

FCC Test Report

Report No.: RF160809C28O-1

FCC ID: PY317400405

Test Model: R9000

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

Received Date: Aug. 09, 2016

Test Date: Aug. 12 ~ Oct. 12, 2016 (For all test, except conducted and radiated emissions below 1GHz tests)

Jan. 30, 2018 (For conducted and radiated emissions below 1GHz tests)

Issued Date: Jan. 31, 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
RF160809C28O-1	Original release.	Jan. 31, 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: Aug. 12 ~ Oct. 12, 2016 (For all test, except conducted and radiated emissions below 1GHz tests)

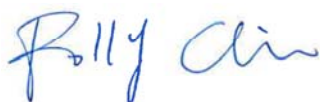
Jan. 30, 2018 (For conducted and radiated emissions below 1GHz tests)

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 :



Date:

Jan. 31, 2018

Polly Chien / Specialist

Approved by :



Date:

Jan. 31, 2018

Bruce Chen / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -9.11dB at 0.15000MHz.
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.
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	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.59 dB
	200MHz ~ 1000MHz	3.60 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
Output Power	CDD Mode: 5180 ~ 5240MHz: 900.428mW 5260 ~ 5320MHz: 242.254mW 5500 ~ 5700MHz: 249.471mW 5745 ~ 5825MHz: 929.395mW Beamforming Mode: 5180 ~ 5240MHz: 900.428mW 5260 ~ 5320MHz: 242.254mW 5500 ~ 5700MHz: 249.471mW 5745 ~ 5825MHz: 927.312mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter
Data Cable Supplied	NA

Note:

1. 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

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

Band	Modulation Mode	CDD Mode	Beamforming Mode	TX Function	Available Channel
5GHz (U-NII-1 band)	802.11a	Support	Not Support	4TX	36 ~ 48
	802.11ac (VHT20)	Support	Support	4TX	36 ~ 48
	802.11ac (VHT40)	Support	Support	4TX	38 ~ 46
	802.11ac (VHT80)	Support	Support	4TX	42
	802.11ac (VHT80+ VHT80)	Support	Support	2TX+2TX	42 + 155
5GHz (U-NII-2A & U-NII-2C band)	802.11a	Support	Not Support	4TX	52 ~ 64, 100 ~ 140
	802.11ac (VHT20)	Support	Support	4TX	52 ~ 64, 100 ~ 140
	802.11ac (VHT40)	Support	Support	4TX	54 ~ 62, 110 ~ 134
	802.11ac (VHT80)	Support	Support	4TX	58, 106 ~ 122
5GHz (U-NII-3 band)	802.11a	Support	Not Support	4TX	149 ~ 165
	802.11ac (VHT20)	Support	Support	4TX	149 ~ 165
	802.11ac (VHT40)	Support	Support	4TX	151 ~ 159
	802.11ac (VHT80)	Support	Support	4TX	155
	802.11ac (VHT80+ VHT80)	Support	Support	2TX+2TX	42 + 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 V20MHz / V40MHz, 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.

3. WLAN 2.4GHz, WLAN 5GHz and WLAN 60GHz 802.11ad technologies can transmit at same time.

4. 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.

5. 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 ~ 5350 MHz + 5725 ~ 5825 MHz	2TX	2.22
	2TX	3.85

6. 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

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 & RE<1G: Radiated Emission below 1GHz
 Bandedge Measurement
 PLC: Power Line Conducted Emission APCM: Antenna Port Conducted Measurement

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **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	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	15.0
	802.11ac (VHT80)		42	42	OFDM	130.0
	802.11ac (VHT80+VHT80)		42	42	OFDM	130.0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	15.0
	802.11ac (VHT80)		58	58	OFDM	130.0
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0
	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	6.5
	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	15.0
	802.11ac (VHT80)		106 to 122	106, 122	OFDM	130.0
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	15.0
	802.11ac (VHT80)		155	155	OFDM	130.0
	802.11ac (VHT80+VHT80)		155	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	802.11a	5180-5240	36 to 48	165	OFDM	6.0
		5260-5320	52 to 64		OFDM	6.0
		5500-5700	100 to 140		OFDM	6.0
		5745-5825	149 to 165		OFDM	6.0

Power Line Conducted Emission Test:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, B	802.11a	5180-5240	36 to 48	165	OFDM	6.0
		5260-5320	52 to 64		OFDM	6.0
		5500-5700	100 to 140		OFDM	6.0
		5745-5825	149 to 165		OFDM	6.0

Antenna Port Conducted Measurement:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
CDD Mode						
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	15.0
	802.11ac (VHT80)		42	42	OFDM	130.0
	802.11ac (VHT80+VHT80)		42	42	OFDM	130.0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	15.0
	802.11ac (VHT80)		58	58	OFDM	130.0
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0
	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	6.5
	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	15.0
	802.11ac (VHT80)		106 to 122	106, 122	OFDM	130.0
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	15.0
	802.11ac (VHT80)		155	155	OFDM	130.0
	802.11ac (VHT80+VHT80)		155	155	OFDM	130.0

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
Beamforming Mode						
A	802.11n (HT20)	5180-5240	36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	15.0
	802.11ac (VHT80)		42	42	OFDM	130.0
	802.11ac (VHT80+VHT80)		42	42	OFDM	130.0
A	802.11n (HT20)	5260-5320	52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	15.0
	802.11ac (VHT80)		58	58	OFDM	130.0
A	802.11n (HT20)	5500-5700	100 to 140	100, 116, 140	OFDM	6.5
	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	15.0
	802.11ac (VHT80)		106 to 122	106, 122	OFDM	130.0
A	802.11n (HT20)	5745-5825	149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	15.0
	802.11ac (VHT80)		155	155	OFDM	130.0
	802.11ac (VHT80+VHT80)		155	155	OFDM	130.0

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	25deg. C, 66%RH	120Vac, 60Hz	Matthew Yang
	26 deg. C, 64% RH		Chris Lin
RE<1G	25 deg. C, 70% RH	120Vac, 60Hz	Matthew Yang
PLC	25 deg. C, 75% RH	120Vac, 60Hz	Matthew Yang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Frank Liu

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is > 98 %, duty factor is not required.

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

5180~5240MHz & 5745~5825MHz:

CDD Mode

802.11a: Duty cycle = $2.013/2.100 = 0.959$, Duty factor = $10 * \log(1/0.959) = 0.18$

802.11n (VHT20): Duty cycle = $4.937/5.075 = 0.973$, Duty factor = $10 * \log(1/0.973) = 0.12$

802.11n (VHT40): Duty cycle = $2.351/2.501 = 0.940$, Duty factor = $10 * \log(1/0.940) = 0.27$

802.11ac (VHT80): Duty cycle = $1.112/1.212 = 0.917$, Duty factor = $10 * \log(1/0.917) = 0.37$

802.11ac (VHT80+ VHT80): Duty cycle = $1.074/1.174 = 0.915$, Duty factor = $10 * \log(1/0.915) = 0.39$



5260~5320MHz & 5500~5700MHz:

CDD Mode

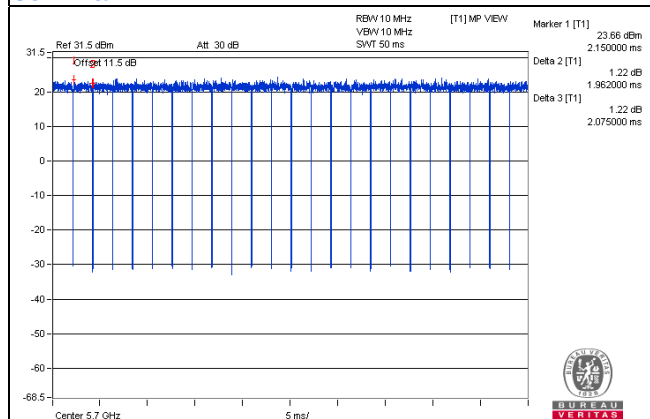
802.11a: Duty cycle = $1.962/2.075 = 0.946$, Duty factor = $10 * \log(1/0.946) = 0.24$

802.11ac (VHT20): Duty cycle = $4.950/5.038 = 0.983$

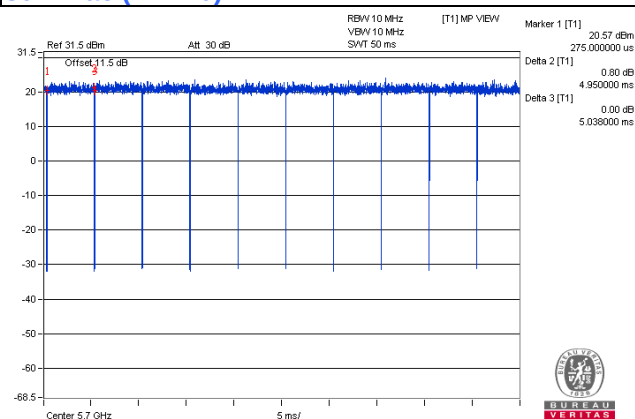
802.11ac (VHT40): Duty cycle = $2.363/2.488 = 0.950$, Duty factor = $10 * \log(1/0.950) = 0.22$

802.11ac (VHT80): Duty cycle = $1.074/1.249 = 0.860$, Duty factor = $10 * \log(1/0.860) = 0.66$

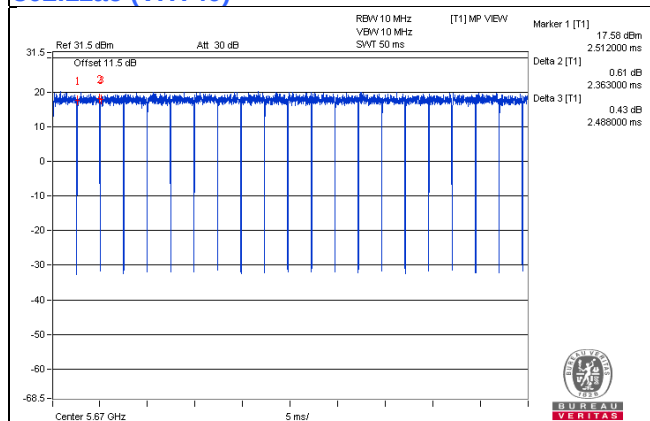
802.11a



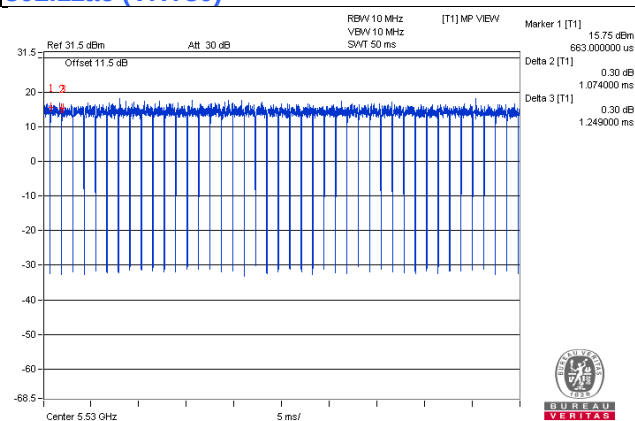
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



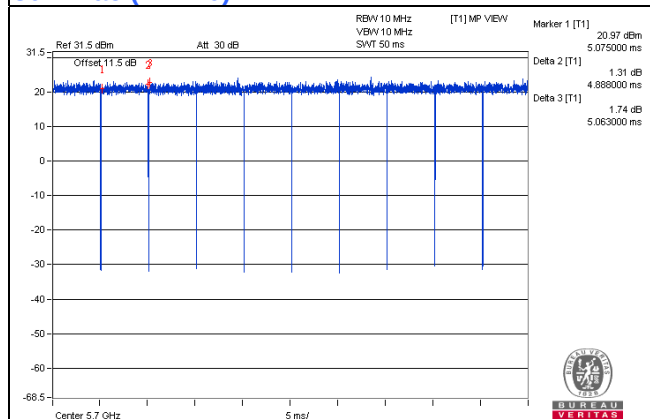
Beamforming Mode

802.11ac (VHT20): Duty cycle = $4.888/5.063 = 0.965$, Duty factor = $10 * \log(1/0.965) = 0.15$

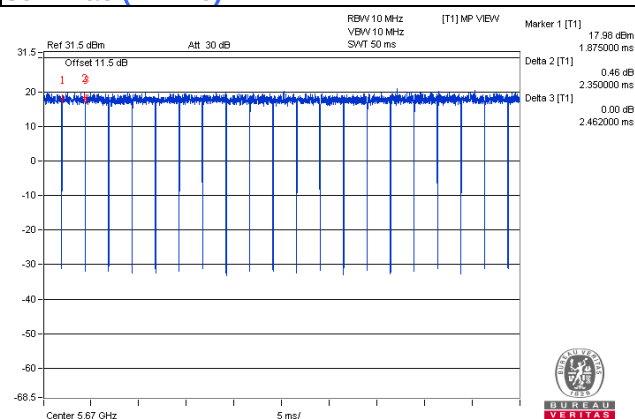
802.11ac (VHT40): Duty cycle = $2.435/2.462 = 0.955$, Duty factor = $10 * \log(1/0.955) = 0.20$

802.11ac (VHT80): Duty cycle = $1.087/1.224 = 0.888$, Duty factor = $10 * \log(1/0.888) = 0.52$

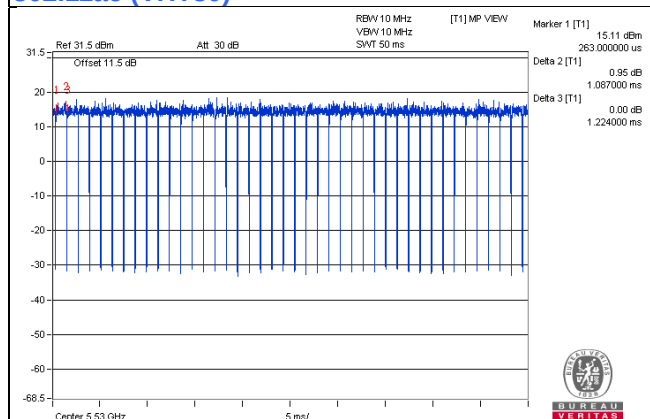
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



3.4 Description of Support Units

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

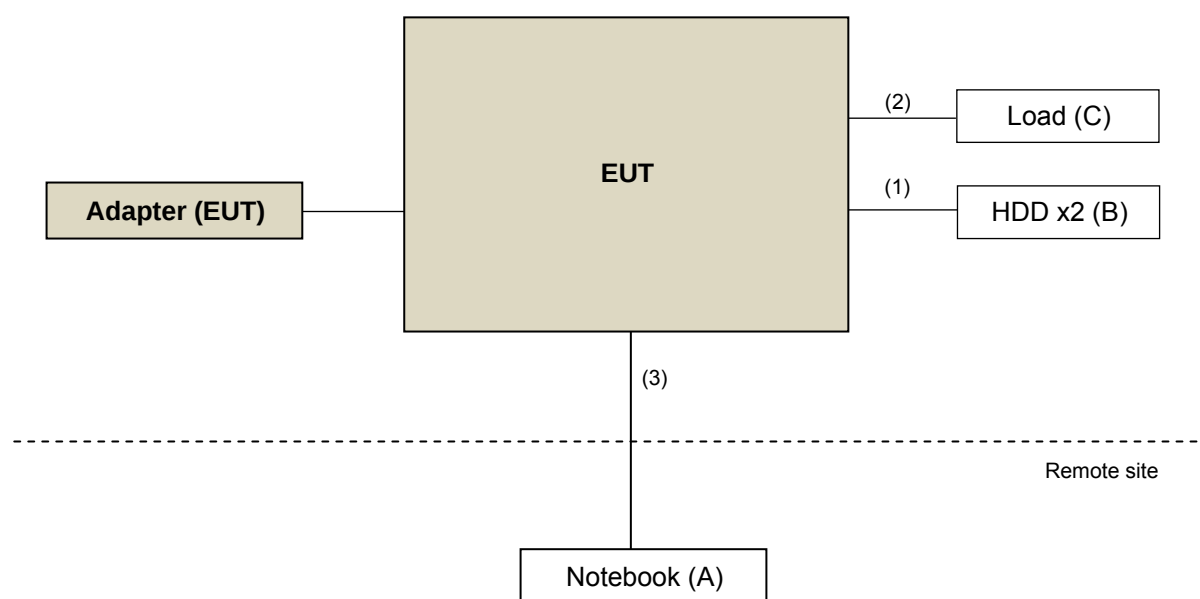
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	6RP2YM1	FCC DoC Approved	-
B.	HDD	TOSHIBA	DTB305	X4RBCC3RT3ZB	NA	-
	HDD	TOSHIBA	DTB305	X4R2C64VT3ZB	NA	-
C.	Load	NA	NA	NA	NA	-

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.

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

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:

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

4.1.2 Test Instruments

Tested date: Aug. 12 ~ Oct. 12, 2016

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	Apr. 18, 2016	Apr. 17, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 16, 2016	Aug. 15, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Jan. 07, 2016	Jan. 06, 2017
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Jan. 08, 2016	Jan. 07, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Jan. 18, 2016	Jan. 17, 2017
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
Preamplifier Agilent	8449B	3008A01960	Aug. 09, 2016	Aug. 08, 2017
Preamplifier Agilent	8447D	2944A10631	Aug. 09, 2016	Aug. 08, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 09, 2016	Aug. 08, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03(250724)	Aug. 09, 2016	Aug. 08, 2017
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
High Speed Peak Power Meter	ML2495A	0824012	Aug. 11, 2016	Aug. 10, 2017
Power Sensor	MA2411B	0738171	Aug. 11, 2016	Aug. 10, 2017
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2015 Oct. 17, 2016	Oct. 17, 2016 Oct. 16, 2017
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W981030	Jun. 08, 2016	Jun. 07, 2017
Digital Multimeter Fluke	87-III	70360742	Jul. 01, 2016	Jun. 30, 2017
AC POWER SUPPLY EXTECH	CFW-105	E000603	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 Chamber 4.
 3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 460141.
 5. The IC Site Registration No. is IC7450F-4.

