

FCC Test Report

Report No.: RF171114C19-1

FCC ID: B32V200CP

Test Model: V400c Plus

Received Date: Nov. 15, 2017

Test Date: Nov. 28, 2017 ~ Dec. 20, 2017

Issued Date: Dec. 27, 2017

Applicant: Verifone, Inc.

Address: 1400 West Stanford Ranch Road Suite 200 Rocklin CA 95765 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 Tsuen, Kwei Shan Hsiang, Taoyuan
Hsien 333, Taiwan, R.O.C.

FCC Registration /
Designation Number: 788550 / TW0003



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results.....	6
2.1 Measurement Uncertainty.....	6
2.2 Modification Record	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Description of Test Modes.....	8
3.2.1 Test Mode Applicability and Tested Channel Detail.....	10
3.3 Duty Cycle of Test Signal	12
3.4 Description of Support Units	13
3.4.1 Configuration of System under Test	13
3.5 General Description of Applied Standards.....	13
4 Test Types and Results	14
4.1 Radiated Emission and Bandedge Measurement	14
4.1.1 Limits of Radiated Emission and Bandedge Measurement	14
4.1.2 Limits of Unwanted Emission Out of the Restricted Bands	15
4.1.3 Test Instruments	16
4.1.4 Test Procedures.....	17
4.1.5 Deviation from Test Standard	17
4.1.6 Test Set Up	18
4.1.7 EUT Operating Conditions.....	19
4.1.8 Test Results	20
4.2 Conducted Emission Measurement.....	54
4.2.1 Limits of Conducted Emission Measurement	54
4.2.2 Test Instruments	54
4.2.3 Test Procedures.....	55
4.2.4 Deviation from Test Standard	55
4.2.5 Test Setup.....	55
4.2.6 EUT Operating Conditions.....	55
4.2.7 Test Results	56
4.3 Transmit Power Measurement.....	58
4.3.1 Limits of Transmit Power Measurement	58
4.3.2 Test Setup.....	58
4.3.3 Test Instruments	59
4.3.4 Test Procedure	59
4.3.5 Deviation from Test Standard	59
4.3.6 EUT Operating Conditions.....	59
4.3.7 Test Result	60
4.4 Occupied Bandwidth Measurement.....	65
4.4.1 Test Setup.....	65
4.4.2 Test Instruments	65
4.4.3 Test Procedure	65
4.4.4 Test Results	66
4.5 Peak Power Spectral Density Measurement	68
4.5.1 Limits of Peak Power Spectral Density Measurement	68
4.5.2 Test Setup.....	68
4.5.3 Test Instruments	68
4.5.4 Test Procedures.....	68
4.5.5 Deviation from Test Standard	69
4.5.6 EUT Operating Conditions.....	69
4.5.7 Test Results	70
4.6 Frequency Stability	74

4.6.1	Limit of Frequency Stability Measurement	74
4.6.2	Test Setup	74
4.6.3	Test Instruments	74
4.6.4	Test Procedure	74
4.6.5	Deviation from Test Standard	74
4.6.6	EUT Operating Condition	74
4.6.7	Test Results	75
4.7	6 dB Bandwidth Measurement.....	76
4.7.1	Limits of 6 dB Bandwidth Measurement.....	76
4.7.2	Test Setup.....	76
4.7.3	Test Instruments	76
4.7.4	Test Procedure	76
4.7.5	Deviation from Test Standard	76
4.7.6	EUT Operating Condition	76
4.7.7	Test Results	77
5	Pictures of Test Arrangements.....	79
	Annex A- Radiated Out of Band Emisison (OOBE) Measurement (For U-NII-3 band)	80
	Appendix – Information on the Testing Laboratories	83

Release Control Record

Issue No.	Description	Date Issued
RF171114C19-1	Original Release	Dec. 27, 2017

1 Certificate of Conformity

Product: Point of Sale Terminal

Brand: Verifone

Test Model: V400c Plus

Sample Status: Identical Prototype

Applicant: Verifone, Inc.

Test Date: Nov. 28, 2017 ~ Dec. 20, 2017

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

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

Prepared by : Evonne Liu, **Date:** Dec. 27, 2017
Evonne Liu / Specialist

Approved by : Dylan Chiou, **Date:** Dec. 27, 2017
Dylan Chiou / 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 -22.03 dB at 0.43484 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -2.7 dB at 5350 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the 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	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Point of Sale Terminal
Brand	Verifone
Test Model	V400c Plus
Status of EUT	Identical Prototype
Power Supply Rating	11.6 Vdc (adapter)
Modulation Type	64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to MCS7
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5700 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5500 ~ 5700 MHz: 11 for 802.11a, 802.11n (HT20) 5 for 802.11n (HT40) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40)
Output Power	12.706 mW for 5180 ~ 5240 MHz 12.706 mW for 5260 ~ 5320 MHz 11.995 mW for 5500 ~ 5700 MHz 12.417 mW for 5745 ~ 5825 MHz
Antenna Type	PIFA antenna with 2.41 dBi gain (5180 ~ 5240 MHz) PIFA antenna with 2.41 dBi gain (5260 ~ 5320 MHz) PIFA antenna with 2.96 dBi gain (5500 ~ 5700 MHz) PIFA antenna with 2.52 dBi gain (5745 ~ 5825 MHz)
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

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

2. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter 1	Verifone	A124-2116167U	I/P: 100-240 Vac, 50/60 Hz, 0.6 A O/P: 11.6 Vdc, 1.55 A 1.8m non-shielded cable w/o core
Adapter 2	Verifone	VF0102	I/P: 100-240 Vac, 50-60 Hz, 1.0 A O/P: 11.6 Vdc, 1.55 A

			1.8m non-shielded cable w/o core
--	--	--	----------------------------------

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

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230

For 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
54	5270	62	5310

For 5500 ~ 5700 MHz

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

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

5 channels are provided for 802.11n (HT40):

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

For 5745 ~ 5825 MHz:

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE $\geq$ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE $\geq$ 1G**: Radiated Emission above 1 GHz

RE<1G: Radiated Emission below 1 GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note:

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

Radiated Emission Test (Above 1 GHz):

- ☒ 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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36 to 48	36, 44, 48	OFDM	BPSK	6.0
-		802.11n (HT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
-		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
-	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
-		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
-		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	MCS0

Radiated Emission Test (Below 1 GHz):

- ☒ 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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5260-5320	802.11n (HT40)	54 to 62	62	OFDM	BPSK	MCS0

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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5260-5320	802.11n (HT40)	54 to 62	62	OFDM	BPSK	MCS0

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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36 to 48	36, 44, 48	OFDM	BPSK	6.0
-		802.11n (HT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
-		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
-	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
-		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
-		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Adair Peng
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Greg Lin
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Greg Lin
APCM	25 deg. C, 65 % RH	120 Vac, 60 Hz	Gavin Wu

3.3 Duty Cycle of Test Signal

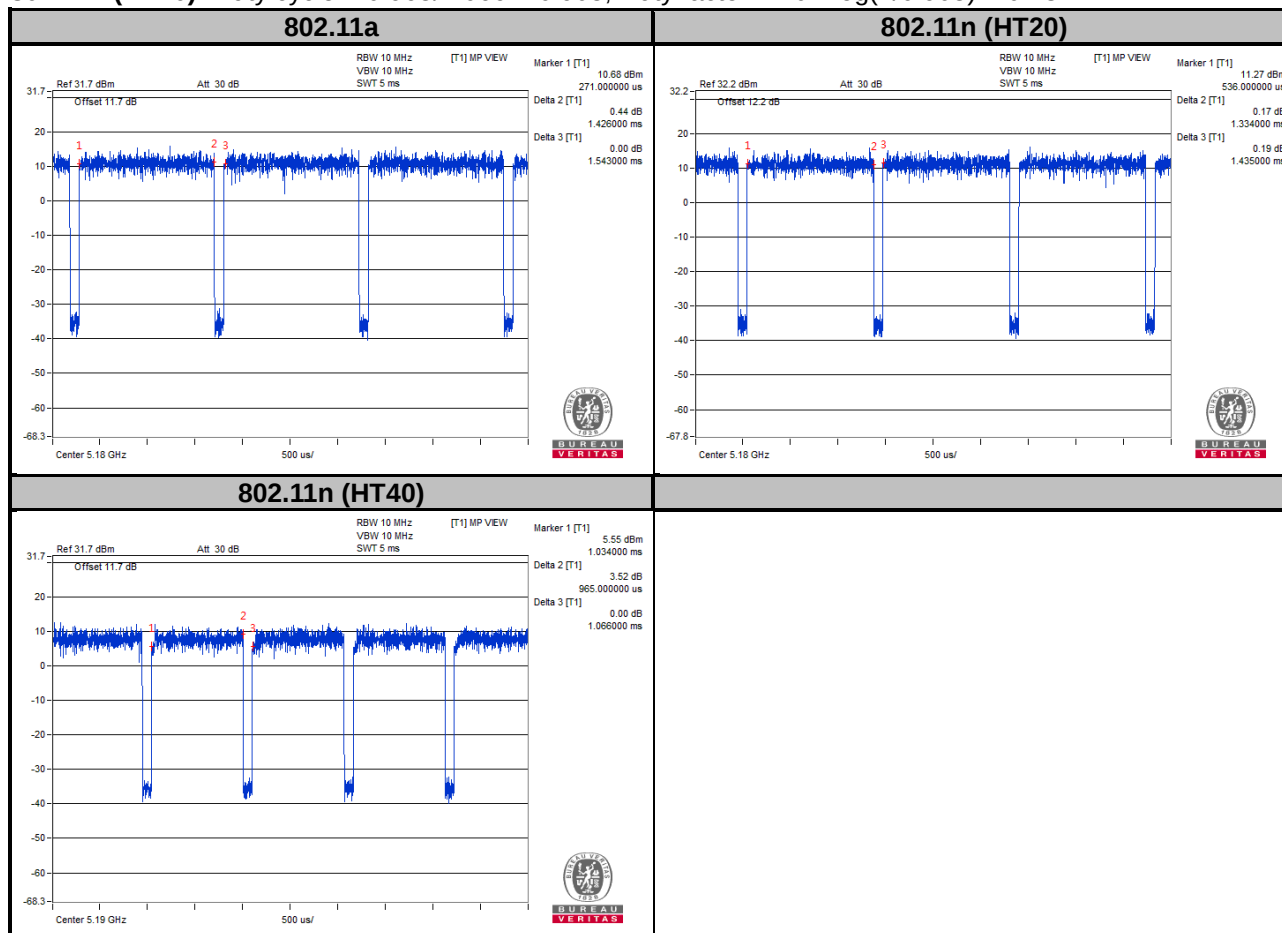
MODULATION TYPE: BPSK

Duty cycle of test signal is < 98 %, duty factor is required.

802.11a: Duty cycle = $1.426/1.543 = 0.924$, Duty factor = $10 * \log(1/0.924) = 0.34$

802.11n (HT20): Duty cycle = $1.334/1.435 = 0.93$, Duty factor = $10 * \log(1/0.93) = 0.32$

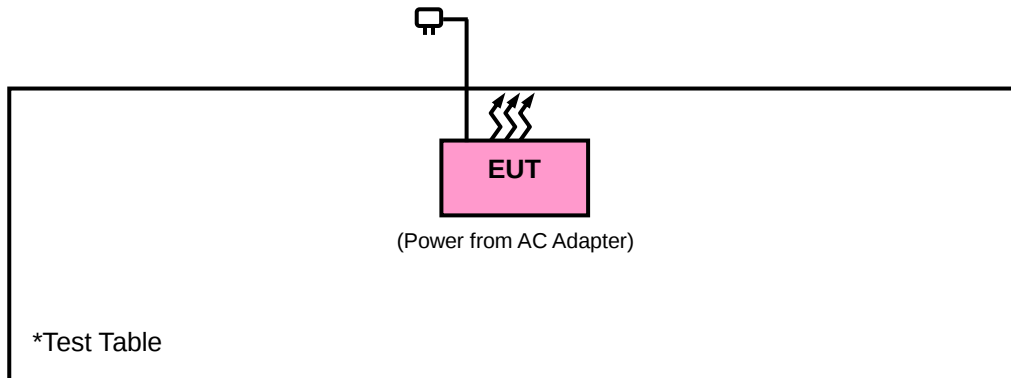
802.11n (HT40): Duty cycle = $0.965/1.066 = 0.905$, Duty factor = $10 * \log(1/0.905) = 0.43$



3.4 Description of Support Units

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

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)

789033 D02 General UNII Test Procedures New Rules v02r01

ANSI C63.10-2013

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

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20 dB below the highest level of the desired power:

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

Note:

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 1000 MHz, 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 20 dB under any condition of modulation.

