APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
Organix Concept Limited

BLE Pedometer Clip
Model No.: PR092

FCC ID: XXU-PR092

Prepared for	:	Organix Concept Limited
Address	:	Unit 504, East town building 41 Lockhart, WanChai, Hong Kong.
Prepared by	:	ACCURATE TECHNOLOGY CO., LTD
Address	:	F1, Bldg. A, Chan Yuan New Material Port, Keyuan Rd. Science & Industry Park, Nan Shan, Shenzhen, Guangdong P.R. China Tel: (0755) 26503290 Fax: (0755) 26503396

Report No.	:	ATE20131897
Date of Test	:	Jan 14-Jan 17, 2014
Date of Report	:	Jan 17, 2014

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Description Page

Test Report Certification

Applicant : Organix Concept Limited

Manufacturer : Organix Concept Limited

EUT Description : BLE Pedometer Clip

(A) MODEL NO.: PR092

(B) TRADE NAME.: Organix Concept Limited

(C) POWER SUPPLY: DC 3V

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247
ANSI C63.4: 2009

The EUT was tested according to DTS test procedure of April 09, 2013 KDB558074 D01 DTS Meas Guidance v03 for compliance to FCC 47CFR 15.247 requirements

The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247 limits. The measurement results are contained in this test report and ACCURATE TECHNOLOGY CO. LTD is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of ACCURATE TECHNOLOGY CO. LTD.

Date of Test : Jan 14-Jan 17, 2014

Prepared by : Tim Zhang
(Tim.zhang, Engineer)

Approved & Authorized Signer :
(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	BLE Pedometer Clip
Model Number	:	PR092
Bluetooth version	:	Bluetooth V4.0 LE
Frequency Range	:	2402MHz-2480MHz
Number of Channels	:	40
Antenna Gain	:	0dBi
Antenna type	:	PCB Antenna
Power Supply	:	DC 3V
Modulation mode	:	GFSK
Applicant	:	Organix Concept Limited
Address	:	Unit 504, East town building 41 Lockhart, WanChai, Hong Kong.
Manufacturer	:	Organix Concept Limited
Address	:	Unit 504, East town building 41 Lockhart, WanChai, Hong Kong.
Date of sample received	:	Jan 14, 2014
Date of Test	:	Jan 14-Jan 17, 2014

1.2.Carrier Frequency of Channels

Channel	Frequceny (MHz)	Channel	Frequceny (MHz)	Channel	Frequceny (MHz)	Channe l	Frequceny (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

1.3.Special Accessory and Auxiliary Equipment

N/A

1.4.Description of Test Facility

EMC Lab	:	Accredited by TUV Rheinland Shenzhen Listed by FCC The Registration Number is 752051 Listed by Industry Canada The Registration Number is 5077A-2 Accredited by China National Accreditation Committee for Laboratories The Certificate Registration Number is L3193
Name of Firm	:	ACCURATE TECHNOLOGY CO. LTD
Site Location	:	F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China

1.5.Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty (9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty (30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty (Above 1GHz)	=	4.06dB, k=2

2. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 11, 2014	Jan. 10, 2015
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 11, 2014	Jan. 10, 2015
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 11, 2014	Jan. 10, 2015
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	Jan. 11, 2014	Jan. 10, 2015
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 15, 2014	Jan. 14, 2015
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 15, 2014	Jan. 14, 2015
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 15, 2014	Jan. 14, 2015
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 15, 2014	Jan. 14, 2015
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 11, 2014	Jan. 10, 2015
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 11, 2014	Jan. 10, 2015
Highpass Filter	Wainwright Instruments	WHKX3.6/18G-10SS	N/A	Jan. 11, 2014	Jan. 10, 2015
Band Reject Filter	Wainwright Instruments	WRCG2400/2485-2375/2510-60/11SS	N/A	Jan. 11, 2014	Jan. 10, 2015

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

The mode is used: **BLE Transmitting mode**
Low Channel: 2402MHz
Middle Channel: 2440MHz
High Channel: 2480MHz

3.2.Configuration and peripherals

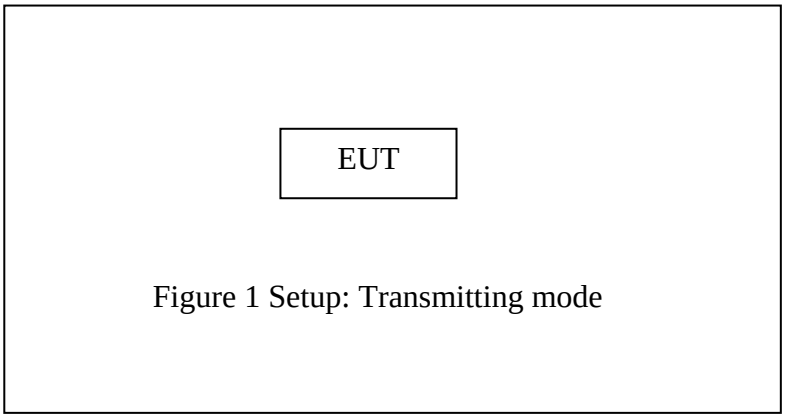


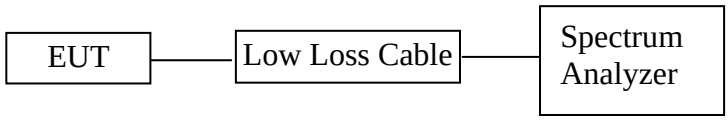
Figure 1 Setup: Transmitting mode

4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.247(a)(2)	6dB Bandwidth Test	Compliant
Section 15.247(e)	Power Spectral Density Test	Compliant
Section 15.247(b)(3)	Maximum Peak Output Power Test	Compliant
Section 15.247(d)	Band Edge Compliance Test	Compliant
Section 15.247(d) Section 15.209	Radiated Spurious Emission Test	Compliant
Section 15.247(d)	Conducted Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	N/A
Section 15.203	Antenna Requirement	Compliant

5. 6DB BANDWIDTH MEASUREMENT

5.1.Block Diagram of Test Setup



(EUT: BLE Pedometer Clip)

5.2.The Requirement For Section 15.247(a)(2)

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

5.3.EUT Configuration on Measurement

The equipment is installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

5.4.Operating Condition of EUT

5.4.1.Setup the EUT and simulator as shown as Section 5.1.

5.4.2.Turn on the power of all equipment.

5.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

5.5.Test Procedure

5.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.

5.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to300 kHz.

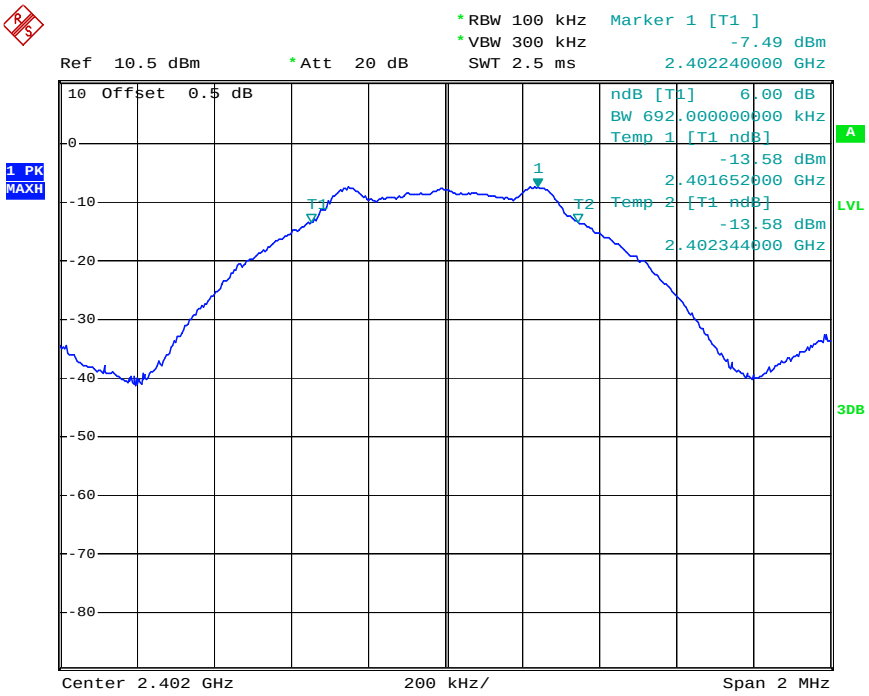
5.5.3.The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

5.6.Test Result

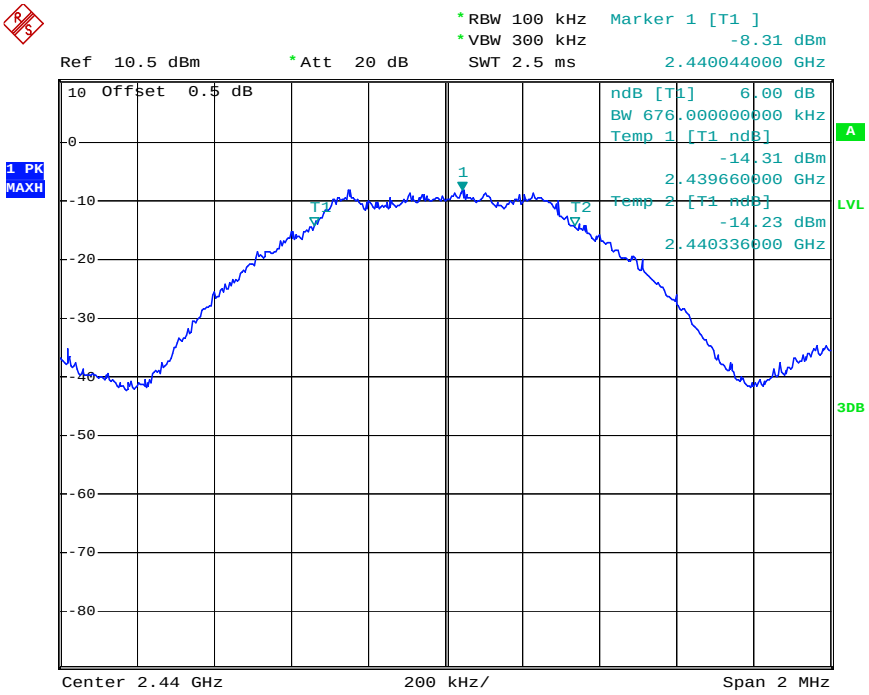
Channel	Frequency (MHz)	6 dB Bandwith (MHz)	Minimum Limit(MHz)	PASS/FAIL
0	2402	0.692	0.5	PASS
19	2440	0.676	0.5	PASS
39	2480	0.672	0.5	PASS

The spectrum analyzer plots are attached as below.

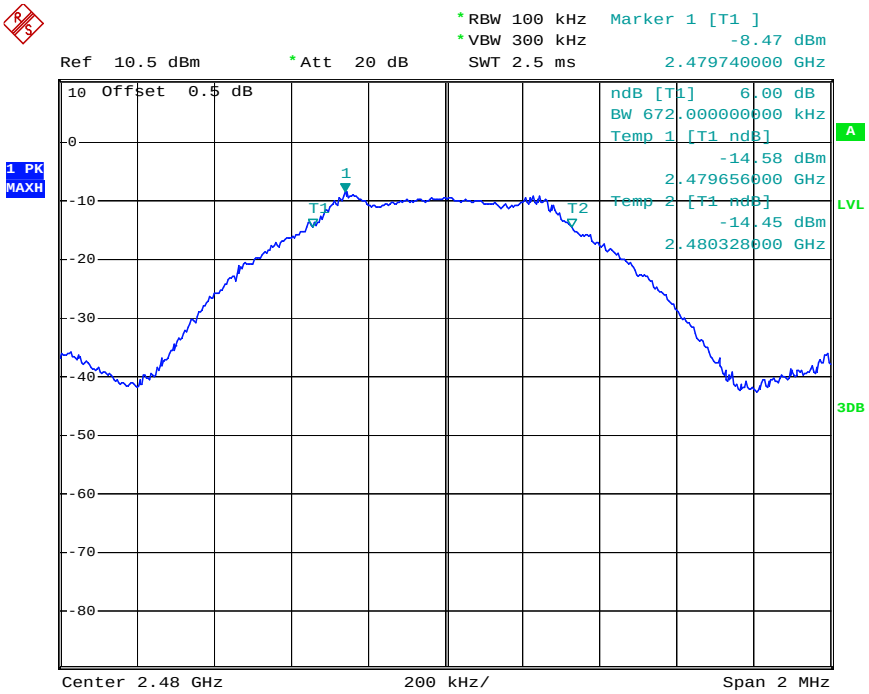
channel 0



channel 19

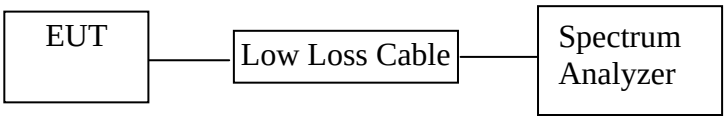


channel 39



6. MAXIMUM PEAK OUTPUT POWER

6.1.Block Diagram of Test Setup



(EUT: BLE Pedometer Clip)

6.2.The Requirement For Section 15.247(b)(3)

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

6.3.EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.4.Operating Condition of EUT

6.4.1.Setup the EUT and simulator as shown as Section 6.1.

6.4.2.Turn on the power of all equipment.

6.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

6.5.Test Procedure

6.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.

6.5.2.Test method is options 1 from KDB558074 D01 DTS Meas Guidance v03

6.5.3.Set RBW of spectrum analyzer to 1 MHz and VBW to 3 MHz.

