5720 (U-NII-2C)	16.20
144	5720 (U-NII-3)	6.28

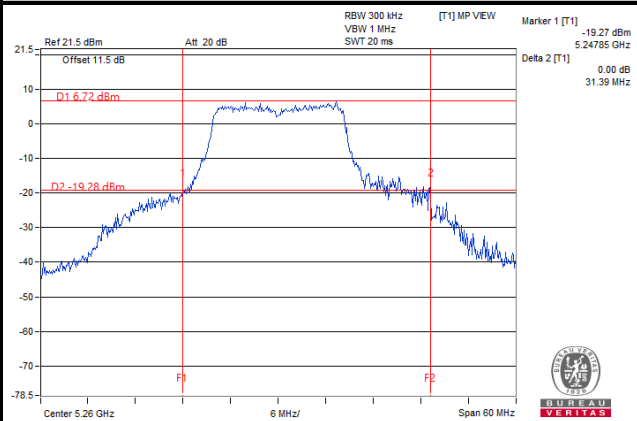


### 802.11n (HT40)

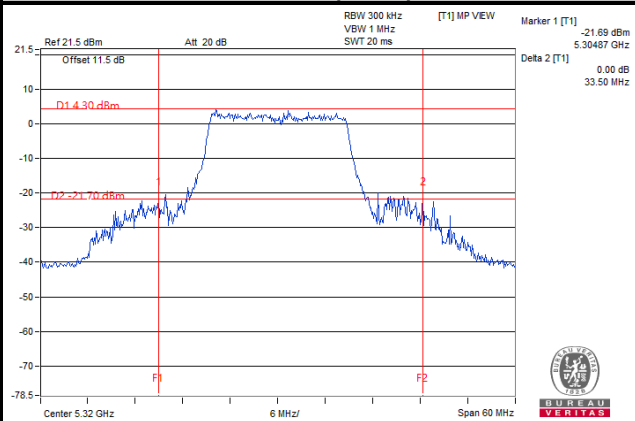
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
38	5190	62.62
46	5230	74.70
54	5270	55.04
62	5310	59.83
102	5510	74.44
110	5550	60.39
134	5670	56.04
142	5710 (U-NII-2C)	44.24
142	5710 (U-NII-3)	18.49

### Spectrum Plot of Worst Value

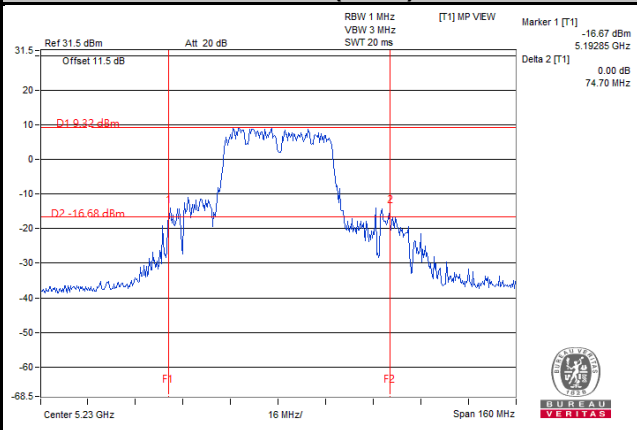
#### 802.11a



#### 802.11n (HT20)

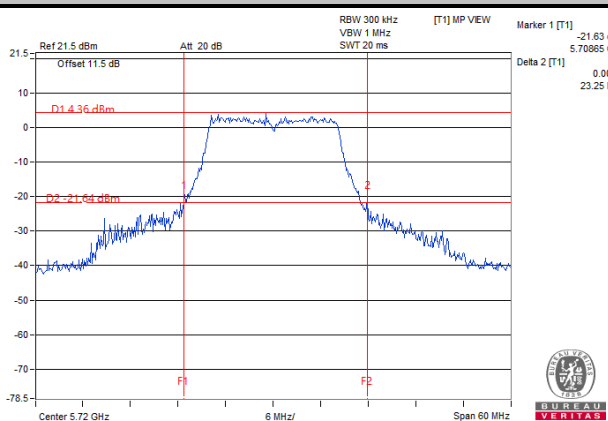


#### 802.11n (HT40)

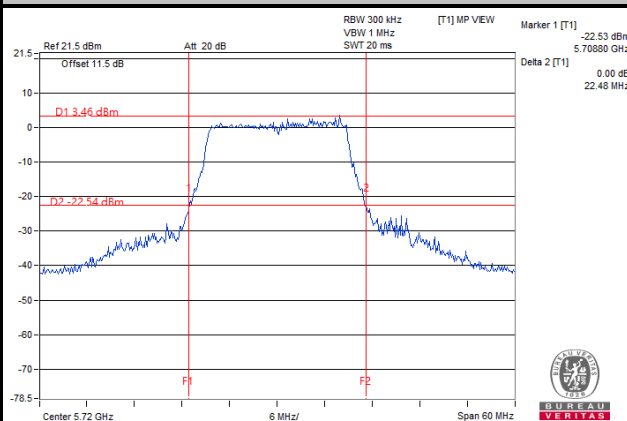


### Straddle channel plots

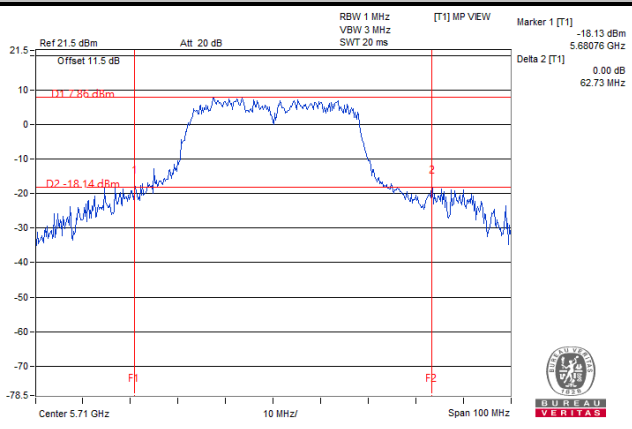
#### 802.11a Channel 144



#### 802.11n (HT20) Channel 144



#### 802.11n (HT40) Channel 142



## EUT MAXIMUM CONDUCTED POWER

### 802.11a

Frequency Band (MHz)	Max. Power		Min. Power	
	Output Power (mW)	Output Power (dBm)	Output Power (mW)	Output Power (dBm)
5250~5350	25.823	14.12	6.486	8.12
5470~5725	21.429	13.31	5.383	7.31

**Note:** Manufacturer provides Transmit Power Control description to meet this requirement.

### 802.11n (HT20)

Frequency Band (MHz)	Max. Power		Min. Power	
	Output Power (mW)	Output Power (dBm)	Output Power (mW)	Output Power (dBm)
5250~5350	17.1	12.33	4.295	6.33
5470~5725	13.677	11.36	3.436	5.36

**Note:** Manufacturer provides Transmit Power Control description to meet this requirement.

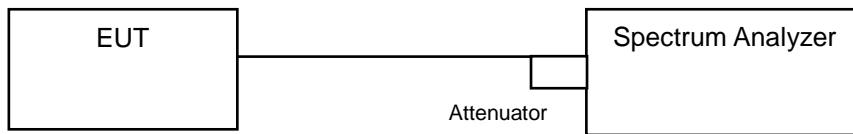
### 802.11n (HT40)

Frequency Band (MHz)	Max. Power		Min. Power	
	Output Power (mW)	Output Power (dBm)	Output Power (mW)	Output Power (dBm)
5250~5350	16.069	12.06	4.036	6.06
5470~5725	13.677	11.36	3.436	5.36

**Note:** Manufacturer provides Transmit Power Control description to meet this requirement.

## 4.4 Occupied Bandwidth Measurement

### 4.4.1 Test Setup



### 4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1 % to 5 % of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to SAMPLE. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

#### 4.4.4 Test Results

##### 802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	17.16
40	5200	17.40
48	5240	17.04
52	5260	17.28
60	5300	17.28
64	5320	17.16
100	5500	17.16
116	5580	17.16
140	5700	16.92
144	5720 (U-NII-2C)	13.52
144	5720 (U-NII-3)	3.52
149	5745	17.16
157	5785	17.04
165	5825	17.04

##### 802.11n (HT20)

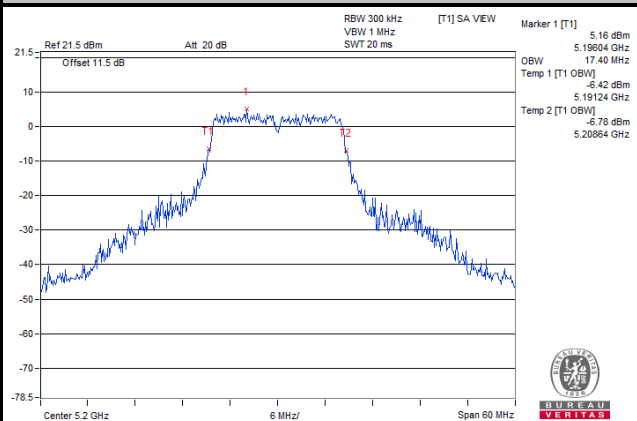
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	18.12
40	5200	18.12
48	5240	18.24
52	5260	18.12
60	5300	18.24
64	5320	18.24
100	5500	18.24
116	5580	18.00
140	5700	18.12
144	5720 (U-NII-2C)	14.00
144	5720 (U-NII-3)	4.12
149	5745	18.12
157	5785	18.00
165	5825	18.00

### 802.11n (HT40)

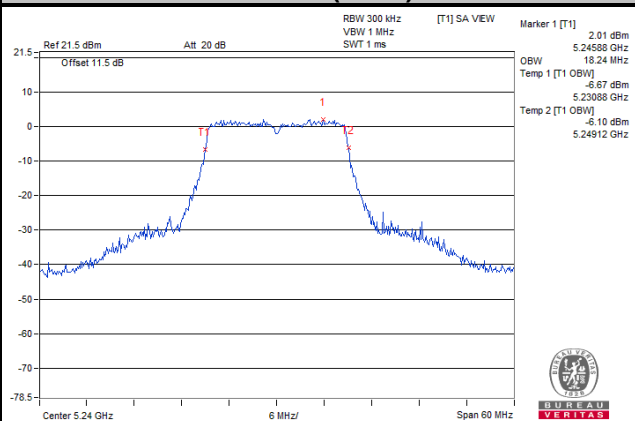
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.60
46	5230	36.84
54	5270	36.84
62	5310	37.08
102	5510	37.20
110	5550	37.08
134	5670	37.08
142	5710 (U-NII-2C)	33.36
142	5710 (U-NII-3)	3.48
151	5755	36.61
159	5795	36.96

### Spectrum Plot of Worst Value

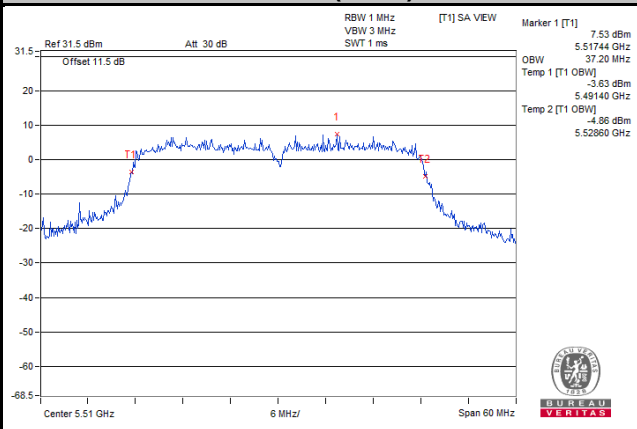
#### 802.11a



#### 802.11n (HT20)



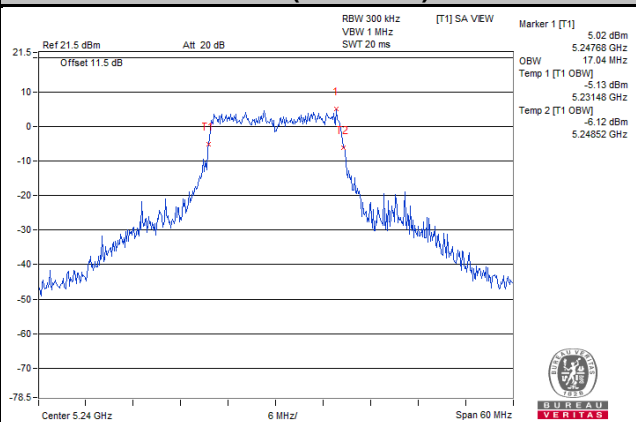
#### 802.11n (HT40)