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v01r04		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
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:

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

4.1.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Feb. 17, 2017	Feb. 16, 2018
Spectrum Analyzer Agilent	N9010A	MY52220314	Nov. 24, 2017	Nov. 23, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSL3	104596	Oct. 11, 2017	Oct. 10, 2018
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 26, 2016	Dec. 27, 2017
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Dec. 12, 2016	Dec. 13, 2017
			Dec. 12, 2017	Dec. 11, 2018
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 14, 2016	Dec. 13, 2017
			Dec. 01, 2017	Nov. 31, 2018
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 17, 2017	Apr. 16, 2018
Loop Antenna	HLA 6121	45745	May 19, 2017	May 18, 2018
Preamplifier EMCI	EMC001340	980201	Nov. 01, 2017	Oct. 31, 2018
Bluetooth Tester	CBT	100946	Jul. 29, 2016	Jul. 28, 2018
Preamplifier EMCI	EMC 012645	980115	Oct. 20, 2017	Oct. 19, 2018
Preamplifier EMCI	EMC 184045	980116	Oct. 20, 2017	Oct. 19, 2018
Preamplifier EMCI	EMC 330H	980112	Oct. 13, 2017	Oct. 12, 2018
Power Meter Anritsu	ML2495A	1145013	Mar. 07, 2017	Mar. 06, 2018
Power Sensor Anritsu	MA2411B	1315050	Aug. 15, 2017	Aug. 14, 2018
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309224/4 1709074	Sep. 11, 2017	Sep. 10, 2018
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	223653/4	Aug. 21, 2017	Aug. 20, 2018
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 20, 2017	Oct. 19, 2018
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 / 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 10.
3. The horn antenna and preamplifier (model: EMC 184045) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The IC Site Registration No. is IC7450F-10.

4.1.4 Test Procedures

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1 GHz) / 1.5 meters (for above 1 GHz) 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 detected 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:

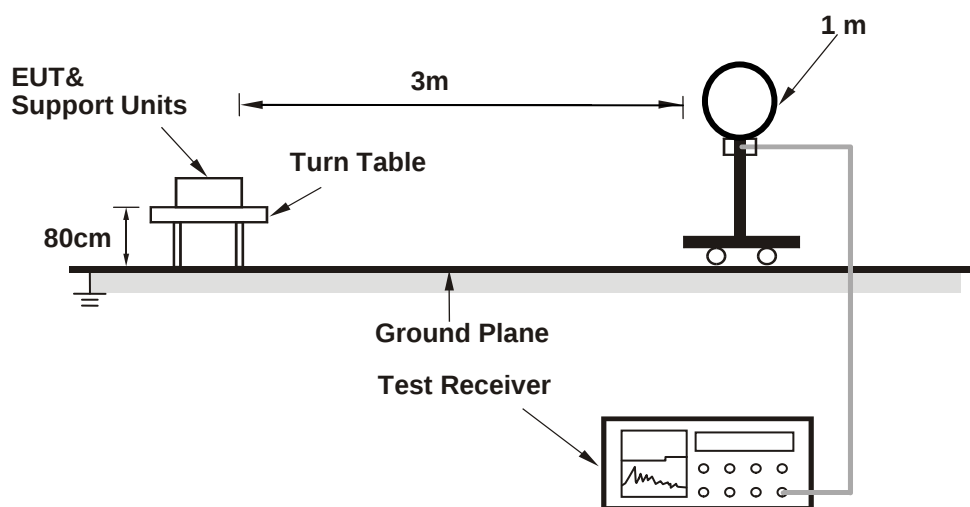
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1/T for Average (Duty cycle < 98 %) detection at frequency above 1 GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle $\geq$ 98 %) for Average detection (AV) at frequency above 1 GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 Deviation from Test Standard

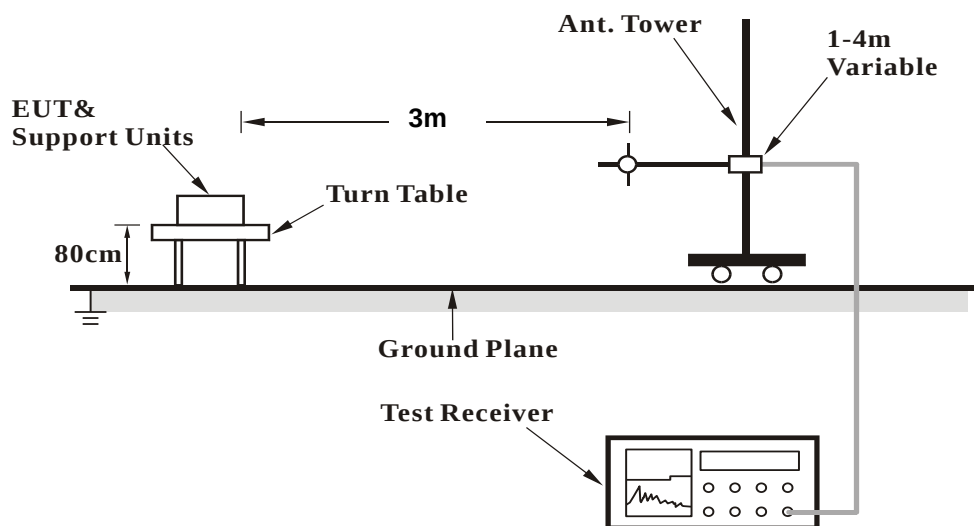
No deviation.

4.1.6 Test Set Up

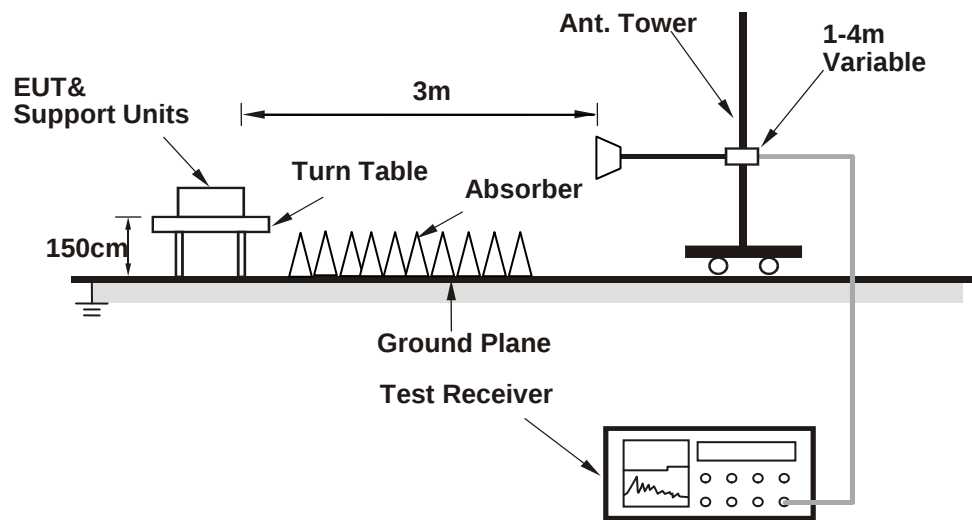
<Radiated emission below 30 MHz>



<Frequency Range below 1 GHz>



<Frequency Range above 1 GHz>



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

4.1.7 EUT Operating Conditions

- Placed the EUT on a testing table.
- Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.8 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	57.1 PK	74.0	-16.9	1.07 H	197	53.50	3.60
2	5150.00	47.6 AV	54.0	-6.4	1.07 H	197	44.00	3.60
3	*5180.00	106.8 PK			1.27 H	197	67.30	39.50
4	*5180.00	94.9 AV			1.27 H	197	55.40	39.50
5	#10360.00	58.0 PK	74.0	-16.0	1.55 H	223	42.30	15.70
6	#10360.00	44.2 AV	54.0	-9.8	1.55 H	223	28.50	15.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.4 PK	74.0	-6.6	1.44 V	173	63.80	3.60
2	5150.00	47.0 AV	54.0	-7.0	1.44 V	173	43.40	3.60
3	*5180.00	106.3 PK			1.52 V	204	66.80	39.50
4	*5180.00	94.7 AV			1.52 V	204	55.20	39.50
5	#10360.00	57.6 PK	74.0	-16.4	1.79 V	301	41.90	15.70
6	#10360.00	44.3 AV	54.0	-9.7	1.79 V	301	28.60	15.70

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	105.5 PK			1.32 H	206	66.00	39.50
2	*5200.00	93.5 AV			1.32 H	206	54.00	39.50
3	#10400.00	57.8 PK	74.0	-16.2	1.55 H	193	42.20	15.60
4	#10400.00	43.8 AV	54.0	-10.2	1.55 H	193	28.20	15.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	105.9 PK			1.56 V	191	66.40	39.50
2	*5200.00	94.3 AV			1.56 V	191	54.80	39.50
3	#10400.00	57.3 PK	74.0	-16.7	1.87 V	233	41.70	15.60
4	#10400.00	43.9 AV	54.0	-10.1	1.87 V	233	28.30	15.60

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	104.9 PK			1.17 H	210	65.40	39.50
2	*5240.00	93.6 AV			1.17 H	210	54.10	39.50
3	5350.00	55.1 PK	74.0	-18.9	1.62 H	255	51.20	3.90
4	5350.00	41.2 AV	54.0	-12.8	1.62 H	255	37.30	3.90
5	#10480.00	57.0 PK	74.0	-17.0	1.63 H	265	40.20	16.80
6	#10480.00	43.1 AV	54.0	-10.9	1.63 H	265	26.30	16.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	104.7 PK			1.57 V	203	65.20	39.50
2	*5240.00	93.8 AV			1.57 V	203	54.30	39.50
3	5350.00	54.7 PK	74.0	-19.3	1.69 V	197	50.80	3.90
4	5350.00	41.1 AV	54.0	-12.9	1.69 V	197	37.20	3.90
5	#10480.00	56.0 PK	74.0	-18.0	1.62 V	255	39.20	16.80
6	#10480.00	43.1 AV	54.0	-10.9	1.62 V	255	26.30	16.80

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.3 PK	74.0	-19.7	1.29 H	220	50.70	3.60
2	5150.00	41.1 AV	54.0	-12.9	1.29 H	220	37.50	3.60
3	*5260.00	106.5 PK			1.16 H	207	66.90	39.60
4	*5260.00	94.6 AV			1.16 H	207	55.00	39.60
5	#10520.00	57.0 PK	74.0	-17.0	1.33 H	266	40.00	17.00
6	#10520.00	44.2 AV	54.0	-9.8	1.33 H	266	27.20	17.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.0 PK	74.0	-19.0	1.28 V	263	51.40	3.60
2	5150.00	42.3 AV	54.0	-11.7	1.28 V	263	38.70	3.60
3	*5260.00	109.6 PK			1.03 V	257	70.00	39.60
4	*5260.00	98.1 AV			1.03 V	257	58.50	39.60
5	#10520.00	57.9 PK	74.0	-16.1	1.51 V	308	40.90	17.00
6	#10520.00	44.7 AV	54.0	-9.3	1.51 V	308	27.70	17.00

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	106.4 PK			1.16 H	206	66.80	39.60
2	*5300.00	95.2 AV			1.16 H	206	55.60	39.60
3	10600.00	57.2 PK	74.0	-16.8	1.60 H	258	40.10	17.10
4	10600.00	44.1 AV	54.0	-9.9	1.60 H	258	27.00	17.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	107.5 PK			1.28 V	267	67.90	39.60
2	*5300.00	96.1 AV			1.28 V	267	56.50	39.60
3	10600.00	57.6 PK	74.0	-16.4	1.55 V	312	40.50	17.10
4	10600.00	44.5 AV	54.0	-9.5	1.55 V	312	27.40	17.10