Tested date: Jan. 30, 2018

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
Preamplifier Agilent (Below 1GHz)	8447D	2944A10631	Aug. 08, 2017	Aug. 07, 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

- 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 horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
 5. The IC Site Registration No. is IC7450F-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. Both X and Y axes 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:

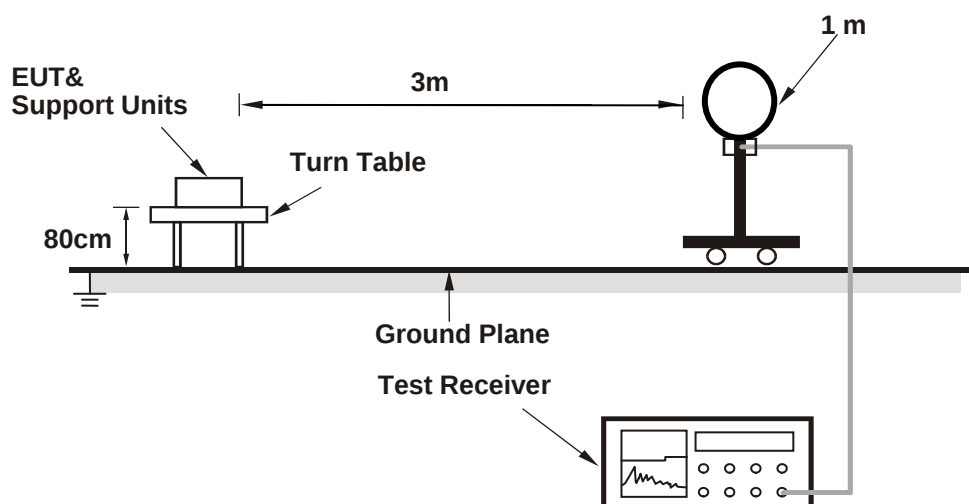
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

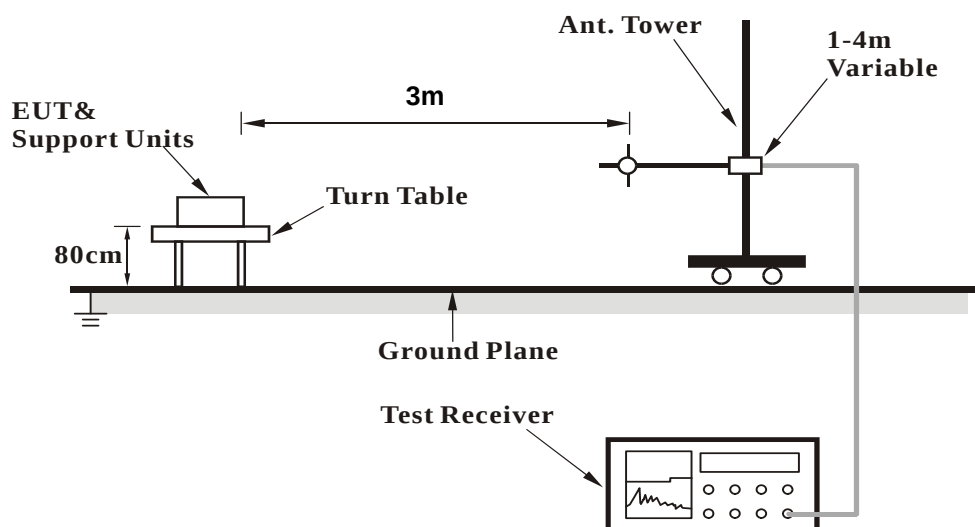
No deviation.

4.1.5 Test Setup

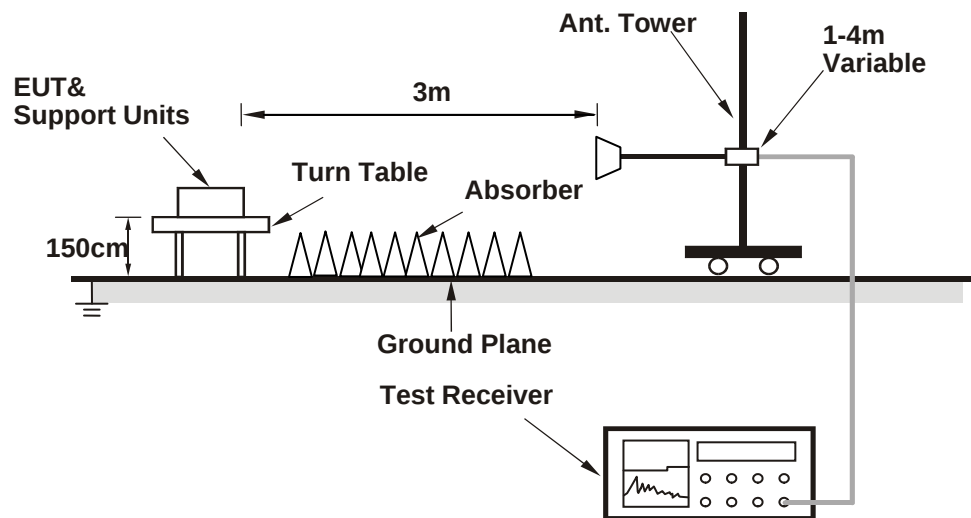
For Radiated emission below 30MHz



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:

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.2 PK	74.0	-16.8	3.58 H	49	51.20	6.00
2	5150.00	44.4 AV	54.0	-9.6	3.58 H	49	38.40	6.00
3	*5180.00	112.8 PK			3.58 H	49	72.70	40.10
4	*5180.00	102.0 AV			3.58 H	49	61.90	40.10
5	#10360.00	61.9 PK	74.0	-12.1	1.00 H	100	44.20	17.70
6	#10360.00	49.3 AV	54.0	-4.7	1.00 H	100	31.60	17.70
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	5140.00	65.2 PK	74.0	-8.8	1.67 V	176	59.20	6.00
2	5140.00	53.6 AV	54.0	-0.4	1.67 V	176	47.60	6.00
3	*5180.00	125.9 PK			1.67 V	176	85.80	40.10
4	*5180.00	115.1 AV			1.67 V	176	75.00	40.10
5	#10360.00	58.7 PK	74.0	-15.3	1.00 V	220	41.00	17.70
6	#10360.00	46.0 AV	54.0	-8.0	1.00 V	220	28.30	17.70

REMARKS:

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

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
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	56.5 PK	74.0	-17.5	3.88 H	50	50.50	6.00
2	5150.00	44.2 AV	54.0	-9.8	3.88 H	50	38.20	6.00
3	*5200.00	114.4 PK			3.88 H	50	74.30	40.10
4	*5200.00	104.1 AV			3.88 H	50	64.00	40.10
5	#10400.00	63.9 PK	74.0	-10.1	1.98 H	54	45.90	18.00
6	#10400.00	51.5 AV	54.0	-2.5	1.98 H	54	33.50	18.00
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	64.5 PK	74.0	-9.5	1.66 V	169	58.50	6.00
2	5150.00	51.0 AV	54.0	-3.0	1.66 V	169	45.00	6.00
3	*5200.00	128.5 PK			1.66 V	169	88.40	40.10
4	*5200.00	118.5 AV			1.66 V	169	78.40	40.10
5	#10400.00	61.3 PK	74.0	-12.7	1.00 V	102	43.30	18.00
6	#10400.00	48.4 AV	54.0	-5.6	1.00 V	102	30.40	18.00

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	114.6 PK			3.92 H	53	74.40	40.20
2	*5240.00	104.2 AV			3.92 H	53	64.00	40.20
3	5350.00	58.2 PK	74.0	-15.8	3.92 H	53	52.00	6.20
4	5350.00	44.3 AV	54.0	-9.7	3.92 H	53	38.10	6.20
5	#10480.00	66.3 PK	74.0	-7.7	1.85 H	61	48.10	18.20
6	#10480.00	53.4 AV	54.0	-0.6	1.85 H	61	35.20	18.20
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	*5240.00	125.2 PK			1.69 V	172	85.00	40.20
2	*5240.00	115.0 AV			1.69 V	172	74.80	40.20
3	5350.00	57.3 PK	74.0	-16.7	1.69 V	172	51.10	6.20
4	5350.00	45.0 AV	54.0	-9.0	1.69 V	172	38.80	6.20
5	#10480.00	59.5 PK	74.0	-14.5	1.00 V	276	41.30	18.20
6	#10480.00	48.2 AV	54.0	-5.8	1.00 V	276	30.00	18.20

REMARKS:

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

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
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	58.6 PK	74.0	-15.4	1.66 H	123	52.60	6.00
2	5150.00	45.9 AV	54.0	-8.1	1.66 H	123	39.90	6.00
3	*5260.00	106.1 PK			1.66 H	123	65.90	40.20
4	*5260.00	96.1 AV			1.66 H	123	55.90	40.20
5	#10520.00	59.9 PK	74.0	-14.1	1.47 H	54	41.60	18.30
6	#10520.00	47.1 AV	54.0	-6.9	1.47 H	54	28.80	18.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.5 PK	74.0	-16.5	1.34 V	152	51.50	6.00
2	5150.00	46.5 AV	54.0	-7.5	1.34 V	152	40.50	6.00
3	*5260.00	122.1 PK			1.34 V	152	81.90	40.20
4	*5260.00	111.5 AV			1.34 V	152	71.30	40.20
5	#10520.00	61.8 PK	74.0	-12.2	1.36 V	97	43.50	18.30
6	#10520.00	49.9 AV	54.0	-4.1	1.36 V	97	31.60	18.30

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	102.8 PK			1.01 H	71	62.60	40.20
2	*5300.00	92.9 AV			1.01 H	71	52.70	40.20
3	10600.00	60.0 PK	74.0	-14.0	1.15 H	204	41.30	18.70
4	10600.00	48.6 AV	54.0	-5.4	1.15 H	204	29.90	18.70
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	*5300.00	121.1 PK			1.40 V	149	80.90	40.20
2	*5300.00	110.2 AV			1.40 V	149	70.00	40.20
3	10600.00	61.3 PK	74.0	-12.7	1.36 V	97	42.60	18.70
4	10600.00	49.7 AV	54.0	-4.3	1.36 V	97	31.00	18.70

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	102.8 PK			1.32 H	6	62.60	40.20
2	*5320.00	92.9 AV			1.32 H	6	52.70	40.20
3	5350.00	59.8 PK	74.0	-14.2	1.32 H	6	53.60	6.20
4	5350.00	47.4 AV	54.0	-6.6	1.32 H	6	41.20	6.20
5	10640.00	60.0 PK	74.0	-14.0	1.10 H	74	41.00	19.00
6	10640.00	47.7 AV	54.0	-6.3	1.10 H	74	28.70	19.00
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	*5320.00	119.5 PK			1.87 V	224	79.30	40.20
2	*5320.00	108.9 AV			1.87 V	224	68.70	40.20
3	5350.00	62.4 PK	74.0	-11.6	1.87 V	224	56.20	6.20
4	5350.00	49.4 AV	54.0	-4.6	1.87 V	224	43.20	6.20
5	10640.00	61.6 PK	74.0	-12.4	1.44 V	52	42.60	19.00
6	10640.00	49.6 AV	54.0	-4.4	1.44 V	52	30.60	19.00

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.0 PK	74.0	-13.0	2.51 H	236	54.70	6.30
2	5460.00	46.1 AV	54.0	-7.9	2.51 H	236	39.80	6.30
3	#5470.00	60.3 PK	74.0	-13.7	2.51 H	236	54.00	6.30
4	#5470.00	45.0 AV	54.0	-9.0	2.51 H	236	38.70	6.30
5	*5500.00	105.2 PK			2.51 H	236	64.80	40.40
6	*5500.00	95.0 AV			2.51 H	236	54.60	40.40
7	11000.00	60.1 PK	74.0	-13.9	1.36 H	98	40.60	19.50
8	11000.00	48.2 AV	54.0	-5.8	1.36 H	98	28.70	19.50
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	5460.00	62.1 PK	74.0	-11.9	1.99 V	167	55.80	6.30
2	5460.00	48.2 AV	54.0	-5.8	1.99 V	167	41.90	6.30
3	#5470.00	57.9 PK	74.0	-16.1	1.99 V	167	51.60	6.30
4	#5470.00	47.1 AV	54.0	-6.9	1.99 V	167	40.80	6.30
5	*5500.00	120.6 PK			1.99 V	167	80.20	40.40
6	*5500.00	110.9 AV			1.99 V	167	70.50	40.40
7	11000.00	62.4 PK	74.0	-11.6	1.33 V	225	42.90	19.50
8	11000.00	50.2 AV	54.0	-3.8	1.33 V	225	30.70	19.50

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	106.2 PK			2.52 H	238	65.70	40.50
2	*5580.00	95.6 AV			2.52 H	238	55.10	40.50
3	11160.00	61.5 PK	74.0	-12.5	1.15 H	64	41.50	20.00
4	11160.00	49.9 AV	54.0	-4.1	1.15 H	64	29.90	20.00
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	*5580.00	121.2 PK			1.96 V	168	80.70	40.50
2	*5580.00	110.9 AV			1.96 V	168	70.40	40.50
3	11160.00	62.9 PK	74.0	-11.1	1.33 V	228	42.90	20.00
4	11160.00	50.6 AV	54.0	-3.4	1.33 V	228	30.60	20.00

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	104.0 PK			1.00 H	213	63.10	40.90
2	*5700.00	93.8 AV			1.00 H	213	52.90	40.90
3	#5725.00	59.6 PK	74.0	-14.4	1.36 H	87	52.90	6.70
4	#5725.00	46.6 AV	54.0	-7.4	1.36 H	87	39.90	6.70
5	11400.00	62.1 PK	74.0	-11.9	1.32 H	64	41.50	20.60
6	11400.00	50.5 AV	54.0	-3.5	1.32 H	64	29.90	20.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	119.8 PK			1.67 V	166	78.90	40.90
2	*5700.00	110.1 AV			1.67 V	166	69.20	40.90
3	#5725.00	64.3 PK	74.0	-9.7	1.67 V	166	57.60	6.70
4	#5725.00	48.6 AV	54.0	-5.4	1.67 V	166	41.90	6.70
5	11400.00	63.5 PK	74.0	-10.5	1.63 V	52	42.90	20.60
6	11400.00	51.8 AV	54.0	-2.2	1.63 V	52	31.20	20.60

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5649.60	57.9 PK	68.2	-10.3	1.08 H	150	51.40	6.50
2	*5745.00	112.8 PK			1.08 H	150	71.90	40.90
3	*5745.00	101.7 AV			1.08 H	150	60.80	40.90
4	#5964.80	59.1 PK	68.2	-9.1	1.08 H	150	51.90	7.20
5	11490.00	63.1 PK	74.0	-10.9	1.10 H	202	42.60	20.50
6	11490.00	49.9 AV	54.0	-4.1	1.10 H	202	29.40	20.50
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	#5641.60	59.0 PK	68.2	-9.2	2.70 V	359	52.50	6.50
2	*5745.00	126.3 PK			2.70 V	359	85.40	40.90
3	*5745.00	115.8 AV			2.70 V	359	74.90	40.90
4	#5983.20	59.4 PK	68.2	-8.8	2.70 V	359	52.20	7.20
5	11490.00	60.8 PK	74.0	-13.2	1.00 V	234	40.30	20.50
6	11490.00	47.8 AV	54.0	-6.2	1.00 V	234	27.30	20.50

REMARKS:

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

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
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	#5614.40	58.7 PK	68.2	-9.5	3.41 H	238	52.30	6.40
2	*5785.00	113.7 PK			3.41 H	238	72.70	41.00
3	*5785.00	103.2 AV			3.41 H	238	62.20	41.00
4	#5973.60	59.1 PK	68.2	-9.1	3.41 H	238	51.90	7.20
5	11570.00	62.7 PK	74.0	-11.3	1.42 H	258	42.40	20.30
6	11570.00	49.9 AV	54.0	-4.1	1.42 H	258	29.60	20.30
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	#5620.00	58.9 PK	68.2	-9.3	2.85 V	356	52.50	6.40
2	*5785.00	126.8 PK			2.85 V	356	85.80	41.00
3	*5785.00	116.0 AV			2.85 V	356	75.00	41.00
4	#5974.40	59.1 PK	68.2	-9.1	2.85 V	356	51.90	7.20
5	11490.00	60.9 PK	74.0	-13.1	1.00 V	195	40.40	20.50
6	11490.00	47.7 AV	54.0	-6.3	1.00 V	195	27.20	20.50

REMARKS:

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

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
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	#5629.60	57.7 PK	68.2	-10.5	3.35 H	221	51.20	6.50
2	*5825.00	113.9 PK			3.35 H	221	72.70	41.20
3	*5825.00	103.0 AV			3.35 H	221	61.80	41.20
4	#5983.20	59.4 PK	68.2	-8.8	3.35 H	221	52.20	7.20
5	11650.00	62.7 PK	74.0	-11.3	1.24 H	321	42.80	19.90
6	11650.00	49.6 AV	54.0	-4.4	1.24 H	321	29.70	19.90
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	#5625.60	58.8 PK	68.2	-9.4	2.74 V	20	52.30	6.50
2	*5825.00	127.0 PK			2.74 V	20	85.80	41.20
3	*5825.00	116.2 AV			2.74 V	20	75.00	41.20
4	#5998.40	65.5 PK	68.2	-2.7	2.74 V	20	58.30	7.20
5	11650.00	60.4 PK	74.0	-13.6	1.00 V	119	40.50	19.90
6	11650.00	47.4 AV	54.0	-6.6	1.00 V	119	27.50	19.90

REMARKS:

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

802.11ac (VHT20)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
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	56.5 PK	74.0	-17.5	3.61 H	49	50.50	6.00
2	5150.00	44.3 AV	54.0	-9.7	3.61 H	49	38.30	6.00
3	*5180.00	112.5 PK			3.61 H	49	72.40	40.10
4	*5180.00	101.5 AV			3.61 H	49	61.40	40.10
5	#10360.00	61.5 PK	74.0	-12.5	1.65 H	117	43.80	17.70
6	#10360.00	48.7 AV	54.0	-5.3	1.65 H	117	31.00	17.70
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	5147.00	67.7 PK	74.0	-6.3	1.53 V	169	61.70	6.00
2	5147.00	53.6 AV	54.0	-0.4	1.53 V	169	47.60	6.00
3	*5180.00	125.1 PK			1.53 V	169	85.00	40.10
4	*5180.00	114.7 AV			1.53 V	169	74.60	40.10
5	#10360.00	59.1 PK	74.0	-14.9	1.00 V	279	41.40	17.70
6	#10360.00	46.2 AV	54.0	-7.8	1.00 V	279	28.50	17.70

