

FCC Test Report

Report No.: RF170519C03A-1

FCC ID: CPODASH-T3PA

Model: DASH10AB

Received Date: May 19, 2017

Test Date: Jun. 05 ~ Jul. 05, 2017 (Test Mode A)
Jun. 08, 2018 (Test Mode B)

Issued Date: Jun. 29, 2018

Applicant: Pioneer POS Solution Inc.

Address: 238 Benton Ct, City of Industry, CA 91789 USA

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

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
(R.O.C.)

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City
33383, TAIWAN (R.O.C.)

**FCC Registration/
Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
RF170519C03A-1	Original release.	Jun. 29, 2018

1 Certificate of Conformity

Product: 10.1" mPOS

Brand:

PioneerINC

Model: DASH10AB

Sample Status: Engineering sample

Applicant: Pioneer POS Solution Inc.

Test Date: Jun. 05 ~ Jul. 05, 2017 (Test Mode A)
Jun. 08, 2018 (Test Mode B)

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 RF characteristics under the conditions specified in this report.

Prepared by : Pettie Chen, **Date:** Jun. 29, 2018
Pettie Chen / Senior Specialist

Approved by : Bruce Chen, **Date:** Jun. 29, 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 -13.21dB at 0.15782MHz.
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 -0.2dB at 5470.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is IPEX IV not a standard connector.

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions	30MHz ~ 200MHz	3.63 dB
	200MHz ~ 1000MHz	3.64 dB
	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	10.1" mPOS
Brand	PioneerINC
Model	DASH10AB
Sample Status	Engineering sample
Power Supply Rating	5.0Vdc (adapter) 3.7Vdc (battery)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 150Mbps 802.11ac: up to 433.4Mbps
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	5180~5240MHz: 15.524mW 5260~5320MHz: 14.555mW 5500~5700MHz: 14.655mW 5745~5825MHz: 15.311mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Adapter, Cradle, Back cover
Data Cable Supplied	NA

Note:

1. The EUT provides 1 completed transmitter and 1 receiver.

Modulation Mode	TX Function
802.11a	1TX
802.11n (HT20)	1TX
802.11n (HT40)	1TX
802.11ac (VHT20)	1TX
802.11ac (VHT40)	1TX
802.11ac (VHT80)	1TX

*The modulation and bandwidth are similar for 802.11n mode for HT20/HT40 and 802.11ac mode for VHT20/VHT40, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT uses following antenna.

Type	PIFA								
Connector	IPEX IV								
Gain (dBi)									
Frequency (MHz)	2400	2450	2500	4900	5000	5200	5500	5800	5900
	-3.4	-3.4	-3.4	-5.2	-5.2	-4.9	-5.2	-5.2	-5.2

3. The EUT consumes power from the following adapter and battery.

Item	Vendor	Model	Specification
Adapter	WEIHAI POWER	HAS035053	I/P: 100-240Vac, 50/60Hz, 1.6A. O/P: 5Vdc, 7A Power Line: 0.66m DC cable with 1 core attached on adapter 1.76m AC cable without core
Battery	TCL	PR-2770E2N	3.7Vdc, 7000mAH

4. WLAN, BT EDR and BT LE technologies cannot transmit at same time.

3.2 Description of Test Modes

For 5180~5240MHz:

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

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

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

Channel	Frequency	Channel	Frequency
38	5190MHz	46	5230MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

For 5260~5320MHz:

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

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

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

Channel	Frequency	Channel	Frequency
54	5270MHz	62	5310MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

For 5500~5700MHz:

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

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

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

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

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530MHz	122	5610MHz

For 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	√	√	√	√	Power from adapter
B	-	√	√	-	Power from cradle

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

Note:

- The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane (For Test Mode A), Z-plane (For Test Mode B)**.
- "-": 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	13.5
	802.11ac (VHT80)		42	42	OFDM	58.5
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	13.5
	802.11ac (VHT80)		58	58	OFDM	58.5
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	13.5
	802.11ac (VHT80)		106 to 122	106, 122	OFDM	58.5
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	13.5
	802.11ac (VHT80)		155	155	OFDM	58.5

Radiated Emission Test (Below 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, B	802.11n (HT20)	5180-5240	36 to 48	149	OFDM	6.5
		5260-5320	52 to 64		OFDM	6.5
		5500-5700	100 to 140		OFDM	6.5
		5745-5825	149 to 165		OFDM	6.5

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	802.11n (HT20)	5180-5240	36 to 48	149	OFDM	6.5
		5260-5320	52 to 64		OFDM	6.5
		5500-5700	100 to 140		OFDM	6.5
		5745-5825	149 to 165		OFDM	6.5

Antenna Port Conducted Measurement:

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

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	13.5
	802.11ac (VHT80)		42	42	OFDM	58.5
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	13.5
	802.11ac (VHT80)		58	58	OFDM	58.5
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	13.5
	802.11ac (VHT80)		106 to 122	106, 122	OFDM	58.5
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	13.5
	802.11ac (VHT80)		155	155	OFDM	58.5

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	25 deg. C, 70% RH	120Vac, 60Hz	Matthew Yang
RE<1G	25 deg. C, 70% RH	120Vac, 60Hz	Chris Lin Luis Lee
PLC	25 deg. C, 70% RH	120Vac, 60Hz	Matthew Yang Luis Lee
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Cedric Wu

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is $\geq 98\%$, duty factor is not required.

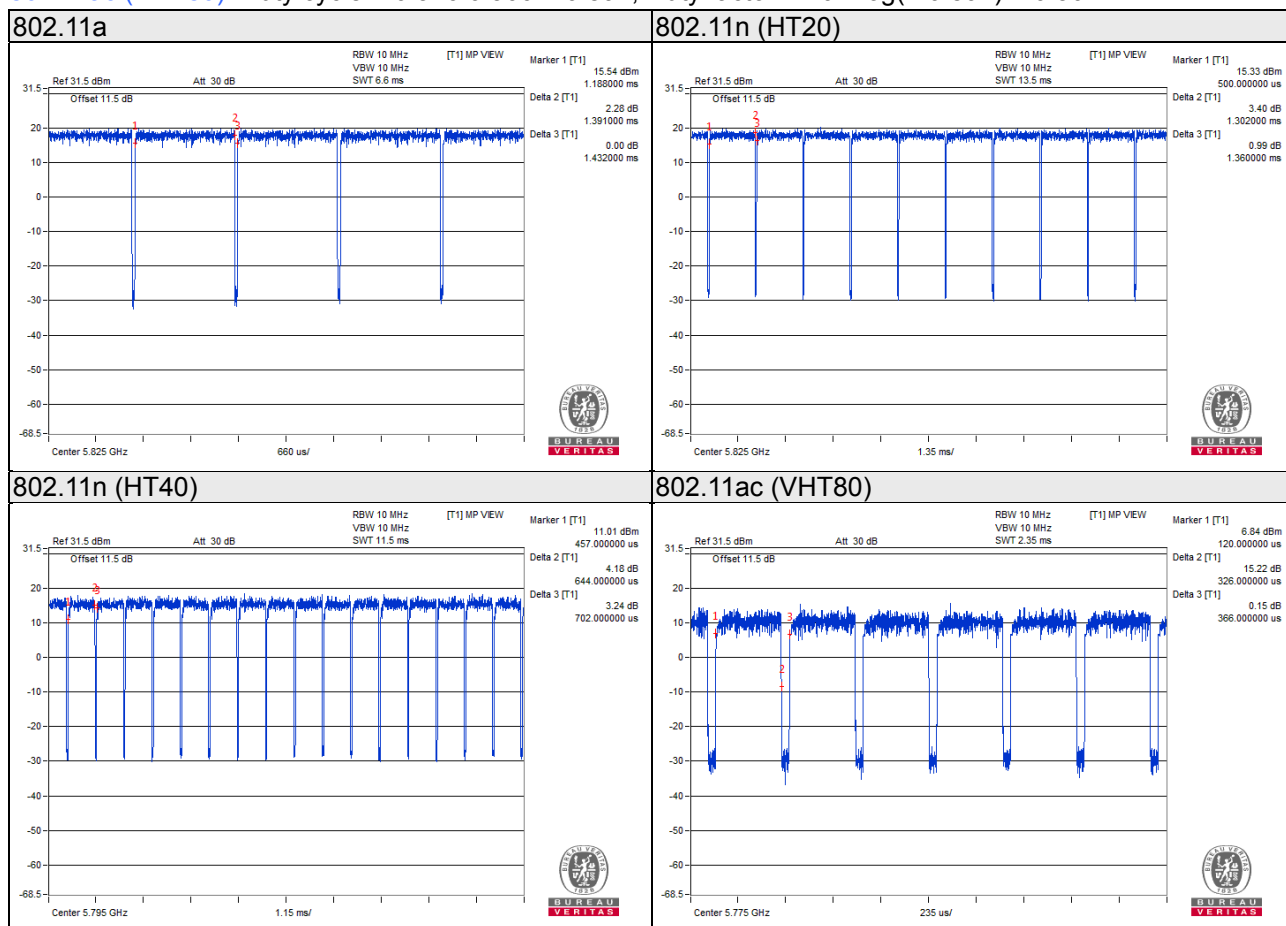
Duty cycle of test signal is $< 98\%$, duty factor shall be considered.

802.11a: Duty cycle = $1.391/1.432 = 0.971$, Duty factor = $10 * \log(1/0.971) = 0.13$

802.11n (HT20): Duty cycle = $1.302/1.360 = 0.957$, Duty factor = $10 * \log(1/0.957) = 0.19$

802.11n (HT40): Duty cycle = $0.644/0.702 = 0.917$, Duty factor = $10 * \log(1/0.917) = 0.37$

802.11ac (VHT80): Duty cycle = $0.326/0.366 = 0.891$, Duty factor = $10 * \log(1/0.891) = 0.50$



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	1HC2XM1	FCC DoC Approved	-
B.	HDD	Toshiba	DTB305	X4R2C64VT3ZB	FCC DoC Approved	-
C.	HDD	Toshiba	DTB305	X4R2C64VT3ZB	FCC DoC Approved	-
D.	HDD	Toshiba	DTB305	X4R2C64VT3ZB	FCC DoC Approved	-
E.	Mouse	DELL	MS111-P	CN-011D3V-71581 -1CJ-092J	FCC DoC Approved	-
F.	Keyboard	DELL	KB4021	CN-05V23T-71581 -1AK-01Q7-A01	FCC DoC Approved	-

Note:

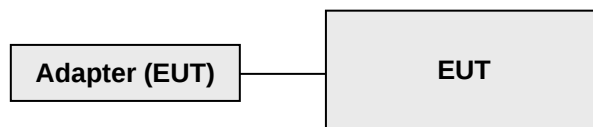
1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45, Cat5e	1	10	N	0	-
2.	HDD Cable	1	0.8	-	0	-
3.	HDD Cable	1	0.8	-	0	-
4.	HDD Cable	1	0.8	-	0	-
5.	USB Cable	1	1.8	Y	0	-
6.	USB Cable	1	1.8	Y	0	-
7.	RS232 Cable	1	1.8	N	0	-

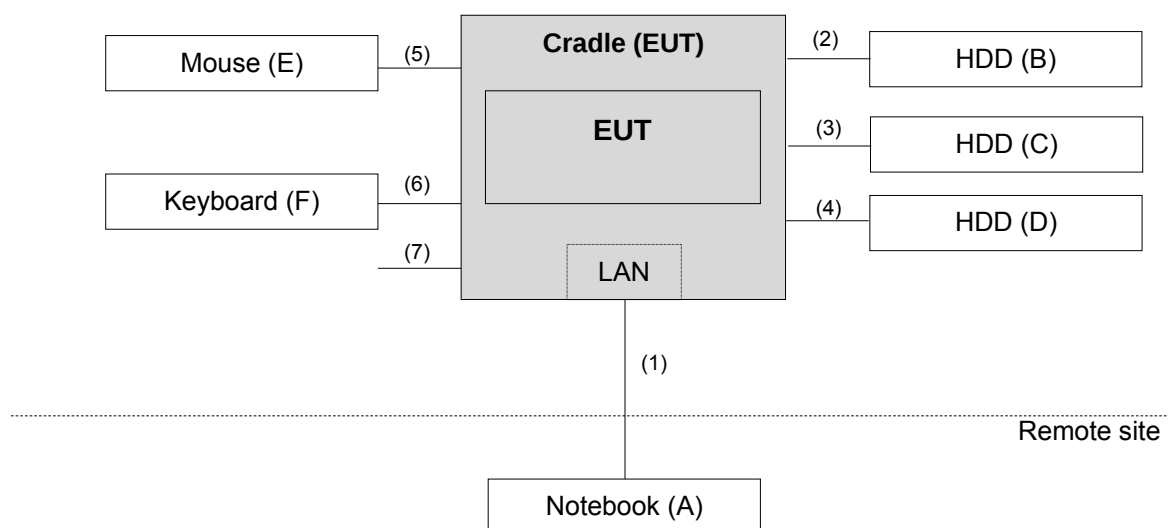
Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test

Test Mode A



Test Mode B



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

ANSI C63.10:2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

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

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

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

4.1.2 Test Instruments

For test date: Jun. 05 ~ Jul. 05, 2017

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 24, 2016	Oct. 23, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 16, 2016	Aug. 15, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Dec. 28, 2016	Dec. 27, 2017
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Dec. 15, 2016	Dec. 14, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 14, 2016	Dec. 13, 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
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 17, 2016	Oct. 16, 2017
High Speed Peak Power Meter	ML2495A	0824012	Aug. 18, 2017	Aug. 17, 2018
Power Sensor	MA2411B	0738171	Aug. 18, 2017	Aug. 17, 2018

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

For test date: Jun. 08, 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
Loop Antenna EMCI	EM-6879	269	Aug. 11, 2017	Aug. 10, 2018
Preamplifier Agilent (Below 1GHz)	8447D	2944A10631	Aug. 08, 2017	Aug. 07, 2018
Preamplifier Agilent (Above 1GHz)	8449B	3008A01922	Sep. 15, 2017	Sep. 14, 2018
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 08, 2017	Aug. 07, 2018
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 08, 2017	Aug. 07, 2018
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
High Speed Peak Power Meter	ML2495A	0824012	Aug. 18, 2017	Aug. 17, 2018
Power Sensor	MA2411B	0738171	Aug. 18, 2017	Aug. 17, 2018

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

4.1.3 Test Procedures

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. 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:

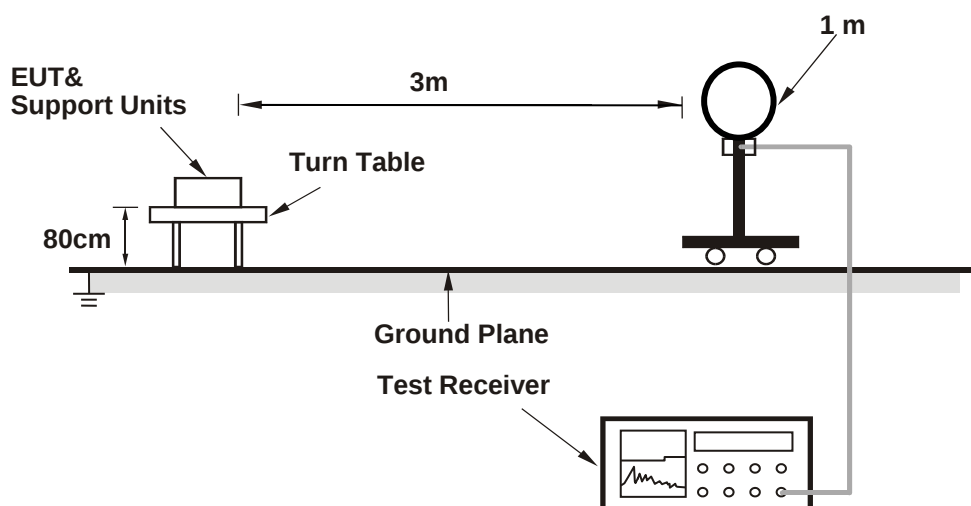
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

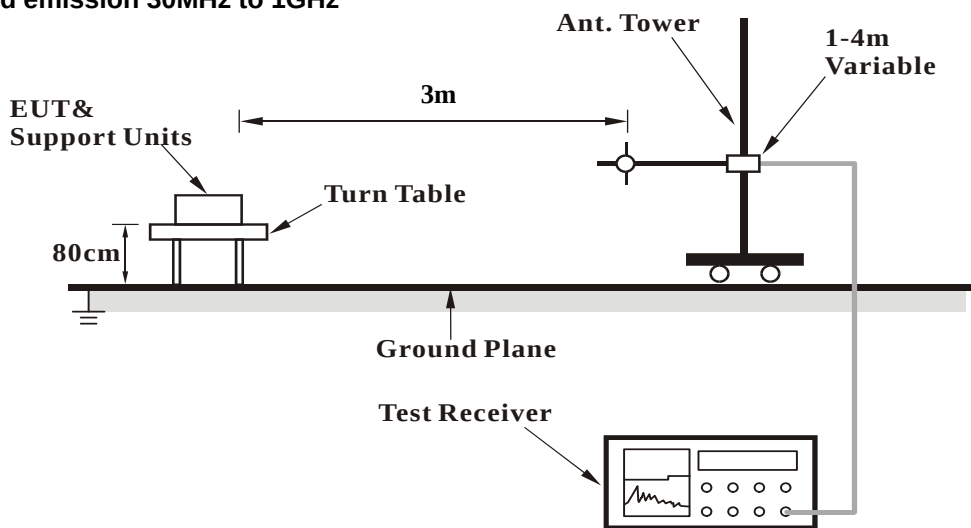
No deviation.

4.1.5 Test Set Up

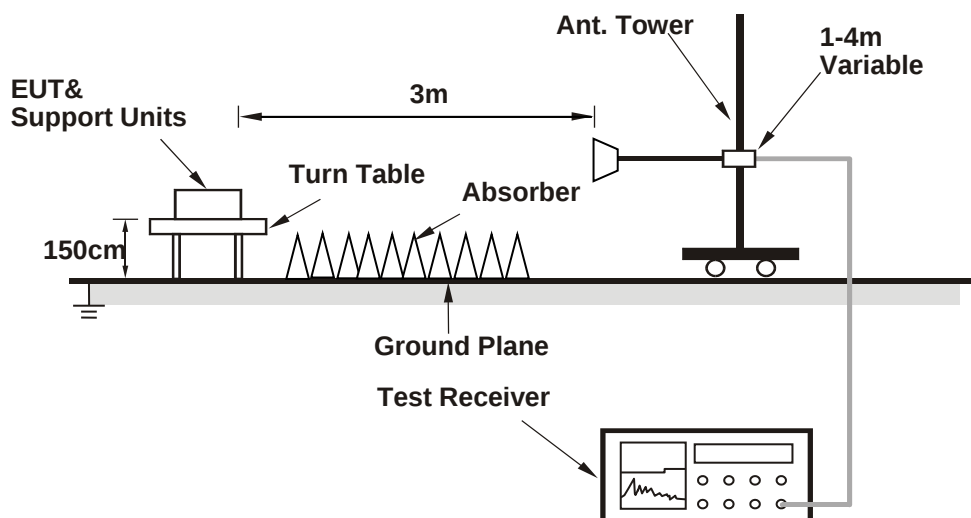
For Radiated emission below 30MHz



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

Test Mode A

The EUT has been tested as an independent unit together with other necessary accessories or support units.

Test Mode B

- Plugged the EUT in the cradle and placed them 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 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 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	63.4 PK	74.0	-10.6	2.18 H	27	57.3	6.1
2	5150.00	48.5 AV	54.0	-5.5	2.18 H	27	42.4	6.1
3	*5180.00	103.5 PK			2.23 H	13	63.3	40.2
4	*5180.00	94.1 AV			2.23 H	13	53.9	40.2
5	#10360.00	60.6 PK	74.0	-13.4	1.40 H	258	42.7	17.9
6	#10360.00	47.7 AV	54.0	-6.3	1.40 H	258	29.8	17.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.7 PK	74.0	-9.3	2.92 V	212	58.6	6.1
2	5150.00	50.0 AV	54.0	-4.0	2.92 V	212	43.9	6.1
3	*5180.00	105.6 PK			2.87 V	204	65.4	40.2
4	*5180.00	96.2 AV			2.87 V	204	56.0	40.2
5	#10360.00	61.0 PK	74.0	-13.0	1.58 V	106	43.1	17.9
6	#10360.00	48.0 AV	54.0	-6.0	1.58 V	106	30.1	17.9

Remarks:

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

CHANNEL	TX Channel 40	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	*5200.00	102.5 PK			2.38 H	2	62.3	40.2
2	*5200.00	93.0 AV			2.38 H	2	52.8	40.2
3	#10400.00	60.7 PK	74.0	-13.3	1.48 H	234	42.5	18.2
4	#10400.00	47.8 AV	54.0	-6.2	1.48 H	234	29.6	18.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	105.1 PK			2.90 V	104	64.9	40.2
2	*5200.00	95.8 AV			2.90 V	104	55.6	40.2
3	#10400.00	61.1 PK	74.0	-12.9	1.66 V	99	42.9	18.2
4	#10400.00	48.1 AV	54.0	-5.9	1.66 V	99	29.9	18.2

Remarks:

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

CHANNEL	TX Channel 48	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	103.5 PK			2.13 H	12	63.1	40.4
2	*5240.00	94.1 AV			2.13 H	12	53.7	40.4
3	5350.00	57.4 PK	74.0	-16.6	2.22 H	31	50.9	6.5
4	5350.00	44.9 AV	54.0	-9.1	2.22 H	31	38.4	6.5
5	#10480.00	61.4 PK	74.0	-12.6	1.46 H	272	43.0	18.4
6	#10480.00	48.5 AV	54.0	-5.5	1.46 H	272	30.1	18.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	106.4 PK			3.02 V	206	66.0	40.4
2	*5240.00	96.7 AV			3.02 V	206	56.3	40.4
3	5350.00	57.9 PK	74.0	-16.1	3.08 V	201	51.4	6.5
4	5350.00	44.9 AV	54.0	-9.1	3.08 V	201	38.4	6.5
5	#10480.00	61.7 PK	74.0	-12.3	1.69 V	112	43.3	18.4
6	#10480.00	48.9 AV	54.0	-5.1	1.69 V	112	30.5	18.4

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.1 PK	74.0	-16.9	2.18 H	15	51.0	6.1
2	5150.00	44.4 AV	54.0	-9.6	2.18 H	15	38.3	6.1
3	*5260.00	105.9 PK			2.15 H	13	65.5	40.4
4	*5260.00	96.2 AV			2.15 H	13	55.8	40.4
5	#10520.00	59.9 PK	74.0	-14.1	3.11 H	125	41.5	18.4
6	#10520.00	47.1 AV	54.0	-6.9	3.11 H	125	28.7	18.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.6 PK	74.0	-16.4	3.01 V	208	51.5	6.1
2	5150.00	44.6 AV	54.0	-9.4	3.01 V	208	38.5	6.1
3	*5260.00	107.6 PK			3.03 V	204	67.2	40.4
4	*5260.00	98.0 AV			3.03 V	204	57.6	40.4
5	#10520.00	60.1 PK	74.0	-13.9	2.29 V	141	41.7	18.4
6	#10520.00	47.2 AV	54.0	-6.8	2.29 V	141	28.8	18.4

Remarks:

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

CHANNEL	TX Channel 60	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	104.6 PK			2.02 H	11	64.1	40.5
2	*5300.00	95.4 AV			2.02 H	11	54.9	40.5
3	10600.00	60.1 PK	74.0	-13.9	3.15 H	121	41.3	18.8
4	10600.00	47.2 AV	54.0	-6.8	3.15 H	121	28.4	18.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	108.0 PK			2.97 V	204	67.5	40.5
2	*5300.00	98.4 AV			2.97 V	204	57.9	40.5
3	10600.00	60.3 PK	74.0	-13.7	2.21 V	164	41.5	18.8
4	10600.00	47.4 AV	54.0	-6.6	2.21 V	164	28.6	18.8

Remarks:

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

CHANNEL	TX Channel 64	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	105.6 PK			1.82 H	10	65.1	40.5
2	*5320.00	96.2 AV			1.82 H	10	55.7	40.5
3	5350.00	60.5 PK	74.0	-13.5	1.85 H	13	54.0	6.5
4	5350.00	47.2 AV	54.0	-6.8	1.85 H	13	40.7	6.5
5	10640.00	60.7 PK	74.0	-13.3	1.93 H	288	41.7	19.0
6	10640.00	47.8 AV	54.0	-6.2	1.93 H	288	28.8	19.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	107.9 PK			2.90 V	205	67.4	40.5
2	*5320.00	98.3 AV			2.90 V	205	57.8	40.5
3	5350.00	62.5 PK	74.0	-11.5	2.95 V	207	56.0	6.5
4	5350.00	48.8 AV	54.0	-5.2	2.95 V	207	42.3	6.5
5	10640.00	60.9 PK	74.0	-13.1	2.67 V	120	41.9	19.0
6	10640.00	48.0 AV	54.0	-6.0	2.67 V	120	29.0	19.0

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.4 PK	74.0	-15.6	2.10 H	15	51.7	6.7
2	5460.00	46.2 AV	54.0	-7.8	2.10 H	15	39.5	6.7
3	#5470.00	65.7 PK	74.0	-8.3	2.06 H	11	59.0	6.7
4	#5470.00	48.6 AV	54.0	-5.4	2.06 H	11	41.9	6.7
5	*5500.00	105.9 PK			2.08 H	13	65.0	40.9
6	*5500.00	96.3 AV			2.08 H	13	55.4	40.9
7	11000.00	61.3 PK	74.0	-12.7	3.61 H	214	42.0	19.3
8	11000.00	48.0 AV	54.0	-6.0	3.61 H	214	28.7	19.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.7 PK	74.0	-13.3	3.05 V	205	54.0	6.7
2	5460.00	46.9 AV	54.0	-7.1	3.05 V	205	40.2	6.7
3	#5470.00	66.9 PK	74.0	-7.1	3.03 V	201	60.2	6.7
4	#5470.00	49.5 AV	54.0	-4.5	3.03 V	201	42.8	6.7
5	*5500.00	108.7 PK			3.01 V	202	67.8	40.9
6	*5500.00	98.9 AV			3.01 V	202	58.0	40.9
7	11000.00	61.4 PK	74.0	-12.6	2.64 V	194	42.1	19.3
8	11000.00	48.1 AV	54.0	-5.9	2.64 V	194	28.8	19.3

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	105.6 PK			2.36 H	17	64.6	41.0
2	*5580.00	96.2 AV			2.36 H	17	55.2	41.0
3	11160.00	61.9 PK	74.0	-12.1	3.22 H	197	42.1	19.8
4	11160.00	48.5 AV	54.0	-5.5	3.22 H	197	28.7	19.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	108.6 PK			2.77 V	195	67.6	41.0
2	*5580.00	99.1 AV			2.77 V	195	58.1	41.0
3	11160.00	62.0 PK	74.0	-12.0	1.95 V	223	42.2	19.8
4	11160.00	48.7 AV	54.0	-5.3	1.95 V	223	28.9	19.8

Remarks:

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

CHANNEL	TX Channel 140	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	103.4 PK			2.91 H	33	61.9	41.5
2	*5700.00	93.9 AV			2.91 H	33	52.4	41.5
3	#5725.00	60.4 PK	74.0	-13.6	2.96 H	35	53.1	7.3
4	#5725.00	46.8 AV	54.0	-7.2	2.96 H	35	39.5	7.3
5	11400.00	60.5 PK	74.0	-13.5	2.69 H	152	40.1	20.4
6	11400.00	47.9 AV	54.0	-6.1	2.69 H	152	27.5	20.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	107.6 PK			3.15 V	196	66.1	41.5
2	*5700.00	98.1 AV			3.15 V	196	56.6	41.5
3	#5725.00	62.5 PK	74.0	-11.5	3.18 V	199	55.2	7.3
4	#5725.00	48.3 AV	54.0	-5.7	3.18 V	199	41.0	7.3
5	11400.00	60.6 PK	74.0	-13.4	1.95 V	64	40.2	20.4
6	11400.00	48.2 AV	54.0	-5.8	1.95 V	64	27.8	20.4

Remarks:

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

CHANNEL	TX Channel 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	#5647.20	59.6 PK	68.2	-8.6	2.30 H	2	52.5	7.1
2	*5745.00	103.9 PK			2.30 H	2	62.3	41.6
3	*5745.00	94.3 AV			2.30 H	2	52.7	41.6
4	#5984.80	60.3 PK	68.2	-7.9	2.30 H	2	52.4	7.9
5	11490.00	61.8 PK	74.0	-12.2	1.34 H	70	41.5	20.3
6	11490.00	49.1 AV	54.0	-4.9	1.34 H	70	28.8	20.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5629.60	58.9 PK	68.2	-9.3	3.01 V	177	51.9	7.0
2	*5745.00	107.1 PK			3.01 V	177	65.5	41.6
3	*5745.00	97.9 AV			3.01 V	177	56.3	41.6
4	#5944.80	59.8 PK	68.2	-8.4	3.01 V	177	52.0	7.8
5	11490.00	62.0 PK	74.0	-12.0	1.94 V	225	41.7	20.3
6	11490.00	49.4 AV	54.0	-4.6	1.94 V	225	29.1	20.3

Remarks:

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

CHANNEL	TX Channel 157	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	#5607.20	58.7 PK	68.2	-9.5	2.47 H	4	51.8	6.9
2	*5785.00	103.7 PK			2.47 H	4	62.1	41.6
3	*5785.00	93.9 AV			2.47 H	4	52.3	41.6
4	#5980.80	59.6 PK	68.2	-8.6	2.47 H	4	51.7	7.9
5	11570.00	61.7 PK	74.0	-12.3	1.38 H	73	41.6	20.1
6	11570.00	48.7 AV	54.0	-5.3	1.38 H	73	28.6	20.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5615.20	58.0 PK	68.2	-10.2	2.90 V	198	51.1	6.9
2	*5785.00	108.2 PK			2.90 V	198	66.6	41.6
3	*5785.00	98.3 AV			2.90 V	198	56.7	41.6
4	#5996.80	60.0 PK	68.2	-8.2	2.90 V	198	52.1	7.9
5	11570.00	61.9 PK	74.0	-12.1	1.90 V	234	41.8	20.1
6	11570.00	49.4 AV	54.0	-4.6	1.90 V	234	29.3	20.1

Remarks:

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

CHANNEL	TX Channel 165	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	#5605.60	59.1 PK	68.2	-9.1	1.81 H	9	52.2	6.9
2	*5825.00	103.0 PK			1.81 H	9	61.2	41.8
3	*5825.00	92.9 AV			1.81 H	9	51.1	41.8
4	#5953.60	59.8 PK	68.2	-8.4	1.81 H	9	51.9	7.9
5	11650.00	61.2 PK	74.0	-12.8	1.41 H	83	41.4	19.8
6	11650.00	48.7 AV	54.0	-5.3	1.41 H	83	28.9	19.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5635.20	58.5 PK	68.2	-9.7	3.12 V	195	51.5	7.0
2	*5825.00	108.3 PK			3.12 V	195	66.5	41.8
3	*5825.00	98.4 AV			3.12 V	195	56.6	41.8
4	#5939.20	59.1 PK	68.2	-9.1	3.12 V	195	51.3	7.8
5	11650.00	61.1 PK	74.0	-12.9	1.87 V	229	41.3	19.8
6	11650.00	48.8 AV	54.0	-5.2	1.87 V	229	29.0	19.8

Remarks:

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

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.4 PK	74.0	-11.6	2.21 H	20	56.3	6.1
2	5150.00	47.4 AV	54.0	-6.6	2.21 H	20	41.3	6.1
3	*5180.00	102.5 PK			2.16 H	10	62.3	40.2
4	*5180.00	91.9 AV			2.16 H	10	51.7	40.2
5	#10360.00	60.4 PK	74.0	-13.6	1.36 H	255	42.5	17.9
6	#10360.00	47.4 AV	54.0	-6.6	1.36 H	255	29.5	17.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.7 PK	74.0	-9.3	2.77 V	197	58.6	6.1
2	5150.00	49.1 AV	54.0	-4.9	2.77 V	197	43.0	6.1
3	*5180.00	105.7 PK			2.81 V	204	65.5	40.2
4	*5180.00	94.8 AV			2.81 V	204	54.6	40.2
5	#10360.00	60.8 PK	74.0	-13.2	1.50 V	110	42.9	17.9
6	#10360.00	47.7 AV	54.0	-6.3	1.50 V	110	29.8	17.9

Remarks:

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

CHANNEL	TX Channel 40	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	*5200.00	103.1 PK			2.07 H	7	62.9	40.2
2	*5200.00	92.2 AV			2.07 H	7	52.0	40.2
3	#10400.00	60.7 PK	74.0	-13.3	1.30 H	272	42.5	18.2
4	#10400.00	47.6 AV	54.0	-6.4	1.30 H	272	29.4	18.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	106.3 PK			3.30 V	166	66.1	40.2
2	*5200.00	95.1 AV			3.30 V	166	54.9	40.2
3	#10400.00	61.0 PK	74.0	-13.0	1.58 V	91	42.8	18.2
4	#10400.00	48.0 AV	54.0	-6.0	1.58 V	91	29.8	18.2

Remarks:

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

CHANNEL	TX Channel 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	103.2 PK			2.22 H	11	62.8	40.4
2	*5240.00	92.8 AV			2.22 H	11	52.4	40.4
3	5350.00	57.8 PK	74.0	-16.2	2.28 H	36	51.3	6.5
4	5350.00	44.9 AV	54.0	-9.1	2.28 H	36	38.4	6.5
5	#10480.00	61.1 PK	74.0	-12.9	1.44 H	278	42.7	18.4
6	#10480.00	47.8 AV	54.0	-6.2	1.44 H	278	29.4	18.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	105.8 PK			2.78 V	205	65.4	40.4
2	*5240.00	95.5 AV			2.78 V	205	55.1	40.4
3	5350.00	57.3 PK	74.0	-16.7	2.69 V	233	50.8	6.5
4	5350.00	45.0 AV	54.0	-9.0	2.69 V	233	38.5	6.5
5	#10480.00	61.3 PK	74.0	-12.7	1.82 V	89	42.9	18.4
6	#10480.00	48.1 AV	54.0	-5.9	1.82 V	89	29.7	18.4

Remarks:

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

CHANNEL	TX Channel 52	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	57.4 PK	74.0	-16.6	1.80 H	15	51.3	6.1
2	5150.00	44.8 AV	54.0	-9.2	1.80 H	15	38.7	6.1
3	*5260.00	105.7 PK			1.79 H	11	65.3	40.4
4	*5260.00	95.4 AV			1.79 H	11	55.0	40.4
5	#10520.00	59.6 PK	74.0	-14.4	2.84 H	124	41.2	18.4
6	#10520.00	47.0 AV	54.0	-7.0	2.84 H	124	28.6	18.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.5 PK	74.0	-16.5	3.15 V	202	51.4	6.1
2	5150.00	44.6 AV	54.0	-9.4	3.15 V	202	38.5	6.1
3	*5260.00	108.3 PK			3.11 V	205	67.9	40.4
4	*5260.00	97.7 AV			3.11 V	205	57.3	40.4
5	#10520.00	59.8 PK	74.0	-14.2	2.94 V	143	41.4	18.4
6	#10520.00	47.2 AV	54.0	-6.8	2.94 V	143	28.8	18.4

Remarks:

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

CHANNEL	TX Channel 60	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	105.5 PK			2.01 H	12	65.0	40.5
2	*5300.00	95.2 AV			2.01 H	12	54.7	40.5
3	10600.00	60.9 PK	74.0	-13.1	3.48 H	97	42.1	18.8
4	10600.00	47.6 AV	54.0	-6.4	3.48 H	97	28.8	18.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	108.2 PK			3.02 V	205	67.7	40.5
2	*5300.00	98.2 AV			3.02 V	205	57.7	40.5
3	10600.00	61.0 PK	74.0	-13.0	3.09 V	53	42.2	18.8
4	10600.00	47.8 AV	54.0	-6.2	3.09 V	53	29.0	18.8

Remarks:

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

CHANNEL	TX Channel 64	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	104.7 PK			2.18 H	12	64.2	40.5
2	*5320.00	95.1 AV			2.18 H	12	54.6	40.5
3	5350.00	61.9 PK	74.0	-12.1	2.20 H	15	55.4	6.5
4	5350.00	47.0 AV	54.0	-7.0	2.20 H	15	40.5	6.5
5	10640.00	60.9 PK	74.0	-13.1	2.81 H	194	41.9	19.0
6	10640.00	47.7 AV	54.0	-6.3	2.81 H	194	28.7	19.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	108.1 PK			3.11 V	202	67.6	40.5
2	*5320.00	98.1 AV			3.11 V	202	57.6	40.5
3	5350.00	63.4 PK	74.0	-10.6	3.14 V	205	56.9	6.5
4	5350.00	48.5 AV	54.0	-5.5	3.14 V	205	42.0	6.5
5	10640.00	61.4 PK	74.0	-12.6	2.67 V	113	42.4	19.0
6	10640.00	48.2 AV	54.0	-5.8	2.67 V	113	29.2	19.0

Remarks:

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

CHANNEL	TX Channel 100	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	58.7 PK	74.0	-15.3	2.28 H	11	52.0	6.7
2	5460.00	46.0 AV	54.0	-8.0	2.28 H	11	39.3	6.7
3	#5470.00	64.1 PK	74.0	-9.9	2.00 H	22	57.4	6.7
4	#5470.00	48.3 AV	54.0	-5.7	2.00 H	22	41.6	6.7
5	*5500.00	104.9 PK			2.16 H	17	64.0	40.9
6	*5500.00	95.5 AV			2.16 H	17	54.6	40.9
7	11000.00	61.5 PK	74.0	-12.5	1.75 H	205	42.2	19.3
8	11000.00	47.8 AV	54.0	-6.2	1.75 H	205	28.5	19.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.7 PK	74.0	-11.3	2.98 V	175	56.0	6.7
2	5460.00	47.0 AV	54.0	-7.0	2.98 V	175	40.3	6.7
3	#5470.00	67.2 PK	74.0	-6.8	3.04 V	216	60.5	6.7
4	#5470.00	50.0 AV	54.0	-4.0	3.04 V	216	43.3	6.7
5	*5500.00	107.8 PK			3.14 V	200	66.9	40.9
6	*5500.00	98.2 AV			3.14 V	200	57.3	40.9
7	11000.00	61.3 PK	74.0	-12.7	2.44 V	67	42.0	19.3
8	11000.00	47.8 AV	54.0	-6.2	2.44 V	67	28.5	19.3

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	104.7 PK			2.41 H	17	63.7	41.0
2	*5580.00	94.7 AV			2.41 H	17	53.7	41.0
3	11160.00	61.7 PK	74.0	-12.3	1.71 H	222	41.9	19.8
4	11160.00	48.2 AV	54.0	-5.8	1.71 H	222	28.4	19.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	108.1 PK			2.77 V	203	67.1	41.0
2	*5580.00	97.8 AV			2.77 V	203	56.8	41.0
3	11160.00	61.9 PK	74.0	-12.1	2.36 V	81	42.1	19.8
4	11160.00	48.5 AV	54.0	-5.5	2.36 V	81	28.7	19.8

Remarks:

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

CHANNEL	TX Channel 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	105.2 PK			2.72 H	18	63.7	41.5
2	*5700.00	94.5 AV			2.72 H	18	53.0	41.5
3	#5725.00	61.5 PK	74.0	-12.5	2.91 H	55	54.2	7.3
4	#5725.00	47.1 AV	54.0	-6.9	2.91 H	55	39.8	7.3
5	11400.00	62.4 PK	74.0	-11.6	1.83 H	212	42.0	20.4
6	11400.00	48.7 AV	54.0	-5.3	1.83 H	212	28.3	20.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	107.6 PK			2.92 V	192	66.1	41.5
2	*5700.00	97.8 AV			2.92 V	192	56.3	41.5
3	#5725.00	63.6 PK	74.0	-10.4	3.02 V	174	56.3	7.3
4	#5725.00	49.1 AV	54.0	-4.9	3.02 V	174	41.8	7.3
5	11400.00	62.7 PK	74.0	-11.3	2.18 V	58	42.3	20.4
6	11400.00	49.0 AV	54.0	-5.0	2.18 V	58	28.6	20.4

Remarks:

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

CHANNEL	TX Channel 149	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	#5640.80	59.1 PK	68.2	-9.1	2.17 H	6	52.0	7.1
2	*5745.00	104.0 PK			2.17 H	6	62.4	41.6
3	*5745.00	94.3 AV			2.17 H	6	52.7	41.6
4	#5973.60	59.5 PK	68.2	-8.7	2.17 H	6	51.6	7.9
5	11490.00	61.7 PK	74.0	-12.3	1.29 H	48	41.4	20.3
6	11490.00	48.8 AV	54.0	-5.2	1.29 H	48	28.5	20.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5643.20	58.9 PK	68.2	-9.3	2.87 V	191	51.8	7.1
2	*5745.00	108.2 PK			2.87 V	191	66.6	41.6
3	*5745.00	98.1 AV			2.87 V	191	56.5	41.6
4	#5994.40	59.9 PK	68.2	-8.3	2.87 V	191	52.0	7.9
5	11490.00	61.9 PK	74.0	-12.1	1.83 V	269	41.6	20.3
6	11490.00	49.0 AV	54.0	-5.0	1.83 V	269	28.7	20.3

Remarks:

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

CHANNEL	TX Channel 157	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	#5637.60	59.0 PK	68.2	-9.2	2.03 H	5	52.0	7.0
2	*5785.00	103.4 PK			2.03 H	5	61.8	41.6
3	*5785.00	93.1 AV			2.03 H	5	51.5	41.6
4	#5996.00	60.0 PK	68.2	-8.2	2.03 H	5	52.1	7.9
5	11570.00	61.6 PK	74.0	-12.4	1.33 H	39	41.5	20.1
6	11570.00	48.8 AV	54.0	-5.2	1.33 H	39	28.7	20.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5633.60	59.8 PK	68.2	-8.4	2.83 V	192	52.8	7.0
2	*5785.00	107.3 PK			2.83 V	192	65.7	41.6
3	*5785.00	97.4 AV			2.83 V	192	55.8	41.6
4	#5930.40	58.6 PK	68.2	-9.6	2.83 V	192	50.8	7.8
5	11570.00	61.7 PK	74.0	-12.3	1.79 V	281	41.6	20.1
6	11570.00	49.1 AV	54.0	-4.9	1.79 V	281	29.0	20.1

Remarks:

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

CHANNEL	TX Channel 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	#5612.00	58.9 PK	68.2	-9.3	2.18 H	7	52.0	6.9
2	*5825.00	102.1 PK			2.18 H	7	60.3	41.8
3	*5825.00	92.2 AV			2.18 H	7	50.4	41.8
4	#5996.00	59.4 PK	68.2	-8.8	2.18 H	7	51.5	7.9
5	11650.00	61.1 PK	74.0	-12.9	1.30 H	44	41.3	19.8
6	11650.00	48.1 AV	54.0	-5.9	1.30 H	44	28.3	19.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5624.80	58.5 PK	68.2	-9.7	2.90 V	193	51.5	7.0
2	*5825.00	107.1 PK			2.90 V	193	65.3	41.8
3	*5825.00	96.8 AV			2.90 V	193	55.0	41.8
4	#5937.60	59.7 PK	68.2	-8.5	2.90 V	193	51.9	7.8
5	11650.00	61.6 PK	74.0	-12.4	1.79 V	280	41.8	19.8
6	11650.00	48.6 AV	54.0	-5.4	1.79 V	280	28.8	19.8

Remarks:

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

802.11n (HT40)

CHANNEL	TX Channel 38	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	66.2 PK	74.0	-7.8	2.23 H	28	60.1	6.1
2	5150.00	51.2 AV	54.0	-2.8	2.23 H	28	45.1	6.1
3	*5190.00	99.3 PK			2.18 H	9	59.1	40.2
4	*5190.00	89.6 AV			2.18 H	9	49.4	40.2
5	#10380.00	60.4 PK	74.0	-13.6	1.47 H	105	42.4	18.0
6	#10380.00	47.6 AV	54.0	-6.4	1.47 H	105	29.6	18.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	69.1 PK	74.0	-4.9	2.82 V	246	63.0	6.1
2	5150.00	52.7 AV	54.0	-1.3	2.82 V	246	46.6	6.1
3	*5190.00	102.6 PK			2.90 V	202	62.4	40.2
4	*5190.00	92.5 AV			2.90 V	202	52.3	40.2
5	#10380.00	60.7 PK	74.0	-13.3	1.65 V	24	42.7	18.0
6	#10380.00	48.0 AV	54.0	-6.0	1.65 V	24	30.0	18.0

Remarks:

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

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
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	99.8 PK			2.29 H	10	59.4	40.4
2	*5230.00	89.9 AV			2.29 H	10	49.5	40.4
3	5350.00	57.4 PK	74.0	-16.6	2.37 H	19	50.9	6.5
4	5350.00	44.9 AV	54.0	-9.1	2.37 H	19	38.4	6.5
5	#10460.00	60.7 PK	74.0	-13.3	1.59 H	87	42.5	18.2
6	#10460.00	47.2 AV	54.0	-6.8	1.59 H	87	29.0	18.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	102.3 PK			2.94 V	202	61.9	40.4
2	*5230.00	92.0 AV			2.94 V	202	51.6	40.4
3	5350.00	57.9 PK	74.0	-16.1	2.99 V	185	51.4	6.5
4	5350.00	45.1 AV	54.0	-8.9	2.99 V	185	38.6	6.5
5	#10460.00	61.0 PK	74.0	-13.0	1.62 V	37	42.8	18.2
6	#10460.00	47.5 AV	54.0	-6.5	1.62 V	37	29.3	18.2

Remarks:

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

CHANNEL	TX Channel 54	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	1.81 H	13	51.6	6.1
2	5150.00	44.7 AV	54.0	-9.3	1.81 H	13	38.6	6.1
3	*5270.00	101.5 PK			1.77 H	11	61.1	40.4
4	*5270.00	92.1 AV			1.77 H	11	51.7	40.4
5	#10540.00	60.2 PK	74.0	-13.8	2.67 H	199	41.6	18.6
6	#10540.00	47.6 AV	54.0	-6.4	2.67 H	199	29.0	18.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.7 PK	74.0	-16.3	3.01 V	204	51.6	6.1
2	5150.00	45.0 AV	54.0	-9.0	3.01 V	204	38.9	6.1
3	*5270.00	104.5 PK			2.98 V	203	64.1	40.4
4	*5270.00	94.5 AV			2.98 V	203	54.1	40.4
5	#10540.00	60.4 PK	74.0	-13.6	2.11 V	154	41.8	18.6
6	#10540.00	47.7 AV	54.0	-6.3	2.11 V	154	29.1	18.6

Remarks:

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

CHANNEL	TX Channel 62	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	101.6 PK			2.66 H	10	61.1	40.5
2	*5310.00	91.5 AV			2.66 H	10	51.0	40.5
3	5350.00	68.5 PK	74.0	-5.5	2.70 H	14	62.0	6.5
4	5350.00	51.4 AV	54.0	-2.6	2.70 H	14	44.9	6.5
5	10620.00	60.7 PK	74.0	-13.3	3.18 H	91	41.8	18.9
6	10620.00	47.9 AV	54.0	-6.1	3.18 H	91	29.0	18.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	103.5 PK			3.03 V	186	63.0	40.5
2	*5310.00	93.8 AV			3.03 V	186	53.3	40.5
3	5350.00	69.8 PK	74.0	-4.2	3.05 V	188	63.3	6.5
4	5350.00	52.4 AV	54.0	-1.6	3.05 V	188	45.9	6.5
5	10620.00	61.0 PK	74.0	-13.0	2.27 V	154	42.1	18.9
6	10620.00	48.0 AV	54.0	-6.0	2.27 V	154	29.1	18.9

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.9 PK	74.0	-11.1	2.08 H	3	56.2	6.7
2	5460.00	47.8 AV	54.0	-6.2	2.08 H	3	41.1	6.7
3	#5470.00	65.4 PK	74.0	-8.6	2.44 H	39	58.7	6.7
4	#5470.00	51.8 AV	54.0	-2.2	2.44 H	39	45.1	6.7
5	*5510.00	101.2 PK			2.35 H	12	60.3	40.9
6	*5510.00	91.3 AV			2.35 H	12	50.4	40.9
7	11020.00	61.5 PK	74.0	-12.5	1.42 H	291	42.2	19.3
8	11020.00	47.7 AV	54.0	-6.3	1.42 H	291	28.4	19.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	64.8 PK	74.0	-9.2	3.11 V	168	58.1	6.7
2	5460.00	50.1 AV	54.0	-3.9	3.11 V	168	43.4	6.7
3	#5470.00	68.9 PK	74.0	-5.1	2.88 V	196	62.2	6.7
4	#5470.00	53.6 AV	54.0	-0.4	2.88 V	196	46.9	6.7
5	*5510.00	103.6 PK			2.95 V	198	62.7	40.9
6	*5510.00	93.9 AV			2.95 V	198	53.0	40.9
7	11020.00	61.8 PK	74.0	-12.2	1.69 V	258	42.5	19.3
8	11020.00	48.0 AV	54.0	-6.0	1.69 V	258	28.7	19.3

Remarks:

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

CHANNEL	TX Channel 110	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	102.2 PK			2.73 H	13	61.2	41.0
2	*5550.00	92.1 AV			2.73 H	13	51.1	41.0
3	11100.00	62.1 PK	74.0	-11.9	1.38 H	288	42.3	19.8
4	11100.00	48.3 AV	54.0	-5.7	1.38 H	288	28.5	19.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	104.1 PK			3.12 V	199	63.1	41.0
2	*5550.00	94.2 AV			3.12 V	199	53.2	41.0
3	11100.00	62.5 PK	74.0	-11.5	1.90 V	274	42.7	19.8
4	11100.00	48.7 AV	54.0	-5.3	1.90 V	274	28.9	19.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	101.1 PK			2.44 H	16	59.8	41.3
2	*5670.00	91.1 AV			2.44 H	16	49.8	41.3
3	#5725.00	57.2 PK	74.0	-16.8	2.58 H	26	49.9	7.3
4	#5725.00	45.9 AV	54.0	-8.1	2.58 H	26	38.6	7.3
5	11340.00	62.3 PK	74.0	-11.7	1.39 H	293	42.1	20.2
6	11340.00	48.4 AV	54.0	-5.6	1.39 H	293	28.2	20.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	104.5 PK			2.97 V	190	63.2	41.3
2	*5670.00	94.5 AV			2.97 V	190	53.2	41.3
3	#5725.00	59.4 PK	74.0	-14.6	2.68 V	166	52.1	7.3
4	#5725.00	47.2 AV	54.0	-6.8	2.68 V	166	39.9	7.3
5	11340.00	62.2 PK	74.0	-11.8	1.59 V	247	42.0	20.2
6	11340.00	48.5 AV	54.0	-5.5	1.59 V	247	28.3	20.2

Remarks:

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

CHANNEL	TX Channel 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	#5615.20	59.0 PK	68.2	-9.2	2.26 H	9	52.1	6.9
2	*5755.00	100.7 PK			2.26 H	9	59.1	41.6
3	*5755.00	90.5 AV			2.26 H	9	48.9	41.6
4	#5940.80	59.8 PK	68.2	-8.4	2.26 H	9	52.0	7.8
5	11510.00	61.7 PK	74.0	-12.3	1.27 H	65	41.5	20.2
6	11510.00	49.1 AV	54.0	-4.9	1.27 H	65	28.9	20.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.80	60.0 PK	68.2	-8.2	2.82 V	183	52.9	7.1
2	*5755.00	104.1 PK			2.82 V	183	62.5	41.6
3	*5755.00	94.3 AV			2.82 V	183	52.7	41.6
4	#5967.20	59.3 PK	68.2	-8.9	2.82 V	183	51.4	7.9
5	11510.00	61.9 PK	74.0	-12.1	2.01 V	239	41.7	20.2
6	11510.00	49.3 AV	54.0	-4.7	2.01 V	239	29.1	20.2

Remarks:

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

CHANNEL	TX Channel 159	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	#5612.80	58.9 PK	68.2	-9.3	2.22 H	2	52.0	6.9
2	*5795.00	100.1 PK			2.22 H	2	58.4	41.7
3	*5795.00	89.9 AV			2.22 H	2	48.2	41.7
4	#5941.60	59.3 PK	68.2	-8.9	2.22 H	2	51.5	7.8
5	11590.00	61.5 PK	74.0	-12.5	1.28 H	61	41.4	20.1
6	11590.00	48.8 AV	54.0	-5.2	1.28 H	61	28.7	20.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5634.40	58.9 PK	68.2	-9.3	2.98 V	189	51.9	7.0
2	*5795.00	104.0 PK			2.98 V	189	62.3	41.7
3	*5795.00	93.6 AV			2.98 V	189	51.9	41.7
4	#5975.20	59.8 PK	68.2	-8.4	2.98 V	189	51.9	7.9
5	11590.00	61.7 PK	74.0	-12.3	1.99 V	265	41.6	20.1
6	11590.00	49.1 AV	54.0	-4.9	1.99 V	265	29.0	20.1

Remarks:

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

802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.2 PK	74.0	-6.8	2.40 H	22	61.1	6.1
2	5150.00	51.4 AV	54.0	-2.6	2.40 H	22	45.3	6.1
3	*5210.00	95.9 PK			2.29 H	12	55.6	40.3
4	*5210.00	85.5 AV			2.29 H	12	45.2	40.3
5	5350.00	58.1 PK	74.0	-15.9	2.14 H	38	51.6	6.5
6	5350.00	45.2 AV	54.0	-8.8	2.14 H	38	38.7	6.5
7	#10420.00	61.1 PK	74.0	-12.9	1.77 H	269	43.0	18.1
8	#10420.00	48.2 AV	54.0	-5.8	1.77 H	269	30.1	18.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	68.7 PK	74.0	-5.3	3.33 V	215	62.6	6.1
2	5150.00	53.3 AV	54.0	-0.7	3.33 V	215	47.2	6.1
3	*5210.00	99.5 PK			3.24 V	201	59.2	40.3
4	*5210.00	87.9 AV			3.24 V	201	47.6	40.3
5	5350.00	57.7 PK	74.0	-16.3	3.10 V	198	51.2	6.5
6	5350.00	45.3 AV	54.0	-8.7	3.10 V	198	38.8	6.5
7	#10420.00	61.5 PK	74.0	-12.5	2.54 V	131	43.4	18.1
8	#10420.00	48.4 AV	54.0	-5.6	2.54 V	131	30.3	18.1

Remarks:

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

CHANNEL	TX Channel 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	58.2 PK	74.0	-15.8	1.77 H	18	52.1	6.1
2	5150.00	44.8 AV	54.0	-9.2	1.77 H	18	38.7	6.1
3	*5290.00	96.7 PK			1.70 H	14	56.3	40.4
4	*5290.00	85.5 AV			1.70 H	14	45.1	40.4
5	5350.00	66.0 PK	74.0	-8.0	1.68 H	19	59.5	6.5
6	5350.00	50.1 AV	54.0	-3.9	1.68 H	19	43.6	6.5
7	#10580.00	60.2 PK	74.0	-13.8	3.09 H	157	41.5	18.7
8	#10580.00	47.5 AV	54.0	-6.5	3.09 H	157	28.8	18.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.7 PK	74.0	-16.3	2.79 V	182	51.6	6.1
2	5150.00	45.0 AV	54.0	-9.0	2.79 V	182	38.9	6.1
3	*5290.00	98.6 PK			2.84 V	189	58.2	40.4
4	*5290.00	87.9 AV			2.84 V	189	47.5	40.4
5	5350.00	67.3 PK	74.0	-6.7	2.88 V	192	60.8	6.5
6	5350.00	52.2 AV	54.0	-1.8	2.88 V	192	45.7	6.5
7	#10580.00	60.7 PK	74.0	-13.3	1.54 V	278	42.0	18.7
8	#10580.00	47.8 AV	54.0	-6.2	1.54 V	278	29.1	18.7

Remarks:

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

CHANNEL	TX Channel 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	64.7 PK	74.0	-9.3	1.45 H	23	58.0	6.7
2	5460.00	49.1 AV	54.0	-4.9	1.45 H	23	42.4	6.7
3	#5470.00	64.9 PK	74.0	-9.1	1.40 H	17	58.2	6.7
4	#5470.00	51.3 AV	54.0	-2.7	1.40 H	17	44.6	6.7
5	*5530.00	97.8 PK			1.57 H	19	56.9	40.9
6	*5530.00	86.1 AV			1.57 H	19	45.2	40.9
7	#5725.00	58.6 PK	74.0	-15.4	1.37 H	25	51.3	7.3
8	#5725.00	45.5 AV	54.0	-8.5	1.37 H	25	38.2	7.3
9	11060.00	61.4 PK	74.0	-12.6	2.09 H	116	41.8	19.6
10	11060.00	48.6 AV	54.0	-5.4	2.09 H	116	29.0	19.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	65.7 PK	74.0	-8.3	3.16 V	197	59.0	6.7
2	5460.00	50.7 AV	54.0	-3.3	3.16 V	197	44.0	6.7
3	#5470.00	67.8 PK	74.0	-6.2	3.14 V	192	61.1	6.7
4	#5470.00	53.8 AV	54.0	-0.2	3.14 V	192	47.1	6.7
5	*5530.00	100.6 PK			3.26 V	206	59.7	40.9
6	*5530.00	89.3 AV			3.26 V	206	48.4	40.9
7	#5725.00	59.1 PK	74.0	-14.9	3.09 V	188	51.8	7.3
8	#5725.00	45.5 AV	54.0	-8.5	3.09 V	188	38.2	7.3
9	11060.00	61.3 PK	74.0	-12.7	2.09 V	115	41.7	19.6
10	11060.00	48.7 AV	54.0	-5.3	2.09 V	115	29.1	19.6

Remarks:

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

CHANNEL	TX Channel 122	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	55.1 PK	74.0	-18.9	2.02 H	29	48.4	6.7
2	5460.00	44.5 AV	54.0	-9.5	2.02 H	29	37.8	6.7
3	#5470.00	55.5 PK	74.0	-18.5	1.99 H	23	48.8	6.7
4	#5470.00	44.6 AV	54.0	-9.4	1.99 H	23	37.9	6.7
5	*5610.00	98.6 PK			1.95 H	18	57.5	41.1
6	*5610.00	87.3 AV			1.95 H	18	46.2	41.1
7	#5725.00	56.4 PK	74.0	-17.6	2.31 H	42	49.1	7.3
8	#5725.00	45.7 AV	54.0	-8.3	2.31 H	42	38.4	7.3
9	11220.00	62.2 PK	74.0	-11.8	1.62 H	325	42.3	19.9
10	11220.00	49.1 AV	54.0	-4.9	1.62 H	325	29.2	19.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.4 PK	74.0	-18.6	2.98 V	189	48.7	6.7
2	5460.00	44.7 AV	54.0	-9.3	2.98 V	189	38.0	6.7
3	#5470.00	56.4 PK	74.0	-17.6	3.09 V	210	49.7	6.7
4	#5470.00	44.8 AV	54.0	-9.2	3.09 V	210	38.1	6.7
5	*5610.00	101.0 PK			3.04 V	202	59.9	41.1
6	*5610.00	90.4 AV			3.04 V	202	49.3	41.1
7	#5725.00	56.7 PK	74.0	-17.3	3.21 V	243	49.4	7.3
8	#5725.00	46.2 AV	54.0	-7.8	3.21 V	243	38.9	7.3
9	11220.00	61.9 PK	74.0	-12.1	1.94 V	93	42.0	19.9
10	11220.00	48.9 AV	54.0	-5.1	1.94 V	93	29.0	19.9

Remarks:

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

CHANNEL	TX Channel 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	58.5 PK	68.2	-9.7	2.07 H	1	51.5	7.0
2	*5775.00	97.7 PK			2.07 H	1	56.1	41.6
3	*5775.00	86.3 AV			2.07 H	1	44.7	41.6
4	#5985.60	59.3 PK	68.2	-8.9	2.07 H	1	51.4	7.9
5	11550.00	62.1 PK	74.0	-11.9	1.35 H	71	41.9	20.2
6	11550.00	49.3 AV	54.0	-4.7	1.35 H	71	29.1	20.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5601.60	59.9 PK	68.2	-8.3	2.82 V	194	53.0	6.9
2	*5775.00	101.7 PK			2.82 V	194	60.1	41.6
3	*5775.00	90.8 AV			2.82 V	194	49.2	41.6
4	#5975.20	59.9 PK	68.2	-8.3	2.82 V	194	52.0	7.9
5	11550.00	62.4 PK	74.0	-11.6	1.89 V	344	42.2	20.2
6	11550.00	49.5 AV	54.0	-4.5	1.89 V	344	29.3	20.2

Remarks:

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

Below 1GHz Worst-Case Data: 802.11a

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 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	37.66	29.1 QP	40.0	-10.9	1.24 H	261	35.3	-6.2
2	109.46	34.1 QP	43.5	-9.4	1.24 H	295	40.3	-6.2
3	177.37	31.5 QP	43.5	-12.0	1.24 H	267	37.7	-6.2
4	272.45	26.6 QP	46.0	-19.4	1.00 H	6	32.8	-6.2
5	600.38	27.9 QP	46.0	-18.1	1.24 H	326	34.1	-6.2
6	938.01	32.4 QP	46.0	-13.6	2.00 H	84	38.6	-6.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	64.83	31.9 QP	40.0	-8.1	1.00 V	204	38.1	-6.2
2	109.46	32.1 QP	43.5	-11.4	1.50 V	196	38.3	-6.2
3	254.99	29.8 QP	46.0	-16.2	1.50 V	7	36.0	-6.2
4	600.38	29.1 QP	46.0	-16.9	1.00 V	282	35.3	-6.2
5	730.38	39.0 QP	46.0	-7.0	1.50 V	47	45.2	-6.2
6	936.07	31.7 QP	46.0	-14.3	1.00 V	83	37.9	-6.2

Remarks:

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

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 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	220.06	27.8 QP	46.0	-18.2	1.49 H	239	43.8	-16.0
2	369.47	28.3 QP	46.0	-17.7	1.00 H	245	39.1	-10.8
3	456.79	29.9 QP	46.0	-16.1	1.99 H	202	39.0	-9.1
4	505.30	33.3 QP	46.0	-12.7	1.99 H	144	41.5	-8.2
5	817.70	33.9 QP	46.0	-12.1	1.00 H	158	35.3	-1.4
6	889.50	32.1 QP	46.0	-13.9	1.49 H	105	32.6	-0.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	117.22	30.8 QP	43.5	-12.7	1.00 V	6	47.2	-16.4
2	198.71	24.5 QP	43.5	-19.0	2.00 V	254	40.9	-16.4
3	324.84	23.7 QP	46.0	-22.3	2.00 V	7	35.2	-11.5
4	371.41	29.3 QP	46.0	-16.7	1.49 V	11	40.1	-10.8
5	551.87	31.4 QP	46.0	-14.6	1.00 V	166	38.9	-7.5
6	697.40	30.4 QP	46.0	-15.6	2.00 V	190	34.6	-4.2

Remarks:

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

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

For test date: Jun. 05 ~ Jul. 05, 2017

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 21, 2016	Nov. 20, 2017
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 22, 2016	Dec. 21, 2017
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 28, 2016	Jul. 27, 2017
Software ADT	BV ADT_Conf_ V7.3.7.3	NA	NA	NA

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

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

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

For test date: Jun. 08, 2018

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 23, 2017	Nov. 22, 2018
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Sep. 05, 2017	Sep. 04, 2018
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 26, 2018	Feb. 25, 2019
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 15, 2017	Aug. 14, 2018
Software ADT	BV ADT_Conf_ V7.3.7.4	NA	NA	NA

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

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

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

4.2.3 Test Procedures

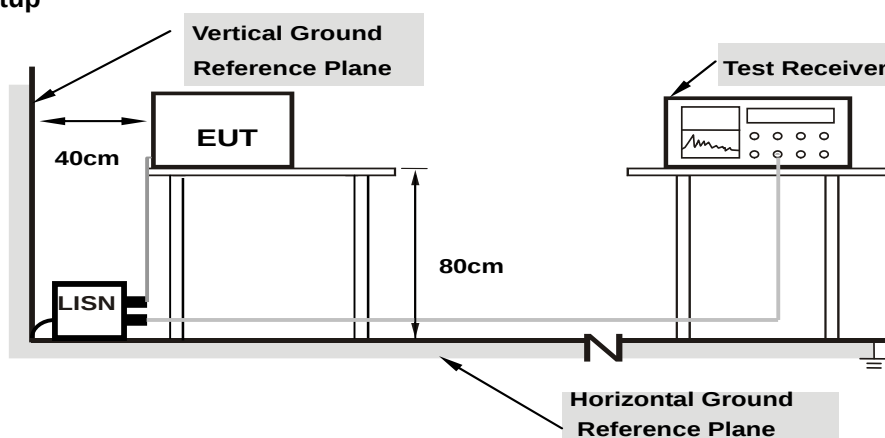
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

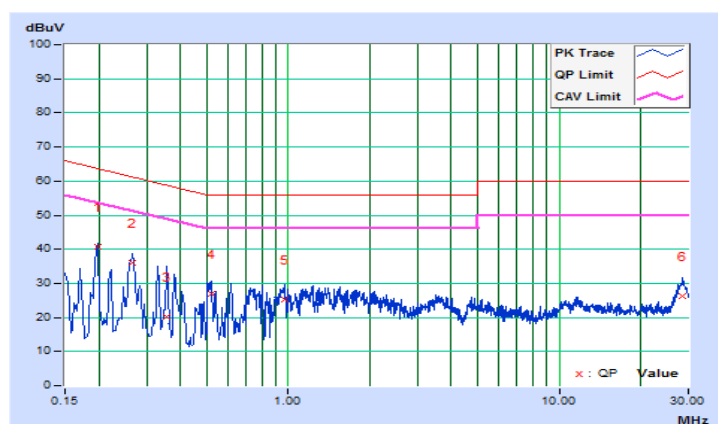
4.2.7 Test Results

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

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19800	10.43	30.30	17.85	40.73	28.28	63.69	53.69	-22.96	-25.41
2	0.26639	10.46	25.54	12.12	36.00	22.58	61.23	51.23	-25.23	-28.65
3	0.35800	10.49	9.76	-0.74	20.25	9.75	58.77	48.77	-38.52	-39.02
4	0.51879	10.50	16.57	6.63	27.07	17.13	56.00	46.00	-28.93	-28.87
5	0.97400	10.46	14.80	7.12	25.26	17.58	56.00	46.00	-30.74	-28.42
6	28.56200	11.73	14.59	8.77	26.32	20.50	60.00	50.00	-33.68	-29.50

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.

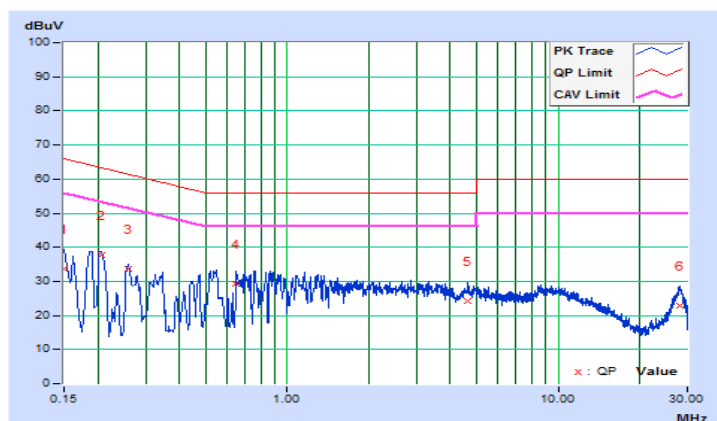


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

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	10.15	23.40	5.40	33.55	15.55	66.00	56.00	-32.45	-40.45
2	0.20523	10.20	27.47	13.05	37.67	23.25	63.40	53.40	-25.73	-30.15
3	0.25810	10.21	23.62	13.43	33.83	23.64	61.49	51.49	-27.66	-27.85
4	0.64600	10.23	19.21	8.16	29.44	18.39	56.00	46.00	-26.56	-27.61
5	4.63800	10.44	13.67	8.53	24.11	18.97	56.00	46.00	-31.89	-27.03
6	28.23400	11.24	11.63	4.85	22.87	16.09	60.00	50.00	-37.13	-33.91

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.

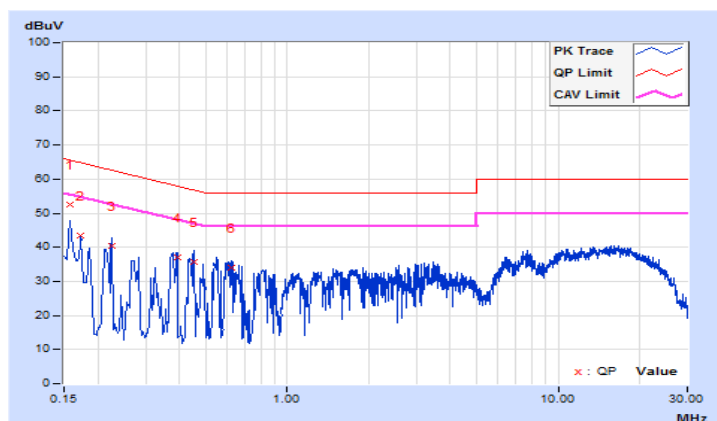


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15782	10.10	42.27	29.06	52.37	39.16	65.58	55.58	-13.21	-16.42
2	0.17346	10.10	33.24	13.55	43.34	23.65	64.79	54.79	-21.45	-31.14
3	0.22429	10.11	30.15	11.27	40.26	21.38	62.66	52.66	-22.40	-31.28
4	0.39219	10.12	27.01	12.34	37.13	22.46	58.02	48.02	-20.89	-25.56
5	0.45097	10.12	25.70	8.53	35.82	18.65	56.86	46.86	-21.04	-28.21
6	0.61920	10.13	23.75	5.84	33.88	15.97	56.00	46.00	-22.12	-30.03

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.

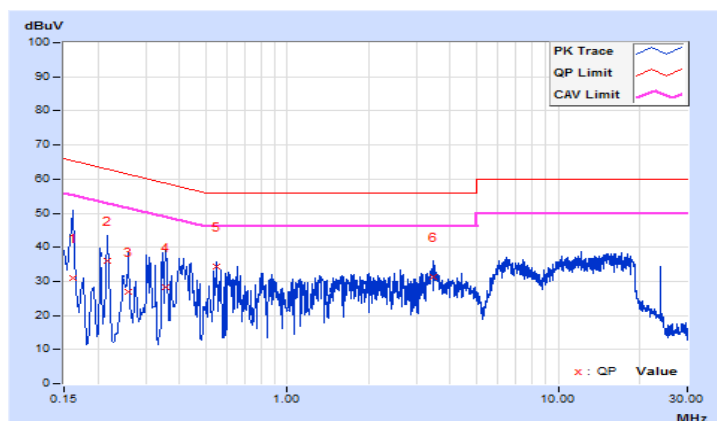


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.16139	10.10	21.00	11.50	31.10	21.60	65.39	55.39	-34.29	-33.79
2	0.21647	10.10	25.95	14.06	36.05	24.16	62.95	52.95	-26.90	-28.79
3	0.25948	10.11	16.77	5.84	26.88	15.95	61.45	51.45	-34.57	-35.50
4	0.35670	10.11	18.21	11.31	28.32	21.42	58.80	48.80	-30.48	-27.38
5	0.54882	10.12	24.33	10.71	34.45	20.83	56.00	46.00	-21.55	-25.17
6	3.44613	10.24	21.03	10.77	31.27	21.01	56.00	46.00	-24.73	-24.99

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

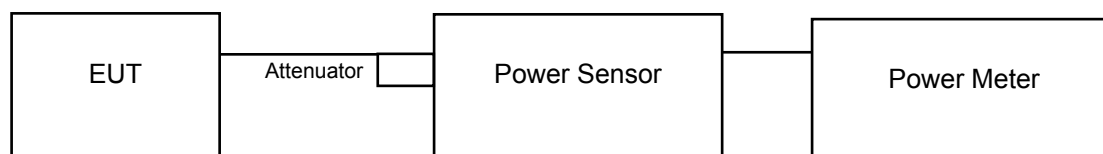
4.3.1 Limits of Transmit Power Measurement

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)

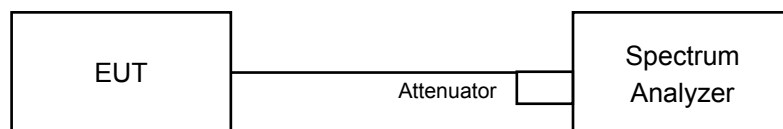
*B is the 26 dB emission bandwidth in megahertz

4.3.2 Test Setup

For Power Output
802.11a, 802.11n (HT20), 802.11n (HT40)



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

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

For 26dB Bandwidth

- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- 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%.

For Occupied Bandwidth

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 Sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

4.3.5 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:

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	13.335	11.25	24	Pass
40	5200	13.996	11.46	24	Pass
48	5240	13.646	11.35	24	Pass
52	5260	13.552	11.32	24	Pass
60	5300	14.521	11.62	24	Pass
64	5320	13.900	11.43	24	Pass
100	5500	14.521	11.62	24	Pass
116	5580	14.191	11.52	24	Pass
140	5700	13.583	11.33	24	Pass
149	5745	13.996	11.46	30	Pass
157	5785	14.825	11.71	30	Pass
165	5825	15.311	11.85	30	Pass

Note:

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

1. $11\text{dBm} + 10\log(27.44) = 25.38\text{ dBm} > 24\text{dBm}$
2. $11\text{dBm} + 10\log(28.12) = 25.49\text{ dBm} > 24\text{dBm}$
3. $11\text{dBm} + 10\log(27.96) = 25.47\text{ dBm} > 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.86) = 24.40\text{ dBm} > 24\text{dBm}$
5. $11\text{dBm} + 10\log(21.90) = 24.40\text{ dBm} > 24\text{dBm}$
6. $11\text{dBm} + 10\log(22.07) = 24.44\text{ dBm} > 24\text{dBm}$

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	13.428	11.28	24	Pass
40	5200	13.740	11.38	24	Pass
48	5240	13.335	11.25	24	Pass
52	5260	13.521	11.31	24	Pass
60	5300	14.555	11.63	24	Pass
64	5320	13.677	11.36	24	Pass
100	5500	13.428	11.28	24	Pass
116	5580	13.305	11.24	24	Pass
140	5700	13.996	11.46	24	Pass
149	5745	13.366	11.26	30	Pass
157	5785	14.588	11.64	30	Pass
165	5825	13.583	11.33	30	Pass

Note:

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

1. $11\text{dBm} + 10\log(27.15) = 25.34\text{ dBm} > 24\text{dBm}$
2. $11\text{dBm} + 10\log(29.91) = 25.76\text{ dBm} > 24\text{dBm}$
3. $11\text{dBm} + 10\log(27.89) = 25.45\text{ dBm} > 24\text{dBm}$
4. $11\text{dBm} + 10\log(23.81) = 24.77\text{ dBm} > 24\text{dBm}$
5. $11\text{dBm} + 10\log(23.81) = 24.77\text{ dBm} > 24\text{dBm}$
6. $11\text{dBm} + 10\log(23.77) = 24.76\text{ dBm} > 24\text{dBm}$

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	15.524	11.91	24	Pass
46	5230	14.962	11.75	24	Pass
54	5270	13.335	11.25	24	Pass
62	5310	13.740	11.38	24	Pass
102	5510	13.274	11.23	24	Pass
110	5550	14.655	11.66	24	Pass
134	5670	14.060	11.48	24	Pass
151	5755	14.588	11.64	30	Pass
159	5795	13.062	11.16	30	Pass

Note:

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

1. $11\text{dBm} + 10\log(64.35) = 29.09\text{ dBm} > 24\text{dBm}$
2. $11\text{dBm} + 10\log(62.10) = 28.93\text{ dBm} > 24\text{dBm}$
3. $11\text{dBm} + 10\log(51.09) = 28.08\text{ dBm} > 24\text{dBm}$
4. $11\text{dBm} + 10\log(47.69) = 27.78\text{ dBm} > 24\text{dBm}$
5. $11\text{dBm} + 10\log(55.48) = 28.44\text{ dBm} > 24\text{dBm}$

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	14.555	11.63	24	Pass
58	5290	14.028	11.47	24	Pass
106	5530	13.900	11.43	24	Pass
122	5610	14.555	11.63	24	Pass
155	5775	14.388	11.58	30	Pass

Note:

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

1. $11\text{dBm} + 10\log(102.51) = 31.11\text{ dBm} > 24\text{dBm}$
2. $11\text{dBm} + 10\log(82.06) = 30.14\text{ dBm} > 24\text{dBm}$
3. $11\text{dBm} + 10\log(87.06) = 30.40\text{ dBm} > 24\text{dBm}$

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
36	5180	30.56
40	5200	28.54
48	5240	30.46
52	5260	27.44
60	5300	28.12
64	5320	27.96
100	5500	21.86
116	5580	21.90
140	5700	22.07

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
36	5180	30.94
40	5200	31.96
48	5240	28.74
52	5260	27.15
60	5300	29.91
64	5320	27.89
100	5500	23.81
116	5580	23.81
140	5700	23.77

802.11n (HT40)

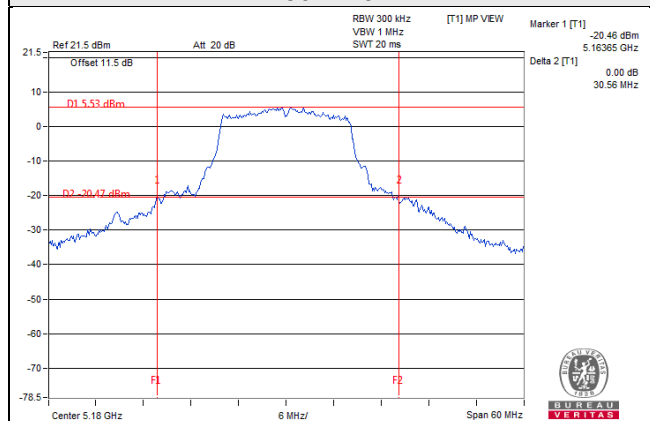
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
38	5190	66.50
46	5230	67.30
54	5270	64.35
62	5310	62.10
102	5510	51.09
110	5550	47.69
134	5670	55.48

802.11ac (VHT80)

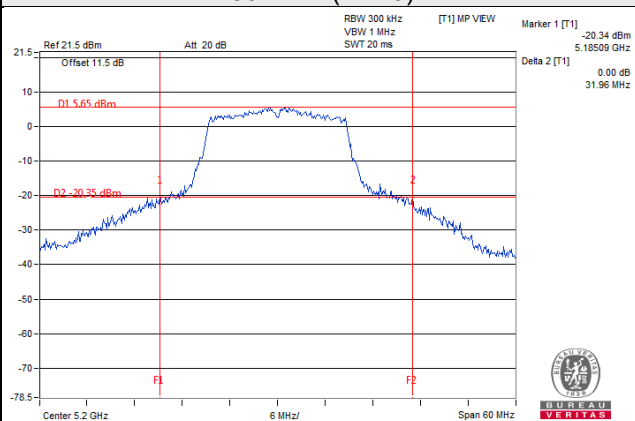
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
42	5210	110.52
58	5290	102.51
106	5530	82.06
122	5610	87.06

Spectrum Plot of Worst Value

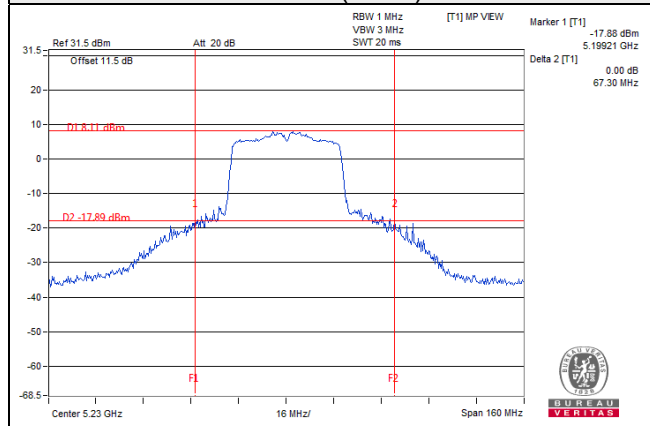
802.11a



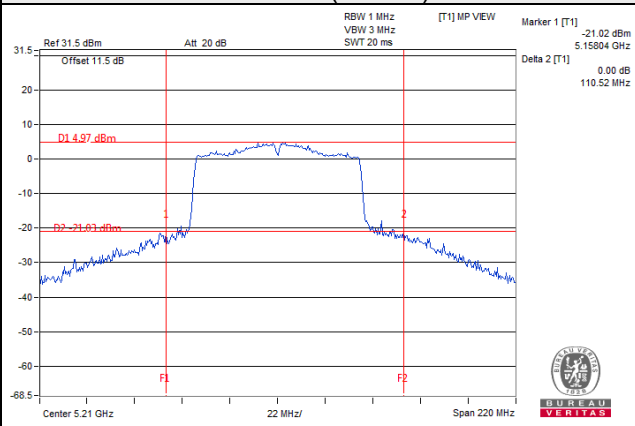
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



EUT Maximum Conducted Power

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	14.521	11.62
5470~5725	14.521	11.62

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	14.555	11.63
5470~5725	13.996	11.46

802.11n (HT40)

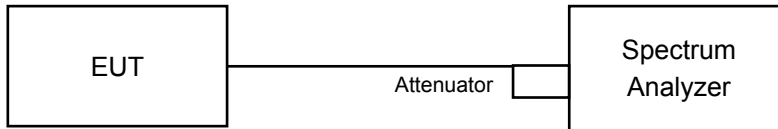
Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	13.740	11.38
5470~5725	14.655	11.66

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	14.028	11.47
5470~5725	14.555	11.63

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 sampling. 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 Result

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	17.52
40	5200	17.28
48	5240	17.64
52	5260	17.40
60	5300	17.40
64	5320	17.40
100	5500	17.04
116	5580	17.16
140	5700	17.16
149	5745	17.40
157	5785	17.40
165	5825	17.16

802.11n (HT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	18.24
40	5200	18.48
48	5240	18.48
52	5260	18.36
60	5300	18.24
64	5320	18.36
100	5500	18.12
116	5580	18.24
140	5700	18.24
149	5745	18.36
157	5785	18.48
165	5825	18.36

802.11n (HT40)

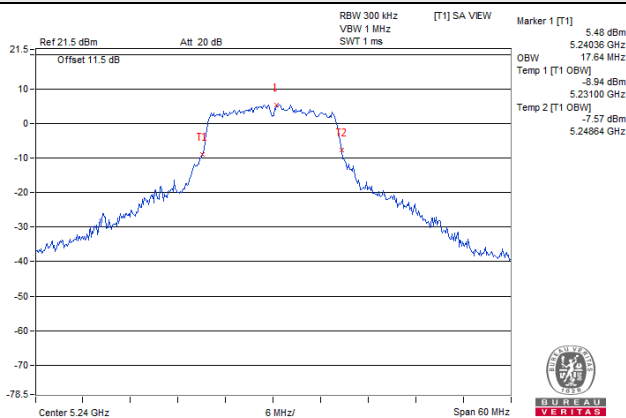
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.72
46	5230	36.84
54	5270	36.84
62	5310	36.84
102	5510	36.72
110	5550	36.72
134	5670	36.60
151	5755	36.84
159	5795	36.84

802.11ac (VHT80)

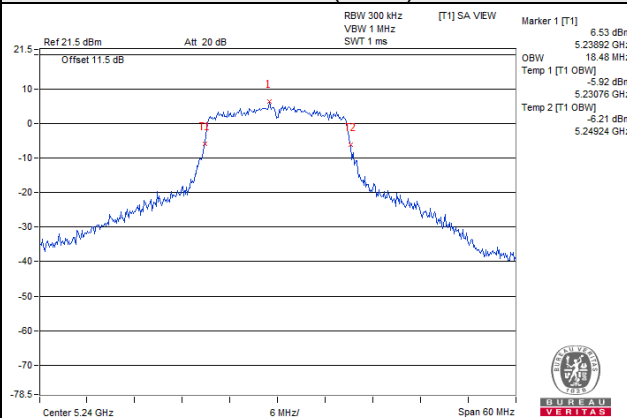
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
42	5210	75.84
58	5290	75.84
106	5530	75.60
122	5610	75.60
155	5775	75.84

Spectrum Plot of Worst Value

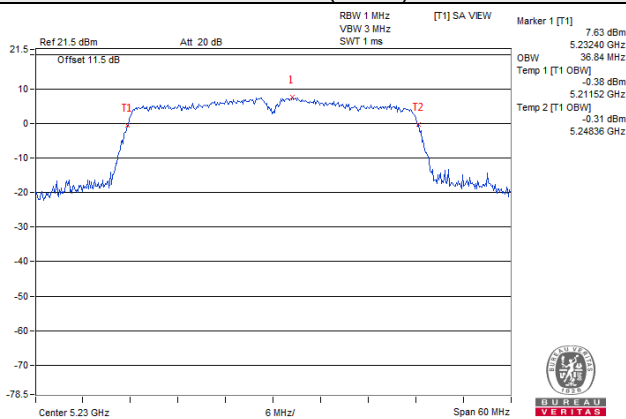
802.11a



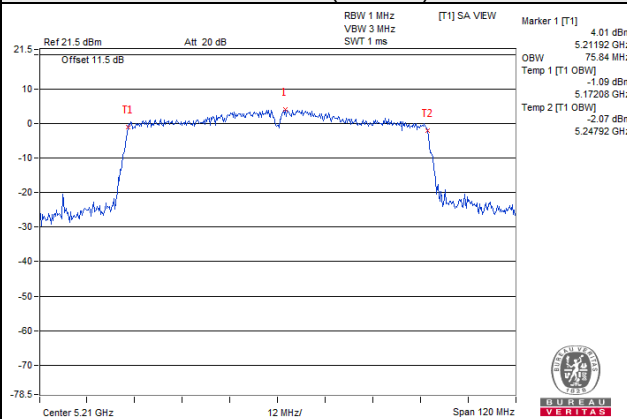
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

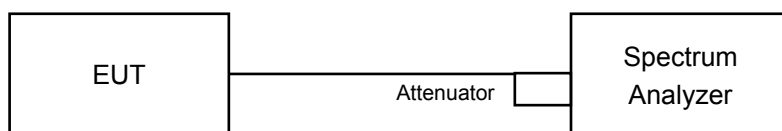


4.5 Peak Power Spectral Density Measurement

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:

Duty cycle of test signal is $\geq 98\%$

Using method SA-1

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS
- 3) Set Channel power measure = 1MHz
- 4) Sweep time = auto, trigger set to "free run".
- 5) Trace average at least 100 traces in power averaging mode.
- 6) Record the max value

Duty cycle of test signal is $< 98\%$

Using method SA-2

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS
- 3) Set Channel power measure = 1MHz
- 4) Sweep time = auto, trigger set to "free run".
- 5) Trace average at least 100 traces in power averaging mode.
- 6) Record the max value and add $10 \log (1/\text{duty cycle})$

For U-NII-3 band:

Duty cycle of test signal is $\geq 98\%$

Using method SA-1

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

Duty cycle of test signal is $< 98\%$

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

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

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
36	5180	1.78	0.13	1.91	11	Pass
40	5200	1.97	0.13	2.10	11	Pass
48	5240	2.01	0.13	2.14	11	Pass
52	5260	1.56	0.13	1.69	11	Pass
60	5300	1.22	0.13	1.35	11	Pass
64	5320	1.13	0.13	1.26	11	Pass
100	5500	0.87	0.13	1.00	11	Pass
116	5580	1.39	0.13	1.52	11	Pass
140	5700	1.11	0.13	1.24	11	Pass

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

802.11n (HT20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
36	5180	1.28	0.19	1.47	11	Pass
40	5200	1.36	0.19	1.55	11	Pass
48	5240	1.53	0.19	1.72	11	Pass
52	5260	1.03	0.19	1.22	11	Pass
60	5300	0.72	0.19	0.91	11	Pass
64	5320	0.65	0.19	0.84	11	Pass
100	5500	0.27	0.19	0.46	11	Pass
116	5580	0.84	0.19	1.03	11	Pass
140	5700	0.74	0.19	0.93	11	Pass

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

802.11n (HT40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
38	5190	-2.22	0.37	-1.85	11	Pass
46	5230	-2.20	0.37	-1.83	11	Pass
54	5270	-2.73	0.37	-2.36	11	Pass
62	5310	-3.10	0.37	-2.73	11	Pass
102	5510	-3.45	0.37	-3.08	11	Pass
110	5550	-3.13	0.37	-2.76	11	Pass
134	5670	-3.16	0.37	-2.79	11	Pass

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

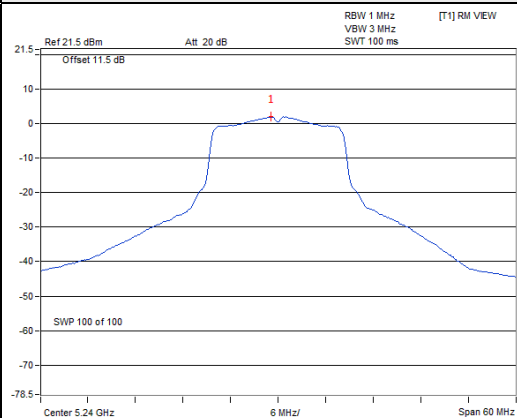
802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
42	5210	-5.78	0.50	-5.28	11	Pass
58	5290	-6.30	0.50	-5.80	11	Pass
106	5530	-6.90	0.50	-6.40	11	Pass
122	5610	-6.57	0.50	-6.07	11	Pass

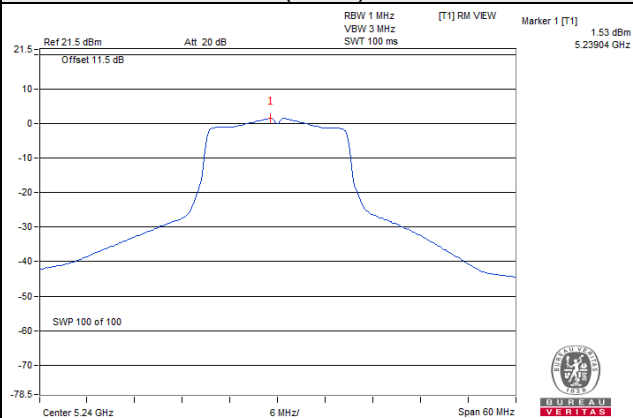
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

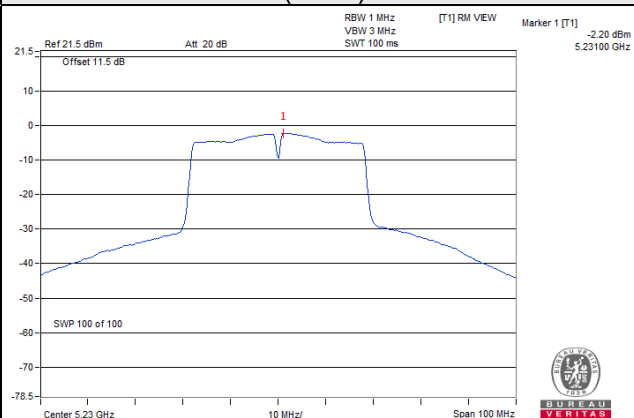
802.11a / CH 64



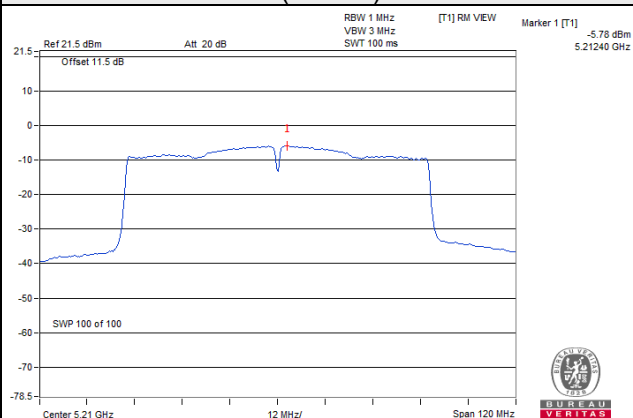
802.11n (HT20) / CH 48



802.11n (HT40) / CH 46



802.11ac (VHT80) / CH 42



For U-NII-3 band:

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
149	5745	-5.37	-3.15	0.13	-3.02	30	Pass
157	5785	-5.43	-3.21	0.13	-3.08	30	Pass
165	5825	-5.07	-2.85	0.13	-2.72	30	Pass

Note: Refer to section 3.1 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
149	5745	-6.02	-3.80	0.19	-3.61	30	Pass
157	5785	-5.92	-3.70	0.19	-3.51	30	Pass
165	5825	-5.95	-3.73	0.19	-3.54	30	Pass

Note: Refer to section 3.1 for duty cycle spectrum plot.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
151	5755	-10.35	-8.13	0.37	-7.76	30	Pass
159	5795	-10.20	-7.98	0.37	-7.61	30	Pass

Note: Refer to section 3.1 for duty cycle spectrum plot.

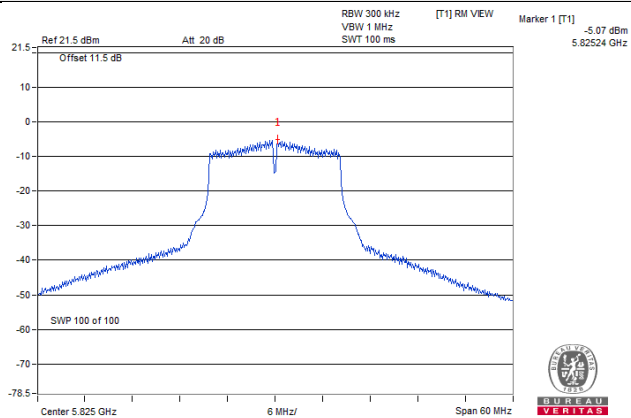
802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
155	5775	-13.69	-11.47	0.50	-10.97	30	Pass

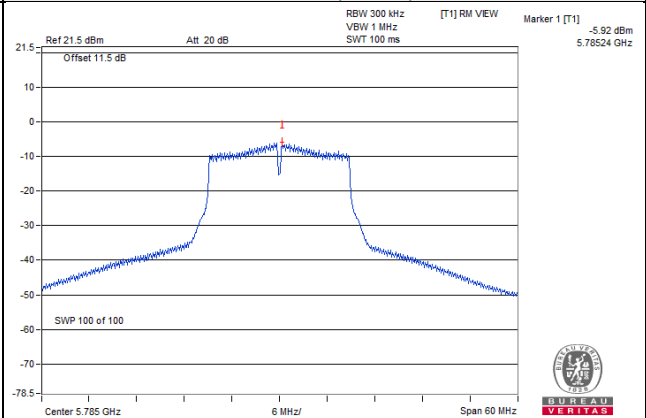
Note: Refer to section 3.1 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

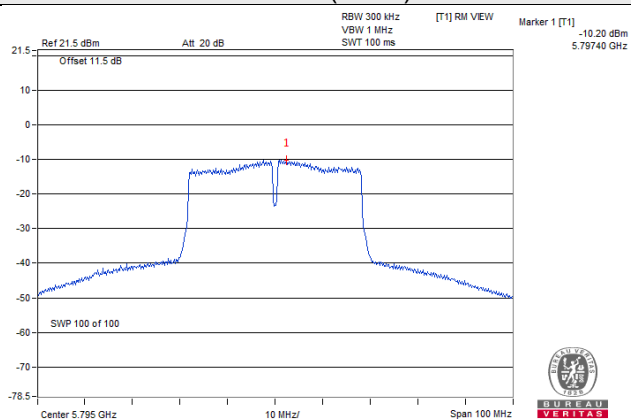
802.11a



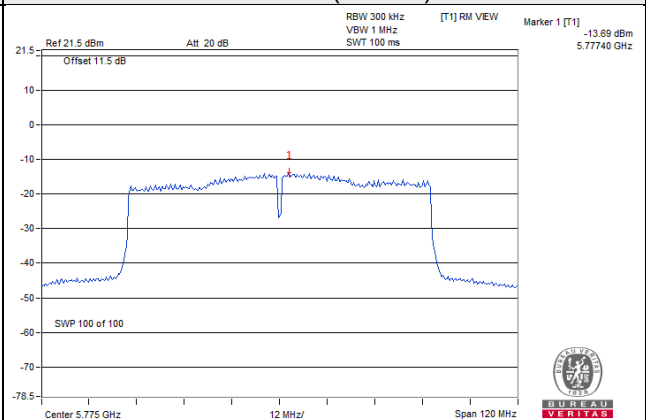
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

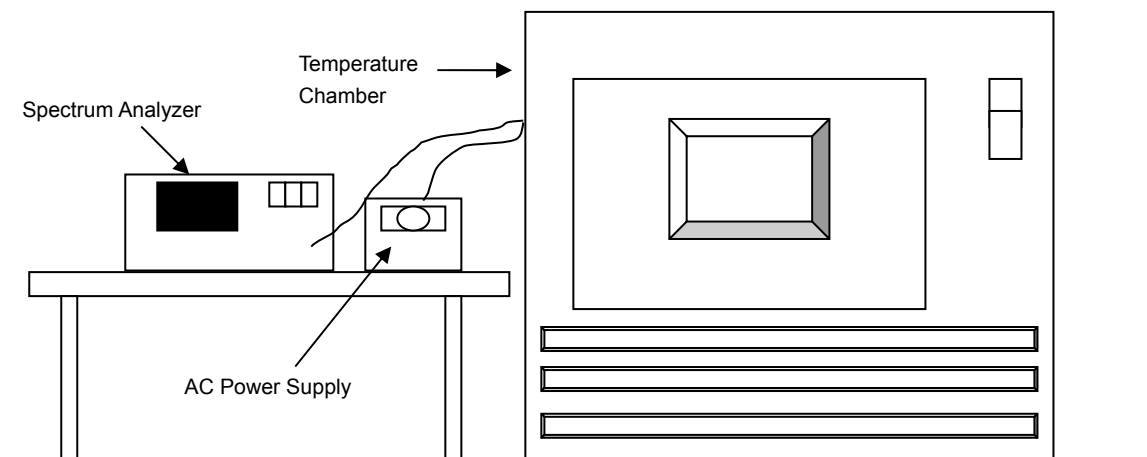


4.6 Frequency Stability

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: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
50	120	5180.0158	Pass	5180.0121	Pass	5180.0128	Pass	5180.0152	Pass
40	120	5180.0251	Pass	5180.0237	Pass	5180.0262	Pass	5180.0249	Pass
30	120	5179.9747	Pass	5179.9782	Pass	5179.9760	Pass	5179.9758	Pass
20	120	5180.0239	Pass	5180.0267	Pass	5180.0238	Pass	5180.0246	Pass
10	120	5180.0016	Pass	5180.0000	Pass	5180.0021	Pass	5179.9982	Pass
0	120	5179.9820	Pass	5179.9786	Pass	5179.9779	Pass	5179.9825	Pass
-10	120	5179.9828	Pass	5179.9827	Pass	5179.9873	Pass	5179.9837	Pass
-20	120	5180.0251	Pass	5180.0264	Pass	5180.0243	Pass	5180.0235	Pass
-30	120	5180.0202	Pass	5180.0215	Pass	5180.0199	Pass	5180.0231	Pass

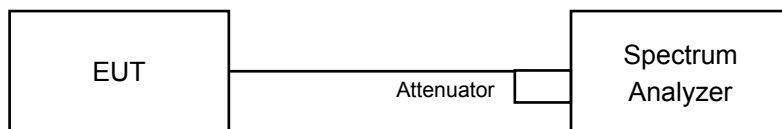
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0248	Pass	5180.0270	Pass	5180.0235	Pass	5180.0242	Pass
	120	5180.0239	Pass	5180.0267	Pass	5180.0238	Pass	5180.0246	Pass
	102	5180.0229	Pass	5180.0261	Pass	5180.0242	Pass	5180.0245	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

Measurement Procedure REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.38	0.5	Pass
157	5785	16.38	0.5	Pass
165	5825	16.38	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.35	0.5	Pass
157	5785	17.56	0.5	Pass
165	5825	17.53	0.5	Pass

802.11n (HT40)

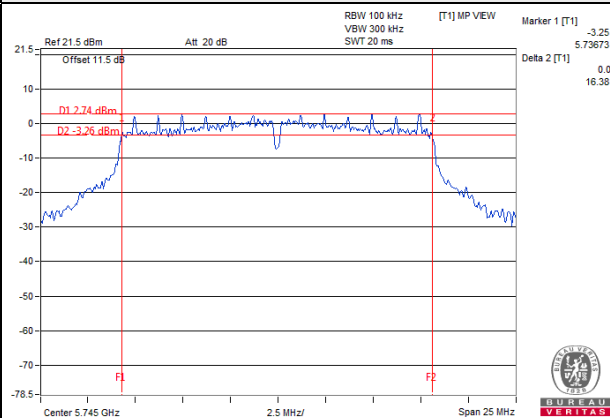
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.90	0.5	Pass
159	5795	36.11	0.5	Pass

802.11ac (VHT80)

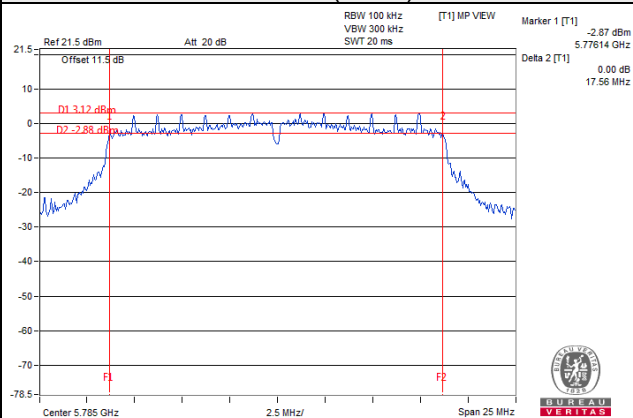
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
155	5775	75.68	0.5	Pass

Spectrum Plot of Worst Value

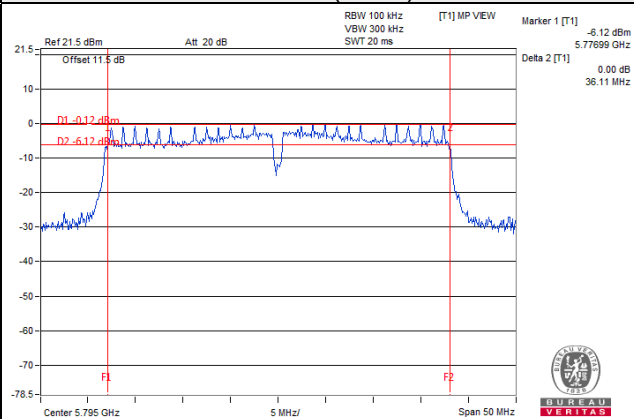
802.11a



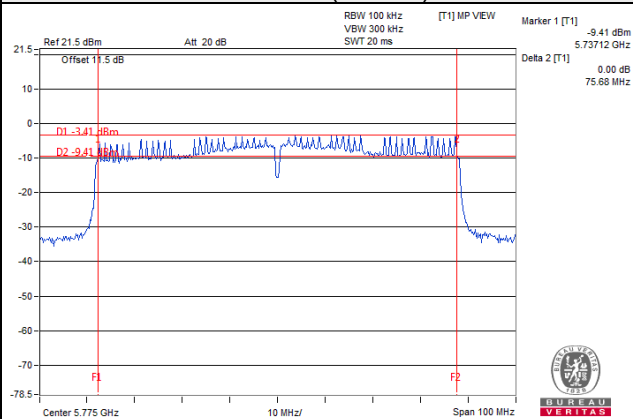
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

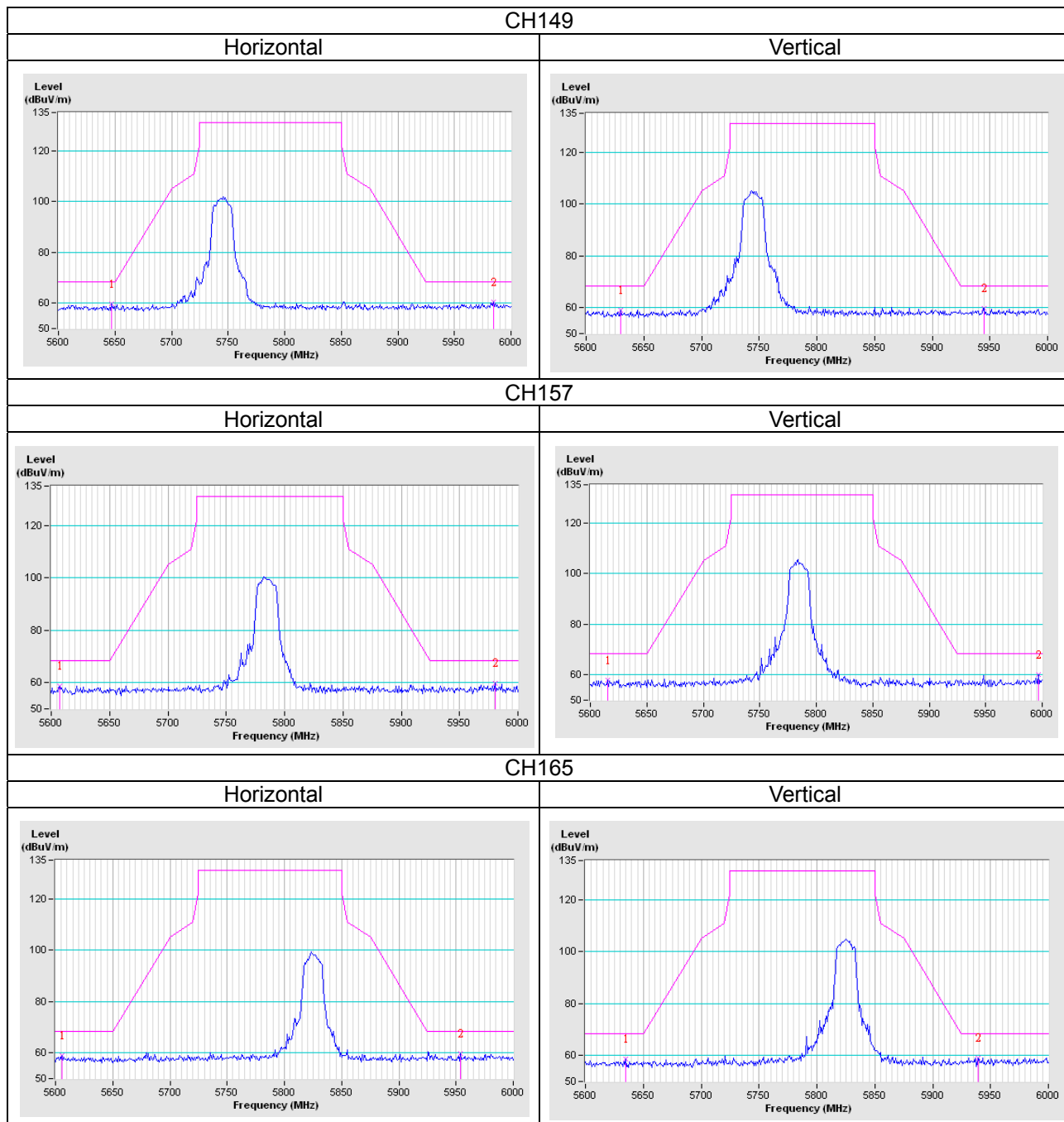


5 Pictures of Test Arrangements

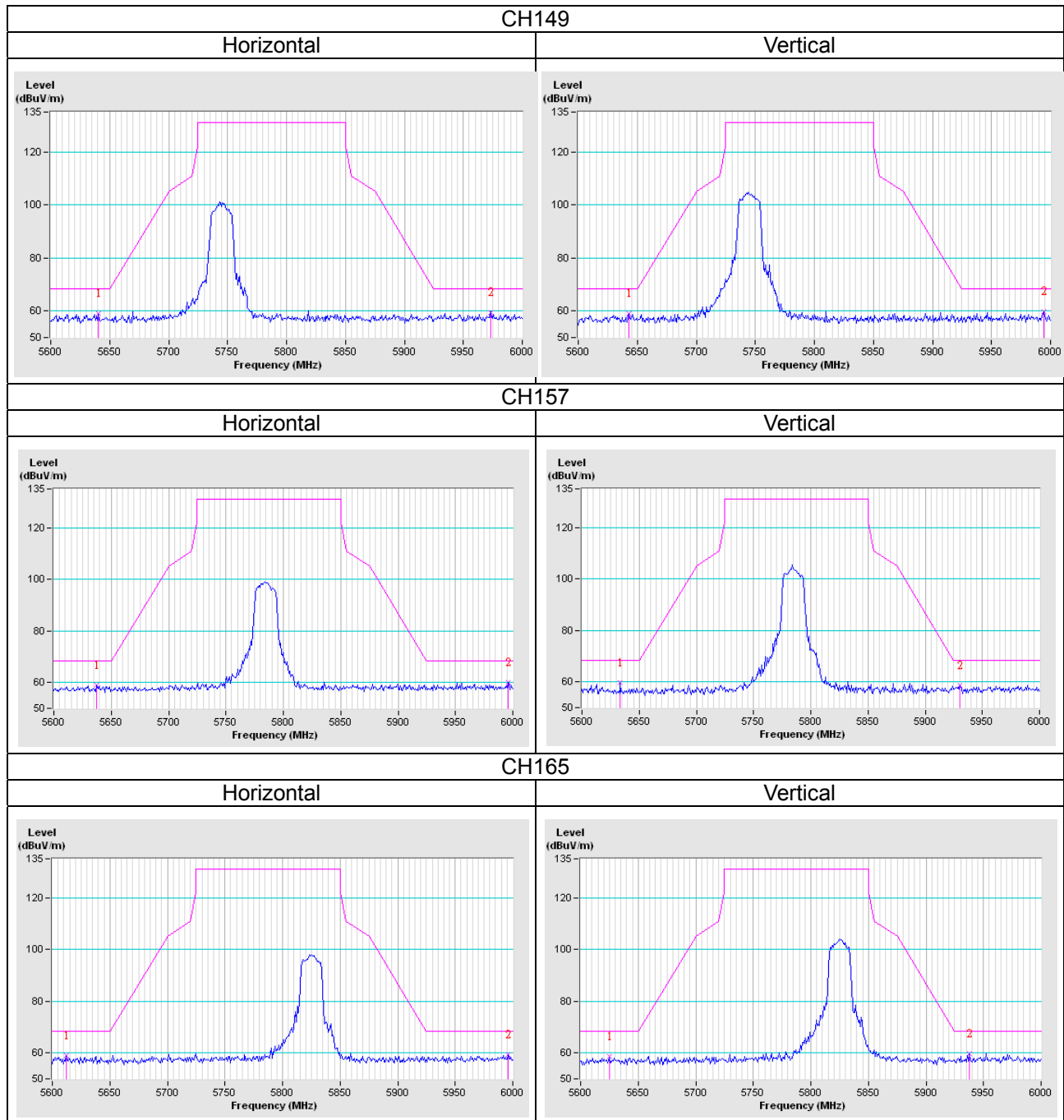
Please refer to the attached file (Test Setup Photo).

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

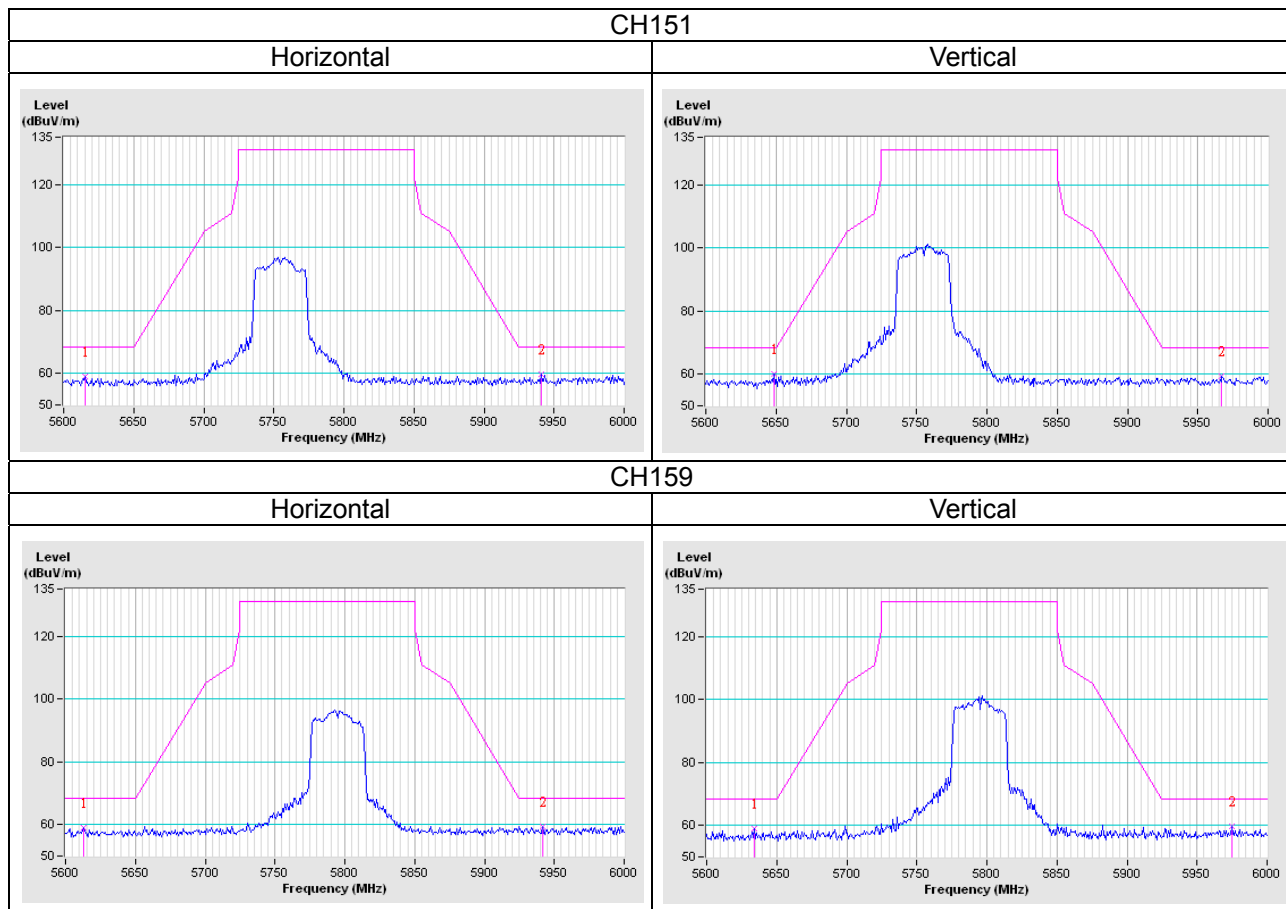
802.11a



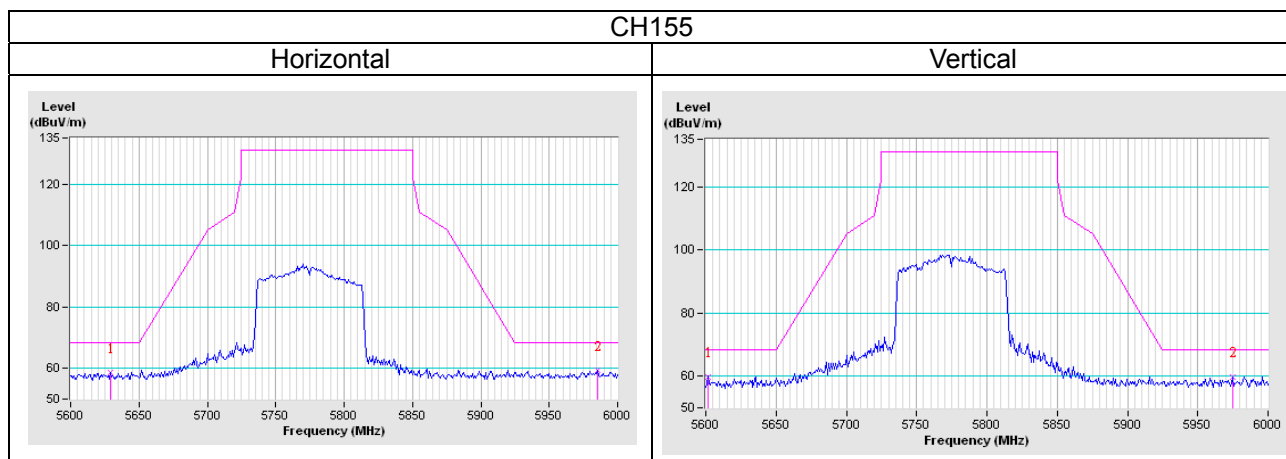
802.11n (HT20)



802.11n (HT40)



802.11ac (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 accredited and approved according to ISO/IEC 17025.

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

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety

Tel: 886-3-3183232

Fax: 886-3-3270892

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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