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	106.7 PK			1.11 H	207	67.00	39.70
2	*5320.00	94.9 AV			1.11 H	207	55.20	39.70
3	5350.00	56.5 PK	74.0	-17.5	1.14 H	207	52.60	3.90
4	5350.00	46.1 AV	54.0	-7.9	1.14 H	207	42.20	3.90
5	10640.00	59.1 PK	74.0	-14.9	1.55 H	187	41.80	17.30
6	10640.00	45.0 AV	54.0	-9.0	1.55 H	187	27.70	17.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	107.1 PK			1.92 V	168	67.40	39.70
2	*5320.00	95.9 AV			1.92 V	168	56.20	39.70
3	5350.00	56.8 PK	74.0	-17.2	2.00 V	168	52.90	3.90
4	5350.00	46.9 AV	54.0	-7.1	2.00 V	168	43.00	3.90
5	10640.00	59.2 PK	74.0	-14.8	1.66 V	299	41.90	17.30
6	10640.00	45.3 AV	54.0	-8.7	1.66 V	299	28.00	17.30

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.5 PK	74.0	-12.5	1.21 H	225	57.50	4.00
2	5460.00	44.2 AV	54.0	-9.8	1.21 H	225	40.20	4.00
3	#5470.00	65.8 PK	74.0	-8.2	1.19 H	220	61.80	4.00
4	#5470.00	46.2 AV	54.0	-7.8	1.19 H	220	42.20	4.00
5	*5500.00	107.2 PK			1.15 H	210	67.20	40.00
6	*5500.00	95.5 AV			1.15 H	210	55.50	40.00
7	11000.00	59.0 PK	74.0	-15.0	1.73 H	168	40.00	19.00
8	11000.00	45.8 AV	54.0	-8.2	1.73 H	168	26.80	19.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.7 PK	74.0	-13.3	1.18 V	269	56.70	4.00
2	5460.00	44.8 AV	54.0	-9.2	1.18 V	269	40.80	4.00
3	#5470.00	66.6 PK	74.0	-7.4	1.19 V	266	62.60	4.00
4	#5470.00	47.0 AV	54.0	-7.0	1.19 V	266	43.00	4.00
5	*5500.00	109.3 PK			1.14 V	260	69.30	40.00
6	*5500.00	97.2 AV			1.14 V	260	57.20	40.00
7	11000.00	59.1 PK	74.0	-14.9	1.56 V	193	40.10	19.00
8	11000.00	45.8 AV	54.0	-8.2	1.56 V	193	26.80	19.00

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	107.5 PK			1.12 H	209	67.40	40.10
2	*5580.00	96.1 AV			1.12 H	209	56.00	40.10
3	11160.00	59.6 PK	74.0	-14.4	1.77 H	301	40.90	18.70
4	11160.00	45.7 AV	54.0	-8.3	1.77 H	301	27.00	18.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	107.8 PK			2.46 V	181	67.70	40.10
2	*5580.00	96.6 AV			2.46 V	181	56.50	40.10
3	11160.00	59.8 PK	74.0	-14.2	1.99 V	210	41.10	18.70
4	11160.00	46.0 AV	54.0	-8.0	1.99 V	210	27.30	18.70

REMARKS:

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

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	107.3 PK			1.13 H	211	67.00	40.30
2	*5700.00	95.3 AV			1.13 H	211	55.00	40.30
3	#5725.00	68.2 PK	74.0	-5.8	1.19 H	218	63.70	4.50
4	#5725.00	48.9 AV	54.0	-5.1	1.19 H	218	44.40	4.50
5	11400.00	59.1 PK	74.0	-14.9	1.61 H	269	40.90	18.20
6	11400.00	45.4 AV	54.0	-8.6	1.61 H	269	27.20	18.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	107.4 PK			3.01 V	187	67.10	40.30
2	*5700.00	95.9 AV			3.01 V	187	55.60	40.30
3	#5725.00	69.5 PK	74.0	-4.5	2.73 V	191	65.00	4.50
4	#5725.00	49.9 AV	54.0	-4.1	2.73 V	191	45.40	4.50
5	11400.00	59.4 PK	74.0	-14.6	2.01 V	229	41.20	18.20
6	11400.00	45.8 AV	54.0	-8.2	2.01 V	229	27.60	18.20

REMARKS:

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

CHANNEL	TX Channel 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	*5745.00	103.3 PK			1.15 H	50	61.80	41.50
2	*5745.00	93.1 AV			1.15 H	50	51.60	41.50
3	11490.00	56.8 PK	74.0	-17.2	2.65 H	217	40.80	16.00
4	11490.00	45.7 AV	54.0	-8.3	2.65 H	217	29.70	16.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	109.2 PK			1.00 V	93	67.70	41.50
2	*5745.00	98.9 AV			1.00 V	93	57.40	41.50
3	11490.00	59.2 PK	74.0	-14.8	2.31 V	320	43.20	16.00
4	11490.00	46.4 AV	54.0	-7.6	2.31 V	320	30.40	16.00

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	104.1 PK			1.35 H	51	62.60	41.50
2	*5785.00	93.9 AV			1.35 H	51	52.40	41.50
3	11570.00	56.5 PK	74.0	-17.5	2.14 H	296	40.80	15.70
4	11570.00	45.3 AV	54.0	-8.7	2.14 H	296	29.60	15.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	109.0 PK			1.05 V	96	67.50	41.50
2	*5785.00	98.5 AV			1.05 V	96	57.00	41.50
3	11570.00	58.8 PK	74.0	-15.2	3.07 V	224	43.10	15.70
4	11570.00	46.3 AV	54.0	-7.7	3.07 V	224	30.60	15.70

REMARKS:

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

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	*5825.00	103.9 PK			1.06 H	52	62.30	41.60
2	*5825.00	93.7 AV			1.06 H	52	52.10	41.60
3	11650.00	56.9 PK	74.0	-17.1	1.74 H	283	41.30	15.60
4	11650.00	45.0 AV	54.0	-9.0	1.74 H	283	29.40	15.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	108.4 PK			1.00 V	97	66.80	41.60
2	*5825.00	98.2 AV			1.00 V	97	56.60	41.60
3	11650.00	58.8 PK	74.0	-15.2	2.52 V	186	43.20	15.60
4	11650.00	46.2 AV	54.0	-7.8	2.52 V	186	30.60	15.60

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.

802.11n (20MHz)

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	65.2 PK	74.0	-8.8	1.23 H	210	61.60	3.60
2	5150.00	46.2 AV	54.0	-7.8	1.23 H	210	42.60	3.60
3	*5180.00	105.2 PK			1.22 H	211	65.70	39.50
4	*5180.00	93.9 AV			1.22 H	211	54.40	39.50
5	#10360.00	57.7 PK	74.0	-16.3	1.59 H	281	42.00	15.70
6	#10360.00	43.9 AV	54.0	-10.1	1.59 H	281	28.20	15.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.5 PK	74.0	-6.5	1.69 V	162	63.90	3.60
2	5150.00	47.1 AV	54.0	-6.9	1.69 V	162	43.50	3.60
3	*5180.00	104.2 PK			1.71 V	203	64.70	39.50
4	*5180.00	93.7 AV			1.71 V	203	54.20	39.50
5	#10360.00	57.9 PK	74.0	-16.1	1.87 V	254	42.20	15.70
6	#10360.00	44.1 AV	54.0	-9.9	1.87 V	254	28.40	15.70

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	105.1 PK			1.24 H	198	65.60	39.50
2	*5200.00	94.1 AV			1.24 H	198	54.60	39.50
3	#10400.00	56.7 PK	74.0	-17.3	1.63 H	241	41.10	15.60
4	#10400.00	43.7 AV	54.0	-10.3	1.63 H	241	28.10	15.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	104.7 PK			2.11 V	187	65.20	39.50
2	*5200.00	93.7 AV			2.11 V	187	54.20	39.50
3	#10400.00	57.9 PK	74.0	-16.1	1.93 V	211	42.30	15.60
4	#10400.00	44.0 AV	54.0	-10.0	1.93 V	211	28.40	15.60

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	103.5 PK			1.48 H	212	64.00	39.50
2	*5240.00	92.7 AV			1.48 H	212	53.20	39.50
3	5350.00	54.4 PK	74.0	-19.6	1.61 H	252	50.50	3.90
4	5350.00	41.3 AV	54.0	-12.7	1.61 H	252	37.40	3.90
5	#10480.00	57.3 PK	74.0	-16.7	1.87 H	322	40.50	16.80
6	#10480.00	44.4 AV	54.0	-9.6	1.87 H	322	27.60	16.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	105.0 PK			1.50 V	175	65.50	39.50
2	*5240.00	94.1 AV			1.50 V	175	54.60	39.50
3	5350.00	54.3 PK	74.0	-19.7	1.69 V	193	50.40	3.90
4	5350.00	41.4 AV	54.0	-12.6	1.69 V	193	37.50	3.90
5	#10480.00	58.2 PK	74.0	-15.8	1.87 V	306	41.40	16.80
6	#10480.00	44.4 AV	54.0	-9.6	1.87 V	306	27.60	16.80

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.1 PK	74.0	-17.9	1.19 H	203	52.50	3.60
2	5150.00	41.6 AV	54.0	-12.4	1.19 H	203	38.00	3.60
3	*5260.00	104.3 PK			1.10 H	216	64.70	39.60
4	*5260.00	94.3 AV			1.10 H	216	54.70	39.60
5	#10520.00	57.1 PK	74.0	-16.9	1.33 H	254	40.10	17.00
6	#10520.00	43.5 AV	54.0	-10.5	1.33 H	254	26.50	17.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.5 PK	74.0	-17.5	1.87 V	221	52.90	3.60
2	5150.00	42.0 AV	54.0	-12.0	1.87 V	221	38.40	3.60
3	*5260.00	105.6 PK			2.00 V	192	66.00	39.60
4	*5260.00	95.0 AV			2.00 V	192	55.40	39.60
5	#10520.00	57.3 PK	74.0	-16.7	1.93 V	265	40.30	17.00
6	#10520.00	43.9 AV	54.0	-10.1	1.93 V	265	26.90	17.00

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	104.8 PK			1.03 H	190	65.20	39.60
2	*5300.00	93.9 AV			1.03 H	190	54.30	39.60
3	10600.00	57.4 PK	74.0	-16.6	1.78 H	199	40.30	17.10
4	10600.00	47.0 AV	54.0	-7.0	1.78 H	199	29.90	17.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	105.8 PK			1.77 V	171	66.20	39.60
2	*5300.00	95.4 AV			1.77 V	171	55.80	39.60
3	10600.00	57.7 PK	74.0	-16.3	1.69 V	256	40.60	17.10
4	10600.00	44.1 AV	54.0	-9.9	1.69 V	256	27.00	17.10

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	105.7 PK			1.26 H	203	66.00	39.70
2	*5320.00	94.7 AV			1.26 H	203	55.00	39.70
3	5350.00	66.0 PK	74.0	-8.0	1.29 H	209	62.10	3.90
4	5350.00	47.2 AV	54.0	-6.8	1.29 H	209	43.30	3.90
5	10640.00	58.1 PK	74.0	-15.9	1.99 H	189	40.80	17.30
6	10640.00	44.6 AV	54.0	-9.4	1.99 H	189	27.30	17.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	107.1 PK			1.94 V	180	67.40	39.70
2	*5320.00	96.0 AV			1.94 V	180	56.30	39.70
3	5350.00	67.3 PK	74.0	-6.7	1.47 V	167	63.40	3.90
4	5350.00	47.5 AV	54.0	-6.5	1.47 V	167	43.60	3.90
5	10640.00	58.8 PK	74.0	-15.2	2.13 V	201	41.50	17.30
6	10640.00	45.0 AV	54.0	-9.0	2.13 V	201	27.70	17.30

