Leo Lee Silvin Chen



FCC Part 15C Measurement and Test Report

For

Shenzhen CooSpo Tech Co.,Ltd

Room 401, Lingyun Building, Honglang North 2nd Rd., Bao`an District,

Shenzhen, Guangdong, China (Mainland)

FCC ID: 2AF9HH8

FCC Rule(s): FCC Part 15.247

Product Description: Bluetooth Heart Rate Monitor

Tested Model: <u>H8</u>

Report No.: <u>STR160480851</u>

Tested Date: <u>2016-04-08 to 2016-04-13</u>

Issued Date: <u>2016-04-13</u>

Tested By: <u>Leo Lee / Engineer</u>

Reviewed By: Silin Chen / EMC Manager

Approved & Authorized By: <u>Jandy so / PSQ Manager</u>

Prepared By:

Shenzhen SEM.Test Technology Co., Ltd.

1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road,

Bao'an District, Shenzhen, P.R.C. (518101)

Tel.: +86-755-33663308 Fax.: +86-755-33663309 Website: www.semtest.com.cn

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen SEM.Test Technology Co., Ltd.



TABLE OF CONTENTS

1. GENERAL INFORMATION	3
1.2 Test Standards	
1.3 TEST METHODOLOGY	
1.4 TEST FACILITY	
1.5 EUT SETUP AND TEST MODE	
1.7 TEST EQUIPMENT LIST AND DETAILS	
2. SUMMARY OF TEST RESULTS	
3. RF EXPOSURE	8
3.1 STANDARD APPLICABLE	8
3.2 Test Result	8
4. ANTENNA REQUIREMENT	9
4.1 STANDARD APPLICABLE	9
4.2 Evaluation Information	9
5. POWER SPECTRAL DENSITY	10
5.1 STANDARD APPLICABLE	
5.2 Test Procedure	
5.3 ENVIRONMENTAL CONDITIONS	
5.4 SUMMARY OF TEST RESULTS/PLOTS	
6. 6DB BANDWIDTH	
6.1 STANDARD APPLICABLE	
6.2 TEST PROCEDURE	
6.4 SUMMARY OF TEST RESULTS/PLOTS	
7. RF OUTPUT POWER	16
7.1 STANDARD APPLICABLE	16
7.2 Test Procedure	
7.3 ENVIRONMENTAL CONDITIONS	
7.4 SUMMARY OF TEST RESULTS/PLOTS	
8. FIELD STRENGTH OF SPURIOUS EMISSIONS	
8.1 STANDARD APPLICABLE	
8.2 Test Procedure	
8.4 ENVIRONMENTAL CONDITIONS	
8.5 Summary of Test Results/Plots	
9. OUT OF BAND EMISSIONS	27
9.1 STANDARD APPLICABLE	
9.2 Test Procedure	
9.3 ENVIRONMENTAL CONDITIONS	



1. GENERAL INFORMATION

Client Information

Applicant: Shenzhen CooSpo Tech Co.,Ltd

Address of applicant: Room 401,Lingyun Building,Honglang North 2nd Rd.,

Bao`an District, Shenzhen, Guangdong, China

(Mainland)

Manufacturer: Shenzhen CooSpo Tech Co.,Ltd

Address of manufacturer: Room 401,Lingyun Building,Honglang North 2nd Rd.,

Bao`an District, Shenzhen, Guangdong, China

(Mainland)

General Description of	EUT
Product Name:	Bluetooth Heart Rate Monitor
Brand Name:	Coospo
Model No.:	H8
Rated Voltage:	DC 3V by battery
Rated Current:	/
Note: The test data is eather	ed from a production sample provided by the manufacturer.

Technical Characteristics of EUT		
Bluetooth Version:	V4.0 (BLE mode)	
Frequency Range:	2402-2480MHz	
RF Output Power:	-4.065dBm (Conducted)	
Data Rate:	25Mbps	
Modulation:	GFSK	
Quantity of Channels:	40	
Channel Separation:	2MHz	
Type of Antenna:	PCB	
Antenna Gain:	1.75dBi	
Lowest Internal Frequency:	32.768kHz	



1.2 Test Standards

The following report is prepared on behalf of the Shenzhen CooSpo Tech Co.,Ltd in accordance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules

The objective is to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices, and ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz. The measurement guide KDB 558074 D01 v03r04 for digital transmission systems shall be performed also.

