

FCC Test Report

Report No.: RF170414E05-1

FCC ID: MQT-E200CP

Test Model: xCL_E200CP

Received Date: Apr. 14, 2017

Test Date: Apr. 18 to May 17, 2017

Issued Date: May 31, 2017

Applicant: XAC AUTOMATION CORP.

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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	9
3.2.1 Test Mode Applicability and Tested Channel Detail	11
3.3 Duty Cycle of Test Signal	14
3.4 Description of Support Units	15
3.4.1 Configuration of System under Test	16
3.5 General Description of Applied Standard	18
4 Test Types and Results	19
4.1 Radiated Emission and Bandedge Measurement	19
4.1.1 Limits of Radiated Emission and Bandedge Measurement	19
4.1.2 Test Instruments	20
4.1.3 Test Procedure	22
4.1.4 Deviation from Test Standard	22
4.1.5 Test Setup	23
4.1.6 EUT Operating Condition	24
4.1.7 Test Results	25
4.2 Conducted Emission Measurement	59
4.2.1 Limits of Conducted Emission Measurement	59
4.2.2 Test Instruments	59
4.2.3 Test Procedure	60
4.2.4 Deviation from Test Standard	60
4.2.5 Test Setup	60
4.2.6 EUT Operating Condition	60
4.2.7 Test Results (Mode 1)	61
4.2.8 Test Results (Mode 2)	63
4.3 Transmit Power Measurement	65
4.3.1 Limits of Transmit Power Measurement	65
4.3.2 Test Setup	66
4.3.3 Test Instruments	66
4.3.4 Test Procedure	66
4.3.5 Deviation from Test Standard	66
4.3.6 EUT Operating Condition	66
4.3.7 Test Result	67
4.4 Occupied Bandwidth Measurement	73
4.4.1 Test Setup	73
4.4.2 Test Instruments	73
4.4.3 Test Procedure	73
4.4.4 Test Results	74
4.5 Peak Power Spectral Density Measurement	79
4.5.1 Limits of Peak Power Spectral Density Measurement	79
4.5.2 Test Setup	79
4.5.3 Test Instruments	79
4.5.4 Test Procedure	79
4.5.5 Deviation from Test Standard	79
4.5.6 EUT Operating Condition	80
4.5.7 Test Results	81
4.6 Frequency Stability Measurement	86

4.6.1	Limits of Frequency Stability Measurement	86
4.6.2	Test Setup.....	86
4.6.3	Test Instruments	86
4.6.4	Test Procedure	86
4.6.5	Deviation from Test Standard	86
4.6.6	EUT Operating Condition	86
4.6.7	Test Results	87
4.7	6dB Bandwidth Measurement	88
4.7.1	Limits of 6dB Bandwidth Measurement.....	88
4.7.2	Test Setup.....	88
4.7.3	Test Instruments	88
4.7.4	Test Procedure	88
4.7.5	Deviation from Test Standard	88
4.7.6	EUT Operating Condition	88
4.7.7	Test Results	89
5	Pictures of Test Arrangements.....	91
	Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)	92
	Appendix – Information on the Testing Laboratories	95

Release Control Record

Issue No.	Description	Date Issued
RF170414E05-1	Original release.	May 31, 2017

1 Certificate of Conformity

Product: Terminal

Brand: XAC

Test Model: xCL_E200CP

Sample Status: ENGINEERING SAMPLE

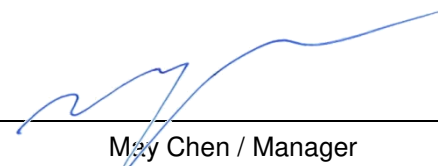
Applicant: XAC AUTOMATION CORP.

Test Date: Apr. 18 to May 17, 2017

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

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

Prepared by :  , **Date:** May 31, 2017
Claire Kuan / Specialist

Approved by :  , **Date:** May 31, 2017
May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -5.07dB at 0.17175MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -0.2dB at 5470.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is i-pex (MHF) not a standard connector.

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.84 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.30 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.16 dB
	6GHz ~ 18GHz	4.91 dB
	18GHz ~ 40GHz	5.30 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Terminal
Brand	XAC
Test Model	xCL_E200CP
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12Vdc from power adapter or 12Vdc from host equipment
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 150Mbps
Operating Frequency	2.4GHz: 2.412 ~ 2.462GHz 5GHz: 5.18~5.24GHz, 5.26~5.32GHz, 5.50~5.70GHz, 5.745~5.825GHz
Number of Channel	2.4GHz: 802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7 5GHz: 802.11a, 802.11n (HT20), 802.11n (HT20): 24 802.11n (HT40), 802.11n (HT40): 11
Output Power	2.4GHz: 171.002mW 5.18GHz ~ 5.24GHz: 15.922mW 5.26~5.32GHz: 17.418mW 5.50~5.70GHz: 19.907mW 5.745GHz ~ 5.825GHz: 16.788mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. There are WLAN, Bluetooth, RFID technology used for the EUT.
2. Simultaneously transmission condition.

Condition	Technology		
1	WLAN (2.4GHz)	Bluetooth	RFID
2	WLAN (5GHz)	Bluetooth	RFID

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

3. The EUT could be supplied with a power adapter (only for test) as the following table:

Brand	Model No.	Spec.
DELTA	ADP-36PH B	AC I/P: 100-240V, 50-60Hz, 1A DC O/P: 12V, 3A DC output cable(Unshielded, 1.7m, with one core)

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

WiFi/BT Antenna Spec.			
Antenna Net Gain(dBi)	Frequency range (GHz)	Antenna Type	Antenna Connector
4.01	2.4~2.4835	PCB	i-pex(MHF)
3.79	5.15~5.85		
RFID Antenna Spec.			
Antenna Net Gain(dBi)	Frequency range (MHz)	Antenna Type	Antenna Connector
13	13.56	Loop	N/A

5. The EUT incorporates a SISO function.

2.4GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11b	1 ~ 11Mbps	1TX	1RX
802.11g	6 ~ 54Mbps	1TX	1RX
802.11n (HT20)	MCS 0~7	1TX	1RX
802.11n (HT40)	MCS 0~7	1TX	1RX
5GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11a	6 ~ 54Mbps	1TX	1RX
802.11n (HT20)	MCS 0~7	1TX	1RX
802.11n (HT40)	MCS 0~7	1TX	1RX

6. For radiated emission test, the EUT was pre-tested under the following test modes :

Pre-test Mode	Power
Mode A	Power from adapter
Mode B	Power from host equipment

The worst radiated emission was found in **Mode A**. Therefore only the test data of the modes were recorded in this report.

7. 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 ~ 5240MHz

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

FOR 5260 ~ 5320MHz

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

FOR 5500 ~ 5700MHz

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

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

5 channels are provided for 802.11n (HT40):

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

FOR 5745 ~ 5825MHz:

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE \geq 1G	RE<1G	PLC	APCM	
-	√	√	√	√	With adapter
-	-	-	√	-	With host equipment

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

NOTE:

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

Radiated Emission Test (Above 1GHz):

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

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6
802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	13.5

Radiated Emission Test (Below 1GHz):

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

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11n (HT40)	5180-5240	38 to 46	134	OFDM	BPSK	13.5
	5260-5320	54 to 62		OFDM	BPSK	13.5
	5500-5700	102 to 134		OFDM	BPSK	13.5
	5745-5825	151 to 159		OFDM	BPSK	13.5

Power Line Conducted Emission Test:

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

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11n (HT40)	5180-5240	38 to 46	134	OFDM	BPSK	13.5
	5260-5320	54 to 62		OFDM	BPSK	13.5
	5500-5700	102 to 134		OFDM	BPSK	13.5
	5745-5825	151 to 159		OFDM	BPSK	13.5

Antenna Port Conducted Measurement:

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

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6
802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	13.5

Test Condition:

Applicable To	Environmental Conditions	INPUT POWER (SYSTEM)	Tested By
RE \geq 1G	24deg. C, 67%RH	120Vac, 60Hz	Weiwei Lo
RE $<$ 1G	23deg. C, 64%RH	120Vac, 60Hz	Jyunchun Lin
PLC	25deg. C, 65%RH	120Vac, 60Hz	Andy Ho
APCM	23deg. C, 66%RH	120Vac, 60Hz	Andy Ho

3.3 Duty Cycle of Test Signal

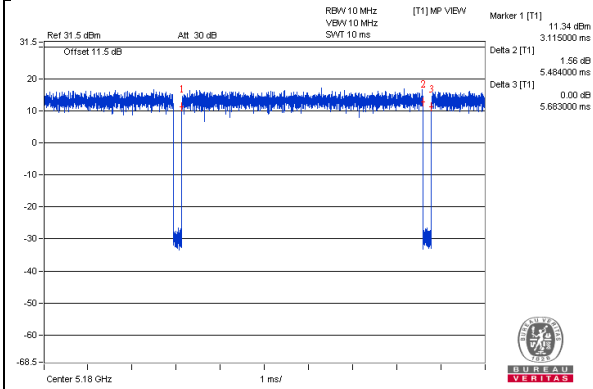
Duty cycle of test signal is < 98 %, duty factor is required

802.11a: Duty cycle = $5.484/5.683 = 0.965$, Duty factor = $10 * \log(1/0.965) = 0.15$

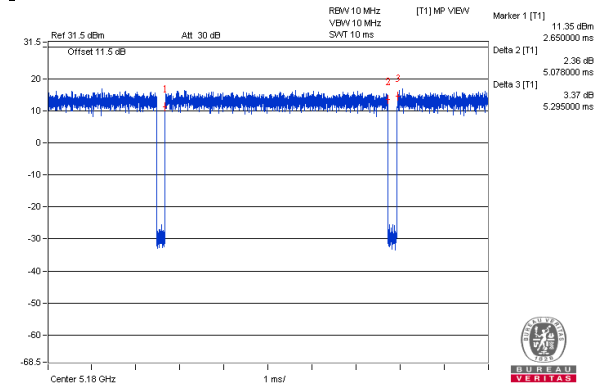
802.11n (HT20): Duty cycle = $5.078/5.295 = 0.959$, Duty factor = $10 * \log(1/0.959) = 0.18$

802.11n (HT40): Duty cycle = $2.467/2.668 = 0.925$, Duty factor = $10 * \log(1/0.925) = 0.34$

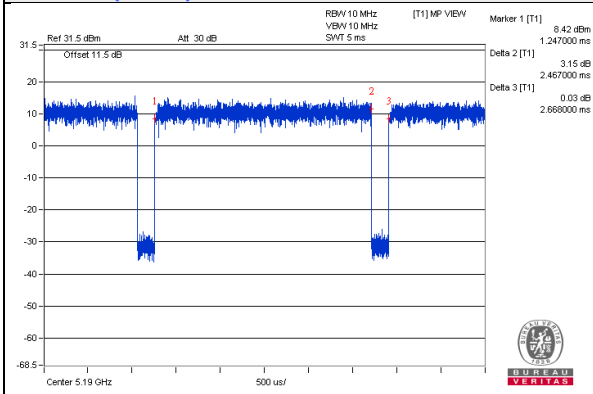
802.11a



802.11n (HT20)



802.11n (HT40)



3.4 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	iPod	Apple	MD778TA/A	CC4JMFL0F4T1	NA	Provided by Lab
B.	Earphone	Jazz	i82	NA	NA	Supplied by client
C.	PC	IBM	4810-350	NA	NA	Supplied by client
D.	NB	DELL	E6420	482T3R1	FCC DoC	Provided by Lab
E.	SAM card	NA	NA	NA	NA	Supplied by client

Note:

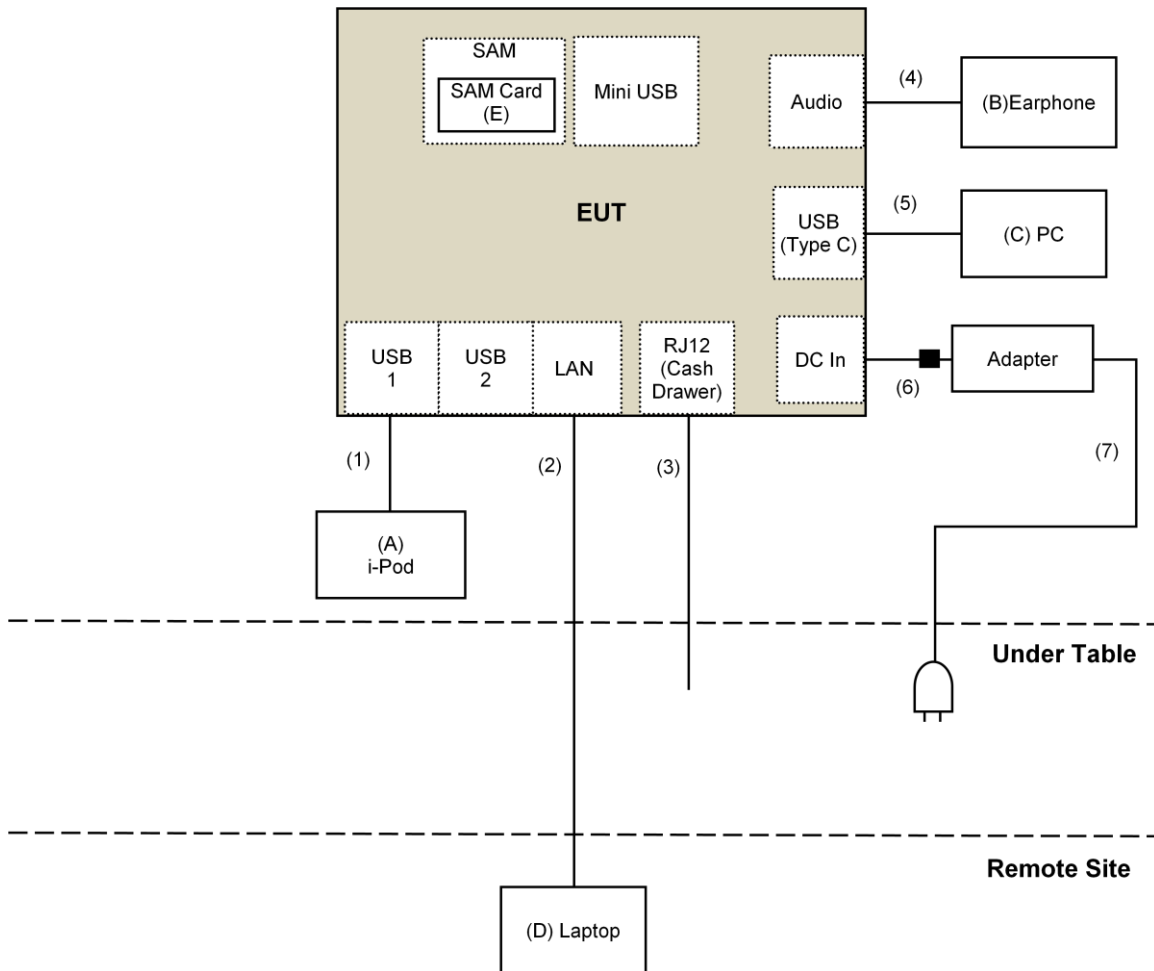
1. All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB Cable	1	0.1	Yes	0	Provided by Lab
2.	RJ45 Cable	1	10	No	0	Provided by Lab
3.	RJ12 Cash Drawer Cable	1	1.2	No	0	Supplied by client
4.	Audio Cable	1	1.2	No	0	Supplied by client
5.	USB TypeC Cable	1	1	Yes	0	Supplied by client
6.	DC Cable	1	1.7	No	1	Supplied by client
7.	AC Cable	1	1	No	0	Supplied by client
8.	Power USB Cable	1	1.2	Yes	1	Supplied by client
9.	AC Cable	1	1.8	No	0	Provided by Lab