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.3 PK	74.0	-14.7	1.19 H	222	55.30	4.00
2	5460.00	43.8 AV	54.0	-10.2	1.19 H	222	39.80	4.00
3	#5470.00	66.5 PK	74.0	-7.5	1.21 H	219	62.50	4.00
4	#5470.00	45.8 AV	54.0	-8.2	1.21 H	219	41.80	4.00
5	*5500.00	105.3 PK			1.14 H	208	65.30	40.00
6	*5500.00	94.9 AV			1.14 H	208	54.90	40.00
7	11000.00	60.2 PK	74.0	-13.8	1.47 H	257	41.20	19.00
8	11000.00	46.6 AV	54.0	-7.4	1.47 H	257	27.60	19.00

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.9 PK	74.0	-13.1	2.49 V	190	56.90	4.00
2	5460.00	44.1 AV	54.0	-9.9	2.49 V	190	40.10	4.00
3	#5470.00	66.1 PK	74.0	-7.9	2.55 V	181	62.10	4.00
4	#5470.00	47.0 AV	54.0	-7.0	2.55 V	181	43.00	4.00
5	*5500.00	107.6 PK			2.46 V	177	67.60	40.00
6	*5500.00	96.6 AV			2.46 V	177	56.60	40.00
7	11000.00	60.9 PK	74.0	-13.1	1.93 V	200	41.90	19.00
8	11000.00	47.3 AV	54.0	-6.7	1.93 V	200	28.30	19.00

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	106.0 PK			1.13 H	214	65.90	40.10
2	*5580.00	94.9 AV			1.13 H	214	54.80	40.10
3	11160.00	59.8 PK	74.0	-14.2	1.77 H	298	41.10	18.70
4	11160.00	45.7 AV	54.0	-8.3	1.77 H	298	27.00	18.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	106.8 PK			2.54 V	178	66.70	40.10
2	*5580.00	96.0 AV			2.54 V	178	55.90	40.10
3	11160.00	60.0 PK	74.0	-14.0	2.11 V	231	41.30	18.70
4	11160.00	45.9 AV	54.0	-8.1	2.11 V	231	27.20	18.70

REMARKS:

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

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	105.7 PK			1.19 H	205	65.40	40.30
2	*5700.00	95.0 AV			1.19 H	205	54.70	40.30
3	#5725.00	71.1 PK	74.0	-2.9	1.22 H	220	66.60	4.50
4	#5725.00	49.9 AV	54.0	-4.1	1.22 H	220	45.40	4.50
5	11400.00	58.9 PK	74.0	-15.1	1.65 H	278	40.70	18.20
6	11400.00	45.6 AV	54.0	-8.4	1.65 H	278	27.40	18.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	106.7 PK			3.15 V	177	66.40	40.30
2	*5700.00	96.1 AV			3.15 V	177	55.80	40.30
3	#5725.00	71.3 PK	74.0	-2.7	3.16 V	171	66.80	4.50
4	#5725.00	52.1 AV	54.0	-1.9	3.16 V	171	47.60	4.50
5	11400.00	59.2 PK	74.0	-14.8	2.93 V	230	41.00	18.20
6	11400.00	46.1 AV	54.0	-7.9	2.93 V	230	27.90	18.20

REMARKS:

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

CHANNEL	TX Channel 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	*5745.00	102.2 PK			1.18 H	46	60.70	41.50
2	*5745.00	91.9 AV			1.18 H	46	50.40	41.50
3	11490.00	57.1 PK	74.0	-16.9	2.14 H	302	41.10	16.00
4	11490.00	45.7 AV	54.0	-8.3	2.14 H	302	29.70	16.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	106.4 PK			1.00 V	93	64.90	41.50
2	*5745.00	96.2 AV			1.00 V	93	54.70	41.50
3	11490.00	59.7 PK	74.0	-14.3	1.07 V	258	43.70	16.00
4	11490.00	46.7 AV	54.0	-7.3	1.07 V	258	30.70	16.00

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	102.7 PK			1.22 H	57	61.20	41.50
2	*5785.00	92.3 AV			1.22 H	57	50.80	41.50
3	11570.00	56.4 PK	74.0	-17.6	1.62 H	291	40.70	15.70
4	11570.00	45.0 AV	54.0	-9.0	1.62 H	291	29.30	15.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	107.4 PK			1.05 V	93	65.90	41.50
2	*5785.00	97.2 AV			1.05 V	93	55.70	41.50
3	11570.00	59.3 PK	74.0	-14.7	1.09 V	171	43.60	15.70
4	11570.00	46.3 AV	54.0	-7.7	1.09 V	171	30.60	15.70

REMARKS:

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

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	*5825.00	103.2 PK			1.20 H	48	61.60	41.60
2	*5825.00	92.5 AV			1.20 H	48	50.90	41.60
3	11650.00	56.5 PK	74.0	-17.5	2.33 H	318	40.90	15.60
4	11650.00	45.3 AV	54.0	-8.7	2.33 H	318	29.70	15.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	106.9 PK			1.02 V	97	65.30	41.60
2	*5825.00	96.7 AV			1.02 V	97	55.10	41.60
3	11650.00	59.1 PK	74.0	-14.9	3.07 V	118	43.50	15.60
4	11650.00	46.3 AV	54.0	-7.7	3.07 V	118	30.70	15.60

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.

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.0 PK	74.0	-9.0	1.29 H	199	61.40	3.60
2	5150.00	49.3 AV	54.0	-4.7	1.29 H	199	45.70	3.60
3	*5190.00	101.8 PK			1.07 H	213	62.30	39.50
4	*5190.00	91.2 AV			1.07 H	213	51.70	39.50
5	#10380.00	57.8 PK	74.0	-16.2	1.93 H	229	42.10	15.70
6	#10380.00	44.1 AV	54.0	-9.9	1.93 H	229	28.40	15.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	66.0 PK	74.0	-8.0	1.05 V	257	62.40	3.60
2	5150.00	49.9 AV	54.0	-4.1	1.05 V	257	46.30	3.60
3	*5190.00	102.6 PK			1.08 V	266	63.10	39.50
4	*5190.00	92.2 AV			1.08 V	266	52.70	39.50
5	#10380.00	58.3 PK	74.0	-15.7	1.33 V	303	42.60	15.70
6	#10380.00	44.2 AV	54.0	-9.8	1.33 V	303	28.50	15.70

REMARKS:

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

CHANNEL	TX Channel 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	99.7 PK			1.40 H	195	60.20	39.50
2	*5230.00	89.5 AV			1.40 H	195	50.00	39.50
3	5350.00	54.3 PK	74.0	-19.7	1.66 H	199	50.40	3.90
4	5350.00	41.0 AV	54.0	-13.0	1.66 H	199	37.10	3.90
5	#10460.00	58.0 PK	74.0	-16.0	1.87 H	222	41.60	16.40
6	#10460.00	44.3 AV	54.0	-9.7	1.87 H	222	27.90	16.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	102.7 PK			1.21 V	262	63.20	39.50
2	*5230.00	92.0 AV			1.21 V	262	52.50	39.50
3	5350.00	54.9 PK	74.0	-19.1	1.39 V	236	51.00	3.90
4	5350.00	41.2 AV	54.0	-12.8	1.39 V	236	37.30	3.90
5	#10460.00	57.6 PK	74.0	-16.4	1.51 V	287	41.20	16.40
6	#10460.00	44.4 AV	54.0	-9.6	1.51 V	287	28.00	16.40

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.1 PK	74.0	-18.9	1.29 H	210	51.50	3.60
2	5150.00	41.5 AV	54.0	-12.5	1.29 H	210	37.90	3.60
3	*5270.00	103.3 PK			1.24 H	201	63.70	39.60
4	*5270.00	93.2 AV			1.24 H	201	53.60	39.60
5	#10540.00	57.4 PK	74.0	-16.6	1.39 H	244	40.30	17.10
6	#10540.00	43.7 AV	54.0	-10.3	1.39 H	244	26.60	17.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.0 PK	74.0	-19.0	1.93 V	200	51.40	3.60
2	5150.00	41.9 AV	54.0	-12.1	1.93 V	200	38.30	3.60
3	*5270.00	103.7 PK			1.72 V	182	64.10	39.60
4	*5270.00	93.4 AV			1.72 V	182	53.80	39.60
5	#10540.00	57.1 PK	74.0	-16.9	2.03 V	199	40.00	17.10
6	#10540.00	44.3 AV	54.0	-9.7	2.03 V	199	27.20	17.10

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	103.2 PK			1.25 H	203	63.60	39.60
2	*5310.00	92.5 AV			1.25 H	203	52.90	39.60
3	5350.00	69.0 PK	74.0	-5.0	1.31 H	211	65.10	3.90
4	5350.00	50.5 AV	54.0	-3.5	1.31 H	211	46.60	3.90
5	10620.00	58.1 PK	74.0	-15.9	1.54 H	233	40.80	17.30
6	10620.00	44.3 AV	54.0	-9.7	1.54 H	233	27.00	17.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	103.7 PK			1.77 V	169	64.10	39.60
2	*5310.00	93.1 AV			1.77 V	169	53.50	39.60
3	5350.00	68.2 PK	74.0	-5.8	1.79 V	165	64.30	3.90
4	5350.00	51.3 AV	54.0	-2.7	1.79 V	165	47.40	3.90
5	10620.00	57.9 PK	74.0	-16.1	1.83 V	194	40.60	17.30
6	10620.00	44.5 AV	54.0	-9.5	1.83 V	194	27.20	17.30

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.7 PK	74.0	-14.3	1.09 H	225	55.70	4.00
2	5460.00	44.6 AV	54.0	-9.4	1.09 H	225	40.60	4.00
3	#5470.00	67.2 PK	74.0	-6.8	1.03 H	222	63.20	4.00
4	#5470.00	49.2 AV	54.0	-4.8	1.03 H	222	45.20	4.00
5	*5510.00	102.3 PK			1.11 H	216	62.30	40.00
6	*5510.00	92.2 AV			1.11 H	216	52.20	40.00
7	11020.00	60.1 PK	74.0	-13.9	1.46 H	281	41.20	18.90
8	11020.00	46.5 AV	54.0	-7.5	1.46 H	281	27.60	18.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.3 PK	74.0	-10.7	2.82 V	179	59.30	4.00
2	5460.00	47.5 AV	54.0	-6.5	2.82 V	179	43.50	4.00
3	#5470.00	68.7 PK	74.0	-5.3	2.80 V	181	64.70	4.00
4	#5470.00	51.3 AV	54.0	-2.7	2.80 V	181	47.30	4.00
5	*5510.00	103.3 PK			2.76 V	174	63.30	40.00
6	*5510.00	92.8 AV			2.76 V	174	52.80	40.00
7	11020.00	60.5 PK	74.0	-13.5	2.27 V	203	41.60	18.90
8	11020.00	46.9 AV	54.0	-7.1	2.27 V	203	28.00	18.90

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	102.2 PK			1.09 H	217	62.20	40.00
2	*5550.00	91.9 AV			1.09 H	217	51.90	40.00
3	11100.00	59.6 PK	74.0	-14.4	1.69 H	203	41.10	18.50
4	11100.00	46.0 AV	54.0	-8.0	1.69 H	203	27.50	18.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	104.0 PK			2.28 V	180	64.00	40.00
2	*5550.00	93.5 AV			2.28 V	180	53.50	40.00
3	11100.00	59.8 PK	74.0	-14.2	1.99 V	260	41.30	18.50
4	11100.00	46.2 AV	54.0	-7.8	1.99 V	260	27.70	18.50

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	103.2 PK			1.05 H	214	62.90	40.30
2	*5670.00	93.2 AV			1.05 H	214	52.90	40.30
3	#5725.00	62.7 PK	74.0	-11.3	1.11 H	223	58.20	4.50
4	#5725.00	45.9 AV	54.0	-8.1	1.11 H	223	41.40	4.50
5	11340.00	59.1 PK	74.0	-14.9	1.57 H	187	40.70	18.40
6	11340.00	46.0 AV	54.0	-8.0	1.57 H	187	27.60	18.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	104.9 PK			2.64 V	182	64.60	40.30
2	*5670.00	94.0 AV			2.64 V	182	53.70	40.30
3	#5725.00	63.2 PK	74.0	-10.8	2.55 V	191	58.70	4.50
4	#5725.00	46.3 AV	54.0	-7.7	2.55 V	191	41.80	4.50
5	11340.00	59.3 PK	74.0	-14.7	2.11 V	231	40.90	18.40
6	11340.00	46.1 AV	54.0	-7.9	2.11 V	231	27.70	18.40

