FCC Test Report (WLAN)

Report No.:	RF141008E03C-1
FCC ID:	PPD-QCNFA435
Test Model:	QCNFA435
Received Date:	Jan. 21, 2015
Test Date:	Mar. 30 to Apr. 28, 2015
Issued Date:	Apr. 29, 2015
Applicant:	Qualcomm Atheros, Inc.
Address:	1700 Technology Drive, San Jose, CA 95110
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.
Test Location (1):	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.
Test Location (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
RF141008E03C-1	Original release.	Apr. 29, 2015

1 Certificate of Conformity

Product:	Single Stream 802.11a/b/g/n/ac + BT 4.1 M.2 Type Card
Brand:	Qualcomm Atheros
Test Model:	QCNFA435
Sample Status:	R&D SAMPLE
Applicant:	Qualcomm Atheros, Inc.
Test Date:	Mar. 30 to Apr. 28, 2015
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2009

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:** Apr. 29, 2015
Lori Chung / Specialist

Approved by : _____ , **Date:** Apr. 29, 2015
May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (SECTION 15.407 Under New Rule)			
FCC Clause	Test Item	Result	Remarks
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -1.1dB at 5350.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is IPEX not a standard connector.

NOTE: 1. For WLAN: The EUT was operating in 2.4 ~ 2.4835GHz, 5.15~5.35GHz, 5.47~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 5.15~5.35GHz and 5.47~5.725GHz. For the 2.4 ~ 2.4835GHz and 5.725~5.850GHz RF parameters was recorded in another test report.

2. This report is prepared for FCC Class II change. (Only radiated emissions / transmit power were presented in this test report).

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	Expended Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.43 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.72 dB
	6GHz ~ 18GHz	4.00 dB
	18GHz ~ 40GHz	4.11 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (WLAN)

Product	Single Stream 802.11a/b/g/n/ac + BT 4.1 M.2 Type Card
Brand	Qualcomm Atheros
Test Model	QCNFA435
Status of EUT	R&D SAMPLE
Power Supply Rating	3.3Vdc form host equipment
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT (20/40) mode in 2.4GHz
Modulation Technology	DSSS,OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n : up to 150Mbps 802.11ac: up to 433.3Mbps
Operating Frequency	For 15.407 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.72GHz
	For 15.247 2.412 ~ 2.462GHz, 5.745 ~ 5.825GHz
Number of Channel	For 15.407 20 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 10 for 802.11n (HT40), 802.11ac (VHT40) 5 for 802.11ac (VHT80)
	For 15.247 (2.4GHz) 11 for 802.11b/g, 802.11n (HT20), VHT20 7 for 802.11n (HT40), VHT40 For 15.247 (5GHz) 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
Output Power	For 15.407 802.11a: 54.954 mW For 15.247 (2.4GHz) VHT20: 297.167mW For 15.247 (5GHz) 802.11a: 104.232mW
Antenna Type	See item 3.2
Antenna Connector	See item 3.2
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. This report is prepared for FCC Class II change. The difference compared with the Report No.: RF141008E03-1 R1 design is as the following:
   - Shielding change. Shielding shape and z-height change.
   - The EUT was applied for limited module approval to limit use with Notebook Computer as below table:

15" Notebook Computer		
Brand	**Model**	**Remark**
ACER	Zoro_BH (N15Q1)	Intel CPU
ACER	Nami_CZ (N15Q2)	AMD CPU
14" Notebook Computer		
Brand	**Model**	**Remark**
ACER	Robin_BH (N15C1)	Intel CPU
ACER	Sanji_CZ (N15C2)	AMD CPU
17" Notebook Computer		
Brand	**Model**	**Remark**
ACER	Franky_CZ (N15W2)	AMD CPU
ACER	Brook_BH (N15W1)	Intel CPU
Note: From above Notebook computer, Model: **Zoro_BH (N15Q1)**, **Robin_BH (N15C1)** and **Franky_CZ (N15W2)** was selected as representative model for the test and its data was recorded in this report.		

2. According to above conditions, only radiated emission / transmit power need to be performed. And all data was verified to meet the requirements.
3. There are Bluetooth technology and WLAN technology used for the EUT.
4. The EUT incorporates a 1T1R 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
VHT20	MCS 0~8, Nss=1	1TX	1RX
VHT40	MCS 0~9, Nss=1	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
802.11ac (VHT20)	MCS 0~8, Nss=1	1TX	1RX
802.11ac (VHT40)	MCS 0~9, Nss=1	1TX	1RX
802.11ac (VHT80)	MCS 0~9, Nss=1	1TX	1RX

5. The EUT was pre-tested under the following modes:

Test Mode	Data rate
Mode A	400ns GI
Mode B	**800ns GI**

From the above modes, the worst case was found in **Mode B**. Therefore only the test data of the mode was recorded in this report.

6. WLAN/BT coexistence mode:
   - 1x1 WLAN + BT:
     - 5GHz 802.11a/an (or 11ac) transmit concurrent with BT.
     - 2.4GHz: timely shared coexistence.
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 Antenna

The antenna gain was declared by client; please refer to the following table:

Antenna No.	Transmitter Circuit	Brand	Model	Ant. Type	2.4GHz Gain with cable loss (dBi)	5GHz Gain with cable loss (dBi)	Connector Type	Cable Length (mm)
1	Main	WNC	N15Q	PIFA	1.45	Band 1&2: 0.87 Band 3: 2.21 Band 4: 2.64	IPEX	643
	Aux	WNC	N15Q	PIFA	1.24	Band 1&2: 0.18 Band 3: 0.95 Band 4: 1.38	IPEX	756
2	Main	WNC	N15C	PIFA	0.7	Band 1&2: 0.97 Band 3: -0.01 Band 4: -0.32	IPEX	626
	Aux	WNC	N15C	PIFA	2.4	Band 1&2: -1.21 Band 3: -0.84 Band 4: -0.24	IPEX	749
3	Main	WNC	N15W	PIFA	2.2	Band 1&2: -0.41 Band 3: 0.74 Band 4: -0.05	IPEX	645
	Aux	WNC	N15W	PIFA	1.58	Band 1&2: -0.01 Band 3: -0.31 Band 4: -0.43	IPEX	720

Note: 1. All of antenna can be application for WLAN and Bluetooth.
2. For 2.4GHz: From the above antennas, Ant. No. 2 (Aux) was selected as representative antennas for the test.
3. For 5GHz band 1 & 2: From the above antennas, Ant. No. 2 (Main) was selected as representative antennas for the test.
4. For 5GHz band 3: From the above antennas, Ant. No. 1 (Main) was selected as representative antennas for the test.
5. For 5GHz band 4: From the above antennas, Ant. No. 1 (Main) was selected as representative antennas for the test.

3.3 Description of Test Modes

FOR 5180 ~ 5240MHz

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

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

FOR 5260 ~ 5320MHz

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

FOR 5500 ~ 5720MHz

12 channels are provided for 802.11a, 802.11ac (VHT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

6 channels are provided for 802.11ac (VHT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530MHz	138	5690 MHz
122	5610 MHz		

Note: The listed channels in the DFS band (5250~5350MHz and 5470~5725MHz) are passive scan only.

3.3.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO			DESCRIPTION
	UE≥1G	UE<1G	APCM	
1	√	√	√ (For 5500~5720MHz)	with 15" Notebook Computer - Zoro_BH (N15Q1)
2	√	√	√ (For 5180~5240MHz & 5260~5320MHz)	with 14" Notebook Computer - Robin_BH (N15C1)
3	√	√	-	with 17" Notebook Computer - Franky_CZ (N15W2)

Where **UE≥1G:** Unwanted Emission above 1GHz **UE<1G:** Unwanted Emission below 1GHz
APCM: Antenna Port Conducted Measurement

Unwanted 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	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6
802.11a	5500-5720	100 to 144	100, 120, 140, 144	OFDM	6

Unwanted 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	DATA RATE (Mbps)
802.11a	5260-5320	52 to 64	60	OFDM	6

Antenna Port Conducted Measurement:

☒ 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	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6
802.11a	5500-5720	100 to 144	100, 120, 140, 144	OFDM	6

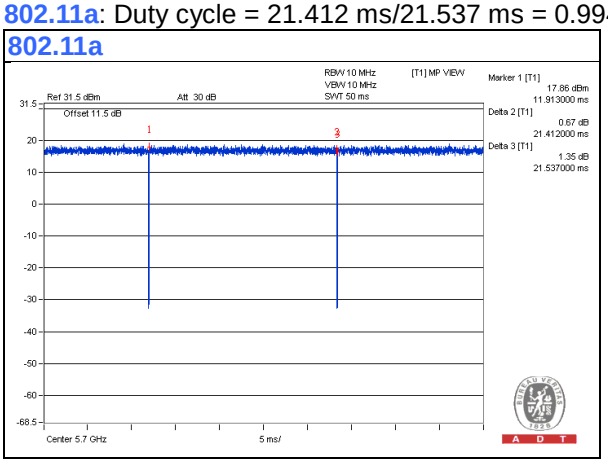
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
UE≥1G	23deg. C, 68%RH	120Vac, 60Hz	Gary Cheng
UE<1G	22deg. C, 64%RH	120Vac, 60Hz	Gary Cheng
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

3.4 Duty Cycle of Test Signal

Duty cycle of test signal is ≥ 98 %, duty factor is not required.
802.11a: Duty cycle = 21.412 ms/21.537 ms = 0.994

802.11a



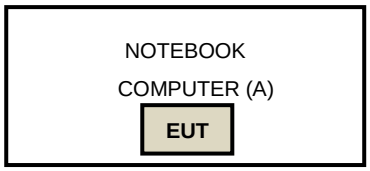
3.5 Description of Support Units

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.

