

FCC TEST REPORT (15.407)

REPORT NO.: RF130710E11-1

MODEL NO.: T77H462

FCC ID: MCLT77H462

RECEIVED: July 10, 2013

TESTED: July 31 to Aug. 05, 2013

ISSUED: Aug. 30, 2013

APPLICANT: Hon Hai PRECISION IND.CO.,LTD

ADDRESS: 5F-1,5 Hsin-An Road Hsinchu,
Science-Based Industrial Park Taiwan,
R.O.C.

ISSUED BY: Bureau Veritas Consumer Products Services
(H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130710E11-1	Original release	Aug. 30, 2013

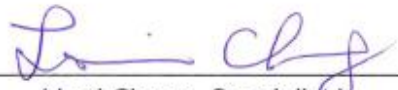


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1. CERTIFICATION

PRODUCT: 802.11abgn+BT4.0 module
BRAND NAME: FOXCONN
MODEL NO.: T77H462
TEST SAMPLE: ENGINEERING SAMPLE
APPLICANT: Hon Hai PRECISION IND.CO.,LTD
TESTED: July 31 to Aug. 05, 2013
STANDARDS: **FCC Part 15, Subpart E (Section 15.407)**
ANSI C63.10-2009

The above equipment (Model: T77H462) 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:** Aug. 30, 2013
(Lori Chung, Specialist)

APPROVED BY : , **DATE:** Aug. 30, 2013
(May Chen, Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -24.92dB at 0.36875MHz
15.407(b/1/2/3) (b)(5)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.1dB at 5300.00MHz & 5350.00MHz.
15.407(a/1/2/3)	Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is MHF4 not a standard connector.

NOTE:

1. The EUT was operating in 2.400 ~ 2.4835GHz, 5.15~5.35GHz, 5.47~5.6GHz & 5.65~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 5.15~5.35GHz, 5.47~5.6GHz & 5.65~5.725GHz. For the 2.400 ~ 2.4835GHz and 5.725~5.850GHz RF parameters was recorded in another 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:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Measurement	Value
Conducted emissions	2.98 dB
Radiated emissions (30MHz-1GHz)	5.63 dB
Radiated emissions (1GHz -6GHz)	3.73 dB
Radiated emissions (6GHz -18GHz)	3.90 dB
Radiated emissions (18GHz -40GHz)	4.11 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	802.11abgn+BT4.0 module
MODEL NO.	T77H462
POWER SUPPLY	DC 3.3V
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM GFSK(BT <LE> mode) for DTS
MODULATION TECHNOLOGY	DSSS,OFDM, DTS
TRANSFER RATE	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 300Mbps BT-LE (GFSK): 1Mbps
OPERATING FREQUENCY	For 15.407 5GHz: 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.58GHz & 5.66GHz ~ 5.70GHz
	For 15.247 2.4GHz: WLAN: 2.412 ~ 2.462GHz BT-LE(GFSK): 2.402 ~ 2.480GHz 5GHz: 5.745 ~ 5.825GHz
NUMBER OF CHANNEL	For 15.407 16 for 802.11a, 802.11n (HT20) 7 for 802.11n (HT40)
	For 15.247 (2.4GHz) 11 for 802.11b, 802.11g, 802.11n (HT20) 40 for BT-LE(GFSK) For 15.247 (5GHz) 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40)

MAXIMUM OUTPUT POWER	For 15.407 802.11a: 104.472mW 802.11n (HT20): 104.513mW 802.11n (HT40): 98.213mW For 15.247 (2.4GHz) 802.11b: 171.791mW 802.11g: 232.274mW 802.11n (HT20): 320.877mW BT-LE(GFSK): 6.592mW For 15.247 (5GHz) 802.11a: 137.721mW 802.11n (HT20): 162.594mW 802.11n (HT40): 166.674mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	NA

NOTE:

1. There are Bluetooth technology and WLAN technology used for the EUT
2. Bluetooth and WLAN technology can't transmit at same time.
3. The antennas provided to the EUT, please refer to the following table:

Antenna	Transmitter Circuit	Brand	Model	Antenna Type	Antenna Gain (dBi)	Frequency range (MHz to MHz)	Connector Type
1	Chain (0)	Foxconn	T77H462	PIFA	-0.6	2400~2500	MHF4
					-2.3	5150~5850	
2	Chain (1)	Foxconn	T77H462	PIFA	-0.6	2400~2500	MHF4
					-2.3	5150~5850	

4. The EUT incorporates a MIMO function without beam forming.

MODULATION MODE	TX/RX FUNCTION
802.11b	1TX/2RX (Diversity)
802.11g	1TX/2RX (Diversity)
802.11a	1TX/2RX (Diversity)
802.11n (HT20)	2TX/2RX
802.11n (HT40)	2TX/2RX

5. When the EUT operating in 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 15.
6. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

Operated in 5150 ~ 5350MHz band:

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	52	5260 MHz
40	5200 MHz	56	5280 MHz
44	5220 MHz	60	5300 MHz
48	5240 MHz	64	5320 MHz

4 channels are provided for 802.11n (HT40):

CHANNEL	FREQUENCY
38	5190 MHz
46	5230 MHz
54	5270 MHz
62	5310 MHz

Operated in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands:

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500 MHz	116	5580 MHz
104	5520 MHz	132	5660 MHz
108	5540 MHz	136	5680 MHz
112	5560 MHz	140	5700 MHz

3 channels are provided for 802.11n (HT40):

CHANNEL	FREQUENCY
102	5510 MHz
110	5550 MHz
134	5670 MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ≥ 1G	APCM	
-	√	√	√	√	-

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

NOTE: 1. "-" means no effect.

2. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.

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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	36 to 140	116	OFDM	BPSK	6

RADIATED EMISSION TEST (BELOW 1 GHz):

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	36 to 140	116	OFDM	BPSK	6

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6
802.11n (HT20)	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	13
802.11n (HT40)	38 to 134	38, 46, 54, 62, 102, 110, 134	OFDM	BPSK	27

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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6
802.11n (HT20)	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	13
802.11n (HT40)	38 to 134	38, 46, 54, 62, 102, 110, 134	OFDM	BPSK	27

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
PLC	26deg. C, 66%RH	120Vac, 60Hz	Jyunchun Lin
RE<1G	22deg. C, 71%RH	120Vac, 60Hz	Andy Ho
RE ³ 1G	21deg. C, 69%RH	120Vac, 60Hz	Tim Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	James Chan

3.3 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 D01 General UNII Test Procedures v01 r03

662911 D01 Multiple Transmitter Output v01 r02

ANSI C63.10-2009

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

3.4 DUTY CYCLE OF TEST SIGNAL

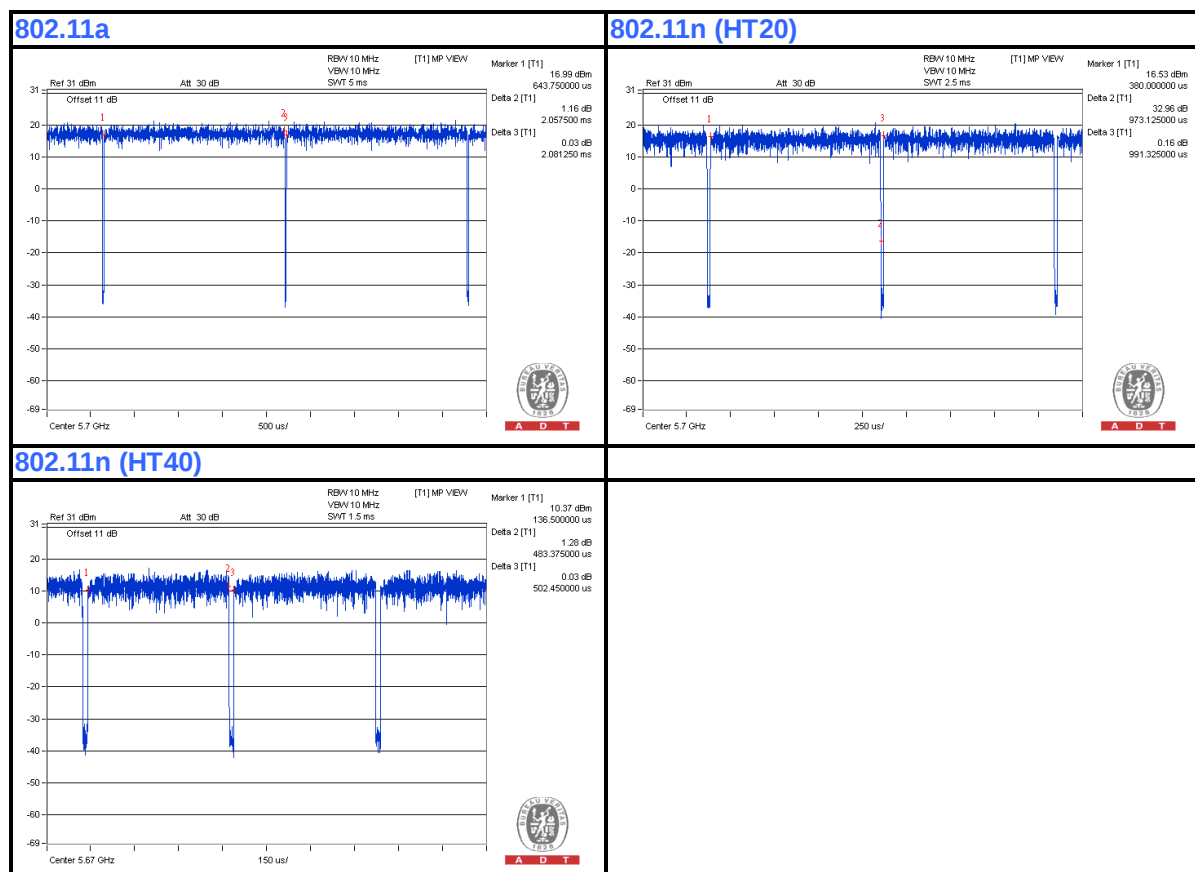
If duty cycle of test signal is > 98 %, duty factor is not required.

If duty cycle of test signal is < 98%, duty factor shall be considered.

802.11a: Duty cycle = 2.057 ms/2.081 ms = 0.988

802.11n (HT20): Duty cycle = 0.973 ms/0.991 ms = 0.982

802.11n (HT40): Duty cycle = 0.483 ms/0.502 ms = 0.962, Duty factor = $10 * \log(1/0.962) = 0.17$



3.5 DESCRIPTION OF SUPPORT UNITS

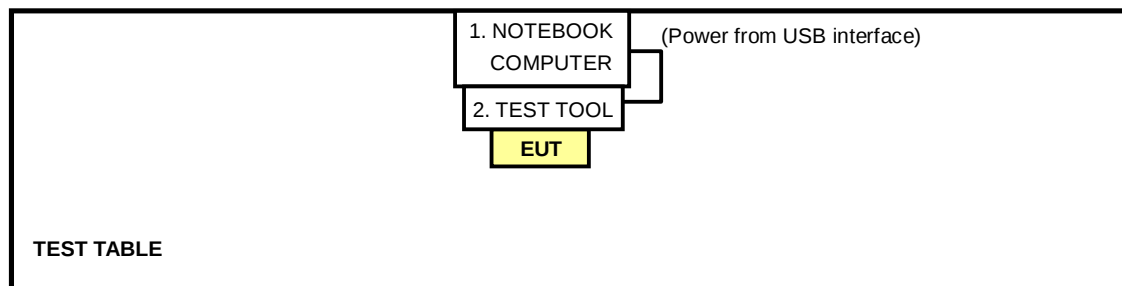
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP27L	7YLB32S	FCC DoC
2	TEST TOOL	Hon Hai	NA	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	USB cable, 1m
2	NA

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

3.6 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

NOTE: 1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver	ESCS 30	100375	Mar. 08, 2013	Mar. 07, 2014
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK8127	8127-522	Sep. 06, 2012	Sep. 05, 2013
Line-Impedance Stabilization Network (for Peripheral)	ENV216	100072	June 07, 2013	June 06, 2014
RF Cable (JYEBAO)	5DFB	COCCAB-001	Mar. 11, 2013	Mar. 10, 2014
50 ohms Terminator	50	EMC-3	Sep. 25, 2012	Sep. 24, 2013
Software ADT	BV ADT_Cond_V7.3.7.3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3. The VCCI Con C Registration No. is C-3611.
4. Tested Date: Aug. 01, 2013

4.1.3 TEST PROCEDURES

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

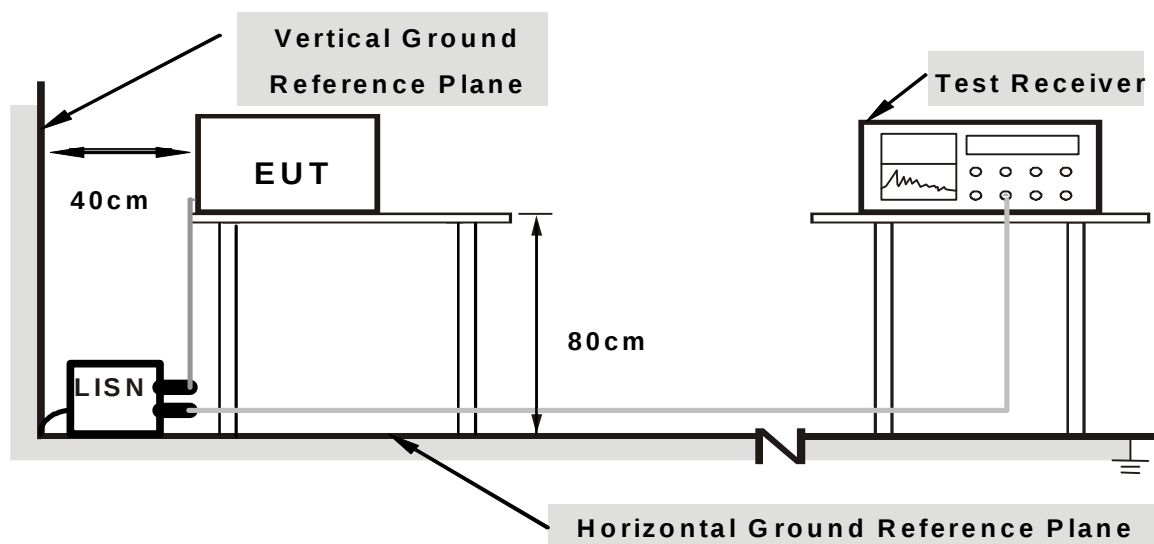
NOTE:

- The resolution bandwidth of test receiver is 9kHz for Quasi-peak detection (QP) & Average detection (AV).

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.



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4.1.6 EUT OPERATING CONDITIONS

1. Connect the EUT with the support unit 1 (Notebook Computer) which is placed on a testing table.
2. The communication partner run test program "MTool_2.0.0.8.exe" to enable EUT under transmission/receiving condition continuously at specific channel frequency.

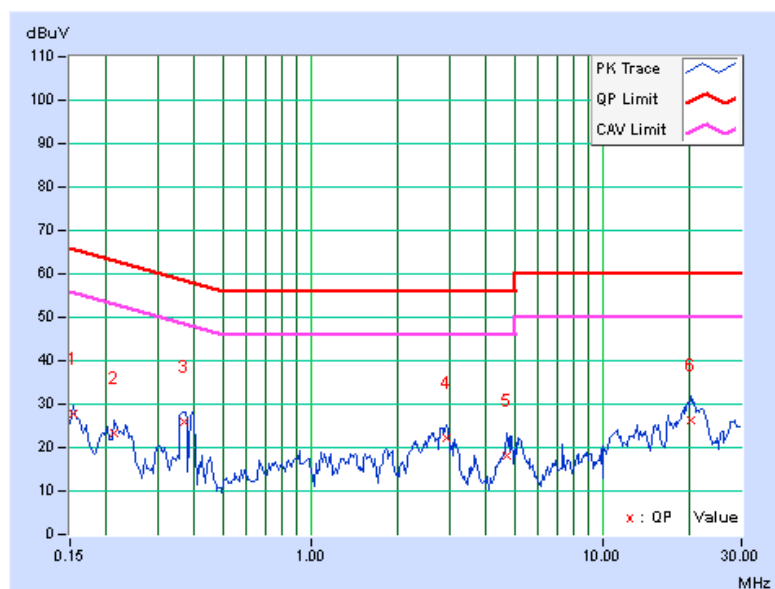
4.1.7 TEST RESULTS

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	0.12	27.50	19.02	27.62	19.14	65.79	55.79	-38.16	-36.64
2	0.21250	0.14	23.09	17.80	23.23	17.94	63.11	53.11	-39.87	-35.16
3	0.36875	0.17	25.68	22.29	25.85	22.46	58.53	48.53	-32.68	-26.07
4	2.94141	0.32	21.85	15.11	22.17	15.43	56.00	46.00	-33.83	-30.57
5	4.71484	0.40	17.87	8.65	18.27	9.05	56.00	46.00	-37.73	-36.95
6	20.00781	1.03	25.17	19.43	26.20	20.46	60.00	50.00	-33.80	-29.54

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

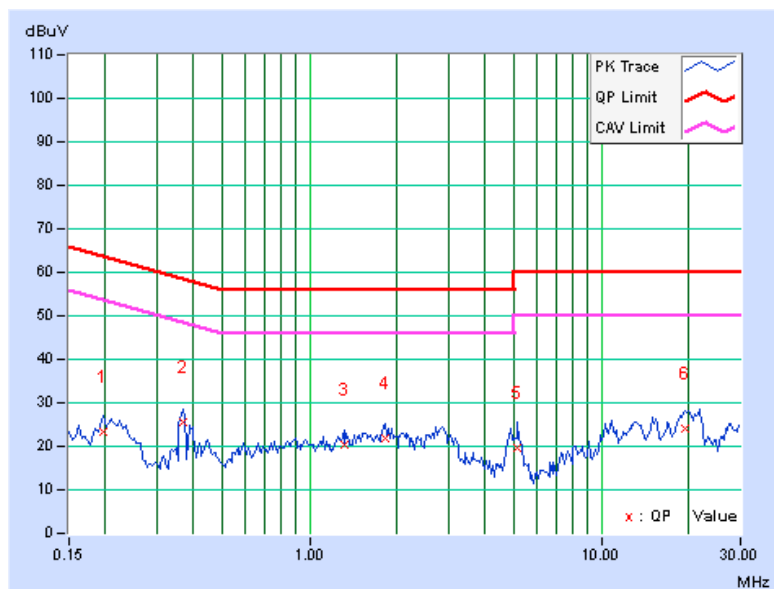


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19687	0.12	23.19	16.29	23.31	16.41	63.74	53.74	-40.43	-37.33
2	0.36875	0.16	25.33	23.45	25.49	23.61	58.53	48.53	-33.04	-24.92
3	1.31641	0.22	20.24	14.74	20.46	14.96	56.00	46.00	-35.54	-31.04
4	1.81250	0.25	21.49	15.71	21.74	15.96	56.00	46.00	-34.26	-30.04
5	5.16016	0.37	19.30	4.06	19.67	4.43	60.00	50.00	-40.33	-45.57
6	19.48438	0.71	23.46	18.52	24.17	19.23	60.00	50.00	-35.83	-30.77

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 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.2.1 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.

4.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
√	FIELD STRENGTH AT 3m (dBμV/m)	
	PK	AV
	74	54
	EIRP LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dBμV/m)
	PK	PK
	-27	68.3

NOTE:

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

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



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4.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer Agilent	E4446A	MY48250253	Sep. 03, 2012	Sep. 02, 2013
MXE EMI Receiver Agilent	N9038A	MY51210105	Jan. 29, 2013	Jan. 28, 2014
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 14, 2012	Nov. 13, 2013
Pre-Amplifier Agilent	8449B	3008A02578	June 25, 2013	June 24, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 14, 2012	Nov. 13, 2013
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Mar. 19, 2013	Mar. 18, 2014
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 19, 2012	Nov. 18, 2013
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 12, 2012	Oct. 11, 2013
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 25, 2012	Dec. 24, 2013
RF Cable	NA	CHGCAB_001	Oct. 06, 2012	Oct. 05, 2013
Software	ADT_Radiated _V8.7.05	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. G.
4. The FCC Site Registration No. is 966073.
- 5 The VCCI Site Registration No. is G-137.
- 6 The CANADA Site Registration No. is IC 7450H-2.
- 7 Tested Date: July 31, 2013

4.2.4 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.

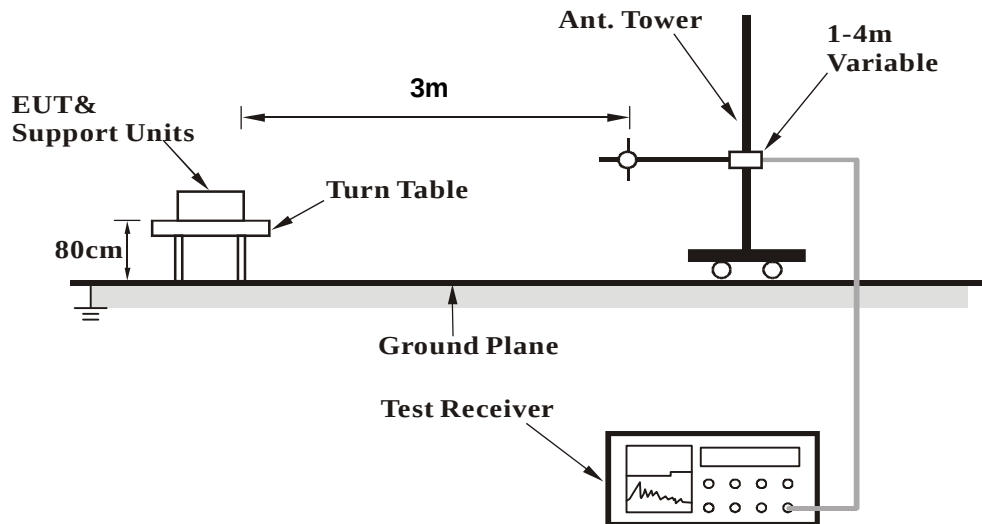
NOTE:

1. 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 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.2.5 DEVIATION FROM TEST STANDARD

No deviation

4.2.6 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.7 EUT OPERATING CONDITION

Same as 4.1.6

4.2.8 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

802.11a

CHANNEL	TX Channel 116	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	83.24	36.5 QP	40.0	-3.5	2.00 H	187	55.63	-19.14
2	241.92	35.7 QP	46.0	-10.3	1.00 H	223	50.52	-14.80
3	271.12	37.3 QP	46.0	-8.7	1.00 H	179	51.03	-13.73
4	763.32	34.9 QP	46.0	-11.1	1.00 H	226	37.09	-2.19
5	782.63	38.5 QP	46.0	-7.5	1.00 H	233	40.55	-2.07
6	849.34	37.2 QP	46.0	-8.8	1.00 H	115	38.57	-1.35
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	49.83	31.8 QP	40.0	-8.2	1.50 V	149	45.37	-13.58
2	199.83	40.2 QP	43.5	-3.3	1.42 V	213	56.83	-16.63
3	272.32	39.9 QP	46.0	-6.1	1.50 V	224	53.58	-13.66
4	580.80	36.2 QP	46.0	-9.8	1.00 V	156	42.31	-6.09
5	616.22	40.6 QP	46.0	-5.4	1.00 V	149	45.40	-4.80
6	649.50	41.2 QP	46.0	-4.8	1.48 V	100	45.66	-4.48

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

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	72.8 PK	74.0	-1.2	1.55 H	209	64.20	8.60
2	5150.00	53.6 AV	54.0	-0.4	1.55 H	209	45.00	8.60
3	*5180.00	107.5 PK			1.55 H	209	98.74	8.76
4	*5180.00	98.2 AV			1.55 H	209	89.44	8.76
5	#10360.00	55.1 PK	74.0	-18.9	1.07 H	286	39.56	15.54
6	#10360.00	42.9 AV	54.0	-11.1	1.07 H	286	27.36	15.54
7	15540.00	60.2 PK	74.0	-13.8	1.09 H	251	37.83	22.37
8	15540.00	47.4 AV	54.0	-6.6	1.09 H	251	25.03	22.37
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.7 PK	74.0	-9.3	1.00 V	265	56.10	8.60
2	5150.00	50.1 AV	54.0	-3.9	1.00 V	265	41.50	8.60
3	*5180.00	102.4 PK			1.00 V	265	93.64	8.76
4	*5180.00	92.7 AV			1.00 V	265	83.94	8.76
5	#10360.00	63.3 PK	74.0	-10.7	1.72 V	321	47.76	15.54
6	#10360.00	50.2 AV	54.0	-3.8	1.72 V	321	34.66	15.54
7	15540.00	65.4 PK	74.0	-8.6	1.33 V	284	43.03	22.37
8	15540.00	52.3 AV	54.0	-1.7	1.33 V	284	29.93	22.37

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	72.6 PK	74.0	-1.4	1.11 H	208	64.00	8.60
2	5150.00	53.8 AV	54.0	-0.2	1.11 H	208	45.20	8.60
3	*5200.00	110.6 PK			1.11 H	208	101.73	8.87
4	*5200.00	100.7 AV			1.11 H	208	91.83	8.87
5	#10400.00	54.1 PK	74.0	-19.9	1.00 H	274	38.92	15.18
6	#10400.00	42.1 AV	54.0	-11.9	1.00 H	274	26.92	15.18
7	15600.00	60.2 PK	74.0	-13.8	1.09 H	266	38.08	22.12
8	15600.00	47.2 AV	54.0	-6.8	1.09 H	266	25.08	22.12
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	5150.00	64.4 PK	74.0	-9.6	1.00 V	253	55.80	8.60
2	5150.00	50.8 AV	54.0	-3.2	1.00 V	253	42.20	8.60
3	*5200.00	105.7 PK			1.00 V	253	96.83	8.87
4	*5200.00	94.5 AV			1.00 V	253	85.63	8.87
5	#10400.00	63.8 PK	74.0	-10.2	1.75 V	337	48.62	15.18
6	#10400.00	50.6 AV	54.0	-3.4	1.75 V	337	35.42	15.18
7	15600.00	65.5 PK	74.0	-8.5	1.37 V	270	43.38	22.12
8	15600.00	52.4 AV	54.0	-1.6	1.37 V	270	30.28	22.12

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.



A D T

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	5150.00	66.6 PK	74.0	-7.4	1.11 H	208	58.00	8.60
2	5150.00	49.7 AV	54.0	-4.3	1.11 H	208	41.10	8.60
3	*5240.00	110.6 PK			1.11 H	208	101.59	9.01
4	*5240.00	100.8 AV			1.11 H	208	91.79	9.01
5	5350.00	58.2 PK	74.0	-15.8	1.11 H	208	48.89	9.31
6	5350.00	42.9 AV	54.0	-11.1	1.11 H	208	33.59	9.31
7	#10480.00	55.0 PK	74.0	-19.0	1.08 H	280	39.20	15.80
8	#10480.00	42.7 AV	54.0	-11.3	1.08 H	280	26.90	15.80
9	15720.00	60.4 PK	74.0	-13.6	1.14 H	260	38.60	21.80
10	15720.00	47.7 AV	54.0	-6.3	1.14 H	260	25.90	21.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.6 PK	74.0	-15.4	1.01 V	250	50.00	8.60
2	5150.00	46.9 AV	54.0	-7.1	1.01 V	250	38.30	8.60
3	*5240.00	106.2 PK			1.01 V	250	97.19	9.01
4	*5240.00	95.2 AV			1.01 V	250	86.19	9.01
5	5350.00	50.2 PK	74.0	-23.8	1.01 V	250	40.89	9.31
6	5350.00	39.9 AV	54.0	-14.1	1.01 V	250	30.59	9.31
7	#10480.00	63.8 PK	74.0	-10.2	1.65 V	330	48.00	15.80
8	#10480.00	50.4 AV	54.0	-3.6	1.65 V	330	34.60	15.80
9	15720.00	64.4 PK	74.0	-9.6	1.38 V	285	42.60	21.80
10	15720.00	51.4 AV	54.0	-2.6	1.38 V	285	29.60	21.80

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.2 PK	74.0	-14.8	1.10 H	208	50.60	8.60
2	5150.00	43.3 AV	54.0	-10.7	1.10 H	208	34.70	8.60
3	*5260.00	110.9 PK			1.10 H	208	101.83	9.07
4	*5260.00	100.9 AV			1.10 H	208	91.83	9.07
5	5350.00	66.0 PK	74.0	-8.0	1.10 H	208	56.69	9.31
6	5350.00	47.7 AV	54.0	-6.3	1.10 H	208	38.39	9.31
7	#10520.00	55.0 PK	74.0	-19.0	1.08 H	280	39.02	15.98
8	#10520.00	42.7 AV	54.0	-11.3	1.08 H	280	26.72	15.98
9	15780.00	60.4 PK	74.0	-13.6	1.14 H	260	38.41	21.99
10	15780.00	47.7 AV	54.0	-6.3	1.14 H	260	25.71	21.99
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	51.1 PK	74.0	-22.9	1.00 V	254	42.50	8.60
2	5150.00	41.4 AV	54.0	-12.6	1.00 V	254	32.80	8.60
3	*5260.00	105.5 PK			1.00 V	254	96.43	9.07
4	*5260.00	94.6 AV			1.00 V	254	85.53	9.07
5	5350.00	57.8 PK	74.0	-16.2	1.00 V	254	48.49	9.31
6	5350.00	44.6 AV	54.0	-9.4	1.00 V	254	35.29	9.31
7	#10520.00	64.4 PK	74.0	-9.6	1.65 V	330	48.42	15.98
8	#10520.00	51.1 AV	54.0	-2.9	1.65 V	330	35.12	15.98
9	15780.00	63.8 PK	74.0	-10.2	1.38 V	285	41.81	21.99
10	15780.00	51.0 AV	54.0	-3.0	1.38 V	285	29.01	21.99

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	110.3 PK			1.08 H	208	101.09	9.21
2	*5300.00	100.0 AV			1.08 H	208	90.79	9.21
3	5350.00	71.0 PK	74.0	-3.0	1.08 H	208	61.69	9.31
4	5350.00	53.9 AV	54.0	-0.1	1.08 H	208	44.59	9.31
5	10600.00	53.8 PK	74.0	-20.2	1.02 H	297	37.68	16.12
6	10600.00	42.0 AV	54.0	-12.0	1.02 H	297	25.88	16.12
7	15900.00	60.5 PK	74.0	-13.5	1.08 H	250	38.40	22.10
8	15900.00	47.6 AV	54.0	-6.4	1.08 H	250	25.50	22.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	105.1 PK			1.00 V	251	95.89	9.21
2	*5300.00	93.9 AV			1.00 V	251	84.69	9.21
3	5350.00	63.3 PK	74.0	-10.7	1.00 V	251	53.99	9.31
4	5350.00	50.9 AV	54.0	-3.1	1.00 V	251	41.59	9.31
5	10600.00	63.8 PK	74.0	-10.2	1.70 V	333	47.68	16.12
6	10600.00	50.4 AV	54.0	-3.6	1.70 V	333	34.28	16.12
7	15900.00	65.1 PK	74.0	-8.9	1.36 V	274	43.00	22.10
8	15900.00	51.9 AV	54.0	-2.1	1.36 V	274	29.80	22.10

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	107.8 PK			1.50 H	207	98.55	9.25
2	*5320.00	97.7 AV			1.50 H	207	88.45	9.25
3	5350.00	72.8 PK	74.0	-1.2	1.50 H	207	63.49	9.31
4	5350.00	53.6 AV	54.0	-0.4	1.50 H	207	44.29	9.31
5	10640.00	54.3 PK	74.0	-19.7	1.02 H	286	38.04	16.26
6	10640.00	42.5 AV	54.0	-11.5	1.02 H	286	26.24	16.26
7	15960.00	59.8 PK	74.0	-14.2	1.10 H	274	37.82	21.98
8	15960.00	47.4 AV	54.0	-6.6	1.10 H	274	25.42	21.98
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	103.1 PK			1.00 V	264	93.85	9.25
2	*5320.00	92.0 AV			1.00 V	264	82.75	9.25
3	5350.00	64.6 PK	74.0	-9.4	1.00 V	264	55.29	9.31
4	5350.00	50.2 AV	54.0	-3.8	1.00 V	264	40.89	9.31
5	10640.00	64.0 PK	74.0	-10.0	1.63 V	307	47.74	16.26
6	10640.00	50.6 AV	54.0	-3.4	1.63 V	307	34.34	16.26
7	15960.00	65.1 PK	74.0	-8.9	1.38 V	260	43.12	21.98
8	15960.00	51.7 AV	54.0	-2.3	1.38 V	260	29.72	21.98

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	66.7 PK	74.0	-7.3	1.73 H	201	57.05	9.65
2	5460.00	50.3 AV	54.0	-3.7	1.73 H	201	40.65	9.65
3	#5470.00	69.1 PK	74.0	-4.9	1.73 H	201	59.41	9.69
4	#5470.00	53.7 AV	54.0	-0.3	1.73 H	201	44.01	9.69
5	*5500.00	109.1 PK			1.73 H	201	99.29	9.81
6	*5500.00	99.0 AV			1.73 H	201	89.19	9.81
7	11000.00	54.5 PK	74.0	-19.5	1.04 H	293	36.90	17.60
8	11000.00	42.3 AV	54.0	-11.7	1.04 H	293	24.70	17.60
9	#16500.00	60.3 PK	74.0	-13.7	1.17 H	259	36.16	24.14
10	#16500.00	47.7 AV	54.0	-6.3	1.17 H	259	23.56	24.14
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	57.9 PK	74.0	-16.1	1.00 V	268	48.25	9.65
2	5460.00	46.8 AV	54.0	-7.2	1.00 V	268	37.15	9.65
3	#5470.00	60.4 PK	74.0	-13.6	1.00 V	268	50.71	9.69
4	#5470.00	50.2 AV	54.0	-3.8	1.00 V	268	40.51	9.69
5	*5500.00	106.9 PK			1.00 V	268	97.09	9.81
6	*5500.00	96.8 AV			1.00 V	268	86.99	9.81
7	11000.00	63.7 PK	74.0	-10.3	1.73 V	310	46.10	17.60
8	11000.00	50.6 AV	54.0	-3.4	1.73 V	310	33.00	17.60
9	#16500.00	65.4 PK	74.0	-8.6	1.39 V	260	41.26	24.14
10	#16500.00	52.5 AV	54.0	-1.5	1.39 V	260	28.36	24.14

REMARKS:

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



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CHANNEL	TX Channel 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	5460.00	58.7 PK	74.0	-15.3	1.00 H	194	49.05	9.65
2	5460.00	43.9 AV	54.0	-10.1	1.00 H	194	34.25	9.65
3	#5470.00	61.2 PK	74.0	-12.8	1.00 H	194	51.51	9.69
4	#5470.00	45.3 AV	54.0	-8.7	1.00 H	194	35.61	9.69
5	*5580.00	111.2 PK			1.00 H	194	101.16	10.04
6	*5580.00	101.2 AV			1.00 H	194	91.16	10.04
7	#5725.00	56.4 PK	74.0	-17.6	1.00 H	194	46.02	10.38
8	#5725.00	43.0 AV	54.0	-11.0	1.00 H	194	32.62	10.38
9	11160.00	54.8 PK	74.0	-19.2	1.04 H	284	37.77	17.03
10	11160.00	42.5 AV	54.0	-11.5	1.04 H	284	25.47	17.03
11	#16740.00	59.8 PK	74.0	-14.2	1.17 H	253	35.30	24.50
12	#16740.00	47.4 AV	54.0	-6.6	1.17 H	253	22.90	24.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	50.8 PK	74.0	-23.2	1.55 V	106	41.15	9.65
2	5460.00	40.9 AV	54.0	-13.1	1.55 V	106	31.25	9.65
3	#5470.00	53.2 PK	74.0	-20.8	1.55 V	106	43.51	9.69
4	#5470.00	42.4 AV	54.0	-11.6	1.55 V	106	32.71	9.69
5	*5580.00	109.9 PK			1.55 V	106	99.86	10.04
6	*5580.00	99.4 AV			1.55 V	106	89.36	10.04
7	#5725.00	48.5 PK	74.0	-25.5	1.55 V	106	38.12	10.38
8	#5725.00	40.2 AV	54.0	-13.8	1.55 V	106	29.82	10.38
9	11160.00	64.0 PK	74.0	-10.0	1.70 V	307	46.97	17.03
10	11160.00	50.6 AV	54.0	-3.4	1.70 V	307	33.57	17.03
11	#16740.00	65.5 PK	74.0	-8.5	1.41 V	278	41.00	24.50
12	#16740.00	51.9 AV	54.0	-2.1	1.41 V	278	27.40	24.50

REMARKS:

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

CHANNEL	TX Channel 132	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	56.3 PK	74.0	-17.7	1.00 H	196	46.65	9.65
2	5460.00	43.1 AV	54.0	-10.9	1.00 H	196	33.45	9.65
3	#5470.00	55.4 PK	74.0	-18.6	1.00 H	196	45.71	9.69
4	#5470.00	43.2 AV	54.0	-10.8	1.00 H	196	33.51	9.69
5	*5660.00	110.3 PK			1.00 H	196	100.06	10.24
6	*5660.00	100.0 AV			1.00 H	196	89.76	10.24
7	#5725.00	70.9 PK	74.0	-3.1	1.00 H	196	60.52	10.38
8	#5725.00	53.1 AV	54.0	-0.9	1.00 H	196	42.72	10.38
9	11320.00	54.5 PK	74.0	-19.5	1.04 H	289	36.87	17.63
10	11320.00	42.5 AV	54.0	-11.5	1.04 H	289	24.87	17.63
11	#16980.00	60.0 PK	74.0	-14.0	1.11 H	260	34.56	25.44
12	#16980.00	47.3 AV	54.0	-6.7	1.11 H	260	21.86	25.44
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	48.0 PK	74.0	-26.0	1.49 V	91	38.35	9.65
2	5460.00	41.9 AV	54.0	-12.1	1.49 V	91	32.25	9.65
3	#5470.00	47.3 PK	74.0	-26.7	1.49 V	91	37.61	9.69
4	#5470.00	41.8 AV	54.0	-12.2	1.49 V	91	32.11	9.69
5	*5660.00	107.7 PK			1.49 V	91	97.46	10.24
6	*5660.00	97.6 AV			1.49 V	91	87.36	10.24
7	#5725.00	62.7 PK	74.0	-11.3	1.49 V	91	52.32	10.38
8	#5725.00	49.6 AV	54.0	-4.4	1.49 V	91	39.22	10.38
9	11320.00	63.6 PK	74.0	-10.4	1.69 V	323	45.97	17.63
10	11320.00	50.3 AV	54.0	-3.7	1.69 V	323	32.67	17.63
11	#16980.00	65.1 PK	74.0	-8.9	1.35 V	269	39.66	25.44
12	#16980.00	52.0 AV	54.0	-2.0	1.35 V	269	26.56	25.44

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	104.5 PK			1.36 H	191	94.16	10.34
2	*5700.00	94.9 AV			1.36 H	191	84.56	10.34
3	#5725.00	71.2 PK	74.0	-2.8	1.36 H	191	60.82	10.38
4	#5725.00	53.4 AV	54.0	-0.6	1.36 H	191	43.02	10.38
5	11400.00	53.9 PK	74.0	-20.1	1.07 H	275	36.38	17.52
6	11400.00	42.1 AV	54.0	-11.9	1.07 H	275	24.58	17.52
7	#17100.00	60.0 PK	74.0	-14.0	1.16 H	259	34.71	25.29
8	#17100.00	47.3 AV	54.0	-6.7	1.16 H	259	22.01	25.29
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			1.09 V	101	92.96	10.34
2	*5700.00	92.7 AV			1.09 V	101	82.36	10.34
3	#5725.00	69.5 PK	74.0	-4.5	1.09 V	101	59.12	10.38
4	#5725.00	51.5 AV	54.0	-2.5	1.09 V	101	41.12	10.38
5	11400.00	64.1 PK	74.0	-9.9	1.73 V	329	46.58	17.52
6	11400.00	50.5 AV	54.0	-3.5	1.73 V	329	32.98	17.52
7	#17100.00	65.4 PK	74.0	-8.6	1.39 V	275	40.11	25.29
8	#17100.00	52.2 AV	54.0	-1.8	1.39 V	275	26.91	25.29

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	72.4 PK	74.0	-1.6	1.01 H	191	63.80	8.60
2	5150.00	52.0 AV	54.0	-2.0	1.01 H	191	43.40	8.60
3	*5180.00	108.1 PK			1.00 H	191	99.34	8.76
4	*5180.00	96.2 AV			1.00 H	191	87.44	8.76
5	#10360.00	54.3 PK	74.0	-19.7	1.00 H	284	38.76	15.54
6	#10360.00	42.4 AV	54.0	-11.6	1.00 H	284	26.86	15.54
7	15540.00	61.8 PK	74.0	-12.2	1.32 H	320	39.43	22.37
8	15540.00	49.2 AV	54.0	-4.8	1.32 H	320	26.83	22.37
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	73.1 PK	74.0	-0.9	1.34 V	92	64.50	8.60
2	5150.00	53.2 AV	54.0	-0.8	1.34 V	92	44.60	8.60
3	*5180.00	110.6 PK			1.32 V	92	101.84	8.76
4	*5180.00	99.6 AV			1.32 V	92	90.84	8.76
5	#10360.00	57.4 PK	74.0	-16.6	1.39 V	284	41.86	15.54
6	#10360.00	45.5 AV	54.0	-8.5	1.39 V	284	29.96	15.54
7	15540.00	64.3 PK	74.0	-9.7	1.20 V	304	41.93	22.37
8	15540.00	51.6 AV	54.0	-2.4	1.20 V	304	29.23	22.37

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	70.5 PK	74.0	-3.5	1.04 H	201	61.90	8.60
2	5150.00	50.8 AV	54.0	-3.2	1.04 H	201	42.20	8.60
3	*5200.00	110.6 PK			1.04 H	201	101.73	8.87
4	*5200.00	98.4 AV			1.04 H	201	89.53	8.87
5	#10400.00	55.2 PK	74.0	-18.8	1.04 H	272	40.02	15.18
6	#10400.00	43.3 AV	54.0	-10.7	1.04 H	272	28.12	15.18
7	15600.00	62.2 PK	74.0	-11.8	1.27 H	305	40.08	22.12
8	15600.00	49.7 AV	54.0	-4.3	1.27 H	305	27.58	22.12
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	5150.00	71.8 PK	74.0	-2.2	1.33 V	92	63.20	8.60
2	5150.00	52.4 AV	54.0	-1.6	1.33 V	92	43.80	8.60
3	*5200.00	112.4 PK			1.33 V	92	103.53	8.87
4	*5200.00	101.0 AV			1.33 V	92	92.13	8.87
5	#10400.00	57.4 PK	74.0	-16.6	1.40 V	274	42.22	15.18
6	#10400.00	45.3 AV	54.0	-8.7	1.40 V	274	30.12	15.18
7	15600.00	64.8 PK	74.0	-9.2	1.16 V	314	42.68	22.12
8	15600.00	52.2 AV	54.0	-1.8	1.16 V	314	30.08	22.12

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	5150.00	64.2 PK	74.0	-9.8	1.06 H	196	55.60	8.60
2	5150.00	46.3 AV	54.0	-7.7	1.06 H	196	37.70	8.60
3	*5240.00	111.0 PK			1.06 H	196	101.99	9.01
4	*5240.00	98.7 AV			1.06 H	196	89.69	9.01
5	5350.00	56.4 PK	74.0	-17.6	1.06 H	196	47.09	9.31
6	5350.00	40.5 AV	54.0	-13.5	1.06 H	196	31.19	9.31
7	#10480.00	54.2 PK	74.0	-19.8	1.00 H	286	38.40	15.80
8	#10480.00	42.4 AV	54.0	-11.6	1.00 H	286	26.60	15.80
9	15720.00	60.8 PK	74.0	-13.2	1.25 H	326	39.00	21.80
10	15720.00	48.9 AV	54.0	-5.1	1.25 H	326	27.10	21.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.3 PK	74.0	-8.7	1.32 V	92	56.70	8.60
2	5150.00	47.4 AV	54.0	-6.6	1.32 V	92	38.80	8.60
3	*5240.00	113.0 PK			1.32 V	92	103.99	9.01
4	*5240.00	101.8 AV			1.32 V	92	92.79	9.01
5	5350.00	58.4 PK	74.0	-15.6	1.32 V	92	49.09	9.31
6	5350.00	42.4 AV	54.0	-11.6	1.32 V	92	33.09	9.31
7	#10480.00	57.5 PK	74.0	-16.5	1.38 V	283	41.70	15.80
8	#10480.00	45.5 AV	54.0	-8.5	1.38 V	283	29.70	15.80
9	15720.00	64.3 PK	74.0	-9.7	1.21 V	315	42.50	21.80
10	15720.00	51.8 AV	54.0	-2.2	1.21 V	315	30.00	21.80

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.1 PK	74.0	-14.9	1.12 H	210	50.50	8.60
2	5150.00	42.4 AV	54.0	-11.6	1.12 H	210	33.80	8.60
3	*5260.00	110.8 PK			1.12 H	210	101.73	9.07
4	*5260.00	98.0 AV			1.12 H	210	88.93	9.07
5	5350.00	61.3 PK	74.0	-12.7	1.12 H	210	51.99	9.31
6	5350.00	44.6 AV	54.0	-9.4	1.12 H	210	35.29	9.31
7	#10520.00	54.4 PK	74.0	-19.6	1.06 H	291	38.42	15.98
8	#10520.00	42.4 AV	54.0	-11.6	1.06 H	291	26.42	15.98
9	15780.00	60.7 PK	74.0	-13.3	1.30 H	313	38.71	21.99
10	15780.00	48.6 AV	54.0	-5.4	1.30 H	313	26.61	21.99
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	60.0 PK	74.0	-14.0	1.32 V	92	51.40	8.60
2	5150.00	43.5 AV	54.0	-10.5	1.32 V	92	34.90	8.60
3	*5260.00	112.8 PK			1.32 V	92	103.73	9.07
4	*5260.00	101.3 AV			1.32 V	92	92.23	9.07
5	5350.00	62.7 PK	74.0	-11.3	1.32 V	92	53.39	9.31
6	5350.00	45.8 AV	54.0	-8.2	1.32 V	92	36.49	9.31
7	#10520.00	57.3 PK	74.0	-16.7	1.36 V	295	41.32	15.98
8	#10520.00	45.4 AV	54.0	-8.6	1.36 V	295	29.42	15.98
9	15780.00	64.1 PK	74.0	-9.9	1.22 V	299	42.11	21.99
10	15780.00	51.4 AV	54.0	-2.6	1.22 V	299	29.41	21.99

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	110.7 PK			1.15 H	194	101.49	9.21
2	*5300.00	98.3 AV			1.15 H	194	89.09	9.21
3	5350.00	69.9 PK	74.0	-4.1	1.15 H	194	60.59	9.31
4	5350.00	52.3 AV	54.0	-1.7	1.15 H	194	42.99	9.31
5	10600.00	54.2 PK	74.0	-19.8	1.00 H	263	38.08	16.12
6	10600.00	42.4 AV	54.0	-11.6	1.00 H	263	26.28	16.12
7	15900.00	61.5 PK	74.0	-12.5	1.34 H	317	39.40	22.10
8	15900.00	49.2 AV	54.0	-4.8	1.34 H	317	27.10	22.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	112.3 PK			1.30 V	92	103.09	9.21
2	*5300.00	100.9 AV			1.30 V	92	91.69	9.21
3	5350.00	71.2 PK	74.0	-2.8	1.30 V	92	61.89	9.31
4	5350.00	53.9 AV	54.0	-0.1	1.30 V	92	44.59	9.31
5	10600.00	57.5 PK	74.0	-16.5	1.41 V	272	41.38	16.12
6	10600.00	45.3 AV	54.0	-8.7	1.41 V	272	29.18	16.12
7	15900.00	64.1 PK	74.0	-9.9	1.26 V	320	42.00	22.10
8	15900.00	51.8 AV	54.0	-2.2	1.26 V	320	29.70	22.10

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	107.8 PK			1.14 H	193	98.55	9.25
2	*5320.00	95.0 AV			1.14 H	193	85.75	9.25
3	5350.00	71.5 PK	74.0	-2.5	1.14 H	193	62.19	9.31
4	5350.00	52.2 AV	54.0	-1.8	1.14 H	193	42.89	9.31
5	10640.00	55.3 PK	74.0	-18.7	1.07 H	285	39.04	16.26
6	10640.00	43.0 AV	54.0	-11.0	1.07 H	285	26.74	16.26
7	15960.00	61.9 PK	74.0	-12.1	1.26 H	304	39.92	21.98
8	15960.00	49.7 AV	54.0	-4.3	1.26 H	304	27.72	21.98
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	110.2 PK			1.29 V	92	100.95	9.25
2	*5320.00	98.3 AV			1.29 V	92	89.05	9.25
3	5350.00	72.9 PK	74.0	-1.1	1.30 V	92	63.59	9.31
4	5350.00	53.6 AV	54.0	-0.4	1.30 V	92	44.29	9.31
5	10640.00	58.2 PK	74.0	-15.8	1.36 V	295	41.94	16.26
6	10640.00	46.0 AV	54.0	-8.0	1.36 V	295	29.74	16.26
7	15960.00	65.0 PK	74.0	-9.0	1.25 V	313	43.02	21.98
8	15960.00	52.2 AV	54.0	-1.8	1.25 V	313	30.22	21.98

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	65.0 PK	74.0	-9.0	1.18 H	183	55.35	9.65
2	5460.00	48.7 AV	54.0	-5.3	1.18 H	183	39.05	9.65
3	#5470.00	65.8 PK	74.0	-8.2	1.18 H	183	56.11	9.69
4	#5470.00	52.0 AV	54.0	-2.0	1.18 H	183	42.31	9.69
5	*5500.00	108.8 PK			1.18 H	183	98.99	9.81
6	*5500.00	97.3 AV			1.18 H	183	87.49	9.81
7	11000.00	55.7 PK	74.0	-18.3	1.04 H	268	38.10	17.60
8	11000.00	43.3 AV	54.0	-10.7	1.04 H	268	25.70	17.60
9	#16500.00	61.3 PK	74.0	-12.7	1.32 H	315	37.16	24.14
10	#16500.00	49.2 AV	54.0	-4.8	1.32 H	315	25.06	24.14
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	66.2 PK	74.0	-7.8	1.35 V	92	56.55	9.65
2	5460.00	49.7 AV	54.0	-4.3	1.35 V	92	40.05	9.65
3	#5470.00	66.8 PK	74.0	-7.2	1.35 V	92	57.11	9.69
4	#5470.00	53.2 AV	54.0	-0.8	1.35 V	92	43.51	9.69
5	*5500.00	110.3 PK			1.35 V	92	100.49	9.81
6	*5500.00	97.8 AV			1.35 V	92	87.99	9.81
7	11000.00	57.4 PK	74.0	-16.6	1.42 V	289	39.80	17.60
8	11000.00	45.6 AV	54.0	-8.4	1.42 V	289	28.00	17.60
9	#16500.00	64.0 PK	74.0	-10.0	1.23 V	324	39.86	24.14
10	#16500.00	51.7 AV	54.0	-2.3	1.23 V	324	27.56	24.14

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.



A D T

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	5460.00	59.6 PK	74.0	-14.4	1.71 H	219	49.95	9.65
2	5460.00	41.7 AV	54.0	-12.3	1.71 H	219	32.05	9.65
3	#5470.00	57.3 PK	74.0	-16.7	1.71 H	219	47.61	9.69
4	#5470.00	42.2 AV	54.0	-11.8	1.71 H	219	32.51	9.69
5	*5580.00	109.4 PK			1.71 H	219	99.36	10.04
6	*5580.00	97.4 AV			1.71 H	219	87.36	10.04
7	#5725.00	54.4 PK	74.0	-19.6	1.71 H	219	44.02	10.38
8	#5725.00	41.2 AV	54.0	-12.8	1.71 H	219	30.82	10.38
9	11160.00	55.0 PK	74.0	-19.0	1.01 H	276	37.97	17.03
10	11160.00	42.9 AV	54.0	-11.1	1.01 H	276	25.87	17.03
11	#16740.00	61.7 PK	74.0	-12.3	1.29 H	313	37.20	24.50
12	#16740.00	49.4 AV	54.0	-4.6	1.29 H	313	24.90	24.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.0 PK	74.0	-13.0	1.32 V	103	51.35	9.65
2	5460.00	43.3 AV	54.0	-10.7	1.32 V	103	33.65	9.65
3	#5470.00	59.2 PK	74.0	-14.8	1.32 V	103	49.51	9.69
4	#5470.00	44.2 AV	54.0	-9.8	1.32 V	103	34.51	9.69
5	*5580.00	110.2 PK			1.32 V	103	100.16	10.04
6	*5580.00	98.7 AV			1.32 V	103	88.66	10.04
7	#5725.00	56.1 PK	74.0	-17.9	1.32 V	103	45.72	10.38
8	#5725.00	42.7 AV	54.0	-11.3	1.32 V	103	32.32	10.38
9	11160.00	57.3 PK	74.0	-16.7	1.36 V	286	40.27	17.03
10	11160.00	45.4 AV	54.0	-8.6	1.36 V	286	28.37	17.03
11	#16740.00	64.1 PK	74.0	-9.9	1.20 V	308	39.60	24.50
12	#16740.00	51.6 AV	54.0	-2.4	1.20 V	308	27.10	24.50

REMARKS:

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



A D T

CHANNEL	TX Channel 132	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.1 PK	74.0	-19.9	1.68 H	215	44.45	9.65
2	5460.00	41.1 AV	54.0	-12.9	1.68 H	215	31.45	9.65
3	#5470.00	54.0 PK	74.0	-20.0	1.68 H	215	44.31	9.69
4	#5470.00	41.6 AV	54.0	-12.4	1.68 H	215	31.91	9.69
5	*5660.00	107.2 PK			1.68 H	215	96.96	10.24
6	*5660.00	96.6 AV			1.68 H	215	86.36	10.24
7	#5725.00	62.3 PK	74.0	-11.7	1.68 H	215	51.92	10.38
8	#5725.00	47.2 AV	54.0	-6.8	1.68 H	215	36.82	10.38
9	11320.00	54.7 PK	74.0	-19.3	1.00 H	290	37.07	17.63
10	11320.00	42.6 AV	54.0	-11.4	1.00 H	290	24.97	17.63
11	#16980.00	62.0 PK	74.0	-12.0	1.32 H	318	36.56	25.44
12	#16980.00	50.0 AV	54.0	-4.0	1.32 H	318	24.56	25.44

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	56.6 PK	74.0	-17.4	1.29 V	102	46.95	9.65
2	5460.00	42.8 AV	54.0	-11.2	1.29 V	102	33.15	9.65
3	#5470.00	55.9 PK	74.0	-18.1	1.29 V	102	46.21	9.69
4	#5470.00	42.8 AV	54.0	-11.2	1.29 V	102	33.11	9.69
5	*5660.00	108.6 PK			1.30 V	102	98.36	10.24
6	*5660.00	97.2 AV			1.30 V	102	86.96	10.24
7	#5725.00	64.3 PK	74.0	-9.7	1.29 V	102	53.92	10.38
8	#5725.00	48.8 AV	54.0	-5.2	1.29 V	102	38.42	10.38
9	11320.00	57.6 PK	74.0	-16.4	1.37 V	289	39.97	17.63
10	11320.00	45.4 AV	54.0	-8.6	1.37 V	289	27.77	17.63
11	#16980.00	63.5 PK	74.0	-10.5	1.22 V	301	38.06	25.44
12	#16980.00	51.2 AV	54.0	-2.8	1.22 V	301	25.76	25.44

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			1.63 H	212	92.06	10.34
2	*5700.00	92.5 AV			1.63 H	212	82.16	10.34
3	#5725.00	67.5 PK	74.0	-6.5	1.63 H	212	57.12	10.38
4	#5725.00	51.4 AV	54.0	-2.6	1.63 H	212	41.02	10.38
5	11400.00	55.5 PK	74.0	-18.5	1.06 H	275	37.98	17.52
6	11400.00	43.1 AV	54.0	-10.9	1.06 H	275	25.58	17.52
7	#17100.00	61.2 PK	74.0	-12.8	1.27 H	309	35.91	25.29
8	#17100.00	49.0 AV	54.0	-5.0	1.27 H	309	23.71	25.29
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	104.4 PK			1.29 V	81	94.06	10.34
2	*5700.00	93.5 AV			1.29 V	81	83.16	10.34
3	#5725.00	69.0 PK	74.0	-5.0	1.29 V	81	58.62	10.38
4	#5725.00	52.9 AV	54.0	-1.1	1.29 V	81	42.52	10.38
5	11400.00	57.5 PK	74.0	-16.5	1.35 V	274	39.98	17.52
6	11400.00	45.5 AV	54.0	-8.5	1.35 V	274	27.98	17.52
7	#17100.00	64.6 PK	74.0	-9.4	1.18 V	313	39.31	25.29
8	#17100.00	52.2 AV	54.0	-1.8	1.18 V	313	26.91	25.29

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	71.6 PK	74.0	-2.4	1.64 H	223	63.00	8.60
2	5150.00	51.2 AV	54.0	-2.8	1.64 H	223	42.60	8.60
3	*5190.00	103.4 PK			1.64 H	223	94.58	8.82
4	*5190.00	91.8 AV			1.64 H	223	82.98	8.82
5	#10380.00	54.2 PK	74.0	-19.8	1.05 H	305	38.83	15.37
6	#10380.00	41.9 AV	54.0	-12.1	1.05 H	305	26.53	15.37
7	15570.00	60.5 PK	74.0	-13.5	1.32 H	291	38.26	22.24
8	15570.00	48.7 AV	54.0	-5.3	1.32 H	291	26.46	22.24
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	73.3 PK	74.0	-0.7	1.32 V	92	64.70	8.60
2	5150.00	53.7 AV	54.0	-0.3	1.32 V	92	45.10	8.60
3	*5190.00	105.8 PK			1.33 V	92	96.98	8.82
4	*5190.00	93.4 AV			1.33 V	92	84.58	8.82
5	#10380.00	58.3 PK	74.0	-15.7	1.48 V	279	42.93	15.37
6	#10380.00	46.2 AV	54.0	-7.8	1.48 V	279	30.83	15.37
7	15570.00	63.0 PK	74.0	-11.0	1.12 V	315	40.76	22.24
8	15570.00	50.6 AV	54.0	-3.4	1.12 V	315	28.36	22.24

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	69.1 PK	74.0	-4.9	1.66 H	231	60.50	8.60
2	5150.00	50.0 AV	54.0	-4.0	1.66 H	231	41.40	8.60
3	*5230.00	107.1 PK			1.66 H	231	98.13	8.97
4	*5230.00	96.2 AV			1.66 H	231	87.23	8.97
5	5350.00	56.4 PK	74.0	-17.6	1.66 H	231	47.09	9.31
6	5350.00	40.8 AV	54.0	-13.2	1.66 H	231	31.49	9.31
7	#10460.00	54.5 PK	74.0	-19.5	1.06 H	301	38.86	15.64
8	#10460.00	42.1 AV	54.0	-11.9	1.06 H	301	26.46	15.64
9	15690.00	60.9 PK	74.0	-13.1	1.34 H	292	39.12	21.78
10	15690.00	48.9 AV	54.0	-5.1	1.34 H	292	27.12	21.78
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	71.4 PK	74.0	-2.6	1.32 V	92	62.80	8.60
2	5150.00	53.5 AV	54.0	-0.5	1.32 V	92	44.90	8.60
3	*5230.00	108.8 PK			1.32 V	92	99.83	8.97
4	*5230.00	97.4 AV			1.32 V	92	88.43	8.97
5	5350.00	58.1 PK	74.0	-15.9	1.32 V	92	48.79	9.31
6	5350.00	43.4 AV	54.0	-10.6	1.32 V	92	34.09	9.31
7	#10460.00	58.2 PK	74.0	-15.8	1.41 V	263	42.56	15.64
8	#10460.00	46.4 AV	54.0	-7.6	1.41 V	263	30.76	15.64
9	15690.00	63.3 PK	74.0	-10.7	1.20 V	310	41.52	21.78
10	15690.00	51.2 AV	54.0	-2.8	1.20 V	310	29.42	21.78

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.6 PK	74.0	-6.4	1.67 H	216	59.00	8.60
2	5150.00	49.5 AV	54.0	-4.5	1.67 H	216	40.90	8.60
3	*5270.00	106.8 PK			1.67 H	216	97.69	9.11
4	*5270.00	95.6 AV			1.67 H	216	86.49	9.11
5	5350.00	67.3 PK	74.0	-6.7	1.67 H	216	57.99	9.31
6	5350.00	50.1 AV	54.0	-3.9	1.67 H	216	40.79	9.31
7	#10540.00	55.0 PK	74.0	-19.0	1.07 H	300	38.98	16.02
8	#10540.00	42.5 AV	54.0	-11.5	1.07 H	300	26.48	16.02
9	15810.00	60.4 PK	74.0	-13.6	1.33 H	290	38.35	22.05
10	15810.00	48.6 AV	54.0	-5.4	1.33 H	290	26.55	22.05
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	69.8 PK	74.0	-4.2	1.32 V	91	61.20	8.60
2	5150.00	52.6 AV	54.0	-1.4	1.32 V	91	44.00	8.60
3	*5270.00	108.7 PK			1.32 V	91	99.59	9.11
4	*5270.00	97.2 AV			1.32 V	91	88.09	9.11
5	5350.00	69.8 PK	74.0	-4.2	1.32 V	91	60.49	9.31
6	5350.00	53.3 AV	54.0	-0.7	1.32 V	91	43.99	9.31
7	#10540.00	57.7 PK	74.0	-16.3	1.46 V	289	41.68	16.02
8	#10540.00	45.6 AV	54.0	-8.4	1.46 V	289	29.58	16.02
9	15810.00	63.3 PK	74.0	-10.7	1.16 V	324	41.25	22.05
10	15810.00	51.2 AV	54.0	-2.8	1.16 V	324	29.15	22.05

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	103.7 PK			1.61 H	213	94.47	9.23
2	*5310.00	92.4 AV			1.61 H	213	83.17	9.23
3	5350.00	70.7 PK	74.0	-3.3	1.61 H	213	61.39	9.31
4	5350.00	50.8 AV	54.0	-3.2	1.61 H	213	41.49	9.31
5	10620.00	54.3 PK	74.0	-19.7	1.10 H	303	38.12	16.18
6	10620.00	42.2 AV	54.0	-11.8	1.10 H	303	26.02	16.18
7	15930.00	60.6 PK	74.0	-13.4	1.34 H	296	38.55	22.05
8	15930.00	48.8 AV	54.0	-5.2	1.34 H	296	26.75	22.05
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	105.1 PK			1.30 V	92	95.87	9.23
2	*5310.00	93.4 AV			1.30 V	92	84.17	9.23
3	5350.00	72.3 PK	74.0	-1.7	1.30 V	92	62.99	9.31
4	5350.00	53.3 AV	54.0	-0.7	1.30 V	92	43.99	9.31
5	10620.00	57.9 PK	74.0	-16.1	1.44 V	261	41.72	16.18
6	10620.00	46.2 AV	54.0	-7.8	1.44 V	261	30.02	16.18
7	15930.00	63.5 PK	74.0	-10.5	1.12 V	330	41.45	22.05
8	15930.00	51.3 AV	54.0	-2.7	1.12 V	330	29.25	22.05

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	65.1 PK	74.0	-8.9	1.58 H	209	55.45	9.65
2	5460.00	46.9 AV	54.0	-7.1	1.58 H	209	37.25	9.65
3	#5470.00	68.7 PK	74.0	-5.3	1.58 H	209	59.01	9.69
4	#5470.00	50.0 AV	54.0	-4.0	1.58 H	209	40.31	9.69
5	*5510.00	102.0 PK			1.58 H	209	92.16	9.84
6	*5510.00	90.8 AV			1.58 H	209	80.96	9.84
7	11020.00	54.8 PK	74.0	-19.2	1.02 H	312	37.31	17.49
8	11020.00	42.5 AV	54.0	-11.5	1.02 H	312	25.01	17.49
9	#16530.00	60.7 PK	74.0	-13.3	1.32 H	312	36.28	24.42
10	#16530.00	48.5 AV	54.0	-5.5	1.32 H	312	24.08	24.42
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	67.1 PK	74.0	-6.9	1.35 V	92	57.45	9.65
2	5460.00	50.1 AV	54.0	-3.9	1.35 V	92	40.45	9.65
3	#5470.00	71.1 PK	74.0	-2.9	1.35 V	92	61.41	9.69
4	#5470.00	53.3 AV	54.0	-0.7	1.35 V	92	43.61	9.69
5	*5510.00	103.6 PK			1.35 V	92	93.76	9.84
6	*5510.00	91.9 AV			1.35 V	92	82.06	9.84
7	11020.00	57.9 PK	74.0	-16.1	1.39 V	262	40.41	17.49
8	11020.00	46.0 AV	54.0	-8.0	1.39 V	262	28.51	17.49
9	#16530.00	63.2 PK	74.0	-10.8	1.12 V	324	38.78	24.42
10	#16530.00	50.5 AV	54.0	-3.5	1.12 V	324	26.08	24.42

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.



A D T

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	5460.00	64.5 PK	74.0	-9.5	1.53 H	216	54.85	9.65
2	5460.00	46.3 AV	54.0	-7.7	1.53 H	216	36.65	9.65
3	#5470.00	67.4 PK	74.0	-6.6	1.53 H	216	57.71	9.69
4	#5470.00	51.0 AV	54.0	-3.0	1.53 H	216	41.31	9.69
5	*5550.00	105.4 PK			1.53 H	216	95.45	9.95
6	*5550.00	93.6 AV			1.53 H	216	83.65	9.95
7	#5725.00	54.5 PK	74.0	-19.5	1.53 H	216	44.12	10.38
8	#5725.00	39.5 AV	54.0	-14.5	1.53 H	216	29.12	10.38
9	11100.00	54.4 PK	74.0	-19.6	1.06 H	298	37.32	17.08
10	11100.00	42.2 AV	54.0	-11.8	1.06 H	298	25.12	17.08
11	#16650.00	60.9 PK	74.0	-13.1	1.32 H	305	36.14	24.76
12	#16650.00	48.9 AV	54.0	-5.1	1.32 H	305	24.14	24.76
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	66.6 PK	74.0	-7.4	1.37 V	100	56.95	9.65
2	5460.00	49.6 AV	54.0	-4.4	1.37 V	100	39.95	9.65
3	#5470.00	68.9 PK	74.0	-5.1	1.33 V	101	59.21	9.69
4	#5470.00	53.6 AV	54.0	-0.4	1.33 V	101	43.91	9.69
5	*5550.00	107.4 PK			1.32 V	101	97.45	9.95
6	*5550.00	95.2 AV			1.32 V	101	85.25	9.95
7	#5725.00	56.9 PK	74.0	-17.1	1.33 V	101	46.52	10.38
8	#5725.00	42.8 AV	54.0	-11.2	1.33 V	101	32.42	10.38
9	11100.00	57.9 PK	74.0	-16.1	1.43 V	277	40.82	17.08
10	11100.00	45.9 AV	54.0	-8.1	1.43 V	277	28.82	17.08
11	#16650.00	63.3 PK	74.0	-10.7	1.17 V	316	38.54	24.76
12	#16650.00	50.9 AV	54.0	-3.1	1.17 V	316	26.14	24.76

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	102.2 PK			1.51 H	224	91.94	10.26
2	*5670.00	90.9 AV			1.51 H	224	80.64	10.26
3	#5725.00	67.1 PK	74.0	-6.9	1.51 H	224	56.72	10.38
4	#5725.00	49.8 AV	54.0	-4.2	1.51 H	224	39.42	10.38
5	11340.00	54.1 PK	74.0	-19.9	1.00 H	305	36.49	17.61
6	11340.00	42.0 AV	54.0	-12.0	1.00 H	305	24.39	17.61
7	#17010.00	61.0 PK	74.0	-13.0	1.36 H	293	35.48	25.52
8	#17010.00	48.8 AV	54.0	-5.2	1.36 H	293	23.28	25.52
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	103.7 PK			1.29 V	103	93.44	10.26
2	*5670.00	92.0 AV			1.29 V	103	81.74	10.26
3	#5725.00	69.5 PK	74.0	-4.5	1.29 V	103	59.12	10.38
4	#5725.00	53.1 AV	54.0	-0.9	1.29 V	103	42.72	10.38
5	11340.00	57.5 PK	74.0	-16.5	1.42 V	272	39.89	17.61
6	11340.00	45.5 AV	54.0	-8.5	1.42 V	272	27.89	17.61
7	#17010.00	63.3 PK	74.0	-10.7	1.16 V	326	37.78	25.52
8	#17010.00	50.9 AV	54.0	-3.1	1.16 V	326	25.38	25.52

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.

4.3 TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

Frequency Band	Limit
5.15 – 5.25GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.47 – 5.725GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.725 – 5.825GHz	The lesser of 1W (30dBm) or 17dBm + 10logB

NOTE: Where B is the 26dB bandwidth in MHz.

Per KDB 662911 D01 Multiple Transmitter Output v01r02 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

4.3.2 TEST INSTRUMENTS

FOR POWER OUTPUT MEASUREMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter	ML2495A	1014008	Apr. 23, 2013	Apr. 22, 2014
Power Sensor	MA2411B	0917122	Apr. 23, 2013	Apr. 22, 2014

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 : Aug. 05, 2013

FOR 26dB OCCUPIED BANDWIDTH

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP40	100037	Nov. 01, 2012	Oct. 31, 2013

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 : Aug. 05, 2013

4.3.3 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.

Duty cycle of test signal is < 98 %. 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

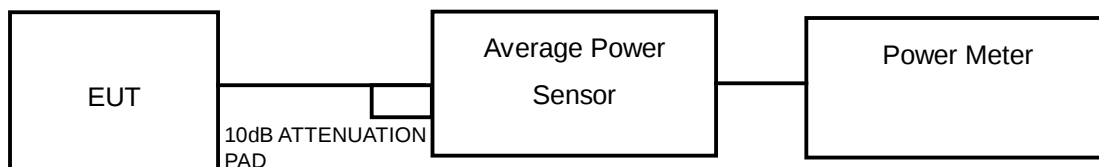
- 1) Set RBW = approximately 1% of the emission bandwidth.
- 2) Set the VBW > RBW.
- 3) Detector = Peak.
- 4) Trace mode = max hold.
- 5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat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

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP

FOR POWER OUTPUT MEASUREMENT



FOR 26dB OCCUPIED BANDWIDTH



4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.3.7 TEST RESULTS

POWER OUTPUT:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	49.091	16.91	17	PASS
40	5200	49.317	16.93	17	PASS
48	5240	49.204	16.92	17	PASS
52	5260	98.401	19.93	24	PASS
60	5300	54.450	17.36	24	PASS
64	5320	30.761	14.88	24	PASS
100	5500	58.345	17.66	24	PASS
116	5580	104.472	20.19	24	PASS
132	5660	86.099	19.35	24	PASS
140	5700	28.445	14.54	24	PASS

26dB OCCUPIED BANDWIDTH:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
36	5180	29.13
40	5200	31.76
48	5240	26.06
52	5260	46.04
60	5300	35.81
64	5320	22.87
100	5500	37.65
116	5580	45.77
132	5660	38.61
140	5700	22.99

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

Power Limit = 4dBm + 10logB < Band 1>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
36	5180	29.13	18.64 > 17
40	5200	31.76	19.01 > 17
48	5240	26.06	18.15 > 17
Power Limit = 11dBm + 10logB < Band 2~3>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
52	5260	46.04	27.63 > 24
60	5300	35.81	26.54 > 24
64	5320	22.87	24.59 > 24
100	5500	37.65	26.75 > 24
116	5580	45.77	27.6 > 24
132	5660	38.61	26.86 > 24
140	5700	22.99	24.61 > 24

POWER OUTPUT:

802.11n (HT20)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	13.27	14.03	46.525	16.68	17	PASS
40	5200	13.34	14.38	48.993	16.90	17	PASS
48	5240	13.36	14.49	49.796	16.97	17	PASS
52	5260	17.00	17.27	103.452	20.15	24	PASS
60	5300	15.83	15.19	71.319	18.53	24	PASS
64	5320	13.89	13.49	46.827	16.70	24	PASS
100	5500	15.95	16.17	80.755	19.07	24	PASS
116	5580	17.07	17.29	104.513	20.19	24	PASS
132	5660	17.08	17.26	104.261	20.18	24	PASS
140	5700	12.72	13.76	42.475	16.28	24	PASS

26dB OCCUPIED BANDWIDTH:

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
36	5180	22.99	22.15
40	5200	24.98	21.40
48	5240	23.02	22.37
52	5260	57.63	54.76
60	5300	33.29	31.25
64	5320	22.90	23.56
100	5500	39.90	38.38
116	5580	52.64	47.72
132	5660	39.10	37.76
140	5700	25.99	26.52

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

Power Limit = 4dBm + 10logB < Band 1>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
36	5180	22.15	17.45 > 17
40	5200	21.40	17.3 > 17
48	5240	22.37	17.49 > 17
Power Limit = 11dBm + 10logB < Band 2~3>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
52	5260	54.76	28.38 > 24
60	5300	31.25	25.94 > 24
64	5320	22.90	24.59 > 24
100	5500	38.38	26.84 > 24
116	5580	47.72	27.78 > 24
132	5660	37.76	26.77 > 24
140	5700	25.99	25.14 > 24

POWER OUTPUT:

802.11n (HT40)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
38	5190	12.63	12.31	35.345	15.48	17	PASS
46	5230	14.28	13.61	49.753	16.97	17	PASS
54	5270	15.66	15.06	68.876	18.38	24	PASS
62	5310	12.10	11.76	31.215	14.94	24	PASS
102	5510	14.28	14.84	57.271	17.58	24	PASS
110	5550	16.67	17.14	98.213	19.92	24	PASS
134	5670	13.37	14.58	50.435	17.03	24	PASS

26dB OCCUPIED BANDWIDTH:

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
38	5190	48.46	50.99
46	5230	65.05	57.20
54	5270	88.53	85.75
62	5310	47.11	47.72
102	5510	86.14	84.66
110	5550	110.02	113.62
134	5670	88.46	87.91

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

Power Limit = 4dBm + 10logB < Band 1>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
38	5190	48.46	20.85 > 17
46	5230	57.20	21.57 > 17
Power Limit = 11dBm + 10logB < Band 2~3>			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
54	5270	85.75	30.33 > 24
62	5310	47.11	27.73 > 24
102	5510	84.66	30.27 > 24
110	5550	110.02	31.41 > 24
134	5670	87.91	30.44 > 24

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4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

Frequency Band	Limit
5.15 ~ 5.25GHz	4dBm
5.25 ~ 5.35GHz	11dBm
5.47 ~ 5.725GHz	11dBm
5.725 ~ 5.825GHz	17dBm

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP40	100037	Nov. 01, 2012	Oct. 31, 2013

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 : Aug. 05, 2013

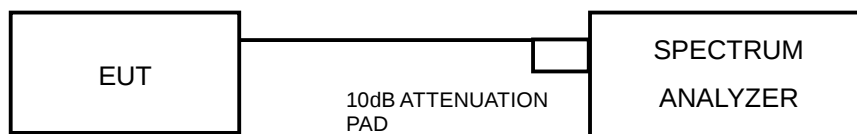
4.4.3 TEST PROCEDURES

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW $\geq$ 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 and for duty cycle of test signal is < 98% add 10 log (1/duty cycle)

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6

4.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	3.82	4	PASS
40	5200	3.85	4	PASS
48	5240	3.78	4	PASS
52	5260	7.27	11	PASS
60	5300	4.69	11	PASS
64	5320	2.25	11	PASS
100	5500	5.18	11	PASS
116	5580	6.87	11	PASS
132	5660	5.08	11	PASS
140	5700	2.04	11	PASS

802.11n (HT20)

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	0.79	0.03	3.44	4	PASS
40	5200	1.10	0.56	3.85	4	PASS
48	5240	0.81	0.80	3.82	4	PASS
52	5260	4.91	4.48	7.71	11	PASS
60	5300	2.90	2.29	5.62	11	PASS
64	5320	1.01	0.88	3.96	11	PASS
100	5500	3.38	3.59	6.50	11	PASS
116	5580	3.66	3.84	6.76	11	PASS
132	5660	2.30	3.09	5.72	11	PASS
140	5700	-0.33	1.11	3.46	11	PASS

NOTE:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.



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802.11n (HT40)

CHAN.	CHAN. FREQ. (MHz)	PSD W/O DUTY FACTOR (dBm)		DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
38	5190	-3.81	-4.10	0.17	-0.77	4	PASS
46	5230	-2.20	-2.58	0.17	0.79	4	PASS
54	5270	-0.75	-1.32	0.17	2.15	11	PASS
62	5310	-4.40	-4.57	0.17	-1.30	11	PASS
102	5510	-1.90	-1.40	0.17	1.54	11	PASS
110	5550	0.45	0.89	0.17	3.86	11	PASS
134	5670	-3.29	-1.83	0.17	0.68	11	PASS

- NOTE:**
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
 2. Refer to section 3.4 for duty cycle spectrum plot.

4.5 PEAK POWER EXCURSION MEASUREMENT

4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Shall not exceed 13 dB

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP40	100037	Nov. 01, 2012	Oct. 31, 2013

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 : Aug. 05, 2013

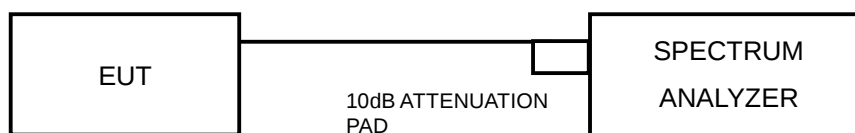
4.5.3 TEST PROCEDURE

1. Set RBW = 1 MHz, VBW $\geq$ 3 MHz, Detector = peak.
2. Trace mode = max-hold. Allow the sweeps to continue until the trace stabilizes.
3. Use the peak search function to find the peak of the spectrum.
4. Measure the PPSD.
5. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.5.7 TEST RESULTS

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	12.92	3.82	9.10	13	PASS
40	5200	13.00	3.85	9.15	13	PASS
48	5240	13.12	3.78	9.34	13	PASS
52	5260	16.79	7.27	9.52	13	PASS
60	5300	13.81	4.69	9.12	13	PASS
64	5320	11.16	2.25	8.91	13	PASS
100	5500	14.51	5.18	9.33	13	PASS
116	5580	16.05	6.87	9.18	13	PASS
132	5660	14.27	5.08	9.19	13	PASS
140	5700	11.54	2.04	9.50	13	PASS

802.11n (HT20)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)		PPSD (dBm)		PEAK EXCURSION (dB)		LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1		
36	5180	10.17	11.02	0.79	0.03	9.38	10.99	13	PASS
40	5200	10.08	11.08	1.10	0.56	8.98	10.52	13	PASS
48	5240	10.24	11.43	0.81	0.80	9.43	10.63	13	PASS
52	5260	14.93	15.29	4.91	4.48	10.02	10.81	13	PASS
60	5300	12.05	12.74	2.90	2.29	9.15	10.45	13	PASS
64	5320	10.24	11.64	1.01	0.88	9.23	10.76	13	PASS
100	5500	12.46	14.17	3.38	3.59	9.08	10.58	13	PASS
116	5580	13.10	13.92	3.66	3.84	9.44	10.08	13	PASS
132	5660	11.22	13.39	2.30	3.09	8.92	10.30	13	PASS
140	5700	9.36	11.85	-0.33	1.11	9.69	10.74	13	PASS



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802.11n (HT40)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)		DUTY FACTOR	PPSD WITH DUTY FACTOR (dBm)		PEAK EXCURSION (dB)		LIMIT (dB)	PASS/ FAIL
		CHAIN 0	CHAIN 1		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1		
38	5190	5.76	6.38	0.17	-3.64	-3.93	9.40	10.31	13	PASS
46	5230	6.99	7.69	0.17	-2.03	-2.41	9.02	10.10	13	PASS
54	5270	9.20	9.11	0.17	-0.58	-1.15	9.78	10.26	13	PASS
62	5310	4.92	6.01	0.17	-4.23	-4.40	9.15	10.41	13	PASS
102	5510	7.99	9.42	0.17	-1.73	-1.23	9.72	10.65	13	PASS
110	5550	10.16	11.62	0.17	0.62	1.06	9.54	10.56	13	PASS
134	5670	6.65	8.47	0.17	-3.12	-1.66	9.77	10.13	13	PASS

4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP40	100037	Nov. 01, 2012	Oct. 31, 2013
Temperature & Humidity Chamber GIANTFORCE	GTH-150-40-S P-AR	MAA0812-008	Jan. 17, 2013	Jan. 16, 2014

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 : Aug. 05, 2013

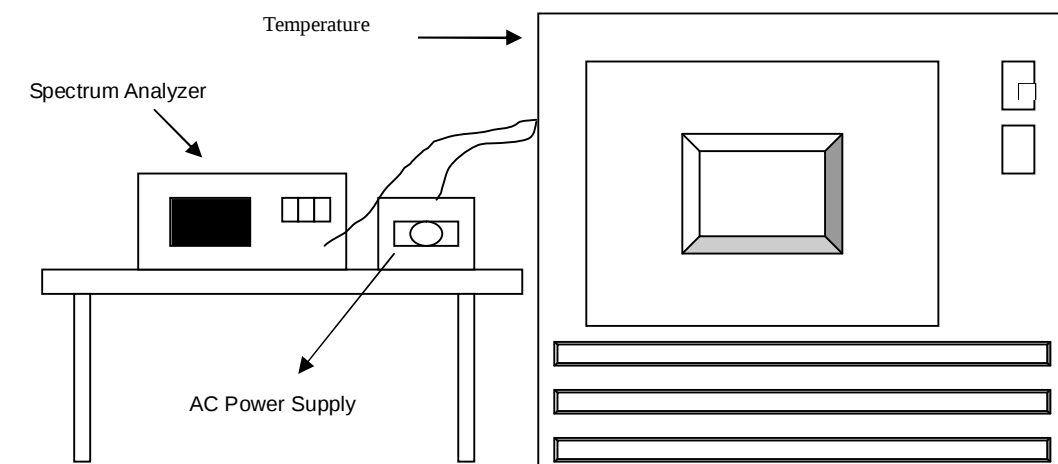
4.6.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. 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.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. 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.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



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: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
50	120	5320.0209	0.00039	5320.0218	0.00041	5320.0285	0.00054	5320.0219	0.00041
40	120	5320.0067	0.00013	5320.0058	0.00011	5319.9972	-0.00005	5319.9991	-0.00002
30	120	5320.0066	0.00012	5320.0032	0.00006	5320.0084	0.00016	5320.0002	0.00000
20	120	5319.9975	-0.00005	5320.0007	0.00001	5319.9913	-0.00016	5319.9951	-0.00009
10	120	5319.9872	-0.00024	5319.9898	-0.00019	5319.9877	-0.00023	5319.9888	-0.00021
0	120	5320.0118	0.00022	5320.0204	0.00038	5320.0141	0.00027	5320.0156	0.00029
-10	120	5320.0062	0.00012	5320.0113	0.00021	5320.0042	0.00008	5320.0015	0.00003
-20	120	5320.006	0.00011	5320.0133	0.00025	5320.0079	0.00015	5320.009	0.00017
-30	120	5319.9919	-0.00015	5319.9866	-0.00025	5319.9873	-0.00024	5319.9842	-0.00030

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
20	138	5319.9979	-0.00004	5319.9997	-0.00001	5319.9917	-0.00016	5319.9958	-0.00008
	120	5319.9975	-0.00005	5320.0007	0.00001	5319.9913	-0.00016	5319.9951	-0.00009
	102	5319.9984	-0.00003	5320.0011	0.00002	5319.9905	-0.00018	5319.9953	-0.00009

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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6. 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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Fax: 886-2-26052943

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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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7.APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

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