REMARKS:

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

CHANNEL	TX Channel 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	*5755.00	102.0 PK			3.27 H	320	60.50	41.50
2	*5755.00	91.8 AV			3.27 H	320	50.30	41.50
3	11510.00	57.2 PK	74.0	-16.8	1.96 H	331	41.30	15.90
4	11510.00	45.5 AV	54.0	-8.5	1.96 H	331	29.60	15.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5755.00	105.8 PK			1.00 V	98	64.30	41.50
2	*5755.00	95.8 AV			1.00 V	98	54.30	41.50
3	11510.00	59.0 PK	74.0	-15.0	2.14 V	236	43.10	15.90
4	11510.00	46.4 AV	54.0	-7.6	2.14 V	236	30.50	15.90

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	101.8 PK			3.06 H	327	60.30	41.50
2	*5795.00	91.6 AV			3.06 H	327	50.10	41.50
3	11590.00	59.1 PK	74.0	-14.9	3.24 H	251	43.60	15.50
4	11590.00	46.2 AV	54.0	-7.8	3.24 H	251	30.70	15.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	105.3 PK			1.00 V	99	63.80	41.50
2	*5795.00	95.1 AV			1.00 V	99	53.60	41.50
3	11590.00	58.7 PK	74.0	-15.3	1.94 V	252	43.20	15.50
4	11590.00	46.3 AV	54.0	-7.7	1.94 V	252	30.80	15.50

REMARKS:

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

9 kHz ~ 30 MHz Data:

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

BELOW 1GHz WORST-CASE DATA

802.11n (40MHz)

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	59.10	23.8 QP	40.0	-16.2	1.25 H	11	37.80	-14.00
2	138.64	24.5 QP	43.5	-19.0	1.00 H	85	38.60	-14.10
3	338.46	38.9 QP	46.0	-7.1	1.50 H	110	50.60	-11.70
4	668.26	31.9 QP	46.0	-14.1	1.25 H	82	38.40	-6.50
5	798.24	33.0 QP	46.0	-13.0	1.50 H	317	37.40	-4.40
6	885.54	29.3 QP	46.0	-16.7	1.00 H	191	32.60	-3.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	39.70	27.2 QP	40.0	-12.8	1.25 V	340	41.80	-14.60
2	134.76	21.0 QP	43.5	-22.5	1.00 V	203	35.50	-14.50
3	272.50	23.6 QP	46.0	-22.4	1.50 V	66	36.60	-13.00
4	524.70	25.2 QP	46.0	-20.8	1.00 V	199	34.20	-9.00
5	666.32	29.5 QP	46.0	-16.5	1.25 V	325	36.10	-6.60
6	840.92	31.6 QP	46.0	-14.4	1.50 V	231	35.30	-3.70

REMARKS:

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

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 0.50 MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
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/AMN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 15, 2017	Aug. 14, 2018
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Shielded Room 1.
 3. The VCCI Site Registration No. is C-2040.

4.2.3 Test Procedures

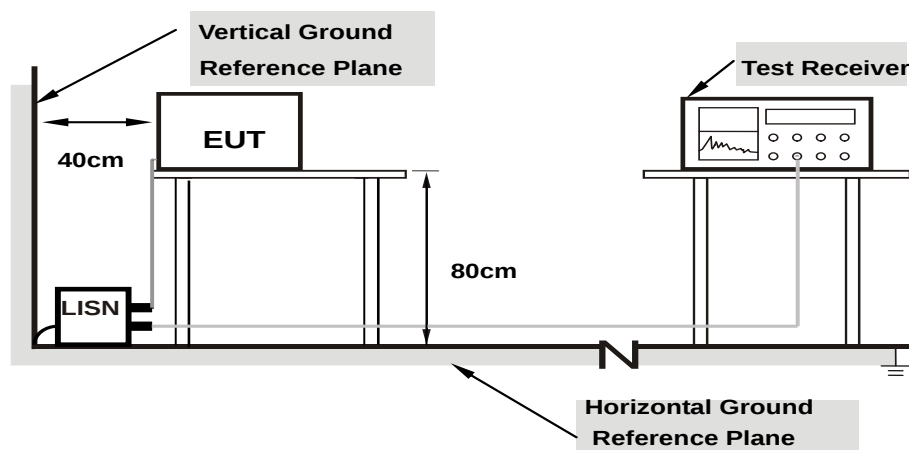
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

Note: All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



- Note:**
- Support units were connected to second LISN.
 - Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 EUT Operating Conditions

- Placed the EUT on a testing table.
- Use the software to control the EUT under transmission condition continuously at specific channel frequency.

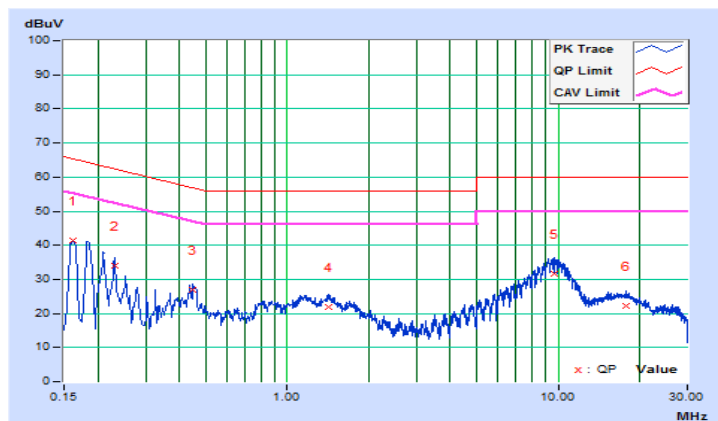
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Greg Lin	Test Date	2017/11/28

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16190	10.45	30.81	15.81	41.26	26.26	65.37	55.37	-24.11	-29.11
2	0.23000	10.46	23.65	14.06	34.11	24.52	62.45	52.45	-28.34	-27.93
3	0.44999	10.51	16.34	7.41	26.85	17.92	56.88	46.88	-30.03	-28.96
4	1.41400	10.50	11.53	5.46	22.03	15.96	56.00	46.00	-33.97	-30.04
5	9.73795	10.92	20.83	13.20	31.75	24.12	60.00	50.00	-28.25	-25.88
6	17.86200	11.32	10.96	5.15	22.28	16.47	60.00	50.00	-37.72	-33.53

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

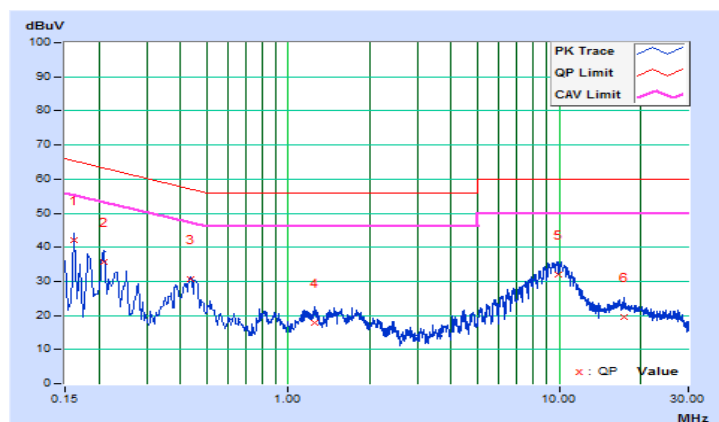


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Greg Lin	Test Date	2017/11/28

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16200	10.21	31.85	16.74	42.06	26.95	65.36	55.36	-23.30	-28.41
2	0.20960	10.22	25.56	13.48	35.78	23.70	63.22	53.22	-27.44	-29.52
3	0.43484	10.24	20.55	14.89	30.79	25.13	57.16	47.16	-26.37	-22.03
4	1.25800	10.28	7.69	1.40	17.97	11.68	56.00	46.00	-38.03	-34.32
5	9.92200	10.67	21.22	13.51	31.89	24.18	60.00	50.00	-28.11	-25.82
6	17.38600	10.95	8.48	2.57	19.43	13.52	60.00	50.00	-40.57	-36.48

Remarks:

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



4.3 Transmit Power Measurement

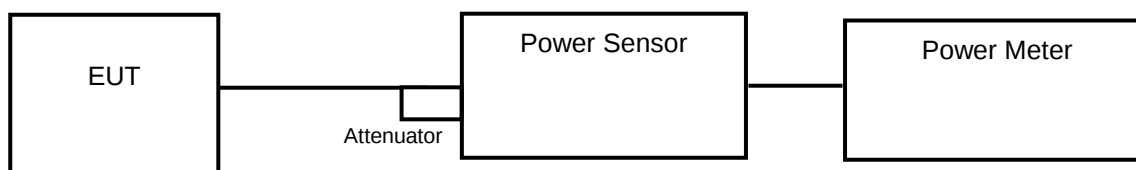
4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125 mW (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	250 mW (24 dBm)
U-NII-2A		✓	250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-2C		✓	250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-3		✓	1 Watt (30 dBm)

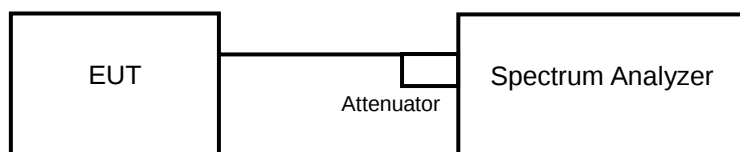
*B is the 26 dB emission bandwidth in megahertz

4.3.2 Test Setup

<Power Output Measurement>



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

<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.

26 dB Bandwidth

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	12.417	10.94	24	Pass
44	5220	12.19	10.86	24	Pass
48	5240	12.445	10.95	24	Pass
52	5260	12.023	10.80	24	Pass
60	5300	11.803	10.72	24	Pass
64	5320	11.803	10.72	24	Pass
100	5500	11.22	10.50	24	Pass
116	5580	11.641	10.66	24	Pass
140	5700	10.864	10.36	24	Pass
149	5745	11.041	10.43	30	Pass
157	5785	12.417	10.94	30	Pass
165	5825	11.455	10.59	30	Pass

Note:

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

1. $11 \text{ dBm} + 10\log (21.09) = 24.24 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (20.24) = 24.06 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (21.64) = 24.35 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (23.53) = 24.71 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (24.69) = 24.92 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log (24.61) = 24.91 \text{ dBm} > 24 \text{ dBm}$.

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	12.706	11.04	24	Pass
44	5220	11.912	10.76	24	Pass
48	5240	11.83	10.73	24	Pass
52	5260	11.588	10.64	24	Pass
60	5300	11.508	10.61	24	Pass
64	5320	11.117	10.46	24	Pass
100	5500	11.015	10.42	24	Pass
116	5580	11.298	10.53	24	Pass
140	5700	10.447	10.19	24	Pass
149	5745	10.914	10.38	30	Pass
157	5785	12.106	10.83	30	Pass
165	5825	11.455	10.59	30	Pass

Note:

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

1. $11 \text{ dBm} + 10\log (20.71) = 24.16 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (21.74) = 24.37 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (21.72) = 24.36 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (26.28) = 25.19 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (26.90) = 25.29 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log (28.53) = 25.55 \text{ dBm} > 24 \text{ dBm}$.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	11.169	10.48	24	Pass
46	5230	10.666	10.28	24	Pass
54	5270	12.706	11.04	24	Pass
62	5310	12.162	10.85	24	Pass
102	5510	11.749	10.70	24	Pass
110	5550	11.995	10.79	24	Pass
134	5670	11.324	10.54	24	Pass
151	5755	11.776	10.71	30	Pass
159	5795	11.066	10.44	30	Pass

Note:

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

1. $11 \text{ dBm} + 10\log (43.90) = 27.42 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log (41.48) = 27.17 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log (53.27) = 28.26 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log (58.38) = 28.66 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log (64.42) = 29.09 \text{ dBm} > 24 \text{ dBm}$.

26 dB Bandwidth:
802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	23.33
44	5220	20.44
48	5240	20.07
52	5260	21.09
60	5300	20.24
64	5320	21.64
100	5500	23.53
116	5580	24.69
140	5700	24.61

802.11n (HT20)

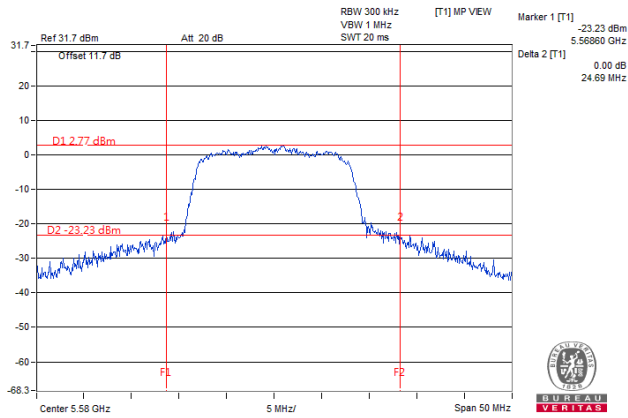
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	19.88
44	5220	19.95
48	5240	19.71
52	5260	20.71
60	5300	21.74
64	5320	21.72
100	5500	26.28
116	5580	26.90
140	5700	28.53

802.11n (HT40)

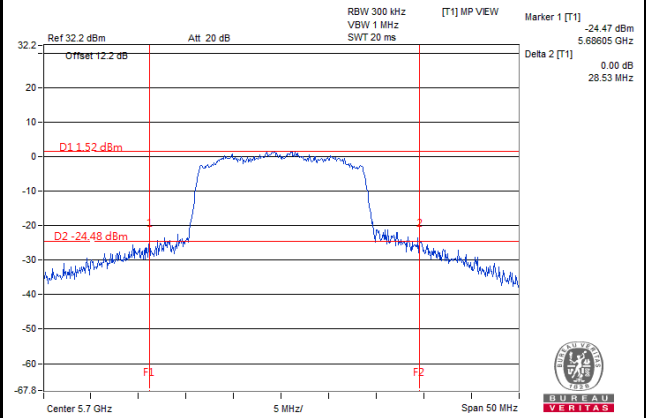
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
38	5190	40.92
46	5230	46.16
54	5270	43.90
62	5310	41.48
102	5510	53.27
110	5550	58.38
134	5670	64.42

Spectrum Plot of Worst Value

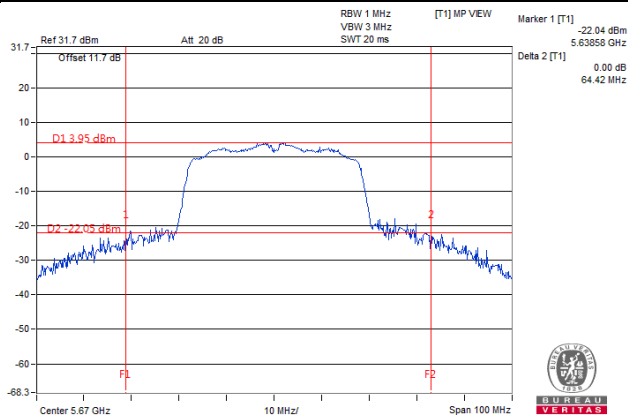
802.11a



802.11n (HT20)

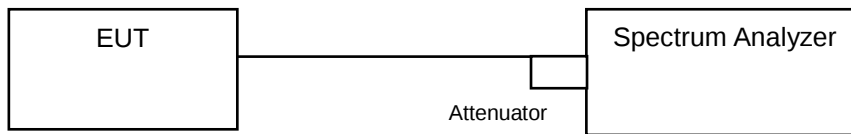


802.11n (HT40)



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Results

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	16.77
40	5200	16.63
48	5240	16.68
52	5260	16.63
60	5300	16.73
64	5320	16.63
100	5500	16.73
116	5580	16.73
140	5700	16.77
149	5745	16.58
157	5785	16.60
165	5825	16.60

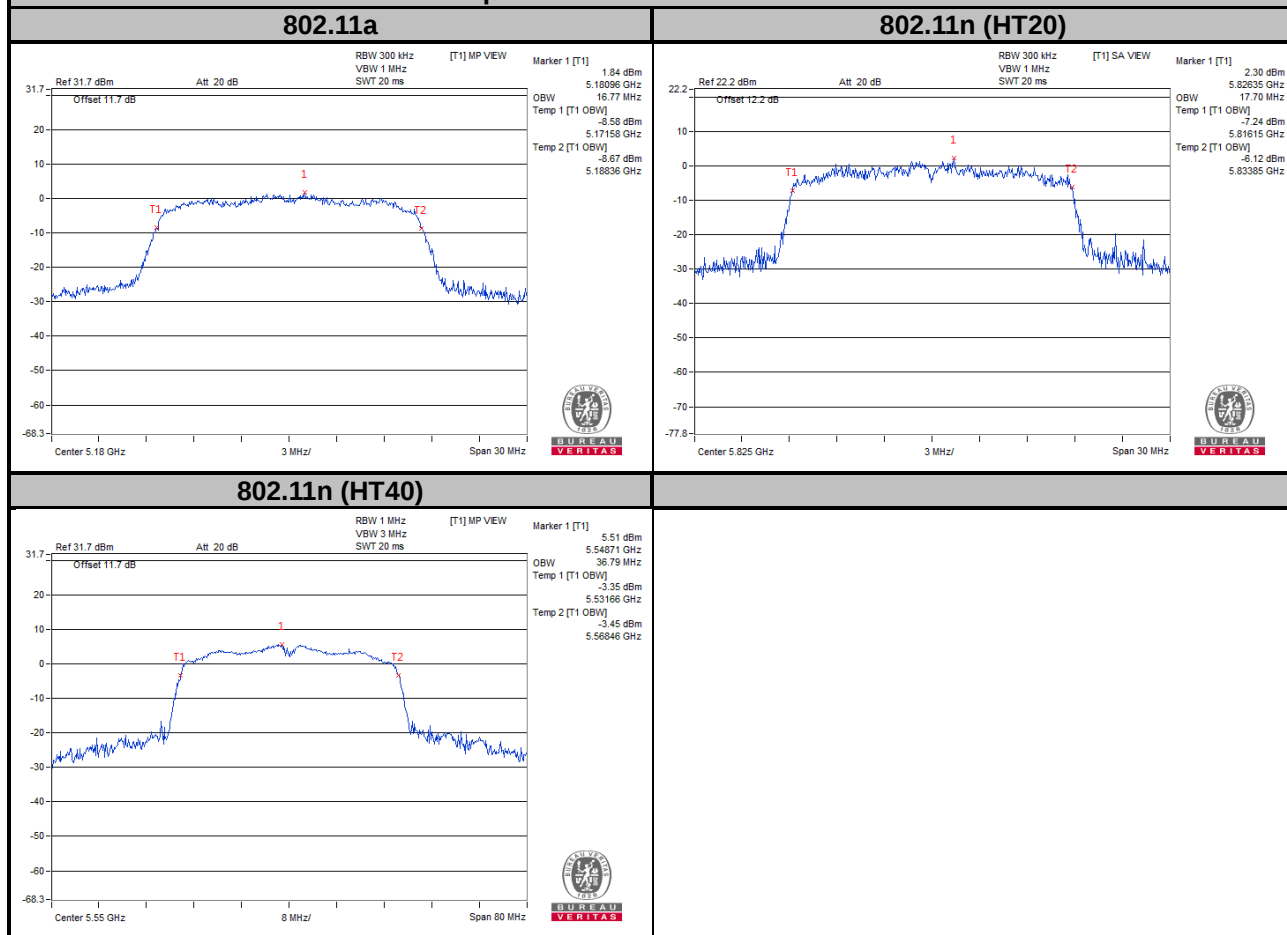
802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	17.64
40	5200	17.59
48	5240	17.59
52	5260	17.64
60	5300	17.59
64	5320	17.64
100	5500	17.69
116	5580	17.69
140	5700	17.69
149	5745	17.64
157	5785	17.65
165	5825	17.70

802.11n (HT40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.41
46	5230	36.53
54	5270	36.66
62	5310	36.66
102	5510	36.66
110	5550	36.79
134	5670	36.79
151	5755	36.53
159	5795	36.50

Spectrum Plot of Worst Value

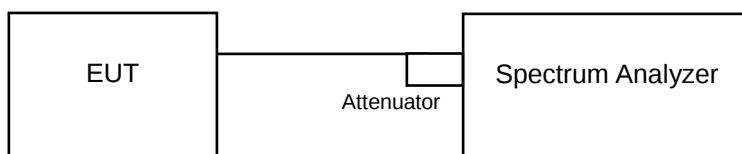


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.5.4 Test Procedures

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

Using method SA-2

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

✖For U-NII-3:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 500 kHz, Set VBW $\geq$ 3 RBW, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 500 kHz band segment within the fundamental EBW.
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/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

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

4.5.7 Test Results

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

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	-2.07	0.34	-1.73	11	Pass
44	5220	-2.15	0.34	-1.81	11	Pass
48	5240	-2.10	0.34	-1.76	11	Pass
52	5260	-1.92	0.34	-1.58	11	Pass
60	5300	-1.52	0.34	-1.18	11	Pass
64	5320	-1.34	0.34	-1.00	11	Pass
100	5500	-0.18	0.34	0.16	11	Pass
116	5580	-0.59	0.34	-0.25	11	Pass
140	5700	-2.10	0.34	-1.76	11	Pass

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

802.11n (HT20)

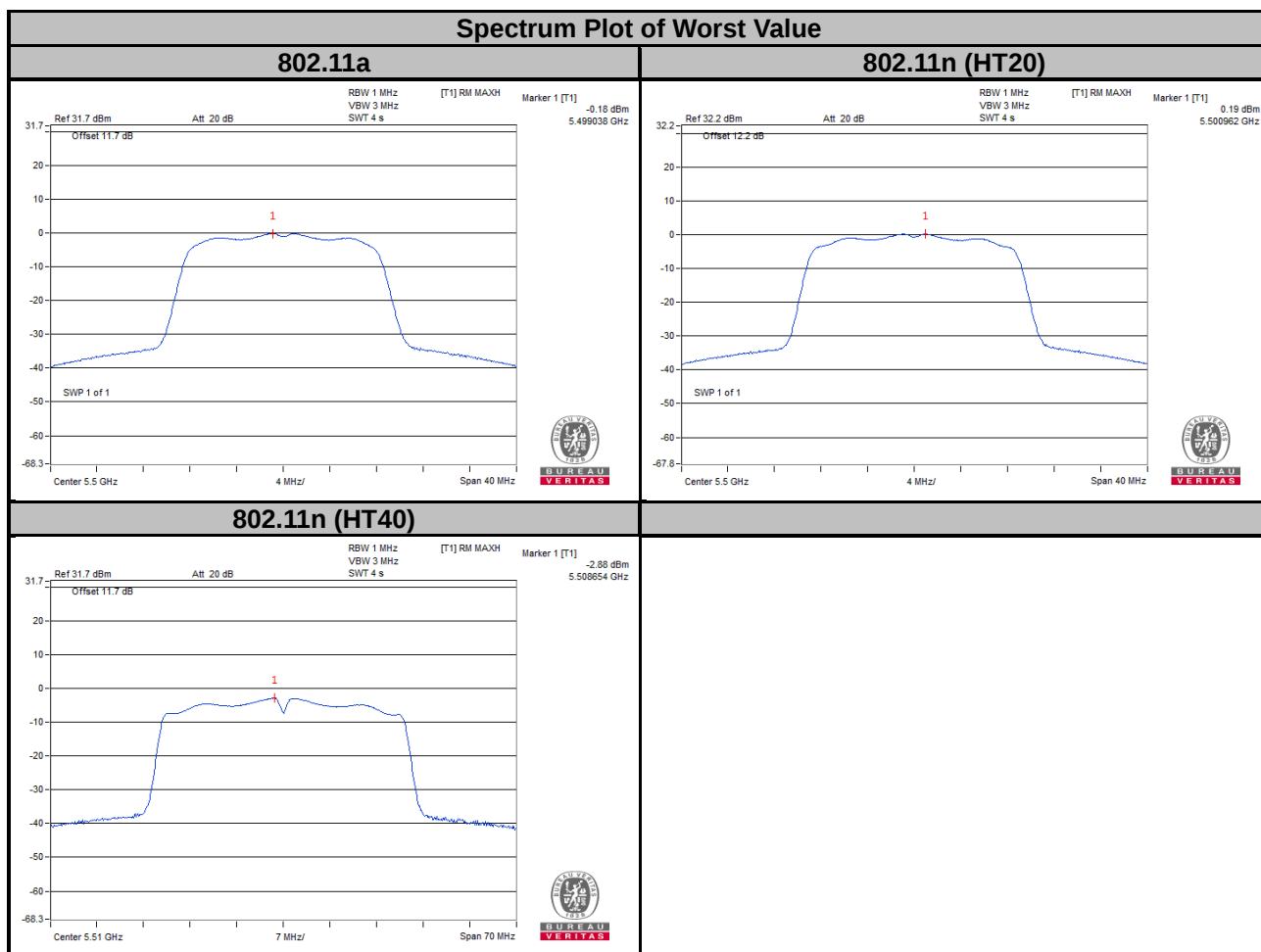
Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	-1.71	0.32	-1.39	11	Pass
44	5220	-1.80	0.32	-1.48	11	Pass
48	5240	-1.71	0.32	-1.39	11	Pass
52	5260	-1.54	0.32	-1.22	11	Pass
60	5300	-1.29	0.32	-0.98	11	Pass
64	5320	-1.08	0.32	-0.76	11	Pass
100	5500	0.19	0.32	0.50	11	Pass
116	5580	-0.24	0.32	0.07	11	Pass
140	5700	-1.75	0.32	-1.44	11	Pass

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

802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
38	5190	-4.64	0.43	-4.21	11	Pass
46	5230	-4.76	0.43	-4.33	11	Pass
54	5270	-4.52	0.43	-4.09	11	Pass
62	5310	-4.25	0.43	-3.82	11	Pass
102	5510	-2.88	0.43	-2.45	11	Pass
110	5550	-3.00	0.43	-2.57	11	Pass
134	5670	-4.43	0.43	-4.00	11	Pass

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



For U-NII-3 Band

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/500 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-5.15	0.34	-4.81	30	Pass
157	5785	-4.37	0.34	-4.03	30	Pass
165	5825	-4.06	0.34	-3.72	30	Pass

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

802.11n (HT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/500 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-4.84	0.32	-4.52	30	Pass
157	5785	-3.98	0.32	-3.66	30	Pass
165	5825	-3.71	0.32	-3.39	30	Pass

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

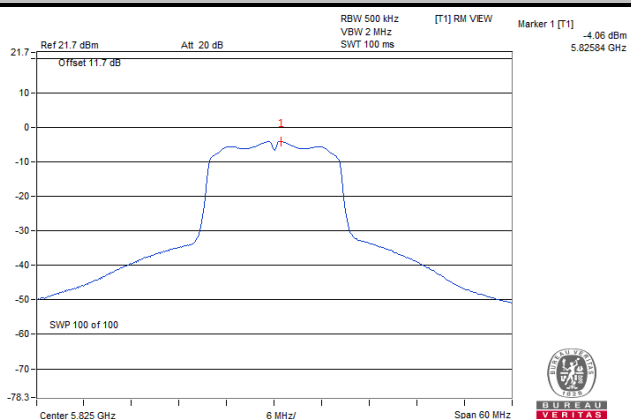
802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/500 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
151	5755	-7.58	0.43	-7.15	30	Pass
159	5795	-7.25	0.43	-6.82	30	Pass

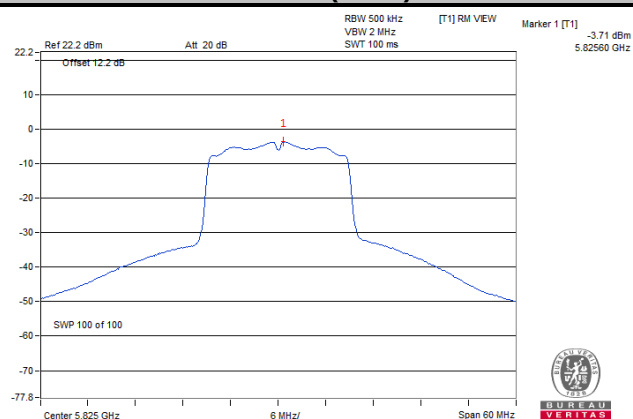
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

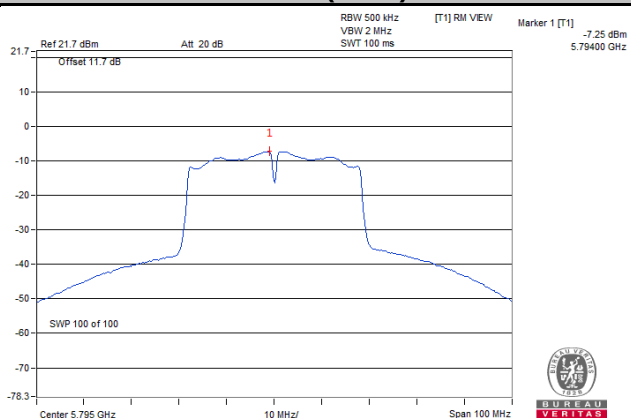
802.11a



802.11n (HT20)



802.11n (HT40)

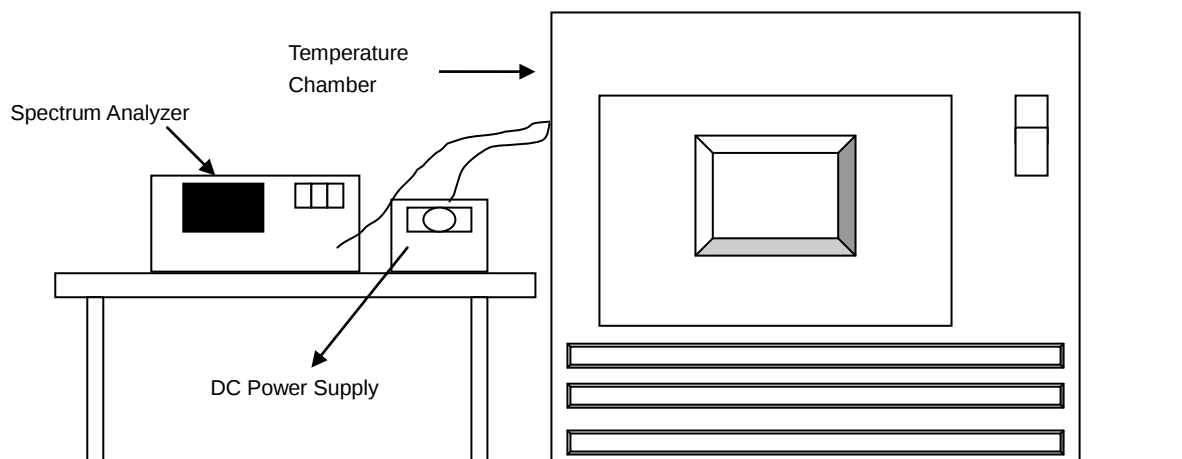


4.6 Frequency Stability

4.6.1 Limit 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 4.1.3 to get information of above instrument.

4.6.4 Test Procedure

- To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
- The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.
- The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	120	5179.9868	-2.55000	5179.9909	-1.76000	5179.9869	-2.53000	5179.9879	-2.34000
40	120	5179.9741	-5.00000	5179.9752	-4.79000	5179.9774	-4.36000	5179.9749	-4.85000
30	120	5180.0101	1.95000	5180.0099	1.91000	5180.0106	2.05000	5180.0143	2.76000
20	120	5180.0234	4.52000	5180.0242	4.67000	5180.0226	4.36000	5180.0216	4.17000
10	120	5180.0166	3.20000	5180.0176	3.40000	5180.0207	4.00000	5180.0177	3.42000
0	120	5179.9871	-2.49000	5179.9843	-3.03000	5179.9846	-2.97000	5179.987	-2.51000
-10	120	5180.0207	4.00000	5180.0208	4.02000	5180.0227	4.38000	5180.0215	4.15000
-20	120	5179.9804	-3.78000	5179.9803	-3.80000	5179.98	-3.86000	5179.9799	-3.88000
-30	120	5180.0137	2.64000	5180.0171	3.30000	5180.0127	2.45000	5180.0174	3.36000

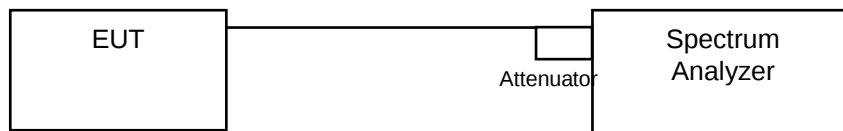
Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	138	5180.0228	4.40000	5180.0236	4.56000	5180.0223	4.31000	5180.0219	4.23000
	120	5180.0234	4.52000	5180.0242	4.67000	5180.0226	4.36000	5180.0216	4.17000
	102	5180.0242	4.67000	5180.0245	4.73000	5180.0225	4.34000	5180.0206	3.98000

4.7 6 dB Bandwidth Measurement

4.7.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

- Set resolution bandwidth (RBW) = 100 kHz
- 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)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	15.15	0.5	Pass
157	5785	15.12	0.5	Pass
165	5825	15.15	0.5	Pass

802.11n (HT20)

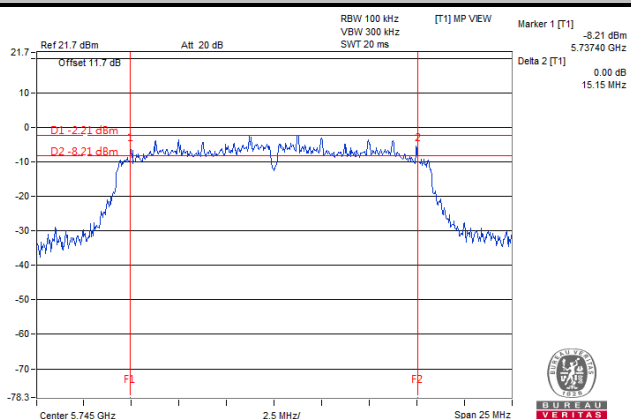
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	15.13	0.5	Pass
157	5785	15.15	0.5	Pass
165	5825	15.17	0.5	Pass

802.11n (HT40)

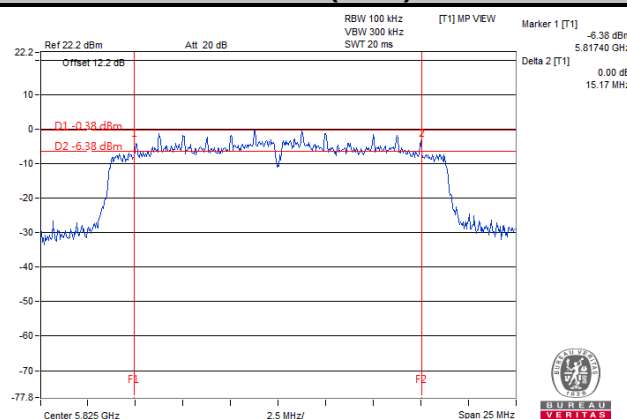
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.15	0.5	Pass
159	5795	35.20	0.5	Pass