No.	Product	Brand	Model No.	Serial No.	FCC ID	Remark
A	NOTEBOOK COMPUTER	Acer	Zoro_BH (N15Q1)	NA	NA	Supplied by Client
	NOTEBOOK COMPUTER	Acer	Robin_BH (N15C1)	NA	NA	Supplied by Client
	NOTEBOOK COMPUTER	Acer	Franky_CZ (N15W2)	NA	NA	Supplied by Client

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

3.5.1 Configuration of System under Test



3.6 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)
789033 D02 General UNII Test Procedures New Rules v01
ANSI C63.10-2009

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

4 Test Types and Results

4.1 Transmit Power Measurment

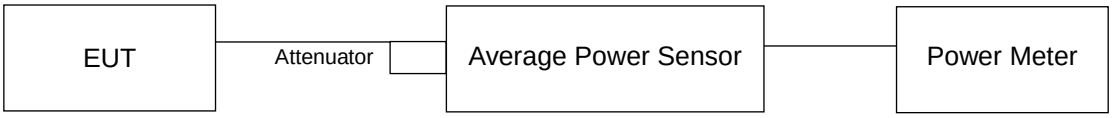
4.1.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≦ 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)

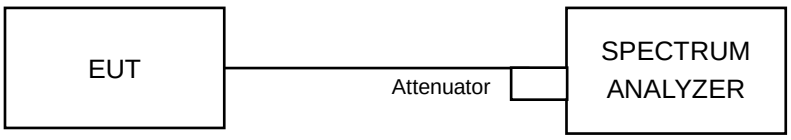
Note: *B is the 26 dB emission bandwidth in megahertz

4.1.2 Test Setup

FOR POWER OUTPUT MEASUREMENT



FOR 26dB OCCUPIED BANDWIDTH



4.1.3 Test Instruments

FOR POWER OUTPUT MEASUREMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter Anritsu	ML2495A	1014008	Apr. 30, 2014	Apr. 29, 2015
Power Sensor Anritsu	MA2411B	0917122	Apr. 30, 2014	Apr. 29, 2015

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. Tested date : Mar. 30, 2015

FOR 26dB OCCUPIED BANDWIDTH

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSP 40	100060	May 08, 2014	May 07, 2015

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. Tested date : Mar. 30, 2015

4.1.4 Test Procedures

FOR AVERAGE POWER 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%.

4.1.5 Deviation from Test Standard

No deviation.

4.1.6 EUT Operating Conditions

The software (QCA Radio Control Toolkit V3.0.33.0) provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.1.7 Test Results

802.11a

POWER OUTPUT

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
36	5180	22.909	13.60	24	Pass
40	5200	51.286	17.10	24	Pass
48	5240	49.545	16.95	24	Pass
52	5260	51.88	17.15	24	Pass
60	5300	54.45	17.36	24	Pass
64	5320	27.416	14.38	24	Pass
100	5500	18.836	12.75	23.99	Pass
120	5600	54.2	17.34	24	Pass
140	5700	18.197	12.60	23.92	Pass
*144 (UNII-2C Band)	5720	22.856	13.59	24	Pass
*144 (UNII-3 Band)	5720	4.477	6.51	30	Pass

* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
*144	5720	27.333	14.37
Note: The total power was calculated through formula and record the value for reference only.			

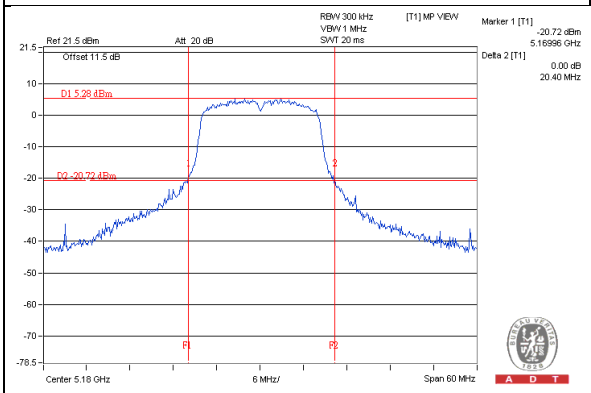
26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
36	5180	20.40
40	5200	41.34
48	5240	41.28
52	5260	44.92
60	5300	45.15
64	5320	33.71
100	5500	19.94
120	5600	41.26
140	5700	19.62
144 (UNII-2C Band)	5720	26.49

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB <U-NII-2A, U-NII-2C>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	44.92	27.52 > 24
60	5300	45.15	27.54 > 24
64	5320	33.71	26.27 > 24
100	5500	19.94	23.99 < 24
120	5600	41.26	27.15 > 24
140	5700	19.62	23.92 < 24
144 (UNII-2C Band)	5720	26.49	25.23 > 24

CH36



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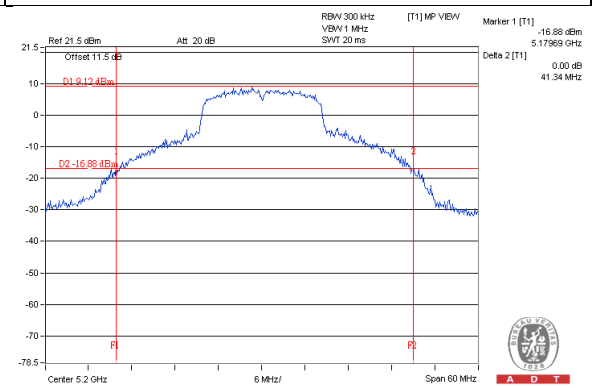

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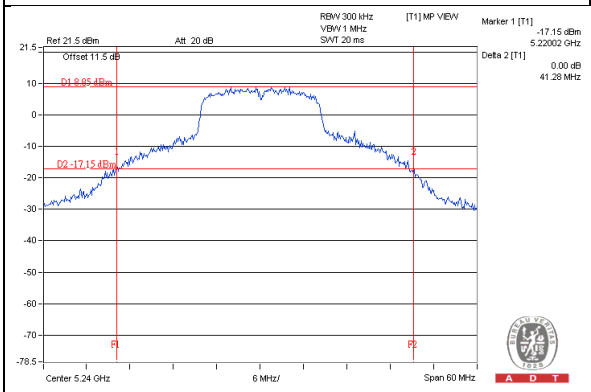

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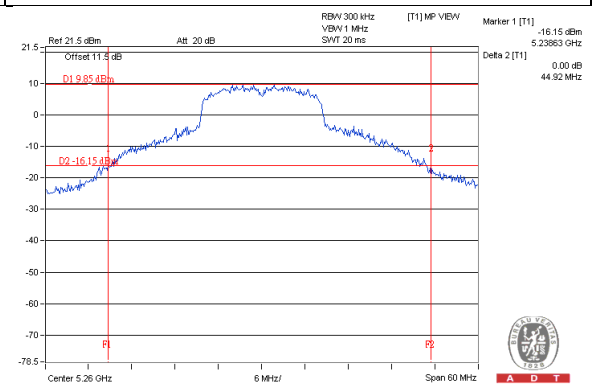

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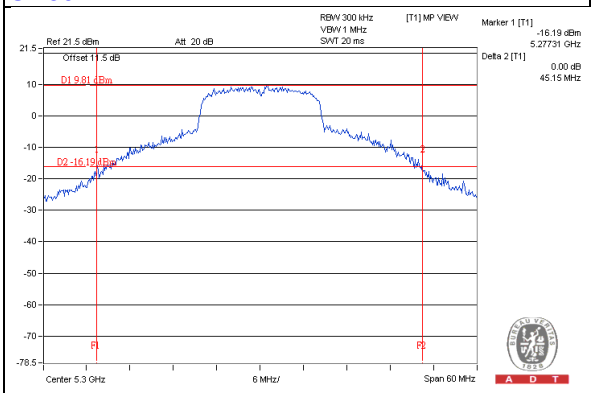

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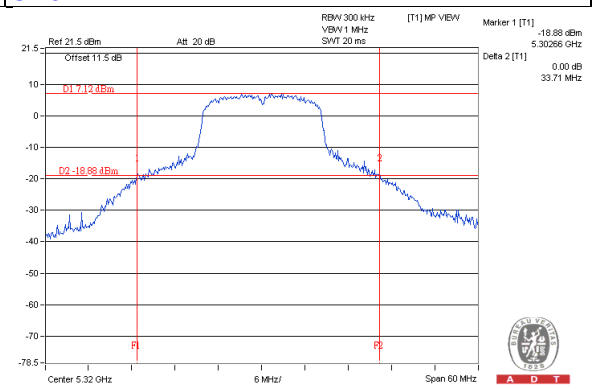

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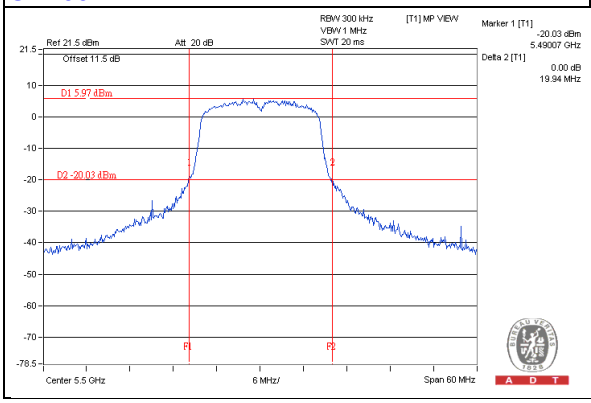

