



Spectrum Research & Testing Lab., Inc.
No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A13122302
Report No.: FCCA13122302
FCC ID : FSUGMZL3
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Date: Jan. 17, 2014

Product Name: Energy Mouse 2
Model No.: GM-130024/T
Applicant: KYE SYSTEMS CORP (Genius)
No. 492, Sec. 5, Chongxin Rd., Sanchong Dist.
New Taipei, Taiwan R.O.C. Postal Code 24160
Date of Receipt: Dec. 23, 2013
Finished date of Test: Jan. 15, 2014
Applicable Standards: **47 CFR Part 15, Subpart C**
47 CFR Part 15, Subpart B
ANSI C63.4: 2003
EUT Description: This EUT is a 2.4G wireless mouse & a portable power bank

We, **Spectrum Research & Testing Laboratory Inc.**, hereby certify that one sample of the above was tested in our laboratory with positive results according to the above-mentioned standards. The records in the report are an accurate account of the results. Details of the results are given in the subsequent pages of this report.

Tested By : Lin, shu-hsuan , Date: Jan 17, 2014
(Boris Lin)

Approved By : JH , Date: 1/17/2014
(Johnson Ho, Director)



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1. DOCUMENT POLICY AND TEST STATEMENT

1.1 DOCUMENT POLICY

- The report shall not be reproduced except in full, without the written approval of SRT Lab, Inc.

1.2 TEST STATEMENT

- The test results in the report apply only to the unit tested by SRT Lab.
- There was no deviation from the requirements of test standards during the test.
- Voltage of 110V 60Hz was supplied for the Desktop PC
USB Dongle (Rx) was drawing power from the PC's USB port (DC 5V / 500mA)
EUT (Tx) has a built-in internal Lithium Polymer battery (DC 3.7V / 2700mAh)

1.3 EUT MODIFICATION

- No modification in SRT Lab.



2. DESCRIPTION OF EUT AND TEST MODE

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Energy Mouse 2
MODEL NO.	GM-130024/T
POWER SUPPLY	Tx : DC power source from Li-ion battery: 3.7V Rx : DC power source from USB Port: 5V / 500mA
CABLE	N/A
FREQUENCY BAND	2.400 GHz ~ 2.4835 GHz
CARRIER FREQUENCY	2.409 GHz ~ 2.476 GHz
NUMBER OF CHANNEL	8
RATED RF OUTPUT POWER	94.00 dBuV/m (-12.99 dBm, 0.050 mW)
MODULATION TYPE	GFSK
MODE OF OPERATION	Half Duplex
ANTENNA TYPE	Printed PCB Antenna
ANTENNA GAIN	0 dBi
OPERATING TEMPERATURE RANGE	-40 ~ 85°C

NOTE:

For more detailed information, please refer to the EUT's specification or user's manual provided by the manufacturer.

2.2 DESCRIPTION OF CHANNEL TABLE

There are 8 channels for this device: 3 channels of lower, medium and higher bandwidths were chosen for the test.

Test modes for each configuration are as shown below:

Channel	Frequency	Channel	Frequency
CH 1	2409 MHz	CH 5	2445 MHz
CH 2	2417 MHz	CH 6	2455 MHz
CH 3	2426 MHz	CH 7	2465 MHz
CH 4	2435 MHz	CH 8	2476 MHz



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2.3 DESCRIPTION OF EUT INTERNAL DEVICE

DEVICE	BRAND / MAKER	MODEL #	FCC ID / DOC	REMARK
Battery	N/A	246054	FSUGMZKO	3.7Vdc 2700mAh, 9.99Wh

NOTE:

Frequency range to be measured.
 Radiated emission is 30MHz to 6GHz

2.4 DESCRIPTION OF TEST MODES

Test Mode			Channel	Frequency(MHz)
1	Transmitter, Continuous Transmission Mode	Tx1	1	2409
2	Transmitter, Continuous Transmission Mode	Tx2	4	2435
3	Transmitter, Continuous Transmission Mode	Tx3	8	2476
4	Transmitter & Receiver, Link Mode	Link	N/A	N/A
5	Receiver, Standby Mode	Standby	N/A	N/A

NOTE :

1. Tests conducted for channels 1, 4 and 8 below 1 GHz were pre-tested in chamber, the worst test results were chosen for conducted and radiated emission tests
2. Tests for channel 1, 4 and 8 were conducted individually

X axis:



Y axis:



Z axis:





2.5 DESCRIPTION OF SUPPORT UNIT

The test setup was configured and met the requirements of ANSI C63.4:2003. All the interface ports were connected to the appropriate support units via specific cables. The support units and cables are listed below.

No	DEVICE	BRAND	MODEL #	CABLE
1	CRT Monitor	Samsung	PG17IS	1.8 m unshielded power cable 1.5 m unshielded data cable
2	Keyboard	WinTEK	WM530	1.8 m unshielded data cable
3	Mouse	WinTEK	WSS30	1.5 m unshielded data cable
4	Printer	EPSON	STYLUS C20SX	1.5 m unshielded power cable 1.2 m unshielded data cable
5	Modem	ACEEX	DM-1414	1.5 m unshielded power cable 1.2 m unshielded data cable
6	Rheostat	N/A	DSR500W20ΩK	0.5 m unshielded power cable

NOTE : For the actual test configuration, please refer to the photos of testing.

2.6 EUT OPERATING CONDITION

1. Setup the EUT and all peripheral devices for testing.
2. Turn on the power of all equipments and the EUT.
3. Start continuous transmission mode on the EUT.



3. DESCRIPTION OF APPLIED STANDARDS

According to the specifications provided by the applicant, this EUT is a wireless product, therefore it must comply with the requirements of the following standards:

47 CFR Part 15, Subpart C

47 CFR Part 15, Subpart B

ANSI C63.4: 2003

All tests have been performed and recorded as the above standards.

3.1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

STANDARD SECTION	TEST TYPE AND LIMIT RESULTS	RESULTS
15.203	Antenna requirement Limit : max. 6dBi	PASS
15.247(d)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency (Reference Only)	PASS
15.33(a) 15.249	Transmitter Radiated Emissions Limit: Table 15.209	PASS



4. TECHNICAL CHARACTERISTICS TEST

4.1 BAND EDGE TEST

4.1.1 LIMIT

FCC Part15, Subpart C Section 15.247. In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

OPERATING FREQUENCY RANGE (MHz)	SPURIOUS EMISSION FREQUENCY (MHz)	LIMIT	
		Peak power ration to emission(dBc)	Emission level(dBuV/m)
902 - 928	< 902	> 20	NA
	> 928	> 20	NA
	960 - 1240	NA	54
2400 - 2483.5	< 2400	> 20	NA
	> 2483.5 - 2500	NA	54
5725 - 5850	< 5350 - 5460	NA	54
	< 5725	> 20	NA
	> 5850	> 20	NA



4.1.2 TEST EQUIPMENT

The following test equipment was used during the test:

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
EMI TEST RECEIVER (INCLUDE SPECTRUM ANALYZER)	9 KHz ~ 6 GHz	ROHDE & SCHWARZ	ESL /100176	MAR. 28, 2014 ETC
SPECTRUM ANALYZER	9 kHz ~ 7GHz	ROHDE & SCHWARZ	FSP7 / 100289	APR. 12, 2014 ETC
SPECTRUM ANALYZER	9 kHz ~ 40GHz	ROHDE & SCHWARZ	FSP40 / 100093	DEC 08, 2014 ETC
HORN ANTENNA	1 GHz ~ 18 GHz	EMCO	3115/ 9602-4681	DEC. 12, 2014 ETC
PRE-AMPLIFIER	1 GHz ~ 26.5 GHz	AGILENT	8449B/ 3008A01995	DEC. 10, 2014 ETC
OPEN AREA TEST SITE	3 – 10 M MEASUREMENT	SRT	A02 / SRT002	MAR. 09, 2014 SRT
ANECHOIC CHAMBER	3 M MEASUREMENT	SRT	A01 / SRT001	MAY 13, 2014 SRT
RF CABLE	UP TO 18 GHz 1.5 m	JYEBAO	A30A30-L 142 / EQF-0035(001)	DEC. 11, 2014 ETC
RF CABLE	UP TO 18 GHz 3.5 m	JYEBAO	A30A30-L 142 / EQF-0036(002)	DEC. 11, 2014 ETC
K-TYPE CABLE	UP TO 40 GHz 3 m	HUBER+SUHNER	SF102-46/2*11SK 252 /MY2611/2	MAR. 07, 2014 ETC
K-TYPE CABLE	UP TO 40 GHz, 1 m	HUBER+SUHNER	SF 102-40/2*11 /23934/2	OCT. 20, 2014 ETC
FILTER	2 LINE, 30 A	FIL.COIL	FC-943/ 869	NCR

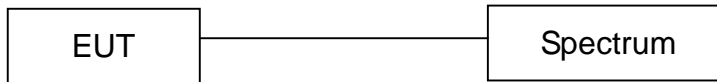
NOTE:

The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.



