



Test Report

Product Name	wireless Universal Bridge
Model No.	SA808-2, PSA02-2
FCC ID	FU5SA808

Applicant	EVERSPRING INDUSTRY CO., LTD
Address	7th fl. 609 Wan Shou Road Sec. 1, Kweishan, Taoyuan Hsien 333, Taiwan, R.O.C.

Date of Receipt	April 02, 2010
Issued Date	April 29, 2010
Report No.	104122R-RFUSP44V01
Report Version	V1.0

The test results relate only to the samples tested.

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This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Test Report Certification

Issued Date: April 29, 2010

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Applicant	EVERSPRING INDUSTRY CO., LTD
Address	7th fl. 609 Wan Shou Road Sec. 1, Kweishan, Taoyuan Hsien 333, Taiwan, R.O.C.
Manufacturer	Dong-Guan Li Yuan Electronics Co., Ltd
Model No.	SA808-2, PSA02-2
EUT Rated Voltage	DC 6V (Battery 1.5V*4) AC 100-240V, 50-60Hz (by Adapter)
EUT Test Voltage	DC 6V (Battery 1.5V*4) AC 120V/ 60Hz
Trade Name	EVERSPRING
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2009 ANSI C63.4: 2003
Test Result	Complied



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Approved By : Vincent Lin
(Manager / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	wireless Universal Bridge
Trade Name	EVERSPRING
Model No.	SA808-2, PSA02-2
FCC ID	FU5SA808
Frequency Range	923.00MHz
Channel Control	N/A
Antenna Type	Monopole
Channel Number	1
Type of Modulation	FSK
Power Adapter	Ktec, KSAC1200100W1US Input: 100-240V, 50/60Hz, 0.4A Output: 12V, 1.0A Cable out: Non-Shielded, 1.8m, with one ferrite core bonded.

Antenna List

No.	Manufacturer	Part No.	Antenna Type
1	Dong-Guan Li Yuan	N/A	Monopole Antenna

Note: The antenna of EUT is conform to FCC 15.203

Note:

1. The EUT is a wireless Universal Bridge with a built-in 923MHz transceiver.
2. These tests are conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.249 for spread spectrum devices.
3. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

1.2. Operational Description

The EUT is a wireless Universal Bridge with a built-in 923MHz transceiver module. The EUT operation frequency is 923.00MHz. The signals modulated by FSK are transmitted from the Monopole Antenna of the EUT.

Test Mode	Mode 1: Transmit (with AC Adapter) Mode 2: Transmit (with Battery)
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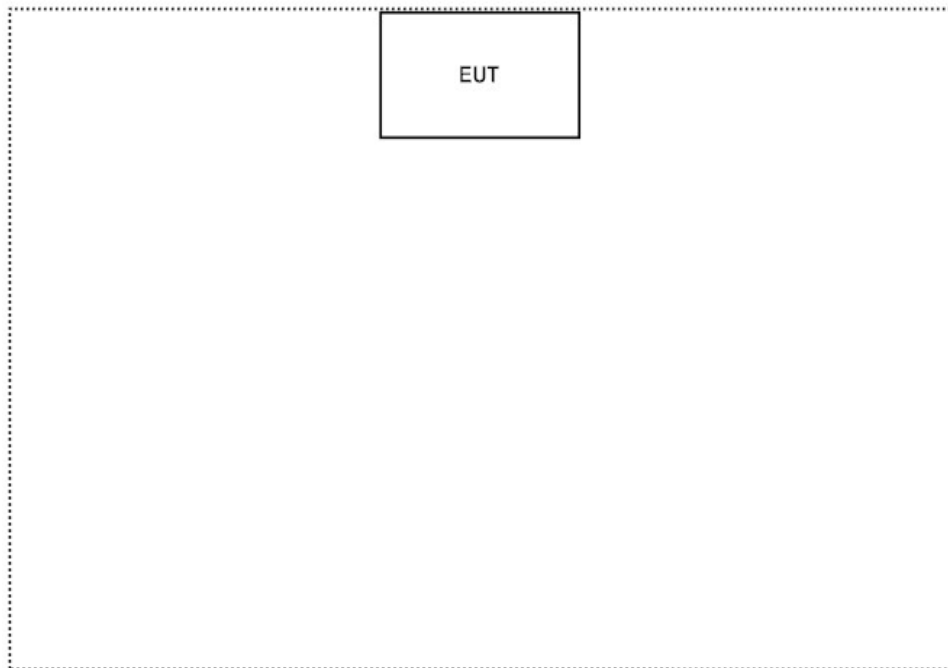
1.3. Tested System Details

