



FCC TEST REPORT (15.407)

REPORT NO.: RF130523E10-1

MODEL NO.: J20H076

FCC ID: MCLJ20H076

RECEIVED: May 23, 2013

TESTED: May 29 to June 05, 2013

ISSUED: July 15, 2013

APPLICANT: Hon Hai PRECISION IND.CO.,LTD

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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
RF130523E10-1	Original release	July 15, 2013

1. CERTIFICATION

PRODUCT: 802.11abgn wireless module
BRAND NAME: FOXCONN
MODEL NO.: J20H076
TEST SAMPLE: ENGINEERING SAMPLE
APPLICANT: Hon Hai PRECISION IND.CO.,LTD
TESTED: May 29 to June 05, 2013
STANDARDS: FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10-2009

The above equipment (Model: J20H076) 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:** July 15, 2013
(Lori Chung, Specialist)

APPROVED BY :  , **DATE:** July 15, 2013
(May Chen, Manager)



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2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

For 5GHz, 5150~5250MHz, 5150~5350GHz, 5470~5600GHz & 5650~5725GHz

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 -17.96dB at 0.19687MHz
15.407(b/1/2/3) (b)(6)	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.5dB at 5151.00MHz & 15780.00MHz & 16740.00MHz
15.407(a/1/2)	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)	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 Murata not a standard connector.

NOTE: The EUT was operating in 2400 ~ 2483.5MHz, 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 2400 ~ 2483.5MHz and 5.725~5.850GHz RF parameters was recorded in another test report.



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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)	5.46 dB
Radiated emissions (1GHz -6GHz)	3.73 dB
Radiated emissions (6GHz -18GHz)	3.90 dB
Radiated emissions (18GHz -40GHz)	4.11 dB



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3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	802.11abgn wireless module
MODEL NO.	J20H076
POWER SUPPLY	DC 3.3V \pm 10% from host equipment
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 300Mbps
OPERATING FREQUENCY	For 15.407 802.11a: 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.5~5.58GHz & 5.66~5.7GHz
	For 15.247 802.11b & 802.11g: 2.412 ~ 2.462GHz 802.11a: 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)
	For 15.247(5GHz) 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40)



MAXIMUM OUTPUT POWER	For 15.407 802.11a: 235.624mW 802.11n (HT20): 232.582mW 802.11n (HT40): 140.116mW For 15.247 (2.4GHz) 802.11b: 549.898mW 802.11g: 657.863mW 802.11n (HT20): 634.394mW For 15.247 (5GHz) 802.11a: 327.243mW 802.11n (HT20): 363.291mW 802.11n (HT40): 361.083mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	NA

NOTE:

- There are 2.4GHz and 5GHz WLAN technology used for the EUT. The test report of EUT listed as below table:

Function	Report No.
WLAN	RF130523E10 (15.247) RF130523E10-1(15.407) RF130523E10-2(DFS)

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

Transmitter Circuit	Brand	Model	Antenna Type	Antenna Gain (dBi)	Connector	Frequency range (MHz to MHz)
Chain (0)	NA	NA	PCB	3.10	Murata	2400~2483.5
				4.51		5150~5350
				4.75		5470~5725
				4.80		5725~5845
Chain (1)	NA	NA	PCB	3.18	Murata	2400~2483.5
				4.54		5150~5350
				4.78		5470~5725
				4.98		5725~5845



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3. The EUT is 2 * 2 MIMO without 802.11n beam forming function.

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

4. 2.4GHz and 5GHz technology cannot transmit at same time.
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.



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3.2 DESCRIPTION OF TEST MODES

Operated in 5150MHz ~ 5350MHz bands:

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

CHANNEL	FREQUENCY
36	5180 MHz
40	5200 MHz
44	5220 MHz
48	5240 MHz
52	5260 MHz
56	5280 MHz
60	5300 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 and 802.11n (HT20):

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

NOTE: 2. The EUT had been pre-tested on the positioned of each 3 axis. The radiated emission worst case was found when positioned on **Z-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
For 5 GHz 802.11n (HT20)	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6.5
For 5 GHz 802.11n (HT40)	38 to 134	38, 46, 54, 62, 102, 110, 134	OFDM	BPSK	13.5

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
For 5 GHz 802.11n (HT20)	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6.5
For 5 GHz 802.11n (HT40)	38 to 134	38, 46, 54, 62, 102, 110, 134	OFDM	BPSK	13.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
PLC	25deg. C, 68%RH	120Vac, 60Hz	Jyunchun Lin
RE<1G	22deg. C, 72%RH	120Vac, 60Hz	Robert Cheng
RE ³ 1G	24deg. C, 71%RH	120Vac, 60Hz	Robert Cheng
APCM	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng

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.

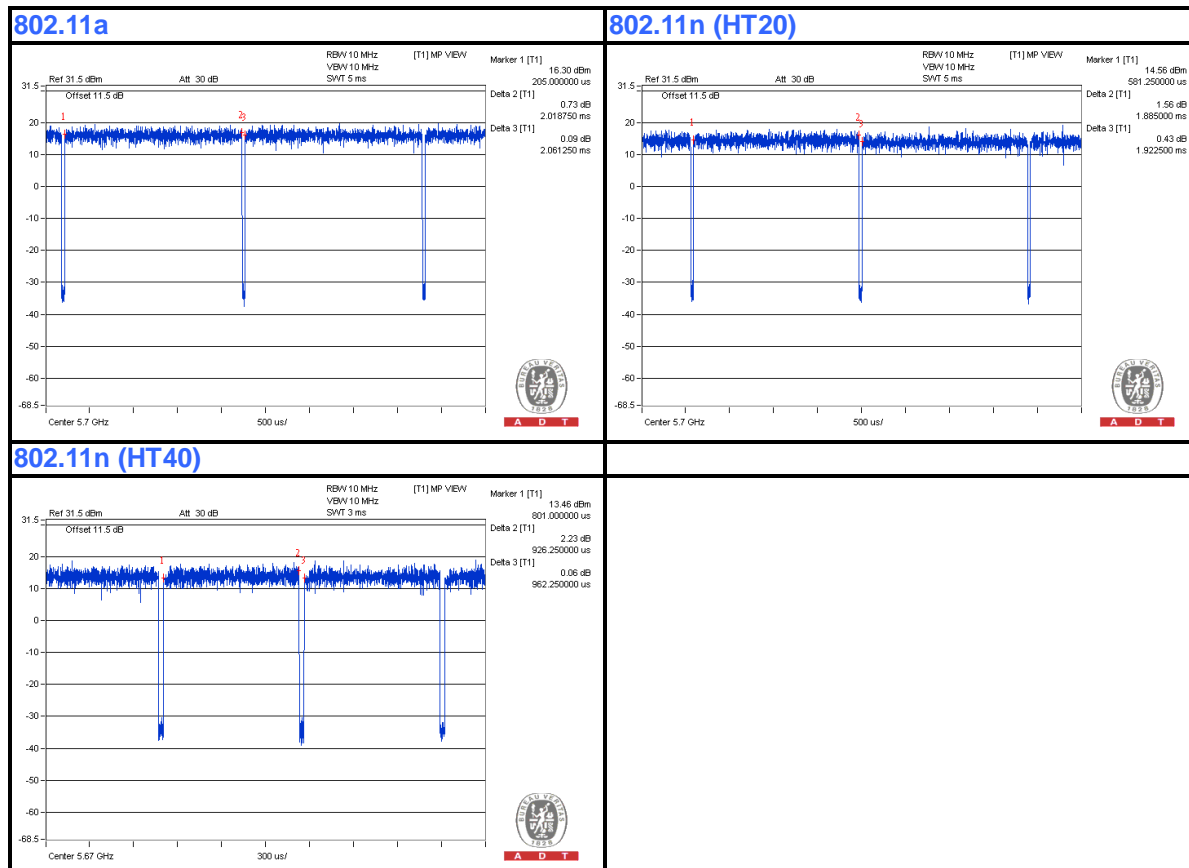
NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DUTY CYCLE OF TEST SIGNAL

802.11a: Duty cycle = 2.019 ms/2.061 ms = 0.98

802.11n (HT20): Duty cycle = 1.885 ms/1.922 ms = 0.981

802.11n (HT40): Duty cycle = 0.926 ms/0.962 ms = 0.963, Duty factor = $10 \cdot \log(1/0.963) = 0.17$



3.5 DESCRIPTION OF SUPPORT UNITS

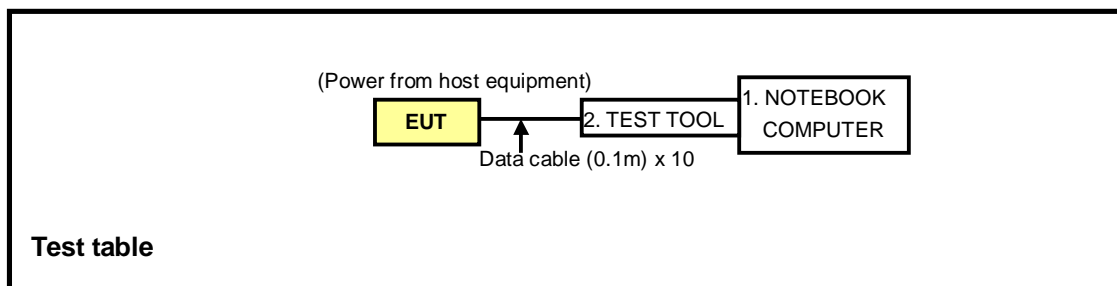
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER (For Conducted emission test)	HP	HSTNN-146C	NA	NA
	NOTEBOOK COMPUTER (For Other test items)	DELL	PP32LA	FSLB32S	FCC DoC
2	TEST TOOL	Hon Hai	94.0187 REV.0 HF GP	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	Data cable (0.1m)

Note: The power cords of the above support units were unshielded (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 08, 2012	June 07, 2013
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: May 29, 2013



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4.1.3 TEST PROCEDURES

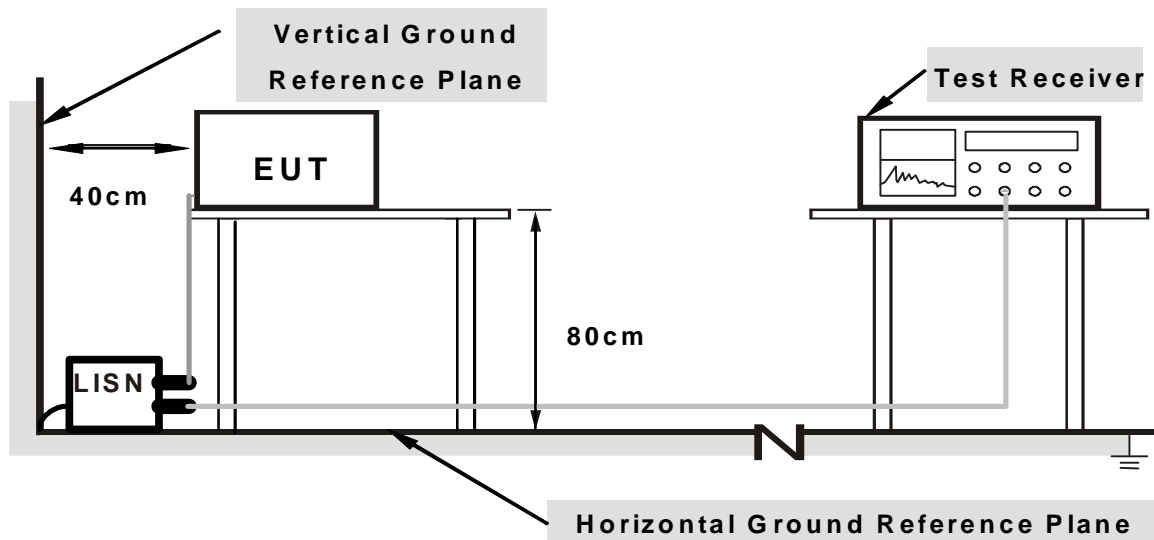
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN.
- b. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- c. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- d. 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.

4.1.6 EUT OPERATING CONDITIONS

1. Turn on the power of EUT.
2. The communication partner run test program “artgui.exe V2.3” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

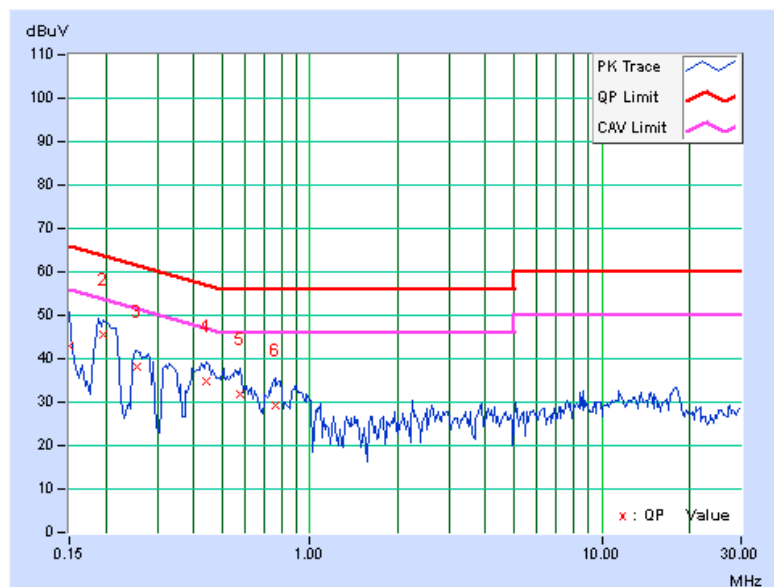
4.1.7 TEST RESULTS

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
--------------	----------	--------------------------	--------------------------------

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15000	0.12	42.90	23.17	43.02	23.29	66.00
2	0.19687	0.14	45.38	32.08	45.52	32.22	63.74	53.74	-18.22	-21.52
3	0.25547	0.15	38.10	23.44	38.25	23.59	61.58	51.58	-23.33	-27.99
4	0.43906	0.18	34.62	20.84	34.80	21.02	57.08	47.08	-22.28	-26.06
5	0.57969	0.19	31.78	20.61	31.97	20.80	56.00	46.00	-24.03	-25.20
6	0.76328	0.20	29.20	17.46	29.40	17.66	56.00	46.00	-26.60	-28.34

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

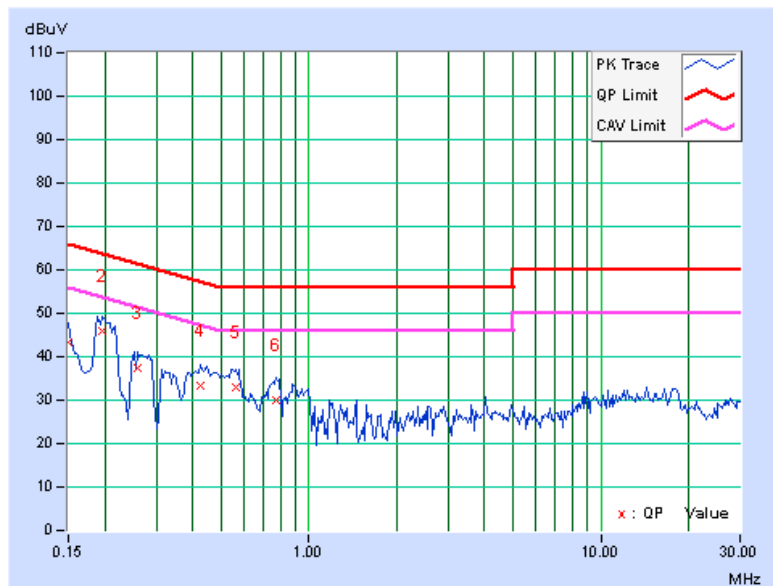


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15000	0.10	43.36	23.78	43.46	23.88	66.00
2	0.19687	0.12	45.66	32.46	45.78	32.58	63.74	53.74	-17.96	-21.16
3	0.25938	0.13	37.15	24.04	37.28	24.17	61.45	51.45	-24.17	-27.28
4	0.42344	0.17	33.06	20.17	33.23	20.34	57.38	47.38	-24.15	-27.04
5	0.56406	0.18	32.93	21.18	33.11	21.36	56.00	46.00	-22.89	-24.64
6	0.77500	0.19	29.86	17.34	30.05	17.53	56.00	46.00	-25.95	-28.47

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.



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

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



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4.2.3 TEST INSTRUMENTS

For Below 1GHz test:

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	MY50010156	Jan. 16, 2013	Jan. 15, 2014
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 14, 2012	Nov. 13, 2013
Pre-Amplifier Agilent	8449B	3008A01923	Oct. 30, 2012	Oct. 29, 2013
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 14, 2012	Nov. 13, 2013
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Mar. 25, 2013	Mar. 24, 2014
Horn_Antenna AISL	AIH.8018	0000220091110	Nov. 27, 2012	Nov. 26, 2013
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 12, 2012	Oct. 11, 2013
RF Cable	NA	RF104-205 RF104-207 RF104-202	Dec. 26, 2012	Dec. 25, 2013
RF Cable	NA	CHHCAB_001	Oct. 07, 2012	Oct. 06, 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. H.
4. The FCC Site Registration No. is 797305.
- 5 The CANADA Site Registration No. is IC 7450H-3.
- 6 Tested Date: May 29, 2013



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For Above 1GHz test:

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 26, 2012	June 25, 2013
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: June 05, 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 a 3 meters chamber. 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.

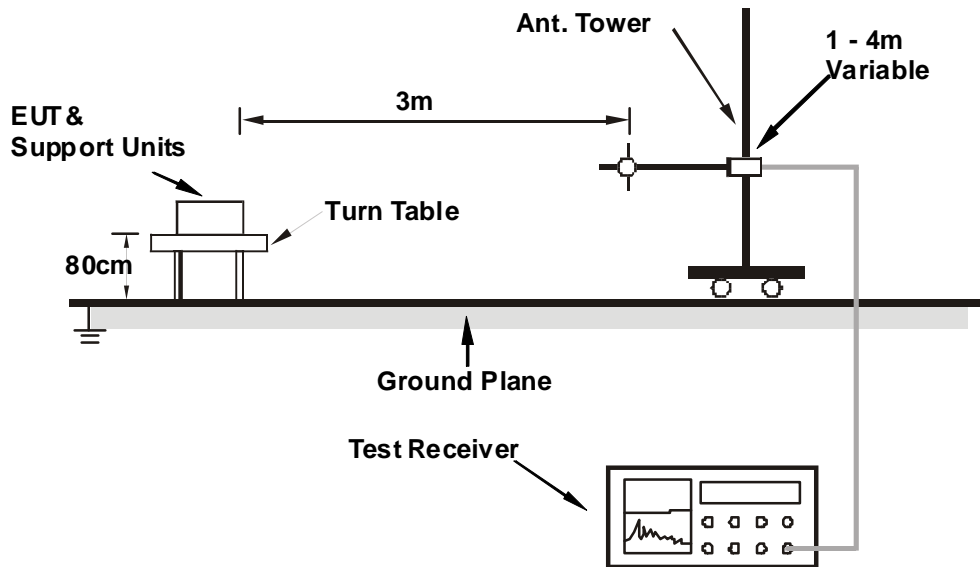
NOTE:

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



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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	180.06	23.6 QP	43.5	-19.9	1.00 H	240	38.29	-14.65
2	240.00	33.3 QP	46.0	-12.7	1.31 H	286	47.80	-14.52
3	437.59	35.4 QP	46.0	-10.6	2.00 H	355	44.04	-8.67
4	600.02	29.2 QP	46.0	-16.8	1.50 H	297	34.60	-5.38
5	649.98	28.4 QP	46.0	-17.6	1.00 H	245	32.91	-4.54
6	750.03	30.4 QP	46.0	-15.7	1.00 H	289	32.92	-2.57

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	118.85	25.2 QP	43.5	-18.3	2.00 V	349	40.35	-15.19
2	240.05	24.6 QP	46.0	-21.4	2.00 V	231	39.13	-14.52
3	385.12	32.0 QP	46.0	-14.0	2.00 V	83	42.27	-10.23
4	480.03	33.8 QP	46.0	-12.2	2.00 V	343	41.88	-8.07
5	720.35	29.9 QP	46.0	-16.1	2.00 V	124	33.67	-3.79
6	940.64	26.6 QP	46.0	-19.4	1.50 V	345	26.18	0.46

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



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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	66.2 PK	74.0	-7.8	1.00 H	147	57.60	8.60
2	5150.00	48.7 AV	54.0	-5.3	1.00 H	147	40.10	8.60
3	*5180.00	105.3 PK			1.00 H	147	96.54	8.76
4	*5180.00	96.2 AV			1.00 H	147	87.44	8.76
5	#10360.00	53.1 PK	74.0	-20.9	1.02 H	301	37.56	15.54
6	#10360.00	41.6 AV	54.0	-12.4	1.02 H	301	26.06	15.54
7	15540.00	53.5 PK	74.0	-20.5	1.16 H	145	31.13	22.37
8	15540.00	42.5 AV	54.0	-11.5	1.16 H	145	20.13	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	72.9 PK	74.0	-1.1	1.14 V	104	64.30	8.60
2	5150.00	51.1 AV	54.0	-2.9	1.14 V	104	42.50	8.60
3	*5180.00	111.6 PK			1.14 V	104	102.84	8.76
4	*5180.00	102.0 AV			1.14 V	104	93.24	8.76
5	#10360.00	52.6 PK	74.0	-21.4	1.00 V	306	37.06	15.54
6	#10360.00	41.3 AV	54.0	-12.7	1.00 V	306	25.76	15.54
7	15540.00	53.8 PK	74.0	-20.2	1.17 V	135	31.43	22.37
8	15540.00	42.9 AV	54.0	-11.1	1.17 V	135	20.53	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	65.9 PK	74.0	-8.1	1.20 H	148	57.30	8.60
2	5150.00	50.5 AV	54.0	-3.5	1.20 H	148	41.90	8.60
3	*5200.00	110.6 PK			1.21 H	129	101.73	8.87
4	*5200.00	102.1 AV			1.21 H	129	93.23	8.87
5	#10400.00	52.8 PK	74.0	-21.2	1.00 H	318	37.62	15.18
6	#10400.00	41.4 AV	54.0	-12.6	1.00 H	318	26.22	15.18
7	15600.00	54.2 PK	74.0	-19.8	1.16 H	144	32.08	22.12
8	15600.00	43.2 AV	54.0	-10.8	1.16 H	144	21.08	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	72.6 PK	74.0	-1.4	1.44 V	217	64.00	8.60
2	5150.00	53.0 AV	54.0	-1.0	1.44 V	217	44.40	8.60
3	*5200.00	116.5 PK			1.44 V	217	107.63	8.87
4	*5200.00	107.5 AV			1.44 V	217	98.63	8.87
5	#10400.00	56.1 PK	74.0	-17.9	1.10 V	141	40.92	15.18
6	#10400.00	45.8 AV	54.0	-8.2	1.10 V	141	30.62	15.18
7	15600.00	60.8 PK	74.0	-13.2	1.22 V	71	38.68	22.12
8	15600.00	48.4 AV	54.0	-5.6	1.22 V	71	26.28	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.



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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	58.9 PK	74.0	-15.1	1.16 H	132	50.30	8.60
2	5150.00	45.7 AV	54.0	-8.3	1.16 H	132	37.10	8.60
3	*5240.00	112.4 PK			1.22 H	120	103.39	9.01
4	*5240.00	102.3 AV			1.22 H	120	93.29	9.01
5	5350.00	54.9 PK	74.0	-19.1	1.15 H	143	45.59	9.31
6	5350.00	45.7 AV	54.0	-8.3	1.15 H	143	36.39	9.31
7	#10480.00	57.2 PK	74.0	-16.8	1.51 H	34	41.40	15.80
8	#10480.00	46.2 AV	54.0	-7.8	1.51 H	34	30.40	15.80
9	15720.00	61.7 PK	74.0	-12.3	1.00 H	0	39.90	21.80
10	15720.00	50.6 AV	54.0	-3.4	1.00 H	0	28.80	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	65.8 PK	74.0	-8.2	1.12 V	100	57.20	8.60
2	5150.00	48.3 AV	54.0	-5.7	1.12 V	100	39.70	8.60
3	*5240.00	118.8 PK			1.12 V	100	109.79	9.01
4	*5240.00	108.0 AV			1.12 V	100	98.99	9.01
5	5350.00	61.0 PK	74.0	-13.0	1.12 V	100	51.69	9.31
6	5350.00	47.6 AV	54.0	-6.4	1.12 V	100	38.29	9.31
7	#10480.00	57.9 PK	74.0	-16.1	1.11 V	168	42.10	15.80
8	#10480.00	47.0 AV	54.0	-7.0	1.11 V	168	31.20	15.80
9	15720.00	65.3 PK	74.0	-8.7	1.30 V	188	43.50	21.80
10	15720.00	53.4 AV	54.0	-0.6	1.30 V	188	31.60	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.



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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	60.6 PK	74.0	-13.4	1.17 H	140	52.00	8.60
2	5150.00	45.7 AV	54.0	-8.3	1.17 H	140	37.10	8.60
3	*5260.00	113.4 PK			1.11 H	124	104.33	9.07
4	*5260.00	103.2 AV			1.11 H	124	94.13	9.07
5	5350.00	64.2 PK	74.0	-9.8	1.15 H	137	54.89	9.31
6	5350.00	48.0 AV	54.0	-6.0	1.15 H	137	38.69	9.31
7	#10520.00	52.4 PK	74.0	-21.6	1.06 H	311	36.42	15.98
8	#10520.00	41.0 AV	54.0	-13.0	1.06 H	311	25.02	15.98
9	15780.00	53.8 PK	74.0	-20.2	1.13 H	138	31.81	21.99
10	15780.00	42.7 AV	54.0	-11.3	1.13 H	138	20.71	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	67.0 PK	74.0	-7.0	1.10 V	103	58.40	8.60
2	5150.00	47.9 AV	54.0	-6.1	1.10 V	103	39.30	8.60
3	*5260.00	119.3 PK			1.10 V	103	110.23	9.07
4	*5260.00	108.6 AV			1.10 V	103	99.53	9.07
5	5350.00	70.8 PK	74.0	-3.2	1.10 V	103	61.49	9.31
6	5350.00	50.6 AV	54.0	-3.4	1.10 V	103	41.29	9.31
7	#10520.00	57.9 PK	74.0	-16.1	1.10 V	153	41.92	15.98
8	#10520.00	47.1 AV	54.0	-6.9	1.10 V	153	31.12	15.98
9	15780.00	64.3 PK	74.0	-9.7	1.30 V	183	42.31	21.99
10	15780.00	53.4 AV	54.0	-0.6	1.30 V	183	31.41	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.



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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	5150.00	52.8 PK	74.0	-21.2	1.17 H	149	44.20	8.60
2	5150.00	44.6 AV	54.0	-9.4	1.17 H	149	36.00	8.60
3	*5300.00	109.5 PK			1.16 H	144	100.29	9.21
4	*5300.00	101.2 AV			1.16 H	144	91.99	9.21
5	5350.00	65.9 PK	74.0	-8.1	1.14 H	145	56.59	9.31
6	5350.00	50.9 AV	54.0	-3.1	1.14 H	145	41.59	9.31
7	10600.00	52.5 PK	74.0	-21.5	1.00 H	320	36.38	16.12
8	10600.00	41.0 AV	54.0	-13.0	1.00 H	320	24.88	16.12
9	15900.00	53.8 PK	74.0	-20.2	1.20 H	120	31.70	22.10
10	15900.00	43.1 AV	54.0	-10.9	1.20 H	120	21.00	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	5150.00	59.5 PK	74.0	-14.5	1.10 V	95	50.90	8.60
2	5150.00	46.9 AV	54.0	-7.1	1.10 V	95	38.30	8.60
3	*5300.00	116.0 PK			1.10 V	95	106.79	9.21
4	*5300.00	107.1 AV			1.10 V	95	97.89	9.21
5	5350.00	72.1 PK	74.0	-1.9	1.10 V	95	62.79	9.31
6	5350.00	52.9 AV	54.0	-1.1	1.10 V	95	43.59	9.31
7	10600.00	55.9 PK	74.0	-18.1	1.13 V	138	39.78	16.12
8	10600.00	45.6 AV	54.0	-8.4	1.13 V	138	29.48	16.12
9	15900.00	58.4 PK	74.0	-15.6	1.22 V	165	36.30	22.10
10	15900.00	47.2 AV	54.0	-6.8	1.22 V	165	25.10	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.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	106.1 PK			1.20 H	123	96.85	9.25
2	*5320.00	97.3 AV			1.20 H	123	88.05	9.25
3	5350.00	65.3 PK	74.0	-8.7	1.12 H	145	55.99	9.31
4	5350.00	50.0 AV	54.0	-4.0	1.12 H	145	40.69	9.31
5	10640.00	55.6 PK	74.0	-18.4	1.10 H	123	39.34	16.26
6	10640.00	45.6 AV	54.0	-8.4	1.10 H	123	29.34	16.26
7	15960.00	58.7 PK	74.0	-15.3	1.28 H	157	36.72	21.98
8	15960.00	47.6 AV	54.0	-6.4	1.28 H	157	25.62	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	112.0 PK			1.08 V	108	102.75	9.25
2	*5320.00	102.9 AV			1.08 V	108	93.65	9.25
3	5350.00	71.9 PK	74.0	-2.1	1.08 V	105	62.59	9.31
4	5350.00	52.4 AV	54.0	-1.6	1.08 V	105	43.09	9.31
5	10640.00	52.9 PK	74.0	-21.1	1.04 V	309	36.64	16.26
6	10640.00	43.2 AV	54.0	-10.8	1.04 V	309	26.94	16.26
7	15960.00	56.1 PK	74.0	-17.9	1.13 V	128	34.12	21.98
8	15960.00	45.6 AV	54.0	-8.4	1.13 V	128	23.62	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.



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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	54.8 PK	74.0	-19.2	1.20 H	126	45.15	9.65
2	5460.00	46.5 AV	54.0	-7.5	1.20 H	126	36.85	9.65
3	#5470.00	64.5 PK	74.0	-9.5	1.17 H	128	54.81	9.69
4	#5470.00	49.6 AV	54.0	-4.4	1.17 H	128	39.91	9.69
5	*5500.00	102.9 PK			1.17 H	143	93.09	9.81
6	*5500.00	94.4 AV			1.17 H	143	84.59	9.81
7	11000.00	56.2 PK	74.0	-17.8	1.09 H	135	38.60	17.60
8	11000.00	46.0 AV	54.0	-8.0	1.09 H	135	28.40	17.60
9	#16500.00	58.1 PK	74.0	-15.9	1.20 H	165	33.96	24.14
10	#16500.00	46.8 AV	54.0	-7.2	1.20 H	165	22.66	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	61.5 PK	74.0	-12.5	1.08 V	227	51.85	9.65
2	5460.00	48.8 AV	54.0	-5.2	1.08 V	227	39.15	9.65
3	#5470.00	71.7 PK	74.0	-2.3	1.08 V	227	62.01	9.69
4	#5470.00	52.3 AV	54.0	-1.7	1.08 V	227	42.61	9.69
5	*5500.00	109.5 PK			1.09 V	230	99.69	9.81
6	*5500.00	100.3 AV			1.09 V	230	90.49	9.81
7	11000.00	52.9 PK	74.0	-21.1	1.05 V	305	35.30	17.60
8	11000.00	42.9 AV	54.0	-11.1	1.05 V	305	25.30	17.60
9	#16500.00	55.9 PK	74.0	-18.1	1.22 V	121	31.76	24.14
10	#16500.00	45.8 AV	54.0	-8.2	1.22 V	121	21.66	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	*5580.00	111.0 PK			1.16 H	147	100.96	10.04
2	*5580.00	102.3 AV			1.16 H	147	92.26	10.04
3	11160.00	55.8 PK	74.0	-18.2	1.12 H	133	38.77	17.03
4	11160.00	45.6 AV	54.0	-8.4	1.12 H	133	28.57	17.03
5	#16740.00	58.5 PK	74.0	-15.5	1.17 H	168	34.00	24.50
6	#16740.00	47.0 AV	54.0	-7.0	1.17 H	168	22.50	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	*5580.00	117.0 PK			1.39 V	222	106.96	10.04
2	*5580.00	107.7 AV			1.39 V	222	97.66	10.04
3	11160.00	56.8 PK	74.0	-17.2	1.16 V	136	39.77	17.03
4	11160.00	46.2 AV	54.0	-7.8	1.16 V	136	29.17	17.03
5	#16740.00	64.6 PK	74.0	-9.4	1.17 V	131	40.10	24.50
6	#16740.00	53.2 AV	54.0	-0.8	1.17 V	131	28.70	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.



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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	*5660.00	112.4 PK			1.13 H	146	102.16	10.24
2	*5660.00	101.8 AV			1.13 H	146	91.56	10.24
3	11320.00	55.6 PK	74.0	-18.4	1.13 H	124	37.97	17.63
4	11320.00	45.5 AV	54.0	-8.5	1.13 H	124	27.87	17.63
5	#16980.00	58.8 PK	74.0	-15.2	1.21 H	174	33.36	25.44
6	#16980.00	47.5 AV	54.0	-6.5	1.21 H	174	22.06	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	*5660.00	118.6 PK			1.14 V	115	108.36	10.24
2	*5660.00	107.6 AV			1.14 V	115	97.36	10.24
3	11320.00	57.8 PK	74.0	-16.2	1.16 V	178	40.17	17.63
4	11320.00	47.0 AV	54.0	-7.0	1.16 V	178	29.37	17.63
5	#16980.00	65.1 PK	74.0	-8.9	1.29 V	151	39.66	25.44
6	#16980.00	53.3 AV	54.0	-0.7	1.29 V	151	27.86	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.



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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	102.8 PK			1.16 H	123	92.46	10.34
2	*5700.00	94.2 AV			1.16 H	123	83.86	10.34
3	#5725.00	65.0 PK	74.0	-9.0	1.13 H	131	54.62	10.38
4	#5725.00	50.3 AV	54.0	-3.7	1.13 H	131	39.92	10.38
5	11400.00	55.9 PK	74.0	-18.1	1.19 H	124	38.38	17.52
6	11400.00	45.5 AV	54.0	-8.5	1.19 H	124	27.98	17.52
7	#17100.00	58.8 PK	74.0	-15.2	1.24 H	165	33.51	25.29
8	#17100.00	47.5 AV	54.0	-6.5	1.24 H	165	22.21	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	109.5 PK			1.15 V	109	99.16	10.34
2	*5700.00	100.5 AV			1.15 V	109	90.16	10.34
3	#5725.00	71.8 PK	74.0	-2.2	1.15 V	108	61.42	10.38
4	#5725.00	52.7 AV	54.0	-1.3	1.15 V	108	42.32	10.38
5	11400.00	55.7 PK	74.0	-18.3	1.09 V	141	38.18	17.52
6	11400.00	45.5 AV	54.0	-8.5	1.09 V	141	27.98	17.52
7	#17100.00	59.0 PK	74.0	-15.0	1.18 V	169	33.71	25.29
8	#17100.00	47.6 AV	54.0	-6.4	1.18 V	169	22.31	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.



