

FCC Test Report

Report No.: RF160809C28Q

FCC ID: PY317400405

Test Model: R9000

Series Model: R8900 (refer to item 3.1 for more details)

Received Date: Apr. 26, 2018

Test Date: Apr. 28 ~ May 09, 2018

Issued Date: May 10, 2018

Applicant: NETGEAR, INC.

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

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FCC Registration: 788550

Designation Number: TW0003



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Release Control Record

Issue No.	Description	Date Issued
RF160809C28Q	Original release.	May 10, 2018

1 Certificate of Conformity

Product: AD7200 Smart WiFi Router

Brand: NETGEAR

Test Model: R9000

Series Model: R8900 (refer to item 3.1 for more details)

Sample Status: Engineering sample

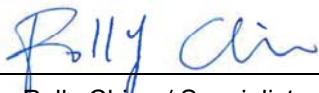
Applicant: NETGEAR, INC.

Test Date: Apr. 28 ~ May 09, 2018

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

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

Prepared by :



Polly Chien / Specialist

Date:

May 10, 2018

Approved by :



Bruce Chen / Project Engineer

Date:

May 10, 2018

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 -14.20dB at 0.51312MHz.
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 5350.00MHz & 5470.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is I-PEX not a standard connector.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB 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) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.63 dB
	200MHz ~ 1000MHz	3.64 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	AD7200 Smart WiFi Router
Brand	NETGEAR
Test Model	R9000
Series Model	R8900
Model Difference	Refer to Note for more details
Status of EUT	Engineering sample
Power Supply Rating	19Vdc (adapter)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 800.0Mbps 802.11ac: up to 1733.0Mbps
Operating Frequency	5180~5240MHz, 5260~5320MHz, 5500~5700MHz, 5745~5825MHz
Number of Channel	5180~5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260~5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500~5700MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 11 802.11n (HT40), 802.11ac (VHT40): 5 802.11ac (VHT80): 2 5745~5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 For 802.11ac (VHT80+VHT80): 5180~5240MHz & 5260~5320MHz & 5500~5700MHz & 5745~5825MHz:: 802.11ac (VHT80+VHT80): 7

Output Power	802.11ac (VHT80+VHT80): CDD Mode: 5180 ~ 5240MHz: 129.985mW 5260 ~ 5320MHz: 221.856mW 5500 ~ 5700MHz: 221.027mW 5745 ~ 5825MHz: 222.098mW Beamforming Mode: 5180 ~ 5240MHz: 129.985mW 5260 ~ 5320MHz: 221.856mW 5500 ~ 5700MHz: 221.027mW 5745 ~ 5825MHz: 222.098mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter
Data Cable Supplied	NA

Note:

1. This report is prepared for FCC class II permissive change.
2. This report is issued as a supplementary report to the original BV CPS report no.: RE160809C28O-1. The difference compared with the original report is adding 802.11ac (VHT80+VHT80) mode. Therefore, test item for 802.11ac (VHT80+VHT80) had been re-tested. For other testing data, please refer to the original report.
3. The following models are provided to this EUT. The model of the R9000 was chosen for final test.

Brand	Model	Difference
NETGEAR	R9000	2.4GHz up to 256QAM
	R8900	2.4GHz up to 64QAM

4. The EUT incorporates a MIMO function. Physically, the EUT provides 4 completed transmitters and 4 receivers.

Modulation Mode	CDD Mode	Beamforming Mode	TX Function	Available Channel
802.11ac (VHT80+VHT80)	Support	Support	2TX+2TX	42 + 58, 42 + 106, 42 + 122, 42 + 155, 58 + 155, 106 + 155, 122 + 155

- * For 802.11a, the EUT doesn't support Beamforming mode.
 - * The modulation and bandwidth are similar for 802.11n mode for 20MHz / 40MHz and 802.11ac mode for 20MHz / 40MHz, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)
 - * For 5GHz band 802.11n and 802.11ac, after pre-tested two modes (with beamforming mode and CDD mode) found CDD mode was the worst, therefore chosen for final test and presented in the test report.
5. WLAN 2.4GHz, WLAN 5GHz and WLAN 60GHz 802.11ad technologies can transmit at same time.
 6. Spurious emission of the simultaneous operation (WLAN 2.4GHz, WLAN 5GHz and WLAN 60GHz 802.11ad) has been evaluated and no non-compliance was found.

7. The EUT uses following antennas.

Ant. Type	Dipole	
Connector Type	I-PEX	
Frequency	TX Function	Directional Antenna Gain (dBi)
2400 ~ 2483.5 MHz	4TX	3.6
5150 ~ 5350 MHz	4TX	5.18
5470 ~ 5725 MHz	4TX	5.18
5725 ~ 5825 MHz	4TX	5.18
5150 ~ 5825 MHz	2TX+2TX (VHT80+VHT80)	3.58

8. The EUT consumes power from the following adapters.

Adapter 1	
Brand	NETGEAR
Model	AD2003F10
Part No.	332-10631-01
Input Power	100-120Vac, 50/60Hz, 1.5A
Output Power	19Vdc, 3.16A
Power Line	1.8m cable without core attached on adapter

Adapter 2	
Brand	NETGEAR
Model	2ABS060K 1 NA
Part No.	332-10788-01
Input Power	100-120Vac, 50/60Hz, 1.7A
Output Power	19Vdc, 3.16A
Power Line	1.8m cable without core attached on adapter

3.2 Description of Test Modes

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	5210MHz

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	5290MHz

5500~5700MHz:

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

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

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

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

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530MHz	122	5610 MHz

5745~5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

For 802.11ac (VHT80+VHT80):

5180~5240MHz & 5260~5320MHz & 5500~5700MHz & 5745~5825MHz:

7 channels are provided for 802.11ac (VHT80+VHT80):

Channel	Frequency	Channel	Frequency
42 + 58	5210MHz + 5290 MHz	42 + 106	5210MHz + 5530MHz
42 + 122	5210MHz + 5610MHz	42 + 155	5210MHz + 5775MHz
58 + 155	5290 MHz + 5775MHz	106 + 155	5530MHz + 5775MHz
122 + 155	5610MHz + 5775MHz		

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE $\geq$ 1G	RE<1G	PLC	APCM	
A	√	√	√	√	EUT power from adapter 2
B	-	√	√	-	EUT power from adapter 1

Where RE $\geq$ 1G: Radiated Emission above 1GHz
& Bandedge Measurement
PLC: Power Line Conducted Emission

RE<1G: Radiated Emission below 1GHz
APCM: Antenna Port Conducted Measurement

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.
2. "-" means no effect.

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.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A	802.11ac (VHT80+VHT80)	5180-5240+ 5260-5320	42+58	42+58	OFDM	130.0
A	802.11ac (VHT80+VHT80)	5180-5240+ 5500-5700	42+106	42+106	OFDM	130.0
			42+122	42+122	OFDM	130.0
A	802.11ac (VHT80+VHT80)	5180-5240+ 5745-5825	42+155	42+155	OFDM	130.0
A	802.11ac (VHT80+VHT80)	5260-5320+ 5745-5825	58+155	58+155	OFDM	130.0
A	802.11ac (VHT80+VHT80)	5500-5700+ 5745-5825	106+155	106+155	OFDM	130.0
			122+155	122+155	OFDM	130.0

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.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, B	802.11ac (VHT80+VHT80)	5180-5240+ 5260-5320	42+58	42+58	OFDM	130.0
A, B	802.11ac (VHT80+VHT80)	5180-5240+ 5500-5700	42+106	42+106	OFDM	130.0
			42+122	42+122	OFDM	130.0
A, B	802.11ac (VHT80+VHT80)	5180-5240+ 5745-5825	42+155	42+155	OFDM	130.0
A, B	802.11ac (VHT80+VHT80)	5260-5320+ 5745-5825	58+155	58+155	OFDM	130.0
A, B	802.11ac (VHT80+VHT80)	5500-5700+ 5745-5825	106+155	106+155	OFDM	130.0
			122+155	122+155	OFDM	130.0

Power Line Conducted Emission Test:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, B	802.11ac (VHT80+VHT80)	5180-5240+ 5260-5320	42+58	42+58	OFDM	130.0
A, B	802.11ac (VHT80+VHT80)	5180-5240+ 5500-5700	42+106	42+106	OFDM	130.0
			42+122	42+122	OFDM	130.0
A, B	802.11ac (VHT80+VHT80)	5180-5240+ 5745-5825	42+155	42+155	OFDM	130.0
A, B	802.11ac (VHT80+VHT80)	5260-5320+ 5745-5825	58+155	58+155	OFDM	130.0
A, B	802.11ac (VHT80+VHT80)	5500-5700+ 5745-5825	106+155	106+155	OFDM	130.0
			122+155	122+155	OFDM	130.0

Antenna Port Conducted Measurement:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A	802.11ac (VHT80+VHT80)	5180-5240+ 5260-5320	42+58	42+58	OFDM	130.0
A	802.11ac (VHT80+VHT80)	5180-5240+ 5500-5700	42+106	42+106	OFDM	130.0
			42+122	42+122	OFDM	130.0
A	802.11ac (VHT80+VHT80)	5180-5240+ 5745-5825	42+155	42+155	OFDM	130.0
A	802.11ac (VHT80+VHT80)	5260-5320+ 5745-5825	58+155	58+155	OFDM	130.0
A	802.11ac (VHT80+VHT80)	5500-5700+ 5745-5825	106+155	106+155	OFDM	130.0
			122+155	122+155	OFDM	130.0

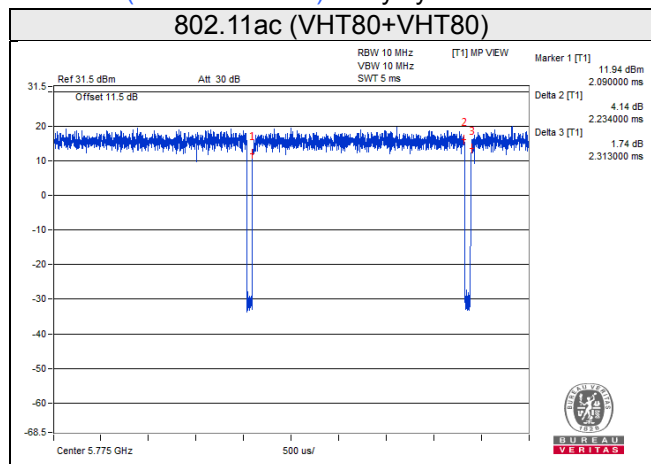
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	25 deg. C, 70% RH	120Vac, 60Hz	Luis Lee
RE<1G	25 deg. C, 70% RH	120Vac, 60Hz	Luis Lee
PLC	24 deg. C, 67% RH	120Vac, 60Hz	Willy Cheng
APCM	25 deg. C, 60%RH	120Vac, 60Hz	Alan Wu

3.3 Duty Cycle of Test Signal

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

802.11ac (VHT80+VHT80): Duty cycle = $2.234/2.313 = 0.966$, Duty factor = $10 * \log(1/0.966) = 0.15$



3.4 Description of Support Units

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

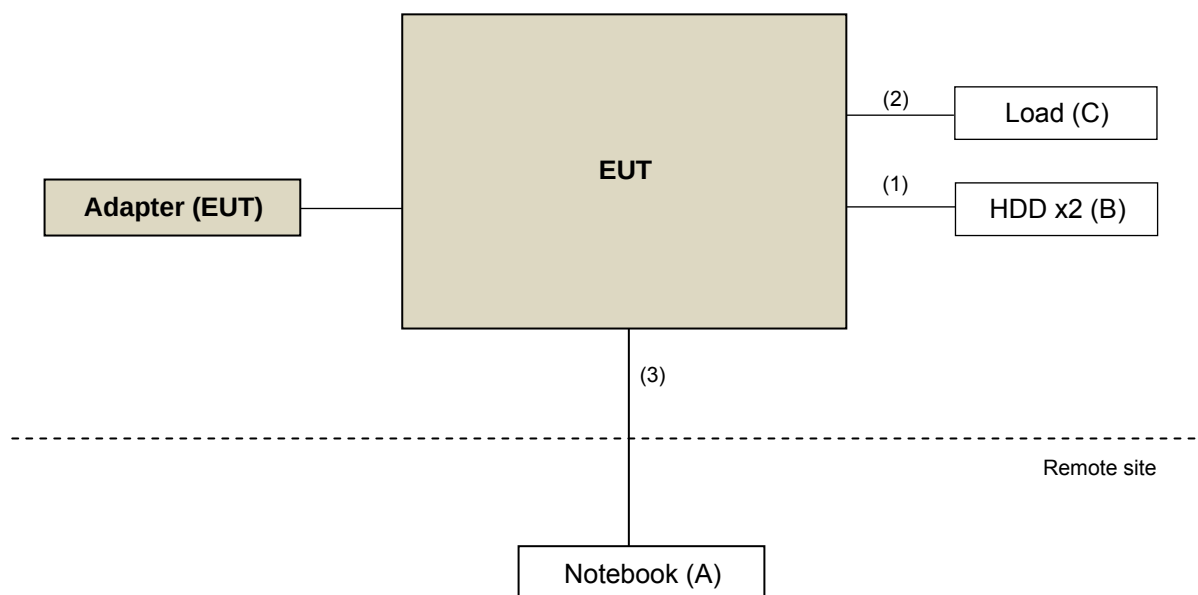
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	6RP2YM1	FCC DoC Approved	-
B.	HDD	TOSHIBA	DTB305	X4RBCC3RT3ZB	NA	-
	HDD	TOSHIBA	DTB305	X4R2C64VT3ZB	NA	-
C.	Load	NA	NA	NA	NA	-

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB cable	2	0.5	Y	0	-
2.	RJ45 cable	6	1.8	N	0	Cat5e
3.	RJ45 cable	1	3	N	0	Cat5e

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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. Other emissions shall be at least 20dB below the highest level of the desired power:

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK:74 (dBuV/m)	AV:54 (dBuV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBuV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	☐ 15.407(b)(4)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2(dBuV/m) ^{*1} PK:105.2 (dBuV/m) ^{*2} PK: 110.8(dBuV/m) ^{*3} PK:122.2 (dBuV/m) ^{*4}
	☒ 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge.		^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

Note:

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 17, 2017	Oct. 16, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 18, 2017	Aug. 17, 2018
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Dec. 11, 2017	Dec. 10, 2018
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Dec. 13, 2017	Dec. 12, 2018
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 01, 2017	Nov. 30, 2018
Loop Antenna EMCI	EM-6879	269	Aug. 11, 2017	Aug. 10, 2018
Preamplifier Agilent (Below 1GHz)	8447D	2944A10631	Aug. 08, 2017	Aug. 07, 2018
Preamplifier Agilent (Above 1GHz)	8449B	3008A01922	Sep. 15, 2017	Sep. 14, 2018
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 08, 2017	Aug. 07, 2018
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 08, 2017	Aug. 07, 2018
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
26GHz ~ 40GHz Amplifier Agilent	8449B	3008A1960	Aug. 08, 2017	Aug. 07, 2018
High Speed Peak Power Meter	ML2495A	0824012	Aug. 18, 2017	Aug. 17, 2018
Power Sensor	MA2411B	0738171	Aug. 18, 2017	Aug. 17, 2018

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 4.
 3. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
 4. The IC Site Registration No. is IC 7450F-4.