The types for all equipment, 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

	Signal Cable Type	Signal cable Description
A.	N/A	N/A

1.4. Configuration of Test System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in section 1.4.
- (2) Provide the EUT power source.
- (3) Starts the continuous transmit.
- (4) Verify that the EUT works correctly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from

Quietek Corporation's Web Site : <http://tw.quietek.com/tw/emc/accreditations/accreditations.htm>

The address and introduction of Quietek Corporation's laboratories can be founded in our Web

site : <http://www.quietek.com/>

Site Description: File on
 Federal Communications Commission
 FCC Engineering Laboratory
 7435 Oakland Mills Road
 Columbia, MD 21046
 Registration Number: 92195



Accreditation on NVLAP
 NVLAP Lab Code: 200533-0



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FCC Accreditation Number: TW1014



2. Conducted Emission

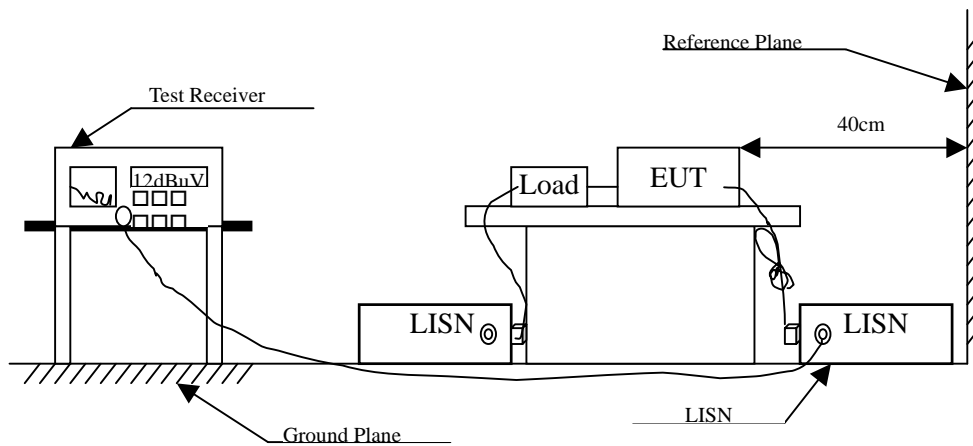
2.1. Test Equipment

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2009	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2009	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2009	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2009	
5	No.1 Shielded Room			N/A	

Note: All instruments are calibrated every one year.

2.2. Test Setup



2.3. Limits

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

Remarks: In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : wireless Universal Bridge
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 1: Transmit (with AC Adapter)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 1					
Quasi-Peak					
0.216	9.790	26.110	35.900	-28.214	64.114
0.287	9.790	28.380	38.170	-23.916	62.086
0.341	9.790	31.650	41.440	-19.103	60.543
0.408	9.790	30.510	40.300	-18.329	58.629
0.490	9.790	28.260	38.050	-18.236	56.286
0.564	9.790	26.140	35.930	-20.070	56.000
Average					
0.216	9.790	5.200	14.990	-39.124	54.114
0.287	9.790	10.190	19.980	-32.106	52.086
0.341	9.790	13.140	22.930	-27.613	50.543
0.408	9.790	12.260	22.050	-26.579	48.629
0.490	9.790	11.010	20.800	-25.486	46.286
0.564	9.790	9.890	19.680	-26.320	46.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : wireless Universal Bridge
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 1: Transmit (with AC Adapter)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 2					
Quasi-Peak					
0.212	9.780	24.670	34.450	-29.779	64.229
0.267	9.780	22.660	32.440	-30.217	62.657
0.361	9.790	22.570	32.360	-27.611	59.971
0.408	9.790	24.540	34.330	-24.299	58.629
1.021	9.790	17.000	26.790	-29.210	56.000
6.693	9.860	17.560	27.420	-32.580	60.000
Average					
0.212	9.780	10.250	20.030	-34.199	54.229
0.267	9.780	6.690	16.470	-36.187	52.657
0.361	9.790	8.720	18.510	-31.461	49.971
0.408	9.790	10.500	20.290	-28.339	48.629
1.021	9.790	5.350	15.140	-30.860	46.000
6.693	9.860	9.000	18.860	-31.140	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3. Radiated Emission

3.1. Test Equipment

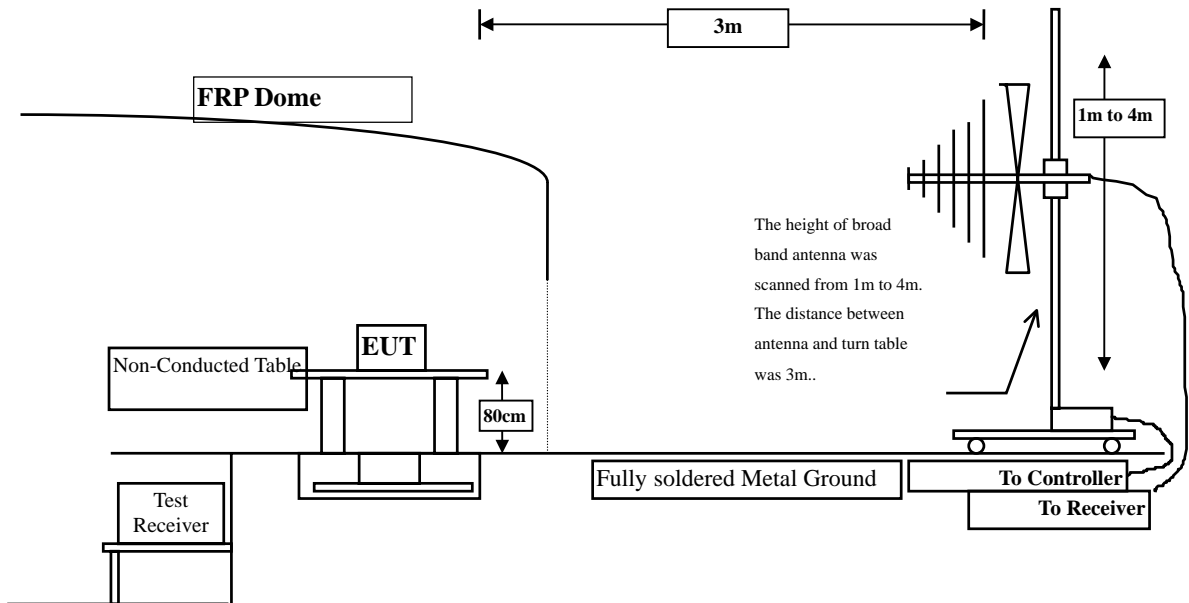
The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2009
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2009
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2009
	X	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2009
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2009
	X	Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2010
	X	Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

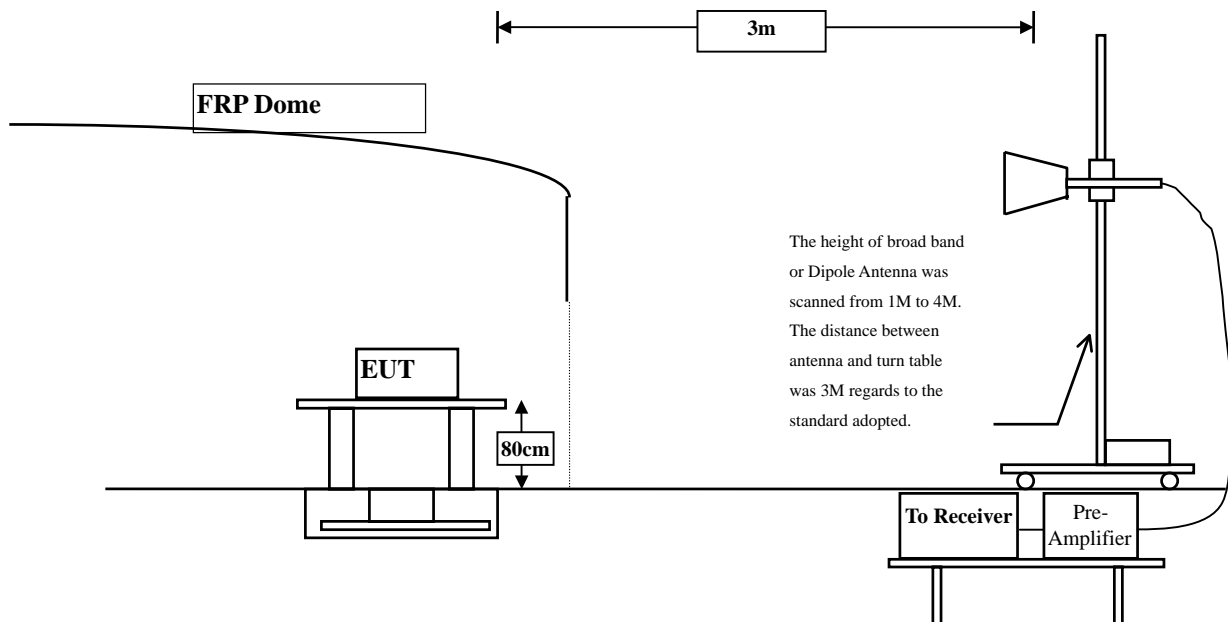
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
 2. The test instruments marked with “X” are used to measure the final test results.

3.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



3.3. Limits

➤ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

3.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.249 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 3 meters.

The antenna is scanned between 1 meter and 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: 2003 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured on the Final Measurement.

The measurement frequency range from 30MHz - 10th Harmonic of fundamental was investigated.

3.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

3.6. Test Result of Radiated Emission

Product : wireless Universal Bridge
 Test Item : Fundamental Radiated Emission
 Test Site : No.3OATS
 Test Mode : Mode 1: Transmit (with AC Adapter) (X- Axis)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
923.000	6.633	99.166	105.799	-8.201	114.000
Vertical					
Peak Detector:					
923.000	3.181	96.534	99.715	-14.285	114.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Average Detector:

Frequency MHz	Peak Measurement dBuV/m	Duty Cycle Correct Factor dB	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
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Horizontal
Average Detector:

923.00	105.799	-20.000	85.799	-8.201	94.000
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Vertical
Average Detector:

923.00	99.715	-20.000	79.715	-14.285	94.000
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Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.
3. If Duty Cycle is smaller than -20dB, based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.

Product : wireless Universal Bridge
 Test Item : Fundamental Radiated Emission
 Test Site : No.3OATS
 Test Mode : Mode 1: Transmit (with AC Adapter) (Y- Axis)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
923.000	6.633	95.678	102.311	-11.689	114.000
Vertical					
Peak Detector:					
923.000	3.181	99.747	102.928	-11.072	114.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Average Detector:

Frequency MHz	Peak Measurement dBuV/m	Duty Cycle Correct Factor dB	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
------------------	-------------------------------	------------------------------------	--------------------------------	--------------	-----------------

Horizontal
Average Detector:

923.00	102.311	-20.000	82.311	-11.689	94.000
--------	---------	---------	--------	---------	--------

Vertical
Average Detector:

923.00	102.928	-20.000	82.928	-11.072	94.000
--------	---------	---------	--------	---------	--------

Note:

1. $AVG\ Measurement = Peak\ Measurement + Duty\ Cycle\ Correct\ Factor$
2. The Duty Cycle is refer to section 5.
3. If Duty Cycle is smaller than -20dB, based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.

Product : wireless Universal Bridge
 Test Item : Fundamental Radiated Emission
 Test Site : No.3OATS
 Test Mode : Mode 1: Transmit (with AC Adapter) (Z- Axis)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
923.000	6.633	97.192	103.825	-10.175	114.000
Vertical					
Peak Detector:					
923.000	3.181	88.998	92.179	-21.821	114.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Average Detector:

Frequency MHz	Peak Measurement dBuV/m	Duty Cycle Correct Factor dB	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Average Detector:					
923.00	103.825	-20.000	83.825	-10.175	94.000

Vertical
Average Detector:

--

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.
3. If Duty Cycle is smaller than -20dB,based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.

Product : wireless Universal Bridge
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (with AC Adapter)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
1846.000	-3.980	40.752	36.772	-37.228	74.000
2769.000	-3.840	40.680	36.841	-37.159	74.000
3692.000	-4.037	43.900	39.863	-34.137	74.000
4615.000	-1.329	41.480	40.152	-33.848	74.000
5538.000	2.517	47.050	49.567	-24.433	74.000
6461.000	4.366	32.600	36.966	-37.034	74.000
7384.000	8.514	34.830	43.343	-30.657	74.000
8307.000	8.861	33.460	42.321	-31.679	74.000
9230.000	9.349	37.460	46.809	-27.191	74.000

Note:

1. The reading levels below 1GHz and above 1GHz are quasi-peak values and peak/average values, respectively.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz °
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : wireless Universal Bridge
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (with AC Adapter)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Vertical					
Peak Detector:					
1846.000	-3.516	40.624	37.107	-36.893	74.000
2769.000	-4.743	40.710	35.967	-38.033	74.000
3692.000	-3.714	43.800	40.087	-33.913	74.000
4615.000	0.239	41.580	41.819	-32.181	74.000
5538.000	2.513	46.880	49.393	-24.607	74.000
6461.000	4.368	32.820	37.188	-36.812	74.000
7384.000	9.314	34.680	43.993	-30.007	74.000
8307.000	9.878	34.600	44.478	-29.522	74.000
9230.000	9.335	37.640	46.974	-27.026	74.000

Note:

1. The reading levels below 1GHz and above 1GHz are quasi-peak values and peak/average values, respectively.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz ◦
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : wireless Universal Bridge
 Test Item : General Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (with AC Adapter)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
35.820	-1.445	23.337	21.892	-18.108	40.000
707.060	3.066	31.658	34.724	-11.276	46.000
747.800	3.915	37.283	41.198	-4.802	46.000
842.860	6.248	32.264	38.512	-7.488	46.000
965.080	7.222	33.962	41.184	-12.816	54.000
1000.000	9.564	28.552	38.116	-15.884	54.000
Vertical					
175.500	-1.842	25.322	23.480	-20.020	43.500
377.260	0.647	25.178	25.825	-20.175	46.000
540.220	2.169	23.266	25.435	-20.565	46.000
747.800	1.665	32.999	34.664	-11.336	46.000
838.980	1.961	28.792	30.753	-15.247	46.000
965.080	3.832	31.444	35.276	-18.724	54.000

Note:

1. The reading levels below 1GHz are quasi-peak values.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The radiated emissions below 1GHz of the lowest, middle, highest frequency are pretested. Only the worst case is shown on the report.

Product : wireless Universal Bridge
 Test Item : General Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (with Battery)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
105.660	-7.676	34.981	27.304	-16.196	43.500
322.940	-4.536	36.807	32.272	-13.728	46.000
546.040	4.386	30.889	35.275	-10.725	46.000
707.060	3.066	35.715	38.781	-7.219	46.000
815.700	6.451	33.659	40.110	-5.890	46.000
965.080	7.222	34.917	42.139	-11.861	54.000
Vertical					
45.520	-10.625	34.277	23.652	-16.348	40.000
105.660	-4.576	30.201	25.624	-17.876	43.500
175.500	-1.842	28.902	27.060	-16.440	43.500
598.420	1.114	29.275	30.389	-15.611	46.000
842.860	2.378	30.468	32.846	-13.154	46.000
937.920	3.110	34.486	37.596	-8.404	46.000

Note:

1. The reading levels below 1GHz are quasi-peak values.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The radiated emissions below 1GHz of the lowest, middle, highest frequency are pretested. Only the worst case is shown on the report.

4. Band Edge

4.1. Test Equipment

RF Conducted Measurement

The following test equipments are used during the band edge tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2009
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2009
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2010

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

RF Radiated Measurement:

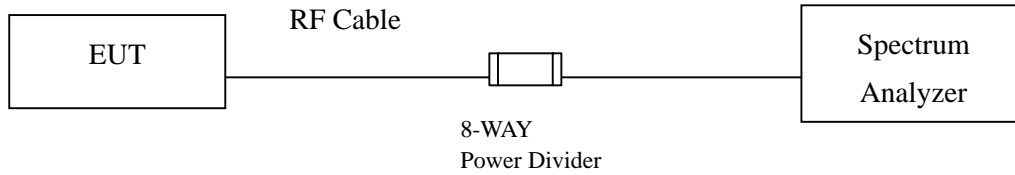
The following test equipments are used during the band edge tests:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2009
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2009
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2009
	X	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2009
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2009
	X	Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2010
	X	Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

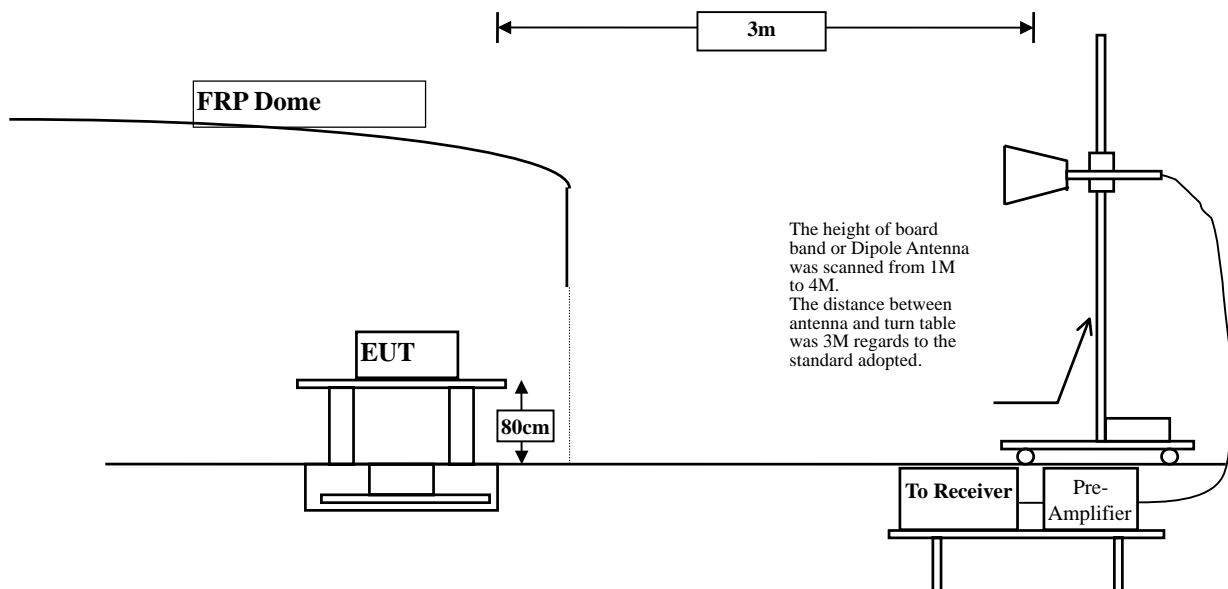
- Note:
1. All equipments are calibrated every one year.
 2. The test equipments marked by "X" are used to measure the final test results.

4.2. Test Setup

RF Conducted Measurement



RF Radiated Measurement:



4.3. Limits

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)).

4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 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 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated measurement.

The bandwidth setting below 1GHz and above 1GHz on the field strength meter is 120 kHz and 1MHz, respectively.

