APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
HMC Holdings, LLC

FirstWatch CPU

Model No.: SRC301-A, SRC301-B, SRC301-C

FCC ID: 2AP9FSRC301

Prepared for	:	HMC Holdings, LLC
Address	:	1605 OLD Route, 18 STE 4-36, Wampum, PA-16157, USA
Prepared by	:	Shenzhen Accurate Technology Co., Ltd.
Address	:	1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China. Tel: (0755) 26503290 Fax: (0755) 26503396

Report Number	:	ATE20182114
Date of Test	:	Nov. 29, 2018-Dec. 05, 2018
Date of Report	:	Dec. 06, 2018

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Description Page

Test Report Certification

Applicant	:	HMC Holdings, LLC
Address	:	1605 OLD Route, 18 STE 4-36, Wampum, PA-16157, USA
Manufacturer	:	HMC Holdings, LLC
Address	:	1605 OLD Route, 18 STE 4-36, Wampum, PA-16157, USA
Product	:	FirstWatch CPU
Model No.	:	SRC301-A, SRC301-B, SRC301-C
Trade name	:	n.a

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.249
ANSI C63.10: 2013

The EUT was tested according to FCC 47CFR 15.249 for compliance to FCC 47CFR 15.249 requirements

The device described above is tested by SHENZHEN 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 15.249 limits. The measurement results are contained in this test report and Shenzhen 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 SHENZHEN ACCURATE TECHNOLOGY CO. LTD.

Date of Test : Nov. 29, 2018-Dec. 05, 2018
Date of Report : Dec. 06, 2018

Prepared by : _____
(Tim[illegible]g Engineer)

Approved & Authorized Signer : _____
(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	FirstWatch CPU
Model No.	:	SRC301-A, SRC301-B, SRC301-C
Power Supply	:	DC 4.5-10V
Operate Frequency	:	2402-2480MHz
Number of channel	:	79
Modulation mode	:	GFSK
Antenna Gain	:	-4dBi
Antenna type	:	Chip Antenna
Applicant	:	HMC Holdings, LLC.
Address	:	1605 OLD Route, 18 STE 4-36, Wampum, PA-16157, USA
Manufacturer	:	HMC Holdings, LLC.
Address	:	1605 OLD Route, 18 STE 4-36, Wampum, PA-16157, USA
Date of sample received	:	Nov. 29, 2018
Date of Test	:	Nov. 29, 2018-Dec. 05, 2018

1.2.Special Accessory and Auxiliary Equipment

PC	Manufacturer: LENOVO M/N: 4290-RT8 S/N: R9-FW93G 11/08

1.3.Model difference declaration

SRC301-A, SRC301-B, SRC301-C were identical inside for RF Section, power supply and crystal. Only difference between all three variants are connector and connection with Sub1GHz module.

1.4.Description of Test Facility

EMC Lab	:	Recognition of accreditation by Federal Communications Commission (FCC) The Designation Number is CN1189 The Registration Number is 708358 Listed by Innovation, Science and Economic Development Canada (ISEDC) The Registration Number is 5077A-2 Accredited by China National Accreditation Service for Conformity Assessment (CNAS) The Registration Number is CNAS L3193 Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 4297.01
Name of Firm	:	Shenzhen Accurate Technology Co., Ltd.
Site Location	:	1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, 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	Cal. Interval
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 06, 2018	One Year
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 06, 2018	One Year
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 06, 2018	One Year
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	Jan. 06, 2018	One Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 06, 2018	One Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 06, 2018	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 06, 2018	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1067	Jan. 06, 2018	One Year
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 06, 2018	One Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 06, 2018	One Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18G-10SS	N/A	Jan. 06, 2018	One Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2485-2375/2510-60/11SS	N/A	Jan. 06, 2018	One Year
Conducted Emission Test Software	Rohde&Schwarz	ES-K1	V1.71	N/A	N/A
Radiated Emission Test Software	Farad	EZ-EMC	1.1.4.2	N/A	N/A

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

The mode is used: **Transmitting mode(ANT+)**
Low Channel: 2402MHz
Middle Channel: 2441MHz
High Channel: 2480MHz

3.2.Configuration and peripherals

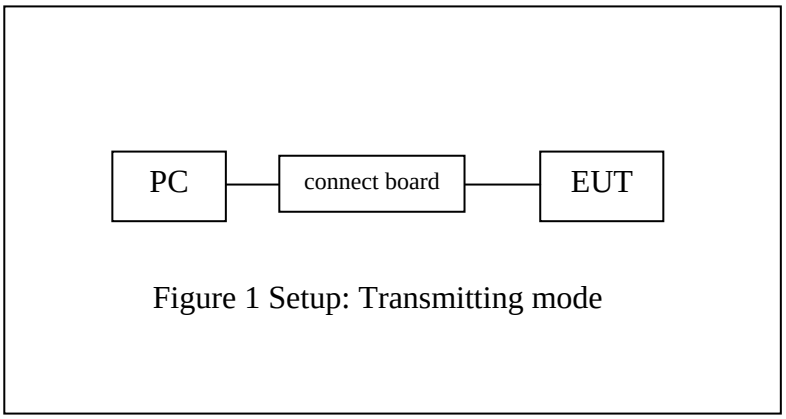


Figure 1 Setup: Transmitting mode

(EUT: FirstWatch CPU)

3.3.Carrier Frequency of Channels

ANT+ Frequency Channel

Ch.	Frequency (MHz)
00	2402
:	:
39	2441
:	:
78	2480

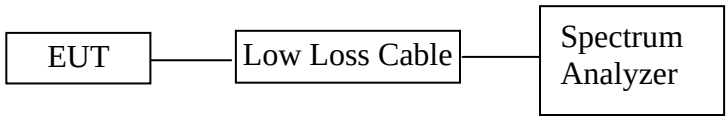
4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.215(c)	20dB Bandwidth	Compliant
Section 15.249(d)	Band Edge Compliance Test	Compliant
Section 15.205(a), Section 15.209(a), Section 15.249, Section 15.35	Radiated Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	N/A
Section 15.203	Antenna Requirement	Compliant

Note: The power supply mode of the EUT is DC 4.5-10V, According to the FCC standard requirements, conducted emission is not applicable.

5. 20DB BANDWIDTH MEASUREMENT

5.1.Block Diagram of Test Setup



5.2.The Requirement For Section 15.215(c)

The bandwidth of a frequency hopping channel is the 20 dB emission bandwidth, measured with the hopping stopped. The system RF bandwidth is equal to the channel bandwidth multiplied by the number of channels in the hopset. The hopset shall be such that the near-term distribution of frequencies appears random, with sequential hops randomly distributed in both direction and magnitude of change in the hopset while the long-term distribution appears evenly distributed.

5.3.Operating Condition of EUT

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

5.3.2.Turn on the power of all equipment.

5.3.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402, 2441, 2480MHz.

5.4.Test Procedure

5.4.1.Place the EUT on the table and set it in transmitting mode.

5.4.2.Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

5.4.3.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz, Detector function=peak, Trace=max hold, Sweep=auto.

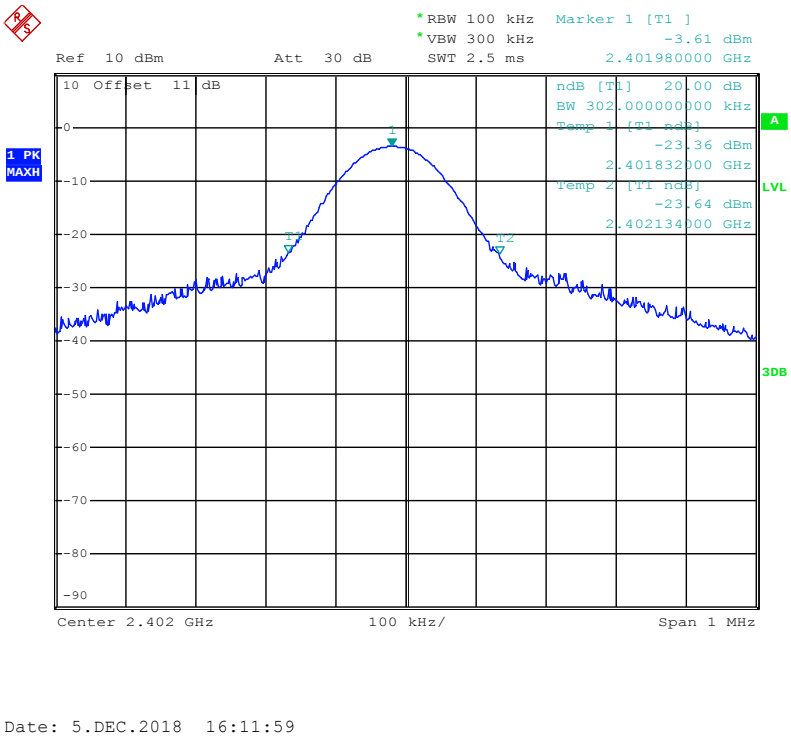
5.4.4.Set the measured low, middle and high frequency and test 20dB bandwidth with spectrum analyzer.

5.5.Test Result

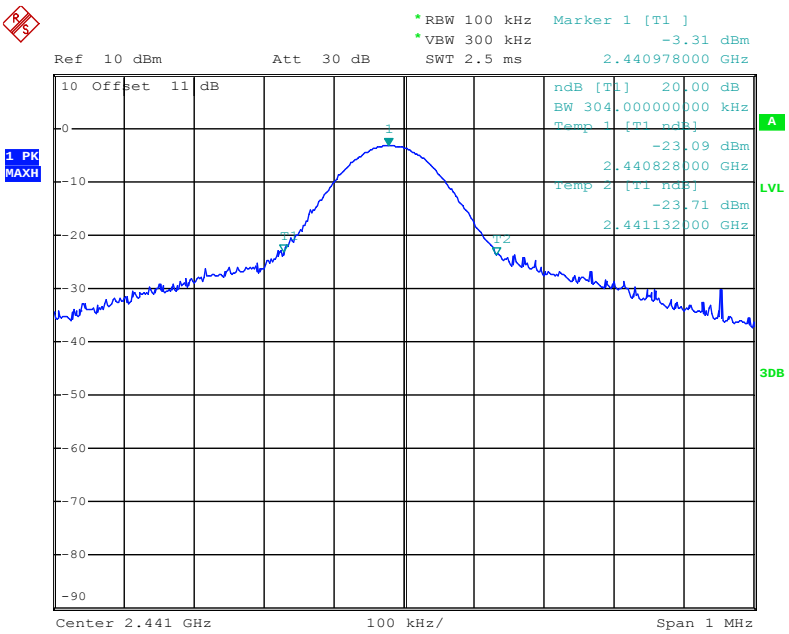
Channel	Frequency(MHz)	20 dB Bandwidth(MHz)
Low	2402	0.302
Middle	2441	0.304
High	2480	0.300

The spectrum analyzer plots are attached as below.

Low channel



Middle channel



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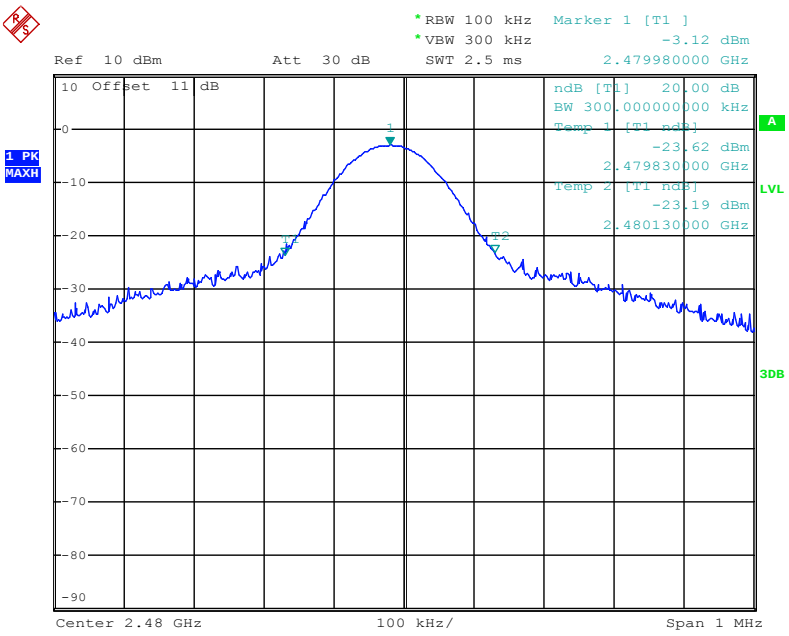
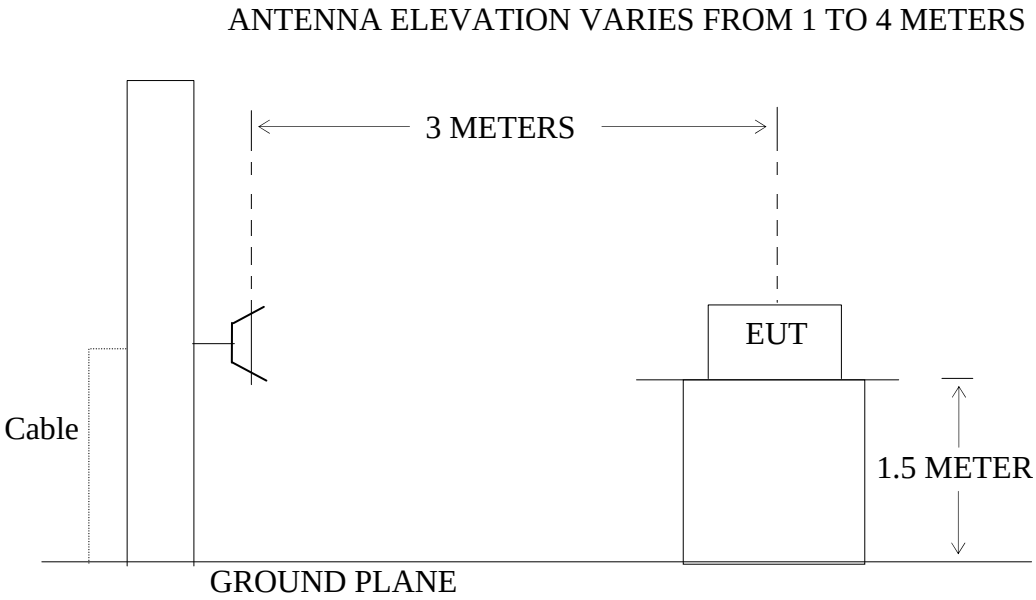
High channel



Date: 5.DEC.2018 16:19:34

6. BAND EDGE COMPLIANCE TEST

6.1.Block Diagram of Test Setup



6.2.The Requirement For Section 15.249

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 A8.4(4), the attenuation required 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).

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, 2480MHz.

6.5.Test Procedure

Radiate Band Edge:

6.5.1. The EUT is placed on a turntable, which is 1.5m above the ground plane and worked at highest radiated power.

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

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

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

RBW=1MHz, VBW=1MHz

6.5.5.The band edges was measured and recorded.

6.6.Test Result

ACCURATE TECHNOLOGY CO., LTD.
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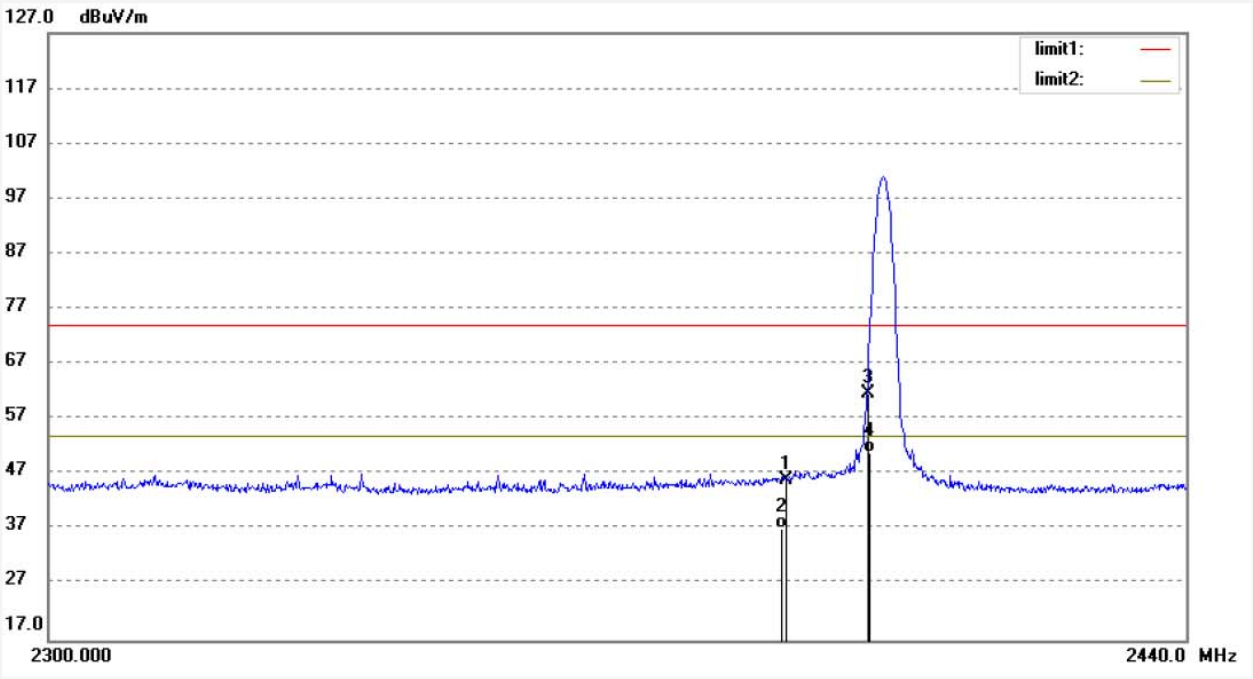
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018 #866
Standard: FCC 15.249 PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2402MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings, LLC

Polarization: Horizontal
Power Source: DC 6V
Date: 18/12/05/
Time: 9/25/31
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	45.19	0.79	45.98	74.00	-28.02	peak	250	113	
2	2390.000	36.45	0.79	37.24	54.00	-16.76	AVG	200	66	
3	2400.000	60.93	0.88	61.81	74.00	-12.19	peak	250	219	
4	2400.000	49.95	0.88	50.83	54.00	-3.17	AVG	200	103	

ACCURATE TECHNOLOGY CO., LTD.
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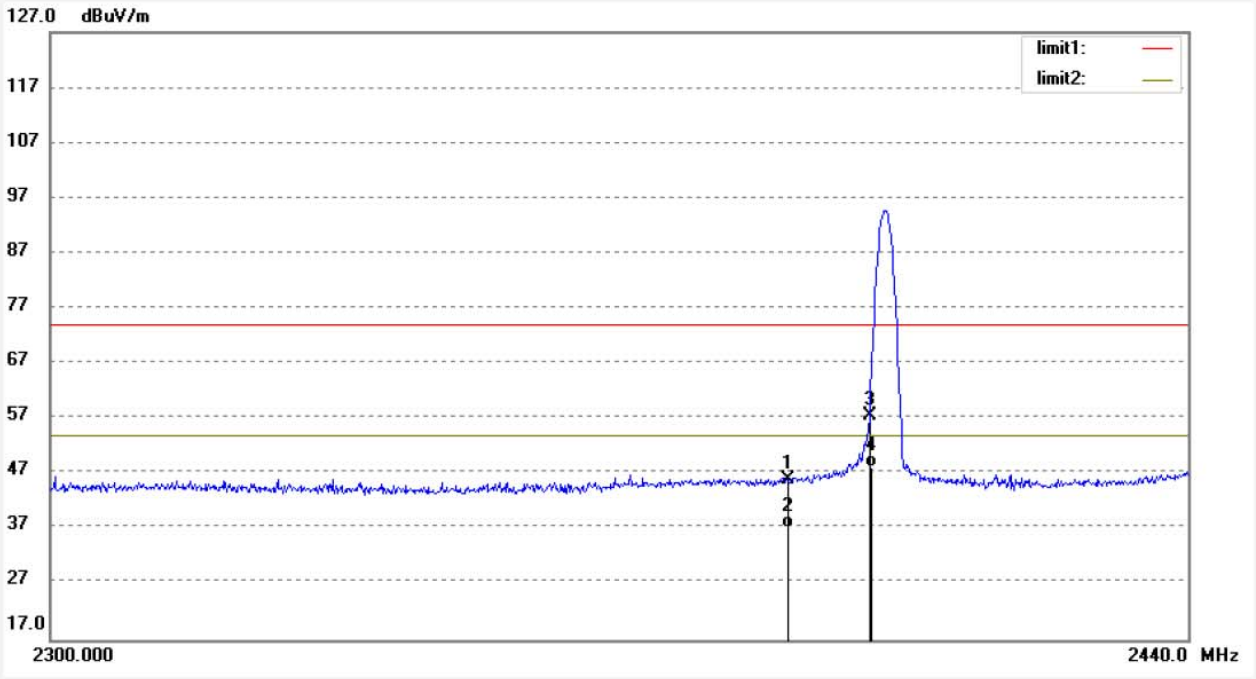
Fax:+86-0755-26503396

Job No.: FRANK2018 #865
Standard: FCC 15.249 PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2402MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings, LLC

Polarization: Vertical
Power Source: DC 6V
Date: 18/12/05/
Time: 9/24/24
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	45.24	0.79	46.03	74.00	-27.97	peak	150	159	
2	2390.000	36.45	0.79	37.24	54.00	-16.76	AVG	150	32	
3	2400.000	56.67	0.88	57.55	74.00	-16.45	peak	150	156	
4	2400.000	47.45	0.88	48.33	54.00	-5.67	AVG	150	302	

ACCURATE TECHNOLOGY CO., LTD.
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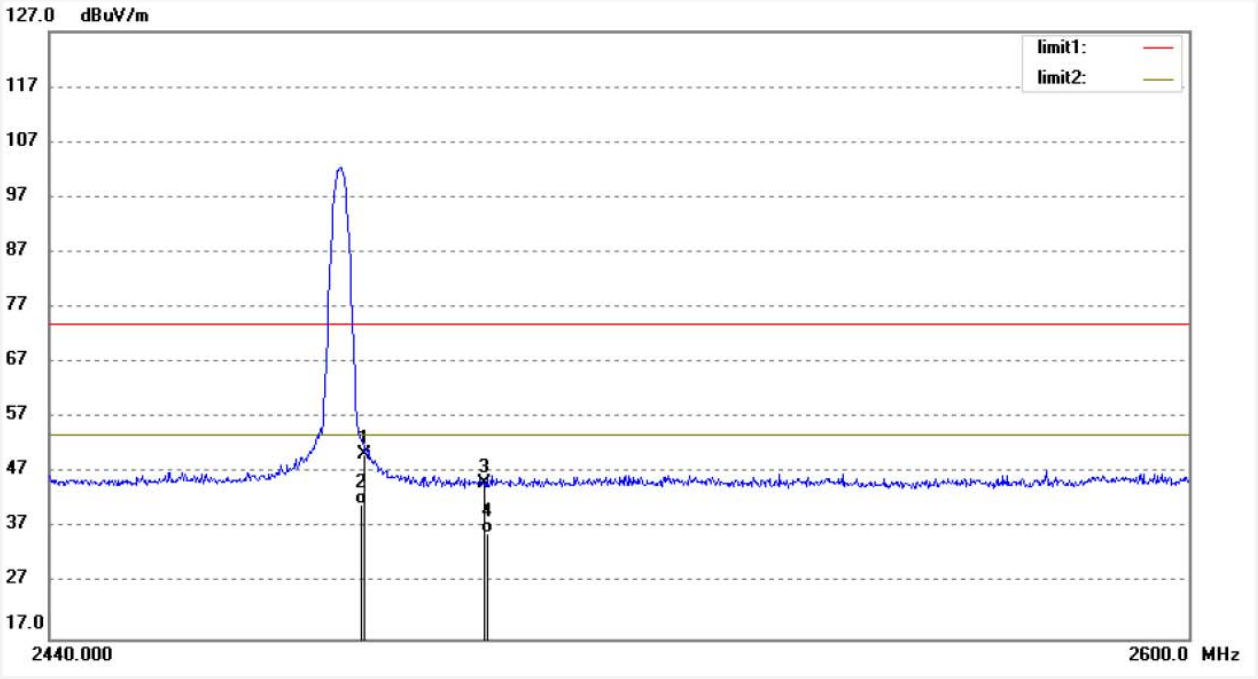
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018 #863
Standard: FCC 15.249 PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2480MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings,LLC

Polarization: Horizontal
Power Source: DC 6V
Date: 18/12/05/
Time: 9/21/33
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



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	49.21	1.10	50.31	74.00	-23.69	peak	200	102	
2	2483.500	40.12	1.10	41.22	54.00	-12.78	AVG	250	132	
3	2500.000	44.14	1.10	45.24	74.00	-28.76	peak	200	201	
4	2500.000	35.12	1.10	36.22	54.00	-17.78	AVG	250	92	

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
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Site: 1# Chamber
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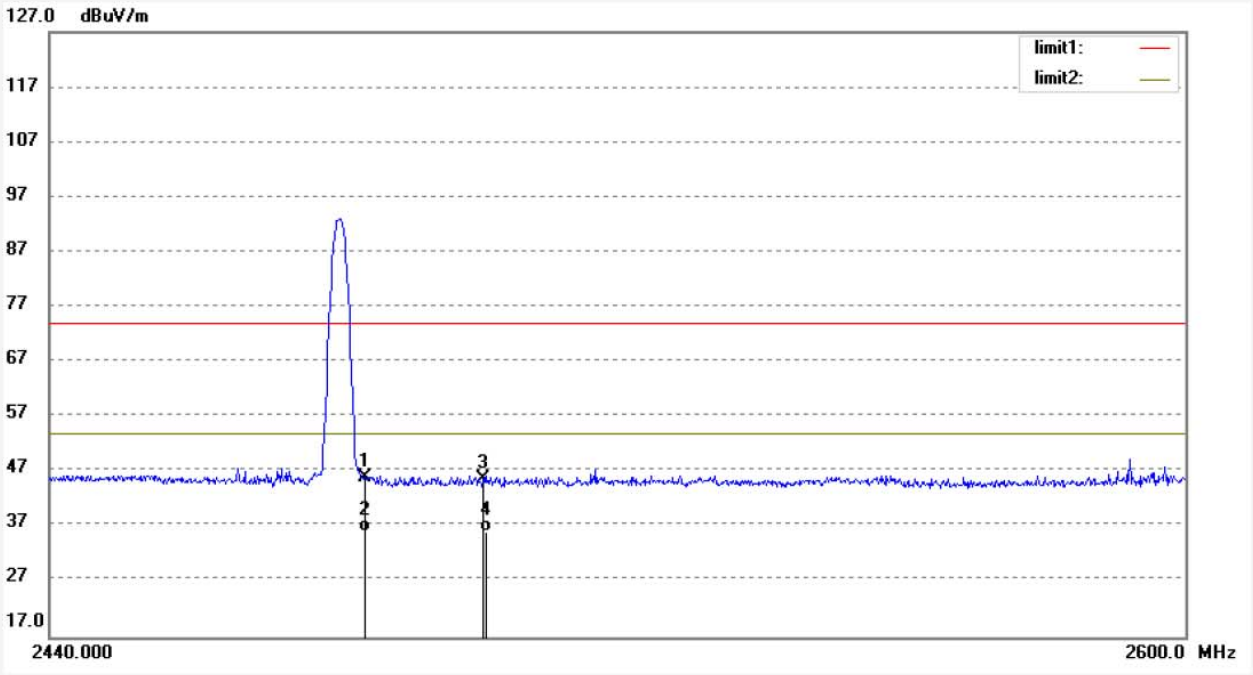
Fax:+86-0755-26503396

Job No.: FRANK2018 #864
Standard: FCC 15.249 PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2480MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings, LLC

Polarization: Vertical
Power Source: DC 6V
Date: 18/12/05/
Time: 9/22/43
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



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	44.99	1.10	46.09	74.00	-27.91	peak	150	201	
2	2483.500	35.15	1.10	36.25	54.00	-17.75	AVG	150	233	
3	2500.000	44.76	1.10	45.86	74.00	-28.14	peak	150	195	
4	2500.000	35.12	1.10	36.22	54.00	-17.78	AVG	150	112	

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.
4. The average measurement was not performed when peak measured data under the limit of average detection.

7. RADIATED SPURIOUS EMISSION TEST

7.1.Block Diagram of Test Setup

7.1.1.Block diagram of connection between the EUT and peripherals

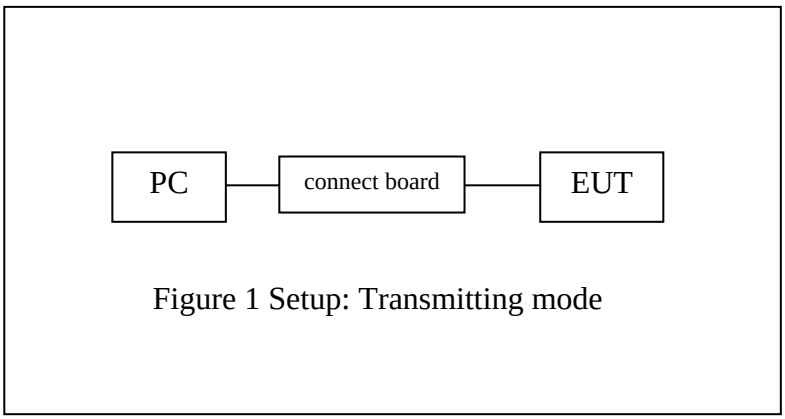
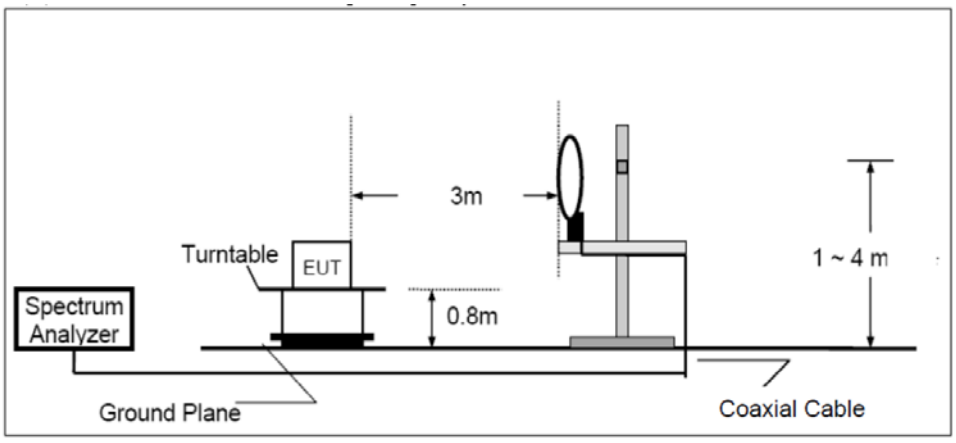


Figure 1 Setup: Transmitting mode

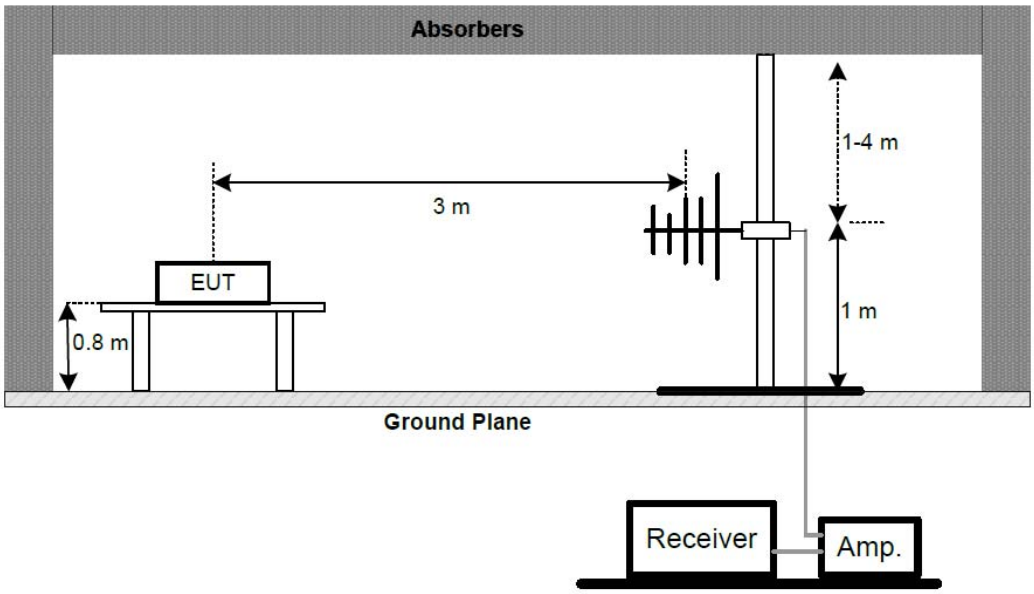
(EUT: FirstWatch CPU)

7.1.2.Semi-Anechoic Chamber Test Setup Diagram

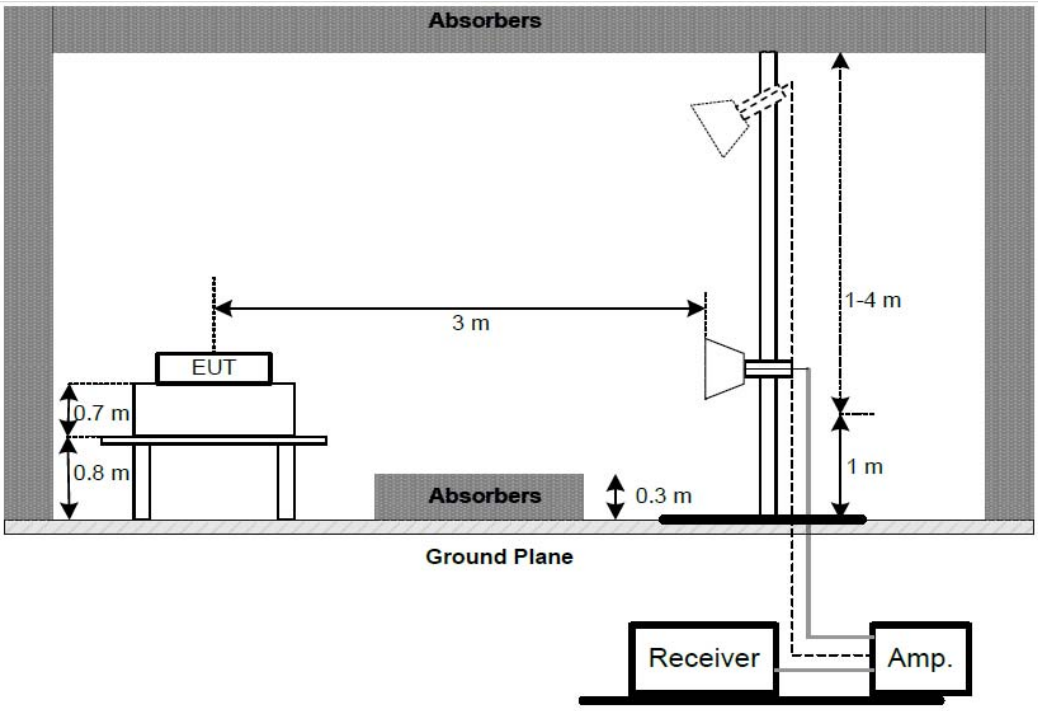
(A) Radiated Emission Test Set-Up, Frequency below 30MHz



(B) Radiated Emission Test Set-Up, Frequency below 1GHz



(C) Radiated Emission Test Set-Up, Frequency above 1GHz



7.2.The Limit For Section 15.249

Except as provided in paragraph (b) of this section of FCC part C 15.249, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/ meter)	Field strength of harmonics (microvolts/ meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

For products working in the 2400-2483.5MHz band, According to 15.249(a) the Avg limit of fundamental frequency is 94.00dBuV/m. The corresponding peak limit is 114.00dBuV/m. Field strength limits are specified at a distance of 3 meters.

7.3.Restricted bands of operation

7.3.1.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.

7.4.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.

7.5.Operating Condition of EUT

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

7.5.2.Turn on the power of all equipment.

7.5.3.Let the EUT work in TX modes and measure it. The transmit frequency are 2402, 2441, 2480MHz.

7.6.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter(Below 1GHz) and 1.5m(above 1GHz) 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 C63.10: 2013 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.

RBW (120 kHz), VBW (300 kHz) for QP detector below 1GHz
Peak detector above 1GHz
RBW (1 MHz), VBW (3MHz) for Peak measurement
RBW (1 MHz), VBW (10Hz) for AV measurement

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

7.7.DATA SAMPLE

Frequency (MHz)	Reading (dBμv)	Factor (dB/m)	Result (dBμv/m)	Limit (dBμv/m)	Margin (dB)	Remark
X.XX	49.83	-22.03	27.80	43.50	-15.70	QP

Frequency(MHz) = Emission frequency in MHz
Reading(dBμv) = Uncorrected Analyzer/Receiver reading
Factor (dB/m)= Antenna factor + Cable Loss – Amplifier gain
Result(dBμv/m) = Reading + Factor
Limit (dBμv/m)= Limit stated in standard

Margin (dB) = Result(dBμv/m) - Limit (dBμv/m)

Calculation Formula:

Margin(dB) = Result (dBμv/m)–Limit(dBμv/m)
Result(dBμv/m)= Reading(dBμv)+ Factor(dB/m)

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit.

7.8.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 EUT is tested radiation emission in three axes. The worst emissions are reported in all channels.

4. The radiation emissions from 9KHz-30MHz and 18GHz-25GHz are not reported, because the test values lower than the limits of 20dB.

5. The average measurement was not performed when peak measured data under the limit of average detection.

30MHz-1GHz

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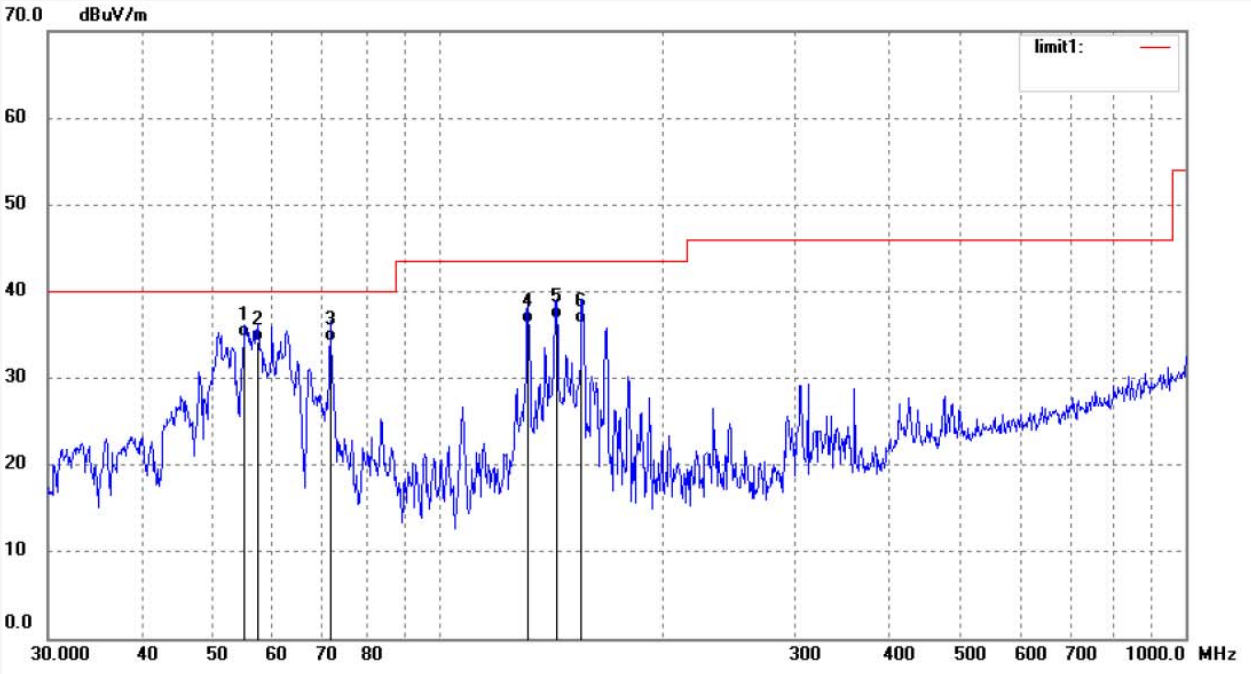
Job No.: FRANK2018 #851	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 18/12/05/
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 9/02/14
EUT: FirstWatch CPU	Engineer Signature:
Mode: TX 2402MHz(ANT)	Distance: 3m
Model: SRC301-A	
Manufacturer: HMC Holdings, LLC	

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	55.0274	47.62	-12.95	34.67	40.00	-5.33	QP	200	156	
2	57.1914	47.64	-13.37	34.27	40.00	-5.73	QP	200	109	
3	71.5806	50.48	-16.27	34.21	40.00	-5.79	QP	200	54	
4	131.7576	50.16	-13.84	36.32	43.50	-7.18	QP	200	116	
5	143.8294	51.97	-15.11	36.86	43.50	-6.64	QP	200	330	
6	155.3643	51.15	-14.92	36.23	43.50	-7.27	QP	200	120	

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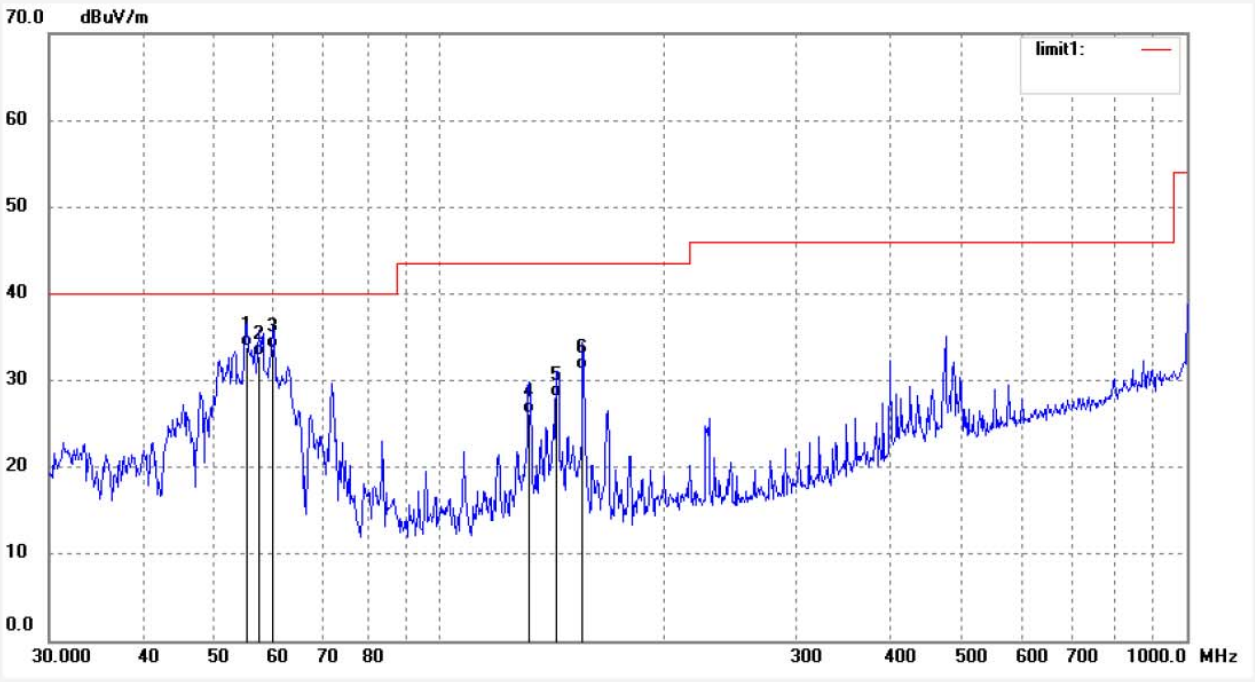
Job No.: FRANK2018 #850
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2402MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings, LLC

Polarization: Vertical
Power Source: DC 6V
Date: 18/12/05/
Time: 9/01/55
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	55.2207	46.87	-12.99	33.88	40.00	-6.12	QP	150	103	
2	57.1914	46.13	-13.37	32.76	40.00	-7.24	QP	150	201	
3	59.6492	47.54	-13.84	33.70	40.00	-6.30	QP	150	66	
4	131.7576	40.02	-13.84	26.18	43.50	-17.32	QP	150	269	
5	143.3260	43.15	-15.12	28.03	43.50	-15.47	QP	150	156	
6	155.3643	46.15	-14.92	31.23	43.50	-12.27	QP	150	221	

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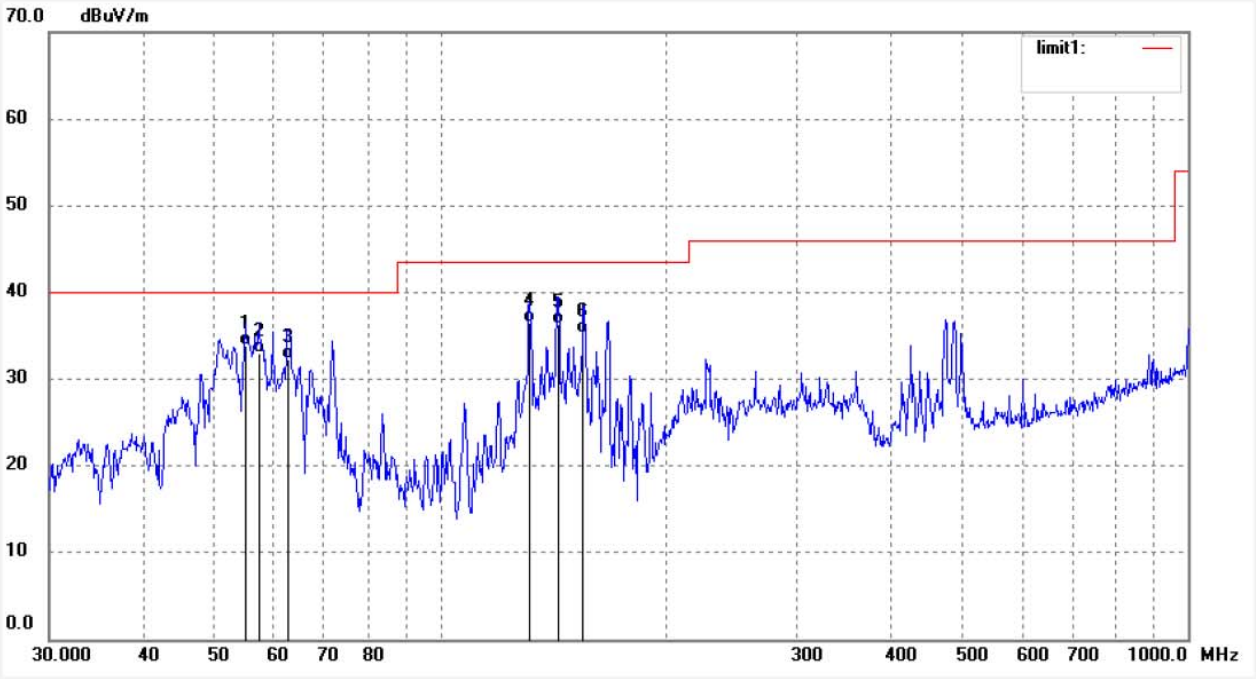
Job No.: FRANK2018 #852
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2441MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings, LLC

Polarization: Horizontal
Power Source: DC 6V
Date: 18/12/05/
Time: 9/02/43
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	54.8348	46.87	-12.94	33.93	40.00	-6.07	QP	200	103	
2	57.1914	46.35	-13.37	32.98	40.00	-7.02	QP	200	201	
3	62.6507	47.12	-14.86	32.26	40.00	-7.74	QP	200	198	
4	131.7576	50.32	-13.84	36.48	43.50	-7.02	QP	200	106	
5	143.8294	51.45	-15.11	36.34	43.50	-7.16	QP	200	236	
6	155.3643	50.12	-14.92	35.20	43.50	-8.30	QP	200	210	

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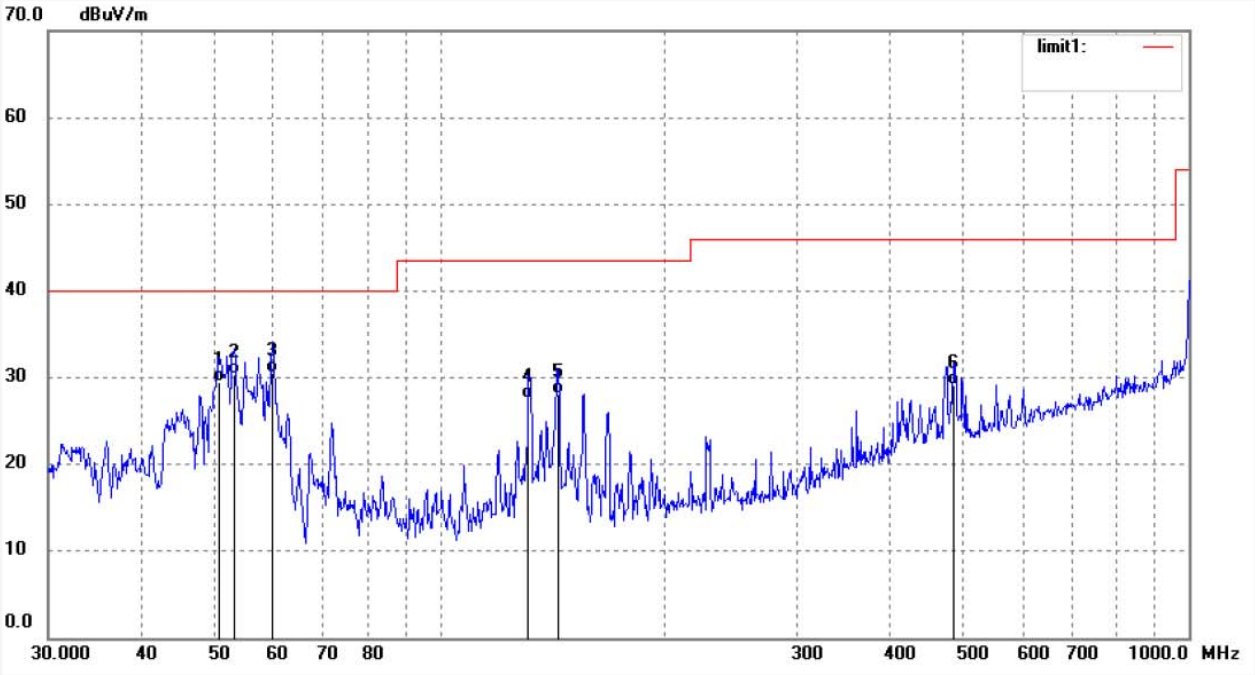
Job No.: FRANK2018 #853
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2441MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings, LLC

Polarization: Vertical
Power Source: DC 6V
Date: 18/12/05/
Time: 9/03/10
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	50.7637	42.12	-12.64	29.48	40.00	-10.52	QP	150	115	
2	53.1313	43.21	-12.81	30.40	40.00	-9.60	QP	150	330	
3	59.8588	44.38	-13.88	30.50	40.00	-9.50	QP	150	102	
4	131.2965	41.31	-13.82	27.49	43.50	-16.01	QP	150	95	
5	143.8294	43.28	-15.11	28.17	43.50	-15.33	QP	150	12	
6	485.6093	33.99	-4.78	29.21	46.00	-16.79	QP	150	196	

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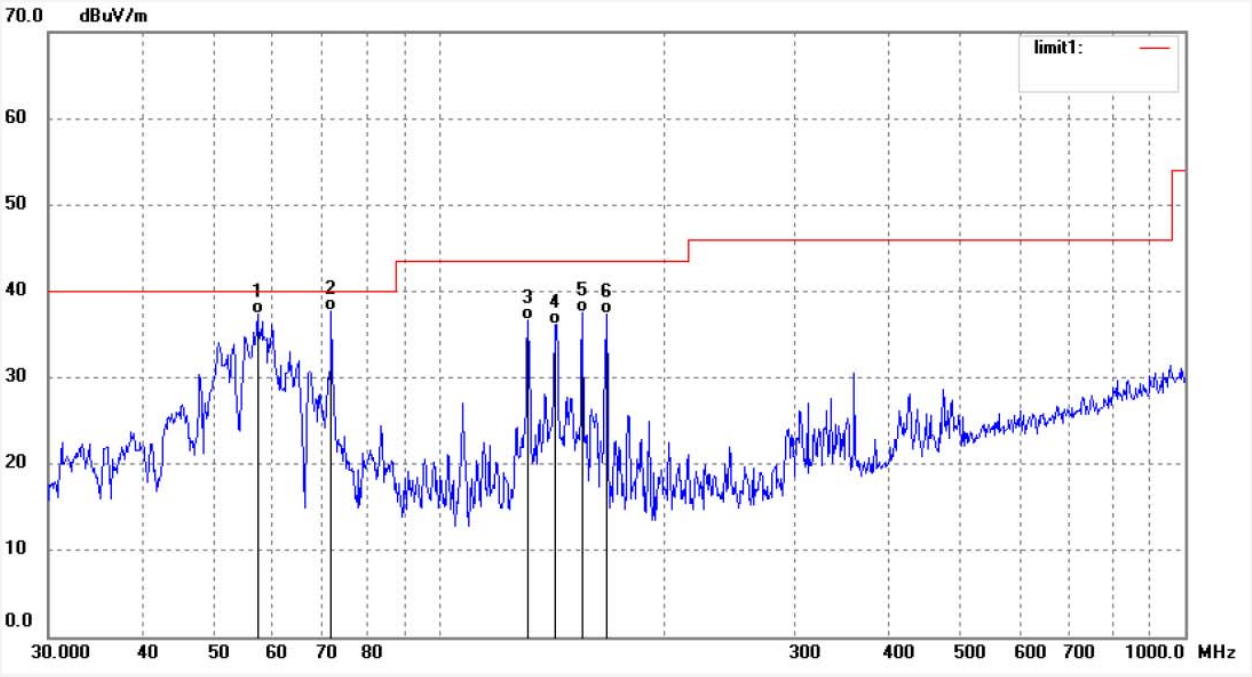
Job No.: FRANK2018 #855
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2480MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings, LLC

Polarization: Horizontal
Power Source: DC 6V
Date: 18/12/05/
Time: 9/03/33
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	57.1914	50.67	-13.37	37.30	40.00	-2.70	QP	200	302	
2	71.8319	53.95	-16.30	37.65	40.00	-2.35	QP	200	159	
3	131.7576	50.51	-13.84	36.67	43.50	-6.83	QP	200	56	
4	143.3260	51.23	-15.12	36.11	43.50	-7.39	QP	200	262	
5	155.9100	52.47	-14.87	37.60	43.50	-5.90	QP	200	110	
6	167.8242	51.20	-13.88	37.32	43.50	-6.18	QP	200	201	

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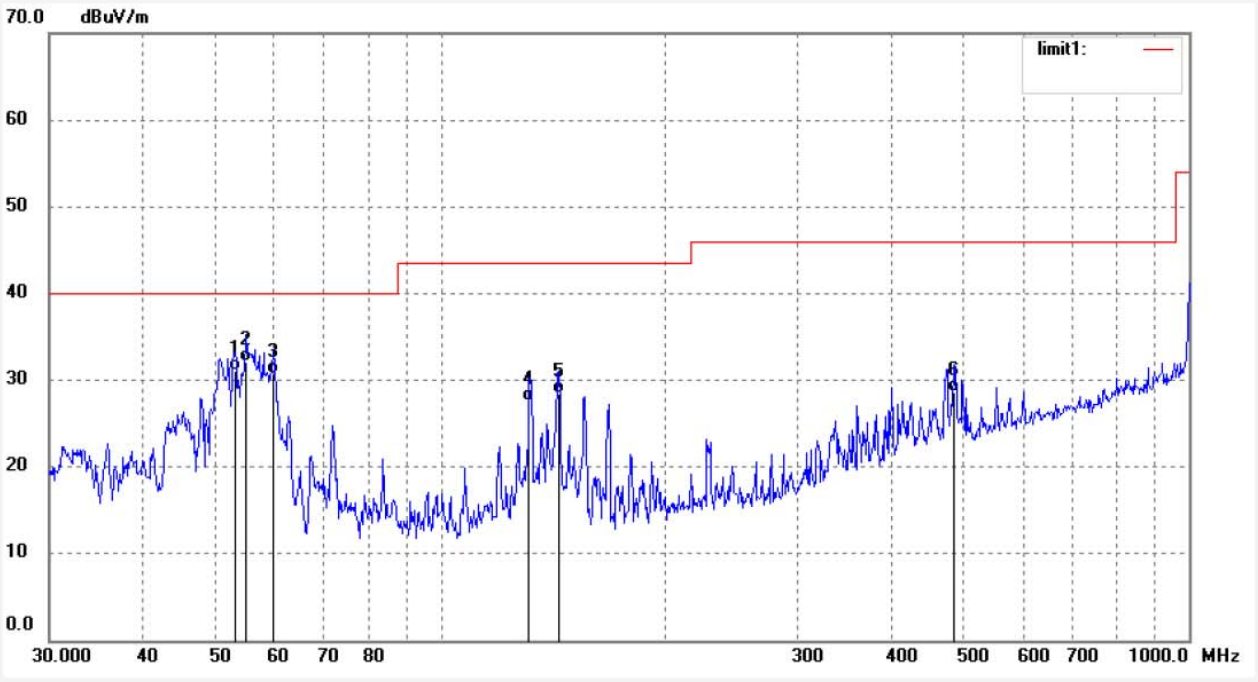
Job No.: FRANK2018 #854
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2480MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings, LLC

Polarization: Vertical
Power Source: DC 6V
Date: 18/12/05/
Time: 9/03/18
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	53.1313	43.87	-12.81	31.06	40.00	-8.94	QP	150	201	
2	55.0274	45.01	-12.95	32.06	40.00	-7.94	QP	150	93	
3	59.8588	44.65	-13.88	30.77	40.00	-9.23	QP	150	119	
4	131.2965	41.39	-13.82	27.57	43.50	-15.93	QP	150	96	
5	143.8294	43.49	-15.11	28.38	43.50	-15.12	QP	150	102	
6	485.6093	33.45	-4.78	28.67	46.00	-17.33	QP	150	302	

1GHz-18GHz

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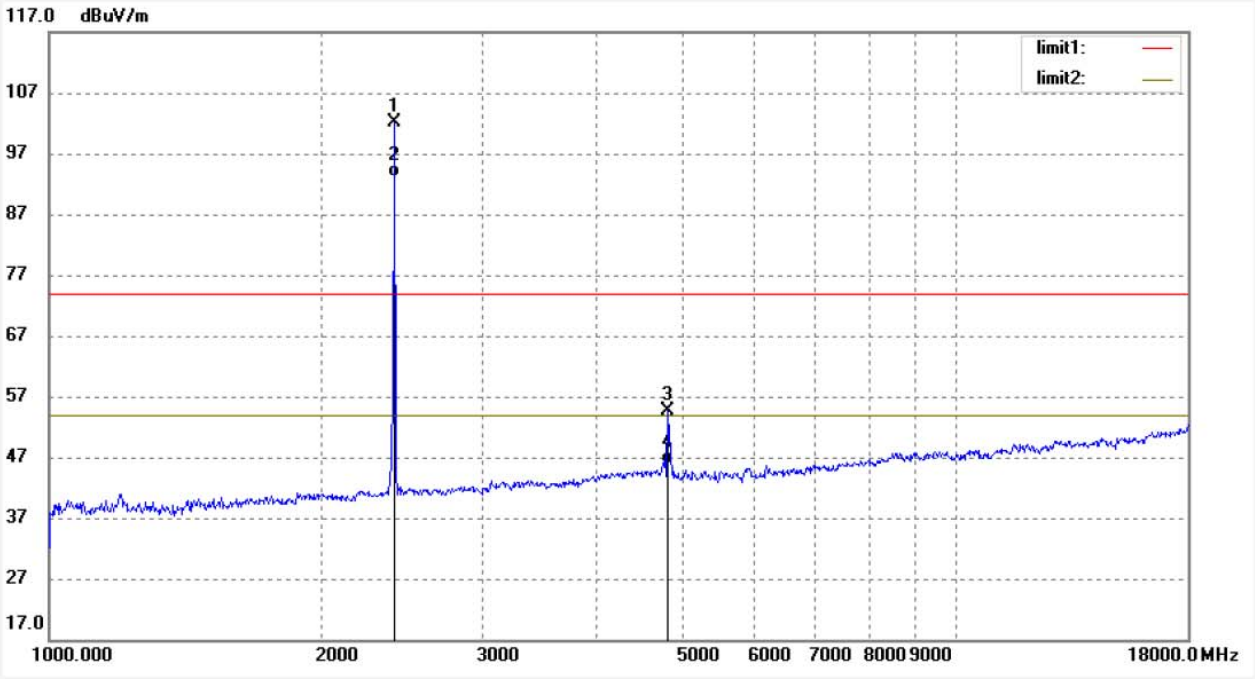
Job No.: FRANK2018 #858
Standard: FCC 15.249 PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2402MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings,LLC

Polarization: Horizontal
Power Source: DC 6V
Date: 18/12/05/
Time: 9/08/20
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.053	101.15	0.88	102.03	114.00	-11.97	peak	200	132	
2	2402.053	92.15	0.88	93.03	94.00	-0.97	AVG	200	66	
3	4804.110	47.25	7.40	54.65	74.00	-19.35	peak	200	198	
4	4804.110	38.45	7.40	45.85	54.00	-8.15	AVG	200	106	

Note:
1. The avg limit of fundamental frequency is 94dBuV/m, The peak limit of fundamental frequency is 114dBuV/m.
2. The peak value of the main frequency is tested in the picture. Because the peak value is lower than the AV limit, the AV value of the main frequency is not tested.

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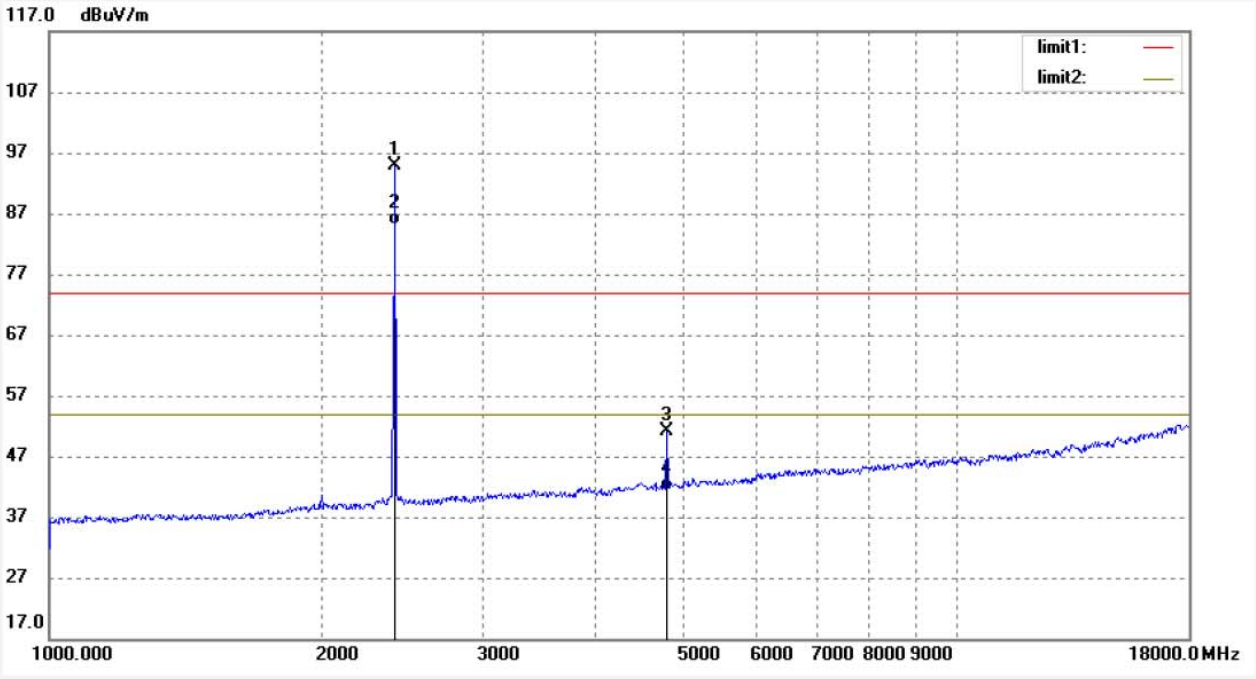
Job No.: FRANK2018 #857
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2402MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings, LLC

Polarization: Vertical
Power Source: DC 6V
Date: 18/12/05/
Time: 9/10/34
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.153	93.92	0.88	94.80	114.00	-19.20	peak	150	199	
2	2402.158	84.12	0.89	85.01	94.00	-8.99	AVG	150	56	
3	4804.305	43.79	7.30	51.09	74.00	-22.91	peak	150	103	
4	4804.305	34.12	7.30	41.42	54.00	-12.58	AVG	150	302	

Note:
1. The avg limit of fundamental frequency is 94dBuV/m, The peak limit of fundamental frequency is 114dBuV/m.
2. The peak value of the main frequency is tested in the picture. Because the peak value is lower than the AV limit, the AV value of the main frequency is not tested.

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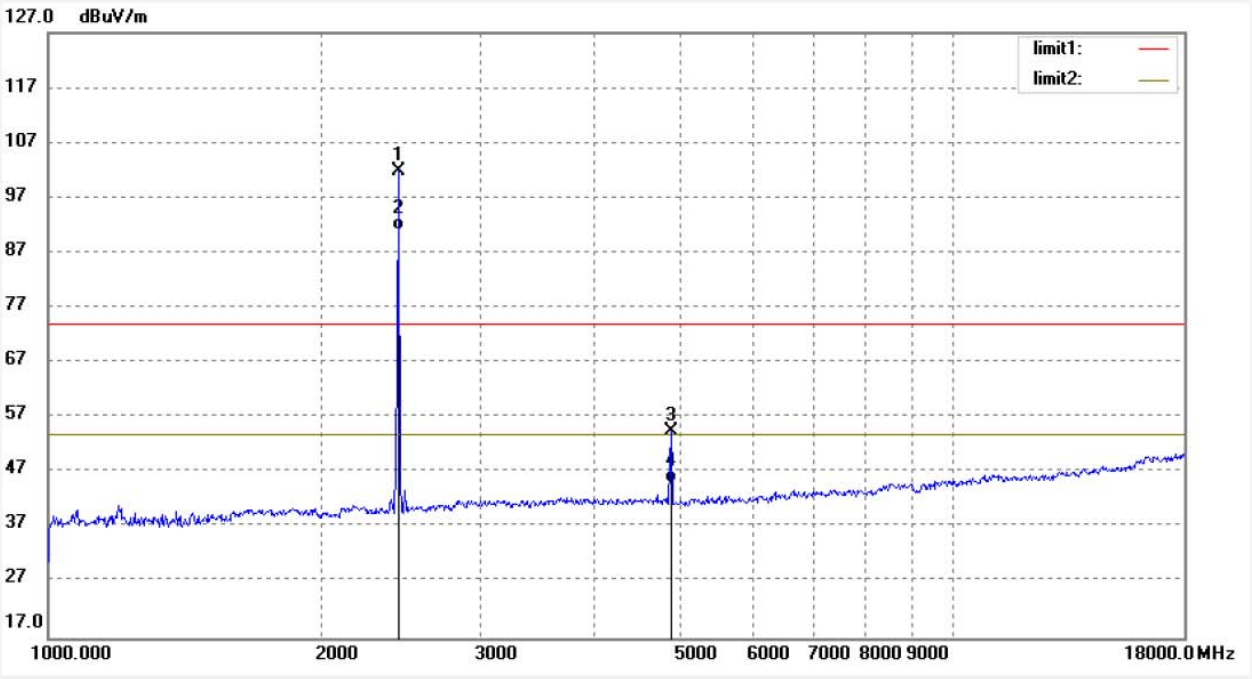
Job No.: FRANK2018 #859
Standard: FCC 15.249 PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2441MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings, LLC

Polarization: Horizontal
Power Source: DC 6V
Date: 18/12/05/
Time: 9/16/22
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.101	100.70	1.03	101.73	114.00	-12.27	peak	200	147	
2	2441.101	90.15	1.03	91.18	94.00	-2.82	AVG	200	212	
3	4882.242	46.57	8.04	54.61	74.00	-19.39	peak	200	195	
4	4882.242	37.15	8.04	45.19	54.00	-8.81	AVG	200	203	

Note:
1. The avg limit of fundamental frequency is 94dBuV/m, The peak limit of fundamental frequency is 114dBuV/m.
2. The peak value of the main frequency is tested in the picture. Because the peak value is lower than the AV limit, the AV value of the main frequency is not tested.

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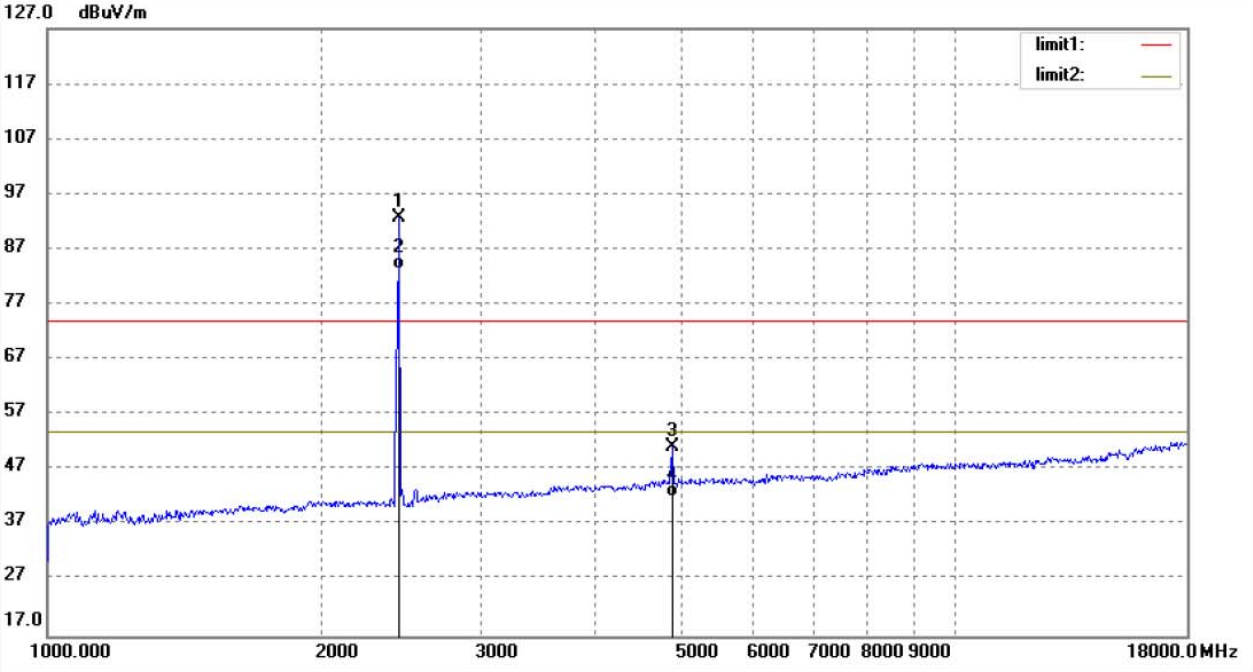
Job No.: FRANK2018 #860
Standard: FCC 15.249 PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2441MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings, LLC

Polarization: Vertical
Power Source: DC 6V
Date: 18/12/05/
Time: 9/17/39
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.101	91.84	1.03	92.87	114.00	-21.13	peak	150	98	
2	2441.101	82.45	1.03	83.48	94.00	-10.52	AVG	150	159	
3	4882.242	43.30	8.04	51.34	74.00	-22.66	peak	150	211	
4	4882.242	34.15	8.04	42.19	54.00	-11.81	AVG	150	103	

Note:
1. The avg limit of fundamental frequency is 94dBuV/m, The peak limit of fundamental frequency is 114dBuV/m.
2. The peak value of the main frequency is tested in the picture. Because the peak value is lower than the AV limit, the AV value of the main frequency is not tested.

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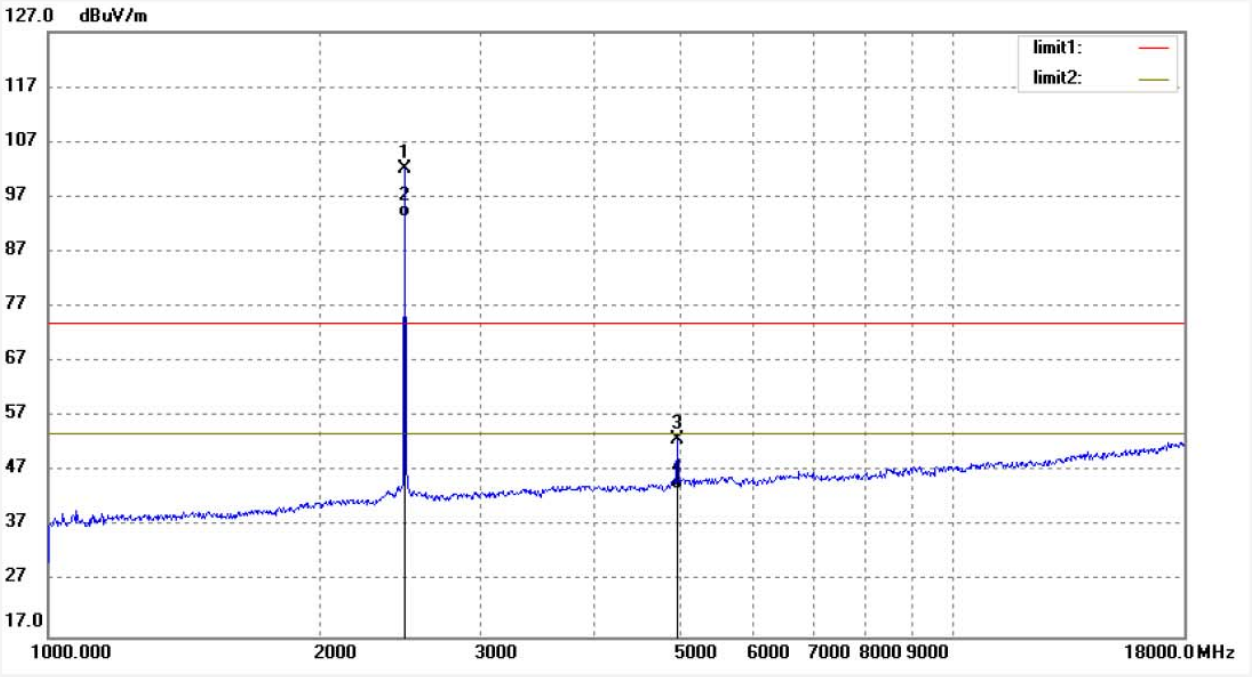
Job No.: FRANK2018 #862
Standard: FCC 15.249 PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: FirstWatch CPU
Mode: TX 2480MHz(ANT)
Model: SRC301-A
Manufacturer: HMC Holdings, LLC

Polarization: Horizontal
Power Source: DC 6V
Date: 18/12/05/
Time: 9/20/16
Engineer Signature:
Distance: 3m

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.110	101.08	1.09	102.17	114.00	-11.83	peak	200	55	
2	2480.110	92.13	1.09	93.22	94.00	-0.78	AVG	200	199	
3	4960.207	44.40	8.58	52.98	74.00	-21.02	peak	200	215	
4	4960.207	35.15	8.58	43.73	54.00	-10.27	AVG	200	103	

Note:
1. The avg limit of fundamental frequency is 94dBuV/m, The peak limit of fundamental frequency is 114dBuV/m.
2. The peak value of the main frequency is tested in the picture. Because the peak value is lower than the AV limit, the AV value of the main frequency is not tested.

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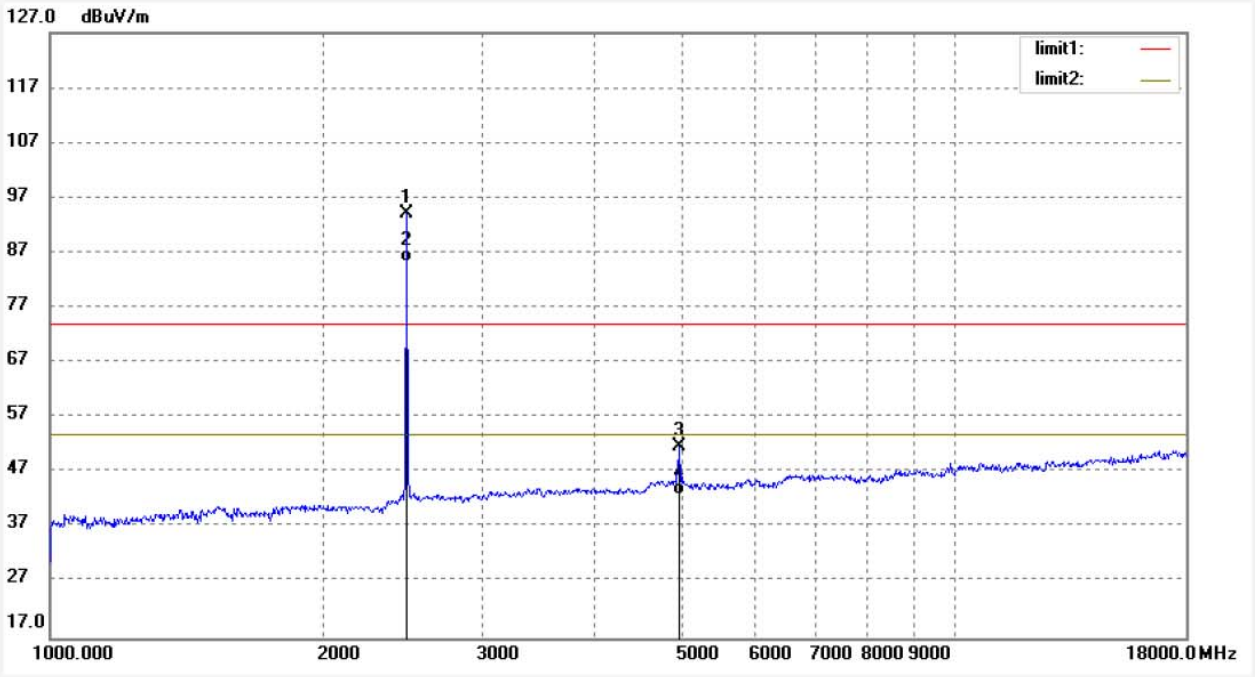
Job No.: FRANK2018 #861	Polarization: Vertical
Standard: FCC 15.249 PK	Power Source: DC 6V
Test item: Radiation Test	Date: 18/12/05/
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 9/19/11
EUT: FirstWatch CPU	Engineer Signature:
Mode: TX 2480MHz(ANT)	Distance: 3m
Model: SRC301-A	
Manufacturer: HMC Holdings, LLC	

Note: Report NO.:ATE20182114



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.110	93.12	1.09	94.21	114.00	-19.79	peak	150	189	
2	2480.110	84.31	1.09	85.40	94.00	-8.60	AVG	150	55	
3	4960.207	43.19	8.58	51.77	74.00	-22.23	peak	150	301	
4	4960.207	34.48	8.58	43.06	54.00	-10.94	AVG	150	109	

Note:

1. The avg limit of fundamental frequency is 94dBuV/m, The peak limit of fundamental frequency is 114dBuV/m.
2. The peak value of the main frequency is tested in the picture. Because the peak value is lower than the AV limit, the AV value of the main frequency is not tested.

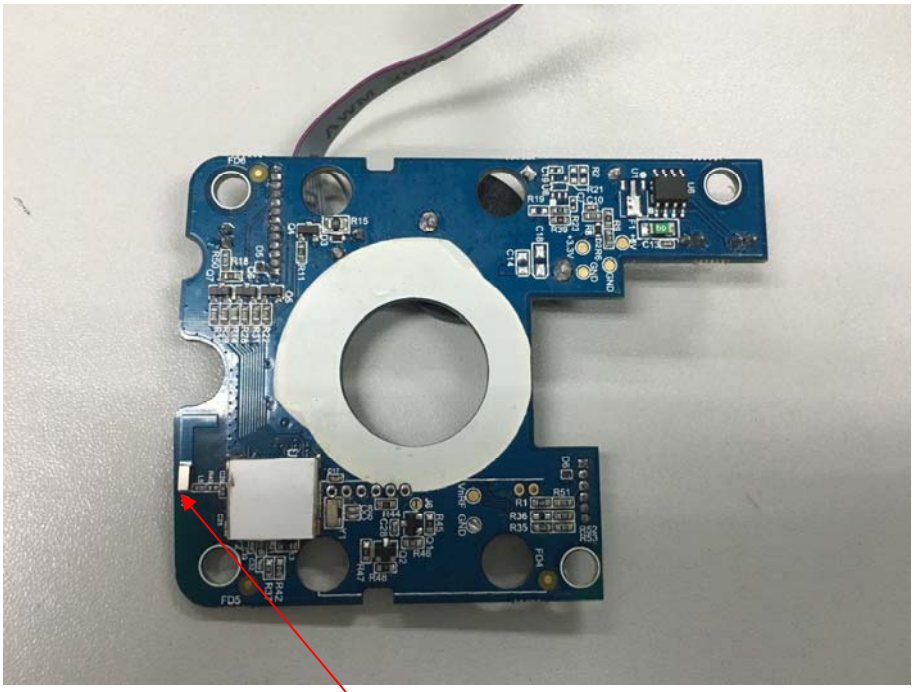
8. ANTENNA REQUIREMENT

8.1.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.

8.2.Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Antenna gain of EUT is -4dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Chip Antenna