4.1.3 Test Procedures

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:

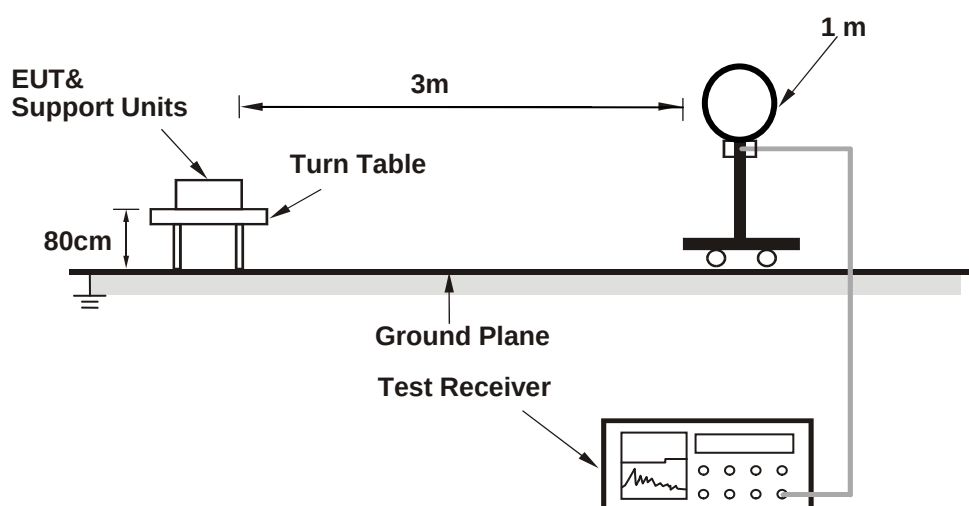
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

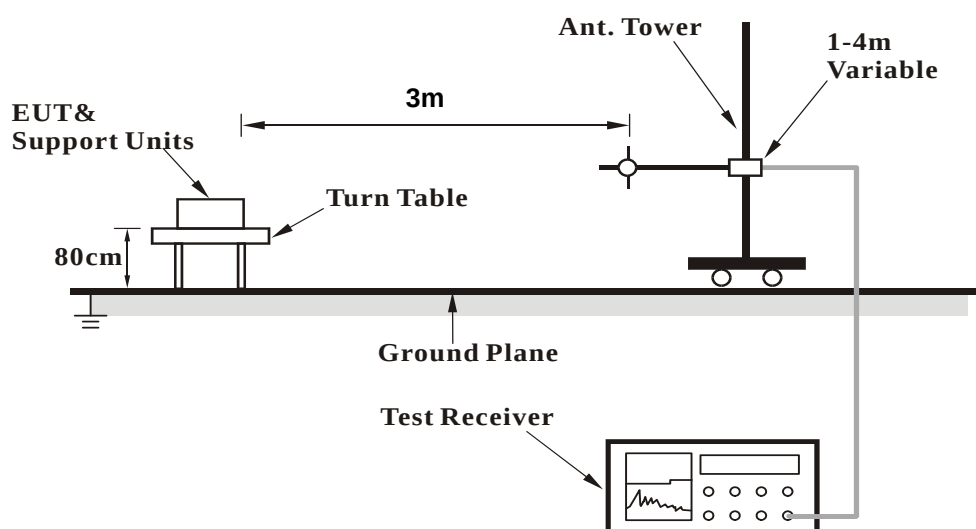
No deviation.

4.1.5 Test Setup

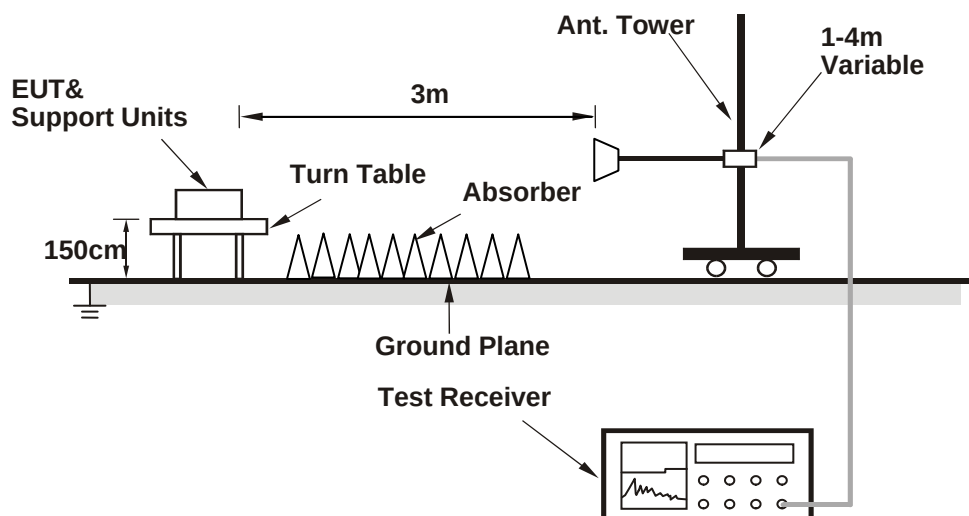
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

- Placed the EUT on the testing table.
- Prepared a notebook to act as a communication partner and placed it outside of testing area.
- The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- The communication partner sent data to EUT by command "PING".

4.1.7 Test Results

Above 1GHz Worst-Case Data:

802.11ac (VHT80+VHT80)

CHANNEL	TX Channel 42+58	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.9 PK	74.0	-15.1	2.45 H	51	56.30	2.60
2	5150.00	44.4 AV	54.0	-9.6	2.45 H	51	41.80	2.60
3	*5210.00	98.5 PK			2.45 H	51	57.70	40.80
4	*5210.00	88.6 AV			2.45 H	51	47.80	40.80
5	*5290.00	94.3 PK			2.46 H	163	53.70	40.60
6	*5290.00	85.9 AV			2.46 H	163	45.30	40.60
7	5350.00	61.3 PK	74.0	-12.7	2.45 H	51	58.50	2.80
8	5350.00	47.5 AV	54.0	-6.5	2.45 H	51	44.70	2.80
9	#10420.00	59.0 PK	74.0	-15.0	1.38 H	230	44.20	14.80
10	#10420.00	46.3 AV	54.0	-7.7	1.38 H	230	31.50	14.80
11	#10580.00	60.4 PK	74.0	-13.6	1.69 H	258	45.30	15.10
12	#10580.00	46.7 AV	54.0	-7.3	1.69 H	258	31.60	15.10
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	1.16 V	205	66.20	2.60
2	5150.00	53.7 AV	54.0	-0.3	1.16 V	205	51.10	2.60
3	*5210.00	111.3 PK			1.16 V	205	70.50	40.80
4	*5210.00	100.8 AV			1.16 V	205	60.00	40.80
5	*5290.00	109.7 PK			1.17 V	210	69.10	40.60
6	*5290.00	100.2 AV			1.17 V	210	59.60	40.60
7	5350.00	73.0 PK	74.0	-1.0	1.16 V	205	70.20	2.80
8	5350.00	53.7 AV	54.0	-0.3	1.16 V	205	50.90	2.80
9	#10420.00	59.9 PK	74.0	-14.1	2.38 V	122	45.10	14.80
10	#10420.00	47.5 AV	54.0	-6.5	2.38 V	122	32.70	14.80
11	#10580.00	60.5 PK	74.0	-13.5	3.01 V	149	45.40	15.10
12	#10580.00	47.7 AV	54.0	-6.3	3.01 V	149	32.60	15.10

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 42+106	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.0 PK	74.0	-15.0	2.48 H	53	56.40	2.60
2	5150.00	44.5 AV	54.0	-9.5	2.48 H	53	41.90	2.60
3	*5210.00	98.3 PK			2.48 H	53	57.50	40.80
4	*5210.00	88.5 AV			2.48 H	53	47.70	40.80
5	5350.00	61.4 PK	74.0	-12.6	2.48 H	53	58.60	2.80
6	5350.00	47.4 AV	54.0	-6.6	2.48 H	53	44.60	2.80
7	5460.00	60.5 PK	74.0	-13.5	2.63 H	252	57.30	3.20
8	5460.00	44.5 AV	54.0	-9.5	2.63 H	252	41.30	3.20
9	#5470.00	61.0 PK	74.0	-13.0	2.63 H	252	57.80	3.20
10	#5470.00	45.9 AV	54.0	-8.1	2.63 H	252	42.70	3.20
11	*5530.00	97.7 PK			2.63 H	252	55.90	41.80
12	*5530.00	87.7 AV			2.63 H	252	45.90	41.80
13	#5725.00	58.5 PK	74.0	-15.5	2.63 H	252	54.80	3.70
14	#5725.00	45.6 AV	54.0	-8.4	2.63 H	252	41.90	3.70
15	#10420.00	59.2 PK	74.0	-14.8	1.42 H	233	44.40	14.80
16	#10420.00	46.6 AV	54.0	-7.4	1.42 H	233	31.80	14.80
17	11060.00	61.1 PK	74.0	-12.9	3.11 H	174	45.40	15.70
18	11060.00	47.9 AV	54.0	-6.1	3.11 H	174	32.20	15.70

Remark:

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 42+106	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	69.1 PK	74.0	-4.9	1.16 V	205	66.50	2.60
2	5150.00	53.7 AV	54.0	-0.3	1.16 V	205	51.10	2.60
3	*5210.00	111.3 PK			1.16 V	205	70.50	40.80
4	*5210.00	100.8 AV			1.16 V	205	60.00	40.80
5	5350.00	61.0 PK	74.0	-13.0	1.16 V	205	58.20	2.80
6	5350.00	47.8 AV	54.0	-6.2	1.16 V	205	45.00	2.80
7	5460.00	61.4 PK	74.0	-12.6	1.00 V	207	58.20	3.20
8	5460.00	46.7 AV	54.0	-7.3	1.00 V	207	43.50	3.20
9	#5470.00	68.6 PK	74.0	-5.4	1.00 V	207	65.40	3.20
10	#5470.00	52.2 AV	54.0	-1.8	1.00 V	207	49.00	3.20
11	*5530.00	110.0 PK			1.00 V	206	68.20	41.80
12	*5530.00	100.3 AV			1.00 V	206	58.50	41.80
13	#5725.00	58.1 PK	74.0	-15.9	1.00 V	207	54.40	3.70
14	#5725.00	45.4 AV	54.0	-8.6	1.00 V	207	41.70	3.70
15	#10420.00	59.9 PK	74.0	-14.1	2.38 V	122	45.10	14.80
16	#10420.00	47.5 AV	54.0	-6.5	2.38 V	122	32.70	14.80
17	11060.00	61.3 PK	74.0	-12.7	2.69 V	137	45.60	15.70
18	11060.00	48.1 AV	54.0	-5.9	2.69 V	137	32.40	15.70

Remark:

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 42+166	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	59.4 PK	74.0	-14.6	2.43 H	51	56.80	2.60
2	5150.00	44.5 AV	54.0	-9.5	2.43 H	51	41.90	2.60
3	*5210.00	98.0 PK			2.43 H	51	57.20	40.80
4	*5210.00	88.2 AV			2.43 H	51	47.40	40.80
5	5350.00	61.4 PK	74.0	-12.6	2.43 H	51	58.60	2.80
6	5350.00	47.4 AV	54.0	-6.6	2.43 H	51	44.60	2.80
7	5460.00	60.6 PK	74.0	-13.4	2.76 H	59	57.40	3.20
8	5460.00	44.5 AV	54.0	-9.5	2.76 H	59	41.30	3.20
9	#5470.00	60.8 PK	74.0	-13.2	2.76 H	59	57.60	3.20
10	#5470.00	45.8 AV	54.0	-8.2	2.76 H	59	42.60	3.20
11	*5610.00	98.6 PK			2.76 H	59	56.80	41.80
12	*5610.00	88.7 AV			2.76 H	59	46.90	41.80
13	#5725.00	58.0 PK	74.0	-16.0	2.76 H	59	54.30	3.70
14	#5725.00	45.5 AV	54.0	-8.5	2.76 H	59	41.80	3.70
15	#10420.00	59.2 PK	74.0	-14.8	1.53 H	218	44.40	14.80
16	#10420.00	46.6 AV	54.0	-7.4	1.53 H	218	31.80	14.80
17	11220.00	61.1 PK	74.0	-12.9	1.77 H	265	45.20	15.90
18	11220.00	47.4 AV	54.0	-6.6	1.77 H	265	31.50	15.90

Remark:

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 42+122	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	69.1 PK	74.0	-4.9	1.18 V	203	66.50	2.60
2	5150.00	53.7 AV	54.0	-0.3	1.18 V	203	51.10	2.60
3	*5210.00	111.6 PK			1.18 V	203	70.80	40.80
4	*5210.00	101.1 AV			1.18 V	203	60.30	40.80
5	5350.00	61.1 PK	74.0	-12.9	1.18 V	203	58.30	2.80
6	5350.00	48.3 AV	54.0	-5.7	1.18 V	203	45.50	2.80
7	5460.00	58.4 PK	74.0	-15.6	1.01 V	206	55.20	3.20
8	5460.00	45.1 AV	54.0	-8.9	1.01 V	206	41.90	3.20
9	#5470.00	59.5 PK	74.0	-14.5	1.01 V	206	56.30	3.20
10	#5470.00	45.5 AV	54.0	-8.5	1.01 V	206	42.30	3.20
11	*5610.00	111.4 PK			1.01 V	206	69.60	41.80
12	*5610.00	101.0 AV			1.01 V	206	59.20	41.80
13	#5725.00	59.1 PK	74.0	-14.9	1.01 V	206	55.40	3.70
14	#5725.00	45.8 AV	54.0	-8.2	1.01 V	206	42.10	3.70
15	#10420.00	60.2 PK	74.0	-13.8	2.55 V	132	45.40	14.80
16	#10420.00	47.0 AV	54.0	-7.0	2.55 V	132	32.20	14.80
17	11220.00	61.2 PK	74.0	-12.8	2.98 V	150	45.30	15.90
18	11220.00	48.1 AV	54.0	-5.9	2.98 V	150	32.20	15.90

Remark:

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 42+155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.5 PK	74.0	-14.5	2.42 H	60	56.90	2.60
2	5150.00	44.7 AV	54.0	-9.3	2.42 H	60	42.10	2.60
3	*5210.00	98.1 PK			2.42 H	60	57.30	40.80
4	*5210.00	88.3 AV			2.42 H	60	47.50	40.80
5	5350.00	61.5 PK	74.0	-12.5	2.42 H	60	58.70	2.80
6	5350.00	47.4 AV	54.0	-6.6	2.42 H	60	44.60	2.80
7	#5608.80	58.3 PK	68.2	-9.9	2.67 H	230	54.80	3.50
8	*5775.00	99.6 PK			2.67 H	230	57.20	42.40
9	*5775.00	89.4 AV			2.67 H	230	47.00	42.40
10	#5940.00	58.4 PK	68.2	-9.8	2.67 H	230	53.90	4.50
11	#10420.00	59.6 PK	74.0	-14.4	1.48 H	241	44.80	14.80
12	#10420.00	46.7 AV	54.0	-7.3	1.48 H	241	31.90	14.80
13	11550.00	61.3 PK	74.0	-12.7	1.42 H	211	45.30	16.00
14	11550.00	47.7 AV	54.0	-6.3	1.42 H	211	31.70	16.00

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	69.0 PK	74.0	-5.0	1.16 V	203	66.40	2.60
2	5150.00	53.7 AV	54.0	-0.3	1.16 V	203	51.10	2.60
3	*5210.00	111.4 PK			1.16 V	203	70.60	40.80
4	*5210.00	101.3 AV			1.16 V	203	60.50	40.80
5	5350.00	61.2 PK	74.0	-12.8	1.16 V	203	58.40	2.80
6	5350.00	48.4 AV	54.0	-5.6	1.16 V	203	45.60	2.80
7	#5636.80	58.4 PK	68.2	-9.8	1.00 V	169	55.00	3.40
8	*5775.00	108.1 PK			1.00 V	169	65.70	42.40
9	*5775.00	97.7 AV			1.00 V	169	55.30	42.40
10	#5966.40	59.0 PK	68.2	-9.2	1.00 V	169	54.30	4.70
11	#10420.00	60.6 PK	74.0	-13.4	2.79 V	148	45.80	14.80
12	#10420.00	47.4 AV	54.0	-6.6	2.79 V	148	32.60	14.80
13	11550.00	61.7 PK	74.0	-12.3	3.18 V	157	45.70	16.00
14	11550.00	48.9 AV	54.0	-5.1	3.18 V	157	32.90	16.00

Remark:

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+155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.1 PK	74.0	-16.9	1.83 H	49	54.50	2.60
2	5150.00	43.9 AV	54.0	-10.1	1.83 H	49	41.30	2.60
3	*5290.00	96.6 PK			1.83 H	49	56.00	40.60
4	*5290.00	86.1 AV			1.83 H	49	45.50	40.60
5	5350.00	60.3 PK	74.0	-13.7	1.83 H	49	57.50	2.80
6	5350.00	46.4 AV	54.0	-7.6	1.83 H	49	43.60	2.80
7	#5640.80	57.9 PK	68.2	-10.3	2.67 H	230	54.50	3.40
8	*5775.00	101.4 PK			2.67 H	230	59.00	42.40
9	*5775.00	91.4 AV			2.67 H	230	49.00	42.40
10	#5964.80	59.0 PK	68.2	-9.2	2.67 H	230	54.30	4.70
11	#10580.00	60.3 PK	74.0	-13.7	2.18 H	143	45.20	15.10
12	#10580.00	46.9 AV	54.0	-7.1	2.18 H	143	31.80	15.10
13	11550.00	61.1 PK	74.0	-12.9	1.74 H	318	45.10	16.00
14	11550.00	47.5 AV	54.0	-6.5	1.74 H	318	31.50	16.00
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	59.7 PK	74.0	-14.3	1.14 V	204	57.10	2.60
2	5150.00	46.5 AV	54.0	-7.5	1.14 V	204	43.90	2.60
3	5150.00	111.7 PK			1.14 V	204	71.10	40.60
4	*5290.00	101.4 AV			1.14 V	204	60.80	40.60
5	5350.00	70.8 PK	74.0	-3.2	1.14 V	204	68.00	2.80
6	5350.00	53.9 AV	54.0	-0.1	1.14 V	204	51.10	2.80
7	#5644.80	60.3 PK	68.2	-7.9	1.37 V	173	56.90	3.40
8	*5775.00	110.2 PK			1.37 V	173	67.80	42.40
9	*5775.00	99.9 AV			1.37 V	173	57.50	42.40
10	#5994.40	59.0 PK	68.2	-9.2	1.37 V	173	54.30	4.70
11	11550.00	61.3 PK	74.0	-12.7	2.63 V	128	45.30	16.00
12	11550.00	48.6 AV	54.0	-5.4	2.63 V	128	32.60	16.00

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+155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.4 PK	74.0	-15.6	2.66 H	24	55.20	3.20
2	5460.00	45.9 AV	54.0	-8.1	2.66 H	24	42.70	3.20
3	#5470.00	62.5 PK	74.0	-11.5	2.66 H	24	59.30	3.20
4	#5470.00	48.1 AV	54.0	-5.9	2.66 H	24	44.90	3.20
5	*5530.00	101.4 PK			2.66 H	24	59.60	41.80
6	*5530.00	90.9 AV			2.66 H	24	49.10	41.80
7	#5621.60	57.6 PK	68.2	-10.6	2.67 H	231	54.10	3.50
8	#5725.00	56.4 PK	74.0	-17.6	2.66 H	24	52.70	3.70
9	#5725.00	46.0 AV	54.0	-8.0	2.66 H	24	42.30	3.70
10	*5775.00	101.7 PK			2.67 H	231	59.30	42.40
11	*5775.00	91.6 AV			2.67 H	231	49.20	42.40
12	#5997.60	62.1 PK	68.2	-6.1	2.67 H	231	57.40	4.70
13	11060.00	60.9 PK	74.0	-13.1	1.42 H	290	45.20	15.70
14	11060.00	47.5 AV	54.0	-6.5	1.42 H	290	31.80	15.70
15	11550.00	60.9 PK	74.0	-13.1	1.80 H	311	44.90	16.00
16	11550.00	47.8 AV	54.0	-6.2	1.80 H	311	31.80	16.00

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	67.3 PK	74.0	-6.7	1.00 V	207	64.10	3.20
2	5460.00	53.6 AV	54.0	-0.4	1.00 V	207	50.40	3.20
3	#5470.00	71.0 PK	74.0	-3.0	1.00 V	207	67.80	3.20
4	#5470.00	53.9 AV	54.0	-0.1	1.00 V	207	50.70	3.20
5	*5530.00	111.8 PK			1.00 V	207	70.00	41.80
6	*5530.00	102.5 AV			1.00 V	207	60.70	41.80
7	#5636.00	62.3 PK	68.2	-5.9	1.20 V	173	58.90	3.40
8	#5725.00	63.4 PK	74.0	-10.6	1.00 V	207	59.70	3.70
9	#5725.00	49.3 AV	54.0	-4.7	1.00 V	207	45.60	3.70
10	*5775.00	109.6 PK			1.20 V	173	67.20	42.40
11	*5775.00	99.8 AV			1.20 V	173	57.40	42.40
12	#5932.00	58.6 PK	68.2	-9.6	1.20 V	173	54.10	4.50
13	11060.00	61.6 PK	74.0	-12.4	1.98 V	237	45.90	15.70
14	11060.00	48.1 AV	54.0	-5.9	1.98 V	237	32.40	15.70
15	11550.00	61.9 PK	74.0	-12.1	2.69 V	122	45.90	16.00
16	11550.00	48.3 AV	54.0	-5.7	2.69 V	122	32.30	16.00

REMARKS:

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

CHANNEL	TX Channel 122+155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.3 PK	74.0	-15.7	2.63 H	42	55.10	3.20
2	5460.00	46.1 AV	54.0	-7.9	2.63 H	42	42.90	3.20
3	#5470.00	59.5 PK	74.0	-14.5	2.63 H	42	56.30	3.20
4	#5470.00	47.3 AV	54.0	-6.7	2.63 H	42	44.10	3.20
5	*5610.00	101.1 PK			2.63 H	42	59.30	41.80
6	*5610.00	91.0 AV			2.63 H	42	49.20	41.80
7	#5620.00	58.1 PK	68.2	-10.1	2.63 H	229	54.60	3.50
8	#5725.00	56.1 PK	74.0	-17.9	2.63 H	42	52.40	3.70
9	#5725.00	45.8 AV	54.0	-8.2	2.63 H	42	42.10	3.70
10	*5775.00	101.1 PK			2.63 H	229	58.70	42.40
11	*5775.00	91.2 AV			2.63 H	229	48.80	42.40
12	#5946.40	58.5 PK	68.2	-9.7	2.63 H	229	53.90	4.60
13	11220.00	61.3 PK	74.0	-12.7	1.87 H	210	45.40	15.90
14	11220.00	47.7 AV	54.0	-6.3	1.87 H	210	31.80	15.90
15	11550.00	60.7 PK	74.0	-13.3	1.78 H	321	44.70	16.00
16	11550.00	48.1 AV	54.0	-5.9	1.78 H	321	32.10	16.00

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	57.5 PK	74.0	-16.5	1.00 V	207	54.30	3.20
2	5460.00	45.0 AV	54.0	-9.0	1.00 V	207	41.80	3.20
3	#5470.00	60.8 PK	74.0	-13.2	1.00 V	207	57.60	3.20
4	#5470.00	47.1 AV	54.0	-6.9	1.00 V	207	43.90	3.20
5	*5610.00	112.3 PK			1.00 V	207	70.50	41.80
6	*5610.00	101.7 AV			1.00 V	207	59.90	41.80
7	#5634.40	61.1 PK	68.2	-7.1	1.50 V	174	57.60	3.50
8	#5725.00	66.5 PK	74.0	-7.5	1.00 V	207	62.80	3.70
9	#5725.00	49.4 AV	54.0	-4.6	1.00 V	207	45.70	3.70
10	*5775.00	110.0 PK			1.50 V	174	67.60	42.40
11	*5775.00	99.4 AV			1.50 V	174	57.00	42.40
12	#5998.40	59.1 PK	68.2	-9.1	1.50 V	174	54.40	4.70
13	11220.00	61.7 PK	74.0	-12.3	2.96 V	140	45.80	15.90
14	11220.00	48.6 AV	54.0	-5.4	2.96 V	140	32.70	15.90
15	11550.00	61.2 PK	74.0	-12.8	3.05 V	148	45.20	16.00
16	11550.00	48.3 AV	54.0	-5.7	3.05 V	148	32.30	16.00

REMARKS:

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

Below 1GHz worst-case data:

802.11ac (VHT80+VHT80)

CHANNEL	TX Channel 42+58	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

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	204.54	33.8 QP	43.5	-9.7	1.00 H	87	50.20	-16.40
2	301.56	38.4 QP	46.0	-7.6	1.00 H	25	50.60	-12.20
3	499.48	40.4 QP	46.0	-5.6	1.00 H	322	48.70	-8.30
4	600.38	38.9 QP	46.0	-7.1	1.00 H	53	44.90	-6.00
5	625.60	40.0 QP	46.0	-6.0	1.00 H	95	45.20	-5.20
6	808.00	38.2 QP	46.0	-7.8	1.00 H	79	39.70	-1.50
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	107.52	38.1 QP	43.5	-5.4	1.00 V	212	55.40	-17.30
2	319.02	41.3 QP	46.0	-4.7	1.00 V	297	52.90	-11.60
3	344.24	42.8 QP	46.0	-3.2	1.00 V	246	54.20	-11.40
4	375.29	42.5 QP	46.0	-3.5	1.00 V	6	53.20	-10.70
5	600.38	40.8 QP	46.0	-5.2	1.00 V	338	46.80	-6.00
6	821.58	42.0 QP	46.0	-4.0	1.50 V	13	43.40	-1.40

Remark:

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

CHANNEL	TX Channel 42+106	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

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	295.73	37.0 QP	46.0	-9.0	1.00 H	16	49.20	-12.20
2	342.30	41.6 QP	46.0	-4.4	1.00 H	3	53.00	-11.40
3	427.68	35.3 QP	46.0	-10.7	1.00 H	3	45.00	-9.70
4	499.48	40.1 QP	46.0	-5.9	1.00 H	200	48.40	-8.30
5	600.38	39.1 QP	46.0	-6.9	1.00 H	57	45.10	-6.00
6	813.82	36.4 QP	46.0	-9.6	1.00 H	51	37.80	-1.40
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	53.18	36.8 QP	40.0	-3.2	1.00 V	17	50.80	-14.00
2	175.43	32.6 QP	43.5	-10.9	1.00 V	122	46.90	-14.30
3	346.19	41.0 QP	46.0	-5.0	1.00 V	300	52.40	-11.40
4	503.36	36.8 QP	46.0	-9.2	1.00 V	161	45.10	-8.30
5	625.60	41.0 QP	46.0	-5.0	1.00 V	109	46.20	-5.20
6	875.91	38.4 QP	46.0	-7.6	1.00 V	3	39.10	-0.70

Remark:

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

CHANNEL	TX Channel 42+122	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

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	204.54	34.0 QP	43.5	-9.5	1.00 H	268	50.40	-16.40
2	344.24	42.3 QP	46.0	-3.7	1.00 H	357	53.70	-11.40
3	480.07	35.7 QP	46.0	-10.3	1.00 H	329	44.40	-8.70
4	625.60	37.7 QP	46.0	-8.3	1.00 H	285	42.90	-5.20
5	866.21	37.8 QP	46.0	-8.2	1.00 H	59	38.60	-0.80
6	939.95	36.6 QP	46.0	-9.4	1.00 H	357	35.80	0.80
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	45.42	35.4 QP	40.0	-4.6	1.00 V	150	49.60	-14.20
2	177.37	32.4 QP	43.5	-11.1	1.00 V	105	46.90	-14.50
3	344.24	40.7 QP	46.0	-5.3	1.00 V	332	52.10	-11.40
4	499.48	41.4 QP	46.0	-4.6	1.00 V	159	49.70	-8.30
5	625.60	40.6 QP	46.0	-5.4	1.00 V	111	45.80	-5.20
6	932.19	35.2 QP	46.0	-10.8	1.00 V	28	34.70	0.50

Remark:

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

CHANNEL	TX Channel 42+155	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

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	105.58	34.5 QP	43.5	-9.0	1.00 H	194	52.10	-17.60
2	344.24	42.6 QP	46.0	-3.4	1.00 H	7	54.00	-11.40
3	480.07	36.1 QP	46.0	-9.9	1.00 H	327	44.80	-8.70
4	625.60	36.6 QP	46.0	-9.4	1.00 H	114	41.80	-5.20
5	800.24	38.0 QP	46.0	-8.0	1.00 H	318	39.70	-1.70
6	938.01	40.3 QP	46.0	-5.7	1.00 H	7	39.60	0.70
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	55.13	35.1 QP	40.0	-4.9	1.00 V	138	49.20	-14.10
2	175.43	32.4 QP	43.5	-11.1	1.00 V	323	46.70	-14.30
3	344.24	40.9 QP	46.0	-5.1	1.00 V	322	52.30	-11.40
4	499.48	42.4 QP	46.0	-3.6	1.00 V	149	50.70	-8.30
5	625.60	41.4 QP	46.0	-4.6	1.00 V	113	46.60	-5.20
6	875.91	38.9 QP	46.0	-7.1	1.00 V	13	39.60	-0.70

Remark:

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

CHANNEL	TX Channel 58+155	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

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	204.54	33.2 QP	43.5	-10.3	1.00 H	272	49.60	-16.40
2	332.60	42.7 QP	46.0	-3.3	1.00 H	8	54.00	-11.30
3	499.48	37.6 QP	46.0	-8.4	1.00 H	115	45.90	-8.30
4	625.60	36.3 QP	46.0	-9.7	1.00 H	290	41.50	-5.20
5	800.24	37.3 QP	46.0	-8.7	1.00 H	327	39.00	-1.70
6	875.91	36.4 QP	46.0	-9.6	1.00 H	283	37.10	-0.70
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	53.18	35.6 QP	40.0	-4.4	1.00 V	326	49.60	-14.00
2	177.37	33.0 QP	43.5	-10.5	1.00 V	125	47.50	-14.50
3	342.30	40.8 QP	46.0	-5.2	1.00 V	235	52.20	-11.40
4	499.48	42.8 QP	46.0	-3.2	1.00 V	157	51.10	-8.30
5	625.60	40.5 QP	46.0	-5.5	1.00 V	133	45.70	-5.20
6	875.91	39.0 QP	46.0	-7.0	1.00 V	12	39.70	-0.70

Remark:

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

CHANNEL	TX Channel 106+155	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

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	200.66	33.9 QP	43.5	-9.6	1.00 H	275	50.40	-16.50
2	344.24	41.6 QP	46.0	-4.4	1.00 H	29	53.00	-11.40
3	429.62	36.1 QP	46.0	-9.9	1.00 H	29	45.70	-9.60
4	625.60	36.8 QP	46.0	-9.2	1.00 H	293	42.00	-5.20
5	800.24	37.5 QP	46.0	-8.5	1.00 H	330	39.20	-1.70
6	875.91	36.2 QP	46.0	-9.8	1.00 H	282	36.90	-0.70
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	51.24	35.3 QP	40.0	-4.7	1.00 V	359	49.40	-14.10
2	340.36	41.5 QP	46.0	-4.5	1.00 V	220	52.90	-11.40
3	375.29	42.3 QP	46.0	-3.7	1.00 V	349	53.00	-10.70
4	480.07	42.8 QP	46.0	-3.2	1.00 V	161	51.50	-8.70
5	625.60	41.0 QP	46.0	-5.0	1.00 V	111	46.20	-5.20
6	875.91	36.5 QP	46.0	-9.5	1.00 V	2	37.20	-0.70

Remark:

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

CHANNEL	TX Channel 122+155	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

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	55.13	35.6 QP	40.0	-4.4	1.00 H	120	49.70	-14.10
2	332.60	40.5 QP	46.0	-5.5	1.00 H	244	51.80	-11.30
3	375.29	42.4 QP	46.0	-3.6	1.00 H	7	53.10	-10.70
4	480.07	42.9 QP	46.0	-3.1	1.00 H	145	51.60	-8.70
5	600.38	37.5 QP	46.0	-8.5	1.00 H	80	43.50	-6.00
6	625.60	40.9 QP	46.0	-5.1	1.00 H	115	46.10	-5.20
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	202.60	32.8 QP	43.5	-10.7	1.50 V	134	49.20	-16.40
2	344.24	40.9 QP	46.0	-5.1	1.00 V	230	52.30	-11.40
3	600.38	38.2 QP	46.0	-7.8	1.00 V	88	44.20	-6.00
4	625.60	40.3 QP	46.0	-5.7	1.00 V	120	45.50	-5.20
5	875.91	37.4 QP	46.0	-8.6	1.00 V	8	38.10	-0.70
6	938.01	34.9 QP	46.0	-11.1	1.50 V	234	34.20	0.70