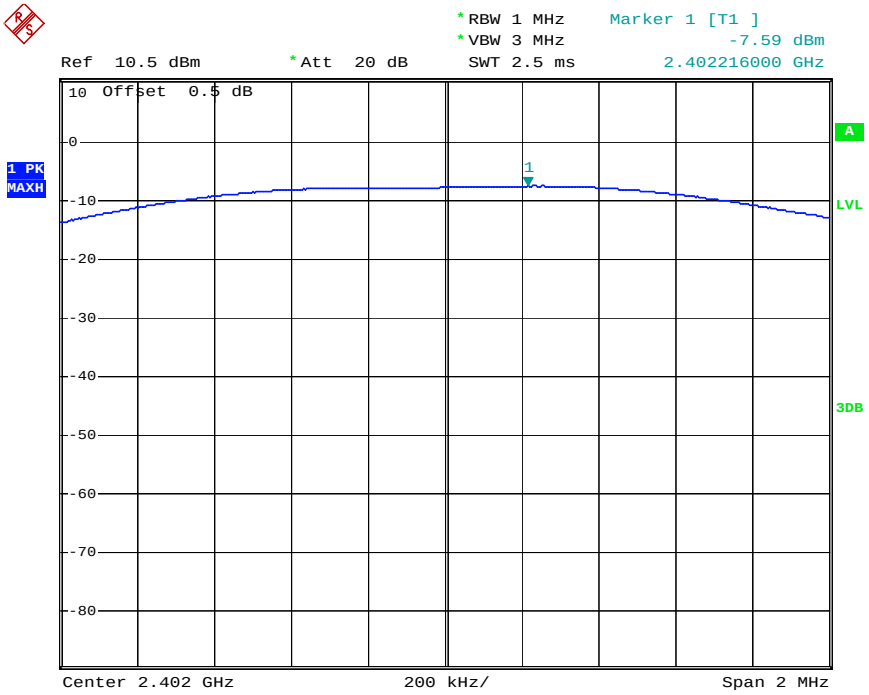
6.5.4.Measurement the maximum peak output power.

6.6.Test Result

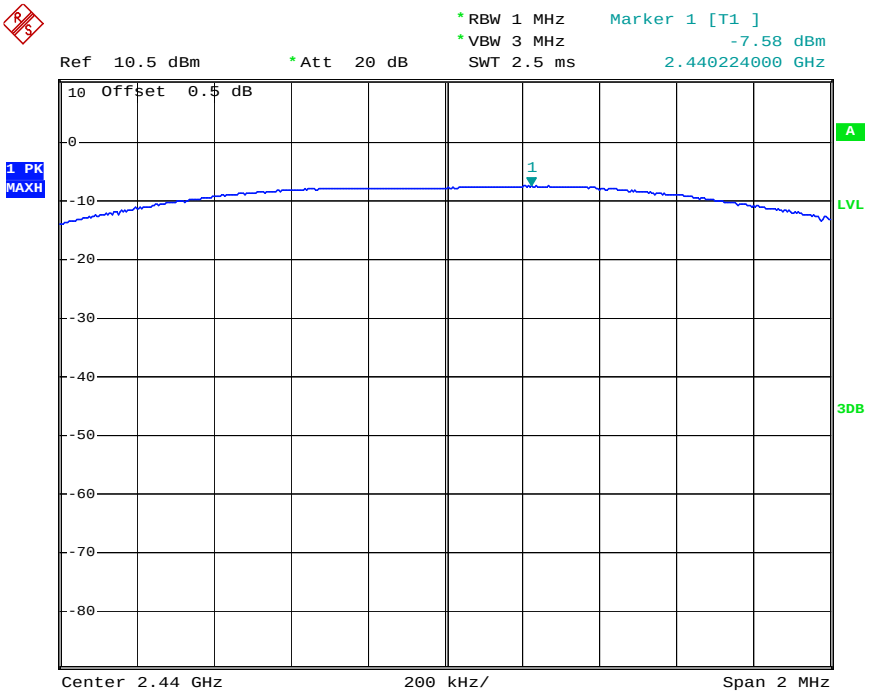
Channel	Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
0	2402	-7.59	30	PASS
19	2440	-7.58	30	PASS
39	2480	-7.63	30	PASS

The spectrum analyzer plots are attached as below.

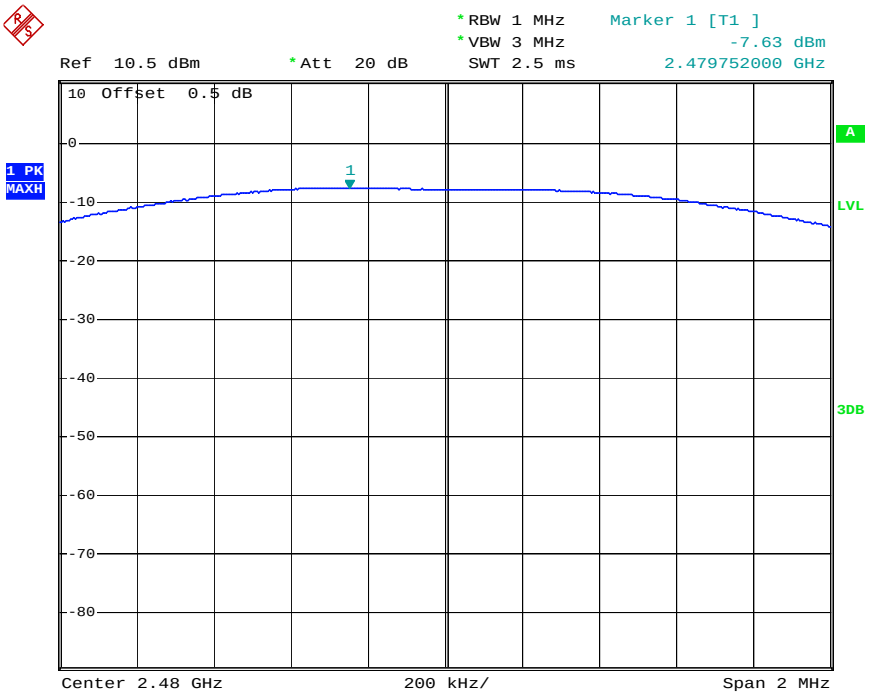
channel 0



channel 19

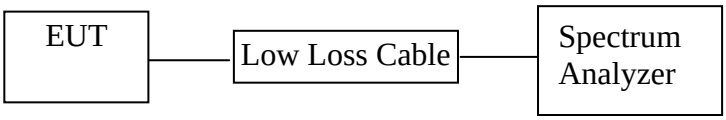


channel 39



7. POWER SPECTRAL DENSITY MEASUREMENT

7.1.Block Diagram of Test Setup



(EUT: BLE Pedometer Clip)

7.2.The Requirement For Section 15.247(e)

Section 15.247(e): 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.

7.3.EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.4.Operating Condition of EUT

7.4.1.Setup the EUT and simulator as shown as Section 7.1.

7.4.2.Turn on the power of all equipment.

7.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

7.5.Test Procedure

7.5.1.The EUT was tested according to DTS test procedure of April 09, 2013 KDB558074 D01 DTS Meas Guidance v03 for compliance to FCC 47CFR 15.247 requirements.

7.5.2.The transmitter output was connected to the spectrum analyzer through a low loss cable.

7.5.3.Measurement Procedure PKPSD:

7.5.4.This procedure must be used if maximum peak conducted output power was used to demonstrate compliance to the fundamental output power limit, and is optional if the maximum (average) conducted output power was used to demonstrate compliance.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW to: 3 kHz $\leqslant$ RBW $\leqslant$ 100 kHz.
4. Set the VBW $\geqslant$ 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

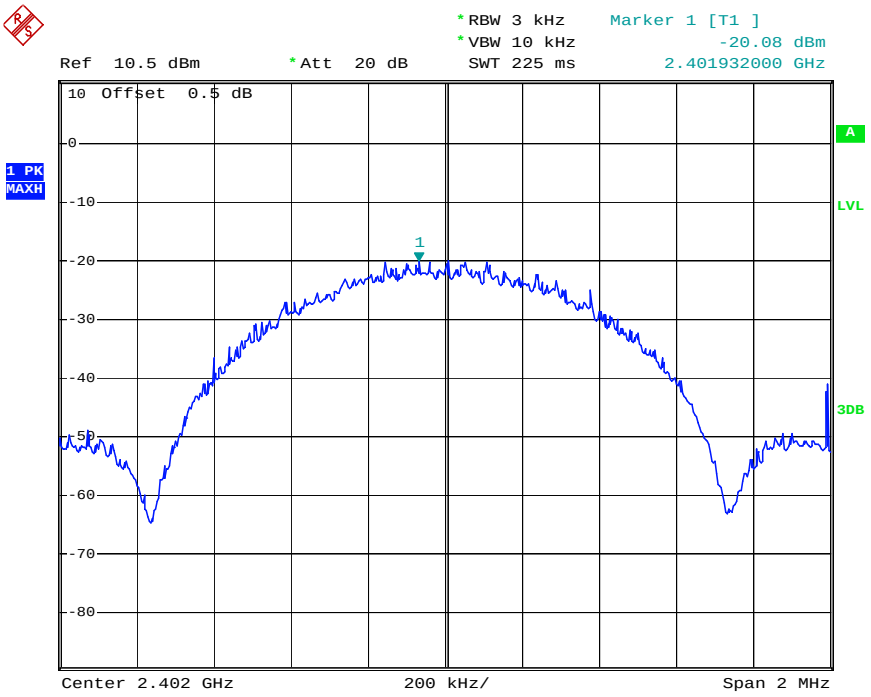
7.5.5.Measurement the maximum power spectral density.

7.6.Test Result

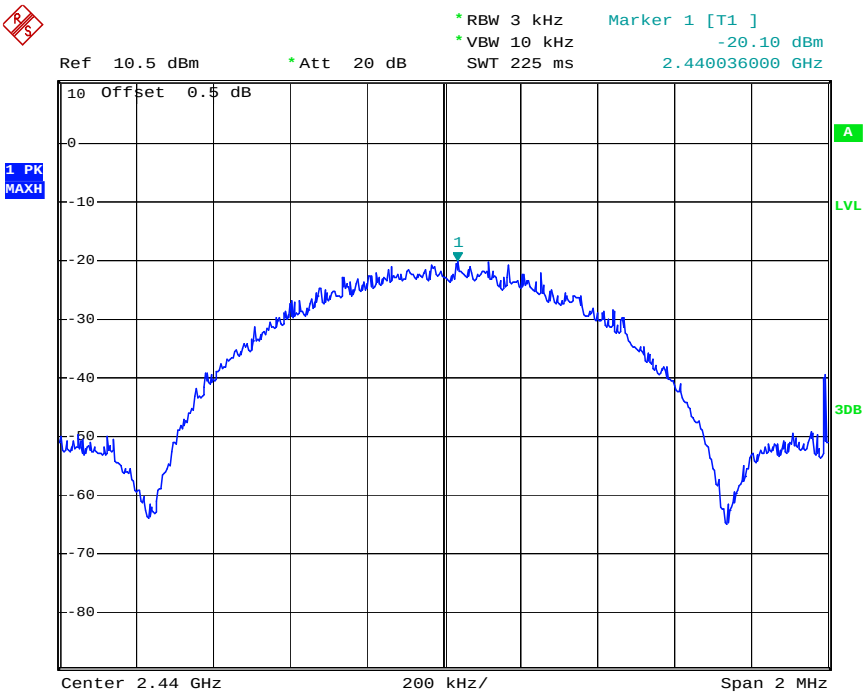
CHANNEL NUMBER	FREQUENCY (MHz)	PSD (dBm/3KHz)	LIMIT (dBm/3KHz)	PASS/FAIL
0	2402	-20.08	8	PASS
19	2440	-20.10	8	PASS
39	2480	-20.37	8	PASS

The spectrum analyzer plots are attached as below.

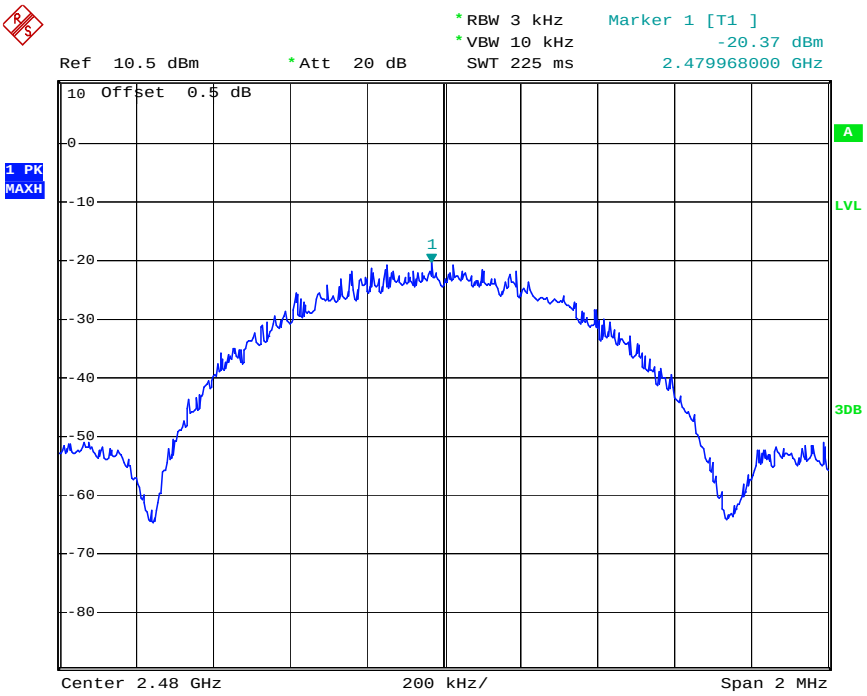
channel 0



channel 19

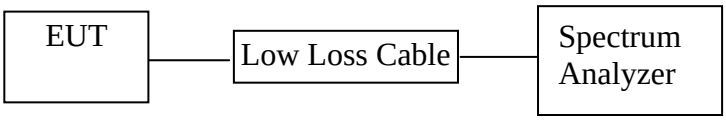


channel 39



8. BAND EDGE COMPLIANCE TEST

8.1.Block Diagram of Test Setup



(EUT: BLE Pedometer Clip)

8.2.The Requirement For Section 15.247(d)

Section 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 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).