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.7 PK	74.0	-17.3	3.86 H	50	50.70	6.00
2	5150.00	44.0 AV	54.0	-10.0	3.86 H	50	38.00	6.00
3	*5200.00	113.8 PK			3.86 H	50	73.70	40.10
4	*5200.00	103.5 AV			3.86 H	50	63.40	40.10
5	#10400.00	64.0 PK	74.0	-10.0	1.86 H	60	46.00	18.00
6	#10400.00	51.7 AV	54.0	-2.3	1.86 H	60	33.70	18.00
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	64.0 PK	74.0	-10.0	1.64 V	168	58.00	6.00
2	5150.00	50.2 AV	54.0	-3.8	1.64 V	168	44.20	6.00
3	*5200.00	128.8 PK			1.64 V	168	88.70	40.10
4	*5200.00	117.9 AV			1.64 V	168	77.80	40.10
5	#10400.00	59.2 PK	74.0	-14.8	1.00 V	208	41.20	18.00
6	#10400.00	48.6 AV	54.0	-5.4	1.00 V	208	30.60	18.00

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	114.2 PK			3.84 H	50	74.00	40.20
2	*5240.00	103.7 AV			3.84 H	50	63.50	40.20
3	5350.00	57.0 PK	74.0	-17.0	3.84 H	50	50.80	6.20
4	5350.00	44.6 AV	54.0	-9.4	3.84 H	50	38.40	6.20
5	#10480.00	66.1 PK	74.0	-7.9	1.77 H	66	47.90	18.20
6	#10480.00	53.1 AV	54.0	-0.9	1.77 H	66	34.90	18.20
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	*5240.00	128.6 PK			1.57 V	173	88.40	40.20
2	*5240.00	117.8 AV			1.57 V	173	77.60	40.20
3	5350.00	56.9 PK	74.0	-17.1	1.57 V	173	50.70	6.20
4	5350.00	44.5 AV	54.0	-9.5	1.57 V	173	38.30	6.20
5	#10480.00	59.7 PK	74.0	-14.3	1.10 V	97	41.50	18.20
6	#10480.00	48.8 AV	54.0	-5.2	1.10 V	97	30.60	18.20

REMARKS:

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

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
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	1.00 H	164	52.90	6.00
2	5150.00	44.7 AV	54.0	-9.3	1.00 H	164	38.70	6.00
3	*5260.00	103.5 PK			1.00 H	164	63.30	40.20
4	*5260.00	93.7 AV			1.00 H	164	53.50	40.20
5	#10520.00	59.9 PK	74.0	-14.1	1.55 H	226	41.60	18.30
6	#10520.00	48.2 AV	54.0	-5.8	1.55 H	226	29.90	18.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.0 PK	74.0	-16.0	1.45 V	206	52.00	6.00
2	5150.00	46.6 AV	54.0	-7.4	1.45 V	206	40.60	6.00
3	*5260.00	121.8 PK			1.45 V	206	81.60	40.20
4	*5260.00	111.6 AV			1.45 V	206	71.40	40.20
5	#10520.00	60.9 PK	74.0	-13.1	1.32 V	64	42.60	18.30
6	#10520.00	48.4 AV	54.0	-5.6	1.32 V	64	30.10	18.30

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	103.6 PK			1.02 H	70	63.40	40.20
2	*5300.00	92.7 AV			1.02 H	70	52.50	40.20
3	10600.00	59.9 PK	74.0	-14.1	1.30 H	88	41.20	18.70
4	10600.00	47.5 AV	54.0	-6.5	1.30 H	88	28.80	18.70
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	*5300.00	121.2 PK			1.48 V	210	81.00	40.20
2	*5300.00	110.8 AV			1.48 V	210	70.60	40.20
3	10600.00	61.3 PK	74.0	-12.7	1.26 V	97	42.60	18.70
4	10600.00	49.4 AV	54.0	-4.6	1.26 V	97	30.70	18.70

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	103.1 PK			1.00 H	166	62.90	40.20
2	*5320.00	92.5 AV			1.00 H	166	52.30	40.20
3	5350.00	61.8 PK	74.0	-12.2	1.00 H	166	55.60	6.20
4	5350.00	46.3 AV	54.0	-7.7	1.00 H	166	40.10	6.20
5	10640.00	60.5 PK	74.0	-13.5	1.05 H	64	41.50	19.00
6	10640.00	47.8 AV	54.0	-6.2	1.05 H	64	28.80	19.00
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	*5320.00	122.2 PK			1.40 V	205	82.00	40.20
2	*5320.00	110.8 AV			1.40 V	205	70.60	40.20
3	5350.00	60.0 PK	74.0	-14.0	1.40 V	205	53.80	6.20
4	5350.00	48.7 AV	54.0	-5.3	1.40 V	205	42.50	6.20
5	10640.00	61.6 PK	74.0	-12.4	1.32 V	64	42.60	19.00
6	10640.00	49.5 AV	54.0	-4.5	1.32 V	64	30.50	19.00

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.2 PK	74.0	-14.8	2.45 H	237	52.90	6.30
2	5460.00	45.0 AV	54.0	-9.0	2.45 H	237	38.70	6.30
3	#5470.00	59.6 PK	74.0	-14.4	2.45 H	237	53.30	6.30
4	#5470.00	46.2 AV	54.0	-7.8	2.45 H	237	39.90	6.30
5	*5500.00	104.6 PK			2.45 H	237	64.20	40.40
6	*5500.00	94.6 AV			2.45 H	237	54.20	40.40
7	11000.00	59.8 PK	74.0	-14.2	1.17 H	41	40.30	19.50
8	11000.00	48.2 AV	54.0	-5.8	1.17 H	41	28.70	19.50
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	5460.00	61.3 PK	74.0	-12.7	1.75 V	15	55.00	6.30
2	5460.00	46.8 AV	54.0	-7.2	1.75 V	15	40.50	6.30
3	#5470.00	64.2 PK	74.0	-9.8	1.75 V	15	57.90	6.30
4	#5470.00	47.8 AV	54.0	-6.2	1.75 V	15	41.50	6.30
5	*5500.00	120.5 PK			1.75 V	15	80.10	40.40
6	*5500.00	109.7 AV			1.75 V	15	69.30	40.40
7	11000.00	62.1 PK	74.0	-11.9	1.05 V	47	42.60	19.50
8	11000.00	50.4 AV	54.0	-3.6	1.05 V	47	30.90	19.50

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	104.6 PK			2.53 H	243	64.10	40.50
2	*5580.00	93.5 AV			2.53 H	243	53.00	40.50
3	11160.00	60.3 PK	74.0	-13.7	1.47 H	85	40.30	20.00
4	11160.00	48.7 AV	54.0	-5.3	1.47 H	85	28.70	20.00
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	*5580.00	119.0 PK			1.90 V	213	78.50	40.50
2	*5580.00	108.0 AV			1.90 V	213	67.50	40.50
3	11160.00	62.6 PK	74.0	-11.4	1.63 V	54	42.60	20.00
4	11160.00	50.7 AV	54.0	-3.3	1.63 V	54	30.70	20.00

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	104.4 PK			1.00 H	217	63.50	40.90
2	*5700.00	93.6 AV			1.00 H	217	52.70	40.90
3	#5725.00	59.9 PK	74.0	-14.1	1.00 H	217	53.20	6.70
4	#5725.00	46.6 AV	54.0	-7.4	1.00 H	217	39.90	6.70
5	11400.00	61.2 PK	74.0	-12.8	1.32 H	64	40.60	20.60
6	11400.00	50.5 AV	54.0	-3.5	1.32 H	64	29.90	20.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	119.8 PK			1.63 V	215	78.90	40.90
2	*5700.00	108.9 AV			1.63 V	215	68.00	40.90
3	#5725.00	61.4 PK	74.0	-12.6	1.63 V	215	54.70	6.70
4	#5725.00	48.7 AV	54.0	-5.3	1.63 V	215	42.00	6.70
5	11400.00	63.2 PK	74.0	-10.8	1.33 V	225	42.60	20.60
6	11400.00	51.2 AV	54.0	-2.8	1.33 V	225	30.60	20.60

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5640.00	58.1 PK	68.2	-10.1	3.27 H	239	51.60	6.50
2	*5745.00	114.6 PK			3.27 H	239	73.70	40.90
3	*5745.00	103.8 AV			3.27 H	239	62.90	40.90
4	#5929.60	59.1 PK	68.2	-9.1	3.27 H	239	52.00	7.10
5	11490.00	63.4 PK	74.0	-10.6	1.33 H	256	42.90	20.50
6	11490.00	50.3 AV	54.0	-3.7	1.33 H	256	29.80	20.50
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	#5634.40	64.4 PK	68.2	-3.8	2.77 V	254	57.90	6.50
2	*5745.00	126.2 PK			2.77 V	354	85.30	40.90
3	*5745.00	115.2 AV			2.77 V	354	74.30	40.90
4	#5985.60	65.3 PK	68.2	-2.9	2.77 V	354	58.10	7.20
5	11490.00	61.0 PK	74.0	-13.0	1.00 V	109	40.50	20.50
6	11490.00	48.1 AV	54.0	-5.9	1.00 V	109	27.60	20.50

REMARKS:

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

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
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	#5631.20	58.2 PK	68.2	-10.0	3.28 H	243	51.70	6.50
2	*5785.00	115.1 PK			3.28 H	243	74.10	41.00
3	*5785.00	104.0 AV			3.28 H	243	63.00	41.00
4	#5988.00	59.4 PK	68.2	-8.8	3.28 H	243	52.20	7.20
5	11570.00	63.3 PK	74.0	-10.7	1.51 H	56	43.00	20.30
6	11570.00	50.3 AV	54.0	-3.7	1.51 H	56	30.00	20.30
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	#5640.00	65.8 PK	68.2	-2.4	2.73 V	356	59.30	6.50
2	*5785.00	126.3 PK			2.73 V	356	85.30	41.00
3	*5785.00	115.1 AV			2.73 V	356	74.10	41.00
4	#5932.00	66.8 PK	68.2	-1.4	2.73 V	356	59.70	7.10
5	11570.00	60.7 PK	74.0	-13.3	1.00 V	183	40.40	20.30
6	11570.00	48.0 AV	54.0	-6.0	1.00 V	183	27.70	20.30

REMARKS:

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

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
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	#5641.60	58.2 PK	68.2	-10.0	3.23 H	244	51.70	6.50
2	*5825.00	114.8 PK			3.23 H	244	73.60	41.20
3	*5825.00	103.7 AV			3.23 H	244	62.50	41.20
4	#5934.40	58.8 PK	68.2	-9.4	3.23 H	244	51.70	7.10
5	11650.00	62.5 PK	74.0	-11.5	1.23 H	320	42.60	19.90
6	11650.00	49.6 AV	54.0	-4.4	1.23 H	320	29.70	19.90
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	#5642.40	64.2 PK	68.2	-4.0	2.81 V	358	57.70	6.50
2	*5825.00	125.9 PK			2.81 V	358	84.70	41.20
3	*5825.00	115.3 AV			2.81 V	358	74.10	41.20
4	#5972.00	66.0 PK	68.2	-2.2	2.81 V	358	58.80	7.20
5	11650.00	60.2 PK	74.0	-13.8	1.00 V	121	40.30	19.90
6	11650.00	47.3 AV	54.0	-6.7	1.00 V	121	27.40	19.90

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.5 PK	74.0	-16.5	3.71 H	52	51.50	6.00
2	5150.00	45.3 AV	54.0	-8.7	3.71 H	52	39.30	6.00
3	*5190.00	107.3 PK			3.71 H	52	67.20	40.10
4	*5190.00	98.0 AV			3.71 H	52	57.90	40.10
5	#10380.00	59.6 PK	74.0	-14.4	1.55 H	224	41.80	17.80
6	#10380.00	48.6 AV	54.0	-5.4	1.55 H	224	30.80	17.80
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	5150.00	67.5 PK	74.0	-6.5	1.54 V	171	61.50	6.00
2	5150.00	53.6 AV	54.0	-0.4	1.54 V	171	47.60	6.00
3	*5190.00	121.6 PK			1.54 V	171	81.50	40.10
4	*5190.00	111.9 AV			1.54 V	171	71.80	40.10
5	#10380.00	59.1 PK	74.0	-14.9	1.00 V	124	41.30	17.80
6	#10380.00	46.8 AV	54.0	-7.2	1.00 V	124	29.00	17.80

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	112.9 PK			3.65 H	49	72.70	40.20
2	*5230.00	102.9 AV			3.65 H	49	62.70	40.20
3	5350.00	57.9 PK	74.0	-16.1	3.65 H	49	51.70	6.20
4	5350.00	44.4 AV	54.0	-9.6	3.65 H	49	38.20	6.20
5	#10460.00	58.8 PK	74.0	-15.2	1.66 H	201	40.80	18.00
6	#10460.00	48.0 AV	54.0	-6.0	1.66 H	201	30.00	18.00
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	*5230.00	125.5 PK			1.73 V	170	85.30	40.20
2	*5230.00	115.3 AV			1.73 V	170	75.10	40.20
3	5350.00	58.0 PK	74.0	-16.0	1.73 V	170	51.80	6.20
4	5350.00	45.3 AV	54.0	-8.7	1.73 V	170	39.10	6.20
5	#10460.00	59.2 PK	74.0	-14.8	1.00 V	103	41.20	18.00
6	#10460.00	47.5 AV	54.0	-6.5	1.00 V	103	29.50	18.00

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.7 PK	74.0	-16.3	1.46 H	153	51.70	6.00
2	5150.00	44.7 AV	54.0	-9.3	1.46 H	153	38.70	6.00
3	*5270.00	103.1 PK			1.46 H	153	62.90	40.20
4	*5270.00	92.5 AV			1.46 H	153	52.30	40.20
5	#10540.00	59.6 PK	74.0	-14.4	1.16 H	77	41.20	18.40
6	#10540.00	47.4 AV	54.0	-6.6	1.16 H	77	29.00	18.40
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	5150.00	57.7 PK	74.0	-16.3	1.45 V	210	51.70	6.00
2	5150.00	45.6 AV	54.0	-8.4	1.45 V	210	39.60	6.00
3	*5270.00	118.8 PK			1.45 V	210	78.60	40.20
4	*5270.00	109.5 AV			1.45 V	210	69.30	40.20
5	#10540.00	60.1 PK	74.0	-13.9	1.00 V	134	41.70	18.40
6	#10540.00	47.6 AV	54.0	-6.4	1.00 V	134	29.20	18.40

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	101.3 PK			1.44 H	154	61.10	40.20
2	*5310.00	91.9 AV			1.44 H	154	51.70	40.20
3	5350.00	58.1 PK	74.0	-15.9	1.44 H	154	51.90	6.20
4	5350.00	45.6 AV	54.0	-8.4	1.44 H	154	39.40	6.20
5	10620.00	59.9 PK	74.0	-14.1	1.14 H	86	41.10	18.80
6	10620.00	46.8 AV	54.0	-7.2	1.14 H	86	28.00	18.80
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	*5310.00	117.9 PK			1.27 V	203	77.70	40.20
2	*5310.00	108.9 AV			1.27 V	203	68.70	40.20
3	5350.00	66.5 PK	74.0	-7.5	1.27 V	203	60.30	6.20
4	5350.00	53.9 AV	54.0	-0.1	1.27 V	203	47.70	6.20
5	10620.00	60.6 PK	74.0	-13.4	1.00 V	156	41.80	18.80
6	10620.00	48.1 AV	54.0	-5.9	1.00 V	156	29.30	18.80

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.3 PK	74.0	-15.7	2.09 H	300	52.00	6.30
2	5460.00	44.8 AV	54.0	-9.2	2.09 H	300	38.50	6.30
3	#5470.00	54.7 PK	74.0	-19.3	2.09 H	300	48.40	6.30
4	#5470.00	44.4 AV	54.0	-9.6	2.09 H	300	38.10	6.30
5	*5510.00	101.0 PK			2.09 H	300	60.60	40.40
6	*5510.00	91.5 AV			2.09 H	300	51.10	40.40
7	11020.00	61.1 PK	74.0	-12.9	1.36 H	59	41.60	19.50
8	11020.00	48.4 AV	54.0	-5.6	1.36 H	59	28.90	19.50
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	5460.00	63.6 PK	74.0	-10.4	1.83 V	231	57.30	6.30
2	5460.00	51.2 AV	54.0	-2.8	1.83 V	231	44.90	6.30
3	#5470.00	59.7 PK	74.0	-14.3	1.83 V	231	53.40	6.30
4	#5470.00	47.7 AV	54.0	-6.3	1.83 V	231	41.40	6.30
5	*5510.00	118.3 PK			1.83 V	231	77.90	40.40
6	*5510.00	108.3 AV			1.83 V	231	67.90	40.40
7	11020.00	61.5 PK	74.0	-12.5	1.21 V	110	42.00	19.50
8	11020.00	48.6 AV	54.0	-5.4	1.21 V	110	29.10	19.50

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	100.8 PK			1.97 H	303	60.30	40.50
2	*5550.00	90.9 AV			1.97 H	303	50.40	40.50
3	11100.00	61.2 PK	74.0	-12.8	1.35 H	74	41.20	20.00
4	11100.00	49.1 AV	54.0	-4.9	1.35 H	74	29.10	20.00
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	*5550.00	117.7 PK			1.89 V	229	77.20	40.50
2	*5550.00	107.6 AV			1.89 V	229	67.10	40.50
3	11100.00	62.3 PK	74.0	-11.7	1.20 V	115	42.30	20.00
4	11100.00	49.4 AV	54.0	-4.6	1.20 V	115	29.40	20.00

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	99.6 PK			2.09 H	240	58.90	40.70
2	*5670.00	90.2 AV			2.09 H	240	49.50	40.70
3	#5725.00	58.1 PK	74.0	-15.9	2.09 H	240	51.40	6.70
4	#5725.00	45.2 AV	54.0	-8.8	2.09 H	240	38.50	6.70
5	11340.00	62.3 PK	74.0	-11.7	1.39 H	47	41.80	20.50
6	11340.00	49.7 AV	54.0	-4.3	1.39 H	47	29.20	20.50
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	*5670.00	117.4 PK			1.79 V	264	76.70	40.70
2	*5670.00	107.2 AV			1.79 V	264	66.50	40.70
3	#5725.00	60.0 PK	74.0	-14.0	1.79 V	264	53.30	6.70
4	#5725.00	47.3 AV	54.0	-6.7	1.79 V	264	40.60	6.70
5	11340.00	62.9 PK	74.0	-11.1	1.25 V	202	42.40	20.50
6	11340.00	50.3 AV	54.0	-3.7	1.25 V	202	29.80	20.50

