

# FCC Test Report

Product Name	Cardiac Monitor
Model No.	HR2000-HR2B9D
FCC ID	2ADB6-HR2B9D

Applicant	BioSenseTek Corp.
Address	6541 S.W. 127th Path Miami Florida United States

Date of Receipt	Oct. 20, 2014
Issued Date	Dec. 09, 2014
Report No.	14A0412R-RFUSP15V00
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 report of the equipment and evaluated measurement uncertainty herein.

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# Test Report

Issued Date: Dec. 09, 2014

Report No.: 14A0412R-RFUSP15V00

# QuieTek

Product Name	Cardiac Monitor
Applicant	BioSenseTek Corp.
Address	6541 S.W. 127th Path Miami Florida United States
Manufacturer	BioSenseTek Corp.
Model No.	HR2000-HR2B9D
EUT Rated Voltage	DC 3.7V (Power by Lithium Battery)
EUT Test Voltage	DC 3.7V (Power by Lithium Battery)
Trade Name	<b>B</b> BST realizant pureu
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2013
	ANSI C63.10: 2009
Test Result	Complied

Documented By	:	Leven Huang
		(Senior Adm. Specialist / Leven Huang )
Tested By	:	Dlan Chen
		(Engineer / Alan Chen)
Approved By	:	Stone
		( Director / Vincent Lin)



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Attachment 1: EUT Test Photographs
Attachment 2: EUT Detailed Photographs



#### 1. GENERAL INFORMATION

# 1.1. EUT Description

Product Name	Cardiac Monitor
Trade Name	BST heathcare percer
Model No.	HR2000-HR2B9D
FCC ID	2ADB6-HR2B9D
Frequency Range	922.3MHz~927.7MHz
Channel Control	Auto
Channel Separation	0.45MHz
Antenna Type	Monopole Antenna
Channel Number	13CH
Type of Modulation	GFSK
Battery	DC 3.7V, 650mAh

#### **Antenna List**

No.	Manufacturer	Part No.
1	BST	N/A

Note: The antenna of EUT is conform to FCC 15.203



#### Center Frequency of Each Channel

Channel	Frequency	Channel	Frequency	Channel	Frequency
01:	922.30	02:	922.75	03:	923.20
04:	923.65	05:	924.10	06:	924.55
07:	925.00	08:	925.45	09:	925.90
10:	926.35	11:	926.80	12:	927.25
13:	927.70				

- 1. The EUT is a Cardiac Monitor is including 922.3-927.7MHz transceiver.
- 2. The EUT is including three models for different marketing requirement.
- 3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
- 4. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
- 5. 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.

Test Mode	Mode 1: Transmit
Test Mode	Mode 1: Transmit



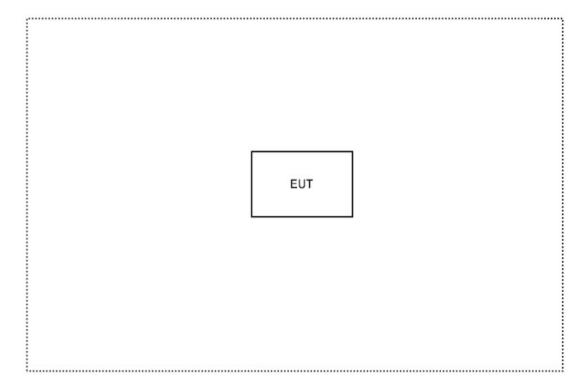
#### **1.3.** Tested System Datails

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
N/A				

Signal Cable Type	Signal cable Description	
N/A		

# 1.4. Configuration of Test System



#### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown in section 1.4
- (2) Inserts the battery, start continuous transmit
- (3) 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: <a href="http://www.quietek.com/tw/ctg/cts/accreditations.htm">http://www.quietek.com/tw/ctg/cts/accreditations.htm</a>
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site: <a href="http://www.quietek.com/">http://www.quietek.com/</a>

Site Description: File on

Federal Communications Commission

FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046

Registration Number: 92195

Site Name: Quietek Corporation

Site Address: No.5-22, Ruishukeng Linkou Dist., New Taipei City

24451, Taiwan, R.O.C.

TEL: 886-2-8601-3788 / FAX: 886-2-8601-3789

E-Mail: <a href="mailto:service@quietek.com">service@quietek.com</a>

FCC Accreditation Number: TW1014



#### 2. Conducted Emission

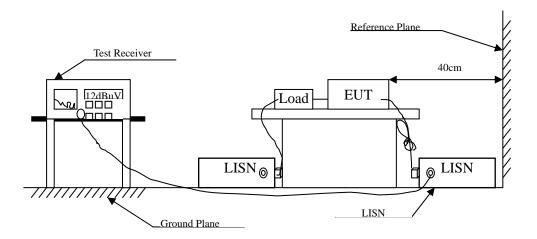
# 2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2014	
X	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2014	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2014	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar, 2014	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	4	
	No.1 Shielded Room				

#### Note:

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

# 2.2. Test Setup





#### 2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit					
Frequency	Limits				
MHz	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 C63.10: 2009 on conducted measurement.

Conducted emissions were invested 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

Owing to the EUT use battery supply voltage, this test item is not performed.



#### 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	Loop Antenna	Teseq	HLA6120 / 26739	Jul., 2014
	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2014
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2014
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2014
	X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2014
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2014
	X	Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar, 2014
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2014
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2014
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2014
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

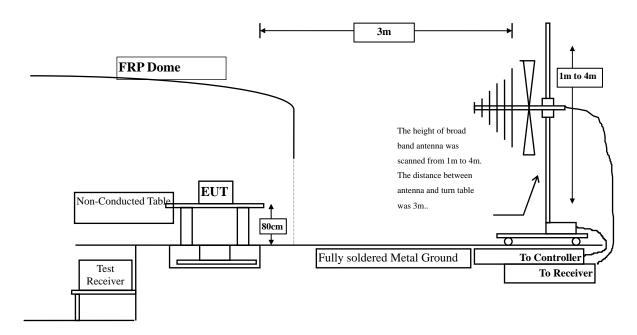
Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

2. The test instruments marked with "X" are used to measure the final test results.

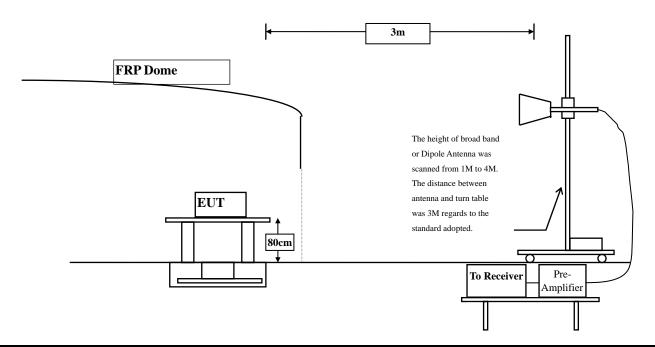


# 3.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz





#### 3.3. Limits

#### > Fundamental and Harmonics Emission Limits

FCC Part 15 Subpart C Paragraph 15.249 Limits						
Frequency	Field Strength	of Fundamental	Field Strength of Harmonics			
MHz	(mV/m @3m)	(dBuV/m @3m)	(uV/m @3m)	(dBuV/m @3m)		
902-928	50	94	500	54		
2400-2483.5	50	94	500	54		
5725-5875	50	94	500	54		

Remarks: 1. RF Voltage  $(dBuV/m) = 20 \log RF$  Voltage (uV/m)

2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

#### **➤** General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB 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	Field strength	Measurement distance				
IVIII	(microvolts/meter)	(meter)				
0.009-0.490	2400/F(kHz)	300				
0.490-1.705	24000/F(kHz)	30				
1.705-30	30	30				
30-88	100	3				
88-216	150	3				
216-960	200	3				
Above 960	500	3				

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



#### 3.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009 and tested 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 C63.10: 2009 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~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 in the Open Area Test Site on the Final Measurement.

The measurement frequency range form 9kHz - 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 : Cardiac Monitor

Test Item : Fundamental Radiated Emission

Test Site : No.3OATS

Test Mode : Mode 1: Transmit

#### X-Axis

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
922.300	6.342	73.996	80.337	-13.663	94.000
927.700	6.785	73.553	80.338	-13.662	94.000
Vertical					
922.300	5.534	71.803	77.336	-16.664	94.000
927.700	6.100	71.451	77.552	-16.448	94.000

- 1. Measurement Level = Reading Level + Correct Factor.
- 2. Correct Factor = Antenna Factor + Cable Loss PreAMP.
- 3. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.



Test Item : Fundamental Radiated Emission

Test Site : No.3OATS

Test Mode : Mode 1: Transmit

#### **Y-Axis**

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
922.300	6.342	76.048	82.389	-11.611	94.000
927.700	6.785	75.559	82.344	-11.656	94.000
Vertical					
922.300	5.534	70.356	75.889	-18.111	94.000
927.700	6.100	72.343	78.444	-15.556	94.000

- 1. Measurement Level = Reading Level + Correct Factor.
- 2. Correct Factor = Antenna Factor + Cable Loss PreAMP.
- 3. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.



Test Item : Fundamental Radiated Emission

Test Site : No.3OATS

Test Mode : Mode 1: Transmit

# **Z-Axis**

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					_
922.300	6.342	68.583	74.924	-19.076	94.000
927.700	6.785	68.451	75.236	-18.764	94.000
Vertical					
922.300	5.534	71.803	77.336	-16.664	94.000
927.700	6.100	71.451	77.552	-16.448	94.000

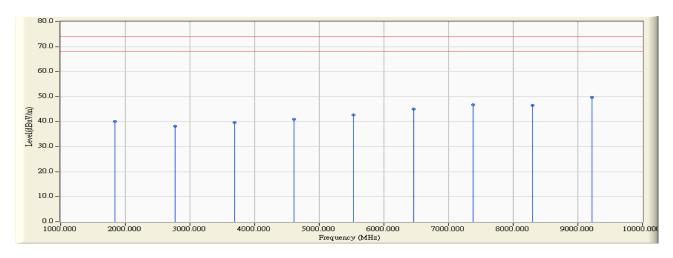
- 1. Measurement Level = Reading Level + Correct Factor.
- 2. Correct Factor = Antenna Factor + Cable Loss PreAMP.
- 3. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (922.3MHz)



Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
<b>Peak Detector:</b>					
1844.600	-3.911	44.010	40.099	-33.901	74.000
2766.900	-3.842	42.100	38.257	-35.743	74.000
3689.200	-4.009	43.790	39.781	-34.219	74.000
4611.500	-1.337	42.390	41.053	-32.947	74.000
5533.800	2.521	40.100	42.621	-31.379	74.000
6456.100	4.329	40.770	45.099	-28.901	74.000
7378.400	8.537	38.270	46.807	-27.193	74.000
8300.700	8.788	37.860	46.648	-27.352	74.000
9223.000	9.463	40.300	49.763	-24.237	74.000

#### **Average Detector:**

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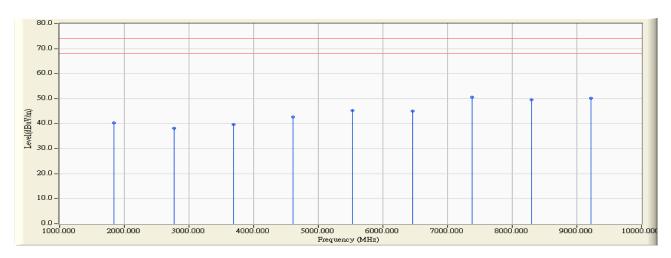
- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (922.3MHz)



Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical					
Peak Detector:					
1844.600	-3.431	43.770	40.338	-33.662	74.000
2766.900	-4.743	42.980	38.236	-35.764	74.000
3689.200	-3.694	43.450	39.756	-34.244	74.000
4611.500	0.240	42.510	42.750	-31.250	74.000
5533.800	2.513	42.750	45.262	-28.738	74.000
6456.100	4.342	40.740	45.083	-28.917	74.000
7378.400	9.320	41.230	50.550	-23.450	74.000
8300.700	9.793	39.740	49.533	-24.467	74.000
9223.000	9.451	40.700	50.151	-23.849	74.000

#### **Average Detector:**

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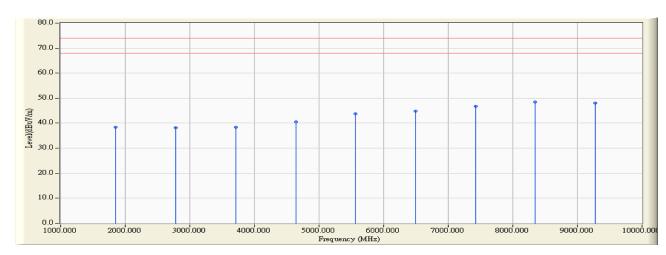
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- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (927.7MHz)



Correct	Reading	Measurement	Margin	Limit
Factor	Level	Level		
dB	dBuV	dBuV/m	dB	dBuV/m
-4.414	42.840	38.426	-35.574	74.000
-3.815	41.950	38.135	-35.865	74.000
-4.048	42.410	38.361	-35.639	74.000
-1.266	41.860	40.593	-33.407	74.000
2.358	41.320	43.678	-30.322	74.000
4.580	40.280	44.860	-29.140	74.000
8.484	38.280	46.764	-27.236	74.000
9.454	39.100	48.554	-25.446	74.000
9.438	38.600	48.039	-25.961	74.000
	Factor dB  -4.414 -3.815 -4.048 -1.266 2.358 4.580 8.484 9.454	Factor Level dBuV  -4.414	Factor Level Level dB dBuV dBuV/m  -4.414 42.840 38.426 -3.815 41.950 38.135 -4.048 42.410 38.361 -1.266 41.860 40.593 2.358 41.320 43.678 4.580 40.280 44.860 8.484 38.280 46.764 9.454 39.100 48.554	Factor Level dBuV dBuV/m dB  -4.414 42.840 38.426 -35.574 -3.815 41.950 38.135 -35.865 -4.048 42.410 38.361 -35.639 -1.266 41.860 40.593 -33.407 2.358 41.320 43.678 -30.322 4.580 40.280 44.860 -29.140 8.484 38.280 46.764 -27.236 9.454 39.100 48.554 -25.446

### **Average Detector:**

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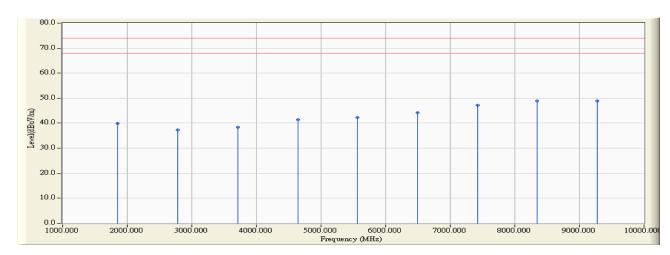
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- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (927.7MHz)



Correct	Reading	Measurement	Margin	Limit
Factor	Level	Level		
dB	dBuV	dBuV/m	dB	dBuV/m
-4.060	43.960	39.901	-34.099	74.000
-4.737	42.110	37.373	-36.627	74.000
-3.690	42.010	38.319	-35.681	74.000
0.234	41.210	41.444	-32.556	74.000
2.380	39.800	42.180	-31.820	74.000
4.520	39.560	44.080	-29.920	74.000
9.230	37.920	47.150	-26.850	74.000
10.551	38.330	48.881	-25.119	74.000
9.404	39.600	49.005	-24.995	74.000
	Factor dB -4.060 -4.737 -3.690 0.234 2.380 4.520 9.230 10.551	Factor Level dBuV  -4.060 43.960 -4.737 42.110 -3.690 42.010 0.234 41.210 2.380 39.800 4.520 39.560 9.230 37.920 10.551 38.330	Factor Level dBuV/m  -4.060 43.960 39.901 -4.737 42.110 37.373 -3.690 42.010 38.319 0.234 41.210 41.444 2.380 39.800 42.180 4.520 39.560 44.080 9.230 37.920 47.150 10.551 38.330 48.881	Factor Level dBuV dBuV/m dB  -4.060 43.960 39.901 -34.099 -4.737 42.110 37.373 -36.627 -3.690 42.010 38.319 -35.681 0.234 41.210 41.444 -32.556 2.380 39.800 42.180 -31.820 4.520 39.560 44.080 -29.920 9.230 37.920 47.150 -26.850 10.551 38.330 48.881 -25.119

#### **Average Detector:**

--

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : General Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (922.3MHz)

	Frequency	Correct	Reading	Measurement	Margin	Limit	
		Factor	Level	Level			
_	MHz	dB	dBuV	dBuV/m	dB	dBuV/m	_
	Horizontal						
	76.000	-15.098	47.048	31.950	-8.050	40.000	
	156.000	-10.431	48.987	38.556	-4.944	43.500	
	208.000	-11.086	50.280	39.195	-4.305	43.500	
	364.000	-1.416	39.132	37.717	-8.283	46.000	
	416.000	-3.235	34.704	31.469	-14.531	46.000	
	915.000	6.083	24.764	30.847	-15.153	46.000	
	Vertical						
	83.000	-4.978	38.335	33.358	-6.642	40.000	
	160.000	-6.190	35.499	29.309	-14.191	43.500	
	272.750	-8.977	36.295	27.318	-18.682	46.000	
	364.000	-2.313	36.630	34.317	-11.683	46.000	
	416.000	-8.403	40.872	32.469	-13.531	46.000	
	915.000	0.992	29.355	30.347	-15.653	46.000	

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.



# 4. Band Edge

# 4.1. Test Equipment

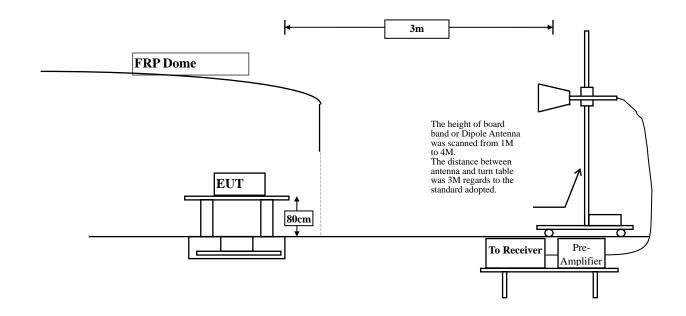
The following test equipments are used during the band edge tests:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
⊠Site # 3	Bilog Antenna S		Schaffner Chase	CBL6112B/2673	Sep., 2014
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2014
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2014
		Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2014
	X Pre-Amplifier		QTK	AP-180C / CHM_0906076	Sep., 2014
		Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar, 2014
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2014
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2014
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2014
	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





#### 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 50 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 C63.10 2009 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  $\pm$  1.27 dB

Radiated is + 3.9 dB



#### 4.6. Test Result of Band Edge

Product : Cardiac Monitor
Test Item : Band Edge Data
Test Site : No.3 OATS

Test Mode : Mode 1: Transmit

#### **RF Radiated Measurement (Horizontal):**

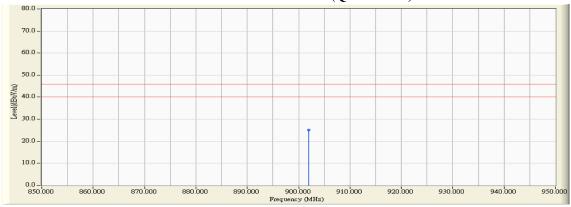
Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Result
01 (Quasi-Peak)	902.000	5.628	19.400	25.028	46.000	Pass

#### **RF** Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Result
01 (Quasi-Peak)	902.000	3.155	22.600	25.754	46.000	Pass

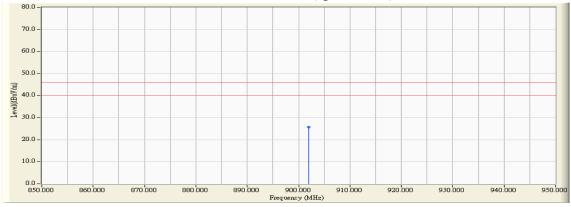
#### Figure Channel 01:

#### Horizontal (Quasi-Peak)



#### Figure Channel 01:

#### Vertical (Quasi-Peak)



- Note:1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
  - 2. Measurement Level = Reading Level + Correct Factor.
  - 3. Correct Factor = Antenna factor + Cable loss Amplifier gain.
  - 4. "\*", means this data is the worst emission level.



Product : Cardiac Monitor
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit

#### **RF Radiated Measurement (Horizontal):**

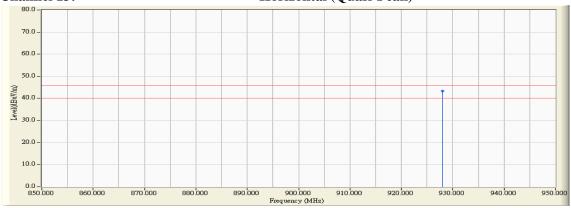
Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Result
13 (Quasi-Peak)	928.000	6.848	36.488	43.335	46.000	Pass

#### RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Result
13 (Quasi-Peak)	928.000	6.160	22.175	28.335	46.000	Pass

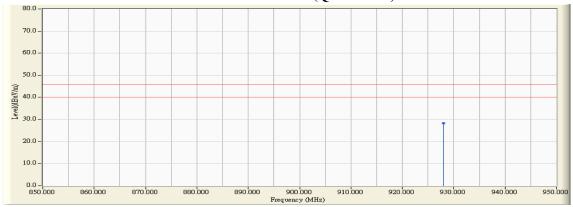
#### Figure Channel 13:

#### Horizontal (Quasi-Peak)



#### Figure Channel 13:

#### Vertical (Quasi-Peak)



- Note:1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
  - 2. Measurement Level = Reading Level + Correct Factor.
  - 3. Correct Factor = Antenna factor + Cable loss Amplifier gain.
  - 4. "\*", means this data is the worst emission level.



# 5. EMI Reduction Method During Compliance Testing

No modification was made during testing.