1.4 Test Facility

FCC – Registration No.: 934118

Shenzhen SEM.Test Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 934118.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Shenzhen SEM. Test Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

CNAS Registration No.: L4062

Shenzhen SEM. Test Technology Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road, Bao'an District, Shenzhen, P.R.C (518101).



1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List			
Test Mode	Description	Remark	
TM1	GFSK(BLE)	2402MHz, 2442MHz, 2480MHz	

EUT Cable List and Details				
Cable Description Length (m) Shielded/Unshielded With / Without Ferrite				
/	/	/	/	

Special Cable List and Details				
Cable Description Length (m) Shielded/Unshielded With / Without Ferrite				
/	/	/	/	

Auxiliary Equipment List and Details				
Description Manufacturer Model Serial Number				

1.6 Measurement Uncertainty

Measurement uncertainty				
Parameter	Conditions	Uncertainty		
RF Output Power	Conducted	± 0.42 dB		
Occupied Bandwidth	Conducted	±1.5%		
Power Spectral Density	Conducted	±1.8dB		
Conducted Spurious Emission	Conducted	±2.17dB		
Conducted Emissions	Conducted	±2.88dB		
Transmitter Spurious Emissions	Radiated	±5.1dB		

REPORT NO.: STR16048085I PAGE 5 OF 30 FCC PART 15.247



1.7 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Spectrum Analyzer	Agilent	E4407B	MY41440400	2015-06-17	2016-06-16
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2015-06-17	2016-06-16
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2015-06-17	2016-06-16
Amplifier	Agilent	8447F	3113A06717	2015-06-17	2016-06-16
Amplifier	C&D	PAP-1G18	2002	2015-06-17	2016-06-16
Broadband Antenna	Schwarz beck	VULB9163	9163-333	2015-06-17	2016-06-16
Horn Antenna	ETS	3117	00086197	2015-06-17	2016-06-16
Horn Antenna	ETS	3116B	00088203	2015-06-17	2016-06-16
Loop Antenna	Schwarz beck	FMZB 1516	9773	2015-06-17	2016-06-16
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2015-06-17	2016-06-16
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2015-06-17	2016-06-16
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2015-06-17	2016-06-16



2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 2.1093	RF Exposure	Compliant
§ 15.203; § 15.247(b)(4)(i)	Antenna Requirement	Compliant
§15.205	Restricted Band of Operation	Compliant
§ 15.207(a)	Conducted Emission	Compliant
§ 15.247(e)	Power Spectral Density	Compliant
§ 15.247(a)(2)	6 dB Bandwidth	Compliant
§ 15.247(b)(3)	RF Output Power	Compliant
§ 15.209(a)	Radiated Emission	Compliant
§ 15.247(d)	Band Edge (Out of Band Emissions)	Compliant

N/A: not applicable



3. RF Exposure

3.1 Standard Applicable

According to § 1.1307 and § 2.1093, the portable transmitter must comply the RF exposure requirements.

3.2 Test Result

This product complied with the requirement of the RF exposure, please see the RF Exposure Report.



4. Antenna Requirement

4.1 Standard Applicable

According to FCC Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

4.2 Evaluation Information

This product has a PCB antenna, fulfill the requirement of this section.