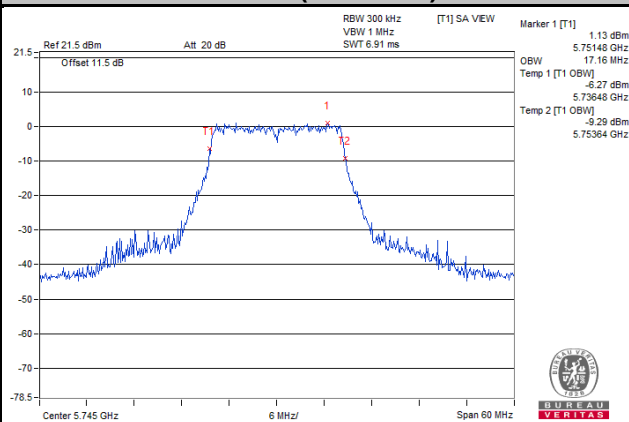
### Spectrum Plot for Nearby DFS Band

#### 802.11a

##### Ch 48 (5240 MHz)

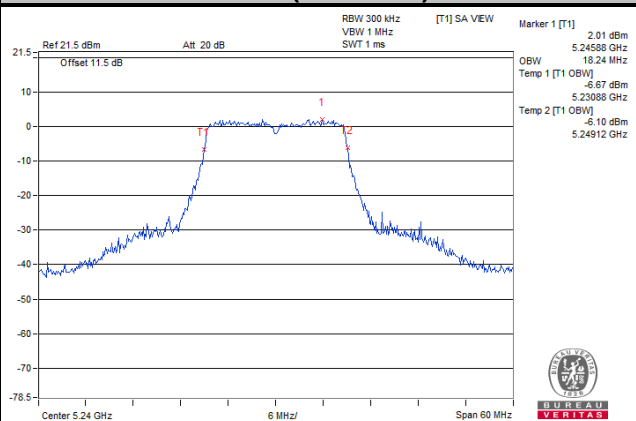


##### Ch 149 (5745 MHz)

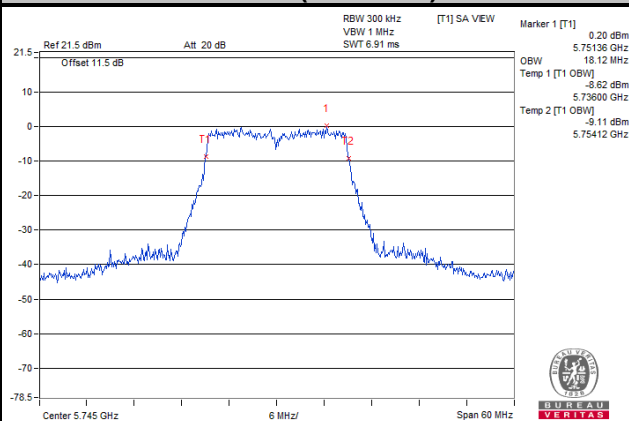


#### 802.11n (HT20)

##### Ch 48 (5240 MHz)

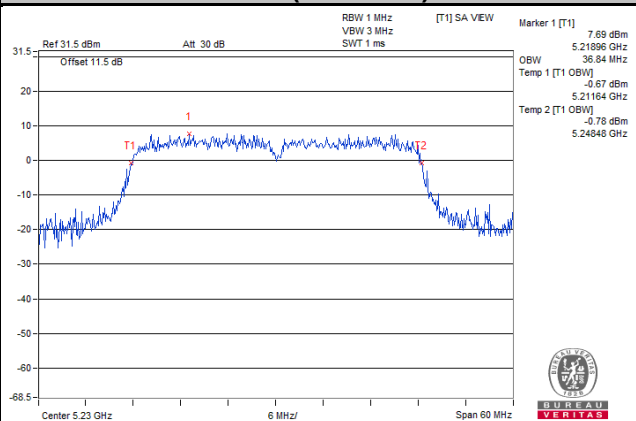


##### Ch 149 (5745 MHz)

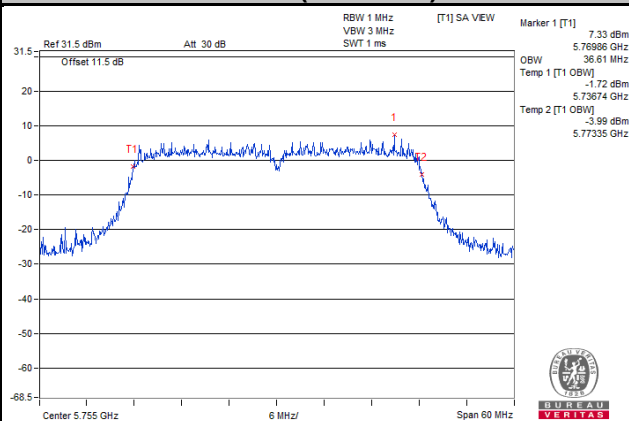


#### 802.11n (HT40)

##### Ch 46 (5230 MHz)



##### Ch 151 (5755 MHz)

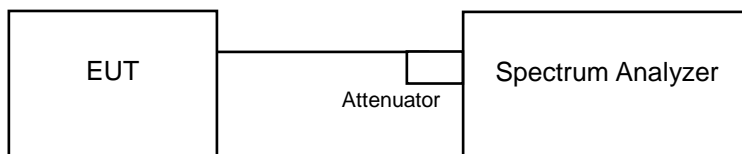


## 4.5 Peak Power Spectral Density Measurement

### 4.5.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	17 dBm/MHz
		Fixed point-to-point Access Point	
		Indoor Access Point	
	√	Mobile and Portable client device	11 dBm/MHz
U-NII-2A		√	11 dBm/MHz
U-NII-2C		√	11 dBm/MHz
U-NII-3		√	30 dBm/500 kHz

### 4.5.2 Test Setup



### 4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.5.4 Test Procedures

#### For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-1 Duty cycle >98%

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 RBW, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value

Using method SA-2 Duty cycle <98%

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 RBW, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and add 10 log (1/duty cycle)



※ **For U-NII-3:** without duty cycle & Duty cycle >98 %

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW  $\geq$  1 RBW, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where  $BWCF = 10\log(500 \text{ kHz} / 300 \text{ kHz})$ .
5. Sweep time = auto, trigger set to "free run".
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value

※ **For U-NII-3:** with duty cycle & Duty cycle <98 %

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW  $\geq$  1 RBW, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where  $BWCF = 10\log(500 \text{ kHz} / 300 \text{ kHz})$ .
5. Sweep time = auto, trigger set to "free run".
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value and add  $10 \log (1/\text{duty cycle})$

#### 4.5.5 Deviation from Test Standard

No deviation.

#### 4.5.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.5.7 Test Results

**For U-NII-1, U-NII-2A, U-NII-2C Band**

**802.11a**

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	-1.04	0.33	-0.71	11	Pass
40	5200	-1.11	0.33	-0.78	11	Pass
48	5240	-0.26	0.33	0.07	11	Pass
52	5260	-0.47	0.33	-0.14	11	Pass
60	5300	0.00	0.33	0.33	11	Pass
64	5320	-0.37	0.33	-0.04	11	Pass
100	5500	-0.60	0.33	-0.27	11	Pass
116	5580	-0.83	0.33	-0.50	11	Pass
140	5700	-1.82	0.33	-1.49	11	Pass
144	5720 (U-NII-2C)	-1.89	0.33	-1.56	11	Pass

**Note:** Refer to section 3.3 for duty cycle spectrum plot.

**802.11n (HT20)**

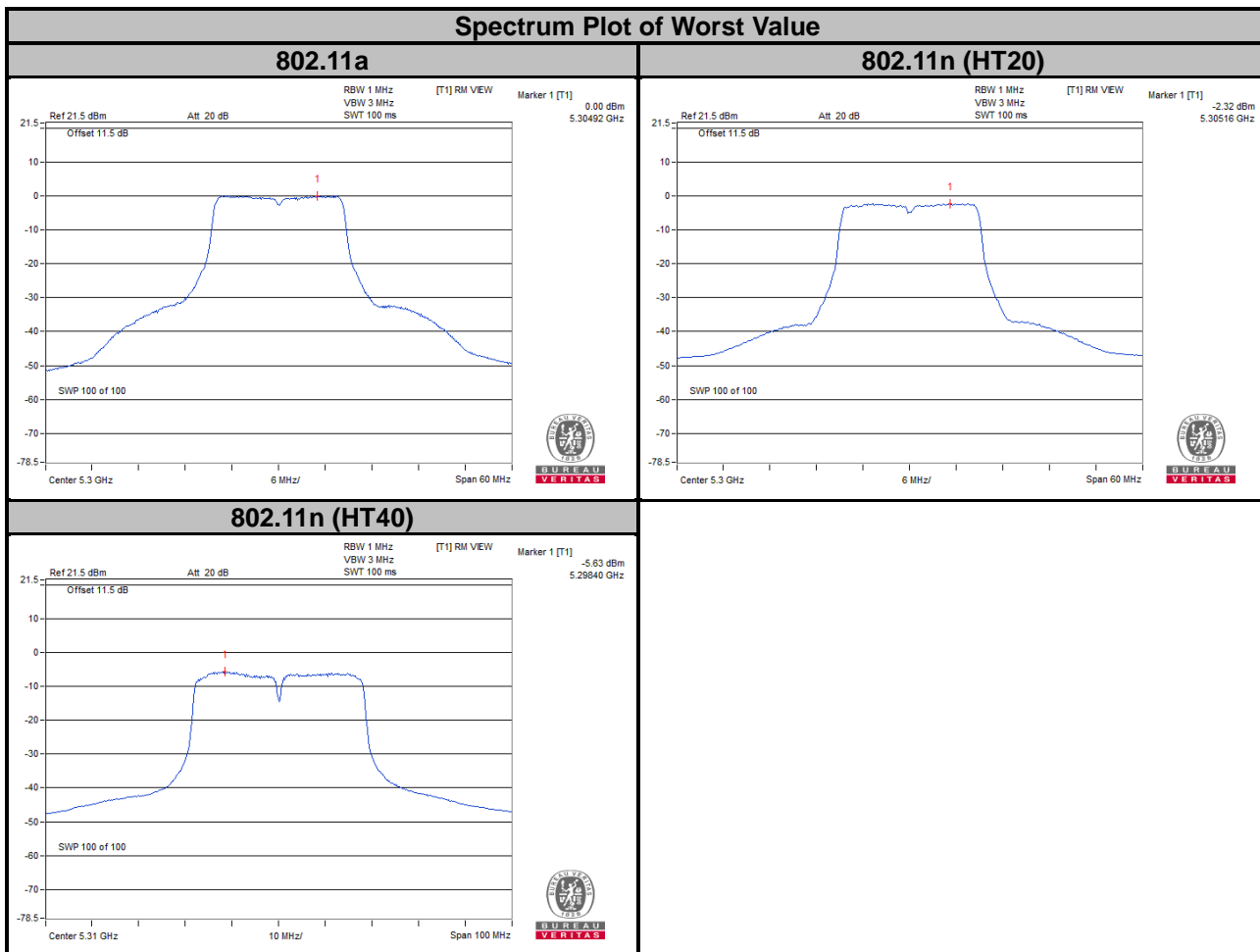
Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	-2.62	0.40	-2.22	11	Pass
40	5200	-2.66	0.40	-2.26	11	Pass
48	5240	-2.55	0.40	-2.15	11	Pass
52	5260	-2.60	0.40	-2.20	11	Pass
60	5300	-2.32	0.40	-1.92	11	Pass
64	5320	-2.43	0.40	-2.03	11	Pass
100	5500	-3.63	0.40	-3.23	11	Pass
116	5580	-4.02	0.40	-3.62	11	Pass
140	5700	-3.49	0.40	-3.09	11	Pass
144	5720 (U-NII-2C)	-3.62	0.40	-3.22	11	Pass

**Note:** Refer to section 3.3 for duty cycle spectrum plot.

### 802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
38	5190	-6.32	0.55	-5.77	11	Pass
46	5230	-5.92	0.55	-5.37	11	Pass
54	5270	-6.13	0.55	-5.58	11	Pass
62	5310	-5.63	0.55	-5.08	11	Pass
102	5510	-6.48	0.55	-5.93	11	Pass
110	5550	-7.34	0.55	-6.79	11	Pass
134	5670	-7.29	0.55	-6.74	11	Pass
142	5710 (U-NII-2C)	-7.06	0.55	-6.51	11	Pass