Remark:

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

CHANNEL	TX Channel 42+58	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

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	175.43	32.6 QP	43.5	-10.9	1.00 H	272	46.90	-14.30
2	245.28	41.8 QP	46.0	-4.2	1.00 H	351	56.10	-14.30
3	452.91	34.6 QP	46.0	-11.4	1.00 H	108	43.60	-9.00
4	625.60	36.6 QP	46.0	-9.4	1.00 H	93	41.80	-5.20
5	800.24	36.7 QP	46.0	-9.3	1.00 H	58	38.40	-1.70
6	875.91	37.3 QP	46.0	-8.7	1.00 H	326	38.00	-0.70
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	171.55	32.6 QP	43.5	-10.9	1.00 V	323	46.50	-13.90
2	247.22	37.1 QP	46.0	-8.9	1.00 V	330	51.30	-14.20
3	480.07	32.9 QP	46.0	-13.1	1.00 V	189	41.60	-8.70
4	625.60	35.8 QP	46.0	-10.2	1.00 V	314	41.00	-5.20
5	800.24	31.2 QP	46.0	-14.8	1.00 V	338	32.90	-1.70
6	875.91	36.1 QP	46.0	-9.9	1.00 V	277	36.80	-0.70

Remark:

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

CHANNEL	TX Channel 42+106	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

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	57.07	32.1 QP	40.0	-7.9	1.00 H	310	46.30	-14.20
2	177.37	32.8 QP	43.5	-10.7	1.00 H	274	47.30	-14.50
3	480.07	32.0 QP	46.0	-14.0	1.00 H	307	40.70	-8.70
4	625.60	36.7 QP	46.0	-9.3	1.00 H	206	41.90	-5.20
5	749.79	37.0 QP	46.0	-9.0	1.00 H	7	39.70	-2.70
6	875.91	37.8 QP	46.0	-8.2	1.00 H	330	38.50	-0.70
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	171.55	31.6 QP	43.5	-11.9	1.50 V	300	45.50	-13.90
2	303.50	36.5 QP	46.0	-9.5	1.50 V	13	48.60	-12.10
3	480.07	33.4 QP	46.0	-12.6	1.00 V	184	42.10	-8.70
4	625.60	34.9 QP	46.0	-11.1	1.00 V	274	40.10	-5.20
5	749.79	36.8 QP	46.0	-9.2	1.50 V	347	39.50	-2.70
6	932.19	36.6 QP	46.0	-9.4	1.00 V	251	36.10	0.50

Remark:

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

CHANNEL	TX Channel 42+122	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

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	43.48	21.7 QP	40.0	-18.3	1.50 H	87	36.10	-14.40
2	175.43	32.2 QP	43.5	-11.3	1.00 H	278	46.50	-14.30
3	480.07	31.8 QP	46.0	-14.2	1.50 H	298	40.50	-8.70
4	650.83	30.9 QP	46.0	-15.1	1.50 H	213	35.60	-4.70
5	720.68	32.9 QP	46.0	-13.1	1.00 H	229	36.30	-3.40
6	901.14	32.9 QP	46.0	-13.1	1.00 H	7	33.00	-0.10
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	173.49	32.7 QP	43.5	-10.8	1.00 V	297	46.80	-14.10
2	245.28	35.7 QP	46.0	-10.3	1.50 V	315	50.00	-14.30
3	404.40	34.6 QP	46.0	-11.4	1.50 V	86	44.90	-10.30
4	480.07	33.4 QP	46.0	-12.6	1.00 V	187	42.10	-8.70
5	749.79	36.0 QP	46.0	-10.0	1.00 V	346	38.70	-2.70
6	918.60	34.3 QP	46.0	-11.7	2.00 V	192	33.90	0.40

Remark:

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

CHANNEL	TX Channel 42+155	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

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	173.49	32.5 QP	43.5	-11.0	1.50 H	315	46.60	-14.10
2	245.28	35.3 QP	46.0	-10.7	1.00 H	321	49.60	-14.30
3	425.74	29.0 QP	46.0	-17.0	1.00 H	147	38.70	-9.70
4	499.48	31.8 QP	46.0	-14.2	1.50 H	198	40.10	-8.30
5	726.50	29.1 QP	46.0	-16.9	1.00 H	268	32.40	-3.30
6	858.45	29.1 QP	46.0	-16.9	2.00 H	304	29.90	-0.80
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	175.43	33.8 QP	43.5	-9.7	1.00 V	316	48.10	-14.30
2	218.12	36.5 QP	46.0	-9.5	1.00 V	252	52.70	-16.20
3	243.34	34.3 QP	46.0	-11.7	1.50 V	340	48.70	-14.40
4	388.87	36.8 QP	46.0	-9.2	1.00 V	281	47.20	-10.40
5	499.48	31.4 QP	46.0	-14.6	1.50 V	195	39.70	-8.30
6	600.38	38.4 QP	46.0	-7.6	1.00 V	243	44.40	-6.00

Remark:

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

CHANNEL	TX Channel 58+155	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

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	173.49	33.3 QP	43.5	-10.2	1.00 H	258	47.40	-14.10
2	243.34	40.3 QP	46.0	-5.7	1.50 H	49	54.70	-14.40
3	400.52	41.2 QP	46.0	-4.8	1.00 H	164	51.60	-10.40
4	547.99	22.4 QP	46.0	-23.6	1.50 H	100	30.00	-7.60
5	720.68	31.4 QP	46.0	-14.6	1.50 H	232	34.80	-3.40
6	875.91	35.1 QP	46.0	-10.9	1.00 H	331	35.80	-0.70
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	173.49	33.5 QP	43.5	-10.0	1.50 V	6	47.60	-14.10
2	243.34	37.5 QP	46.0	-8.5	1.00 V	339	51.90	-14.40
3	412.16	36.1 QP	46.0	-9.9	1.00 V	95	46.20	-10.10
4	480.07	33.9 QP	46.0	-12.1	1.50 V	182	42.60	-8.70
5	730.38	37.6 QP	46.0	-8.4	1.00 V	6	40.80	-3.20
6	881.74	36.9 QP	46.0	-9.1	1.00 V	6	37.50	-0.60

Remark:

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

CHANNEL	TX Channel 106+155	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

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	59.01	18.6 QP	40.0	-21.4	1.00 H	343	32.70	-14.10
2	173.49	32.3 QP	43.5	-11.2	1.50 H	276	46.40	-14.10
3	480.07	32.1 QP	46.0	-13.9	1.00 H	307	40.80	-8.70
4	660.53	29.7 QP	46.0	-16.3	1.50 H	209	34.40	-4.70
5	813.82	37.6 QP	46.0	-8.4	1.00 H	63	39.00	-1.40
6	875.91	35.5 QP	46.0	-10.5	1.00 H	345	36.20	-0.70
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	173.49	33.1 QP	43.5	-10.4	1.50 V	317	47.20	-14.10
2	245.28	36.6 QP	46.0	-9.4	1.00 V	313	50.90	-14.30
3	499.48	31.3 QP	46.0	-14.7	1.50 V	194	39.60	-8.30
4	701.28	24.6 QP	46.0	-21.4	2.00 V	38	28.70	-4.10
5	749.79	28.9 QP	46.0	-17.1	1.00 V	350	31.60	-2.70
6	875.91	31.9 QP	46.0	-14.1	1.00 V	285	32.60	-0.70

Remark:

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

CHANNEL	TX Channel 122+155	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

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	262.75	38.2 QP	46.0	-7.8	1.50 H	111	51.80	-13.60
2	480.07	31.6 QP	46.0	-14.4	1.00 H	293	40.30	-8.70
3	625.60	37.8 QP	46.0	-8.2	1.50 H	105	43.00	-5.20
4	749.79	37.1 QP	46.0	-8.9	1.00 H	340	39.80	-2.70
5	866.21	36.3 QP	46.0	-9.7	1.00 H	232	37.10	-0.80
6	939.95	34.6 QP	46.0	-11.4	2.00 H	112	33.80	0.80
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	175.43	35.2 QP	43.5	-8.3	1.00 V	302	49.50	-14.30
2	262.75	34.0 QP	46.0	-12.0	2.00 V	84	47.60	-13.60
3	398.58	37.0 QP	46.0	-9.0	1.00 V	67	47.30	-10.30
4	526.64	24.9 QP	46.0	-21.1	1.50 V	138	32.80	-7.90
5	749.79	29.5 QP	46.0	-16.5	1.50 V	36	32.20	-2.70
6	875.91	33.3 QP	46.0	-12.7	1.00 V	28	34.00	-0.70

Remark:

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

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

Tested date: May 09, 2018

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 23, 2017	Nov. 22, 2018
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Sep. 05, 2017	Sep. 04, 2018
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 06, 2018	Mar. 05, 2019
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 15, 2017	Aug. 14, 2018
Software ADT	BV ADT_Conc_ V7.3.7.3	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Shielded Room 1.

3. The VCCI Site Registration No. is C-2040.

4.2.3 Test Procedures

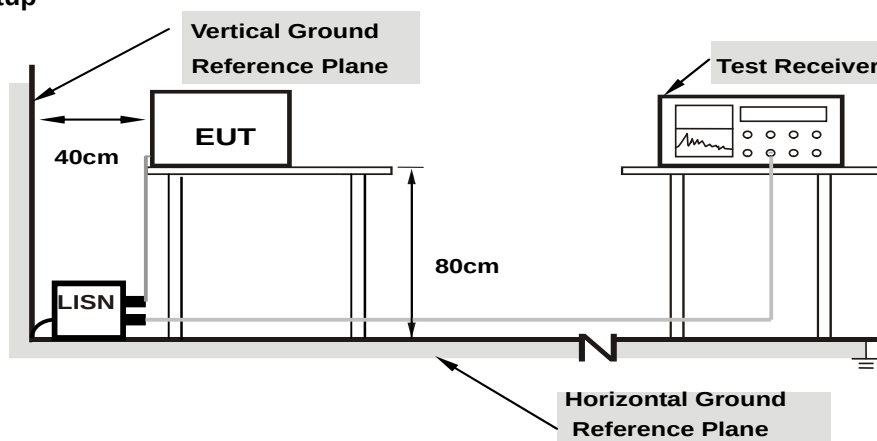
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

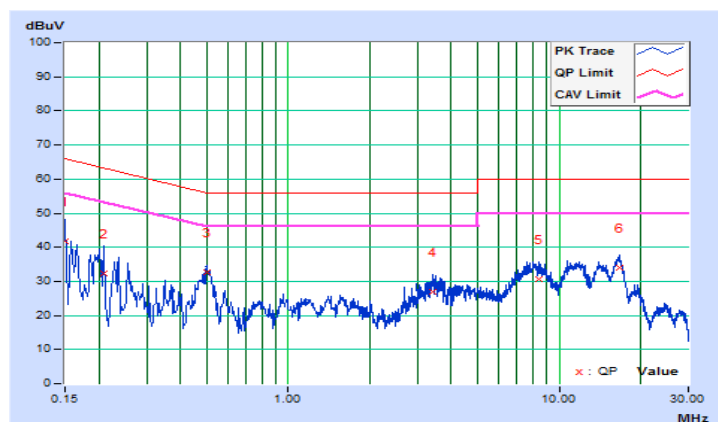
4.2.7 Test Results

Channel	42+58	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.16	31.54	14.85	41.70	25.01	66.00	56.00	-24.30	-30.99
2	0.20865	10.16	22.13	6.28	32.29	16.44	63.26	53.26	-30.97	-36.82
3	0.49978	10.20	22.30	18.60	32.50	28.80	56.00	46.00	-23.50	-17.20
4	3.43440	10.32	16.64	9.58	26.96	19.90	56.00	46.00	-29.04	-26.10
5	8.43138	10.57	19.95	14.53	30.52	25.10	60.00	50.00	-29.48	-24.90
6	16.67757	11.05	22.82	17.69	33.87	28.74	60.00	50.00	-26.13	-21.26

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.

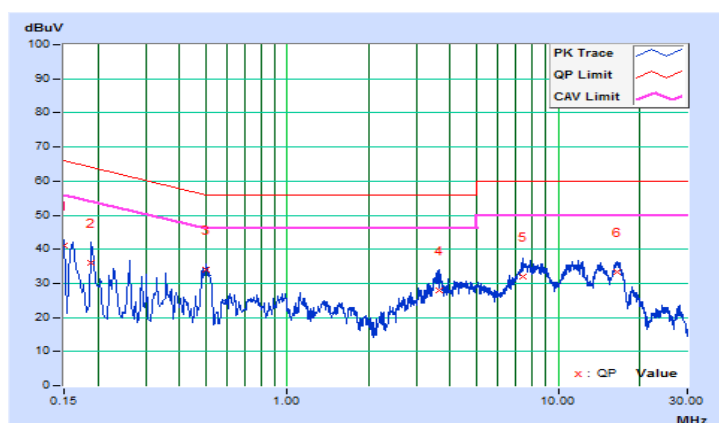


Channel	42+58	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.14	30.90	15.27	41.04	25.41	66.00	56.00	-24.96	-30.59
2	0.18903	10.16	25.72	15.27	35.88	25.43	64.08	54.08	-28.20	-28.65
3	0.50190	10.20	23.85	20.10	34.05	30.30	56.00	46.00	-21.95	-15.70
4	3.64163	10.32	17.71	10.19	28.03	20.51	56.00	46.00	-27.97	-25.49
5	7.44997	10.47	21.36	16.29	31.83	26.76	60.00	50.00	-28.17	-23.24
6	16.46252	10.86	22.46	17.40	33.32	28.26	60.00	50.00	-26.68	-21.74

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.

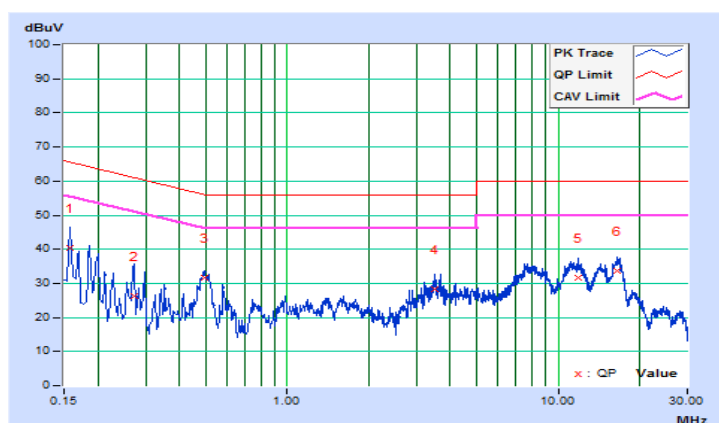


Channel	42+106	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15782	10.16	30.18	19.90	40.34	30.06	65.58	55.58	-25.24	-25.52
2	0.27120	10.17	16.09	4.69	26.26	14.86	61.08	51.08	-34.82	-36.22
3	0.49715	10.20	21.33	17.37	31.53	27.57	56.05	46.05	-24.52	-18.48
4	3.48914	10.32	17.88	10.96	28.20	21.28	56.00	46.00	-27.80	-24.72
5	11.87609	10.76	21.05	15.72	31.81	26.48	60.00	50.00	-28.19	-23.52
6	16.57200	11.05	22.77	17.69	33.82	28.74	60.00	50.00	-26.18	-21.26

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.

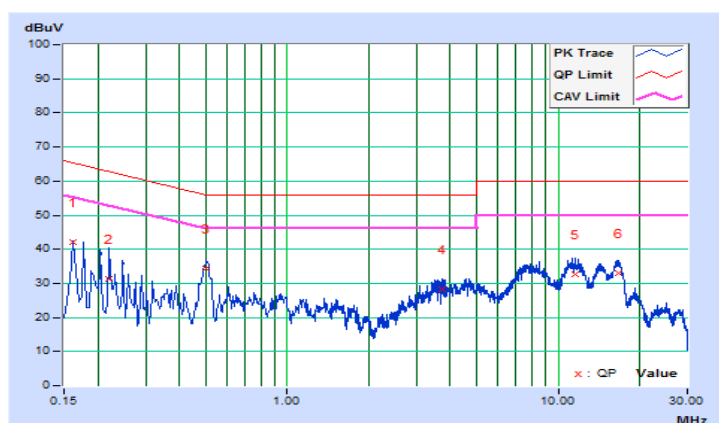


Channel	42+106	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16173	10.15	31.88	24.72	42.03	34.87	65.37	55.37	-23.34	-20.50
2	0.22038	10.17	21.28	9.85	31.45	20.02	62.80	52.80	-31.35	-32.78
3	0.50190	10.20	24.04	20.20	34.24	30.40	56.00	46.00	-21.76	-15.60
4	3.71983	10.33	17.79	10.43	28.12	20.76	56.00	46.00	-27.88	-25.24
5	11.64149	10.64	22.01	16.79	32.65	27.43	60.00	50.00	-27.35	-22.57
6	16.70494	10.87	22.14	17.15	33.01	28.02	60.00	50.00	-26.99	-21.98

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.

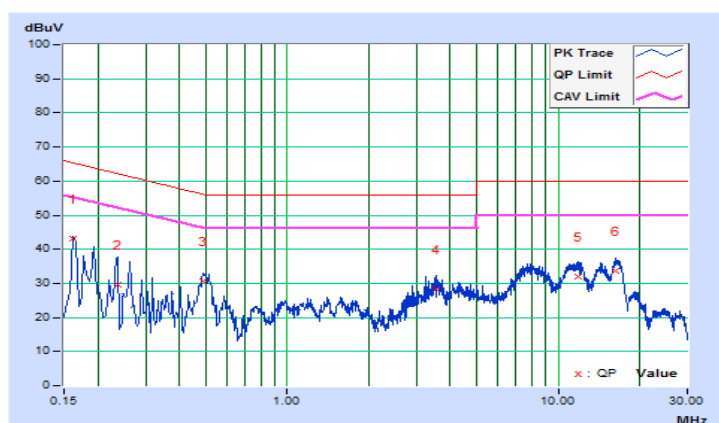


Channel	42+122	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16181	10.16	32.88	23.90	43.04	34.06	65.37	55.37	-22.33	-21.31
2	0.23586	10.16	19.43	5.38	29.59	15.54	62.24	52.24	-32.65	-36.70
3	0.48935	10.20	20.28	15.85	30.48	26.05	56.18	46.18	-25.70	-20.13
4	3.55561	10.32	18.01	10.92	28.33	21.24	56.00	46.00	-27.67	-24.76
5	11.79398	10.76	21.30	15.95	32.06	26.71	60.00	50.00	-27.94	-23.29
6	16.32567	11.03	22.60	17.46	33.63	28.49	60.00	50.00	-26.37	-21.51

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.

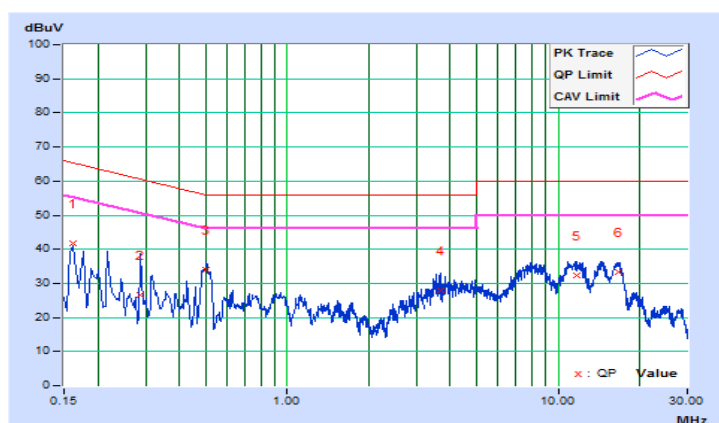


Channel	42+122	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16173	10.15	31.66	24.65	41.81	34.80	65.37	55.37	-23.56	-20.57
2	0.28685	10.18	16.35	8.92	26.53	19.10	60.62	50.62	-34.09	-31.52
3	0.50242	10.20	23.91	20.07	34.11	30.27	56.00	46.00	-21.89	-15.73
4	3.66900	10.33	17.74	10.37	28.07	20.70	56.00	46.00	-27.93	-25.30
5	11.79007	10.65	21.80	16.63	32.45	27.28	60.00	50.00	-27.55	-22.72
6	16.66733	10.87	22.40	17.27	33.27	28.14	60.00	50.00	-26.73	-21.86

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.

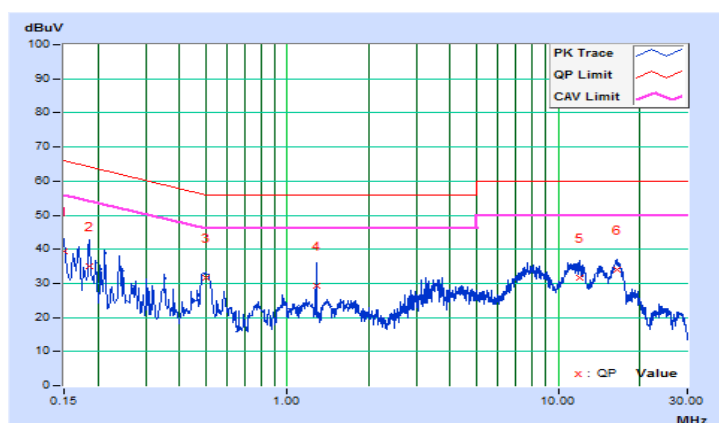


Channel	42+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.16	29.26	8.67	39.42	18.83	66.00	56.00	-26.58	-37.17
2	0.18519	10.16	24.78	8.31	34.94	18.47	64.25	54.25	-29.31	-35.78
3	0.49978	10.20	21.46	18.81	31.66	29.01	56.00	46.00	-24.34	-16.99
4	1.28364	10.19	19.24	6.00	29.43	16.19	56.00	46.00	-26.57	-29.81
5	12.03640	10.77	20.72	15.42	31.49	26.19	60.00	50.00	-28.51	-23.81
6	16.41169	11.04	22.80	17.63	33.84	28.67	60.00	50.00	-26.16	-21.33

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.

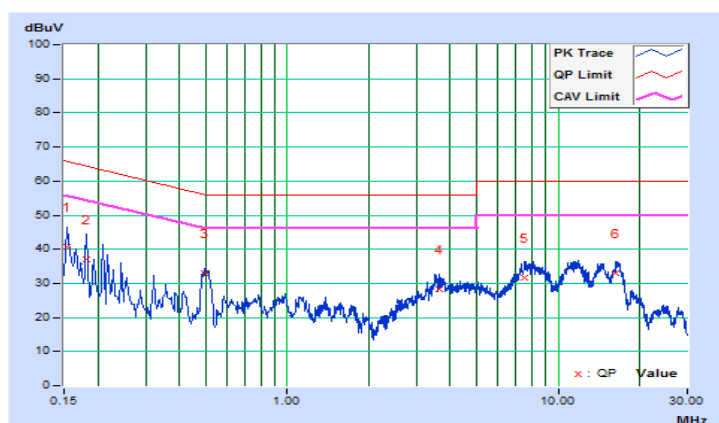


Channel	42+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.15	30.48	13.88	40.63	24.03	65.79	55.79	-25.16	-31.76
2	0.18128	10.16	26.89	14.84	37.05	25.00	64.43	54.43	-27.38	-29.43
3	0.49799	10.20	22.92	19.40	33.12	29.60	56.03	46.03	-22.91	-16.43
4	3.66118	10.33	17.80	10.24	28.13	20.57	56.00	46.00	-27.87	-25.43
5	7.53990	10.48	21.04	16.04	31.52	26.52	60.00	50.00	-28.48	-23.48
6	16.39605	10.86	22.26	16.97	33.12	27.83	60.00	50.00	-26.88	-22.17

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.

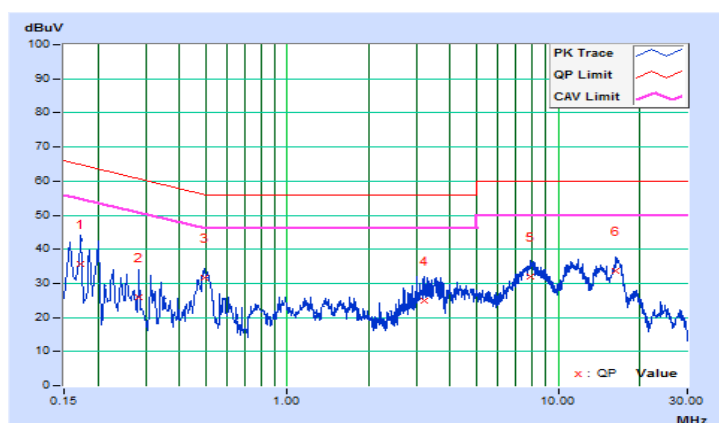


Channel	58+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17346	10.16	25.46	9.86	35.62	20.02	64.79	54.79	-29.17	-34.77
2	0.28288	10.18	15.63	3.41	25.81	13.59	60.73	50.73	-34.92	-37.14
3	0.49408	10.20	21.30	15.50	31.50	25.70	56.10	46.10	-24.60	-20.40
4	3.20371	10.31	14.65	8.23	24.96	18.54	56.00	46.00	-31.04	-27.46
5	7.89571	10.54	21.40	16.31	31.94	26.85	60.00	50.00	-28.06	-23.15
6	16.35695	11.03	22.71	17.51	33.74	28.54	60.00	50.00	-26.26	-21.46

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.

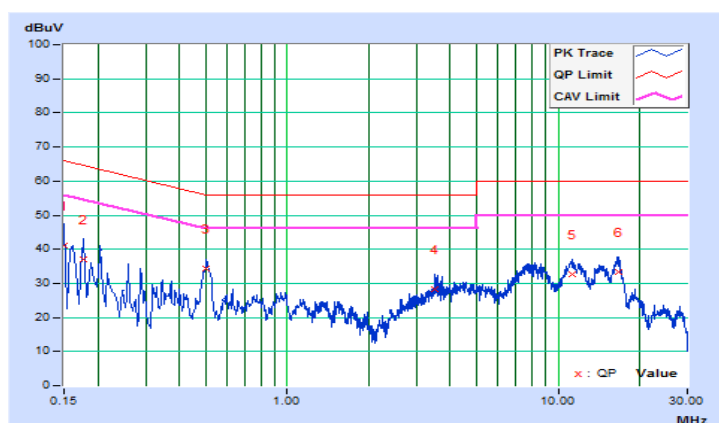


Channel	58+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.14	30.88	15.32	41.02	25.46	66.00	56.00	-24.98	-30.54
2	0.17737	10.15	27.05	14.95	37.20	25.10	64.61	54.61	-27.41	-29.51
3	0.50190	10.20	24.02	20.21	34.22	30.41	56.00	46.00	-21.78	-15.59
4	3.50478	10.32	17.92	11.01	28.24	21.33	56.00	46.00	-27.76	-24.67
5	11.31696	10.63	22.11	17.13	32.74	27.76	60.00	50.00	-27.26	-22.24
6	16.62674	10.87	22.31	17.28	33.18	28.15	60.00	50.00	-26.82	-21.85

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.

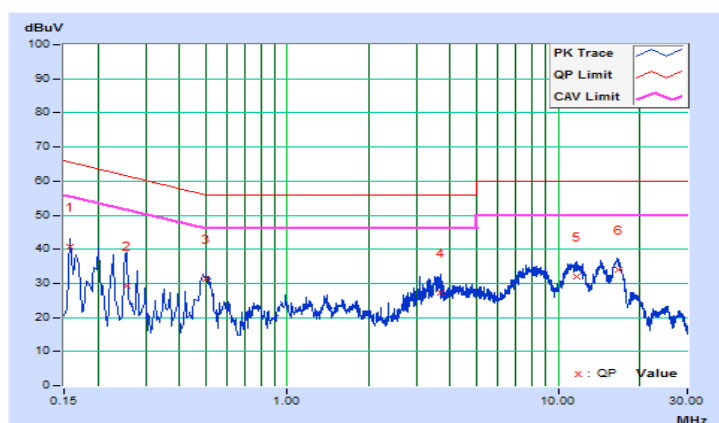


Channel	106+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15782	10.16	30.74	20.27	40.90	30.43	65.58	55.58	-24.68	-25.15
2	0.25458	10.17	19.13	10.93	29.30	21.10	61.61	51.61	-32.31	-30.51
3	0.50190	10.20	21.20	18.29	31.40	28.49	56.00	46.00	-24.60	-17.51
4	3.70810	10.33	16.84	9.69	27.17	20.02	56.00	46.00	-28.83	-25.98
5	11.68450	10.75	21.25	16.17	32.00	26.92	60.00	50.00	-28.00	-23.08
6	16.73622	11.06	22.79	17.68	33.85	28.74	60.00	50.00	-26.15	-21.26

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.

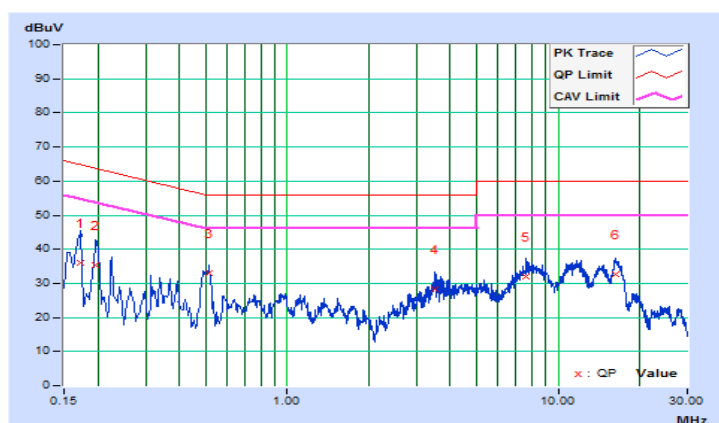


Channel	106+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17328	10.15	25.79	10.47	35.94	20.62	64.80	54.80	-28.86	-34.18
2	0.19692	10.16	25.19	19.07	35.35	29.23	63.74	53.74	-28.39	-24.51
3	0.51363	10.20	22.77	19.84	32.97	30.04	56.00	46.00	-23.03	-15.96
4	3.52042	10.32	18.01	11.26	28.33	21.58	56.00	46.00	-27.67	-24.42
5	7.60637	10.48	21.60	16.65	32.08	27.13	60.00	50.00	-27.92	-22.87
6	16.33349	10.86	21.86	16.60	32.72	27.46	60.00	50.00	-27.28	-22.54

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.

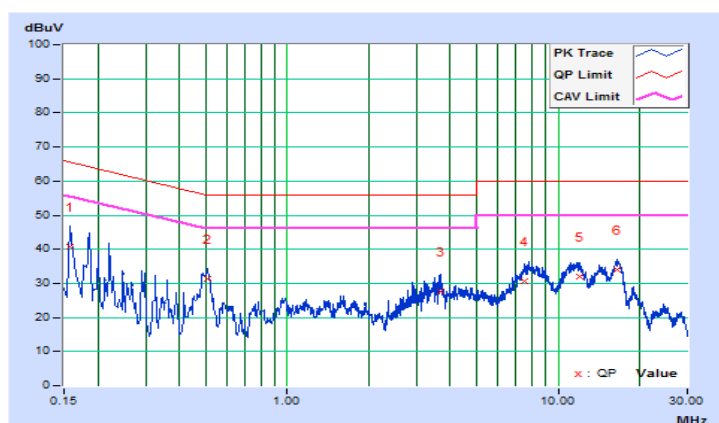


Channel	122+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15760	10.16	30.44	20.01	40.60	30.17	65.59	55.59	-24.99	-25.42
2	0.50581	10.20	21.04	15.65	31.24	25.85	56.00	46.00	-24.76	-20.15
3	3.66509	10.33	17.31	9.88	27.64	20.21	56.00	46.00	-28.36	-25.79
4	7.51253	10.52	20.17	15.10	30.69	25.62	60.00	50.00	-29.31	-24.38
5	11.94256	10.77	21.07	15.98	31.84	26.75	60.00	50.00	-28.16	-23.25
6	16.49771	11.04	22.99	17.83	34.03	28.87	60.00	50.00	-25.97	-21.13

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.

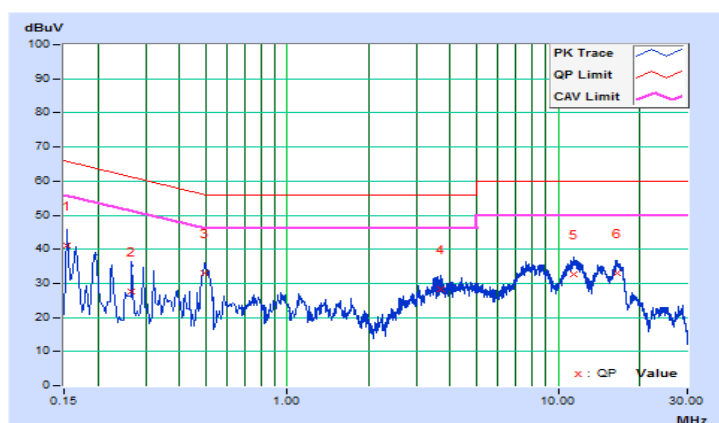


Channel	122+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.15	31.07	14.15	41.22	24.30	65.79	55.79	-24.57	-31.49
2	0.26730	10.17	17.39	4.41	27.56	14.58	61.20	51.20	-33.64	-36.62
3	0.49799	10.20	22.80	20.12	33.00	30.32	56.03	46.03	-23.03	-15.71
4	3.70028	10.33	17.89	10.42	28.22	20.75	56.00	46.00	-27.78	-25.25
5	11.43426	10.63	21.89	16.77	32.52	27.40	60.00	50.00	-27.48	-22.60
6	16.55245	10.87	22.11	17.07	32.98	27.94	60.00	50.00	-27.02	-22.06

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.

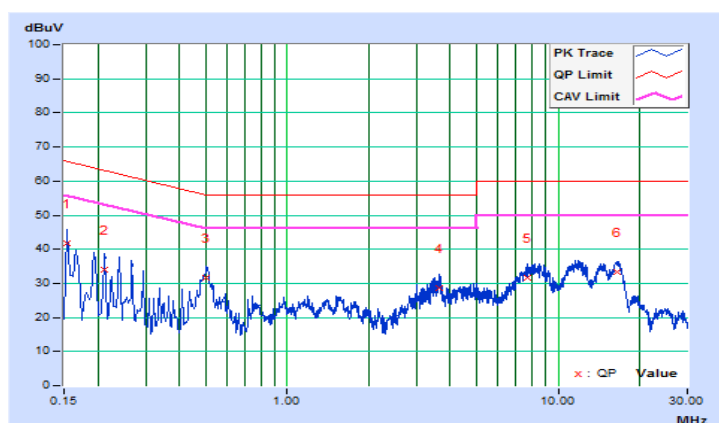


Channel	42+58	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.16	31.54	16.96	41.70	27.12	65.79	55.79	-24.09	-28.67
2	0.21256	10.16	23.85	9.33	34.01	19.49	63.10	53.10	-29.09	-33.61
3	0.50242	10.20	21.61	16.78	31.81	26.98	56.00	46.00	-24.19	-19.02
4	3.65336	10.33	18.32	10.56	28.65	20.89	56.00	46.00	-27.35	-25.11
5	7.74713	10.54	21.02	16.18	31.56	26.72	60.00	50.00	-28.44	-23.28
6	16.44297	11.04	22.43	17.10	33.47	28.14	60.00	50.00	-26.53	-21.86

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.

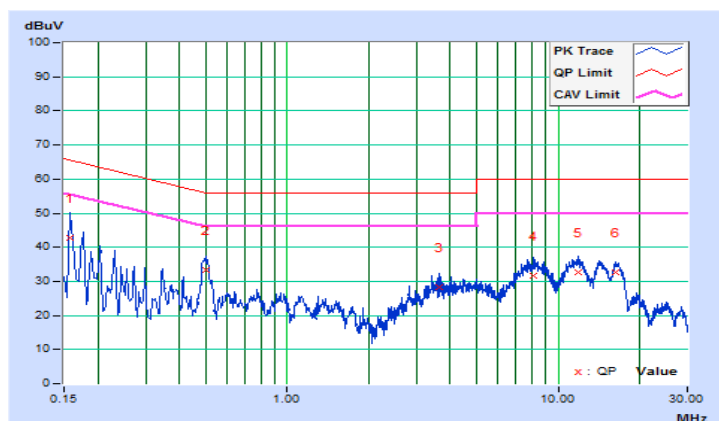


Channel	42+58	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15782	10.15	32.67	24.31	42.82	34.46	65.58	55.58	-22.76	-21.12
2	0.50242	10.20	23.22	18.52	33.42	28.72	56.00	46.00	-22.58	-17.28
3	3.64554	10.32	17.88	10.45	28.20	20.77	56.00	46.00	-27.80	-25.23
4	8.14204	10.50	21.09	16.07	31.59	26.57	60.00	50.00	-28.41	-23.43
5	11.90737	10.66	21.94	16.93	32.60	27.59	60.00	50.00	-27.40	-22.41
6	16.36086	10.86	21.72	16.57	32.58	27.43	60.00	50.00	-27.42	-22.57

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.

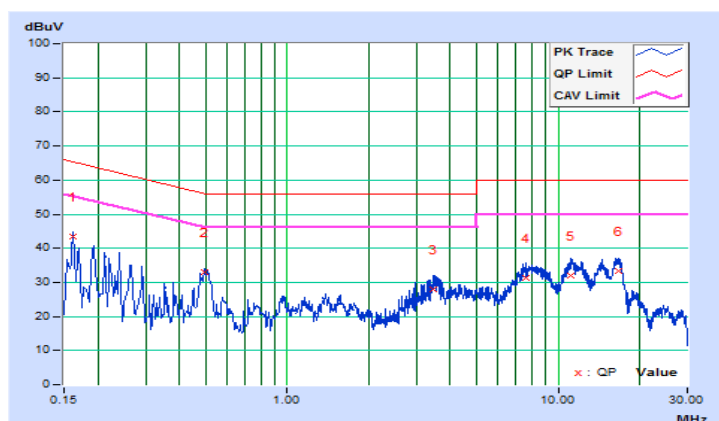


Channel	42+106	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16181	10.16	33.33	24.11	43.49	34.27	65.37	55.37	-21.88	-21.10
2	0.49799	10.20	22.66	19.06	32.86	29.26	56.03	46.03	-23.17	-16.77
3	3.47741	10.32	17.69	10.70	28.01	21.02	56.00	46.00	-27.99	-24.98
4	7.59464	10.53	20.89	16.19	31.42	26.72	60.00	50.00	-28.58	-23.28
5	11.09409	10.72	21.14	15.92	31.86	26.64	60.00	50.00	-28.14	-23.36
6	16.70885	11.05	22.17	17.16	33.22	28.21	60.00	50.00	-26.78	-21.79

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.

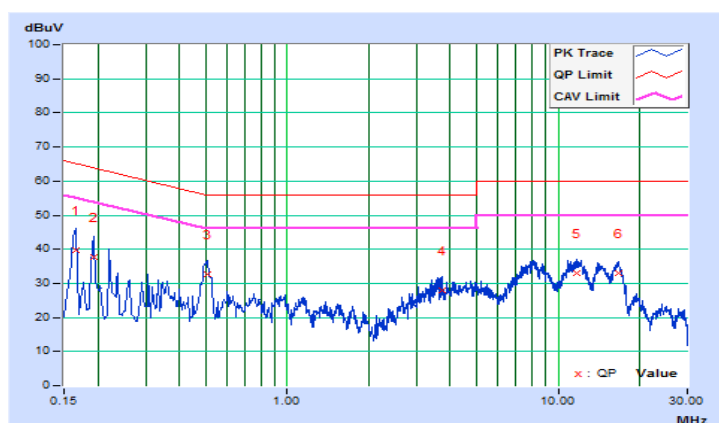


Channel	42+106	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16564	10.15	29.57	18.27	39.72	28.42	65.18	55.18	-25.46	-26.76
2	0.19305	10.16	27.59	21.74	37.75	31.90	63.90	53.90	-26.15	-22.00
3	0.50507	10.20	22.51	17.43	32.71	27.63	56.00	46.00	-23.29	-18.37
4	3.72765	10.33	17.47	10.17	27.80	20.50	56.00	46.00	-28.20	-25.50
5	11.75097	10.65	22.19	17.00	32.84	27.65	60.00	50.00	-27.16	-22.35
6	16.61892	10.87	22.17	17.02	33.04	27.89	60.00	50.00	-26.96	-22.11

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.

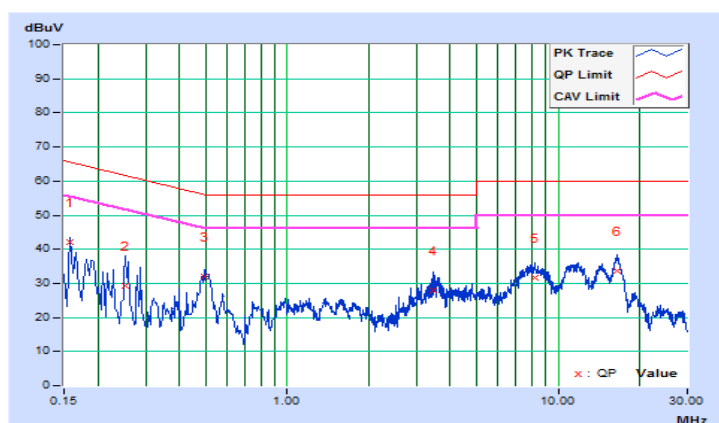


Channel	42+122	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15802	10.16	32.05	21.97	42.21	32.13	65.57	55.57	-23.36	-23.44
2	0.25166	10.17	19.25	7.77	29.42	17.94	61.70	51.70	-32.28	-33.76
3	0.49799	10.20	21.82	19.24	32.02	29.44	56.03	46.03	-24.01	-16.59
4	3.47741	10.32	17.57	10.70	27.89	21.02	56.00	46.00	-28.11	-24.98
5	8.19287	10.56	21.00	15.64	31.56	26.20	60.00	50.00	-28.44	-23.80
6	16.56027	11.05	22.78	17.62	33.83	28.67	60.00	50.00	-26.17	-21.33

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.

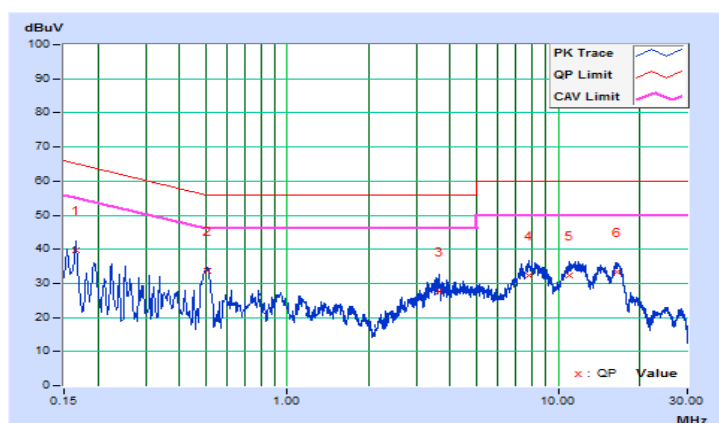


Channel	42+122	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16569	10.15	29.61	19.22	39.76	29.37	65.17	55.17	-25.41	-25.80
2	0.51043	10.20	23.38	19.99	33.58	30.19	56.00	46.00	-22.42	-15.81
3	3.64554	10.32	17.38	10.07	27.70	20.39	56.00	46.00	-28.30	-25.61
4	7.79014	10.49	21.90	16.90	32.39	27.39	60.00	50.00	-27.61	-22.61
5	11.01589	10.62	21.83	16.92	32.45	27.54	60.00	50.00	-27.55	-22.46
6	16.58373	10.87	22.32	17.17	33.19	28.04	60.00	50.00	-26.81	-21.96

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.

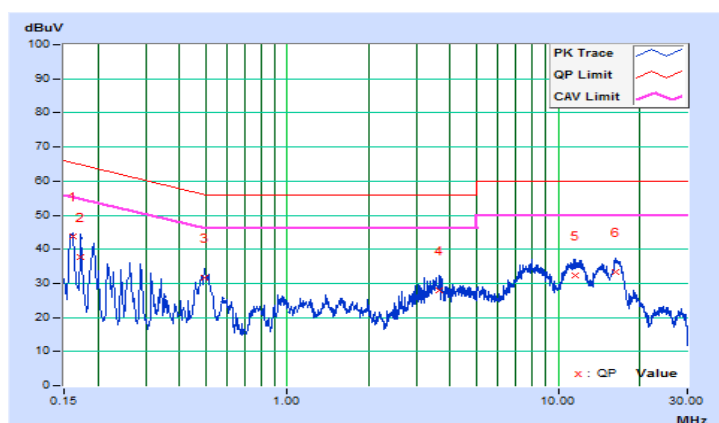


Channel	42+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16139	10.16	33.58	24.41	43.74	34.57	65.39	55.39	-21.65	-20.82
2	0.17346	10.16	27.50	11.96	37.66	22.12	64.79	54.79	-27.13	-32.67
3	0.49454	10.20	21.29	17.94	31.49	28.14	56.09	46.09	-24.60	-17.95
4	3.64163	10.33	17.74	10.05	28.07	20.38	56.00	46.00	-27.93	-25.62
5	11.62976	10.75	21.70	16.69	32.45	27.44	60.00	50.00	-27.55	-22.56
6	16.38432	11.03	22.44	17.22	33.47	28.25	60.00	50.00	-26.53	-21.75

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.

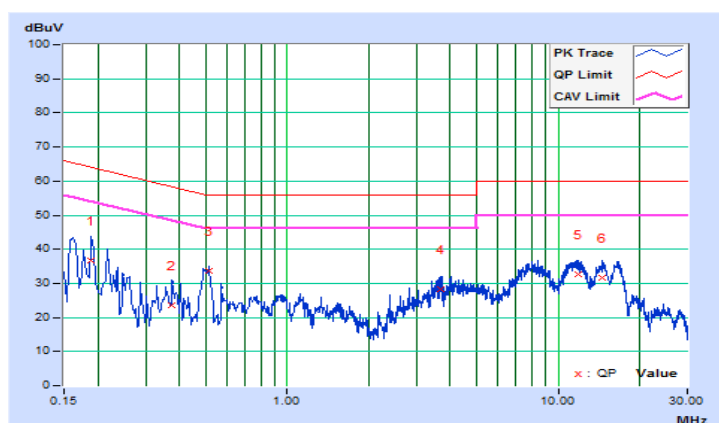


Channel	42+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18910	10.16	26.50	18.23	36.66	28.39	64.08	54.08	-27.42	-25.69
2	0.37678	10.19	13.43	5.80	23.62	15.99	58.35	48.35	-34.73	-32.36
3	0.51312	10.20	23.48	21.60	33.68	31.80	56.00	46.00	-22.32	-14.20
4	3.69637	10.33	18.08	10.44	28.41	20.77	56.00	46.00	-27.59	-25.23
5	11.80180	10.65	22.03	16.85	32.68	27.50	60.00	50.00	-27.32	-22.50
6	14.63264	10.78	21.02	16.33	31.80	27.11	60.00	50.00	-28.20	-22.89

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.

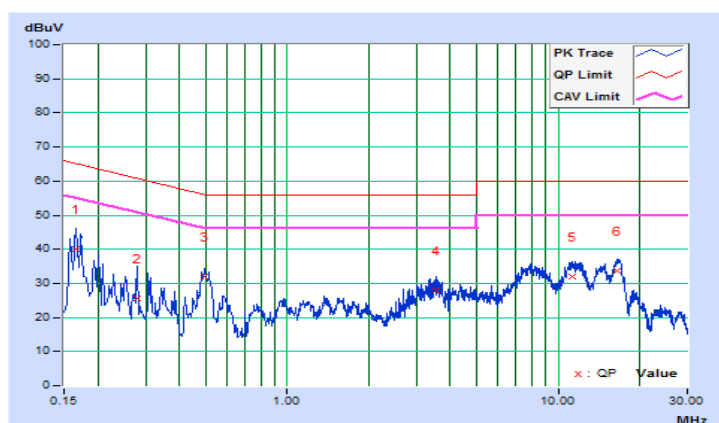


Channel	58+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16569	10.16	29.99	19.03	40.15	29.19	65.17	55.17	-25.02	-25.98
2	0.27903	10.17	15.51	1.50	25.68	11.67	60.84	50.84	-35.16	-39.17
3	0.49408	10.20	21.72	16.51	31.92	26.71	56.10	46.10	-24.18	-19.39
4	3.53997	10.32	17.57	10.61	27.89	20.93	56.00	46.00	-28.11	-25.07
5	11.28959	10.73	21.41	16.08	32.14	26.81	60.00	50.00	-27.86	-23.19
6	16.43515	11.04	22.73	17.44	33.77	28.48	60.00	50.00	-26.23	-21.52

REMARKS:

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

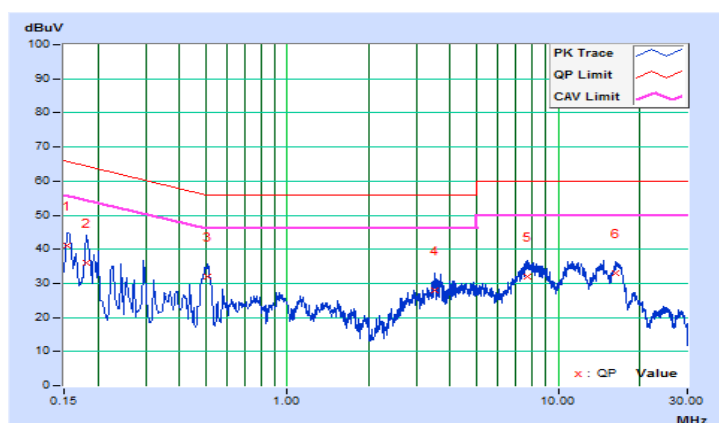


Channel	58+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.15	31.04	14.62	41.19	24.77	65.79	55.79	-24.60	-31.02
2	0.18128	10.16	25.98	9.15	36.14	19.31	64.43	54.43	-28.29	-35.12
3	0.51043	10.20	21.89	17.70	32.09	27.90	56.00	46.00	-23.91	-18.10
4	3.50869	10.32	17.62	10.90	27.94	21.22	56.00	46.00	-28.06	-24.78
5	7.67675	10.48	21.50	16.14	31.98	26.62	60.00	50.00	-28.02	-23.38
6	16.29830	10.86	22.12	16.74	32.98	27.60	60.00	50.00	-27.02	-22.40

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.

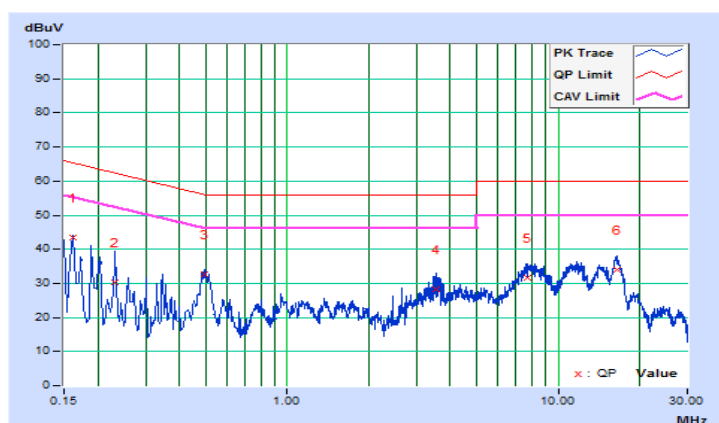


Channel	106+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16139	10.16	33.22	24.10	43.38	34.26	65.39	55.39	-22.01	-21.13
2	0.23211	10.16	20.14	7.05	30.30	17.21	62.37	52.37	-32.07	-35.16
3	0.49799	10.20	22.30	18.91	32.50	29.11	56.03	46.03	-23.53	-16.92
4	3.54779	10.32	17.80	10.67	28.12	20.99	56.00	46.00	-27.88	-25.01
5	7.65720	10.53	21.16	16.15	31.69	26.68	60.00	50.00	-28.31	-23.32
6	16.46643	11.04	23.02	17.78	34.06	28.82	60.00	50.00	-25.94	-21.18

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.

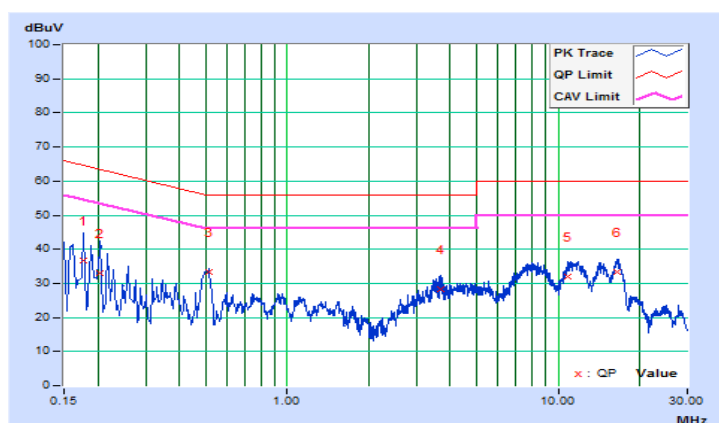


Channel	106+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17737	10.15	26.68	12.63	36.83	22.78	64.61	54.61	-27.78	-31.83
2	0.20474	10.16	22.83	6.92	32.99	17.08	63.42	53.42	-30.43	-36.34
3	0.51312	10.20	23.16	20.28	33.36	30.48	56.00	46.00	-22.64	-15.52
4	3.70028	10.33	17.93	10.47	28.26	20.80	56.00	46.00	-27.74	-25.20
5	10.83603	10.61	21.38	16.15	31.99	26.76	60.00	50.00	-28.01	-23.24
6	16.59155	10.87	22.57	17.35	33.44	28.22	60.00	50.00	-26.56	-21.78

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.

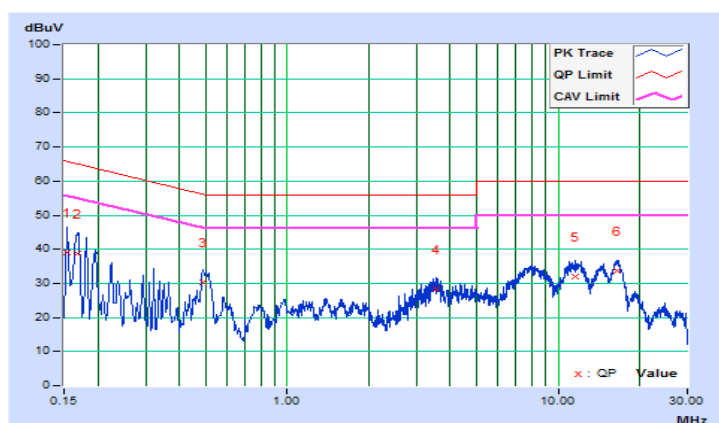


Channel	122+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.16	28.93	11.62	39.09	21.78	65.79	55.79	-26.70	-34.01
2	0.16789	10.16	28.51	14.37	38.67	24.53	65.06	55.06	-26.39	-30.53
3	0.49017	10.20	20.14	14.44	30.34	24.64	56.16	46.16	-25.82	-21.52
4	3.55170	10.32	17.94	10.76	28.26	21.08	56.00	46.00	-27.74	-24.92
5	11.62585	10.75	21.37	16.26	32.12	27.01	60.00	50.00	-27.88	-22.99
6	16.45861	11.04	22.74	17.52	33.78	28.56	60.00	50.00	-26.22	-21.44

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.

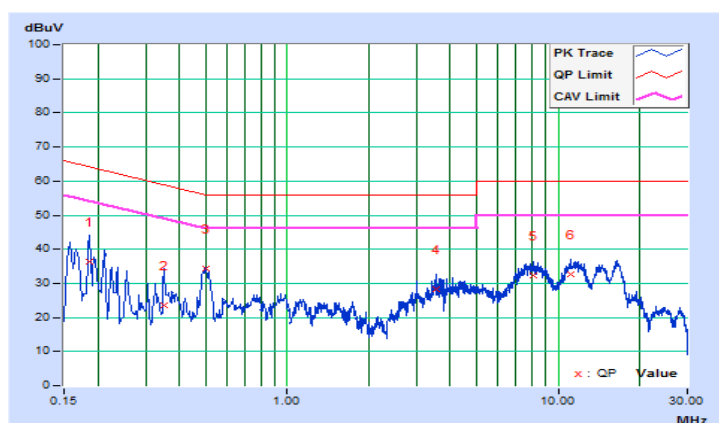


Channel	122+155	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)	Test Mode	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18519	10.16	26.23	13.14	36.39	23.30	64.25	54.25	-27.86	-30.95
2	0.34941	10.19	13.51	7.96	23.70	18.15	58.98	48.98	-35.28	-30.83
3	0.49978	10.20	24.11	20.57	34.31	30.77	56.00	46.00	-21.69	-15.23
4	3.53215	10.32	17.88	10.93	28.20	21.25	56.00	46.00	-27.80	-24.75
5	8.09121	10.50	21.87	16.67	32.37	27.17	60.00	50.00	-27.63	-22.83
6	11.16056	10.62	21.99	16.86	32.61	27.48	60.00	50.00	-27.39	-22.52

REMARKS:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		LIMIT
U-NII-1	---	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	---	Fixed point-to-point Access Point	1 Watt (30 dBm)
	✓	Indoor Access Point	1 Watt (30 dBm)
	---	Mobile and Portable 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,

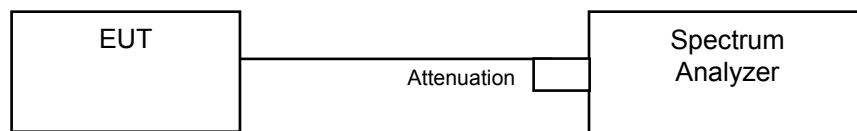
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

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.

4.3.2 Test Setup



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

For 802.11ac (VHT80+ VHT80)

- 1) Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- 2) Set sweep trigger to "free run".
- 3) Set RBW = 1 MHz.
- 4) Set VBW $\geq$ 3 MHz
- 5) Number of points in sweep $\geq$ 2 Span / RBW.
- 6) Sweep time $\leq$ (number of points in sweep) * T
- 7) Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
- 8) Detector = RMS.
- 9) Trace mode = max hold.
- 10) Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

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 Conditions

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

4.3.7 Test Result

Power Output:

CDD Mode

802.11ac (VHT80+VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+58	5210	17.51	18.67	-	-	129.985	21.14	30.00	Pass
	5290	-	-	18.81	18.67	149.654	21.75	24.00	Pass
42+106	5210	17.51	18.67	-	-	129.985	21.14	30.00	Pass
	5530	-	-	18.44	18.68	143.613	21.57	24.00	Pass
42+122	5210	17.51	18.67	-	-	129.985	21.14	30.00	Pass
	5610	-	-	18.37	18.72	143.180	21.56	24.00	Pass
42+155	5210	17.51	18.67	-	-	129.985	21.14	30.00	Pass
	5775	-	-	18.16	17.97	128.125	21.08	30.00	Pass
58+155	5290	20.51	20.39	-	-	221.856	23.46	24.00	Pass
	5775	-	-	20.42	20.49	222.098	23.47	30.00	Pass
106+155	5530	20.24	20.62	-	-	221.027	23.44	24.00	Pass
	5775	-	-	20.42	20.49	222.098	23.47	30.00	Pass
122+155	5610	20.25	20.50	-	-	218.127	23.39	24.00	Pass
	5775	-	-	20.42	20.49	222.098	23.47	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(81.02) = 30.09\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(81.05) = 30.09\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(80.83) = 30.08\text{ dBm} > 24\text{dBm}$.

Chain 1

1. $11\text{dBm} + 10\log(80.83) = 30.08\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(81.08) = 30.09\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(97.08) = 30.87\text{ dBm} > 24\text{dBm}$.

Chain 2

1. $11\text{dBm} + 10\log(80.72) = 30.07\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(80.72) = 30.07\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(80.72) = 30.07\text{ dBm} > 24\text{dBm}$.

Chain 3

1. $11\text{dBm} + 10\log(80.52) = 30.06\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(80.52) = 30.06\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(80.52) = 30.06\text{ dBm} > 24\text{dBm}$.

Beamforming Mode

802.11ac (VHT80+VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+58	5210	17.51	18.67	-	-	129.985	21.14	30.00	Pass
	5290	-	-	18.81	18.67	149.654	21.75	24.00	Pass
42+106	5210	17.51	18.67	-	-	129.985	21.14	30.00	Pass
	5530	-	-	18.44	18.68	143.613	21.57	24.00	Pass
42+122	5210	17.51	18.67	-	-	129.985	21.14	30.00	Pass
	5610	-	-	18.37	18.72	143.180	21.56	24.00	Pass
42+155	5210	17.51	18.67	-	-	129.985	21.14	30.00	Pass
	5775	-	-	18.16	17.97	128.125	21.08	30.00	Pass
58+155	5290	20.51	20.39	-	-	221.856	23.46	24.00	Pass
	5775	-	-	20.42	20.49	222.098	23.47	30.00	Pass
106+155	5530	20.24	20.62	-	-	221.027	23.44	24.00	Pass
	5775	-	-	20.42	20.49	222.098	23.47	30.00	Pass
122+155	5610	20.25	20.50	-	-	218.127	23.39	24.00	Pass
	5775	-	-	20.42	20.49	222.098	23.47	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(81.02) = 30.09\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(81.05) = 30.09\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(80.83) = 30.08\text{ dBm} > 24\text{dBm}$.

Chain 1

1. $11\text{dBm} + 10\log(80.83) = 30.08\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(81.08) = 30.09\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(97.08) = 30.87\text{ dBm} > 24\text{dBm}$.

Chain 2

1. $11\text{dBm} + 10\log(80.72) = 30.07\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(80.72) = 30.07\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(80.72) = 30.07\text{ dBm} > 24\text{dBm}$.

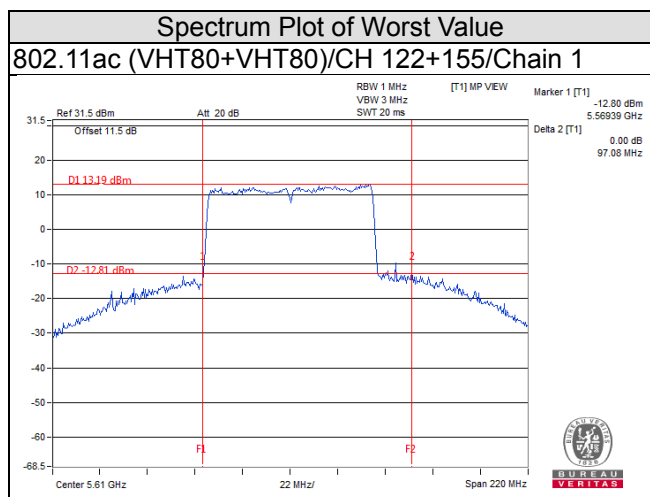
Chain 3

1. $11\text{dBm} + 10\log(80.52) = 30.06\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(80.52) = 30.06\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(80.52) = 30.06\text{ dBm} > 24\text{dBm}$.

*Directional gain = 3.58dBi < 6dBi, so the power limit no need to reduced.

26dB Bandwidth:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42+58	5210	81.08	80.81	-	-
	5290	-	-	80.80	80.91
42+106	5210	81.08	80.81	-	-
	5530	-	-	80.77	80.96
42+122	5210	81.08	80.81	-	-
	5610	-	-	80.54	80.88
42+155	5210	81.08	80.81	-	-
	5775	-	-	80.77	92.13
58+155	5290	81.02	80.83	-	-
	5530	-	-	80.72	80.52
106+155	5530	81.05	81.08	-	-
	5530	-	-	80.72	80.52
122+155	5610	80.83	97.08	-	-
	5530	-	-	80.72	80.52



EUT MAXIMUM CONDUCTED POWER

CDD Mode

802.11ac (VHT80+VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	221.856	23.46
5470~5725	221.027	23.44

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

Beamforming Mode

802.11ac (VHT80+VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	221.856	23.46
5470~5725	221.027	23.44

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

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

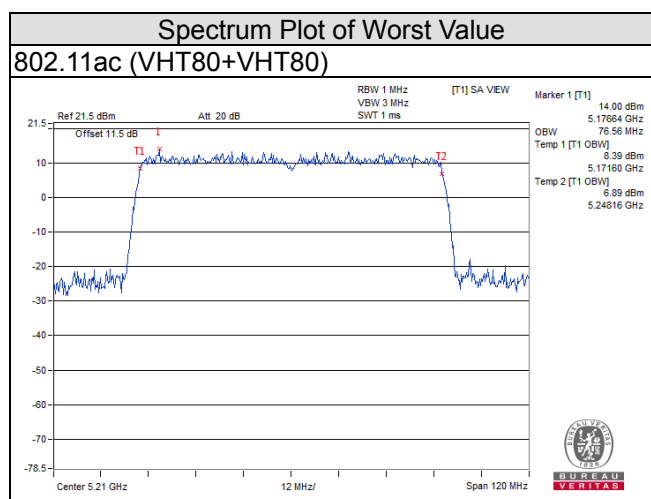
4.4.3 Test Procedure

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

4.4.4 Test Results

802.11ac (VHT80+VHT80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42+58	5210	76.56	76.56	-	-
	5290	-	-	76.32	75.84
42+106	5210	76.56	76.56	-	-
	5530	-	-	75.84	75.84
42+122	5210	76.56	76.56	-	-
	5610	-	-	76.32	76.32
42+155	5210	76.56	76.56	-	-
	5775	-	-	75.82	75.83
58+155	5290	76.32	76.32	-	-
	5530	-	-	75.82	75.83
106+155	5530	75.84	75.60	-	-
	5530	-	-	75.82	75.83
122+155	5610	76.08	76.56	-	-
	5530	-	-	75.82	75.83



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	
	---	Mobile and Portable 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 Procedures

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

Using method SA-2

Duty cycle <98%

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

For U-NII-3 band:

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as Item 4.3.6.

4.5.7 Test Results

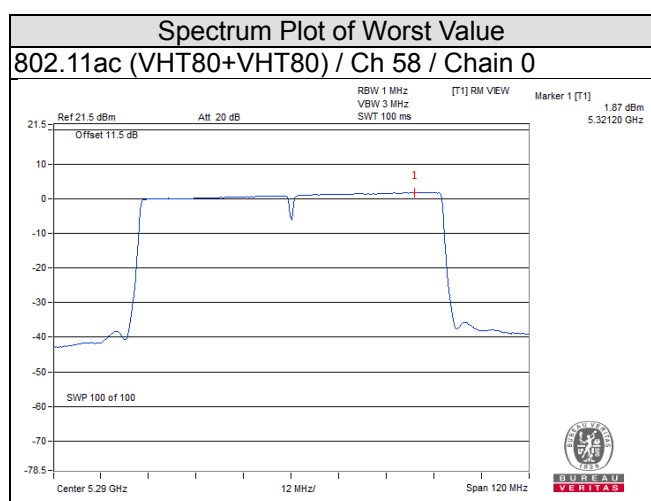
For U-NII-1, U-NII-2A, U-NII-2C Band:

802.11ac (VHT80+VHT80)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+58	5210	-1.14	-0.80	-	-	0.15	2.19	17.00	Pass
	5290	-	-	-0.59	0.00	0.15	2.88	11.00	Pass
42+106	5210	-1.14	-0.80	-	-	0.15	2.19	17.00	Pass
	5530	-	-	-0.59	0.56	0.15	3.18	11.00	Pass
42+122	5210	-1.14	-0.80	-	-	0.15	2.19	17.00	Pass
	5610	-	-	0.05	-0.86	0.15	2.78	11.00	Pass
58	5290	1.87	1.56	-	-	0.15	4.88	11.00	Pass
106	5530	1.70	0.86	-	-	0.15	4.46	11.00	Pass
122	5610	0.51	2.26	-	-	0.15	4.63	11.00	Pass

Note:

1. Method 1 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. Directional gain = 3.58dBi < 6dBi, so the power density limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

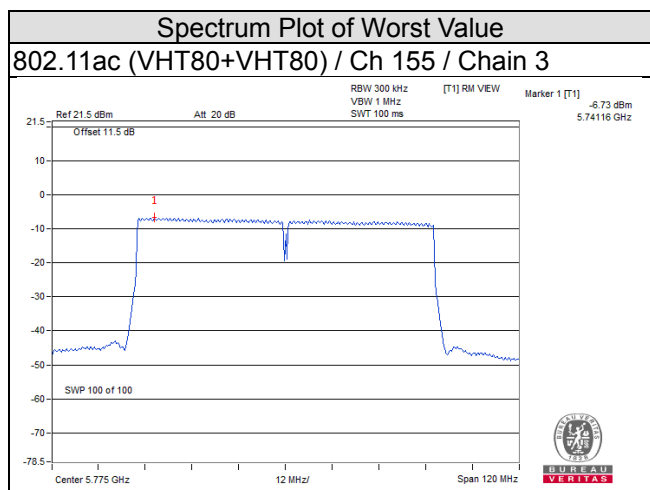


For U-NII-3 Band
802.11ac (VHT80+VHT80)

TX chain	Channel	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
CH42+155									
2	155	5775	-9.22	-7.00	3.01	0.15	-3.84	30.00	Pass
3	155	5775	-8.52	-6.30	3.01	0.15	-3.14	30.00	Pass
CH58+155									
2	155	5775	-7.17	-4.95	3.01	0.15	-1.79	30.00	Pass
3	155	5775	-6.73	-4.51	3.01	0.15	-1.35	30.00	Pass
CH106+155									
2	155	5775	-7.17	-4.95	3.01	0.15	-1.79	30.00	Pass
3	155	5775	-6.73	-4.51	3.01	0.15	-1.35	30.00	Pass
CH122+155									
2	155	5775	-7.17	-4.95	3.01	0.15	-1.79	30.00	Pass
3	155	5775	-6.73	-4.51	3.01	0.15	-1.35	30.00	Pass

Note:

1. Method 1 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. Directional gain = 3.58dBi < 6dBi, so the power density limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

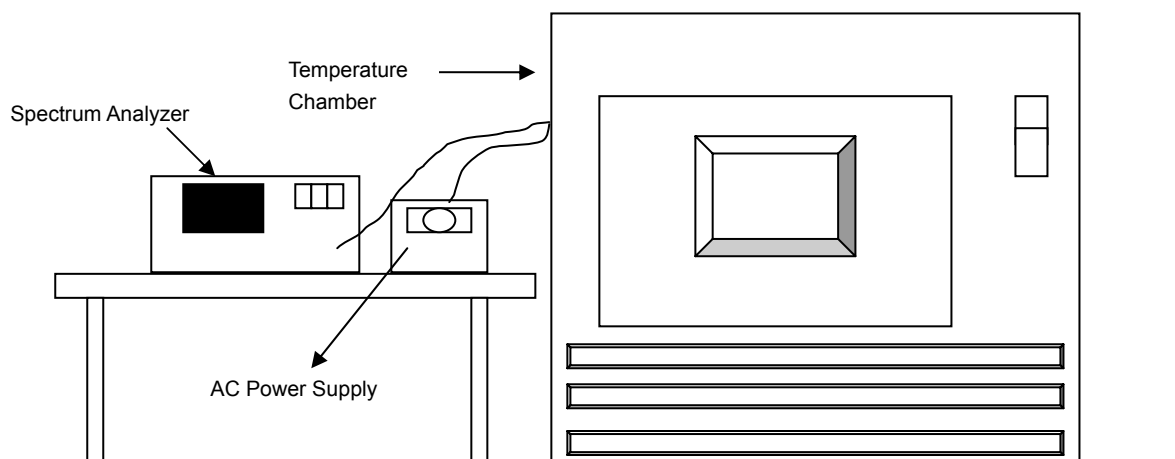


4.6 Frequency Stability

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

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 18, 2017	Aug. 17, 2018
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 07, 2017	Jun. 06, 2018
Digital Multimeter Fluke	87-III	70360742	Jun. 30, 2017	Jun. 29, 2018
AC Power Supply Exttech	CFW-105	E000603	NA	NA

4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- 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: 5210MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
50	120	5210.0045	Pass	5210.0064	Pass	5210.0061	Pass	5210.0049	Pass
40	120	5210.0261	Pass	5210.0251	Pass	5210.0216	Pass	5210.0257	Pass
30	120	5209.9944	Pass	5209.9984	Pass	5209.9966	Pass	5209.9983	Pass
20	120	5209.9943	Pass	5209.9988	Pass	5209.9978	Pass	5209.9971	Pass
10	120	5210.0147	Pass	5210.0136	Pass	5210.0149	Pass	5210.0157	Pass
0	120	5209.9981	Pass	5209.9955	Pass	5209.9935	Pass	5209.9971	Pass
-10	120	5209.988	Pass	5209.987	Pass	5209.9868	Pass	5209.9877	Pass
-20	120	5209.9975	Pass	5209.9954	Pass	5209.9968	Pass	5209.9939	Pass
-30	120	5210.0196	Pass	5210.0176	Pass	5210.0211	Pass	5210.0211	Pass

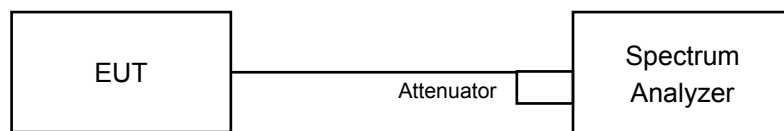
Frequency Stability Versus Voltage.									
Operating Frequency: 5210MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5209.9946	Pass	5209.9996	Pass	5209.9978	Pass	5209.9968	Pass
	120	5209.9943	Pass	5209.9988	Pass	5209.9978	Pass	5209.9971	Pass
	102	5209.9942	Pass	5209.9989	Pass	5209.997	Pass	5209.9965	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

Measurement Procedure REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

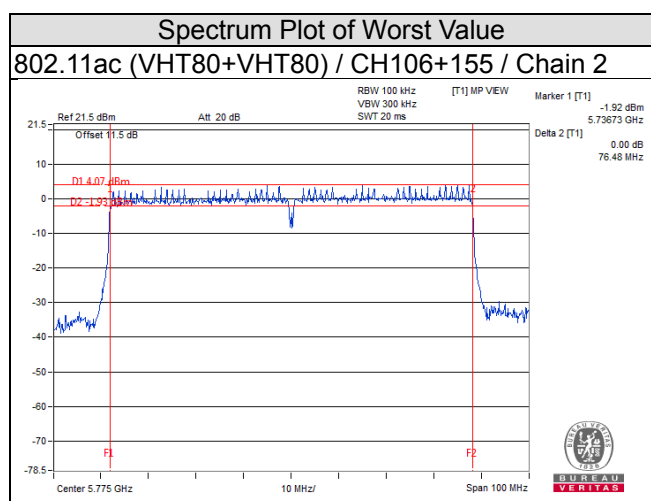
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.7.7 Test Results

802.11ac (VHT80+VHT80)

CH2+155 (WFOV - WFOV)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
CH42+155							
155	5775	-	-	76.25	76.41	0.5	Pass
CH58+155							
155	5775	-	-	75.82	75.83	0.5	Pass
CH106+155							
155	5775	-	-	76.48	76.23	0.5	Pass
CH122+155							
155	5775	-	-	75.82	75.83	0.5	Pass

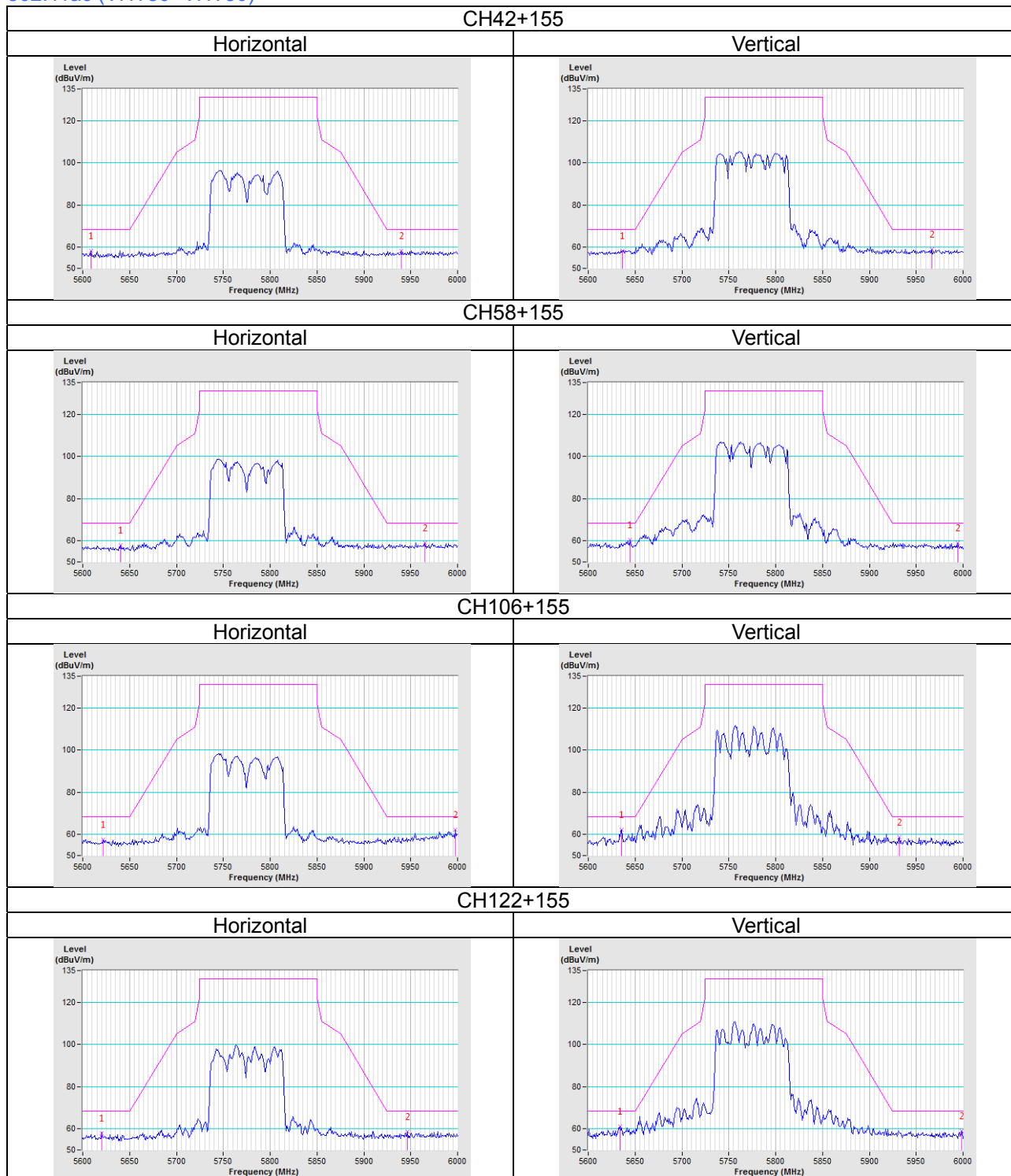


5 Pictures of Test Arrangements

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

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

802.11ac (VHT80+VHT80)



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 and approved according to ISO/IEC 17025.

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

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

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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.

--- END ---