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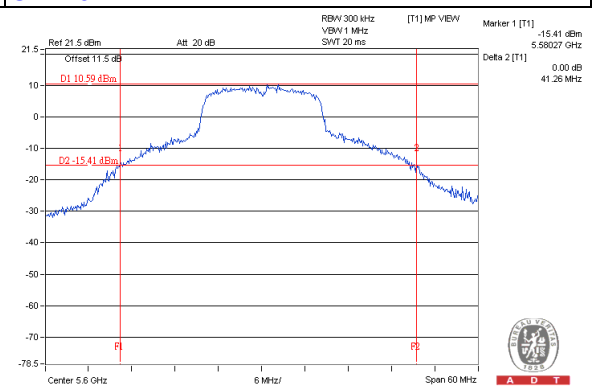
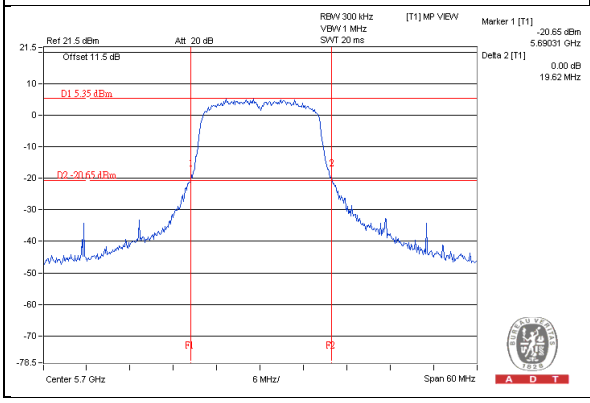
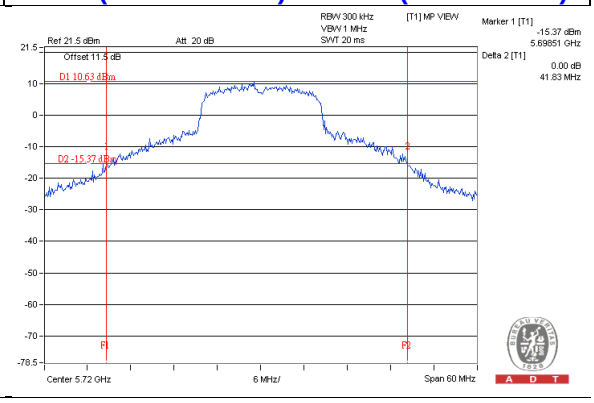


CH140	CH144 (UNII-2C Band) / CH144 (UNII-3 Band)
	

NOTE:

For CH144 (UNII-2C Band) = 5725MHz - Marker 1

4.2 Unwanted Emission (Radiated)

4.2.1 Limits of Unwanted Emission 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 Procedures New Rules v01	FIELD STRENGTH AT 3m	
	PK:74 (dBμV/m)	AV:54 (dBμV/m)
APPLICABLE TO	**EIRP LIMIT**	**EQUIVALENT FIELD STRENGTH AT 3m**
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK:-27 (dBm/MHz) *1 PK:-17 (dBm/MHz) *2	PK: 68.2(dBμV/m) *1 PK:78.2 (dBμV/m) *2

NOTE: *1 beyond 10MHz of the band edge *2 within 10 MHz of band edge

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

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

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY50010156	Aug. 11, 2014	Aug. 10, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-04	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Feb. 06, 2015	Feb. 05, 2016
RF Cable	NA	CHHCAB_001	Oct. 05, 2014	Oct. 04, 2015
Horn_Antenna AISI	AIH.8018	0000220091110	Feb. 06, 2015	Feb. 05, 2016
Pre-Amplifier Agilent	8449B	300801923	Oct. 28, 2014	Oct. 27, 2015
RF Cable	NA	131206 131213 131215 SNMY23685/4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Dec. 12, 2014	Dec. 11, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Feb. 05, 2015	Feb. 04, 2016
RF Cable	NA	329751/4 RF104-204	Dec. 11, 2014	Dec. 10, 2015
Software	ADT_Radiated_V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
5 The CANADA Site Registration No. is IC 7450H-3.
6 Tested Date: Apr. 25 to 28, 2015

4.2.3 Test Procedures

a. The EUT was placed on the top of a rotating table 0.8 meters 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:

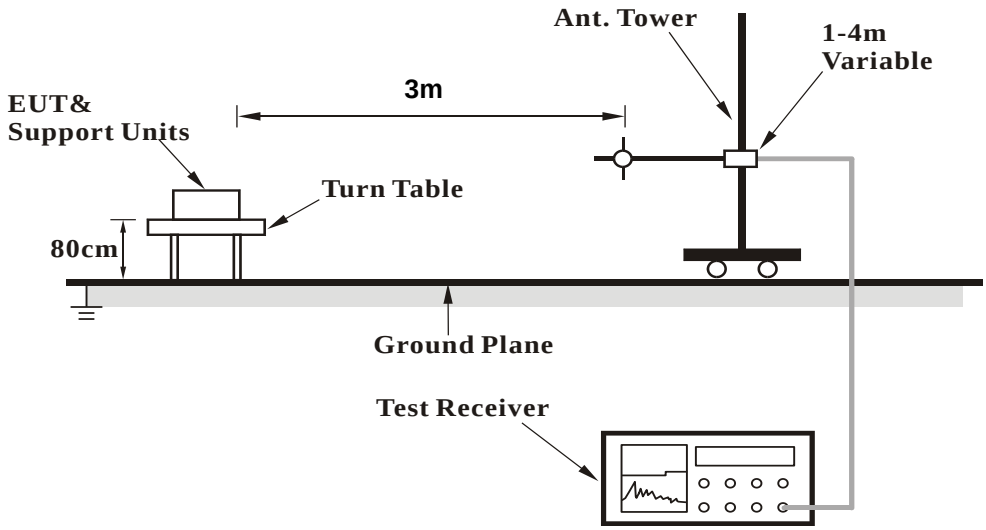
1. For emission measurements above 1 GHz, the EUT shall be placed at a height of 1.5 m above the ground at 3 meter chamber room for test
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
6. All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 Deviation from Test Standard

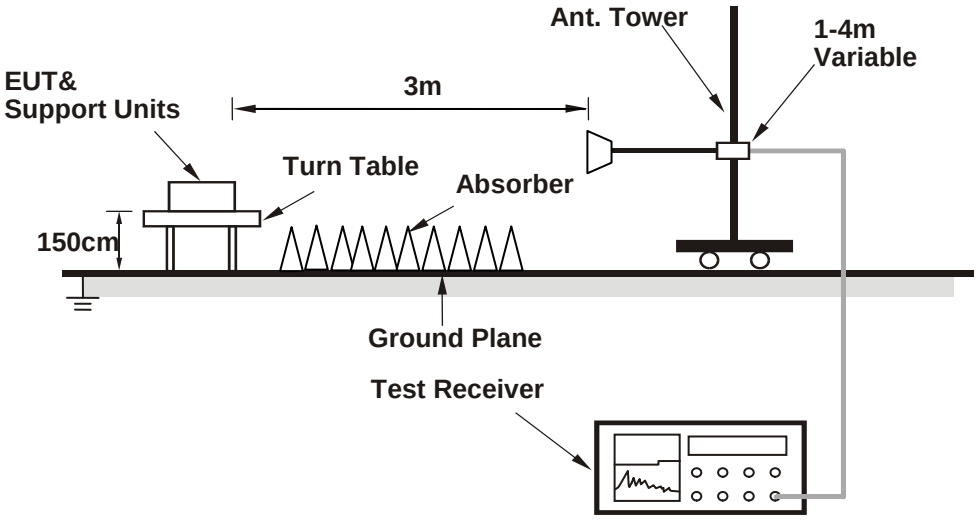
No deviation.

4.2.5 Test Setup

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.2.6 EUT Operating Conditions

1. Connect the EUT with the support unit A (Notebook Computer) which is placed on a testing table.
2. The support unit A (Notebook Computer) runs test program “QCA Radio Control Toolkit V3.0.33.0” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.2.7 Test Results (Mode 1)

Above 1GHz Data

802.11a

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

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	64.5 PK	74.0	-9.5	1.03 H	239	60.66	3.84
2	5150.00	50.8 AV	54.0	-3.2	1.03 H	239	46.96	3.84
3	*5180.00	106.6 PK			1.03 H	239	102.68	3.92
4	*5180.00	96.6 AV			1.03 H	239	92.68	3.92
5	#10360.00	57.8 PK	74.0	-16.2	1.06 H	102	48.37	9.43
6	#10360.00	46.2 AV	54.0	-7.8	1.06 H	102	36.77	9.43
7	15540.00	59.0 PK	74.0	-15.0	1.05 H	181	44.97	14.03
8	15540.00	49.8 AV	54.0	-4.2	1.05 H	181	35.77	14.03
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	54.2 PK	74.0	-19.8	1.48 V	269	50.36	3.84
2	5150.00	38.6 AV	54.0	-15.4	1.48 V	269	34.76	3.84
3	*5180.00	104.5 PK			1.48 V	269	100.58	3.92
4	*5180.00	94.6 AV			1.48 V	269	90.68	3.92
5	#10360.00	56.7 PK	74.0	-17.3	1.09 V	81	47.27	9.43
6	#10360.00	44.6 AV	54.0	-9.4	1.09 V	81	35.17	9.43
7	15540.00	58.6 PK	74.0	-15.4	1.04 V	199	44.57	14.03
8	15540.00	48.4 AV	54.0	-5.6	1.04 V	199	34.37	14.03