**Note:** Refer to section 3.3 for duty cycle spectrum plot.



**For U-NII-3 Band**

**802.11a**

Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
144	5720 (U-NII-3)	-11.29	-9.07	0.33	-8.74	30	Pass
149	5745	-11.29	-9.07	0.33	-8.74	30	Pass
157	5785	-11.14	-8.92	0.33	-8.59	30	Pass
165	5825	-10.86	-8.64	0.33	-8.31	30	Pass

**Note:** Refer to section 3.3 for duty cycle spectrum plot.

**802.11n (HT20)**

Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
144	5720 (U-NII-3)	-12.65	-10.43	0.4	-10.03	30	Pass
149	5745	-13.17	-10.95	0.4	-10.55	30	Pass
157	5785	-12.73	-10.51	0.4	-10.11	30	Pass
165	5825	-12.85	-10.63	0.4	-10.23	30	Pass

**Note:** Refer to section 3.3 for duty cycle spectrum plot.

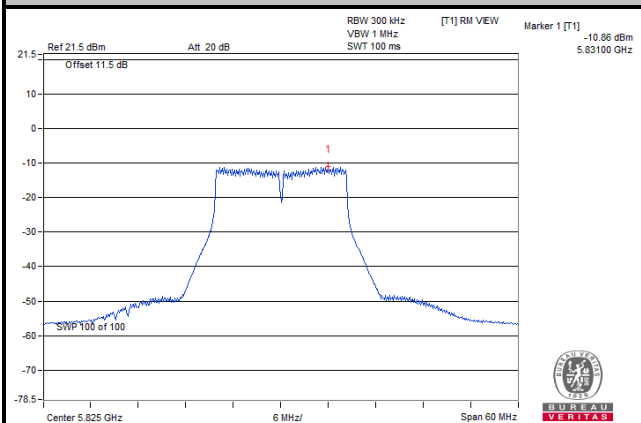
**802.11n (HT40)**

Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
142	5710 (U-NII-3)	-16.57	-14.35	0.55	-13.8	30	Pass
151	5755	-17.26	-15.04	0.55	-14.49	30	Pass
159	5795	-16.88	-14.66	0.55	-14.11	30	Pass

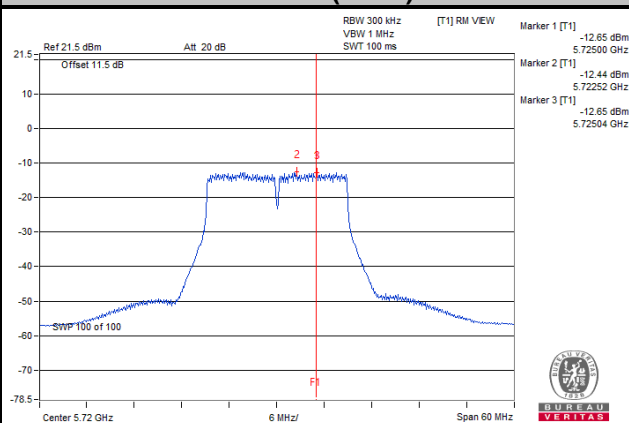
**Note:** Refer to section 3.3 for duty cycle spectrum plot.

### Spectrum Plot of Worst Value

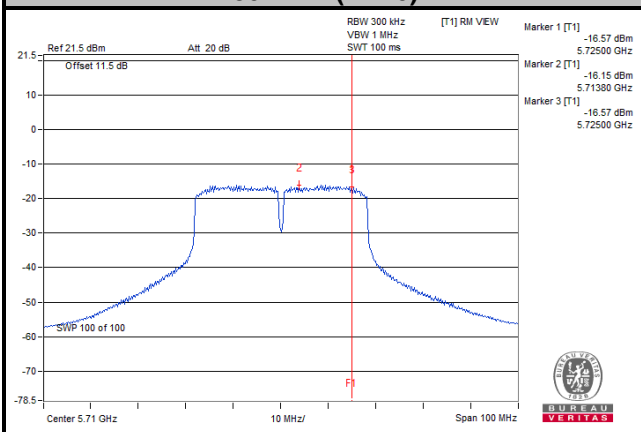
#### 802.11a



#### 802.11n (HT20)



#### 802.11n (HT40)

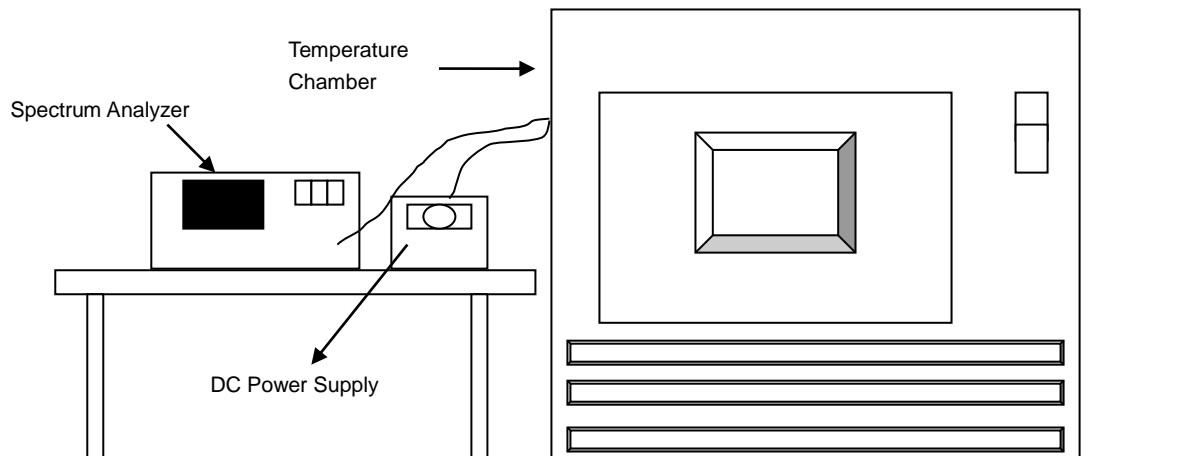


## 4.6 Frequency Stability

### 4.6.1 Limit of Frequency Stability Measurement

The frequency of the carrier signal shall be maintained within band of operation.

### 4.6.2 Test Setup



### 4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
- Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

### 4.6.5 Deviation from Test Standard

No deviation.

### 4.6.6 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

#### 4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
45	3.7	5180.0236	PASS	5180.0265	PASS	5180.0276	PASS	5180.0242	PASS
40	3.7	5179.9842	PASS	5179.9886	PASS	5179.9863	PASS	5179.986	PASS
30	3.7	5180.0271	PASS	5180.0253	PASS	5180.0249	PASS	5180.0244	PASS
20	3.7	5179.9753	PASS	5179.9744	PASS	5179.9759	PASS	5179.9775	PASS
10	3.7	5179.9887	PASS	5179.988	PASS	5179.9873	PASS	5179.9858	PASS
0	3.7	5179.9778	PASS	5179.9757	PASS	5179.9793	PASS	5179.9758	PASS

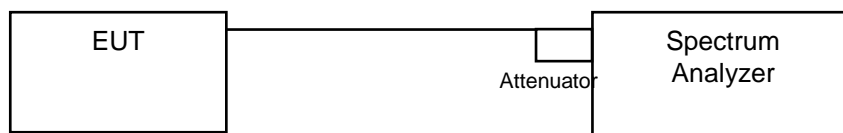
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	4.255	5179.9745	PASS	5179.9752	PASS	5179.9769	PASS	5179.9774	PASS
	3.7	5179.9753	PASS	5179.9744	PASS	5179.9759	PASS	5179.9775	PASS
	3.145	5179.9743	PASS	5179.9745	PASS	5179.9766	PASS	5179.9784	PASS

## 4.7 6 dB Bandwidth Measurement

### 4.7.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

### 4.7.2 Test Setup



### 4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.7.4 Test Procedure

#### MEASUREMENT PROCEDURE REF

- Set resolution bandwidth (RBW) = 100 kHz
- Set the video bandwidth (VBW)  $\geq 3 \times$  RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

### 4.7.5 Deviation from Test Standard

No deviation.

### 4.7.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



#### 4.7.7 Test Results

##### 802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 (U-NII-3)	3.22	0.5	Pass
149	5745	16.35	0.5	Pass
157	5785	16.56	0.5	Pass
165	5825	16.62	0.5	Pass

##### 802.11n (HT20)

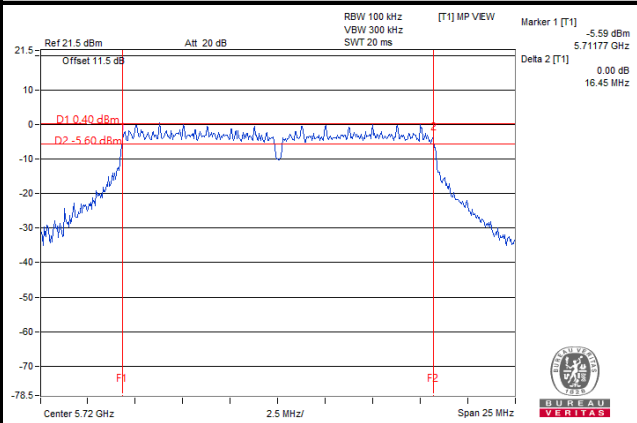
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 (U-NII-3)	3.86	0.5	Pass
149	5745	17.69	0.5	Pass
157	5785	17.80	0.5	Pass
165	5825	17.65	0.5	Pass

##### 802.11n (HT40)

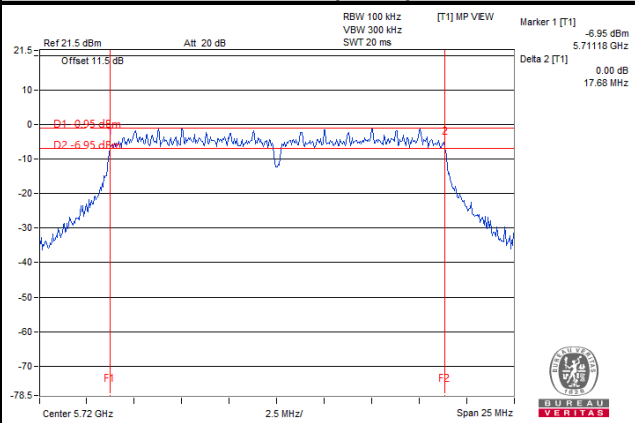
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
142	5710 (U-NII-3)	0.13	0.5	Pass
151	5755	35.75	0.5	Pass
159	5795	35.70	0.5	Pass

### Spectrum Plot of Worst Value

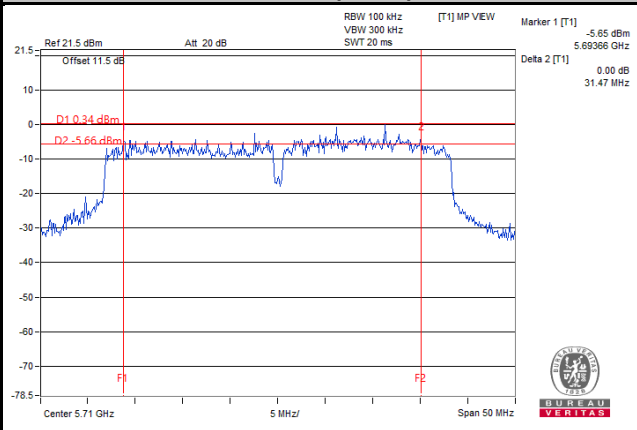
#### 802.11a



#### 802.11n (HT20)



#### 802.11n (HT40)



**Note:**

For Ch144 (UNII-3 Band): The 6 dB bandwidth above 5725 MHz = Marker 1 + Delta 2 – 5725 MHz  
 For Ch142 (UNII-3 Band): The 6 dB bandwidth above 5725 MHz = Marker 1 + Delta 2 – 5725 MHz

## 5 Pictures of Test Arrangements

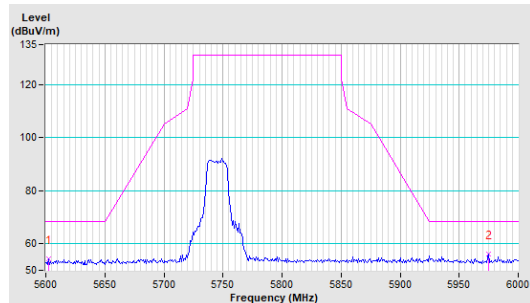
Please refer to the attached file (Test Setup Photo).

## Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

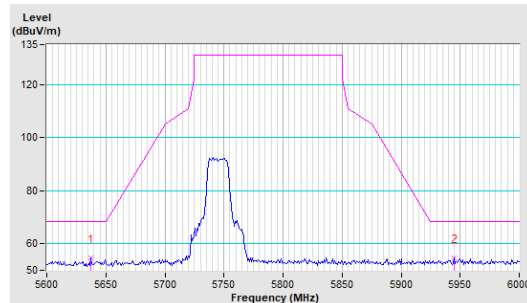
802.11a

**CH 149 5745 MHz**

**Horizontal**

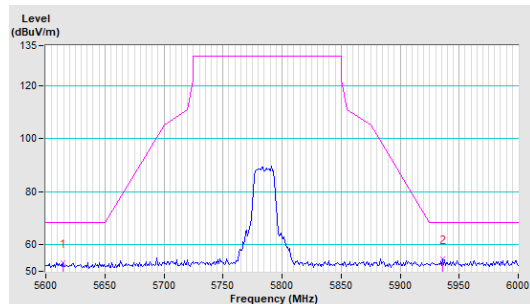


**Vertical**

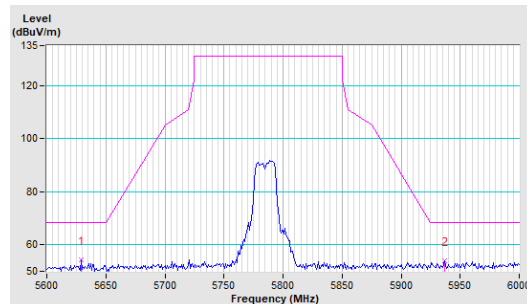


**CH 157 5785 MHz**

**Horizontal**

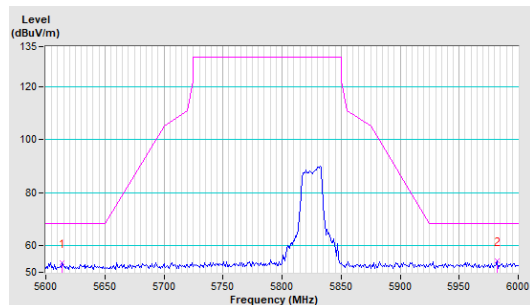


**Vertical**

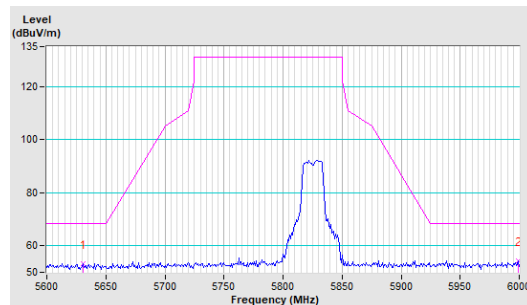


**CH 165 5825 MHz**

**Horizontal**



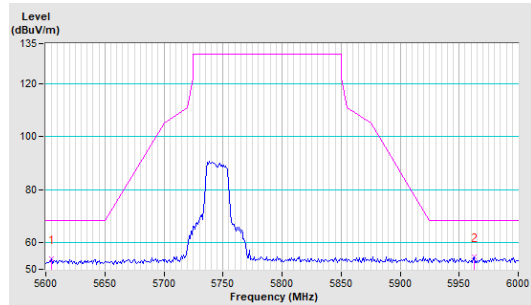
**Vertical**



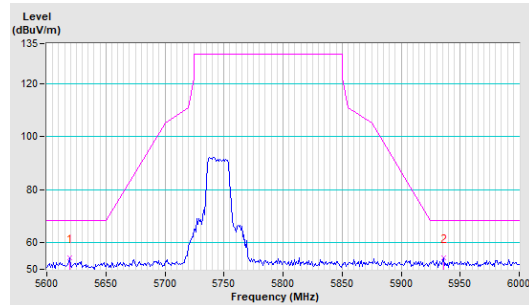
### 802.11n (HT20)

#### CH 149 5745 MHz

##### Horizontal

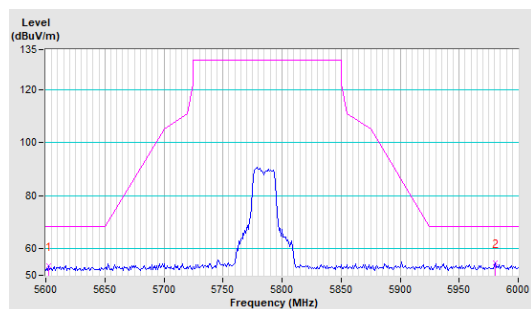


##### Vertical

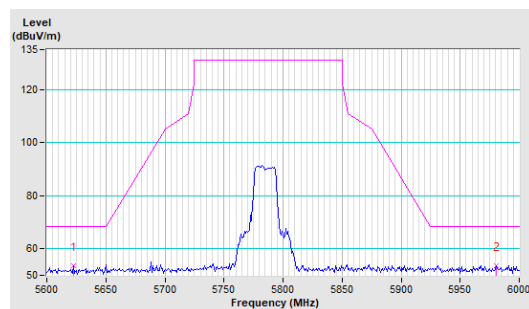


#### CH 157 5785 MHz

##### Horizontal

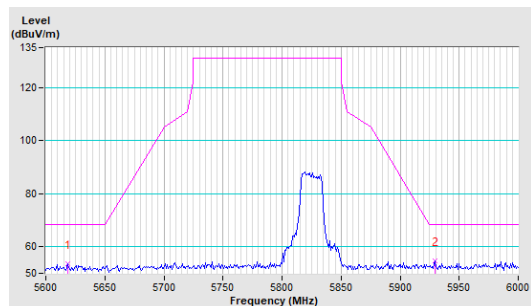


##### Vertical

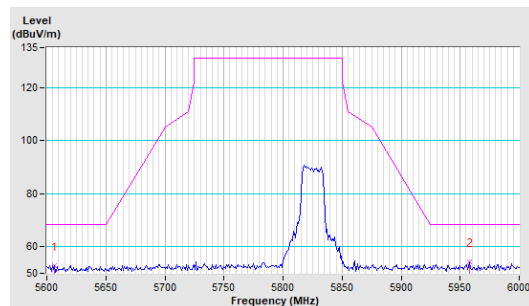


#### CH 165 5825 MHz

##### Horizontal



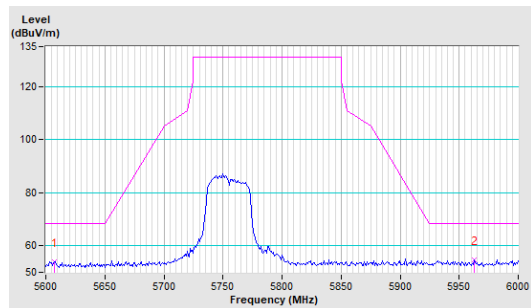
##### Vertical



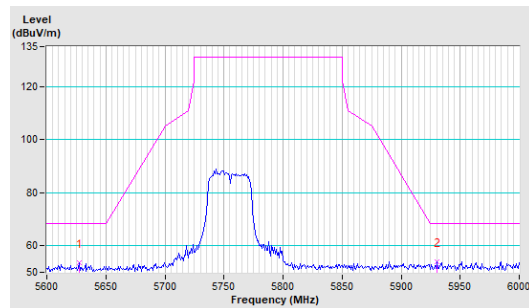
802.11n (HT40)

