FCC TEST REPORT

(CO-LOCATED)

REPORT NO.:	RF130829C06-1
MODEL NO.:	K530S
FCC ID:	UZI-30SK58
RECEIVED:	Aug. 29, 2013
TESTED:	Sep. 12 ~ Sep. 13, 2013
ISSUED:	Sep. 13, 2013

APPLICANT:	BandRich Inc.
ADDRESS:	6F., No.71, Zhouzi St., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
LAB ADDRESS:	No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.
TEST LOCATION:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130829C06-1	Original release	Sep. 13, 2013

1. CERTIFICATION

PRODUCT:	LTE M2M & Vehicle Mount Router
MODEL NO.:	K530S
BRAND:	BandLuxe
APPLICANT:	BandRich Inc.
TESTED:	Sep. 12 ~ Sep. 13, 2013
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247)**
	FCC Part 22, Subpart H
	FCC Part 24, Subpart E
	FCC Part 27, Subpart C, M
	FCC Part 90, Subpart S
	FCC Part 2
	ANSI C63.10-2009

The above equipment (model: K530S) 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 : Celine Chou , **DATE :** Sep. 13, 2013

Celine Chou / Specialist

APPROVED BY : Ken Liu , **DATE :** Sep. 13, 2013

Ken Liu / Senior Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD:	FCC PART 15, SUBPART C (SECTION 15.247) FCC PART 15, SUBPART E (SECTION 15.407)		
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
15.207 15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -19.57dB at 0.22812MHz.
15.247(d) 15.407(b/1/2/3)(b)(6)	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -10.8dB at 140.58MHz.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz ~ 30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	2.93 dB
	200MHz ~1000MHz	2.95 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	LTE M2M & Vehicle Mount Router
MODEL NO.	K530S
POWER SUPPLY	12Vdc (adapter)
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Adapter

WLAN

MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b:11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300.0Mbps
OPERATING FREQUENCY	2412 ~ 2462MHz
NUMBER OF CHANNEL	11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz)
ANTENNA TYPE	Monopole antenna with 2dBi gain
ANTENNA CONNECTOR	SMA Male Reverse

WWAN

MODULATION TYPE	**CDMA, EVDO**	QPSK, OQPSK, HPSK
	LTE	QPSK, 16QAM
FREQUENCY RANGE	**CDMA, EVDO**	817.9MHz ~ 822.75MHz 824.7MHz ~ 848.31MHz 1851.25MHz ~ 1908.75MHz
	LTE Band 25 (Channel Bandwidth: 3MHz)	1851.5MHz ~ 1913.5MHz
	LTE Band 25 (Channel Bandwidth: 5MHz)	1852.5MHz ~ 1912.5MHz
	LTE Band 25 (Channel Bandwidth: 10MHz)	1855.0MHz ~ 1910.0MHz
	LTE Band 26 (Channel Bandwidth 1.4MHz)	814.7MHz ~ 823MHz 824.7MHz ~ 848.3MHz
	LTE Band 26 (Channel Bandwidth 3MHz)	815.5MHz ~ 822.5MHz 825.5MHz ~ 847.5MHz
	LTE Band 26 (Channel Bandwidth 5MHz)	816.5MHz ~ 821.5MHz 826.5MHz ~ 846.5MHz
	LTE Band 26 (Channel Bandwidth 10MHz)	819MHz 829.00MHz ~ 844.0MHz
	LTE Band 41 Channel Bandwidth 10MHz:	2501MHz ~ 2685MHz
	LTE Band 41 Channel Bandwidth 15MHz:	2503.5MHz ~ 2682.5MHz
	LTE Band 41 Channel Bandwidth 20MHz:	2506MHz ~ 2680MHz

NOTE:

1. The EUT consumes power from the following adapter.

ADAPTER	
BRAND:	DVE
MODEL:	DSA-12G-12 FUS 120120
INPUT:	100-240V~50/60Hz 0.3A
OUTPUT:	+12V / 1A
POWER LINE:	1.5m non-shielded cable without core

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

3.2 DESCRIPTION OF TEST MODES

WLAN:

11 channels are provided for 802.11b, 802.11g and 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

7 channels are provided for 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

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

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

RADIATED EMISSION TEST (ABOVE 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. RANGE (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY
-	802.11g + CDMA BC0	2412 ~ 2462	1 to 11	6 + 1013	BPSK
		824.7 ~ 848.31	1013 to 777		QPSK
-	802.11g + CDMA BC1	2412 ~ 2462	1 to 11	6 + 25	BPSK
		1851.25 ~ 1908.75	25 to 1175		QPSK
-	802.11g + CDMA BC10	2412 ~ 2462	1 to 11	6 + 476	BPSK
		817.9 ~ 822.75	476 to 670		QPSK
-	802.11g + LTE Band 25 (3Mhz)	2412 ~ 2462	1 to 11	6 + 26055	BPSK
		1851.5 ~ 1913.5	26055 to 26675		QPSK
-	802.11g + LTE Band 26 (3Mhz)	2412 ~ 2462	1 to 11	6 + 26775	BPSK
		815.5 ~ 822.5	26705 to 26775		QPSK
-	802.11g + LTE Band 41 (10Mhz)	2412 ~ 2462	1 to 11	6 + 39700	BPSK
		2501 ~ 2685	39700 to 41540		QPSK

RADIATED EMISSION TEST (BELOW 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. RANGE (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY
-	802.11g + CDMA BC0	2412 ~ 2462	1 to 11	6 + 1013	BPSK
		824.7 ~ 848.31	1013 to 777		QPSK
-	802.11g + CDMA BC1	2412 ~ 2462	1 to 11	6 + 25	BPSK
		1851.25 ~ 1908.75	25 to 1175		QPSK
-	802.11g + CDMA BC10	2412 ~ 2462	1 to 11	6 + 476	BPSK
		817.9 ~ 822.75	476 to 670		QPSK
-	802.11g + LTE Band 25 (3Mhz)	2412 ~ 2462	1 to 11	6 + 26055	BPSK
		1851.5 ~ 1913.5	26055 to 26675		QPSK
-	802.11g + LTE Band 26 (3Mhz)	2412 ~ 2462	1 to 11	6 + 26775	BPSK
		815.5 ~ 822.5	26705 to 26775		QPSK
-	802.11g + LTE Band 41 (10Mhz)	2412 ~ 2462	1 to 11	6 + 39700	BPSK
		2501 ~ 2685	39700 to 41540		QPSK

CONDUCTED EMISSION TEST:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. RANGE (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY
-	802.11g + CDMA BC0	2412 ~ 2462	1 to 11	6 + 1013	BPSK
		824.7 ~ 848.31	1013 to 777		QPSK
-	802.11g + CDMA BC1	2412 ~ 2462	1 to 11	6 + 25	BPSK
		1851.25 ~ 1908.75	25 to 1175		QPSK
-	802.11g + CDMA BC10	2412 ~ 2462	1 to 11	6 + 476	BPSK
		817.9 ~ 822.75	476 to 670		QPSK
-	802.11g + LTE Band 25 (3Mhz)	2412 ~ 2462	1 to 11	6 + 26055	BPSK
		1851.5 ~ 1913.5	26055 to 26675		QPSK
-	802.11g + LTE Band 26 (3Mhz)	2412 ~ 2462	1 to 11	6 + 26775	BPSK
		815.5 ~ 822.5	26705 to 26775		QPSK
-	802.11g + LTE Band 41 (10Mhz)	2412 ~ 2462	1 to 11	6 + 39700	BPSK
		2501 ~ 2685	39700 to 41540		QPSK

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui
RE<1G	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui
PLC	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui

3.3 DESCRIPTION OF SUPPORT UNITS

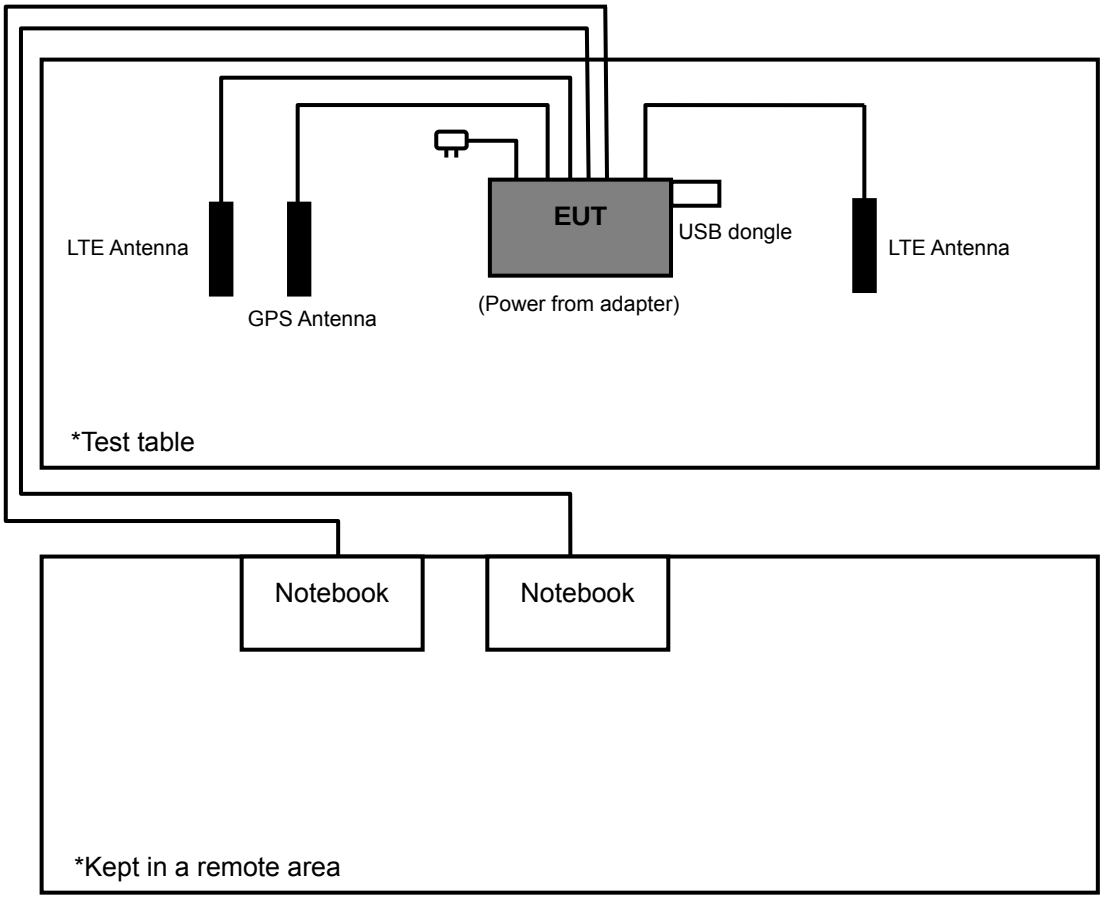
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	E5420	BPQ7MQ1	FCC Doc Approved
2	NOTEBOOK	DELL	E5410	6RP2YM1	FCC Doc Approved
3	USB DONGLE	Transcend	V85	569992-8208	FCC Doc Approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	3m LAN Cable
2	3m LAN Cable
3	NA

NOTE:
1. All power cords of the above support units are non-shielded (1.8m).
2. Item 1-2 acted as a communication partner to transfer data.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



3.4 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 C (Section 15.247)

FCC Part 22, Subpart H

FCC Part 24, Subpart E

FCC Part 27, Subpart C, M

FCC Part 90, Subpart S

FCC Part 2

ANSI C63.10-2009

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

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

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

4.1.2 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:

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

4.1.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Dec. 25, 2012	Dec. 24, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jan. 31, 2013	Jan. 30, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Mar. 20, 2013	Mar. 19, 2014
HORN Antenna SCHWARZBECK	9120D	209	Sep. 03, 2013	Sep. 02, 2014
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 15, 2013	Jul. 14, 2014
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier Agilent	8447D	2944A10633	Oct. 25, 2012	Oct. 24, 2013
Preamplifier Agilent	8449B	3008A01964	Oct. 25, 2012	Oct. 24, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	230132/4	Oct. 26, 2012	Oct. 25, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 106	309223/4+309218 /4	Oct. 26, 2012	Oct. 25, 2013
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Chamber 3.

3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 988962.

5. The IC Site Registration No. is IC 7450F-3.

4.1.4 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic 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 antenna is a broadband antenna, and its height 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

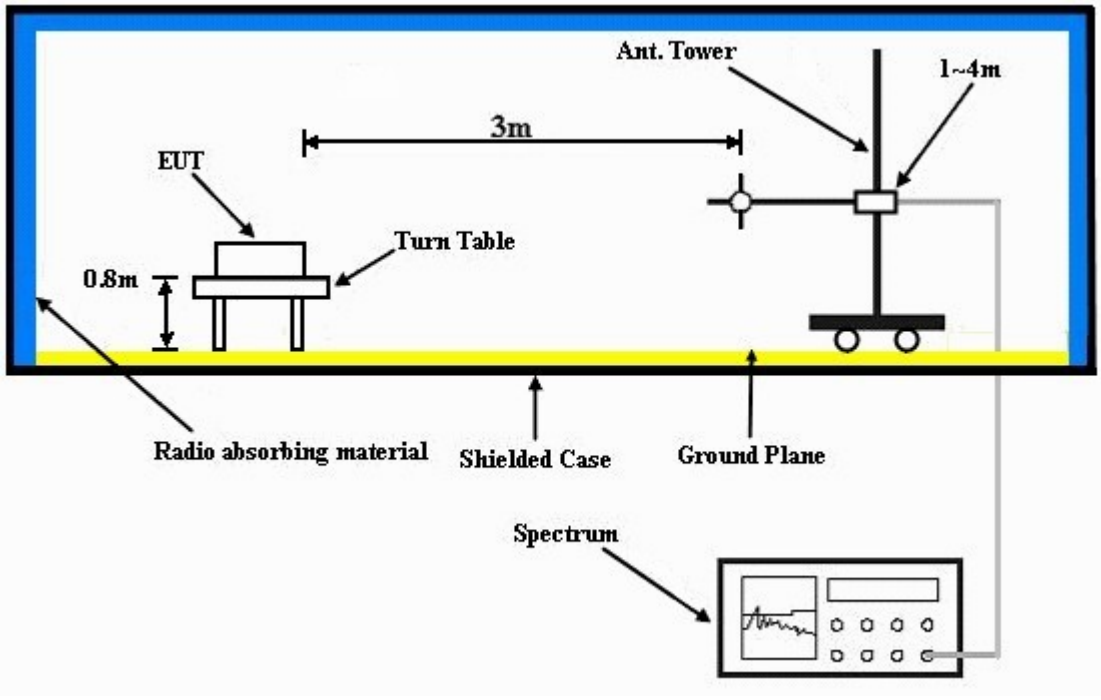
NOTE:

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

4.1.5 DEVIATION FROM TEST STANDARD

No deviation.

4.1.6 TEST SETUP



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

4.1.7 EUT OPERATING CONDITIONS

a. Placed the EUT on the testing table.
b. Prepared notebooks to act as communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".
e. The necessary accessories enable the system in full functions.

4.1.8 TEST RESULTS

ABOVE 1GHz DATA：

802.11g + CDMA BC0

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6 + 1013	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH	TESTED BY	Match Tsui

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	*2437.00	114.8 PK			1.02 H	327	82.40	32.40
2	*2437.00	104.9 AV			1.02 H	327	72.50	32.40
3	4874.00	54.6 PK	74.0	-19.4	1.00 H	214	48.00	6.60
4	4874.00	39.2 AV	54.0	-14.8	1.00 H	214	32.60	6.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	104.2 PK			1.03 V	156	71.80	32.40
2	*2437.00	95.3 AV			1.03 V	156	62.90	32.40
3	4874.00	48.1 PK	74.0	-25.9	1.01 V	244	41.50	6.60
4	4874.00	36.6 AV	54.0	-17.4	1.01 V	244	30.00	6.60

REMARKS:

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

802.11g + CDMA BC1

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6 + 25	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH	TESTED BY	Match Tsui

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	*2437.00	114.8 PK			1.03 H	289	82.40	32.40
2	*2437.00	105.1 AV			1.03 H	289	72.70	32.40
3	4874.00	54.3 PK	74.0	-19.7	1.00 H	180	47.70	6.60
4	4874.00	38.6 AV	54.0	-15.4	1.00 H	180	32.00	6.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	104.2 PK			1.01 V	163	71.80	32.40
2	*2437.00	95.7 AV			1.01 V	163	63.30	32.40
3	4874.00	48.4 PK	74.0	-25.6	1.00 V	270	41.80	6.60
4	4874.00	37.0 AV	54.0	-17.0	1.00 V	270	30.40	6.60

REMARKS:

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

802.11g + CDMA BC10

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6 + 476	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH	TESTED BY	Match Tsui

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	*2437.00	114.7 PK			1.00 H	266	82.30	32.40
2	*2437.00	105.3 AV			1.00 H	266	72.90	32.40
3	4874.00	54.5 PK	74.0	-19.5	1.02 H	180	47.90	6.60
4	4874.00	39.7 AV	54.0	-14.3	1.02 H	180	33.10	6.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	104.2 PK			1.03 V	144	71.80	32.40
2	*2437.00	95.3 AV			1.03 V	144	62.90	32.40
3	4874.00	48.4 PK	74.0	-25.6	1.00 V	266	41.80	6.60
4	4874.00	37.3 AV	54.0	-16.7	1.00 V	266	30.70	6.60

REMARKS:

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

802.11g + LTE Band 25 (3Mhz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6 + 26055	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH	TESTED BY	Match Tsui

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	*2437.00	115.3 PK			1.01 H	277	82.90	32.40
2	*2437.00	105.9 AV			1.01 H	277	73.50	32.40
3	4874.00	54.9 PK	74.0	-19.1	1.01 H	200	48.30	6.60
4	4874.00	40.0 AV	54.0	-14.0	1.01 H	200	33.40	6.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	105.2 PK			1.00 V	145	72.80	32.40
2	*2437.00	96.1 AV			1.00 V	145	63.70	32.40
3	4874.00	48.9 PK	74.0	-25.1	1.05 V	240	42.30	6.60
4	4874.00	37.5 AV	54.0	-16.5	1.05 V	240	30.90	6.60

REMARKS:

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

802.11g + LTE Band 26 (3Mhz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH hPa	TESTED BY	Match Tsui

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	*2437.00	115.0 PK			1.00 H	284	82.60	32.40
2	*2437.00	105.3 AV			1.00 H	284	72.90	32.40
3	4874.00	55.1 PK	74.0	-18.9	1.02 H	200	48.50	6.60
4	4874.00	40.0 AV	54.0	-14.0	1.02 H	200	33.40	6.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	104.8 PK			1.00 V	139	72.40	32.40
2	*2437.00	95.6 AV			1.00 V	139	63.20	32.40
3	4874.00	48.4 PK	74.0	-25.6	1.00 V	280	41.80	6.60
4	4874.00	37.5 AV	54.0	-16.5	1.00 V	280	30.90	6.60

REMARKS:

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

802.11g + LTE Band 41 (10Mhz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH hPa	TESTED BY	Match Tsui

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	*2437.00	115.3 PK			1.01 H	274	82.90	32.40
2	*2437.00	105.9 AV			1.01 H	274	73.50	32.40
3	4874.00	55.3 PK	74.0	-18.7	1.03 H	300	48.70	6.60
4	4874.00	40.3 AV	54.0	-13.7	1.03 H	300	33.70	6.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	104.9 PK			1.01 V	148	72.50	32.40
2	*2437.00	95.6 AV			1.01 V	148	63.20	32.40
3	4874.00	48.4 PK	74.0	-25.6	1.03 V	311	41.80	6.60
4	4874.00	37.0 AV	54.0	-17.0	1.03 V	311	30.40	6.60

REMARKS:

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

BELOW 1GHz DATA：

802.11g + CDMA BC0

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6 + 1013	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH	TESTED BY	Match Tsui

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	125.06	31.0 QP	43.5	-12.5	1.50 H	214	46.70	-15.70
2	**140.58**	**32.7 QP**	**43.5**	**-10.8**	**2.00 H**	**263**	**47.40**	**-14.70**
3	786.60	31.7 QP	46.0	-14.3	1.50 H	318	34.60	-2.90
4	854.50	30.8 QP	46.0	-15.2	1.01 H	231	32.30	-1.50
5	926.28	31.7 QP	46.0	-14.3	1.50 H	226	31.90	-0.20
6	957.32	31.3 QP	46.0	-14.7	1.50 H	102	31.00	0.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	125.06	27.3 QP	43.5	-16.2	1.50 V	143	43.00	-15.70
2	144.46	29.1 QP	43.5	-14.4	1.00 V	258	43.00	-13.90
3	784.66	32.9 QP	46.0	-13.1	1.00 V	80	35.80	-2.90
4	821.52	30.3 QP	46.0	-15.7	1.99 V	286	32.60	-2.30
5	895.24	30.0 QP	46.0	-16.0	1.50 V	15	30.90	-0.90
6	926.28	31.1 QP	46.0	-14.9	1.99 V	79	31.30	-0.20

REMARKS:

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

802.11g + CDMA BC1

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6 + 25	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH	TESTED BY	Match Tsui

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	125.06	29.6 QP	43.5	-13.9	1.99 H	198	45.30	-15.70
2	142.52	32.1 QP	43.5	-11.4	1.99 H	288	46.30	-14.20
3	817.64	29.2 QP	46.0	-16.8	1.00 H	15	31.50	-2.30
4	879.72	29.9 QP	46.0	-16.1	1.00 H	66	31.10	-1.20
5	937.92	31.0 QP	46.0	-15.0	1.99 H	321	31.00	0.00
6	959.26	31.1 QP	46.0	-14.9	1.99 H	94	30.80	0.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	119.24	27.3 QP	43.5	-16.2	1.01 V	330	43.60	-16.30
2	144.46	28.2 QP	43.5	-15.3	1.01 V	10	42.10	-13.90
3	829.28	29.5 QP	46.0	-16.5	1.01 V	350	31.50	-2.00
4	904.94	30.4 QP	46.0	-15.6	1.01 V	145	31.10	-0.70
5	937.92	30.7 QP	46.0	-15.3	1.01 V	218	30.70	0.00
6	957.32	31.7 QP	46.0	-14.3	2.00 V	135	31.40	0.30

REMARKS:

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

802.11g + CDMA BC10

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6 + 476	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH	TESTED BY	Match Tsui

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	125.06	29.7 QP	43.5	-13.8	1.99 H	15	45.40	-15.70
2	142.52	31.3 QP	43.5	-12.2	1.99 H	281	45.50	-14.20
3	177.44	26.8 QP	43.5	-16.7	1.99 H	241	41.80	-15.00
4	871.96	30.3 QP	46.0	-15.7	1.00 H	165	31.60	-1.30
5	906.88	31.6 QP	46.0	-14.4	1.99 H	4	32.20	-0.60
6	937.92	30.9 QP	46.0	-15.1	1.99 H	15	30.90	0.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	111.48	27.3 QP	43.5	-16.2	2.00 V	146	44.40	-17.10
2	146.40	28.9 QP	43.5	-14.6	1.01 V	12	43.00	-14.10
3	840.92	29.5 QP	46.0	-16.5	1.01 V	40	31.30	-1.80
4	906.88	30.6 QP	46.0	-15.4	2.00 V	323	31.20	-0.60
5	930.16	30.7 QP	46.0	-15.3	2.00 V	206	30.80	-0.10
6	941.80	31.4 QP	46.0	-14.6	1.01 V	12	31.50	-0.10

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

802.11g + LTE Band 25 (3Mhz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6 + 26055	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH	TESTED BY	Match Tsui

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	111.48	29.9 QP	43.5	-13.6	1.99 H	15	47.00	-17.10
2	142.52	30.4 QP	43.5	-13.1	1.99 H	316	44.60	-14.20
3	161.92	28.7 QP	43.5	-14.8	1.99 H	297	42.30	-13.60
4	829.28	30.2 QP	46.0	-15.8	1.99 H	295	32.20	-2.00
5	937.92	31.4 QP	46.0	-14.6	1.00 H	130	31.40	0.00
6	955.38	31.1 QP	46.0	-14.9	1.99 H	123	30.70	0.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	113.42	28.0 QP	43.5	-15.5	1.00 V	257	45.10	-17.10
2	148.34	28.8 QP	43.5	-14.7	1.00 V	10	43.00	-14.20
3	852.56	29.5 QP	46.0	-16.5	1.00 V	106	31.20	-1.70
4	889.42	30.7 QP	46.0	-15.3	2.00 V	12	31.80	-1.10
5	935.98	30.6 QP	46.0	-15.4	1.00 V	10	30.60	0.00
6	951.50	31.8 QP	46.0	-14.2	2.00 V	225	31.60	0.20

REMARKS:

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

802.11g + LTE Band 26 (3Mhz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6 + 26775	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH	TESTED BY	Match Tsui

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	119.24	29.6 QP	43.5	-13.9	1.99 H	252	45.90	-16.30
2	140.58	31.7 QP	43.5	-11.8	1.99 H	314	46.40	-14.70
3	249.22	29.1 QP	46.0	-16.9	1.00 H	168	43.40	-14.30
4	875.84	30.1 QP	46.0	-15.9	1.00 H	99	31.30	-1.20
5	883.60	30.1 QP	46.0	-15.9	1.99 H	13	31.20	-1.10
6	932.10	30.9 QP	46.0	-15.1	1.99 H	16	31.00	-0.10
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	142.52	31.7 QP	43.5	-11.8	1.00 V	224	45.90	-14.20
2	840.92	29.7 QP	46.0	-16.3	1.00 V	10	31.50	-1.80
3	852.56	30.0 QP	46.0	-16.0	2.00 V	133	31.70	-1.70
4	904.94	30.1 QP	46.0	-15.9	1.00 V	10	30.80	-0.70
5	937.92	31.2 QP	46.0	-14.8	1.00 V	10	31.20	0.00
6	957.32	31.7 QP	46.0	-14.3	2.00 V	183	31.40	0.30

REMARKS:

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

802.11g + LTE Band 41 (10Mhz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6 + 39700	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH	TESTED BY	Match Tsui

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	125.06	30.7 QP	43.5	-12.8	1.99 H	35	46.40	-15.70
2	142.52	29.1 QP	43.5	-14.4	1.99 H	277	43.30	-14.20
3	249.22	29.5 QP	46.0	-16.5	1.00 H	164	43.80	-14.30
4	883.60	30.3 QP	46.0	-15.7	1.99 H	15	31.40	-1.10
5	916.58	31.7 QP	46.0	-14.3	1.00 H	345	32.10	-0.40
6	943.74	31.6 QP	46.0	-14.4	1.99 H	60	31.50	0.10
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	113.42	26.8 QP	43.5	-16.7	1.01 V	316	43.90	-17.10
2	146.40	28.9 QP	43.5	-14.6	1.01 V	15	43.00	-14.10
3	840.92	29.3 QP	46.0	-16.7	1.01 V	292	31.10	-1.80
4	858.38	30.2 QP	46.0	-15.8	2.00 V	221	31.70	-1.50
5	906.88	29.8 QP	46.0	-16.2	2.00 V	353	30.40	-0.60
6	932.10	30.9 QP	46.0	-15.1	2.00 V	74	31.00	-0.10

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

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	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.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Nov. 16, 2012	Nov. 15, 2013
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 28, 2012	Dec. 27, 2013
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 04, 2013	Feb. 03, 2014
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 08, 2013	Jul. 07, 2014
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

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

4.2.3 TEST PROCEDURES

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. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

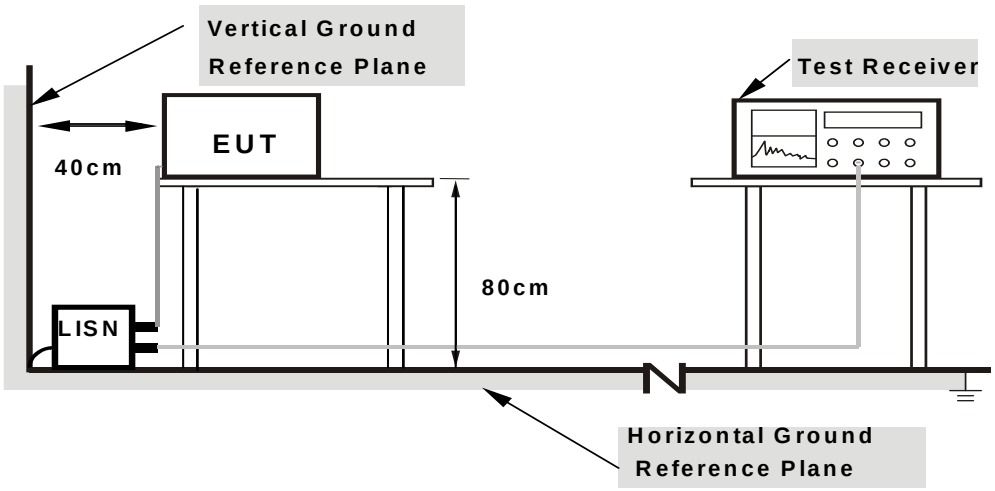
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA:

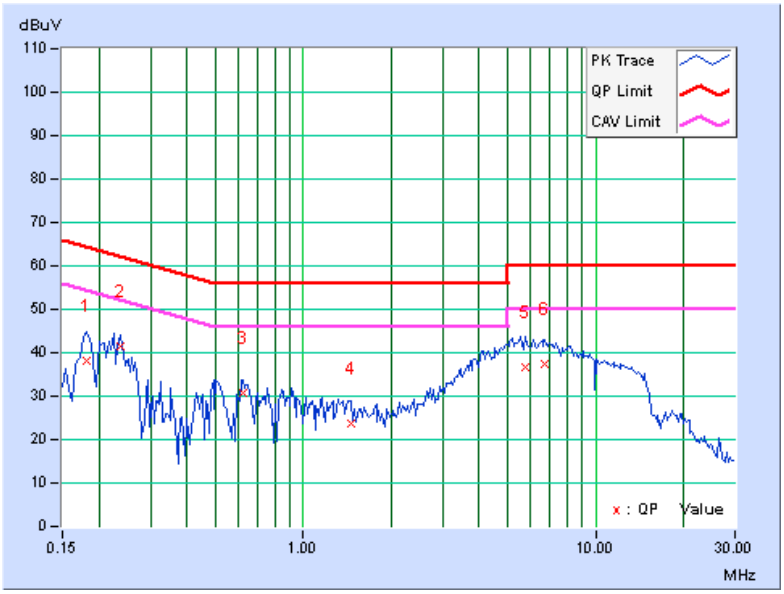
802.11g + CDMA BC0

CHANNEL	CH 6 + CH 1013	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18125	0.16	37.94	23.59	38.10	23.75	64.43	54.43	-26.33	-30.68
2	0.23594	0.17	41.47	32.39	41.64	32.56	62.24	52.24	-20.60	-19.68
3	0.62266	0.24	30.55	19.30	30.79	19.54	56.00	46.00	-25.21	-26.46
4	1.45703	0.27	23.44	14.15	23.71	14.42	56.00	46.00	-32.29	-31.58
5	5.75391	0.49	36.35	27.92	36.84	28.41	60.00	50.00	-23.16	-21.59
6	6.72266	0.55	36.79	28.09	37.34	28.64	60.00	50.00	-22.66	-21.36

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

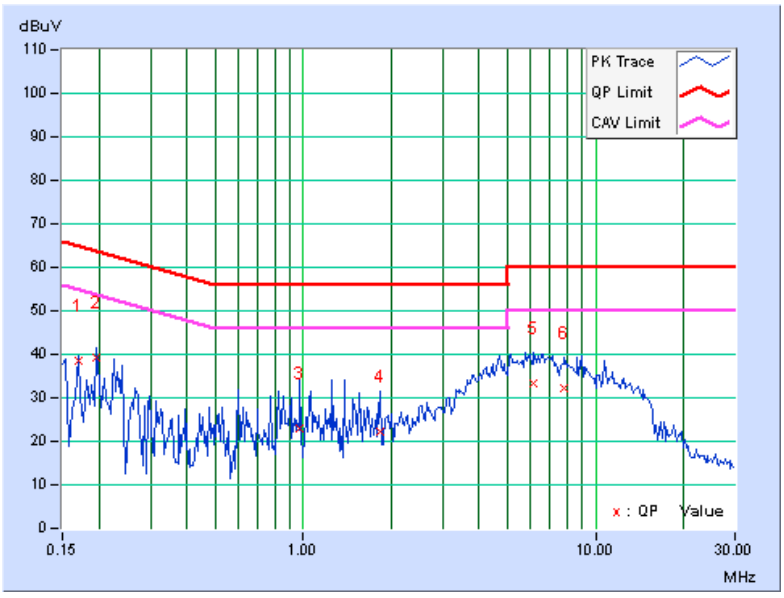


CHANNEL	CH 6 + CH 1013	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16953	0.17	38.31	27.81	38.48	27.98	64.98	54.98	-26.51	-27.01
2	0.19687	0.17	39.17	28.62	39.34	28.79	63.74	53.74	-24.40	-24.95
3	0.97422	0.25	22.72	9.28	22.97	9.53	56.00	46.00	-33.03	-36.47
4	1.82813	0.27	21.99	10.33	22.26	10.60	56.00	46.00	-33.74	-35.40
5	6.12891	0.46	33.05	23.53	33.51	23.99	60.00	50.00	-26.49	-26.01
6	7.84766	0.52	31.82	22.96	32.34	23.48	60.00	50.00	-27.66	-26.52

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



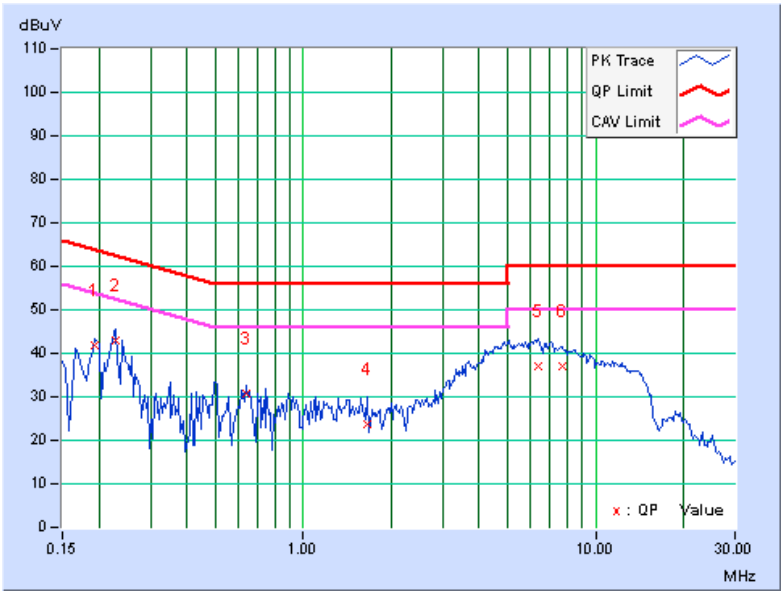
802.11g + CDMA BC1

CHANNEL	CH 6 + CH 25	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19297	0.16	41.73	33.97	41.89	34.13	63.91	53.91	-22.02	-19.78
2	0.22812	0.17	42.63	32.04	42.80	32.21	62.52	52.52	-19.72	-20.31
3	0.64219	0.24	30.37	19.74	30.61	19.98	56.00	46.00	-25.39	-26.02
4	1.65234	0.28	23.33	16.76	23.61	17.04	56.00	46.00	-32.39	-28.96
5	6.39453	0.53	36.43	28.12	36.96	28.65	60.00	50.00	-23.04	-21.35
6	7.66406	0.60	36.33	27.64	36.93	28.24	60.00	50.00	-23.07	-21.76

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

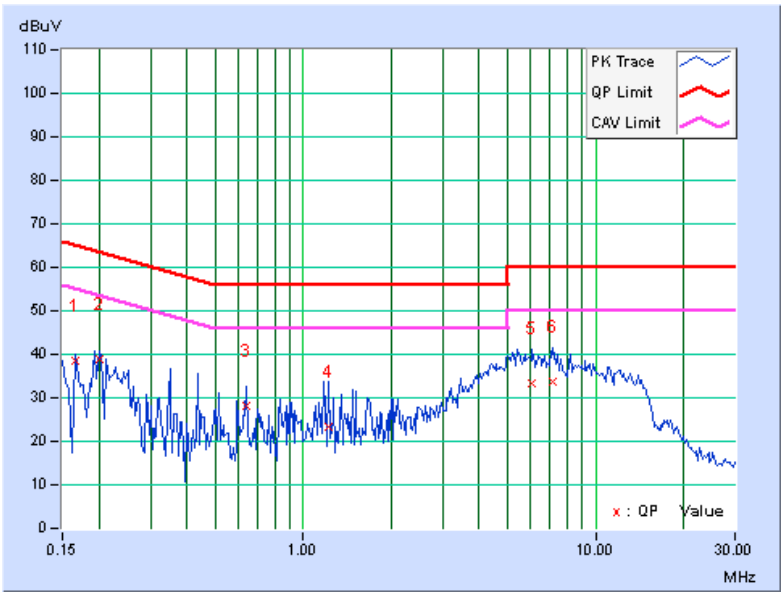


CHANNEL	CH 6 + CH 25	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	0.17	38.27	25.17	38.44	25.34	65.18	55.18	-26.74	-29.84
2	0.20078	0.17	38.61	25.83	38.78	26.00	63.58	53.58	-24.80	-27.58
3	0.64219	0.24	27.73	15.94	27.97	16.18	56.00	46.00	-28.03	-29.82
4	1.22266	0.26	23.23	11.62	23.49	11.88	56.00	46.00	-32.51	-34.12
5	6.07422	0.46	32.72	23.38	33.18	23.84	60.00	50.00	-26.82	-26.16
6	7.17969	0.50	33.08	23.34	33.58	23.84	60.00	50.00	-26.42	-26.16

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



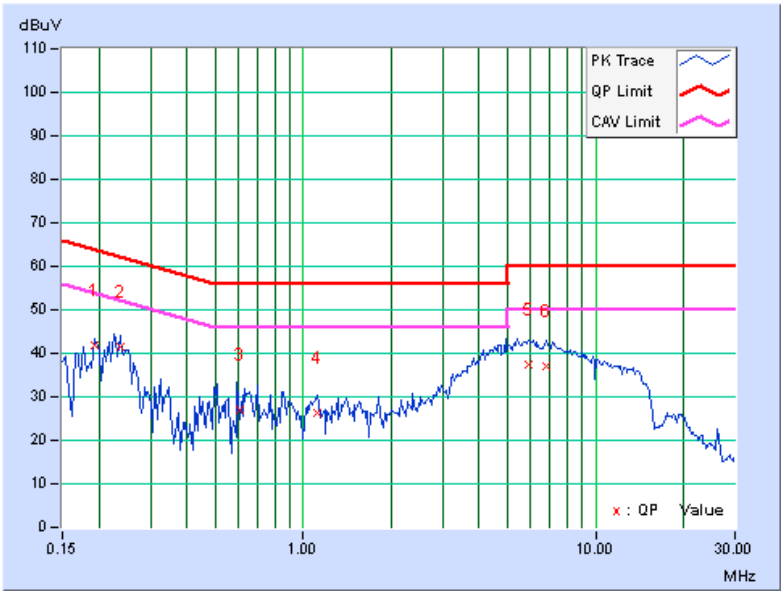
802.11g + CDMA BC10

CHANNEL	CH 6 + CH 476	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19297	0.16	41.75	33.89	41.91	34.05	63.91	53.91	-22.00	-19.86
2	0.23594	0.17	41.26	31.97	41.43	32.14	62.24	52.24	-20.81	-20.10
3	0.60802	0.24	26.67	15.86	26.91	16.10	56.00	46.00	-29.09	-29.90
4	1.12109	0.25	26.00	15.39	26.25	15.64	56.00	46.00	-29.75	-30.36
5	5.87891	0.50	36.91	28.79	37.41	29.29	60.00	50.00	-22.59	-20.71
6	6.80078	0.55	36.58	28.07	37.13	28.62	60.00	50.00	-22.87	-21.38

REMARKS:

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

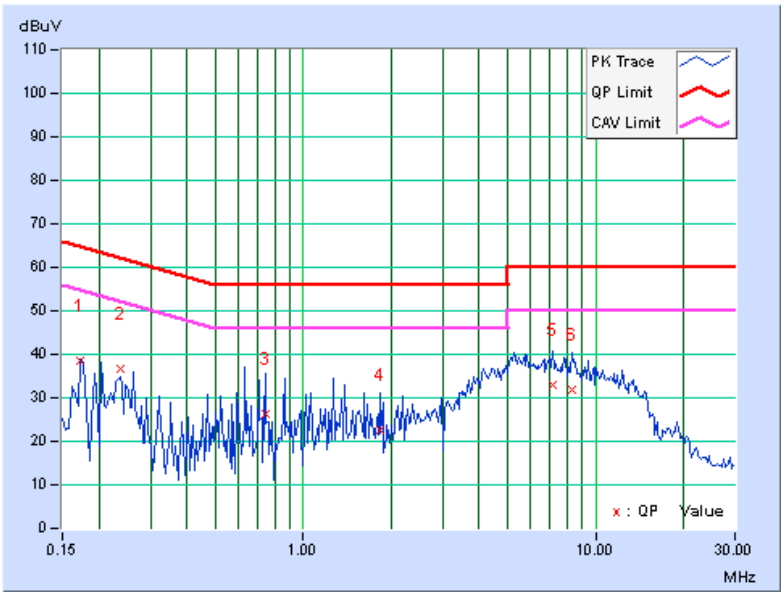


CHANNEL	CH 6 + CH 476	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17344	0.17	38.43	27.24	38.60	27.41	64.79	54.79	-26.20	-27.39
2	0.23594	0.18	36.46	25.40	36.64	25.58	62.24	52.24	-25.60	-26.66
3	0.74375	0.25	25.98	12.40	26.23	12.65	56.00	46.00	-29.77	-33.35
4	1.82813	0.27	22.41	10.37	22.68	10.64	56.00	46.00	-33.32	-35.36
5	7.10938	0.49	32.53	23.26	33.02	23.75	60.00	50.00	-26.98	-26.25
6	8.30469	0.54	31.14	21.77	31.68	22.31	60.00	50.00	-28.32	-27.69

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



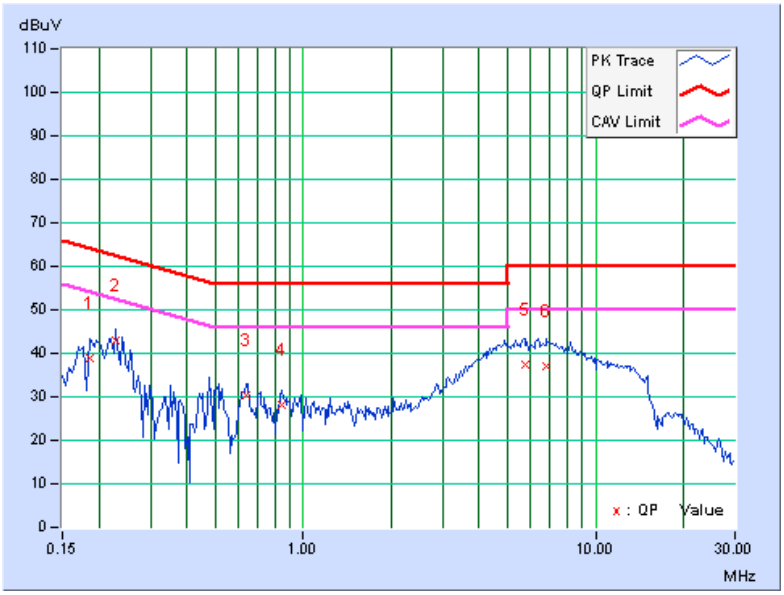
802.11g + LTE Band 25 (3MHz)

CHANNEL	CH 6 + CH 26055	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18516	0.16	38.68	25.66	38.84	25.82	64.25	54.25	-25.41	-28.43
2	**0.22812**	**0.17**	**42.78**	**32.24**	**42.95**	**32.41**	**62.52**	**52.52**	**-19.57**	**-20.11**
3	0.63828	0.24	30.09	18.88	30.33	19.12	56.00	46.00	-25.67	-26.88
4	0.84922	0.24	27.79	16.56	28.03	16.80	56.00	46.00	-27.97	-29.20
5	5.71875	0.49	37.08	28.63	37.57	29.12	60.00	50.00	-22.43	-20.88
6	6.82031	0.55	36.50	27.97	37.05	28.52	60.00	50.00	-22.95	-21.48

REMARKS:

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

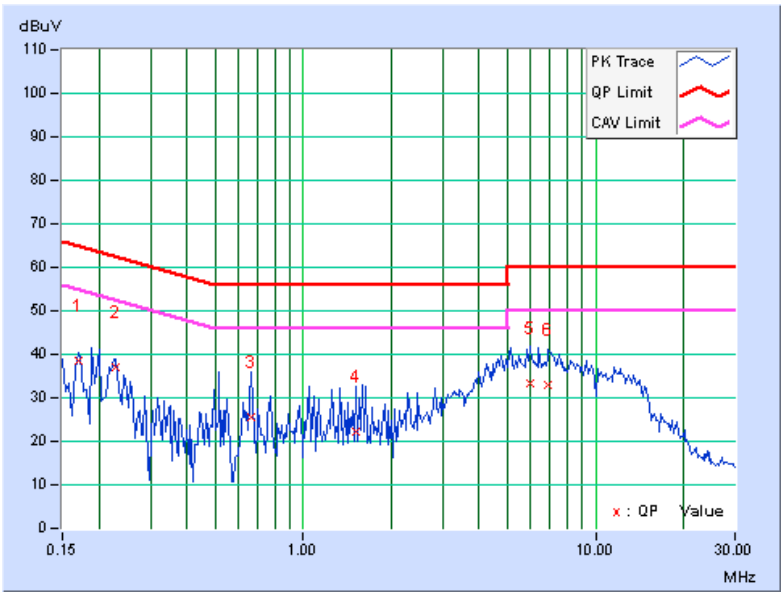


CHANNEL	CH 6 + CH 26055	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16953	0.17	38.39	27.69	38.56	27.86	64.98	54.98	-26.43	-27.13
2	0.22812	0.18	36.69	25.80	36.87	25.98	62.52	52.52	-25.65	-26.54
3	0.66172	0.24	25.18	11.77	25.42	12.01	56.00	46.00	-30.58	-33.99
4	1.51172	0.27	21.91	10.43	22.18	10.70	56.00	46.00	-33.82	-35.30
5	5.99219	0.45	32.76	23.34	33.21	23.79	60.00	50.00	-26.79	-26.21
6	6.91406	0.49	32.43	23.76	32.92	24.25	60.00	50.00	-27.08	-25.75

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



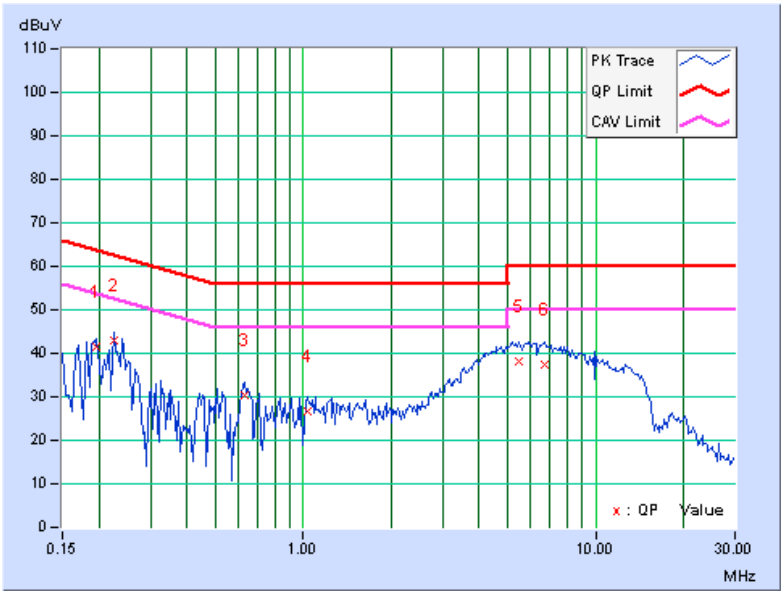
802.11g + LTE Band 26 (3MHz)

CHANNEL	CH 6 + CH 26775	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19687	0.16	41.20	33.93	41.36	34.09	63.74	53.74	-22.38	-19.65
2	0.22422	0.17	42.88	34.75	43.05	34.92	62.66	52.66	-19.61	-17.74
3	0.63438	0.24	30.17	18.82	30.41	19.06	56.00	46.00	-25.59	-26.94
4	1.03516	0.25	26.48	16.17	26.73	16.42	56.00	46.00	-29.27	-29.58
5	5.48828	0.48	37.58	28.49	38.06	28.97	60.00	50.00	-21.94	-21.03
6	6.69531	0.54	36.83	28.14	37.37	28.68	60.00	50.00	-22.63	-21.32

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

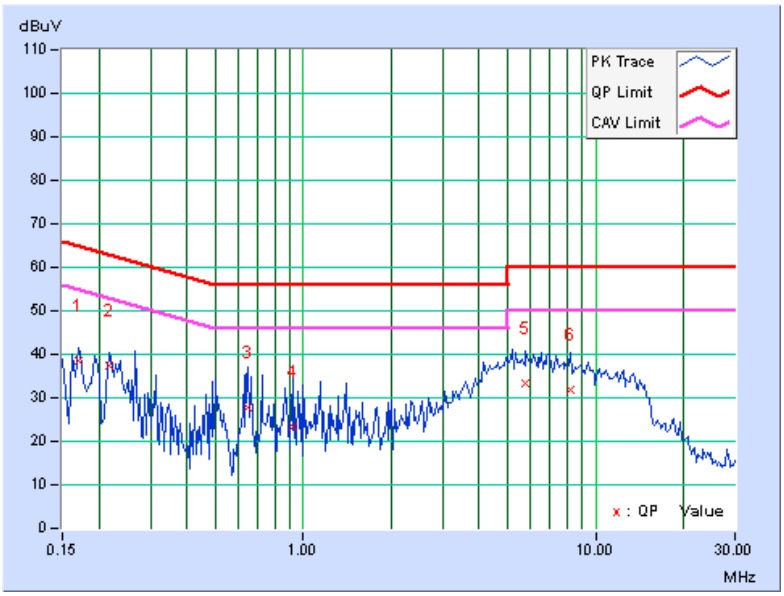


CHANNEL	CH 6 + CH 26775	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16953	0.17	38.27	27.55	38.44	27.72	64.98	54.98	-26.55	-27.27
2	0.21641	0.18	37.12	27.60	37.30	27.78	62.96	52.96	-25.66	-25.18
3	0.65000	0.24	27.48	16.40	27.72	16.64	56.00	46.00	-28.28	-29.36
4	0.92344	0.25	23.22	10.84	23.47	11.09	56.00	46.00	-32.53	-34.91
5	5.75781	0.44	32.90	23.06	33.34	23.50	60.00	50.00	-26.66	-26.50
6	8.19922	0.53	31.44	22.10	31.97	22.63	60.00	50.00	-28.03	-27.37

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



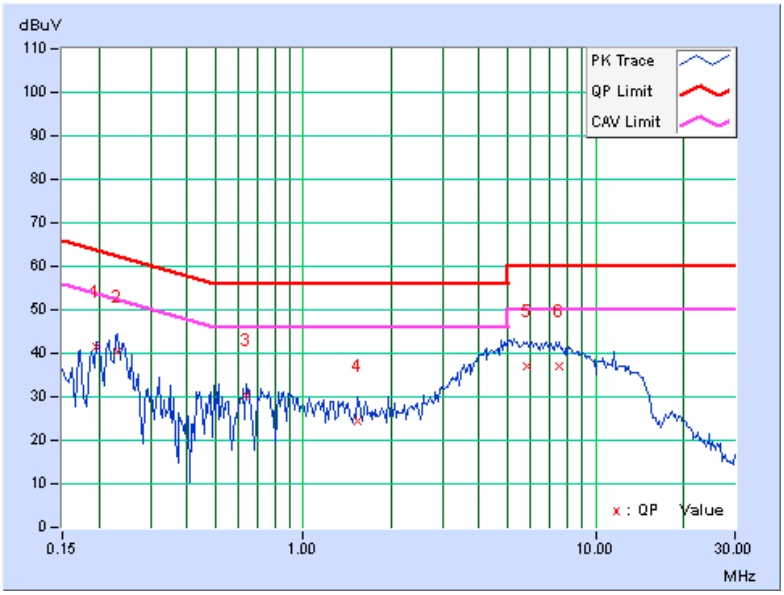
802.11g + LTE Band 41 (10MHz)

CHANNEL	CH 6 + CH 39700	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19687	0.16	41.16	33.95	41.32	34.11	63.74	53.74	-22.42	-19.63
2	0.23203	0.17	40.16	29.94	40.33	30.11	62.38	52.38	-22.05	-22.27
3	0.63828	0.24	30.17	18.94	30.41	19.18	56.00	46.00	-25.59	-26.82
4	1.53906	0.27	24.35	15.71	24.62	15.98	56.00	46.00	-31.38	-30.02
5	5.84766	0.50	36.49	28.14	36.99	28.64	60.00	50.00	-23.01	-21.36
6	7.51563	0.59	36.57	27.78	37.16	28.37	60.00	50.00	-22.84	-21.63

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

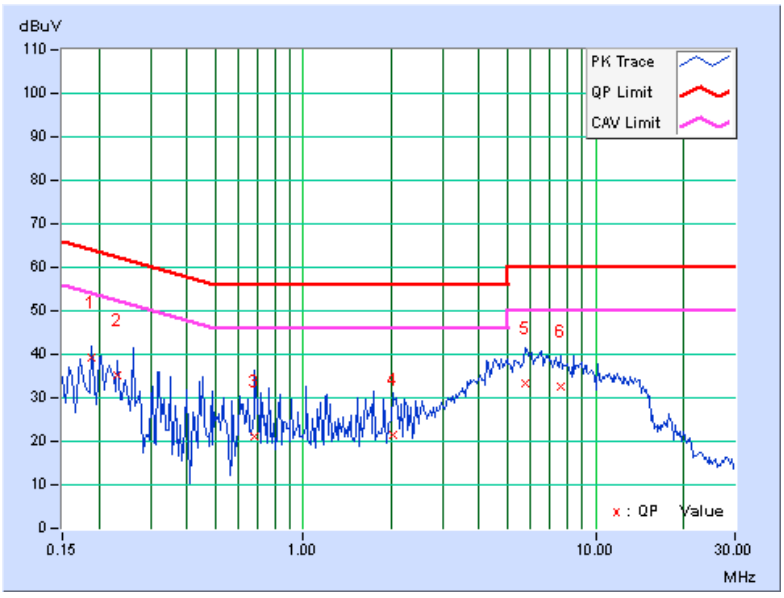


CHANNEL	CH 6 + CH 39700	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18906	0.17	39.25	26.32	39.42	26.49	64.08	54.08	-24.66	-27.59
2	0.23203	0.18	34.83	23.17	35.01	23.35	62.38	52.38	-27.37	-29.03
3	0.68125	0.24	20.73	9.48	20.97	9.72	56.00	46.00	-35.03	-36.28
4	2.02344	0.28	21.15	9.83	21.43	10.11	56.00	46.00	-34.57	-35.89
5	5.74219	0.44	32.82	23.32	33.26	23.76	60.00	50.00	-26.74	-26.24
6	7.65234	0.51	31.98	23.04	32.49	23.55	60.00	50.00	-27.51	-26.45

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



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: 886-2-26051924

Hsin Chu EMC/RF Lab
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab
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.

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.

---END---