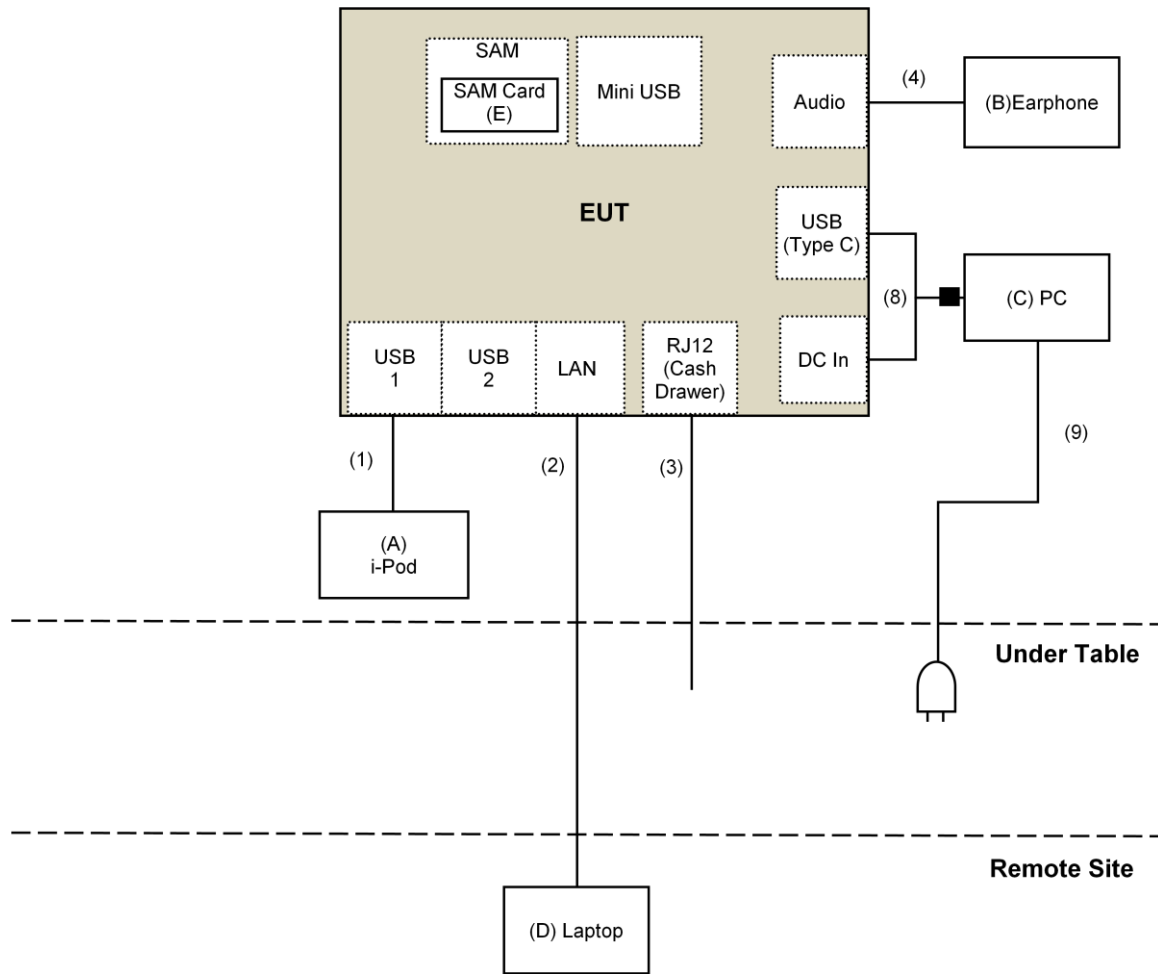
Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test

For adapter mode:



For host equipment mode:



3.5 General Description of Applied Standard

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

FCC Part 15, Subpart E (15.407)
KDB 789033 D02 General UNII Test Procedure New Rules v01r04
ANSI C63.10-2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v01r03		Field Strength at 3m	
		PK:74 (dBµV/m)	AV:54 (dBµV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBµV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	<input checked="" type="checkbox"/> 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}
	<input type="checkbox"/> 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge.		^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

Note:

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

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

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 20, 2016	July 19, 2017
Pre-Amplifier ^(*) EMCI	EMC001340	980142	Jan. 20, 2016	Jan. 19, 2018
Loop Antenna ^(*) Electro-Metrics	EM-6879	264	Dec. 16, 2016	Dec. 15, 2018
RF Cable	NA	LOOPCAB-001 LOOPCAB-002	Jan. 17, 2017	Jan. 16, 2018
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-01	Nov. 10, 2016	Nov. 09, 2017
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Dec. 13, 2016	Dec. 12, 2017
RF Cable	8D	966-4-1 966-4-2 966-4-3	Apr. 01, 2017	Mar. 31, 2018
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Oct. 05, 2016	Oct. 04, 2017
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Dec. 27, 2016	Dec. 26, 2017
Pre-Amplifier EMCI	EMC12630SE	980385	Feb. 02, 2017	Feb. 01, 2018
RF Cable	EMC104-SM-SM-1200 EMC104-SM-SM-2000 EMC104-SM-SM-5000	160923 150318 150323	Feb. 02, 2017 Mar. 29, 2017 Mar. 29, 2017	Feb. 01, 2018 Mar. 28, 2018 Mar. 28, 2018
Pre-Amplifier EMCI	EMC184045SE	980387	Feb. 02, 2017	Feb. 01, 2018
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Dec. 15, 2016	Dec. 14, 2017
RF Cable	SUCOFLEX 102	36432/2 36433/2	Jan. 15, 2017	Jan. 14, 2018
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208410	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP02	NA	NA
Spectrum Analyzer R&S	FSv40	100964	June 28, 2016	June 27, 2017
Spectrum Analyzer Agilent	E4446A	MY48250253	Dec. 21, 2016	Dec. 20, 2017
Power meter Anritsu	ML2495A	0824006	May 26, 2016	May 25, 2017
Power sensor Anritsu	MA2411B	0738172	May 26, 2016	May 25, 2017

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 calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in 966 Chamber No. 4.
4. The FCC Site Registration No. is 292998
5. The CANADA Site Registration No. is 20331-2
6. Tested Date: Apr. 18 to May 16, 2017

4.1.3 Test Procedure

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Both X and Y axes of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

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

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

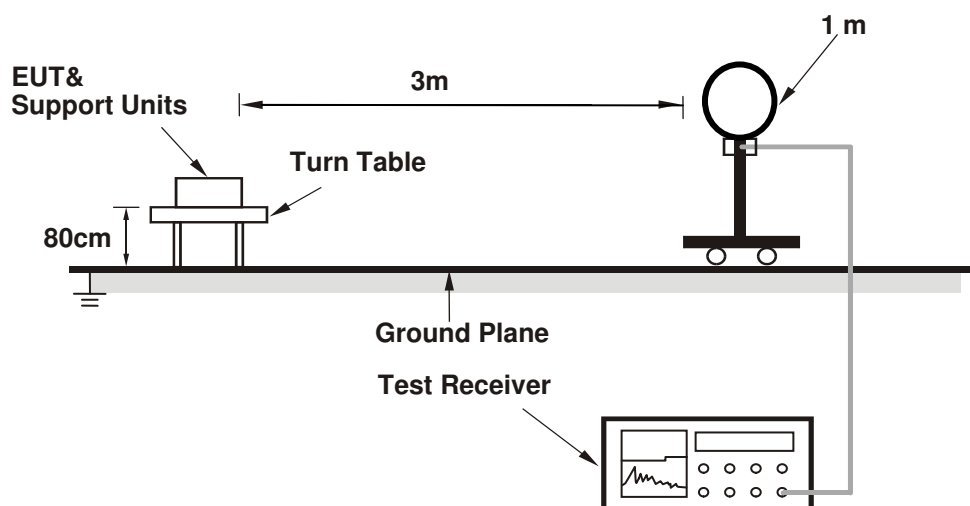
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

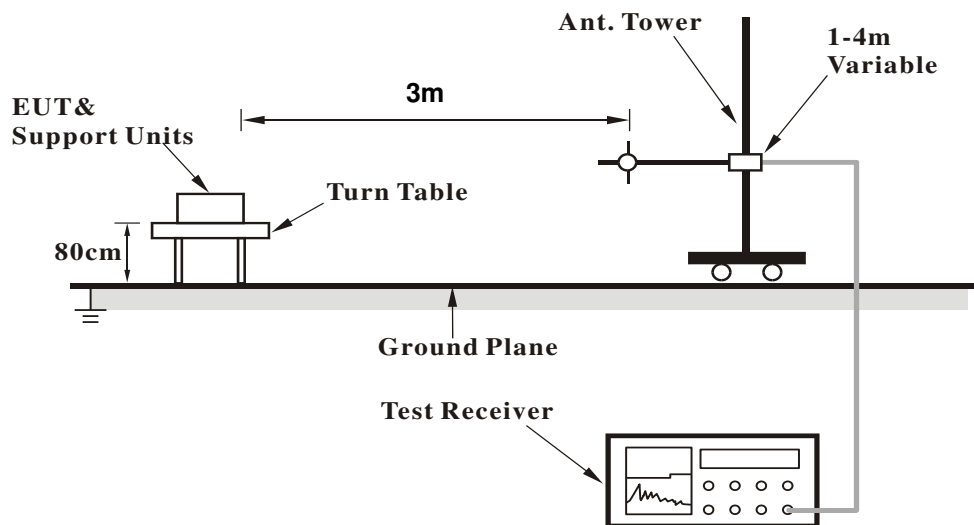
No deviation.

4.1.5 Test Setup

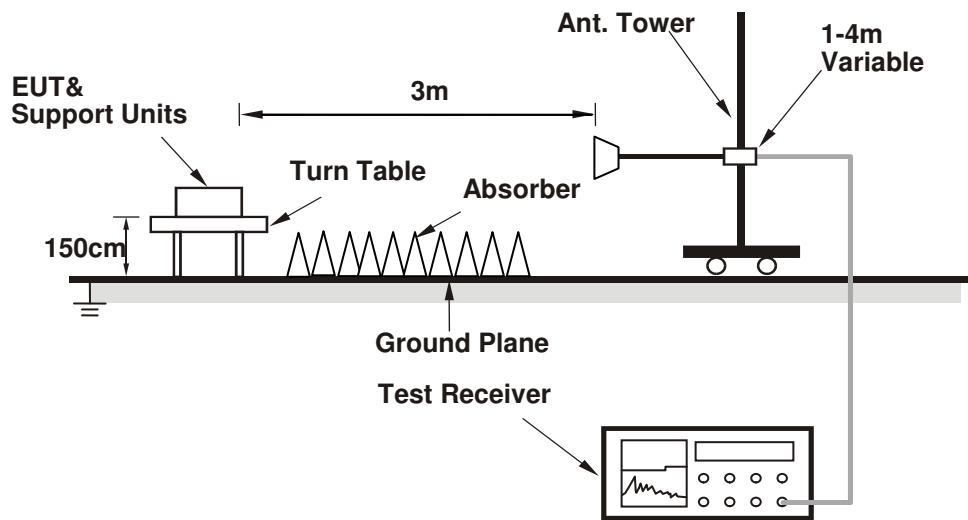
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Condition

- a. Connected the EUT with the Laptop which is placed on remote site.
- b. Controlling software (QRCT 3.0.124.0) has been activated to set the EUT on specific status.

4.1.7 Test Results

Above 1GHz Data:

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
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	55.0 PK	74.0	-19.0	2.35 H	170	51.0	4.0
2	5150.00	43.4 AV	54.0	-10.6	2.35 H	170	39.4	4.0
3	*5180.00	102.7 PK			2.35 H	170	98.7	4.0
4	*5180.00	93.8 AV			2.35 H	170	89.8	4.0
5	#10360.00	47.7 PK	74.0	-26.3	1.49 H	298	34.1	13.6
6	#10360.00	35.3 AV	54.0	-18.7	1.49 H	298	21.7	13.6
7	15540.00	48.3 PK	74.0	-25.7	1.35 H	94	35.1	13.2
8	15540.00	34.4 AV	54.0	-19.6	1.35 H	94	21.2	13.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.4 PK	74.0	-18.6	1.09 V	97	51.4	4.0
2	5150.00	43.8 AV	54.0	-10.2	1.09 V	97	39.8	4.0
3	*5180.00	104.8 PK			1.09 V	97	100.8	4.0
4	*5180.00	94.8 AV			1.09 V	97	90.8	4.0
5	#10360.00	47.4 PK	74.0	-26.6	1.37 V	268	33.8	13.6
6	#10360.00	35.4 AV	54.0	-18.6	1.37 V	268	21.8	13.6
7	15540.00	46.5 PK	74.0	-27.5	1.10 V	174	33.3	13.2
8	15540.00	34.5 AV	54.0	-19.5	1.10 V	174	21.3	13.2

REMARKS:

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

CHANNEL	TX Channel 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	103.5 PK			2.08 H	149	99.5	4.0
2	*5200.00	94.1 AV			2.08 H	149	90.1	4.0
3	#10400.00	47.6 PK	74.0	-26.4	1.53 H	301	34.0	13.6
4	#10400.00	35.3 AV	54.0	-18.7	1.53 H	301	21.7	13.6
5	15600.00	48.2 PK	74.0	-25.8	1.35 H	84	34.8	13.4
6	15600.00	34.0 AV	54.0	-20.0	1.35 H	84	20.6	13.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	104.2 PK			1.00 V	96	100.2	4.0
2	*5200.00	95.2 AV			1.00 V	96	91.2	4.0
3	#10400.00	47.7 PK	74.0	-26.3	1.39 V	260	34.1	13.6
4	#10400.00	35.6 AV	54.0	-18.4	1.39 V	260	22.0	13.6
5	15600.00	47.1 PK	74.0	-26.9	1.13 V	177	33.7	13.4
6	15600.00	34.2 AV	54.0	-19.8	1.13 V	177	20.8	13.4

REMARKS:

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

CHANNEL	TX Channel 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	103.0 PK			2.53 H	173	98.8	4.2
2	*5240.00	93.4 AV			2.53 H	173	89.2	4.2
3	5350.00	49.0 PK	74.0	-25.0	1.35 H	88	44.6	4.4
4	5350.00	36.0 AV	54.0	-18.0	1.35 H	88	31.6	4.4
5	#10480.00	46.9 PK	74.0	-27.1	1.57 H	307	33.2	13.7
6	#10480.00	34.8 AV	54.0	-19.2	1.57 H	307	21.1	13.7
7	15720.00	47.6 PK	74.0	-26.4	1.32 H	91	33.6	14.0
8	15720.00	34.1 AV	54.0	-19.9	1.32 H	91	20.1	14.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	105.4 PK			1.02 V	95	101.2	4.2
2	*5240.00	95.8 AV			1.02 V	95	91.6	4.2
3	5350.00	47.1 PK	74.0	-26.9	1.17 V	189	42.7	4.4
4	5350.00	36.5 AV	54.0	-17.5	1.17 V	189	32.1	4.4
5	#10480.00	47.1 PK	74.0	-26.9	1.43 V	274	33.4	13.7
6	#10480.00	35.2 AV	54.0	-18.8	1.43 V	274	21.5	13.7
7	15720.00	47.7 PK	74.0	-26.3	1.09 V	187	33.7	14.0
8	15720.00	34.3 AV	54.0	-19.7	1.09 V	187	20.3	14.0