CH 151 5755 MHz

Horizontal

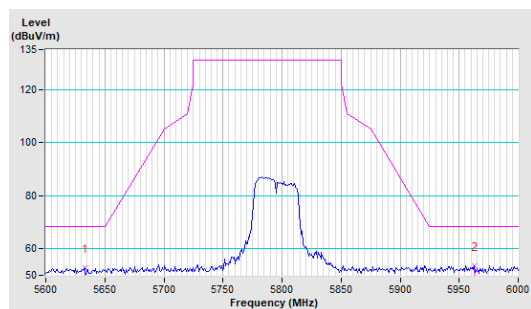


Vertical

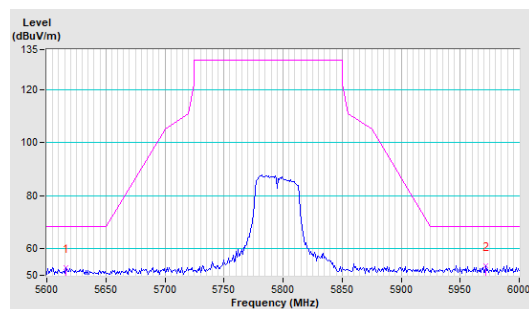


CH 159 5795 MHz

Horizontal

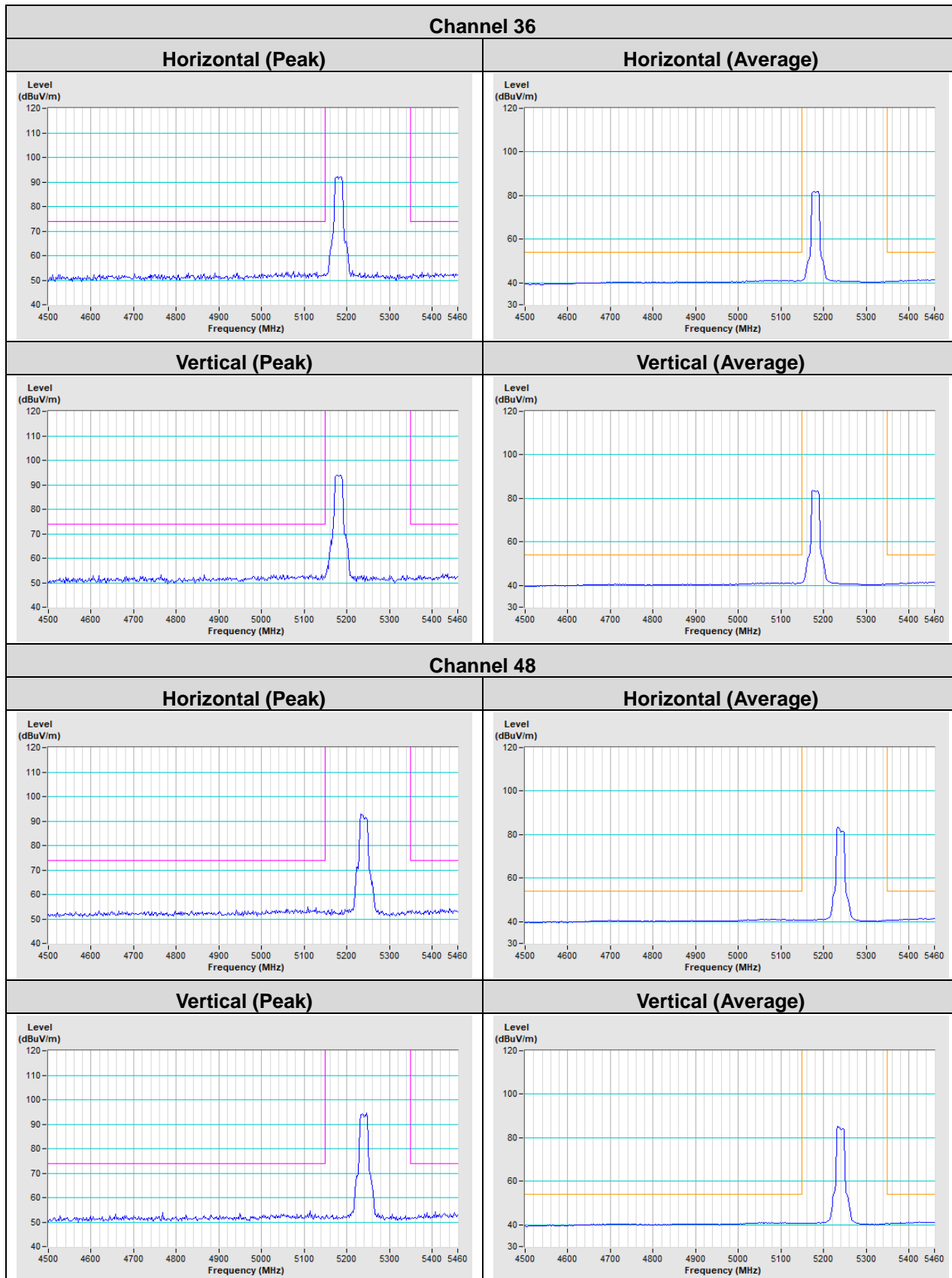


Vertical



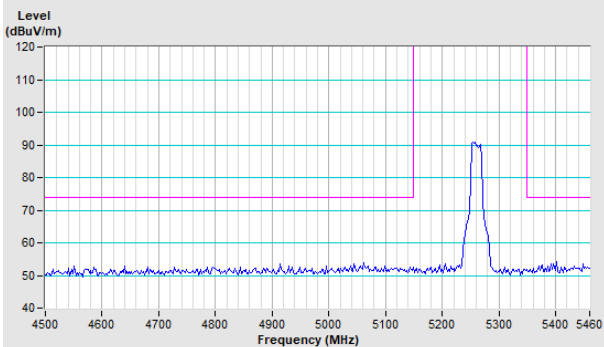
# Annex B- Band Edge Measurement

## 802.11a

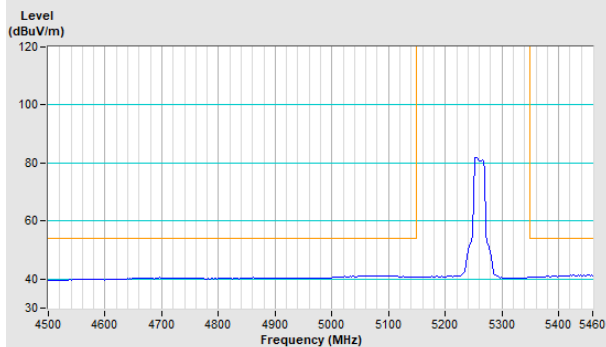


### Channel 52

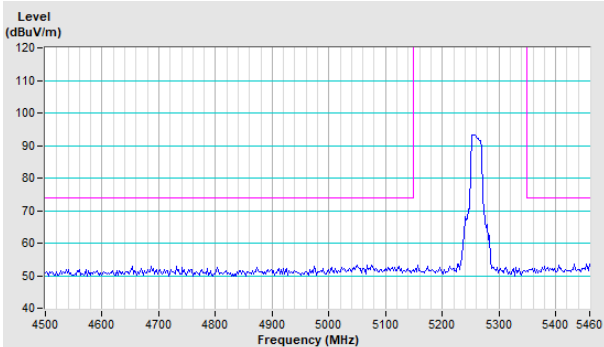
#### Horizontal (Peak)



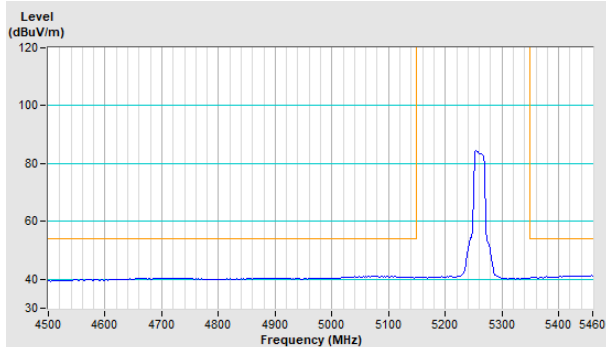
#### Horizontal (Average)



#### Vertical (Peak)

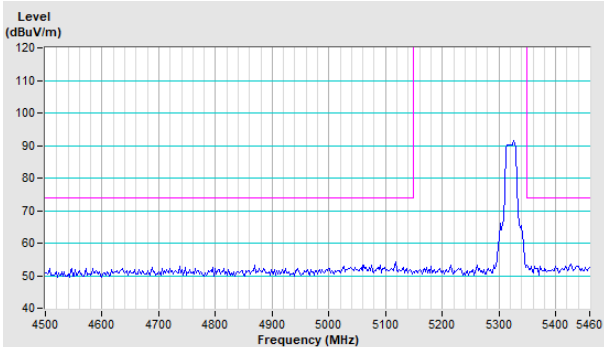


#### Vertical (Average)

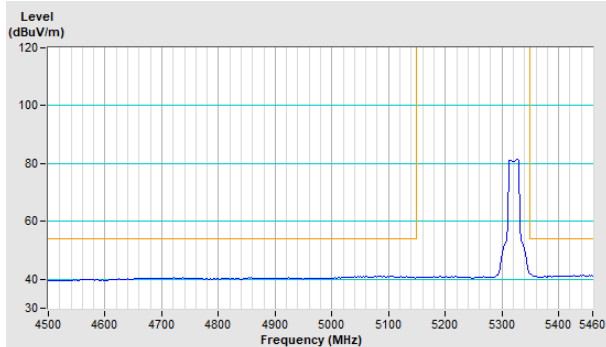


### Channel 64

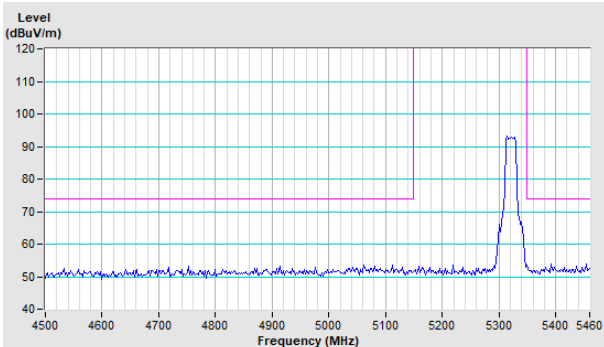
#### Horizontal (Peak)



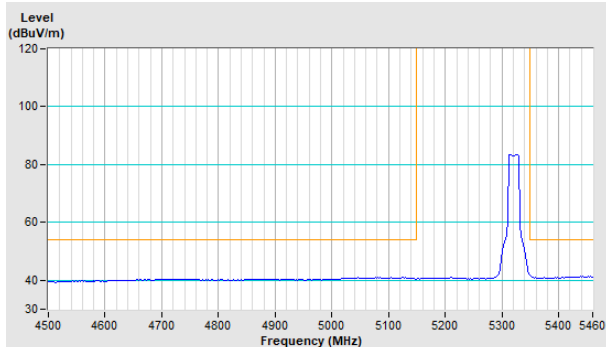
#### Horizontal (Average)



#### Vertical (Peak)

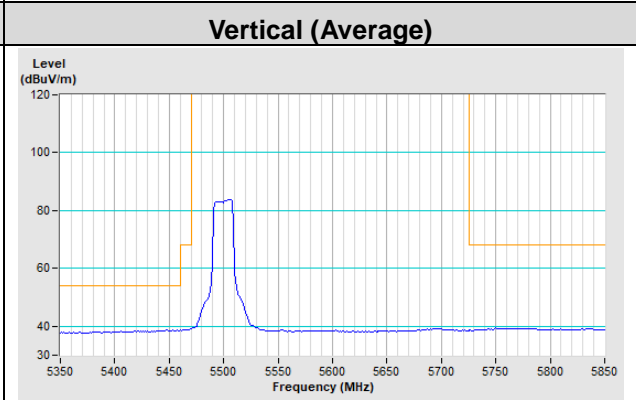
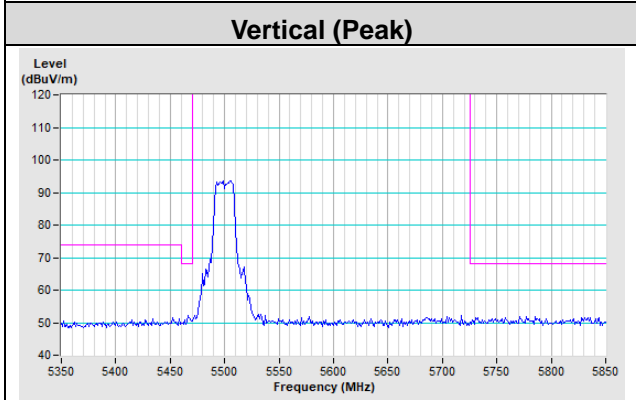
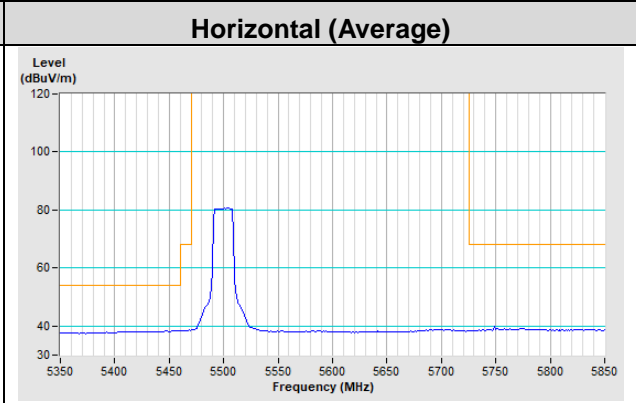
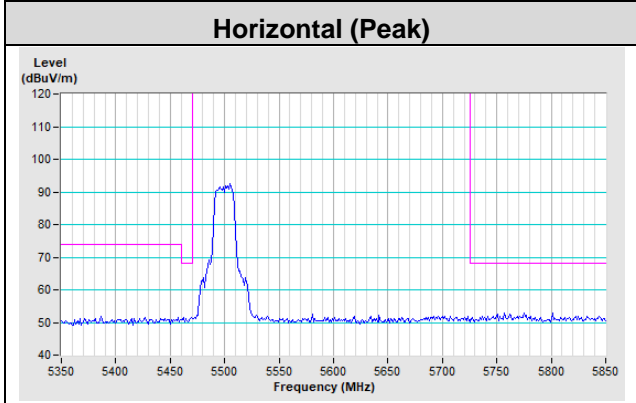


#### Vertical (Average)



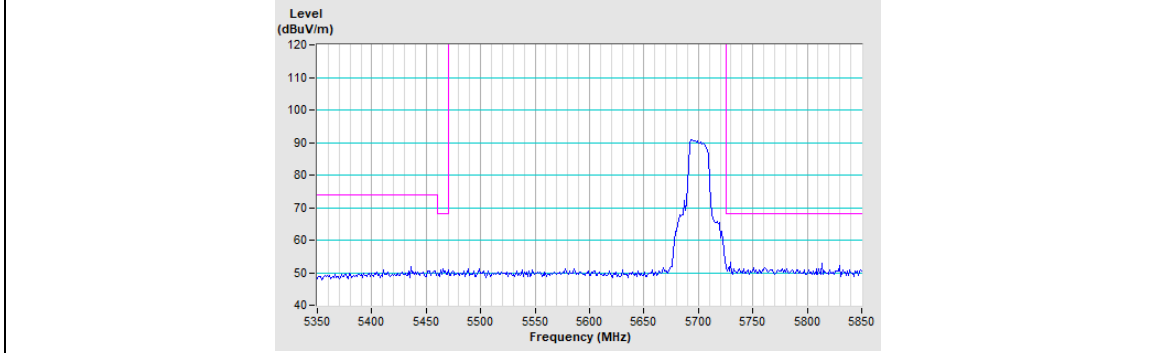


**Channel 100**

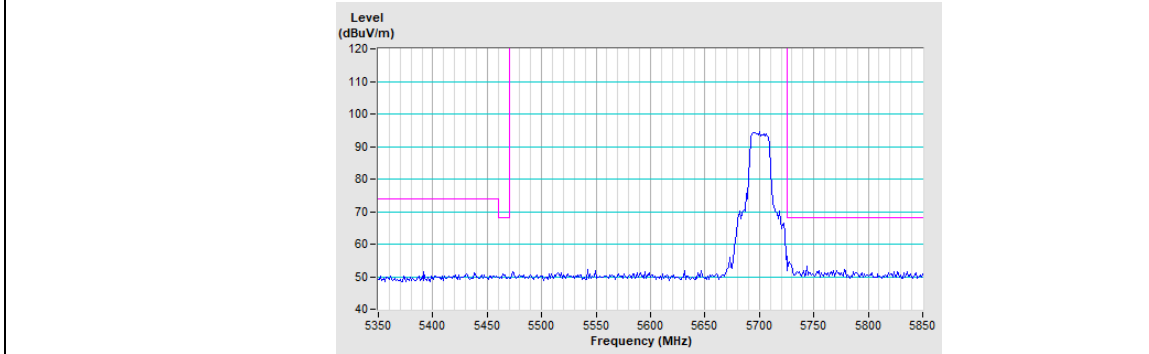


**Channel 140**

**Horizontal (Peak)**

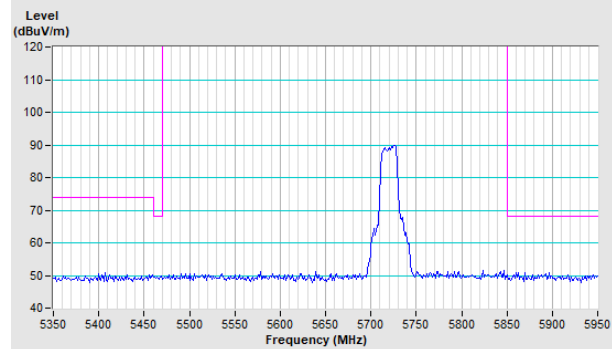


**Vertical (Peak)**

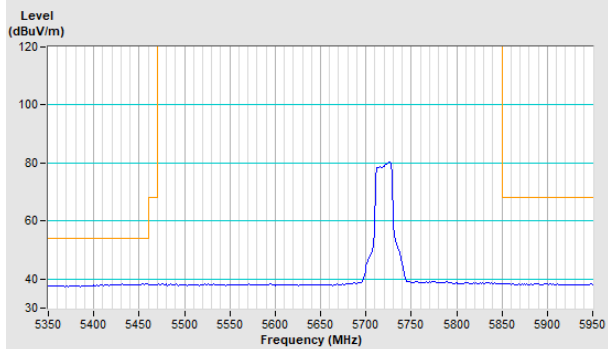


### Channel 144

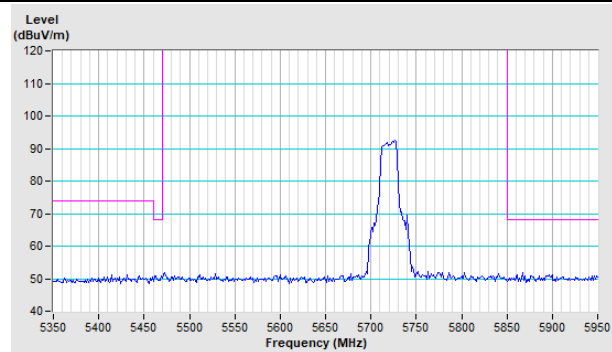
#### Horizontal (Peak)



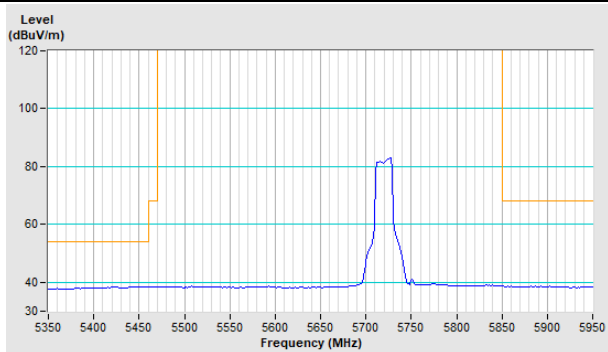
#### Horizontal (Average)



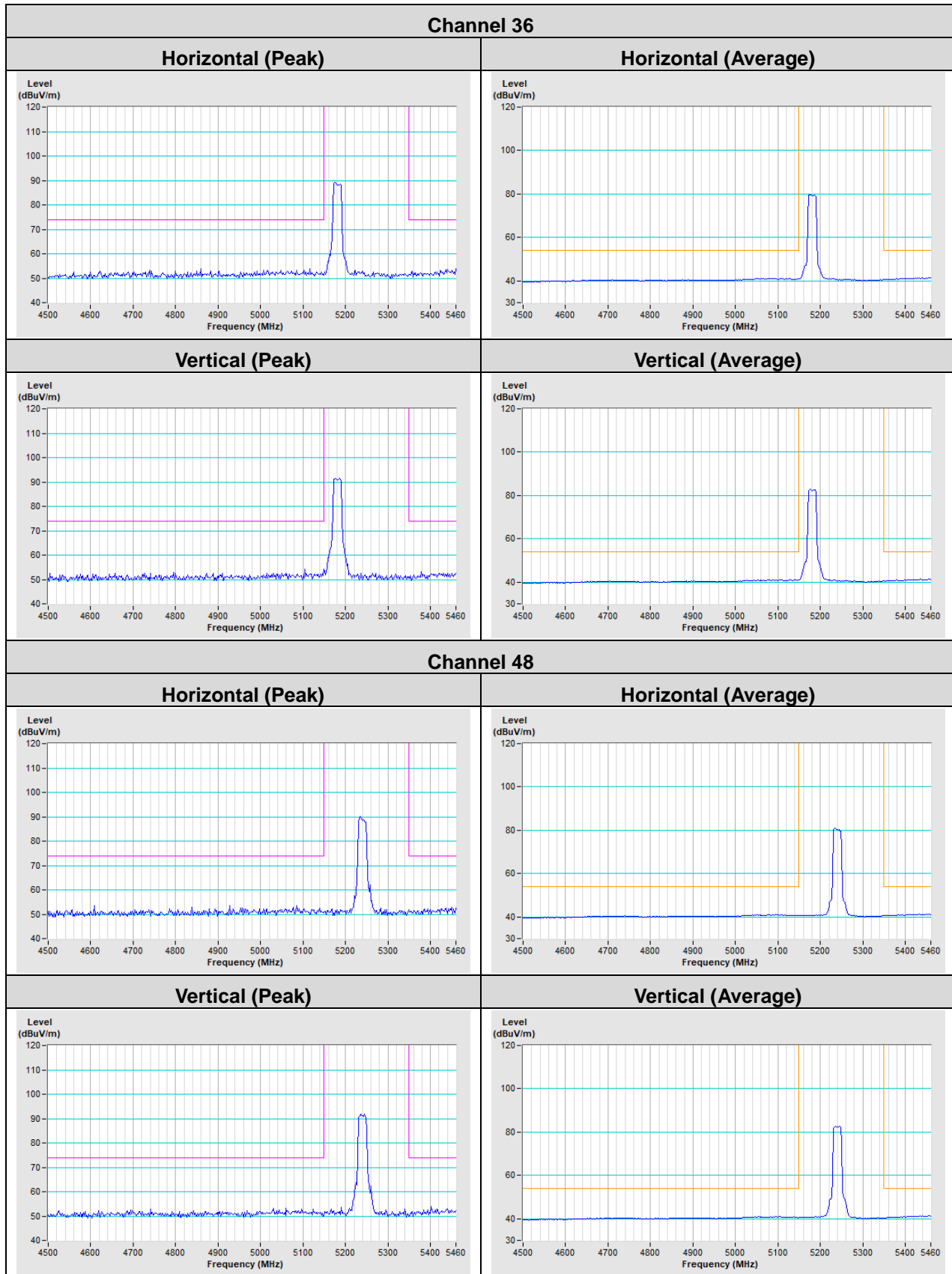
#### Vertical (Peak)



#### Vertical (Average)

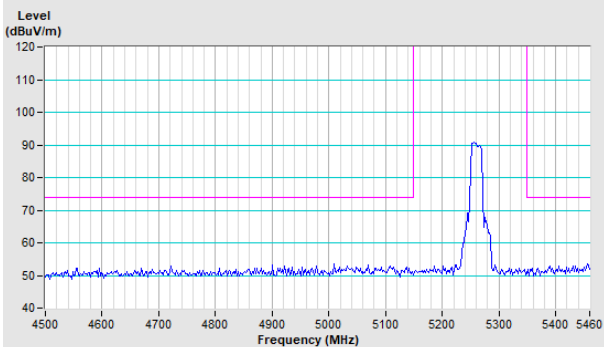


802.11n (HT20)

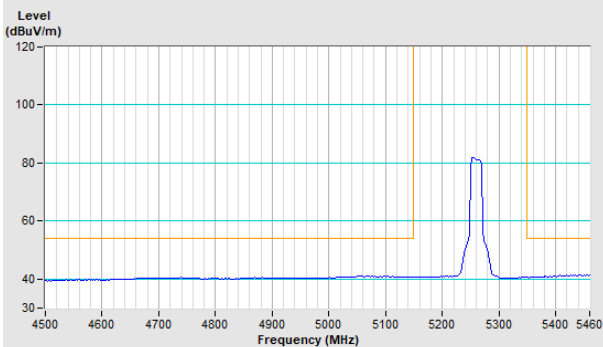


### Channel 52

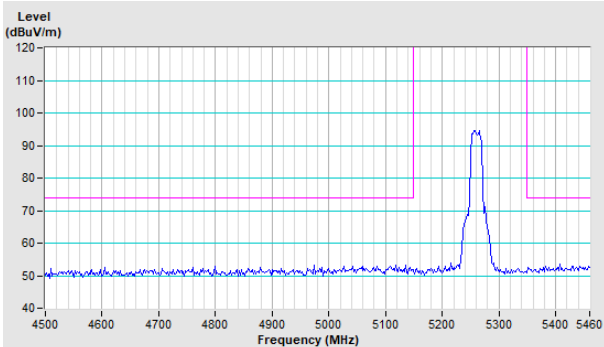
#### Horizontal (Peak)



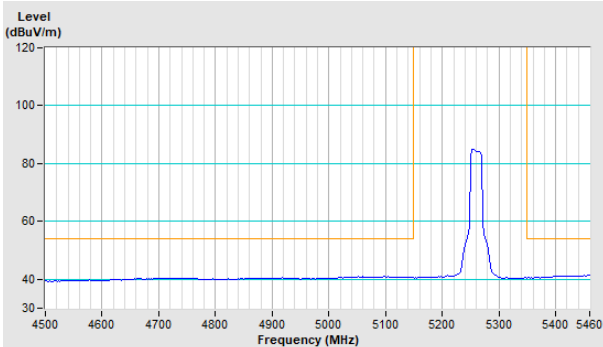
#### Horizontal (Average)



#### Vertical (Peak)

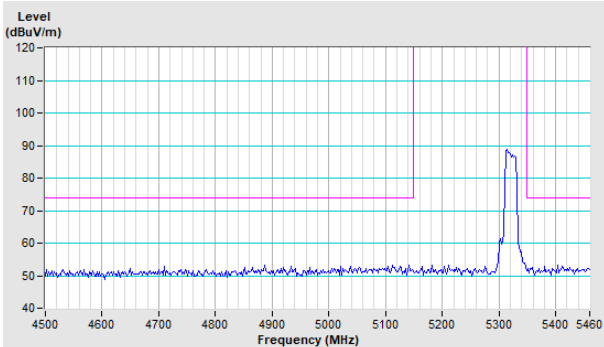


#### Vertical (Average)

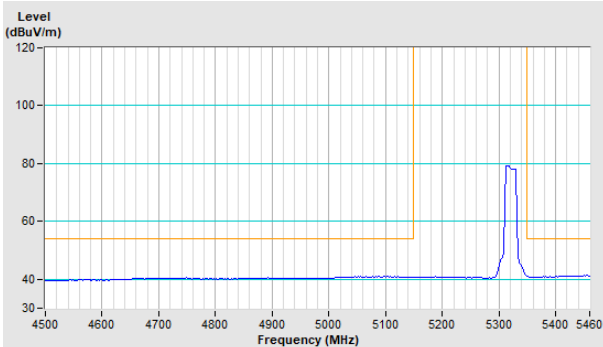


### Channel 64

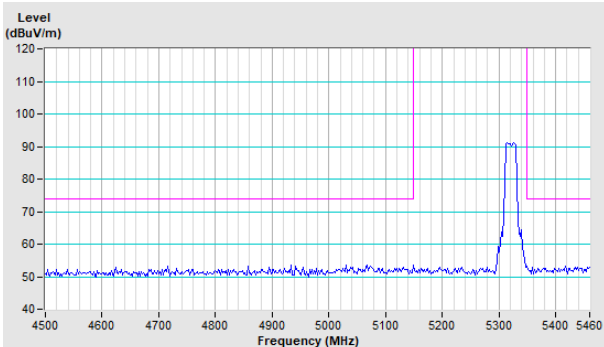
#### Horizontal (Peak)



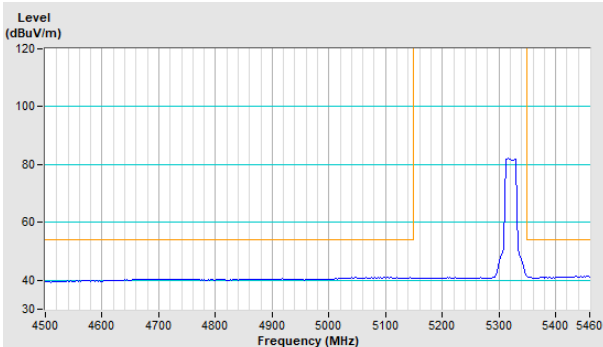
#### Horizontal (Average)



#### Vertical (Peak)

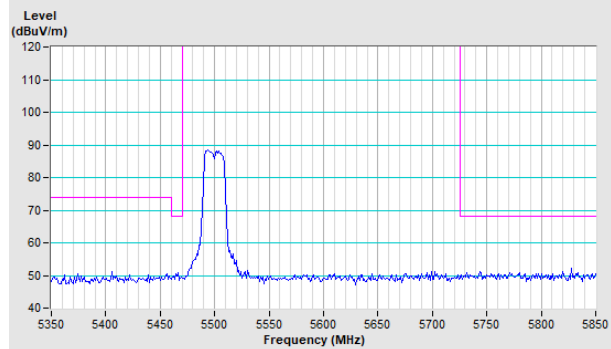


#### Vertical (Average)

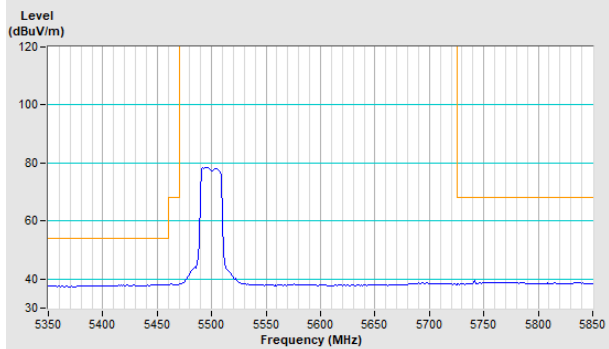


### Channel 100

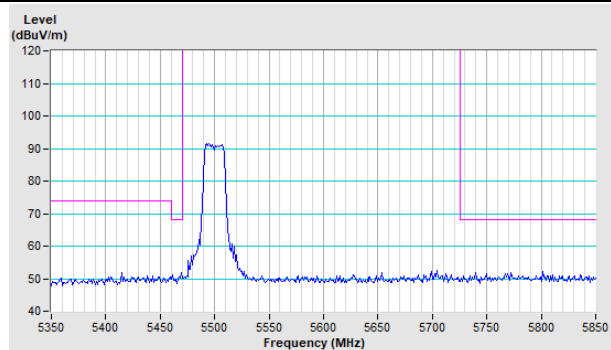
#### Horizontal (Peak)



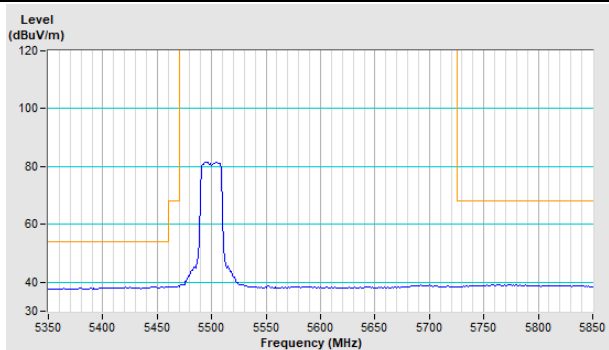
#### Horizontal (Average)



#### Vertical (Peak)

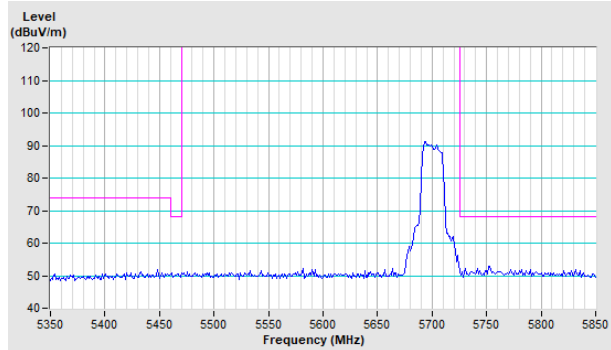


#### Vertical (Average)

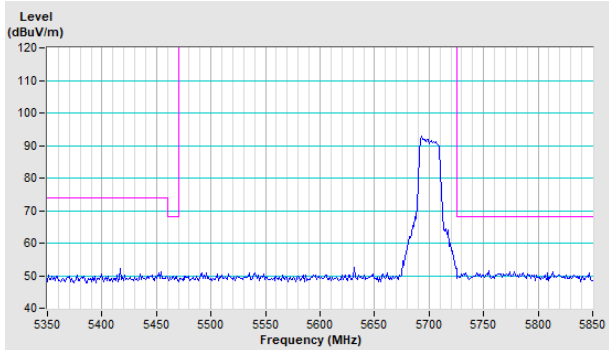


### Channel 140

#### Horizontal (Peak)

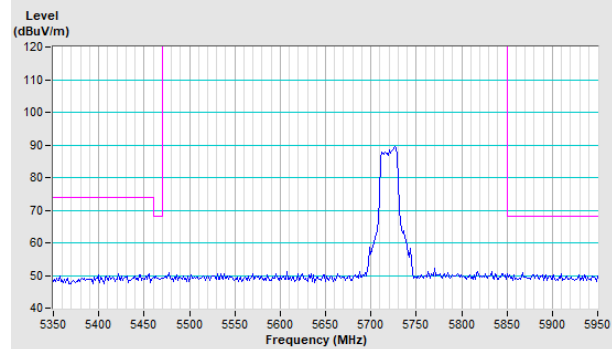


#### Vertical (Peak)

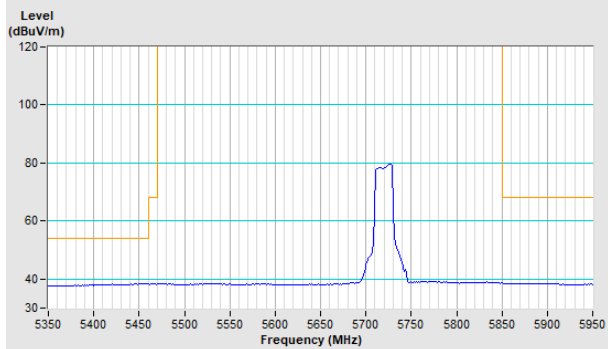


### Channel 144

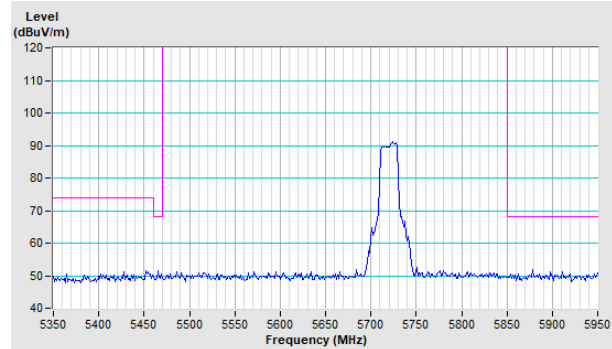
#### Horizontal (Peak)



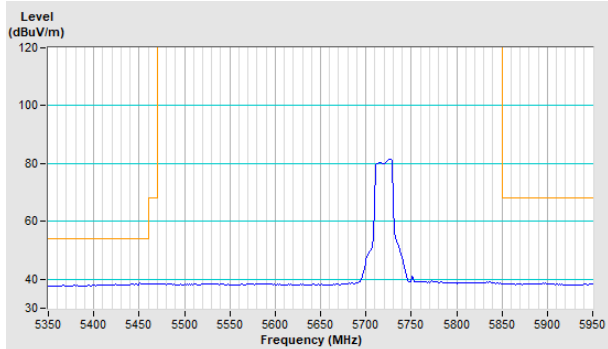
#### Horizontal (Average)



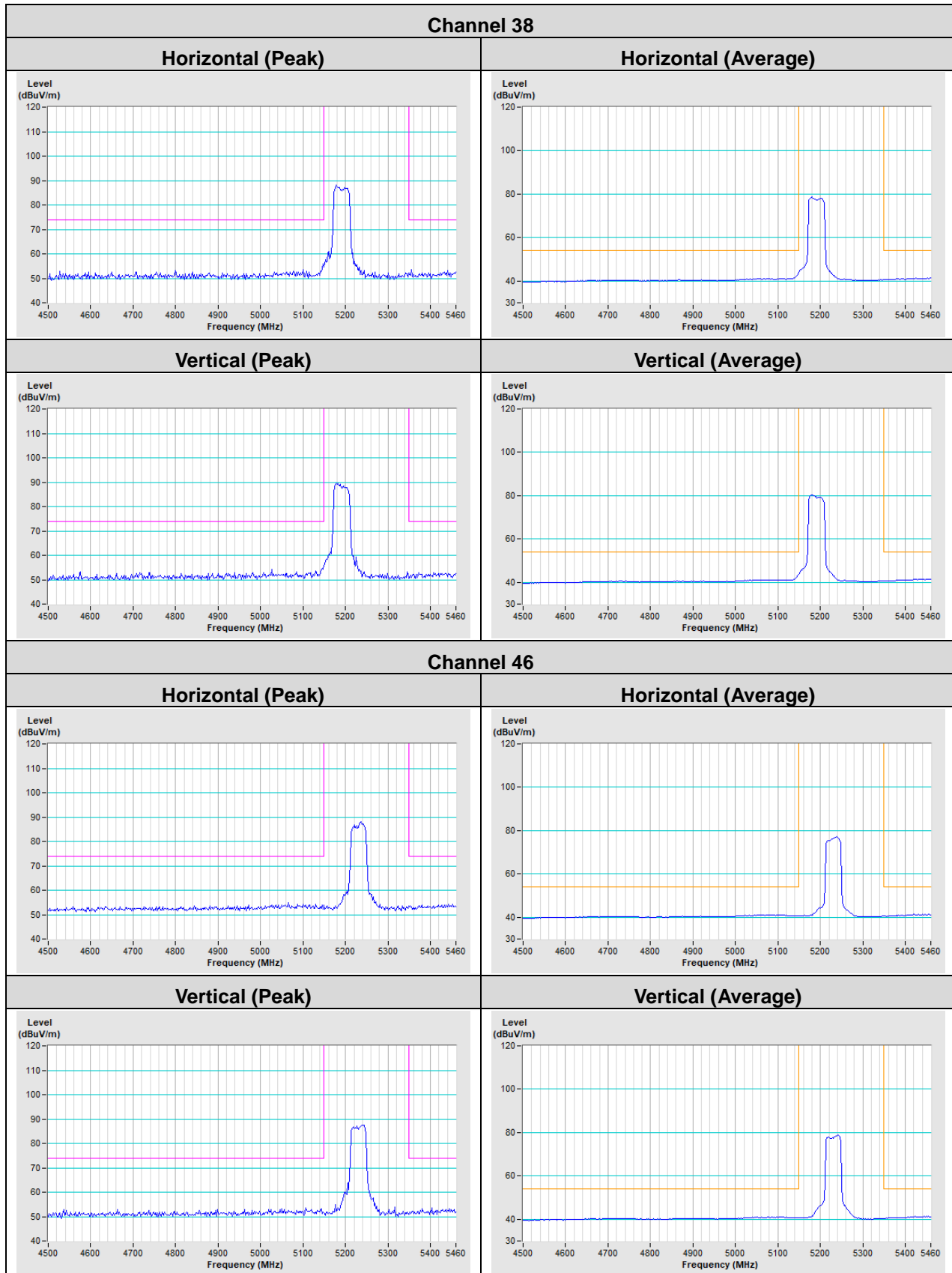
#### Vertical (Peak)



#### Vertical (Average)

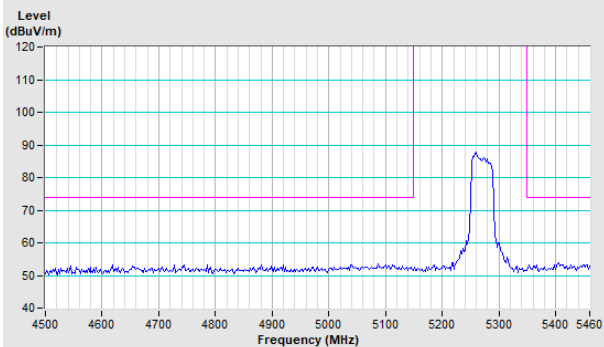


802.11n (HT40)

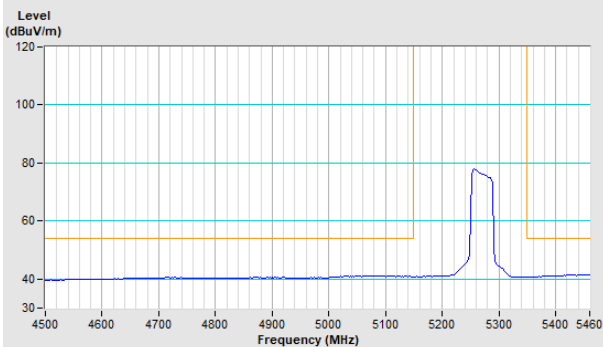


### Channel 54

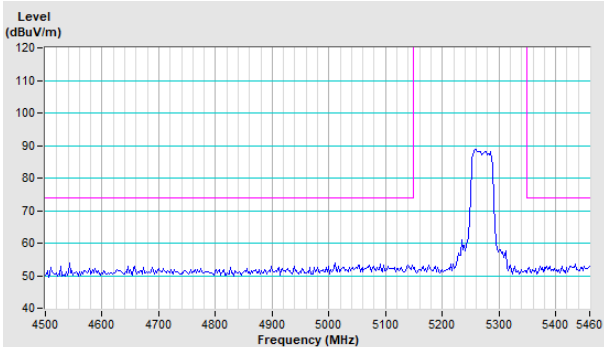
#### Horizontal (Peak)



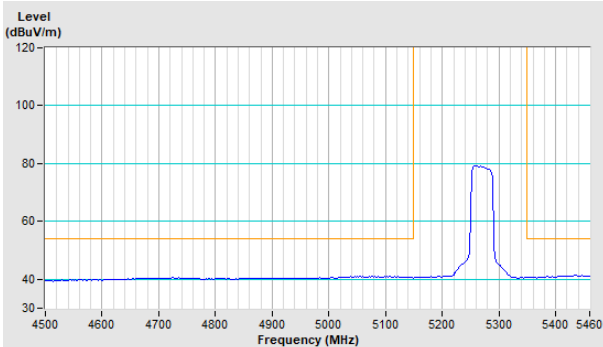
#### Horizontal (Average)



#### Vertical (Peak)

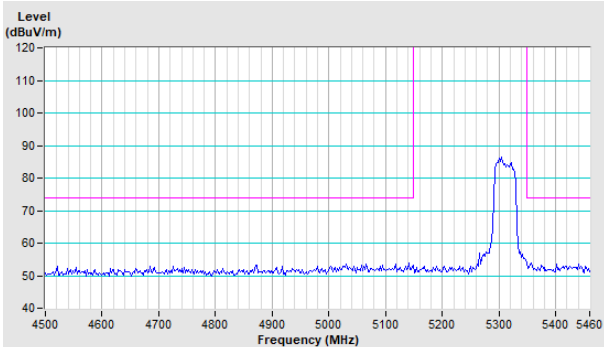


#### Vertical (Average)

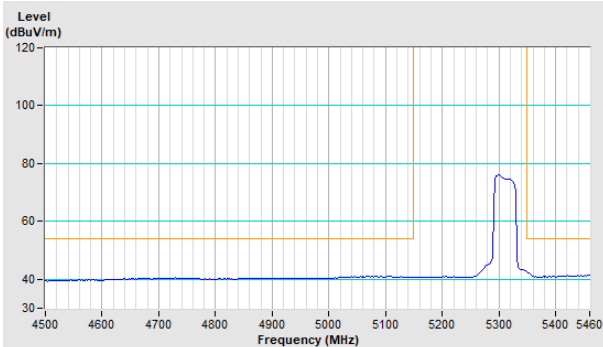


### Channel 62

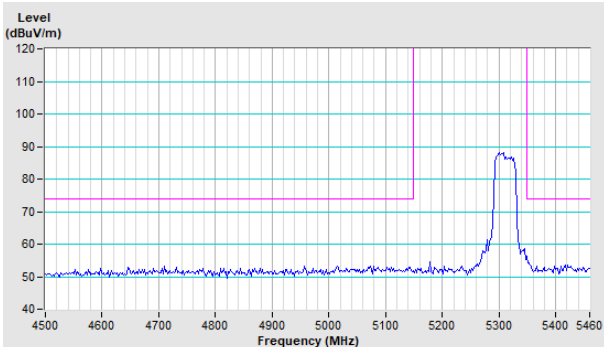
#### Horizontal (Peak)



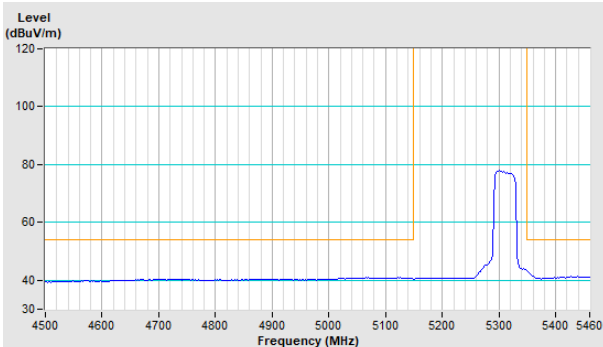
#### Horizontal (Average)



#### Vertical (Peak)



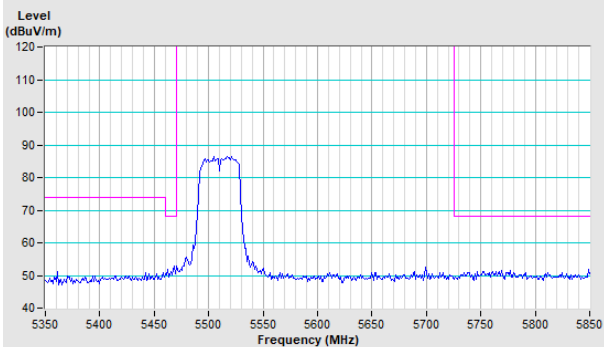
#### Vertical (Average)



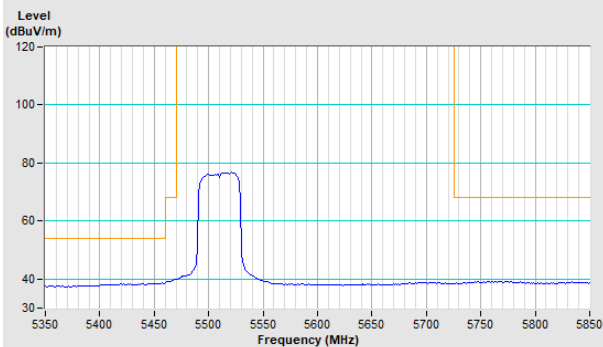


### Channel 102

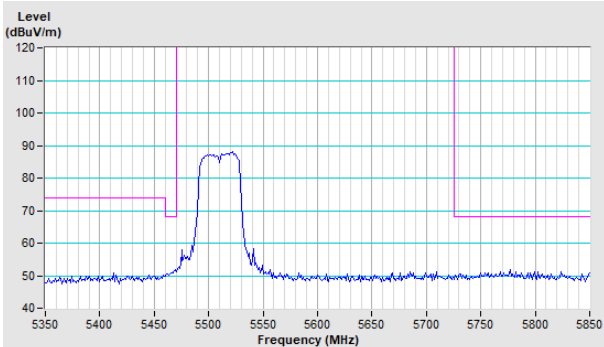
#### Horizontal (Peak)



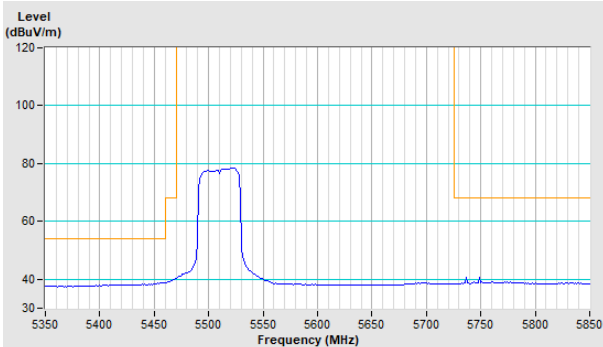
#### Horizontal (Average)



#### Vertical (Peak)

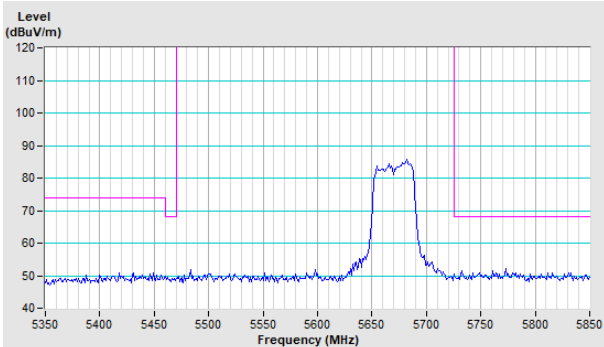


#### Vertical (Average)

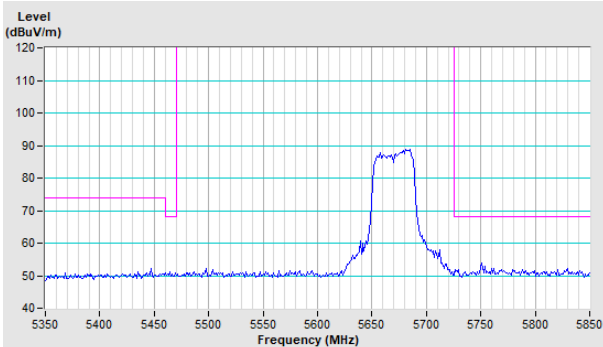


### Channel 134

#### Horizontal (Peak)

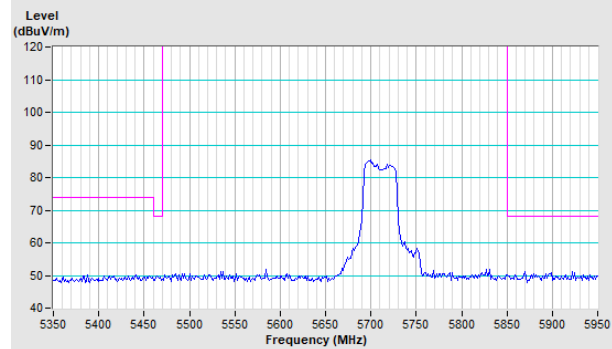


#### Vertical (Peak)

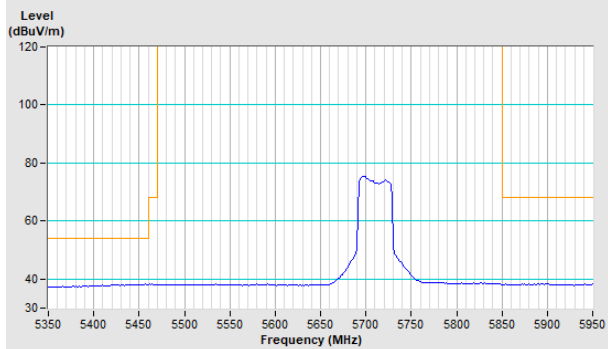


### Channel 142

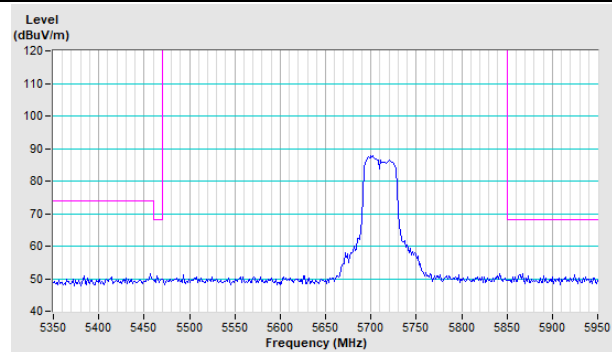
#### Horizontal (Peak)



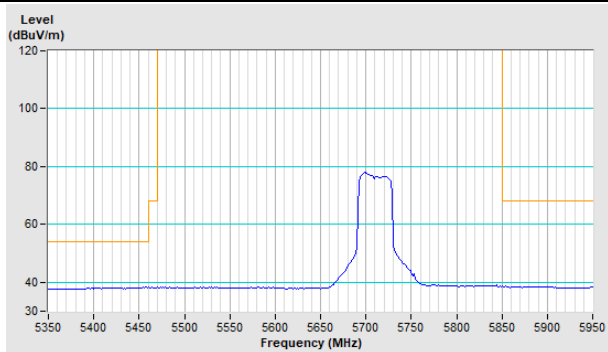
#### Horizontal (Average)



#### Vertical (Peak)



#### Vertical (Average)



## Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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The address and road map of all our labs can be found in our web site also.

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