5. Power Spectral Density

5.1 Standard Applicable

According to 15.247(a)(1)(iii), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

5.2 Test Procedure

According to the KDB 558074 D01 v03r04, the test method of power spectral density as below:

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span to 1.5 times the DTS bandwidth.
- c) Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- d) Set the VBW \geq 3 \times RBW.
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the RBW.
- j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

5.3 Environmental Conditions

Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

5.4 Summary of Test Results/Plots

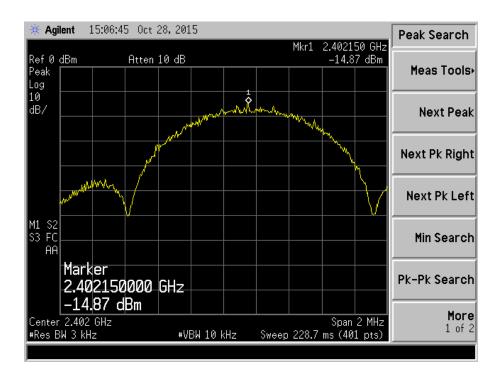
Test Mode	Test Channel	Power Spectral Density	Limit
	MHz	dBm/3kHz	dBm/3kHz
	2402	-14.87	8
GFSK(BLE)	2442	-16.79	8
	2480	-17.76	8

Please refer to the following test plots:

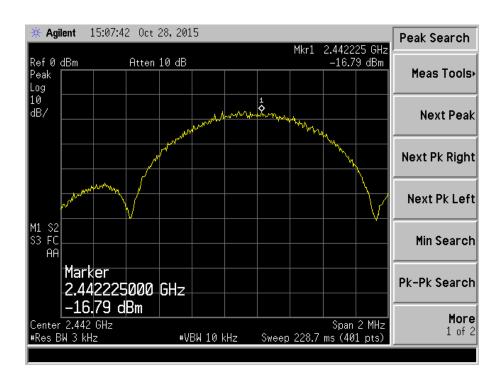
REPORT NO.: STR16048085I PAGE 10 OF 30 FCC PART 15.247



Low Channel

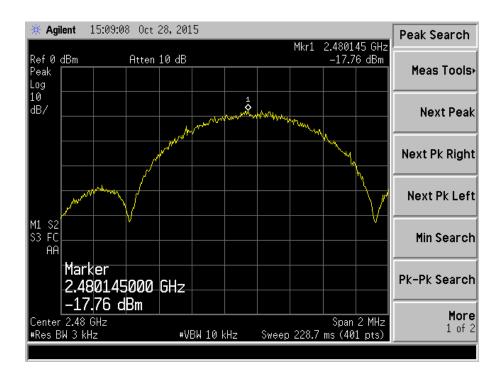


Middle Channel





High Channel





6. 6dB Bandwidth

6.1 Standard Applicable

According to 15.247(a)(2). Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

6.2 Test Procedure

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW) $\geq 3 \times RBW$.
- c) Detector = Peak.
- d) Trace mode = \max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.3 Environmental Conditions

Temperature:	25° C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

6.4 Summary of Test Results/Plots

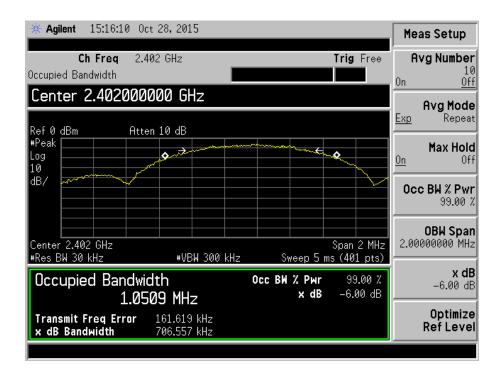
Test Mode	Test Channel	6 dB Bandwidth	99% Bandwidth	Limit
	MHz	kHz	kHz	kHz
	2402	706.557	1050.9	≥500
GFSK(BLE)	2442	670.044	1050.4	≥500
	2480	746.222	1048.5	≥500

Please refer to the following test plots:

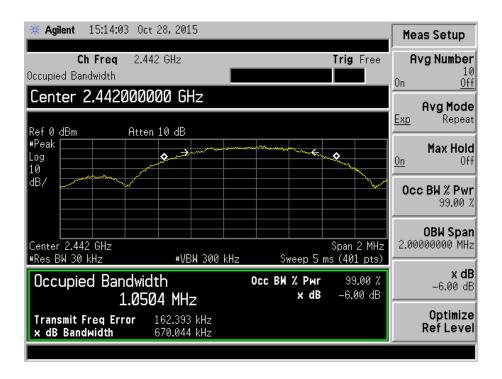
REPORT NO.: STR16048085I PAGE 13 OF 30 FCC PART 15.247



For BLE Low Channel:

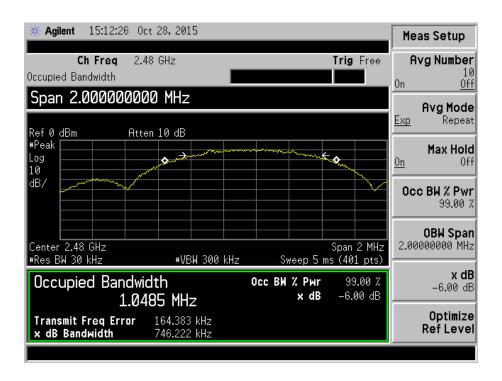


Middle Channel:





High Channel:





7. RF Output Power

7.1 Standard Applicable

According to 15.247(b)(3). For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

7.2 Test Procedure

According to section KDB-558074 D01 v03r04 section 9.1.1, this procedure shall be used when the measurement instrument has available a resolution bandwidth that is greater than the DTS bandwidth.

- a) Set the RBW \geq DTS bandwidth.
- b) Set VBW \geq 3 \times RBW.
- c) Set span $\geq 3 \times RBW$
- d) Sweep time = auto couple.
- e) Detector = peak.
- f) Trace mode = \max hold.
- g) Allow trace to fully stabilize.
- h) Use peak marker function to determine the peak amplitude level.

7.3 Environmental Conditions

Temperature:	26° C
Relative Humidity:	57%
ATM Pressure:	1011 mbar

7.4 Summary of Test Results/Plots

Test Mode	Frequency	Reading	Output Power	Limit
	MHz	dBm	mW	mW
	2402	-4.065	0.392	1000
GFSK(BLE)	2442	-4.555	0.350	1000
	2480	-5.768	0.265	1000

Note: the antenna gain of 1.75dBi less than 6dBi maximum permission antenna gain value based on 1 watt peak output power limit.

REPORT NO.: STR16048085I PAGE 16 OF 30 FCC PART 15.247



8. Field Strength of Spurious Emissions

8.1 Standard Applicable

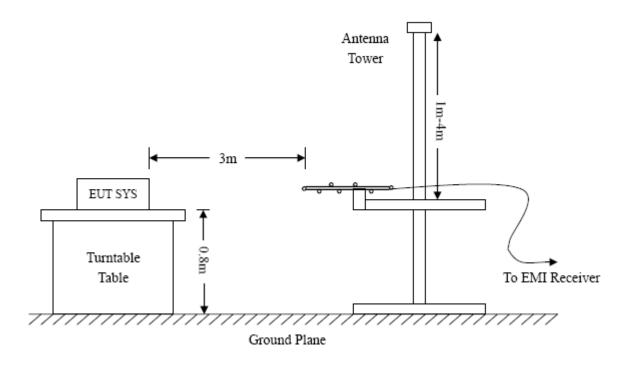
According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

8.2 Test Procedure

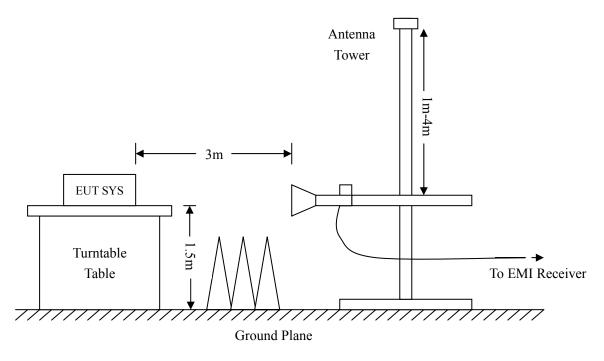
The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15.205 15.247(a) and FCC Part 15.209 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle. The spacing between the peripherals was 10 cm.



REPORT NO.: STR16048085I PAGE 17 OF 30 FCC PART 15.247





Frequency:9kHz-30MHz	Frequency:30MHz-1GHz	Frequency : Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW = 30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

8.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB μ V means the emission is 6dB μ V below the maximum limit. The equation for margin calculation is as follows:

8.4 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

REPORT NO.: STR16048085I PAGE 18 OF 30 FCC PART 15.247



8.5 Summary of Test Results/Plots

According to the data below, the FCC Part 15.205, 15.209 and 15.247 standards, and had the worst cases:

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

REPORT NO.: STR16048085I PAGE 19 OF 30 FCC PART 15.247



Plot of Radiated Emissions Test Data

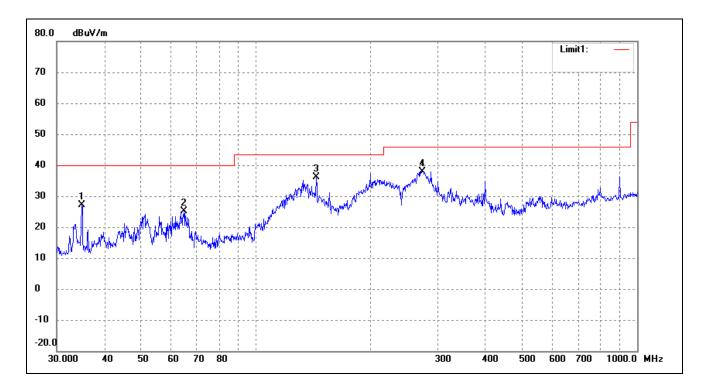
EUT: Bluetooth Heart Rate Monitor

Tested Model: H8

Operating Condition: Transmitting-Low channel (2402MHz)

Comment: DC 3.0V Battery

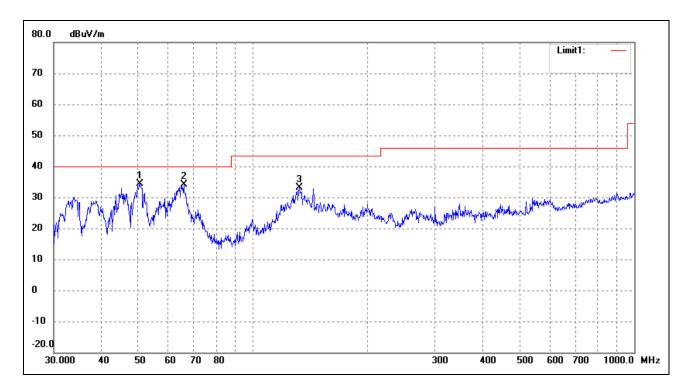
Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	34.8823	37.64	-10.60	27.04	40.00	-12.96	360	100	peak
2	64.6594	36.44	-11.41	25.03	40.00	-14.97	0	200	peak
3	143.8295	47.18	-10.94	36.24	43.50	-7.26	360	200	peak
4	273.2341	43.87	-5.90	37.97	46.00	-8.03	100	100	peak



Test Specification: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	50.4089	42.85	-8.44	34.41	40.00	-5.59	360	100	peak
2	65.8031	45.75	-11.66	34.09	40.00	-5.91	100	200	peak
3	132.2206	43.81	-10.76	33.05	43.50	-10.45	100	200	peak



Plot of Radiated Emissions Test Data

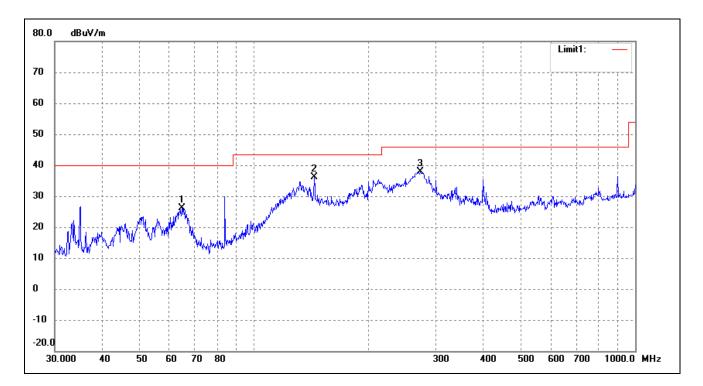
EUT: Bluetooth Heart Rate Monitor

Tested Model: H8

Operating Condition: Transmitting-Low channel (2440MHz)

Comment: DC 3.0V Battery

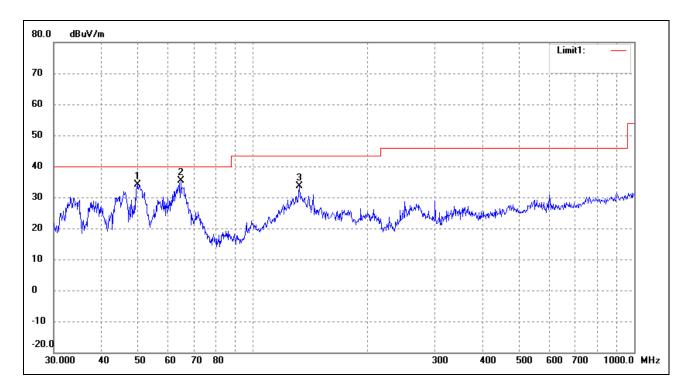
Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	64.6594	37.48	-11.41	26.07	40.00	-13.93	360	200	peak
2	143.8295	46.96	-10.94	36.02	43.50	-7.48	100	300	peak
3	273.2341	43.88	-5.90	37.98	46.00	-8.02	100	200	peak



Test Specification: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	49.7068	42.50	-8.39	34.11	40.00	-5.89	360	200	peak
2	64.6594	46.86	-11.41	35.45	40.00	-4.55	100	100	peak
3	132.2206	44.50	-10.76	33.74	43.50	-9.76	360	200	peak



Plot of Radiated Emissions Test Data

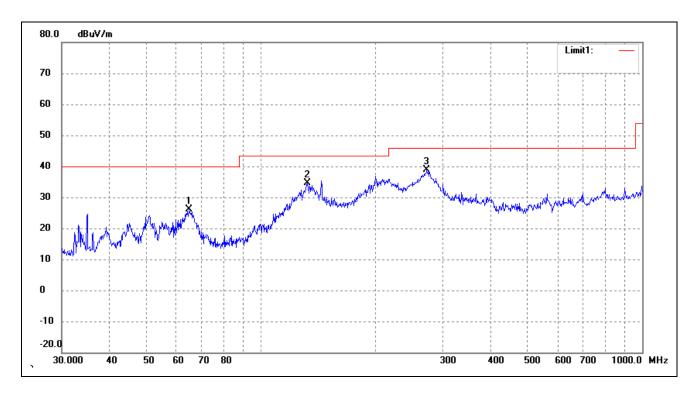
EUT: Bluetooth Heart Rate Monitor

Tested Model: H8

Operating Condition: Transmitting-Low channel (2480MHz)

Comment: DC 3.0V Battery

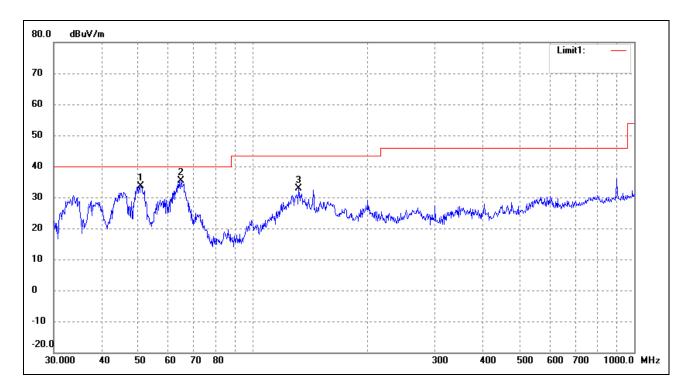
Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	64.6594	37.51	-11.41	26.10	40.00	-13.90	360	200	peak
2	132.2206	45.48	-10.76	34.72	43.50	-8.78	360	100	peak
3	272.2776	44.87	-5.95	38.92	46.00	-7.08	100	200	peak



Test Specification: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	50.7637	42.03	-8.50	33.53	40.00	-6.47	360	200	peak
2	64.6594	46.78	-11.41	35.37	40.00	-4.63	100	200	peak
3	131.7577	43.52	-10.76	32.76	43.50	-10.74	360	200	peak



Spurious Emissions Above 1GHz

Transmitting: BLE mode:

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector			
(MHz)	(dBuV)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V				
Low Channel-2402MHz										
4804	53.27	-3.59	49.68	74	-24.32	Н	PK			
4804	36.89	-3.59	33.30	54	-20.70	Н	AV			
7206	51.68	-0.52	51.16	74	-22.84	Н	PK			
7206	33.25	-0.52	32.73	54	-21.27	Н	AV			
4804	51.79	-3.59	48.20	74	-25.80	V	PK			
4804	38.62	-3.59	35.03	54	-18.97	V	AV			
7206	55.67	-0.52	55.15	74	-18.85	V	PK			
7206	41.22	-0.52	40.70	54	-13.30	V	AV			
	Middle Channel-2440MHz									
4880	56.85	-3.49	53.36	74	-20.64	Н	PK			
4880	42.77	-3.49	39.28	54	-14.72	Н	AV			
7320	55.69	-0.47	55.22	74	-18.78	Н	PK			
7320	41.53	-0.47	41.06	54	-12.94	Н	AV			
4880	53.94	-3.49	50.45	74	-23.55	V	PK			
4880	41.83	-3.49	38.34	54	-15.66	V	AV			
7320	52.37	-0.47	51.90	74	-22.10	V	PK			
7320	39.62	-0.47	39.15	54	-14.85	V	AV			
			High Chann	el-2480MHz						
4960	54.89	-3.41	51.48	74	-22.52	Н	PK			
4960	42.57	-3.41	39.16	54	-14.84	Н	AV			
7440	53.69	-0.42	53.27	74	-20.73	Н	PK			
7440	41.74	-0.42	41.32	54	-12.68	Н	AV			
4960	54.62	-3.41	51.21	74	-22.79	V	PK			
4960	40.37	-3.41	36.96	54	-17.04	V	AV			
7440	53.69	-0.42	53.27	74	-20.73	V	PK			
7440	40.26	-0.42	39.84	54	-14.16	V	AV			

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



9. Out of Band Emissions

9.1 Standard Applicable

According to §15.247 (d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

9.2 Test Procedure

According to the KDB 558074 D01 v03r04, the band-edge radiated test method as follows:

Set span = wide enough to capture the peak level of the emission operating on the channel closest to the bandedge, as well as any modulation products which fall outside of the authorized band of operation (2310MHz to 2420MHz for low bandedge, 2460MHz to 2500MHz for the high bandedge)

RBW = 1MHz, VBW = 1MHz for peak value measured

RBW = 1MHz, VBW = 10Hz for average value measured

Sweep = auto; Detector function = peak/average; Trace = max hold

All the trace to stabilize, set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. Those emission must comply with the 15.209 limit for fall in the restricted bands listed in section 15.205. Note that the method of measurement KDB publication number: 913591 may be used for the radiated bandedge measurements.

According to the KDB 558074 D01 v03r04, the conducted spurious emissions test method as follows:

- 1. Set start frequency to DTS channel edge frequency.
- 2. Set stop frequency so as to encompass the spectrum to be examined.
- 3. Set RBW = 100 kHz.
- 4. Set VBW \geq 300 kHz.
- 5. Detector = peak.
- 6. Trace Mode = \max hold.
- 7. Sweep = auto couple.
- 8. Allow the trace to stabilize (this may take some time, depending on the extent of the span).
- 9. Use peak marker function to determine maximum amplitude of all unwanted emissions within any 100 kHz bandwidth.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements specified in section 8.1. Report the three highest emissions relative to the limit.



9.3 Environmental Conditions

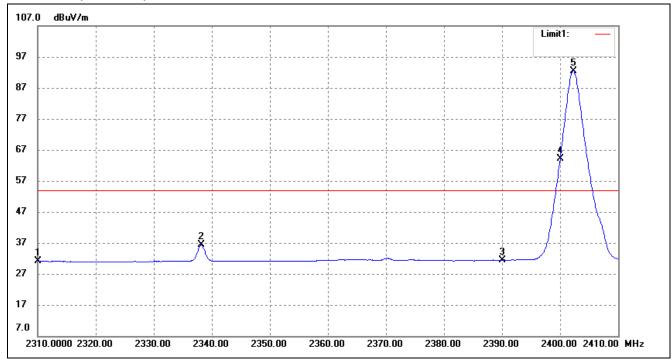
Temperature:	23°C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

9.4 Summary of Test Results/Plots

Bandedge (Radiated)

Lowest Bandedge-BLE

Horizontal (Worst case)

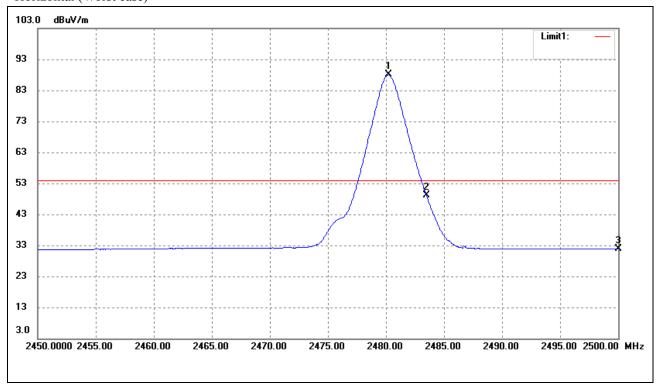


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark	
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)		
1	2310.000	34.94	-3.82	31.12	54.00	-22.88	Average Detector	
	2310.000	47.65	-3.82	43.83	74.00	-30.17	Peak Detector	
3	2390.000	35.02	-3.59	31.43	54.00	-22.57	Average Detector	
	2390.000	47.56	-3.59	43.97	74.00	-30.03	Peak Detector	

REPORT NO.: STR16048085I PAGE 28 OF 30 FCC PART 15.247



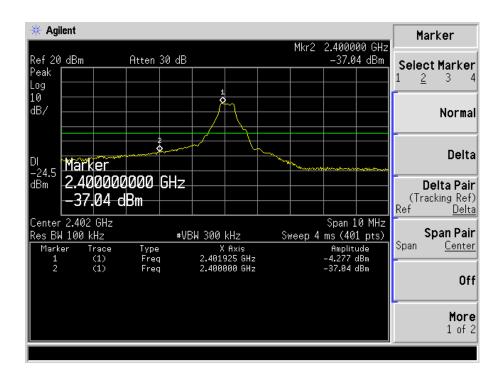
Highest Bandedge-BLE Horizontal (Worst case)



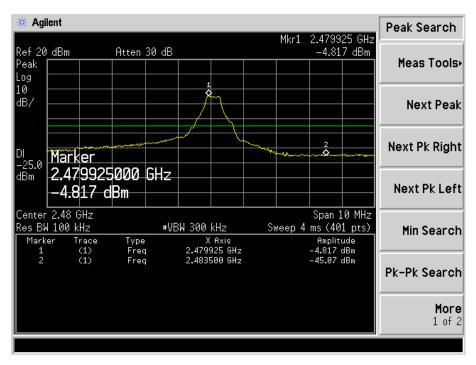
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2480.200	90.84	-2.81	88.03	/	/	Average Detector
	2479.950	91.74	-2.81	88.93	/	/	Peak Detector
2	2483.500	Delta = 40.54 dBc		49.03	54.00	-4.97	Average Detector
	2483.500	Della – 40	Dena – 40.34 dBc		74.00	-19.52	Peak Detector
3	2500.000	34.51	-2.75	31.76	54.00	-22.24	Average Detector
	2500.000	46.58	-2.75	43.83	74.00	-30.17	Peak Detector



Bandedge (Conducted) Lowest



Highest



***** END OF REPORT *****