REMARKS:

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

CHANNEL	TX Channel 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	51.0 PK	74.0	-23.0	2.25 H	170	47.0	4.0
2	5150.00	38.6 AV	54.0	-15.4	2.25 H	170	34.6	4.0
3	*5260.00	103.6 PK			2.25 H	170	99.4	4.2
4	*5260.00	94.2 AV			2.25 H	170	90.0	4.2
5	#10520.00	48.0 PK	74.0	-26.0	1.51 H	291	34.2	13.8
6	#10520.00	35.0 AV	54.0	-19.0	1.51 H	291	21.2	13.8
7	15780.00	48.3 PK	74.0	-25.7	1.40 H	96	34.2	14.1
8	15780.00	34.2 AV	54.0	-19.8	1.40 H	96	20.1	14.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	50.5 PK	74.0	-23.5	1.07 V	96	46.5	4.0
2	5150.00	38.7 AV	54.0	-15.3	1.07 V	96	34.7	4.0
3	*5260.00	104.8 PK			1.07 V	96	100.6	4.2
4	*5260.00	94.7 AV			1.07 V	96	90.5	4.2
5	#10520.00	47.1 PK	74.0	-26.9	1.46 V	285	33.3	13.8
6	#10520.00	35.3 AV	54.0	-18.7	1.46 V	285	21.5	13.8
7	15780.00	48.2 PK	74.0	-25.8	1.13 V	192	34.1	14.1
8	15780.00	34.5 AV	54.0	-19.5	1.13 V	192	20.4	14.1

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	103.4 PK			2.23 H	169	99.1	4.3
2	*5300.00	93.8 AV			2.23 H	169	89.5	4.3
3	10600.00	47.9 PK	74.0	-26.1	1.53 H	295	34.1	13.8
4	10600.00	35.1 AV	54.0	-18.9	1.53 H	295	21.3	13.8
5	15900.00	48.0 PK	74.0	-26.0	1.30 H	79	34.8	13.2
6	15900.00	34.3 AV	54.0	-19.7	1.30 H	79	21.1	13.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	104.5 PK			1.04 V	97	100.2	4.3
2	*5300.00	94.6 AV			1.04 V	97	90.3	4.3
3	10600.00	46.6 PK	74.0	-27.4	1.37 V	282	32.8	13.8
4	10600.00	35.9 AV	54.0	-18.1	1.37 V	282	22.1	13.8
5	15900.00	48.0 PK	74.0	-26.0	1.09 V	175	34.8	13.2
6	15900.00	34.7 AV	54.0	-19.3	1.09 V	175	21.5	13.2

REMARKS:

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

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	101.6 PK			2.29 H	172	97.3	4.3
2	*5320.00	92.5 AV			2.29 H	172	88.2	4.3
3	5350.00	53.2 PK	74.0	-20.8	2.29 H	172	48.8	4.4
4	5350.00	41.5 AV	54.0	-12.5	2.29 H	172	37.1	4.4
5	10640.00	47.6 PK	74.0	-26.4	1.44 H	288	33.6	14.0
6	10640.00	35.2 AV	54.0	-18.8	1.44 H	288	21.2	14.0
7	15960.00	48.0 PK	74.0	-26.0	1.34 H	107	34.5	13.5
8	15960.00	34.4 AV	54.0	-19.6	1.34 H	107	20.9	13.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	103.6 PK			1.05 V	94	99.3	4.3
2	*5320.00	94.3 AV			1.05 V	94	90.0	4.3
3	5350.00	53.8 PK	74.0	-20.2	1.05 V	94	49.4	4.4
4	5350.00	43.3 AV	54.0	-10.7	1.05 V	94	38.9	4.4
5	10640.00	47.0 PK	74.0	-27.0	1.44 V	261	33.0	14.0
6	10640.00	35.3 AV	54.0	-18.7	1.44 V	261	21.3	14.0
7	15960.00	47.0 PK	74.0	-27.0	1.07 V	176	33.5	13.5
8	15960.00	34.9 AV	54.0	-19.1	1.07 V	176	21.4	13.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5470.00	52.3 PK	74.0	-21.7	2.28 H	178	47.8	4.5
2	#5470.00	41.2 AV	54.0	-12.8	2.28 H	178	36.7	4.5
3	*5500.00	101.6 PK			2.28 H	178	97.1	4.5
4	*5500.00	92.9 AV			2.28 H	178	88.4	4.5
5	11000.00	47.6 PK	74.0	-26.4	1.45 H	298	32.8	14.8
6	11000.00	35.4 AV	54.0	-18.6	1.45 H	298	20.6	14.8
7	#16500.00	48.2 PK	74.0	-25.8	1.40 H	87	32.6	15.6
8	#16500.00	34.1 AV	54.0	-19.9	1.40 H	87	18.5	15.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	55.7 PK	74.0	-18.3	1.00 V	95	51.2	4.5
2	#5470.00	43.2 AV	54.0	-10.8	1.00 V	95	38.7	4.5
3	*5500.00	104.0 PK			1.00 V	95	99.5	4.5
4	*5500.00	94.8 AV			1.00 V	95	90.3	4.5
5	11000.00	46.7 PK	74.0	-27.3	1.48 V	289	31.9	14.8
6	11000.00	34.8 AV	54.0	-19.2	1.48 V	289	20.0	14.8
7	#16500.00	47.3 PK	74.0	-26.7	1.07 V	179	31.7	15.6
8	#16500.00	35.3 AV	54.0	-18.7	1.07 V	179	19.7	15.6

REMARKS:

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

CHANNEL	TX Channel 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	103.0 PK			2.27 H	146	98.4	4.6
2	*5580.00	93.4 AV			2.27 H	146	88.8	4.6
3	11160.00	47.6 PK	74.0	-26.4	1.48 H	294	33.2	14.4
4	11160.00	35.1 AV	54.0	-18.9	1.48 H	294	20.7	14.4
5	#16740.00	48.8 PK	74.0	-25.2	1.36 H	89	32.3	16.5
6	#16740.00	34.3 AV	54.0	-19.7	1.36 H	89	17.8	16.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	105.1 PK			1.06 V	99	100.5	4.6
2	*5580.00	95.6 AV			1.06 V	99	91.0	4.6
3	11160.00	47.4 PK	74.0	-26.6	1.42 V	283	33.0	14.4
4	11160.00	35.4 AV	54.0	-18.6	1.42 V	283	21.0	14.4
5	#16740.00	48.3 PK	74.0	-25.7	1.05 V	183	31.8	16.5
6	#16740.00	35.1 AV	54.0	-18.9	1.05 V	183	18.6	16.5

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	102.4 PK			2.07 H	126	97.6	4.8
2	*5700.00	93.0 AV			2.07 H	126	88.2	4.8
3	#5725.00	59.3 PK	74.0	-14.7	2.07 H	126	54.4	4.9
4	#5725.00	46.1 AV	54.0	-7.9	2.07 H	126	41.2	4.9
5	11400.00	47.9 PK	74.0	-26.1	1.53 H	285	33.5	14.4
6	11400.00	34.7 AV	54.0	-19.3	1.53 H	285	20.3	14.4
7	#17100.00	47.8 PK	74.0	-26.2	1.37 H	100	29.3	18.5
8	#17100.00	34.0 AV	54.0	-20.0	1.37 H	100	15.5	18.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	105.0 PK			1.02 V	98	100.2	4.8
2	*5700.00	95.4 AV			1.02 V	98	90.6	4.8
3	#5725.00	60.7 PK	74.0	-13.3	1.02 V	98	55.8	4.9
4	#5725.00	48.4 AV	54.0	-5.6	1.02 V	98	43.5	4.9
5	11400.00	46.3 PK	74.0	-27.7	1.47 V	278	31.9	14.4
6	11400.00	35.7 AV	54.0	-18.3	1.47 V	278	21.3	14.4
7	#17100.00	47.6 PK	74.0	-26.4	1.12 V	196	29.1	18.5
8	#17100.00	35.3 AV	54.0	-18.7	1.12 V	196	16.8	18.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5575.18	59.3 PK	68.2	-8.9	3.25 H	360	54.7	4.6
2	*5745.00	101.4 PK			3.26 H	360	96.4	5.0
3	*5745.00	92.0 AV			3.26 H	360	87.0	5.0
4	#5989.37	58.4 PK	68.2	-9.8	3.25 H	360	52.8	5.6
5	11490.00	46.6 PK	74.0	-27.4	1.63 H	289	32.5	14.1
6	11490.00	35.8 AV	54.0	-18.2	1.63 H	289	21.7	14.1
7	#17235.00	50.6 PK	74.0	-23.4	2.70 H	315	32.3	18.3
8	#17235.00	39.0 AV	54.0	-15.0	2.70 H	315	20.7	18.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5643.57	59.4 PK	68.2	-8.8	1.00 V	90	54.6	4.8
2	*5745.00	104.1 PK			1.00 V	90	99.1	5.0
3	*5745.00	95.4 AV			1.00 V	90	90.4	5.0
4	#5940.45	58.1 PK	68.2	-10.1	1.00 V	90	52.7	5.4
5	11490.00	46.5 PK	74.0	-27.5	2.32 V	82	32.4	14.1
6	11490.00	35.5 AV	54.0	-18.5	2.32 V	82	21.4	14.1
7	#17235.00	50.5 PK	74.0	-23.5	1.79 V	109	32.2	18.3
8	#17235.00	39.1 AV	54.0	-14.9	1.79 V	109	20.8	18.3

REMARKS:

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

CHANNEL	TX Channel 157	DETECTOR 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	#5606.52	58.9 PK	68.2	-9.3	3.18 H	360	54.2	4.7
2	*5785.00	101.6 PK			3.18 H	360	96.6	5.0
3	*5785.00	92.3 AV			3.18 H	360	87.3	5.0
4	#5933.32	59.1 PK	68.2	-9.1	3.18 H	360	53.7	5.4
5	11570.00	47.2 PK	74.0	-26.8	1.69 H	285	33.2	14.0
6	11570.00	35.7 AV	54.0	-18.3	1.69 H	285	21.7	14.0
7	#17355.00	50.9 PK	74.0	-23.1	2.69 H	303	32.0	18.9
8	#17355.00	39.4 AV	54.0	-14.6	2.69 H	303	20.5	18.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5583.25	59.5 PK	68.2	-8.7	1.08 V	95	54.9	4.6
2	*5785.00	105.7 PK			1.08 V	95	100.7	5.0
3	*5785.00	96.0 AV			1.08 V	95	91.0	5.0
4	#5966.10	58.8 PK	68.2	-9.4	1.08 V	95	53.3	5.5
5	11570.00	46.3 PK	74.0	-27.7	2.33 V	76	32.3	14.0
6	11570.00	35.4 AV	54.0	-18.6	2.33 V	76	21.4	14.0
7	#17355.00	50.7 PK	74.0	-23.3	1.81 V	113	31.8	18.9
8	#17355.00	39.3 AV	54.0	-14.7	1.81 V	113	20.4	18.9

REMARKS:

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

CHANNEL	TX Channel 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	#5604.62	58.2 PK	68.2	-10.0	3.20 H	360	53.6	4.6
2	*5825.00	102.4 PK			3.20 H	360	97.2	5.2
3	*5825.00	93.1 AV			3.20 H	360	87.9	5.2
4	#5977.02	57.7 PK	68.2	-10.5	3.20 H	360	52.2	5.5
5	11650.00	46.8 PK	74.0	-27.2	1.68 H	282	32.7	14.1
6	11650.00	35.6 AV	54.0	-18.4	1.68 H	282	21.5	14.1
7	#17475.00	49.9 PK	74.0	-24.1	2.73 H	322	30.2	19.7
8	#17475.00	38.7 AV	54.0	-15.3	2.73 H	322	19.0	19.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5579.45	58.8 PK	68.2	-9.4	1.05 V	93	54.2	4.6
2	*5825.00	105.8 PK			1.05 V	93	100.6	5.2
3	*5825.00	95.7 AV			1.05 V	93	90.5	5.2
4	#5935.23	58.5 PK	68.2	-9.7	1.05 V	93	53.1	5.4
5	11650.00	46.3 PK	74.0	-27.7	2.38 V	80	32.2	14.1
6	11650.00	35.2 AV	54.0	-18.8	2.38 V	80	21.1	14.1
7	#17475.00	50.7 PK	74.0	-23.3	1.79 V	97	31.0	19.7
8	#17475.00	39.1 AV	54.0	-14.9	1.79 V	97	19.4	19.7

REMARKS:

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

802.11n (HT20)

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	53.1 PK	74.0	-20.9	1.48 H	17	49.1	4.0
2	5150.00	43.1 AV	54.0	-10.9	1.48 H	17	39.1	4.0
3	*5180.00	100.0 PK			1.48 H	17	96.0	4.0
4	*5180.00	90.7 AV			1.48 H	17	86.7	4.0
5	#10360.00	47.3 PK	74.0	-26.7	1.58 H	293	33.7	13.6
6	#10360.00	34.9 AV	54.0	-19.1	1.58 H	293	21.3	13.6
7	15540.00	47.9 PK	74.0	-26.1	1.31 H	82	34.7	13.2
8	15540.00	35.4 AV	54.0	-18.6	1.31 H	82	22.2	13.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.7 PK	74.0	-18.3	1.00 V	96	51.7	4.0
2	5150.00	45.2 AV	54.0	-8.8	1.00 V	96	41.2	4.0
3	*5180.00	104.6 PK			1.00 V	96	100.6	4.0
4	*5180.00	94.9 AV			1.00 V	96	90.9	4.0
5	#10360.00	46.9 PK	74.0	-27.1	1.38 V	279	33.3	13.6
6	#10360.00	35.4 AV	54.0	-18.6	1.38 V	279	21.8	13.6
7	15540.00	48.1 PK	74.0	-25.9	1.05 V	159	34.9	13.2
8	15540.00	34.6 AV	54.0	-19.4	1.05 V	159	21.4	13.2

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	100.2 PK			1.51 H	23	96.2	4.0
2	*5200.00	91.0 AV			1.51 H	23	87.0	4.0
3	#10400.00	47.4 PK	74.0	-26.6	1.51 H	315	33.8	13.6
4	#10400.00	35.1 AV	54.0	-18.9	1.51 H	315	21.5	13.6
5	15600.00	47.9 PK	74.0	-26.1	1.37 H	75	34.5	13.4
6	15600.00	35.2 AV	54.0	-18.8	1.37 H	75	21.8	13.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	104.4 PK			1.05 V	97	100.4	4.0
2	*5200.00	95.0 AV			1.05 V	97	91.0	4.0
3	#10400.00	47.6 PK	74.0	-26.4	1.35 V	282	34.0	13.6
4	#10400.00	35.7 AV	54.0	-18.3	1.35 V	282	22.1	13.6
5	15600.00	47.8 PK	74.0	-26.2	1.15 V	173	34.4	13.4
6	15600.00	34.1 AV	54.0	-19.9	1.15 V	173	20.7	13.4