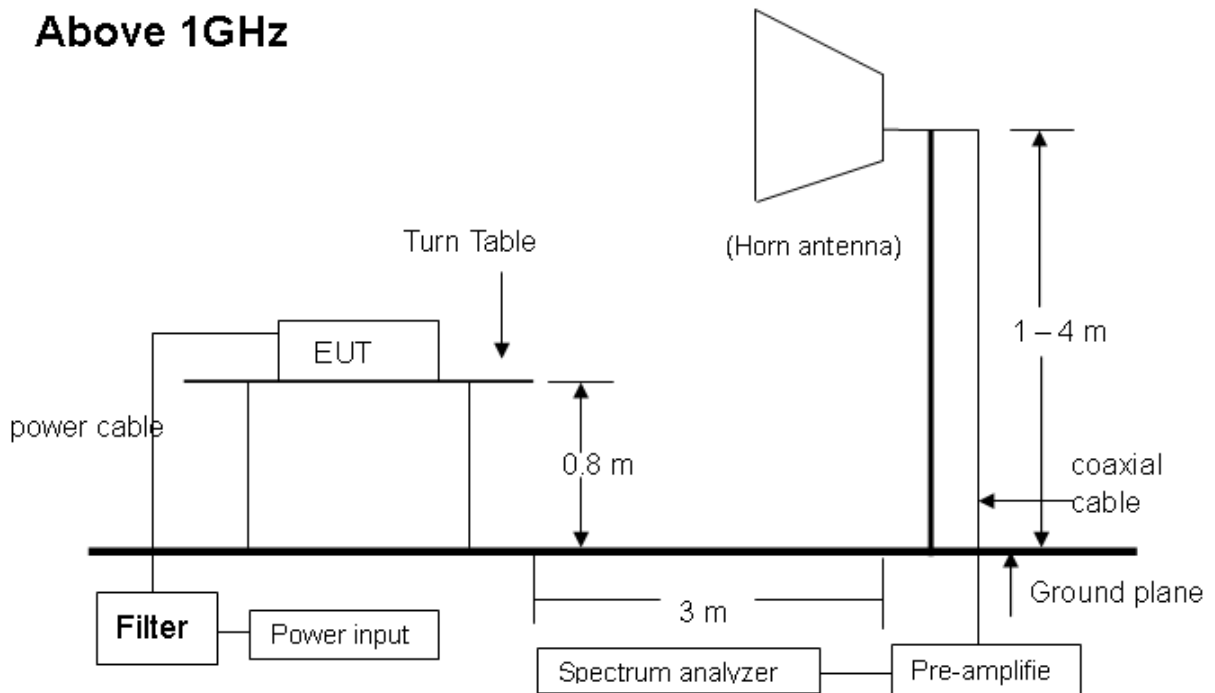
4.1.3 TEST SETUP

FOR RF CONDUCTED TEST (dBc)



The EUT was connected to a spectrum through a 50Ω RF cable.

Above 1GHz



NOTE:

The EUT system was put on a wooden table with 0.8m heights above a ground plane. For the actual test configuration, please refer to the photos of testing.



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4.1.4 TEST PROCEDURE

1. The EUT was operating in continuous transmission mode and 3 out of all the channels could be controlled by either software or control buttons on the EUT. Readings from the spectrum analyzer was also printed out as a hard copy.
2. The EUT was tested according to the requirement of ANSI C63.4 and CISPR 22. The measurements were made at an open area test site and the antenna was placed 3 meters away from the EUT. Both frequencies under 1 GHz and above 1GHz were tested at this distance. The frequency measured with the spectrum analyzer started from 30 MHz.to 1 GHz. All the readings were quasi-peak values with 120 kHz resolution bandwidth. At Above 1 GHz, the readings were peak and average values with 1 MHz resolution bandwidth. The EUT was operating under typical operating conditions. The cables connected to the EUT and support units were adjusted accordingly in order to generate the maximum emission levels for each frequency.

4.1.5 EUT OPERATING CONDITION

1. Set the EUT under continuous transmission condition.
2. The EUT was set to the highest available power level.



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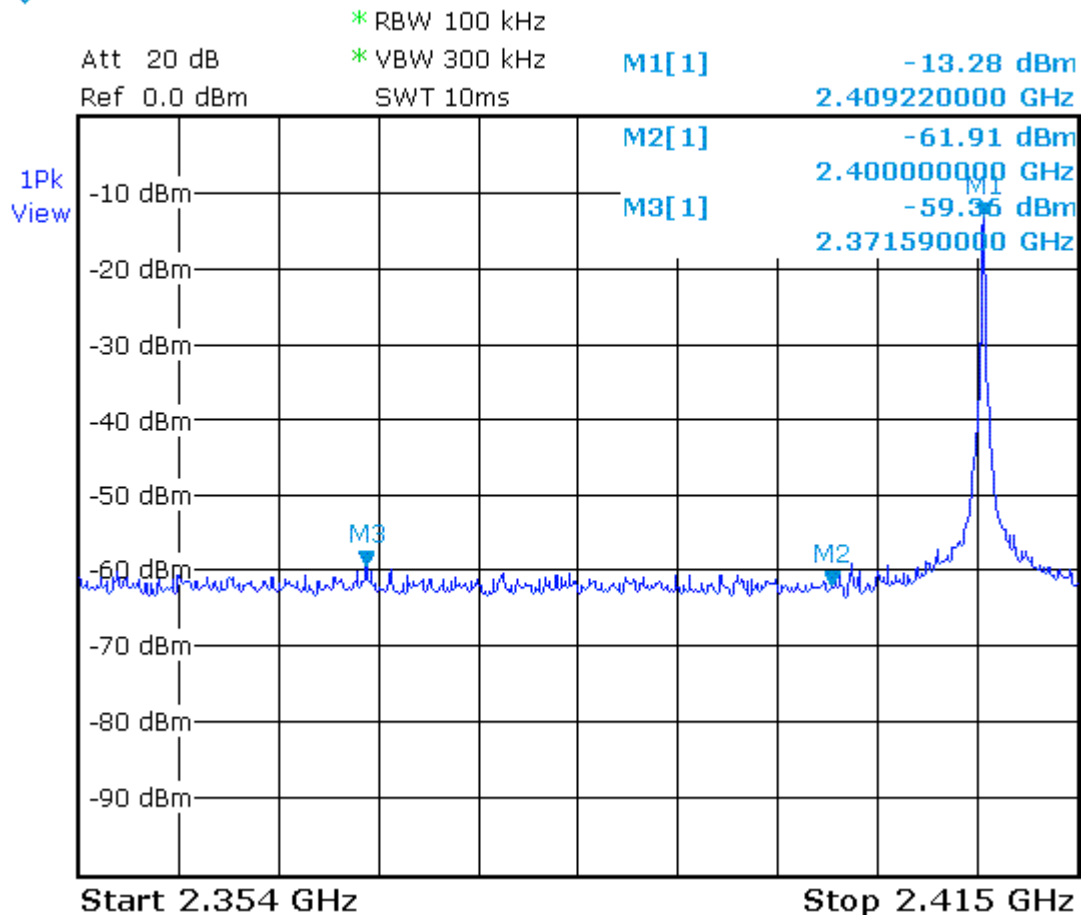
4.1.6 TEST RESULT

Temperature:	20 °C	Humidity:	64 %RH
Receiver Detector:	PK.	Tested Mode:	Tx-1, Tx-3
Frequency Range:	2.32 GHz – 2.42 GHz	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 13, 2014

1. Conducted test

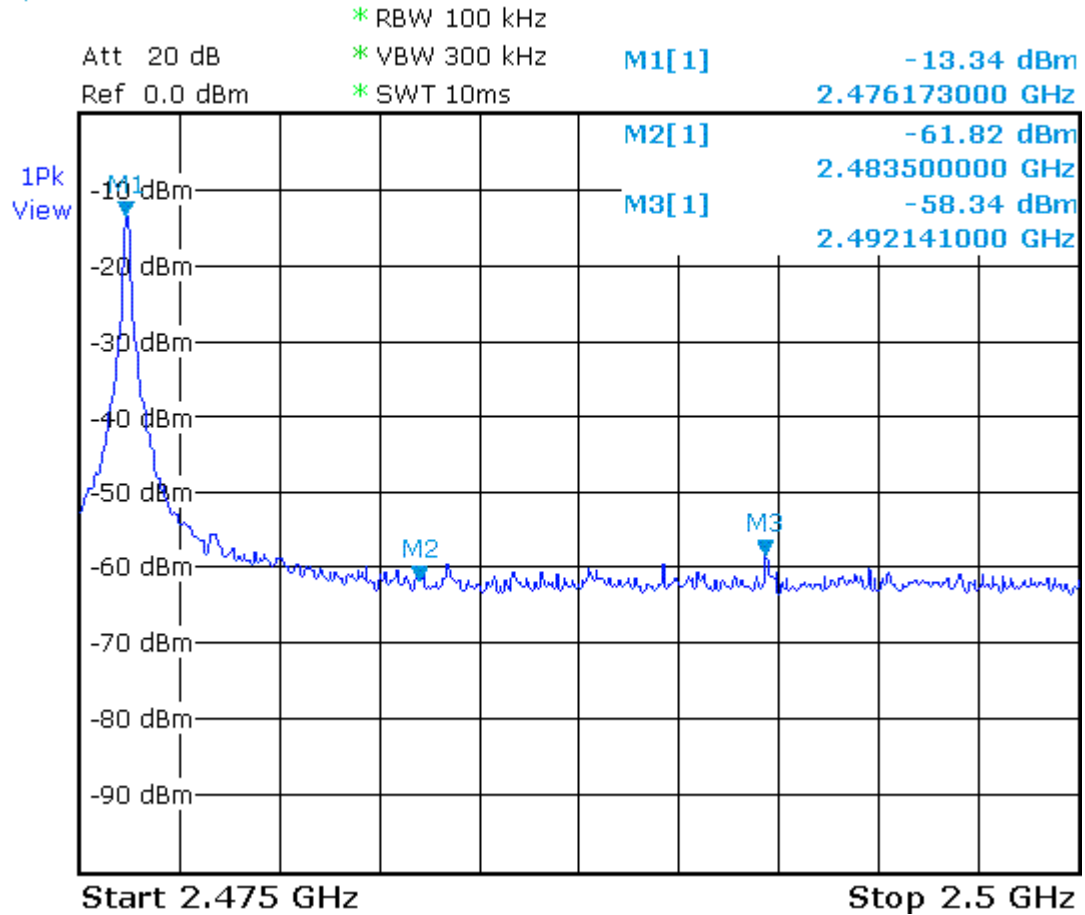
Frequency (MHz)	PEAK POWER OUTPUT (dBm)	Emission read Value(dBm)	Result of Band edge (dBc)	Band edge LIMIT (dBc)
< 2400	-13.28	-59.36	46.08	> 20dBc
> 2483.5	-13.34	-58.34	45.00	> 20dBc

Below 2400 MHz :





Above 2483.5 MHz :



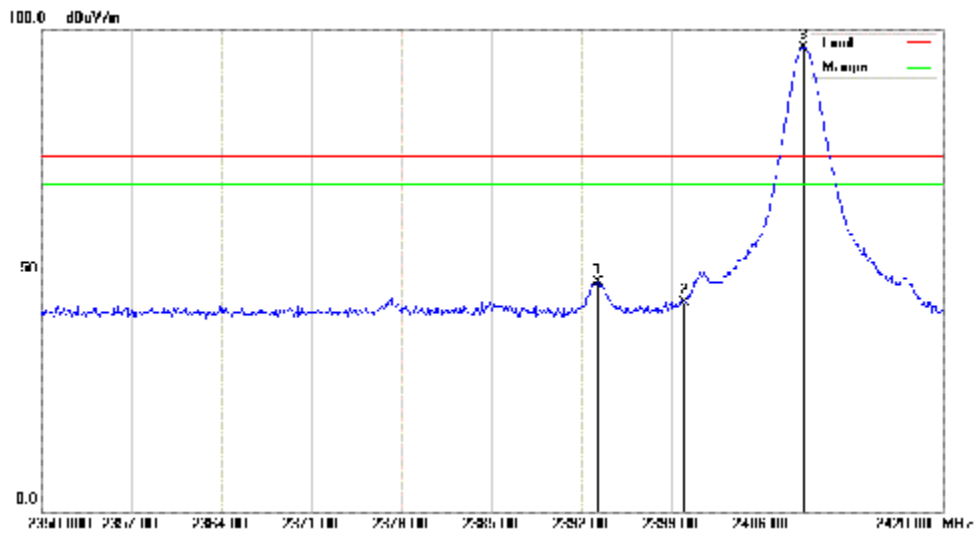


2. Radiated emission test :

Below 2400 MHz (mode 1 of 2409 MHz emission)

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dBuV/m)	
				PK	AV	PK	AV	PK	AV	PK	AV
2393.54	-31.39	28.20	H	48.34	38.80	45.15	35.61	74.00	54.00	-28.85	-18.39
2393.17	-31.39	28.20	V	48.09	39.05	44.90	35.86	74.00	54.00	-29.10	-18.14
2400.00	-31.38	28.22	H	44.32	34.87	41.16	31.71	74.00	54.00	-32.84	-22.29
2400.00	-31.38	28.22	V	44.09	34.19	40.93	31.03	74.00	54.00	-33.07	-22.97

Horizontal :



Vertical :





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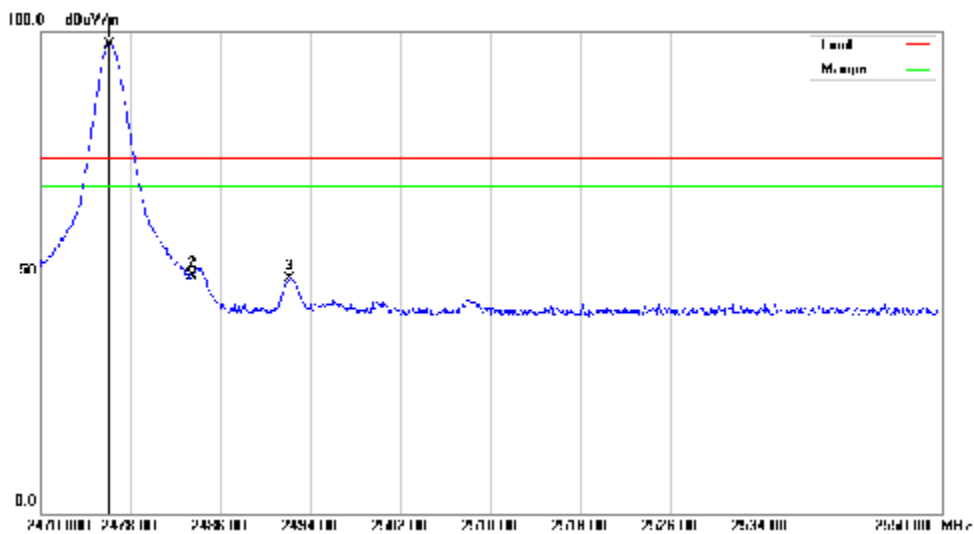
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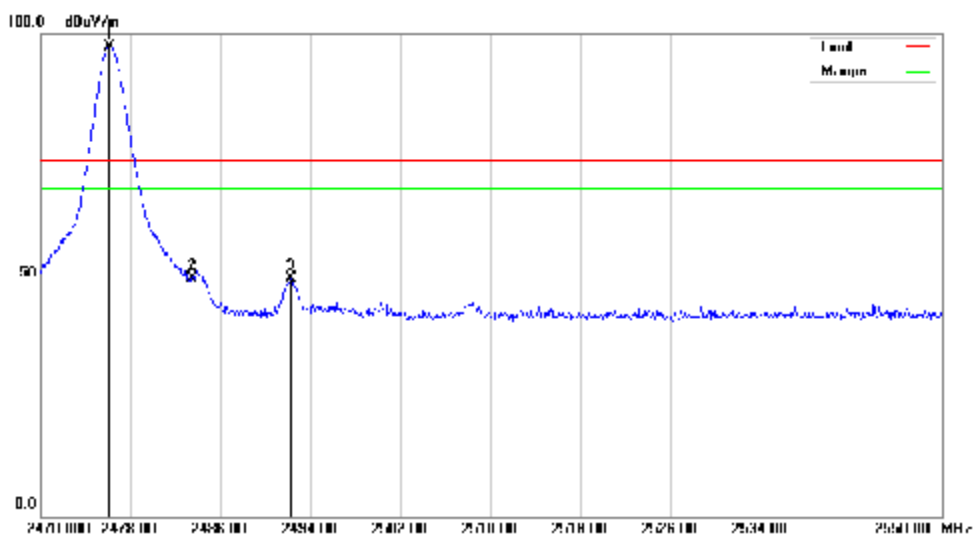
About 2483.5 MHz (mode 3 of 2476 MHz emission)

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dBuV/m)	
				PK	AV	PK	AV	PK	AV	PK	AV
2483.50	-31.29	28.45	H	50.09	40.10	47.25	37.26	74.00	54.00	-26.75	-16.74
2483.50	-31.29	28.45	V	50.06	40.43	47.22	37.59	74.00	54.00	-26.78	-16.41
2493.21	-31.28	28.48	H	48.59	38.60	45.79	35.80	74.00	54.00	-28.21	-18.20
2493.77	-31.28	28.48	V	49.17	39.34	46.37	36.54	74.00	54.00	-27.63	-17.46

Horizontal :



Vertical :





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4.2 RADIATED EMISSION TEST

4.2.1 LIMIT

FCC Part15, Subpart C Section 15.209 limit of radiated emission for frequency below1000MHz. The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

FREQUENCY (MHz)	DISTANCE (m)	FIELD STRENGTH (dBmV/m)
0.009 - 0.490	300	2400/F(KHz)
0.490 - 1.705	30	24000/F(KHz)
1.705 - 30	30	30
30 - 88	3	40.0
88 - 216	3	43.5
216 - 960	3	46.0
Above 960	3	54.0

NOTE:

- 30 dBuV (in 30m) = 70 dBuV (in 3m).
- Transmitters that require Crystal Controlled Oscillators with values below 30 MHz requires the Test Report to show "Spurious Radiated Emissions" results below 30 MHz per FCC Part 15.33(a).

FCC Part15, Subpart C Section 15.249 limit of radiated emission for frequency below1000MHz (Average).

FREQUENCY (MHz)	FIELD STRENGTH OF FUNDAMENTAL (millivolts/meter)	FIELD STRENGTH OF HARMONICS (millivolts/meter)
902 - 928	50	500
2400 - 2483.5	50	500
5725 - 5875	50	500
24000 - 24250	250	2500

NOTE:

- In the emission tables above , the tighter limit applies at the band edges.
- Distance refers to the distance between measuring instrument, antenna, and the closest point of any part of the device or system.
- 50mV = 94dBuV

FCC Part 15, Section15.35(b) limit of radiated emission for frequency above 1000 MHz

FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80.0	60.0	74.0	54.0



4.2.2 TEST EQUIPMENT

The following test equipment was used during the radiated emission test:

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
EMI TEST RECEIVER	9 kHz ~ 2.75 GHz	ROHDE & SCHWARZ	ESCS30 / 100376	DEC. 16, 2014 ETC
EMI TEST RECEIVER	20 MHz ~ 1000 MHz	ROHDE & SCHWARZ	ESVS30 / 841977/003	DEC. 08, 2014 ETC
SPECTRUM ANALYZER	9 kHz ~ 7GHz	ROHDE & SCHWARZ	FSP7 / 100289	APR. 12, 2014 ETC
SPECTRUM ANALYZER	9 kHz ~ 40GHz	ROHDE & SCHWARZ	FSP40 / 100093	DEC 08, 2014 ETC
LOOP ANTENNA	9 kHz ~ 30 MHz	ETS.LINDGREN	HFH2-Z2/ 860605/002 (1162 1/2)	MAR. 06, 2014 ETC
BI-LOG ANTENNA	30 MHz ~ 2 GHz	SCHAFFNER	CBL6141A / 4181	JUN. 25, 2014 ETC
HORN ANTENNA	1 GHz ~ 18 GHz	EMCO	3115/ 9602-4681	DEC. 12, 2014 ETC
HORN ANTENNA	18 ~ 40 GHZ	ETS-LINDGREN	3116 /00032255	JAN. 07, 2015 ETC
PRE-AMPLIFIER	1 GHz ~ 26.5 GHz	AGILENT	8449B/ 3008A01995	DEC. 10, 2014 ETC
OPEN AREA TEST SITE	3 – 10 M MEASUREMENT	SRT	A02 / SRT002	MAR. 09, 2014 SRT
ANECHOIC CHAMBER	3 M MEASUREMENT	SRT	A01 / SRT001	MAY 13, 2014 SRT
COAXIAL CABLE	30 M	TIMES	LMR-400 / #30M(L1TCAB014)	MAY. 21, 2014 ETC
RF CABLE	UP TO 18 GHz 1.5 m	JYEBAO	A30A30-L 142 / EQF-0035(001)	DEC. 11, 2014 ETC
RF CABLE	UP TO 18 GHz 3.5 m	JYEBAO	A30A30-L 142 / EQF-0036(002)	DEC. 11, 2014 ETC
K-TYPE CABLE	UP TO 40 GHz 3 m	HUBER+SUHNER	SF102-46/2*11SK 252 /MY2611/2	MAR. 07, 2014 ETC
K-TYPE CABLE	UP TO 40 GHz, 1 m	HUBER+SUHNER	SF 102-40/2*11 /23934/2	OCT. 20, 2014 ETC
FILTER	2 LINE, 30 A	FIL.COIL	FC-943/ 869	NCR
CDN	0.15 MHz ~ 300 MHz	LUTHI	CDN L-801 M2/M3 / 2790	MAY. 24, 2014 ETC

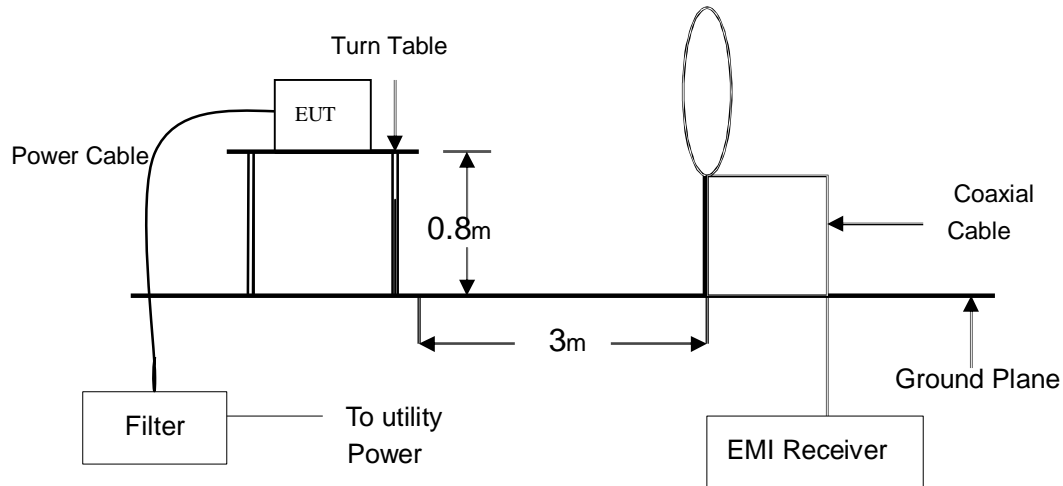
NOTE:

The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

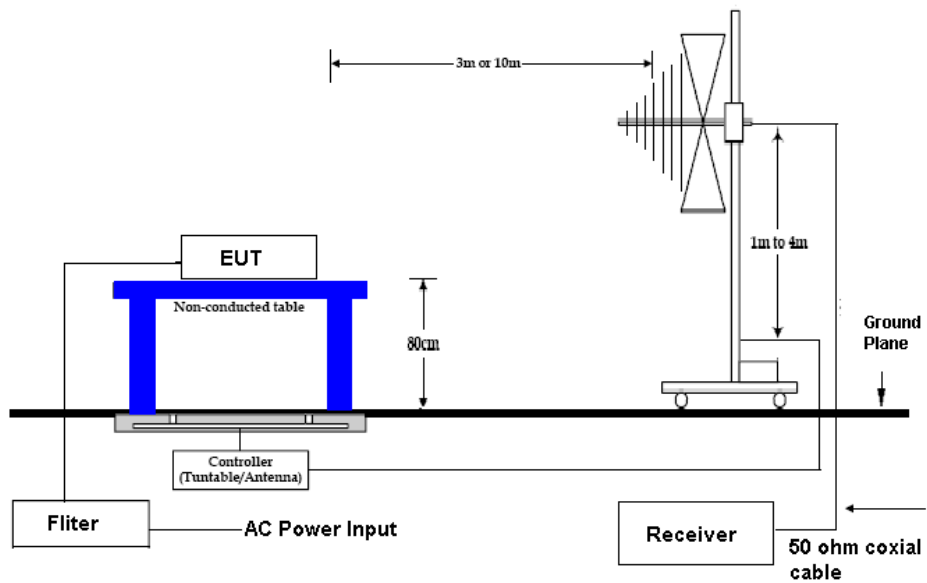


4.2.3 TEST SET-UP

9KHz ~ 30MHz

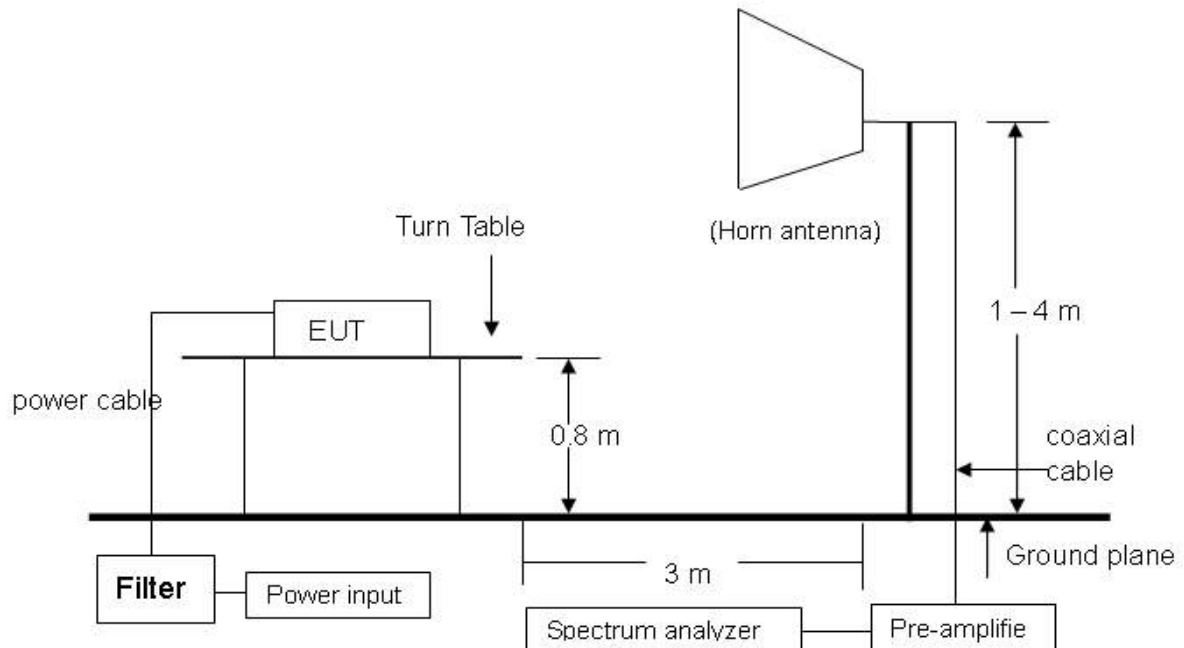


30 MHz ~ 1 GHz





Above 1 GHz



NOTE:

The EUT system was put on a wooden table with 0.8m heights above a ground plane. For the actual test configuration, please refer to the photos of testing.

4.2.4 TEST PROCEDURE

The EUT was tested according to the requirement of :

ANSI C63.4:2003 and CISPR 22:2003.

The loop antenna was used when the measurement started from 9 kHz to 30 MHz.

The measurements were made at an open area test site and the antenna was placed 3 meters away from the EUT. Both frequencies under 1 GHz and above 1GHz were tested at this distance. The frequency measured with the spectrum analyzer started from 30 MHz.to 1 GHz. All the readings were quasi-peak values with 120 kHz resolution bandwidth. At Above 1 GHz, the readings were peak and average values with 1 MHz resolution bandwidth. The EUT was operating under typical operating conditions. The cables connected to the EUT and the support units were adjusted accordingly in order to generate the maximum emission levels for each frequency.

6 highest emission readings were selected and included in this report.

The procedure is referred on the test procedure of SRT LAB.



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4.2.5 TEST RESULT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	9KHz – 30 MHz	Measured Distance:	3 m
Receiver Detector:	AV.	Tested Mode:	Tx-1
Tested By:	Boris Lin	Tested Date:	Jan. 14, 2014

Frequency (KHz)	Cable Loss (dB)	Ant. Fac. (dB)	Reading (dB μ V)	Emission (dB μ V/m)	Limit Line (dB μ V/m)	Margin (dB)
5.54	0.42	20.32	7.92	28.66	70.00	-41.34
17.52	0.72	20.87	5.39	26.98	70.00	-43.02
18.04	0.73	20.90	5.84	27.47	70.00	-42.53
27.05	0.88	21.35	9.04	31.27	70.00	-38.73
28.53	0.91	21.43	7.08	29.41	70.00	-40.59
29.07	0.92	21.45	5.83	28.20	70.00	-41.80

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	9KHz – 30 MHz	Measured Distance:	3 m
Receiver Detector:	AV.	Tested Mode:	Tx-2
Tested By:	Boris Lin	Tested Date:	Jan. 14, 2014

Frequency (KHz)	Cable Loss (dB)	Ant. Fac. (dB)	Reading (dB μ V)	Emission (dB μ V/m)	Limit Line (dB μ V/m)	Margin (dB)
2.38	0.27	20.20	6.03	26.50	70.00	-43.50
5.51	0.42	20.32	7.66	28.40	70.00	-41.60
18.01	0.73	20.90	7.45	29.08	70.00	-40.92
27.08	0.88	21.35	9.35	31.59	70.00	-38.41
28.05	0.90	21.40	4.99	27.29	70.00	-42.71
29.01	0.91	21.45	5.92	28.28	70.00	-41.72



Spectrum Research & Testing Lab., Inc.
 No.167,Ln. 780, Shan-Tong Rd.,Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A13122302
 Report No.: FCCA13122302
 FCC ID : FSUGMZL3
 Page: 21 of 51
 Date: Dec. 18, 2013

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	9KHz – 30 MHz	Measured Distance:	3 m
Receiver Detector:	AV.	Tested Mode:	Tx-3
Tested By:	Boris Lin	Tested Date:	Jan. 14, 2014

Frequency (KHz)	Cable Loss (dB)	Ant. Fac. (dB)	Reading (dBμV)	Emission (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)
5.49	0.42	20.32	7.83	28.57	70.00	-41.43
18.04	0.73	20.90	5.76	27.39	70.00	-42.61
19.41	0.76	20.97	3.24	24.96	70.00	-45.04
27.05	0.88	21.35	9.01	31.25	70.00	-38.75
28.52	0.91	21.43	8.01	30.34	70.00	-39.66
29.07	0.91	21.45	6.87	29.24	70.00	-40.76

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	9KHz – 30 MHz	Measured Distance:	3 m
Receiver Detector:	AV.	Tested Mode:	Link
Tested By:	Boris Lin	Tested Date:	Jan. 14, 2014

Frequency (KHz)	Cable Loss (dB)	Ant. Fac. (dB)	Reading (dBμV)	Emission (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)
5.49	0.42	20.32	8.82	29.55	70.00	-40.45
17.51	0.72	20.87	4.37	25.96	70.00	-44.04
18.02	0.73	20.90	6.69	28.32	70.00	-41.68
27.06	0.88	21.35	9.54	31.78	70.00	-38.22
28.55	0.91	21.43	7.58	29.91	70.00	-40.09
29.01	0.91	21.45	6.02	28.38	70.00	-41.62



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TEST REPORT

Reference No.: A13122302
Report No.: FCCA13122302
FCC ID : FSUGMZL3
Page: 22 of 51
Date: Dec. 18, 2013

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	9KHz – 30 MHz	Measured Distance:	3 m
Receiver Detector:	AV.	Tested Mode:	Standby
Tested By:	Boris Lin	Tested Date:	Jan. 14, 2014

Frequency (KHz)	Cable Loss (dB)	Ant. Fac. (dB)	Reading (dB μ V)	Emission (dB μ V/m)	Limit Line (dB μ V/m)	Margin (dB)
5.47	0.42	20.32	7.17	27.90	70.00	-42.10
17.52	0.72	20.87	4.04	25.63	70.00	-44.37
18.10	0.73	20.90	6.36	27.99	70.00	-42.01
27.06	0.88	21.35	8.84	31.08	70.00	-38.92
28.58	0.91	21.43	8.22	30.56	70.00	-39.44
29.03	0.91	21.45	7.10	29.47	70.00	-40.53



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	Tx-1
Receiver Detector:	Q.P.	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 04, 2014

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
56.37	1.21	12.08	14.65	27.94	40	-12.06	110	3.49
164.95	2.02	11.64	20.41	34.07	44	-9.43	200	3.33
266.01	2.66	13.30	15.69	31.65	46	-14.35	299	3.02
300.07	2.86	14.00	21.56	38.42	46	-7.58	261	2.39
366.65	3.25	15.58	18.71	37.54	46	-8.46	170	2.23
600.53	4.44	19.60	13.81	37.85	46	-8.15	142	1.70

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
200.02	2.25	11.80	11.54	25.59	44	-17.91	60	1.52
328.80	3.03	14.67	18.12	35.82	46	-10.18	141	2.29
364.94	3.24	15.54	16.61	35.38	46	-10.62	238	2.46
386.25	3.36	16.06	8.14	27.57	46	-18.43	174	2.58
499.39	3.95	17.99	13.48	35.42	46	-10.58	40	2.75
666.29	4.75	20.60	3.28	28.63	46	-17.37	71	3.34

NOTE :

1. Measurement uncertainty is 4.73dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss.
4. The field strength of other emission frequencies were very low against the limit.



Spectrum Research & Testing Lab., Inc.
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TEST REPORT

Reference No.: A13122302
 Report No.: FCCA13122302
 FCC ID : FSUGMZL3
 Page: 24 of 51
 Date: Dec. 18, 2013

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	Tx-2
Receiver Detector:	Q.P.	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 04, 2014

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
68.82	1.32	8.60	17.08	27.00	40	-13.00	125	3.42
166.18	2.03	11.46	21.31	34.80	44	-8.70	214	3.28
198.95	2.24	11.60	15.46	29.30	44	-14.20	295	3.11
299.75	2.86	13.94	20.55	37.35	46	-8.65	251	2.51
364.62	3.24	15.54	19.89	38.66	46	-7.34	162	1.99
600.82	4.44	19.60	13.93	37.97	46	-8.03	136	1.97

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
199.18	2.24	11.70	11.38	25.32	44	-18.18	51	1.78
329.18	3.03	14.70	17.19	34.92	46	-11.08	137	2.15
366.98	3.25	15.58	17.38	36.21	46	-9.79	226	2.16
499.10	3.95	17.99	13.30	35.24	46	-10.76	185	2.25
644.00	4.65	20.39	3.56	28.60	46	-17.40	27	2.91
666.45	4.75	20.60	4.36	29.71	46	-16.29	84	3.51

NOTE :

1. Measurement uncertainty is 4.73dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss.
4. The field strength of other emission frequencies were very low against the limit.



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TEST REPORT

Reference No.: A13122302
 Report No.: FCCA13122302
 FCC ID : FSUGMZL3
 Page: 25 of 51
 Date: Dec. 18, 2013

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	Tx-3
Receiver Detector:	Q.P.	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 04, 2014

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
69.05	1.33	8.35	17.88	27.56	40	-12.44	132	3.48
165.30	2.03	11.55	20.06	33.64	44	-9.87	216	3.19
266.01	2.66	13.30	15.80	31.76	46	-14.24	284	2.99
300.13	2.86	14.00	21.20	38.06	46	-7.94	257	2.51
366.94	3.25	15.58	19.13	37.96	46	-8.04	168	2.12
600.35	4.44	19.60	13.45	37.49	46	-8.51	136	2.16

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
199.07	2.24	11.70	12.19	26.13	44	-17.37	48	1.37
329.09	3.03	14.70	18.63	36.36	46	-9.64	149	2.14
366.68	3.25	15.58	16.65	35.48	46	-10.52	234	2.33
386.30	3.36	16.06	7.94	27.37	46	-18.63	188	2.28
499.06	3.95	17.99	13.75	35.69	46	-10.31	37	2.91
600.65	4.44	19.60	4.09	28.13	46	-17.87	84	3.24

NOTE :

1. Measurement uncertainty is 4.73dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss.
4. The field strength of other emission frequencies were very low against the limit.



Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	Link
Receiver Detector:	Q.P.	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 04, 2014

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dB μ V)	Emission Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	AZ(°)	EL(m)
61.29	1.26	10.35	16.99	28.60	40	-11.40	122	3.20
165.17	2.03	11.55	20.77	34.35	44	-9.16	218	2.93
220.59	2.38	13.40	20.95	36.73	46	-9.27	285	2.80
298.72	2.85	13.88	22.52	39.25	46	-6.75	258	2.67
366.66	3.25	15.58	18.39	37.22	46	-8.78	159	2.11
597.59	4.43	19.55	14.31	38.28	46	-7.72	145	2.01

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dB μ V)	Emission Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	AZ(°)	EL(m)
198.77	2.24	11.60	12.66	26.50	44	-17.00	45	1.37
329.14	3.03	14.70	17.74	35.47	46	-10.53	148	1.80
366.84	3.25	15.58	17.25	36.08	46	-9.92	229	2.20
386.35	3.36	16.06	7.91	27.34	46	-18.66	171	2.67
499.05	3.95	17.99	14.36	36.30	46	-9.70	45	2.70
600.83	4.44	19.60	3.66	27.70	46	-18.30	74	3.48

NOTE :

1. Measurement uncertainty is 4.73dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss.
4. The field strength of other emission frequencies were very low against the limit.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	Standby
Receiver Detector:	Q.P.	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 04, 2014

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
96.11	1.55	9.30	20.42	31.27	44	-12.23	111	3.68
165.19	2.03	11.55	20.91	34.49	44	-9.02	197	3.31
299.85	2.86	13.94	20.55	37.35	46	-8.65	304	2.84
364.90	3.24	15.54	18.71	37.48	46	-8.52	246	2.30
600.65	4.44	19.60	13.10	37.14	46	-8.86	150	2.32
701.34	4.91	20.82	6.15	31.89	46	-14.11	134	2.13

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
199.83	2.24	11.70	11.78	25.72	44	-17.78	52	1.73
329.01	3.03	14.70	18.16	35.89	46	-10.11	140	2.10
367.00	3.26	15.61	16.15	35.01	46	-10.99	246	2.57
499.45	3.95	17.99	12.95	34.89	46	-11.11	177	2.58
600.52	4.44	19.60	3.45	27.49	46	-18.51	37	2.57
666.43	4.75	20.60	4.75	30.10	46	-15.90	71	3.66

NOTE :

1. Measurement uncertainty is 4.73dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss.
4. The field strength of other emission frequencies were very low against the limit.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	Tx-1
Receiver Detector:	PK. and AV.	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 11, 2014

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1462.88	-32.71	25.25	44.29	35.21	36.83	27.75	74	54	-37.17	-26.25	130	3.52
2857.59	-31.11	29.71	41.40	31.80	40.00	30.40	74	54	-34.00	-23.60	220	3.12
3432.93	-30.33	31.15	39.61	29.93	40.43	30.75	74	54	-33.57	-23.25	303	3.08
4162.17	-29.30	32.50	39.92	30.70	43.12	33.90	74	54	-30.88	-20.10	260	2.31
5366.54	-27.66	34.04	38.31	29.02	44.69	35.40	74	54	-29.31	-18.60	149	2.05
5776.15	-27.55	34.14	40.31	30.93	46.91	37.53	74	54	-27.09	-16.47	137	1.83

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1196.48	-33.59	24.87	44.90	35.66	36.19	26.95	74	54	-37.81	-27.05	58	1.54
3016.57	-31.02	30.24	40.81	30.96	40.02	30.17	74	54	-33.98	-23.83	154	2.28
3721.28	-29.90	31.83	40.46	31.18	42.39	33.11	74	54	-31.61	-20.89	225	2.28
4286.45	-29.15	32.50	40.31	30.38	43.66	33.73	74	54	-30.34	-20.27	173	2.61
5271.15	-27.83	33.93	39.15	29.41	45.25	35.51	74	54	-28.75	-18.49	36	2.75
5722.56	-27.52	34.16	38.48	28.76	45.11	35.39	74	54	-28.89	-18.61	77	3.26

NOTE :

1. Measurement uncertainty is 3.92dB.
2. "": The Peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
4. The field strength of other emission frequencies were very low against the limit.
5. (F):The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	Tx-1 (Fundamental)
Receiver Detector:	PK. and AV.	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 11, 2014

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2409.00	-31.37	28.25	96.09	86.32	92.96	83.19	114	94	-21.04	-10.81	125	3.44
4818.00	-28.51	33.20	42.12	32.23	46.81	36.92	74	54	-27.19	-17.08	196	3.32
7227.00	-26.57	35.74	36.33	26.66	45.51	35.84	74	54	-28.49	-18.16	300	2.87
9636.00	-25.69	37.81	36.63	27.56	48.75	39.68	74	54	-25.25	-14.32	238	2.66
12045.00	-23.85	39.17	35.01	25.56	50.33	40.88	74	54	-23.67	-13.12	156	2.34
14454.00	-20.86	41.94	38.04	28.48	59.11	49.55	74	54	-14.89	-4.45	142	2.18

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2409.00	-31.37	28.25	95.67	85.80	92.54	82.67	114	94	-21.46	-11.33	49	1.63
4818.00	-28.51	33.20	40.13	30.65	44.82	35.34	74	54	-29.18	-18.66	148	2.03
7227.00	-26.57	35.74	36.82	26.94	46.00	36.12	74	54	-28.00	-17.88	236	2.32
9636.00	-25.69	37.81	36.58	27.18	48.70	39.30	74	54	-25.30	-14.70	189	2.39
12045.00	-23.85	39.17	34.71	25.66	50.03	40.98	74	54	-23.97	-13.02	23	2.59
14454.00	-20.86	41.94	36.55	27.46	57.62	48.53	74	54	-16.38	-5.47	65	3.23

NOTE:

1. Measurement uncertainty is 3.92dB.
2. "": The Peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
4. The field strength of other emission frequencies were very low against the limit.
5. (F):The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	Tx-2
Receiver Detector:	PK. and AV.	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 11, 2014

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1996.74	-31.84	27.09	41.32	32.16	36.57	27.41	74	54	-37.43	-26.59	133	3.39
2972.14	-31.06	30.10	41.43	32.15	40.47	31.19	74	54	-33.53	-22.81	198	3.11
3606.68	-30.07	31.55	40.55	31.43	42.04	32.92	74	54	-31.96	-21.08	297	2.80
4416.60	-28.98	32.50	40.71	31.13	44.23	34.65	74	54	-29.77	-19.35	262	2.63
5396.02	-27.61	34.08	39.09	29.34	45.55	35.80	74	54	-28.45	-18.20	151	2.17
5731.65	-27.53	34.15	39.31	29.51	45.94	36.14	74	54	-28.06	-17.86	138	1.74

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1326.46	-33.16	25.06	45.98	36.50	37.88	28.40	74	54	-36.12	-25.60	60	1.38
2887.79	-31.10	29.82	42.52	33.10	41.24	31.82	74	54	-32.76	-22.18	141	2.08
3436.02	-30.33	31.16	41.29	31.40	42.12	32.23	74	54	-31.88	-21.77	229	2.19
4067.91	-29.42	32.50	40.56	30.78	43.64	33.86	74	54	-30.36	-20.14	184	2.24
5346.72	-27.70	34.02	38.03	28.39	44.35	34.71	74	54	-29.65	-19.29	32	2.61
5772.99	-27.54	34.15	39.20	29.70	45.80	36.30	74	54	-28.20	-17.70	80	3.61

NOTE :

1. Measurement uncertainty is 3.92dB.
2. "": The Peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
4. The field strength of other emission frequencies were very low against the limit.
5. (F):The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	Tx-2 (Fundamental)
Receiver Detector:	PK. and AV.	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 11, 2014

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2435.00	-31.34	28.32	95.60	86.28	92.58	83.26	114	94	-21.42	-10.74	125	3.48
4870.00	-28.45	33.31	37.75	28.36	42.61	33.22	74	54	-31.39	-20.78	213	3.25
7305.00	-26.53	35.93	37.20	27.99	46.60	37.39	74	54	-27.40	-16.61	290	3.09
9740.00	-25.63	37.89	37.12	27.89	49.38	40.15	74	54	-24.62	-13.85	238	2.50
12175.00	-23.45	39.10	34.65	24.81	50.29	40.45	74	54	-23.71	-13.55	153	2.36
14610.00	-20.91	41.67	36.97	27.28	57.73	48.04	74	54	-16.27	-5.96	137	1.81

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2435.00	-31.34	28.32	95.75	86.51	92.73	83.49	114	94	-21.27	-10.51	60	1.57
4870.00	-28.45	33.31	38.38	29.29	43.24	34.15	74	54	-30.76	-19.85	152	2.00
7305.00	-26.53	35.93	36.27	27.19	45.67	36.59	74	54	-28.33	-17.41	226	2.10
9740.00	-25.63	37.89	37.02	27.74	49.28	40.00	74	54	-24.72	-14.00	173	2.58
12175.00	-23.45	39.10	34.49	25.42	50.13	41.06	74	54	-23.87	-12.94	30	2.94
14610.00	-20.91	41.67	36.89	26.94	57.65	47.70	74	54	-16.35	-6.30	90	3.65

NOTE:

1. Measurement uncertainty is 3.92dB.
2. "": The Peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
4. The field strength of other emission frequencies were very low against the limit.
5. (F):The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	Tx-3
Receiver Detector:	PK. and AV.	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 11, 2014

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1461.90	-32.71	25.25	44.76	35.37	37.30	27.91	74	54	-36.70	-26.09	115	3.55
3031.21	-31.00	30.27	41.23	31.57	40.50	30.84	74	54	-33.50	-23.16	202	2.94
3606.84	-30.07	31.55	40.40	31.32	41.89	32.81	74	54	-32.11	-21.19	289	2.71
4106.95	-29.37	32.50	40.28	31.02	43.41	34.15	74	54	-30.59	-19.85	253	2.73
4607.17	-28.76	32.74	39.41	29.87	43.39	33.85	74	54	-30.61	-20.15	159	2.06
5772.49	-27.54	34.15	38.47	28.61	45.07	35.21	74	54	-28.93	-18.79	148	1.91

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1327.71	-33.15	25.06	44.84	35.80	36.74	27.70	74	54	-37.26	-26.30	67	1.63
3021.57	-31.02	30.25	40.55	30.72	39.78	29.95	74	54	-34.22	-24.05	154	2.26
3602.63	-30.07	31.54	40.97	31.86	42.44	33.33	74	54	-31.56	-20.67	248	2.21
4366.53	-29.05	32.50	40.58	31.54	44.03	34.99	74	54	-29.97	-19.01	185	2.35
5416.18	-27.58	34.10	38.16	28.78	44.68	35.30	74	54	-29.32	-18.70	25	3.03
5702.30	-27.51	34.16	38.87	29.69	45.51	36.33	74	54	-28.49	-17.67	77	3.55

NOTE :

1. Measurement uncertainty is 3.92dB.
2. "": The Peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
4. The field strength of other emission frequencies were very low against the limit.
5. (F):The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	Tx-3 (Fundamental)
Receiver Detector:	PK. and AV.	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 11, 2014

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2476.00	-31.30	28.43	95.60	86.00	92.74	83.14	114	94	-21.26	-10.86	135	3.57
4952.00	-28.36	33.49	39.11	29.69	44.25	34.83	74	54	-29.75	-19.17	206	3.43
7428.00	-26.47	36.23	36.50	27.26	46.26	37.02	74	54	-27.74	-16.98	286	2.86
9904.00	-25.54	38.02	36.45	27.07	48.94	39.56	74	54	-25.06	-14.44	249	2.50
12380.00	-22.82	38.97	34.54	25.00	50.69	41.15	74	54	-23.31	-12.85	155	2.02
14856.00	-21.06	40.93	38.26	28.54	58.14	48.42	74	54	-15.86	-5.58	138	1.90

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2476.00	-31.30	28.43	95.63	86.61	92.77	83.75	114	94	-21.23	-10.25	47	1.39
4952.00	-28.36	33.49	40.52	31.48	45.66	36.62	74	54	-28.34	-17.38	154	1.86
7428.00	-26.47	36.23	36.79	27.10	46.55	36.86	74	54	-27.45	-17.14	242	2.48
9904.00	-25.54	38.02	35.30	26.20	47.79	38.69	74	54	-26.21	-15.31	181	2.35
12380.00	-22.82	38.97	35.30	25.31	51.45	41.46	74	54	-22.55	-12.54	27	2.79
14856.00	-21.06	40.93	37.62	28.14	57.50	48.02	74	54	-16.50	-5.98	77	3.28

NOTE:

1. Measurement uncertainty is 3.92dB.
2. "": The Peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
4. The field strength of other emission frequencies were very low against the limit.
5. (F):The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	Link
Receiver Detector:	PK. and AV.	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 11, 2014

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
3016.92	-31.02	30.24	41.91	31.95	41.12	31.16	74	54	-32.88	-22.84	126	3.57
3616.45	-30.05	31.58	41.24	31.64	42.77	33.17	74	54	-31.23	-20.83	215	3.34
4136.53	-29.33	32.50	41.48	31.65	44.65	34.82	74	54	-29.35	-19.18	292	3.17
4611.02	-28.75	32.74	40.65	31.58	44.64	35.57	74	54	-29.36	-18.43	244	2.26
5061.30	-28.19	33.67	39.96	30.36	45.44	35.84	74	54	-28.56	-18.16	154	2.17
5752.77	-27.54	34.15	38.82	29.08	45.43	35.69	74	54	-28.57	-18.31	125	1.82

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
3001.04	-31.05	30.20	40.85	31.32	40.00	30.47	74	54	-34.00	-23.53	54	1.45
3617.53	-30.05	31.58	39.94	30.54	41.47	32.07	74	54	-32.53	-21.93	136	2.12
4206.42	-29.24	32.50	40.13	30.62	43.39	33.88	74	54	-30.61	-20.12	231	2.48
4867.68	-28.45	33.31	38.81	28.98	43.66	33.83	74	54	-30.34	-20.17	171	2.46
5422.94	-27.57	34.11	38.25	28.27	44.79	34.81	74	54	-29.21	-19.19	47	2.72
5821.96	-27.56	34.14	39.15	29.32	45.72	35.89	74	54	-28.28	-18.11	74	3.46

NOTE :

1. Measurement uncertainty is 3.92dB.
2. "": The Peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
4. The field strength of other emission frequencies were very low against the limit.
5. (F):The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	Standby
Receiver Detector:	PK. and AV.	Modulation Type:	GFSK
Tested By:	Boris Lin	Tested Date:	Jan. 11, 2014

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
3156.78	-30.79	30.54	40.75	31.57	40.50	31.32	74	54	-33.50	-22.68	128	3.60
3736.89	-29.88	31.87	40.20	30.32	42.19	32.31	74	54	-31.81	-21.69	208	3.41
4377.56	-29.03	32.50	38.84	29.57	42.31	33.04	74	54	-31.69	-20.96	284	2.94
5066.30	-28.19	33.68	39.19	29.40	44.68	34.89	74	54	-29.32	-19.11	253	2.49
5582.63	-27.46	34.18	39.23	29.79	45.95	36.51	74	54	-28.05	-17.49	151	2.34
5977.59	-27.63	34.10	38.90	29.68	45.37	36.15	74	54	-28.63	-17.85	143	1.95

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
3111.35	-30.87	30.44	40.48	31.33	40.06	30.91	74	54	-33.94	-23.09	50	1.79
3771.48	-29.83	31.95	42.19	32.38	44.31	34.50	74	54	-29.69	-19.50	151	1.91
4301.01	-29.13	32.50	41.40	32.26	44.77	35.63	74	54	-29.23	-18.37	250	2.14
4816.29	-28.51	33.20	38.54	29.13	43.22	33.81	74	54	-30.78	-20.19	178	2.57
5293.00	-27.79	33.95	38.34	29.16	44.50	35.32	74	54	-29.50	-18.68	38	2.90
5831.41	-27.57	34.13	37.59	28.09	44.15	34.65	74	54	-29.85	-19.35	90	3.63

NOTE :

1. Measurement uncertainty is 3.92dB.
2. "": The Peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
4. The field strength of other emission frequencies were very low against the limit.
5. (F):The field strength of fundamental frequency.



4.3 CONDUCTED EMISSION TEST

4.3.1 LIMIT

Frequency (MHz)	Class A (dB μ V)		Class B (dB μ V)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	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.

4.3.2 TEST EQUIPMENT

The following test equipment was used for the test:

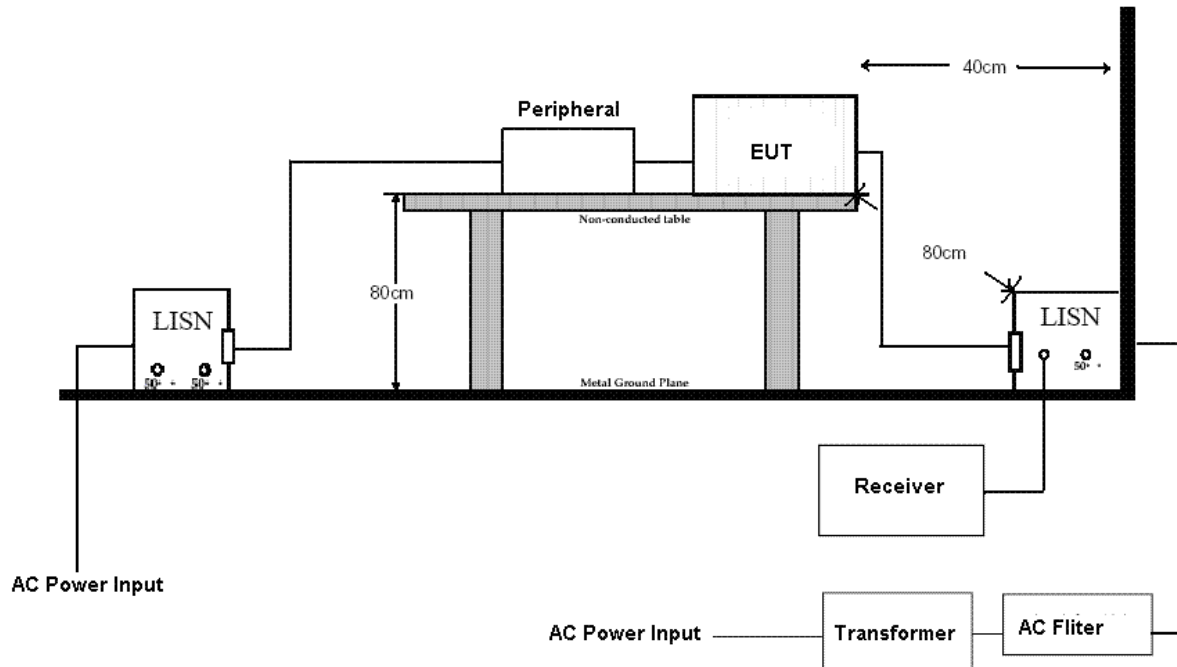
EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
EMI TEST RECEIVER	9 kHz ~ 2.75 GHz	ROHDE & SCHWARZ	ESCS30 / 100376	DEC. 16, 2014 ETC
EMI TEST RECEIVER	9 kHz ~ 30 MHz	ROHDE & SCHWARZ	ESHS30 / 826003/008	JAN. 22, 2015 ETC
LISN	50 μ H, 50 ohm	FCC	FCC-LISN-50-25-2 / 01017	JUN. 16, 2014 ETC
LISN	50 μ H, 50 ohm	SOLAR	9252-50-R-24-BNC/ 951315	NOV. 13, 2014 ETC
LISN	50 μ H, 50 ohm	EMCO	3825/2/ 9204-1952	MAY 30, 2014 ETC
50 Ω BNC TYPE TERMINATOR	50 ohm	N/A	11593A/ L1TEQU005	DEC. 24, 2014 ETC
50 Ω BNC TYPE TERMINATOR	50 ohm	N/A	B00-CD-357/ L1TEQU009	JUN. 17, 2014 ETC
COAXIAL CABLE	5 m	HUBER+SUHNER	RG214/U / #5M(L1TCAB013)	MAY. 21, 2014 ETC
FILTER	2 LINE, 30 A	FIL.COIL	FC-943 / 771	NCR
GROUND PLANE	2 m (H) x 3 m (W)	SRT	N/A	NCR
GROUND PLANE	2.5 m (H) x 3 m (W)	SRT	N/A	NCR
PULSE LIMITER	9 kHz ~ 30 MHz Insertion Loss= 10dB \pm 0.3dB	ROHDE & SCHWARZ	ESH3Z2/ L1TTES010	JAN. 07, 2015 ETC

NOTE:

The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.



4.3.3 TEST SET-UP



NOTE :

1. The EUT was put on a wooden table with 0.8m heights above ground plane, and 0.4m away from reference ground plane (> 2mx2m).
2. For the actual test configuration, please refer to the photos of testing.

4.3.4 TEST PROCEDURE

The EUT was tested according to the requirement of ANSI C63.4:2003 and CISPR22:2003. The test equipment's frequency range of 0.15 MHz to 30 MHz was pre-tested to ensure data accuracy. The LISN was using 50 ohm/50 μ H as specified. All readings were quasi-peak and average values with 10 kHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods. Both lines of the power mains of the EUT were measured and the cables connected to the EUT and the support units were adjusted accordingly in order to generate the maximum emission levels for each frequency. 6 highest emission readings were selected and included in this report.

The procedure is referred on the test procedure of SRT LAB.



4.3.5 TEST RESULT

Temperature:	20 °C	Humidity:	64 %RH
Tested By:	Boris Lin	Tested Mode:	Tx1
Receiver Detector:	Q.P. and AV.	Modulation Type:	GFSK
Frequency Range:	0.15 – 30 MHz	Tested Date:	Jan. 11, 2014

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dB μ V)		Emission Level (dB μ V)		Limit (dB μ V)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.150	0.12	39.78	35.57	39.90	35.69	66.00	56.00	-26.10	-20.31
0.153	0.12	40.22	36.00	40.34	36.12	65.84	55.84	-25.50	-19.72
0.606	-0.05	29.78	28.62	29.73	28.57	56.00	46.00	-26.27	-17.43
4.249	0.01	34.22	32.85	34.23	32.86	56.00	46.00	-21.77	-13.14
4.784	0.03	33.27	28.90	33.30	28.93	56.00	46.00	-22.70	-17.07
27.895	0.49	43.54	25.40	44.03	25.89	60.00	50.00	-15.97	-24.11

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dB μ V)		Emission Level (dB μ V)		Limit (dB μ V)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.606	-0.01	30.32	29.42	30.31	29.41	56.00	46.00	-25.69	-16.59
2.804	0.02	35.56	33.75	35.58	33.77	56.00	46.00	-20.42	-12.23
3.942	0.04	33.88	32.35	33.92	32.39	56.00	46.00	-22.08	-13.61
8.268	0.14	33.88	31.60	34.02	31.74	60.00	50.00	-25.98	-18.26
14.977	0.29	33.05	24.82	33.34	25.11	60.00	50.00	-26.66	-24.89
27.905	0.60	37.55	20.14	38.15	20.74	60.00	50.00	-21.85	-29.26

NOTE :

1. Measurement uncertainty is 3.61dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
 Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Tested By:	Boris Lin	Tested Mode:	Tx2
Receiver Detector:	Q.P. and AV.	Modulation Type:	GFSK
Frequency Range:	0.15 – 30 MHz	Tested Date:	Jan. 11, 2014

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dB μ V)		Emission Level (dB μ V)		Limit (dB μ V)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.150	0.12	39.76	35.56	39.88	35.68	66.00	56.00	-26.12	-20.32
0.153	0.12	40.10	35.96	40.22	36.08	65.84	55.84	-25.62	-19.76
3.942	0.01	32.36	30.41	32.37	30.42	56.00	46.00	-23.63	-15.58
4.477	0.02	33.32	32.07	33.34	32.09	56.00	46.00	-22.66	-13.91
8.349	0.11	33.78	29.33	33.89	29.44	60.00	50.00	-26.11	-20.56
27.905	0.49	44.97	28.22	45.46	28.71	60.00	50.00	-14.54	-21.29

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dB μ V)		Emission Level (dB μ V)		Limit (dB μ V)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.378	0.02	30.82	29.75	30.84	29.77	58.33	48.33	-27.49	-18.56
0.606	-0.01	30.26	29.36	30.25	29.35	56.00	46.00	-25.75	-16.65
2.804	0.02	36.18	34.41	36.20	34.43	56.00	46.00	-19.80	-11.57
3.942	0.04	33.90	32.54	33.94	32.58	56.00	46.00	-22.06	-13.42
14.835	0.29	32.48	24.24	32.77	24.53	60.00	50.00	-27.23	-25.47
27.915	0.60	42.10	28.34	42.70	28.94	60.00	50.00	-17.30	-21.06

NOTE :

1. Measurement uncertainty is 3.61dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
 Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Tested By:	Boris Lin	Tested Mode:	Tx3
Receiver Detector:	Q.P. and AV.	Modulation Type:	GFSK
Frequency Range:	0.15 – 30 MHz	Tested Date:	Jan. 11, 2014

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.153	0.12	39.88	35.54	40.00	35.66	65.84	55.84	-25.84	-20.18
0.606	-0.05	29.32	28.05	29.27	28.00	56.00	46.00	-26.73	-18.00
3.942	0.01	33.00	31.05	33.01	31.06	56.00	46.00	-22.99	-14.94
4.249	0.01	33.93	32.85	33.94	32.86	56.00	46.00	-22.06	-13.14
14.896	0.23	33.32	25.63	33.55	25.86	60.00	50.00	-26.45	-24.14
27.905	0.49	45.09	27.53	45.58	28.02	60.00	50.00	-14.42	-21.98

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.606	-0.01	30.26	29.36	30.25	29.35	56.00	46.00	-25.75	-16.65
2.804	0.02	35.78	33.94	35.80	33.96	56.00	46.00	-20.20	-12.04
3.942	0.04	33.88	32.38	33.92	32.42	56.00	46.00	-22.08	-13.58
14.886	0.29	32.80	24.59	33.09	24.88	60.00	50.00	-26.91	-25.12
14.947	0.29	33.67	24.68	33.96	24.97	60.00	50.00	-26.04	-25.03
27.915	0.60	43.74	27.19	44.34	27.79	60.00	50.00	-15.66	-22.21

NOTE :

1. Measurement uncertainty is 3.61dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
 Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Tested By:	Boris Lin	Tested Mode:	Link
Receiver Detector:	Q.P. and AV.	Modulation Type:	GFSK
Frequency Range:	0.15 – 30 MHz	Tested Date:	Jan. 11, 2014

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dB μ V)		Emission Level (dB μ V)		Limit (dB μ V)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.153	0.12	43.91	37.53	44.03	37.65	65.84	55.84	-21.81	-18.19
0.918	-0.04	29.16	27.71	29.12	27.67	56.00	46.00	-26.88	-18.33
3.982	0.01	35.26	34.17	35.27	34.18	56.00	46.00	-20.73	-11.82
4.289	0.01	34.07	33.42	34.08	33.43	56.00	46.00	-21.92	-12.57
8.654	0.12	37.39	34.36	37.51	34.48	60.00	50.00	-22.49	-15.52
26.183	0.44	39.66	17.52	40.10	17.96	60.00	50.00	-19.90	-32.04

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dB μ V)		Emission Level (dB μ V)		Limit (dB μ V)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.231	0.06	38.31	33.87	38.37	33.93	62.42	52.42	-24.05	-18.49
0.918	-0.01	30.32	29.07	30.31	29.06	56.00	46.00	-25.69	-16.94
4.516	0.05	35.19	33.35	35.24	33.40	56.00	46.00	-20.76	-12.60
4.823	0.06	35.17	32.04	35.23	32.10	56.00	46.00	-20.77	-13.90
14.490	0.28	35.57	26.71	35.85	26.99	60.00	50.00	-24.15	-23.01
27.423	0.58	40.54	24.92	41.12	25.50	60.00	50.00	-18.88	-24.50

NOTE :

1. Measurement uncertainty is 3.61dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
 Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Tested By:	Boris Lin	Tested Mode:	Standby
Receiver Detector:	Q.P. and AV.	Modulation Type:	GFSK
Frequency Range:	0.15 – 30 MHz	Tested Date:	Jan. 11, 2014

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dB μ V)		Emission Level (dB μ V)		Limit (dB μ V)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.465	-0.05	34.90	32.54	34.85	32.49	56.61	46.61	-21.76	-14.12
0.500	-0.05	33.73	32.93	33.68	32.88	56.00	46.00	-22.32	-13.12
3.903	0.01	34.33	32.89	34.34	32.90	56.00	46.00	-21.66	-13.10
14.612	0.22	39.31	30.78	39.53	31.00	60.00	50.00	-20.47	-19.00
14.683	0.22	39.00	30.15	39.22	30.37	60.00	50.00	-20.78	-19.63
22.441	0.37	38.84	24.52	39.21	24.89	60.00	50.00	-20.79	-25.11

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dB μ V)		Emission Level (dB μ V)		Limit (dB μ V)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.231	0.06	41.25	36.99	41.31	37.05	62.42	52.42	-21.11	-15.37
0.500	-0.01	34.11	33.51	34.10	33.50	56.00	46.00	-21.90	-12.50
0.501	-0.01	33.59	32.72	33.58	32.71	56.00	46.00	-22.42	-13.29
4.210	0.05	34.55	31.22	34.60	31.27	56.00	46.00	-21.40	-14.73
4.744	0.06	34.63	32.86	34.69	32.92	56.00	46.00	-21.31	-13.08
27.433	0.58	38.43	24.05	39.01	24.63	60.00	50.00	-20.99	-25.37

NOTE :

1. Measurement uncertainty is 3.61dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
 Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



Spectrum Research & Testing Lab., Inc.

No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

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5. Antenna application

5.1 Antenna requirement

The antenna of this EUT has met the requirements of FCC Part 15C section 15.203 and 15.204.

5.2 Result

EUT has a Printed PCB Antenna with a gain of 0 dBi which meets the requirement.



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6. PHOTOS OF TESTING

- Conducted Emission Test





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- Radiated Emission Test (below 30M , Link)





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- Radiated Emission Test (below 1G , TX & Standby)





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7. TERMS OF ABBREVIATION

AV.	Average detection
AZ(°)	Turn table azimuth
Correct.	Correction
EL(m)	Antenna height (meter)
EUT	Equipment Under Test
Horiz.	Horizontal direction
LISN	Line Impedance Stabilization Network
NSA	Normalized Site Attenuation
Q.P.	Quasi-peak detection
SRT Lab	Spectrum Research & Testing Laboratory, Inc.
Vert.	Vertical direction