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5622.40	57.5 PK	68.2	-10.7	3.38 H	245	51.10	6.40
2	*5755.00	110.2 PK			3.38 H	245	69.20	41.00
3	*5755.00	99.9 AV			3.38 H	245	58.90	41.00
4	#5994.40	59.2 PK	68.2	-9.0	3.38 H	245	52.00	7.20
5	11510.00	62.5 PK	74.0	-11.5	1.60 H	77	42.10	20.40
6	11510.00	49.4 AV	54.0	-4.6	1.60 H	77	29.00	20.40
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	#5619.20	58.4 PK	68.2	-9.8	2.73 V	19	52.00	6.40
2	*5755.00	123.3 PK			2.73 V	19	82.30	41.00
3	*5755.00	113.4 AV			2.73 V	19	72.40	41.00
4	#5984.00	59.8 PK	68.2	-8.4	2.73 V	19	52.60	7.20
5	11510.00	60.6 PK	74.0	-13.4	1.00 V	117	40.20	20.40
6	11510.00	47.8 AV	54.0	-6.2	1.00 V	117	27.40	20.40

REMARKS:

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

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK)
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	#5616.00	59.0 PK	68.2	-9.2	3.29 H	245	52.60	6.40
2	*5795.00	110.2 PK			3.29 H	245	69.10	41.10
3	*5795.00	100.3 AV			3.29 H	245	59.20	41.10
4	#5970.40	59.6 PK	68.2	-8.6	3.29 H	245	52.40	7.20
5	11590.00	62.2 PK	74.0	-11.8	1.39 H	125	42.00	20.20
6	11590.00	49.3 AV	54.0	-4.7	1.39 H	125	29.10	20.20
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	#5640.80	59.9 PK	68.2	-8.3	2.78 V	14	53.40	6.50
2	*5795.00	124.5 PK			2.78 V	14	83.40	41.10
3	*5795.00	113.8 AV			2.78 V	14	72.70	41.10
4	#5952.80	59.6 PK	68.2	-8.6	2.78 V	14	52.40	7.20
5	11590.00	60.3 PK	74.0	-13.7	1.00 V	63	40.10	20.20
6	11590.00	47.5 AV	54.0	-6.5	1.00 V	63	27.30	20.20

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.7 PK	74.0	-13.3	3.67 H	50	54.70	6.00
2	5150.00	45.8 AV	54.0	-8.2	3.67 H	50	39.80	6.00
3	*5210.00	103.7 PK			3.67 H	50	63.60	40.10
4	*5210.00	93.9 AV			3.67 H	50	53.80	40.10
5	5350.00	59.4 PK	74.0	-14.6	3.67 H	50	53.20	6.20
6	5350.00	45.6 AV	54.0	-8.4	3.67 H	50	39.40	6.20
7	#10420.00	60.9 PK	74.0	-13.1	1.70 H	311	42.90	18.00
8	#10420.00	47.9 AV	54.0	-6.1	1.70 H	311	29.90	18.00
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	5136.00	72.6 PK	74.0	-1.4	1.72 V	170	66.60	6.00
2	5136.00	53.7 AV	54.0	-0.3	1.72 V	170	47.70	6.00
3	*5210.00	116.2 PK			1.72 V	170	76.10	40.10
4	*5210.00	106.4 AV			1.72 V	170	66.30	40.10
5	5350.00	60.4 PK	74.0	-13.6	1.72 V	170	54.20	6.20
6	5350.00	46.7 AV	54.0	-7.3	1.72 V	170	40.50	6.20
7	#10420.00	60.8 PK	74.0	-13.2	1.00 V	305	42.80	18.00
8	#10420.00	48.1 AV	54.0	-5.9	1.00 V	305	30.10	18.00

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 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	58.1 PK	74.0	-15.9	1.00 H	122	52.10	6.00
2	5150.00	44.7 AV	54.0	-9.3	1.00 H	122	38.70	6.00
3	*5290.00	93.3 PK			1.00 H	122	53.10	40.20
4	*5290.00	83.1 AV			1.00 H	122	42.90	40.20
5	5350.00	58.1 PK	74.0	-15.9	1.00 H	122	51.90	6.20
6	5350.00	45.2 AV	54.0	-8.8	1.00 H	122	39.00	6.20
7	#10580.00	59.6 PK	74.0	-14.4	1.20 H	89	41.00	18.60
8	#10580.00	47.5 AV	54.0	-6.5	1.20 H	89	28.90	18.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.2 PK	74.0	-15.8	1.42 V	203	52.20	6.00
2	5150.00	45.2 AV	54.0	-8.8	1.42 V	203	39.20	6.00
3	*5290.00	110.8 PK			1.42 V	203	70.60	40.20
4	*5290.00	100.6 AV			1.42 V	203	60.40	40.20
5	5350.00	70.4 PK	74.0	-3.6	1.42 V	203	64.20	6.20
6	5350.00	53.7 AV	54.0	-0.3	1.42 V	203	47.50	6.20
7	#10580.00	61.0 PK	74.0	-13.0	1.00 V	142	42.40	18.60
8	#10580.00	47.7 AV	54.0	-6.3	1.00 V	142	29.10	18.60

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.8 PK	74.0	-18.2	1.97 H	318	49.50	6.30
2	5460.00	44.8 AV	54.0	-9.2	1.97 H	318	38.50	6.30
3	#5470.00	56.2 PK	74.0	-17.8	1.97 H	318	49.90	6.30
4	#5470.00	44.5 AV	54.0	-9.5	1.97 H	318	38.20	6.30
5	*5530.00	98.8 PK			1.97 H	318	58.40	40.40
6	*5530.00	89.0 AV			1.97 H	318	48.60	40.40
7	#5725.00	59.7 PK	74.0	-14.3	1.97 H	318	53.00	6.70
8	#5725.00	46.9 AV	54.0	-7.1	1.97 H	318	40.20	6.70
9	11060.00	60.3 PK	74.0	-13.7	1.36 H	60	40.50	19.80
10	11060.00	48.0 AV	54.0	-6.0	1.36 H	60	28.20	19.80
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	5460.00	66.2 PK	74.0	-7.8	1.98 V	208	59.90	6.30
2	5460.00	50.8 AV	54.0	-3.2	1.98 V	208	44.50	6.30
3	#5470.00	68.8 PK	74.0	-5.2	1.95 V	208	62.50	6.30
4	#5470.00	53.8 AV	54.0	-0.2	1.95 V	208	47.50	6.30
5	*5530.00	113.3 PK			1.98 V	208	72.90	40.40
6	*5530.00	103.6 AV			1.98 V	208	63.20	40.40
7	#5725.00	58.6 PK	74.0	-15.4	1.98 V	208	51.90	6.70
8	#5725.00	48.2 AV	54.0	-5.8	1.98 V	208	41.50	6.70
9	11060.00	61.6 PK	74.0	-12.4	1.23 V	211	41.80	19.80
10	11060.00	49.3 AV	54.0	-4.7	1.23 V	211	29.50	19.80

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	58.1 PK	74.0	-15.9	2.60 H	159	51.80	6.30
2	#5470.00	45.3 AV	54.0	-8.7	2.60 H	159	39.00	6.30
3	*5610.00	98.8 PK			2.60 H	159	58.30	40.50
4	*5610.00	88.8 AV			2.60 H	159	48.30	40.50
5	11220.00	61.4 PK	74.0	-12.6	1.55 H	224	41.30	20.10
6	11220.00	48.5 AV	54.0	-5.5	1.55 H	224	28.40	20.10
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	#5470.00	59.7 PK	74.0	-14.3	1.96 V	168	53.40	6.30
2	#5470.00	45.8 AV	54.0	-8.2	1.96 V	168	39.50	6.30
3	*5610.00	113.5 PK			1.96 V	168	73.00	40.50
4	*5610.00	104.1 AV			1.96 V	168	63.60	40.50
5	11220.00	63.7 PK	74.0	-10.3	1.08 V	97	43.60	20.10
6	11220.00	50.2 AV	54.0	-3.8	1.08 V	97	30.10	20.10

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 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	#5628.80	57.6 PK	68.2	-10.6	3.30 H	245	51.10	6.50
2	*5775.00	105.7 PK			3.30 H	245	64.70	41.00
3	*5775.00	96.0 AV			3.30 H	245	55.00	41.00
4	#5960.00	60.4 PK	68.2	-7.8	3.30 H	245	53.20	7.20
5	11550.00	61.0 PK	74.0	-13.0	1.37 H	190	40.70	20.30
6	11550.00	48.5 AV	54.0	-5.5	1.37 H	190	28.20	20.30
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	#5644.00	67.8 PK	68.2	-0.4	2.82 V	18	61.30	6.50
2	*5775.00	117.8 PK			2.82 V	18	76.80	41.00
3	*5775.00	108.3 AV			2.82 V	18	67.30	41.00
4	#5928.80	63.0 PK	68.2	-5.2	2.82 V	18	55.90	7.10
5	11550.00	60.3 PK	74.0	-13.7	1.00 V	159	40.00	20.30
6	11550.00	47.6 AV	54.0	-6.4	1.00 V	159	27.30	20.30

REMARKS:

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

802.11ac (VHT80+ VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.4 PK	74.0	-13.6	1.12 H	102	54.40	6.00
2	5150.00	45.7 AV	54.0	-8.3	1.12 H	102	39.70	6.00
3	*5210.00	101.8 PK			1.12 H	102	61.70	40.10
4	*5210.00	91.1 AV			1.12 H	102	51.00	40.10
5	5350.00	59.3 PK	74.0	-14.7	1.12 H	102	53.10	6.20
6	5350.00	45.4 AV	54.0	-8.6	1.12 H	102	39.20	6.20
7	#10420.00	60.5 PK	74.0	-13.5	1.72 H	310	42.50	18.00
8	#10420.00	47.7 AV	54.0	-6.3	1.72 H	310	29.70	18.00
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	69.5 PK	74.0	-4.5	1.63 V	102	63.50	6.00
2	5150.00	53.7 AV	54.0	-0.3	1.63 V	102	47.70	6.00
3	*5210.00	115.7 PK			1.63 V	102	75.60	40.10
4	*5210.00	105.0 AV			1.63 V	102	64.90	40.10
5	5350.00	60.2 PK	74.0	-13.8	1.63 V	102	54.00	6.20
6	5350.00	46.1 AV	54.0	-7.9	1.63 V	102	39.90	6.20
7	#10420.00	60.2 PK	74.0	-13.8	1.00 V	308	42.20	18.00
8	#10420.00	48.0 AV	54.0	-6.0	1.00 V	308	30.00	18.00

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 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	#5608.80	58.7 PK	68.2	-9.5	1.13 H	222	51.20	7.50
2	*5775.00	99.0 PK			1.13 H	222	56.80	42.20
3	*5775.00	88.6 AV			1.13 H	222	46.40	42.20
4	#5931.20	60.1 PK	68.2	-8.1	1.13 H	222	51.60	8.50
5	11550.00	59.4 PK	74.0	-14.6	1.36 H	198	39.00	20.40
6	11550.00	47.0 AV	54.0	-7.0	1.36 H	198	26.60	20.40
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	#5615.20	60.5 PK	68.2	-7.7	2.02 V	110	52.90	7.60
2	*5775.00	112.1 PK			2.02 V	110	69.90	42.20
3	*5775.00	101.3 AV			2.02 V	110	59.10	42.20
4	#5947.20	59.9 PK	68.2	-8.3	2.02 V	110	51.30	8.60
5	11550.00	60.0 PK	74.0	-14.0	1.00 V	151	39.60	20.40
6	11550.00	47.4 AV	54.0	-6.6	1.00 V	151	27.00	20.40

REMARKS:

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

Below 1GHz worst-case data: 802.11a

CHANNEL	TX Channel 165	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	66.77	29.6 QP	40.0	-10.4	1.00 H	277	44.70	-15.10
2	233.64	42.3 QP	46.0	-3.7	2.00 H	75	57.70	-15.40
3	342.30	42.9 QP	46.0	-3.1	1.49 H	109	54.30	-11.40
4	600.38	40.0 QP	46.0	-6.0	1.00 H	280	46.00	-6.00
5	749.79	34.3 QP	46.0	-11.7	1.00 H	144	37.00	-2.70
6	875.91	36.0 QP	46.0	-10.0	1.49 H	170	36.70	-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	90.05	35.0 QP	43.5	-8.5	1.50 V	230	54.30	-19.30
2	233.64	35.9 QP	46.0	-10.1	1.00 V	287	51.30	-15.40
3	346.19	39.6 QP	46.0	-6.4	1.50 V	339	51.00	-11.40
4	600.38	42.5 QP	46.0	-3.5	1.00 V	297	48.50	-6.00
5	875.91	39.9 QP	46.0	-6.1	2.00 V	14	40.60	-0.70
6	1000.10	39.3 QP	54.0	-14.7	1.00 V	197	38.10	1.20

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 165	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	101.69	28.1 QP	43.5	-15.4	1.51 H	268	46.20	-18.10
2	231.70	41.1 QP	46.0	-4.9	1.51 H	78	56.80	-15.70
3	344.24	41.8 QP	46.0	-4.2	1.01 H	130	53.20	-11.40
4	427.68	36.0 QP	46.0	-10.0	2.00 H	11	45.70	-9.70
5	600.38	38.1 QP	46.0	-7.9	1.51 H	285	44.10	-6.00
6	800.24	37.4 QP	46.0	-8.6	2.00 H	69	39.10	-1.70
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	66.77	33.9 QP	40.0	-6.1	1.00 V	264	49.00	-15.10
2	235.58	36.3 QP	46.0	-9.7	2.00 V	105	51.40	-15.10
3	350.07	40.6 QP	46.0	-5.4	1.50 V	272	51.90	-11.30
4	499.48	34.8 QP	46.0	-11.2	1.00 V	287	43.10	-8.30
5	600.38	43.2 QP	46.0	-2.8	1.00 V	267	49.20	-6.00
6	875.91	37.6 QP	46.0	-8.4	1.00 V	12	38.30	-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: Jan. 30, 2018

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCS 30	100288	Aug. 17, 2017	Aug. 16, 2018
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 08, 2017	Sep. 07, 2018
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100104	Dec. 06, 2017	Dec. 05, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Aug. 02, 2017	Aug. 01, 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 2.

3. The VCCI Site Registration No. is C-2047.

4.2.3 Test Procedures

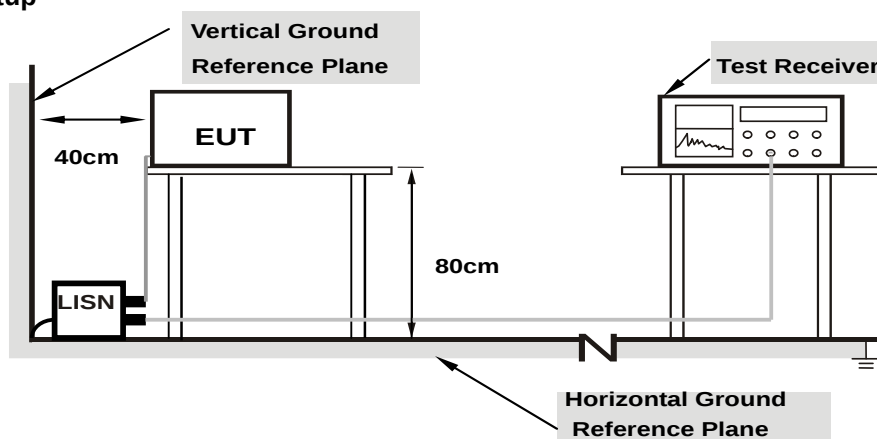
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

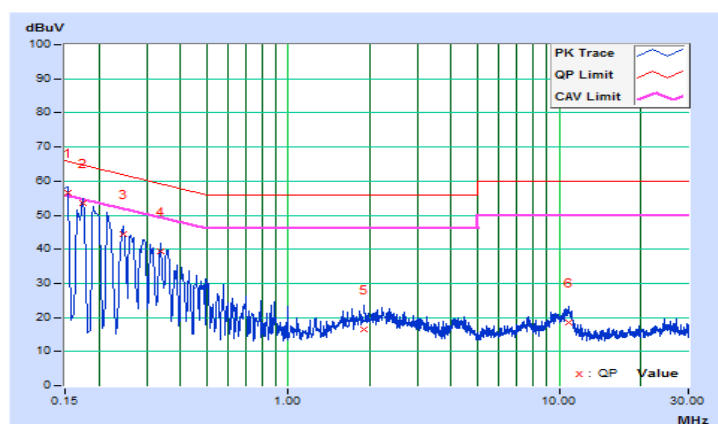
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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	0.15400	10.45	46.20	30.25	56.65	40.70	65.78	55.78	-9.13	-15.08
2	0.17400	10.45	43.02	27.54	53.47	37.99	64.77	54.77	-11.30	-16.78
3	0.24614	10.46	34.06	17.57	44.52	28.03	61.89	51.89	-17.37	-23.86
4	0.33800	10.48	28.76	16.69	39.24	27.17	59.25	49.25	-20.01	-22.08
5	1.91400	10.52	5.88	1.63	16.40	12.15	56.00	46.00	-39.60	-33.85
6	10.79400	10.93	7.65	0.59	18.58	11.52	60.00	50.00	-41.42	-38.48

REMARKS:

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

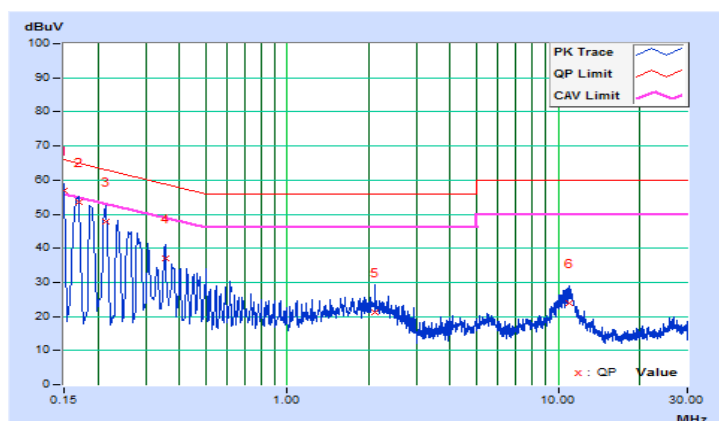


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

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	10.19	46.70	31.92	56.89	42.11	66.00	56.00	-9.11	-13.89
2	0.16932	10.21	43.28	27.75	53.49	37.96	64.99	54.99	-11.50	-17.03
3	0.21400	10.23	37.59	22.13	47.82	32.36	63.05	53.05	-15.23	-20.69
4	0.35407	10.24	26.81	11.36	37.05	21.60	58.87	48.87	-21.82	-27.27
5	2.11400	10.29	11.01	4.82	21.30	15.11	56.00	46.00	-34.70	-30.89
6	10.99400	10.67	13.34	7.22	24.01	17.89	60.00	50.00	-35.99	-32.11

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.