Spectrum Plot of Worst Value

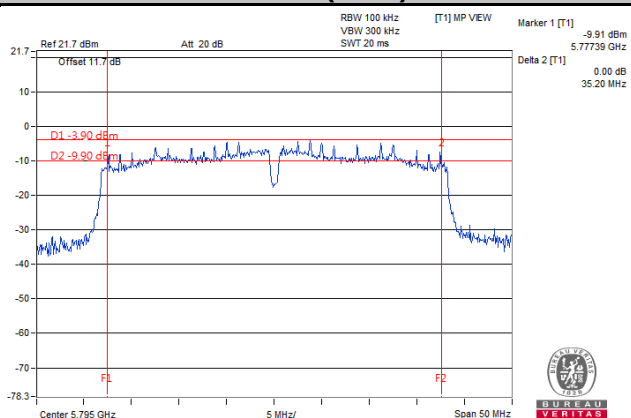
802.11a



802.11n (HT20)



802.11n (HT40)

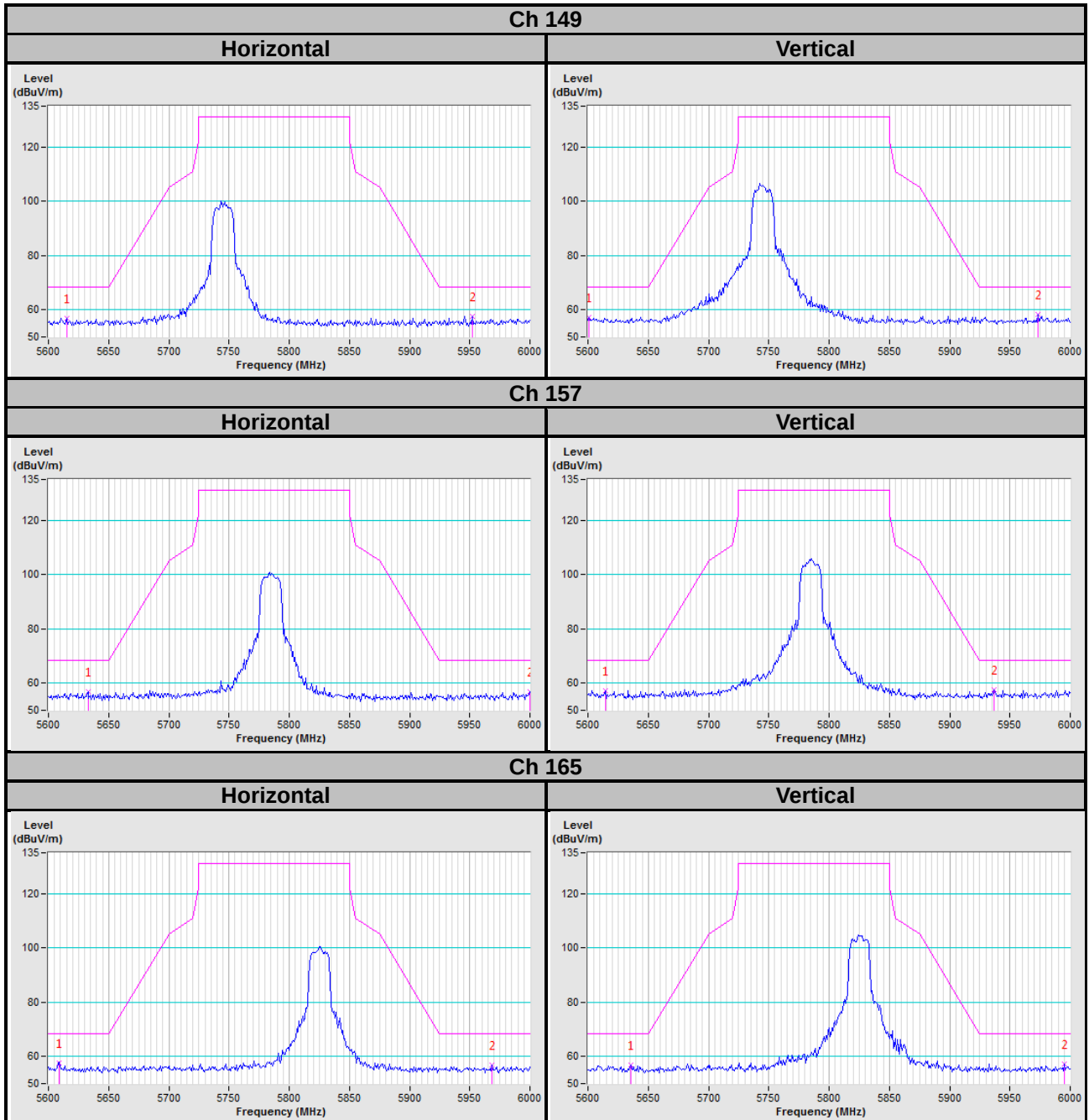


5 Pictures of Test Arrangements

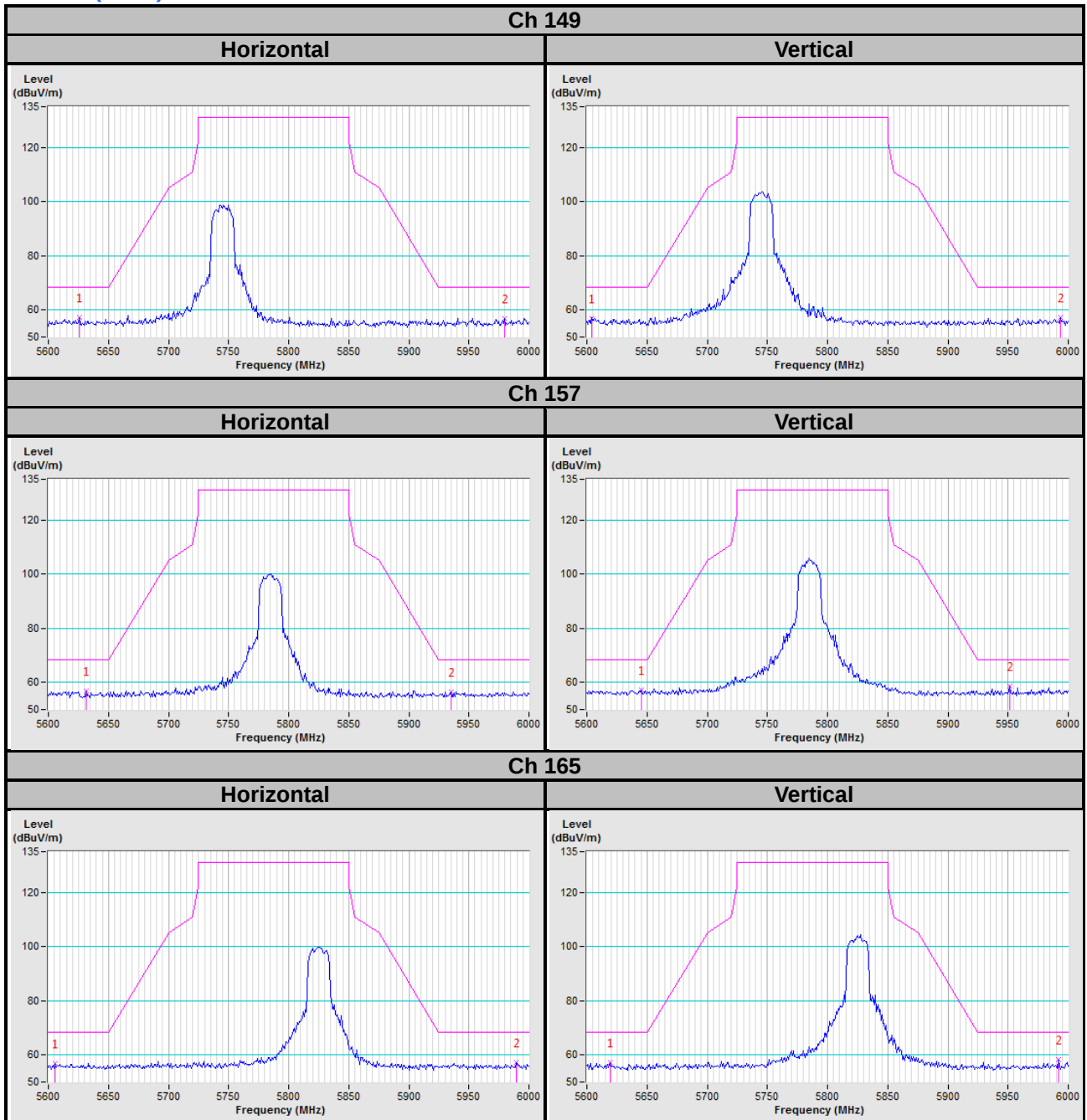
Please refer to the attached file (Test Setup Photo).

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

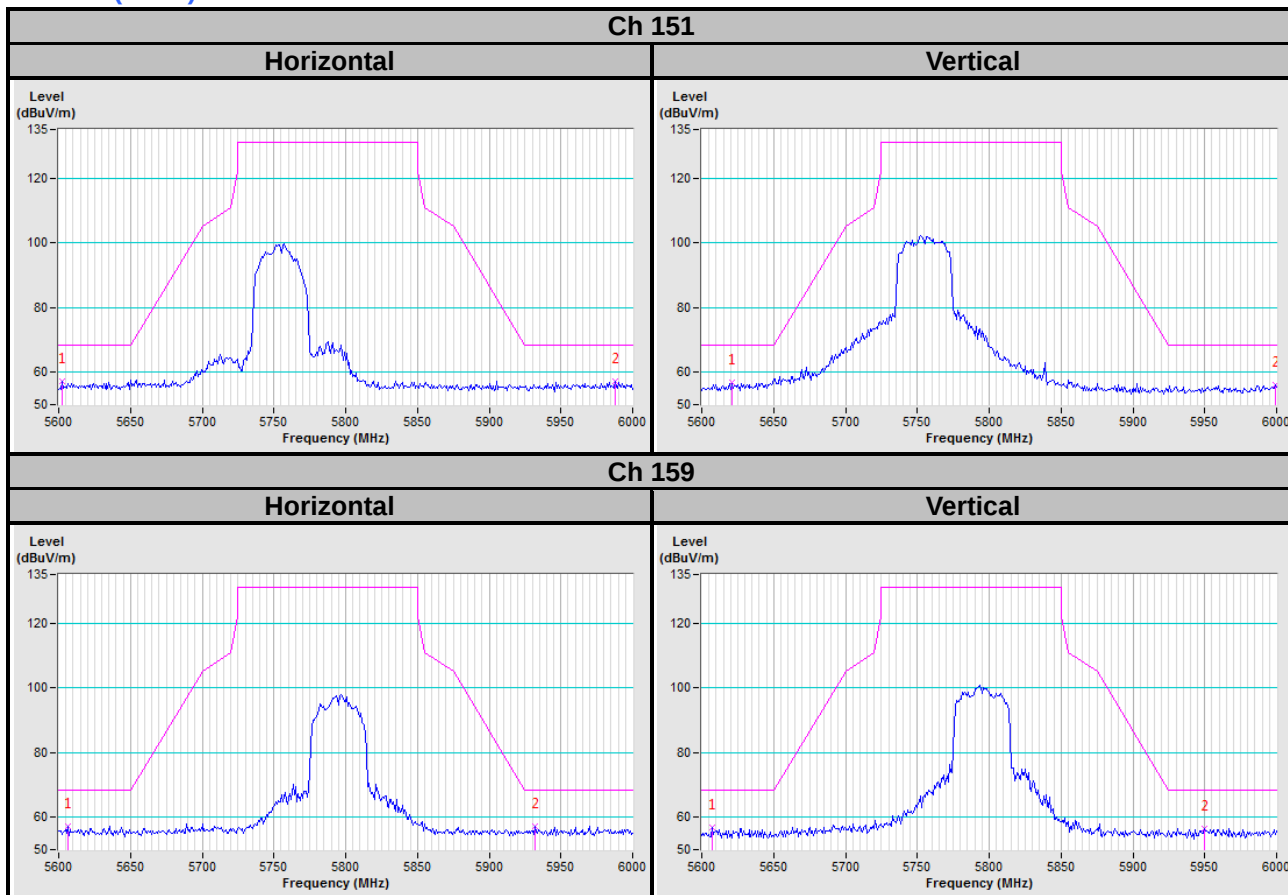
802.11a



802.11n (HT20)



802.11n (HT40)



Appendix – Information on the Testing Laboratories

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

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

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.

--- END ---