REMARKS:

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

CHANNEL	TX Channel 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	100.7 PK			1.50 H	19	96.5	4.2
2	*5240.00	91.2 AV			1.50 H	19	87.0	4.2
3	5350.00	59.4 PK	74.0	-14.6	1.50 H	19	55.0	4.4
4	5350.00	48.8 AV	54.0	-5.2	1.50 H	19	44.4	4.4
5	#10480.00	47.5 PK	74.0	-26.5	1.56 H	299	33.8	13.7
6	#10480.00	35.4 AV	54.0	-18.6	1.56 H	299	21.7	13.7
7	15720.00	48.7 PK	74.0	-25.3	1.36 H	75	34.7	14.0
8	15720.00	36.0 AV	54.0	-18.0	1.36 H	75	22.0	14.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	104.7 PK			1.04 V	96	100.5	4.2
2	*5240.00	95.4 AV			1.04 V	96	91.2	4.2
3	5350.00	59.6 PK	74.0	-14.4	1.04 V	96	55.2	4.4
4	5350.00	48.5 AV	54.0	-5.5	1.04 V	96	44.1	4.4
5	#10480.00	47.4 PK	74.0	-26.6	1.40 V	256	33.7	13.7
6	#10480.00	35.3 AV	54.0	-18.7	1.40 V	256	21.6	13.7
7	15720.00	48.0 PK	74.0	-26.0	1.15 V	168	34.0	14.0
8	15720.00	34.5 AV	54.0	-19.5	1.15 V	168	20.5	14.0

REMARKS:

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

CHANNEL	TX Channel 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	50.9 PK	74.0	-23.1	1.44 H	38	46.9	4.0
2	5150.00	37.3 AV	54.0	-16.7	1.44 H	38	33.3	4.0
3	*5260.00	100.5 PK			1.44 H	38	96.3	4.2
4	*5260.00	91.0 AV			1.44 H	38	86.8	4.2
5	#10520.00	47.8 PK	74.0	-26.2	1.55 H	310	34.0	13.8
6	#10520.00	35.6 AV	54.0	-18.4	1.55 H	310	21.8	13.8
7	15780.00	48.2 PK	74.0	-25.8	1.34 H	72	34.1	14.1
8	15780.00	35.7 AV	54.0	-18.3	1.34 H	72	21.6	14.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	51.9 PK	74.0	-22.1	1.03 V	94	47.9	4.0
2	5150.00	39.2 AV	54.0	-14.8	1.03 V	94	35.2	4.0
3	*5260.00	105.3 PK			1.03 V	94	101.1	4.2
4	*5260.00	95.5 AV			1.03 V	94	91.3	4.2
5	#10520.00	47.6 PK	74.0	-26.4	1.42 V	267	33.8	13.8
6	#10520.00	35.7 AV	54.0	-18.3	1.42 V	267	21.9	13.8
7	15780.00	48.5 PK	74.0	-25.5	1.06 V	172	34.4	14.1
8	15780.00	34.8 AV	54.0	-19.2	1.06 V	172	20.7	14.1

REMARKS:

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

CHANNEL	TX Channel 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	99.0 PK			1.42 H	33	94.7	4.3
2	*5300.00	90.2 AV			1.42 H	33	85.9	4.3
3	10600.00	47.4 PK	74.0	-26.6	1.49 H	305	33.6	13.8
4	10600.00	35.4 AV	54.0	-18.6	1.49 H	305	21.6	13.8
5	15900.00	48.5 PK	74.0	-25.5	1.41 H	72	35.3	13.2
6	15900.00	35.9 AV	54.0	-18.1	1.41 H	72	22.7	13.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	105.1 PK			1.04 V	37	100.8	4.3
2	*5300.00	95.3 AV			1.04 V	37	91.0	4.3
3	10600.00	47.5 PK	74.0	-26.5	1.39 V	260	33.7	13.8
4	10600.00	35.6 AV	54.0	-18.4	1.39 V	260	21.8	13.8
5	15900.00	48.3 PK	74.0	-25.7	1.07 V	164	35.1	13.2
6	15900.00	34.4 AV	54.0	-19.6	1.07 V	164	21.2	13.2

REMARKS:

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

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	99.2 PK			1.39 H	30	94.9	4.3
2	*5320.00	90.4 AV			1.39 H	30	86.1	4.3
3	5350.00	52.4 PK	74.0	-21.6	1.39 H	30	48.0	4.4
4	5350.00	39.7 AV	54.0	-14.3	1.39 H	30	35.3	4.4
5	10640.00	47.8 PK	74.0	-26.2	1.58 H	300	33.8	14.0
6	10640.00	35.5 AV	54.0	-18.5	1.58 H	300	21.5	14.0
7	15960.00	47.4 PK	74.0	-26.6	1.39 H	99	33.9	13.5
8	15960.00	35.0 AV	54.0	-19.0	1.39 H	99	21.5	13.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	105.1 PK			1.00 V	96	100.8	4.3
2	*5320.00	95.3 AV			1.00 V	96	91.0	4.3
3	5350.00	57.4 PK	74.0	-16.6	1.00 V	96	53.0	4.4
4	5350.00	43.8 AV	54.0	-10.2	1.00 V	96	39.4	4.4
5	10640.00	46.9 PK	74.0	-27.1	1.37 V	280	32.9	14.0
6	10640.00	35.2 AV	54.0	-18.8	1.37 V	280	21.2	14.0
7	15960.00	48.2 PK	74.0	-25.8	1.11 V	177	34.7	13.5
8	15960.00	34.6 AV	54.0	-19.4	1.11 V	177	21.1	13.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5470.00	51.3 PK	74.0	-22.7	1.39 H	25	46.8	4.5
2	#5470.00	39.3 AV	54.0	-14.7	1.39 H	25	34.8	4.5
3	*5500.00	99.7 PK			1.39 H	25	95.2	4.5
4	*5500.00	90.7 AV			1.39 H	25	86.2	4.5
5	11000.00	47.2 PK	74.0	-26.8	1.47 H	292	32.4	14.8
6	11000.00	34.9 AV	54.0	-19.1	1.47 H	292	20.1	14.8
7	#16500.00	48.2 PK	74.0	-25.8	1.31 H	99	32.6	15.6
8	#16500.00	35.5 AV	54.0	-18.5	1.31 H	99	19.9	15.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	55.3 PK	74.0	-18.7	1.05 V	90	50.8	4.5
2	#5470.00	43.5 AV	54.0	-10.5	1.05 V	90	39.0	4.5
3	*5500.00	104.8 PK			1.05 V	90	100.3	4.5
4	*5500.00	95.2 AV			1.05 V	90	90.7	4.5
5	11000.00	46.8 PK	74.0	-27.2	1.34 V	254	32.0	14.8
6	11000.00	34.9 AV	54.0	-19.1	1.34 V	254	20.1	14.8
7	#16500.00	48.1 PK	74.0	-25.9	1.13 V	189	32.5	15.6
8	#16500.00	34.3 AV	54.0	-19.7	1.13 V	189	18.7	15.6

REMARKS:

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

CHANNEL	TX Channel 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	100.5 PK			1.35 H	21	95.9	4.6
2	*5580.00	91.5 AV			1.35 H	21	86.9	4.6
3	11160.00	48.0 PK	74.0	-26.0	1.51 H	306	33.6	14.4
4	11160.00	35.6 AV	54.0	-18.4	1.51 H	306	21.2	14.4
5	#16740.00	48.4 PK	74.0	-25.6	1.30 H	79	31.9	16.5
6	#16740.00	35.6 AV	54.0	-18.4	1.30 H	79	19.1	16.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	105.7 PK			1.08 V	90	101.1	4.6
2	*5580.00	96.1 AV			1.08 V	90	91.5	4.6
3	11160.00	46.9 PK	74.0	-27.1	1.35 V	255	32.5	14.4
4	11160.00	34.9 AV	54.0	-19.1	1.35 V	255	20.5	14.4
5	#16740.00	47.9 PK	74.0	-26.1	1.08 V	164	31.4	16.5
6	#16740.00	34.4 AV	54.0	-19.6	1.08 V	164	17.9	16.5

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	100.1 PK			1.38 H	18	95.3	4.8
2	*5700.00	91.2 AV			1.38 H	18	86.4	4.8
3	#5725.00	55.3 PK	74.0	-18.7	1.38 H	18	50.4	4.9
4	#5725.00	44.6 AV	54.0	-9.4	1.38 H	18	39.7	4.9
5	11400.00	47.9 PK	74.0	-26.1	1.48 H	295	33.5	14.4
6	11400.00	35.7 AV	54.0	-18.3	1.48 H	295	21.3	14.4
7	#17100.00	48.0 PK	74.0	-26.0	1.29 H	77	29.5	18.5
8	#17100.00	35.6 AV	54.0	-18.4	1.29 H	77	17.1	18.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	105.2 PK			1.05 V	91	100.4	4.8
2	*5700.00	96.0 AV			1.05 V	91	91.2	4.8
3	#5725.00	61.5 PK	74.0	-12.5	1.05 V	91	56.6	4.9
4	#5725.00	49.2 AV	54.0	-4.8	1.05 V	91	44.3	4.9
5	11400.00	47.4 PK	74.0	-26.6	1.42 V	254	33.0	14.4
6	11400.00	35.7 AV	54.0	-18.3	1.42 V	254	21.3	14.4
7	#17100.00	48.9 PK	74.0	-25.1	1.06 V	188	30.4	18.5
8	#17100.00	34.9 AV	54.0	-19.1	1.06 V	188	16.4	18.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5615.07	58.0 PK	68.2	-10.2	3.18 H	360	53.3	4.7
2	*5745.00	102.4 PK			3.18 H	360	97.4	5.0
3	*5745.00	93.0 AV			3.18 H	360	88.0	5.0
4	#5937.12	58.1 PK	68.2	-10.1	3.18 H	360	52.7	5.4
5	11490.00	46.8 PK	74.0	-27.2	1.21 H	243	32.7	14.1
6	11490.00	35.1 AV	54.0	-18.9	1.21 H	243	21.0	14.1
7	#17235.00	50.9 PK	74.0	-23.1	1.65 H	103	32.6	18.3
8	#17235.00	39.5 AV	54.0	-14.5	1.65 H	103	21.2	18.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5592.75	58.4 PK	68.2	-9.8	1.04 V	93	53.8	4.6
2	*5745.00	106.1 PK			1.04 V	93	101.1	5.0
3	*5745.00	96.7 AV			1.04 V	93	91.7	5.0
4	#5998.40	59.4 PK	68.2	-8.8	1.04 V	93	53.8	5.6
5	11490.00	47.5 PK	74.0	-26.5	1.00 V	198	33.4	14.1
6	11490.00	35.6 AV	54.0	-18.4	1.00 V	198	21.5	14.1
7	#17235.00	51.1 PK	74.0	-22.9	1.95 V	28	32.8	18.3
8	#17235.00	39.8 AV	54.0	-14.2	1.95 V	28	21.5	18.3

REMARKS:

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

CHANNEL	TX Channel 157	DETECTOR 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	#5636.45	58.8 PK	68.2	-9.4	3.31 H	360	54.0	4.8
2	*5785.00	101.4 PK			3.31 H	360	96.4	5.0
3	*5785.00	92.0 AV			3.31 H	360	87.0	5.0
4	#6016.45	59.3 PK	68.2	-8.9	3.31 H	360	53.6	5.7
5	11570.00	47.1 PK	74.0	-26.9	1.24 H	259	33.1	14.0
6	11570.00	35.2 AV	54.0	-18.8	1.24 H	259	21.2	14.0
7	#17355.00	51.4 PK	74.0	-22.6	1.65 H	97	32.5	18.9
8	#17355.00	39.9 AV	54.0	-14.1	1.65 H	97	21.0	18.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5574.23	59.5 PK	68.2	-8.7	1.06 V	96	54.9	4.6
2	*5785.00	105.9 PK			1.06 V	96	100.9	5.0
3	*5785.00	96.5 AV			1.06 V	96	91.5	5.0
4	#5957.07	59.1 PK	68.2	-9.1	1.06 V	96	53.6	5.5
5	11570.00	47.9 PK	74.0	-26.1	1.03 V	213	33.9	14.0
6	11570.00	35.9 AV	54.0	-18.1	1.03 V	213	21.9	14.0
7	#17355.00	51.0 PK	74.0	-23.0	2.00 V	12	32.1	18.9
8	#17355.00	39.7 AV	54.0	-14.3	2.00 V	12	20.8	18.9

REMARKS:

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

CHANNEL	TX Channel 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	#5574.23	59.5 PK	68.2	-8.7	3.29 H	360	54.9	4.6
2	*5825.00	100.7 PK			3.29 H	360	95.5	5.2
3	*5825.00	91.5 AV			3.29 H	360	86.3	5.2
4	#5957.07	59.1 PK	68.2	-9.1	3.29 H	360	53.6	5.5
5	11650.00	46.2 PK	74.0	-27.8	1.27 H	240	32.1	14.1
6	11650.00	34.6 AV	54.0	-19.4	1.27 H	240	20.5	14.1
7	#17475.00	51.2 PK	74.0	-22.8	1.66 H	115	31.5	19.7
8	#17475.00	39.5 AV	54.0	-14.5	1.66 H	115	19.8	19.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5574.23	59.5 PK	68.2	-8.7	1.02 V	90	54.9	4.6
2	*5825.00	106.8 PK			1.02 V	90	101.6	5.2
3	*5825.00	96.5 AV			1.02 V	90	91.3	5.2
4	#5957.07	59.1 PK	68.2	-9.1	1.02 V	90	53.6	5.5
5	11650.00	47.7 PK	74.0	-26.3	1.04 V	199	33.6	14.1
6	11650.00	36.1 AV	54.0	-17.9	1.04 V	199	22.0	14.1
7	#17475.00	51.6 PK	74.0	-22.4	2.00 V	38	31.9	19.7
8	#17475.00	40.1 AV	54.0	-13.9	2.00 V	38	20.4	19.7

REMARKS:

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

802.11n (HT40)

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	60.5 PK	74.0	-13.5	2.05 H	18	56.5	4.0
2	5150.00	48.9 AV	54.0	-5.1	2.05 H	18	44.9	4.0
3	*5190.00	97.4 PK			2.05 H	18	93.4	4.0
4	*5190.00	87.9 AV			2.05 H	18	83.9	4.0
5	5350.00	48.1 PK	74.0	-25.9	2.05 H	18	43.7	4.4
6	5350.00	36.8 AV	54.0	-17.2	2.05 H	18	32.4	4.4
7	#10380.00	47.3 PK	74.0	-26.7	1.38 H	271	33.7	13.6
8	#10380.00	34.9 AV	54.0	-19.1	1.38 H	271	21.3	13.6
9	15570.00	45.5 PK	74.0	-28.5	1.22 H	356	32.2	13.3
10	15570.00	34.5 AV	54.0	-19.5	1.22 H	356	21.2	13.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	66.2 PK	74.0	-7.8	1.05 V	95	62.2	4.0
2	5150.00	53.7 AV	54.0	-0.3	1.05 V	95	49.7	4.0
3	*5190.00	101.4 PK			1.05 V	95	97.4	4.0
4	*5190.00	91.4 AV			1.05 V	95	87.4	4.0
5	5350.00	48.2 PK	74.0	-25.8	1.05 V	95	43.8	4.4
6	5350.00	37.1 AV	54.0	-16.9	1.05 V	95	32.7	4.4
7	#10380.00	47.8 PK	74.0	-26.2	1.67 V	323	34.2	13.6
8	#10380.00	35.3 AV	54.0	-18.7	1.67 V	323	21.7	13.6
9	15570.00	46.1 PK	74.0	-27.9	2.02 V	129	32.8	13.3
10	15570.00	34.9 AV	54.0	-19.1	2.02 V	129	21.6	13.3

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	96.4 PK			2.10 H	15	92.2	4.2
2	*5230.00	87.8 AV			2.10 H	15	83.6	4.2
3	5350.00	48.6 PK	74.0	-25.4	2.10 H	15	44.2	4.4
4	5350.00	36.4 AV	54.0	-17.6	2.10 H	15	32.0	4.4
5	#10460.00	47.4 PK	74.0	-26.6	1.33 H	277	33.7	13.7
6	#10460.00	35.1 AV	54.0	-18.9	1.33 H	277	21.4	13.7
7	15690.00	45.2 PK	74.0	-28.8	1.26 H	358	31.2	14.0
8	15690.00	34.5 AV	54.0	-19.5	1.26 H	358	20.5	14.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	102.8 PK			1.00 V	92	98.6	4.2
2	*5230.00	93.0 AV			1.00 V	92	88.8	4.2
3	5350.00	49.3 PK	74.0	-24.7	1.00 V	92	44.9	4.4
4	5350.00	37.1 AV	54.0	-16.9	1.00 V	92	32.7	4.4
5	#10460.00	47.7 PK	74.0	-26.3	1.68 V	321	34.0	13.7
6	#10460.00	35.5 AV	54.0	-18.5	1.68 V	321	21.8	13.7
7	15690.00	46.0 PK	74.0	-28.0	2.07 V	128	32.0	14.0
8	15690.00	34.9 AV	54.0	-19.1	2.07 V	128	20.9	14.0

REMARKS:

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

CHANNEL	TX Channel 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	*5270.00	96.0 PK			2.04 H	22	91.8	4.2
2	*5270.00	87.4 AV			2.04 H	22	83.2	4.2
3	5350.00	50.8 PK	74.0	-23.2	2.04 H	22	46.4	4.4
4	5350.00	38.9 AV	54.0	-15.1	2.04 H	22	34.5	4.4
5	#10540.00	47.4 PK	74.0	-26.6	1.38 H	270	33.7	13.7
6	#10540.00	35.1 AV	54.0	-18.9	1.38 H	270	21.4	13.7
7	15810.00	45.9 PK	74.0	-28.1	1.24 H	340	31.9	14.0
8	15810.00	34.9 AV	54.0	-19.1	1.24 H	340	20.9	14.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	102.4 PK			1.07 V	90	98.2	4.2
2	*5270.00	92.5 AV			1.07 V	90	88.3	4.2
3	5350.00	51.8 PK	74.0	-22.2	1.07 V	90	47.4	4.4
4	5350.00	39.5 AV	54.0	-14.5	1.07 V	90	35.1	4.4
5	#10540.00	47.4 PK	74.0	-26.6	1.71 V	309	33.7	13.7
6	#10540.00	35.1 AV	54.0	-18.9	1.71 V	309	21.4	13.7
7	15810.00	45.6 PK	74.0	-28.4	2.03 V	120	31.6	14.0
8	15810.00	34.6 AV	54.0	-19.4	2.03 V	120	20.6	14.0

REMARKS:

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

CHANNEL	TX Channel 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	95.9 PK			2.02 H	19	91.6	4.3
2	*5310.00	87.0 AV			2.02 H	19	82.7	4.3
3	5350.00	62.3 PK	74.0	-11.7	2.02 H	19	57.9	4.4
4	5350.00	49.2 AV	54.0	-4.8	2.02 H	19	44.8	4.4
5	10620.00	47.5 PK	74.0	-26.5	1.34 H	267	33.6	13.9
6	10620.00	34.8 AV	54.0	-19.2	1.34 H	267	20.9	13.9
7	15930.00	45.6 PK	74.0	-28.4	1.27 H	360	32.3	13.3
8	15930.00	34.5 AV	54.0	-19.5	1.27 H	360	21.2	13.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	101.1 PK			1.01 V	91	96.8	4.3
2	*5310.00	92.3 AV			1.01 V	91	88.0	4.3
3	5350.00	66.9 PK	74.0	-7.1	1.01 V	91	62.5	4.4
4	5350.00	53.5 AV	54.0	-0.5	1.01 V	91	49.1	4.4
5	10620.00	47.8 PK	74.0	-26.2	1.62 V	313	33.9	13.9
6	10620.00	35.5 AV	54.0	-18.5	1.62 V	313	21.6	13.9
7	15930.00	46.4 PK	74.0	-27.6	1.97 V	133	33.1	13.3
8	15930.00	35.2 AV	54.0	-18.8	1.97 V	133	21.9	13.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	#5470.00	59.7 PK	74.0	-14.3	3.23 H	20	55.2	4.5
2	#5470.00	48.3 AV	54.0	-5.7	3.23 H	20	43.8	4.5
3	*5510.00	96.8 PK			3.23 H	20	92.2	4.6
4	*5510.00	87.4 AV			3.23 H	20	82.8	4.6
5	11020.00	47.3 PK	74.0	-26.7	1.38 H	256	32.6	14.7
6	11020.00	34.6 AV	54.0	-19.4	1.38 H	256	19.9	14.7
7	#16530.00	45.7 PK	74.0	-28.3	1.24 H	350	29.9	15.8
8	#16530.00	34.9 AV	54.0	-19.1	1.24 H	350	19.1	15.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	65.4 PK	74.0	-8.6	1.03 V	90	60.9	4.5
2	#5470.00	53.8 AV	54.0	-0.2	1.03 V	90	49.3	4.5
3	*5510.00	101.6 PK			1.03 V	90	97.0	4.6
4	*5510.00	92.0 AV			1.03 V	90	87.4	4.6
5	11020.00	47.8 PK	74.0	-26.2	1.73 V	322	33.1	14.7
6	11020.00	35.3 AV	54.0	-18.7	1.73 V	322	20.6	14.7
7	#16530.00	46.2 PK	74.0	-27.8	2.07 V	131	30.4	15.8
8	#16530.00	35.2 AV	54.0	-18.8	2.07 V	131	19.4	15.8

REMARKS:

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

CHANNEL	TX Channel 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	97.4 PK			3.24 H	19	92.9	4.5
2	*5550.00	87.9 AV			3.24 H	19	83.4	4.5
3	11100.00	47.7 PK	74.0	-26.3	1.39 H	273	33.3	14.4
4	11100.00	35.2 AV	54.0	-18.8	1.39 H	273	20.8	14.4
5	#16650.00	45.1 PK	74.0	-28.9	1.25 H	350	28.7	16.4
6	#16650.00	34.0 AV	54.0	-20.0	1.25 H	350	17.6	16.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	102.8 PK			1.00 V	94	98.3	4.5
2	*5550.00	92.8 AV			1.00 V	94	88.3	4.5
3	11100.00	47.7 PK	74.0	-26.3	1.67 V	319	33.3	14.4
4	11100.00	35.2 AV	54.0	-18.8	1.67 V	319	20.8	14.4
5	#16650.00	45.9 PK	74.0	-28.1	2.02 V	125	29.5	16.4
6	#16650.00	34.6 AV	54.0	-19.4	2.02 V	125	18.2	16.4

REMARKS:

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

CHANNEL	TX Channel 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	97.4 PK			3.23 H	34	92.6	4.8
2	*5670.00	88.0 AV			3.23 H	34	83.2	4.8
3	#5725.00	54.3 PK	74.0	-19.7	3.23 H	34	49.4	4.9
4	#5725.00	44.6 AV	54.0	-9.4	3.23 H	34	39.7	4.9
5	11340.00	47.6 PK	74.0	-26.4	1.37 H	271	33.2	14.4
6	11340.00	34.9 AV	54.0	-19.1	1.37 H	271	20.5	14.4
7	#17010.00	46.0 PK	74.0	-28.0	1.19 H	360	27.8	18.2
8	#17010.00	35.0 AV	54.0	-19.0	1.19 H	360	16.8	18.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	103.9 PK			1.08 V	89	99.1	4.8
2	*5670.00	93.3 AV			1.08 V	89	88.5	4.8
3	#5725.00	55.5 PK	74.0	-18.5	1.08 V	89	50.6	4.9
4	#5725.00	45.2 AV	54.0	-8.8	1.08 V	89	40.3	4.9
5	11340.00	47.4 PK	74.0	-26.6	1.62 V	321	33.0	14.4
6	11340.00	35.2 AV	54.0	-18.8	1.62 V	321	20.8	14.4
7	#17010.00	46.4 PK	74.0	-27.6	1.98 V	144	28.2	18.2
8	#17010.00	35.1 AV	54.0	-18.9	1.98 V	144	16.9	18.2

REMARKS:

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

CHANNEL	TX Channel 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	#5561.87	58.7 PK	68.2	-9.5	3.28 H	360	54.1	4.6
2	*5755.00	100.7 PK			3.28 H	360	95.7	5.0
3	*5755.00	90.4 AV			3.28 H	360	85.4	5.0
4	#5933.80	59.0 PK	68.2	-9.2	3.28 H	360	53.6	5.4
5	11510.00	46.2 PK	74.0	-27.8	1.27 H	250	32.2	14.0
6	11510.00	34.3 AV	54.0	-19.7	1.27 H	250	20.3	14.0
7	#17265.00	51.1 PK	74.0	-22.9	1.72 H	100	32.6	18.5
8	#17265.00	39.3 AV	54.0	-14.7	1.72 H	100	20.8	18.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5571.85	59.5 PK	68.2	-8.7	1.05 V	88	54.9	4.6
2	*5755.00	103.2 PK			1.05 V	88	98.2	5.0
3	*5755.00	93.2 AV			1.05 V	88	88.2	5.0
4	#6011.70	59.1 PK	68.2	-9.1	1.05 V	88	53.4	5.7
5	11510.00	47.2 PK	74.0	-26.8	1.08 V	186	33.2	14.0
6	11510.00	35.7 AV	54.0	-18.3	1.08 V	186	21.7	14.0
7	#17265.00	52.2 PK	74.0	-21.8	2.06 V	31	33.7	18.5
8	#17265.00	40.5 AV	54.0	-13.5	2.06 V	31	22.0	18.5

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5554.27	59.0 PK	68.2	-9.2	3.30 H	360	54.5	4.5
2	*5795.00	99.0 PK			3.30 H	360	93.9	5.1
3	*5795.00	89.5 AV			3.30 H	360	84.4	5.1
4	#5983.20	58.6 PK	68.2	-9.6	3.30 H	360	53.0	5.6
5	11590.00	46.0 PK	74.0	-28.0	1.26 H	244	32.0	14.0
6	11590.00	34.4 AV	54.0	-19.6	1.26 H	244	20.4	14.0
7	#17385.00	51.0 PK	74.0	-23.0	1.70 H	122	31.9	19.1
8	#17385.00	39.2 AV	54.0	-14.8	1.70 H	122	20.1	19.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5642.62	58.8 PK	68.2	-9.4	1.07 V	94	54.0	4.8
2	*5795.00	102.8 PK			1.07 V	94	97.7	5.1
3	*5795.00	93.1 AV			1.07 V	94	88.0	5.1
4	#6012.18	58.9 PK	68.2	-9.3	1.07 V	94	53.2	5.7
5	11590.00	48.1 PK	74.0	-25.9	1.03 V	194	34.1	14.0
6	11590.00	36.6 AV	54.0	-17.4	1.03 V	194	22.6	14.0
7	#17385.00	52.3 PK	74.0	-21.7	1.98 V	49	33.2	19.1
8	#17385.00	40.6 AV	54.0	-13.4	1.98 V	49	21.5	19.1

REMARKS:

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

Below 1GHz Data:

802.11n (HT40)

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	203.73	40.9 QP	43.5	-2.6	1.00 H	300	52.3	-11.4
2	220.73	31.0 QP	46.0	-15.0	1.00 H	299	42.5	-11.5
3	240.00	29.4 QP	46.0	-16.6	1.50 H	250	39.4	-10.0
4	360.02	29.0 QP	46.0	-17.0	1.00 H	14	35.1	-6.1
5	611.20	31.6 QP	46.0	-14.4	1.00 H	168	31.8	-0.2
6	814.92	31.2 QP	46.0	-14.8	1.50 H	181	28.5	2.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	54.01	27.0 QP	40.0	-13.0	1.00 V	15	34.8	-7.8
2	203.75	33.5 QP	43.5	-10.0	2.00 V	347	44.9	-11.4
3	220.70	27.5 QP	46.0	-18.5	1.50 V	360	39.0	-11.5
4	360.02	25.5 QP	46.0	-20.5	1.50 V	360	31.6	-6.1
5	509.33	27.3 QP	46.0	-18.7	1.00 V	84	29.8	-2.5
6	611.20	30.1 QP	46.0	-15.9	1.00 V	76	30.3	-0.2

REMARKS:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 24, 2016	Oct. 23, 2017
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 26, 2016	Oct. 25, 2017
RF Cable	5D-FB	COCCAB-001	Sep. 30, 2016	Sep. 29, 2017
10 dB PAD Mini-Circuits	HAT-10+	CONATT-004	June 20, 2016	June 19, 2017
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. 1.
3. Tested Date: May 16 to 17, 2017

4.2.3 Test Procedure

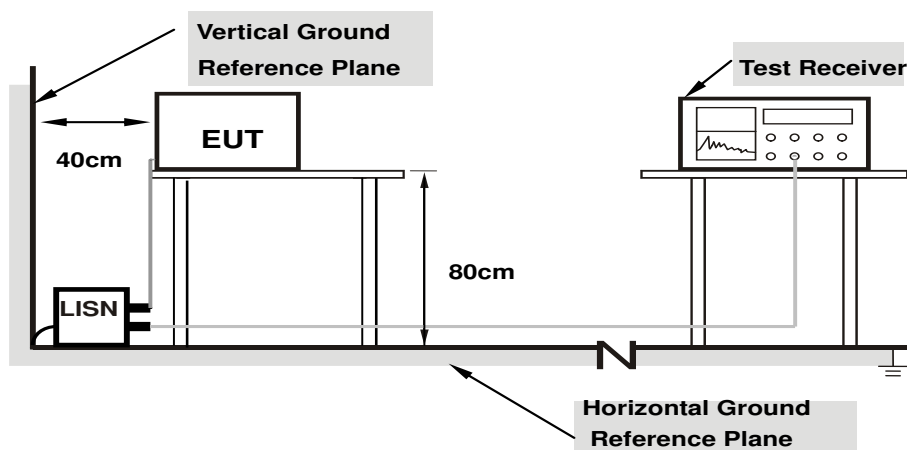
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

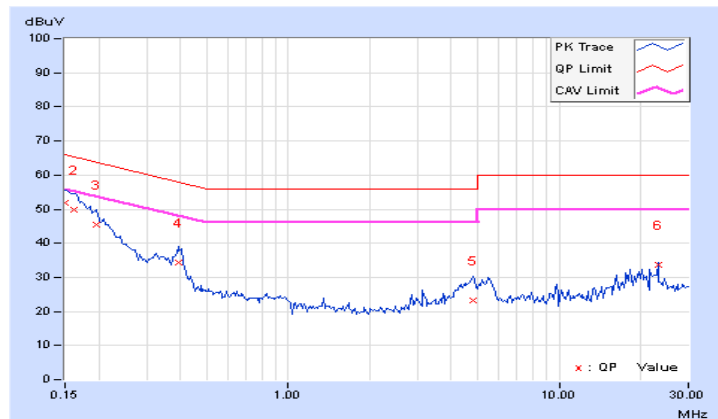
4.2.7 Test Results (Mode 1)

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

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor (dB)	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.19	41.68	25.12	51.87	35.31	66.00	56.00	-14.13	-20.69
2	0.16172	10.19	39.50	21.81	49.69	32.00	65.38	55.38	-15.69	-23.38
3	0.19687	10.19	35.11	18.53	45.30	28.72	63.74	53.74	-18.44	-25.02
4	0.39219	10.22	24.05	15.73	34.27	25.95	58.02	48.02	-23.75	-22.07
5	4.80078	10.28	12.95	6.71	23.23	16.99	56.00	46.00	-32.77	-29.01
6	23.12891	11.41	22.29	20.29	33.70	31.70	60.00	50.00	-26.30	-18.30

REMARKS:

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

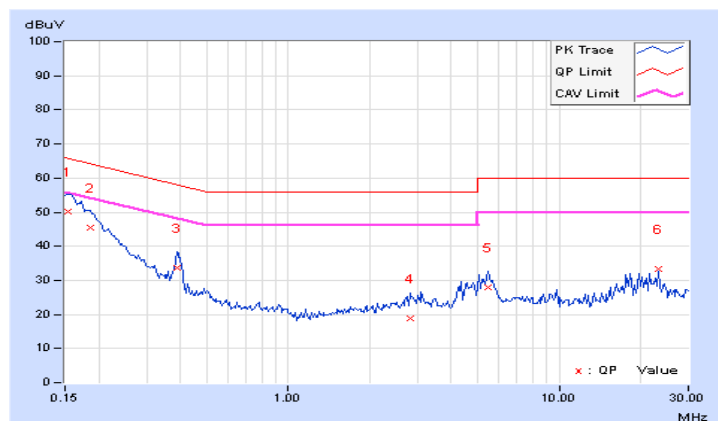


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.18	40.03	23.24	50.21	33.42	65.79	55.79	-15.58	-22.37
2	0.18516	10.17	35.29	17.99	45.46	28.16	64.25	54.25	-18.79	-26.09
3	0.38828	10.21	23.48	14.08	33.69	24.29	58.10	48.10	-24.41	-23.81
4	2.82813	10.23	8.67	4.65	18.90	14.88	56.00	46.00	-37.10	-31.12
5	5.43750	10.24	17.57	9.60	27.81	19.84	60.00	50.00	-32.19	-30.16
6	23.12891	11.08	22.25	20.15	33.33	31.23	60.00	50.00	-26.67	-18.77

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.



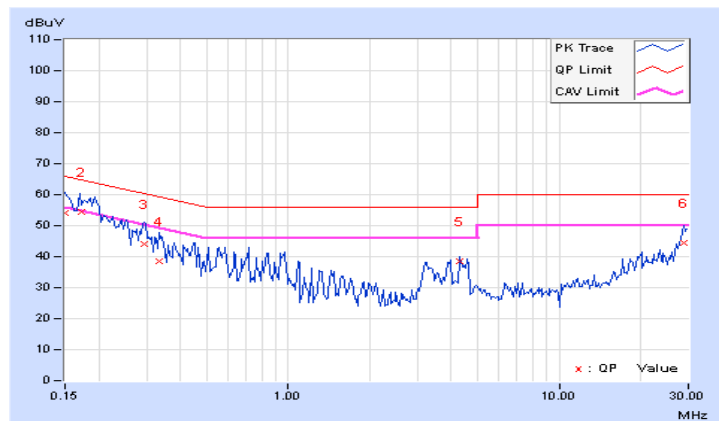
4.2.8 Test Results (Mode 2)

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

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	
1	0.15000	10.19	43.73	20.22	53.92	30.41	66.00	56.00	-12.08	-25.59
2	0.17175	10.19	44.09	39.62	54.28	49.81	64.88	54.88	-10.60	-5.07
3	0.29453	10.20	34.03	24.42	44.23	34.62	60.40	50.40	-16.17	-15.78
4	0.33359	10.21	28.40	18.36	38.61	28.57	59.36	49.36	-20.75	-20.79
5	4.29688	10.26	28.14	24.54	38.40	34.80	56.00	46.00	-17.60	-11.20
6	29.03125	11.46	32.94	25.98	44.40	37.44	60.00	50.00	-15.60	-12.56

REMARKS:

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

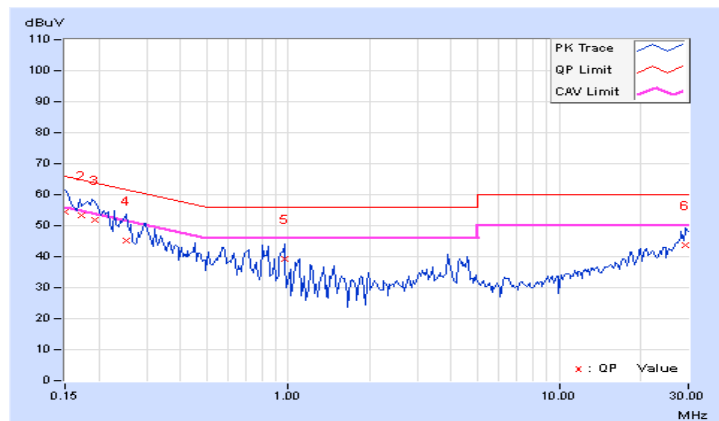


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

No	Freq. [MHz]	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	1	0.15000	10.18	44.09	21.11	54.27	31.29	66.00	56.00	-11.73
2	0.17263	10.17	43.29	38.74	53.46	48.91	64.83	54.83	-11.37	-5.92
3	0.19419	10.16	41.54	36.78	51.70	46.94	63.86	53.86	-12.16	-6.92
4	0.25156	10.17	34.99	26.62	45.16	36.79	61.71	51.71	-16.55	-14.92
5	0.97031	10.23	28.85	23.05	39.08	33.28	56.00	46.00	-16.92	-12.72
6	29.35156	11.05	32.50	26.57	43.55	37.62	60.00	50.00	-16.45	-12.38

REMARKS:

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



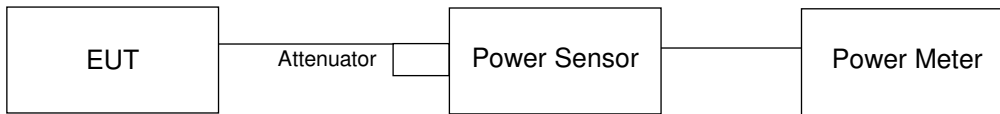
4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

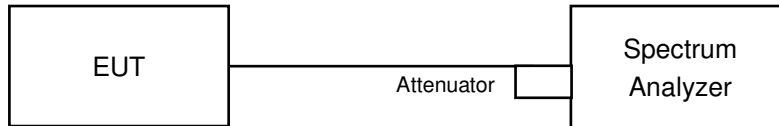
Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p \leq 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client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

*B is the 26 dB emission bandwidth in megahertz

4.3.2 Test Setup FOR POWER OUTPUT MEASUREMENT



FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

FOR POWER OUTPUT MEASUREMENT

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

FOR 26dB OCCUPIED BANDWIDTH

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Result

Power Output:

802.11a

Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
36	5180	10.814	10.34	24.00	Pass
40	5200	10.94	10.39	24.00	Pass
48	5240	11.117	10.46	24.00	Pass
52	5260	10.99	10.41	24.00	Pass
60	5300	11.535	10.62	24.00	Pass
64	5320	12.246	10.88	24.00	Pass
100	5500	17.298	12.38	24.00	Pass
116	5580	19.454	12.89	24.00	Pass
140	5700	18.836	12.75	24.00	Pass
149	5745	16.788	12.25	30.00	Pass
157	5785	15.066	11.78	30.00	Pass
165	5825	13.772	11.39	30.00	Pass

802.11n (HT20)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
36	5180	10.28	10.12	24.00	Pass
40	5200	10.765	10.32	24.00	Pass
48	5240	12.359	10.92	24.00	Pass
52	5260B	11.429	10.58	24.00	Pass
60	5300	13.428	11.28	24.00	Pass
64	5320	13.772	11.39	24.00	Pass
100	5500	18.664	12.71	24.00	Pass
116	5580	18.88	12.76	24.00	Pass
140	5700	18.578	12.69	24.00	Pass
149	5745	16.482	12.17	30.00	Pass
157	5785	15.101	11.79	30.00	Pass
165	5825	13.74	11.38	30.00	Pass

802.11n (HT40)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
38	5190	13.062	11.16	24.00	Pass
46	5230	15.922	12.02	24.00	Pass
54	5270	16.482	12.17	24.00	Pass
62	5310	17.418	12.41	24.00	Pass
102	5510	19.861	12.98	24.00	Pass
110	5550	19.77	12.96	24.00	Pass
134	5670	19.907	12.99	24.00	Pass
151	5755	14.825	11.71	30.00	Pass
159	5795	15.346	11.86	30.00	Pass

26dB Bandwidth:

802.11a

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)
52	5260	22.59
60	5300	22.70
64	5320	22.95
100	5500	25.74
116	5580	32.61
140	5700	31.61

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	22.59	24.53 > 24
60	5300	22.70	24.56 > 24
64	5320	22.95	24.6 > 24
100	5500	25.74	25.1 > 24
120	5600	32.61	26.13 > 24
140	5700	31.61	25.99 > 24

802.11n (HT20)

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)
52	5260	22.93
60	5300	23.74
64	5320	25.83
100	5500	30.05
116	5580	33.29
140	5700	32.18

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >

Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	22.93	24.6 > 24
60	5300	23.74	24.75 > 24
64	5320	25.83	25.12 > 24
100	5500	30.05	25.77 > 24
120	5600	33.29	26.22 > 24
140	5700	32.18	26.07 > 24

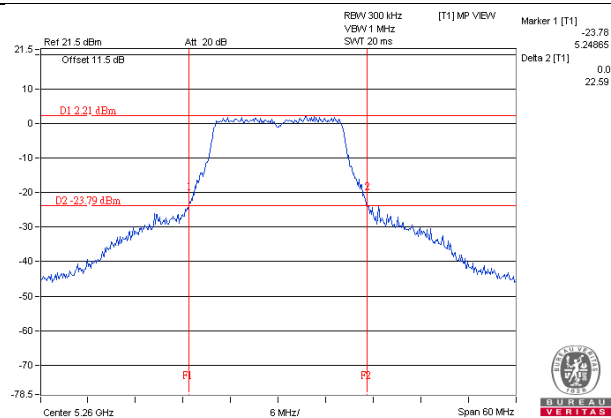
802.11n (HT40)

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)
54	5270	61.33
62	5310	73.30
102	5510	71.40
110	5550	73.08
134	5670	75.78

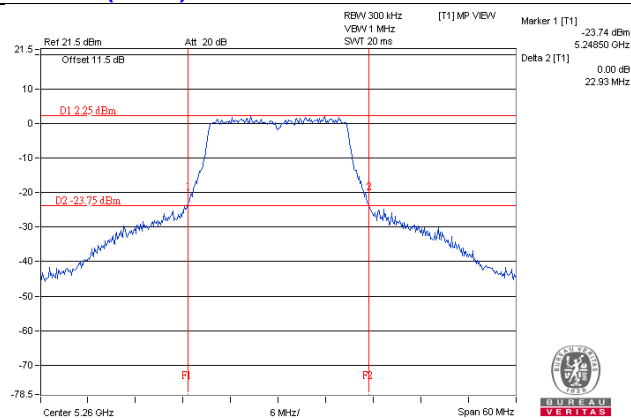
Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	61.33	28.87 > 24
62	5310	73.30	29.65 > 24
102	5510	71.40	29.53 > 24
110	5550	73.08	29.63 > 24
134	5670	75.78	29.79 > 24

Spectrum Plot of Worst Value

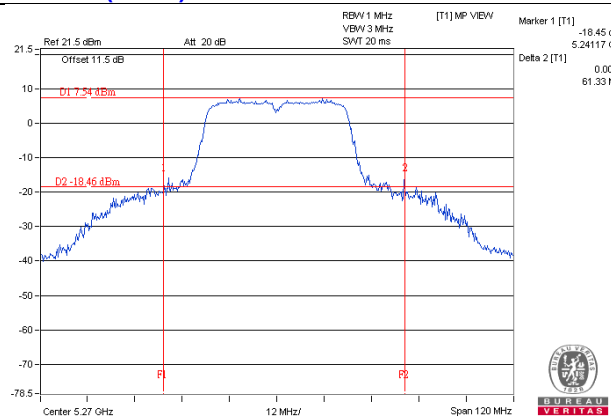
802.11a : CH52



802.11n (HT20) : CH52

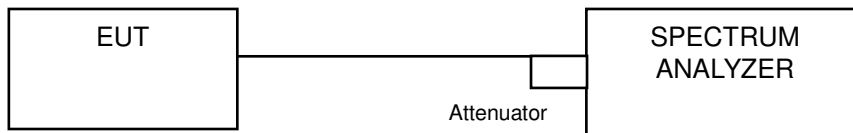


802.11n (HT40) : CH54



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	17.16
40	5200	17.16
48	5240	17.16
52	5260	17.16
60	5300	17.16
64	5320	17.28
100	5500	17.28
116	5580	17.52
140	5700	17.64
149	5745	17.52
157	5785	17.40
165	5825	17.16

802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	18.12
40	5200	18.12
48	5240	18.24
52	5260	18.24
60	5300	18.24
64	5320	18.24
100	5500	18.24
116	5580	18.48
140	5700	18.60
149	5745	18.36
157	5785	18.36
165	5825	17.16

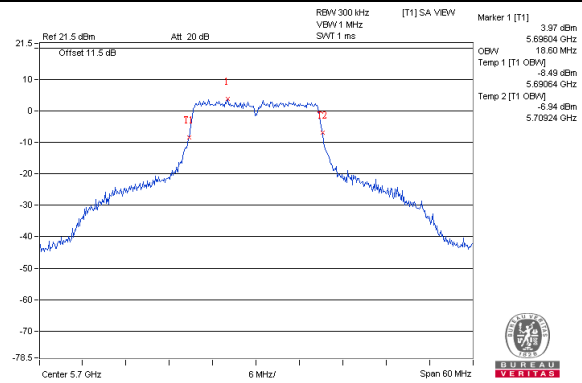
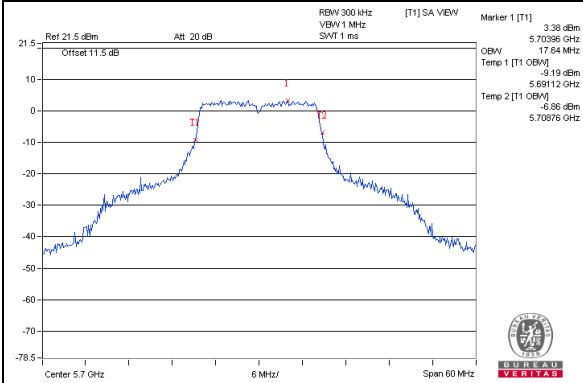
802.11n (HT40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.72
46	5230	36.72
54	5270	36.72
62	5310	36.72
102	5510	36.96
110	5550	37.44
134	5670	37.68
151	5755	37.20
159	5795	36.72

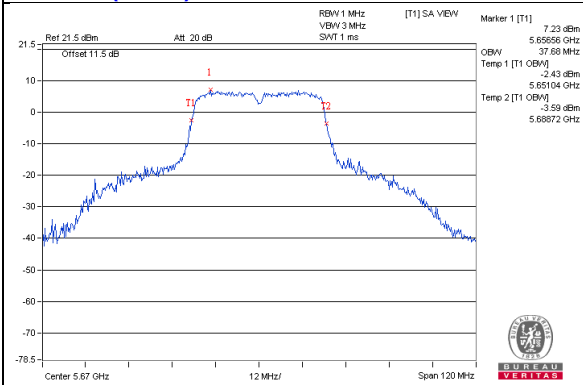
Spectrum Plot of Worst Value

802.11a : CH140

802.11n (HT20) : CH140



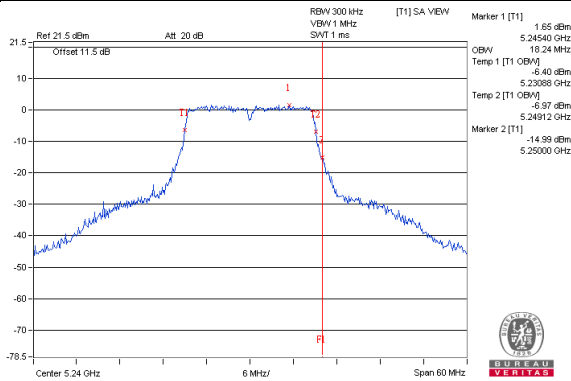
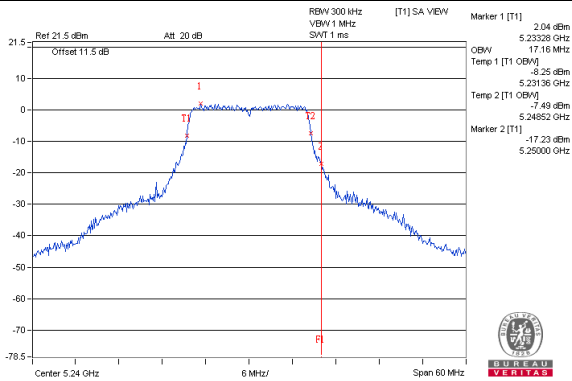
802.11n (HT40) : CH134



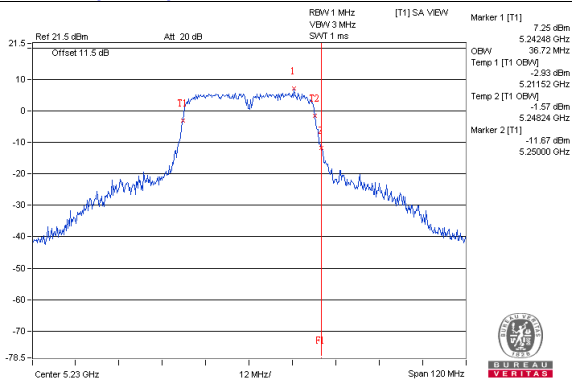
**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)**

802.11a : CH48

802.11n(HT20) : CH48



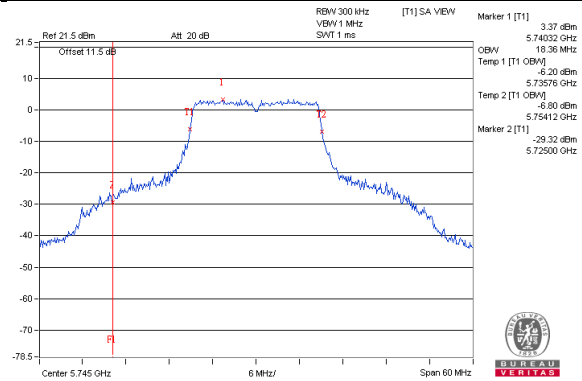
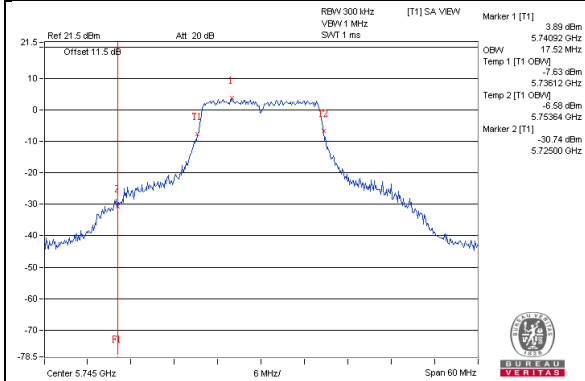
802.11n(HT40) : CH46



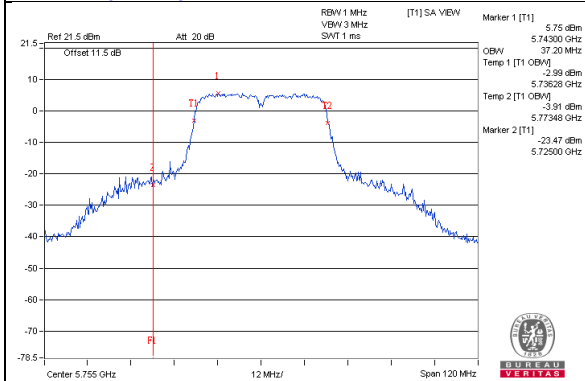
**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)**

802.11a : CH149

802.11n(HT20) : CH149



802.11n(HT40) : CH151

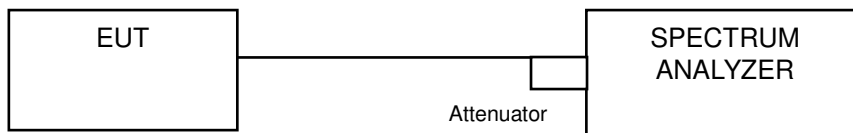


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

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

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

For U-NII-3:

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

802.11a

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
36	5180	-2.52	0.15	-2.36	11.00	Pass
40	5200	-2.39	0.15	-2.24	11.00	Pass
48	5240	-2.24	0.15	-2.09	11.00	Pass
52	5260	-2.77	0.15	-2.62	11.00	Pass
60	5300	-2.28	0.15	-2.12	11.00	Pass
64	5320	-2.22	0.15	-2.06	11.00	Pass
100	5500	-0.88	0.15	-0.73	11.00	Pass
120	5600	-0.46	0.15	-0.31	11.00	Pass
140	5700	-0.67	0.15	-0.52	11.00	Pass

Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
36	5180	-2.73	0.18	-2.55	11.00	Pass
40	5200	-2.97	0.18	-2.79	11.00	Pass
48	5240	-2.50	0.18	-2.32	11.00	Pass
52	5260	-2.85	0.18	-2.67	11.00	Pass
60	5300	-2.17	0.18	-1.99	11.00	Pass
64	5320	-2.12	0.18	-1.94	11.00	Pass
100	5500	-0.79	0.18	-0.61	11.00	Pass
120	5600	-0.67	0.18	-0.49	11.00	Pass
140	5700	-1.21	0.18	-1.03	11.00	Pass

Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

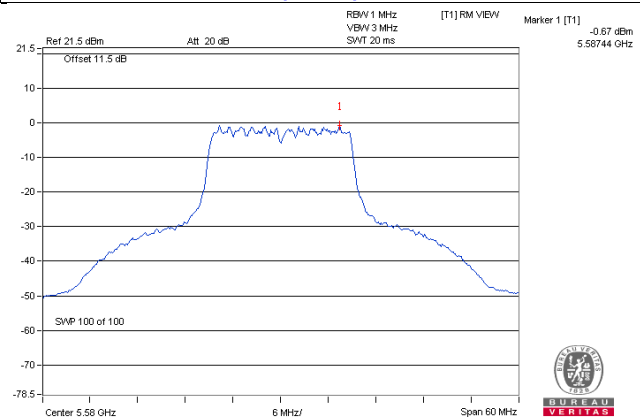
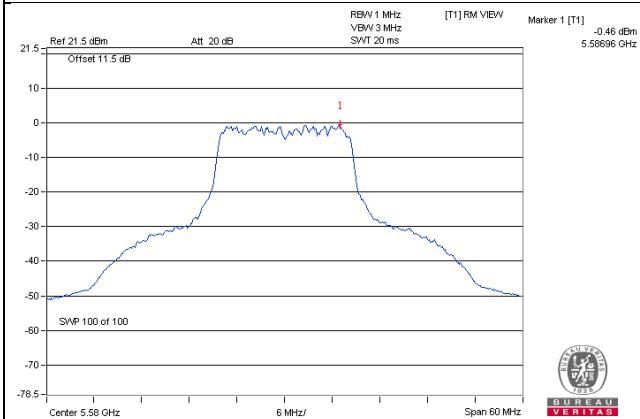
Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
38	5190	-5.22	0.34	-4.88	11.00	Pass
46	5230	-4.30	0.34	-3.96	11.00	Pass
54	5270	-3.97	0.34	-3.63	11.00	Pass
62	5310	-4.17	0.34	-3.83	11.00	Pass
102	5510	-4.96	0.34	-4.62	11.00	Pass
118	5590	-4.85	0.34	-4.51	11.00	Pass
134	5670	-4.53	0.34	-4.19	11.00	Pass

Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

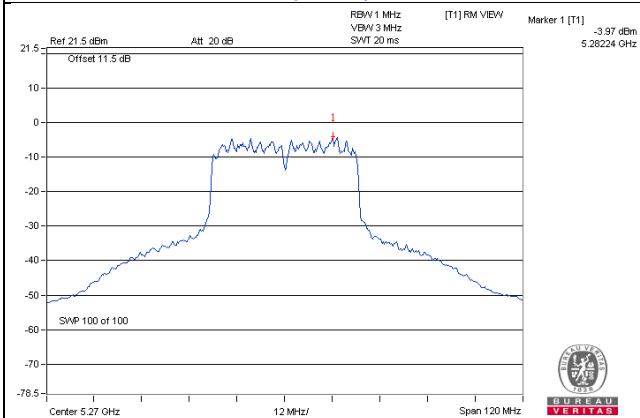
Spectrum Plot of Worst Value

802.11a : CH116

802.11n (HT20) : CH116



802.11n (HT40) : CH54



For U-NII-3:

802.11a

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
		(dBm/300kHz)	(dBm/500kHz)				
149	5745	-9.70	-7.48	0.15	-7.33	30	Pass
157	5785	-10.40	-8.18	0.15	-8.03	30	Pass
165	5825	-11.01	-8.79	0.15	-8.64	30	Pass

Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
		(dBm/300kHz)	(dBm/500kHz)				
149	5745	-9.85	-7.63	0.18	-7.45	30	Pass
157	5785	-10.82	-8.60	0.18	-8.42	30	Pass
165	5825	-10.34	-8.12	0.18	-7.94	30	Pass

Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

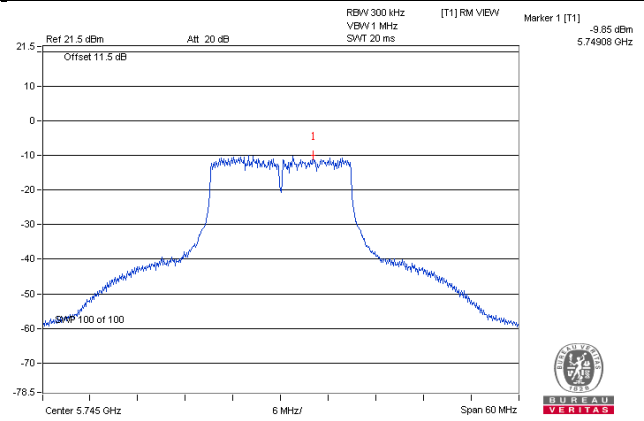
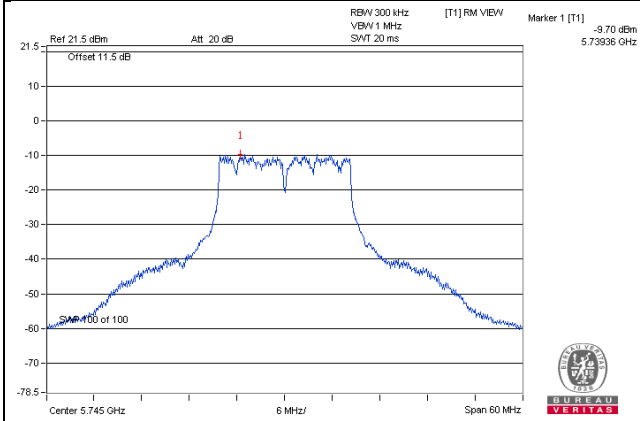
Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
		(dBm/300kHz)	(dBm/500kHz)				
151	5755	-14.54	-12.32	0.34	-11.98	30	Pass
159	5795	-14.31	-12.09	0.34	-11.75	30	Pass

Note: 1. Refer to section 3.3 for duty cycle spectrum plot.

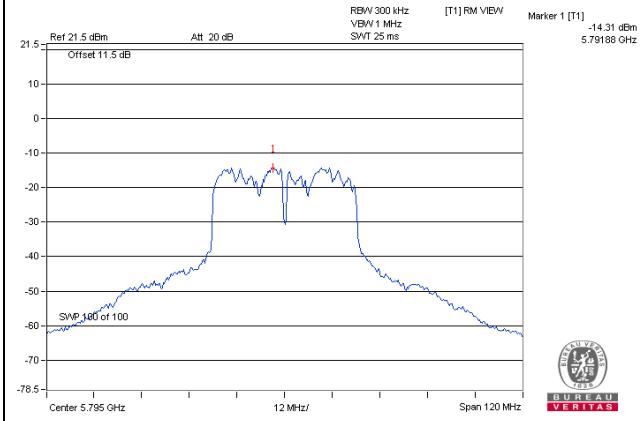
Spectrum Plot of Worst Value

802.11a : CH149

802.11n (HT20) : CH149



802.11n (HT40) : CH159

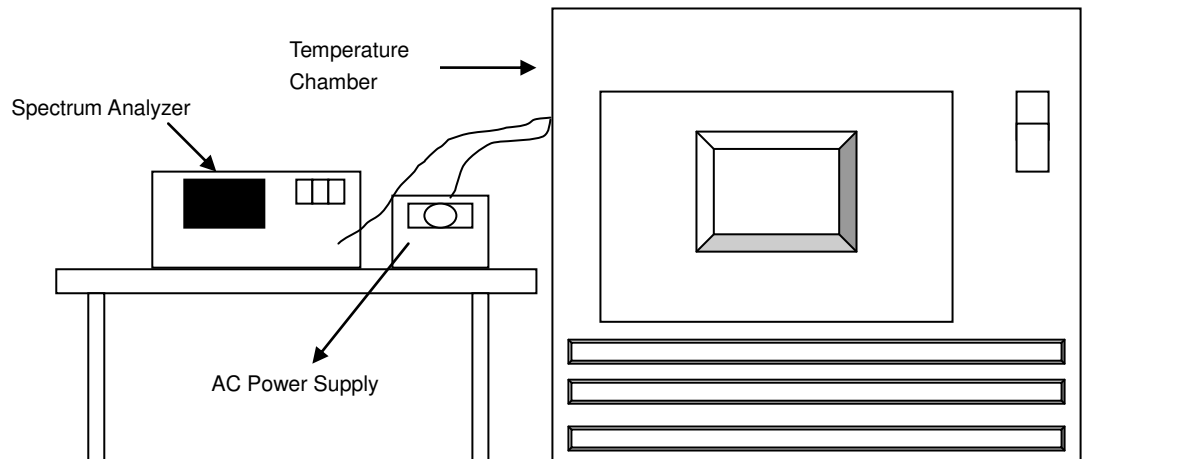


4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
- Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
50	120	5179.9961	PASS	5179.9949	PASS	5179.9942	PASS	5179.9922	Pass
40	120	5180.0033	PASS	5180.0023	PASS	5180.007	PASS	5180.0026	Pass
30	120	5179.9876	PASS	5179.9871	PASS	5179.9891	PASS	5179.9878	Pass
20	120	5180.0229	PASS	5180.0236	PASS	5180.0216	PASS	5180.0245	Pass
10	120	5180.0047	PASS	5180.0048	PASS	5180.003	PASS	5180.0008	Pass
0	120	5180.0012	PASS	5180.0013	PASS	5179.9998	PASS	5180.0024	Pass
-10	120	5179.983	PASS	5179.9823	PASS	5179.987	PASS	5179.9865	Pass
-20	120	5180.0061	PASS	5180.0029	PASS	5180.0058	PASS	5180.0043	Pass
-30	120	5180.023	PASS	5180.023	PASS	5180.0266	PASS	5180.0244	Pass

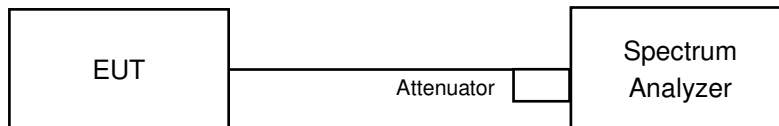
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5180.0236	PASS	5180.023	PASS	5180.0219	PASS	5180.0242	Pass
	120	5180.0229	PASS	5180.0236	PASS	5180.0216	PASS	5180.0245	Pass
	102	5180.0221	PASS	5180.0237	PASS	5180.0214	PASS	5180.0249	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.42	0.5	PASS
157	5785	16.42	0.5	PASS
165	5825	16.43	0.5	PASS

802.11n (HT20)

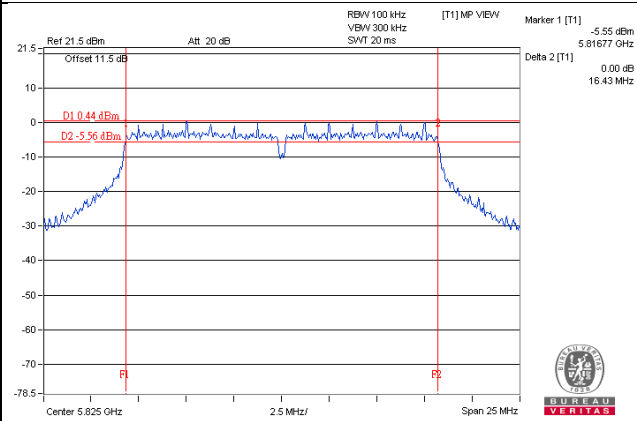
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.64	0.5	PASS
157	5785	17.64	0.5	PASS
165	5825	16.43	0.5	PASS

802.11n (HT40)

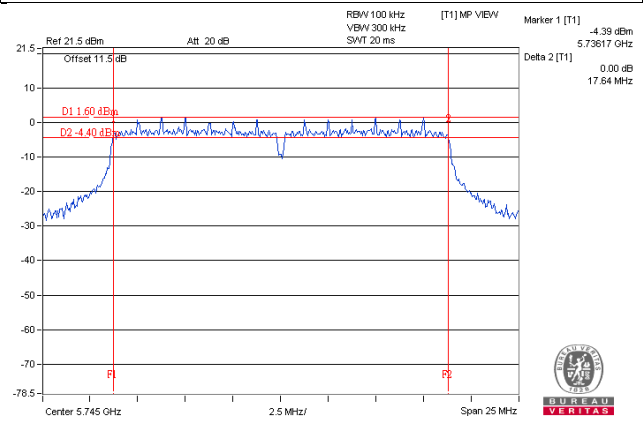
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.36	0.5	PASS
159	5795	35.47	0.5	PASS

Spectrum Plot of Worst Value

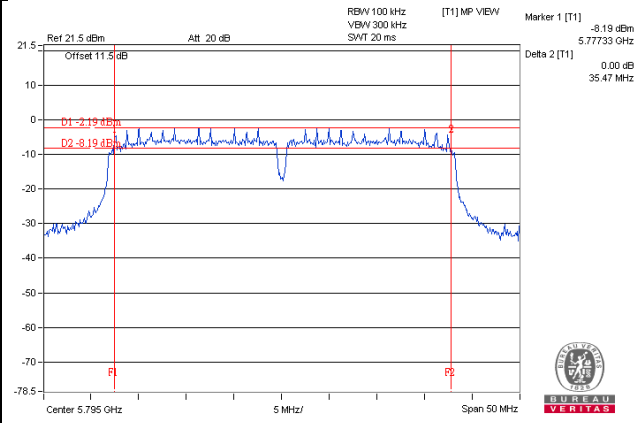
802.11a : CH165



802.11n (HT20) / CH149



802.11n (HT40) : CH159



5 Pictures of Test Arrangements

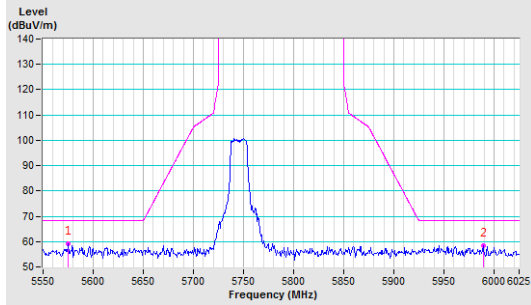
Please refer to the attached file (Test Setup Photo).

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

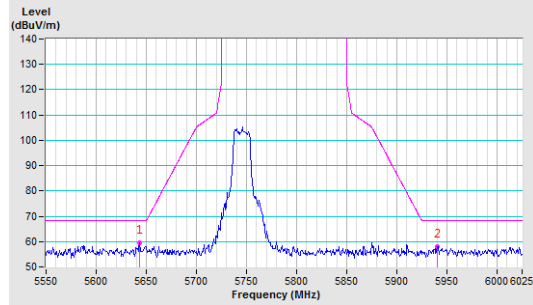
802.11a

CH 149 5745 MHz

Horizontal

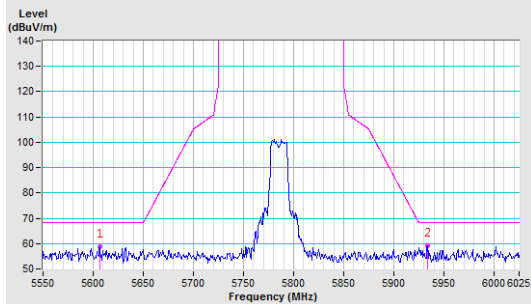


Vertical

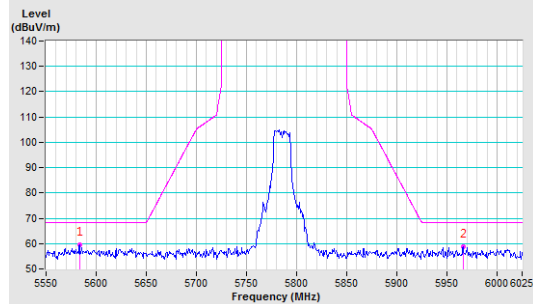


CH 157 5785 MHz

Horizontal

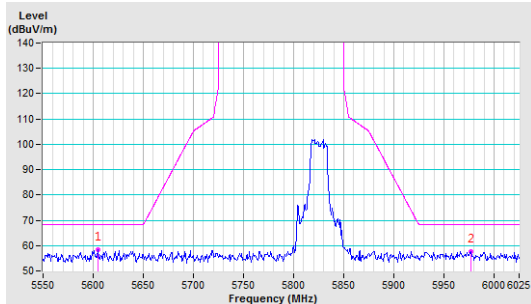


Vertical

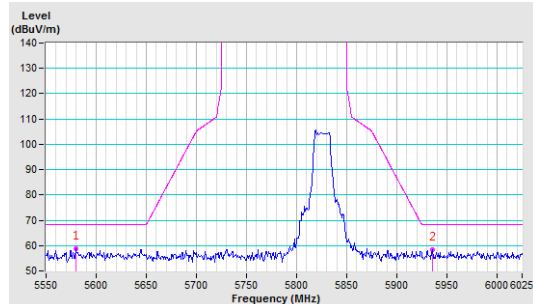


CH 165 5825 MHz

Horizontal



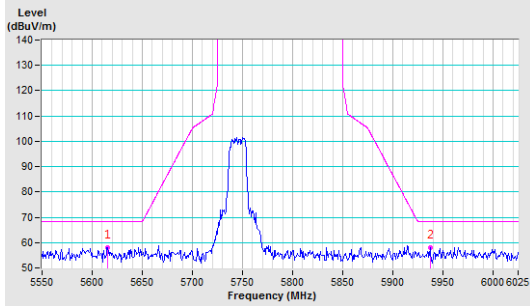
Vertical



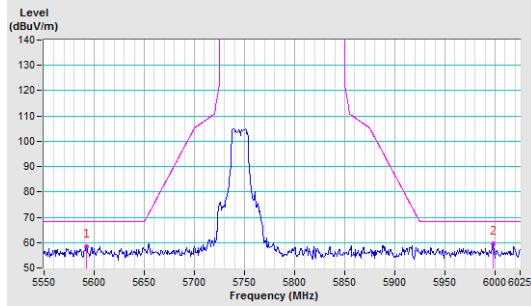
802.11n (HT20)

CH 149 5745 MHz

Horizontal

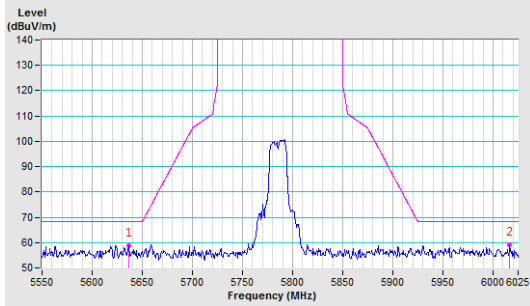


Vertical

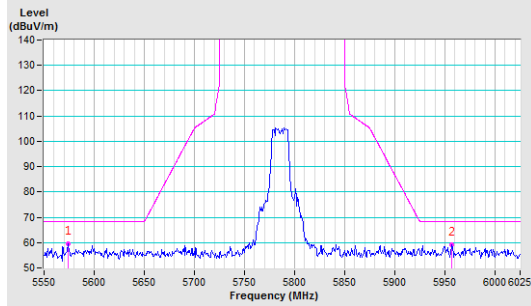


CH 157 5785 MHz

Horizontal

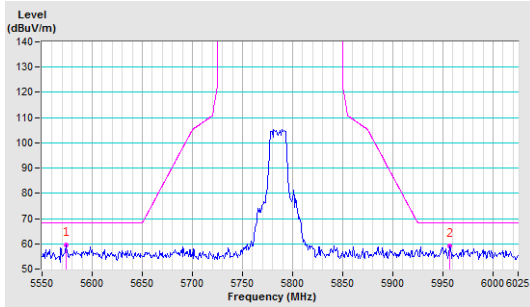


Vertical

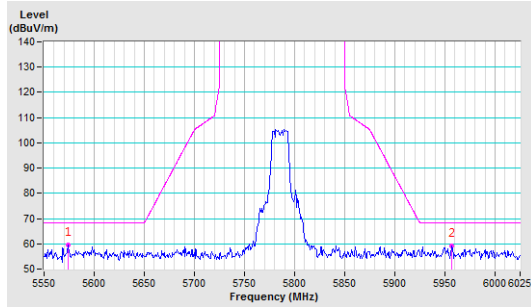


CH 165 5825 MHz

Horizontal



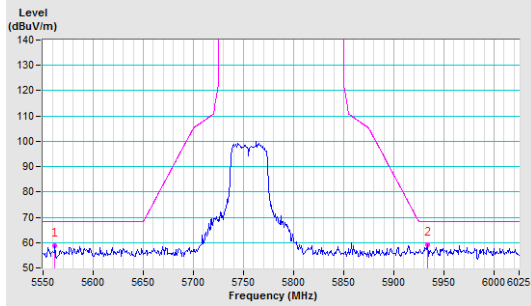
Vertical



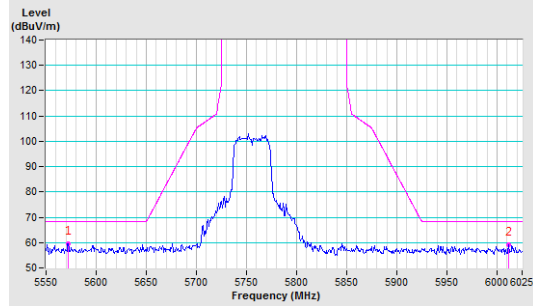
802.11n (HT40)

CH 151 5755 MHz

Horizontal

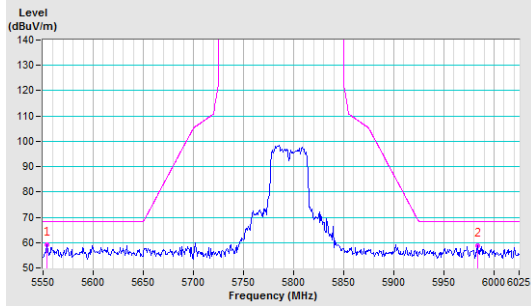


Vertical

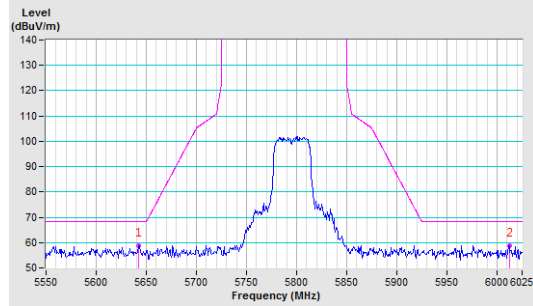


CH 159 5795 MHz

Horizontal



Vertical



Appendix – Information on the Testing Laboratories

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

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

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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