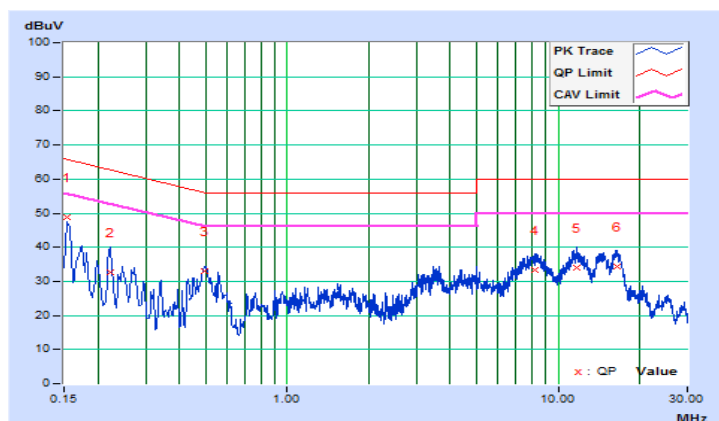


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.15400	10.45	38.24	25.72	48.69	36.17	65.78	55.78	-17.09	-19.61
2	0.22211	10.45	22.23	8.51	32.68	18.96	62.74	52.74	-30.06	-33.78
3	0.49476	10.49	22.39	16.53	32.88	27.02	56.09	46.09	-23.21	-19.07
4	8.19400	10.81	22.37	16.43	33.18	27.24	60.00	50.00	-26.82	-22.76
5	11.64600	10.97	23.14	17.46	34.11	28.43	60.00	50.00	-25.89	-21.57
6	16.57800	11.22	23.03	16.98	34.25	28.20	60.00	50.00	-25.75	-21.80

REMARKS:

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

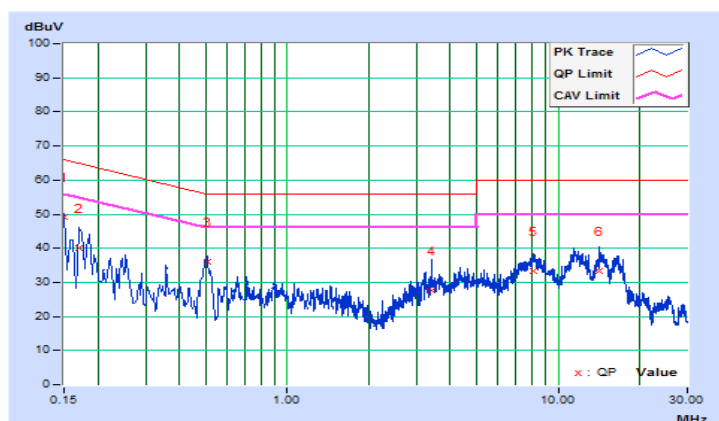


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.15000	10.19	38.89	25.03	49.08	35.22	66.00	56.00	-16.92	-20.78
2	0.17000	10.21	30.01	15.20	40.22	25.41	64.96	54.96	-24.74	-29.55
3	0.50600	10.25	25.74	20.20	35.99	30.45	56.00	46.00	-20.01	-15.55
4	3.41400	10.37	17.12	9.50	27.49	19.87	56.00	46.00	-28.51	-26.13
5	8.13800	10.56	22.83	17.25	33.39	27.81	60.00	50.00	-26.61	-22.19
6	14.23400	10.81	22.64	17.28	33.45	28.09	60.00	50.00	-26.55	-21.91

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} ;

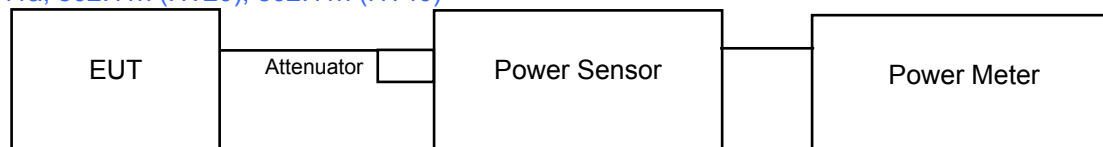
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

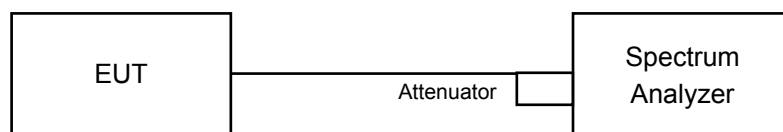
4.3.2 Test Setup

For Power Output Measurement

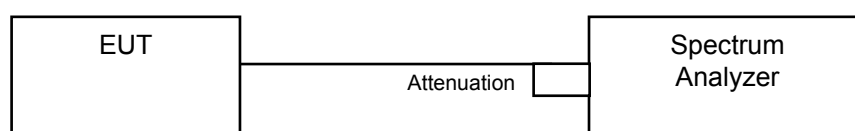
802.11a, 802.11n (HT20), 802.11n (HT40)



802.11ac (VHT80)



For 26dB and Occupied Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

For 802.11a, 802.11ac (VHT20), 802.11ac (VHT40)

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

For 802.11ac (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

802.11a

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				
36	5180	20.06	21.06	20.65	20.73	463.484	26.66	30.00	Pass
40	5200	23.14	23.75	23.90	23.25	900.020	29.54	30.00	Pass
48	5240	23.38	23.66	23.61	23.29	892.964	29.51	30.00	Pass
52	5260	16.72	17.48	17.11	17.07	205.302	23.12	23.89	Pass
60	5300	16.95	17.54	17.18	16.78	206.182	23.14	23.88	Pass
64	5320	16.70	17.42	17.28	17.05	206.137	23.14	23.94	Pass
100	5500	16.40	17.36	17.58	17.02	205.732	23.13	23.85	Pass
116	5580	16.71	16.87	17.64	17.12	205.121	23.12	23.89	Pass
140	5700	16.66	17.13	17.65	16.93	205.514	23.13	23.89	Pass
149	5745	23.55	23.91	23.54	23.45	919.754	29.64	30.00	Pass
157	5785	23.15	23.33	23.83	23.57	890.872	29.50	30.00	Pass
165	5825	24.38	23.90	23.09	23.14	929.395	29.68	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(19.56) = 23.91\text{ dBm} < 24\text{dBm}$.
2. $11\text{dBm} + 10\log(19.43) = 23.88\text{ dBm} < 24\text{dBm}$.
3. $11\text{dBm} + 10\log(19.72) = 23.95\text{ dBm} < 24\text{dBm}$.
4. $11\text{dBm} + 10\log(19.54) = 23.91\text{ dBm} < 24\text{dBm}$.
5. $11\text{dBm} + 10\log(19.49) = 23.90\text{ dBm} < 24\text{dBm}$.
6. $11\text{dBm} + 10\log(19.46) = 23.89\text{ dBm} < 24\text{dBm}$.

Chain 1

1. $11\text{dBm} + 10\log(19.45) = 23.89\text{ dBm} < 24\text{dBm}$.
2. $11\text{dBm} + 10\log(19.47) = 23.89\text{ dBm} < 24\text{dBm}$.
3. $11\text{dBm} + 10\log(19.68) = 23.94\text{ dBm} < 24\text{dBm}$.
4. $11\text{dBm} + 10\log(19.79) = 23.96\text{ dBm} < 24\text{dBm}$.
5. $11\text{dBm} + 10\log(19.44) = 23.89\text{ dBm} < 24\text{dBm}$.
6. $11\text{dBm} + 10\log(19.98) = 24.01\text{ dBm} > 24\text{dBm}$.

Chain 2

1. $11\text{dBm} + 10\log(19.56) = 23.91\text{ dBm} < 24\text{dBm}$.
2. $11\text{dBm} + 10\log(19.30) = 23.86\text{ dBm} < 24\text{dBm}$.
3. $11\text{dBm} + 10\log(19.93) = 23.99\text{ dBm} < 24\text{dBm}$.
4. $11\text{dBm} + 10\log(19.29) = 23.85\text{ dBm} < 24\text{dBm}$.
5. $11\text{dBm} + 10\log(20.08) = 24.03\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(19.74) = 23.95\text{ dBm} < 24\text{dBm}$.

Chain 3

1. $11\text{dBm} + 10\log(19.83) = 23.97\text{ dBm} < 24\text{dBm}$.
2. $11\text{dBm} + 10\log(19.43) = 23.88\text{ dBm} < 24\text{dBm}$.
3. $11\text{dBm} + 10\log(19.58) = 23.92\text{ dBm} < 24\text{dBm}$.
4. $11\text{dBm} + 10\log(19.66) = 23.94\text{ dBm} < 24\text{dBm}$.
5. $11\text{dBm} + 10\log(19.83) = 23.97\text{ dBm} < 24\text{dBm}$.
6. $11\text{dBm} + 10\log(19.87) = 23.98\text{ dBm} < 24\text{dBm}$.

802.11ac (VHT20)

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				
36	5180	20.00	20.73	20.24	20.27	430.400	26.34	30.00	Pass
40	5200	23.18	23.80	23.91	23.15	900.428	29.54	30.00	Pass
48	5240	23.25	23.42	23.60	23.44	881.022	29.45	30.00	Pass
52	5260	16.63	17.67	17.24	16.79	205.224	23.12	24.00	Pass
60	5300	16.85	17.85	17.55	17.01	216.490	23.35	24.00	Pass
64	5320	16.62	17.77	17.77	16.87	214.243	23.31	24.00	Pass
100	5500	16.56	17.60	17.93	17.04	215.503	23.33	24.00	Pass
116	5580	17.01	17.03	17.78	17.35	215.004	23.32	24.00	Pass
140	5700	16.79	16.95	18.36	16.92	215.051	23.33	24.00	Pass
149	5745	23.51	23.47	23.25	23.23	868.446	29.39	30.00	Pass
157	5785	23.16	23.21	23.73	23.67	885.282	29.47	30.00	Pass
165	5825	24.23	23.91	23.16	23.21	927.312	29.67	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(20.61) = 24.14\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(20.63) = 24.14\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(20.67) = 24.15\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(20.52) = 24.12\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(20.34) = 24.08\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(20.74) = 24.17\text{ dBm} > 24\text{dBm}$.

Chain 1

1. $11\text{dBm} + 10\log(20.82) = 24.18\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(20.44) = 24.10\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(20.43) = 24.10\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(20.61) = 24.14\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(20.52) = 24.12\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(20.64) = 24.15\text{ dBm} > 24\text{dBm}$.

Chain 2

1. $11\text{dBm} + 10\log(20.63) = 24.14\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(20.72) = 24.16\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(20.70) = 24.16\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(20.55) = 24.13\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(20.59) = 24.14\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(20.68) = 24.16\text{ dBm} > 24\text{dBm}$.

Chain 3

1. $11\text{dBm} + 10\log(20.56) = 24.13\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(20.58) = 24.13\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(20.54) = 24.13\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(20.57) = 24.13\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(20.64) = 24.15\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(20.81) = 24.18\text{ dBm} > 24\text{dBm}$.

802.11ac (VHT40)

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				
38	5190	19.19	20.77	20.46	20.27	419.971	26.23	30.00	Pass
46	5230	23.01	23.59	23.47	22.63	834.108	29.21	30.00	Pass
54	5270	16.97	18.93	17.79	17.34	242.254	23.84	24.00	Pass
62	5310	17.23	18.42	17.91	17.36	238.599	23.78	24.00	Pass
102	5510	17.48	18.20	18.46	17.58	249.471	23.97	24.00	Pass
110	5550	17.55	17.44	18.21	17.65	236.780	23.74	24.00	Pass
134	5670	17.03	16.91	18.93	17.38	232.422	23.66	24.00	Pass
151	5755	23.45	23.64	23.07	23.08	858.519	29.34	30.00	Pass
159	5795	23.98	23.72	22.96	22.89	877.773	29.43	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(41.04) = 27.13\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(41.12) = 27.14\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(41.02) = 27.13\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(41.13) = 27.14\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(41.16) = 27.14\text{ dBm} > 24\text{dBm}$.

Chain 1

1. $11\text{dBm} + 10\log(40.93) = 27.12\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(41.17) = 27.15\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(41.20) = 27.15\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(41.03) = 27.13\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(40.94) = 27.12\text{ dBm} > 24\text{dBm}$.

Chain 2

1. $11\text{dBm} + 10\log(40.73) = 27.10\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(40.98) = 27.13\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(41.42) = 27.17\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(41.15) = 27.14\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(41.09) = 27.14\text{ dBm} > 24\text{dBm}$.

Chain 3

1. $11\text{dBm} + 10\log(40.78) = 27.10\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(40.87) = 27.11\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(40.76) = 27.10\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(41.14) = 27.14\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(41.30) = 27.16\text{ dBm} > 24\text{dBm}$.

802.11ac (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	5210	17.40	18.56	18.58	18.34	267.078	24.27	30.00	Pass
58	5290	13.89	15.87	13.98	13.77	111.954	20.49	24.00	Pass
106	5530	17.48	17.87	18.28	17.71	243.529	23.87	24.00	Pass
122	5610	17.44	17.85	18.16	17.83	242.555	23.85	24.00	Pass
155	5775	22.14	21.99	21.37	21.34	595.039	27.75	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(80.79) = 30.07\text{ dBm} > 24\text{dBm}$.

2. $11\text{dBm} + 10\log(81.08) = 30.09\text{ dBm} > 24\text{dBm}$.

3. $11\text{dBm} + 10\log(81.05) = 30.09\text{ dBm} > 24\text{dBm}$.

Chain 1

1. $11\text{dBm} + 10\log(81.07) = 30.09\text{ dBm} > 24\text{dBm}$.

2. $11\text{dBm} + 10\log(81.09) = 30.09\text{ dBm} > 24\text{dBm}$.

3. $11\text{dBm} + 10\log(80.99) = 30.08\text{ dBm} > 24\text{dBm}$.

Chain 2

1. $11\text{dBm} + 10\log(80.94) = 30.08\text{ dBm} > 24\text{dBm}$.

2. $11\text{dBm} + 10\log(80.94) = 30.08\text{ dBm} > 24\text{dBm}$.

3. $11\text{dBm} + 10\log(81.12) = 30.09\text{ dBm} > 24\text{dBm}$.

Chain 3

1. $11\text{dBm} + 10\log(80.77) = 30.07\text{ dBm} > 24\text{dBm}$.

2. $11\text{dBm} + 10\log(81.10) = 30.09\text{ dBm} > 24\text{dBm}$.

3. $11\text{dBm} + 10\log(81.14) = 30.09\text{ dBm} > 24\text{dBm}$.

802.11ac (VHT80+VHT80)

Channel	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	17.51	18.67	-	-	129.985	21.14	30.00	Pass
155	5775	-	-	18.16	17.97	128.125	21.08	30.00	Pass

Beamforming Mode

802.11ac (VHT20)

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				
36	5180	20.00	20.73	20.24	20.27	430.400	26.34	30.00	Pass
40	5200	23.18	23.80	23.91	23.15	900.428	29.54	30.00	Pass
48	5240	23.25	23.42	23.60	23.44	881.022	29.45	30.00	Pass
52	5260	16.63	17.67	17.24	16.79	205.224	23.12	24.00	Pass
60	5300	16.85	17.85	17.55	17.01	216.490	23.35	24.00	Pass
64	5320	16.62	17.77	17.77	16.87	214.243	23.31	24.00	Pass
100	5500	16.56	17.60	17.93	17.04	215.503	23.33	24.00	Pass
116	5580	17.01	17.03	17.78	17.35	215.004	23.32	24.00	Pass
140	5700	16.79	16.95	18.36	16.92	215.051	23.33	24.00	Pass
149	5745	23.51	23.47	23.25	23.23	868.446	29.39	30.00	Pass
157	5785	23.16	23.21	23.73	23.67	885.282	29.47	30.00	Pass
165	5825	24.23	23.91	23.16	23.21	927.312	29.67	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(20.61) = 24.14\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(20.63) = 24.14\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(20.67) = 24.15\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(20.52) = 24.12\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(20.34) = 24.08\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(20.74) = 24.17\text{ dBm} > 24\text{dBm}$.

Chain 1

1. $11\text{dBm} + 10\log(20.82) = 24.18\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(20.44) = 24.10\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(20.43) = 24.10\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(20.61) = 24.14\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(20.52) = 24.12\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(20.64) = 24.15\text{ dBm} > 24\text{dBm}$.

Chain 2

1. $11\text{dBm} + 10\log(20.63) = 24.14\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(20.72) = 24.16\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(20.70) = 24.16\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(20.55) = 24.13\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(20.59) = 24.14\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(20.68) = 24.16\text{ dBm} > 24\text{dBm}$.

Chain 3

1. $11\text{dBm} + 10\log(20.56) = 24.13\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(20.58) = 24.13\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(20.54) = 24.13\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(20.57) = 24.13\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(20.64) = 24.15\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(20.81) = 24.18\text{ dBm} > 24\text{dBm}$.

*Directional gain = 5.18dBi < 6dBi, so the power limit no need to reduced.

802.11ac (VHT40)

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				
38	5190	18.94	19.15	19.26	19.37	331.397	25.20	30.00	Pass
46	5230	23.01	23.59	23.47	22.63	834.108	29.21	30.00	Pass
54	5270	16.97	18.93	17.79	17.34	242.254	23.84	24.00	Pass
62	5310	17.23	18.42	17.91	17.36	238.599	23.78	24.00	Pass
102	5510	17.48	18.20	18.46	17.58	249.471	23.97	24.00	Pass
110	5550	17.55	17.44	18.21	17.65	236.780	23.74	24.00	Pass
134	5670	17.03	16.91	18.93	17.38	232.422	23.66	24.00	Pass
151	5755	23.45	23.64	23.07	23.08	858.519	29.34	30.00	Pass
159	5795	23.98	23.72	22.96	22.89	877.773	29.43	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(41.04) = 27.13\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(41.12) = 27.14\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(41.02) = 27.13\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(41.13) = 27.14\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(41.16) = 27.14\text{ dBm} > 24\text{dBm}$.

Chain 1

1. $11\text{dBm} + 10\log(40.93) = 27.12\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(41.17) = 27.15\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(41.20) = 27.15\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(41.03) = 27.13\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(40.94) = 27.12\text{ dBm} > 24\text{dBm}$.

Chain 2

1. $11\text{dBm} + 10\log(40.73) = 27.10\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(40.98) = 27.13\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(41.42) = 27.17\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(41.15) = 27.14\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(41.09) = 27.14\text{ dBm} > 24\text{dBm}$.

Chain 3

1. $11\text{dBm} + 10\log(40.78) = 27.10\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(40.87) = 27.11\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(40.76) = 27.10\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(41.14) = 27.14\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(41.30) = 27.16\text{ dBm} > 24\text{dBm}$.

*Directional gain = 5.18dBi < 6dBi, so the power limit no need to reduced.

802.11ac (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	5210	17.40	18.56	18.58	18.34	267.078	24.27	30.00	Pass
58	5290	13.89	15.87	13.98	13.77	111.954	20.49	24.00	Pass
106	5530	17.48	17.87	18.28	17.71	243.529	23.87	24.00	Pass
122	5610	17.44	17.85	18.16	17.83	242.555	23.85	24.00	Pass
155	5775	22.14	21.99	21.37	21.34	595.039	27.75	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(80.79) = 30.07\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(81.08) = 30.09\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(81.05) = 30.09\text{ dBm} > 24\text{dBm}$.

Chain 1

1. $11\text{dBm} + 10\log(81.07) = 30.09\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(81.09) = 30.09\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(80.99) = 30.08\text{ dBm} > 24\text{dBm}$.

Chain 2

1. $11\text{dBm} + 10\log(80.94) = 30.08\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(80.94) = 30.08\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(81.12) = 30.09\text{ dBm} > 24\text{dBm}$.

Chain 3

1. $11\text{dBm} + 10\log(80.77) = 30.07\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(81.10) = 30.09\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(81.14) = 30.09\text{ dBm} > 24\text{dBm}$.

*Directional gain = 5.18dBi < 6dBi, so the power limit no need to reduced.

802.11ac (VHT80+ VHT80)

Channel	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	17.51	18.67	-	-	129.985	21.14	30.00	Pass
155	5775	-	-	18.16	17.97	128.125	21.08	30.00	Pass

Note:

*U-NII-1:

5210MHz: Directional gain = 2.22dBi < 6dBi, so the power limit no need to reduced.

*U-NII-3:

5775MHz: Directional gain = 3.58dBi < 6dBi, so the power limit no need to reduced.

26dB Bandwidth:

CDD Mode

802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	19.67	19.84	19.72	19.66
40	5200	20.19	19.83	20.34	19.84
48	5240	20.11	19.76	19.98	19.86
52	5260	19.56	19.45	19.56	19.83
60	5300	19.43	19.47	19.30	19.43
64	5320	19.72	19.68	19.93	19.58
100	5500	19.54	19.79	19.29	19.66
116	5580	19.49	19.44	20.08	19.83
140	5700	19.46	19.98	19.74	19.87

802.11ac (VHT20)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	20.58	20.71	20.54	20.57
40	5200	20.61	20.78	20.89	20.84
48	5240	21.12	20.77	20.80	20.77
52	5260	20.61	20.82	20.63	20.56
60	5300	20.63	20.44	20.72	20.58
64	5320	20.67	20.43	20.70	20.54
100	5500	20.52	20.61	20.55	20.57
116	5580	20.34	20.52	20.59	20.64
140	5700	20.74	20.64	20.68	20.81

802.11ac (VHT40)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	41.39	41.30	40.86	41.00
46	5230	42.15	41.12	41.06	41.09
54	5270	41.04	40.93	40.73	40.78
62	5310	41.12	41.17	40.98	40.87
102	5510	41.02	41.20	41.42	40.76
110	5550	41.13	41.03	41.15	41.14
134	5670	41.16	40.94	41.09	41.30

802.11ac (VHT80)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	80.87	80.84	80.73	80.84
58	5290	80.79	81.07	80.94	80.77
106	5530	81.08	81.09	80.94	81.10
122	5610	81.05	80.99	81.12	81.14

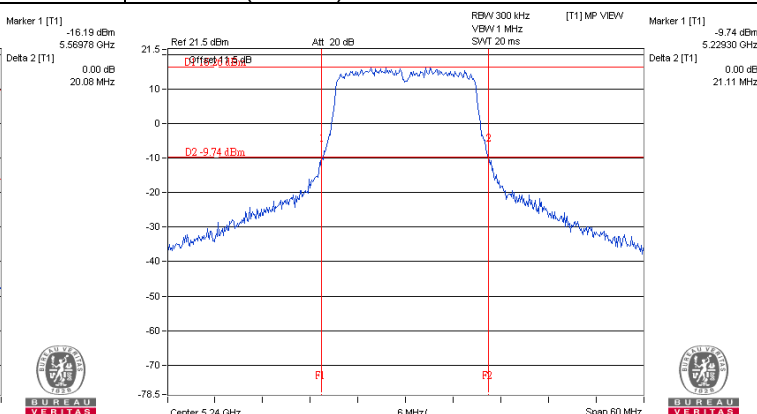
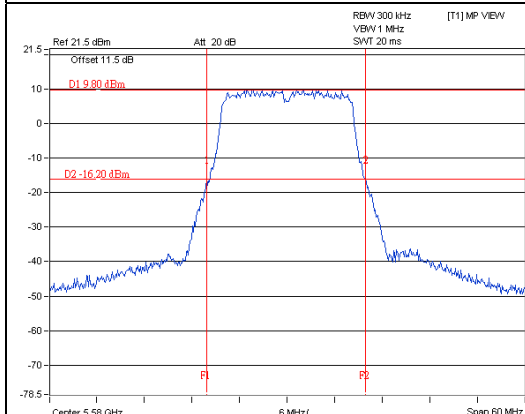
802.11ac (VHT80+VHT80)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	80.83	80.80	-	-

Spectrum Plot of Worst Value

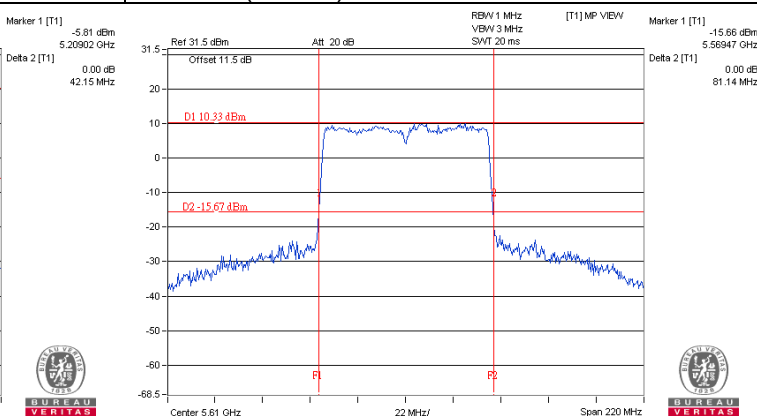
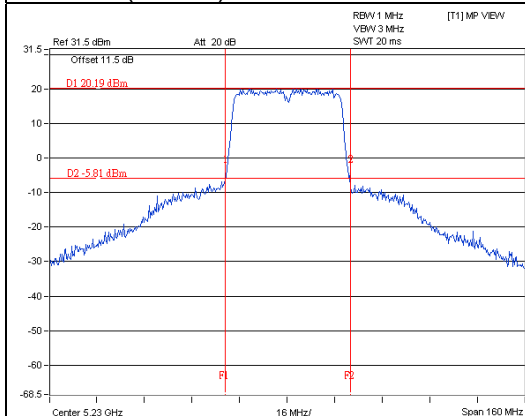
802.11a

802.11ac (VHT20)

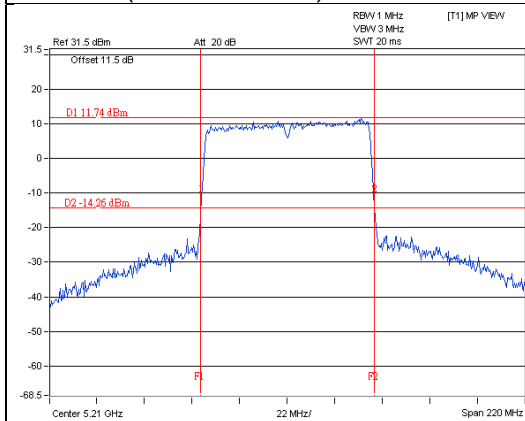


802.11ac (VHT40)

802.11ac (VHT80)



802.11ac (VHT80+VHT80)



EUT MAXIMUM CONDUCTED POWER

CDD Mode

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	206.182	23.14
5470~5725	205.732	23.13

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

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	216.490	23.35
5470~5725	215.503	23.33

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

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	242.254	23.84
5470~5725	250.775	23.99

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

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	111.954	20.49
5470~5725	243.529	23.87

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

Beamforming Mode

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	216.490	23.35
5470~5725	215.503	23.33

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

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	242.254	23.84
5470~5725	250.775	23.99

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

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	111.954	20.49
5470~5725	243.529	23.87

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

CDD Mode

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	16.44	16.56	16.56	16.44
40	5200	16.56	16.56	16.56	16.56
48	5240	16.56	16.44	16.56	16.56
52	5260	16.44	16.56	16.44	16.44
60	5300	16.44	16.56	16.44	16.44
64	5320	16.44	16.56	16.44	16.44
100	5500	16.44	16.56	16.56	16.44
116	5580	16.56	16.44	16.56	16.56
140	5700	16.44	16.56	16.56	16.44
149	5745	16.68	16.44	16.68	16.56
157	5785	16.68	16.68	16.68	16.56
165	5825	16.68	16.80	16.68	16.92

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	17.64	17.76	17.64	17.76
40	5200	17.76	17.76	17.76	17.76
48	5240	17.64	17.64	17.88	17.64
52	5260	17.64	17.64	17.64	17.64
60	5300	17.64	17.64	17.76	17.76
64	5320	17.64	17.76	17.64	17.64
100	5500	17.76	17.64	17.64	17.64
116	5580	17.64	17.76	17.76	17.76
140	5700	17.64	17.64	17.64	17.64
149	5745	17.64	17.64	17.64	17.64
157	5785	17.76	17.88	17.76	17.88
165	5825	17.88	17.88	17.88	17.88

802.11ac (VHT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	36.60	36.48	36.36	36.48
46	5230	36.60	36.48	36.48	36.48
54	5270	36.48	36.36	36.48	36.48
62	5310	36.48	36.36	36.48	36.48
102	5510	36.48	36.48	36.48	36.48
110	5550	36.60	36.48	36.60	36.48
134	5670	36.48	36.48	36.48	36.48
151	5755	36.72	36.60	36.48	36.60
159	5795	36.60	36.72	36.84	36.60

802.11ac (VHT80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	75.84	75.84	75.84	75.84
58	5290	75.84	75.84	75.84	76.08
106	5530	76.08	76.08	76.08	75.84
122	5610	76.08	76.08	76.08	76.08
155	5775	75.84	75.84	76.08	75.84

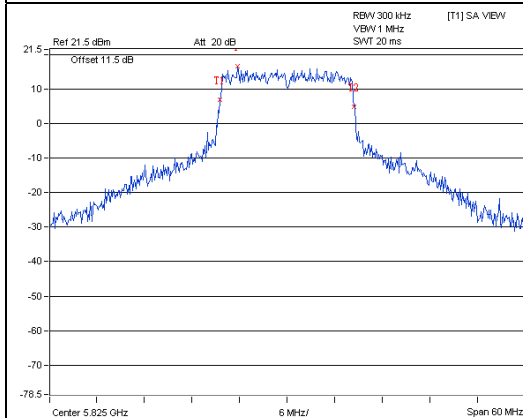
802.11ac (VHT80+ VHT80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	75.84	75.84	-	-
155	5775	-	-	75.84	75.84

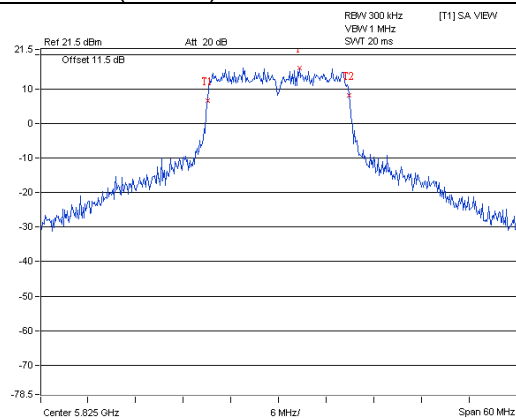
Spectrum Plot of Worst Value

802.11a

802.11ac (VHT20)



Marker 1 [T1]
16.60 dBm
5.81864 GHz
OBW 16.92 MHz
Temp 1 [T1] OBW 16.92 MHz
5.81648 GHz
Temp 2 [T1] OBW 4.96 dBm
5.83340 GHz

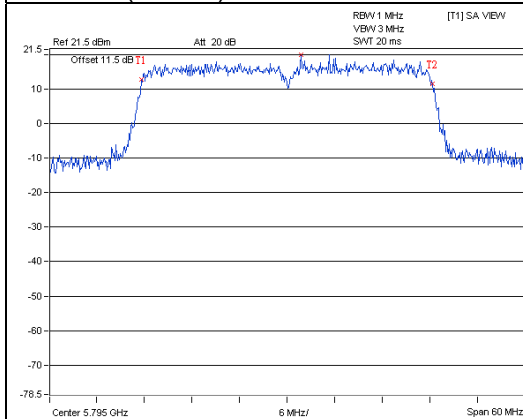


Marker 1 [T1]
16.20 dBm
5.82764 GHz
OBW 17.88 MHz
Temp 1 [T1] OBW 8.69 dBm
5.81600 GHz
Temp 2 [T1] OBW 8.15 dBm
5.83388 GHz

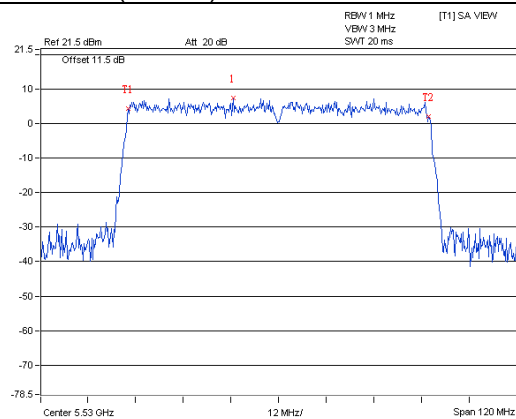


802.11ac (VHT40)

802.11ac (VHT80)



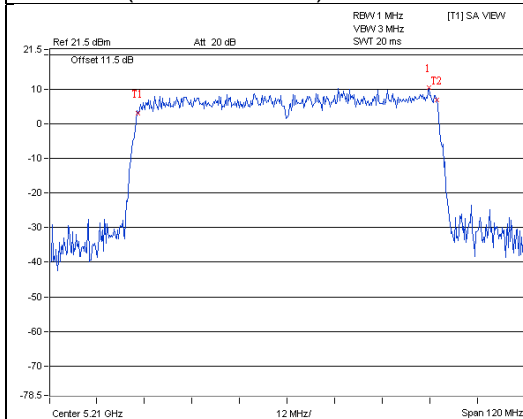
Marker 1 [T1]
19.86 dBm
5.79668 GHz
OBW 36.84 MHz
Temp 1 [T1] OBW 12.87 dBm
5.77652 GHz
Temp 2 [T1] OBW 11.65 dBm
5.81336 GHz



Marker 1 [T1]
7.53 dBm
5.51848 GHz
OBW 76.08 MHz
Temp 1 [T1] OBW 4.44 dBm
5.49184 GHz
Temp 2 [T1] OBW 2.10 dBm
5.56792 GHz



802.11ac (VHT80+VHT80)



Marker 1 [T1]
10.46 dBm
5.24576 GHz
OBW 75.84 MHz
Temp 1 [T1] OBW 3.08 dBm
5.17208 GHz
Temp 2 [T1] OBW 6.94 dBm
5.24792 GHz



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-1

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

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:

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
- c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
- d. 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 $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$
- e. Sweep time = auto, trigger set to "free run".
- f. Trace average at least 100 traces in power averaging mode.
- g. Record the max value and add $10 \log (1/\text{duty cycle})$

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as Item 4.3.6.

4.5.7 Test Results

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

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	8.46	7.12	6.13	7.06	0.18	13.48	17.00	Pass
40	5200	10.75	10.69	10.63	10.65	0.18	16.88	17.00	Pass
48	5240	10.80	10.48	10.60	10.55	0.18	16.81	17.00	Pass
52	5260	4.56	4.79	4.34	4.82	0.24	10.89	11.00	Pass
60	5300	4.31	4.46	4.51	4.50	0.24	10.71	11.00	Pass
64	5320	4.26	4.49	4.58	4.53	0.24	10.73	11.00	Pass
100	5500	4.15	4.28	4.24	4.11	0.24	10.46	11.00	Pass
116	5580	3.87	4.13	3.92	3.87	0.24	10.21	11.00	Pass
140	5700	4.22	4.23	4.20	4.24	0.24	10.48	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 = 5.18dBi < 6dBi, so the power density limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	6.49	7.90	7.00	6.52	0.12	13.16	17.00	Pass
40	5200	10.64	10.66	10.70	10.54	0.12	16.77	17.00	Pass
48	5240	10.40	10.43	10.36	10.39	0.12	16.53	17.00	Pass
52	5260	4.21	4.05	4.34	4.26	0.00	10.24	11.00	Pass
60	5300	3.87	3.92	4.02	3.93	0.00	9.96	11.00	Pass
64	5320	3.84	3.90	3.96	3.88	0.00	9.92	11.00	Pass
100	5500	3.60	3.69	3.71	3.62	0.00	9.68	11.00	Pass
116	5580	3.27	3.39	3.39	3.37	0.00	9.38	11.00	Pass
140	5700	3.69	3.73	3.80	3.80	0.00	9.78	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 = 5.18dBi < 6dBi, so the power density limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	5.15	4.15	3.98	4.12	0.27	10.67	17.00	Pass
46	5230	8.41	7.42	7.54	7.46	0.27	14.02	17.00	Pass
54	5270	1.03	1.09	1.07	2.24	0.22	7.63	11.00	Pass
62	5310	0.61	0.82	0.93	1.76	0.22	7.30	11.00	Pass
102	5510	0.57	0.63	0.45	1.84	0.22	7.15	11.00	Pass
110	5550	0.19	0.23	0.21	1.37	0.22	6.77	11.00	Pass
134	5670	0.69	0.80	0.66	1.68	0.22	7.22	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 = 5.18dBi < 6dBi, so the power density limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-0.10	-0.37	-0.24	-0.22	0.37	6.17	17.00	Pass
58	5290	-6.27	-6.12	-6.35	-6.24	0.66	0.43	11.00	Pass
106	5530	-2.66	-2.71	-2.77	-2.65	0.66	3.98	11.00	Pass
122	5610	-1.86	-1.83	-1.58	-1.65	0.66	4.95	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 = 5.18dBi < 6dBi, so the power density limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80+ VHT80)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-0.11	-0.10	-	-	0.39	3.29	17.00	Pass

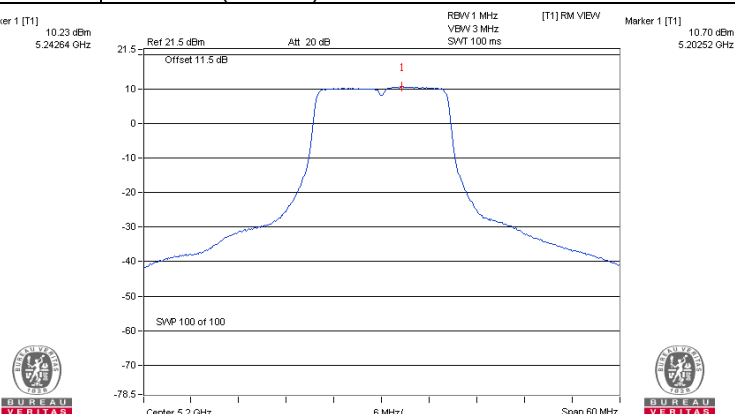
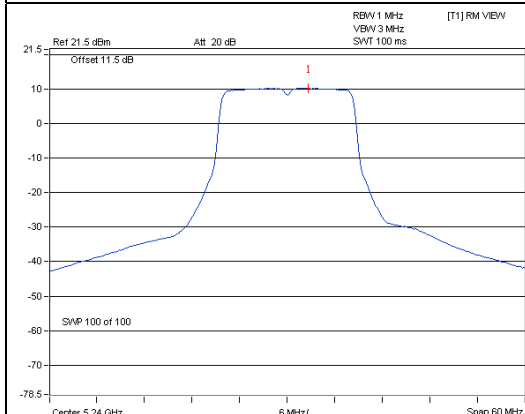
Note:

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 = 2.22dBi < 6dBi, so the power density limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

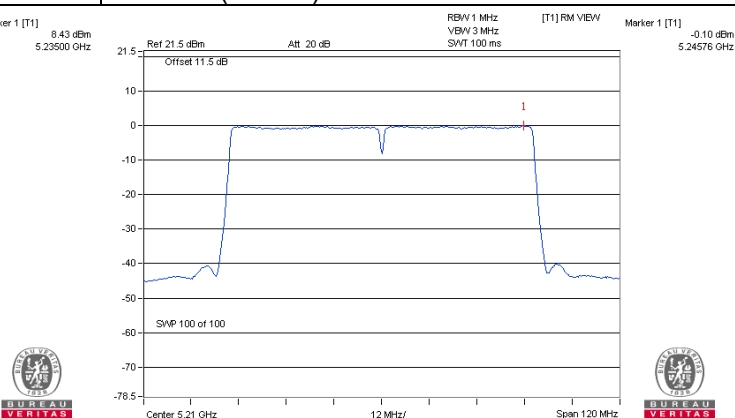
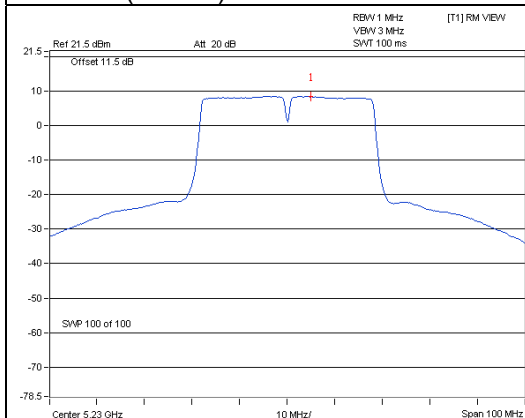
802.11a / Ch 48 / Chain 0

802.11ac (VHT20) / Ch 40 / Chain 1

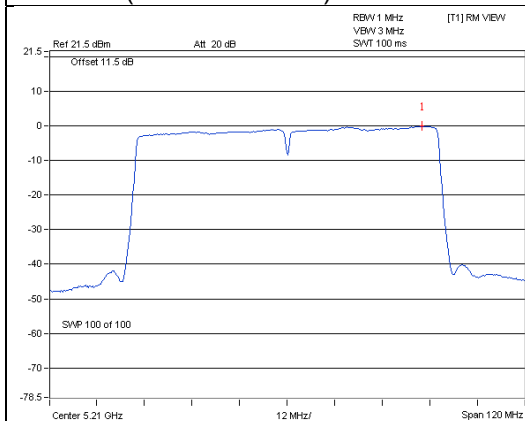


802.11ac (VHT40) / Ch 46 / Chain 0

802.11ac (VHT80) / Ch 42 / Chain 0



802.11ac (VHT80+ VHT80) / Ch 42 / Chain 1



For U-NII-3 Band

CDD Mode

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor (dB)	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	149	5745	3.54	5.76	6.02	0.18	11.96	30.00	Pass
	157	5785	3.92	6.14	6.02	0.18	12.34	30.00	Pass
	165	5825	3.73	5.95	6.02	0.18	12.15	30.00	Pass
1	149	5745	3.52	5.74	6.02	0.18	11.94	30.00	Pass
	157	5785	3.96	6.18	6.02	0.18	12.38	30.00	Pass
	165	5825	3.88	6.10	6.02	0.18	12.30	30.00	Pass
2	149	5745	3.52	5.74	6.02	0.18	11.94	30.00	Pass
	157	5785	3.78	6.00	6.02	0.18	12.20	30.00	Pass
	165	5825	3.88	6.10	6.02	0.18	12.30	30.00	Pass
3	149	5745	3.53	5.75	6.02	0.18	11.95	30.00	Pass
	157	5785	4.01	6.23	6.02	0.18	12.43	30.00	Pass
	165	5825	3.81	6.03	6.02	0.18	12.23	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 = 5.18dBi < 6dBi, so the power density limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor (dB)	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	149	5745	3.02	5.24	6.02	0.12	11.38	30.00	Pass
	157	5785	3.32	5.54	6.02	0.12	11.68	30.00	Pass
	165	5825	3.41	5.63	6.02	0.12	11.77	30.00	Pass
1	149	5745	3.07	5.29	6.02	0.12	11.43	30.00	Pass
	157	5785	3.25	5.47	6.02	0.12	11.61	30.00	Pass
	165	5825	3.38	5.60	6.02	0.12	11.74	30.00	Pass
2	149	5745	3.00	5.22	6.02	0.12	11.36	30.00	Pass
	157	5785	3.40	5.62	6.02	0.12	11.76	30.00	Pass
	165	5825	3.36	5.58	6.02	0.12	11.72	30.00	Pass
3	149	5745	3.10	5.32	6.02	0.12	11.46	30.00	Pass
	157	5785	3.35	5.57	6.02	0.12	11.71	30.00	Pass
	165	5825	3.51	5.73	6.02	0.12	11.87	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 = 5.18dBi < 6dBi, so the power density limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor (dB)	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	151	5755	-0.20	2.02	6.02	0.27	8.31	30.00	Pass
	159	5795	-0.06	2.16	6.02	0.27	8.45	30.00	Pass
1	151	5755	-0.15	2.07	6.02	0.27	8.36	30.00	Pass
	159	5795	-0.09	2.13	6.02	0.27	8.42	30.00	Pass
2	151	5755	-0.28	1.94	6.02	0.27	8.23	30.00	Pass
	159	5795	-0.14	2.08	6.02	0.27	8.37	30.00	Pass
3	151	5755	-0.11	2.11	6.02	0.27	8.40	30.00	Pass
	159	5795	-0.08	2.14	6.02	0.27	8.43	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 = 5.18dBi < 6dBi, so the power density limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor (dB)	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	155	5775	-5.40	-3.18	6.02	0.37	3.21	30.00	Pass
1	155	5775	-5.54	-3.32	6.02	0.37	3.07	30.00	Pass
2	155	5775	-4.81	-2.59	6.02	0.37	3.80	30.00	Pass
3	155	5775	-5.47	-3.25	6.02	0.37	3.14	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 = 5.18dBi < 6dBi, so the power density limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80+VHT80)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor (dB)	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
2	155	5775	-8.14	-5.92	6.02	0.39	-0.29	30.00	Pass
3	155	5775	-8.17	-5.95	6.02	0.39	-0.32	30.00	Pass

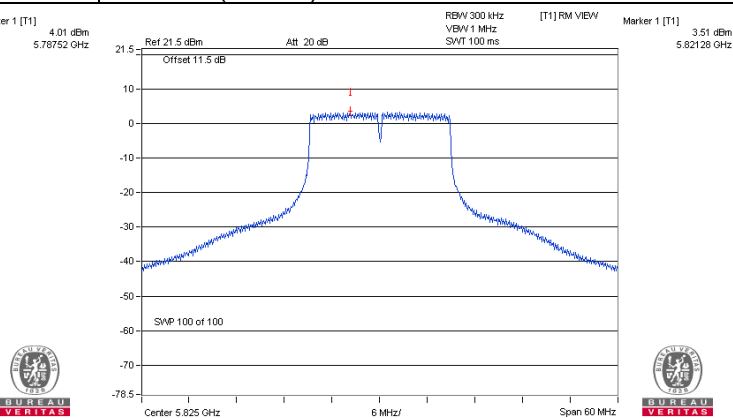
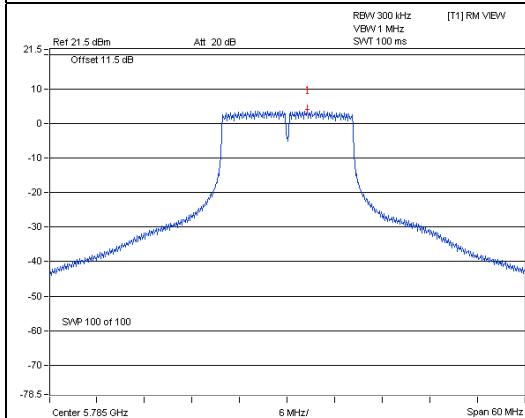
Note:

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 = 3.85dBi < 6dBi, so the power density limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

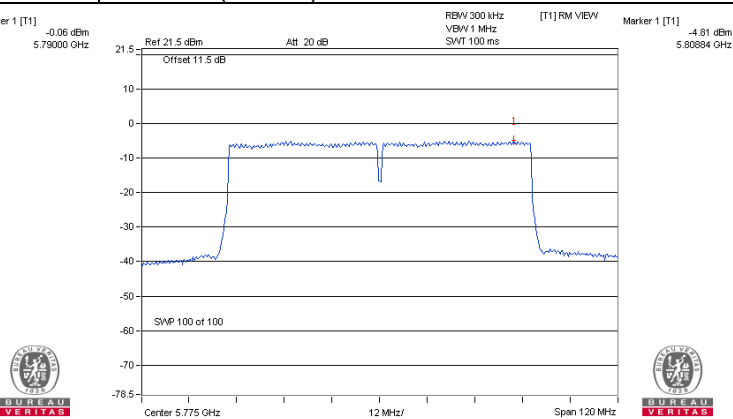
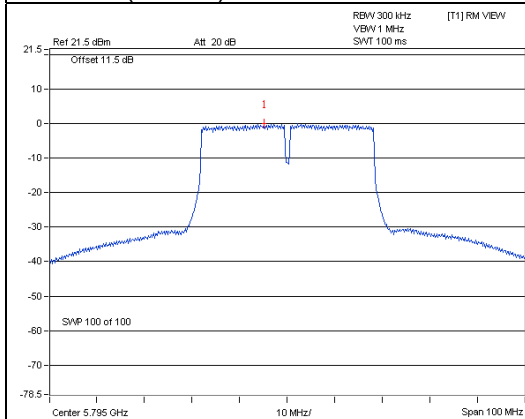
802.11a

802.11ac (VHT20)

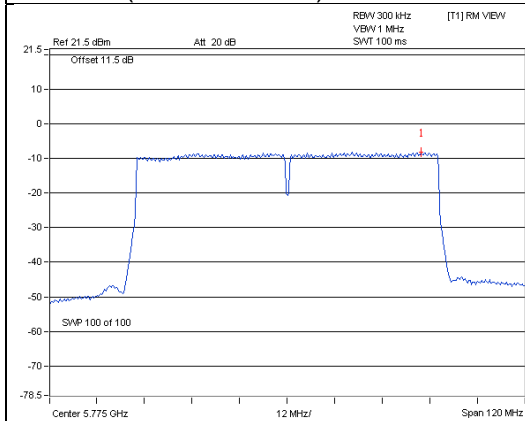


802.11ac (VHT40)

802.11ac (VHT80)



802.11ac (VHT80+VHT80)

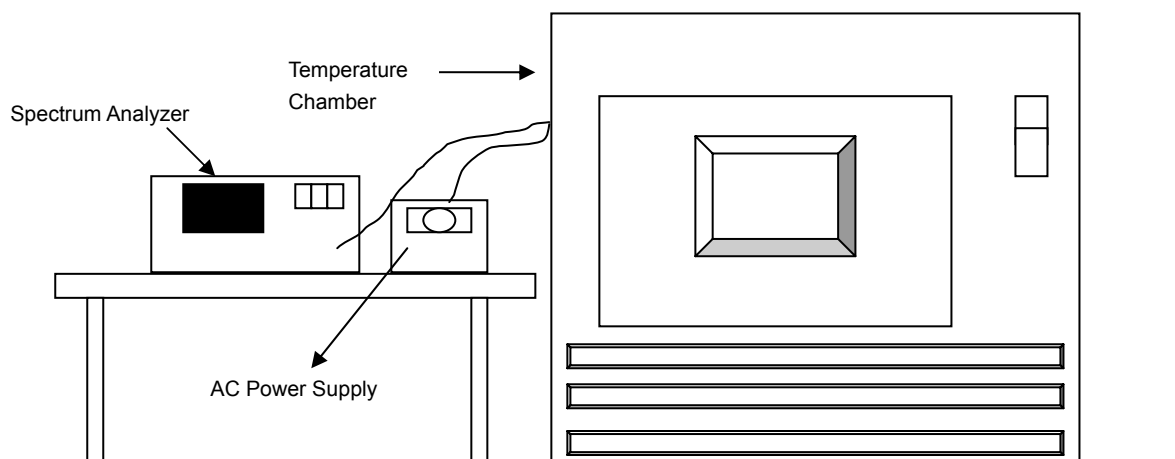


4.6 Frequency Stability

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

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal 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: 5260MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5260.0160	0.00030	5260.0137	0.00026	5260.0163	0.00031	5260.0149	0.00028
40	120	5260.0013	0.00002	5260.0019	0.00004	5260.0018	0.00003	5260.0014	0.00003
30	120	5259.9875	-0.00024	5259.9870	-0.00025	5259.9889	-0.00021	5259.9881	-0.00023
20	120	5260.0092	0.00017	5260.0106	0.00020	5260.0115	0.00022	5260.0111	0.00021
10	120	5259.9873	-0.00024	5259.9872	-0.00024	5259.9858	-0.00027	5259.9879	-0.00023
0	120	5260.0211	0.00040	5260.0251	0.00048	5260.0224	0.00043	5260.0235	0.00045
-10	120	5259.9788	-0.00040	5259.9764	-0.00045	5259.9808	-0.00037	5259.9766	-0.00044
-20	120	5260.0241	0.00046	5260.0212	0.00040	5260.0228	0.00043	5260.0202	0.00038
-30	120	5259.9827	-0.00033	5259.9836	-0.00031	5259.9793	-0.00039	5259.9798	-0.00038

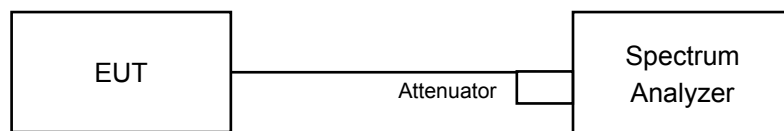
Frequency Stability Versus Voltage.									
Operating Frequency: 5260MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5260.0101	0.00019	5260.0098	0.00019	5260.0118	0.00022	5260.0106	0.00020
	120	5260.0092	0.00017	5260.0106	0.00020	5260.0115	0.00022	5260.0111	0.00021
	102	5260.0099	0.00019	5260.0114	0.00022	5260.0113	0.00021	5260.0121	0.00023

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

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	16.38	16.39	16.38	16.38	0.5	Pass
157	5785	16.40	16.36	16.37	16.38	0.5	Pass
165	5825	16.38	16.41	16.39	16.40	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	17.58	17.62	17.61	17.56	0.5	Pass
157	5785	17.61	17.61	17.56	17.56	0.5	Pass
165	5825	17.61	17.58	17.63	17.63	0.5	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	36.06	36.42	36.31	36.37	0.5	Pass
159	5795	36.41	36.20	36.43	36.48	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
155	5775	76.45	76.12	76.47	76.49	0.5	Pass

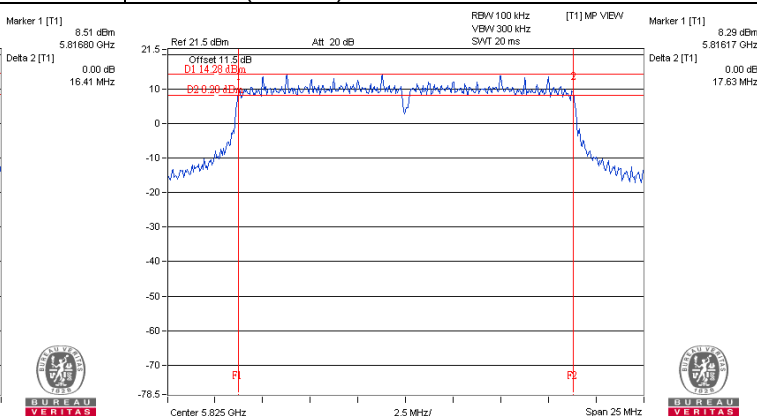
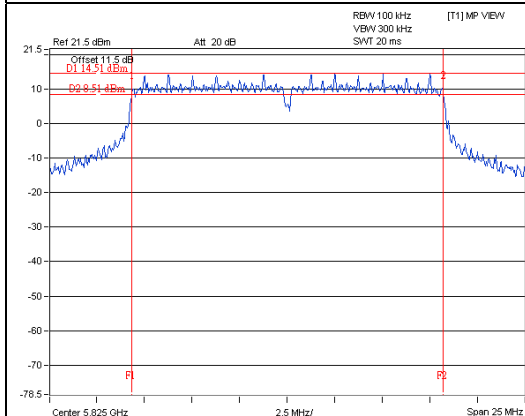
802.11ac (VHT80+VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
155	5775	-	-	76.46	76.47	0.5	Pass

Spectrum Plot of Worst Value

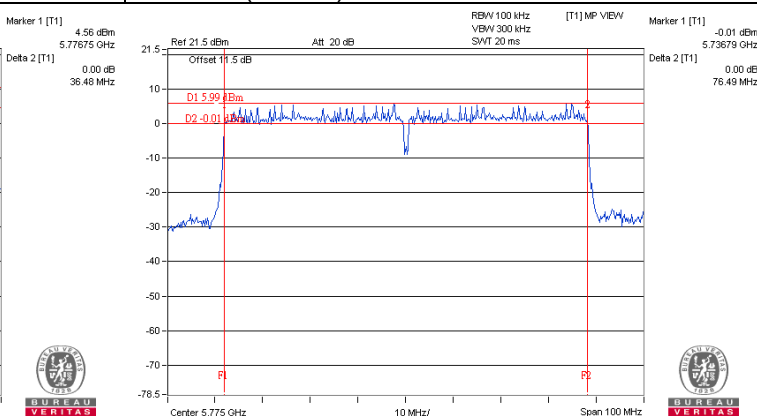
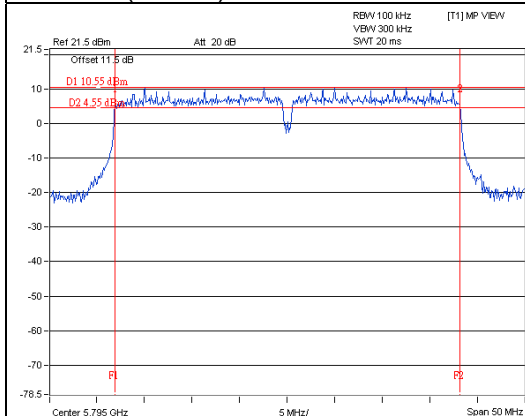
802.11a

802.11ac (VHT20)

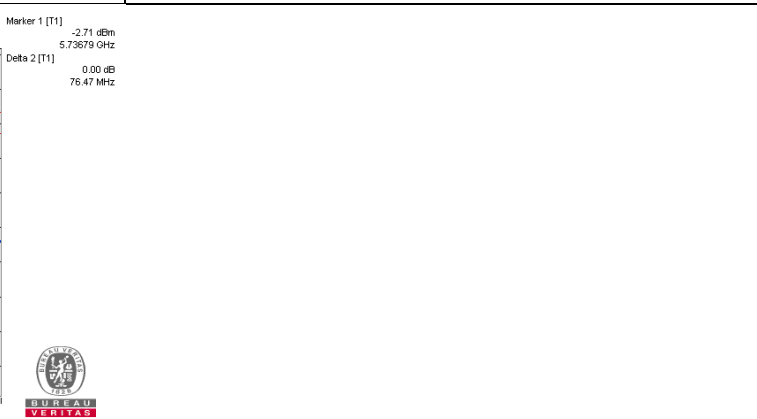
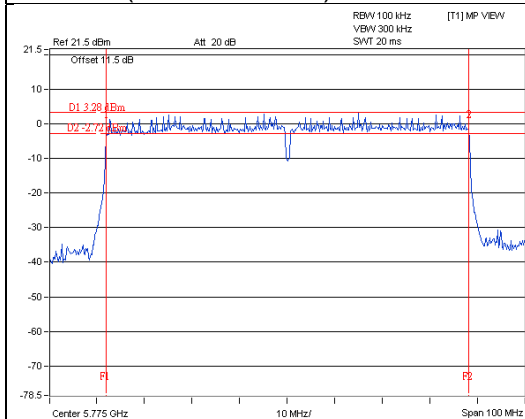


802.11ac (VHT40)

802.11ac (VHT80)



802.11ac (VHT80+ VHT80)



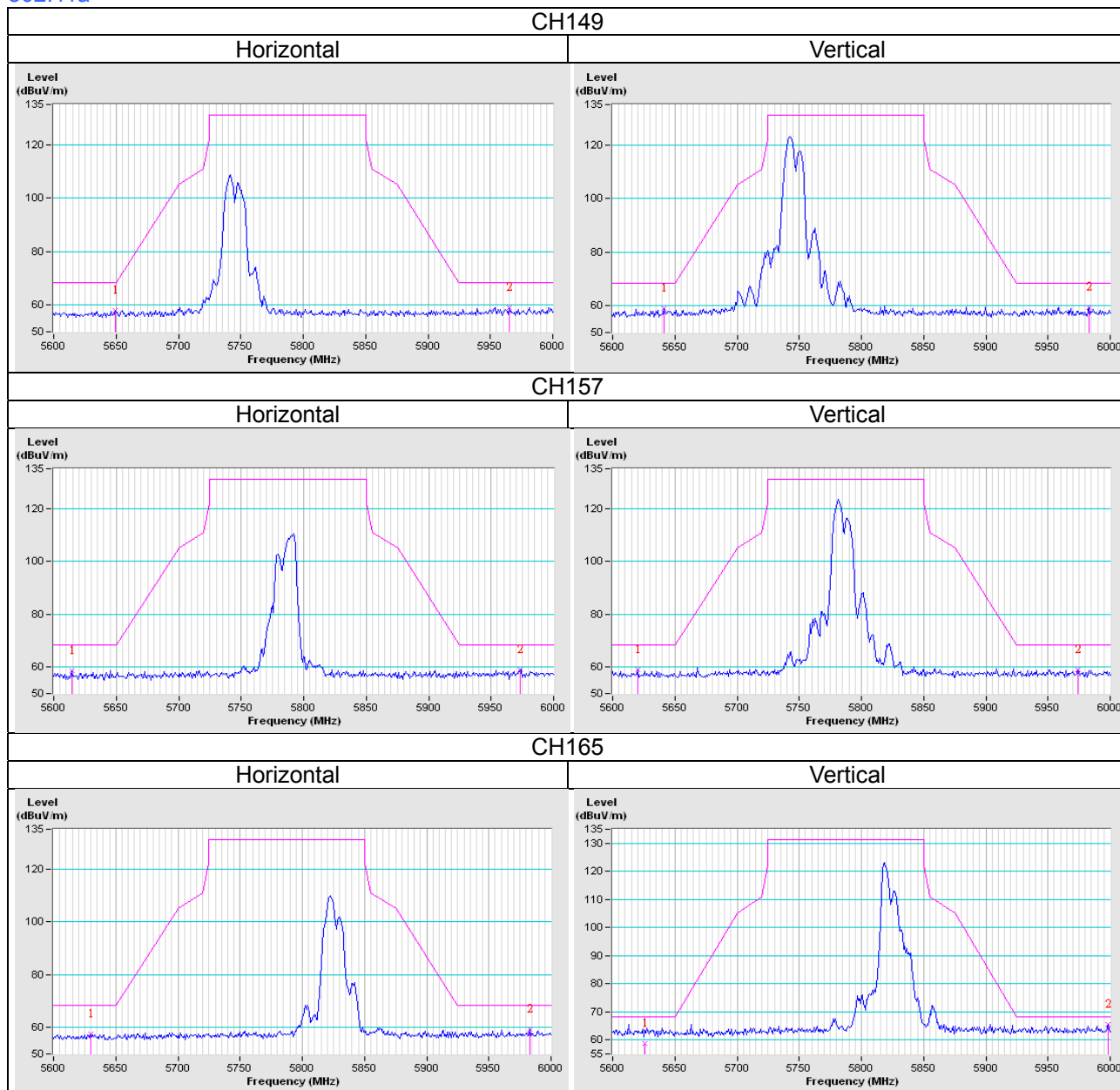
5 Pictures of Test Arrangements

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

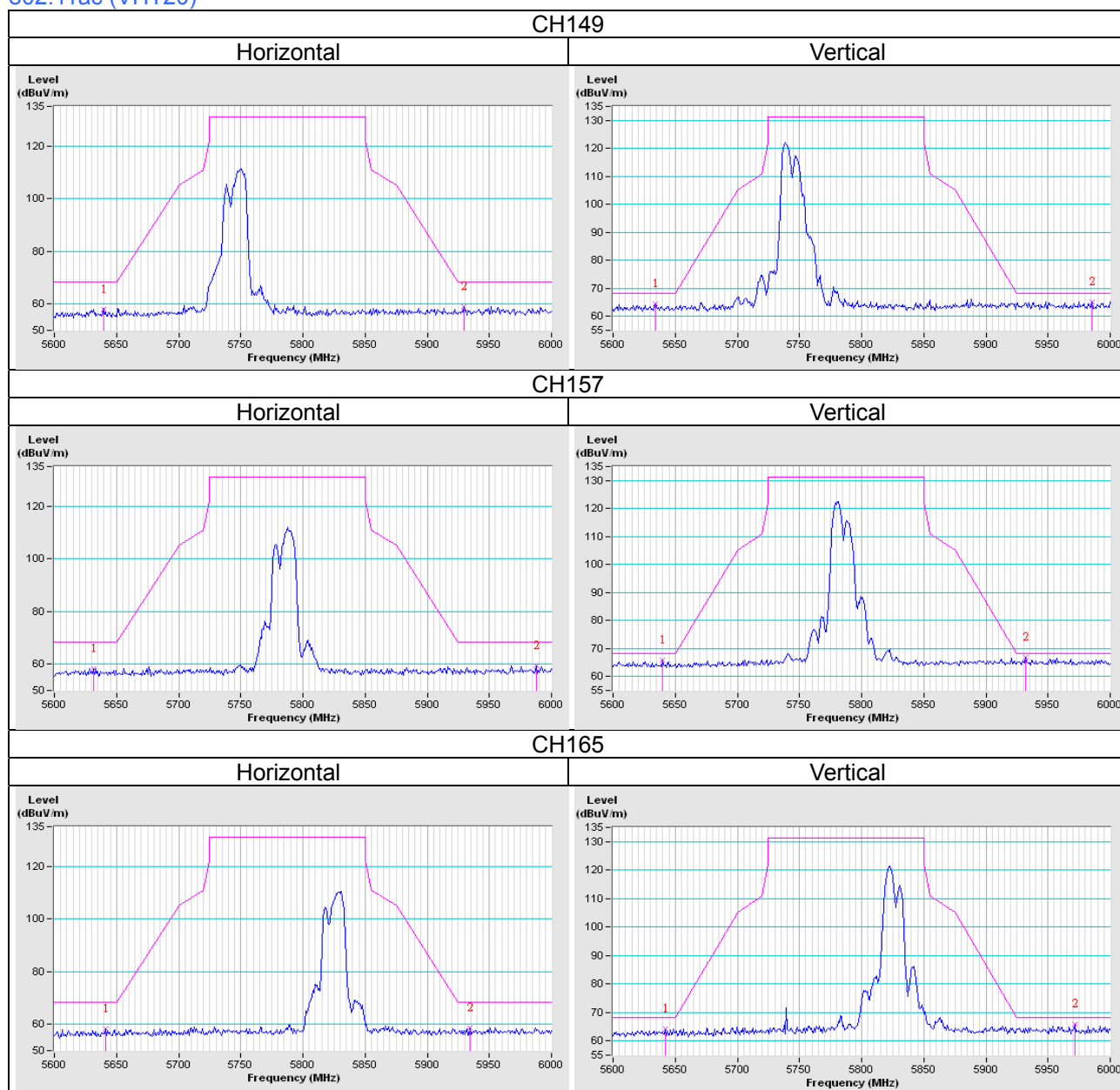
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

CDD Mode

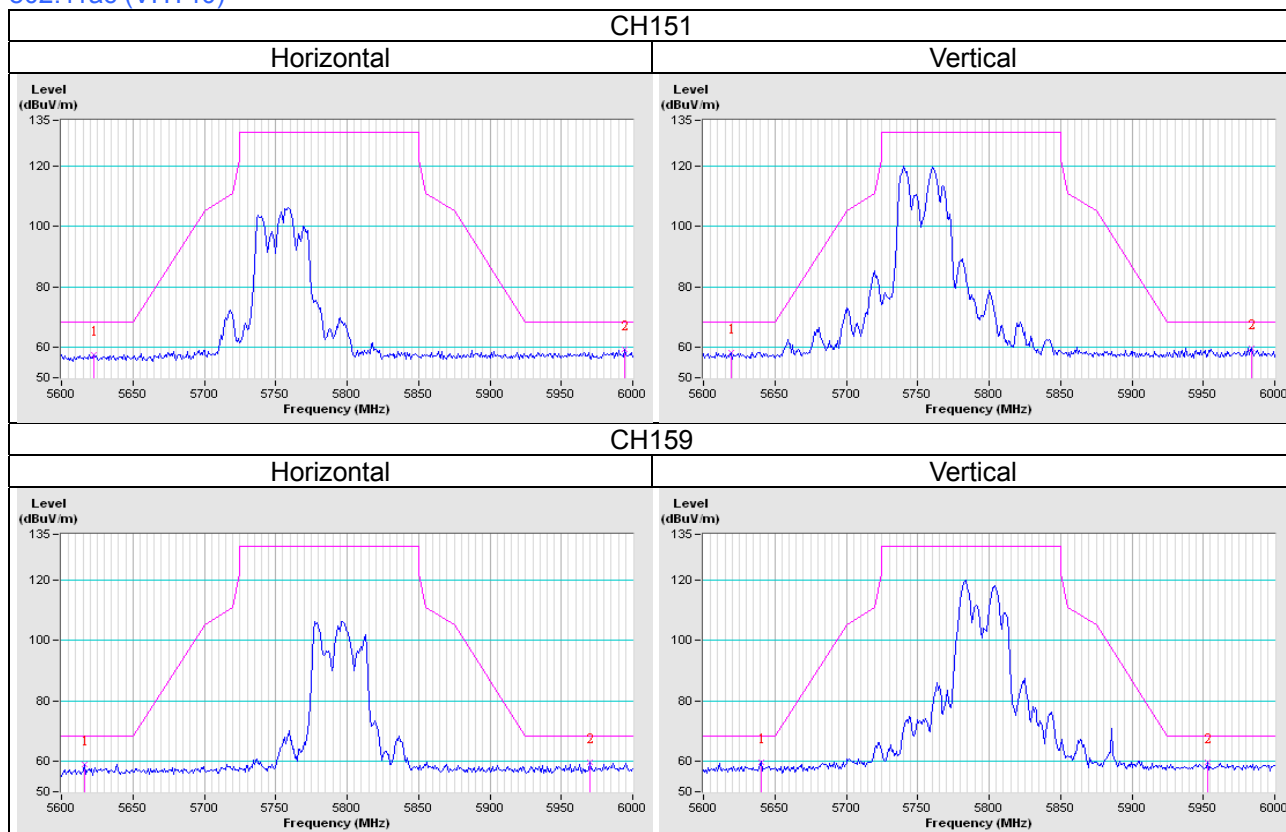
802.11a



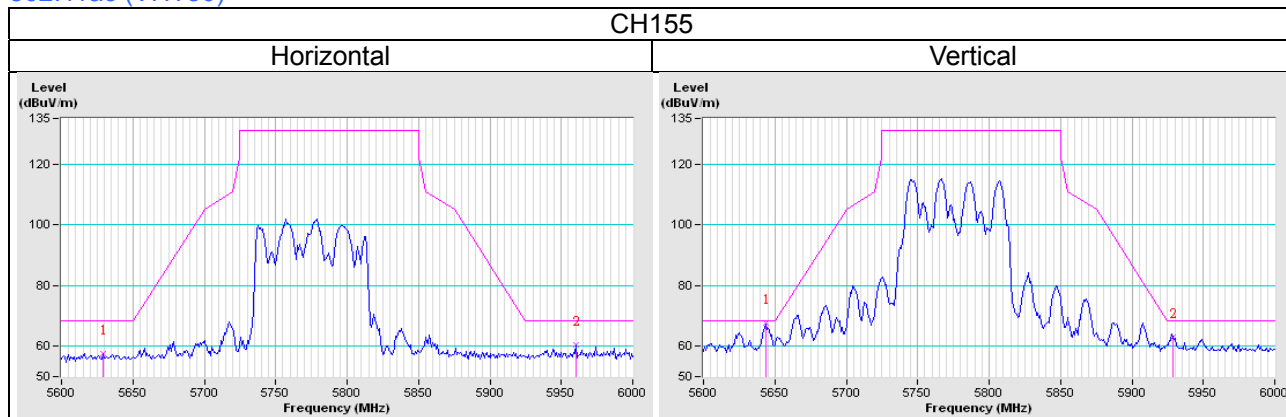
802.11ac (VHT20)



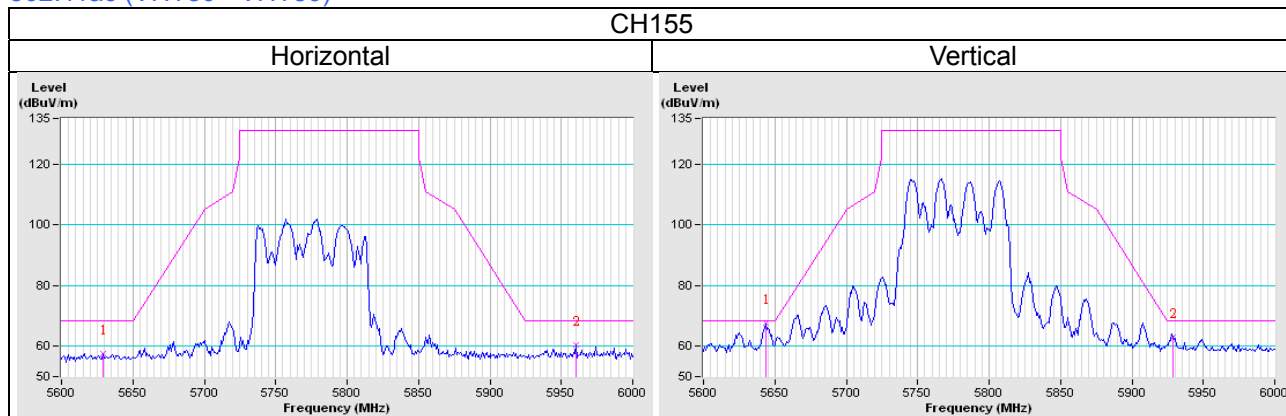
802.11ac (VHT40)



802.11ac (VHT80)



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

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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.

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