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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	65.4 PK	74.0	-8.6	1.11 H	140	56.80	8.60
2	5150.00	50.5 AV	54.0	-3.5	1.11 H	140	41.90	8.60
3	*5180.00	104.0 PK			1.21 H	135	95.24	8.76
4	*5180.00	96.3 AV			1.21 H	135	87.54	8.76
5	#10360.00	56.6 PK	74.0	-17.4	1.09 H	145	41.06	15.54
6	#10360.00	46.0 AV	54.0	-8.0	1.09 H	145	30.46	15.54
7	15540.00	58.4 PK	74.0	-15.6	1.24 H	150	36.03	22.37
8	15540.00	47.1 AV	54.0	-6.9	1.24 H	150	24.73	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	72.2 PK	74.0	-1.8	1.00 V	85	63.60	8.60
2	5150.00	53.1 AV	54.0	-0.9	1.00 V	85	44.50	8.60
3	*5180.00	110.8 PK			1.00 V	85	102.04	8.76
4	*5180.00	102.3 AV			1.00 V	85	93.54	8.76
5	#10360.00	55.2 PK	74.0	-18.8	1.12 V	163	39.66	15.54
6	#10360.00	43.8 AV	54.0	-10.2	1.12 V	163	28.26	15.54
7	15540.00	54.3 PK	74.0	-19.7	1.25 V	123	31.93	22.37
8	15540.00	43.3 AV	54.0	-10.7	1.25 V	123	20.93	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	66.6 PK	74.0	-7.4	1.22 H	131	58.00	8.60
2	5150.00	50.0 AV	54.0	-4.0	1.22 H	131	41.40	8.60
3	*5200.00	109.1 PK			1.22 H	148	100.23	8.87
4	*5200.00	100.4 AV			1.22 H	148	91.53	8.87
5	#10400.00	55.3 PK	74.0	-18.7	1.08 H	138	40.12	15.18
6	#10400.00	45.3 AV	54.0	-8.7	1.08 H	138	30.12	15.18
7	15600.00	58.2 PK	74.0	-15.8	1.27 H	173	36.08	22.12
8	15600.00	46.8 AV	54.0	-7.2	1.27 H	173	24.68	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	73.4 PK	74.0	-0.6	1.00 V	164	64.80	8.60
2	5150.00	52.6 AV	54.0	-1.4	1.00 V	164	44.00	8.60
3	*5200.00	115.4 PK			1.00 V	165	106.53	8.87
4	*5200.00	106.2 AV			1.00 V	165	97.33	8.87
5	#10400.00	55.8 PK	74.0	-18.2	1.11 V	175	40.62	15.18
6	#10400.00	45.7 AV	54.0	-8.3	1.11 V	175	30.52	15.18
7	15600.00	58.5 PK	74.0	-15.5	1.25 V	107	36.38	22.12
8	15600.00	47.3 AV	54.0	-6.7	1.25 V	107	25.18	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.



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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	111.2 PK			1.17 H	133	102.19	9.01
2	*5240.00	101.8 AV			1.17 H	133	92.79	9.01
3	#10480.00	55.7 PK	74.0	-18.3	1.12 H	133	39.90	15.80
4	#10480.00	45.3 AV	54.0	-8.7	1.12 H	133	29.50	15.80
5	15720.00	58.7 PK	74.0	-15.3	1.19 H	174	36.90	21.80
6	15720.00	47.3 AV	54.0	-6.7	1.19 H	174	25.50	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	*5240.00	117.4 PK			1.04 V	106	108.39	9.01
2	*5240.00	107.5 AV			1.04 V	106	98.49	9.01
3	#10480.00	57.3 PK	74.0	-16.7	1.09 V	162	41.50	15.80
4	#10480.00	46.5 AV	54.0	-7.5	1.09 V	162	30.70	15.80
5	15720.00	65.7 PK	74.0	-8.3	1.21 V	98	43.90	21.80
6	15720.00	53.4 AV	54.0	-0.6	1.21 V	98	31.60	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.



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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	111.1 PK			1.13 H	136	102.03	9.07
2	*5260.00	101.8 AV			1.13 H	136	92.73	9.07
3	#10520.00	56.0 PK	74.0	-18.0	1.15 H	134	40.02	15.98
4	#10520.00	45.7 AV	54.0	-8.3	1.15 H	134	29.72	15.98
5	15780.00	58.2 PK	74.0	-15.8	1.21 H	166	36.21	21.99
6	15780.00	46.9 AV	54.0	-7.1	1.21 H	166	24.91	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	*5260.00	117.6 PK			1.07 V	103	108.53	9.07
2	*5260.00	108.0 AV			1.07 V	103	98.93	9.07
3	#10520.00	57.1 PK	74.0	-16.9	1.13 V	354	41.12	15.98
4	#10520.00	46.2 AV	54.0	-7.8	1.13 V	354	30.22	15.98
5	15780.00	65.3 PK	74.0	-8.7	1.24 V	173	43.31	21.99
6	15780.00	53.5 AV	54.0	-0.5	1.24 V	173	31.51	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.



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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	111.6 PK			1.23 H	133	102.39	9.21
2	*5300.00	102.4 AV			1.23 H	133	93.19	9.21
3	5350.00	63.1 PK	74.0	-10.9	1.18 H	148	53.79	9.31
4	5350.00	50.2 AV	54.0	-3.8	1.18 H	148	40.89	9.31
5	10600.00	56.0 PK	74.0	-18.0	1.13 H	137	39.88	16.12
6	10600.00	45.8 AV	54.0	-8.2	1.13 H	137	29.68	16.12
7	15900.00	58.7 PK	74.0	-15.3	1.26 H	158	36.60	22.10
8	15900.00	47.3 AV	54.0	-6.7	1.26 H	158	25.20	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	117.5 PK			1.03 V	118	108.29	9.21
2	*5300.00	107.9 AV			1.03 V	118	98.69	9.21
3	5350.00	70.2 PK	74.0	-3.8	1.27 V	187	60.89	9.31
4	5350.00	53.1 AV	54.0	-0.9	1.27 V	187	43.79	9.31
5	10600.00	56.3 PK	74.0	-17.7	1.05 V	164	40.18	16.12
6	10600.00	46.0 AV	54.0	-8.0	1.05 V	164	29.88	16.12
7	15900.00	58.6 PK	74.0	-15.4	1.22 V	115	36.50	22.10
8	15900.00	47.6 AV	54.0	-6.4	1.22 V	115	25.50	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.



A D T

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	104.8 PK			1.25 H	131	95.55	9.25
2	*5320.00	95.9 AV			1.25 H	131	86.65	9.25
3	5350.00	65.8 PK	74.0	-8.2	1.25 H	133	56.49	9.31
4	5350.00	49.9 AV	54.0	-4.1	1.25 H	133	40.59	9.31
5	10640.00	56.3 PK	74.0	-17.7	1.07 H	122	40.04	16.26
6	10640.00	46.1 AV	54.0	-7.9	1.07 H	122	29.84	16.26
7	15960.00	58.2 PK	74.0	-15.8	1.21 H	171	36.22	21.98
8	15960.00	47.2 AV	54.0	-6.8	1.21 H	171	25.22	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	111.3 PK			1.09 V	100	102.05	9.25
2	*5320.00	102.0 AV			1.09 V	100	92.75	9.25
3	5350.00	73.1 PK	74.0	-0.9	1.09 V	100	63.79	9.31
4	5350.00	52.7 AV	54.0	-1.3	1.09 V	100	43.39	9.31
5	10640.00	53.5 PK	74.0	-20.5	1.01 V	275	37.24	16.26
6	10640.00	43.6 AV	54.0	-10.4	1.01 V	275	27.34	16.26
7	15960.00	56.3 PK	74.0	-17.7	1.11 V	140	34.32	21.98
8	15960.00	45.6 AV	54.0	-8.4	1.11 V	140	23.62	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.



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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	57.8 PK	74.0	-16.2	1.18 H	125	48.15	9.65
2	5460.00	47.0 AV	54.0	-7.0	1.18 H	125	37.35	9.65
3	#5470.00	63.8 PK	74.0	-10.2	1.18 H	133	54.11	9.69
4	#5470.00	50.5 AV	54.0	-3.5	1.18 H	133	40.81	9.69
5	*5500.00	104.2 PK			1.27 H	124	94.39	9.81
6	*5500.00	96.7 AV			1.27 H	124	86.89	9.81
7	11000.00	55.5 PK	74.0	-18.5	1.07 H	146	37.90	17.60
8	11000.00	45.2 AV	54.0	-8.8	1.07 H	146	27.60	17.60
9	#16500.00	58.3 PK	74.0	-15.7	1.16 H	153	34.16	24.14
10	#16500.00	47.3 AV	54.0	-6.7	1.16 H	153	23.16	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	63.8 PK	74.0	-10.2	1.18 V	100	54.15	9.65
2	5460.00	49.0 AV	54.0	-5.0	1.18 V	100	39.35	9.65
3	#5470.00	70.9 PK	74.0	-3.1	1.18 V	100	61.21	9.69
4	#5470.00	53.0 AV	54.0	-1.0	1.18 V	100	43.31	9.69
5	*5500.00	110.1 PK			1.18 V	100	100.29	9.81
6	*5500.00	102.4 AV			1.18 V	100	92.59	9.81
7	11000.00	53.9 PK	74.0	-20.1	1.00 V	289	36.30	17.60
8	11000.00	44.0 AV	54.0	-10.0	1.00 V	289	26.40	17.60
9	#16500.00	56.5 PK	74.0	-17.5	1.14 V	150	32.36	24.14
10	#16500.00	45.9 AV	54.0	-8.1	1.14 V	150	21.76	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	*5580.00	109.8 PK			1.25 H	145	99.76	10.04
2	*5580.00	100.7 AV			1.25 H	145	90.66	10.04
3	11160.00	55.5 PK	74.0	-18.5	1.10 H	144	38.47	17.03
4	11160.00	45.4 AV	54.0	-8.6	1.10 H	144	28.37	17.03
5	#16740.00	58.2 PK	74.0	-15.8	1.22 H	167	33.70	24.50
6	#16740.00	47.3 AV	54.0	-6.7	1.22 H	167	22.80	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	*5580.00	116.2 PK			1.00 V	95	106.16	10.04
2	*5580.00	106.3 AV			1.00 V	95	96.26	10.04
3	11160.00	57.2 PK	74.0	-16.8	1.05 V	175	40.17	17.03
4	11160.00	46.2 AV	54.0	-7.8	1.05 V	175	29.17	17.03
5	#16740.00	65.8 PK	74.0	-8.2	1.20 V	126	41.30	24.50
6	#16740.00	53.5 AV	54.0	-0.5	1.20 V	126	29.00	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.



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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	*5660.00	110.7 PK			1.18 H	125	100.46	10.24
2	*5660.00	101.2 AV			1.18 H	125	90.96	10.24
3	11320.00	56.1 PK	74.0	-17.9	1.17 H	122	38.47	17.63
4	11320.00	46.0 AV	54.0	-8.0	1.17 H	122	28.37	17.63
5	#16980.00	58.4 PK	74.0	-15.6	1.19 H	174	32.96	25.44
6	#16980.00	47.2 AV	54.0	-6.8	1.19 H	174	21.76	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	*5660.00	117.0 PK			1.02 V	113	106.76	10.24
2	*5660.00	107.1 AV			1.02 V	113	96.86	10.24
3	11320.00	58.0 PK	74.0	-16.0	1.08 V	172	40.37	17.63
4	11320.00	46.9 AV	54.0	-7.1	1.08 V	172	29.27	17.63
5	#16980.00	65.6 PK	74.0	-8.4	1.16 V	148	40.16	25.44
6	#16980.00	53.1 AV	54.0	-0.9	1.16 V	148	27.66	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	100.1 PK			1.29 H	124	89.76	10.34
2	*5700.00	92.8 AV			1.29 H	124	82.46	10.34
3	#5725.00	62.9 PK	74.0	-11.1	1.22 H	126	52.52	10.38
4	#5725.00	49.4 AV	54.0	-4.6	1.22 H	126	39.02	10.38
5	11400.00	55.7 PK	74.0	-18.3	1.11 H	136	38.18	17.52
6	11400.00	45.7 AV	54.0	-8.3	1.11 H	136	28.18	17.52
7	#17100.00	58.3 PK	74.0	-15.7	1.27 H	149	33.01	25.29
8	#17100.00	47.2 AV	54.0	-6.8	1.27 H	149	21.91	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	106.6 PK			1.12 V	96	96.26	10.34
2	*5700.00	98.5 AV			1.12 V	96	88.16	10.34
3	#5725.00	69.3 PK	74.0	-4.7	1.12 V	100	58.92	10.38
4	#5725.00	51.5 AV	54.0	-2.5	1.12 V	100	41.12	10.38
5	11400.00	55.8 PK	74.0	-18.2	1.06 V	125	38.28	17.52
6	11400.00	45.4 AV	54.0	-8.6	1.06 V	125	27.88	17.52
7	#17100.00	58.7 PK	74.0	-15.3	1.14 V	167	33.41	25.29
8	#17100.00	47.4 AV	54.0	-6.6	1.14 V	167	22.11	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.



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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	61.9 PK	74.0	-12.1	1.22 H	136	53.30	8.60
2	5150.00	50.4 AV	54.0	-3.6	1.22 H	136	41.80	8.60
3	*5190.00	96.5 PK			1.18 H	145	87.68	8.82
4	*5190.00	87.6 AV			1.18 H	145	78.78	8.82
5	#10380.00	56.2 PK	74.0	-17.8	1.12 H	141	40.83	15.37
6	#10380.00	46.0 AV	54.0	-8.0	1.12 H	141	30.63	15.37
7	15570.00	58.6 PK	74.0	-15.4	1.23 H	167	36.36	22.24
8	15570.00	47.5 AV	54.0	-6.5	1.23 H	167	25.26	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	68.8 PK	74.0	-5.2	1.00 V	86	60.20	8.60
2	5150.00	53.2 AV	54.0	-0.8	1.00 V	86	44.60	8.60
3	*5190.00	102.9 PK			1.00 V	86	94.08	8.82
4	*5190.00	93.3 AV			1.00 V	86	84.48	8.82
5	#10380.00	52.9 PK	74.0	-21.1	1.01 V	349	37.53	15.37
6	#10380.00	41.6 AV	54.0	-12.4	1.01 V	349	26.23	15.37
7	15570.00	53.3 PK	74.0	-20.7	1.16 V	79	31.06	22.24
8	15570.00	42.4 AV	54.0	-11.6	1.16 V	79	20.16	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.



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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	60.5 PK	74.0	-13.5	1.28 H	144	51.90	8.60
2	5150.00	50.6 AV	54.0	-3.4	1.28 H	144	42.00	8.60
3	*5230.00	103.6 PK			1.25 H	135	94.63	8.97
4	*5230.00	95.7 AV			1.25 H	135	86.73	8.97
5	#10460.00	56.0 PK	74.0	-18.0	1.19 H	143	40.36	15.64
6	#10460.00	45.4 AV	54.0	-8.6	1.19 H	143	29.76	15.64
7	15690.00	58.3 PK	74.0	-15.7	1.22 H	152	36.52	21.78
8	15690.00	47.3 AV	54.0	-6.7	1.22 H	152	25.52	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	67.4 PK	74.0	-6.6	1.00 V	46	58.80	8.60
2	5150.00	53.5 AV	54.0	-0.5	1.00 V	46	44.90	8.60
3	*5230.00	110.1 PK			1.00 V	46	101.13	8.97
4	*5230.00	101.5 AV			1.00 V	46	92.53	8.97
5	#10460.00	55.7 PK	74.0	-18.3	1.00 V	343	40.06	15.64
6	#10460.00	45.5 AV	54.0	-8.5	1.00 V	343	29.86	15.64
7	15690.00	58.7 PK	74.0	-15.3	1.14 V	81	36.92	21.78
8	15690.00	47.4 AV	54.0	-6.6	1.14 V	81	25.62	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.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	103.2 PK			1.17 H	144	94.09	9.11
2	*5270.00	94.4 AV			1.17 H	144	85.29	9.11
3	5350.00	60.3 PK	74.0	-13.7	1.25 H	128	50.99	9.31
4	5350.00	51.3 AV	54.0	-2.7	1.25 H	128	41.99	9.31
5	#10540.00	55.5 PK	74.0	-18.5	1.18 H	141	39.48	16.02
6	#10540.00	45.4 AV	54.0	-8.6	1.18 H	141	29.38	16.02
7	15810.00	58.5 PK	74.0	-15.5	1.28 H	155	36.45	22.05
8	15810.00	47.3 AV	54.0	-6.7	1.28 H	155	25.25	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	*5270.00	109.5 PK			1.00 V	186	100.39	9.11
2	*5270.00	100.3 AV			1.00 V	186	91.19	9.11
3	5350.00	66.4 PK	74.0	-7.6	1.00 V	187	57.09	9.31
4	5350.00	53.2 AV	54.0	-0.8	1.00 V	187	43.89	9.31
5	#10540.00	55.5 PK	74.0	-18.5	1.04 V	343	39.48	16.02
6	#10540.00	45.4 AV	54.0	-8.6	1.04 V	343	29.38	16.02
7	15810.00	58.7 PK	74.0	-15.3	1.18 V	73	36.65	22.05
8	15810.00	47.3 AV	54.0	-6.7	1.18 V	73	25.25	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.
6. " # ": The radiated frequency is out of the restricted band.



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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	97.8 PK			1.25 H	128	88.57	9.23
2	*5310.00	88.4 AV			1.25 H	128	79.17	9.23
3	5350.00	63.3 PK	74.0	-10.7	1.26 H	144	53.99	9.31
4	5350.00	51.1 AV	54.0	-2.9	1.26 H	144	41.79	9.31
5	10620.00	55.7 PK	74.0	-18.3	1.16 H	143	39.52	16.18
6	10620.00	45.2 AV	54.0	-8.8	1.16 H	143	29.02	16.18
7	15930.00	58.1 PK	74.0	-15.9	1.17 H	157	36.05	22.05
8	15930.00	46.7 AV	54.0	-7.3	1.17 H	157	24.65	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	103.4 PK			1.09 V	100	94.17	9.23
2	*5310.00	93.7 AV			1.09 V	100	84.47	9.23
3	5350.00	69.7 PK	74.0	-4.3	1.09 V	100	60.39	9.31
4	5350.00	53.4 AV	54.0	-0.6	1.09 V	100	44.09	9.31
5	10620.00	53.5 PK	74.0	-20.5	1.00 V	353	37.32	16.18
6	10620.00	42.0 AV	54.0	-12.0	1.00 V	353	25.82	16.18
7	15930.00	53.7 PK	74.0	-20.3	1.12 V	73	31.65	22.05
8	15930.00	42.6 AV	54.0	-11.4	1.12 V	73	20.55	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.



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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	57.6 PK	74.0	-16.4	1.24 H	146	47.95	9.65
2	5460.00	46.8 AV	54.0	-7.2	1.24 H	146	37.15	9.65
3	#5470.00	57.1 PK	74.0	-16.9	1.18 H	124	47.41	9.69
4	#5470.00	50.6 AV	54.0	-3.4	1.18 H	124	40.91	9.69
5	*5510.00	95.0 PK			1.20 H	124	85.16	9.84
6	*5510.00	86.6 AV			1.20 H	124	76.76	9.84
7	11020.00	56.4 PK	74.0	-17.6	1.10 H	145	38.91	17.49
8	11020.00	45.8 AV	54.0	-8.2	1.10 H	145	28.31	17.49
9	#16530.00	59.0 PK	74.0	-15.0	1.20 H	178	34.58	24.42
10	#16530.00	47.7 AV	54.0	-6.3	1.20 H	178	23.28	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	64.0 PK	74.0	-10.0	1.00 V	101	54.35	9.65
2	5460.00	49.1 AV	54.0	-4.9	1.00 V	101	39.45	9.65
3	#5470.00	63.9 PK	74.0	-10.1	1.04 V	99	54.21	9.69
4	#5470.00	52.8 AV	54.0	-1.2	1.04 V	99	43.11	9.69
5	*5510.00	101.6 PK			1.04 V	99	91.76	9.84
6	*5510.00	92.6 AV			1.04 V	99	82.76	9.84
7	11020.00	52.8 PK	74.0	-21.2	1.04 V	343	35.31	17.49
8	11020.00	41.5 AV	54.0	-12.5	1.04 V	343	24.01	17.49
9	#16530.00	53.1 PK	74.0	-20.9	1.20 V	79	28.68	24.42
10	#16530.00	42.2 AV	54.0	-11.8	1.20 V	79	17.78	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.



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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	57.3 PK	74.0	-16.7	1.22 H	143	47.65	9.65
2	5460.00	47.7 AV	54.0	-6.3	1.22 H	143	38.05	9.65
3	#5470.00	62.5 PK	74.0	-11.5	1.26 H	123	52.81	9.69
4	#5470.00	51.0 AV	54.0	-3.0	1.26 H	123	41.31	9.69
5	*5550.00	101.0 PK			1.26 H	126	91.05	9.95
6	*5550.00	93.7 AV			1.26 H	126	83.75	9.95
7	11100.00	57.3 PK	74.0	-16.7	1.44 H	5	40.22	17.08
8	11100.00	46.1 AV	54.0	-7.9	1.44 H	5	29.02	17.08
9	#16650.00	58.3 PK	74.0	-15.7	1.14 H	5	33.54	24.76
10	#16650.00	46.2 AV	54.0	-7.8	1.14 H	5	21.44	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	63.8 PK	74.0	-10.2	1.12 V	57	54.15	9.65
2	5460.00	50.1 AV	54.0	-3.9	1.12 V	57	40.45	9.65
3	#5470.00	68.6 PK	74.0	-5.4	1.12 V	57	58.91	9.69
4	#5470.00	53.0 AV	54.0	-1.0	1.12 V	57	43.31	9.69
5	*5550.00	107.5 PK			1.13 V	60	97.55	9.95
6	*5550.00	99.6 AV			1.13 V	60	89.65	9.95
7	11100.00	55.9 PK	74.0	-18.1	1.05 V	341	38.82	17.08
8	11100.00	46.0 AV	54.0	-8.0	1.05 V	341	28.92	17.08
9	#16650.00	59.1 PK	74.0	-14.9	1.16 V	94	34.34	24.76
10	#16650.00	47.5 AV	54.0	-6.5	1.16 V	94	22.74	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.



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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	101.5 PK			1.22 H	134	91.24	10.26
2	*5670.00	92.9 AV			1.22 H	134	82.64	10.26
3	#5725.00	62.5 PK	74.0	-11.5	1.18 H	144	52.12	10.38
4	#5725.00	51.0 AV	54.0	-3.0	1.18 H	144	40.62	10.38
5	11340.00	55.3 PK	74.0	-18.7	1.15 H	125	37.69	17.61
6	11340.00	45.2 AV	54.0	-8.8	1.15 H	125	27.59	17.61
7	#17010.00	58.3 PK	74.0	-15.7	1.24 H	167	32.78	25.52
8	#17010.00	46.8 AV	54.0	-7.2	1.24 H	167	21.28	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	107.2 PK			1.14 V	101	96.94	10.26
2	*5670.00	98.2 AV			1.14 V	101	87.94	10.26
3	#5725.00	69.1 PK	74.0	-4.9	1.14 V	101	58.72	10.38
4	#5725.00	53.2 AV	54.0	-0.8	1.14 V	101	42.82	10.38
5	11340.00	58.1 PK	74.0	-15.9	1.21 V	109	40.49	17.61
6	11340.00	46.2 AV	54.0	-7.8	1.21 V	109	28.59	17.61
7	#17010.00	62.5 PK	74.0	-11.5	1.08 V	46	36.98	25.52
8	#17010.00	48.3 AV	54.0	-5.7	1.08 V	46	22.78	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.



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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 emission 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	0824006	May 20, 2013	May 19, 2014
Power Sensor	MA2411B	0738172	May 20, 2013	May 19, 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 : May 30, 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 : May 30, 2013

4.3.3 TEST PROCEDURE

FOR POWER OUTPUT MEASUREMENT

For 802.11a & 802.11n (HT20)

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 802.11n (HT40)

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

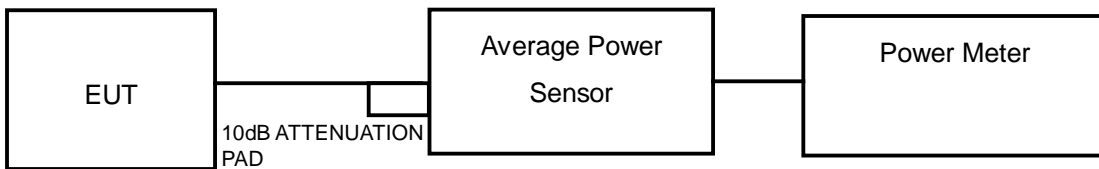
- 1) Set RBW = approximately 1% of the emission bandwidth.
- 2) Set the VBW > RBW.
- 3) Detector = Peak.
- 4) Trace mode = max hold.
- 5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat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

4.3.4 DEVIATION FROM TEST STANDARD

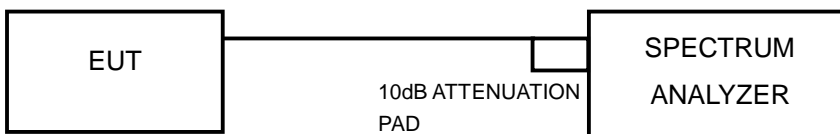
No deviation

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.



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4.3.7 TEST RESULTS

POWER OUTPUT

802.11a

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	12.94	12.81	38.778	15.89	17	PASS
40	5200	13.11	12.92	40.052	16.03	17	PASS
48	5240	12.75	12.61	37.075	15.69	17	PASS
52	5260	20.72	20.67	234.713	23.71	24	PASS
60	5300	17.69	17.72	117.905	20.72	24	PASS
64	5320	14.87	14.68	60.066	17.79	24	PASS
100	5500	15.62	15.41	71.229	18.53	24	PASS
116	5580	20.46	20.95	235.624	23.72	24	PASS
132	5660	17.12	16.94	100.954	20.04	24	PASS
140	5700	14.14	13.67	49.223	16.92	24	PASS



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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	13.29	13.12	41.842	16.22	17	PASS
40	5200	13.28	13.24	42.367	16.27	17	PASS
48	5240	13.41	13.38	43.705	16.41	17	PASS
52	5260	20.76	20.37	228.017	23.58	24	PASS
60	5300	18.47	18.41	139.650	21.45	24	PASS
64	5320	14.41	14.36	54.896	17.40	24	PASS
100	5500	15.55	15.28	69.621	18.43	24	PASS
116	5580	21.14	20.11	232.582	23.67	24	PASS
132	5660	16.51	16.44	88.826	19.49	24	PASS
140	5700	13.06	12.67	38.723	15.88	24	PASS

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	10.23	10.01	20.567	13.13	17	PASS
46	5230	14.21	13.41	48.291	16.84	17	PASS
54	5270	17.32	17.26	107.162	20.30	24	PASS
62	5310	9.62	9.26	17.595	12.45	24	PASS
102	5510	10.75	10.34	22.699	13.56	24	PASS
110	5550	18.65	18.25	140.116	21.46	24	PASS
134	5670	16.56	15.74	82.787	19.18	24	PASS



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26dB BANDWIDTH:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
36	5180	27.28	27.39
40	5200	26.44	29.11
48	5240	29.00	27.29
52	5260	46.41	44.11
60	5300	42.18	40.16
64	5320	35.24	32.55
100	5500	34.16	27.94
116	5580	44.01	41.51
132	5660	39.06	36.03
140	5700	26.38	26.20



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802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
36	5180	28.94	30.03
40	5200	27.80	29.24
48	5240	30.91	31.99
52	5260	47.22	44.34
60	5300	45.27	44.36
64	5320	35.06	32.04
100	5500	35.15	30.84
116	5580	46.61	44.21
132	5660	37.82	37.35
140	5700	25.51	23.92



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802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
38	5190	47.82	48.63
46	5230	73.06	73.04
54	5270	89.75	90.06
62	5310	48.15	48.07
102	5510	49.16	48.29
110	5550	89.40	88.10
134	5670	84.94	76.47

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 : May 30, 2013

4.4.3 TEST PROCEDURES

For 802.11a & 802.11n (HT20) test

Using method SA-1

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 30 KHz, Set VBW \geq 1 MHz, Detector = RMS
- 3) Set Channel power measure = 1MHz
- 4) Sweep time = auto, trigger set to “free run”.
- 5) Trace average at least 100 traces in power averaging mode.
- 6) Record the max value

For 802.11n (HT40) test

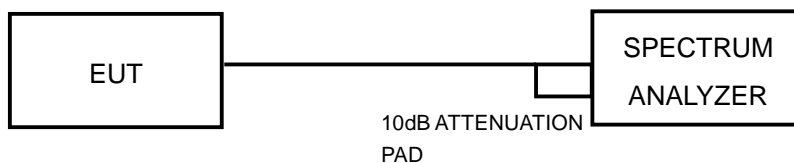
Using method SA-2

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1 MHz, Set VBW \geq 3 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 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

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	-0.65	-1.71	1.86	2.48	PASS
40	5200	-0.43	-1.71	1.99	2.48	PASS
48	5240	-0.95	-1.02	2.03	2.48	PASS
52	5260	6.73	5.70	9.26	9.48	PASS
60	5300	4.37	3.86	7.13	9.48	PASS
64	5320	1.47	0.87	4.19	9.48	PASS
100	5500	1.71	1.26	4.50	9.22	PASS
116	5580	6.06	5.46	8.78	9.22	PASS
132	5660	2.97	2.47	5.74	9.22	PASS
140	5700	0.82	-0.08	3.40	9.22	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. 5150~5250MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.52\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $4-(7.52-6) = 2.48\text{dBm}$.
3. 5250~5350MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.52\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(7.52-6) = 9.48\text{dBm}$.
4. 5470~5725MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.78\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(7.78-6) = 9.22\text{dBm}$.
5. Refer to section 3.3 for duty cycle spectrum plot.



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802.11n (HT20)

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	-0.93	-1.77	1.68	2.48	PASS
40	5200	-0.91	-1.46	1.83	2.48	PASS
48	5240	-0.77	-0.88	2.19	2.48	PASS
52	5260	5.68	5.41	8.56	9.48	PASS
60	5300	4.81	4.18	7.52	9.48	PASS
64	5320	0.68	0.00	3.36	9.48	PASS
100	5500	1.67	0.88	4.30	9.22	PASS
116	5580	6.01	5.25	8.66	9.22	PASS
132	5660	2.35	1.90	5.14	9.22	PASS
140	5700	-1.17	-2.19	1.36	9.22	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. 5150~5250MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.52\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $4-(7.52-6) = 2.48\text{dBm}$.
 3. 5250~5350MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.52\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(7.52-6) = 9.48\text{dBm}$.
 4. 5470~5725MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.78\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(7.78-6) = 9.22\text{dBm}$.
 5. Refer to section 3.3 for duty cycle spectrum plot.



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802.11n (HT40)

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		DUTY FACTOR (dB)	TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
38	5190	-6.68	-7.78	0.17	-4.02	2.48	PASS
46	5230	-2.21	-3.28	0.17	0.47	2.48	PASS
54	5270	0.75	-0.15	0.17	3.50	9.48	PASS
62	5310	-7.78	-8.63	0.17	-5.00	9.48	PASS
102	5510	-6.93	-7.60	0.17	-4.07	9.22	PASS
110	5550	1.78	0.91	0.17	4.55	9.22	PASS
134	5670	-0.46	-1.76	0.17	2.12	9.22	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.
 - 5150~5250MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.52\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $4-(7.52-6) = 2.48\text{dBm}$.
 - 5250~5350MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.52\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(7.52-6) = 9.48\text{dBm}$.
 - 5470~5725MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.78\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(7.78-6) = 9.22\text{dBm}$.
 - Refer to section 3.3 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 : May 30, 2013

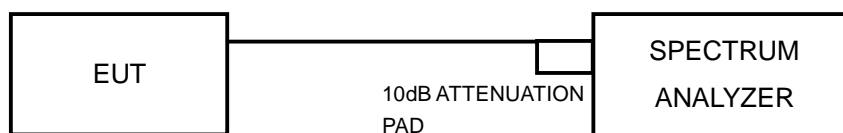
4.5.3 TEST PROCEDURE

- 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.



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4.5.7 TEST RESULTS

802.11a

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	9.06	7.94	-0.65	-1.71	9.71	9.65	13	PASS
40	5200	9.20	8.10	-0.43	-1.71	9.63	9.81	13	PASS
48	5240	8.88	8.83	-0.95	-1.02	9.83	9.85	13	PASS
52	5260	16.24	15.52	6.73	5.70	9.51	9.82	13	PASS
60	5300	13.88	13.72	4.37	3.86	9.51	9.86	13	PASS
64	5320	10.95	10.79	1.47	0.87	9.48	9.92	13	PASS
100	5500	10.54	10.92	1.71	1.26	8.83	9.66	13	PASS
116	5580	15.01	15.19	6.06	5.46	8.95	9.73	13	PASS
132	5660	11.98	12.11	2.97	2.47	9.01	9.64	13	PASS
140	5700	10.06	9.70	0.82	-0.08	9.24	9.78	13	PASS



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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	8.48	7.48	-0.93	-1.77	9.41	9.25	13	PASS
40	5200	8.27	7.43	-0.91	-1.46	9.18	8.89	13	PASS
48	5240	8.98	8.01	-0.77	-0.88	9.75	8.89	13	PASS
52	5260	14.86	14.50	5.68	5.41	9.18	9.09	13	PASS
60	5300	13.86	13.35	4.81	4.18	9.05	9.17	13	PASS
64	5320	9.65	9.04	0.68	0.00	8.97	9.04	13	PASS
100	5500	10.64	9.90	1.67	0.88	8.97	9.02	13	PASS
116	5580	15.69	14.23	6.01	5.25	9.68	8.98	13	PASS
132	5660	11.59	10.94	2.35	1.90	9.24	9.04	13	PASS
140	5700	8.54	6.83	-1.17	-2.19	9.71	9.02	13	PASS

802.11n (HT40)

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		
38	5190	3.34	1.42	-6.51	-7.61	9.85	9.03	13	PASS
46	5230	7.15	5.95	-2.04	-3.11	9.19	9.06	13	PASS
54	5270	10.15	8.99	0.92	0.02	9.23	8.97	13	PASS
62	5310	1.87	0.52	-7.61	-8.46	9.48	8.98	13	PASS
102	5510	2.86	1.56	-6.76	-7.43	9.62	8.99	13	PASS
110	5550	10.91	10.35	1.95	1.08	8.96	9.27	13	PASS
134	5670	9.16	7.46	-0.29	-1.59	9.45	9.05	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 : May 30, 2013

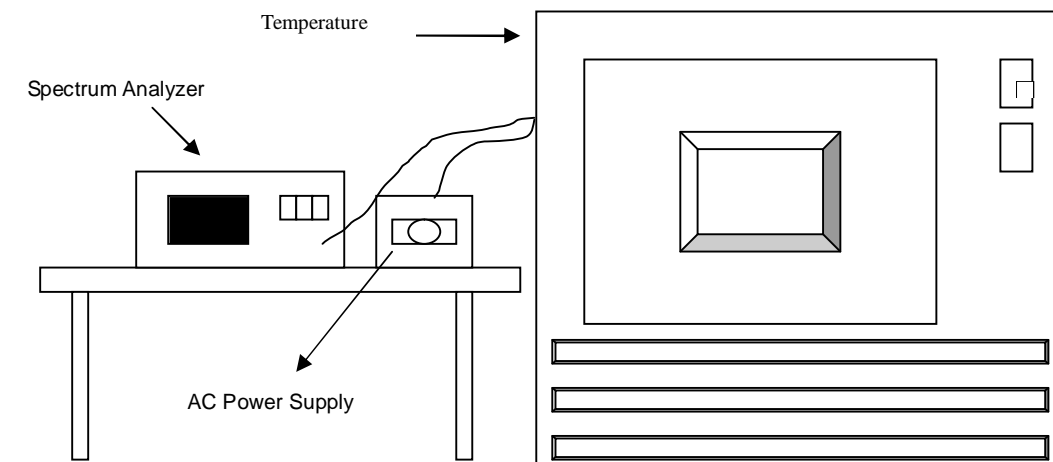
4.6.3 TEST PROCEDURE

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.



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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	5320.0189	0.00036	5320.0177	0.00033	5320.0251	0.00047	5320.0188	0.00035
40	120	5320.0211	0.00040	5320.0201	0.00038	5320.0251	0.00047	5320.0217	0.00041
30	120	5319.9864	-0.00026	5319.9805	-0.00037	5319.9824	-0.00033	5319.9801	-0.00037
20	120	5319.9797	-0.00038	5319.9797	-0.00038	5319.9829	-0.00032	5319.9757	-0.00046
10	120	5320.001	0.00002	5319.999	-0.00002	5320.0011	0.00002	5320.0046	0.00009
0	120	5319.9969	-0.00006	5319.9977	-0.00004	5319.9991	-0.00002	5319.9968	-0.00006
-10	120	5320.0318	0.00060	5320.0288	0.00054	5320.0266	0.00050	5320.0212	0.00040
-20	120	5319.9998	0.00000	5319.9996	-0.00001	5319.9973	-0.00005	5320.0041	0.00008
-30	120	5320.0214	0.00040	5320.0276	0.00052	5320.0233	0.00044	5320.02	0.00038

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	5319.9807	-0.00036	5319.9801	-0.00037	5319.982	-0.00034	5319.9756	-0.00046
	120	5319.9797	-0.00038	5319.9797	-0.00038	5319.9829	-0.00032	5319.9757	-0.00046
	102	5319.9807	-0.00036	5319.9789	-0.00040	5319.9835	-0.00031	5319.9764	-0.00044



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5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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





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:

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:

Tel: 886-3-5935343

Fax: 886-3-5935342

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Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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



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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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