8.3.EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

8.4.Operating Condition of EUT

8.4.1.Setup the EUT and simulator as shown as Section 8.1.

8.4.2.Turn on the power of all equipment.

8.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2480MHz TX frequency to transmit.

8.5.Test Procedure

Conducted Band Edge:

8.5.1.The transmitter output was connected to the spectrum analyzer via a low loss cable.

8.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz.

8.5.3. Radiate Band Edge:

8.5.4.The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.

8.5.5.The turntable was rotated for 360 degrees to determine the position of maximum emission level.

8.5.6.EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

8.5.7.Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

8.5.8.RBW=1MHz, VBW=1MHz

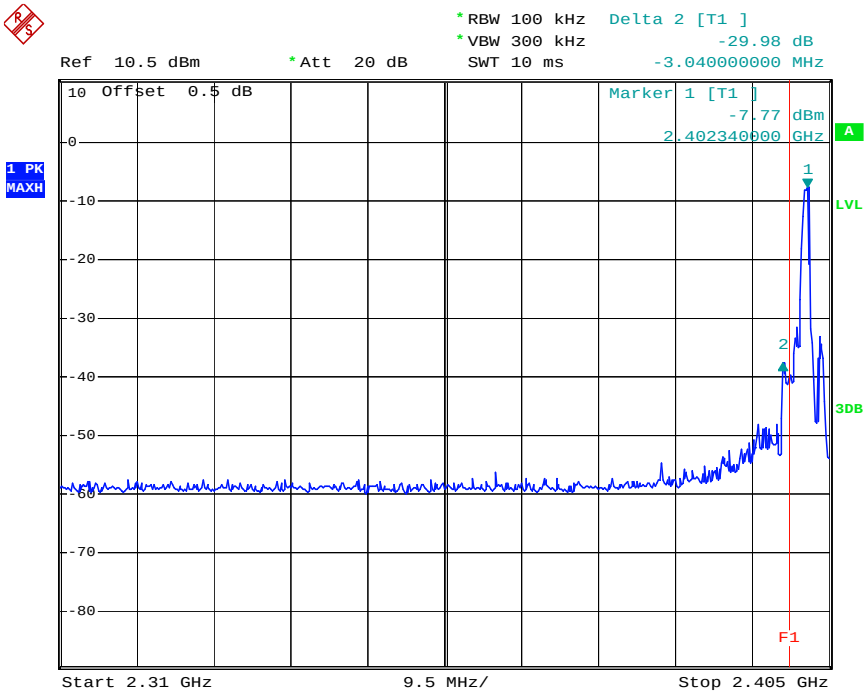
8.5.9.The band edges was measured and recorded.

8.6.Test Result

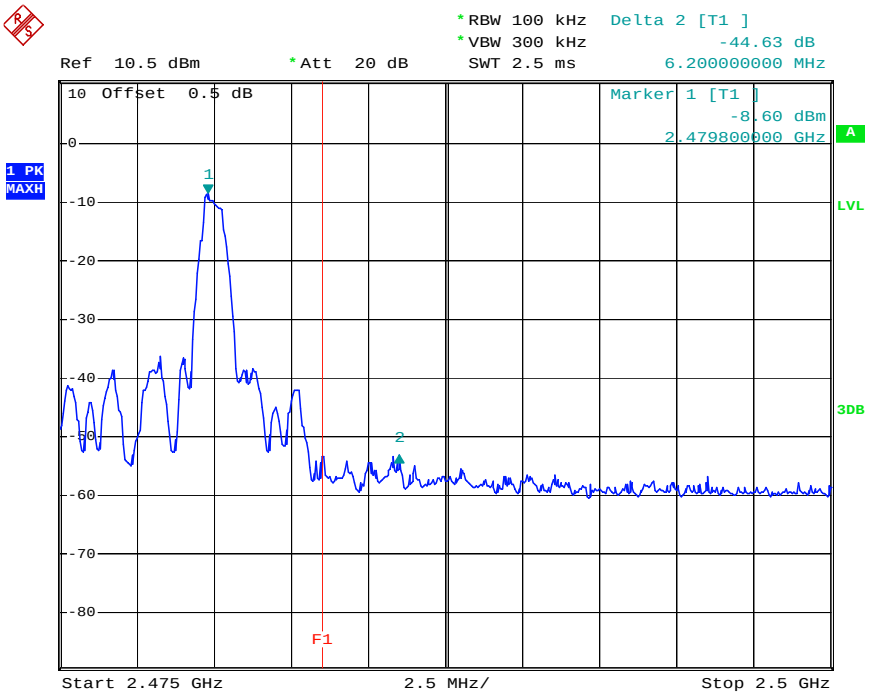
Pass

Channel	Frequency	Delta peak to band emission	Limit(dBc)
0	2399.3MHz	29.98	20
39	2486.0MHz	44.63	20

channel 0



channel 39



Radiated Band Edge Result

Date of Test:	Jan 15, 2013	Temperature:	25°C
EUT:	BLE Pedometer Clip	Humidity:	50%
Model No.:	PR092	Power Supply:	DC 3V
Test Mode:	TX (2402MHz) GFSK	Test Engineer:	Alen

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2310.000	34.58	37.44	-6.76	27.82	30.68	54.00	74.00	-26.18	-43.42	Vertical
2397.120	43.45	46.31	-6.76	36.69	39.55	54.00	74.00	-17.31	-34.45	Vertical
2400.000	47.79	50.68	-6.76	41.03	43.92	54.00	74.00	-12.97	-30.08	Vertical
2310.000	34.09	36.11	-6.76	27.33	29.35	54.00	74.00	-26.67	-44.65	Horizontal
2396.900	43.87	46.75	-6.76	37.11	39.99	54.00	74.00	-16.89	-34.01	Horizontal
2400.000	48.37	51.24	-6.76	41.61	44.48	54.00	74.00	-12.39	-29.52	Horizontal

Date of Test:	Jan 15, 2013	Temperature:	25°C
EUT:	BLE Pedometer Clip	Humidity:	50%
Model No.:	PR092	Power Supply:	DC 3V
Test Mode:	TX (2480MHz) GFSK	Test Engineer:	Alen

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2483.500	44.57	47.35	-6.54	38.03	40.81	54.00	74.00	-15.97	-33.19	Vertical
2485.720	45.71	48.57	-6.54	39.17	42.03	54.00	74.00	-14.83	-31.97	Vertical
2500.000	33.40	36.26	-6.54	26.86	29.72	54.00	74.00	-24.28	-44.28	Vertical
2483.500	44.56	47.39	-6.54	38.02	40.85	54.00	74.00	-15.98	-33.15	Horizontal
2485.640	45.67	48.44	-6.54	39.13	41.90	54.00	74.00	-14.87	-32.10	Horizontal
2500.000	34.45	37.31	-6.54	27.91	30.77	54.00	74.00	-26.09	-43.23	Horizontal

Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:
   Result = Reading + Corrected Factor
3. Display the measurement of peak values.

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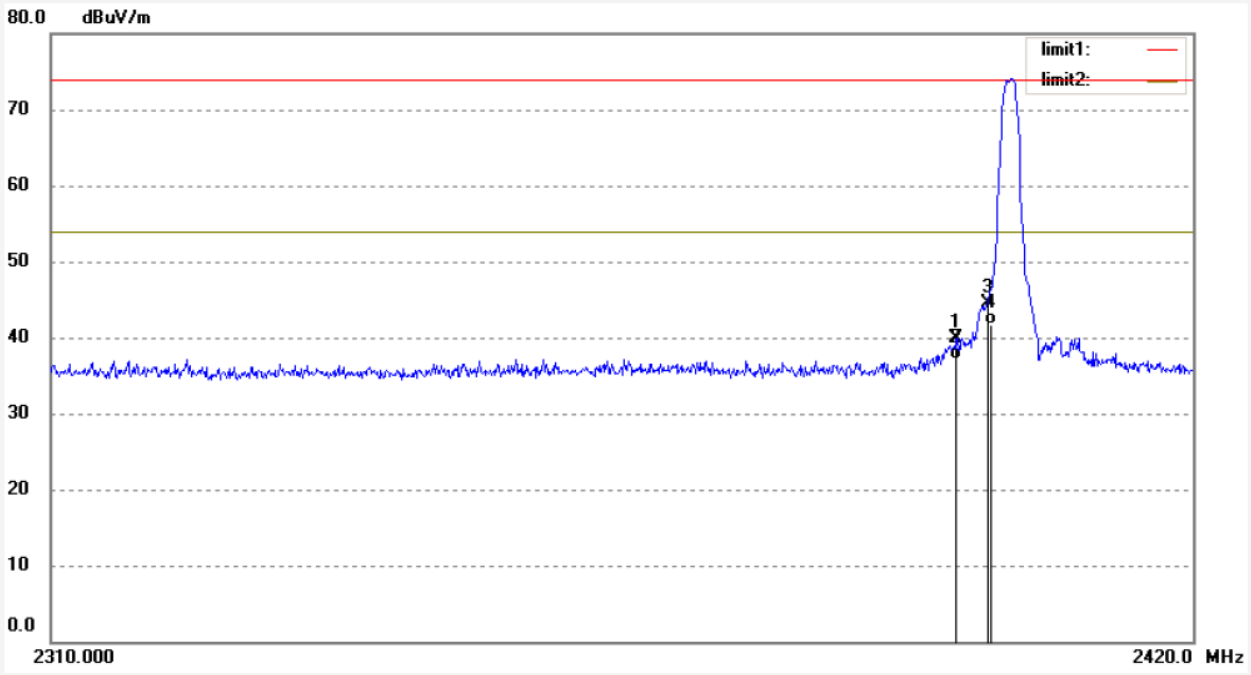
Fax:+86-0755-26503396

Job No.: alen #1508
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLE Pedometer Clip
Mode: TX 2402MHz
Model: PR092
Manufacturer: Organix

Polarization: Horizontal
Power Source: DC 3V
Date: 14/01/15/
Time: 9/00/48
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2396.900	46.75	-6.76	39.99	74.00	-34.01	peak			
2	2396.900	43.87	-6.76	37.11	54.00	-16.89	AVG			
3	2400.000	51.24	-6.76	44.48	74.00	-29.52	peak			
4	2400.000	48.37	-6.76	41.61	54.00	-12.39	AVG			

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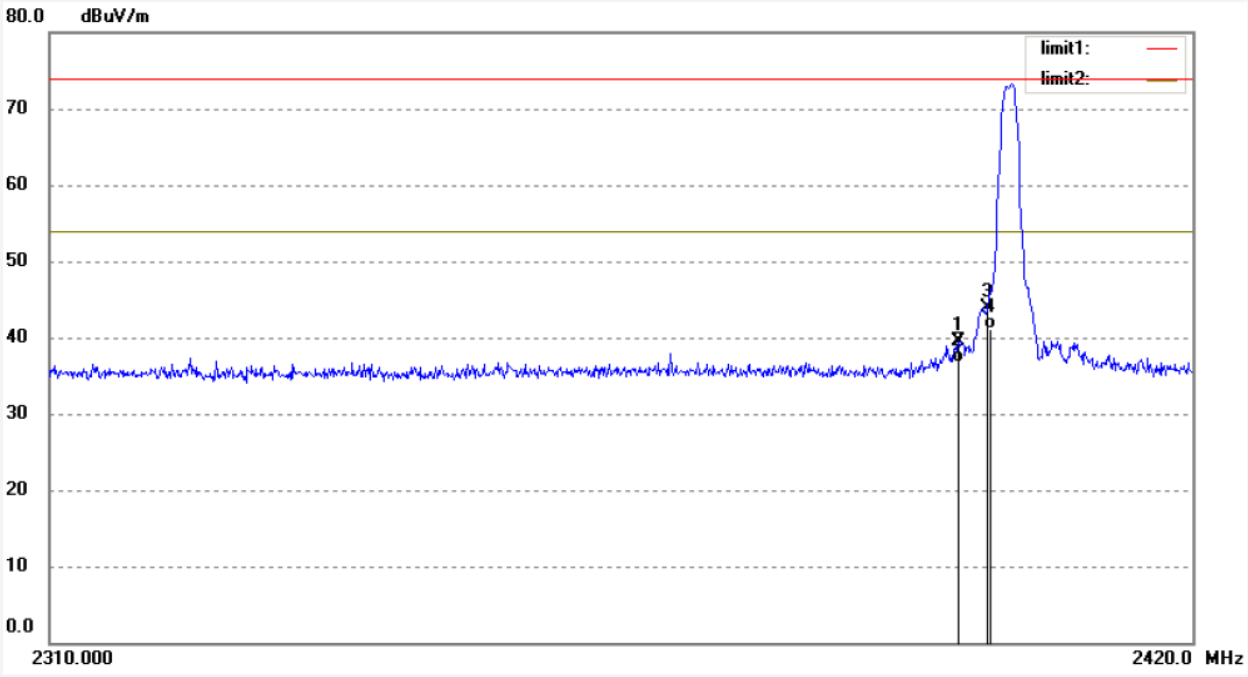
Job No.: alen #1509
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLE Pedometer Clip
Mode: TX 2402MHz
Model: PR092
Manufacturer: Organix

Polarization: Vertical
Power Source: DC 3V
Date: 14/01/15/
Time: 9/01/31
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2397.120	46.31	-6.76	39.55	74.00	-34.45	peak			
2	2397.120	43.45	-6.76	36.69	54.00	-17.31	AVG			
3	2400.000	50.68	-6.76	43.92	74.00	-30.08	peak			
4	2400.000	47.79	-6.76	41.03	54.00	-12.97	AVG			

