

FCC Test Report (WLAN)

Report No.: RF190103E03-1

FCC ID: COF-WMBACBM25

Test Model: WM-BAC-BM-25

Received Date: Jan. 03, 2019

Test Date: Mar. 14 to 15, 2019

Issued Date: Mar. 22, 2019

Applicant: UNIVERSAL GLOBAL SCIENTIFIC INDUSTRIAL CO., LTD.

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**FCC Registration /
Designation Number:** 723255 / TW2022



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Release Control Record

Issue No.	Description	Date Issued
RF190103E03-1	Original release.	Mar. 22, 2019

1 Certificate of Conformity

Product: 802.11a/b/g/n/ac + BT 4.1 Module

Brand: USI

Test Model: WM-BAC-BM-25

Sample Status: ENGINEERING SAMPLE

Applicant: UNIVERSAL GLOBAL SCIENTIFIC INDUSTRIAL CO., LTD.

Test Date: Mar. 14 to 15, 2019

Standard: 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 EMC characteristics under the conditions specified in this report.

Prepared by : Wendy Wu , **Date:** Mar. 22, 2019
Wendy Wu / Specialist

Approved by : May Chen , **Date:** Mar. 22, 2019
May Chen / Manager

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 -23.32dB at 18.30469MHz.
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 -1.1dB at 5725.00MHz, 5150.00MHz, 5470.00MHz, 5460.00MHz.
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)	6dB 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.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.

Note:

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	150kHz ~ 30MHz	1.8 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.1 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.1 dB
	6GHz ~ 18GHz	5.0 dB
	18GHz ~ 40GHz	5.2 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (WLAN)

Product	802.11a/b/g/n/ac + BT 4.1 Module
Brand	USI
Test Model	WM-BAC-BM-25
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 3.6V from host equipment
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 150Mbps 802.11ac: up to 433.3Mbps
Operating Frequency	2.4GHz: 2.412 ~ 2.462GHz 5GHz: 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.70GHz, 5.745 ~ 5.825GHz
Number of Channel	2.4GHz: 802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7 5GHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 24 802.11n (HT40), 802.11ac (VHT40): 11 802.11ac (VHT80): 5
Output Power	2.4GHz: 292.415mW 5GHz: 5.18 ~ 5.24GHz: 92.897mW 5.26 ~ 5.32GHz: 83.368mW 5.50 ~ 5.70GHz: 85.507mW 5.745 ~ 5.825GHz: 181.134mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. There are WLAN and Bluetooth technology used for the EUT.
2. Simultaneously transmission condition.

Condition	Technology	
1	WLAN (2.4GHz)	Bluetooth
2	WLAN (5GHz)	Bluetooth

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

3. The antenna provided to the EUT, please refer to the following table:

Antenna No.	Brand	Model	Ant. Net Gain (dBi)	Frequency range (GHz)	Antenna Type	Connector Type
1	YANGO	ANT3216A063R2455A	1.59	2.4~2.4835	Ceramic Chip Antenna	None
			2.23	5.15~5.85		

4. The EUT incorporates a SISO function.

2.4GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11b	1TX	1RX
802.11g	1TX	1RX
802.11n (HT20)	1TX	1RX
802.11n (HT40)	1TX	1RX
5GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11a	1TX	1RX
802.11n (HT20)	1TX	1RX
802.11n (HT40)	1TX	1RX
802.11ac (VHT20)	1TX	1RX
802.11ac (VHT40)	1TX	1RX
802.11ac (VHT80)	1TX	1RX

Note:

1. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and 802.11ac mode for 20MHz (40MHz), therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

5. 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 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210 MHz

FOR 5260 ~ 5320MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290 MHz

FOR 5500 ~ 5700MHz

11 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

5 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz		

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	122	5610 MHz

FOR 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE $\geq$ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

NOTE:

- The EUT's antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane (below 1GHz) & Z-plane (above 1GHz)**.

Radiated Emission Test (Above 1GHz):

- ☒ 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.

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11ac (VHT40)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11ac (VHT80)		42	42	OFDM	BPSK	29.3
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6
802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 122	106, 122	OFDM	BPSK	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3

Radiated Emission Test (Below 1GHz):

- ☒ 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.

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11ac (VHT40)	5180-5240	38 to 46	159	OFDM	BPSK	13.5
	5260-5320	54 to 62				
	5500-5700	102 to 134				
	5745-5825	151 to 159				

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.

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11ac (VHT40)	5180-5240	38 to 46	159	OFDM	BPSK	13.5
	5260-5320	54 to 62				
	5500-5700	102 to 134				
	5745-5825	151 to 159				

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.

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11ac (VHT40)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11ac (VHT80)		42	42	OFDM	BPSK	29.3
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6
802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 122	106, 122	OFDM	BPSK	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3

Test Condition:

Applicable To	Environmental Conditions	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	Frank Chuang
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Frank Chuang
PLC	25deg. C, 68%RH	120Vac, 60Hz	Frank Chuang
APCM	21deg. C, 60%RH	120Vac, 60Hz	Jyunchun Lin

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is < 98 %, duty factor shall be considered.

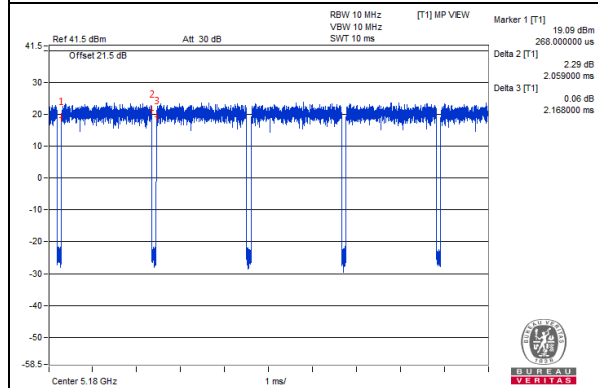
802.11a: Duty cycle = 2.059 ms/2.168 ms = 0.95, Duty factor = $10 * \log(1/0.95) = 0.22$

802.11ac (VHT20): Duty cycle = 1.928 ms/2.034 ms = 0.948, Duty factor = $10 * \log(1/0.948) = 0.23$

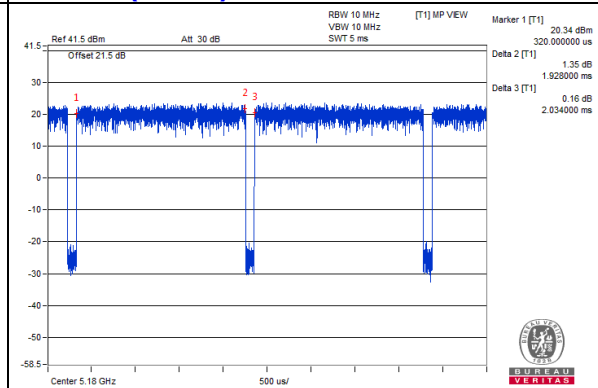
802.11ac (VHT40): Duty cycle = 0.952 ms/1.058 ms = 0.90, Duty factor = $10 * \log(1/0.90) = 0.46$

802.11ac (VHT80): Duty cycle = 0.458 ms/0.57 ms = 0.804, Duty factor = $10 * \log(1/0.804) = 0.95$

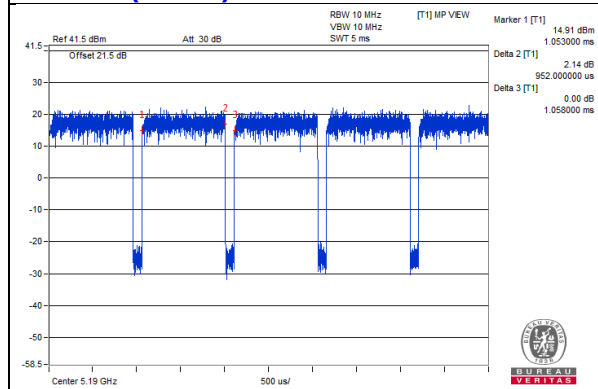
802.11a



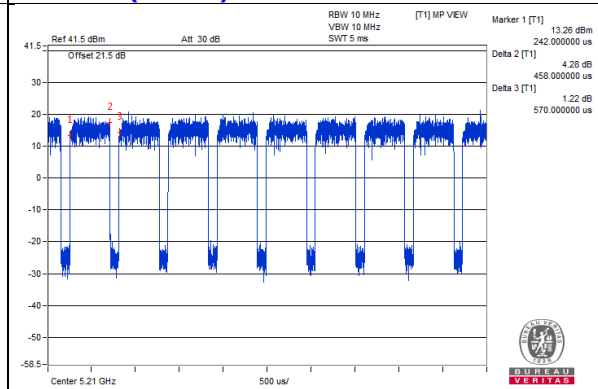
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



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.	Test Tool	NA	NA	NA	NA	Supplied by client
B.	DC POWER SUPPLY	GOOD WILL INSTRUMENT CO., LTD	GPC-3030D	E847076	NA	Provided by Lab

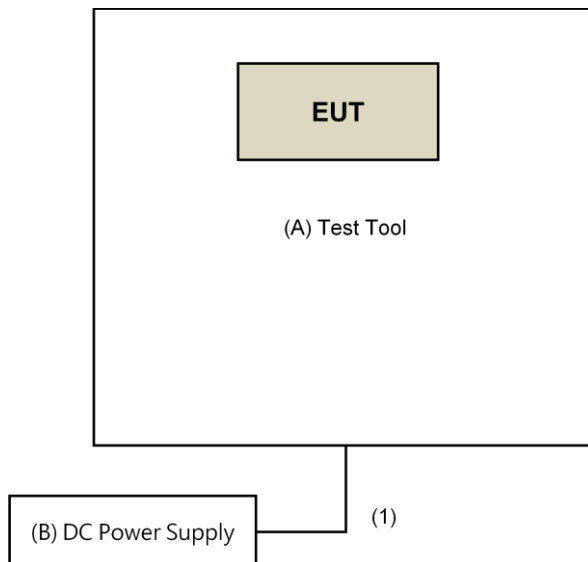
Note:

1. All power cords of the above support units are non-shielded (1.8m).

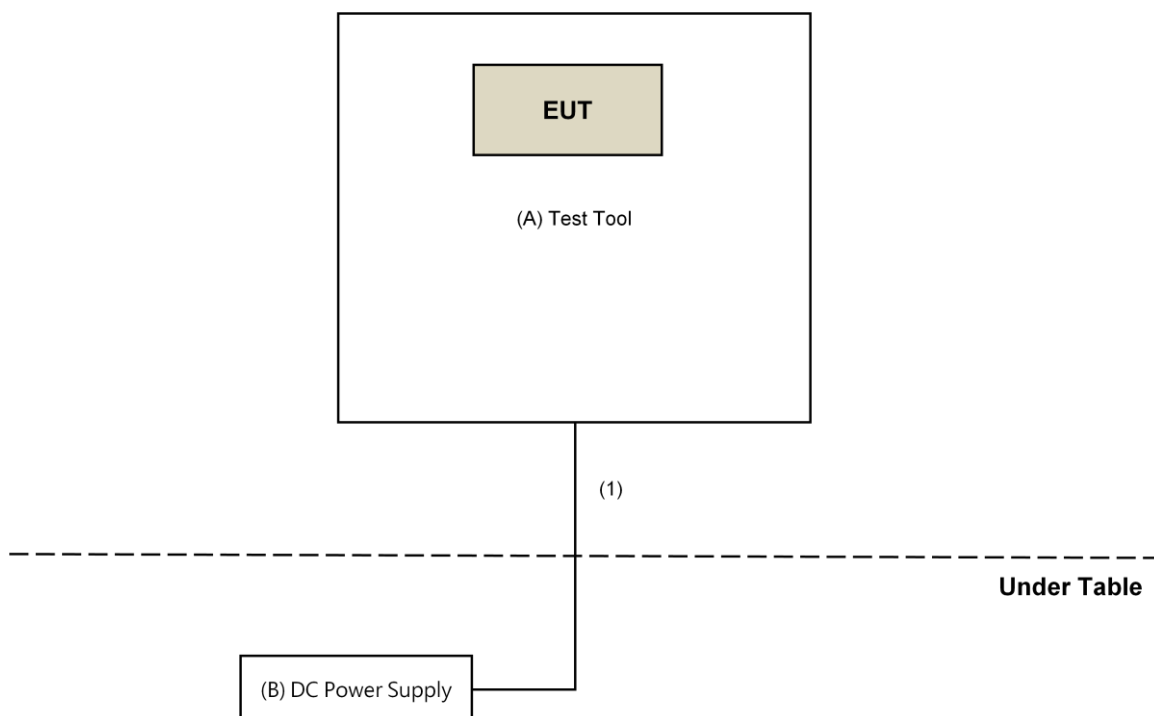
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Cable	1	1.8	No	0	Provided by Lab

3.4.1 Configuration of System under Test

For Conducted Emissions test:



For other test:



3.5 General Description of Applied Standard

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

FCC Part 15, Subpart E (15.407)

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

ANSI C63.10-2013

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

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:

- The lower limit shall apply at the transition frequencies.
- Emission level (dBuV/m) = 20 log Emission level (uV/m).
- For frequencies above 1000MHz, 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 20dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

Applicable To			Limit	
789033 D02 General UNII Test Procedure New Rules v02r01			Field Strength at 3m	
			PK:74 (dBμV/m)	AV:54 (dBμV/m)
Frequency Band	Applicable To		EIRP Limit	Equivalent Field Strength at 3m
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	☒	15.407(b)(4)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2(dBμV/m) ^{*1} PK:105.2 (dBμV/m) ^{*2} PK: 110.8(dBμV/m) ^{*3} PK:122.2 (dBμV/m) ^{*4}
	☐	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge.			^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.			^{*4} 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:

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

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	July 12, 2018	July 11, 2019
Pre-Amplifier EMCI	EMC001340	980142	Jan. 25, 2019	Jan. 24, 2020
Loop Antenna Electro-Metrics	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
RF Cable	NA	LOOPCAB-001	Jan. 14, 2019	Jan. 13, 2020
RF Cable	NA	LOOPCAB-002	Jan. 14, 2019	Jan. 13, 2020
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-05	May 05, 2018	May 04, 2019
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 22, 2018	Nov. 21, 2019
RF Cable	8D	966-3-1	Mar. 20, 2018	Mar. 19, 2019
RF Cable	8D	966-3-2	Mar. 20, 2018	Mar. 19, 2019
RF Cable	8D	966-3-3	Mar. 20, 2018	Mar. 19, 2019
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Sep. 27, 2018	Sep. 26, 2019
Horn Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Nov. 25, 2018	Nov. 24, 2019
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 28, 2019	Jan. 27, 2020
RF Cable	EMC104-SM-SM-1200	160922	Jan. 28, 2019	Jan. 27, 2020
RF Cable	EMC104-SM-SM-2000	180601	June 12, 2018	June 11, 2019
RF Cable	EMC104-SM-SM-6000	180602	June 12, 2018	June 11, 2019
Spectrum Analyzer Keysight	N9030A	MY54490679	July 23, 2018	July 22, 2019
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 28, 2019	Jan. 27, 2020
Horn Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 25, 2018	Nov. 24, 2019
RF Cable	EMC102-KM-KM-1200	160924	Jan. 28, 2019	Jan. 27, 2020
RF Cable	EMC102-KM-KM-1200	160925	Jan. 28, 2019	Jan. 27, 2020
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Spectrum Analyzer R&S	FSV40	100964	June 20, 2018	June 19, 2019
Power meter Anritsu	ML2495A	1014008	May 09, 2018	May 08, 2019
Power sensor Anritsu	MA2411B	0917122	May 09, 2018	May 08, 2019
DC Power Supply Topward	6603D	795558	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 09, 2019	Jan. 08, 2020
True RMS Clamp Meter FLUKE	325	31130711WS	May 22, 2018	May 21, 2019

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 966 Chamber No. 3.
3. Loop antenna was used for all emissions below 30 MHz.
4. Tested Date: Mar. 14 to 15, 2019

4.1.3 Test Procedure

For Radiated emission below 30MHz

- 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 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) 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 detects 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:

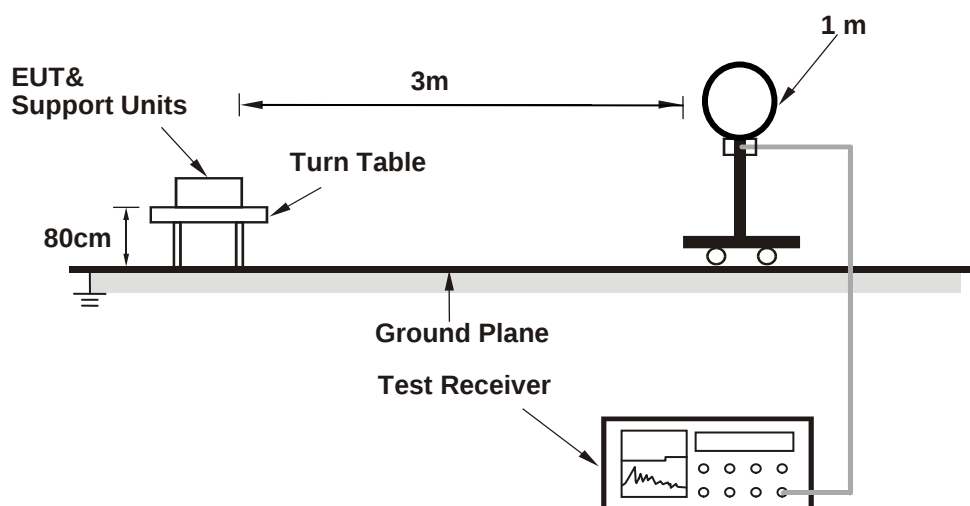
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

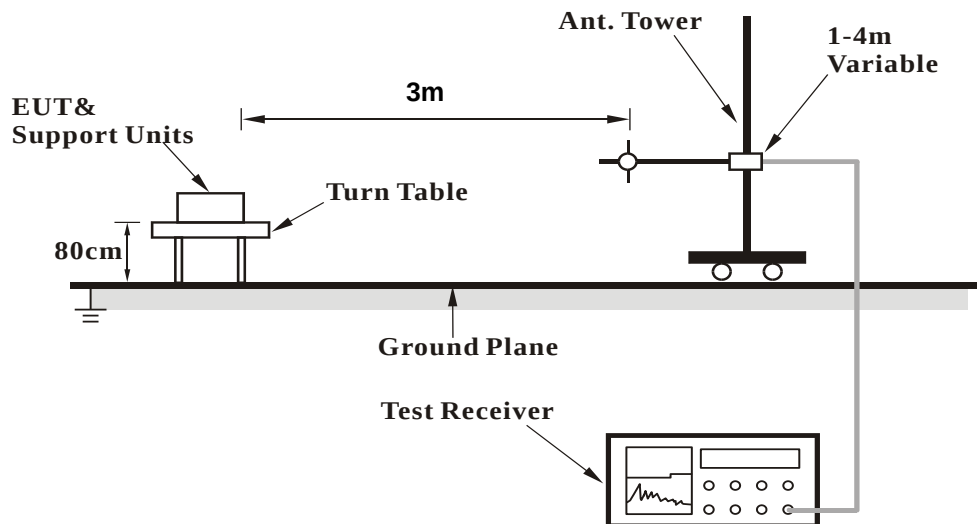
No deviation.

4.1.5 Test Setup

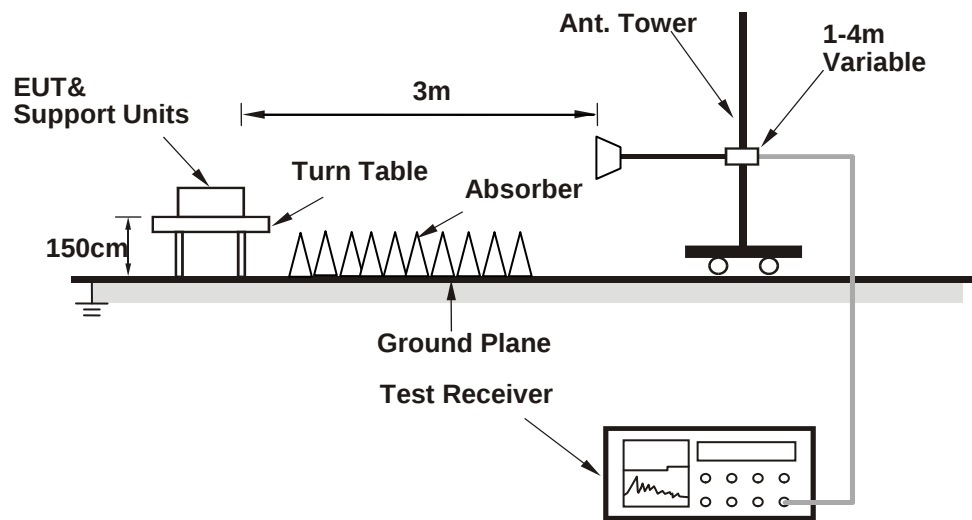
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Condition

- Placed the EUT on the testing table.
- Controlling software (sh use Test scripts.sh) has been activated to set the EUT on specific status.

4.1.7 Test Results

Above 1GHz Data:

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	61.8 PK	74.0	-12.2	1.29 H	162	58.7	3.1
2	5150.00	47.9 AV	54.0	-6.1	1.29 H	162	44.8	3.1
3	*5180.00	98.6 PK			1.29 H	162	95.5	3.1
4	*5180.00	89.7 AV			1.29 H	162	86.6	3.1
5	#10360.00	61.9 PK	68.2	-6.3	1.03 H	108	49.6	12.3
6	15540.00	46.4 PK	74.0	-27.6	1.70 H	313	33.4	13.0
7	15540.00	33.6 AV	54.0	-20.4	1.70 H	313	20.6	13.0
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	67.0 PK	74.0	-7.0	2.79 V	212	63.9	3.1
2	5150.00	52.6 AV	54.0	-1.4	2.79 V	212	49.5	3.1
3	*5180.00	102.6 PK			2.79 V	212	99.5	3.1
4	*5180.00	93.8 AV			2.79 V	212	90.7	3.1
5	#10360.00	60.5 PK	68.2	-7.7	1.00 V	169	48.2	12.3
6	15540.00	46.3 PK	74.0	-27.7	1.12 V	351	33.3	13.0
7	15540.00	36.5 AV	54.0	-17.5	1.12 V	351	23.5	13.0

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.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	49.0 PK	74.0	-25.0	1.34 H	150	45.9	3.1
2	5150.00	37.0 AV	54.0	-17.0	1.34 H	150	33.9	3.1
3	*5200.00	101.6 PK			1.34 H	150	98.6	3.0
4	*5200.00	92.4 AV			1.34 H	150	89.4	3.0
5	#10400.00	65.0 PK	68.2	-3.2	1.95 H	130	52.3	12.7
6	15600.00	46.1 PK	74.0	-27.9	1.68 H	314	32.6	13.5
7	15600.00	33.7 AV	54.0	-20.3	1.68 H	314	20.2	13.5
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	5150.00	53.4 PK	74.0	-20.6	2.78 V	220	50.3	3.1
2	5150.00	42.5 AV	54.0	-11.5	2.78 V	220	39.4	3.1
3	*5200.00	105.7 PK			2.78 V	220	102.7	3.0
4	*5200.00	96.3 AV			2.78 V	220	93.3	3.0
5	#10400.00	60.2 PK	68.2	-8.0	1.02 V	171	47.5	12.7
6	15600.00	46.2 PK	74.0	-27.8	1.10 V	360	32.7	13.5
7	15600.00	36.7 AV	54.0	-17.3	1.10 V	360	23.2	13.5

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	101.6 PK			1.37 H	135	98.9	2.7
2	*5240.00	92.3 AV			1.37 H	135	89.6	2.7
3	5350.00	48.8 PK	74.0	-25.2	1.37 H	135	45.9	2.9
4	5350.00	36.8 AV	54.0	-17.2	1.37 H	135	33.9	2.9
5	#10480.00	65.1 PK	68.2	-3.1	1.97 H	138	52.6	12.5
6	15720.00	45.5 PK	74.0	-28.5	1.52 H	336	33.0	12.5
7	15720.00	34.0 AV	54.0	-20.0	1.52 H	336	21.5	12.5
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	*5240.00	106.1 PK			2.50 V	253	103.4	2.7
2	*5240.00	96.7 AV			2.50 V	253	94.0	2.7
3	5350.00	48.9 PK	74.0	-25.1	2.50 V	253	46.0	2.9
4	5350.00	37.7 AV	54.0	-16.3	2.50 V	253	34.8	2.9
5	#10480.00	60.4 PK	68.2	-7.8	1.05 V	161	47.9	12.5
6	15720.00	46.3 PK	74.0	-27.7	1.12 V	359	33.8	12.5
7	15720.00	36.6 AV	54.0	-17.4	1.12 V	359	24.1	12.5

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	48.8 PK	74.0	-25.2	1.29 H	140	45.7	3.1
2	5150.00	36.4 AV	54.0	-17.6	1.29 H	140	33.3	3.1
3	*5260.00	100.4 PK			1.29 H	140	97.8	2.6
4	*5260.00	91.9 AV			1.29 H	140	89.3	2.6
5	#10520.00	65.0 PK	68.2	-3.2	1.93 H	99	52.6	12.4
6	15780.00	46.4 PK	74.0	-27.6	1.61 H	308	34.3	12.1
7	15780.00	33.9 AV	54.0	-20.1	1.61 H	308	21.8	12.1
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	48.9 PK	74.0	-25.1	2.50 V	250	45.8	3.1
2	5150.00	36.8 AV	54.0	-17.2	2.50 V	250	33.7	3.1
3	*5260.00	105.4 PK			2.50 V	250	102.8	2.6
4	*5260.00	95.8 AV			2.50 V	250	93.2	2.6
5	#10520.00	60.1 PK	68.2	-8.1	1.06 V	180	47.7	12.4
6	15780.00	46.4 PK	74.0	-27.6	1.11 V	360	34.3	12.1
7	15780.00	36.6 AV	54.0	-17.4	1.11 V	360	24.5	12.1

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.

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	100.2 PK			1.31 H	147	97.5	2.7
2	*5300.00	91.9 AV			1.31 H	147	89.2	2.7
3	5350.00	49.0 PK	74.0	-25.0	1.31 H	147	46.1	2.9
4	5350.00	36.8 AV	54.0	-17.2	1.31 H	147	33.9	2.9
5	10600.00	64.6 PK	74.0	-9.4	1.92 H	99	52.3	12.3
6	10600.00	50.7 AV	54.0	-3.3	1.92 H	99	38.4	12.3
7	15900.00	46.2 PK	74.0	-27.8	1.66 H	302	34.2	12.0
8	15900.00	33.6 AV	54.0	-20.4	1.66 H	302	21.6	12.0
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	104.6 PK			2.36 V	300	101.9	2.7
2	*5300.00	95.4 AV			2.36 V	300	92.7	2.7
3	5350.00	49.7 PK	74.0	-24.3	2.36 V	300	46.8	2.9
4	5350.00	38.3 AV	54.0	-15.7	2.36 V	300	35.4	2.9
5	10600.00	60.1 PK	74.0	-13.9	1.03 V	149	47.8	12.3
6	10600.00	46.7 AV	54.0	-7.3	1.03 V	149	34.4	12.3
7	15900.00	46.3 PK	74.0	-27.7	1.36 V	221	34.3	12.0
8	15900.00	33.8 AV	54.0	-20.2	1.36 V	221	21.8	12.0

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.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	100.1 PK			1.35 H	148	97.4	2.7
2	*5320.00	91.5 AV			1.35 H	148	88.8	2.7
3	5350.00	48.5 PK	74.0	-25.5	1.35 H	148	45.6	2.9
4	5350.00	36.3 AV	54.0	-17.7	1.35 H	148	33.4	2.9
5	10640.00	64.4 PK	74.0	-9.6	1.86 H	98	52.2	12.2
6	10640.00	50.6 AV	54.0	-3.4	1.86 H	98	38.4	12.2
7	15960.00	45.9 PK	74.0	-28.1	1.67 H	310	33.6	12.3
8	15960.00	33.5 AV	54.0	-20.5	1.67 H	310	21.2	12.3
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	*5320.00	104.7 PK			2.63 V	208	102.0	2.7
2	*5320.00	95.0 AV			2.63 V	208	92.3	2.7
3	5350.00	56.8 PK	74.0	-17.2	2.63 V	208	53.9	2.9
4	5350.00	42.7 AV	54.0	-11.3	2.63 V	208	39.8	2.9
5	10640.00	59.9 PK	74.0	-14.1	1.05 V	152	47.7	12.2
6	10640.00	46.3 AV	54.0	-7.7	1.05 V	152	34.1	12.2
7	15960.00	46.4 PK	74.0	-27.6	1.35 V	213	34.1	12.3
8	15960.00	33.8 AV	54.0	-20.2	1.35 V	213	21.5	12.3

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.

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	49.7 PK	74.0	-24.3	1.35 H	137	46.5	3.2
2	5460.00	37.3 AV	54.0	-16.7	1.35 H	137	34.1	3.2
3	#5470.00	54.2 PK	68.2	-14.0	1.35 H	137	51.0	3.2
4	*5500.00	99.8 PK			1.35 H	137	96.7	3.1
5	*5500.00	91.4 AV			1.35 H	137	88.3	3.1
6	11000.00	64.5 PK	74.0	-9.5	1.89 H	100	51.5	13.0
7	11000.00	50.9 AV	54.0	-3.1	1.89 H	100	37.9	13.0
8	#16500.00	46.9 PK	68.2	-21.3	1.71 H	313	32.6	14.3
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	5460.00	52.8 PK	74.0	-21.2	2.74 V	298	49.6	3.2
2	5460.00	40.8 AV	54.0	-13.2	2.74 V	298	37.6	3.2
3	#5470.00	59.6 PK	68.2	-8.6	2.74 V	298	56.4	3.2
4	*5500.00	104.6 PK			2.74 V	298	101.5	3.1
5	*5500.00	94.8 AV			2.74 V	298	91.7	3.1
6	11000.00	59.2 PK	74.0	-14.8	1.02 V	151	46.2	13.0
7	11000.00	45.0 AV	54.0	-9.0	1.02 V	151	32.0	13.0
8	#16500.00	46.1 PK	68.2	-22.1	1.37 V	249	31.8	14.3

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	101.3 PK			1.34 H	150	98.1	3.2
2	*5580.00	92.1 AV			1.34 H	150	88.9	3.2
3	11160.00	63.5 PK	74.0	-10.5	2.02 H	129	51.0	12.5
4	11160.00	50.6 AV	54.0	-3.4	2.02 H	129	38.1	12.5
5	#16740.00	46.5 PK	68.2	-21.7	1.68 H	291	31.6	14.9
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	*5580.00	106.2 PK			2.64 V	205	103.0	3.2
2	*5580.00	96.3 AV			2.64 V	205	93.1	3.2
3	11160.00	60.1 PK	74.0	-13.9	1.00 V	157	47.6	12.5
4	11160.00	46.7 AV	54.0	-7.3	1.00 V	157	34.2	12.5
5	#16740.00	46.7 PK	68.2	-21.5	1.33 V	237	31.8	14.9

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.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	101.6 PK			1.29 H	134	98.2	3.4
2	*5700.00	92.5 AV			1.29 H	134	89.1	3.4
3	#5725.00	57.3 PK	68.2	-10.9	2.87 H	24	53.9	3.4
4	11400.00	60.2 PK	74.0	-13.8	1.86 H	92	47.1	13.1
5	11400.00	47.1 AV	54.0	-6.9	1.86 H	92	34.0	13.1
6	#17100.00	46.4 PK	68.2	-21.8	1.69 H	293	29.7	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	*5700.00	106.1 PK			2.74 V	261	102.7	3.4
2	*5700.00	96.3 AV			2.74 V	261	92.9	3.4
3	#5725.00	67.1 PK	68.2	-1.1	2.74 V	261	63.7	3.4
4	11400.00	60.3 PK	74.0	-13.7	1.01 V	160	47.2	13.1
5	11400.00	46.7 AV	54.0	-7.3	1.01 V	160	33.6	13.1
6	#17100.00	46.9 PK	68.2	-21.3	1.36 V	221	30.2	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.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	#5645.43	54.4 PK	68.2	-13.8	1.23 H	138	51.4	3.0
2	*5745.00	107.1 PK			1.23 H	128	103.6	3.5
3	*5745.00	98.1 AV			1.23 H	128	94.6	3.5
4	#5952.84	53.3 PK	68.2	-14.9	1.23 H	138	49.6	3.7
5	11490.00	63.9 PK	74.0	-10.1	2.03 H	139	50.9	13.0
6	11490.00	50.8 AV	54.0	-3.2	2.03 H	139	37.8	13.0
7	#17235.00	57.6 PK	68.2	-10.6	2.84 H	21	41.4	16.2
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	#5632.45	55.9 PK	68.2	-12.3	2.49 V	220	52.9	3.0
2	*5745.00	112.5 PK			2.49 V	220	109.0	3.5
3	*5745.00	103.1 AV			2.49 V	220	99.6	3.5
4	#5943.73	54.0 PK	68.2	-14.2	2.49 V	220	50.3	3.7
5	11490.00	58.1 PK	74.0	-15.9	1.19 V	169	45.1	13.0
6	11490.00	46.3 AV	54.0	-7.7	1.19 V	169	33.3	13.0
7	#17235.00	54.6 PK	68.2	-13.6	1.66 V	241	38.4	16.2

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.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	#5627.15	54.8 PK	68.2	-13.4	1.20 H	130	51.8	3.0
2	*5785.00	106.9 PK			1.20 H	130	103.2	3.7
3	*5785.00	98.3 AV			1.20 H	130	94.6	3.7
4	#5945.73	53.8 PK	68.2	-14.4	1.20 H	130	50.1	3.7
5	11570.00	63.6 PK	74.0	-10.4	1.92 H	148	50.9	12.7
6	11570.00	50.6 AV	54.0	-3.4	1.92 H	148	37.9	12.7
7	#17355.00	57.4 PK	68.2	-10.8	2.79 H	10	40.7	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	#5630.16	55.5 PK	68.2	-12.7	2.47 V	221	52.5	3.0
2	*5785.00	112.3 PK			2.47 V	221	108.6	3.7
3	*5785.00	102.8 AV			2.47 V	221	99.1	3.7
4	#5967.90	54.9 PK	68.2	-13.3	2.47 V	221	51.3	3.6
5	11570.00	58.1 PK	74.0	-15.9	1.14 V	156	45.4	12.7
6	11570.00	46.3 AV	54.0	-7.7	1.14 V	156	33.6	12.7
7	#17355.00	54.3 PK	68.2	-13.9	1.66 V	246	37.6	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.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	#5617.77	53.8 PK	68.2	-14.4	1.24 H	129	50.8	3.0
2	*5825.00	106.2 PK			1.24 H	129	102.5	3.7
3	*5825.00	98.0 AV			1.24 H	129	94.3	3.7
4	#5964.71	53.7 PK	68.2	-14.5	1.24 H	129	50.0	3.7
5	11650.00	63.3 PK	74.0	-10.7	1.92 H	151	50.6	12.7
6	11650.00	50.8 AV	54.0	-3.2	1.92 H	151	38.1	12.7
7	#17475.00	57.9 PK	68.2	-10.3	2.89 H	20	39.9	18.0
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	#5622.60	55.7 PK	68.2	-12.5	2.47 V	222	52.7	3.0
2	*5825.00	112.8 PK			2.47 V	222	109.1	3.7
3	*5825.00	103.3 AV			2.47 V	222	99.6	3.7
4	#5974.02	56.4 PK	68.2	-11.8	2.47 V	222	52.8	3.6
5	11650.00	57.9 PK	74.0	-16.1	1.19 V	159	45.2	12.7
6	11650.00	46.4 AV	54.0	-7.6	1.19 V	159	33.7	12.7
7	#17475.00	54.8 PK	68.2	-13.4	1.67 V	251	36.8	18.0

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.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	62.0 PK	74.0	-12.0	1.29 H	119	58.9	3.1
2	5150.00	48.1 AV	54.0	-5.9	1.29 H	119	45.0	3.1
3	*5180.00	97.2 PK			1.29 H	119	94.1	3.1
4	*5180.00	87.6 AV			1.29 H	119	84.5	3.1
5	#10360.00	64.5 PK	68.2	-3.7	1.95 H	110	52.2	12.3
6	15540.00	46.6 PK	74.0	-27.4	2.84 H	20	33.6	13.0
7	15540.00	34.2 AV	54.0	-19.8	2.84 H	20	21.2	13.0
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	63.2 PK	74.0	-10.8	2.76 V	235	60.1	3.1
2	5150.00	52.9 AV	54.0	-1.1	2.76 V	235	49.8	3.1
3	*5180.00	102.1 PK			2.76 V	235	99.0	3.1
4	*5180.00	92.6 AV			2.76 V	235	89.5	3.1
5	#10360.00	59.8 PK	68.2	-8.4	1.22 V	154	47.5	12.3
6	15540.00	46.9 PK	74.0	-27.1	1.66 V	241	33.9	13.0
7	15540.00	34.0 AV	54.0	-20.0	1.66 V	241	21.0	13.0

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.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	48.8 PK	74.0	-25.2	1.35 H	146	45.7	3.1
2	5150.00	37.0 AV	54.0	-17.0	1.35 H	146	33.9	3.1
3	*5200.00	101.4 PK			1.35 H	146	98.4	3.0
4	*5200.00	92.1 AV			1.35 H	146	89.1	3.0
5	#10400.00	64.9 PK	68.2	-3.3	2.06 H	147	52.2	12.7
6	15600.00	45.5 PK	74.0	-28.5	2.90 H	31	32.0	13.5
7	15600.00	33.3 AV	54.0	-20.7	2.90 H	31	19.8	13.5
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	5150.00	54.0 PK	74.0	-20.0	1.00 V	108	50.9	3.1
2	5150.00	44.4 AV	54.0	-9.6	1.00 V	108	41.3	3.1
3	*5200.00	105.6 PK			1.00 V	108	102.6	3.0
4	*5200.00	96.1 AV			1.00 V	108	93.1	3.0
5	#10400.00	60.1 PK	68.2	-8.1	1.24 V	173	47.4	12.7
6	15600.00	46.2 PK	74.0	-27.8	1.62 V	241	32.7	13.5
7	15600.00	33.4 AV	54.0	-20.6	1.62 V	241	19.9	13.5

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	100.3 PK			1.27 H	130	97.6	2.7
2	*5240.00	91.6 AV			1.27 H	130	88.9	2.7
3	5350.00	43.4 PK	74.0	-30.6	1.27 H	130	40.5	2.9
4	5350.00	32.5 AV	54.0	-21.5	1.27 H	130	29.6	2.9
5	#10480.00	65.0 PK	68.2	-3.2	2.01 H	111	52.5	12.5
6	15720.00	45.7 PK	74.0	-28.3	2.95 H	33	33.2	12.5
7	15720.00	33.6 AV	54.0	-20.4	2.95 H	33	21.1	12.5
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	*5240.00	105.5 PK			2.45 V	262	102.8	2.7
2	*5240.00	95.4 AV			2.45 V	262	92.7	2.7
3	5350.00	48.5 PK	74.0	-25.5	2.45 V	262	45.6	2.9
4	5350.00	37.1 AV	54.0	-16.9	2.45 V	262	34.2	2.9
5	#10480.00	60.4 PK	68.2	-7.8	1.19 V	153	47.9	12.5
6	15720.00	45.9 PK	74.0	-28.1	1.69 V	247	33.4	12.5
7	15720.00	33.6 AV	54.0	-20.4	1.69 V	247	21.1	12.5

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	43.4 PK	74.0	-30.6	1.26 H	134	40.3	3.1
2	5150.00	32.3 AV	54.0	-21.7	1.26 H	134	29.2	3.1
3	*5260.00	102.4 PK			1.26 H	134	99.8	2.6
4	*5260.00	93.5 AV			1.26 H	134	90.9	2.6
5	#10520.00	65.1 PK	68.2	-3.1	2.46 H	110	52.7	12.4
6	15780.00	46.5 PK	74.0	-27.5	2.91 H	7	34.4	12.1
7	15780.00	34.1 AV	54.0	-19.9	2.91 H	7	22.0	12.1
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	48.9 PK	74.0	-25.1	2.46 V	252	45.8	3.1
2	5150.00	37.5 AV	54.0	-16.5	2.46 V	252	34.4	3.1
3	*5260.00	106.8 PK			2.46 V	252	104.2	2.6
4	*5260.00	97.8 AV			2.46 V	252	95.2	2.6
5	#10520.00	59.8 PK	68.2	-8.4	1.20 V	159	47.4	12.4
6	15780.00	46.2 PK	74.0	-27.8	1.65 V	243	34.1	12.1
7	15780.00	33.5 AV	54.0	-20.5	1.65 V	243	21.4	12.1

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.

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	42.9 PK	74.0	-31.1	1.30 H	138	39.8	3.1
2	5150.00	32.0 AV	54.0	-22.0	1.30 H	138	28.9	3.1
3	*5300.00	102.3 PK			1.30 H	138	99.6	2.7
4	*5300.00	93.1 AV			1.30 H	138	90.4	2.7
5	5350.00	43.0 PK	74.0	-31.0	1.30 H	138	40.1	2.9
6	5350.00	32.3 AV	54.0	-21.7	1.30 H	138	29.4	2.9
7	10600.00	63.9 PK	74.0	-10.1	2.89 H	146	51.6	12.3
8	10600.00	50.9 AV	54.0	-3.1	2.89 H	146	38.6	12.3
9	15900.00	46.3 PK	74.0	-27.7	2.87 H	29	34.3	12.0
10	15900.00	33.9 AV	54.0	-20.1	2.87 H	29	21.9	12.0

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	48.9 PK	74.0	-25.1	1.00 V	110	45.8	3.1
2	5150.00	37.6 AV	54.0	-16.4	1.00 V	110	34.5	3.1
3	*5300.00	105.8 PK			1.00 V	110	103.1	2.7
4	*5300.00	96.9 AV			1.00 V	110	94.2	2.7
5	5350.00	53.2 PK	74.0	-20.8	1.00 V	110	50.3	2.9
6	5350.00	41.7 AV	54.0	-12.3	1.00 V	110	38.8	2.9
7	10600.00	59.5 PK	74.0	-14.5	1.22 V	156	47.2	12.3
8	10600.00	45.9 AV	54.0	-8.1	1.22 V	156	33.6	12.3
9	15900.00	46.7 PK	74.0	-27.3	1.66 V	246	34.7	12.0
10	15900.00	34.2 AV	54.0	-19.8	1.66 V	246	22.2	12.0

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.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	100.2 PK			1.25 H	118	97.5	2.7
2	*5320.00	90.5 AV			1.25 H	118	87.8	2.7
3	5350.00	43.2 PK	74.0	-30.8	1.25 H	118	40.3	2.9
4	5350.00	32.1 AV	54.0	-21.9	1.25 H	118	29.2	2.9
5	10640.00	64.9 PK	74.0	-9.1	2.81 H	145	52.7	12.2
6	10640.00	50.9 AV	54.0	-3.1	2.81 H	145	38.7	12.2
7	15960.00	45.6 PK	74.0	-28.4	2.85 H	24	33.3	12.3
8	15960.00	33.3 AV	54.0	-20.7	2.85 H	24	21.0	12.3
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	*5320.00	104.1 PK			1.20 V	108	101.4	2.7
2	*5320.00	94.5 AV			1.20 V	108	91.8	2.7
3	5350.00	55.3 PK	74.0	-18.7	1.20 V	108	52.4	2.9
4	5350.00	43.1 AV	54.0	-10.9	1.20 V	108	40.2	2.9
5	10640.00	59.9 PK	74.0	-14.1	1.21 V	172	47.7	12.2
6	10640.00	46.1 AV	54.0	-7.9	1.21 V	172	33.9	12.2
7	15960.00	46.3 PK	74.0	-27.7	1.66 V	253	34.0	12.3
8	15960.00	33.5 AV	54.0	-20.5	1.66 V	253	21.2	12.3

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.

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	49.6 PK	74.0	-24.4	1.32 H	124	46.4	3.2
2	5460.00	37.0 AV	54.0	-17.0	1.32 H	124	33.8	3.2
3	#5470.00	54.7 PK	68.2	-13.5	1.32 H	124	51.5	3.2
4	*5500.00	101.2 PK			1.32 H	124	98.1	3.1
5	*5500.00	91.6 AV			1.32 H	124	88.5	3.1
6	11000.00	61.6 PK	74.0	-12.4	1.99 H	104	48.6	13.0
7	11000.00	50.8 AV	54.0	-3.2	1.99 H	104	37.8	13.0
8	#16500.00	45.7 PK	68.2	-22.5	2.89 H	22	31.4	14.3
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	5460.00	52.2 PK	74.0	-21.8	1.00 V	108	49.0	3.2
2	5460.00	42.3 AV	54.0	-11.7	1.00 V	108	39.1	3.2
3	#5470.00	62.4 PK	68.2	-5.8	1.00 V	108	59.2	3.2
4	*5500.00	105.0 PK			1.00 V	108	101.9	3.1
5	*5500.00	95.8 AV			1.00 V	108	92.7	3.1
6	11000.00	59.9 PK	74.0	-14.1	1.23 V	151	46.9	13.0
7	11000.00	46.2 AV	54.0	-7.8	1.23 V	151	33.2	13.0
8	#16500.00	46.4 PK	68.2	-21.8	1.67 V	259	32.1	14.3

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	102.5 PK			1.25 H	133	99.3	3.2
2	*5580.00	93.2 AV			1.25 H	133	90.0	3.2
3	11160.00	62.7 PK	74.0	-11.3	1.91 H	114	50.2	12.5
4	11160.00	50.7 AV	54.0	-3.3	1.91 H	114	38.2	12.5
5	#16740.00	45.9 PK	68.2	-22.3	2.89 H	6	31.0	14.9
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	*5580.00	107.3 PK			2.66 V	194	104.1	3.2
2	*5580.00	97.4 AV			2.66 V	194	94.2	3.2
3	11160.00	59.6 PK	74.0	-14.4	1.16 V	163	47.1	12.5
4	11160.00	46.2 AV	54.0	-7.8	1.16 V	163	33.7	12.5
5	#16740.00	46.4 PK	68.2	-21.8	1.72 V	239	31.5	14.9

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.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	102.2 PK			1.34 H	133	98.8	3.4
2	*5700.00	93.1 AV			1.34 H	133	89.7	3.4
3	#5725.00	57.6 PK	68.2	-10.6	1.34 H	133	54.2	3.4
4	11400.00	62.5 PK	74.0	-11.5	1.95 H	124	49.4	13.1
5	11400.00	50.7 AV	54.0	-3.3	1.95 H	124	37.6	13.1
6	#17100.00	45.9 PK	68.2	-22.3	2.84 H	15	29.2	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	*5700.00	106.1 PK			1.00 V	114	102.7	3.4
2	*5700.00	97.2 AV			1.00 V	114	93.8	3.4
3	#5725.00	66.8 PK	68.2	-1.4	1.00 V	114	63.4	3.4
4	11400.00	59.2 PK	74.0	-14.8	1.18 V	152	46.1	13.1
5	11400.00	45.8 AV	54.0	-8.2	1.18 V	152	32.7	13.1
6	#17100.00	46.1 PK	68.2	-22.1	1.69 V	264	29.4	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.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	#5624.37	52.9 PK	68.2	-15.3	1.22 H	131	49.9	3.0
2	*5745.00	104.5 PK			1.22 H	131	101.0	3.5
3	*5745.00	94.6 AV			1.22 H	131	91.1	3.5
4	#5930.52	52.9 PK	68.2	-15.3	1.22 H	131	49.2	3.7
5	11490.00	62.6 PK	74.0	-11.4	1.98 H	150	49.6	13.0
6	11490.00	50.6 AV	54.0	-3.4	1.98 H	150	37.6	13.0
7	#17235.00	57.8 PK	68.2	-10.4	2.83 H	19	41.6	16.2
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	#5647.56	57.2 PK	68.2	-11.0	2.49 V	223	54.2	3.0
2	*5745.00	112.5 PK			2.49 V	223	109.0	3.5
3	*5745.00	103.0 AV			2.49 V	223	99.5	3.5
4	#5947.60	56.6 PK	68.2	-11.6	2.49 V	223	52.9	3.7
5	11490.00	58.0 PK	74.0	-16.0	1.14 V	174	45.0	13.0
6	11490.00	46.4 AV	54.0	-7.6	1.14 V	174	33.4	13.0
7	#17235.00	46.8 PK	68.2	-21.4	1.67 V	259	30.6	16.2

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.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	#5632.63	51.6 PK	68.2	-16.6	1.25 H	129	48.6	3.0
2	*5785.00	104.2 PK			1.25 H	129	100.5	3.7
3	*5785.00	94.2 AV			1.25 H	129	90.5	3.7
4	#5958.06	51.1 PK	68.2	-17.1	1.25 H	129	47.4	3.7
5	11570.00	63.0 PK	74.0	-11.0	1.95 H	131	50.3	12.7
6	11570.00	50.5 AV	54.0	-3.5	1.95 H	131	37.8	12.7
7	#17355.00	57.7 PK	68.2	-10.5	2.82 H	14	41.0	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	#5627.99	56.2 PK	68.2	-12.0	2.46 V	221	53.2	3.0
2	*5785.00	111.7 PK			2.46 V	221	108.0	3.7
3	*5785.00	102.6 AV			2.46 V	221	98.9	3.7
4	#5936.25	57.0 PK	68.2	-11.2	2.46 V	221	53.2	3.8
5	11570.00	57.8 PK	74.0	-16.2	1.23 V	164	45.1	12.7
6	11570.00	46.0 AV	54.0	-8.0	1.23 V	164	33.3	12.7
7	#17355.00	46.3 PK	68.2	-21.9	1.72 V	244	29.6	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.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	#5647.26	53.0 PK	68.2	-15.2	1.23 H	128	50.0	3.0
2	*5825.00	104.3 PK			1.23 H	128	100.6	3.7
3	*5825.00	94.4 AV			1.23 H	128	90.7	3.7
4	#5985.67	52.9 PK	68.2	-15.3	1.23 H	128	49.3	3.6
5	11650.00	63.2 PK	74.0	-10.8	1.94 H	129	50.5	12.7
6	11650.00	50.8 AV	54.0	-3.2	1.94 H	129	38.1	12.7
7	#17475.00	57.9 PK	68.2	-10.3	2.87 H	31	39.9	18.0
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	#5592.22	56.4 PK	68.2	-11.8	2.48 V	220	53.4	3.0
2	*5825.00	112.6 PK			2.48 V	220	108.9	3.7
3	*5825.00	103.3 AV			2.48 V	220	99.6	3.7
4	#5970.79	55.1 PK	68.2	-13.1	2.48 V	220	51.5	3.6
5	11650.00	58.3 PK	74.0	-15.7	1.19 V	172	45.6	12.7
6	11650.00	46.6 AV	54.0	-7.4	1.19 V	172	33.9	12.7
7	#17475.00	46.6 PK	68.2	-21.6	1.62 V	239	28.6	18.0

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.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT40)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	62.0 PK	74.0	-12.0	1.35 H	132	58.9	3.1
2	5150.00	48.4 AV	54.0	-5.6	1.35 H	132	45.3	3.1
3	*5190.00	97.6 PK			1.35 H	132	94.6	3.0
4	*5190.00	88.2 AV			1.35 H	132	85.2	3.0
5	5350.00	48.3 PK	74.0	-25.7	1.35 H	132	45.4	2.9
6	5350.00	37.2 AV	54.0	-16.8	1.35 H	132	34.3	2.9
7	#10380.00	61.3 PK	68.2	-6.9	1.98 H	118	48.8	12.5
8	15570.00	46.9 PK	74.0	-27.1	2.79 H	15	33.6	13.3
9	15570.00	33.9 AV	54.0	-20.1	2.79 H	15	20.6	13.3
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	5150.00	62.6 PK	74.0	-11.4	2.78 V	297	59.5	3.1
2	5150.00	52.7 AV	54.0	-1.3	2.78 V	297	49.6	3.1
3	*5190.00	101.2 PK			2.78 V	297	98.2	3.0
4	*5190.00	92.1 AV			2.78 V	297	89.1	3.0
5	5350.00	48.5 PK	74.0	-25.5	2.78 V	297	45.6	2.9
6	5350.00	37.3 AV	54.0	-16.7	2.78 V	297	34.4	2.9
7	#10380.00	60.2 PK	68.2	-8.0	1.18 V	173	47.7	12.5
8	15570.00	45.6 PK	74.0	-28.4	1.72 V	236	32.3	13.3
9	15570.00	36.1 AV	54.0	-17.9	1.72 V	236	22.8	13.3

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	53.3 PK	74.0	-20.7	1.29 H	137	50.2	3.1
2	5150.00	41.2 AV	54.0	-12.8	1.29 H	137	38.1	3.1
3	*5230.00	96.8 PK			1.29 H	137	94.0	2.8
4	*5230.00	87.6 AV			1.29 H	137	84.8	2.8
5	5350.00	49.0 PK	74.0	-25.0	1.29 H	137	46.1	2.9
6	5350.00	37.6 AV	54.0	-16.4	1.29 H	137	34.7	2.9
7	#10460.00	60.1 PK	68.2	-8.1	2.00 H	135	47.6	12.5
8	15690.00	45.7 PK	74.0	-28.3	2.84 H	11	33.0	12.7
9	15690.00	33.7 AV	54.0	-20.3	2.84 H	11	21.0	12.7
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	5150.00	54.8 PK	74.0	-19.2	2.86 V	298	51.7	3.1
2	5150.00	42.9 AV	54.0	-11.1	2.86 V	298	39.8	3.1
3	*5230.00	100.5 PK			2.86 V	298	97.7	2.8
4	*5230.00	91.7 AV			2.86 V	298	88.9	2.8
5	5350.00	50.0 PK	74.0	-24.0	2.86 V	298	47.1	2.9
6	5350.00	38.5 AV	54.0	-15.5	2.86 V	298	35.6	2.9
7	#10460.00	58.8 PK	68.2	-9.4	1.25 V	151	46.3	12.5
8	15690.00	46.2 PK	74.0	-27.8	1.69 V	243	33.5	12.7
9	15690.00	36.7 AV	54.0	-17.3	1.69 V	243	24.0	12.7

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.

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	50.0 PK	74.0	-24.0	1.30 H	138	46.9	3.1
2	5150.00	38.8 AV	54.0	-15.2	1.30 H	138	35.7	3.1
3	*5270.00	99.7 PK			1.30 H	138	97.1	2.6
4	*5270.00	90.2 AV			1.30 H	138	87.6	2.6
5	5350.00	53.3 PK	74.0	-20.7	1.30 H	138	50.4	2.9
6	5350.00	42.0 AV	54.0	-12.0	1.30 H	138	39.1	2.9
7	#10540.00	63.4 PK	68.2	-4.8	1.92 H	111	51.0	12.4
8	15810.00	47.3 PK	74.0	-26.7	2.80 H	24	35.3	12.0
9	15810.00	35.8 AV	54.0	-18.2	2.80 H	24	23.8	12.0
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	50.1 PK	74.0	-23.9	2.84 V	297	47.0	3.1
2	5150.00	39.1 AV	54.0	-14.9	2.84 V	297	36.0	3.1
3	*5270.00	103.8 PK			2.84 V	297	101.2	2.6
4	*5270.00	94.3 AV			2.84 V	297	91.7	2.6
5	5350.00	53.6 PK	74.0	-20.4	2.84 V	297	50.7	2.9
6	5350.00	41.9 AV	54.0	-12.1	2.84 V	297	39.0	2.9
7	#10540.00	60.3 PK	68.2	-7.9	1.20 V	153	47.9	12.4
8	15810.00	48.8 PK	74.0	-25.2	1.65 V	248	36.8	12.0
9	15810.00	38.2 AV	54.0	-15.8	1.65 V	248	26.2	12.0

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.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	97.1 PK			1.30 H	150	94.4	2.7
2	*5310.00	87.6 AV			1.30 H	150	84.9	2.7
3	5350.00	61.6 PK	74.0	-12.4	1.30 H	150	58.7	2.9
4	5350.00	47.8 AV	54.0	-6.2	1.30 H	150	44.9	2.9
5	10620.00	60.1 PK	74.0	-13.9	1.94 H	105	47.9	12.2
6	10620.00	46.3 AV	54.0	-7.7	1.94 H	105	34.1	12.2
7	15930.00	47.3 PK	74.0	-26.7	2.80 H	23	35.3	12.0
8	15930.00	35.9 AV	54.0	-18.1	2.80 H	23	23.9	12.0
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	100.8 PK			1.00 V	114	98.1	2.7
2	*5310.00	91.2 AV			1.00 V	114	88.5	2.7
3	5350.00	66.4 PK	74.0	-7.6	1.00 V	114	63.5	2.9
4	5350.00	52.8 AV	54.0	-1.2	1.00 V	114	49.9	2.9
5	10620.00	58.8 PK	74.0	-15.2	1.17 V	156	46.6	12.2
6	10620.00	45.5 AV	54.0	-8.5	1.17 V	156	33.3	12.2
7	15930.00	47.7 PK	74.0	-26.3	1.62 V	238	35.7	12.0
8	15930.00	36.1 AV	54.0	-17.9	1.62 V	238	24.1	12.0

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.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 102	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	58.8 PK	74.0	-15.2	1.30 H	128	55.6	3.2
2	5460.00	46.3 AV	54.0	-7.7	1.30 H	128	43.1	3.2
3	#5470.00	64.3 PK	68.2	-3.9	1.30 H	128	61.1	3.2
4	*5510.00	97.5 PK			1.30 H	128	94.4	3.1
5	*5510.00	87.8 AV			1.30 H	128	84.7	3.1
6	11020.00	58.2 PK	74.0	-15.8	1.90 H	103	45.3	12.9
7	11020.00	44.4 AV	54.0	-9.6	1.90 H	103	31.5	12.9
8	#16530.00	47.5 PK	68.2	-20.7	2.86 H	21	32.9	14.6
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	60.7 PK	74.0	-13.3	1.00 V	107	57.5	3.2
2	5460.00	48.5 AV	54.0	-5.5	1.00 V	107	45.3	3.2
3	#5470.00	67.0 PK	68.2	-1.2	1.00 V	107	63.8	3.2
4	*5510.00	101.6 PK			1.00 V	107	98.5	3.1
5	*5510.00	92.8 AV			1.00 V	107	89.7	3.1
6	11020.00	56.4 PK	74.0	-17.6	1.18 V	175	43.5	12.9
7	11020.00	42.1 AV	54.0	-11.9	1.18 V	175	29.2	12.9
8	#16530.00	47.2 PK	68.2	-21.0	1.72 V	265	32.6	14.6

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.

CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	61.9 PK	74.0	-12.1	1.28 H	134	58.7	3.2
2	5460.00	47.8 AV	54.0	-6.2	1.28 H	134	44.6	3.2
3	#5470.00	65.2 PK	68.2	-3.0	1.28 H	134	62.0	3.2
4	*5550.00	103.9 PK			1.28 H	134	100.7	3.2
5	*5550.00	95.5 AV			1.28 H	134	92.3	3.2
6	11100.00	60.3 PK	74.0	-13.7	1.97 H	109	47.8	12.5
7	11100.00	46.4 AV	54.0	-7.6	1.97 H	109	33.9	12.5
8	#16650.00	47.1 PK	68.2	-21.1	2.85 H	8	32.3	14.8
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	63.9 PK	74.0	-10.1	1.00 V	113	60.7	3.2
2	5460.00	49.6 AV	54.0	-4.4	1.00 V	113	46.4	3.2
3	#5470.00	67.1 PK	68.2	-1.1	1.00 V	113	63.9	3.2
4	*5550.00	108.5 PK			1.00 V	113	105.3	3.2
5	*5550.00	99.1 AV			1.00 V	113	95.9	3.2
6	11100.00	60.3 PK	74.0	-13.7	1.20 V	168	47.8	12.5
7	11100.00	45.8 AV	54.0	-8.2	1.20 V	168	33.3	12.5
8	#16650.00	49.1 PK	68.2	-19.1	1.64 V	241	34.3	14.8

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.

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	101.6 PK			1.26 H	134	98.3	3.3
2	*5670.00	92.2 AV			1.26 H	134	88.9	3.3
3	#5725.00	64.4 PK	68.2	-3.8	1.26 H	134	61.0	3.4
4	11340.00	58.8 PK	74.0	-15.2	2.02 H	124	45.6	13.2
5	11340.00	44.7 AV	54.0	-9.3	2.02 H	124	31.5	13.2
6	#17010.00	50.2 PK	68.2	-18.0	2.82 H	22	33.6	16.6
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	*5670.00	105.7 PK			2.66 V	297	102.4	3.3
2	*5670.00	96.4 AV			2.66 V	297	93.1	3.3
3	#5725.00	66.9 PK	68.2	-1.3	2.66 V	297	63.5	3.4
4	11340.00	59.7 PK	74.0	-14.3	1.18 V	150	46.5	13.2
5	11340.00	45.1 AV	54.0	-8.9	1.18 V	150	31.9	13.2
6	#17010.00	48.8 PK	68.2	-19.4	1.65 V	263	32.2	16.6

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.

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	#5649.83	56.7 PK	68.2	-11.5	1.00 H	158	53.7	3.0
2	*5755.00	104.9 PK			1.00 H	158	101.3	3.6
3	*5755.00	95.5 AV			1.00 H	158	91.9	3.6
4	#5992.96	49.9 PK	68.2	-18.3	1.00 H	158	46.3	3.6
5	11510.00	60.6 PK	74.0	-13.4	1.93 H	118	47.7	12.9
6	11510.00	49.6 AV	54.0	-4.4	1.93 H	118	36.7	12.9
7	#17265.00	51.3 PK	68.2	-16.9	2.80 H	11	35.2	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	#5649.11	60.6 PK	68.2	-7.6	1.00 V	112	57.6	3.0
2	*5755.00	107.0 PK			1.00 V	112	103.4	3.6
3	*5755.00	98.4 AV			1.00 V	112	94.8	3.6
4	#5980.30	50.9 PK	68.2	-17.3	1.00 V	112	47.3	3.6
5	11510.00	56.5 PK	74.0	-17.5	1.23 V	149	43.6	12.9
6	11510.00	45.0 AV	54.0	-9.0	1.23 V	149	32.1	12.9
7	#17265.00	53.8 PK	68.2	-14.4	1.62 V	241	37.7	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.

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	#5651.10	55.8 PK	69.0	-13.2	1.24 H	170	52.7	3.1
2	*5795.00	105.1 PK			1.09 H	170	101.5	3.6
3	*5795.00	96.1 AV			1.09 H	170	92.5	3.6
4	#5936.18	54.4 PK	68.2	-13.8	1.24 H	170	50.6	3.8
5	11590.00	61.3 PK	74.0	-12.7	1.92 H	111	48.5	12.8
6	11590.00	50.8 AV	54.0	-3.2	1.92 H	111	38.0	12.8
7	#17385.00	52.3 PK	68.2	-15.9	2.77 H	25	35.4	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	#5626.19	57.8 PK	68.2	-10.4	1.00 V	110	54.8	3.0
2	*5795.00	107.6 PK			1.00 V	110	104.0	3.6
3	*5795.00	98.7 AV			1.00 V	110	95.1	3.6
4	#5933.21	62.8 PK	68.2	-5.4	1.00 V	110	59.1	3.7
5	11590.00	57.5 PK	74.0	-16.5	1.20 V	155	44.7	12.8
6	11590.00	45.9 AV	54.0	-8.1	1.20 V	155	33.1	12.8
7	#17385.00	54.7 PK	68.2	-13.5	1.70 V	237	37.8	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.

802.11ac (VHT80)

CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	62.2 PK	74.0	-11.8	1.03 H	156	59.1	3.1
2	5150.00	49.2 AV	54.0	-4.8	1.03 H	156	46.1	3.1
3	*5210.00	95.1 PK			1.03 H	156	92.2	2.9
4	*5210.00	86.0 AV			1.03 H	156	83.1	2.9
5	5350.00	54.7 PK	74.0	-19.3	1.03 H	156	51.8	2.9
6	5350.00	43.2 AV	54.0	-10.8	1.03 H	156	40.3	2.9
7	#10420.00	58.4 PK	68.2	-9.8	1.95 H	99	45.8	12.6
8	15630.00	46.0 PK	74.0	-28.0	2.81 H	34	32.8	13.2
9	15630.00	34.2 AV	54.0	-19.8	2.81 H	34	21.0	13.2
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	65.6 PK	74.0	-8.4	2.55 V	251	62.5	3.1
2	5150.00	52.7 AV	54.0	-1.3	2.55 V	251	49.6	3.1
3	*5210.00	99.3 PK			2.55 V	251	96.4	2.9
4	*5210.00	90.2 AV			2.55 V	251	87.3	2.9
5	5350.00	59.4 PK	74.0	-14.6	2.55 V	251	56.5	2.9
6	5350.00	47.7 AV	54.0	-6.3	2.55 V	251	44.8	2.9
7	#10420.00	57.1 PK	68.2	-11.1	1.17 V	167	44.5	12.6
8	15630.00	48.2 PK	74.0	-25.8	1.68 V	264	35.0	13.2
9	15630.00	35.9 AV	54.0	-18.1	1.68 V	264	22.7	13.2

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.

CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	49.5 PK	74.0	-24.5	1.03 H	150	46.4	3.1
2	5150.00	38.3 AV	54.0	-15.7	1.03 H	150	35.2	3.1
3	*5290.00	92.8 PK			1.03 H	150	90.2	2.6
4	*5290.00	83.6 AV			1.03 H	150	81.0	2.6
5	5350.00	61.4 PK	74.0	-12.6	1.03 H	150	58.5	2.9
6	5350.00	47.3 AV	54.0	-6.7	1.03 H	150	44.4	2.9
7	#10580.00	56.2 PK	68.2	-12.0	1.95 H	117	43.8	12.4
8	15870.00	47.8 PK	74.0	-26.2	2.82 H	23	35.9	11.9
9	15870.00	36.2 AV	54.0	-17.8	2.82 H	23	24.3	11.9
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	5150.00	49.7 PK	74.0	-24.3	1.00 V	110	46.6	3.1
2	5150.00	38.7 AV	54.0	-15.3	1.00 V	110	35.6	3.1
3	*5290.00	96.6 PK			1.00 V	110	94.0	2.6
4	*5290.00	87.2 AV			1.00 V	110	84.6	2.6
5	5350.00	64.3 PK	74.0	-9.7	1.00 V	110	61.4	2.9
6	5350.00	52.8 AV	54.0	-1.2	1.00 V	110	49.9	2.9
7	#10580.00	55.7 PK	68.2	-12.5	1.23 V	161	43.3	12.4
8	15870.00	47.5 PK	74.0	-26.5	1.61 V	253	35.6	11.9
9	15870.00	36.8 AV	54.0	-17.2	1.61 V	253	24.9	11.9

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.

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	62.2 PK	74.0	-11.8	1.05 H	159	59.0	3.2
2	5460.00	47.6 AV	54.0	-6.4	1.05 H	159	44.4	3.2
3	#5470.00	63.5 PK	68.2	-4.7	1.05 H	159	60.3	3.2
4	*5530.00	94.3 PK			1.05 H	159	91.2	3.1
5	*5530.00	85.5 AV			1.05 H	159	82.4	3.1
6	#5725.00	49.1 PK	68.2	-19.1	1.05 H	159	45.7	3.4
7	11060.00	57.7 PK	74.0	-16.3	1.90 H	113	45.0	12.7
8	11060.00	44.2 AV	54.0	-9.8	1.90 H	113	31.5	12.7
9	#16590.00	47.7 PK	68.2	-20.5	2.71 H	16	32.9	14.8

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	65.5 PK	74.0	-8.5	1.00 V	111	62.3	3.2
2	5460.00	52.9 AV	54.0	-1.1	1.00 V	111	49.7	3.2
3	#5470.00	66.1 PK	68.2	-2.1	1.00 V	111	62.9	3.2
4	*5530.00	98.5 PK			1.00 V	111	95.4	3.1
5	*5530.00	89.3 AV			1.00 V	111	86.2	3.1
6	#5725.00	49.2 PK	68.2	-19.0	1.00 V	111	45.8	3.4
7	11060.00	55.8 PK	74.0	-18.2	1.22 V	147	43.1	12.7
8	11060.00	43.2 AV	54.0	-10.8	1.22 V	147	30.5	12.7
9	#16590.00	49.8 PK	68.2	-18.4	1.64 V	261	35.0	14.8

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.

CHANNEL	TX Channel 122	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	62.2 PK	74.0	-11.8	1.01 H	165	59.0	3.2
2	5460.00	46.7 AV	54.0	-7.3	1.01 H	165	43.5	3.2
3	#5470.00	63.4 PK	68.2	-4.8	1.01 H	165	60.2	3.2
4	*5610.00	100.6 PK			1.01 H	165	97.4	3.2
5	*5610.00	91.7 AV			1.01 H	165	88.5	3.2
6	#5725.00	65.2 PK	68.2	-3.0	1.01 H	165	61.8	3.4
7	11220.00	57.2 PK	74.0	-16.8	1.91 H	100	44.5	12.7
8	11220.00	43.8 AV	54.0	-10.2	1.91 H	100	31.1	12.7
9	#16830.00	48.4 PK	68.2	-19.8	2.80 H	14	33.1	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	5460.00	65.2 PK	74.0	-8.8	1.00 V	111	62.0	3.2
2	5460.00	51.7 AV	54.0	-2.3	1.00 V	111	48.5	3.2
3	#5470.00	65.6 PK	68.2	-2.6	1.00 V	111	62.4	3.2
4	*5610.00	105.1 PK			1.00 V	111	101.9	3.2
5	*5610.00	95.9 AV			1.00 V	111	92.7	3.2
6	#5725.00	67.1 PK	68.2	-1.1	1.00 V	111	63.7	3.4
7	11220.00	60.3 PK	74.0	-13.7	1.21 V	153	47.6	12.7
8	11220.00	47.6 AV	54.0	-6.4	1.21 V	153	34.9	12.7
9	#16830.00	53.6 PK	68.2	-14.6	1.63 V	237	38.3	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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	#5646.29	60.0 PK	68.2	-8.2	1.10 H	158	57.0	3.0
2	*5775.00	100.9 PK			1.10 H	158	97.3	3.6
3	*5775.00	93.1 AV			1.10 H	158	89.5	3.6
4	#5947.85	58.1 PK	68.2	-10.1	1.10 H	158	54.4	3.7
5	11550.00	59.9 PK	74.0	-14.1	1.86 H	115	47.0	12.9
6	11550.00	45.2 AV	54.0	-8.8	1.86 H	115	32.3	12.9
7	#17325.00	51.1 PK	68.2	-17.1	2.74 H	41	34.7	16.4
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	#5645.50	64.9 PK	68.2	-3.3	1.00 V	112	61.9	3.0
2	*5775.00	103.5 PK			1.00 V	112	99.9	3.6
3	*5775.00	95.6 AV			1.00 V	112	92.0	3.6
4	#5927.10	65.5 PK	68.2	-2.7	1.00 V	112	61.8	3.7
5	11550.00	61.2 PK	74.0	-12.8	1.22 V	146	48.3	12.9
6	11550.00	48.2 AV	54.0	-5.8	1.22 V	146	35.3	12.9
7	#17325.00	55.4 PK	68.2	-12.8	1.72 V	236	39.0	16.4

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.

Below 1GHz Data:

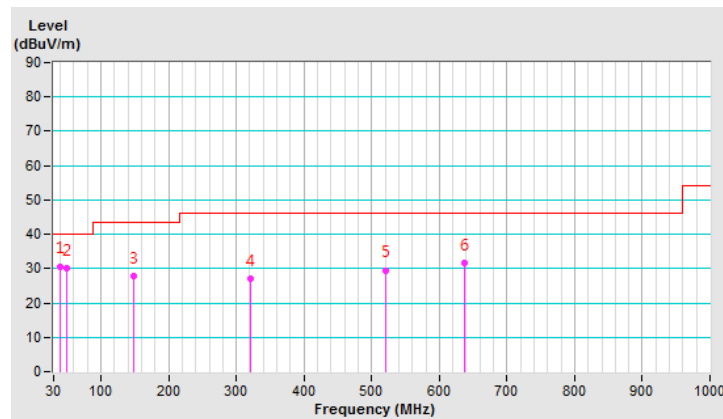
802.11ac (VHT40)

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	38.75	30.7 QP	40.0	-9.3	1.50 H	360	40.3	-9.6
2	48.99	30.1 QP	40.0	-9.9	2.00 H	0	39.0	-8.9
3	147.98	27.8 QP	43.5	-15.7	1.00 H	59	35.9	-8.1
4	321.53	27.0 QP	46.0	-19.0	1.00 H	189	33.4	-6.4
5	520.94	29.6 QP	46.0	-16.4	2.00 H	63	31.4	-1.8
6	637.00	31.7 QP	46.0	-14.3	1.50 H	150	30.7	1.0

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 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.

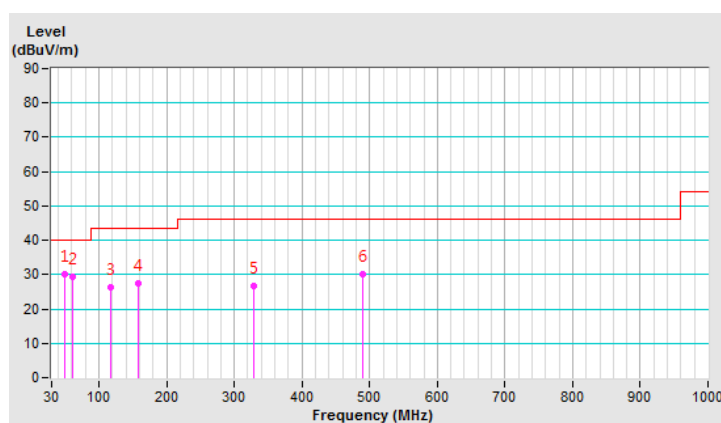


CHANNEL	TX Channel 159	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	48.70	30.1 QP	40.0	-9.9	1.50 V	0	39.0	-8.9
2	61.50	29.4 QP	40.0	-10.6	1.50 V	352	38.8	-9.4
3	117.47	26.4 QP	43.5	-17.1	1.50 V	195	36.7	-10.3
4	157.51	27.6 QP	43.5	-15.9	1.50 V	135	35.8	-8.2
5	328.71	26.8 QP	46.0	-19.2	1.50 V	296	33.0	-6.2
6	489.71	30.1 QP	46.0	-15.9	1.50 V	226	32.5	-2.4

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 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 0.50MHz.

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 24, 2018	Oct. 23, 2019
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 22, 2018	Oct. 21, 2019
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 04, 2018	June 03, 2019
50 ohms Terminator	N/A	3	Oct. 22, 2018	Oct. 21, 2019
RF Cable	5D-FB	COCCAB-001	Sep. 28, 2018	Sep. 27, 2019
Fixed attenuator EMCI	STI02-2200-10	003	Mar. 16, 2018	Mar. 15, 2019
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
- 3 Tested Date: Mar. 15, 2019

4.2.3 Test Procedure

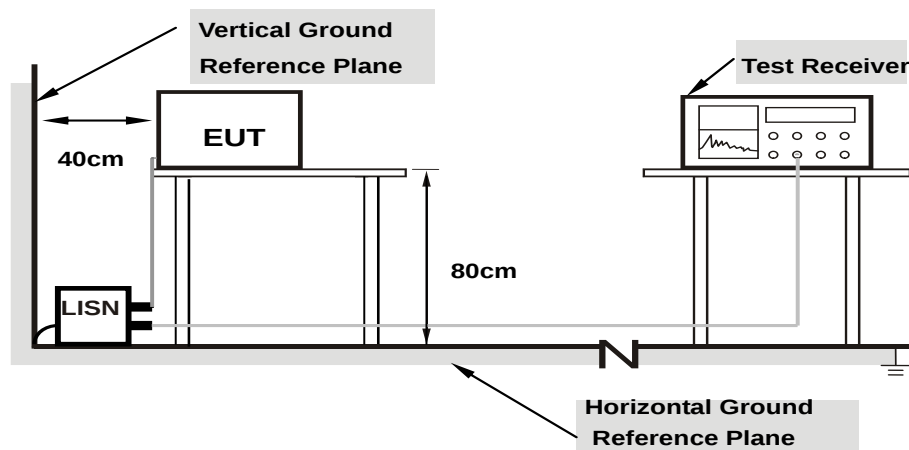
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

NOTE: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

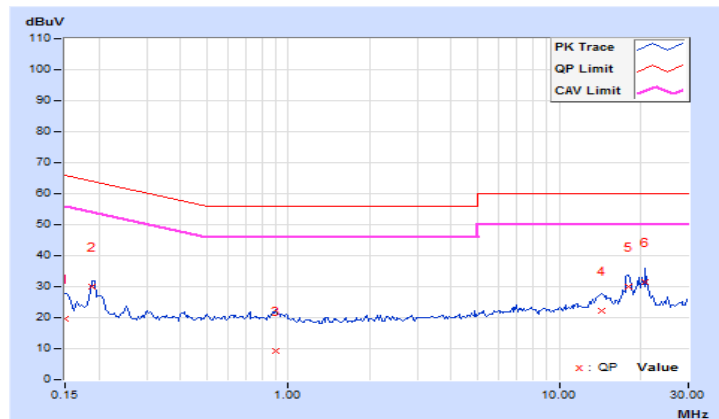
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.02	9.54	2.29	19.56	12.31	66.00	56.00	-46.44	-43.69
2	0.18906	10.04	19.92	10.60	29.96	20.64	64.08	54.08	-34.12	-33.44
3	0.90000	10.10	-0.80	-9.96	9.30	0.14	56.00	46.00	-46.70	-45.86
4	14.32031	10.76	11.63	6.67	22.39	17.43	60.00	50.00	-37.61	-32.57
5	18.12109	10.97	18.98	11.57	29.95	22.54	60.00	50.00	-30.05	-27.46
6	20.80859	11.08	20.39	14.40	31.47	25.48	60.00	50.00	-28.53	-24.52

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.

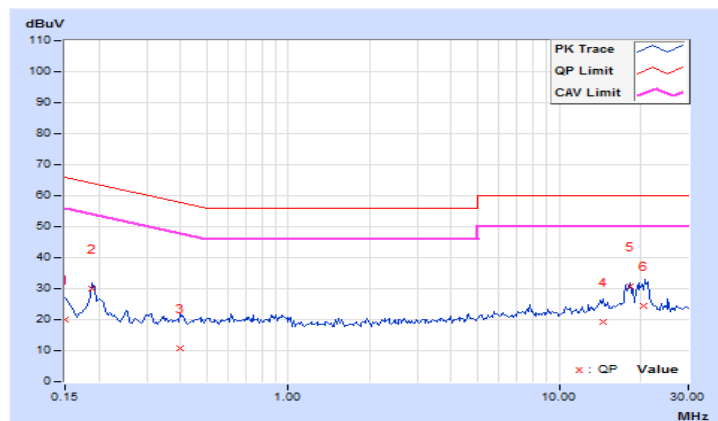


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.93	9.90	3.09	19.83	13.02	66.00	56.00	-46.17	-42.98
2	0.18906	9.94	20.24	10.89	30.18	20.83	64.08	54.08	-33.90	-33.25
3	0.40000	9.96	0.80	-10.15	10.76	-0.19	57.85	47.85	-47.09	-48.04
4	14.59766	10.61	8.51	2.24	19.12	12.85	60.00	50.00	-40.88	-37.15
5	18.30469	10.79	19.93	15.89	30.72	26.68	60.00	50.00	-29.28	-23.32
6	20.53125	10.88	13.65	8.31	24.53	19.19	60.00	50.00	-35.47	-30.81

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

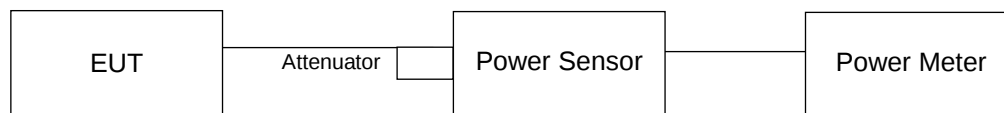
4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(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)
	√	Client device	250mW (24 dBm)
U-NII-2A		√	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C		√	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3		√	1 Watt (30 dBm)

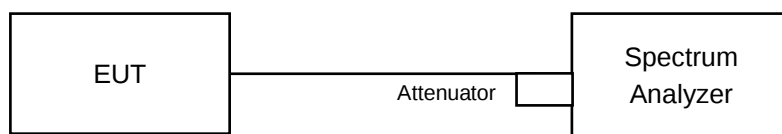
*B is the 26 dB emission bandwidth in megahertz

4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT



FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For 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 and set the detector to AVERAGE. Duty factor is not added to measured value.

FOR 26dB OCCUPIED BANDWIDTH

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. 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 Condition

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 Result

802.11a

Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
36	5180	66.527	18.23	24.00	Pass
40	5200	84.723	19.28	24.00	Pass
48	5240	64.565	18.10	24.00	Pass
52	5260	53.951	17.32	24.00	Pass
60	5300	38.371	15.84	24.00	Pass
64	5320	28.907	14.61	24.00	Pass
100	5500	18.535	12.68	24.00	Pass
116	5580	36.644	15.64	24.00	Pass
140	5700	41.495	16.18	24.00	Pass
149	5745	138.676	21.42	30.00	Pass
157	5785	142.561	21.54	30.00	Pass
165	5825	147.231	21.68	30.00	Pass

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
52	5260	23.32
60	5300	21.42
64	5320	21.47
100	5500	21.55
116	5580	21.74
140	5700	22.98

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	23.32	24.67 > 24
60	5300	21.42	24.3 > 24
64	5320	21.47	24.31 > 24
100	5500	21.55	24.33 > 24
116	5580	21.74	24.37 > 24
140	5700	22.98	24.61 > 24

802.11ac (VHT20)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
36	5180	79.799	19.02	24.00	Pass
40	5200	92.897	19.68	24.00	Pass
48	5240	61.376	17.88	24.00	Pass
52	5260	75.509	18.78	24.00	Pass
60	5300	59.566	17.75	24.00	Pass
64	5320	44.771	16.51	24.00	Pass
100	5500	21.677	13.36	24.00	Pass
116	5580	32.211	15.08	24.00	Pass
140	5700	45.499	16.58	24.00	Pass
149	5745	137.088	21.37	30.00	Pass
157	5785	140.605	21.48	30.00	Pass
165	5825	145.211	21.62	30.00	Pass

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
52	5260	27.84
60	5300	25.77
64	5320	22.64
100	5500	21.84
116	5580	22.07
140	5700	24.29

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	27.84	25.44 > 24
60	5300	25.77	25.11 > 24
64	5320	22.64	24.54 > 24
100	5500	21.84	24.39 > 24
116	5580	22.07	24.43 > 24
140	5700	24.29	24.85 > 24

802.11ac (VHT40)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
38	5190	69.502	18.42	24.00	Pass
46	5230	55.081	17.41	24.00	Pass
54	5270	83.368	19.21	24.00	Pass
62	5310	35.645	15.52	24.00	Pass
102	5510	27.416	14.38	24.00	Pass
110	5550	85.507	19.32	24.00	Pass
134	5670	64.863	18.12	24.00	Pass
151	5755	167.109	22.23	30.00	Pass
159	5795	181.134	22.58	30.00	Pass

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
54	5270	70.13
62	5310	41.95
102	5510	41.41
110	5550	70.12
134	5670	69.94

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	70.13	29.45 > 24
62	5310	41.95	27.22 > 24
102	5510	41.41	27.17 > 24
110	5550	70.12	29.45 > 24
134	5670	69.94	29.44 > 24

802.11ac (VHT80)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
42	5210	72.611	18.61	24.00	Pass
58	5290	22.961	13.61	24.00	Pass
106	5530	18.323	12.63	24.00	Pass
122	5610	105.439	20.23	24.00	Pass
155	5775	145.881	21.64	30.00	Pass

26dB BANDWIDTH:

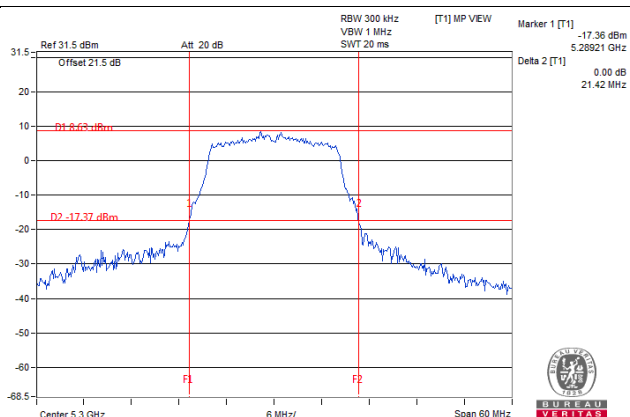
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
58	5290	82.02
106	5530	82.06
122	5610	209.07

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

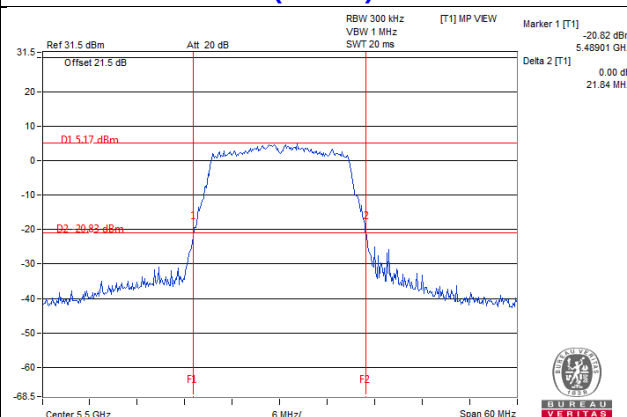
Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.02	30.13 > 24
106	5530	82.06	30.14 > 24
122	5610	209.07	34.2 > 24

Spectrum Plot of Worst Value

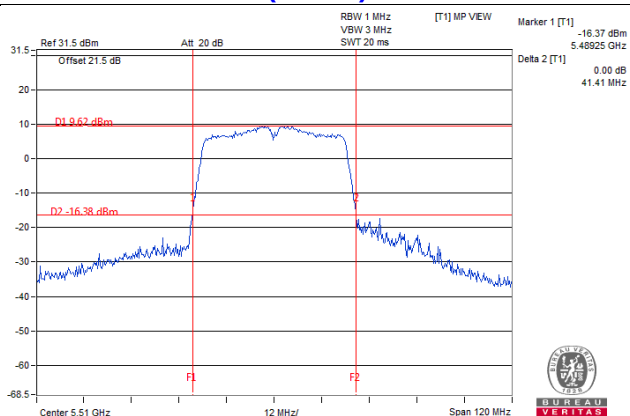
802.11a – CH60



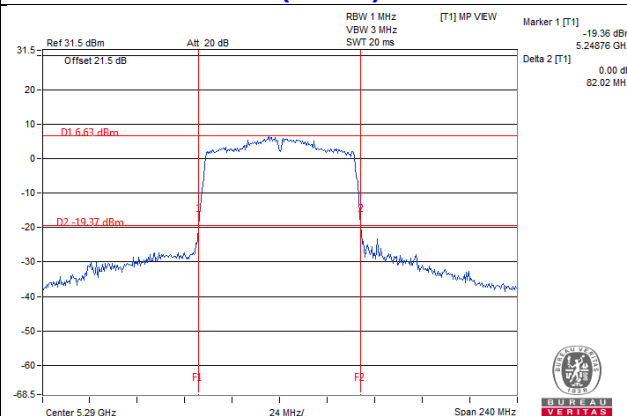
802.11ac (VHT20) – CH100



802.11ac (VHT40) – CH102

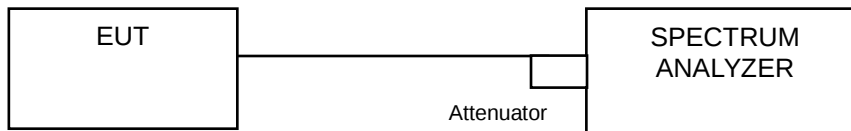


802.11ac (VHT80) – CH58



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	16.92
40	5200	17.28
48	5240	17.04
52	5260	16.92
60	5300	16.92
64	5320	16.80
100	5500	16.92
116	5580	16.92
140	5700	17.04
149	5745	27.72
157	5785	24.72
165	5825	25.92

802.11ac (VHT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	18.48
40	5200	18.60
48	5240	18.00
52	5260	18.24
60	5300	18.00
64	5320	18.00
100	5500	18.00
116	5580	17.88
140	5700	18.12
149	5745	27.84
157	5785	28.56
165	5825	27.72

802.11ac (VHT40)

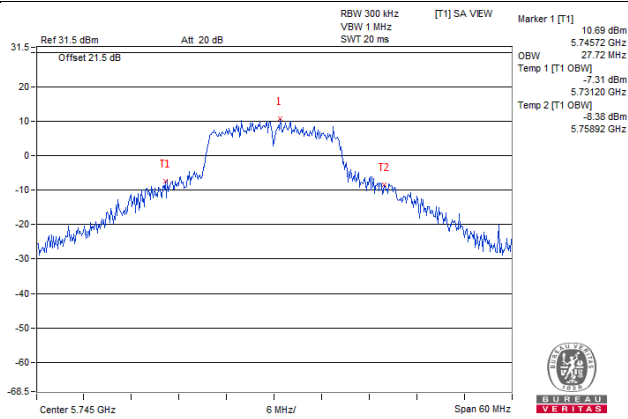
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.96
46	5230	36.72
54	5270	36.96
62	5310	36.48
102	5510	36.72
110	5550	37.20
134	5670	36.72
151	5755	58.32
159	5795	59.28

802.11ac (VHT80)

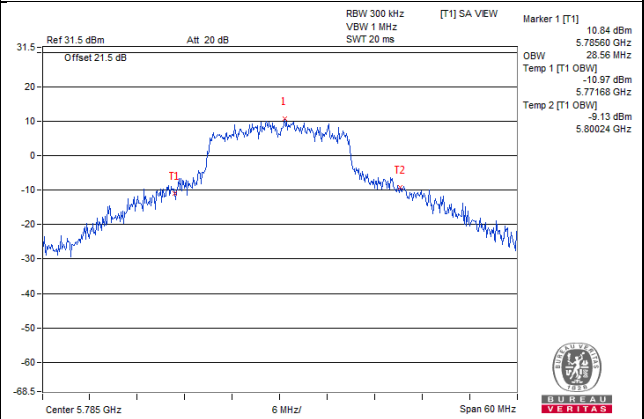
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
42	5210	76.32
58	5290	75.36
106	5530	75.84
122	5610	116.64
155	5775	103.20

Spectrum Plot of Worst Value

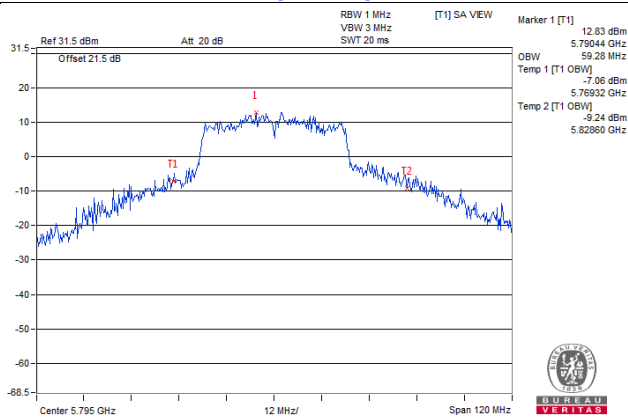
802.11a: CH149



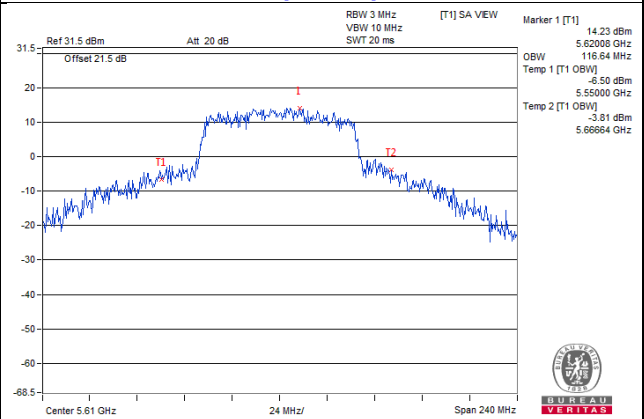
802.11ac (VHT20): CH157



802.11ac (VHT40): CH159

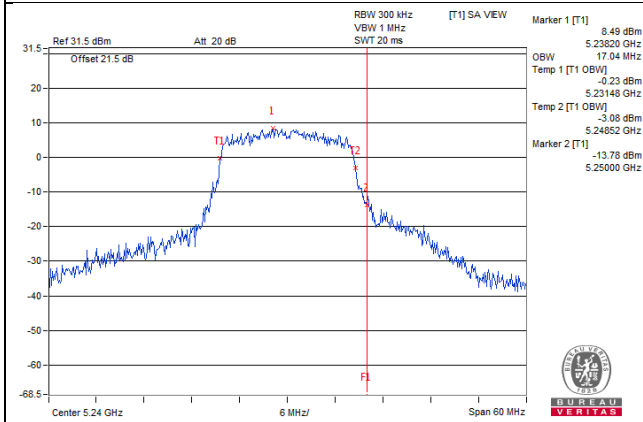


802.11ac (VHT80): CH122

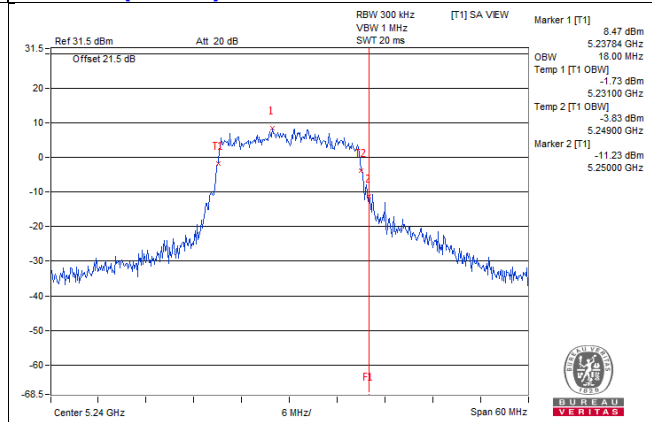


Spectrum Plot for near by DFS band (DFS is required, if 99% OCP straddle into U-NII-2A band)

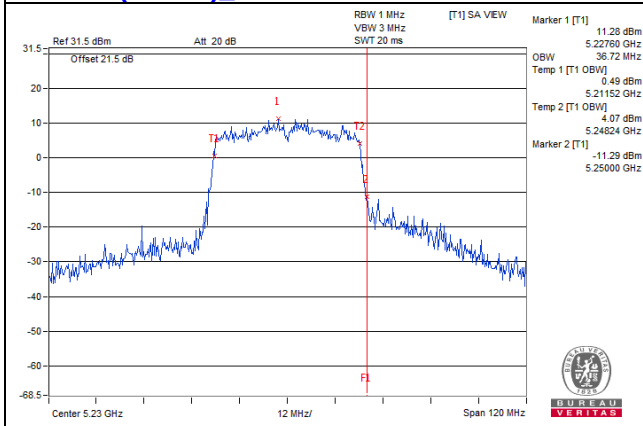
802.11a_Chain0 / CH48



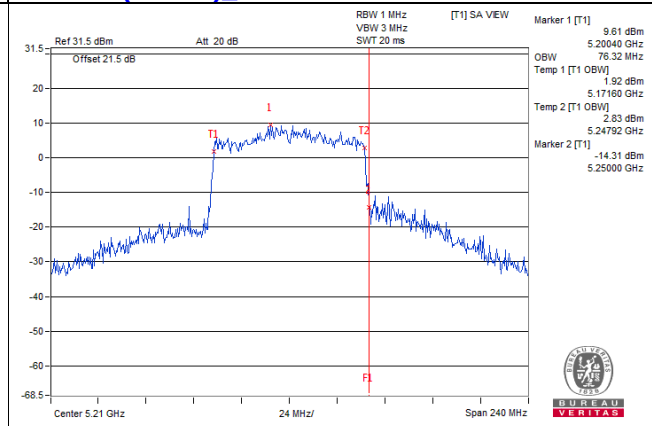
802.11ac(VHT20)_Chain0 / CH48



802.11ac(VHT40)_Chain0 / CH46

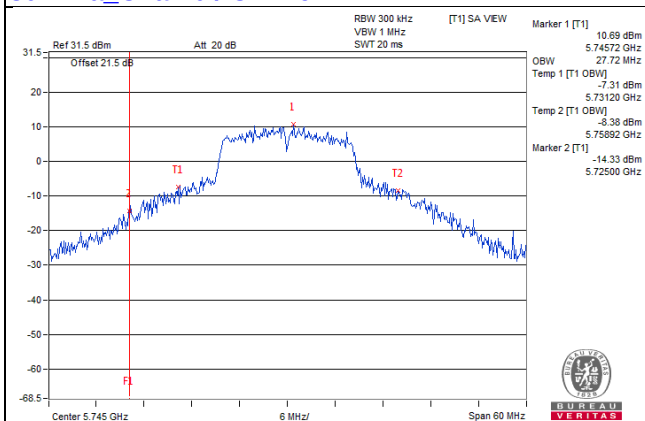


802.11ac(VHT80)_Chain0 / CH42

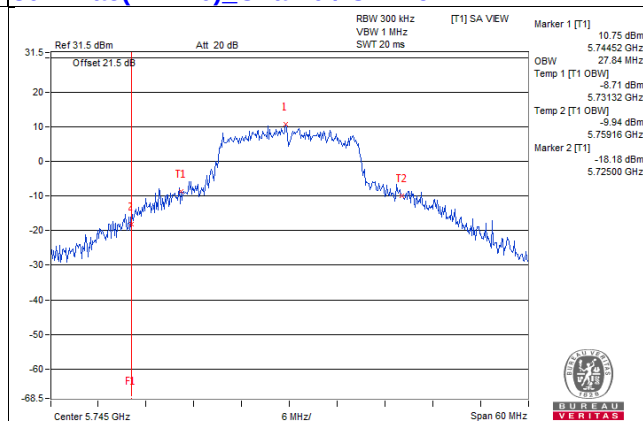


Spectrum Plot for near by DFS band (DFS is required, if 99% OCP straddle into U-NII-2C band)

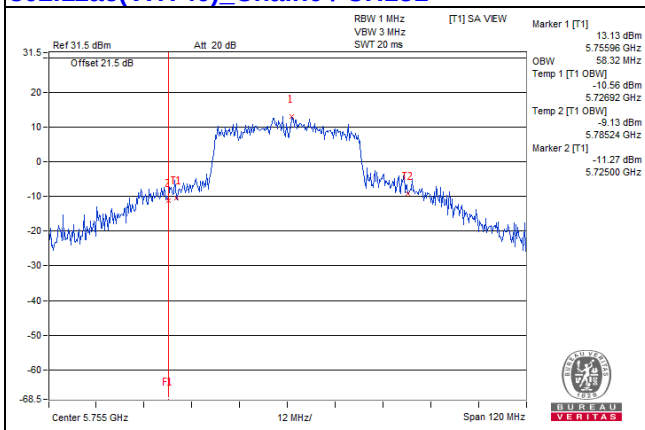
802.11a_Chain0 / CH149



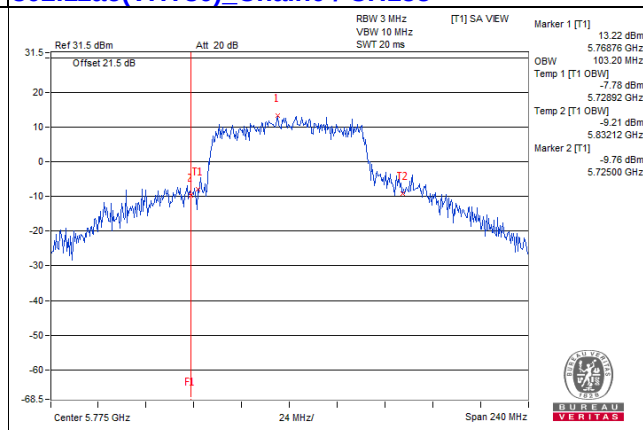
802.11ac(VHT20)_Chain0 / CH149



802.11ac(VHT40)_Chain0 / CH151



802.11ac(VHT80)_Chain0 / CH155

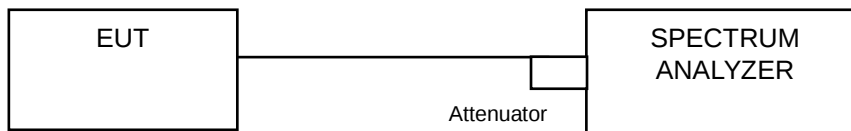


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

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 Procedure

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

Using method SA-2

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW $\geq$ 3 MHz, 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 band:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, 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 (reducing) 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/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
36	5180	4.98	0.22	5.20	11.00	Pass
40	5200	5.97	0.22	6.19	11.00	Pass
48	5240	4.87	0.22	5.09	11.00	Pass
52	5260	4.60	0.22	4.82	11.00	Pass
60	5300	3.23	0.22	3.45	11.00	Pass
64	5320	2.09	0.22	2.31	11.00	Pass
100	5500	-0.52	0.22	-0.30	11.00	Pass
116	5580	2.76	0.22	2.98	11.00	Pass
140	5700	3.07	0.22	3.29	11.00	Pass

Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
36	5180	5.44	0.23	5.67	11.00	Pass
40	5200	6.26	0.23	6.49	11.00	Pass
48	5240	4.17	0.23	4.40	11.00	Pass
52	5260	5.57	0.23	5.80	11.00	Pass
60	5300	4.52	0.23	4.75	11.00	Pass
64	5320	3.78	0.23	4.01	11.00	Pass
100	5500	-0.14	0.23	0.09	11.00	Pass
116	5580	1.74	0.23	1.97	11.00	Pass
140	5700	2.86	0.23	3.09	11.00	Pass

Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
38	5190	1.46	0.46	1.92	11.00	Pass
46	5230	0.09	0.46	0.55	11.00	Pass
54	5270	1.62	0.46	2.08	11.00	Pass
62	5310	-0.79	0.46	-0.33	11.00	Pass
102	5510	-2.74	0.46	-2.28	11.00	Pass
118	5590	2.31	0.46	2.77	11.00	Pass
134	5670	0.19	0.46	0.65	11.00	Pass

Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

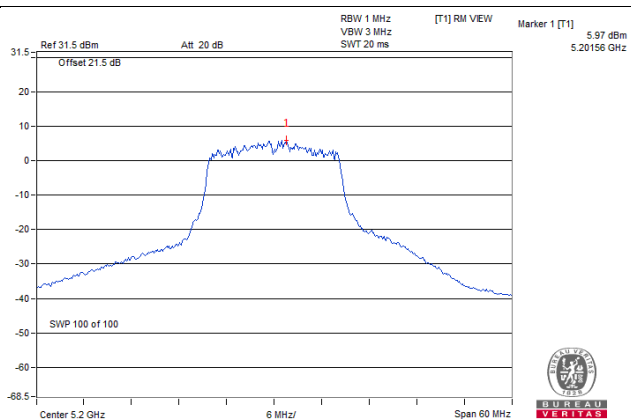
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
42	5210	-2.76	0.95	-1.81	11.00	Pass
58	5290	-7.95	0.95	-7.00	11.00	Pass
106	5530	-8.36	0.95	-7.41	11.00	Pass
122	5610	-2.60	0.95	-1.65	11.00	Pass

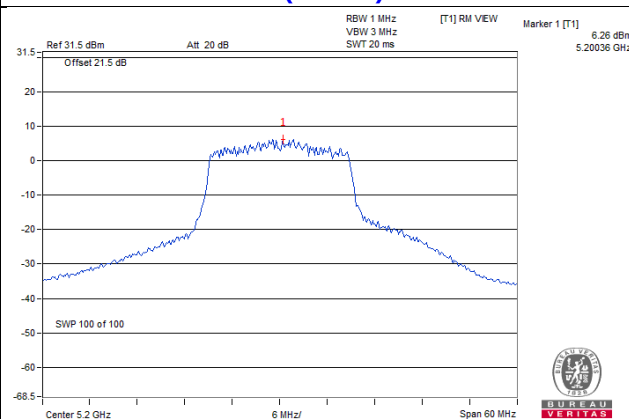
Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

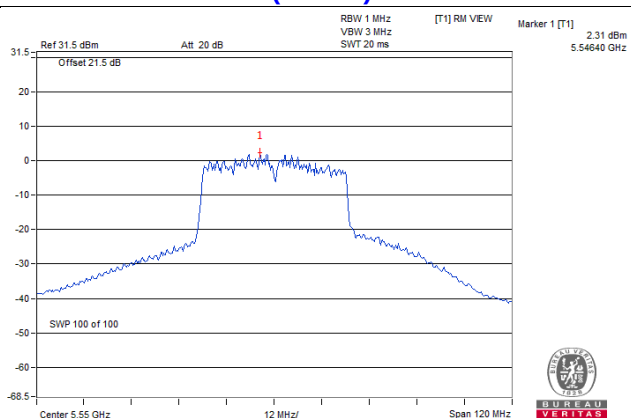
802.11a / CH40



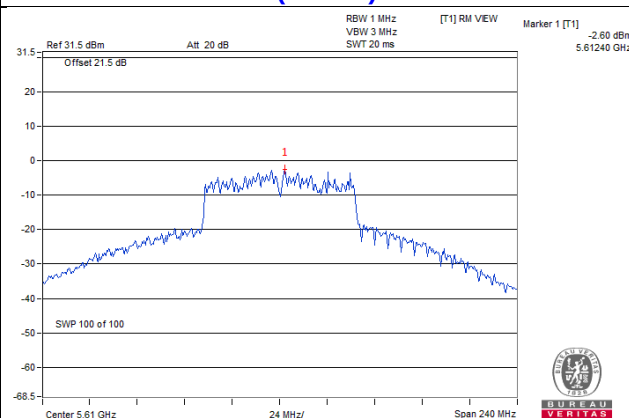
802.11ac (VHT20) / CH40



802.11ac (VHT40) / CH110



802.11ac (VHT80) / CH122



For U-NII-3:

802.11a

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/300kHz)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
149	5745	-1.98	0.22	-1.76	0.46	30.00	Pass
157	5785	-2.79	0.22	-2.57	-0.35	30.00	Pass
165	5825	-1.42	0.22	-1.20	1.02	30.00	Pass

Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/300kHz)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
149	5745	-1.99	0.23	-1.76	0.46	30.00	Pass
157	5785	-2.71	0.23	-2.48	-0.26	30.00	Pass
165	5825	-1.47	0.23	-1.24	0.98	30.00	Pass

Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/300kHz)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
151	5755	-6.20	0.46	-5.74	-3.52	30.00	Pass
159	5795	-6.28	0.46	-5.82	-3.60	30.00	Pass

Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

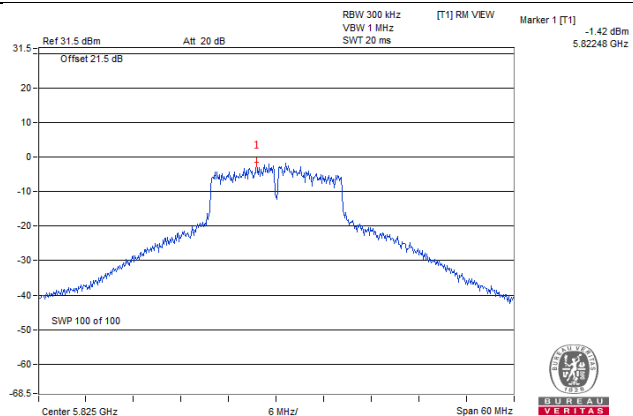
802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/300kHz)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
155	5745	-10.30	0.95	-9.35	-7.13	30.00	Pass

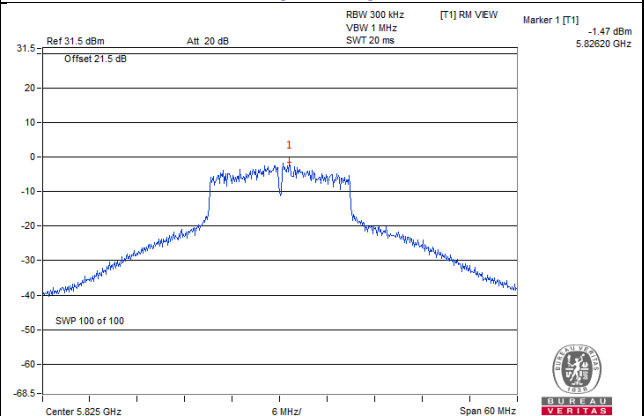
Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

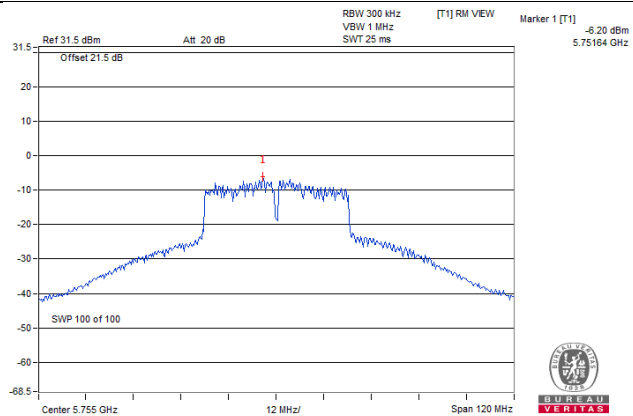
802.11a / CH165



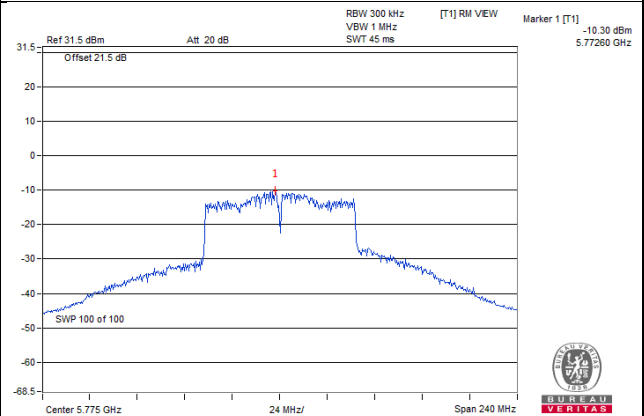
802.11ac (VHT20) / CH165



802.11ac (VHT40) / CH151



802.11ac (VHT80) / CH155

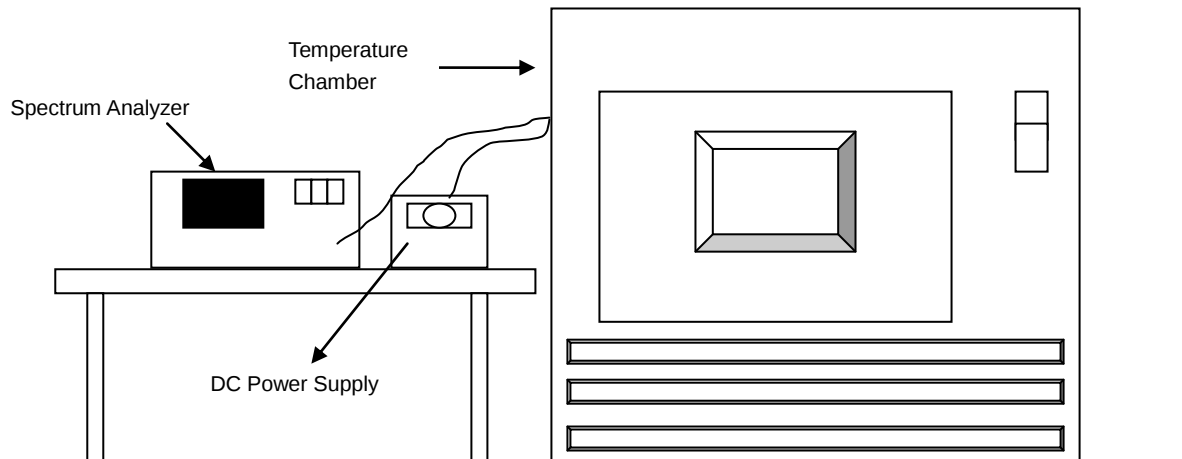


4.6 Frequency Stability Measurement

4.6.1 Limits 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 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
50	3.6	5180.01	PASS	5180.0112	PASS	5180.0101	PASS	5180.0096	PASS
40	3.6	5180	PASS	5180.003	PASS	5180.0012	PASS	5180.0048	PASS
30	3.6	5179.9792	PASS	5179.9763	PASS	5179.9794	PASS	5179.9779	PASS
20	3.6	5179.994	PASS	5179.9901	PASS	5179.9944	PASS	5179.9903	PASS
10	3.6	5180.0246	PASS	5180.0242	PASS	5180.0254	PASS	5180.0251	PASS
0	3.6	5179.9759	PASS	5179.9779	PASS	5179.9762	PASS	5179.9786	PASS
-10	3.6	5180.0246	PASS	5180.0245	PASS	5180.0265	PASS	5180.0271	PASS
-20	3.6	5179.9808	PASS	5179.9799	PASS	5179.9788	PASS	5179.9805	PASS
-30	3.6	5179.9816	PASS	5179.9813	PASS	5179.9822	PASS	5179.9832	PASS

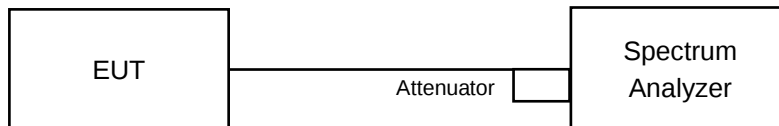
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	4.14	5179.9934	PASS	5179.9906	PASS	5179.995	PASS	5179.991	PASS
	3.6	5179.994	PASS	5179.9901	PASS	5179.9944	PASS	5179.9903	PASS
	3.06	5179.9932	PASS	5179.9903	PASS	5179.9954	PASS	5179.9905	PASS

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

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) = 100kHz
- 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)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	15.79	0.5	PASS
157	5785	16.07	0.5	PASS
165	5825	15.94	0.5	PASS

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.15	0.5	PASS
157	5785	16.57	0.5	PASS
165	5825	17.56	0.5	PASS

802.11ac (VHT40)

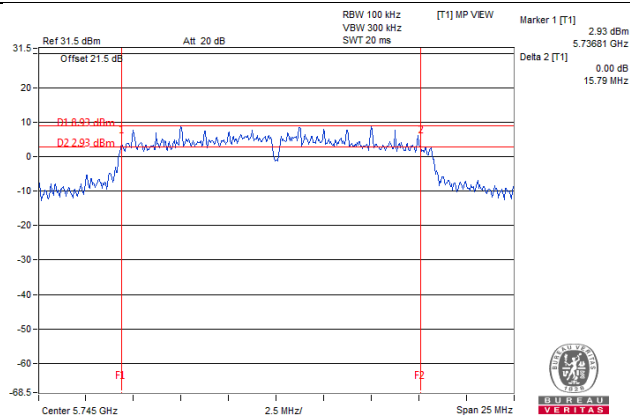
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	36.14	0.5	PASS
159	5795	35.50	0.5	PASS

802.11ac (VHT80)

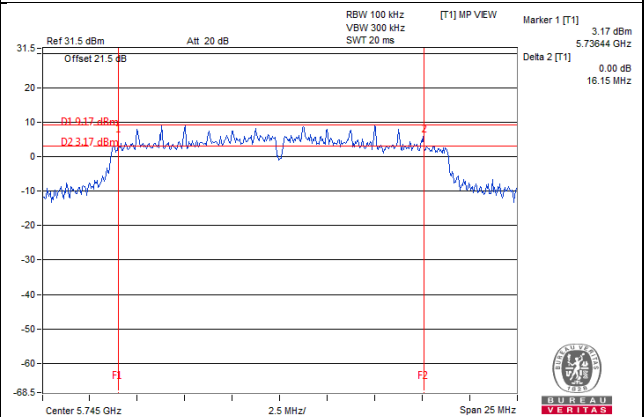
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
155	5775	75.61	0.5	PASS

Spectrum Plot of Worst Value

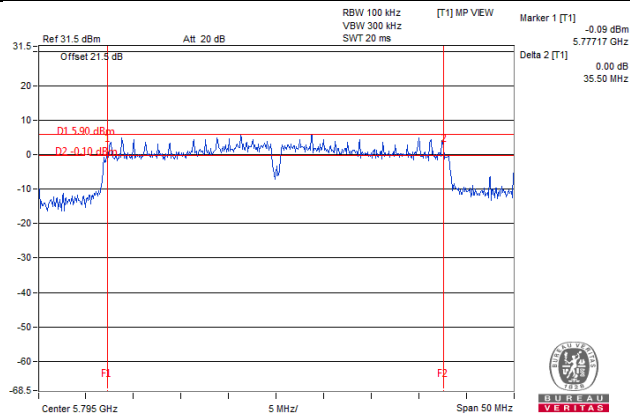
802.11a / CH4149



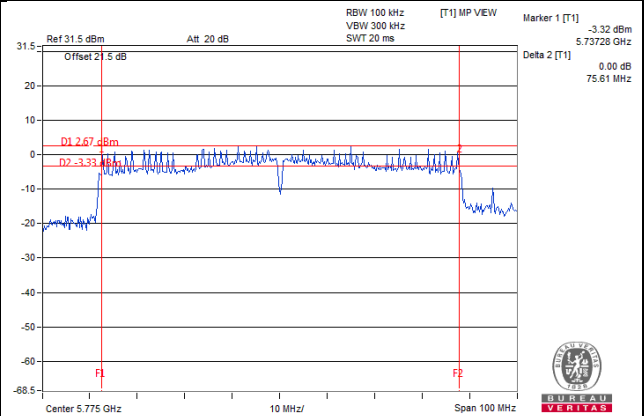
802.11ac (VHT20) / CH149



802.11ac (VHT40) / CH159



802.11ac (VHT80) / CH155



5 Pictures of Test Arrangements

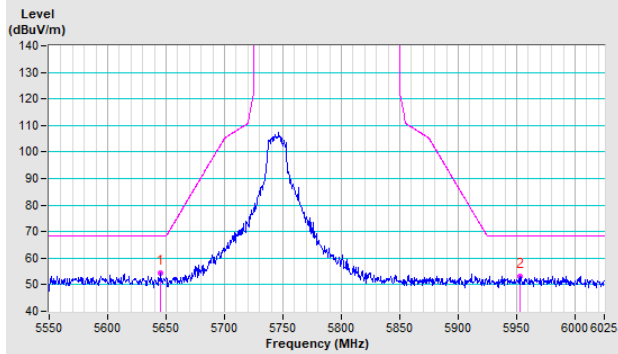
Please refer to the attached file (Test Setup Photo).

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

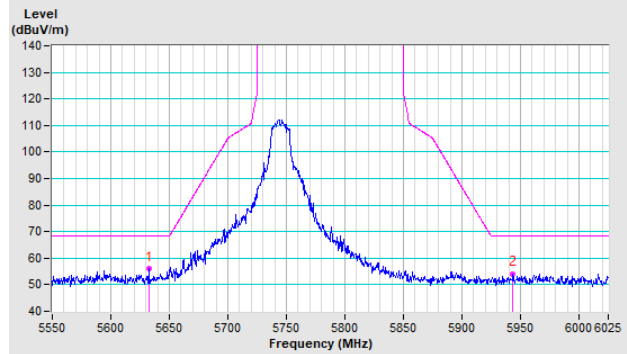
802.11a

CH 149 5745 MHz

Horizontal

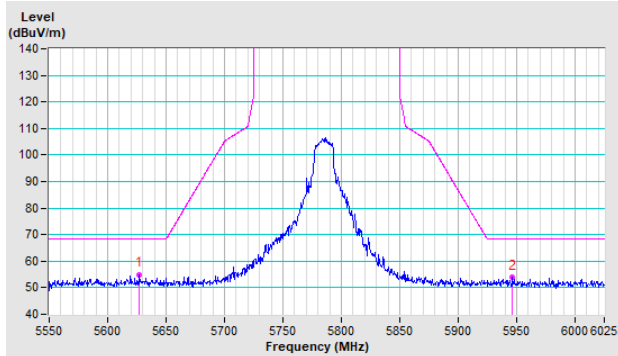


Vertical

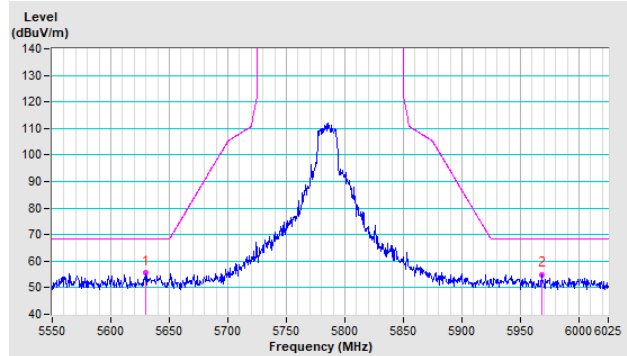


CH 157 5785 MHz

Horizontal

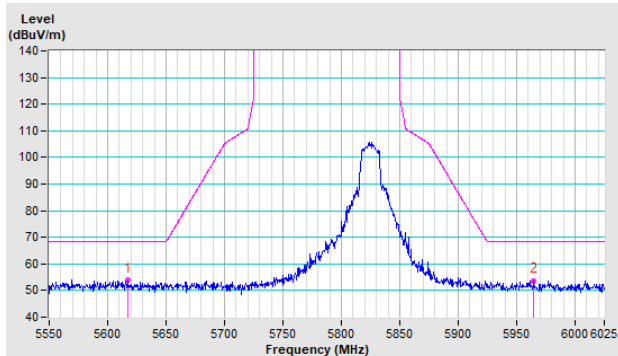


Vertical

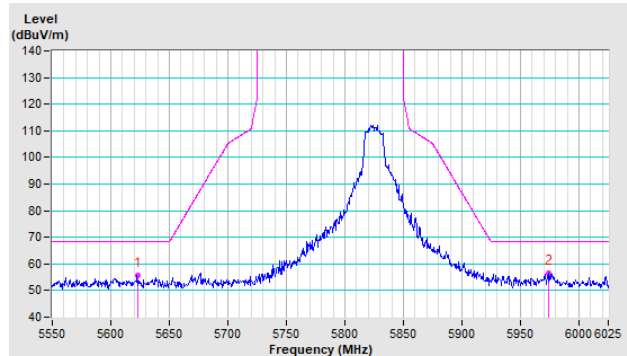


CH 165 5825 MHz

Horizontal



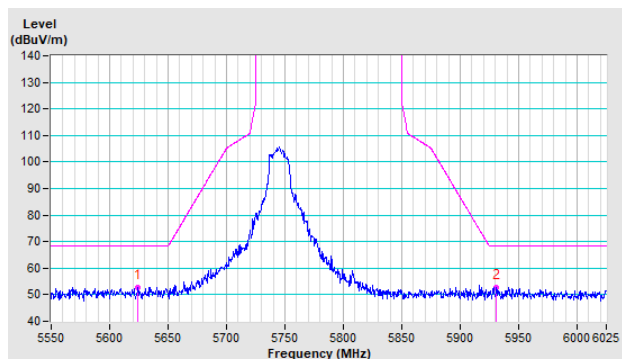
Vertical



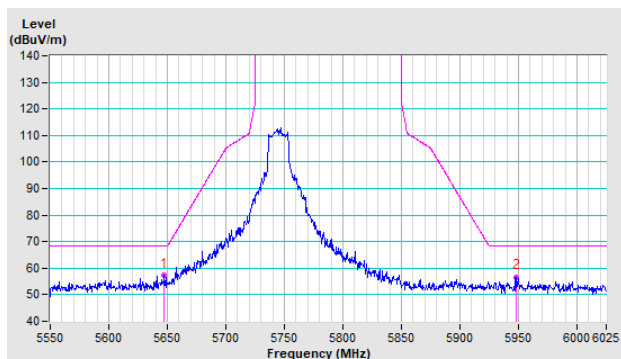
802.11ac (VHT20)

CH 149 5745 MHz

Horizontal

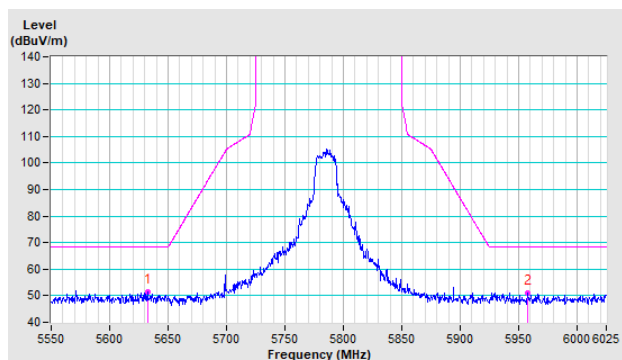


Vertical

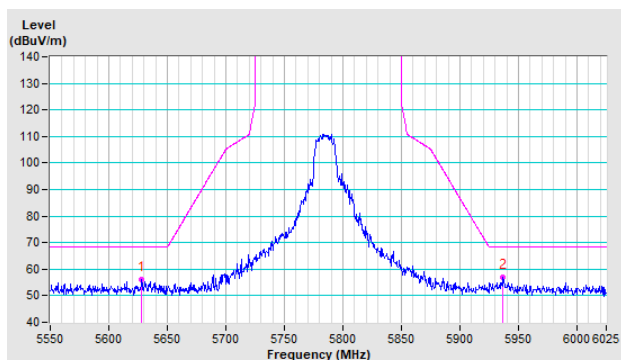


CH 157 5785 MHz

Horizontal

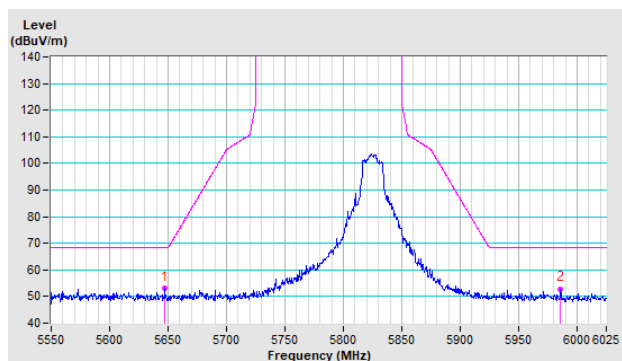


Vertical

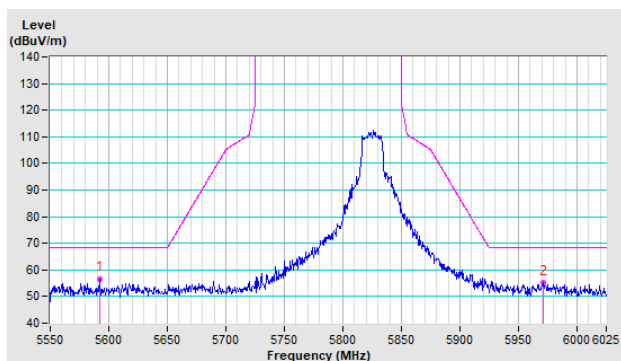


CH 165 5825 MHz

Horizontal



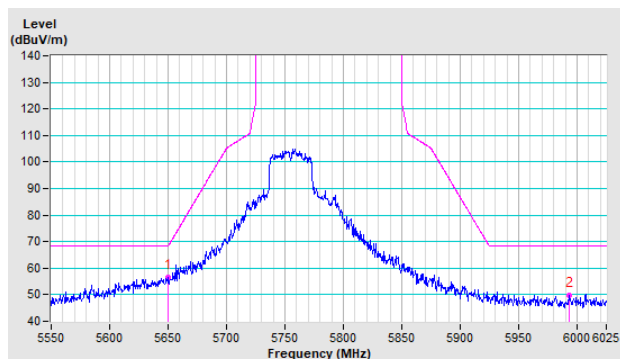
Vertical



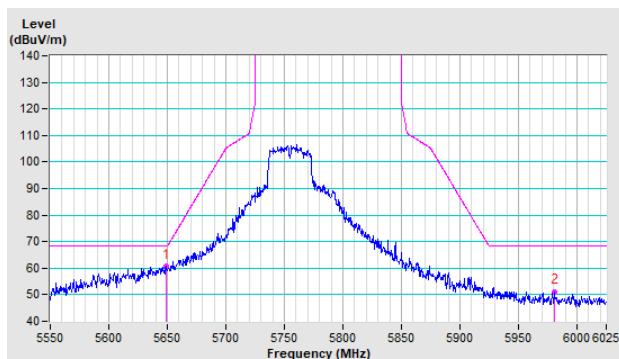
802.11ac (VHT40)

CH 151 5755 MHz

Horizontal

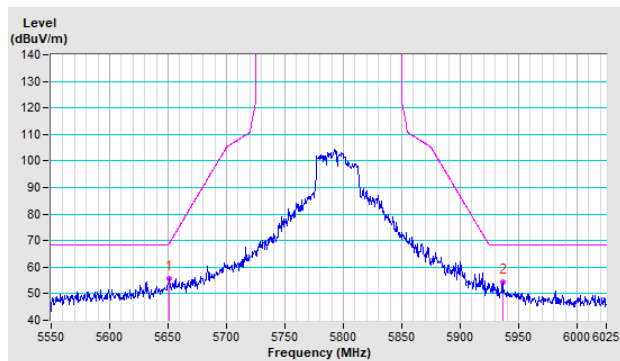


Vertical

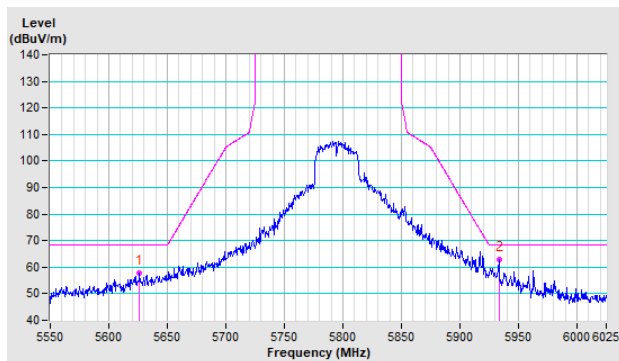


CH 159 5795 MHz

Horizontal



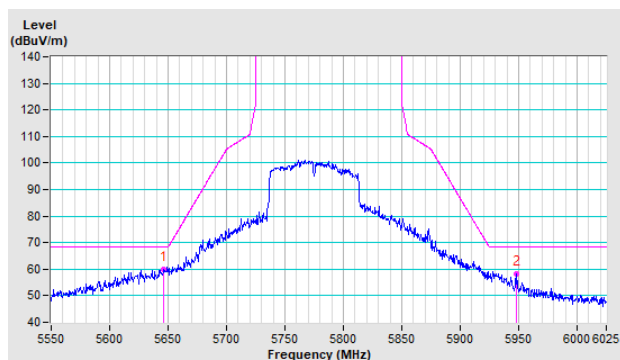
Vertical



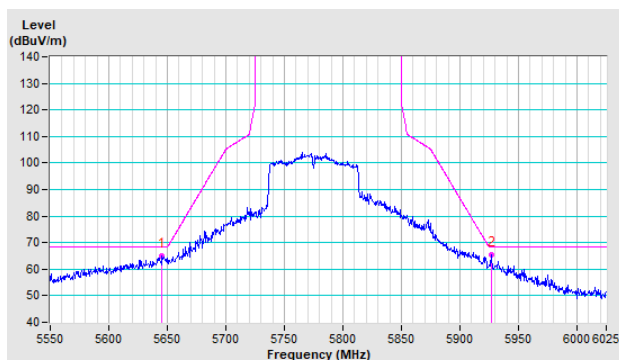
802.11ac (VHT80)

CH 155 5775 MHz

Horizontal



Vertical



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.

If you have any comments, please feel free to contact us at the following:

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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