FCC Test Report (WLAN)

Report No.:	RF190114E10-1
FCC ID:	QVHDBWIFIBLE00
Test Model:	DBWIFIBLE02
Series Model:	DBWIFIBLE03
Received Date:	Jan. 14, 2019
Test Date:	Jan. 29 to Mar. 18, 2019
Issued Date:	Nov. 06, 2019
Applicant:	Dyson Technology Ltd
Address:	Tetbury Hill Malmesbury Wiltshire SN16 0RP United Kingdom
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.
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan.
FCC Registration / Designation Number:	723255 / TW2022

Testing Laboratory
2022

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Release Control Record

Issue No.	Description	Date Issued
RF190114E10-1	Original release.	Nov. 06, 2019

1 Certificate of Conformity

Product:	DBWIFIBLE02
Brand:	Dyson
Test Model:	DBWIFIBLE02
Series Model:	DBWIFIBLE03
Sample Status:	ENGINEERING SAMPLE
Applicant:	Dyson Technology Ltd
Test Date:	Jan. 29 to Mar. 18, 2019
Standard:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10: 2013

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

Prepared by : Wendy Wu , **Date:** Nov. 06, 2019

Wendy Wu / Specialist

Approved by : , **Date:** Nov. 06, 2019

May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -27.30dB at 1.86719MHz.
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 -0.1dB at 11650.00MHz, 5150.00MHz, 5470.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

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

Note:

Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.8 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.1 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.1 dB
	6GHz ~ 18GHz	5.0 dB
	18GHz ~ 40GHz	5.2 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (WLAN)

Product	DBWIFIBLE02
Brand	Dyson
Test Model	DBWIFIBLE02
Series Model	DBWIFIBLE03
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 3.3V from host equipment
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS,OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 72.2Mbps
Operating Frequency	**2.4GHz:** 2.412 ~ 2.462GHz **5GHz:** 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.70GHz, 5.745 ~ 5.825GHz
Number of Channel	**2.4GHz:** 802.11b, 802.11g, 802.11n (HT20): 11 **5GHz:** 802.11a, 802.11n (HT20): 24
Output Power	**2.4GHz:** 277.332mW **5GHz:** **5.18 ~ 5.24GHz:** 61.944mW **5.26 ~ 5.32GHz:** 61.235mW **5.50 ~ 5.70GHz:** 58.345mW **5.745 ~ 5.825GHz:** 61.802mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. There are WLAN and Bluetooth technology used for the EUT.
2. The EUT has below models, which are identical to each other in all aspects except for the following:

Model	Difference
DBWIFIBLE02	for LGA module
DBWIFIBLE03	for MOB module
Note: From the above models, the worst case was found in **DBWIFIBLE02**. Therefore only the test data of the modes were recorded in this report.	

3. Simultaneously transmission condition.

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

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

WLAN				
Ant. No.	Ant. Net Gain (dBi)	Freq. range (GHz)	Ant. Type	Connector Type
1	2	2.4~2.4835	PCB	NA
	5	5.15~5.85		
Bluetooth				
Ant. No.	Ant. Net Gain (dBi)	Freq. range (GHz)	Ant. Type	Connector Type
1	2	2.4~2.4835	PCB	NA

5. The EUT incorporates a SISO function.

2.4GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11b	1TX	1RX
802.11g	1TX	1RX
802.11n (HT20)	1TX	1RX
5GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11a	1TX	1RX
802.11n (HT20)	1TX	1RX

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

3.2 Description of Test Modes

FOR 5180 ~ 5240MHz

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

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

FOR 5260 ~ 5320MHz

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

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

FOR 5500 ~ 5700MHz

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

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		

FOR 5745 ~ 5825MHz:

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

Channel	Frequency	Channel	Frequency
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 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. The EUT's antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane (below 1GHz) & Z-plane (above 1GHz).**

Radiated Emission Test (Above 1GHz):

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

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6
802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5

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)
802.11a	5180-5240 5260-5320 5500-5700 5745-5825	36 to 48 52 to 64 100 to 140 149 to 165	40	OFDM	BPSK	6

Power Line Conducted Emission Test:

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

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	5180-5240 5260-5320 5500-5700 5745-5825	36 to 48 52 to 64 100 to 140 149 to 165	40	OFDM	BPSK	6

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.

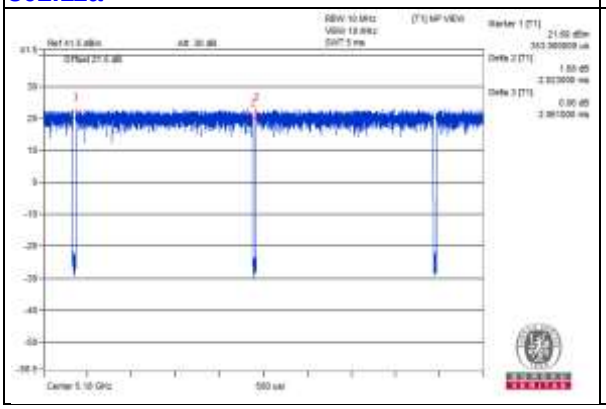
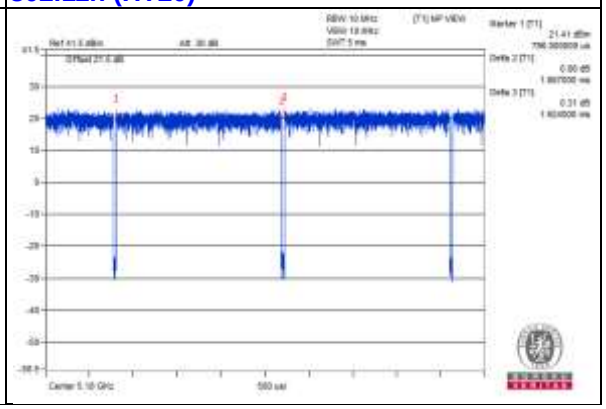
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6
802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5

Test Condition:

Applicable To	Environmental Conditions	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	24deg. C, 71%RH	120Vac, 60Hz	Weiwei Lo
RE<1G	23deg. C, 68%RH	120Vac, 60Hz	Robert Cheng
PLC	24deg. C, 73%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

3.3 Duty Cycle of Test Signal

If duty cycle of test signal is ≥ 98 %, duty factor is not required.
802.11a: Duty cycle = 2.023 ms/2.061 ms = 0.982
802.11n (HT20): Duty cycle = 1.887 ms/1.924 ms = 0.981

802.11a	802.11n (HT20)
	

3.4 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Test Tool	NA	NA	NA	NA	Supplied by client
B.	DC POWER SUPPLY	GOOD WILL INSTRUMENT CO., LTD	GPC-3030D	E847076	NA	Provided by Lab

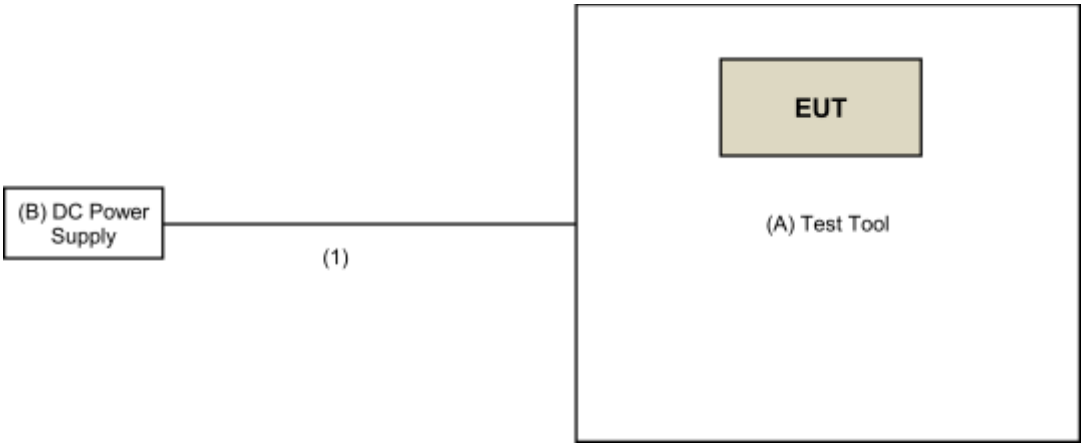
Note:

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

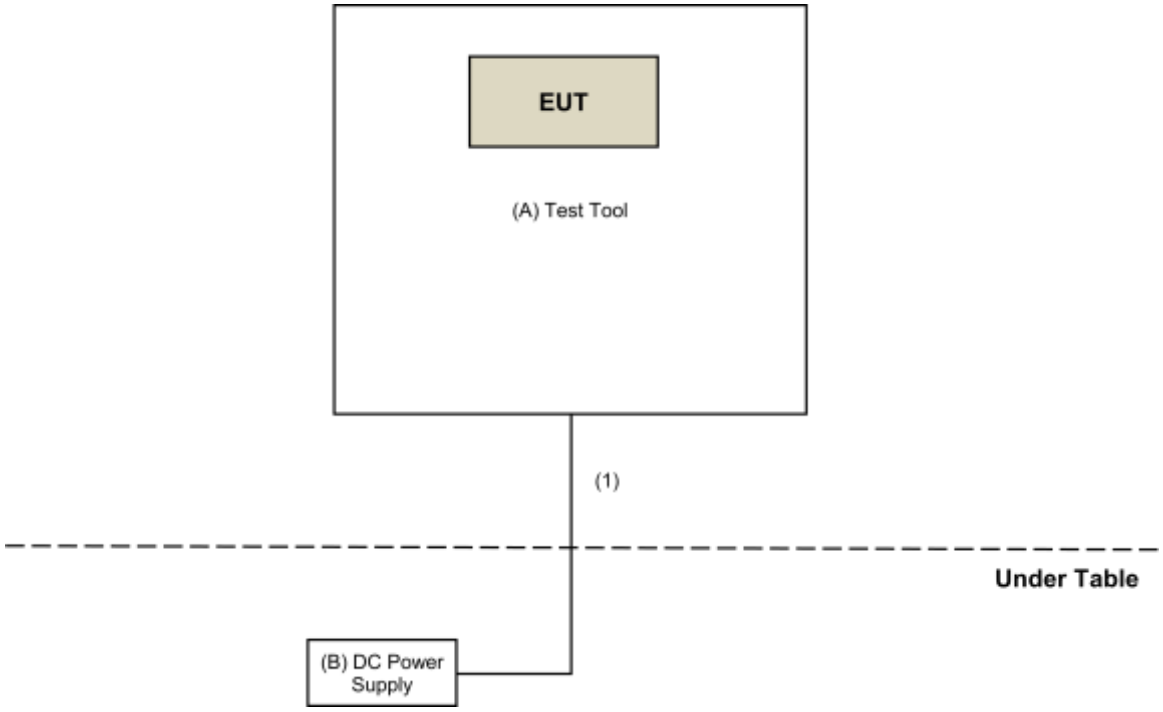
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Cable	1	3	No	0	Provided by Lab

3.4.1 Configuration of System under Test

For Conducted Emissions test:



For other test:



3.5 General Description of Applied Standard

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

FCC Part 15, Subpart E (15.407)
KDB 789033 D02 General UNII Test Procedure New Rules v02r01
ANSI C63.10-2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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="3">Applicable To</td><td colspan="2">Limit</td></tr>
<tr><td colspan="3" 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="5">*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

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

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 3.
3. Loop antenna was used for all emissions below 30 MHz.
4. Tested Date: Jan. 29 to Mar. 18, 2019

4.1.3 Test Procedure

For Radiated emission below 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

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

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

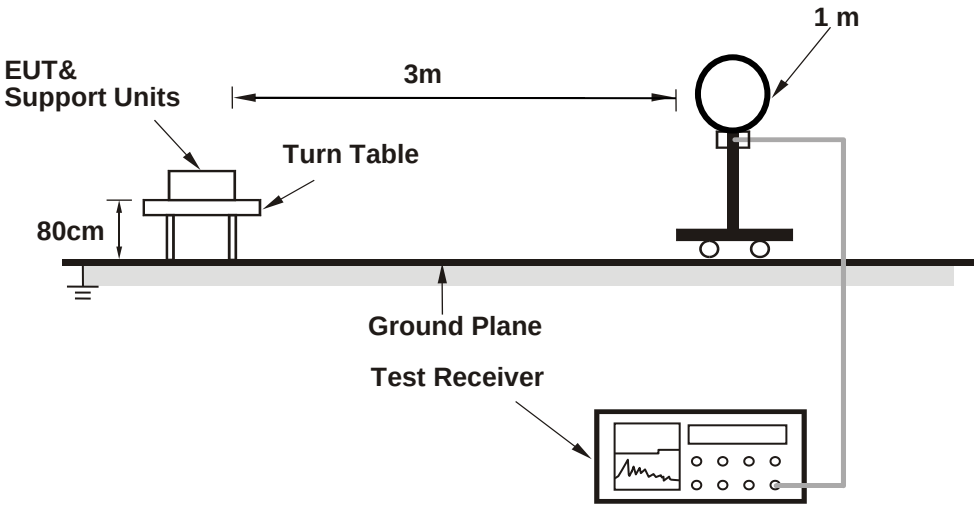
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

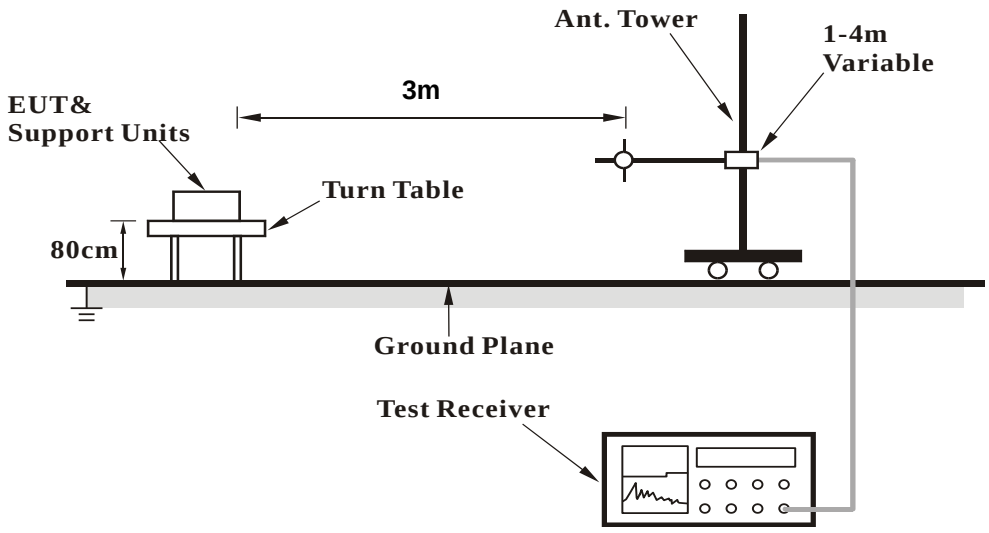
No deviation.

4.1.5 Test Setup

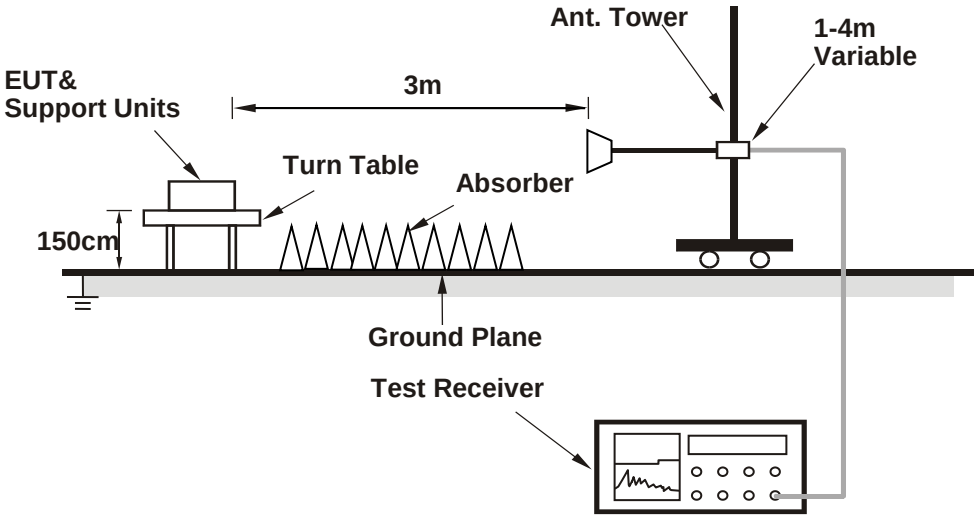
For Radiated emission below 30MHz



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 (QDART-Connectivity1.0-00056) 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	63.9 PK	74.0	-10.1	1.10 H	351	61.0	2.9
2	5150.00	50.3 AV	54.0	-3.7	1.10 H	351	47.4	2.9
3	*5180.00	105.6 PK			1.10 H	351	102.7	2.9
4	*5180.00	95.3 AV			1.10 H	351	92.4	2.9
5	#10360.00	56.1 PK	68.2	-12.1	1.93 H	59	43.8	12.3
6	15540.00	58.9 PK	74.0	-15.1	1.94 H	332	46.1	12.8
7	15540.00	46.4 AV	54.0	-7.6	1.94 H	332	33.6	12.8
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	5150.00	65.7 PK	74.0	-8.3	2.01 V	174	62.8	2.9
2	**5150.00**	**53.9 AV**	**54.0**	**-0.1**	**2.01 V**	**174**	**51.0**	**2.9**
3	*5180.00	108.5 PK			2.01 V	173	105.6	2.9
4	*5180.00	97.8 AV			2.01 V	173	94.9	2.9
5	#10360.00	53.4 PK	68.2	-14.8	1.93 V	157	41.1	12.3
6	15540.00	54.5 PK	74.0	-19.5	1.75 V	339	41.7	12.8
7	15540.00	43.4 AV	54.0	-10.6	1.75 V	339	30.6	12.8

REMARKS:

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

CHANNEL	TX Channel 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	63.7 PK	74.0	-10.3	1.06 H	357	60.8	2.9
2	5150.00	50.1 AV	54.0	-3.9	1.06 H	357	47.2	2.9
3	*5200.00	106.7 PK			1.06 H	357	103.9	2.8
4	*5200.00	97.3 AV			1.06 H	357	94.5	2.8
5	5350.00	48.8 PK	74.0	-25.2	1.06 H	357	46.1	2.7
6	5350.00	37.4 AV	54.0	-16.6	1.06 H	357	34.7	2.7
7	#10400.00	58.2 PK	68.2	-10.0	1.91 H	46	45.4	12.8
8	15600.00	61.8 PK	74.0	-12.2	1.90 H	318	48.5	13.3
9	15600.00	48.5 AV	54.0	-5.5	1.90 H	318	35.2	13.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	72.5 PK	74.0	-1.5	2.20 V	157	69.6	2.9
2	**5150.00**	**53.9 AV**	**54.0**	**-0.1**	**2.20 V**	**157**	**51.0**	**2.9**
3	*5200.00	109.2 PK			2.20 V	157	106.4	2.8
4	*5200.00	99.8 AV			2.20 V	157	97.0	2.8
5	5350.00	52.2 PK	74.0	-21.8	2.20 V	157	49.5	2.7
6	5350.00	39.5 AV	54.0	-14.5	2.20 V	157	36.8	2.7
7	#10400.00	55.6 PK	68.2	-12.6	1.90 V	167	42.8	12.8
8	15600.00	57.5 PK	74.0	-16.5	1.76 V	351	44.2	13.3
9	15600.00	45.6 AV	54.0	-8.4	1.76 V	351	32.3	13.3

REMARKS:

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

CHANNEL	TX Channel 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	5150.00	48.6 PK	74.0	-25.4	1.04 H	360	45.7	2.9
2	5150.00	37.2 AV	54.0	-16.8	1.04 H	360	34.3	2.9
3	*5240.00	101.4 PK			1.04 H	360	98.9	2.5
4	*5240.00	93.1 AV			1.04 H	360	90.6	2.5
5	5350.00	48.4 PK	74.0	-25.6	1.04 H	360	45.7	2.7
6	5350.00	36.2 AV	54.0	-17.8	1.04 H	360	33.5	2.7
7	#10480.00	56.7 PK	68.2	-11.5	1.97 H	52	44.3	12.4
8	15720.00	58.4 PK	74.0	-15.6	1.95 H	328	46.0	12.4
9	15720.00	46.0 AV	54.0	-8.0	1.95 H	328	33.6	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	51.7 PK	74.0	-22.3	2.21 V	139	48.8	2.9
2	5150.00	40.2 AV	54.0	-13.8	2.21 V	139	37.3	2.9
3	*5240.00	104.3 PK			2.21 V	148	101.8	2.5
4	*5240.00	95.6 AV			2.21 V	148	93.1	2.5
5	5350.00	51.8 PK	74.0	-22.2	2.21 V	148	49.1	2.7
6	5350.00	39.5 AV	54.0	-14.5	2.21 V	148	36.8	2.7
7	#10480.00	53.3 PK	68.2	-14.9	1.95 V	156	40.9	12.4
8	15720.00	54.1 PK	74.0	-19.9	1.75 V	326	41.7	12.4
9	15720.00	43.2 AV	54.0	-10.8	1.75 V	326	30.8	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) 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	48.4 PK	74.0	-25.6	1.06 H	360	45.5	2.9
2	5150.00	37.1 AV	54.0	-16.9	1.06 H	360	34.2	2.9
3	*5260.00	101.4 PK			1.06 H	360	99.0	2.4
4	*5260.00	91.7 AV			1.06 H	360	89.3	2.4
5	#10520.00	56.7 PK	68.2	-11.5	1.92 H	60	44.4	12.3
6	15780.00	58.4 PK	74.0	-15.6	1.97 H	341	46.4	12.0
7	15780.00	46.3 AV	54.0	-7.7	1.97 H	341	34.3	12.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	52.6 PK	74.0	-21.4	2.15 V	171	49.7	2.9
2	5150.00	39.3 AV	54.0	-14.7	2.15 V	171	36.4	2.9
3	*5260.00	104.2 PK			2.15 V	171	101.8	2.4
4	*5260.00	94.2 AV			2.15 V	171	91.8	2.4
5	#10520.00	52.5 PK	68.2	-15.7	2.00 V	157	40.2	12.3
6	15780.00	53.6 PK	74.0	-20.4	1.73 V	315	41.6	12.0
7	15780.00	43.0 AV	54.0	-11.0	1.73 V	315	31.0	12.0

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	49.2 PK	74.0	-24.8	1.06 H	360	46.3	2.9
2	5150.00	37.6 AV	54.0	-16.4	1.06 H	360	34.7	2.9
3	*5300.00	103.3 PK			1.06 H	360	100.7	2.6
4	*5300.00	93.1 AV			1.06 H	360	90.5	2.6
5	5350.00	50.5 PK	74.0	-23.5	1.06 H	360	47.8	2.7
6	5350.00	38.4 AV	54.0	-15.6	1.06 H	360	35.7	2.7
7	10600.00	56.7 PK	74.0	-17.3	1.87 H	75	44.6	12.1
8	10600.00	43.2 AV	54.0	-10.8	1.87 H	75	31.1	12.1
9	15900.00	58.4 PK	74.0	-15.6	1.92 H	350	46.6	11.8
10	15900.00	46.3 AV	54.0	-7.7	1.92 H	350	34.5	11.8
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	5150.00	51.2 PK	74.0	-22.8	1.64 V	180	48.3	2.9
2	5150.00	39.9 AV	54.0	-14.1	1.64 V	180	37.0	2.9
3	*5300.00	105.7 PK			1.64 V	180	103.1	2.6
4	*5300.00	95.6 AV			1.64 V	180	93.0	2.6
5	5350.00	52.5 PK	74.0	-21.5	1.64 V	180	49.8	2.7
6	5350.00	40.6 AV	54.0	-13.4	1.64 V	180	37.9	2.7
7	10600.00	52.6 PK	74.0	-21.4	2.04 V	154	40.5	12.1
8	10600.00	44.3 AV	54.0	-9.7	2.04 V	154	32.2	12.1
9	15900.00	53.1 PK	74.0	-20.9	1.71 V	308	41.3	11.8
10	15900.00	42.7 AV	54.0	-11.3	1.71 V	308	30.9	11.8

REMARKS:

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

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	104.7 PK			1.06 H	360	102.1	2.6
2	*5320.00	93.6 AV			1.06 H	360	91.0	2.6
3	5350.00	56.2 PK	74.0	-17.8	1.06 H	360	53.5	2.7
4	5350.00	43.4 AV	54.0	-10.6	1.06 H	360	40.7	2.7
5	10640.00	56.7 PK	74.0	-17.3	1.85 H	69	44.8	11.9
6	10640.00	43.0 AV	54.0	-11.0	1.85 H	69	31.1	11.9
7	15960.00	59.1 PK	74.0	-14.9	1.97 H	347	47.0	12.1
8	15960.00	46.8 AV	54.0	-7.2	1.97 H	347	34.7	12.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	105.5 PK			1.71 V	217	102.9	2.6
2	*5320.00	96.1 AV			1.71 V	217	93.5	2.6
3	5350.00	59.6 PK	74.0	-14.4	1.71 V	217	56.9	2.7
4	5350.00	46.6 AV	54.0	-7.4	1.71 V	217	43.9	2.7
5	10640.00	53.0 PK	74.0	-21.0	2.01 V	145	41.1	11.9
6	10640.00	44.7 AV	54.0	-9.3	2.01 V	145	32.8	11.9
7	15960.00	53.5 PK	74.0	-20.5	1.73 V	321	41.4	12.1
8	15960.00	43.0 AV	54.0	-11.0	1.73 V	321	30.9	12.1

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.6 PK	74.0	-10.4	1.06 H	360	60.6	3.0
2	5460.00	46.5 AV	54.0	-7.5	1.06 H	360	43.5	3.0
3	#5470.00	64.7 PK	68.2	-3.5	1.06 H	360	61.7	3.0
4	*5500.00	104.3 PK			1.06 H	360	101.4	2.9
5	*5500.00	94.2 AV			1.06 H	360	91.3	2.9
6	11000.00	56.4 PK	74.0	-17.6	1.82 H	61	43.6	12.8
7	11000.00	42.9 AV	54.0	-11.1	1.82 H	61	30.1	12.8
8	#16500.00	58.6 PK	68.2	-9.6	2.00 H	353	44.2	14.4
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	5460.00	66.9 PK	74.0	-7.1	1.46 V	215	63.9	3.0
2	5460.00	50.1 AV	54.0	-3.9	1.46 V	215	47.1	3.0
3	**#5470.00**	**68.1 PK**	**68.2**	**-0.1**	**1.46 V**	**215**	**65.1**	**3.0**
4	*5500.00	107.3 PK			1.46 V	215	104.4	2.9
5	*5500.00	96.7 AV			1.46 V	215	93.8	2.9
6	11000.00	53.3 PK	74.0	-20.7	2.02 V	156	40.5	12.8
7	11000.00	45.1 AV	54.0	-8.9	2.02 V	156	32.3	12.8
8	#16500.00	54.2 PK	68.2	-14.0	1.70 V	336	39.8	14.4

REMARKS:

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

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	104.1 PK			1.08 H	360	101.1	3.0
2	*5580.00	93.5 AV			1.08 H	360	90.5	3.0
3	11160.00	55.9 PK	74.0	-18.1	1.81 H	75	43.6	12.3
4	11160.00	42.5 AV	54.0	-11.5	1.81 H	75	30.2	12.3
5	#16740.00	58.7 PK	68.2	-9.5	2.03 H	349	44.0	14.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	106.2 PK			1.45 V	210	103.2	3.0
2	*5580.00	96.0 AV			1.45 V	210	93.0	3.0
3	11160.00	53.0 PK	74.0	-21.0	2.02 V	159	40.7	12.3
4	11160.00	44.6 AV	54.0	-9.4	2.02 V	159	32.3	12.3
5	#16740.00	53.9 PK	68.2	-14.3	1.71 V	349	39.2	14.7

REMARKS:

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

CHANNEL	TX Channel 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	103.5 PK			1.03 H	360	100.3	3.2
2	*5700.00	92.9 AV			1.03 H	360	89.7	3.2
3	#5725.00	60.5 PK	68.2	-7.7	1.03 H	360	57.3	3.2
4	11400.00	55.8 PK	74.0	-18.2	1.81 H	77	42.8	13.0
5	11400.00	42.4 AV	54.0	-11.6	1.81 H	77	29.4	13.0
6	#17100.00	59.1 PK	68.2	-9.1	1.99 H	351	42.6	16.5
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	*5700.00	106.0 PK			1.55 V	218	102.8	3.2
2	*5700.00	95.4 AV			1.55 V	218	92.2	3.2
3	#5725.00	63.9 PK	68.2	-4.3	1.55 V	218	60.7	3.2
4	11400.00	53.3 PK	74.0	-20.7	2.07 V	157	40.3	13.0
5	11400.00	44.7 AV	54.0	-9.3	2.07 V	157	31.7	13.0
6	#17100.00	54.1 PK	68.2	-14.1	1.77 V	354	37.6	16.5

REMARKS:

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

CHANNEL	TX Channel 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	#5599.34	52.1 PK	68.2	-16.1	1.01 H	233	49.1	3.0
2	*5745.00	111.3 PK			1.01 H	233	108.0	3.3
3	*5745.00	100.3 AV			1.01 H	233	97.0	3.3
4	#5993.66	53.0 PK	68.2	-15.2	1.01 H	233	49.4	3.6
5	11490.00	65.2 PK	74.0	-8.8	2.02 H	360	52.5	12.7
6	11490.00	52.8 AV	54.0	-1.2	2.02 H	360	40.1	12.7
7	#17235.00	59.5 PK	68.2	-8.7	1.77 H	17	43.6	15.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5577.66	51.5 PK	68.2	-16.7	2.83 V	209	48.5	3.0
2	*5745.00	109.8 PK			2.80 V	209	106.5	3.3
3	*5745.00	98.9 AV			2.80 V	209	95.6	3.3
4	#5934.44	52.7 PK	68.2	-15.5	2.83 V	209	48.9	3.8
5	11490.00	66.8 PK	74.0	-7.2	1.99 V	177	54.1	12.7
6	11490.00	49.6 AV	54.0	-4.4	1.99 V	177	36.9	12.7
7	#17235.00	63.3 PK	68.2	-4.9	1.75 V	353	47.4	15.9

REMARKS:

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

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	#5596.29	52.8 PK	68.2	-15.4	1.00 H	245	49.8	3.0
2	*5785.00	111.6 PK			1.00 H	245	108.1	3.5
3	*5785.00	100.4 AV			1.00 H	245	96.9	3.5
4	#5998.67	53.0 PK	68.2	-15.2	1.00 H	245	49.4	3.6
5	11570.00	66.1 PK	74.0	-7.9	2.06 H	360	53.6	12.5
6	11570.00	53.7 AV	54.0	-0.3	2.06 H	360	41.2	12.5
7	#17355.00	61.2 PK	68.2	-7.0	1.77 H	15	44.6	16.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5606.47	52.4 PK	68.2	-15.8	2.75 V	212	49.4	3.0
2	*5785.00	109.8 PK			2.75 V	212	106.3	3.5
3	*5785.00	99.0 AV			2.75 V	212	95.5	3.5
4	#5968.13	52.2 PK	68.2	-16.0	2.75 V	212	48.6	3.6
5	11570.00	67.3 PK	74.0	-6.7	1.99 V	190	54.8	12.5
6	11570.00	50.4 AV	54.0	-3.6	1.99 V	190	37.9	12.5
7	#17355.00	63.5 PK	68.2	-4.7	1.73 V	337	46.9	16.6

REMARKS:

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

CHANNEL	TX Channel 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	#5568.04	52.1 PK	68.2	-16.1	1.02 H	236	49.1	3.0
2	*5825.00	111.4 PK			1.02 H	236	107.9	3.5
3	*5825.00	100.2 AV			1.02 H	236	96.7	3.5
4	#5927.61	53.4 PK	68.2	-14.8	1.02 H	236	49.7	3.7
5	11650.00	66.7 PK	74.0	-7.3	1.97 H	360	54.2	12.5
6	**11650.00**	**53.9 AV**	**54.0**	**-0.1**	**1.97 H**	**360**	**41.4**	**12.5**
7	#17475.00	60.5 PK	68.2	-7.7	1.80 H	29	42.5	18.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5560.28	52.5 PK	68.2	-15.7	2.79 V	201	49.5	3.0
2	*5825.00	109.4 PK			2.79 V	201	105.9	3.5
3	*5825.00	98.8 AV			2.79 V	201	95.3	3.5
4	#5923.98	54.2 PK	68.2	-14.8	2.79 V	201	50.5	3.7
5	11650.00	67.1 PK	74.0	-6.9	2.03 V	173	54.6	12.5
6	11650.00	50.2 AV	54.0	-3.8	2.03 V	173	37.7	12.5
7	#17475.00	63.9 PK	68.2	-4.3	1.80 V	360	45.9	18.0

REMARKS:

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

802.11n (HT20)

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	63.7 PK	74.0	-10.3	1.15 H	338	60.8	2.9
2	5150.00	50.1 AV	54.0	-3.9	1.15 H	338	47.2	2.9
3	*5180.00	105.3 PK			1.15 H	338	102.4	2.9
4	*5180.00	95.2 AV			1.15 H	338	92.3	2.9
5	#10360.00	56.0 PK	68.2	-12.2	1.96 H	64	43.7	12.3
6	15540.00	58.1 PK	74.0	-15.9	1.98 H	324	45.3	12.8
7	15540.00	45.9 AV	54.0	-8.1	1.98 H	324	33.1	12.8
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	5150.00	65.3 PK	74.0	-8.7	1.99 V	168	62.4	2.9
2	5150.00	53.6 AV	54.0	-0.4	1.99 V	168	50.7	2.9
3	*5180.00	108.5 PK			2.02 V	187	105.6	2.9
4	*5180.00	97.9 AV			2.02 V	187	95.0	2.9
5	#10360.00	53.3 PK	68.2	-14.9	1.94 V	154	41.0	12.3
6	15540.00	55.2 PK	74.0	-18.8	1.80 V	332	42.4	12.8
7	15540.00	43.4 AV	54.0	-10.6	1.80 V	332	30.6	12.8

REMARKS:

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

CHANNEL	TX Channel 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	69.5 PK	74.0	-4.5	1.08 H	355	66.6	2.9
2	5150.00	50.3 AV	54.0	-3.7	1.08 H	355	47.4	2.9
3	*5200.00	108.6 PK			1.08 H	355	105.8	2.8
4	*5200.00	97.5 AV			1.08 H	355	94.7	2.8
5	5350.00	49.8 PK	74.0	-24.2	1.08 H	355	47.1	2.7
6	5350.00	37.6 AV	54.0	-16.4	1.08 H	355	34.9	2.7
7	#10400.00	57.8 PK	68.2	-10.4	1.93 H	48	45.0	12.8
8	15600.00	61.8 PK	74.0	-12.2	1.87 H	330	48.5	13.3
9	15600.00	48.7 AV	54.0	-5.3	1.87 H	330	35.4	13.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	72.9 PK	74.0	-1.1	2.16 V	154	70.0	2.9
2	5150.00	53.7 AV	54.0	-0.3	2.16 V	154	50.8	2.9
3	*5200.00	109.2 PK			2.16 V	156	106.4	2.8
4	*5200.00	100.0 AV			2.16 V	156	97.2	2.8
5	5350.00	52.2 PK	74.0	-21.8	2.23 V	168	49.5	2.7
6	5350.00	39.7 AV	54.0	-14.3	2.23 V	168	37.0	2.7
7	#10400.00	55.3 PK	68.2	-12.9	1.92 V	142	42.5	12.8
8	15600.00	57.5 PK	74.0	-16.5	1.71 V	343	44.2	13.3
9	15600.00	45.5 AV	54.0	-8.5	1.71 V	343	32.2	13.3

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	48.4 PK	74.0	-25.6	1.13 H	341	45.5	2.9
2	5150.00	37.7 AV	54.0	-16.3	1.13 H	341	34.8	2.9
3	*5240.00	104.7 PK			1.13 H	341	102.2	2.5
4	*5240.00	93.6 AV			1.13 H	341	91.1	2.5
5	5350.00	48.1 PK	74.0	-25.9	1.13 H	341	45.4	2.7
6	5350.00	37.5 AV	54.0	-16.5	1.13 H	341	34.8	2.7
7	#10480.00	56.1 PK	68.2	-12.1	1.93 H	53	43.7	12.4
8	15720.00	57.6 PK	74.0	-16.4	2.01 H	332	45.2	12.4
9	15720.00	45.8 AV	54.0	-8.2	2.01 H	332	33.4	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	51.6 PK	74.0	-22.4	2.24 V	128	48.7	2.9
2	5150.00	40.1 AV	54.0	-13.9	2.24 V	128	37.2	2.9
3	*5240.00	104.8 PK			2.20 V	153	102.3	2.5
4	*5240.00	96.1 AV			2.20 V	153	93.6	2.5
5	5350.00	51.5 PK	74.0	-22.5	2.23 V	141	48.8	2.7
6	5350.00	39.4 AV	54.0	-14.6	2.23 V	141	36.7	2.7
7	#10480.00	53.1 PK	68.2	-15.1	1.89 V	160	40.7	12.4
8	15720.00	55.7 PK	74.0	-18.3	1.80 V	348	43.3	12.4
9	15720.00	43.3 AV	54.0	-10.7	1.80 V	348	30.9	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) 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	49.5 PK	74.0	-24.5	1.16 H	332	46.6	2.9
2	5150.00	37.5 AV	54.0	-16.5	1.16 H	332	34.6	2.9
3	*5260.00	103.1 PK			1.16 H	332	100.7	2.4
4	*5260.00	91.9 AV			1.16 H	332	89.5	2.4
5	#10520.00	56.8 PK	68.2	-11.4	1.99 H	67	44.5	12.3
6	15780.00	56.9 PK	74.0	-17.1	2.01 H	348	44.9	12.0
7	15780.00	46.0 AV	54.0	-8.0	2.01 H	348	34.0	12.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	52.6 PK	74.0	-21.4	2.13 V	168	49.7	2.9
2	5150.00	39.2 AV	54.0	-14.8	2.13 V	168	36.3	2.9
3	*5260.00	104.2 PK			2.12 V	165	101.8	2.4
4	*5260.00	94.4 AV			2.12 V	165	92.0	2.4
5	#10520.00	53.3 PK	68.2	-14.9	1.94 V	150	41.0	12.3
6	15780.00	55.4 PK	74.0	-18.6	1.80 V	354	43.4	12.0
7	15780.00	43.0 AV	54.0	-11.0	1.80 V	354	31.0	12.0

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	48.6 PK	74.0	-25.4	1.17 H	341	45.7	2.9
2	5150.00	37.2 AV	54.0	-16.8	1.17 H	341	34.3	2.9
3	*5300.00	104.2 PK			1.17 H	341	101.6	2.6
4	*5300.00	93.0 AV			1.17 H	341	90.4	2.6
5	5350.00	50.8 PK	74.0	-23.2	1.17 H	341	48.1	2.7
6	5350.00	38.7 AV	54.0	-15.3	1.17 H	341	36.0	2.7
7	10600.00	57.2 PK	74.0	-16.8	1.85 H	64	45.1	12.1
8	10600.00	43.1 AV	54.0	-10.9	1.85 H	64	31.0	12.1
9	15900.00	59.1 PK	74.0	-14.9	1.99 H	326	47.3	11.8
10	15900.00	46.8 AV	54.0	-7.2	1.99 H	326	35.0	11.8
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	5150.00	51.1 PK	74.0	-22.9	1.62 V	166	48.2	2.9
2	5150.00	39.8 AV	54.0	-14.2	1.62 V	166	36.9	2.9
3	*5300.00	105.5 PK			1.64 V	190	102.9	2.6
4	*5300.00	95.5 AV			1.64 V	190	92.9	2.6
5	5350.00	52.0 PK	74.0	-22.0	1.60 V	170	49.3	2.7
6	5350.00	40.3 AV	54.0	-13.7	1.60 V	170	37.6	2.7
7	10600.00	53.4 PK	74.0	-20.6	2.01 V	129	41.3	12.1
8	10600.00	44.9 AV	54.0	-9.1	2.01 V	129	32.8	12.1
9	15900.00	53.8 PK	74.0	-20.2	1.70 V	326	42.0	11.8
10	15900.00	43.2 AV	54.0	-10.8	1.70 V	326	31.4	11.8

REMARKS:

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

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	104.2 PK			1.17 H	335	101.6	2.6
2	*5320.00	93.1 AV			1.17 H	335	90.5	2.6
3	5350.00	56.6 PK	74.0	-17.4	1.17 H	335	53.9	2.7
4	5350.00	43.5 AV	54.0	-10.5	1.17 H	335	40.8	2.7
5	10640.00	57.3 PK	74.0	-16.7	1.82 H	76	45.4	11.9
6	10640.00	43.3 AV	54.0	-10.7	1.82 H	76	31.4	11.9
7	15960.00	59.2 PK	74.0	-14.8	2.00 H	332	47.1	12.1
8	15960.00	46.7 AV	54.0	-7.3	2.00 H	332	34.6	12.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	105.0 PK			1.76 V	208	102.4	2.6
2	*5320.00	95.6 AV			1.76 V	208	93.0	2.6
3	5350.00	60.0 PK	74.0	-14.0	1.65 V	229	57.3	2.7
4	5350.00	46.9 AV	54.0	-7.1	1.65 V	229	44.2	2.7
5	10640.00	53.3 PK	74.0	-20.7	1.97 V	130	41.4	11.9
6	10640.00	45.0 AV	54.0	-9.0	1.97 V	130	33.1	11.9
7	15960.00	54.0 PK	74.0	-20.0	1.73 V	332	41.9	12.1
8	15960.00	43.3 AV	54.0	-10.7	1.73 V	332	31.2	12.1

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.8 PK	74.0	-14.2	1.22 H	326	56.8	3.0
2	5460.00	47.0 AV	54.0	-7.0	1.22 H	326	44.0	3.0
3	#5470.00	64.7 PK	68.2	-3.5	1.22 H	326	61.7	3.0
4	*5500.00	104.9 PK			1.22 H	326	102.0	2.9
5	*5500.00	93.8 AV			1.22 H	326	90.9	2.9
6	11000.00	55.8 PK	74.0	-18.2	1.81 H	68	43.0	12.8
7	11000.00	42.5 AV	54.0	-11.5	1.81 H	68	29.7	12.8
8	#16500.00	59.2 PK	68.2	-9.0	2.02 H	360	44.8	14.4
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	5460.00	63.2 PK	74.0	-10.8	1.50 V	227	60.2	3.0
2	5460.00	50.2 AV	54.0	-3.8	1.50 V	227	47.2	3.0
3	#5470.00	67.9 PK	68.2	-0.3	1.50 V	227	64.9	3.0
4	*5500.00	107.2 PK			1.46 V	220	104.3	2.9
5	*5500.00	96.3 AV			1.46 V	220	93.4	2.9
6	11000.00	53.5 PK	74.0	-20.5	2.10 V	169	40.7	12.8
7	11000.00	45.1 AV	54.0	-8.9	2.10 V	169	32.3	12.8
8	#16500.00	53.7 PK	68.2	-14.5	1.66 V	359	39.3	14.4

REMARKS:

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

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	105.0 PK			1.21 H	330	102.0	3.0
2	*5580.00	93.8 AV			1.21 H	330	90.8	3.0
3	11160.00	55.7 PK	74.0	-18.3	1.83 H	59	43.4	12.3
4	11160.00	42.4 AV	54.0	-11.6	1.83 H	59	30.1	12.3
5	#16740.00	59.4 PK	68.2	-8.8	2.06 H	360	44.7	14.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	106.3 PK			1.43 V	218	103.3	3.0
2	*5580.00	96.3 AV			1.43 V	218	93.3	3.0
3	11160.00	53.6 PK	74.0	-20.4	2.05 V	164	41.3	12.3
4	11160.00	44.9 AV	54.0	-9.1	2.05 V	164	32.6	12.3
5	#16740.00	53.7 PK	68.2	-14.5	1.67 V	346	39.0	14.7

REMARKS:

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

CHANNEL	TX Channel 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			1.20 H	320	100.4	3.2
2	*5700.00	92.8 AV			1.20 H	320	89.6	3.2
3	#5725.00	60.7 PK	68.2	-7.5	1.20 H	320	57.5	3.2
4	11400.00	55.7 PK	74.0	-18.3	1.86 H	65	42.7	13.0
5	11400.00	42.2 AV	54.0	-11.8	1.86 H	65	29.2	13.0
6	#17100.00	59.8 PK	68.2	-8.4	2.09 H	360	43.3	16.5
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	*5700.00	106.0 PK			1.58 V	220	102.8	3.2
2	*5700.00	95.3 AV			1.58 V	220	92.1	3.2
3	#5725.00	64.1 PK	68.2	-4.1	1.53 V	223	60.9	3.2
4	11400.00	53.4 PK	74.0	-20.6	2.06 V	161	40.4	13.0
5	11400.00	44.9 AV	54.0	-9.1	2.06 V	161	31.9	13.0
6	#17100.00	54.3 PK	68.2	-13.9	1.77 V	348	37.8	16.5

REMARKS:

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

CHANNEL	TX Channel 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	#5643.11	52.5 PK	68.2	-15.7	1.01 H	231	49.5	3.0
2	*5745.00	111.1 PK			1.01 H	231	107.8	3.3
3	*5745.00	100.1 AV			1.01 H	231	96.8	3.3
4	#5964.75	53.4 PK	68.2	-14.8	1.01 H	231	49.7	3.7
5	11490.00	65.8 PK	74.0	-8.2	1.98 H	358	53.1	12.7
6	11490.00	52.7 AV	54.0	-1.3	1.98 H	358	40.0	12.7
7	#17235.00	59.9 PK	68.2	-8.3	1.82 H	25	44.0	15.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5607.10	51.9 PK	68.2	-16.3	2.89 V	218	48.9	3.0
2	*5745.00	107.5 PK			2.89 V	218	104.2	3.3
3	*5745.00	97.5 AV			2.89 V	218	94.2	3.3
4	#6010.23	52.3 PK	68.2	-15.9	2.89 V	218	48.7	3.6
5	11490.00	67.0 PK	74.0	-7.0	1.96 V	188	54.3	12.7
6	11490.00	49.6 AV	54.0	-4.4	1.96 V	188	36.9	12.7
7	#17235.00	63.8 PK	68.2	-4.4	1.71 V	360	47.9	15.9

REMARKS:

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

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	#5580.16	52.7 PK	68.2	-15.5	1.05 H	229	49.7	3.0
2	*5785.00	111.2 PK			1.05 H	229	107.7	3.5
3	*5785.00	100.4 AV			1.05 H	229	96.9	3.5
4	#5981.36	52.7 PK	68.2	-15.5	1.05 H	229	49.1	3.6
5	11570.00	66.8 PK	74.0	-7.2	1.98 H	352	54.3	12.5
6	11570.00	53.8 AV	54.0	-0.2	1.98 H	352	41.3	12.5
7	#17355.00	60.4 PK	68.2	-7.8	1.72 H	17	43.8	16.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5581.56	53.6 PK	68.2	-14.6	2.83 V	209	50.6	3.0
2	*5785.00	108.3 PK			2.83 V	209	104.8	3.5
3	*5785.00	98.5 AV			2.83 V	209	95.0	3.5
4	#5976.12	52.5 PK	68.2	-15.7	2.83 V	209	48.9	3.6
5	11570.00	68.1 PK	74.0	-5.9	1.98 V	173	55.6	12.5
6	11570.00	50.7 AV	54.0	-3.3	1.98 V	173	38.2	12.5
7	#17355.00	64.5 PK	68.2	-3.7	1.66 V	347	47.9	16.6

REMARKS:

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

CHANNEL	TX Channel 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	#5588.02	52.5 PK	68.2	-15.7	1.02 H	216	49.5	3.0
2	*5825.00	111.9 PK			1.02 H	216	108.4	3.5
3	*5825.00	100.6 AV			1.02 H	216	97.1	3.5
4	#5961.59	52.6 PK	68.2	-15.6	1.02 H	216	48.9	3.7
5	11650.00	66.6 PK	74.0	-7.4	2.03 H	360	54.1	12.5
6	**11650.00**	**53.9 AV**	**54.0**	**-0.1**	**2.03 H**	**360**	**41.4**	**12.5**
7	#17475.00	61.0 PK	68.2	-7.2	1.77 H	26	43.0	18.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5586.90	51.9 PK	68.2	-16.3	2.80 V	200	48.9	3.0
2	*5825.00	108.2 PK			2.80 V	200	104.7	3.5
3	*5825.00	98.2 AV			2.80 V	200	94.7	3.5
4	#5925.33	52.9 PK	68.2	-15.3	2.80 V	200	49.2	3.7
5	11650.00	68.5 PK	74.0	-5.5	1.92 V	173	56.0	12.5
6	11650.00	50.8 AV	54.0	-3.2	1.92 V	173	38.3	12.5
7	#17475.00	65.1 PK	68.2	-3.1	1.70 V	351	47.1	18.0

REMARKS:

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

Below 1GHz Data:

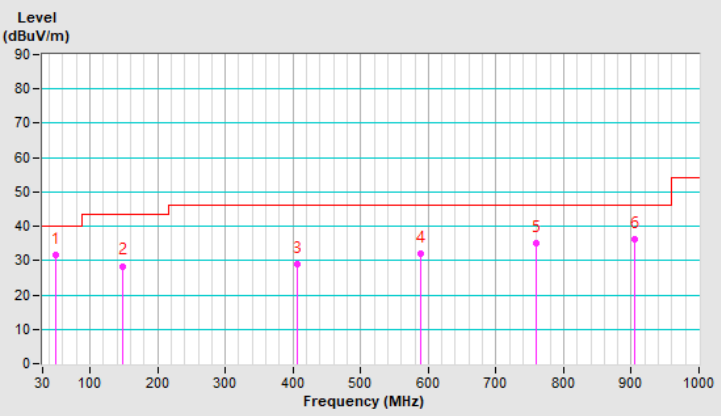
802.11a

CHANNEL	TX Channel 40	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	49.24	31.6 QP	40.0	-8.4	1.65 H	244	40.5	-8.9
2	149.21	28.4 QP	43.5	-15.1	1.43 H	211	36.4	-8.0
3	407.21	29.1 QP	46.0	-16.9	1.65 H	300	33.6	-4.5
4	588.65	32.1 QP	46.0	-13.9	1.77 H	88	32.4	-0.3
5	760.20	35.1 QP	46.0	-10.9	1.00 H	55	32.1	3.0
6	904.51	36.1 QP	46.0	-9.9	1.77 H	99	31.2	4.9

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The 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.

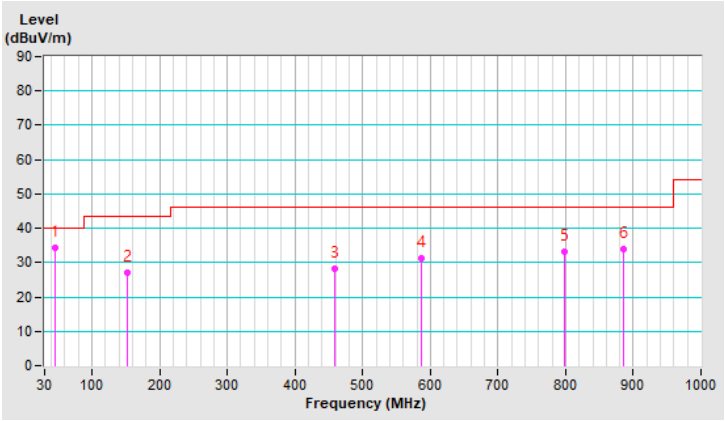


CHANNEL	TX Channel 40	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	45.01	34.2 QP	40.0	-5.8	1.10 V	202	43.3	-9.1
2	152.11	27.2 QP	43.5	-16.3	1.20 V	99	35.3	-8.1
3	458.62	28.2 QP	46.0	-17.8	1.02 V	99	31.5	-3.3
4	587.21	31.1 QP	46.0	-14.9	1.36 V	56	31.4	-0.3
5	798.10	33.1 QP	46.0	-12.9	1.89 V	75	29.9	3.2
6	885.20	34.0 QP	46.0	-12.0	1.45 V	53	29.6	4.4

REMARKS:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

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

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
3 Tested Date: Feb. 01, 2019

4.2.3 Test Procedure

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

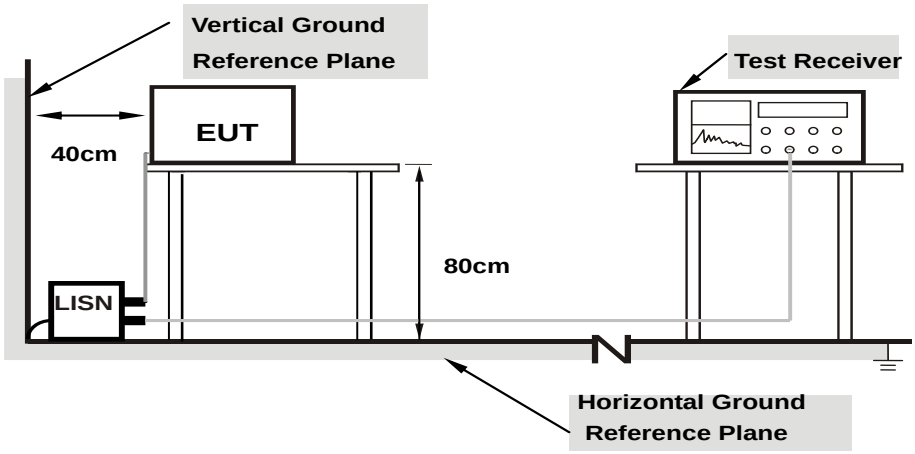
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

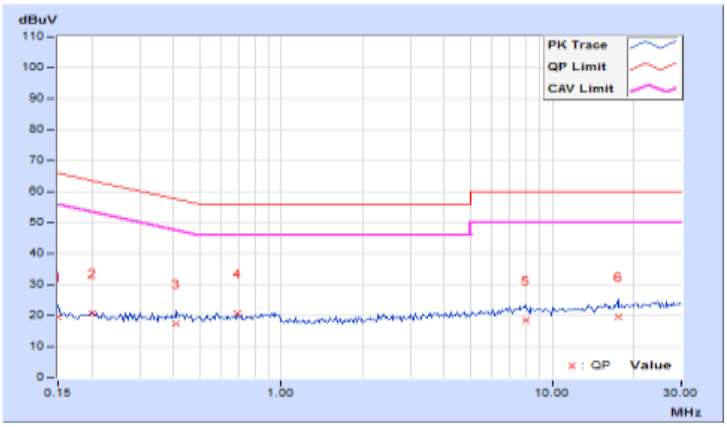
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.02	9.54	5.37	19.56	15.39	66.00	56.00	-46.44	-40.61
2	0.20078	10.04	10.77	6.82	20.81	16.86	63.58	53.58	-42.77	-36.72
3	0.41172	10.07	7.32	4.92	17.39	14.99	57.61	47.61	-40.22	-32.62
4	0.68516	10.09	10.73	4.44	20.82	14.53	56.00	46.00	-35.18	-31.47
5	7.98438	10.44	7.98	2.16	18.42	12.60	60.00	50.00	-41.58	-37.40
6	17.63281	10.94	8.79	2.77	19.73	13.71	60.00	50.00	-40.27	-36.29

REMARKS:

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

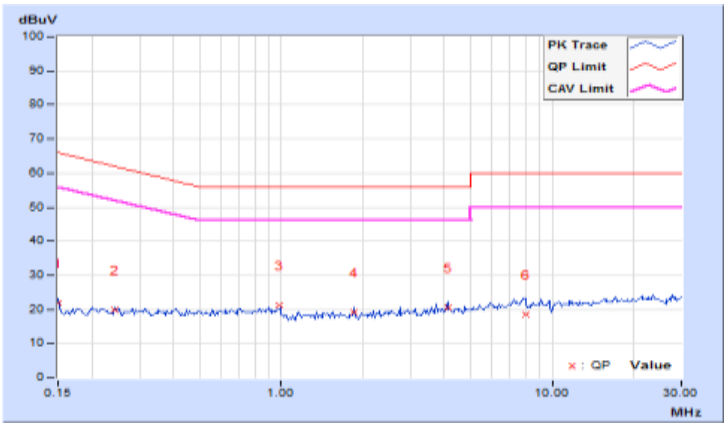


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.93	12.06	9.13	21.99	19.06	66.00	56.00	-44.01	-36.94
2	0.24375	9.94	10.04	7.01	19.98	16.95	61.97	51.97	-41.99	-35.02
3	0.97813	9.99	11.31	7.86	21.30	17.85	56.00	46.00	-34.70	-28.15
4	**1.86719**	**10.03**	**9.18**	**8.67**	**19.21**	**18.70**	**56.00**	**46.00**	**-36.79**	**-27.30**
5	4.11328	10.12	10.34	4.08	20.46	14.20	56.00	46.00	-35.54	-31.80
6	7.96875	10.29	8.09	2.23	18.38	12.52	60.00	50.00	-41.62	-37.48

REMARKS:

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



4.3 Transmit Power Measurement

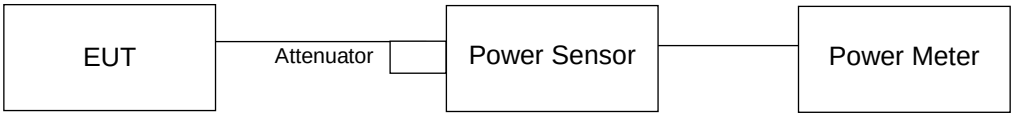
4.3.1 Limits of Transmit Power Measurement

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

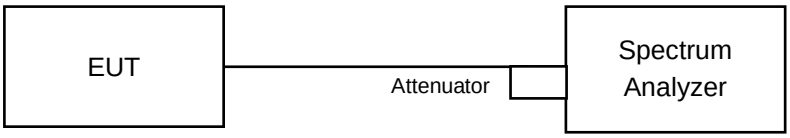
*B is the 26 dB emission bandwidth in megahertz

4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT



FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

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

FOR 26dB OCCUPIED BANDWIDTH

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Result

802.11a

Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
36	5180	58.614	17.68	24.00	Pass
40	5200	61.944	17.92	24.00	Pass
48	5240	61.376	17.88	24.00	Pass
52	5260	56.754	17.54	24.00	Pass
60	5300	58.614	17.68	24.00	Pass
64	5320	61.235	17.87	24.00	Pass
100	5500	57.412	17.59	24.00	Pass
116	5580	58.345	17.66	24.00	Pass
140	5700	55.719	17.46	24.00	Pass
149	5745	59.156	17.72	30.00	Pass
157	5785	58.614	17.68	30.00	Pass
165	5825	56.885	17.55	30.00	Pass

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
52	5260	35.55
60	5300	30.88
64	5320	34.80
100	5500	39.46
116	5580	39.76
140	5700	39.83

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	35.55	26.5 > 24
60	5300	30.88	25.89 > 24
64	5320	34.80	26.41 > 24
100	5500	39.46	26.96 > 24
116	5580	39.76	26.99 > 24
140	5700	39.83	27 > 24

802.11n (HT20)

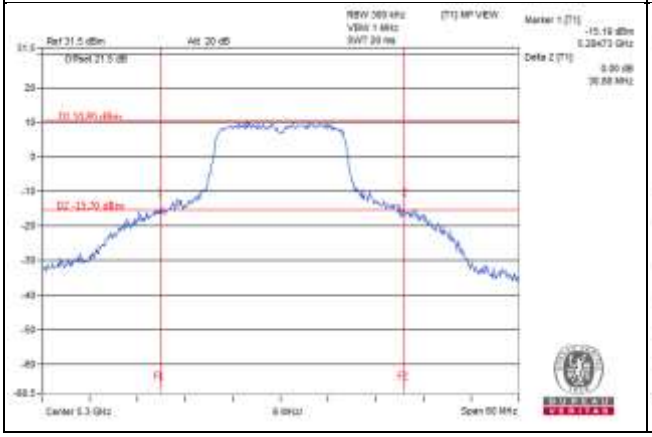
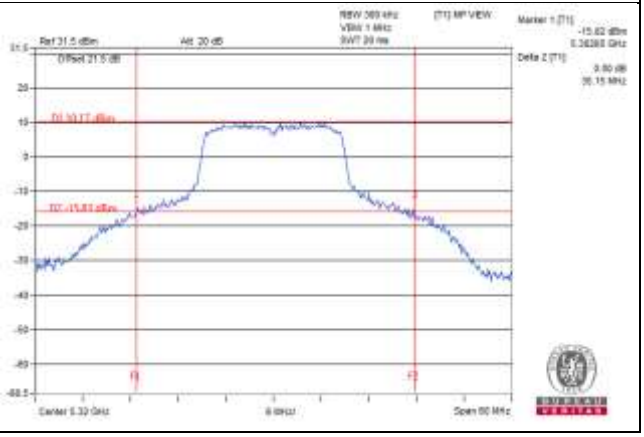
Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
36	5180	58.479	17.67	24.00	Pass
40	5200	59.841	17.77	24.00	Pass
48	5240	57.81	17.62	24.00	Pass
52	5260	55.081	17.41	24.00	Pass
60	5300	52.845	17.23	24.00	Pass
64	5320	53.211	17.26	24.00	Pass
100	5500	52.602	17.21	24.00	Pass
116	5580	52.24	17.18	24.00	Pass
140	5700	52.36	17.19	24.00	Pass
149	5745	58.345	17.66	30.00	Pass
157	5785	61.802	17.91	30.00	Pass
165	5825	57.544	17.60	30.00	Pass

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
52	5260	36.52
60	5300	35.92
64	5320	35.15
100	5500	38.28
116	5580	41.73
140	5700	40.64

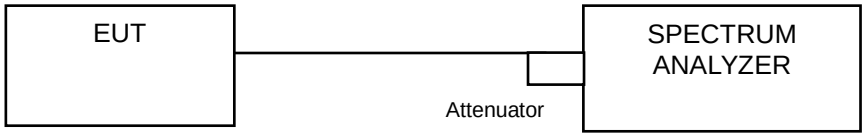
Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	36.52	26.62 > 24
60	5300	35.92	26.55 > 24
64	5320	35.15	26.45 > 24
100	5500	38.28	26.82 > 24
116	5580	41.73	27.2 > 24
140	5700	40.64	27.08 > 24

Spectrum Plot of Worst Value	
802.11a – CH60	**802.11n (HT20) – CH64**
	

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

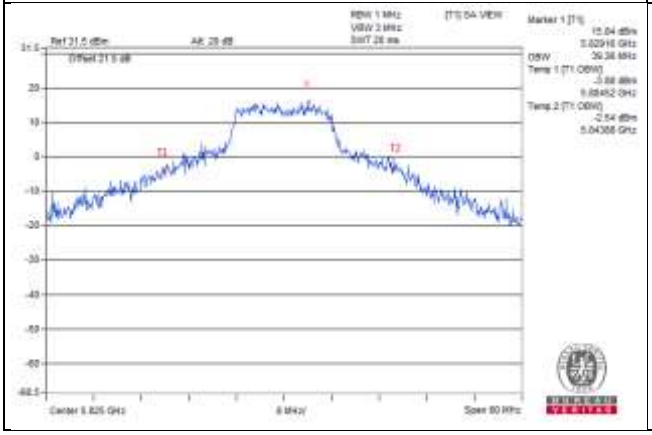
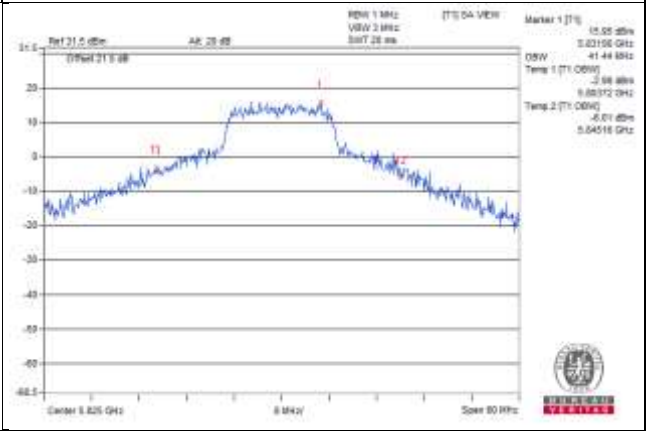
4.4.4 Test Results

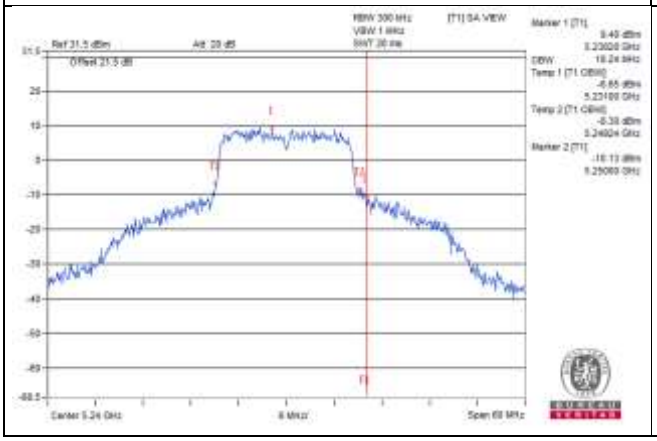
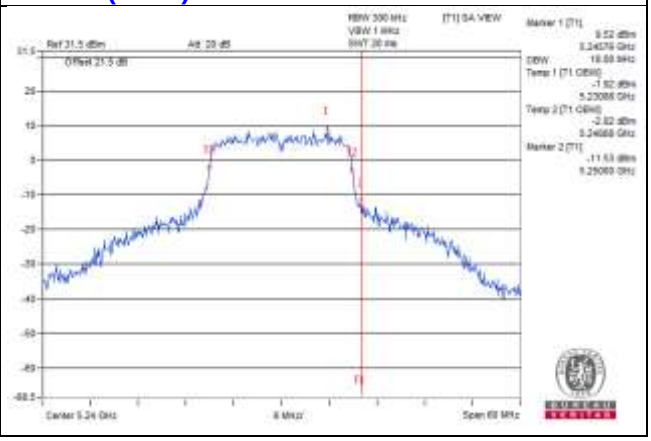
802.11a

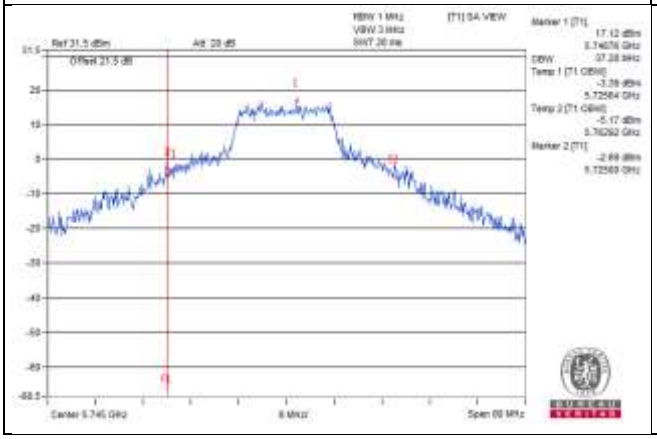
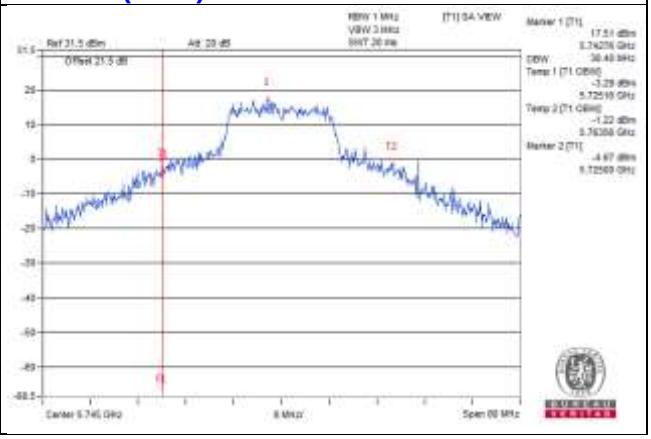
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	24.12
40	5200	38.24
48	5240	18.24
52	5260	17.04
60	5300	16.92
64	5320	17.28
100	5500	19.92
116	5580	21.00
140	5700	20.04
149	5745	37.28
157	5785	39.20
165	5825	39.36

802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	22.92
40	5200	37.12
48	5240	18.00
52	5260	18.12
60	5300	18.12
64	5320	18.12
100	5500	20.16
116	5580	20.76
140	5700	20.04
149	5745	38.40
157	5785	40.64
165	5825	41.44

Spectrum Plot of Worst Value	
802.11a: CH165	**802.11n (HT20): CH165**
	

Spectrum Plot for near by DFS band (DFS is required, if 99% OCP straddle into U-NII-2A band)	
802.11a / CH48	**802.11n (HT20) / CH48**
	

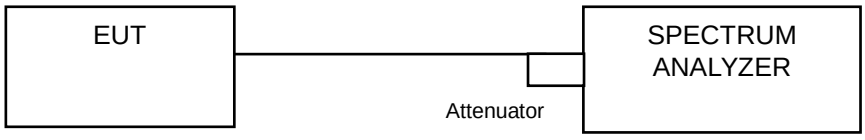
Spectrum Plot for near by DFS band (DFS is required, if 99% OCP straddle into U-NII-2C band)	
802.11a / CH149	**8802.11n (HT20) / CH149**
	

4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

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

Using method SA-1

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

For U-NII-3 band:

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

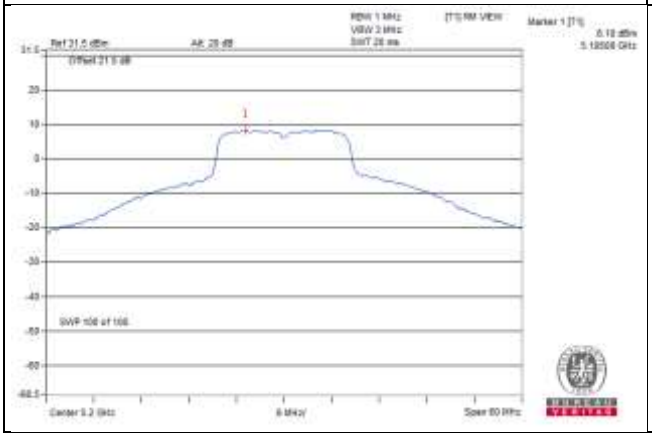
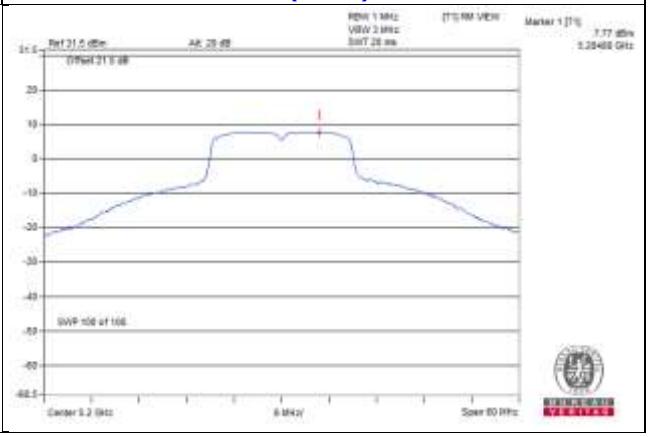
For U-NII-1, U-NII-2A, U-NII-2C:

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
36	5180	6.07	11.00	Pass
40	5200	8.18	11.00	Pass
48	5240	5.17	11.00	Pass
52	5260	4.74	11.00	Pass
60	5300	4.65	11.00	Pass
64	5320	4.83	11.00	Pass
100	5500	5.14	11.00	Pass
116	5580	5.31	11.00	Pass
140	5700	4.82	11.00	Pass

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
36	5180	5.46	11.00	Pass
40	5200	7.77	11.00	Pass
48	5240	4.16	11.00	Pass
52	5260	4.20	11.00	Pass
60	5300	4.24	11.00	Pass
64	5320	4.39	11.00	Pass
100	5500	4.88	11.00	Pass
116	5580	4.86	11.00	Pass
140	5700	4.73	11.00	Pass

Spectrum Plot of Worst Value	
802.11a / CH40	**802.11n (HT20) / CH40**
	

For U-NII-3:

802.11a

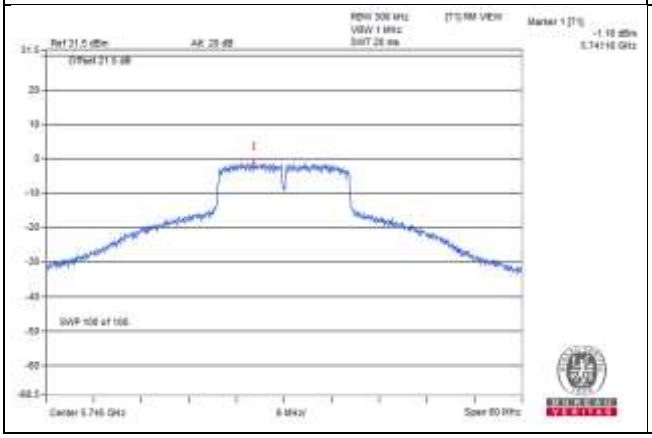
Chan.	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass /Fail
149	5745	-1.16	1.06	30.00	Pass
157	5785	-1.42	0.80	30.00	Pass
165	5825	-1.80	0.42	30.00	Pass

802.11n (HT20)

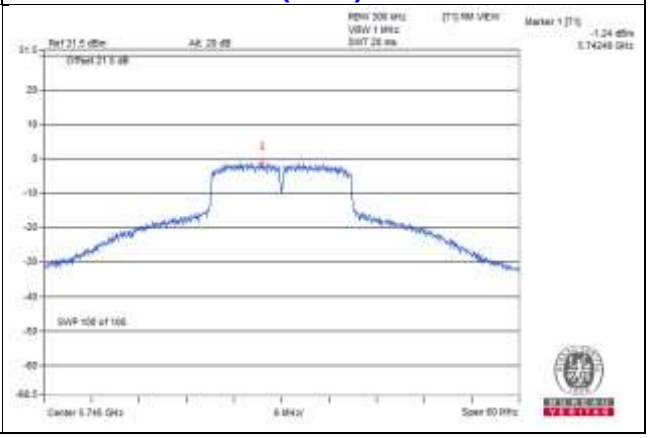
Chan.	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass /Fail
149	5745	-1.24	0.98	30.00	Pass
157	5785	-1.37	0.85	30.00	Pass
165	5825	-1.80	0.42	30.00	Pass

Spectrum Plot of Worst Value

802.11a / CH149



802.11n (HT20) / CH149

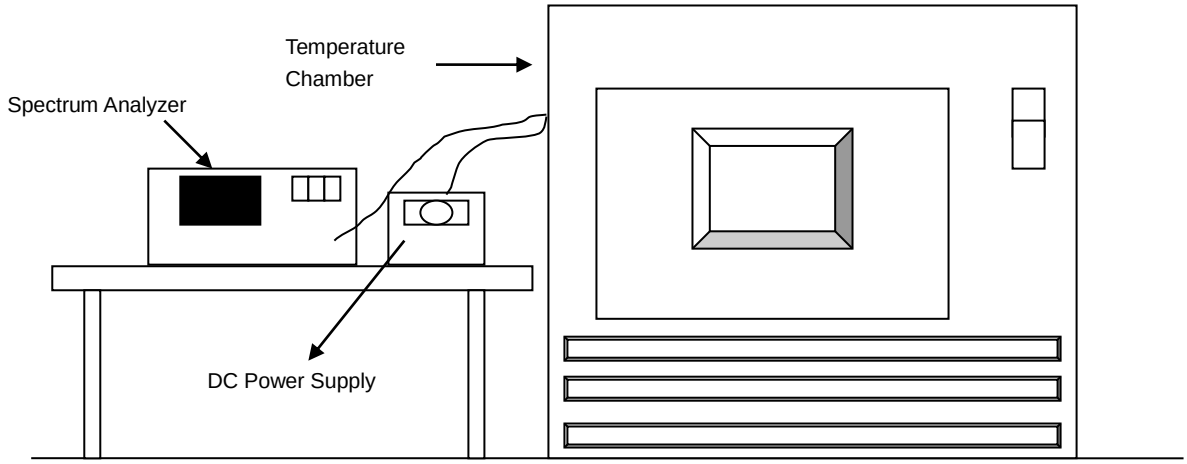


4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

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 (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
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.
.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (℃)	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	3.3	5179.9896	PASS	5179.9879	PASS	5179.9905	PASS	5179.9882	PASS
40	3.3	5179.9996	PASS	5180.0019	PASS	5180.0015	PASS	5179.9987	PASS
30	3.3	5179.9885	PASS	5179.989	PASS	5179.99	PASS	5179.9911	PASS
20	3.3	5180.0255	PASS	5180.0236	PASS	5180.0234	PASS	5180.0282	PASS
10	3.3	5180.0057	PASS	5180.0061	PASS	5180.0054	PASS	5180.0046	PASS
0	3.3	5180.006	PASS	5180.0062	PASS	5180.0037	PASS	5180.0061	PASS
-10	3.3	5179.9842	PASS	5179.9832	PASS	5179.9856	PASS	5179.9865	PASS
-20	3.3	5179.9854	PASS	5179.9865	PASS	5179.9861	PASS	5179.9861	PASS
-30	3.3	5179.9898	PASS	5179.9888	PASS	5179.987	PASS	5179.9897	PASS

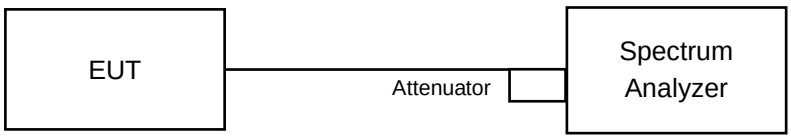
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (℃)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	3.795	5180.0261	PASS	5180.0234	PASS	5180.0231	PASS	5180.0292	PASS
	3.3	5180.0255	PASS	5180.0236	PASS	5180.0234	PASS	5180.0282	PASS
	2.805	5180.0248	PASS	5180.0229	PASS	5180.0239	PASS	5180.028	PASS

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

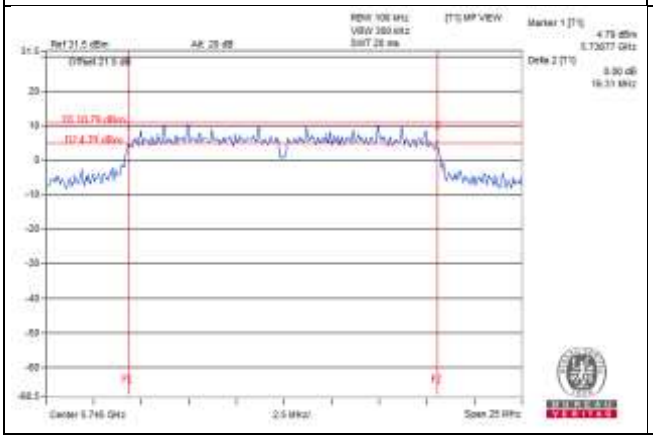
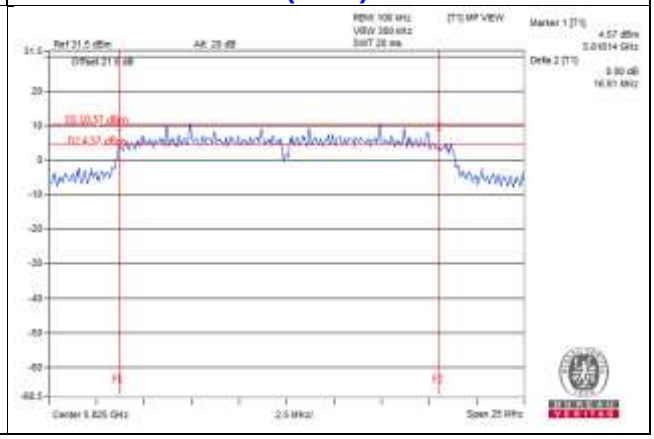
4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.31	0.5	PASS
157	5785	16.36	0.5	PASS
165	5825	16.33	0.5	PASS

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.57	0.5	PASS
157	5785	16.93	0.5	PASS
165	5825	16.91	0.5	PASS

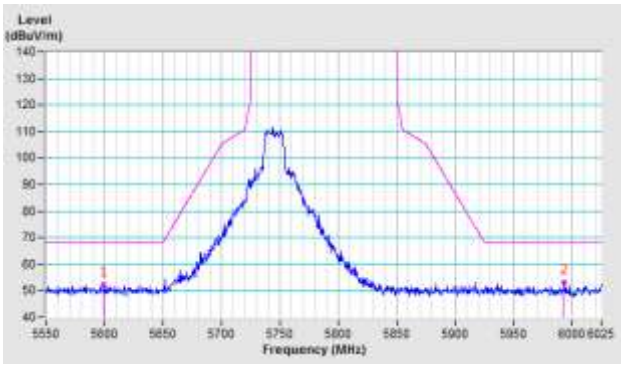
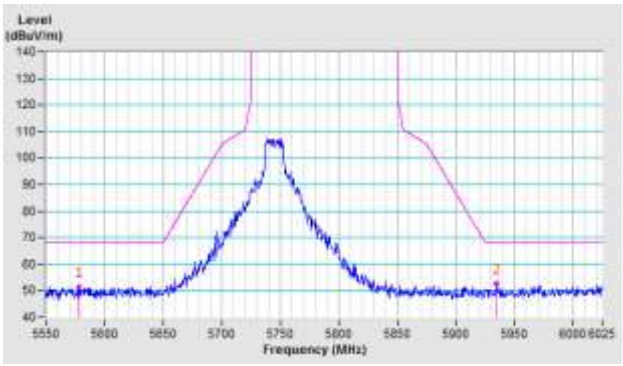
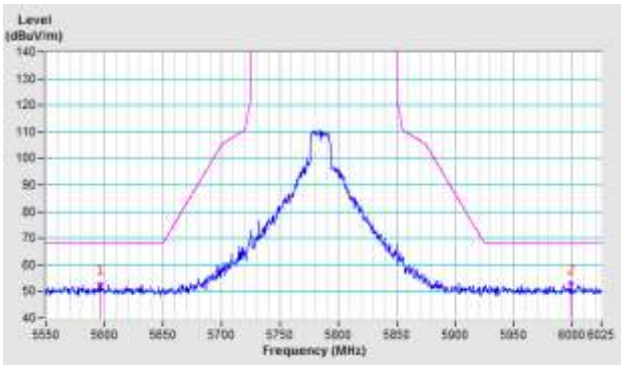
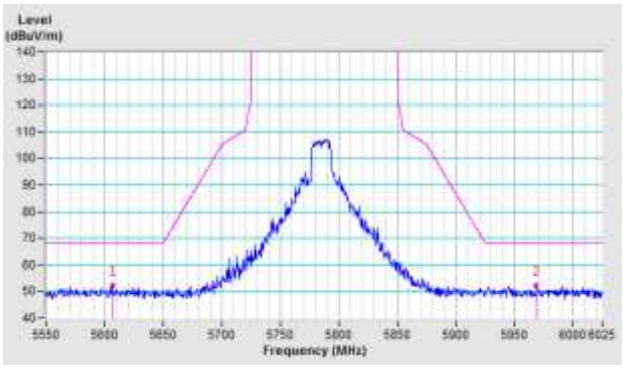
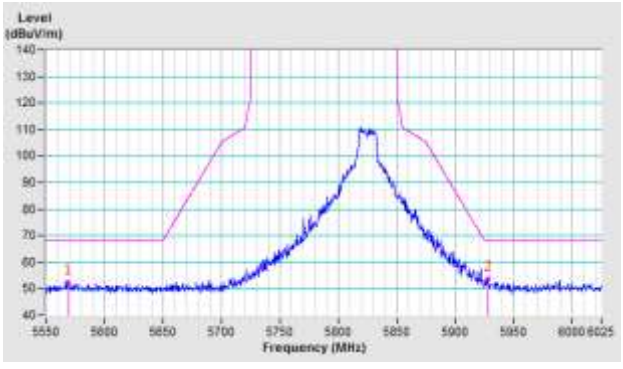
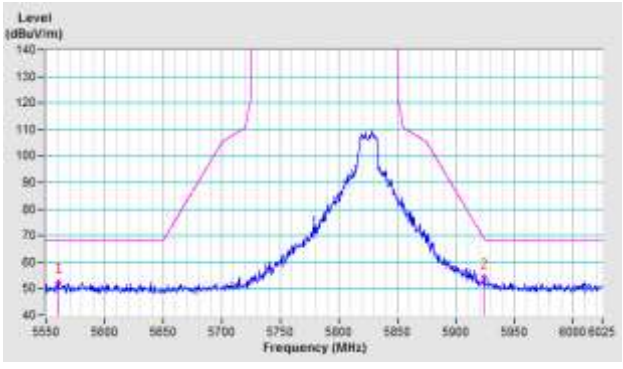
Spectrum Plot of Worst Value	
802.11a / CH149	**802.11n (HT20) / CH165**
	

5 Pictures of Test Arrangements

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

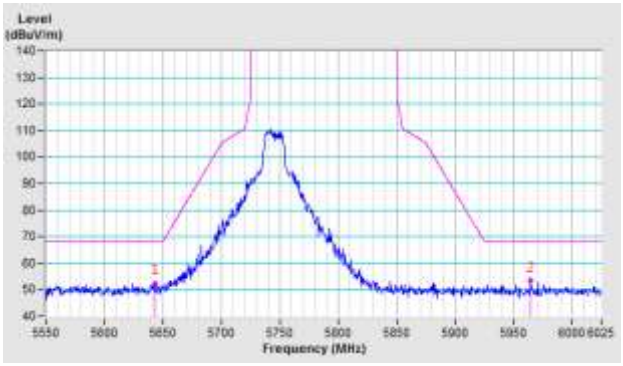
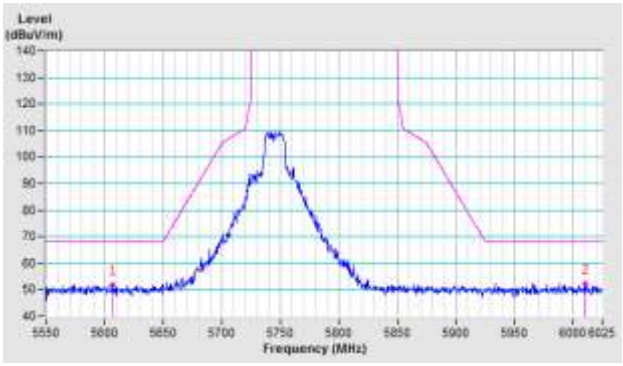
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

802.11a

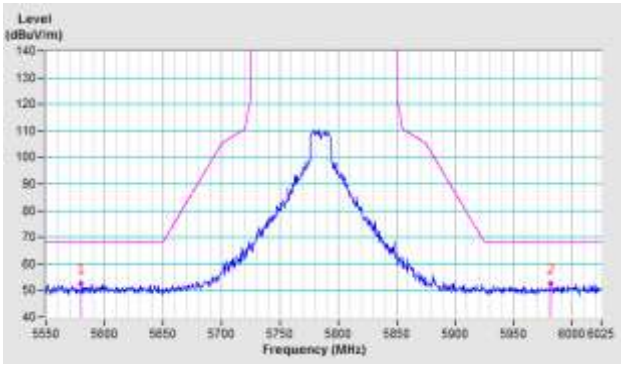
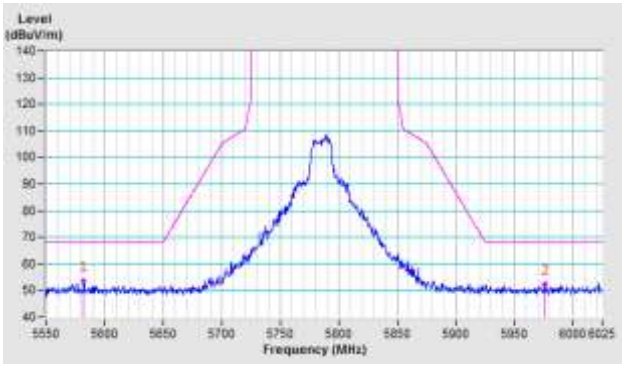
CH 149 5745 MHz	
Horizontal	**Vertical**
	
CH 157 5785 MHz	
Horizontal	**Vertical**
	
CH 165 5825 MHz	
Horizontal	**Vertical**
	

802.11n (HT20)

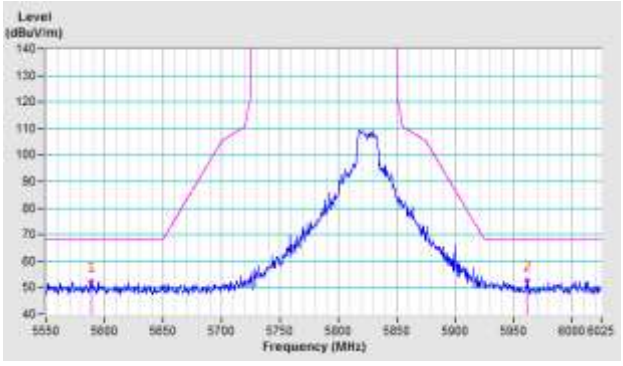
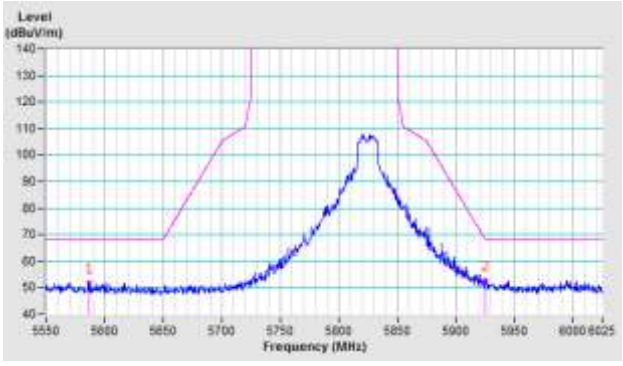
CH 149 5745 MHz

Horizontal	Vertical
	

CH 157 5785 MHz

Horizontal	Vertical
	

CH 165 5825 MHz

Horizontal	Vertical
	

Appendix – Information of the Testing Laboratories

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

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

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