FCC Test Report (WLAN)

Report No.:	RF180904C09-7
FCC ID:	HD5-CN85L1N
Test Model:	CN85L1N
Received Date:	Sep. 04, 2018
Test Date:	Sep. 26 to Oct. 11, 2018
Issued Date:	Oct. 20, 2018
Applicant:	Honeywell International Inc.
Address:	9680 Old Bailes Road, Fort Mill, SC 29707 USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
Test Location :	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
FCC Registration / Designation Number:	723255 / TW2022

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RF180904C09-7	Original release.	Oct. 20, 2018

1 Certificate of Conformity

Product:	Mobile computer
Brand:	Honeywell
Test Model:	CN85L1N
Sample Status:	ENGINEERING SAMPLE
Applicant:	Honeywell International Inc.
Test Date:	Sep. 26 to Oct. 11, 2018
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 : _____ , **Date:** Oct. 20, 2018

Wendy Wu / Specialist

Approved by : _____ , **Date:** Oct. 20, 2018

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	NA	Without AC power port of the EUT.
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 -2.2dB at 5350.00MHz.
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	Antenna connector is POGO pin not a standard connector.

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

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) (±)
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.53 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.08 dB
	6GHz ~ 18GHz	4.98 dB
	18GHz ~ 40GHz	5.24 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (WLAN)

Product	Mobile computer
Brand	Honeywell
Test Model	CN85L1N
Status of EUT	ENGINEERING SAMPLE
HW Version	V1.0
HW P/N	V2.0 (DVT)
SW Version	OS.02.001-HON.01.102
SW P/N	86.00.00-Debug(0368)
Power Supply Rating	3.85Vdc from battery
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT (20) mode in 2.4GHz
Modulation Technology	DSSS,OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	**2.4GHz**: 2.412 ~ 2.462GHz **5GHz:** 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.72GHz, 5.745 ~ 5.825GHz
Number of Channel	**2.4GHz:** 802.11b, 802.11g, 802.11n (HT20): 11 **5GHz:** 802.11a, 802.11n (HT20), 802.11ac (VHT20): 25 802.11n (HT40), 802.11ac (VHT40): 12 802.11ac (VHT80): 6
Output Power	**2.4GHz**: 448.641mW **5GHz:** **5.18 ~ 5.24GHz:** 83.746mW **5.26 ~ 5.32GHz:** 88.442mW **5.50 ~ 5.72GHz:** 93.321mW **5.745 ~ 5.825GHz:** 95.275mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Battery x 1, Touch pen x 1, Handstrap x 1
Data Cable Supplied	NA

Note:

1. EUT Configuration list:

Item
Scanner: N6703ER
with Keypad

2. There are WLAN, Bluetooth, Zigbee, NFC and WWAN technology used for the EUT. The EUT has three radios as following table:

Radio 1	Radio 2	Radio 3	Radio 4
WLAN+BT 1	Zigbee+BT 2	NFC	WWAN
Note: For Bluetooth technology the Radio 1 support BT 5.0 dual mode, the Radio 2 support BT-LE (4.2) single mode only.			

3. Simultaneously transmission condition.

Condition	Technology			
1	WLAN 2.4GHz	NFC	Zigbee	WWAN
2	WLAN 5GHz	NFC	Zigbee	WWAN
3	Bluetooth (Radio 1)	NFC	Zigbee	WWAN
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.				

4. The EUT needs to be supplied from battery, the information is as below table:

Brand	Model No.	Spec.
Inventus Power, Inc. / Honeywell	CW-BAT	3.85Vdc, 5800mAh, 22.3Wh

5. The antennas provided to the EUT, please refer to the following table:

Radio 1					
WLAN Antenna Spec. / Bluetooth Antenna No. 1 Spec.					
Chain No.	Antenna Gain include trace loss (dBi)	Frequency range (GHz)	Antenna type	Connector type	Trace loss (dB)
Chain 0	0.4	2.4~2.4835	PIFA	POGO pin	1.4
	1.62	5.15~5.25			2
	1.62	5.25~5.35			2
	1.15	5.47~5.725			2.4
	1.15	5.725~5.85			2.4
Chain 1	1.7	2.4~2.4835	PIFA	POGO pin	0.3
	1.3	5.15~5.25			0.9
	1.3	5.25~5.35			0.9
	2	5.47~5.725			0.9
	2	5.725~5.85			0.9
Radio 2					
Bluetooth Antenna No. 2 Spec. / Zigbee Antenna Spec.					
Antenna Gain include trace loss (dBi)	Frequency range (GHz)	Antenna type	Connector type	Trace loss (dB)	
-0.1	2.4~2.4835	PIFA	POGO pin	0.5	
Radio 3					
NFC Antenna Spec.					
Frequency range (MHz)	Antenna type	Connector type			
13~14	Loop	NA			

6. The EUT incorporates a MIMO function.

2.4GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11b	1 ~ 11Mbps	2TX	2RX
802.11g	6 ~ 54Mbps	2TX	2RX
802.11n (HT20)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
VHT20	MCS0~8 Nss=1	2TX	2RX
	MCS0~8 Nss=2	2TX	2RX
5GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11a	6 ~ 54Mbps	2TX	2RX
802.11n (HT20)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11ac (VHT20)	MCS0~8 Nss=1	2TX	2RX
	MCS0~8 Nss=2	2TX	2RX
802.11ac (VHT40)	MCS0~9 Nss=1	2TX	2RX
	MCS0~9 Nss=2	2TX	2RX
802.11ac (VHT80)	MCS0~9 Nss=1	2TX	2RX
	MCS0~9 Nss=2	2TX	2RX

7. The above EUT information is declared by manufacturer and for more detailed features description, please refer 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 ~ 5720MHz

12 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	144	5720 MHz

6 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	142	5710 MHz

3 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	138	5690 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≥1G	RE<1G	PLC	APCM	
-	√	√	-	√	-

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

NOTE: 1. No need to concern of Conducted Emission due to the EUT is powered by battery.
2. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane (below 1GHz) & X-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	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6
802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	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 (VHT20)	5180-5240 5260-5320 5500-5720 5745-5825	36 to 48 52 to 64 100 to 144 149 to 165	48	OFDM	BPSK	6.5

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	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6
802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	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

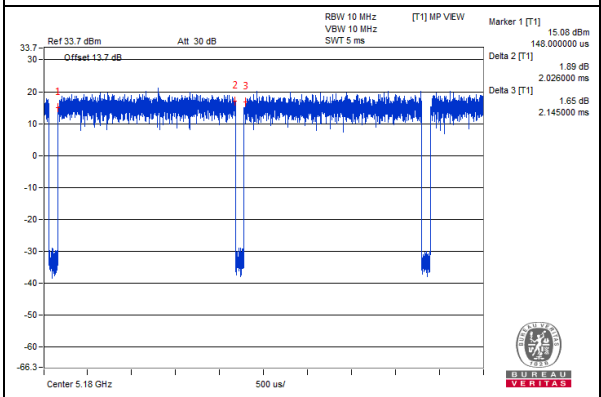
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	23deg. C, 66%RH	DC 3.85V	Rey Chen
RE<1G	23deg. C, 68%RH	DC 3.85V	Frank Chuang
APCM	25deg. C, 60%RH	DC 3.85V	Anderson Chen

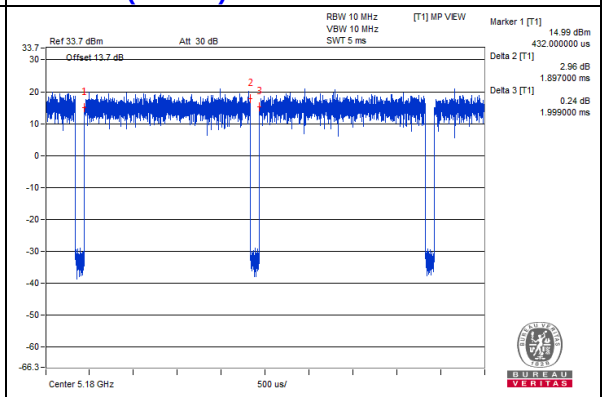
3.3 Duty Cycle of Test Signal

If duty cycle of test signal is < 98%, duty factor shall be considered.
802.11a: Duty cycle = 2.026 ms/2.145 ms = 0.945, Duty factor = 10 * log(1/0.945) = 0.25
802.11ac (VHT20): Duty cycle = 1.897 ms/1.999 ms = 0.949, Duty factor = 10 * log(1/0.949) = 0.23
802.11ac (VHT40): Duty cycle = 0.934 ms/1.025 ms = 0.911, Duty factor = 10 * log(1/0.911) = 0.4
802.11ac (VHT80): Duty cycle = 0.595 ms/0.684 ms = 0.87, Duty factor = 10 * log(1/0.87) = 0.61

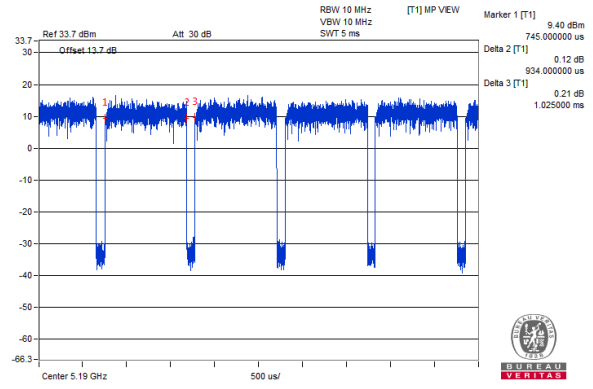
802.11a



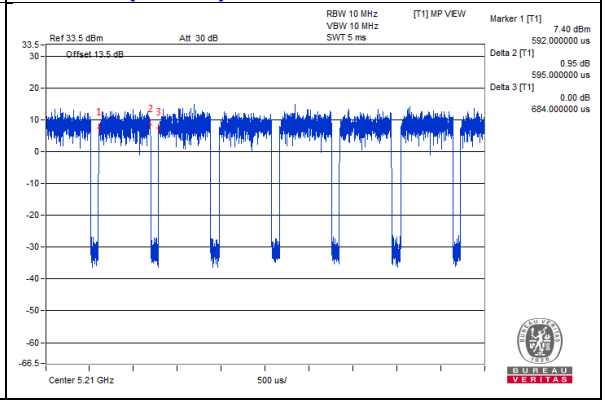
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



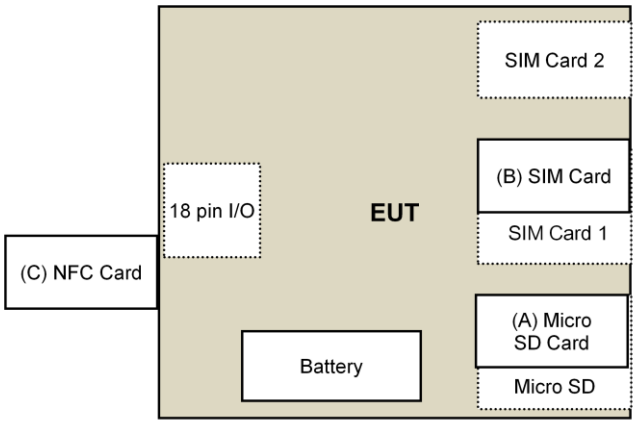
3.4 Description of Support Units

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.	MicroSD Card	Transcend	NA	NA	NA	Provided by Lab
B.	SIM Card	R&S	CRT-Z3	NA	NA	Provided by Lab
C.	NFC Card	UGSI	NA	NA	NA	Supplied by client

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

3.4.1 Configuration of System under 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
KDB 662911 D01 Multiple Transmitter Output 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:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 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

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

Note:

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

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

4.1.2 Test Instruments

For Above 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	July 12, 2018	July 11, 2019
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Dec. 12, 2017	Dec. 11, 2018
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 29, 2018	Jan. 28, 2019
RF Cable	EMC104-SM-SM-1200	160922	Jan. 29, 2018	Jan. 28, 2019
RF Cable	EMC104-SM-SM-2000	150317	Jan. 29, 2018	Jan. 28, 2019
RF Cable	EMC104-SM-SM-5000	150322	Jan. 29, 2018	Jan. 28, 2019
Spectrum Analyzer Keysight	N9030A	MY54490679	July 23, 2018	July 22, 2019
Pre-Amplifier EMCI	EMC184045SE	980386	Jan. 29, 2018	Jan. 28, 2019
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Dec. 14, 2017	Dec. 13, 2018
RF Cable	EMC102-KM-KM-1200	160924	Jan. 29, 2018	Jan. 28, 2019
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

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. The CANADA Site Registration No. is 20331-1
4. Tested Date: Sep. 26 to Oct. 09, 2018

For other test:

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	Feb. 09, 2018	Feb. 08, 2019
Loop Antenna(*) Electro-Metrics	EM-6879	264	Dec. 16, 2016	Dec. 15, 2018
RF Cable	NA	LOOPCAB-001	Jan. 15, 2018	Jan. 14, 2019
RF Cable	NA	LOOPCAB-002	Jan. 15, 2018	Jan. 14, 2019
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-05	May 05, 2018	May 04, 2019
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 29, 2017	Nov. 28, 2018
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
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. 10, 2018	Jan. 09, 2019
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 calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in 966 Chamber No. 3.
4. The CANADA Site Registration No. is 20331-1
5. Loop antenna was used for all emissions below 30 MHz.
6. Tested Date: Oct. 09 to 11, 2018

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 detect 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:

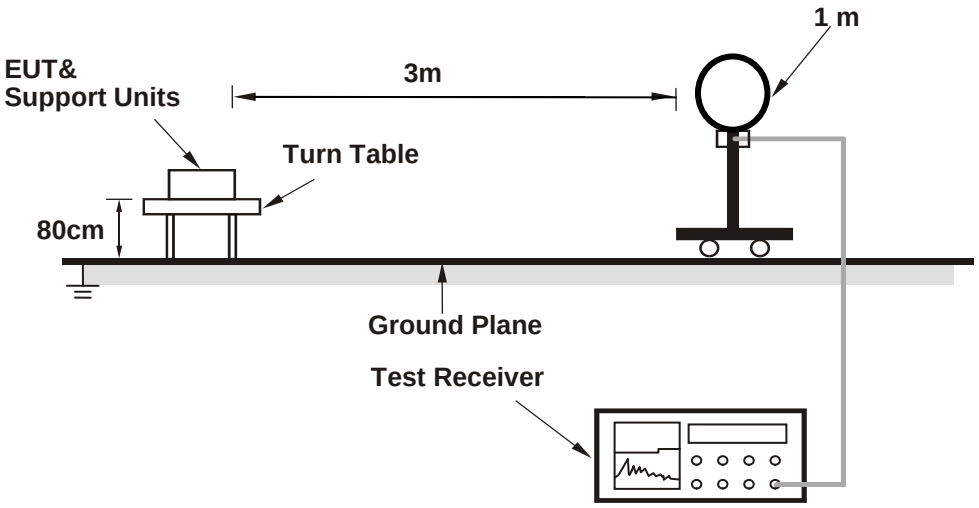
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 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

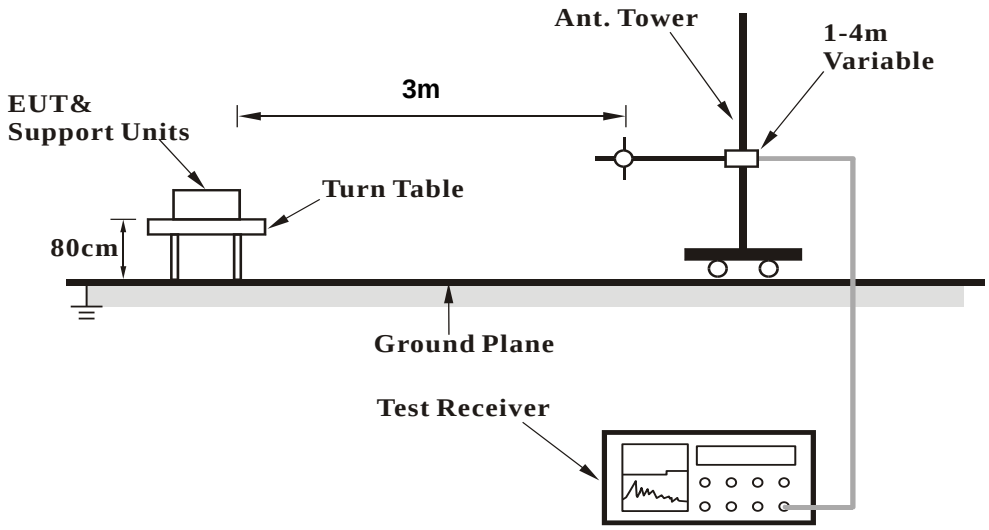
No deviation.

4.1.5 Test Setup

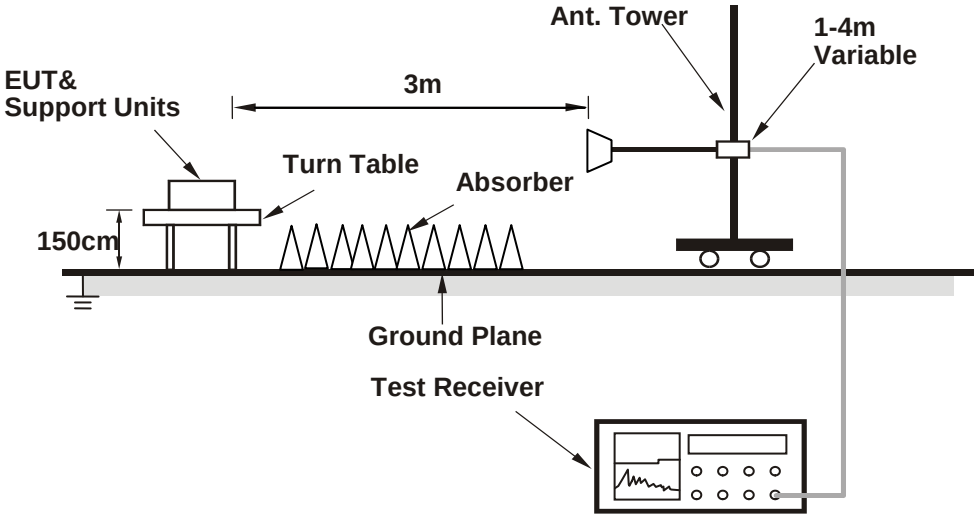
For Radiated emission below 30MHz



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

a. Placed the EUT on the testing table.
b. Controlling software (QRCT_V3.0.298.0) 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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	54.4 PK	74.0	-19.6	1.28 H	18	51.8	2.6
2	5150.00	40.1 AV	54.0	-13.9	1.28 H	18	37.5	2.6
3	*5180.00	106.8 PK			1.28 H	18	104.3	2.5
4	*5180.00	96.2 AV			1.28 H	18	93.7	2.5
5	#10360.00	46.8 PK	68.2	-21.4	1.46 H	281	34.9	11.9
6	15540.00	45.7 PK	74.0	-28.3	1.24 H	148	33.3	12.4
7	15540.00	34.3 AV	54.0	-19.7	1.24 H	148	21.9	12.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.8 PK	74.0	-15.2	1.23 V	183	56.2	2.6
2	5150.00	40.5 AV	54.0	-13.5	1.23 V	183	37.9	2.6
3	*5180.00	105.3 PK			1.23 V	183	102.8	2.5
4	*5180.00	96.9 AV			1.23 V	183	94.4	2.5
5	#10360.00	47.3 PK	68.2	-20.9	1.96 V	302	35.4	11.9
6	15540.00	46.1 PK	74.0	-27.9	1.39 V	277	33.7	12.4
7	15540.00	35.1 AV	54.0	-18.9	1.39 V	277	22.7	12.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	46.7 PK	74.0	-27.3	1.53 H	147	44.1	2.6
2	5150.00	35.8 AV	54.0	-18.2	1.53 H	147	33.2	2.6
3	*5200.00	102.4 PK			1.53 H	147	100.0	2.4
4	*5200.00	94.4 AV			1.53 H	147	92.0	2.4
5	#10400.00	47.1 PK	68.2	-21.1	1.52 H	282	34.9	12.2
6	15600.00	45.6 PK	74.0	-28.4	1.28 H	157	32.7	12.9
7	15600.00	34.3 AV	54.0	-19.7	1.28 H	157	21.4	12.9
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	51.1 PK	74.0	-22.9	1.25 V	181	48.5	2.6
2	5150.00	38.1 AV	54.0	-15.9	1.25 V	181	35.5	2.6
3	*5200.00	105.2 PK			1.25 V	181	102.8	2.4
4	*5200.00	96.6 AV			1.25 V	181	94.2	2.4
5	#10400.00	47.4 PK	68.2	-20.8	1.95 V	293	35.2	12.2
6	15600.00	46.3 PK	74.0	-27.7	1.36 V	261	33.4	12.9
7	15600.00	35.3 AV	54.0	-18.7	1.36 V	261	22.4	12.9

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	102.8 PK			1.55 H	145	100.6	2.2
2	*5240.00	95.0 AV			1.55 H	145	92.8	2.2
3	5350.00	45.9 PK	74.0	-28.1	1.55 H	145	43.6	2.3
4	5350.00	36.0 AV	54.0	-18.0	1.55 H	145	33.7	2.3
5	#10480.00	46.1 PK	68.2	-22.1	1.42 H	283	33.7	12.4
6	15720.00	45.6 PK	74.0	-28.4	1.25 H	134	33.6	12.0
7	15720.00	34.1 AV	54.0	-19.9	1.25 H	134	22.1	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	*5240.00	105.6 PK			1.23 V	182	103.4	2.2
2	*5240.00	97.2 AV			1.23 V	182	95.0	2.2
3	5350.00	50.3 PK	74.0	-23.7	1.23 V	182	48.0	2.3
4	5350.00	38.3 AV	54.0	-15.7	1.23 V	182	36.0	2.3
5	#10480.00	47.6 PK	68.2	-20.6	1.98 V	298	35.2	12.4
6	15720.00	46.1 PK	74.0	-27.9	1.40 V	281	34.1	12.0
7	15720.00	35.1 AV	54.0	-18.9	1.40 V	281	23.1	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	49.2 PK	74.0	-24.8	1.53 H	158	46.6	2.6
2	5150.00	47.2 AV	54.0	-6.8	1.53 H	158	44.6	2.6
3	*5260.00	106.2 PK			1.53 H	158	104.1	2.1
4	*5260.00	97.3 AV			1.53 H	158	95.2	2.1
5	#10520.00	47.7 PK	68.2	-20.5	1.47 H	284	35.3	12.4
6	15780.00	46.6 PK	74.0	-27.4	1.22 H	163	35.1	11.5
7	15780.00	35.5 AV	54.0	-18.5	1.22 H	163	24.0	11.5
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	57.2 PK	74.0	-16.8	1.38 V	186	54.6	2.6
2	5150.00	49.5 AV	54.0	-4.5	1.38 V	186	46.9	2.6
3	*5260.00	109.0 PK			1.38 V	186	106.9	2.1
4	*5260.00	99.5 AV			1.38 V	186	97.4	2.1
5	#10520.00	48.5 PK	68.2	-19.7	1.94 V	303	36.1	12.4
6	15780.00	47.2 PK	74.0	-26.8	1.36 V	274	35.7	11.5
7	15780.00	36.3 AV	54.0	-17.7	1.36 V	274	24.8	11.5

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	106.6 PK			1.52 H	144	104.4	2.2
2	*5300.00	98.0 AV			1.52 H	144	95.8	2.2
3	5350.00	53.3 PK	74.0	-20.7	1.52 H	144	51.0	2.3
4	5350.00	40.5 AV	54.0	-13.5	1.52 H	144	38.2	2.3
5	10600.00	47.3 PK	74.0	-26.7	1.53 H	281	35.6	11.7
6	10600.00	33.9 AV	54.0	-20.1	1.53 H	281	22.2	11.7
7	15900.00	46.4 PK	74.0	-27.6	1.16 H	158	35.2	11.2
8	15900.00	35.3 AV	54.0	-18.7	1.16 H	158	24.1	11.2
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	*5300.00	109.4 PK			1.35 V	180	107.2	2.2
2	*5300.00	100.2 AV			1.35 V	180	98.0	2.2
3	5350.00	57.7 PK	74.0	-16.3	1.35 V	180	55.4	2.3
4	5350.00	42.8 AV	54.0	-11.2	1.35 V	180	40.5	2.3
5	10600.00	49.3 PK	74.0	-24.7	1.98 V	314	37.6	11.7
6	10600.00	35.5 AV	54.0	-18.5	1.98 V	314	23.8	11.7
7	15900.00	47.4 PK	74.0	-26.6	1.36 V	288	36.2	11.2
8	15900.00	36.6 AV	54.0	-17.4	1.36 V	288	25.4	11.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	106.3 PK			1.56 H	164	104.0	2.3
2	*5320.00	97.9 AV			1.56 H	164	95.6	2.3
3	5350.00	63.1 PK	74.0	-10.9	1.56 H	164	60.8	2.3
4	5350.00	48.2 AV	54.0	-5.8	1.56 H	164	45.9	2.3
5	10640.00	47.6 PK	74.0	-26.4	1.43 H	283	35.9	11.7
6	10640.00	33.9 AV	54.0	-20.1	1.43 H	283	22.2	11.7
7	15960.00	46.8 PK	74.0	-27.2	1.28 H	176	35.4	11.4
8	15960.00	35.5 AV	54.0	-18.5	1.28 H	176	24.1	11.4
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	*5320.00	109.1 PK			1.36 V	182	106.8	2.3
2	*5320.00	100.1 AV			1.36 V	182	97.8	2.3
3	5350.00	67.5 PK	74.0	-6.5	1.36 V	182	65.2	2.3
4	5350.00	50.5 AV	54.0	-3.5	1.36 V	182	48.2	2.3
5	10640.00	48.4 PK	74.0	-25.6	1.91 V	310	36.7	11.7
6	10640.00	34.9 AV	54.0	-19.1	1.91 V	310	23.2	11.7
7	15960.00	47.8 PK	74.0	-26.2	1.32 V	261	36.4	11.4
8	15960.00	36.7 AV	54.0	-17.3	1.32 V	261	25.3	11.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	57.5 PK	74.0	-16.5	1.49 H	164	54.9	2.6
2	5460.00	40.9 AV	54.0	-13.1	1.49 H	164	38.3	2.6
3	#5470.00	60.0 PK	68.2	-8.2	1.49 H	164	57.4	2.6
4	*5500.00	105.7 PK			1.49 H	164	103.2	2.5
5	*5500.00	97.1 AV			1.49 H	164	94.6	2.5
6	11000.00	47.4 PK	74.0	-26.6	1.49 H	275	35.2	12.2
7	11000.00	34.0 AV	54.0	-20.0	1.49 H	275	21.8	12.2
8	#16500.00	46.5 PK	68.2	-21.7	1.24 H	161	32.8	13.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.9 PK	74.0	-12.1	1.35 V	177	59.3	2.6
2	5460.00	43.2 AV	54.0	-10.8	1.35 V	177	40.6	2.6
3	#5470.00	64.4 PK	68.2	-3.8	1.35 V	177	61.8	2.6
4	*5500.00	108.5 PK			1.35 V	177	106.0	2.5
5	*5500.00	99.3 AV			1.35 V	177	96.8	2.5
6	11000.00	48.4 PK	74.0	-25.6	1.88 V	300	36.2	12.2
7	11000.00	34.7 AV	54.0	-19.3	1.88 V	300	22.5	12.2
8	#16500.00	47.5 PK	68.2	-20.7	1.33 V	284	33.8	13.7

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	105.6 PK			1.51 H	141	102.8	2.8
2	*5580.00	96.7 AV			1.51 H	141	93.9	2.8
3	11160.00	47.4 PK	74.0	-26.6	1.43 H	270	35.4	12.0
4	11160.00	34.2 AV	54.0	-19.8	1.43 H	270	22.2	12.0
5	#16740.00	46.2 PK	68.2	-22.0	1.18 H	176	32.0	14.2
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	*5580.00	108.4 PK			1.33 V	179	105.6	2.8
2	*5580.00	98.9 AV			1.33 V	179	96.1	2.8
3	11160.00	48.5 PK	74.0	-25.5	1.98 V	310	36.5	12.0
4	11160.00	34.9 AV	54.0	-19.1	1.98 V	310	22.9	12.0
5	#16740.00	47.3 PK	68.2	-20.9	1.32 V	264	33.1	14.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	104.4 PK			1.53 H	160	101.5	2.9
2	*5700.00	95.5 AV			1.53 H	160	92.6	2.9
3	#5725.00	61.0 PK	68.2	-7.2	1.53 H	160	58.1	2.9
4	11400.00	47.5 PK	74.0	-26.5	1.50 H	285	34.5	13.0
5	11400.00	33.9 AV	54.0	-20.1	1.50 H	285	20.9	13.0
6	#17100.00	46.7 PK	68.2	-21.5	1.17 H	168	30.6	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	*5700.00	107.2 PK			1.05 V	183	104.3	2.9
2	*5700.00	97.7 AV			1.05 V	183	94.8	2.9
3	#5725.00	65.8 PK	68.2	-2.4	1.05 V	183	62.9	2.9
4	11400.00	48.3 PK	74.0	-25.7	1.98 V	311	35.3	13.0
5	11400.00	34.6 AV	54.0	-19.4	1.98 V	311	21.6	13.0
6	#17100.00	47.0 PK	68.2	-21.2	1.27 V	257	30.9	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5470.00	45.3 PK	68.2	-22.9	1.49 H	161	42.7	2.6
2	*5720.00	105.5 PK			1.49 H	161	102.6	2.9
3	*5720.00	96.4 AV			1.49 H	161	93.5	2.9
4	#5850.00	46.1 PK	68.2	-22.1	1.49 H	161	42.8	3.3
5	11440.00	47.6 PK	74.0	-26.4	1.47 H	286	34.9	12.7
6	11440.00	34.4 AV	54.0	-19.6	1.47 H	286	21.7	12.7
7	#17160.00	46.3 PK	68.2	-21.9	1.15 H	192	30.7	15.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	49.7 PK	68.2	-18.5	1.07 V	182	47.1	2.6
2	*5720.00	108.3 PK			1.07 V	182	105.4	2.9
3	*5720.00	98.6 AV			1.07 V	182	95.7	2.9
4	#5850.00	50.5 PK	68.2	-17.7	1.07 V	182	47.2	3.3
5	11440.00	47.8 PK	74.0	-26.2	1.89 V	297	35.1	12.7
6	11440.00	34.5 AV	54.0	-19.5	1.89 V	297	21.8	12.7
7	#17160.00	46.8 PK	68.2	-21.4	1.40 V	263	31.2	15.6

REMARKS:

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

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

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	#5565.83	53.2 PK	68.2	-15.0	1.49 H	153	50.4	2.8
2	*5745.00	105.6 PK			1.49 H	153	102.7	2.9
3	*5745.00	96.5 AV			1.49 H	153	93.6	2.9
4	#6012.14	53.5 PK	68.2	-14.7	1.49 H	153	50.3	3.2
5	11490.00	46.3 PK	74.0	-27.7	1.55 H	36	34.0	12.3
6	11490.00	34.6 AV	54.0	-19.4	1.55 H	36	22.3	12.3
7	#17235.00	51.1 PK	68.2	-17.1	1.36 H	205	35.8	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	#5616.04	53.0 PK	68.2	-15.2	1.07 V	157	50.2	2.8
2	*5745.00	108.4 PK			1.07 V	157	105.5	2.9
3	*5745.00	98.7 AV			1.07 V	157	95.8	2.9
4	#5926.31	53.4 PK	68.2	-14.8	1.07 V	157	50.0	3.4
5	11490.00	48.3 PK	74.0	-25.7	1.86 V	55	36.0	12.3
6	11490.00	37.2 AV	54.0	-16.8	1.86 V	55	24.9	12.3
7	#17235.00	50.3 PK	68.2	-17.9	1.52 V	173	35.0	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5603.15	56.9 PK	68.2	-11.3	1.15 H	153	54.1	2.8
2	*5785.00	105.4 PK			1.15 H	153	102.3	3.1
3	*5785.00	96.3 AV			1.15 H	153	93.2	3.1
4	#5933.99	54.3 PK	68.2	-13.9	1.15 H	153	50.9	3.4
5	11570.00	47.7 PK	74.0	-26.3	1.46 H	276	35.3	12.4
6	11570.00	34.5 AV	54.0	-19.5	1.46 H	276	22.1	12.4
7	#17355.00	45.6 PK	68.2	-22.6	1.21 H	187	29.6	16.0
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	#5573.17	53.8 PK	68.2	-14.4	1.09 V	156	51.0	2.8
2	*5785.00	108.2 PK			1.09 V	156	105.1	3.1
3	*5785.00	98.6 AV			1.09 V	156	95.5	3.1
4	#5955.94	53.2 PK	68.2	-15.0	1.09 V	156	50.0	3.2
5	11570.00	48.3 PK	74.0	-25.7	1.96 V	298	35.9	12.4
6	11570.00	35.1 AV	54.0	-18.9	1.96 V	298	22.7	12.4
7	#17355.00	47.6 PK	68.2	-20.6	1.31 V	263	31.6	16.0

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5613.53	54.6 PK	68.2	-13.6	1.16 H	151	51.8	2.8
2	*5825.00	104.3 PK			1.16 H	151	101.1	3.2
3	*5825.00	95.5 AV			1.16 H	151	92.3	3.2
4	#5996.95	54.8 PK	68.2	-13.4	1.16 H	151	51.6	3.2
5	11650.00	47.5 PK	74.0	-26.5	1.42 H	267	35.1	12.4
6	11650.00	34.3 AV	54.0	-19.7	1.42 H	267	21.9	12.4
7	#17475.00	46.4 PK	68.2	-21.8	1.15 H	164	29.0	17.4
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	#5619.78	53.4 PK	68.2	-14.8	1.10 V	158	50.6	2.8
2	*5825.00	108.3 PK			1.10 V	158	105.1	3.2
3	*5825.00	98.8 AV			1.10 V	158	95.6	3.2
4	#5989.80	53.9 PK	68.2	-14.3	1.10 V	158	50.7	3.2
5	11650.00	48.6 PK	74.0	-25.4	1.99 V	312	36.2	12.4
6	11650.00	35.4 AV	54.0	-18.6	1.99 V	312	23.0	12.4
7	#17475.00	47.2 PK	68.2	-21.0	1.40 V	268	29.8	17.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT20)

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

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	56.1 PK	74.0	-17.9	1.58 H	169	53.5	2.6
2	5150.00	38.9 AV	54.0	-15.1	1.58 H	169	36.3	2.6
3	*5180.00	103.0 PK			1.58 H	169	100.5	2.5
4	*5180.00	93.9 AV			1.58 H	169	91.4	2.5
5	#10360.00	46.7 PK	68.2	-21.5	1.50 H	269	34.8	11.9
6	15540.00	45.7 PK	74.0	-28.3	1.24 H	162	33.3	12.4
7	15540.00	34.3 AV	54.0	-19.7	1.24 H	162	21.9	12.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.5 PK	74.0	-13.5	1.29 V	180	57.9	2.6
2	5150.00	41.2 AV	54.0	-12.8	1.29 V	180	38.6	2.6
3	*5180.00	105.8 PK			1.29 V	180	103.3	2.5
4	*5180.00	96.1 AV			1.29 V	180	93.6	2.5
5	#10360.00	47.3 PK	68.2	-20.9	1.97 V	287	35.4	11.9
6	15540.00	45.6 PK	74.0	-28.4	1.34 V	265	33.2	12.4
7	15540.00	34.8 AV	54.0	-19.2	1.34 V	265	22.4	12.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	1.48 H	146	47.4	2.6
2	5150.00	36.0 AV	54.0	-18.0	1.48 H	146	33.4	2.6
3	*5200.00	103.1 PK			1.48 H	146	100.7	2.4
4	*5200.00	94.1 AV			1.48 H	146	91.7	2.4
5	#10400.00	46.9 PK	68.2	-21.3	1.45 H	285	34.7	12.2
6	15600.00	45.6 PK	74.0	-28.4	1.22 H	141	32.7	12.9
7	15600.00	33.9 AV	54.0	-20.1	1.22 H	141	21.0	12.9
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	54.4 PK	74.0	-19.6	1.28 V	177	51.8	2.6
2	5150.00	38.3 AV	54.0	-15.7	1.28 V	177	35.7	2.6
3	*5200.00	105.9 PK			1.28 V	177	103.5	2.4
4	*5200.00	96.3 AV			1.28 V	177	93.9	2.4
5	#10400.00	46.5 PK	68.2	-21.7	1.98 V	286	34.3	12.2
6	15600.00	45.7 PK	74.0	-28.3	1.39 V	276	32.8	12.9
7	15600.00	34.8 AV	54.0	-19.2	1.39 V	276	21.9	12.9

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	103.1 PK			1.50 H	162	100.9	2.2
2	*5240.00	94.2 AV			1.50 H	162	92.0	2.2
3	5350.00	45.9 PK	74.0	-28.1	1.50 H	162	43.6	2.3
4	5350.00	35.8 AV	54.0	-18.2	1.50 H	162	33.5	2.3
5	#10480.00	46.7 PK	68.2	-21.5	1.45 H	295	34.3	12.4
6	15720.00	46.1 PK	74.0	-27.9	1.24 H	144	34.1	12.0
7	15720.00	34.4 AV	54.0	-19.6	1.24 H	144	22.4	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	*5240.00	105.9 PK			1.31 V	178	103.7	2.2
2	*5240.00	96.4 AV			1.31 V	178	94.2	2.2
3	5350.00	50.3 PK	74.0	-23.7	1.31 V	178	48.0	2.3
4	5350.00	38.1 AV	54.0	-15.9	1.31 V	178	35.8	2.3
5	#10480.00	47.9 PK	68.2	-20.3	1.91 V	297	35.5	12.4
6	15720.00	45.9 PK	74.0	-28.1	1.34 V	280	33.9	12.0
7	15720.00	34.7 AV	54.0	-19.3	1.34 V	280	22.7	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	44.4 PK	74.0	-29.6	1.49 H	152	41.8	2.6
2	5150.00	35.3 AV	54.0	-18.7	1.49 H	152	32.7	2.6
3	*5260.00	105.9 PK			1.49 H	152	103.8	2.1
4	*5260.00	97.0 AV			1.49 H	152	94.9	2.1
5	#10520.00	47.1 PK	68.2	-21.1	1.38 H	254	34.7	12.4
6	15780.00	45.7 PK	74.0	-28.3	1.16 H	182	34.2	11.5
7	15780.00	35.1 AV	54.0	-18.9	1.16 H	182	23.6	11.5
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	48.8 PK	74.0	-25.2	1.24 V	181	46.2	2.6
2	5150.00	37.6 AV	54.0	-16.4	1.24 V	181	35.0	2.6
3	*5260.00	108.7 PK			1.24 V	181	106.6	2.1
4	*5260.00	99.2 AV			1.24 V	181	97.1	2.1
5	#10520.00	49.1 PK	68.2	-19.1	1.96 V	311	36.7	12.4
6	15780.00	47.0 PK	74.0	-27.0	1.32 V	275	35.5	11.5
7	15780.00	36.0 AV	54.0	-18.0	1.32 V	275	24.5	11.5

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	105.8 PK			1.52 H	165	103.6	2.2
2	*5300.00	96.8 AV			1.52 H	165	94.6	2.2
3	5350.00	51.2 PK	74.0	-22.8	1.52 H	165	48.9	2.3
4	5350.00	40.0 AV	54.0	-14.0	1.52 H	165	37.7	2.3
5	10600.00	47.6 PK	74.0	-26.4	1.40 H	275	35.9	11.7
6	10600.00	34.5 AV	54.0	-19.5	1.40 H	275	22.8	11.7
7	15900.00	46.2 PK	74.0	-27.8	1.15 H	177	35.0	11.2
8	15900.00	35.5 AV	54.0	-18.5	1.15 H	177	24.3	11.2
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	*5300.00	108.6 PK			1.29 V	177	106.4	2.2
2	*5300.00	99.0 AV			1.29 V	177	96.8	2.2
3	5350.00	55.6 PK	74.0	-18.4	1.29 V	177	53.3	2.3
4	5350.00	42.3 AV	54.0	-11.7	1.29 V	177	40.0	2.3
5	10600.00	48.3 PK	74.0	-25.7	1.97 V	311	36.6	11.7
6	10600.00	34.9 AV	54.0	-19.1	1.97 V	311	23.2	11.7
7	15900.00	47.2 PK	74.0	-26.8	1.33 V	283	36.0	11.2
8	15900.00	36.3 AV	54.0	-17.7	1.33 V	283	25.1	11.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	106.0 PK			1.54 H	155	103.7	2.3
2	*5320.00	96.9 AV			1.54 H	155	94.6	2.3
3	5350.00	63.3 PK	74.0	-10.7	1.54 H	155	61.0	2.3
4	5350.00	47.8 AV	54.0	-6.2	1.54 H	155	45.5	2.3
5	10640.00	47.7 PK	74.0	-26.3	1.48 H	255	36.0	11.7
6	10640.00	34.4 AV	54.0	-19.6	1.48 H	255	22.7	11.7
7	15960.00	46.6 PK	74.0	-27.4	1.15 H	190	35.2	11.4
8	15960.00	35.7 AV	54.0	-18.3	1.15 H	190	24.3	11.4
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	*5320.00	108.8 PK			1.28 V	180	106.5	2.3
2	*5320.00	99.1 AV			1.28 V	180	96.8	2.3
3	5350.00	67.7 PK	74.0	-6.3	1.28 V	180	65.4	2.3
4	5350.00	50.1 AV	54.0	-3.9	1.28 V	180	47.8	2.3
5	10640.00	48.5 PK	74.0	-25.5	1.92 V	289	36.8	11.7
6	10640.00	35.2 AV	54.0	-18.8	1.92 V	289	23.5	11.7
7	15960.00	47.6 PK	74.0	-26.4	1.30 V	271	36.2	11.4
8	15960.00	36.5 AV	54.0	-17.5	1.30 V	271	25.1	11.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	57.7 PK	74.0	-16.3	1.55 H	154	55.1	2.6
2	5460.00	41.0 AV	54.0	-13.0	1.55 H	154	38.4	2.6
3	#5470.00	61.1 PK	68.2	-7.1	1.55 H	154	58.5	2.6
4	*5500.00	105.4 PK			1.55 H	154	102.9	2.5
5	*5500.00	96.0 AV			1.55 H	154	93.5	2.5
6	11000.00	47.4 PK	74.0	-26.6	1.39 H	273	35.2	12.2
7	11000.00	33.9 AV	54.0	-20.1	1.39 H	273	21.7	12.2
8	#16500.00	46.3 PK	68.2	-21.9	1.23 H	182	32.6	13.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.1 PK	74.0	-11.9	1.03 V	179	59.5	2.6
2	5460.00	43.3 AV	54.0	-10.7	1.03 V	179	40.7	2.6
3	**#5470.00**	**65.9 PK**	**68.2**	**-2.3**	**1.03 V**	**179**	**63.3**	**2.6**
4	*5500.00	108.2 PK			1.03 V	179	105.7	2.5
5	*5500.00	98.2 AV			1.03 V	179	95.7	2.5
6	11000.00	48.6 PK	74.0	-25.4	1.91 V	315	36.4	12.2
7	11000.00	35.3 AV	54.0	-18.7	1.91 V	315	23.1	12.2
8	#16500.00	46.8 PK	68.2	-21.4	1.35 V	285	33.1	13.7

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	106.0 PK			1.51 H	143	103.2	2.8
2	*5580.00	96.9 AV			1.51 H	143	94.1	2.8
3	11160.00	47.2 PK	74.0	-26.8	1.43 H	271	35.2	12.0
4	11160.00	33.8 AV	54.0	-20.2	1.43 H	271	21.8	12.0
5	#16740.00	46.0 PK	68.2	-22.2	1.17 H	178	31.8	14.2
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	*5580.00	108.8 PK			1.06 V	177	106.0	2.8
2	*5580.00	99.1 AV			1.06 V	177	96.3	2.8
3	11160.00	48.2 PK	74.0	-25.8	1.98 V	293	36.2	12.0
4	11160.00	34.6 AV	54.0	-19.4	1.98 V	293	22.6	12.0
5	#16740.00	48.0 PK	68.2	-20.2	1.37 V	279	33.8	14.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	103.6 PK			1.54 H	151	100.7	2.9
2	*5700.00	94.4 AV			1.54 H	151	91.5	2.9
3	#5725.00	61.0 PK	68.2	-7.2	1.54 H	151	58.1	2.9
4	11400.00	46.4 PK	74.0	-27.6	1.51 H	277	33.4	13.0
5	11400.00	33.3 AV	54.0	-20.7	1.51 H	277	20.3	13.0
6	#17100.00	45.3 PK	68.2	-22.9	1.23 H	140	29.2	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	*5700.00	106.4 PK			1.04 V	182	103.5	2.9
2	*5700.00	96.6 AV			1.04 V	182	93.7	2.9
3	**#5725.00**	**65.9 PK**	**68.2**	**-2.3**	**1.04 V**	**182**	**63.0**	**2.9**
4	11400.00	47.7 PK	74.0	-26.3	1.99 V	305	34.7	13.0
5	11400.00	34.3 AV	54.0	-19.7	1.99 V	305	21.3	13.0
6	#17100.00	45.8 PK	68.2	-22.4	1.38 V	267	29.7	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5470.00	45.8 PK	68.2	-22.4	1.59 H	153	43.2	2.6
2	*5720.00	105.1 PK			1.59 H	153	102.2	2.9
3	*5720.00	95.9 AV			1.59 H	153	93.0	2.9
4	#5850.00	46.9 PK	68.2	-21.3	1.59 H	153	43.6	3.3
5	11440.00	47.5 PK	74.0	-26.5	1.37 H	269	34.8	12.7
6	11440.00	34.3 AV	54.0	-19.7	1.37 H	269	21.6	12.7
7	#17160.00	46.5 PK	68.2	-21.7	1.18 H	170	30.9	15.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	50.2 PK	68.2	-18.0	1.02 V	184	47.6	2.6
2	*5720.00	107.9 PK			1.02 V	184	105.0	2.9
3	*5720.00	98.1 AV			1.02 V	184	95.2	2.9
4	#5850.00	51.3 PK	68.2	-16.9	1.02 V	184	48.0	3.3
5	11440.00	48.3 PK	74.0	-25.7	1.97 V	307	35.6	12.7
6	11440.00	34.7 AV	54.0	-19.3	1.97 V	307	22.0	12.7
7	#17160.00	47.2 PK	68.2	-21.0	1.39 V	276	31.6	15.6

REMARKS:

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

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

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	#5613.31	53.4 PK	68.2	-14.8	1.13 H	148	50.6	2.8
2	*5745.00	105.1 PK			1.13 H	148	102.2	2.9
3	*5745.00	96.4 AV			1.13 H	148	93.5	2.9
4	#5952.40	54.2 PK	68.2	-14.0	1.13 H	148	51.0	3.2
5	11490.00	47.6 PK	74.0	-26.4	1.42 H	258	35.3	12.3
6	11490.00	34.2 AV	54.0	-19.8	1.42 H	258	21.9	12.3
7	#17235.00	46.3 PK	68.2	-21.9	1.13 H	163	31.0	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	#5589.96	53.2 PK	68.2	-15.0	1.08 V	152	50.4	2.8
2	*5745.00	107.7 PK			1.08 V	152	104.8	2.9
3	*5745.00	98.0 AV			1.08 V	152	95.1	2.9
4	#5952.60	53.2 PK	68.2	-15.0	1.08 V	152	50.0	3.2
5	11490.00	48.7 PK	74.0	-25.3	1.89 V	296	36.4	12.3
6	11490.00	35.0 AV	54.0	-19.0	1.89 V	296	22.7	12.3
7	#17235.00	46.8 PK	68.2	-21.4	1.37 V	285	31.5	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5605.75	54.4 PK	68.2	-13.8	1.15 H	149	51.6	2.8
2	*5785.00	104.9 PK			1.15 H	149	101.8	3.1
3	*5785.00	96.2 AV			1.15 H	149	93.1	3.1
4	#5993.91	55.1 PK	68.2	-13.1	1.15 H	149	51.9	3.2
5	11570.00	47.3 PK	74.0	-26.7	1.48 H	271	34.9	12.4
6	11570.00	34.0 AV	54.0	-20.0	1.48 H	271	21.6	12.4
7	#17355.00	46.1 PK	68.2	-22.1	1.15 H	180	30.1	16.0
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	#5589.88	53.2 PK	68.2	-15.0	1.10 V	153	50.4	2.8
2	*5785.00	107.5 PK			1.10 V	153	104.4	3.1
3	*5785.00	97.8 AV			1.10 V	153	94.7	3.1
4	#6012.41	54.3 PK	68.2	-13.9	1.10 V	153	51.1	3.2
5	11570.00	49.1 PK	74.0	-24.9	1.89 V	293	36.7	12.4
6	11570.00	35.3 AV	54.0	-18.7	1.89 V	293	22.9	12.4
7	#17355.00	46.6 PK	68.2	-21.6	1.31 V	280	30.6	16.0

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	#5583.33	54.1 PK	68.2	-14.1	1.12 H	151	51.3	2.8
2	*5825.00	104.6 PK			1.12 H	151	101.4	3.2
3	*5825.00	96.0 AV			1.12 H	151	92.8	3.2
4	#6006.72	55.1 PK	68.2	-13.1	1.12 H	151	51.9	3.2
5	11650.00	47.0 PK	74.0	-27.0	1.42 H	259	34.6	12.4
6	11650.00	34.0 AV	54.0	-20.0	1.42 H	259	21.6	12.4
7	#17475.00	45.9 PK	68.2	-22.3	1.13 H	161	28.5	17.4
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	#5552.92	53.7 PK	68.2	-14.5	1.08 V	153	51.0	2.7
2	*5825.00	107.3 PK			1.08 V	153	104.1	3.2
3	*5825.00	97.7 AV			1.08 V	153	94.5	3.2
4	#5959.79	54.0 PK	68.2	-14.2	1.08 V	153	50.8	3.2
5	11650.00	48.6 PK	74.0	-25.4	1.99 V	295	36.2	12.4
6	11650.00	34.9 AV	54.0	-19.1	1.99 V	295	22.5	12.4
7	#17475.00	47.0 PK	68.2	-21.2	1.34 V	286	29.6	17.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT40)

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

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	64.4 PK	74.0	-9.6	1.52 H	150	61.8	2.6
2	5150.00	49.1 AV	54.0	-4.9	1.52 H	150	46.5	2.6
3	*5190.00	100.5 PK			1.52 H	150	98.0	2.5
4	*5190.00	92.0 AV			1.52 H	150	89.5	2.5
5	5350.00	45.8 PK	74.0	-28.2	1.52 H	150	43.5	2.3
6	5350.00	36.5 AV	54.0	-17.5	1.52 H	150	34.2	2.3
7	#10380.00	46.8 PK	68.2	-21.4	1.47 H	284	34.8	12.0
8	15570.00	45.7 PK	74.0	-28.3	1.18 H	139	33.1	12.6
9	15570.00	34.4 AV	54.0	-19.6	1.18 H	139	21.8	12.6
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	5150.00	68.8 PK	74.0	-5.2	1.06 V	179	66.2	2.6
2	**5150.00**	**51.7 AV**	**54.0**	**-2.3**	**1.06 V**	**179**	**49.1**	**2.6**
3	*5190.00	103.3 PK			1.06 V	179	100.8	2.5
4	*5190.00	94.2 AV			1.06 V	179	91.7	2.5
5	5350.00	50.2 PK	74.0	-23.8	1.06 V	179	47.9	2.3
6	5350.00	38.8 AV	54.0	-15.2	1.06 V	179	36.5	2.3
7	#10380.00	47.2 PK	68.2	-21.0	1.93 V	318	35.2	12.0
8	15570.00	46.0 PK	74.0	-28.0	1.44 V	263	33.4	12.6
9	15570.00	35.0 AV	54.0	-19.0	1.44 V	263	22.4	12.6

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	102.1 PK			1.52 H	147	99.9	2.2
2	*5230.00	94.0 AV			1.52 H	147	91.8	2.2
3	5350.00	46.6 PK	74.0	-27.4	1.52 H	147	44.3	2.3
4	5350.00	36.9 AV	54.0	-17.1	1.52 H	147	34.6	2.3
5	#10460.00	46.3 PK	68.2	-21.9	1.45 H	269	33.9	12.4
6	15690.00	45.7 PK	74.0	-28.3	1.28 H	146	33.5	12.2
7	15690.00	34.3 AV	54.0	-19.7	1.28 H	146	22.1	12.2
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	*5230.00	104.9 PK			1.05 V	178	102.7	2.2
2	*5230.00	96.2 AV			1.05 V	178	94.0	2.2
3	5350.00	51.0 PK	74.0	-23.0	1.05 V	178	48.7	2.3
4	5350.00	39.2 AV	54.0	-14.8	1.05 V	178	36.9	2.3
5	#10460.00	47.2 PK	68.2	-21.0	2.00 V	288	34.8	12.4
6	15690.00	45.9 PK	74.0	-28.1	1.34 V	286	33.7	12.2
7	15690.00	35.1 AV	54.0	-18.9	1.34 V	286	22.9	12.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	44.9 PK	74.0	-29.1	1.55 H	144	42.3	2.6
2	5150.00	35.5 AV	54.0	-18.5	1.55 H	144	32.9	2.6
3	*5270.00	102.5 PK			1.55 H	144	100.4	2.1
4	*5270.00	94.3 AV			1.55 H	144	92.2	2.1
5	#10540.00	47.6 PK	68.2	-20.6	1.45 H	267	35.4	12.2
6	15810.00	46.7 PK	74.0	-27.3	1.17 H	164	35.4	11.3
7	15810.00	35.7 AV	54.0	-18.3	1.17 H	164	24.4	11.3
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	49.3 PK	74.0	-24.7	1.08 V	177	46.7	2.6
2	5150.00	37.8 AV	54.0	-16.2	1.08 V	177	35.2	2.6
3	*5270.00	105.3 PK			1.08 V	177	103.2	2.1
4	*5270.00	96.5 AV			1.08 V	177	94.4	2.1
5	#10540.00	48.4 PK	68.2	-19.8	1.92 V	289	36.2	12.2
6	15810.00	47.2 PK	74.0	-26.8	1.38 V	288	35.9	11.3
7	15810.00	36.6 AV	54.0	-17.4	1.38 V	288	25.3	11.3

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	100.0 PK			1.58 H	143	97.8	2.2
2	*5310.00	92.1 AV			1.58 H	143	89.9	2.2
3	5350.00	64.5 PK	74.0	-9.5	1.58 H	143	62.2	2.3
4	5350.00	49.0 AV	54.0	-5.0	1.58 H	143	46.7	2.3
5	10620.00	46.9 PK	74.0	-27.1	1.51 H	276	35.2	11.7
6	10620.00	33.6 AV	54.0	-20.4	1.51 H	276	21.9	11.7
7	15930.00	45.6 PK	74.0	-28.4	1.24 H	133	34.4	11.2
8	15930.00	34.2 AV	54.0	-19.8	1.24 H	133	23.0	11.2
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	*5310.00	102.8 PK			1.01 V	179	100.6	2.2
2	*5310.00	94.3 AV			1.01 V	179	92.1	2.2
3	5350.00	68.9 PK	74.0	-5.1	1.01 V	179	66.6	2.3
4	**5350.00**	**51.8 AV**	**54.0**	**-2.2**	**1.01 V**	**179**	**49.5**	**2.3**
5	10620.00	47.7 PK	74.0	-26.3	1.96 V	315	36.0	11.7
6	10620.00	34.4 AV	54.0	-19.6	1.96 V	315	22.7	11.7
7	15930.00	46.4 PK	74.0	-27.6	1.44 V	282	35.2	11.2
8	15930.00	35.4 AV	54.0	-18.6	1.44 V	282	24.2	11.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

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	58.1 PK	74.0	-15.9	1.47 H	167	55.5	2.6
2	5460.00	41.9 AV	54.0	-12.1	1.47 H	167	39.3	2.6
3	#5470.00	61.2 PK	68.2	-7.0	1.47 H	167	58.6	2.6
4	*5510.00	100.5 PK			1.47 H	167	98.0	2.5
5	*5510.00	91.5 AV			1.47 H	167	89.0	2.5
6	11020.00	46.7 PK	74.0	-27.3	1.51 H	267	34.4	12.3
7	11020.00	33.4 AV	54.0	-20.6	1.51 H	267	21.1	12.3
8	#16530.00	45.7 PK	68.2	-22.5	1.23 H	157	31.8	13.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.5 PK	74.0	-11.5	1.03 V	181	59.9	2.6
2	5460.00	44.2 AV	54.0	-9.8	1.03 V	181	41.6	2.6
3	#5470.00	65.8 PK	68.2	-2.4	1.03 V	181	63.2	2.6
4	*5510.00	103.3 PK			1.03 V	181	100.8	2.5
5	*5510.00	93.7 AV			1.03 V	181	91.2	2.5
6	11020.00	46.8 PK	74.0	-27.2	1.97 V	299	34.5	12.3
7	11020.00	33.9 AV	54.0	-20.1	1.97 V	299	21.6	12.3
8	#16530.00	46.5 PK	68.2	-21.7	1.39 V	267	32.6	13.9

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	49.1 PK	74.0	-24.9	1.53 H	148	46.5	2.6
2	5460.00	37.8 AV	54.0	-16.2	1.53 H	148	35.2	2.6
3	#5470.00	53.0 PK	68.2	-15.2	1.53 H	148	50.4	2.6
4	*5550.00	102.8 PK			1.53 H	148	100.1	2.7
5	*5550.00	93.7 AV			1.53 H	148	91.0	2.7
6	11100.00	47.6 PK	74.0	-26.4	1.49 H	276	35.5	12.1
7	11100.00	34.7 AV	54.0	-19.3	1.49 H	276	22.6	12.1
8	#16650.00	46.2 PK	68.2	-22.0	1.15 H	170	32.0	14.2
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	5460.00	53.5 PK	74.0	-20.5	1.02 V	180	50.9	2.6
2	5460.00	40.1 AV	54.0	-13.9	1.02 V	180	37.5	2.6
3	#5470.00	57.4 PK	68.2	-10.8	1.02 V	180	54.8	2.6
4	*5550.00	105.6 PK			1.02 V	180	102.9	2.7
5	*5550.00	95.9 AV			1.02 V	180	93.2	2.7
6	11100.00	49.0 PK	74.0	-25.0	1.97 V	315	36.9	12.1
7	11100.00	35.2 AV	54.0	-18.8	1.97 V	315	23.1	12.1
8	#16650.00	47.1 PK	68.2	-21.1	1.35 V	264	32.9	14.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

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	102.2 PK			1.49 H	168	99.3	2.9
2	*5670.00	93.3 AV			1.49 H	168	90.4	2.9
3	#5725.00	59.0 PK	68.2	-9.2	1.49 H	168	56.1	2.9
4	11340.00	47.3 PK	74.0	-26.7	1.46 H	257	34.4	12.9
5	11340.00	34.0 AV	54.0	-20.0	1.46 H	257	21.1	12.9
6	#17010.00	46.2 PK	68.2	-22.0	1.23 H	170	30.4	15.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	105.0 PK			1.05 V	183	102.1	2.9
2	*5670.00	95.5 AV			1.05 V	183	92.6	2.9
3	#5725.00	63.4 PK	68.2	-4.8	1.05 V	183	60.5	2.9
4	11340.00	49.0 PK	74.0	-25.0	2.00 V	298	36.1	12.9
5	11340.00	35.2 AV	54.0	-18.8	2.00 V	298	22.3	12.9
6	#17010.00	47.0 PK	68.2	-21.2	1.38 V	276	31.2	15.8

REMARKS:

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

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

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	#5470.00	45.3 PK	68.2	-22.9	1.56 H	150	42.7	2.6
2	*5710.00	101.6 PK			1.56 H	150	98.6	3.0
3	*5710.00	92.8 AV			1.56 H	150	89.8	3.0
4	#5850.00	45.8 PK	68.2	-22.4	1.56 H	150	42.5	3.3
5	11420.00	47.2 PK	74.0	-26.8	1.48 H	264	34.3	12.9
6	11420.00	34.2 AV	54.0	-19.8	1.48 H	264	21.3	12.9
7	#17130.00	45.6 PK	68.2	-22.6	1.21 H	176	29.8	15.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	49.7 PK	68.2	-18.5	1.04 V	178	47.1	2.6
2	*5710.00	104.4 PK			1.04 V	178	101.4	3.0
3	*5710.00	95.0 AV			1.04 V	178	92.0	3.0
4	#5850.00	50.2 PK	68.2	-18.0	1.04 V	178	46.9	3.3
5	11420.00	48.2 PK	74.0	-25.8	1.97 V	315	35.3	12.9
6	11420.00	34.6 AV	54.0	-19.4	1.97 V	315	21.7	12.9
7	#17130.00	46.7 PK	68.2	-21.5	1.32 V	263	30.9	15.8

REMARKS:

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

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

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	#5647.40	51.7 PK	68.2	-16.5	1.52 H	155	49.0	2.7
2	*5755.00	101.5 PK			1.52 H	155	98.5	3.0
3	*5755.00	93.2 AV			1.52 H	155	90.2	3.0
4	#5964.33	51.2 PK	68.2	-17.0	1.52 H	155	47.9	3.3
5	11510.00	47.1 PK	74.0	-26.9	1.48 H	259	34.8	12.3
6	11510.00	33.9 AV	54.0	-20.1	1.48 H	259	21.6	12.3
7	#17265.00	45.8 PK	68.2	-22.4	1.19 H	176	30.4	15.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5581.34	54.8 PK	68.2	-13.4	1.29 V	153	52.0	2.8
2	*5755.00	104.0 PK			1.29 V	153	101.0	3.0
3	*5755.00	95.1 AV			1.29 V	153	92.1	3.0
4	#5984.48	53.9 PK	68.2	-14.3	1.29 V	153	50.7	3.2
5	11510.00	48.8 PK	74.0	-25.2	1.95 V	307	36.5	12.3
6	11510.00	35.4 AV	54.0	-18.6	1.95 V	307	23.1	12.3
7	#17265.00	47.6 PK	68.2	-20.6	1.35 V	290	32.2	15.4

REMARKS:

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

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

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	#5586.71	54.4 PK	68.2	-13.8	1.51 H	156	51.6	2.8
2	*5795.00	100.5 PK			1.51 H	156	97.5	3.0
3	*5795.00	92.6 AV			1.51 H	156	89.6	3.0
4	#6001.83	54.9 PK	68.2	-13.3	1.51 H	156	51.7	3.2
5	11590.00	47.7 PK	74.0	-26.3	1.47 H	257	35.3	12.4
6	11590.00	34.4 AV	54.0	-19.6	1.47 H	257	22.0	12.4
7	#17385.00	46.8 PK	68.2	-21.4	1.16 H	180	30.6	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	#5618.63	54.4 PK	68.2	-13.8	1.28 V	151	51.6	2.8
2	*5795.00	103.5 PK			1.28 V	151	100.5	3.0
3	*5795.00	94.8 AV			1.28 V	151	91.8	3.0
4	#6008.76	54.0 PK	68.2	-14.2	1.28 V	151	50.8	3.2
5	11590.00	48.5 PK	74.0	-25.5	1.99 V	293	36.1	12.4
6	11590.00	34.8 AV	54.0	-19.2	1.99 V	293	22.4	12.4
7	#17385.00	47.4 PK	68.2	-20.8	1.35 V	258	31.2	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT80)

CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	63.4 PK	74.0	-10.6	1.48 H	150	60.8	2.6
2	5150.00	49.0 AV	54.0	-5.0	1.48 H	150	46.4	2.6
3	*5210.00	97.3 PK			1.48 H	150	94.9	2.4
4	*5210.00	89.2 AV			1.48 H	150	86.8	2.4
5	5350.00	50.7 PK	74.0	-23.3	1.48 H	150	48.4	2.3
6	5350.00	40.0 AV	54.0	-14.0	1.48 H	150	37.7	2.3
7	#10420.00	46.4 PK	68.2	-21.8	1.45 H	280	34.2	12.2
8	15630.00	46.2 PK	74.0	-27.8	1.28 H	138	33.5	12.7
9	15630.00	34.7 AV	54.0	-19.3	1.28 H	138	22.0	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	67.8 PK	74.0	-6.2	1.01 V	163	65.2	2.6
2	5150.00	51.6 AV	54.0	-2.4	1.01 V	163	49.0	2.6
3	*5210.00	100.1 PK			1.01 V	163	97.7	2.4
4	*5210.00	91.4 AV			1.01 V	163	89.0	2.4
5	5350.00	55.1 PK	74.0	-18.9	1.01 V	163	52.8	2.3
6	5350.00	42.3 AV	54.0	-11.7	1.01 V	163	40.0	2.3
7	#10420.00	47.6 PK	68.2	-20.6	1.99 V	302	35.4	12.2
8	15630.00	45.6 PK	74.0	-28.4	1.38 V	275	32.9	12.7
9	15630.00	34.7 AV	54.0	-19.3	1.38 V	275	22.0	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	44.8 PK	74.0	-29.2	1.53 H	143	42.2	2.6
2	5150.00	35.5 AV	54.0	-18.5	1.53 H	143	32.9	2.6
3	*5290.00	94.6 PK			1.53 H	143	92.5	2.1
4	*5290.00	86.4 AV			1.53 H	143	84.3	2.1
5	5350.00	60.4 PK	74.0	-13.6	1.53 H	143	58.1	2.3
6	5350.00	49.1 AV	54.0	-4.9	1.53 H	143	46.8	2.3
7	#10580.00	46.9 PK	68.2	-21.3	1.51 H	274	35.1	11.8
8	15870.00	45.5 PK	74.0	-28.5	1.21 H	144	34.3	11.2
9	15870.00	34.3 AV	54.0	-19.7	1.21 H	144	23.1	11.2
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	49.2 PK	74.0	-24.8	1.03 V	179	46.6	2.6
2	5150.00	37.8 AV	54.0	-16.2	1.03 V	179	35.2	2.6
3	*5290.00	97.4 PK			1.03 V	179	95.3	2.1
4	*5290.00	88.6 AV			1.03 V	179	86.5	2.1
5	5350.00	64.8 PK	74.0	-9.2	1.03 V	179	62.5	2.3
6	5350.00	51.7 AV	54.0	-2.3	1.03 V	179	49.4	2.3
7	#10580.00	47.5 PK	68.2	-20.7	1.99 V	294	35.7	11.8
8	15870.00	45.6 PK	74.0	-28.4	1.33 V	290	34.4	11.2
9	15870.00	34.7 AV	54.0	-19.3	1.33 V	290	23.5	11.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	57.9 PK	74.0	-16.1	1.55 H	155	55.3	2.6
2	5460.00	43.8 AV	54.0	-10.2	1.55 H	155	41.2	2.6
3	#5470.00	61.1 PK	68.2	-7.1	1.55 H	155	58.5	2.6
4	*5530.00	97.1 PK			1.55 H	155	94.5	2.6
5	*5530.00	89.1 AV			1.55 H	155	86.5	2.6
6	#5725.00	45.7 PK	68.2	-22.5	1.55 H	155	42.8	2.9
7	11060.00	47.1 PK	74.0	-26.9	1.43 H	286	35.0	12.1
8	11060.00	33.9 AV	54.0	-20.1	1.43 H	286	21.8	12.1
9	#16590.00	46.0 PK	68.2	-22.2	1.24 H	147	31.8	14.2
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	5460.00	62.3 PK	74.0	-11.7	1.01 V	182	59.7	2.6
2	5460.00	46.1 AV	54.0	-7.9	1.01 V	182	43.5	2.6
3	#5470.00	65.9 PK	68.2	-2.3	1.01 V	182	63.3	2.6
4	*5530.00	99.9 PK			1.01 V	182	97.3	2.6
5	*5530.00	91.3 AV			1.01 V	182	88.7	2.6
6	#5725.00	50.1 PK	68.2	-18.1	1.01 V	182	47.2	2.9
7	11060.00	46.7 PK	74.0	-27.3	1.94 V	290	34.6	12.1
8	11060.00	33.6 AV	54.0	-20.4	1.94 V	290	21.5	12.1
9	#16590.00	45.5 PK	68.2	-22.7	1.41 V	272	31.3	14.2

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 122	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5610.00	99.6 PK			1.59 H	177	96.8	2.8
2	*5610.00	91.2 AV			1.59 H	177	88.4	2.8
3	#5725.00	59.7 PK	68.2	-8.5	1.59 H	177	56.8	2.9
4	11220.00	47.4 PK	74.0	-26.6	1.39 H	283	35.1	12.3
5	11220.00	34.1 AV	54.0	-19.9	1.39 H	283	21.8	12.3
6	#16830.00	46.6 PK	68.2	-21.6	1.22 H	162	32.0	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	*5610.00	102.4 PK			1.01 V	181	99.6	2.8
2	*5610.00	93.4 AV			1.01 V	181	90.6	2.8
3	#5725.00	64.1 PK	68.2	-4.1	1.01 V	181	61.2	2.9
4	11220.00	47.7 PK	74.0	-26.3	1.98 V	293	35.4	12.3
5	11220.00	34.5 AV	54.0	-19.5	1.98 V	293	22.2	12.3
6	#16830.00	47.5 PK	68.2	-20.7	1.36 V	280	32.9	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 138	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5470.00	45.9 PK	68.2	-22.3	1.54 H	147	43.3	2.6
2	*5690.00	99.2 PK			1.54 H	147	96.3	2.9
3	*5690.00	90.9 AV			1.54 H	147	88.0	2.9
4	#5850.00	46.6 PK	68.2	-21.6	1.54 H	147	43.3	3.3
5	11380.00	47.4 PK	74.0	-26.6	1.44 H	269	34.5	12.9
6	11380.00	34.1 AV	54.0	-19.9	1.44 H	269	21.2	12.9
7	#17070.00	46.1 PK	68.2	-22.1	1.21 H	183	30.0	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	#5470.00	50.3 PK	68.2	-17.9	1.02 V	177	47.7	2.6
2	*5690.00	102.0 PK			1.02 V	177	99.1	2.9
3	*5690.00	93.1 AV			1.02 V	177	90.2	2.9
4	#5850.00	51.0 PK	68.2	-17.2	1.02 V	177	47.7	3.3
5	11380.00	48.8 PK	74.0	-25.2	1.97 V	290	35.9	12.9
6	11380.00	35.2 AV	54.0	-18.8	1.97 V	290	22.3	12.9
7	#17070.00	47.4 PK	68.2	-20.8	1.40 V	266	31.3	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5646.13	57.7 PK	68.2	-10.5	1.53 H	154	55.0	2.7
2	*5775.00	98.8 PK			1.53 H	154	95.8	3.0
3	*5775.00	89.7 AV			1.53 H	154	86.7	3.0
4	#5926.66	53.8 PK	68.2	-14.4	1.53 H	154	50.4	3.4
5	11550.00	47.6 PK	74.0	-26.4	1.46 H	263	35.2	12.4
6	11550.00	34.2 AV	54.0	-19.8	1.46 H	263	21.8	12.4
7	#17325.00	45.7 PK	68.2	-22.5	1.19 H	161	30.0	15.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5633.59	58.4 PK	68.2	-9.8	1.13 V	156	55.6	2.8
2	*5775.00	101.1 PK			1.13 V	156	98.1	3.0
3	*5775.00	92.2 AV			1.13 V	156	89.2	3.0
4	#5928.71	54.2 PK	68.2	-14.0	1.13 V	156	50.8	3.4
5	11550.00	48.0 PK	74.0	-26.0	1.89 V	300	35.6	12.4
6	11550.00	34.8 AV	54.0	-19.2	1.89 V	300	22.4	12.4
7	#17325.00	46.8 PK	68.2	-21.4	1.40 V	270	31.1	15.7

REMARKS:

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

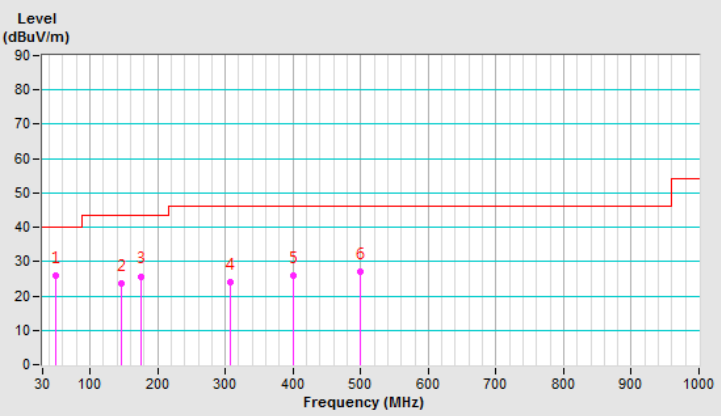
Below 1GHz Data:

CHANNEL	TX Channel 48	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	48.58	25.8 QP	40.0	-14.2	2.00 H	222	33.8	-8.0
2	146.84	23.6 QP	43.5	-19.9	1.00 H	360	31.3	-7.7
3	176.30	25.7 QP	43.5	-17.8	1.00 H	215	34.6	-8.9
4	307.20	23.8 QP	46.0	-22.2	2.00 H	233	30.4	-6.6
5	400.69	25.9 QP	46.0	-20.1	1.00 H	360	30.4	-4.5
6	498.73	27.1 QP	46.0	-18.9	2.00 H	360	29.1	-2.0

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.

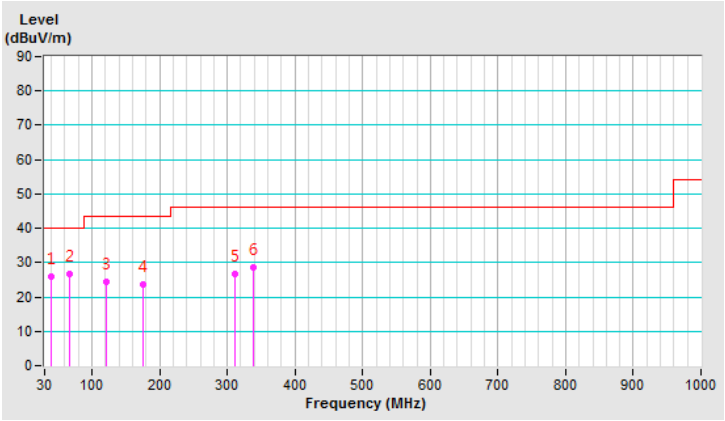


CHANNEL	TX Channel 48	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	40.65	26.0 QP	40.0	-14.0	1.00 V	187	34.2	-8.2
2	67.81	26.8 QP	40.0	-13.2	1.00 V	101	36.4	-9.6
3	122.05	24.3 QP	43.5	-19.2	1.00 V	267	33.8	-9.5
4	176.30	23.6 QP	43.5	-19.9	1.00 V	79	32.5	-8.9
5	311.91	26.7 QP	46.0	-19.3	2.00 V	0	33.1	-6.4
6	339.04	28.7 QP	46.0	-17.3	1.50 V	360	34.5	-5.8

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 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 Transmit Power Measurment

4.2.1 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 ≦ 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

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

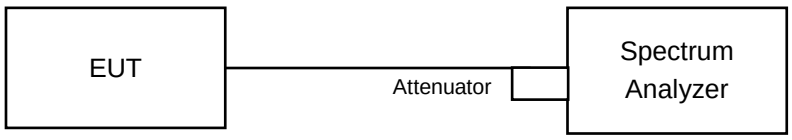
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

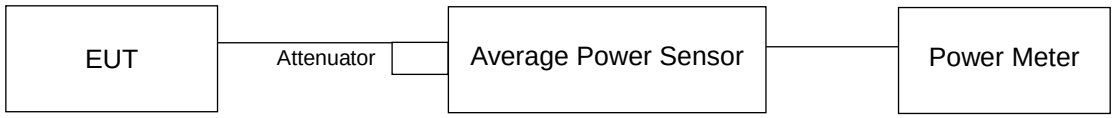
4.2.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

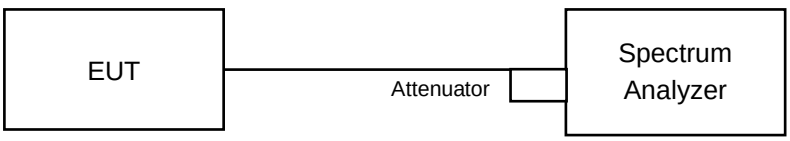
For channel straddling 5725MHz:



For other channels:



FOR 26dB OCCUPIED BANDWIDTH



4.2.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.2.4 Test Procedure

For Average Power Measurement

For channel straddling 5725MHz:

Method SA-2

1. Set span to encompass the emission bandwidth (EBW) of the signal.
2. Set RBW =1MHz.
3. Set the VBW ≥ 3 x RBW.
4. Number of points in sweep ≥ 2 Span / RBW.
5. Sweep time = auto.
6. Detector = RMS.
7. Trace average at least 100 traces in power averaging mode
8. Compute power by integrating the spectrum across the 26 dB EBW of the signal.
9. Duty factor need added to measured value (duty cycle < 98 percent).

Other Modulation mode

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

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%.

4.2.5 Deviation from Test Standard

No deviation.

4.2.6 EUT Operating Condition

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

4.2.7 Test Result

802.11a

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	14.78	14.37	57.414	17.59	24.00	Pass
40	5200	14.85	14.36	57.839	17.62	24.00	Pass
48	5240	14.88	14.29	57.614	17.61	24.00	Pass
52	5260	16.60	16.15	86.919	19.39	24.00	Pass
60	5300	16.83	16.01	88.097	19.45	24.00	Pass
64	5320	16.72	16.10	87.727	19.43	24.00	Pass
100	5500	17.03	16.32	93.321	19.70	24.00	Pass
120	5600	16.98	16.21	91.671	19.62	24.00	Pass
140	5700	15.91	15.27	72.645	18.61	24.00	Pass
*144 (UNII-2C Band)	5720	11.55	11.96	31.755	15.02	23.40	Pass
*144 (UNII-3 Band)	5720	7.44	4.70	8.996	9.54	30.00	Pass
149	5745	16.87	16.22	90.52	19.57	30.00	Pass
157	5785	17.12	16.41	95.275	19.79	30.00	Pass
165	5825	16.96	16.25	91.829	19.63	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Average Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	40.751	16.1
Note: The total power was calculated through formula and record the value for reference only.			

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	35.23	22.45
60	5300	36.26	24.10
64	5320	33.80	21.95
100	5500	31.37	25.28
116	5580	27.33	23.49
140	5700	24.40	23.61
144 (UNII-2C Band)	5720	17.41	17.88

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	22.45	24.51 > 24
60	5300	24.10	24.82 > 24
64	5320	21.95	24.41 > 24
100	5500	25.28	25.02 > 24
116	5580	23.49	24.7 > 24
140	5700	23.61	24.73 > 24
144 (UNII-2C Band)	5720	17.41	23.4 < 24

802.11ac (VHT20)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	15.06	14.38	59.479	17.74	24.00	Pass
40	5200	14.98	14.28	58.269	17.65	24.00	Pass
48	5240	14.87	14.36	57.98	17.63	24.00	Pass
52	5260	16.72	16.16	88.294	19.46	24.00	Pass
60	5300	16.66	16.12	87.271	19.41	24.00	Pass
64	5320	16.61	16.20	87.501	19.42	24.00	Pass
100	5500	15.87	15.43	73.551	18.67	24.00	Pass
116	5580	16.79	16.44	91.808	19.63	24.00	Pass
140	5700	14.72	14.26	56.317	17.51	24.00	Pass
*144 (UNII-2C Band)	5720	13.15	11.57	36.891	15.67	23.23	Pass
*144 (UNII-3 Band)	5720	7.85	6.62	11.262	10.52	30.00	Pass
149	5745	16.74	16.32	90.061	19.55	30.00	Pass
157	5785	16.87	16.15	89.851	19.54	30.00	Pass
165	5825	16.62	16.13	86.94	19.39	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Average Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	48.153	16.83
Note: The total power was calculated through formula and record the value for reference only.			

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	36.09	25.90
60	5300	39.05	27.30
64	5320	40.26	24.26
100	5500	28.93	23.87
116	5580	35.57	25.50
140	5700	24.39	23.80
144 (UNII-2C Band)	5720	24.69	16.72

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	25.90	25.13 > 24
60	5300	27.30	25.36 > 24
64	5320	24.26	24.84 > 24
100	5500	23.87	24.77 > 24
116	5580	25.50	25.06 > 24
140	5700	23.80	24.76 > 24
144 (UNII-2C Band)	5720	16.72	23.23 < 24

802.11ac (VHT40)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	15.12	14.65	61.683	17.90	24.00	Pass
46	5230	16.41	16.02	83.746	19.23	24.00	Pass
54	5270	16.56	16.35	88.442	19.47	24.00	Pass
62	5310	13.91	13.22	45.593	16.59	24.00	Pass
102	5510	14.51	14.13	54.131	17.33	24.00	Pass
110	5550	16.54	16.06	85.447	19.32	24.00	Pass
134	5670	16.63	16.18	87.521	19.42	24.00	Pass
*142 (UNII-2C Band)	5710	10.33	10.42	23.928	13.79	24.00	Pass
*142 (UNII-3 Band)	5710	2.15	-0.25	2.8365	4.53	30.00	Pass
151	5755	16.89	16.02	88.859	19.49	30.00	Pass
159	5795	16.72	16.08	87.54	19.42	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Average Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
142	5710	26.7645	14.28
Note: The total power was calculated through formula and record the value for reference only.			

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	84.81	58.89
62	5310	43.54	43.45
102	5510	43.70	44.82
110	5550	70.53	54.99
134	5670	76.64	56.48
142 (UNII-2C Band)	5710	54.06	37.07

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)
54	5270	58.89	28.7 > 24
62	5310	43.45	27.37 > 24
102	5510	43.70	27.4 > 24
110	5550	54.99	28.4 > 24
134	5670	56.48	28.51 > 24
142 (UNII-2C Band)	5710	37.07	26.69 > 24

802.11ac (VHT80)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	14.03	13.42	47.272	16.75	24.00	Pass
58	5290	10.95	10.43	23.486	13.71	24.00	Pass
106	5530	13.64	13.38	44.898	16.52	24.00	Pass
122	5610	16.72	16.18	88.484	19.47	24.00	Pass
*138 (UNII-2C Band)	5690	10.82	9.22	23.491	13.71	24.00	Pass
*138 (UNII-3 Band)	5690	-1.31	-1.93	1.5873	2.01	30.00	Pass
155	5775	16.89	16.05	89.137	19.50	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Average Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
138	5690	25.0783	13.99
Note: The total power was calculated through formula and record the value for reference only.			

26dB OCCUPIED BANDWIDTH

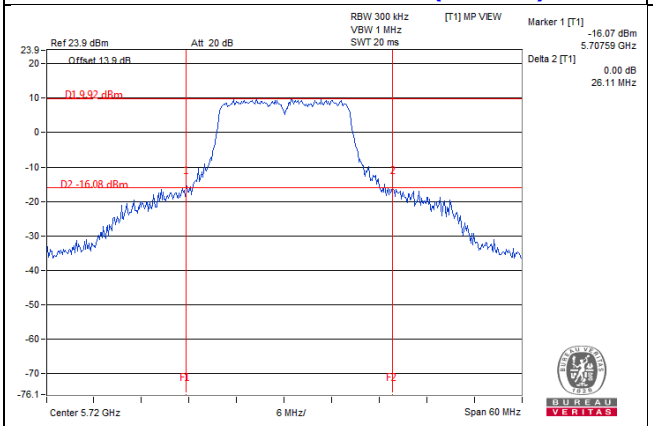
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	149.71	85.58
106	5530	84.85	85.11
122	5610	88.55	87.28
138 (UNII-2C Band)	5690	77.99	88.50

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

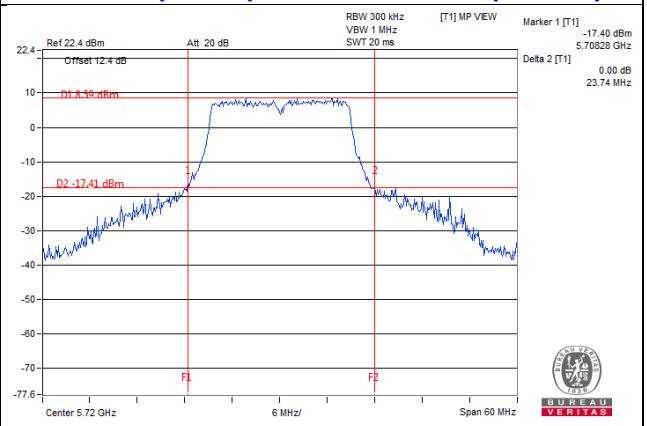
Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	85.58	30.32 > 24
106	5530	84.85	30.28 > 24
122	5610	87.28	30.4 > 24
138 (UNII-2C Band)	5690	77.99	29.92 > 24

Spectrum Plot of Worst Value

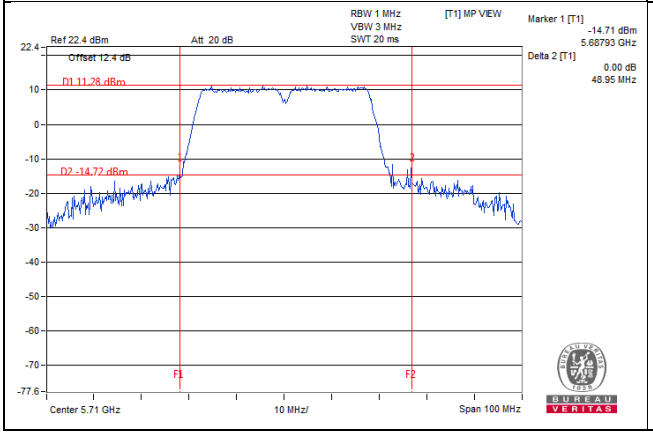
802.11a / Chain 0 : CH144 (UNII-2C)



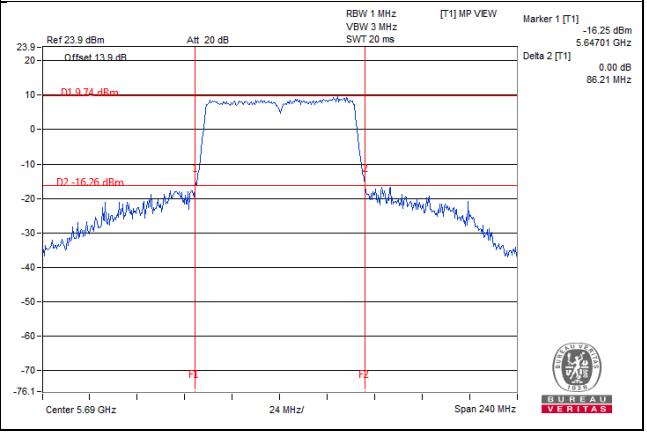
802.11ac (VHT20) / Chain 1 : CH144 (UNII-2C)



802.11ac (VHT40) / Chain 1 : CH142 (UNII-2C)



802.11ac (VHT80) / Chain 0 : CH138 (UNII-2C)



NOTE:

For CH144 (UNII-2C Band) = 5725MHz - Marker 1
For CH142 (UNII-2C Band) = 5725MHz - Marker 1
For CH138 (UNII-2C Band) = 5725MHz - Marker 1

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	93.851	19.72

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	91.893	19.63

802.11ac (VHT40)

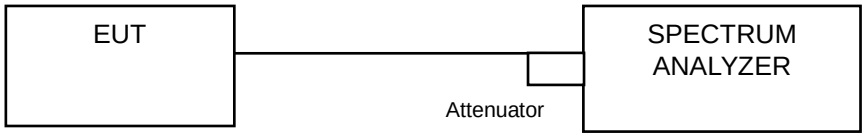
Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
142	5710	87.485	19.42

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
138	5690	90.451	19.56

4.3 Occupied Bandwidth Measurement

4.3.1 Test Setup



4.3.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.3 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.

4.3.4 Test Results

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.92	16.80
40	5200	16.80	16.68
48	5240	16.80	16.80
52	5260	17.16	16.80
60	5300	17.16	16.80
64	5320	17.16	16.80
100	5500	17.16	16.92
116	5580	16.80	16.92
140	5700	16.68	16.92
144 (UNII-2C Band)	5720	13.52	13.40
144 (UNII-3 Band)	5720	3.52	3.40
149	5745	16.92	16.68
157	5785	16.80	16.80
165	5825	16.80	16.80

802.11ac (VHT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	18.00	18.12
40	5200	18.12	18.00
48	5240	18.00	18.00
52	5260	18.24	17.88
60	5300	18.36	18.00
64	5320	18.36	18.00
100	5500	18.00	18.00
116	5580	18.12	18.00
140	5700	18.00	18.00
144 (UNII-2C Band)	5720	14.00	14.12
144 (UNII-3 Band)	5720	4.12	4.00
149	5745	18.00	18.00
157	5785	18.12	18.00
165	5825	18.00	18.00

802.11ac (VHT40)

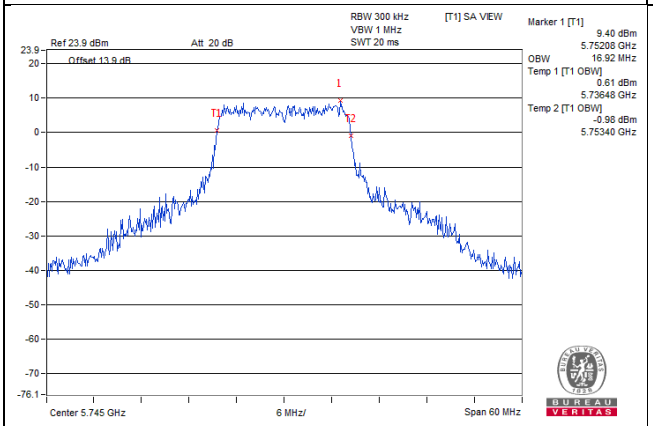
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.96	36.96
46	5230	37.20	36.96
54	5270	37.44	36.96
62	5310	36.96	36.96
102	5510	36.96	36.96
110	5550	37.20	36.96
134	5670	36.96	36.96
142 (UNII-2C Band)	5710	33.60	33.60
142 (UNII-3 Band)	5710	3.60	3.60
151	5755	36.72	36.96
159	5795	36.96	36.96

802.11ac (VHT80)

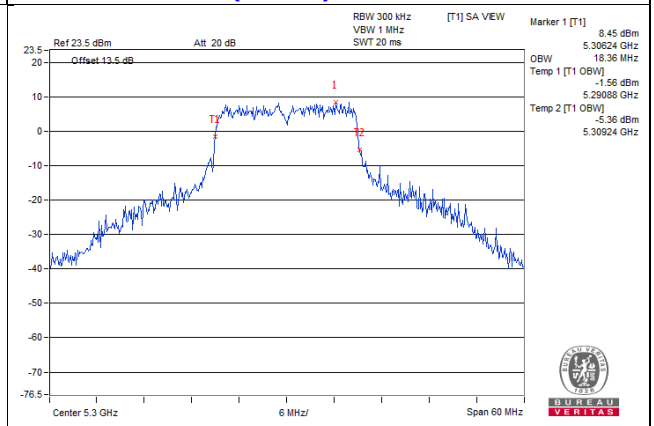
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.32	75.84
58	5290	76.80	75.84
106	5530	75.84	75.84
122	5610	76.32	76.32
138 (UNII-2C Band)	5690	72.92	72.92
138 (UNII-3 Band)	5690	2.92	2.92
155	5775	76.32	76.32

Spectrum Plot of Worst Value

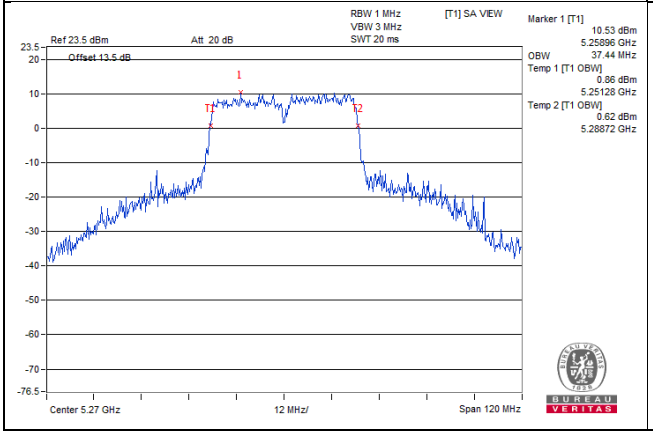
802.11a / Chain 0 : CH149



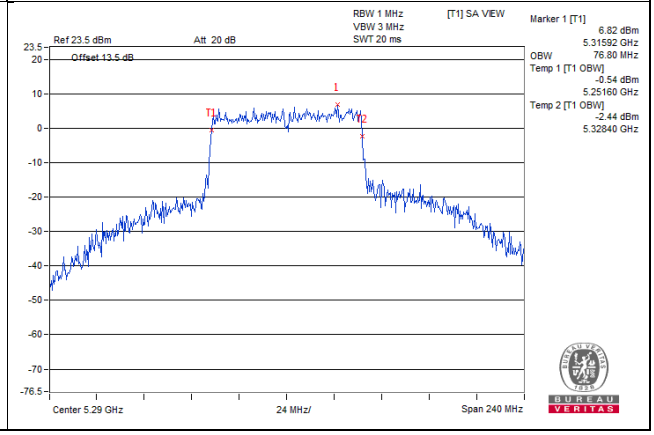
802.11ac (VHT20) / Chain 0 : CH60



802.11ac (VHT40) / Chain 0 : CH54

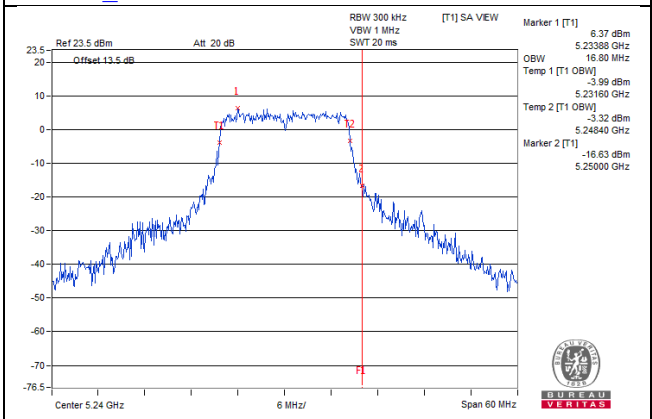


802.11ac (VHT80) / Chain 0 : CH58

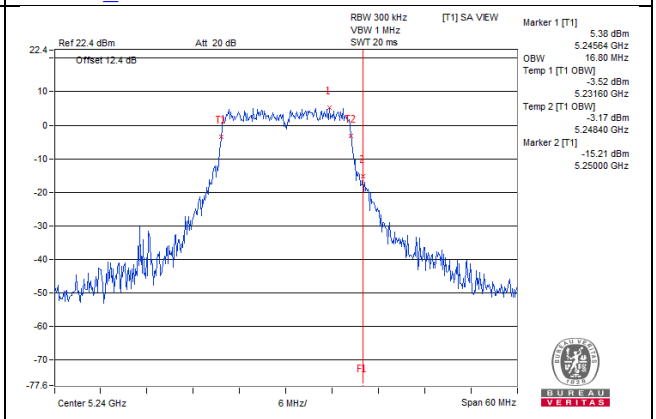


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)

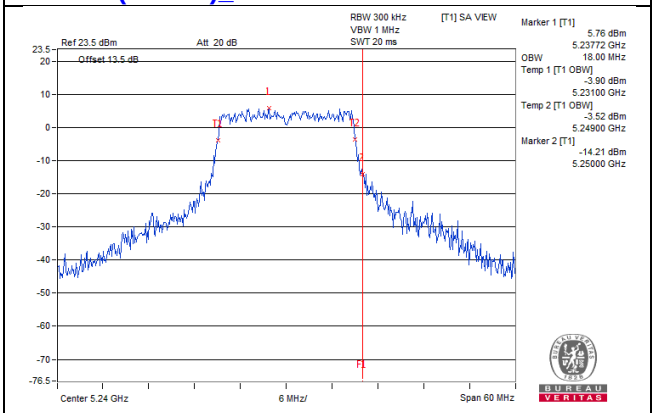
802.11a_Chain0 / CH48



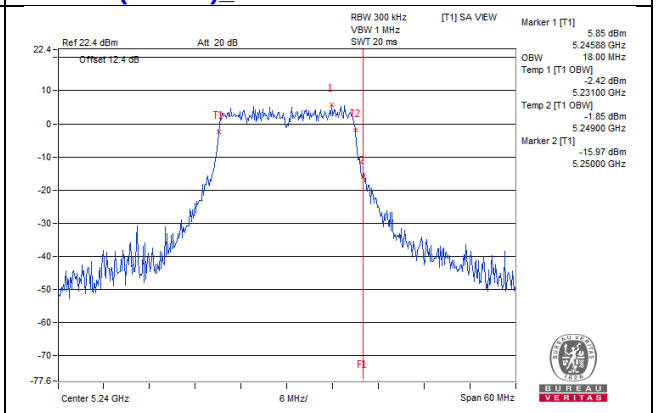
802.11a_Chain1 / CH48



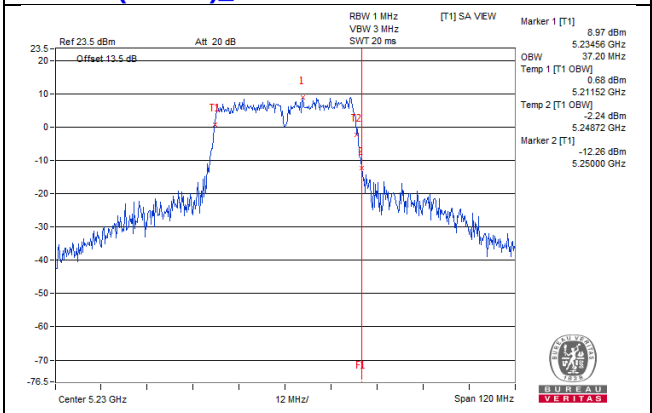
802.11ac(VHT20)_Chain0 / CH48



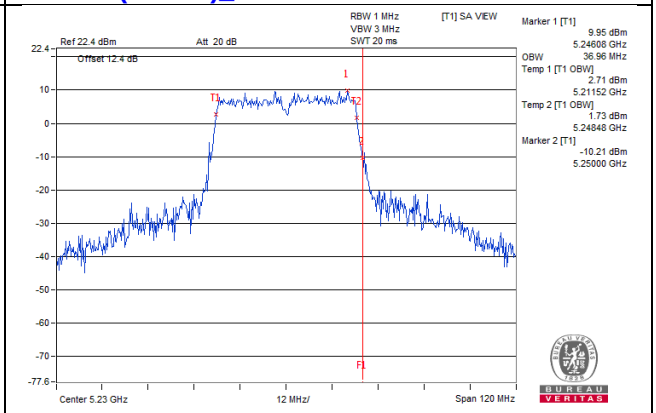
802.11ac(VHT20)_Chain1 / CH48



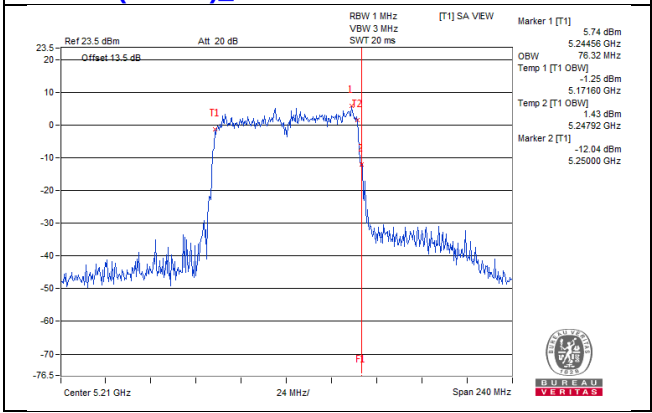
802.11ac(VHT40)_Chain0 / CH46



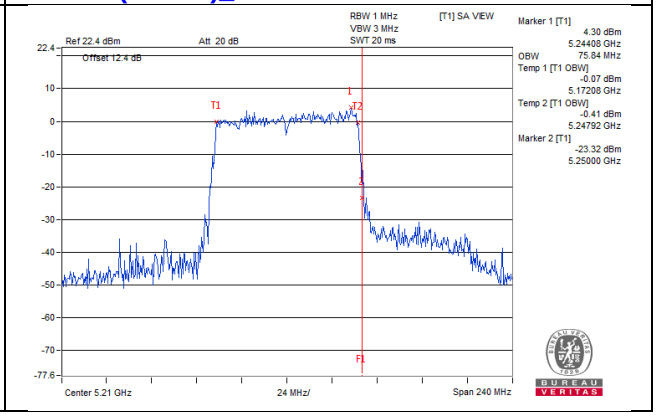
802.11ac(VHT40)_Chain1 / CH46



802.11ac(VHT80)_Chain0 / CH42

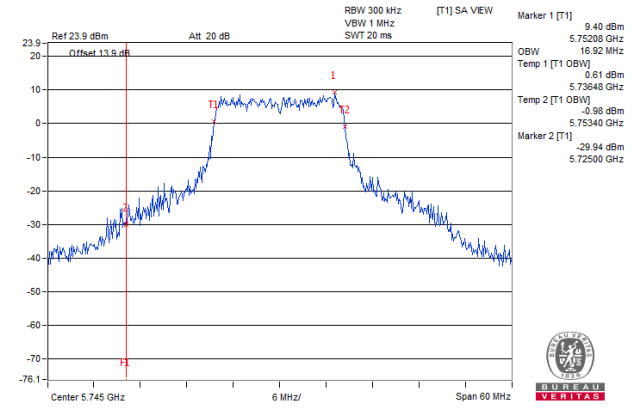


802.11ac(VHT80)_Chain1 / CH42

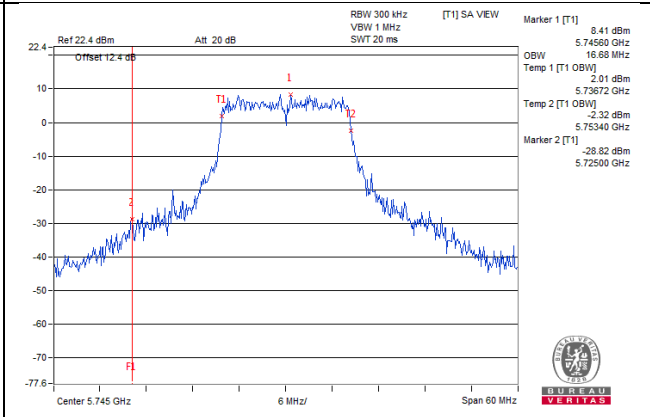


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)

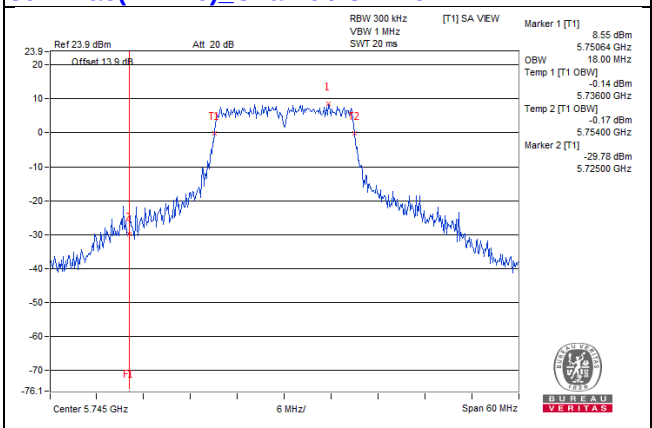
802.11a_Chain0 / CH149



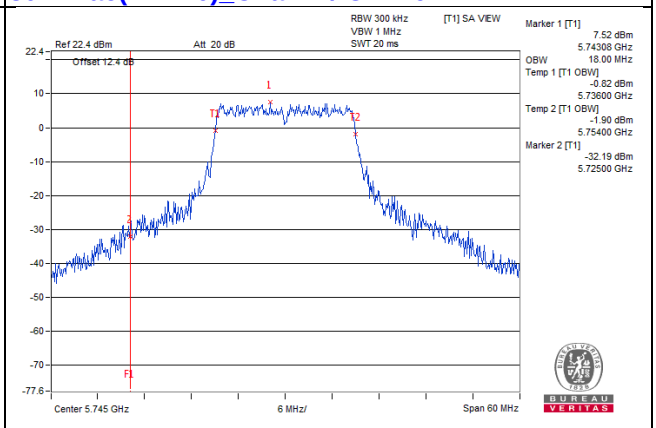
802.11a_Chain1 / CH149



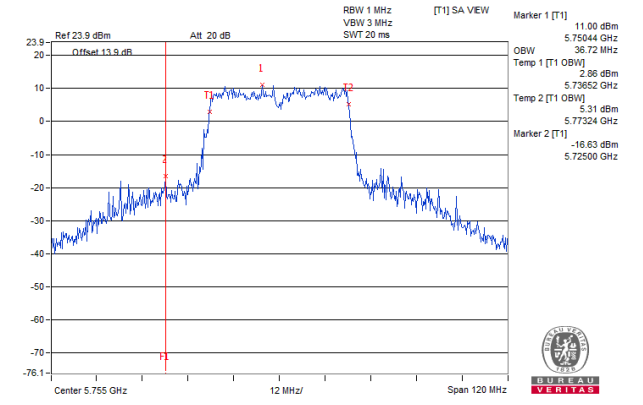
802.11ac(VHT20)_Chain0 / CH149



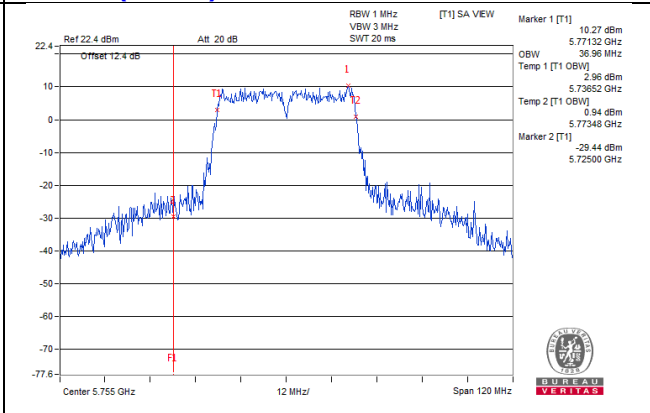
802.11ac(VHT20)_Chain1 / CH149



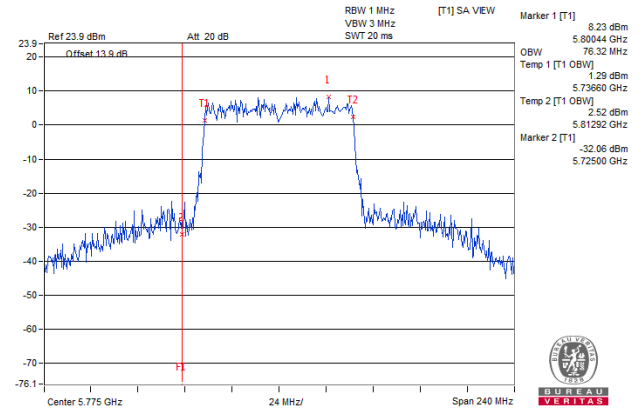
802.11ac(VHT40)_Chain0 / CH151



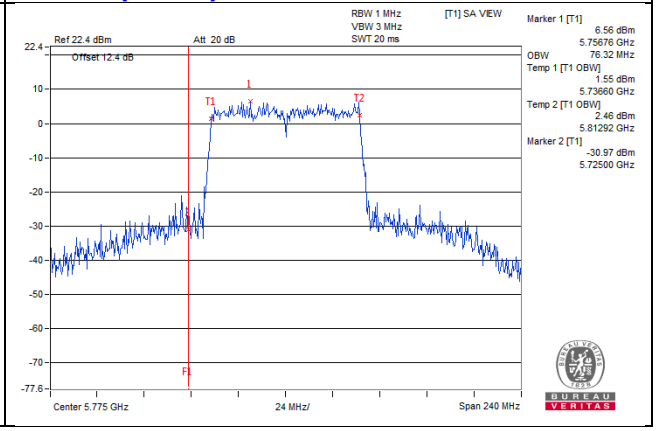
802.11ac(VHT40)_Chain1 / CH151



802.11ac(VHT80)_Chain0 / CH155



802.11ac(VHT80)_Chain1 / CH155

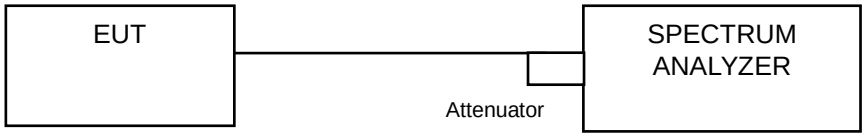


4.4 Peak Power Spectral Density Measurement

4.4.1 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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedure

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

Using method SA-2

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 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:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 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 = 10log(500 kHz/300kHz)
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)

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Condition

Same as Item 4.2.6.

4.4.7 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)	Total PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	2.41	0.13	0.25	4.68	11.00	Pass
40	5200	1.87	0.08	0.25	4.33	11.00	Pass
48	5240	1.68	0.35	0.25	4.33	11.00	Pass
52	5260	4.02	2.18	0.25	6.46	11.00	Pass
60	5300	3.27	2.73	0.25	6.27	11.00	Pass
64	5320	3.23	3.32	0.25	6.54	11.00	Pass
100	5500	4.97	2.28	0.25	7.09	11.00	Pass
116	5580	4.41	3.30	0.25	7.15	11.00	Pass
140	5700	1.30	2.34	0.25	5.11	11.00	Pass
144 (UNII-2C Band)	5720	4.64	1.00	0.25	6.45	11.00	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. UNII-1~2A: Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 4.47 < 6dBi , so the power density limit shall not be reduced.

3. UNII-3: Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 4.6 < 6dBi , so the power density limit shall not be reduced.

4. 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)	Total PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	1.47	0.84	0.23	4.41	11.00	Pass
40	5200	1.36	0.69	0.23	4.28	11.00	Pass
48	5240	2.16	0.52	0.23	4.66	11.00	Pass
52	5260	4.06	2.44	0.23	6.57	11.00	Pass
60	5300	3.27	2.37	0.23	6.08	11.00	Pass
64	5320	3.18	2.58	0.23	6.13	11.00	Pass
100	5500	2.94	1.10	0.23	5.36	11.00	Pass
116	5580	4.45	3.53	0.23	7.25	11.00	Pass
140	5700	1.81	0.83	0.23	4.59	11.00	Pass
144 (UNII-2C Band)	5720	4.38	1.81	0.23	6.52	11.00	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. UNII-1~2A: Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 4.47 < 6dBi , so the power density limit shall not be reduced.

3. UNII-3: Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 4.6 < 6dBi , so the power density limit shall not be reduced.

4. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

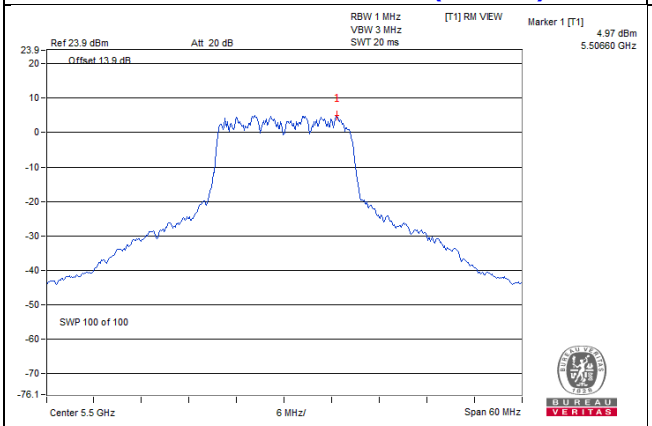
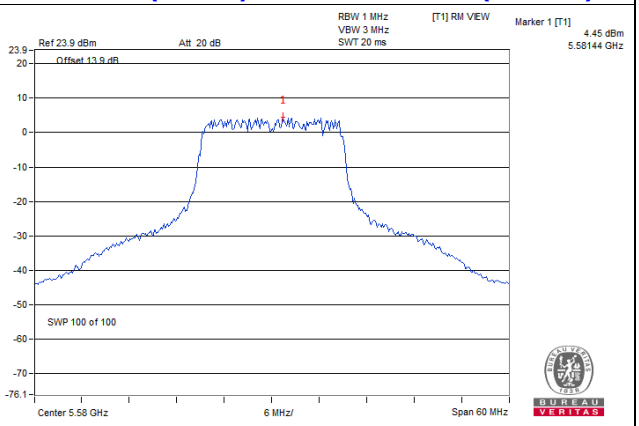
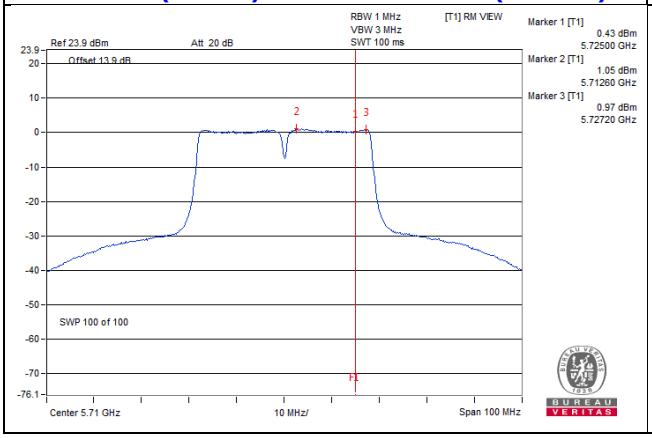
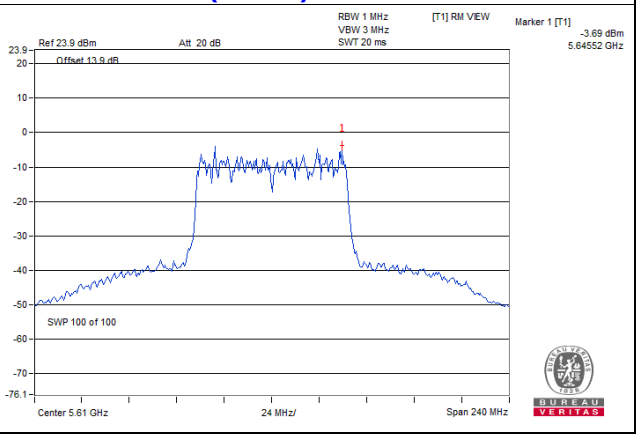
Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-3.50	-2.57	0.40	0.40	11.00	Pass
46	5230	-1.99	-1.19	0.40	1.84	11.00	Pass
54	5270	-1.69	-2.09	0.40	1.52	11.00	Pass
62	5310	-2.60	-3.54	0.40	0.37	11.00	Pass
102	5510	-2.53	-2.90	0.40	0.70	11.00	Pass
110	5550	-1.40	-0.74	0.40	2.35	11.00	Pass
134	5670	1.00	-3.14	0.40	2.82	11.00	Pass
142 (UNII-2C Band)	5710	1.05	-0.74	0.40	3.66	11.00	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. UNII-1~2A: Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 4.47 < 6dBi , so the power density limit shall not be reduced.
3. UNII-3: Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 4.6 < 6dBi , so the power density limit shall not be reduced.
4. 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)	Total PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-7.32	-8.00	0.61	-4.03	11.00	Pass
58	5290	-5.58	-12.91	0.61	-4.23	11.00	Pass
106	5530	-6.02	-10.85	0.61	-4.18	11.00	Pass
122	5610	-3.69	-3.99	0.61	-0.22	11.00	Pass
138 (UNII-2C Band)	5690	-5.43	-6.69	0.61	-2.39	11.00	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. UNII-1~2A: Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 4.47 < 6dBi , so the power density limit shall not be reduced.
3. UNII-3: Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 4.6 < 6dBi , so the power density limit shall not be reduced.
4. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a / Chain 0 : CH100 (UNII-2C)	**802.11ac (VHT20) / Chain 0 : CH116 (UNII-2C)**
	
802.11ac (VHT40) / Chain 0 : CH142 (UNII-2C)	**802.11ac (VHT80) / Chain 0 : CH122**
	

For U-NII-3:

802.11a

TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144 (U-NII-3 Band)	5720	-4.26	-2.04	3.01	0.25	1.22	30.00	Pass
	149	5745	-4.15	-1.93	3.01	0.25	1.33	30.00	Pass
	157	5785	-4.12	-1.90	3.01	0.25	1.36	30.00	Pass
	165	5825	-3.83	-1.61	3.01	0.25	1.65	30.00	Pass
1	144 (U-NII-3 Band)	5720	-5.47	-3.25	3.01	0.25	0.01	30.00	Pass
	149	5745	-5.22	-3.00	3.01	0.25	0.26	30.00	Pass
	157	5785	-5.47	-3.25	3.01	0.25	0.01	30.00	Pass
	165	5825	-5.76	-3.54	3.01	0.25	-0.28	30.00	Pass

Note: 1. Directional gain = 10 log[($10^{G0/20}$ + $10^{G1/20}$)^2 / 2] = 4.6dBi < 6dBi, so the power density limit shall not be reduced.

2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144 (U-NII-3 Band)	5720	-4.33	-2.11	3.01	0.23	1.13	30.00	Pass
	149	5745	-4.90	-2.68	3.01	0.23	0.56	30.00	Pass
	157	5785	-4.73	-2.51	3.01	0.23	0.73	30.00	Pass
	165	5825	-5.04	-2.82	3.01	0.23	0.42	30.00	Pass
1	144 (U-NII-3 Band)	5720	-5.52	-3.30	3.01	0.23	-0.06	30.00	Pass
	149	5745	-5.65	-3.43	3.01	0.23	-0.19	30.00	Pass
	157	5785	-5.58	-3.36	3.01	0.23	-0.12	30.00	Pass
	165	5825	-5.66	-3.44	3.01	0.23	-0.20	30.00	Pass

Note: 1. Directional gain = 10 log[($10^{G0/20}$ + $10^{G1/20}$)^2 / 2] = 4.6dBi < 6dBi, so the power density limit shall not be reduced.

2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	142 (U-NII-3 Band)	5710	-7.23	-5.01	3.01	0.40	-1.60	30.00	Pass
	151	5755	-8.41	-6.19	3.01	0.40	-2.78	30.00	Pass
	159	5795	-8.17	-5.95	3.01	0.40	-2.54	30.00	Pass
1	142 (U-NII-3 Band)	5710	-8.77	-6.55	3.01	0.40	-3.14	30.00	Pass
	151	5755	-9.74	-7.52	3.01	0.40	-4.11	30.00	Pass
	159	5795	-10.29	-8.07	3.01	0.40	-4.66	30.00	Pass

Note: 1. Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 4.6dBi < 6dBi, so the power density limit shall not be reduced.

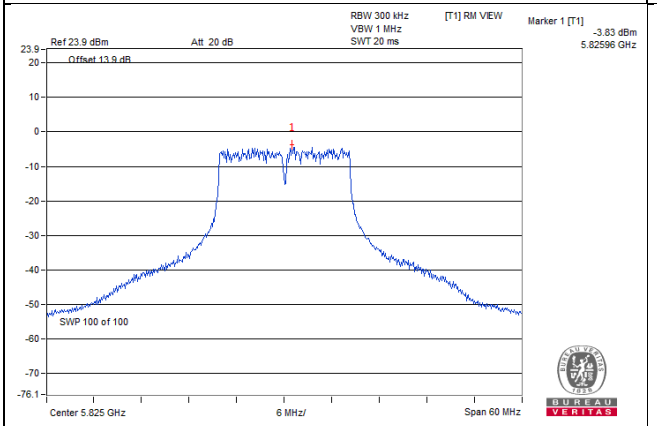
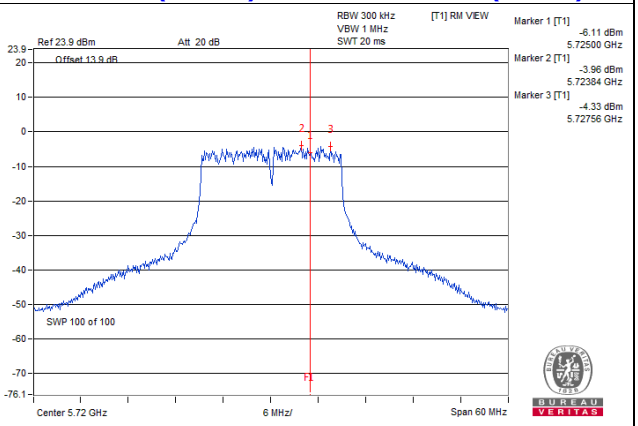
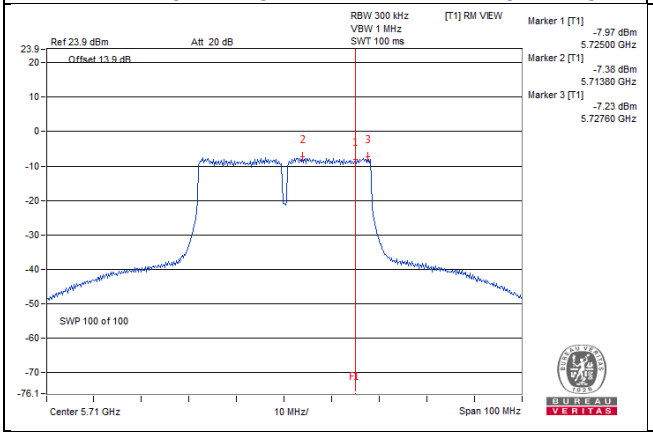
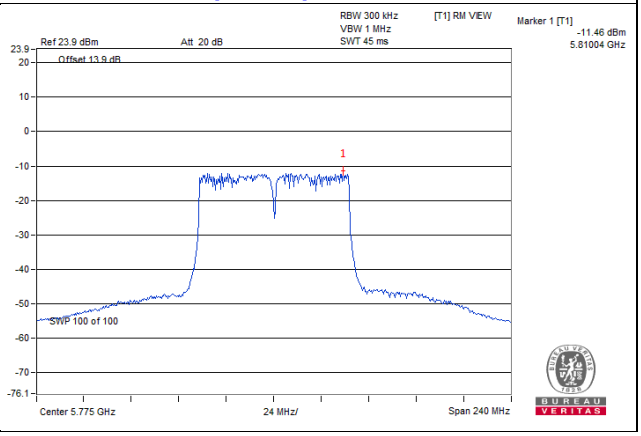
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	138 (U-NII-3 Band)	5690	-11.60	-9.38	3.01	0.61	-5.76	30.00	Pass
	155	5775	-11.46	-9.24	3.01	0.61	-5.62	30.00	Pass
1	138 (U-NII-3 Band)	5690	-13.23	-11.01	3.01	0.61	-7.39	30.00	Pass
	155	5775	-13.25	-11.03	3.01	0.61	-7.41	30.00	Pass

Note: 1. Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 4.6dBi < 6dBi, so the power density limit shall not be reduced.

2. Refer to section 3.3 for duty cycle spectrum plot.

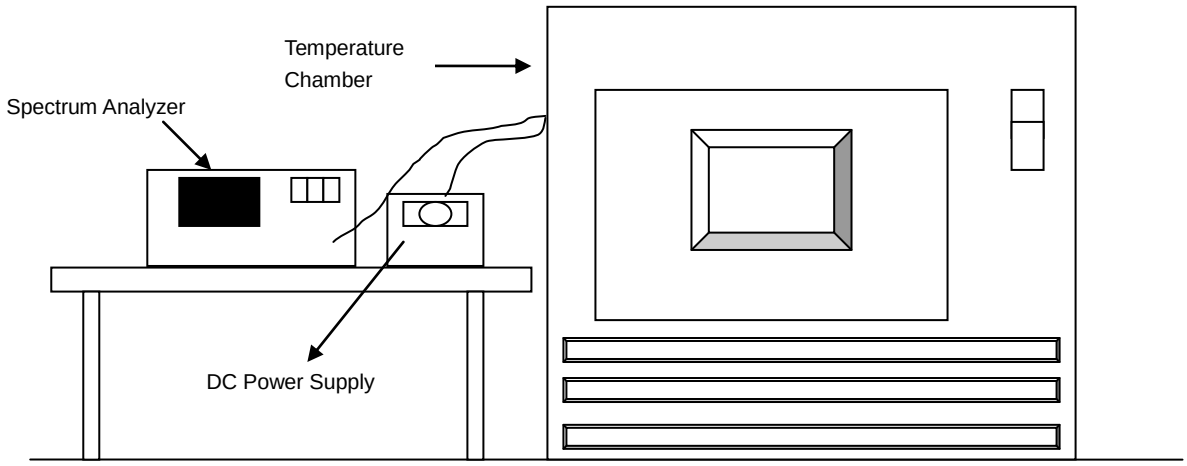
Spectrum Plot of Worst Value	
802.11a / Chain 0 : CH165	**802.11ac (VHT20) / Chain 0 : CH144 (UNII-3)**
	
802.11ac (VHT40) / Chain 0 : CH142 (UNII-3)	**802.11ac (VHT80) / Chain 0 : CH155**
	

4.5 Frequency Stability Measurement

4.5.1 Limits of Frequency Stability Measurement

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

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

a. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
b. Turn the EUT on and couple its output to a spectrum analyzer.
c. Turn the EUT off and set the chamber to the highest temperature specified.
d. 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.
e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
f. 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.
.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

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

4.5.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (℃)	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	3.85	5180.0202	PASS	5180.0209	PASS	5180.0192	PASS	5180.0211	PASS
40	3.85	5180.0053	PASS	5180.0061	PASS	5180.0065	PASS	5180.0069	PASS
30	3.85	5180.0147	PASS	5180.0158	PASS	5180.0153	PASS	5180.0149	PASS
20	3.85	5179.9843	PASS	5179.983	PASS	5179.9853	PASS	5179.9854	PASS
10	3.85	5179.9984	PASS	5179.9963	PASS	5179.9955	PASS	5179.9967	PASS
0	3.85	5179.9925	PASS	5179.9942	PASS	5179.994	PASS	5179.9953	PASS
-10	3.85	5180.0248	PASS	5180.0256	PASS	5180.023	PASS	5180.0226	PASS
-20	3.85	5180.0118	PASS	5180.012	PASS	5180.0135	PASS	5180.0108	PASS
-30	3.85	5180.0133	PASS	5180.0096	PASS	5180.0137	PASS	5180.0109	PASS

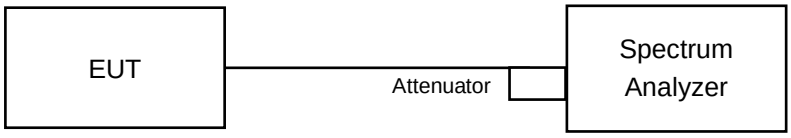
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (℃)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	4.43	5179.9841	PASS	5179.9837	PASS	5179.9862	PASS	5179.9856	PASS
	3.85	5179.9843	PASS	5179.983	PASS	5179.9853	PASS	5179.9854	PASS
	3.27	5179.9836	PASS	5179.9831	PASS	5179.9855	PASS	5179.9846	PASS

4.6 6dB Bandwidth Measurment

4.6.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

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

MEASUREMENT PROCEDURE REF

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. 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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (UNII-3 Band)	5720	3.22	3.23	0.5	PASS
149	5745	16.41	16.43	0.5	PASS
157	5785	16.41	16.40	0.5	PASS
165	5825	16.40	16.45	0.5	PASS

802.11ac (VHT20)

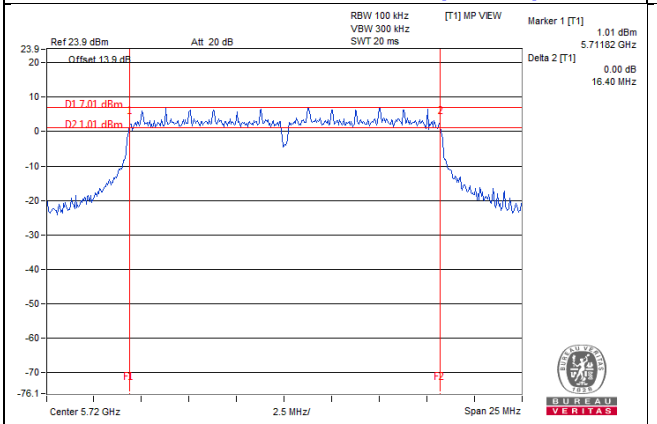
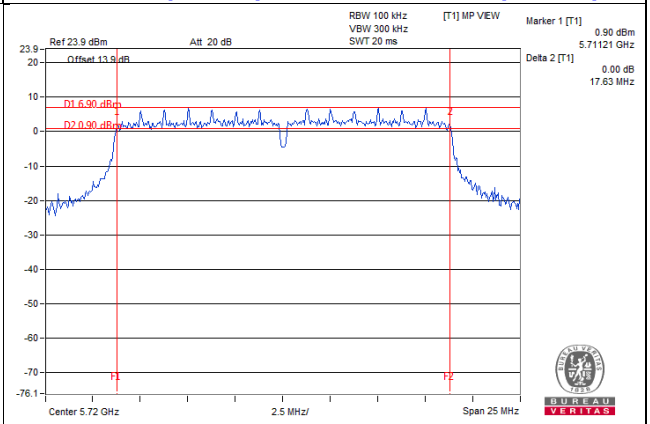
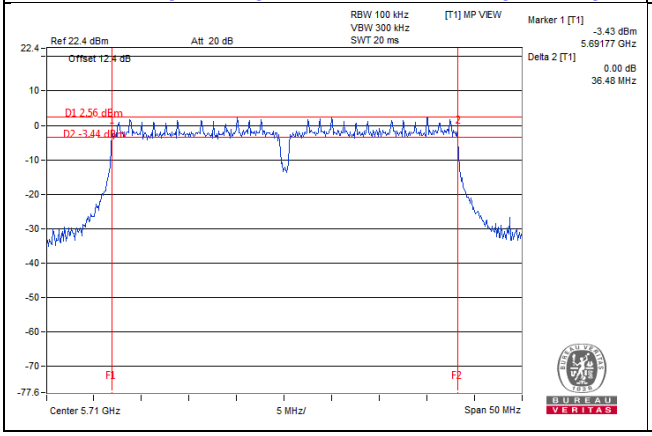
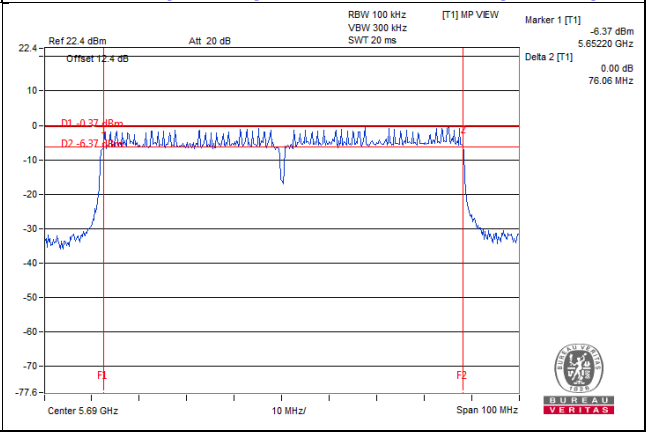
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (UNII-3 Band)	5720	3.84	3.85	0.5	PASS
149	5745	17.67	17.64	0.5	PASS
157	5785	17.63	17.68	0.5	PASS
165	5825	17.68	17.67	0.5	PASS

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142 (UNII-3 Band)	5710	3.26	3.25	0.5	PASS
151	5755	36.45	36.46	0.5	PASS
159	5795	36.46	36.46	0.5	PASS

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138 (UNII-3 Band)	5690	3.28	3.26	0.5	PASS
155	5775	76.55	76.50	0.5	PASS

Spectrum Plot of Worst Value	
802.11a / Chain 0 : CH144 (U-NII-3)	**802.11ac (VHT20) / Chain 0 : CH144 (U-NII-3)**
	
802.11ac (VHT40) / Chain 1 : CH142 (U-NII-3)	**802.11ac (VHT80) / Chain 1 : CH138 (U-NII-3)**
	

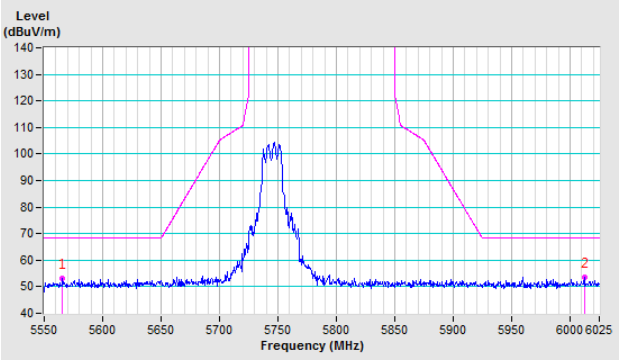
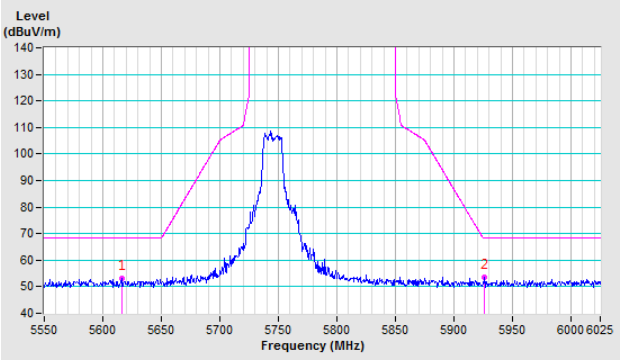
Note: The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

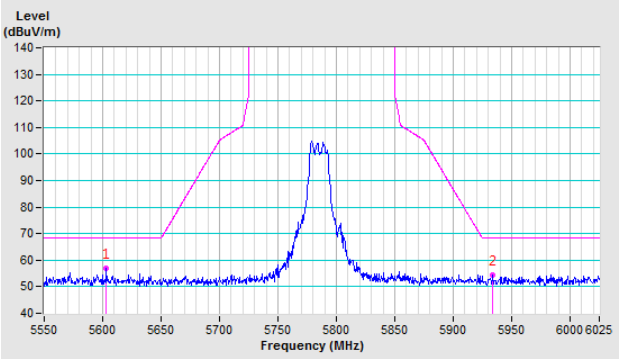
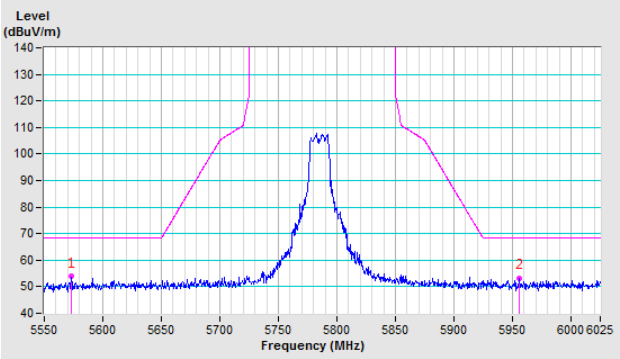
5 Pictures of Test Arrangements

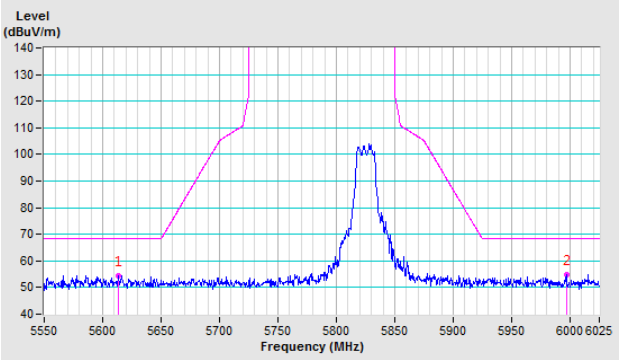
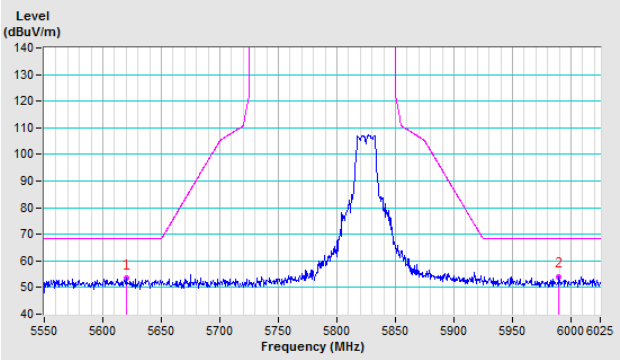
Please refer to the attached file (Test Setup Photo).

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

802.11a

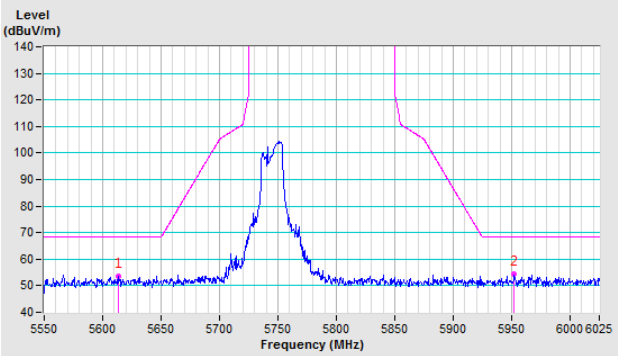
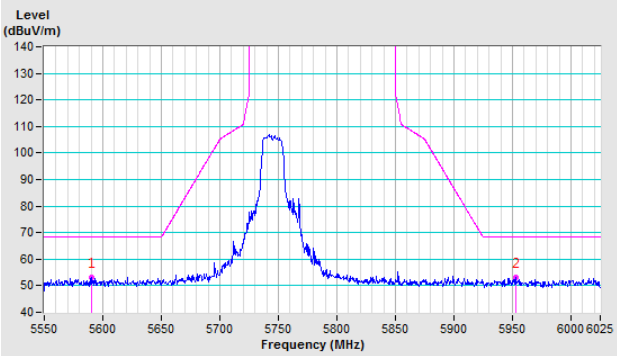
CH 149 5745 MHz	
Horizontal	**Vertical**
	

CH 157 5785 MHz	
Horizontal	**Vertical**
	

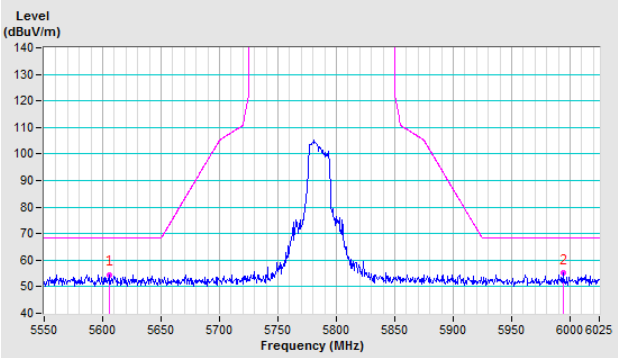
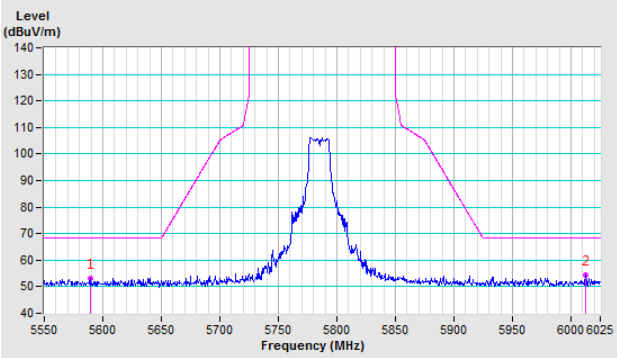
CH 165 5825 MHz	
Horizontal	**Vertical**
	

802.11ac (VHT20)

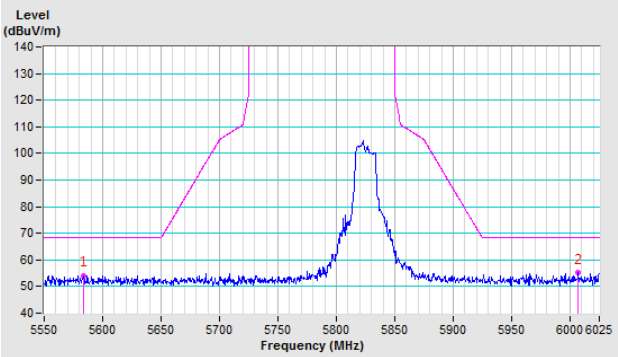
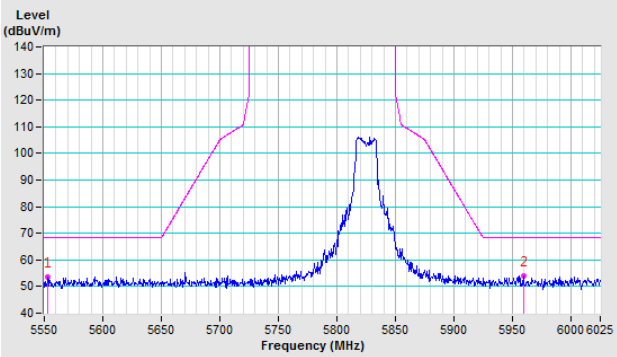
CH 149 5745 MHz

Horizontal	Vertical
	

CH 157 5785 MHz

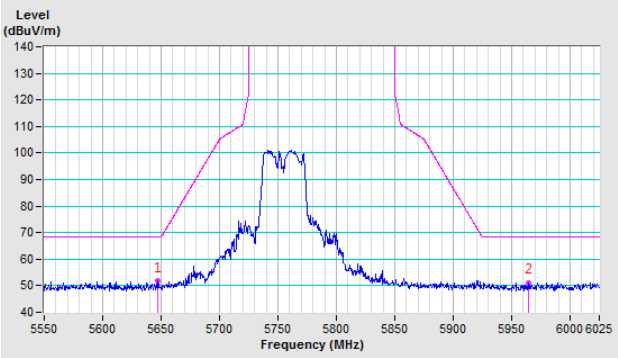
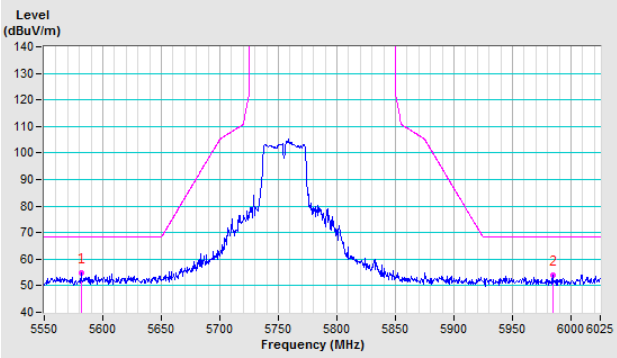
Horizontal	Vertical
	

CH 165 5825 MHz

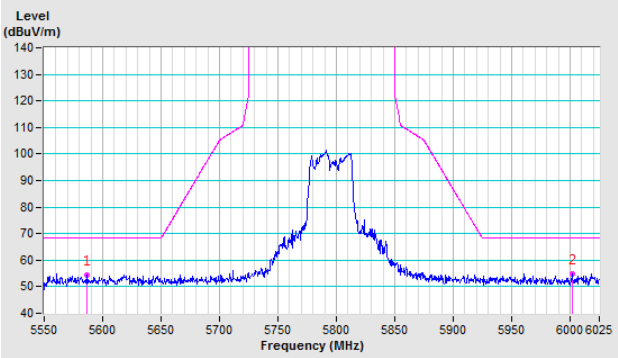
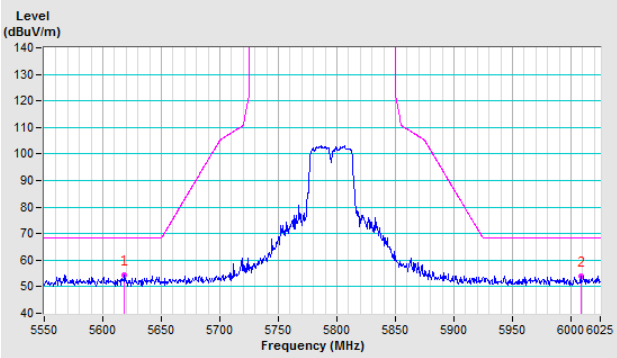
Horizontal	Vertical
	

802.11ac (VHT40)

CH 151 5755 MHz

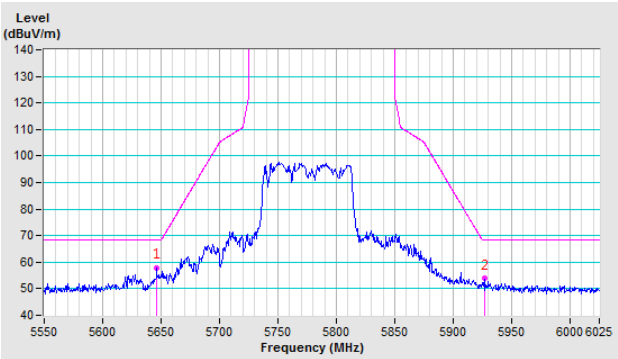
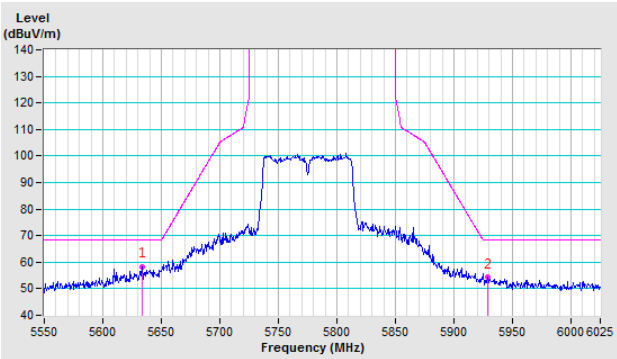
Horizontal	Vertical
	

CH 159 5795 MHz

Horizontal	Vertical
	

802.11ac (VHT80)

CH 155 5775 MHz

Horizontal	Vertical
	

Appendix – Information on 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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