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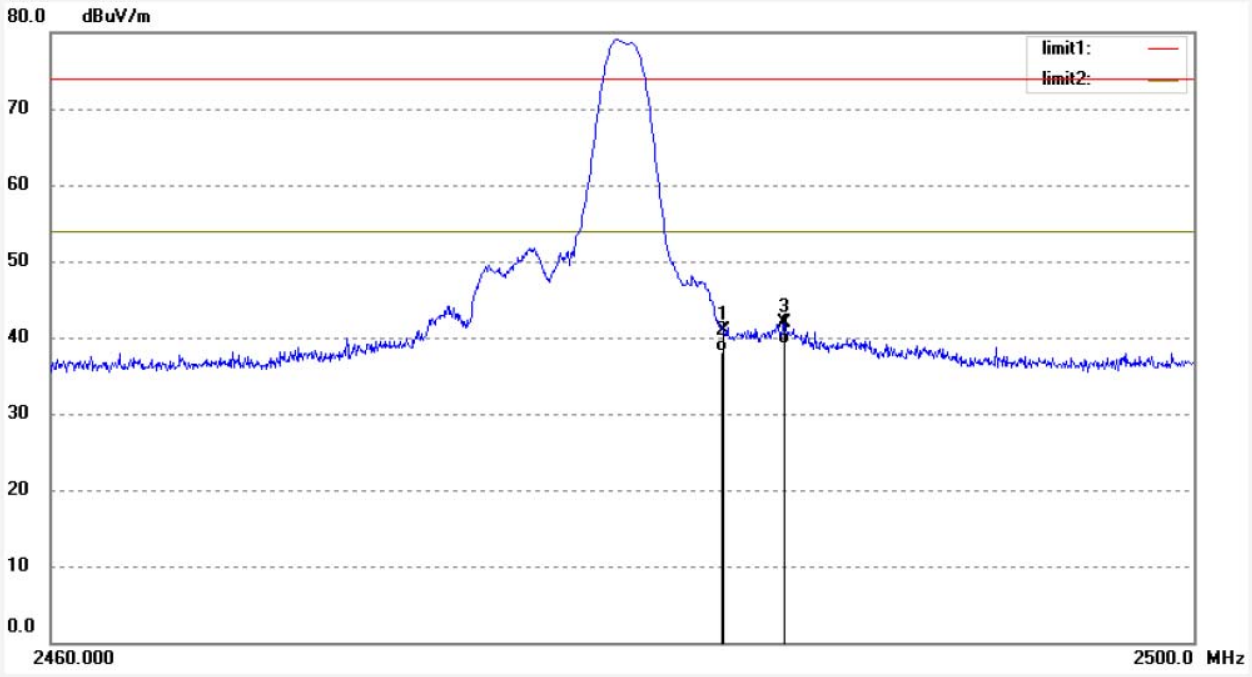
Job No.: alen #1507
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLE Pedometer Clip
Mode: TX 2480MHz
Model: PR092
Manufacturer: Organix

Polarization: Horizontal
Power Source: DC 3V
Date: 14/01/15/
Time: 8/57/45
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	47.39	-6.54	40.85	74.00	-33.15	peak			
2	2483.500	44.56	-6.54	38.02	54.00	-15.98	AVG			
3	2485.640	48.44	-6.54	41.90	74.00	-32.10	peak			
4	2485.640	45.67	-6.54	39.13	54.00	-14.87	AVG			

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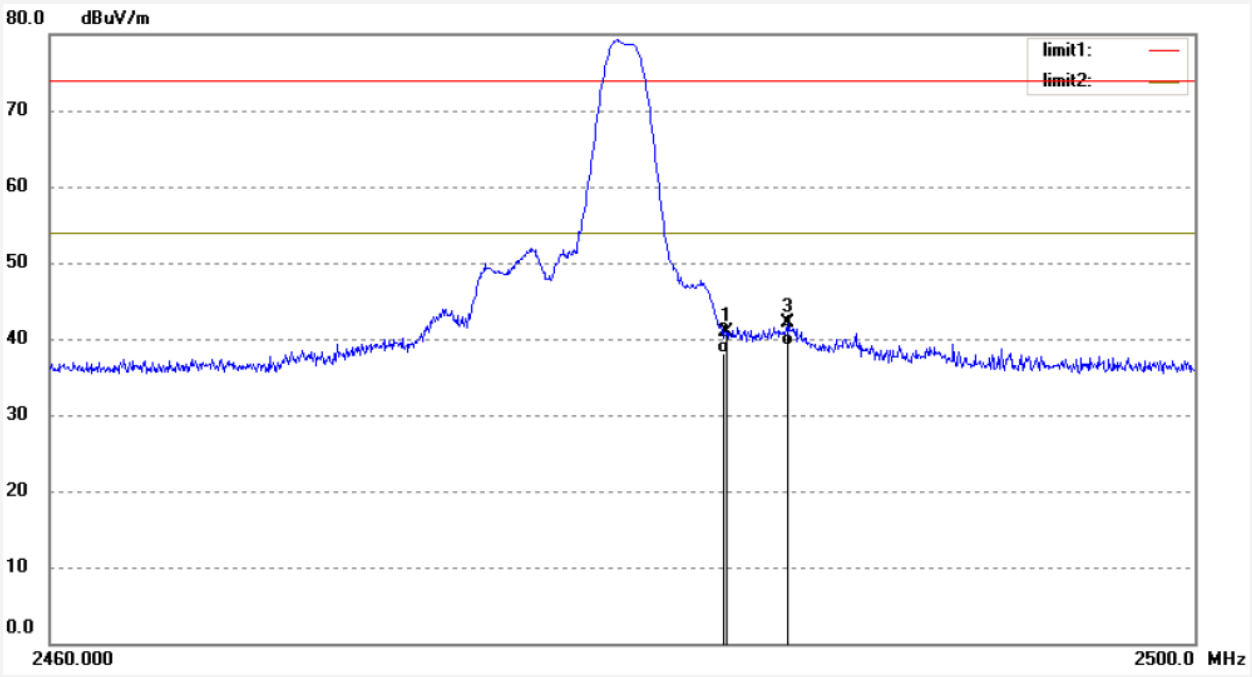
Job No.: alen #1506	Polarization: Vertical
Standard: FCC PK	Power Source: DC 3V
Test item: Radiation Test	Date: 14/01/15/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 8/56/44
EUT: BLE Pedometer Clip	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: PR092	
Manufacturer: Organix	

Note: Report No.:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	47.35	-6.54	40.81	74.00	-33.19	peak			
2	2483.500	44.57	-6.54	38.03	54.00	-15.97	AVG			
3	2485.720	48.57	-6.54	42.03	74.00	-31.97	peak			
4	2485.720	45.71	-6.54	39.17	54.00	-14.83	AVG			

Note:

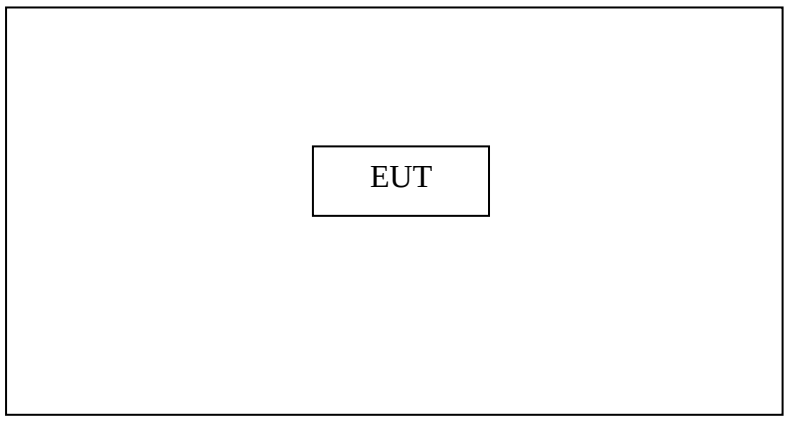
1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

   Result = Reading + Corrected Factor
3. Display the measurement of peak values.

9. RADIATED SPURIOUS EMISSION TEST

9.1.Block Diagram of Test Setup

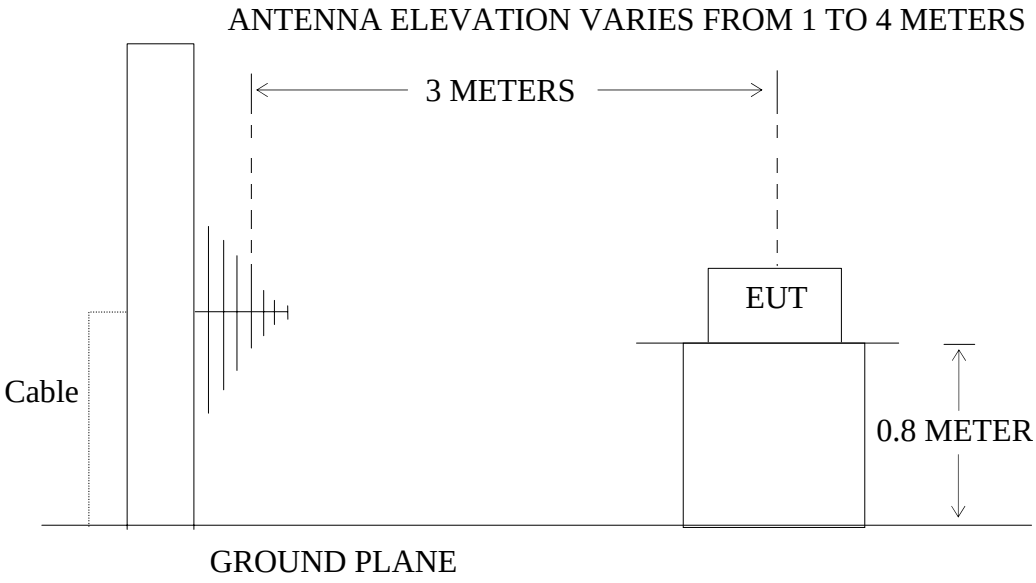
9.1.1.Block diagram of connection between the EUT and peripherals



Setup: Transmitting mode

(EUT: BLE Pedometer Clip)

9.1.2.Semi-Anechoic Chamber Test Setup Diagram



9.2.The Limit For Section 15.247(d)

Section 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 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).

9.3.Restricted bands of operation

9.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

[1]Until February 1, 1999, this restricted band shall be 0.490-0.510
[2]Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

9.4. Configuration of EUT on Measurement

The equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

9.5. Operating Condition of EUT

9.5.1. Setup the EUT and simulator as shown as Section 9.1.

9.5.2. Turn on the power of all equipment.

9.5.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

9.6. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4: 2009 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

The bandwidth of test receiver is set at 9 kHz in below 30MHz. and set at 120 kHz in 30-1000MHz, and 1MHz in above 1000MHz.

The frequency range from 9 kHz to 25GHz is checked.
The final measurement in band 9-90 kHz, 110-490 kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.
The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows:
Result = Reading + Corrected Factor
Where Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

9.7.The Field Strength of Radiation Emission Measurement Results

PASS.

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. *: Denotes restricted band of operation.

3.The radiation emissions from 18-25GHz are not reported, because the test values lower than the limits of 20dB.

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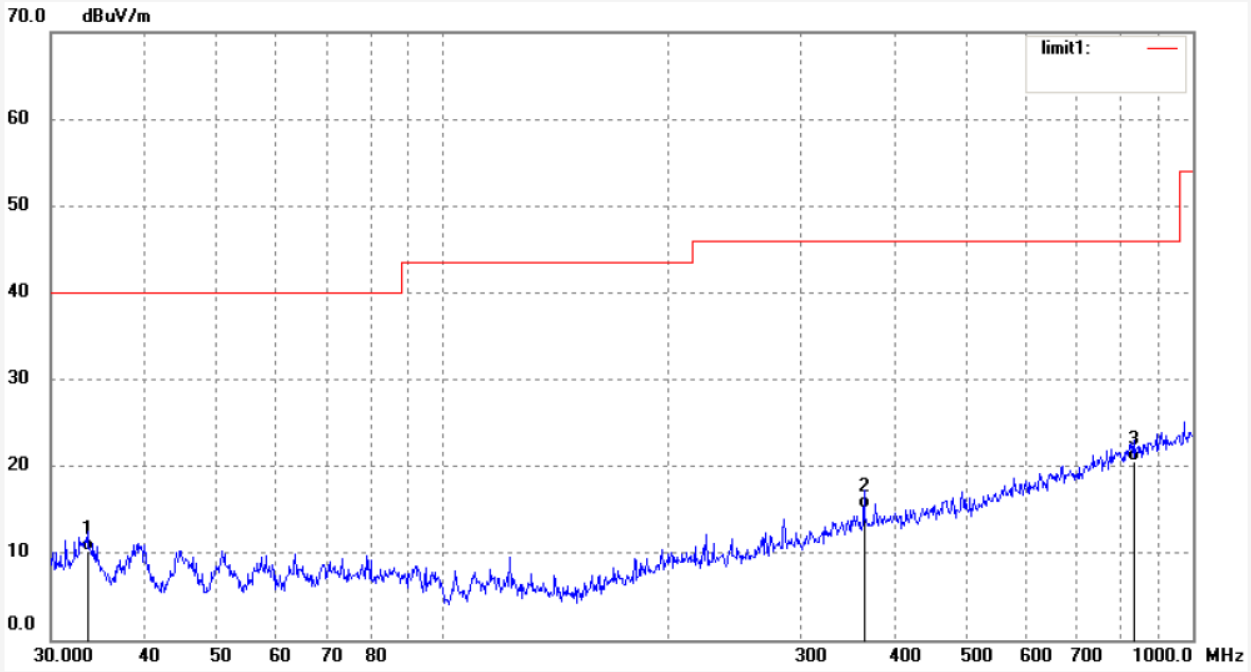
Job No.: alen #3333	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 2014/01/15
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 17:04:34
EUT: BLE Pedometer Clip	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: PR092	
Manufacturer: Origanix	