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	60.3 PK	74.0	-13.7	1.02 H	241	56.46	3.84
2	5150.00	48.7 AV	54.0	-5.3	1.02 H	241	44.86	3.84
3	*5200.00	110.2 PK			1.02 H	241	106.24	3.96
4	*5200.00	100.3 AV			1.02 H	241	96.34	3.96
5	#10400.00	56.7 PK	74.0	-17.3	1.05 H	82	47.25	9.45
6	#10400.00	44.7 AV	54.0	-9.3	1.05 H	82	35.25	9.45
7	15600.00	58.8 PK	74.0	-15.2	1.08 H	178	44.62	14.18
8	15600.00	48.7 AV	54.0	-5.3	1.08 H	178	34.52	14.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.1 PK	74.0	-15.9	1.48 V	269	54.26	3.84
2	5150.00	46.3 AV	54.0	-7.7	1.48 V	269	42.46	3.84
3	*5200.00	108.0 PK			1.48 V	269	104.04	3.96
4	*5200.00	97.9 AV			1.48 V	269	93.94	3.96
5	#10400.00	56.9 PK	74.0	-17.1	1.10 V	71	47.45	9.45
6	#10400.00	45.0 AV	54.0	-9.0	1.10 V	71	35.55	9.45
7	15600.00	59.1 PK	74.0	-14.9	1.08 V	193	44.92	14.18
8	15600.00	48.7 AV	54.0	-5.3	1.08 V	193	34.52	14.18

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	108.9 PK			1.02 H	243	104.95	3.95
2	*5240.00	99.6 AV			1.02 H	243	95.65	3.95
3	5350.00	54.2 PK	74.0	-19.8	1.04 H	203	50.13	4.07
4	5350.00	41.9 AV	54.0	-12.1	1.04 H	203	37.83	4.07
5	#10480.00	57.1 PK	74.0	-16.9	1.01 H	123	47.43	9.67
6	#10480.00	45.9 AV	54.0	-8.1	1.01 H	123	36.23	9.67
7	15720.00	58.3 PK	74.0	-15.7	1.04 H	160	44.41	13.89
8	15720.00	49.3 AV	54.0	-4.7	1.04 H	160	35.41	13.89
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	106.9 PK			1.47 V	268	102.95	3.95
2	*5240.00	97.6 AV			1.47 V	268	93.65	3.95
3	5350.00	53.5 PK	74.0	-20.5	1.47 V	268	49.43	4.07
4	5350.00	41.1 AV	54.0	-12.9	1.47 V	268	37.03	4.07
5	#10480.00	57.1 PK	74.0	-16.9	1.10 V	80	47.43	9.67
6	#10480.00	45.0 AV	54.0	-9.0	1.10 V	80	35.33	9.67
7	15720.00	59.5 PK	74.0	-14.5	1.14 V	183	45.61	13.89
8	15720.00	48.8 AV	54.0	-5.2	1.14 V	183	34.91	13.89

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	*5260.00	109.9 PK			1.02 H	243	105.95	3.95
2	*5260.00	99.9 AV			1.02 H	243	95.95	3.95
3	5350.00	55.6 PK	74.0	-18.4	1.02 H	243	51.53	4.07
4	5350.00	42.2 AV	54.0	-11.8	1.02 H	243	38.13	4.07
5	#10520.00	57.0 PK	74.0	-17.0	1.02 H	77	47.22	9.78
6	#10520.00	44.7 AV	54.0	-9.3	1.02 H	77	34.92	9.78
7	15780.00	58.3 PK	74.0	-15.7	1.07 H	170	44.37	13.93
8	15780.00	48.7 AV	54.0	-5.3	1.07 H	170	34.77	13.93
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	*5260.00	107.6 PK			1.45 V	271	103.65	3.95
2	*5260.00	97.9 AV			1.45 V	271	93.95	3.95
3	5350.00	54.4 PK	74.0	-19.6	1.45 V	271	50.33	4.07
4	5350.00	41.1 AV	54.0	-12.9	1.45 V	271	37.03	4.07
5	#10520.00	57.9 PK	74.0	-16.1	1.61 V	170	48.12	9.78
6	#10520.00	47.0 AV	54.0	-7.0	1.61 V	170	37.22	9.78
7	15780.00	59.0 PK	74.0	-15.0	1.02 V	216	45.07	13.93
8	15780.00	48.1 AV	54.0	-5.9	1.02 V	216	34.17	13.93

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	110.0 PK			1.00 H	258	106.06	3.94
2	*5300.00	100.0 AV			1.00 H	258	96.06	3.94
3	5350.00	56.6 PK	74.0	-17.4	1.00 H	258	52.53	4.07
4	5350.00	46.4 AV	54.0	-7.6	1.00 H	258	42.33	4.07
5	10600.00	57.9 PK	74.0	-16.1	1.03 H	115	47.83	10.07
6	10600.00	46.2 AV	54.0	-7.8	1.03 H	115	36.13	10.07
7	15900.00	58.3 PK	74.0	-15.7	1.03 H	153	44.08	14.22
8	15900.00	49.1 AV	54.0	-4.9	1.03 H	153	34.88	14.22
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	107.5 PK			1.50 V	261	103.56	3.94
2	*5300.00	98.0 AV			1.50 V	261	94.06	3.94
3	5350.00	54.3 PK	74.0	-19.7	1.50 V	261	50.23	4.07
4	5350.00	43.4 AV	54.0	-10.6	1.50 V	261	39.33	4.07
5	10600.00	57.2 PK	74.0	-16.8	1.05 V	80	47.13	10.07
6	10600.00	45.1 AV	54.0	-8.9	1.05 V	80	35.03	10.07
7	15900.00	59.3 PK	74.0	-14.7	1.11 V	193	45.08	14.22
8	15900.00	49.0 AV	54.0	-5.0	1.11 V	193	34.78	14.22

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	107.2 PK			1.00 H	239	103.21	3.99
2	*5320.00	97.7 AV			1.00 H	239	93.71	3.99
3	5350.00	62.7 PK	74.0	-11.3	1.00 H	239	58.63	4.07
4	5350.00	51.0 AV	54.0	-3.0	1.00 H	239	46.93	4.07
5	10640.00	57.1 PK	74.0	-16.9	1.01 H	95	47.09	10.01
6	10640.00	45.5 AV	54.0	-8.5	1.01 H	95	35.49	10.01
7	15960.00	59.2 PK	74.0	-14.8	1.03 H	161	45.05	14.15
8	15960.00	49.8 AV	54.0	-4.2	1.03 H	161	35.65	14.15
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	105.7 PK			1.46 V	277	101.71	3.99
2	*5320.00	95.6 AV			1.46 V	277	91.61	3.99
3	5350.00	63.0 PK	74.0	-11.0	1.46 V	277	58.93	4.07
4	5350.00	50.1 AV	54.0	-3.9	1.46 V	277	46.03	4.07
5	10640.00	56.8 PK	74.0	-17.2	1.06 V	75	46.79	10.01
6	10640.00	44.7 AV	54.0	-9.3	1.06 V	75	34.69	10.01
7	15960.00	59.2 PK	74.0	-14.8	1.08 V	188	45.05	14.15
8	15960.00	48.8 AV	54.0	-5.2	1.08 V	188	34.65	14.15

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	5350.00	55.1 PK	74.0	-18.9	1.06 H	243	51.03	4.07
2	5350.00	43.4 AV	54.0	-10.6	1.06 H	243	39.33	4.07
3	#5470.00	66.0 PK	74.0	-8.0	1.06 H	243	61.83	4.17
4	#5470.00	47.8 AV	54.0	-6.2	1.06 H	243	43.63	4.17
5	*5500.00	107.1 PK			1.06 H	243	102.94	4.16
6	*5500.00	96.9 AV			1.06 H	243	92.74	4.16
7	11000.00	57.1 PK	74.0	-16.9	1.04 H	109	46.87	10.23
8	11000.00	45.5 AV	54.0	-8.5	1.04 H	109	35.27	10.23
9	#16500.00	58.7 PK	74.0	-15.3	1.07 H	156	42.50	16.20
10	#16500.00	49.3 AV	54.0	-4.7	1.07 H	156	33.10	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5350.00	54.9 PK	74.0	-19.1	1.46 V	292	50.83	4.07
2	5350.00	42.4 AV	54.0	-11.6	1.46 V	292	38.33	4.07
3	#5470.00	58.8 PK	74.0	-15.2	1.46 V	292	54.63	4.17
4	#5470.00	46.3 AV	54.0	-7.7	1.46 V	292	42.13	4.17
5	*5500.00	104.3 PK			1.46 V	292	100.14	4.16
6	*5500.00	94.2 AV			1.46 V	292	90.04	4.16
7	11000.00	56.8 PK	74.0	-17.2	1.06 V	83	46.57	10.23
8	11000.00	44.7 AV	54.0	-9.3	1.06 V	83	34.47	10.23
9	#16500.00	59.1 PK	74.0	-14.9	1.11 V	192	42.90	16.20
10	#16500.00	48.5 AV	54.0	-5.5	1.11 V	192	32.30	16.20

REMARKS:

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

CHANNEL	TX Channel 120	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.1 PK	74.0	-19.9	1.06 H	251	49.93	4.17
2	5460.00	42.4 AV	54.0	-11.6	1.06 H	251	38.23	4.17
3	*5600.00	108.2 PK			1.06 H	251	103.69	4.51
4	*5600.00	99.2 AV			1.06 H	251	94.69	4.51
5	11200.00	57.6 PK	74.0	-16.4	1.05 H	101	47.47	10.13
6	11200.00	45.8 AV	54.0	-8.2	1.05 H	101	35.67	10.13
7	#16800.00	58.7 PK	74.0	-15.3	1.00 H	153	41.28	17.42
8	#16800.00	49.6 AV	54.0	-4.4	1.00 H	153	32.18	17.42
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.8 PK	74.0	-18.2	1.44 V	281	51.63	4.17
2	5460.00	41.8 AV	54.0	-12.2	1.44 V	281	37.63	4.17
3	*5600.00	107.2 PK			1.44 V	281	102.69	4.51
4	*5600.00	97.9 AV			1.44 V	281	93.39	4.51
5	11200.00	56.5 PK	74.0	-17.5	1.15 V	64	46.37	10.13
6	11200.00	44.6 AV	54.0	-9.4	1.15 V	64	34.47	10.13
7	#16800.00	59.2 PK	74.0	-14.8	1.13 V	206	41.78	17.42
8	#16800.00	48.9 AV	54.0	-5.1	1.13 V	206	31.48	17.42

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	106.3 PK			1.10 H	236	101.81	4.49
2	*5700.00	95.6 AV			1.10 H	236	91.11	4.49
3	#5725.00	56.4 PK	74.0	-17.6	1.10 H	236	51.90	4.50
4	#5725.00	45.7 AV	54.0	-8.3	1.10 H	236	41.20	4.50
5	11400.00	57.1 PK	74.0	-16.9	1.08 H	113	47.13	9.97
6	11400.00	45.6 AV	54.0	-8.4	1.08 H	113	35.63	9.97
7	#17100.00	57.9 PK	74.0	-16.1	1.09 H	176	40.18	17.72
8	#17100.00	49.0 AV	54.0	-5.0	1.09 H	176	31.28	17.72
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	102.4 PK			1.44 V	278	97.91	4.49
2	*5700.00	94.3 AV			1.44 V	278	89.81	4.49
3	#5725.00	54.9 PK	74.0	-19.1	1.44 V	278	50.40	4.50
4	#5725.00	43.8 AV	54.0	-10.2	1.44 V	278	39.30	4.50
5	11400.00	56.5 PK	74.0	-17.5	1.14 V	85	46.53	9.97
6	11400.00	44.9 AV	54.0	-9.1	1.14 V	85	34.93	9.97
7	#17100.00	59.0 PK	74.0	-15.0	1.05 V	191	41.28	17.72
8	#17100.00	48.5 AV	54.0	-5.5	1.05 V	191	30.78	17.72

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 144	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	*5720.00	109.1 PK			1.10 H	237	104.60	4.50
2	*5720.00	99.7 AV			1.10 H	237	95.20	4.50
3	#5850.00	53.2 PK	74.0	-20.8	1.10 H	237	48.63	4.57
4	#5850.00	40.2 AV	54.0	-13.8	1.10 H	237	35.63	4.57
5	#5860.00	53.1 PK	74.0	-20.9	1.10 H	237	48.51	4.59
6	#5860.00	40.4 AV	54.0	-13.6	1.10 H	237	35.81	4.59
7	11440.00	57.3 PK	74.0	-16.7	1.05 H	111	47.30	10.00
8	11440.00	45.8 AV	54.0	-8.2	1.05 H	111	35.80	10.00
9	#17160.00	58.6 PK	74.0	-15.4	1.08 H	168	40.44	18.16
10	#17160.00	49.4 AV	54.0	-4.6	1.08 H	168	31.24	18.16
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	*5720.00	106.0 PK			1.43 V	278	101.50	4.50
2	*5720.00	97.2 AV			1.43 V	278	92.70	4.50
3	#5850.00	52.3 PK	74.0	-21.7	1.43 V	278	47.73	4.57
4	#5850.00	41.9 AV	54.0	-12.1	1.43 V	278	37.33	4.57
5	#5860.00	54.2 PK	74.0	-19.8	1.43 V	278	49.61	4.59
6	#5860.00	41.9 AV	54.0	-12.1	1.43 V	278	37.31	4.59
7	11440.00	57.2 PK	74.0	-16.8	1.06 V	64	47.20	10.00
8	11440.00	45.1 AV	54.0	-8.9	1.06 V	64	35.10	10.00
9	#17160.00	59.4 PK	74.0	-14.6	1.06 V	178	41.24	18.16
10	#17160.00	48.8 AV	54.0	-5.2	1.06 V	178	30.64	18.16

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

802.11a

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	Below 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	67.21	14.1 QP	40.0	-25.9	1.00 H	268	29.13	-15.02
2	194.62	19.3 QP	43.5	-24.2	1.00 H	94	35.17	-15.87
3	319.74	22.1 QP	46.0	-23.9	1.00 H	70	33.22	-11.10
4	454.15	22.5 QP	46.0	-23.5	1.30 H	110	30.61	-8.09
5	519.51	24.0 QP	46.0	-22.0	1.00 H	138	30.76	-6.74
6	956.90	30.7 QP	46.0	-15.3	1.00 H	190	29.56	1.16
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	77.20	26.2 QP	40.0	-13.8	1.00 V	110	43.33	-17.12
2	194.64	35.5 QP	43.5	-8.0	1.05 V	139	51.39	-15.87
3	199.34	37.1 QP	43.5	-6.4	1.18 V	308	53.09	-15.99
4	214.15	35.0 QP	43.5	-8.5	1.09 V	318	51.05	-16.05
5	832.82	38.0 QP	46.0	-8.0	1.19 V	300	38.91	-0.89
6	956.90	32.3 QP	46.0	-13.7	1.10 V	100	31.16	1.16

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

4.2.8 Test Results (Mode 2)

Above 1GHz Data

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	5150.00	66.2 PK	74.0	-7.8	1.00 H	238	62.36	3.84
2	5150.00	46.7 AV	54.0	-7.3	1.00 H	238	42.86	3.84
3	*5180.00	106.2 PK			1.00 H	234	102.28	3.92
4	*5180.00	96.2 AV			1.00 H	234	92.28	3.92
5	#10360.00	57.0 PK	74.0	-17.0	1.17 H	100	47.57	9.43
6	#10360.00	45.6 AV	54.0	-8.4	1.17 H	100	36.17	9.43
7	15540.00	57.6 PK	74.0	-16.4	1.10 H	195	43.57	14.03
8	15540.00	48.4 AV	54.0	-5.6	1.10 H	195	34.37	14.03
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	65.7 PK	74.0	-8.3	1.28 V	260	61.86	3.84
2	5150.00	46.5 AV	54.0	-7.5	1.28 V	260	42.66	3.84
3	*5180.00	105.0 PK			1.41 V	264	101.08	3.92
4	*5180.00	95.7 AV			1.41 V	264	91.78	3.92
5	#10360.00	58.4 PK	74.0	-15.6	1.71 V	200	48.97	9.43
6	#10360.00	46.7 AV	54.0	-7.3	1.71 V	200	37.27	9.43
7	15540.00	57.6 PK	74.0	-16.4	1.15 V	189	43.57	14.03
8	15540.00	47.7 AV	54.0	-6.3	1.15 V	189	33.67	14.03

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	61.5 PK	74.0	-12.5	1.05 H	123	57.66	3.84
2	5150.00	51.9 AV	54.0	-2.1	1.05 H	123	48.06	3.84
3	*5200.00	110.0 PK			1.05 H	123	106.04	3.96
4	*5200.00	101.4 AV			1.05 H	123	97.44	3.96
5	#10400.00	56.3 PK	74.0	-17.7	1.10 H	94	46.85	9.45
6	#10400.00	45.1 AV	54.0	-8.9	1.10 H	94	35.65	9.45
7	15600.00	58.0 PK	74.0	-16.0	1.15 H	194	43.82	14.18
8	15600.00	48.9 AV	54.0	-5.1	1.15 H	194	34.72	14.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.4 PK	74.0	-14.6	1.40 V	82	55.56	3.84
2	5150.00	50.1 AV	54.0	-3.9	1.40 V	82	46.26	3.84
3	*5200.00	109.9 PK			1.40 V	82	105.94	3.96
4	*5200.00	100.8 AV			1.40 V	82	96.84	3.96
5	#10400.00	58.7 PK	74.0	-15.3	1.71 V	183	49.25	9.45
6	#10400.00	47.0 AV	54.0	-7.0	1.71 V	183	37.55	9.45
7	15600.00	58.6 PK	74.0	-15.4	1.12 V	193	44.42	14.18
8	15600.00	48.4 AV	54.0	-5.6	1.12 V	193	34.22	14.18

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	109.6 PK			1.04 H	124	105.65	3.95
2	*5240.00	101.4 AV			1.04 H	124	97.45	3.95
3	5350.00	54.1 PK	74.0	-19.9	1.04 H	124	50.03	4.07
4	5350.00	42.8 AV	54.0	-11.2	1.04 H	124	38.73	4.07
5	#10480.00	56.9 PK	74.0	-17.1	1.11 H	84	47.23	9.67
6	#10480.00	45.5 AV	54.0	-8.5	1.11 H	84	35.83	9.67
7	15720.00	57.9 PK	74.0	-16.1	1.14 H	202	44.01	13.89
8	15720.00	48.6 AV	54.0	-5.4	1.14 H	202	34.71	13.89
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	107.8 PK			1.38 V	81	103.85	3.95
2	*5240.00	99.5 AV			1.38 V	81	95.55	3.95
3	5350.00	53.2 PK	74.0	-20.8	1.38 V	81	49.13	4.07
4	5350.00	42.4 AV	54.0	-11.6	1.38 V	81	38.33	4.07
5	#10480.00	57.6 PK	74.0	-16.4	1.67 V	196	47.93	9.67
6	#10480.00	46.4 AV	54.0	-7.6	1.67 V	196	36.73	9.67
7	15720.00	58.1 PK	74.0	-15.9	1.11 V	188	44.21	13.89
8	15720.00	48.2 AV	54.0	-5.8	1.11 V	188	34.31	13.89

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5260.00	110.5 PK			1.04 H	121	106.55	3.95
2	*5260.00	101.4 AV			1.04 H	121	97.45	3.95
3	5350.00	54.1 PK	74.0	-19.9	1.04 H	121	50.03	4.07
4	5350.00	43.6 AV	54.0	-10.4	1.04 H	121	39.53	4.07
5	#10520.00	56.5 PK	74.0	-17.5	1.09 H	96	46.72	9.78
6	#10520.00	45.4 AV	54.0	-8.6	1.09 H	96	35.62	9.78
7	15780.00	57.5 PK	74.0	-16.5	1.11 H	197	43.57	13.93
8	15780.00	48.4 AV	54.0	-5.6	1.11 H	197	34.47	13.93
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	*5260.00	107.8 PK			1.38 V	81	103.85	3.95
2	*5260.00	99.0 AV			1.38 V	81	95.05	3.95
3	5350.00	54.4 PK	74.0	-19.6	1.38 V	81	50.33	4.07
4	5350.00	42.4 AV	54.0	-11.6	1.38 V	81	38.33	4.07
5	#10520.00	58.4 PK	74.0	-15.6	1.68 V	210	48.62	9.78
6	#10520.00	47.2 AV	54.0	-6.8	1.68 V	210	37.42	9.78
7	15780.00	58.1 PK	74.0	-15.9	1.13 V	166	44.17	13.93
8	15780.00	48.4 AV	54.0	-5.6	1.13 V	166	34.47	13.93

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	110.2 PK			1.03 H	127	106.26	3.94
2	*5300.00	101.6 AV			1.03 H	127	97.66	3.94
3	5350.00	65.8 PK	74.0	-8.2	1.03 H	127	61.73	4.07
4	**5350.00**	**52.9 AV**	**54.0**	**-1.1**	**1.03 H**	**127**	**48.83**	**4.07**
5	10600.00	56.5 PK	74.0	-17.5	1.12 H	100	46.43	10.07
6	10600.00	45.2 AV	54.0	-8.8	1.12 H	100	35.13	10.07
7	15900.00	57.9 PK	74.0	-16.1	1.11 H	198	43.68	14.22
8	15900.00	48.8 AV	54.0	-5.2	1.11 H	198	34.58	14.22
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	107.6 PK			1.36 V	83	103.66	3.94
2	*5300.00	99.3 AV			1.36 V	83	95.36	3.94
3	5350.00	62.7 PK	74.0	-11.3	1.36 V	83	58.63	4.07
4	5350.00	49.8 AV	54.0	-4.2	1.36 V	83	45.73	4.07
5	10600.00	58.3 PK	74.0	-15.7	1.67 V	197	48.23	10.07
6	10600.00	46.8 AV	54.0	-7.2	1.67 V	197	36.73	10.07
7	15900.00	58.2 PK	74.0	-15.8	1.14 V	182	43.98	14.22
8	15900.00	48.2 AV	54.0	-5.8	1.14 V	182	33.98	14.22

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	106.9 PK			1.15 H	23	102.91	3.99
2	*5320.00	96.9 AV			1.15 H	23	92.91	3.99
3	5350.00	68.2 PK	74.0	-5.8	1.14 H	227	64.13	4.07
4	5350.00	52.7 AV	54.0	-1.3	1.14 H	227	48.63	4.07
5	10640.00	56.4 PK	74.0	-17.6	1.00 H	100	46.39	10.01
6	10640.00	45.2 AV	54.0	-8.8	1.00 H	100	35.19	10.01
7	15960.00	57.7 PK	74.0	-16.3	1.00 H	195	43.55	14.15
8	15960.00	47.8 AV	54.0	-6.2	1.00 H	195	33.65	14.15
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	258	101.11	3.99
2	*5320.00	95.8 AV			1.00 V	258	91.81	3.99
3	5350.00	66.9 PK	74.0	-7.1	2.05 V	261	62.83	4.07
4	5350.00	52.0 AV	54.0	-2.0	2.05 V	261	47.93	4.07
5	10640.00	57.6 PK	74.0	-16.4	1.71 V	188	47.59	10.01
6	10640.00	46.4 AV	54.0	-7.6	1.71 V	188	36.39	10.01
7	15960.00	57.6 PK	74.0	-16.4	1.00 V	186	43.45	14.15
8	15960.00	47.1 AV	54.0	-6.9	1.00 V	186	32.95	14.15

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	70.4 PK	74.0	-3.6	1.29 H	230	66.23	4.17
2	#5470.00	47.4 AV	54.0	-6.6	1.29 H	230	43.23	4.17
3	*5500.00	104.8 PK			1.54 H	227	100.64	4.16
4	*5500.00	94.6 AV			1.54 H	227	90.44	4.16
5	11000.00	56.9 PK	74.0	-17.1	1.17 H	88	46.67	10.23
6	11000.00	45.4 AV	54.0	-8.6	1.17 H	88	35.17	10.23
7	#16500.00	57.7 PK	74.0	-16.3	1.13 H	210	41.50	16.20
8	#16500.00	48.9 AV	54.0	-5.1	1.13 H	210	32.70	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	65.5 PK	74.0	-8.5	1.33 V	271	61.33	4.17
2	#5470.00	46.0 AV	54.0	-8.0	1.33 V	271	41.83	4.17
3	*5500.00	104.5 PK			1.29 V	277	100.34	4.16
4	*5500.00	93.7 AV			1.29 V	277	89.54	4.16
5	11000.00	58.6 PK	74.0	-15.4	1.65 V	197	48.37	10.23
6	11000.00	46.9 AV	54.0	-7.1	1.65 V	197	36.67	10.23
7	#16500.00	58.3 PK	74.0	-15.7	1.14 V	167	42.10	16.20
8	#16500.00	48.2 AV	54.0	-5.8	1.14 V	167	32.00	16.20

REMARKS:

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

CHANNEL	TX Channel 120	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5600.00	110.0 PK			1.05 H	117	105.49	4.51
2	*5600.00	101.4 AV			1.05 H	117	96.89	4.51
3	#5725.00	53.7 PK	74.0	-20.3	1.05 H	117	49.20	4.50
4	#5725.00	42.6 AV	54.0	-11.4	1.05 H	117	38.10	4.50
5	11200.00	56.9 PK	74.0	-17.1	1.17 H	116	46.77	10.13
6	11200.00	45.6 AV	54.0	-8.4	1.17 H	116	35.47	10.13
7	#16800.00	58.6 PK	74.0	-15.4	1.14 H	195	41.18	17.42
8	#16800.00	49.3 AV	54.0	-4.7	1.14 H	195	31.88	17.42
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	*5600.00	107.6 PK			1.33 V	59	103.09	4.51
2	*5600.00	98.7 AV			1.33 V	59	94.19	4.51
3	#5725.00	53.8 PK	74.0	-20.2	1.33 V	59	49.30	4.50
4	#5725.00	42.4 AV	54.0	-11.6	1.33 V	59	37.90	4.50
5	11200.00	58.4 PK	74.0	-15.6	1.67 V	204	48.27	10.13
6	11200.00	46.8 AV	54.0	-7.2	1.67 V	204	36.67	10.13
7	#16800.00	58.1 PK	74.0	-15.9	1.19 V	170	40.68	17.42
8	#16800.00	47.9 AV	54.0	-6.1	1.19 V	170	30.48	17.42

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	104.3 PK			1.00 H	223	99.81	4.49
2	*5700.00	94.0 AV			1.00 H	223	89.51	4.49
3	#5725.00	65.6 PK	74.0	-8.4	1.00 H	225	61.10	4.50
4	#5725.00	43.5 AV	54.0	-10.5	1.00 H	225	39.00	4.50
5	11400.00	56.3 PK	74.0	-17.7	1.15 H	96	46.33	9.97
6	11400.00	45.0 AV	54.0	-9.0	1.15 H	96	35.03	9.97
7	#17100.00	57.9 PK	74.0	-16.1	1.13 H	214	40.18	17.72
8	#17100.00	49.1 AV	54.0	-4.9	1.13 H	214	31.38	17.72
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	103.3 PK			1.25 V	272	98.81	4.49
2	*5700.00	93.0 AV			1.25 V	272	88.51	4.49
3	#5725.00	63.8 PK	74.0	-10.2	1.00 V	272	59.30	4.50
4	#5725.00	42.9 AV	54.0	-11.1	1.00 V	272	38.40	4.50
5	11400.00	57.8 PK	74.0	-16.2	1.65 V	209	47.83	9.97
6	11400.00	46.3 AV	54.0	-7.7	1.65 V	209	36.33	9.97
7	#17100.00	58.4 PK	74.0	-15.6	1.16 V	186	40.68	17.72
8	#17100.00	48.6 AV	54.0	-5.4	1.16 V	186	30.88	17.72

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

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	*5720.00	109.4 PK			1.03 H	130	104.90	4.50
2	*5720.00	99.6 AV			1.03 H	130	95.10	4.50
3	#5850.00	53.2 PK	74.0	-20.8	1.03 H	130	48.63	4.57
4	#5850.00	40.4 AV	54.0	-13.6	1.03 H	130	35.83	4.57
5	#5860.00	53.9 PK	74.0	-20.1	1.03 H	130	49.31	4.59
6	#5860.00	41.0 AV	54.0	-13.0	1.03 H	130	36.41	4.59
7	11440.00	56.2 PK	74.0	-17.8	1.00 H	95	46.20	10.00
8	11440.00	46.2 AV	54.0	-7.8	1.00 H	95	36.20	10.00
9	#17160.00	58.9 PK	74.0	-15.1	1.05 H	209	40.74	18.16
10	#17160.00	49.4 AV	54.0	-4.6	1.05 H	209	31.24	18.16
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	*5720.00	104.1 PK			1.21 V	42	99.60	4.50
2	*5720.00	94.4 AV			1.21 V	42	89.90	4.50
3	#5850.00	52.7 PK	74.0	-21.3	1.21 V	42	48.13	4.57
4	#5850.00	40.3 AV	54.0	-13.7	1.21 V	42	35.73	4.57
5	#5860.00	53.2 PK	74.0	-20.8	1.21 V	42	48.61	4.59
6	#5860.00	40.3 AV	54.0	-13.7	1.21 V	42	35.71	4.59
7	11440.00	59.2 PK	74.0	-14.8	1.64 V	198	49.20	10.00
8	11440.00	47.3 AV	54.0	-6.7	1.64 V	198	37.30	10.00
9	#17160.00	58.6 PK	74.0	-15.4	1.00 V	177	40.44	18.16
10	#17160.00	48.4 AV	54.0	-5.6	1.00 V	177	30.24	18.16

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

802.11a

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	Below 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	66.40	21.8 QP	40.0	-18.2	1.50 H	311	36.59	-14.77
2	215.97	28.6 QP	43.5	-14.9	1.40 H	240	44.71	-16.09
3	359.98	31.3 QP	46.0	-14.7	1.00 H	310	41.75	-10.44
4	480.01	25.7 QP	46.0	-20.3	1.60 H	300	33.33	-7.63
5	558.20	25.4 QP	46.0	-20.6	1.00 H	110	31.60	-6.18
6	797.82	31.2 QP	46.0	-14.8	1.50 H	109	32.77	-1.55
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	49.12	31.4 QP	40.0	-8.6	1.20 V	210	44.67	-13.25
2	248.70	25.8 QP	46.0	-20.2	1.10 V	260	39.71	-13.89
3	353.71	26.2 QP	46.0	-19.9	1.00 V	162	36.82	-10.67
4	480.15	25.6 QP	46.0	-20.4	1.00 V	300	33.25	-7.63
5	786.31	30.3 QP	46.0	-15.7	1.50 V	300	31.72	-1.44
6	956.90	34.1 QP	46.0	-11.9	1.77 V	200	32.94	1.16

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

4.2.9 Test Results (Mode 3)

Above 1GHz Data

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.7 PK	74.0	-11.3	1.05 H	204	58.86	3.84
2	5150.00	50.8 AV	54.0	-3.2	1.05 H	204	46.96	3.84
3	*5180.00	106.7 PK			1.05 H	204	102.78	3.92
4	*5180.00	96.9 AV			1.05 H	204	92.98	3.92
5	#10360.00	57.6 PK	74.0	-16.4	1.05 H	88	48.17	9.43
6	#10360.00	46.1 AV	54.0	-7.9	1.05 H	88	36.67	9.43
7	15540.00	58.7 PK	74.0	-15.3	1.14 H	168	44.67	14.03
8	15540.00	49.5 AV	54.0	-4.5	1.14 H	168	35.47	14.03
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	65.7 PK	74.0	-8.3	1.04 V	293	61.86	3.84
2	5150.00	45.2 AV	54.0	-8.8	1.04 V	293	41.36	3.84
3	*5180.00	100.7 PK			1.04 V	293	96.78	3.92
4	*5180.00	91.1 AV			1.04 V	293	87.18	3.92
5	#10360.00	57.5 PK	74.0	-16.5	1.69 V	166	48.07	9.43
6	#10360.00	46.5 AV	54.0	-7.5	1.69 V	166	37.07	9.43
7	15540.00	58.4 PK	74.0	-15.6	1.08 V	181	44.37	14.03
8	15540.00	47.7 AV	54.0	-6.3	1.08 V	181	33.67	14.03

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.2 PK	74.0	-15.8	1.06 H	203	54.36	3.84
2	5150.00	48.9 AV	54.0	-5.1	1.06 H	203	45.06	3.84
3	*5200.00	110.1 PK			1.06 H	203	106.14	3.96
4	*5200.00	99.8 AV			1.06 H	203	95.84	3.96
5	#10400.00	56.3 PK	74.0	-17.7	1.02 H	91	46.85	9.45
6	#10400.00	44.5 AV	54.0	-9.5	1.02 H	91	35.05	9.45
7	15600.00	58.2 PK	74.0	-15.8	1.04 H	192	44.02	14.18
8	15600.00	48.3 AV	54.0	-5.7	1.04 H	192	34.12	14.18
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	55.8 PK	74.0	-18.2	1.02 V	293	51.96	3.84
2	5150.00	44.7 AV	54.0	-9.3	1.02 V	293	40.86	3.84
3	*5200.00	104.1 PK			1.02 V	293	100.14	3.96
4	*5200.00	95.7 AV			1.02 V	293	91.74	3.96
5	#10400.00	57.5 PK	74.0	-16.5	1.70 V	174	48.05	9.45
6	#10400.00	46.5 AV	54.0	-7.5	1.70 V	174	37.05	9.45
7	15600.00	58.2 PK	74.0	-15.8	1.03 V	195	44.02	14.18
8	15600.00	47.5 AV	54.0	-6.5	1.03 V	195	33.32	14.18

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	109.1 PK			1.04 H	203	105.15	3.95
2	*5240.00	100.4 AV			1.04 H	203	96.45	3.95
3	5350.00	54.1 PK	74.0	-19.9	1.04 H	203	50.03	4.07
4	5350.00	42.4 AV	54.0	-11.6	1.04 H	203	38.33	4.07
5	#10480.00	58.2 PK	74.0	-15.8	1.05 H	100	48.53	9.67
6	#10480.00	46.4 AV	54.0	-7.6	1.05 H	100	36.73	9.67
7	15720.00	58.2 PK	74.0	-15.8	1.11 H	183	44.31	13.89
8	15720.00	49.3 AV	54.0	-4.7	1.11 H	183	35.41	13.89
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	104.5 PK			1.02 V	286	100.55	3.95
2	*5240.00	96.1 AV			1.02 V	286	92.15	3.95
3	5350.00	54.5 PK	74.0	-19.5	1.02 V	286	50.43	4.07
4	5350.00	42.4 AV	54.0	-11.6	1.02 V	286	38.33	4.07
5	#10480.00	57.9 PK	74.0	-16.1	1.67 V	155	48.23	9.67
6	#10480.00	46.8 AV	54.0	-7.2	1.67 V	155	37.13	9.67
7	15720.00	58.6 PK	74.0	-15.4	1.13 V	167	44.71	13.89
8	15720.00	48.0 AV	54.0	-6.0	1.13 V	167	34.11	13.89

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5260.00	108.1 PK			1.04 H	207	104.15	3.95
2	*5260.00	99.2 AV			1.04 H	207	95.25	3.95
3	5350.00	55.6 PK	74.0	-18.4	1.04 H	207	51.53	4.07
4	5350.00	42.4 AV	54.0	-11.6	1.04 H	207	38.33	4.07
5	#10520.00	56.9 PK	74.0	-17.1	1.02 H	91	47.12	9.78
6	#10520.00	44.9 AV	54.0	-9.1	1.02 H	91	35.12	9.78
7	15780.00	58.3 PK	74.0	-15.7	1.04 H	182	44.37	13.93
8	15780.00	48.6 AV	54.0	-5.4	1.04 H	182	34.67	13.93
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	*5260.00	104.4 PK			1.06 V	299	100.45	3.95
2	*5260.00	96.1 AV			1.06 V	299	92.15	3.95
3	5350.00	54.1 PK	74.0	-19.9	1.06 V	299	50.03	4.07
4	5350.00	42.0 AV	54.0	-12.0	1.06 V	299	37.93	4.07
5	#10520.00	57.6 PK	74.0	-16.4	1.66 V	176	47.82	9.78
6	#10520.00	46.8 AV	54.0	-7.2	1.66 V	176	37.02	9.78
7	15780.00	58.8 PK	74.0	-15.2	1.04 V	207	44.87	13.93
8	15780.00	47.6 AV	54.0	-6.4	1.04 V	207	33.67	13.93

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	107.4 PK			1.03 H	212	103.46	3.94
2	*5300.00	98.9 AV			1.03 H	212	94.96	3.94
3	5350.00	57.0 PK	74.0	-17.0	1.03 H	212	52.93	4.07
4	5350.00	46.8 AV	54.0	-7.2	1.03 H	212	42.73	4.07
5	10600.00	58.5 PK	74.0	-15.5	1.03 H	108	48.43	10.07
6	10600.00	46.7 AV	54.0	-7.3	1.03 H	108	36.63	10.07
7	15900.00	58.4 PK	74.0	-15.6	1.11 H	164	44.18	14.22
8	15900.00	49.0 AV	54.0	-5.0	1.11 H	164	34.78	14.22
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	104.7 PK			1.02 V	279	100.76	3.94
2	*5300.00	96.5 AV			1.02 V	279	92.56	3.94
3	5350.00	54.3 PK	74.0	-19.7	1.06 V	299	50.23	4.07
4	5350.00	43.4 AV	54.0	-10.6	1.06 V	299	39.33	4.07
5	10600.00	57.3 PK	74.0	-16.7	1.72 V	163	47.23	10.07
6	10600.00	46.3 AV	54.0	-7.7	1.72 V	163	36.23	10.07
7	15900.00	58.2 PK	74.0	-15.8	1.05 V	166	43.98	14.22
8	15900.00	47.6 AV	54.0	-6.4	1.05 V	166	33.38	14.22

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	106.7 PK			1.01 H	208	102.71	3.99
2	*5320.00	97.4 AV			1.01 H	208	93.41	3.99
3	5350.00	62.3 PK	74.0	-11.7	1.01 H	208	58.23	4.07
4	5350.00	51.9 AV	54.0	-2.1	1.01 H	208	47.83	4.07
5	10640.00	58.3 PK	74.0	-15.7	1.12 H	115	48.29	10.01
6	10640.00	46.6 AV	54.0	-7.4	1.12 H	115	36.59	10.01
7	15960.00	58.6 PK	74.0	-15.4	1.10 H	192	44.45	14.15
8	15960.00	49.4 AV	54.0	-4.6	1.10 H	192	35.25	14.15
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	100.5 PK			1.02 V	294	96.51	3.99
2	*5320.00	92.1 AV			1.02 V	294	88.11	3.99
3	5350.00	57.9 PK	74.0	-16.1	1.02 V	294	53.83	4.07
4	5350.00	46.1 AV	54.0	-7.9	1.02 V	294	42.03	4.07
5	10640.00	57.4 PK	74.0	-16.6	1.71 V	172	47.39	10.01
6	10640.00	46.2 AV	54.0	-7.8	1.71 V	172	36.19	10.01
7	15960.00	58.5 PK	74.0	-15.5	1.10 V	189	44.35	14.15
8	15960.00	47.5 AV	54.0	-6.5	1.10 V	189	33.35	14.15

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	5350.00	58.8 PK	74.0	-15.2	1.00 H	237	54.73	4.07
2	5350.00	47.2 AV	54.0	-6.8	1.00 H	237	43.13	4.07
3	#5470.00	68.1 PK	74.0	-5.9	1.00 H	237	63.93	4.17
4	#5470.00	52.5 AV	54.0	-1.5	1.00 H	237	48.33	4.17
5	*5500.00	106.9 PK			1.00 H	237	102.74	4.16
6	*5500.00	98.3 AV			1.00 H	237	94.14	4.16
7	11000.00	57.8 PK	74.0	-16.2	1.05 H	97	47.57	10.23
8	11000.00	46.0 AV	54.0	-8.0	1.05 H	97	35.77	10.23
9	#16500.00	58.6 PK	74.0	-15.4	1.11 H	175	42.40	16.20
10	#16500.00	49.5 AV	54.0	-4.5	1.11 H	175	33.30	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5350.00	53.8 PK	74.0	-20.2	1.02 V	274	49.73	4.07
2	5350.00	44.1 AV	54.0	-9.9	1.02 V	274	40.03	4.07
3	#5470.00	60.8 PK	74.0	-13.2	1.02 V	274	56.63	4.17
4	#5470.00	48.3 AV	54.0	-5.7	1.02 V	274	44.13	4.17
5	*5500.00	102.8 PK			1.02 V	274	98.64	4.16
6	*5500.00	94.2 AV			1.02 V	274	90.04	4.16
7	11000.00	57.0 PK	74.0	-17.0	1.67 V	159	46.77	10.23
8	11000.00	46.2 AV	54.0	-7.8	1.67 V	159	35.97	10.23
9	#16500.00	58.7 PK	74.0	-15.3	1.14 V	193	42.50	16.20
10	#16500.00	48.1 AV	54.0	-5.9	1.14 V	193	31.90	16.20

REMARKS:

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

CHANNEL	TX Channel 120	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.7 PK	74.0	-19.3	1.00 H	238	50.53	4.17
2	5460.00	42.7 AV	54.0	-11.3	1.00 H	238	38.53	4.17
3	*5600.00	108.6 PK			1.00 H	238	104.09	4.51
4	*5600.00	100.4 AV			1.00 H	238	95.89	4.51
5	11200.00	58.1 PK	74.0	-15.9	1.05 H	118	47.97	10.13
6	11200.00	46.4 AV	54.0	-7.6	1.05 H	118	36.27	10.13
7	#16800.00	58.5 PK	74.0	-15.5	1.08 H	189	41.08	17.42
8	#16800.00	49.5 AV	54.0	-4.5	1.08 H	189	32.08	17.42
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.7 PK	74.0	-18.3	1.03 V	285	51.53	4.17
2	5460.00	42.6 AV	54.0	-11.4	1.03 V	285	38.43	4.17
3	*5600.00	106.4 PK			1.03 V	285	101.89	4.51
4	*5600.00	97.9 AV			1.03 V	285	93.39	4.51
5	11200.00	57.2 PK	74.0	-16.8	1.66 V	164	47.07	10.13
6	11200.00	46.1 AV	54.0	-7.9	1.66 V	164	35.97	10.13
7	#16800.00	58.9 PK	74.0	-15.1	1.03 V	192	41.48	17.42
8	#16800.00	48.1 AV	54.0	-5.9	1.03 V	192	30.68	17.42

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	105.5 PK			1.03 H	224	101.01	4.49
2	*5700.00	96.9 AV			1.03 H	224	92.41	4.49
3	#5725.00	59.9 PK	74.0	-14.1	1.03 H	224	55.40	4.50
4	#5725.00	48.9 AV	54.0	-5.1	1.03 H	224	44.40	4.50
5	11400.00	57.9 PK	74.0	-16.1	1.13 H	89	47.93	9.97
6	11400.00	46.2 AV	54.0	-7.8	1.13 H	89	36.23	9.97
7	#17100.00	58.1 PK	74.0	-15.9	1.07 H	192	40.38	17.72
8	#17100.00	48.8 AV	54.0	-5.2	1.07 H	192	31.08	17.72
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	102.3 PK			1.12 V	306	97.81	4.49
2	*5700.00	92.8 AV			1.12 V	306	88.31	4.49
3	#5725.00	54.6 PK	74.0	-19.4	1.12 V	306	50.10	4.50
4	#5725.00	46.1 AV	54.0	-7.9	1.12 V	306	41.60	4.50
5	11400.00	57.6 PK	74.0	-16.4	1.74 V	171	47.63	9.97
6	11400.00	46.7 AV	54.0	-7.3	1.74 V	171	36.73	9.97
7	#17100.00	57.8 PK	74.0	-16.2	1.09 V	176	40.08	17.72
8	#17100.00	47.4 AV	54.0	-6.6	1.09 V	176	29.68	17.72

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 144	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	*5720.00	106.5 PK			1.04 H	227	102.00	4.50
2	*5720.00	98.6 AV			1.04 H	227	94.10	4.50
3	#5850.00	52.9 PK	74.0	-21.1	1.04 H	227	48.33	4.57
4	#5850.00	41.7 AV	54.0	-12.3	1.04 H	227	37.13	4.57
5	#5860.00	52.6 PK	74.0	-21.4	1.04 H	227	48.01	4.59
6	#5860.00	42.2 AV	54.0	-11.8	1.04 H	227	37.61	4.59
7	11440.00	57.9 PK	74.0	-16.1	1.09 H	103	47.90	10.00
8	11440.00	46.2 AV	54.0	-7.8	1.09 H	103	36.20	10.00
9	#17160.00	58.3 PK	74.0	-15.7	1.10 H	179	40.14	18.16
10	#17160.00	49.2 AV	54.0	-4.8	1.10 H	179	31.04	18.16
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	*5720.00	103.1 PK			1.12 V	305	98.60	4.50
2	*5720.00	94.7 AV			1.12 V	305	90.20	4.50
3	#5850.00	52.8 PK	74.0	-21.2	1.12 V	305	48.23	4.57
4	#5850.00	42.1 AV	54.0	-11.9	1.12 V	305	37.53	4.57
5	#5860.00	54.2 PK	74.0	-19.8	1.12 V	305	49.61	4.59
6	#5860.00	42.2 AV	54.0	-11.8	1.12 V	305	37.61	4.59
7	11440.00	57.5 PK	74.0	-16.5	1.63 V	168	47.50	10.00
8	11440.00	46.4 AV	54.0	-7.6	1.63 V	168	36.40	10.00
9	#17160.00	58.9 PK	74.0	-15.1	1.09 V	184	40.74	18.16
10	#17160.00	48.1 AV	54.0	-5.9	1.09 V	184	29.94	18.16

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

802.11a

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	Below 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	238.62	30.7 QP	46.0	-15.3	1.00 H	210	44.82	-14.12
2	399.92	29.5 QP	46.0	-16.5	1.00 H	162	39.14	-9.62
3	499.83	29.3 QP	46.0	-16.7	1.70 H	300	36.48	-7.16
4	600.10	28.3 QP	46.0	-17.7	1.10 H	300	33.02	-4.69
5	798.52	31.5 QP	46.0	-14.5	1.00 H	315	33.06	-1.54
6	897.72	28.9 QP	46.0	-17.1	1.00 H	310	28.80	0.12
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	48.72	32.6 QP	40.0	-7.4	1.00 V	112	45.83	-13.23
2	285.52	28.9 QP	46.0	-17.1	1.30 V	108	41.30	-12.44
3	398.20	33.5 QP	46.0	-12.5	1.00 V	101	43.15	-9.69
4	598.60	29.9 QP	46.0	-16.1	1.00 V	101	34.64	-4.74
5	799.11	33.4 QP	46.0	-12.6	1.00 V	30	34.91	-1.51
6	956.96	32.4 QP	46.0	-13.6	1.00 V	208	31.26	1.16

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 Pictures of Test Arrangements

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

6 Appendix A – 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:

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

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