4.5. Uncertainty

Conducted is ± 1.27 dB

Radiated is ± 3.9 dB

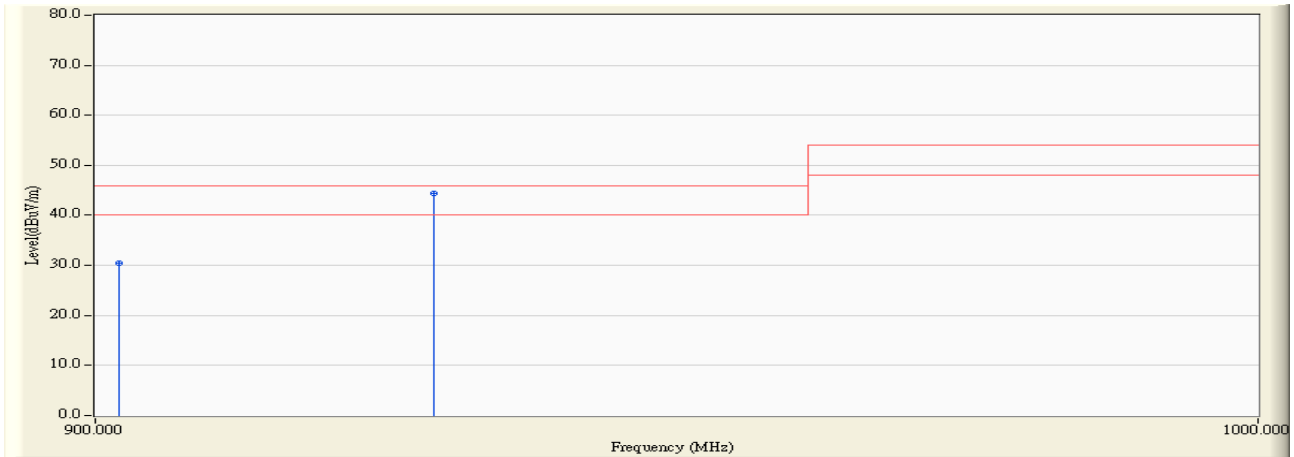
4.6. Test Result of Band Edge

Product : wireless Universal Bridge
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (with AC Adapter)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Margin (dB)	Quasi-Peak Limit (dBuV/m)	Result
01(Quasi-Peak)	902.000	30.450	0.106	30.555	-15.445	46.000	Pass
01(Quasi-Peak)	928.000	30.876	13.578	44.453	-1.547	46.000	Pass

Figure Channel 01: Horizontal (Quasi-Peak)



Note:

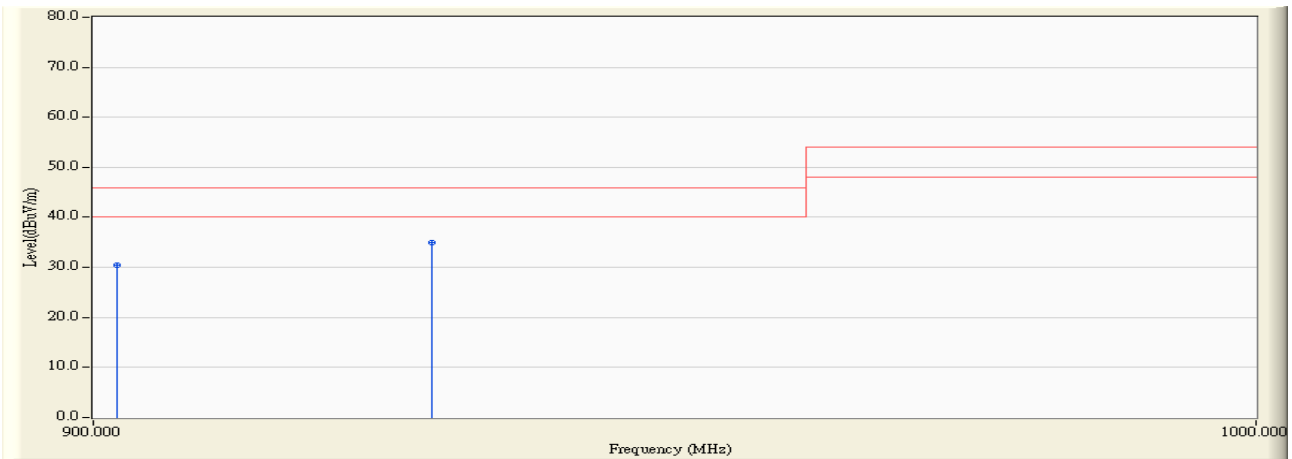
1. Quasi-Peak measurements: RBW=100kHz,VBW=1MHz,Sweep: Auto.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product : wireless Universal Bridge
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (with AC Adapter)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBUV)	Emission Level (dBUV/m)	Margin (dB)	Quasi-Peak Limit (dBUV/m)	Result
01(Quasi-Peak)	902.000	30.450	0.021	30.470	-15.530	46.000	Pass
01(Quasi-Peak)	928.000	30.808	4.138	34.945	-11.055	46.000	Pass

Figure Channel 01: Vertical (Quasi-Peak)



Note:

1. Quasi-Peak measurements: RBW=100kHz,VBW=1MHz,Sweep: Auto.
2. “*”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

5. Duty Cycle

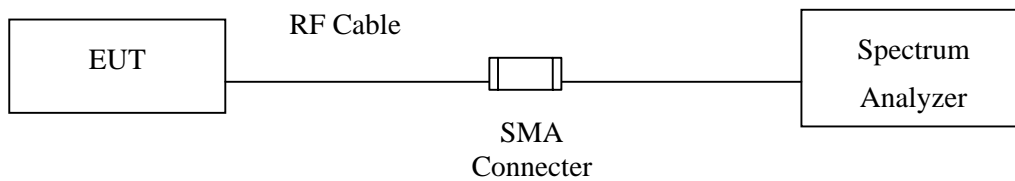
5.1. Test Equipment

The following test equipments are used during the band edge tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2009
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2009
	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2010

- Note:
1. All equipments are calibrated every one year.
 2. The test equipments marked by "X" are used to measure the final test results.

5.2. Test Setup

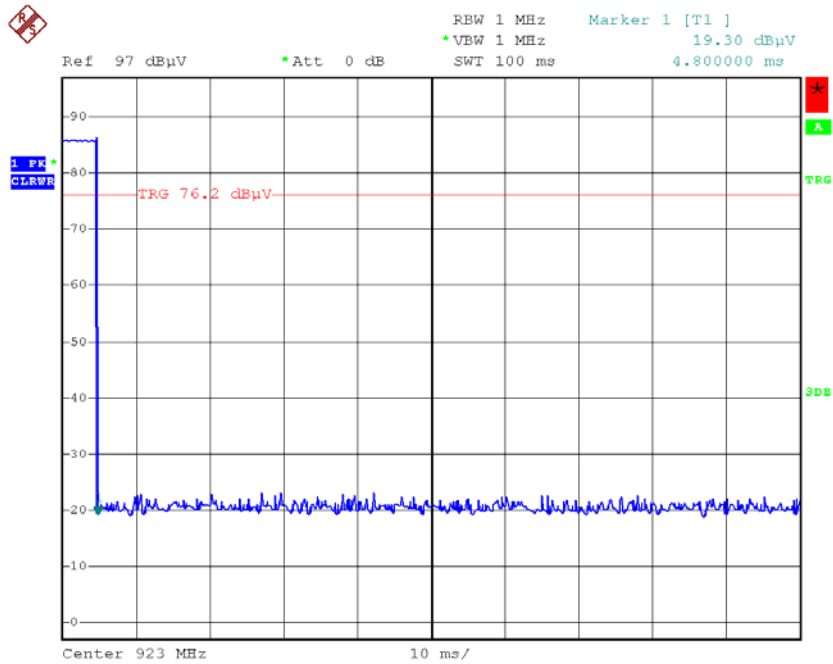


5.3. Uncertainty

$\pm 150\text{Hz}$

5.4. Test Result of Duty Cycle

Product : wireless Universal Bridge
 Test Item : Duty Cycle Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (with AC Adapter)



Date: 14.APR.2010 00:10:39

Time on of 100ms= 4.800 ms

Duty Cycle= 4.8ms / 100ms= 0.048

Duty Cycle correction factor= 20 LOG 0.048= -26.375 dB

Duty Cycle correction factor	-20.000	dB
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Remark:

If Duty Cycle is smaller than -20dB, based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.

6. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs