

FCC Part15C Test Report

Product Name : Premier Guard BTL
Model No. : BTLPG
FCC ID : P9I-WGBTLPG

Applicant : WG Security Products, Inc

Address : 3031 Tisch Way Suite 602, San Jose United, States

Date of Receipt : 25/10/2011
Test Date : 26/10/2011~ 09/11/2011
Issued Date : 23/11/2011
Report No. : 11AS047R-RF-US-P09V01
Report Version : V1.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF, NVLAP or any agency of the Government.

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Test Report Certification

Issued Date : 23/11/2011

Report No. : 11AS047R-RF-US-P09V01



Product Name : Premier Guard BTL
 Applicant : WG Security Products, Inc
 Address : 3031 Tisch Way Suite 602, San Jose United, States
 Manufacturer : SHANGHAI WINGUIDE DIGITAL TECHNOLOGY LTD.
 Address : 79 Wu XIANG Rd. Jiading district Xuhang, shanghai
 Model No. : BTLPG
 FCC ID : P9I-WGBTLPG
 EUT Voltage : AC IN: 110~240V OUT: AC 26V
 Brand Name : WG
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2009
 ANSI C63.4: 2009; ANSI C63.10: 2009
 Test Result : Complied
 Performed Location : Suzhou EMC Laboratory
 No.99 Hongye Rd., Suzhou Industrial Park Loufeng
 Hi-Tech Development Zone., Suzhou, China
 TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
 FCC Registration Number: 800392

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Laboratory Information

We, **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

Taiwan R.O.C.	: BSMI, NCC, TAF
Germany	: TUV Rheinland
Norway	: Nemko, DNV
USA	: FCC, NVLAP
Japan	: VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://www.quietek.com/tw/ctg/cts/accreditations.htm>
The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

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1. General Information

1.1. EUT Description

Product Name	Premier Guard BTL
Model No.	BTLPG
Working Voltage	AC IN: 110~240V OUT: AC 26V
Working Frequency	58kHz
Type of modulation	Sine wave
Antenna Type	Loop Antenna

1.2. Mode of Operation

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmit, which was shown in this test report and defined as:

Test Mode
Mode 1: Transmit

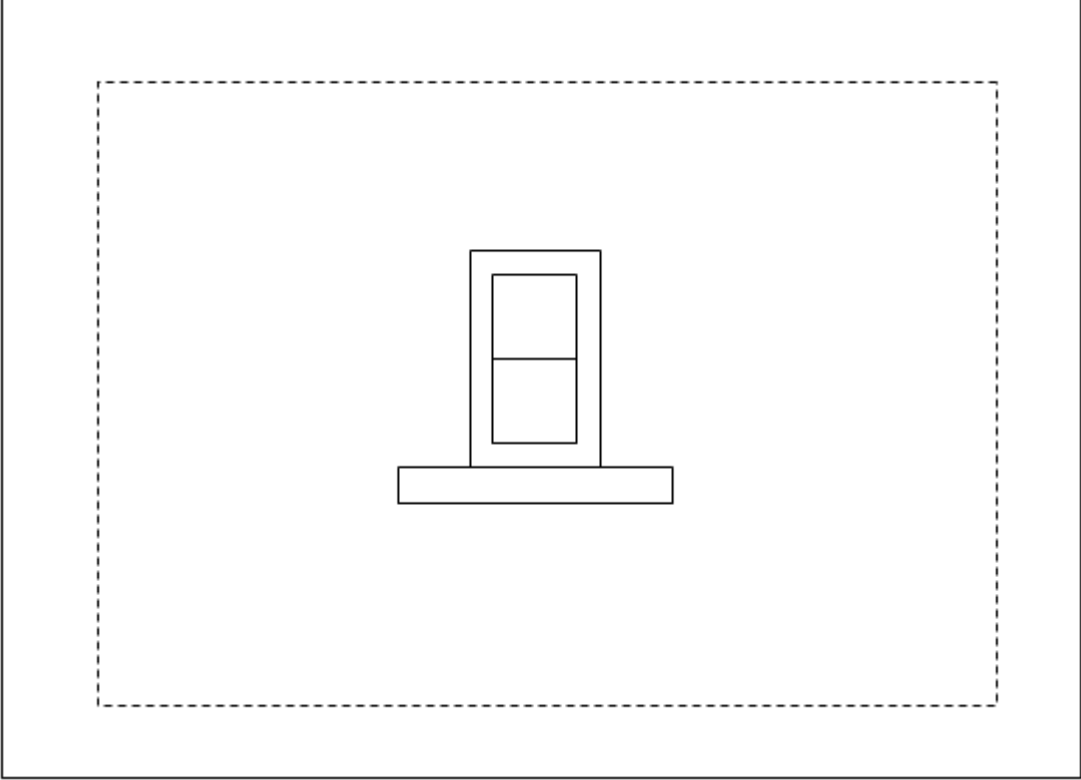
Note: In the process of testing, we always make the EUT transmit at the maximum value of amplitude.

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	N/A	N/A	N/A	N/A	N/A

1.4. Configuration of Tested System

Connection Diagram		
		
Signal Cable Type		Signal cable Description
N/A	N/A	N/A

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Make the EUT work on transmit mode.

2. Technical Test

2.1. Summary of Test Result

- ☒ No deviations from the test standards
- ☐ Deviations from the test standards as below description:

Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2009 Section 15.207	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2009 Section 15.209	Yes	No

2.2. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission

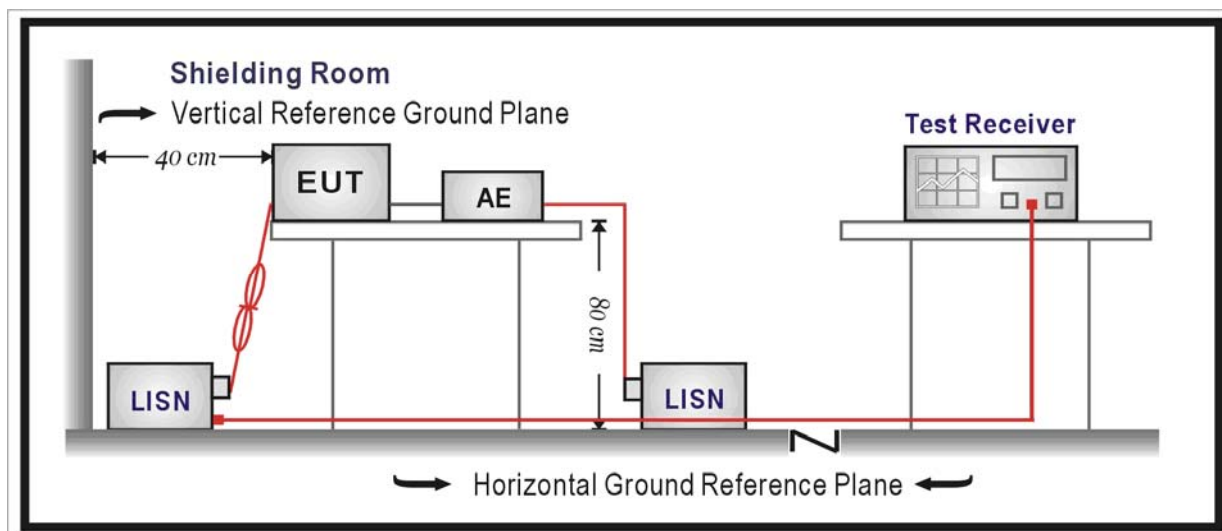
3.1. Test Equipment

Conducted Emission / TR-1

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100726	2012.04.23
Two-Line V-Network	R&S	ENV216	100043	2012.04.29
Two-Line V-Network	R&S	ENV216	100044	2012.09.07
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2012.05.05
50ohm Termination	SHX	TF2	07081401	2012.09.22
Temperature/Humidity Meter	zhicheng	ZC1-2	TR1-TH	2012.01.14

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.2. Test Setup



3.3. Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

3.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2009 and tested according to ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

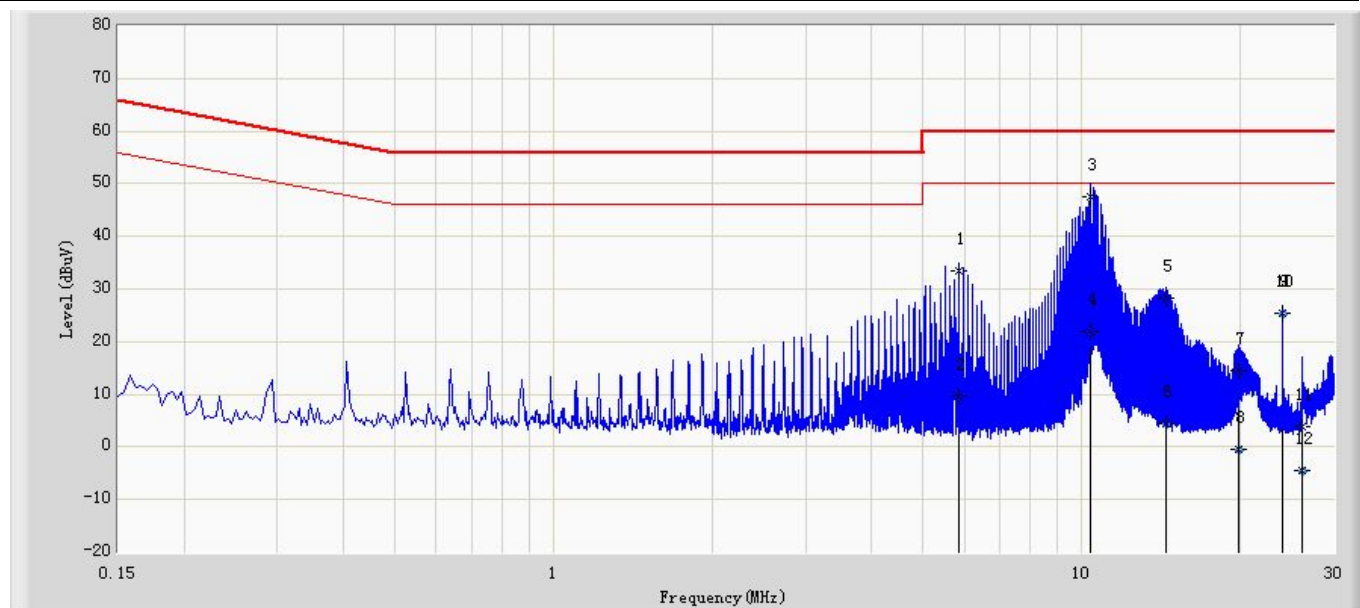
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

3.5. Uncertainty

The measurement uncertainty is defined as ± 2.02 dB

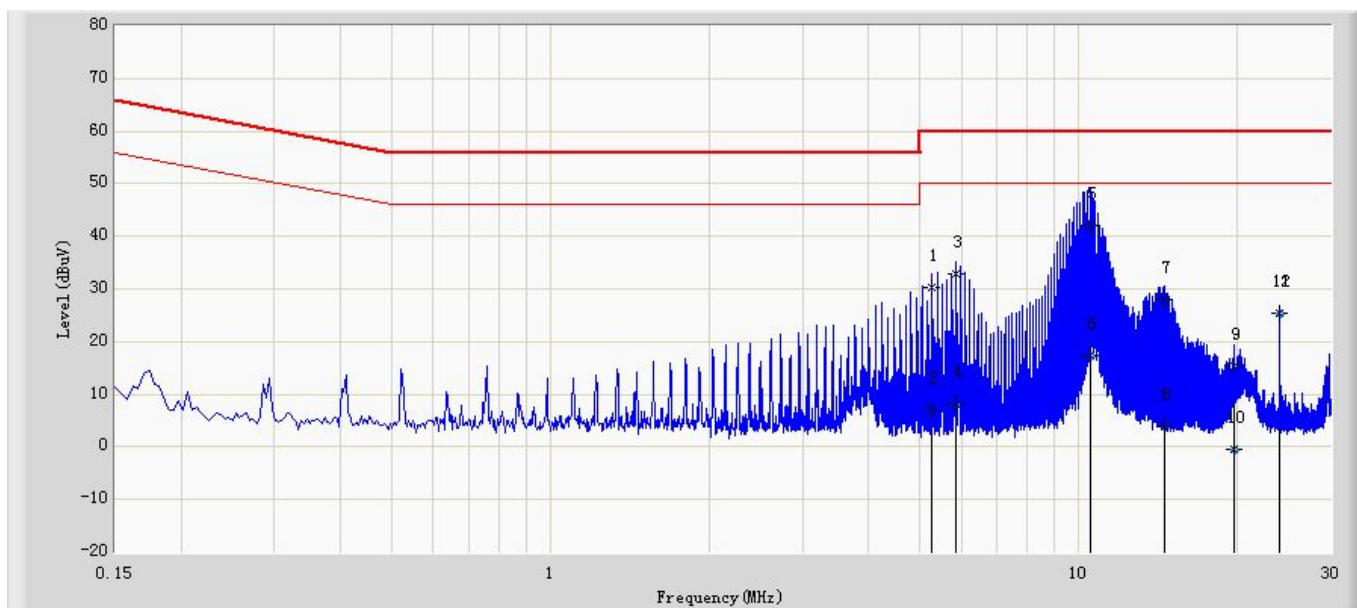
3.6. Test Result

Engineer: Toms	
Site: TR1	Time: 2011/10/29 - 13:19
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101043(0.009-30MHz)	Polarity: Line
EUT: Premier Guard BTL	Power: AC 120V/60Hz
Note: Mode1: Transmit	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		5.862	33.406	23.558	-26.594	60.000	9.849	QP
2		5.862	9.470	-0.379	-40.530	50.000	9.849	AV
3	*	10.390	47.600	37.630	-12.400	60.000	9.970	QP
4		10.390	22.034	12.064	-27.966	50.000	9.970	AV
5		14.394	28.344	18.228	-31.656	60.000	10.116	QP
6		14.394	4.493	-5.623	-45.507	50.000	10.116	AV
7		19.850	14.562	4.340	-45.438	60.000	10.222	QP
8		19.850	-0.330	-10.552	-50.330	50.000	10.222	AV
9		23.998	25.387	15.015	-34.613	60.000	10.372	QP
10		23.998	25.435	15.063	-24.565	50.000	10.372	AV
11		26.110	3.844	-6.582	-56.156	60.000	10.426	QP
12		26.110	-4.441	-14.866	-54.441	50.000	10.426	AV

Engineer: Toms	
Site: TR1	Time: 2011/10/29 - 13:23
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101043(0.009-30MHz)	Polarity: Neutral
EUT: Premier Guard BTL	Power: AC 120V/60Hz
Note: Mode1: Transmit	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		5.282	30.395	20.558	-29.605	60.000	9.837	QP
2		5.282	7.143	-2.694	-42.857	50.000	9.837	AV
3		5.862	32.907	23.045	-27.093	60.000	9.862	QP
4		5.862	8.207	-1.655	-41.793	50.000	9.862	AV
5	*	10.510	41.932	31.914	-18.068	60.000	10.018	QP
6		10.510	17.472	7.454	-32.528	50.000	10.018	AV
7		14.510	27.989	17.844	-32.011	60.000	10.145	QP
8		14.510	3.863	-6.282	-46.137	50.000	10.145	AV
9		19.734	15.359	4.978	-44.641	60.000	10.381	QP
10		19.734	-0.435	-10.816	-50.435	50.000	10.381	AV
11		23.998	25.289	14.853	-34.711	60.000	10.436	QP
12		23.998	25.317	14.881	-24.683	50.000	10.436	AV

4. Radiated Emission

4.1. Test Equipment

☒Radiated Emission / AC-1

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100175	2012.09.22
EMI Test Receiver	R&S	ESCI	100726	2012.04.23
Preamplifier	Quietek	AP-025C	CHM-0602008	2012.04.12
Preamplifier	Quietek	AP-025C	CHM-0503006	2012.04.12
Bilog Antenna	Schaffner	CBL6112B	2933	2012.10.18
Bilog Antenna	Schaffner	CBL6112B	2931	2012.10.18
Loop Antenna	R&S	HFH2-Z2	833799/003	2011.11.22
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC1-L	2012.03.07
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC1-R	2012.03.07
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC1-C	2012.03.07
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC1-TH	2012.01.14

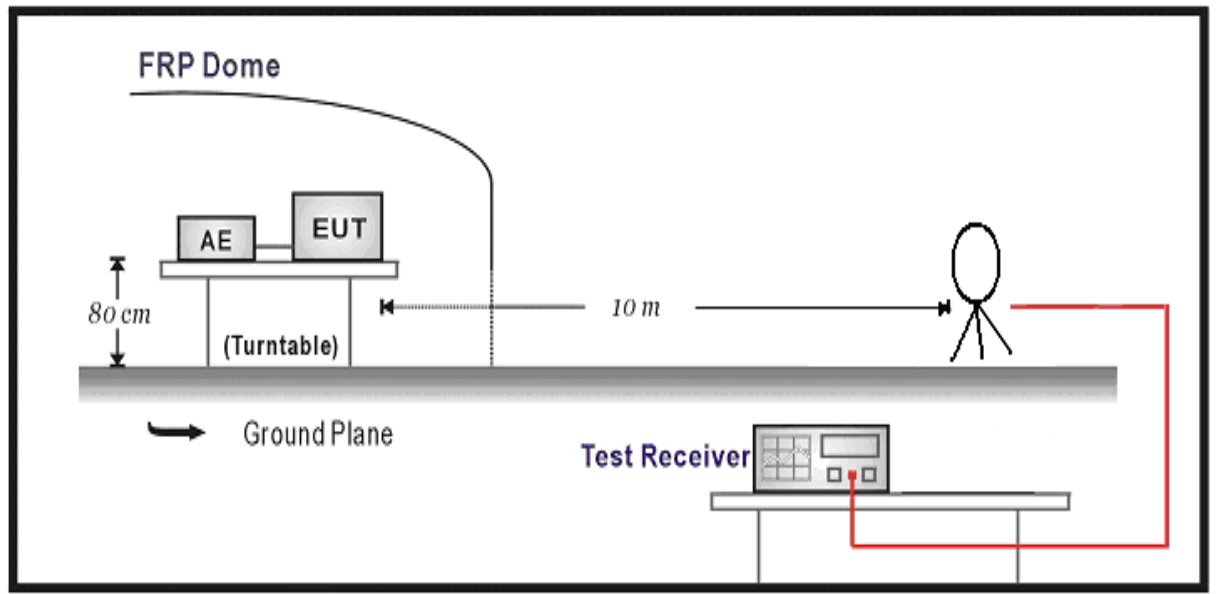
☒Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2012.04.23
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2012.10.18
Loop Antenna	R&S	HFH2-Z2	833799/003	2011.11.22
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2012.06.11
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2012.03.08
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC2-TH	2012.01.14

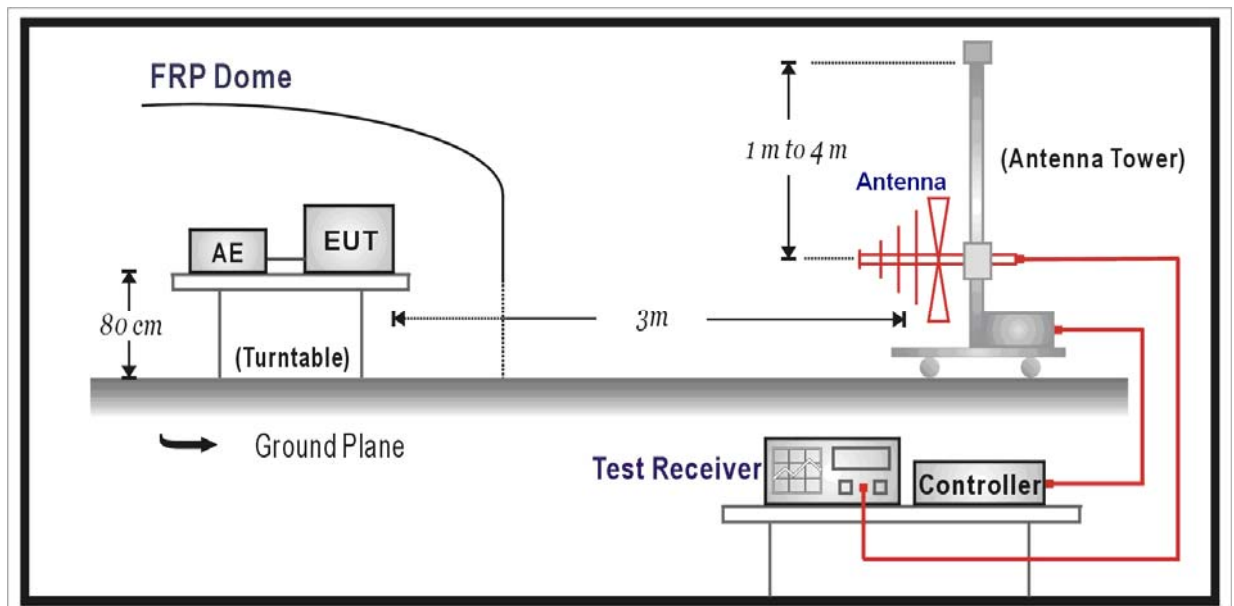
Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

4.2. Test Setup

Below 30MHz Test Setup:



Above 30MHz Test Setup:



4.3. Limit

FCC Part 15 Subpart C Paragraph 15.209		
Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (uV/m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-80	100**	3
80-216	150**	3
216-960	200**	3
Above 960	500	3

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2009 and tested according to ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 10 meters for below 30MHz and 3 meters for above 30MHz.

For 3 meters above 30MHz, the antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2009 on radiated measurement.

The EUT should be operate in transmission mode.

4.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB
below 1G is defined as ± 3.8 dB

4.6. Test Result

All of the test result shown indicates the worst case.

Working Frequency: 58kHz

Radiated Emission(<30MHz)

Measurement Distance: 10 Meters

Frequency (MHz)	Reading Level (dBuV/m)	Factor	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin [dB]	Detector	Note
Face ON							
0.058	80.90	22.92	103.82	111.42	-7.61	PK	Both Antennas
0.058	59.00	22.92	81.92	91.42	-9.51	AV	Both Antennas
0.058	81.00	22.92	103.92	111.42	-7.51	PK	Figure-O Antenna
0.058	58.70	22.92	81.62	91.42	-9.80	AV	Figure-O Antenna
0.116	32.20	22.92	55.12	105.40	-50.28	PK	Figure-O Antenna
0.116	10.40	22.92	33.32	85.40	-52.08	AV	Figure-O Antenna
0.174	31.60	22.93	54.53	101.87	-47.34	PK	Figure-O Antenna
0.174	9.90	22.93	32.83	81.87	-49.04	AV	Figure-O Antenna
0.232	26.30	22.94	49.24	99.37	-50.13	PK	Figure-O Antenna
0.232	5.60	22.94	28.54	79.37	-50.83	AV	Figure-O Antenna
0.290	22.40	22.95	45.35	97.44	-52.09	PK	Figure-O Antenna
0.290	3.10	22.95	26.05	77.44	-51.39	AV	Figure-O Antenna
0.348	18.70	22.95	41.65	95.85	-54.21	PK	Figure-O Antenna
0.348	2.20	22.95	25.15	75.85	-50.71	AV	Figure-O Antenna
0.406	17.30	22.94	40.24	94.51	-54.27	PK	Figure-O Antenna
0.406	1.60	22.94	24.54	74.51	-49.97	AV	Figure-O Antenna
0.464	15.80	22.94	38.74	93.35	-54.61	PK	Figure-O Antenna
0.464	1.30	22.94	24.24	73.35	-49.11	AV	Figure-O Antenna
0.522	5.80	22.94	28.74	52.33	-23.59	QP	Figure-O Antenna
0.580	5.50	22.95	28.45	51.42	-22.97	QP	Figure-O Antenna
0.058	56.90	22.92	79.82	111.42	-31.61	PK	Figure-8 Antenna
0.058	36.00	22.92	58.92	91.42	-32.51	AV	Figure-8 Antenna
0.116	3.60	22.92	26.52	105.40	-78.88	PK	Figure-8 Antenna
0.116	-6.30	22.92	16.62	85.40	-68.78	AV	Figure-8 Antenna
0.174	20.90	22.93	43.83	101.87	-58.04	PK	Figure-8 Antenna
0.174	9.30	22.93	32.23	81.87	-49.64	AV	Figure-8 Antenna
0.232	17.20	22.94	40.14	99.37	-59.23	PK	Figure-8 Antenna

0.232	5.40	22.94	28.34	79.37	-51.03	AV	Figure-8 Antenna
0.290	16.80	22.95	39.75	97.44	-57.69	PK	Figure-8 Antenna
0.290	3.00	22.95	25.95	77.44	-51.49	AV	Figure-8 Antenna
0.348	19.00	22.95	41.95	95.85	-53.91	PK	Figure-8 Antenna
0.348	2.00	22.95	24.95	75.85	-50.91	AV	Figure-8 Antenna
0.406	15.60	22.94	38.54	94.51	-55.97	PK	Figure-8 Antenna
0.406	1.50	22.94	24.44	74.51	-50.07	AV	Figure-8 Antenna
0.464	13.00	22.94	35.94	93.35	-57.41	PK	Figure-8 Antenna
0.464	1.20	22.94	24.14	73.35	-49.21	AV	Figure-8 Antenna
0.522	5.70	22.94	28.64	52.33	-23.69	QP	Figure-8 Antenna
0.580	5.50	22.95	28.45	51.42	-22.97	QP	Figure-8 Antenna

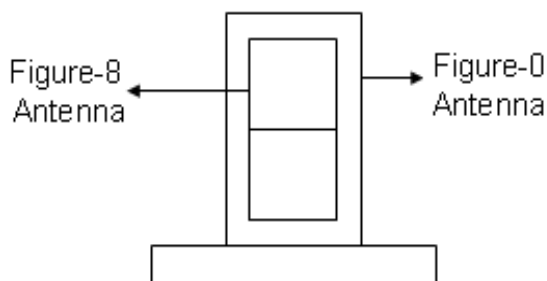
Notes:

1. All measurements were performed using a loop antenna. The antenna was positioned in two orthogonal (face on and face off) and the position with the highest emission level was recorded.
2. The emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
3. Measurements were performed at 10m and the data was extrapolated to the specified measurement distance of 30m using the square of an inverse linear extrapolation factor (40 dB/decade) as specified in &15.31(f)(2).

Extrapolation Factor = $40 * \text{LOG}(300/10) = 59 \text{ dB}$

For example(58kHz):

AV Limit = $20 * \text{LOG}(2400/58) + 40 * \text{LOG}(300/10) = 91.42 \text{ dBuV/m.}$



Radiated Emission(≥ 30 MHz)

Measurement Distance: 3 Meters

Frequency (MHz)	Reading Level (dBuV/m)	Factor	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin [dB]	Detector
Horizontal						
47.95	6.12	15.18	21.30	40.00	-18.71	QP
143.98	12.64	17.45	30.10	43.50	-13.40	QP
191.99	10.55	15.98	26.52	43.50	-16.98	QP
312.03	8.59	21.13	29.72	46.00	-16.28	QP
393.27	5.73	23.58	29.31	46.00	-16.69	QP
544.10	6.00	26.36	32.35	46.00	-13.65	QP
Vertical						
84.93	8.40	14.27	22.67	40.00	-17.34	QP
143.98	10.42	17.45	27.87	43.50	-15.63	QP
167.98	9.47	16.17	25.64	43.50	-17.86	QP
191.99	11.85	15.98	27.83	43.50	-15.67	QP
360.04	8.10	22.61	30.71	46.00	-15.29	QP
505.54	5.49	25.48	30.97	46.00	-15.03	QP

Notes:

4. Measure Level = Reading Level + Factor.