Note: Report No:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.5623	29.23	-19.01	10.22	40.00	-29.78	QP			
2	364.2595	31.01	-15.88	15.13	46.00	-30.87	QP			
3	827.4933	27.89	-7.32	20.57	46.00	-25.43	QP			

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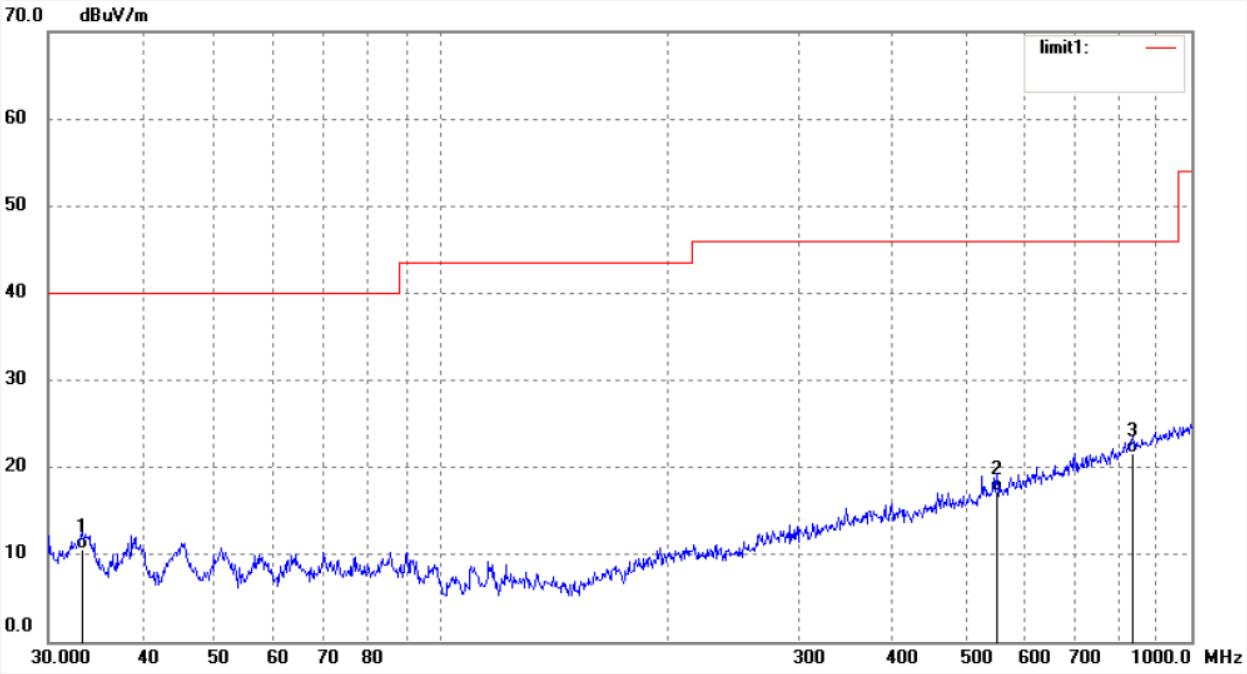
Job No.: alen #3332	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 2014/01/15
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 17:03:50
EUT: BLE Pedometer Clip	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: PR092	
Manufacturer: Origanix	

Note: Report No:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.3279	29.54	-18.94	10.60	40.00	-29.40	QP			
2	550.9480	30.14	-12.82	17.32	46.00	-28.68	QP			
3	836.2443	28.78	-7.18	21.60	46.00	-24.40	QP			

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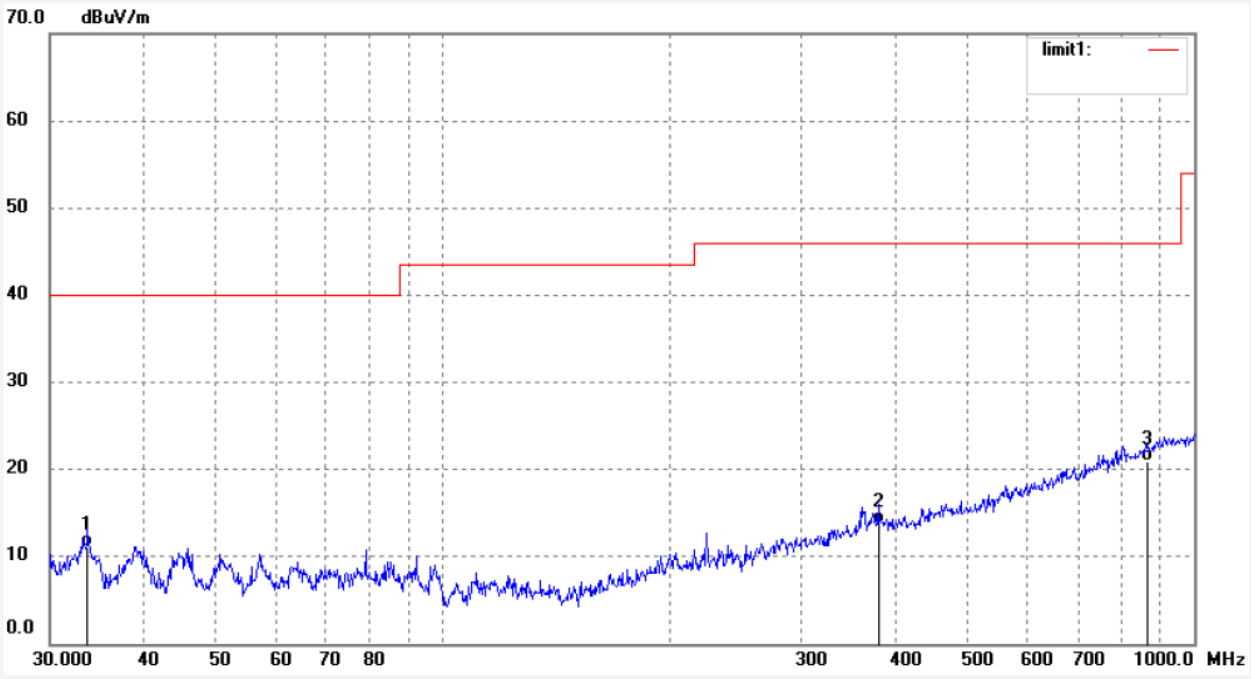
Job No.: alen #3334
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLE Pedometer Clip
Mode: TX 2440MHz
Model: PR092
Manufacturer: Origanix

Polarization: Horizontal
Power Source: DC 3V
Date: 2014/01/15
Time: 17:05:06
Engineer Signature:
Distance: 3m

Note: Report No:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.6802	30.21	-19.05	11.16	40.00	-28.84	QP			
2	379.9141	29.58	-15.78	13.80	46.00	-32.20	QP			
3	863.0561	27.62	-6.74	20.88	46.00	-25.12	QP			

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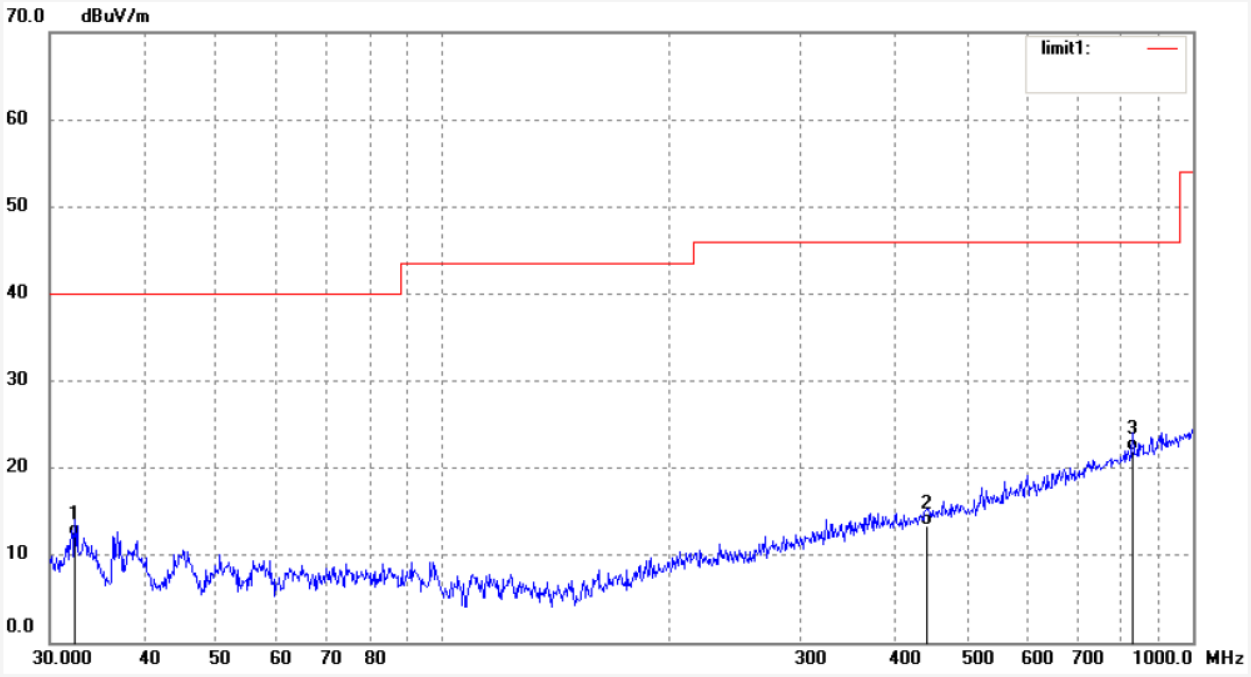
Job No.: alen #3335	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 2014/01/15
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 17:05:46
EUT: BLE Pedometer Clip	Engineer Signature:
Mode: TX 2440MHz	Distance: 3m
Model: PR092	
Manufacturer: Origanix	

Note: Report No:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.4059	30.71	-18.62	12.09	40.00	-27.91	QP			
2	441.7425	28.24	-14.88	13.36	46.00	-32.64	QP			
3	830.4002	29.24	-7.27	21.97	46.00	-24.03	QP			

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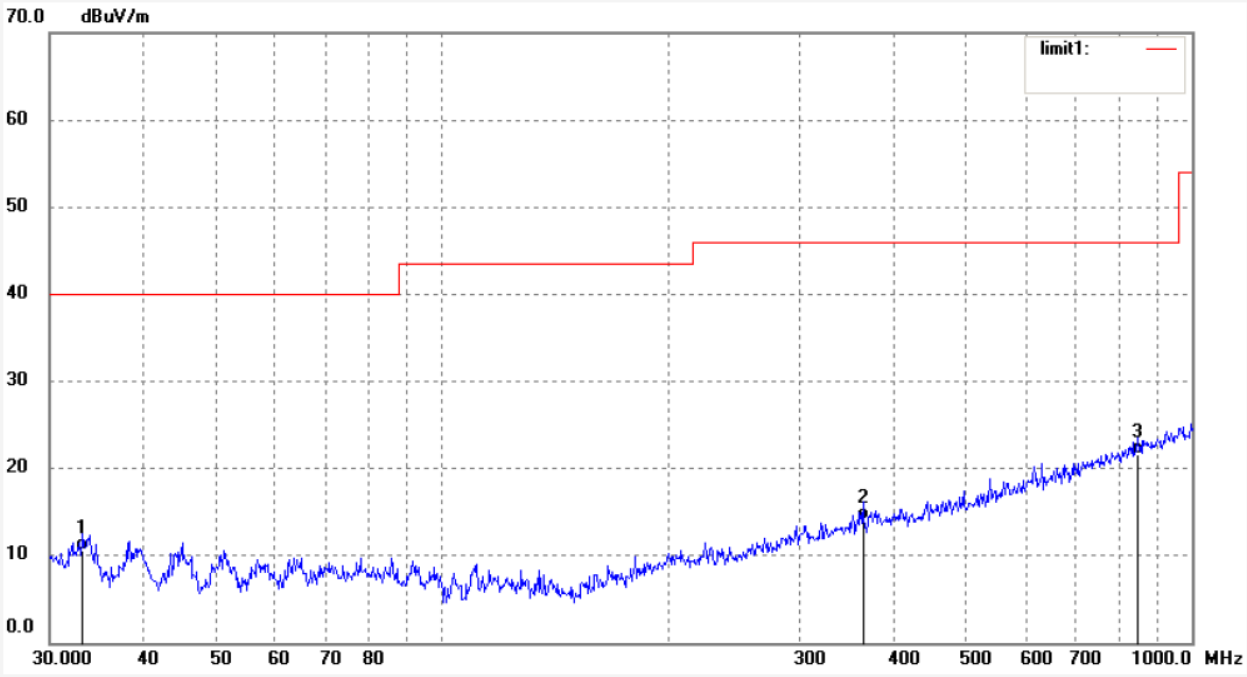
Job No.: alen #3337
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLE Pedometer Clip
Mode: TX 2480MHz
Model: PR092
Manufacturer: Origanix

Polarization: Horizontal
Power Source: DC 3V
Date: 2014/01/15
Time: 17:07:24
Engineer Signature:
Distance: 3m

Note: Report No:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.2111	29.57	-18.90	10.67	40.00	-29.33	QP			
2	364.2595	30.02	-15.88	14.14	46.00	-31.86	QP			
3	845.0878	28.71	-7.06	21.65	46.00	-24.35	QP			

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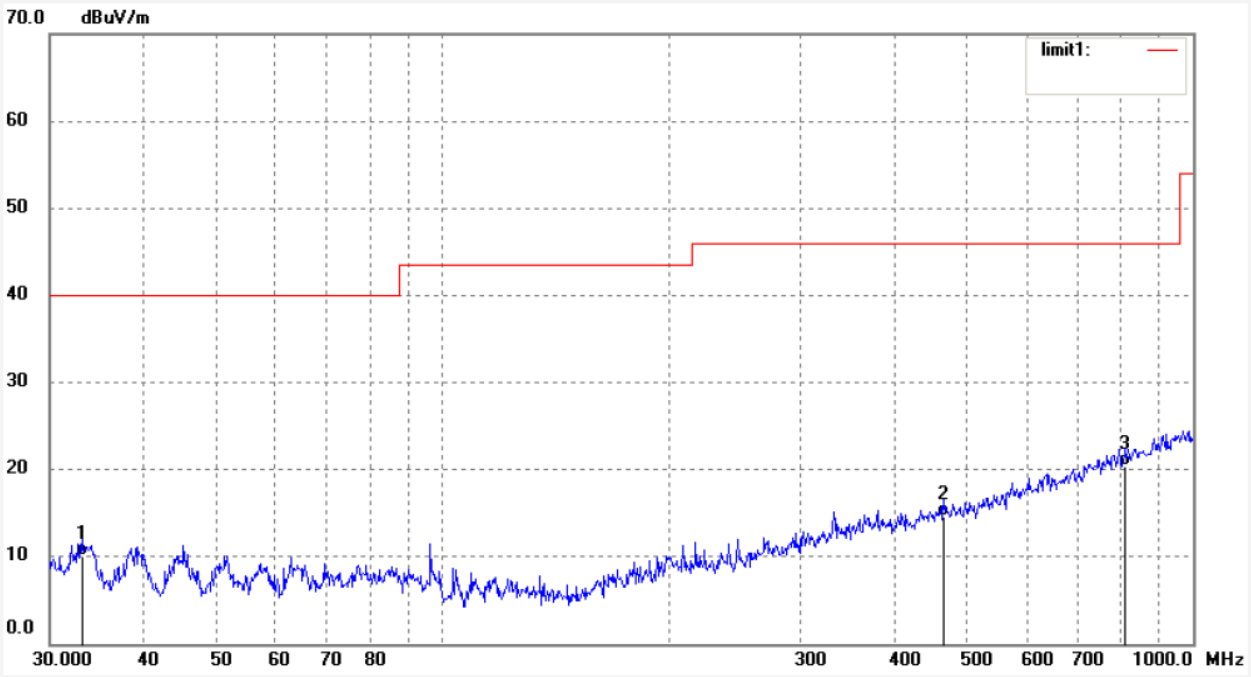
Job No.: alen #3336
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLE Pedometer Clip
Mode: TX 2480MHz
Model: PR092
Manufacturer: Origanix

Polarization: Vertical
Power Source: DC 3V
Date: 2014/01/15
Time: 17:06:12
Engineer Signature:
Distance: 3m

Note: Report No:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.0949	28.91	-18.85	10.06	40.00	-29.94	QP			
2	465.5994	28.87	-14.32	14.55	46.00	-31.45	QP			
3	813.1115	27.89	-7.55	20.34	46.00	-25.66	QP			

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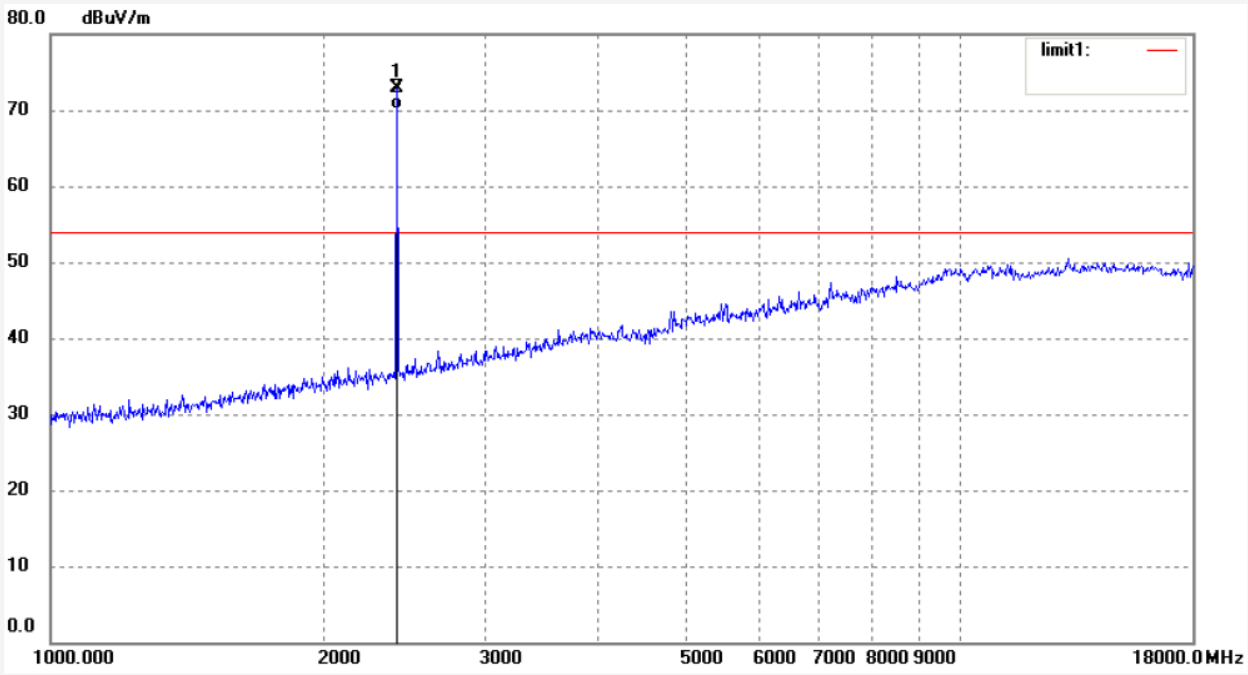
Job No.: alen #1511
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLE Pedometer Clip
Mode: TX 2402MHz
Model: PR092
Manufacturer: Organix

Polarization: Horizontal
Power Source: DC 3V
Date: 14/01/15/
Time: 9/05/16
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	79.70	-6.76	72.94	54.00	18.94	peak			
2	2402.000	76.87	-6.76	70.11	54.00	16.11	AVG			

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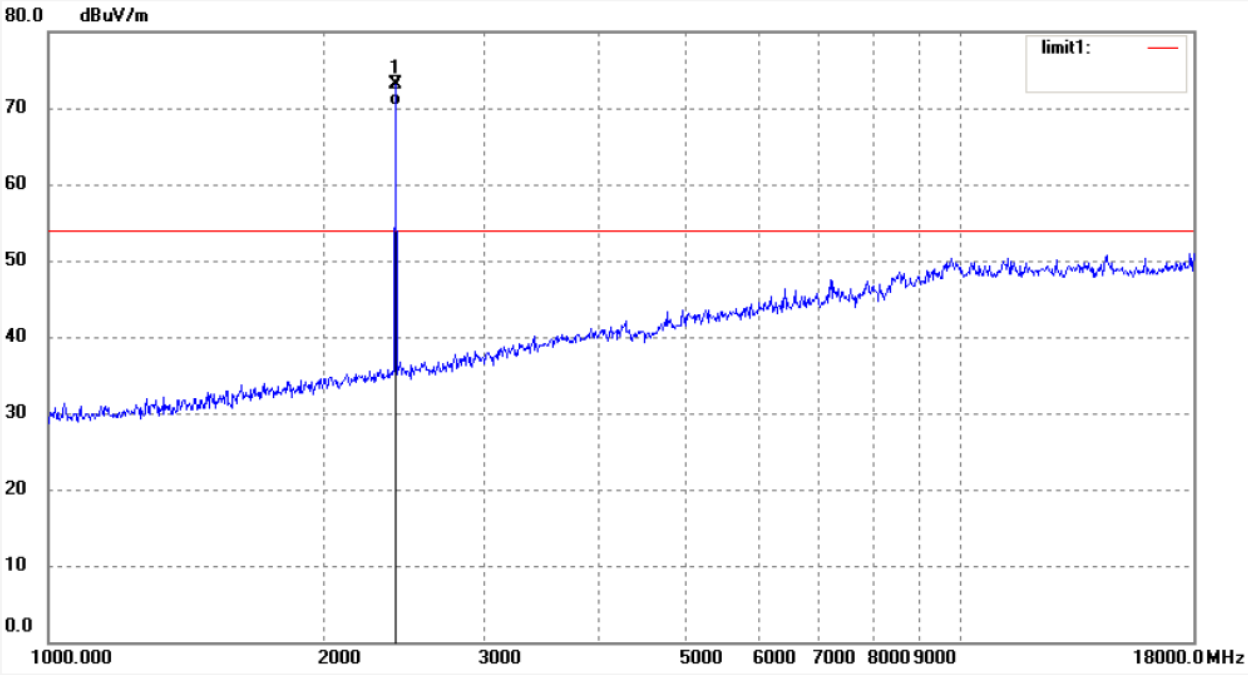
Job No.: alen #1510
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLE Pedometer Clip
Mode: TX 2402MHz
Model: PR092
Manufacturer: Organix

Polarization: Vertical
Power Source: DC 3V
Date: 14/01/15/
Time: 9/04/41
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	79.88	-6.76	73.12	54.00	19.12	peak			
2	2402.000	77.12	-6.76	70.36	54.00	16.36	AVG			

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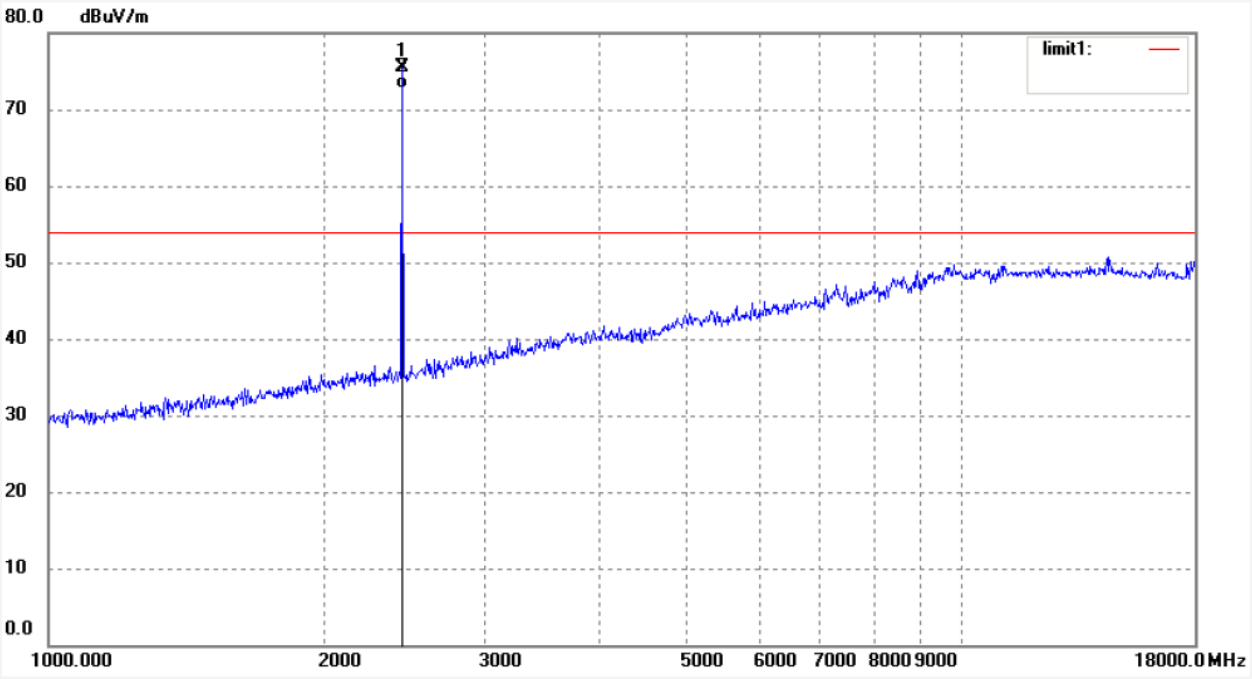
Job No.: alen #1512
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLE Pedometer Clip
Mode: TX 2440MHz
Model: PR092
Manufacturer: Organix

Polarization: Horizontal
Power Source: DC 3V
Date: 14/01/15/
Time: 9/06/43
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	82.15	-6.67	75.48	54.00	21.48	peak			
2	2440.000	79.32	-6.67	72.65	54.00	18.65	AVG			

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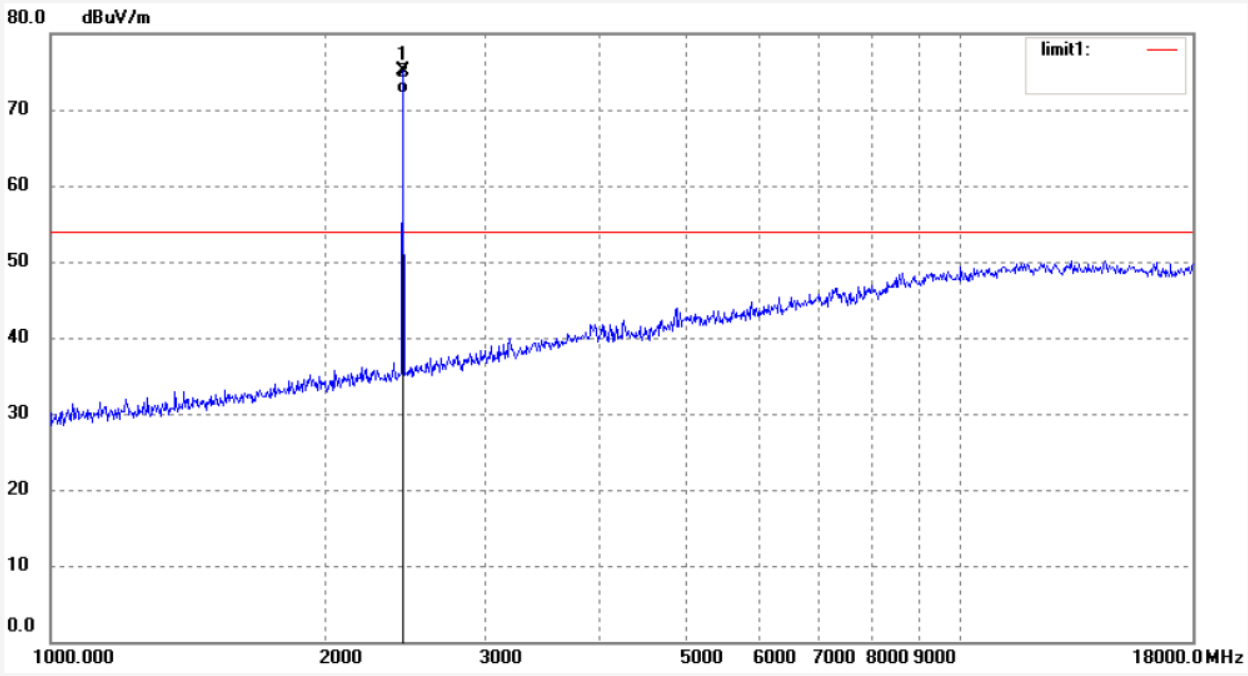
Job No.: alen #1513	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 14/01/15/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/07/21
EUT: BLE Pedometer Clip	Engineer Signature:
Mode: TX 2440MHz	Distance: 3m
Model: PR092	
Manufacturer: Organix	

Note: Report No.:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	81.78	-6.67	75.11	54.00	21.11	peak			
2	2440.000	78.86	-6.67	72.19	54.00	18.19	AVG			

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Site: 1# Chamber
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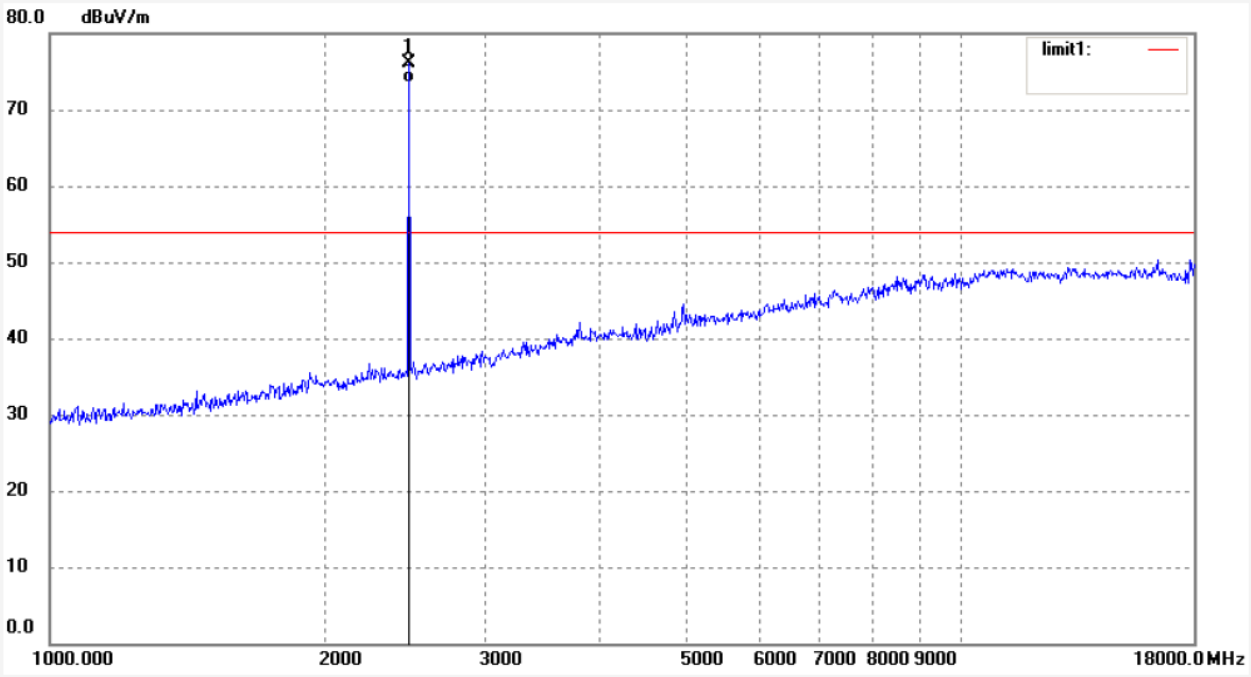
Fax:+86-0755-26503396

Job No.: alen #1515
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLE Pedometer Clip
Mode: TX 2480MHz
Model: PR092
Manufacturer: Organix

Polarization: Horizontal
Power Source: DC 3V
Date: 14/01/15/
Time: 9/09/37
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	82.62	-6.56	76.06	54.00	22.06	peak			
2	2480.000	80.03	-6.56	73.47	54.00	19.47	AVG			

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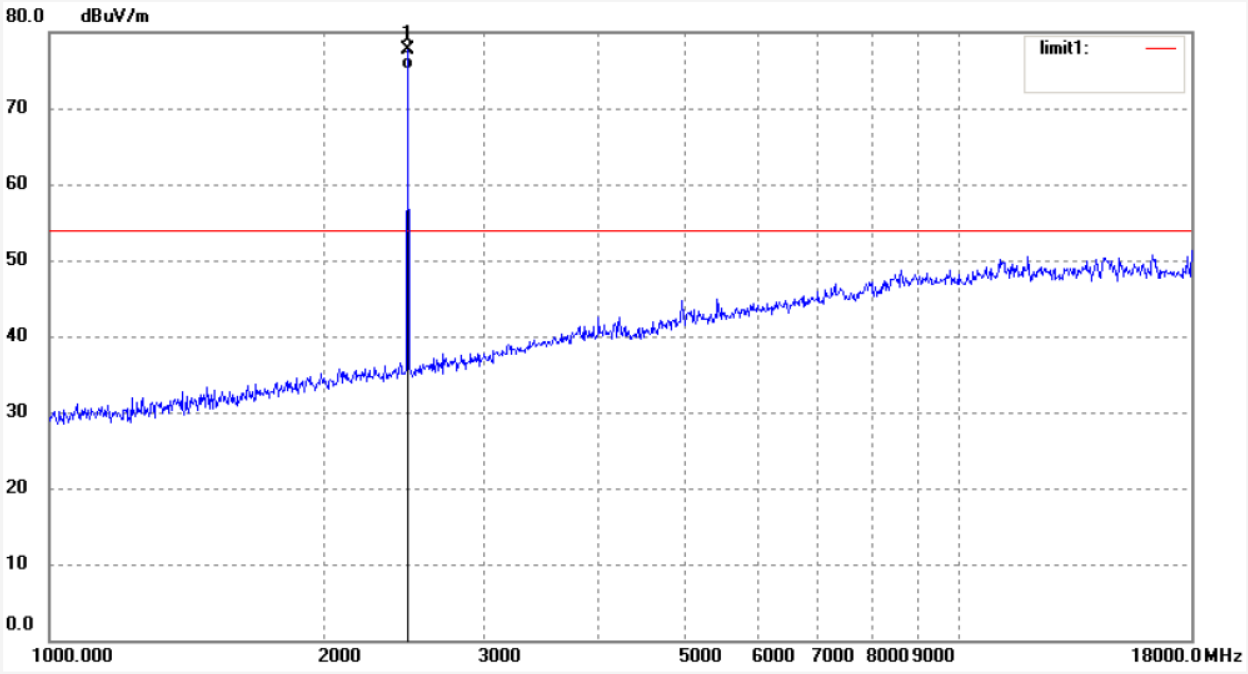
Job No.: alen #1514
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLE Pedometer Clip
Mode: TX 2480MHz
Model: PR092
Manufacturer: Organix

Polarization: Vertical
Power Source: DC 3V
Date: 14/01/15/
Time: 9/08/57
Engineer Signature:
Distance: 3m

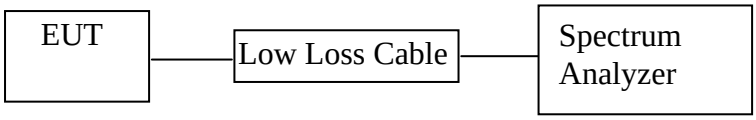
Note: Report No.:ATE20131897



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	84.35	-6.56	77.79	54.00	23.79	peak			
2	2480.000	81.65	-6.56	75.09	54.00	21.09	AVG			

10. CONDUCTED SPURIOUS EMISSION COMPLIANCE TEST

10.1. Block Diagram of Test Setup



(EUT: BLE Pedometer Clip)

10.2. The Requirement For Section 15.247(d)

Section 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 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).

10.3. EUT Configuration on Measurement

The equipment is installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

10.4.Operating Condition of EUT

10.4.1.Setup the EUT and simulator as shown as Section 10.1.

10.4.2.Turn on the power of all equipment.

10.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

10.5.Test Procedure

10.5.1.The transmitter output was connected to the spectrum analyzer via a low loss cable.

10.5.2.Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz

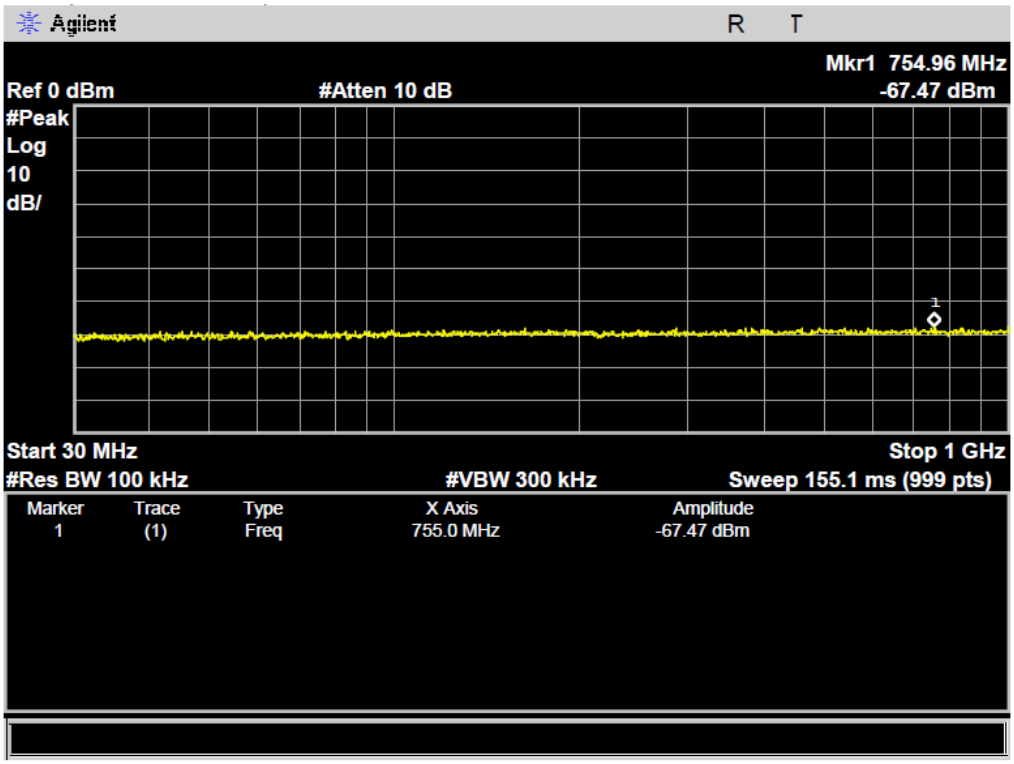
10.5.3.The Conducted Spurious Emission was measured and recorded.

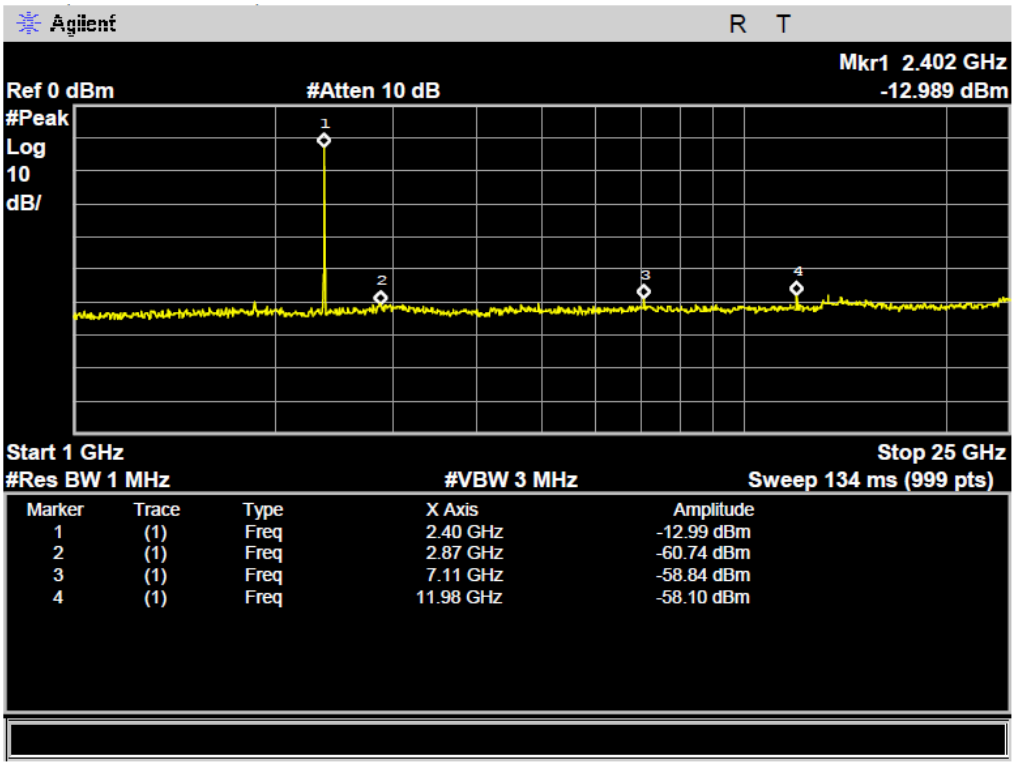
10.6.Test Result

Pass.

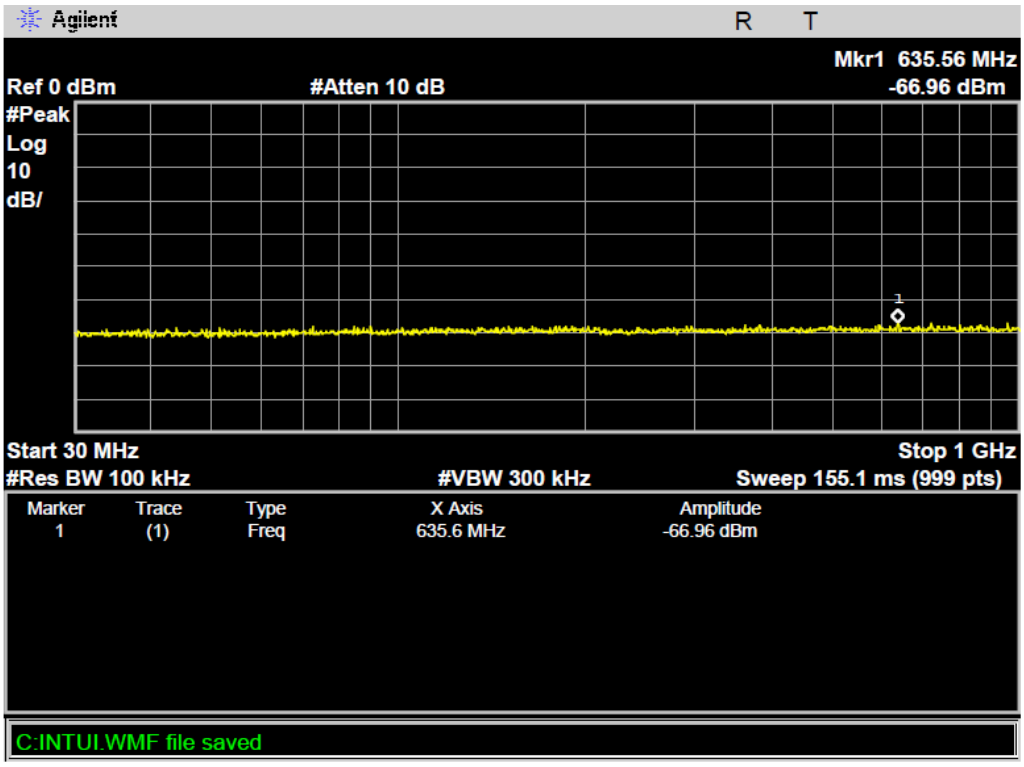
The spectrum analyzer plots are attached as below.

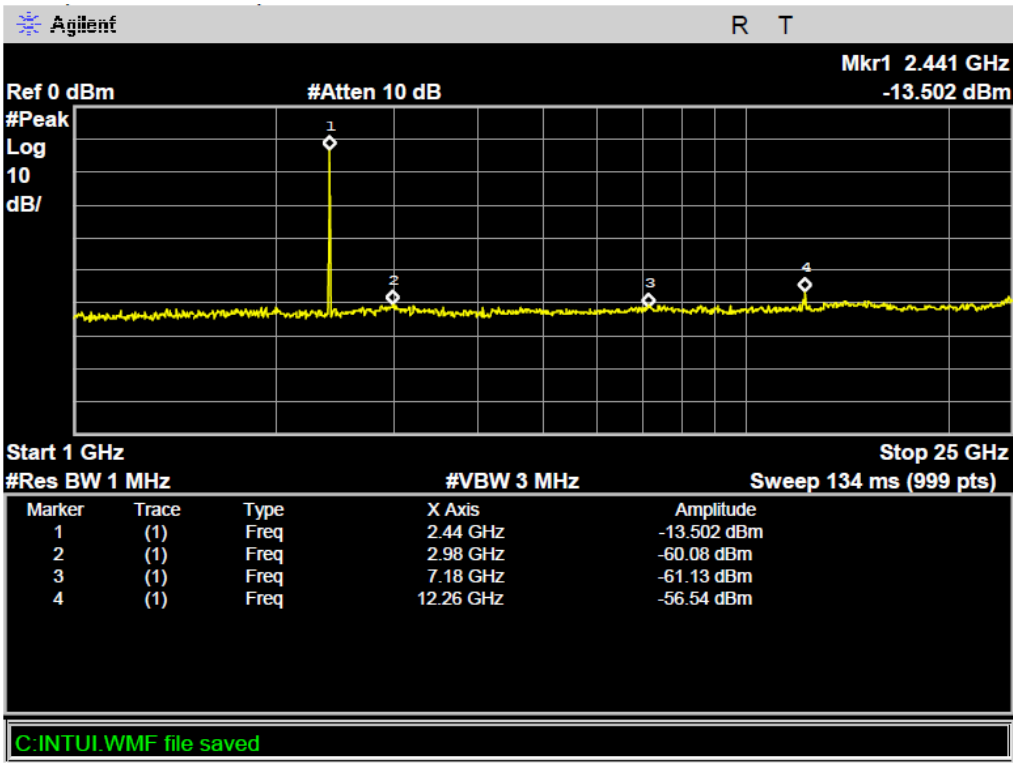
BLE Channel Low 2402MHz



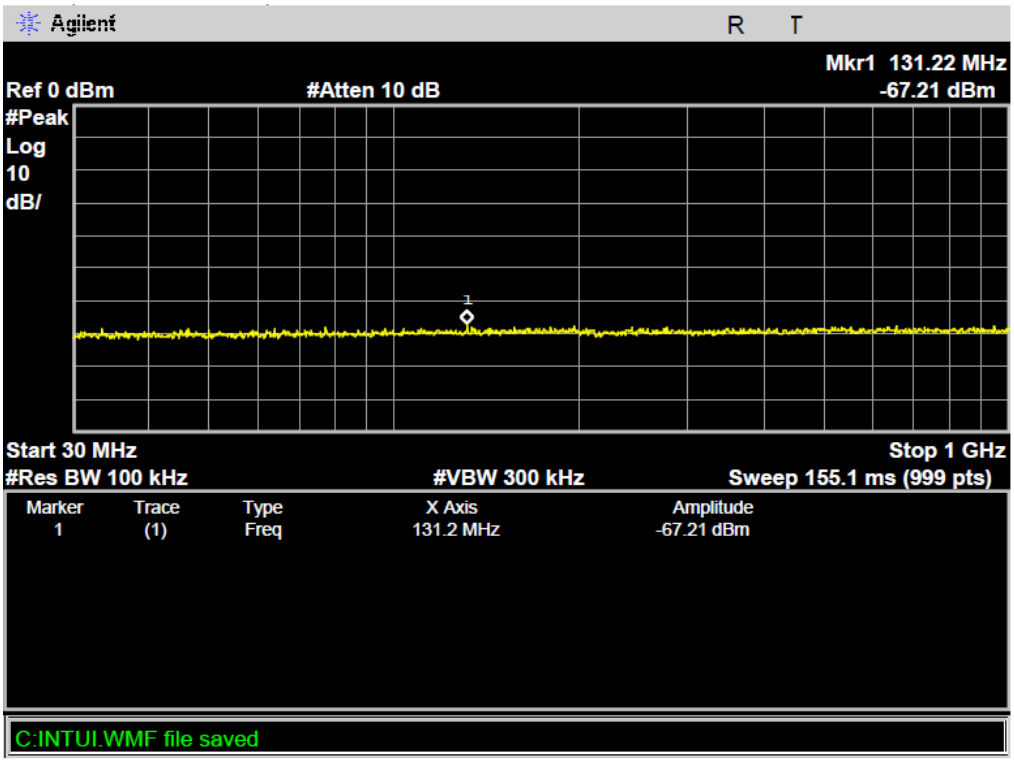


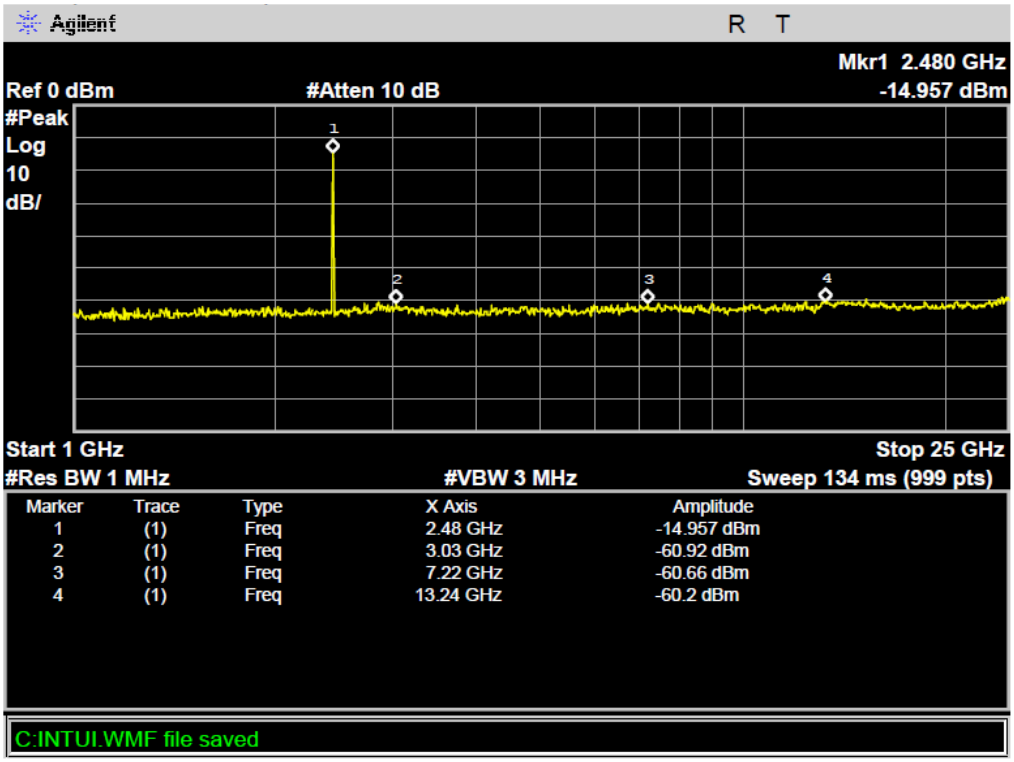
BLE Channel Middle 2440MHz





BLE Channel High 2480MHz





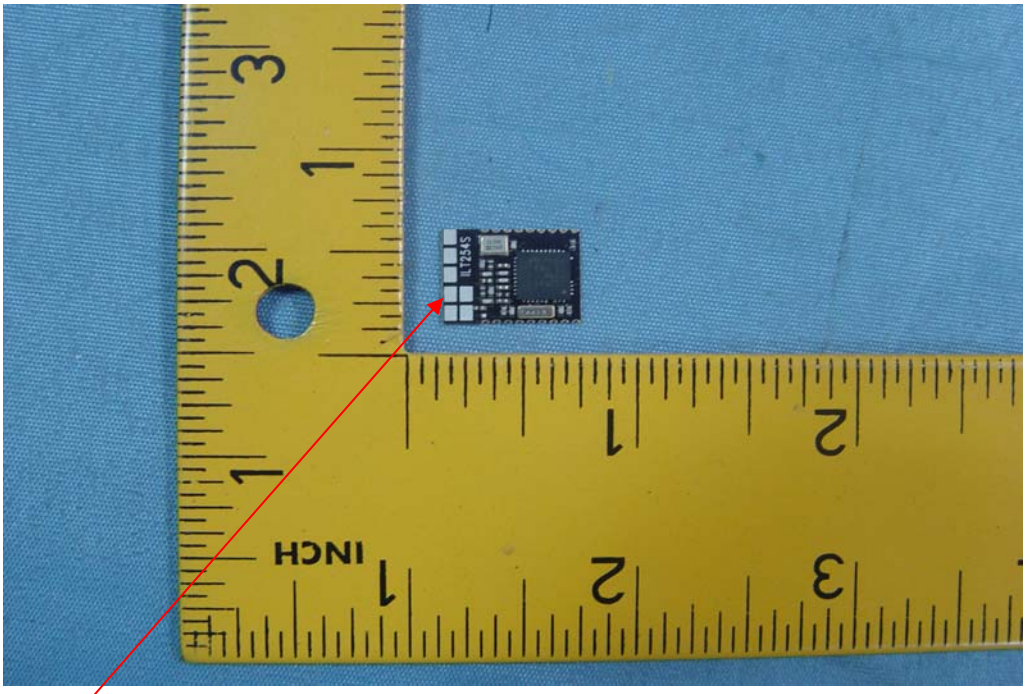
11. ANTENNA REQUIREMENT

11.1. The Requirement

According to Section 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.

11.2. Antenna Construction

Device is equipped with unique antenna, which isn't displaced by other antenna. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna