FCC TEST REPORT

FOR

ALLIED TIME USA INC

Biometric Time Recorder

Test Model: CB4000

Additional Model No.: Please Refer to Page 6

Prepared for	:	ALLIED TIME USA INC
Address	:	416 N.Orange Ave.,Deland,Florida,United States 32720
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd
Address	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
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Date of receipt of test sample	:	August 01, 2018
Number of tested samples	:	1
Sample number	:	Prototype
Date of Test	:	August 01, 2018 ~ August 27, 2018
Date of Report	:	August 30, 2018

FCC TEST REPORT

FCC CFR 47 PART 15 C

Report Reference No.	**:**	**LCS180730036AEB**
Date of Issue.....	:	August 30, 2018
Testing Laboratory Name	**:**	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address.....	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name	**:**	**ALLIED TIME USA INC**
Address.....	:	416 N. Orange Ave., Deland, Florida 32720,United States
Test Specification		
Standard	:	FCC CFR 47 PART 15 C / ANSI C63.10: 2013
Test Report Form No.....	:	LCSEMC-1.0
TRF Originator.....	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF.....	:	Dated 2011-03

Test Item Description.	:	Biometric Time Recorder
Trade Mark	:	N/A
Test Model.....	:	CB4000
Ratings.....	:	Adapter Model: FJ-SW1160501000DU Input: AC 100-240V,50/60Hz, 0.3A Max Output: DC 5V/1000mA
Result	:	Positive

Compiled by:	**Supervised by:**	**Approved by:**
Ace chai	Calvin Weng	Gavin Liang
Ace Chai / Administrators	Calvin Weng / Technique principal	Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. : **LCS180730036AEB**	August 30, 2018 Date of issue

Test Model.....	:	CB4000
EUT.....	:	Biometric Time Recorder
Applicant.....	**:**	**ALLIED TIME USA INC**
Address.....	:	416 N. Orange Ave.,Deland, Florida 32720,United States
Telephone.....	:	386-409-7026
Fax.....	:	386-785-0003
Manufacturer.....	**:**	**SHENZHEN WANGLINFA TECHNOLOGY CORPORATION**
Address.....	:	2/F Block P, Shang Xia Wei Industrial Area, Sha 3, Shajing，Bao-an District, ShenZhen GuangDong, China
Telephone.....	:	0755-33658858
Fax.....	:	0755-33800659
Factory.....	**:**	**SHENZHEN WANGLINFA TECHNOLOGY CORPORATION**
Address.....	:	2/F Block P, Shang Xia Wei Industrial Area, Sha 3, Shajing，Bao-an District, ShenZhen GuangDong, China
Telephone.....	:	0755-33658858
Fax.....	:	0755-33800659

Test Result	**Positive**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Revision	Issue Date	Revisions	Revised By
000	August 30, 2018	Initial Issue	Gavin Liang

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Biometric Time Recorder
Test Model	:	CB4000
List Model No.	:	CB4000,FM420,FM400
Model Declaration	:	PCB board, structure and internal of these model(s) are the same, So no additional models were tested.
Power Supply	:	Adapter Model: FJ-SW1160501000DU Input: AC 100-240V,50/60Hz, 0.3A Max Output: DC 5V/1000mA
Hardware Version	:	P7205_V1.1
Software Version	:	ifkl7260of0505palm_v102.bin
2.4G WLAN		
Frequency Range	:	2.412-2.462GHz 2.422-2.452GHz
Channel Number	:	11 Channels for 20MHz bandwidth(2412~2462MHz) 7 Channels for 40MHz bandwidth(2422~2452MHz)
Channel Spacing	:	5MHz
Modulation Type	:	IEEE 802.11b: DSSS(CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM,QPSK,BPSK)
Antenna Description	:	PIFA antenna, 3.0dBi (Max.)
125KHz		
Frequency Range	:	125KHz
Channel Number	:	1 channel
Channel Spacing	:	N/A
Modulation Type	:	OOK
Antenna Description	:	Coil Antenna

1.2. Host System Configuration List and Details

Manufacturer	Description	Model	Serial Number	Certificate
SHENZHEN FUJIA APPLIANCE Co., LTD.	Adapter	FJ-SW1160501000DU	--	FCC VOC

1.3. External I/O

I/O Port Description	Quantity	Cable
Mini USB Port	1	1.0m, unshielded
USB Port	1	N/A
DC Port	1	1.5m, unshielded

1.4. Description of Test Facility

FCC Registration Number. is 254912.
Industry Canada Registration Number. is 9642A-1.
ESMD Registration Number. is ARCB0108.
UL Registration Number. is 100571-492.
TUV SUD Registration Number. is SCN1081.
TUV RH Registration Number. is UA 50296516-001
NVLAP Registration Code is 600167-0.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.4:2014 and CISPR 16-1-4:2010 SVSWR requirement for radiated emission above 1GHz.

1.5. Statement of the Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

1.6. Measurement Uncertainty

Test Item		Frequency Range	Uncertainty	Note
Radiation Uncertainty	:	9KHz~30MHz	±3.10dB	(1)
		30MHz~200MHz	±2.96dB	(1)
		200MHz~1000MHz	±3.10dB	(1)
		1GHz~26.5GHz	±3.80dB	(1)
		26.5GHz~40GHz	±3.90dB	(1)
Conduction Uncertainty	:	150kHz~30MHz	±1.63dB	(1)
Power disturbance	:	30MHz~300MHz	±1.60dB	(1)

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.8. Description of Test Modes

The EUT operates at 125 KHz. The following operating modes were applied for the related test items.

All test modes were tested, only the result of the worst case was recorded in the report.
It was pre-tested on the positioned of each 3 axis. The worst case was found positioned on X-plane.

Mode of Operations	Transmitting Frequency (KHz)
OOK	125
For Conducted Emission	
Test Mode	TX Mode
For Radiated Emission	
Test Mode	TX Mode

Worst-case mode and channel used for 150 KHz-30 MHz power line conducted emissions was the mode and channel with the highest output power.

Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 240V/60Hz, recorded worst case.

***Note: Using a temporary antenna connector for the EUT when the conducted measurements are performed.

2. TEST METHODOLOGY

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

The radiated testing was performed at an antenna-to-EUT distance of 3 meters. All radiated and conducted emissions measurement was performed at Shenzhen LCS Compliance Testing Laboratory Ltd.

2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.2. EUT Exercise

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.203, 15.205, 15.207, 15.209 and 15.201 under the FCC Rules Part 15 Subpart C.

2.3. General Test Procedures

2.3.1 Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2.1 of ANSI C63.10-2013 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using Quasi-peak and average detector modes.

2.3.2 Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 6.3 of ANSI C63.10-2013.

3. SYSTEM TEST CONFIGURATION

3.1. Justification

The system was configured for testing in a continuous transmits condition. The duty cycle is 100% and the average correction factor is 0.

3.2. EUT Exercise Software

Powered on the EUT then the EUT will transmit at 125 KHz signal.

3.3. Special Accessories

N/A

3.4. Block Diagram/Schematics

Please refer to the related document

3.5. Equipment Modifications

Shenzhen LCS Compliance Testing Laboratory Ltd. has not done any modification on the EUT.

3.6. Test Setup

Please refer to the test setup photo.

4. SUMMARY OF TEST RESULTS

Applied Standard: FCC Part 15 Subpart C			
FCC Rules	Description of Test	Result	Remark
§15.203	Antenna Requirements	Compliant	Note 1
§15.207(a)	AC Conducted Emissions	Compliant	Note 1
§15.201(a), §15.205(a), §15.209(a), §15.215(a)	Radiated Emissions Measurement	Compliant	Note 1
§2.1049	99% and 20dB Bandwidth	Compliant	Note 1
§2.1091	RF Exposure	Compliant	Note 2

Remark:
1. Note 1 – Test results inside test report;
2. Note 2 – Test results in other test report (RF Exposure Evaluation Report);

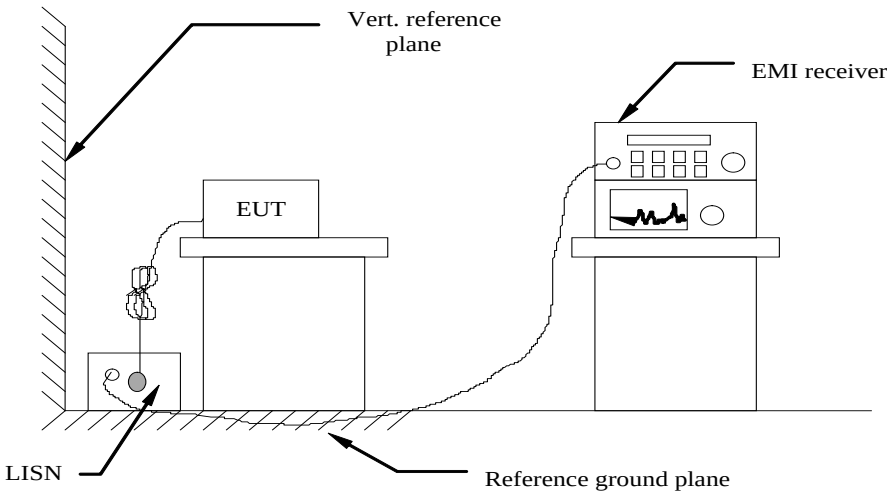
5. Power Line Conducted Emissions

5.1 Standard Applicable

According to §15.207 (a): For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range are listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

5.2 Block Diagram of Test Setup



5.3 Test Results

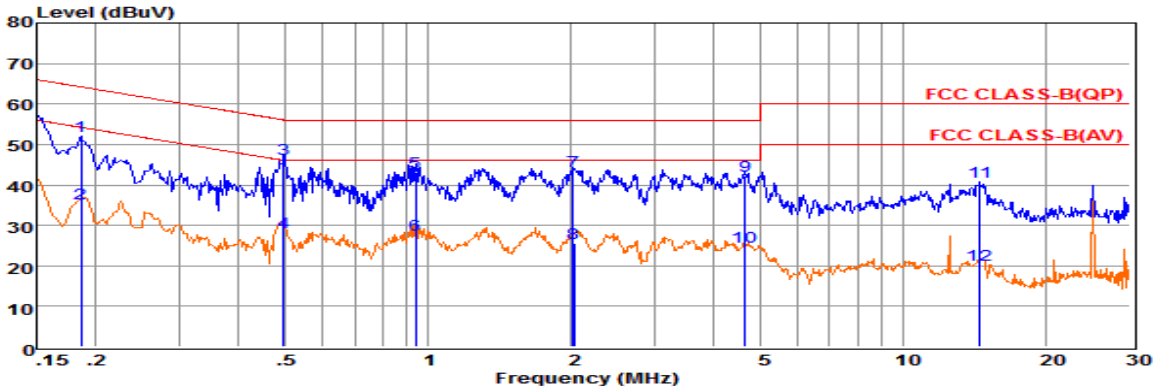
PASS

Please refer to following page.

Temperature	24.5℃	Humidity	52.8%
Test Engineer	Mina Xu	Configurations	Transmit

AC Conducted Emission of power adapter @ AC 120V/60Hz (worst case)

Line

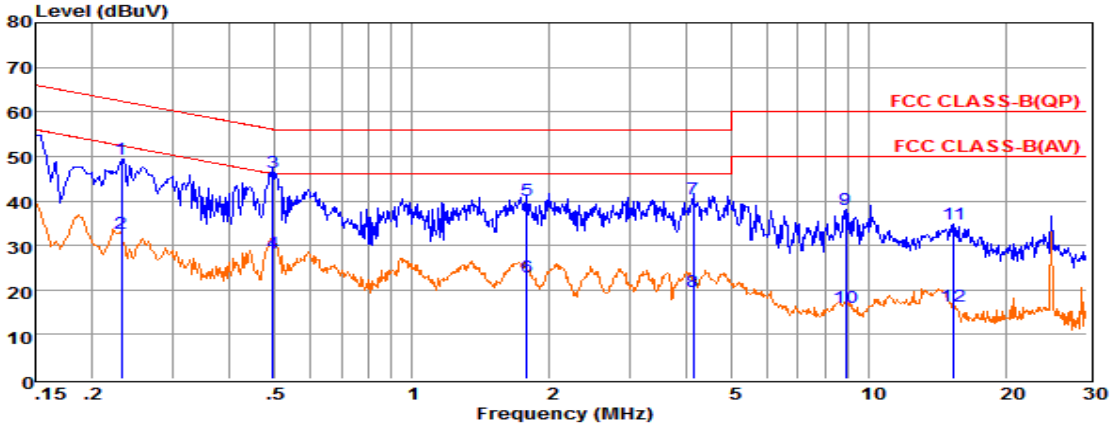


Pol: LINE

	Freq	Reading	LISNFac	CabLos	Aux2Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.19	32.37	9.62	0.02	10.00	52.01	64.20	-12.19	QP
2	0.19	15.79	9.62	0.02	10.00	35.43	54.19	-18.76	Average
3	0.50	26.73	9.62	0.04	10.00	46.39	56.05	-9.66	QP
4	0.50	8.53	9.62	0.04	10.00	28.19	46.05	-17.86	Average
5	0.94	23.47	9.63	0.05	10.00	43.15	56.00	-12.85	QP
6	0.94	7.91	9.63	0.05	10.00	27.59	46.00	-18.41	Average
7	2.02	23.76	9.64	0.05	10.00	43.45	56.00	-12.55	QP
8	2.02	5.95	9.64	0.05	10.00	25.64	46.00	-20.36	Average
9	4.65	22.55	9.65	0.06	10.00	42.26	56.00	-13.74	QP
10	4.65	4.83	9.65	0.06	10.00	24.54	46.00	-21.46	Average
11	14.52	20.96	9.71	0.10	10.00	40.77	60.00	-19.23	QP
12	14.52	0.39	9.71	0.10	10.00	20.20	50.00	-29.80	Average

Remarks: 1. Measured = Reading + LISNFac + Cable Loss + Aux2 Fac.
2. The emission levels that are 20dB below the official limit are not reported.

Neutral



Pol: NEUTRAL

	Freq	Reading	LISNFac	CabLos	Aux2Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.23	29.83	9.59	0.03	10.00	49.45	62.39	-12.94	QP
2	0.23	13.12	9.59	0.03	10.00	32.74	52.39	-19.65	Average
3	0.50	26.75	9.62	0.04	10.00	46.41	56.05	-9.64	QP
4	0.50	8.68	9.62	0.04	10.00	28.34	46.05	-17.71	Average
5	1.78	20.35	9.63	0.05	10.00	40.03	56.00	-15.97	QP
6	1.78	3.17	9.63	0.05	10.00	22.85	46.00	-23.15	Average
7	4.14	20.82	9.65	0.06	10.00	40.53	56.00	-15.47	QP
8	4.14	-0.05	9.65	0.06	10.00	19.66	46.00	-26.34	Average
9	8.92	18.34	9.71	0.08	10.00	38.13	60.00	-21.87	QP
10	8.92	-3.76	9.71	0.08	10.00	16.03	50.00	-33.97	Average
11	15.31	14.87	9.74	0.10	10.00	34.71	60.00	-25.29	QP
12	15.31	-3.56	9.74	0.10	10.00	16.28	50.00	-33.72	Average

Remarks: 1. Measured = Reading + LISNFac + Cable Loss + Aux2 Fac.
2. The emission levels that are 20dB below the official limit are not reported.

****Note: Pre-scan all modes and recorded the worst case results in this report.*

6. RADIATED EMISSION MEASUREMENT

6.1. Standard Applicable

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation. 20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) and 15.215 limit in the table below has to be followed.

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

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

6.2. Instruments Setting

Please refer to equipment list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10^{th} carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 1/B kHz for Average
RB / VB (Emission in non-restricted band)	1MHz / 1MHz for Peak, 1 MHz / 1/B kHz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB/VB 200Hz/1KHz for QP/AVG
Start ~ Stop Frequency	150kHz~30MHz / RB/VB 9kHz/30KHz for QP/AVG
Start ~ Stop Frequency	30MHz~1000MHz / RB/VB 120kHz/1MHz for QP

6.3. Test Procedure

1) Sequence of testing 9 kHz to 30 MHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.

--- If the EUT is a floor standing device, it is placed on the ground.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions.

--- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Premeasurement:

--- The turntable rotates from 0° to 315° using 45° steps.

--- The antenna height is 0.8 meter.

--- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions

Final measurement:

--- Identified emissions during the premeasurement the software maximizes by rotating the turntable position (0° to 360°) and by rotating the elevation axes (0° to 360°).

--- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QPK detector.

--- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

2) Sequence of testing 30 MHz to 1 GHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.

--- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions

--- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Premeasurement:

--- The turntable rotates from 0° to 315° using 45° steps.

--- The antenna is polarized vertical and horizontal.

--- The antenna height changes from 1 to 3 meter.

--- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement:

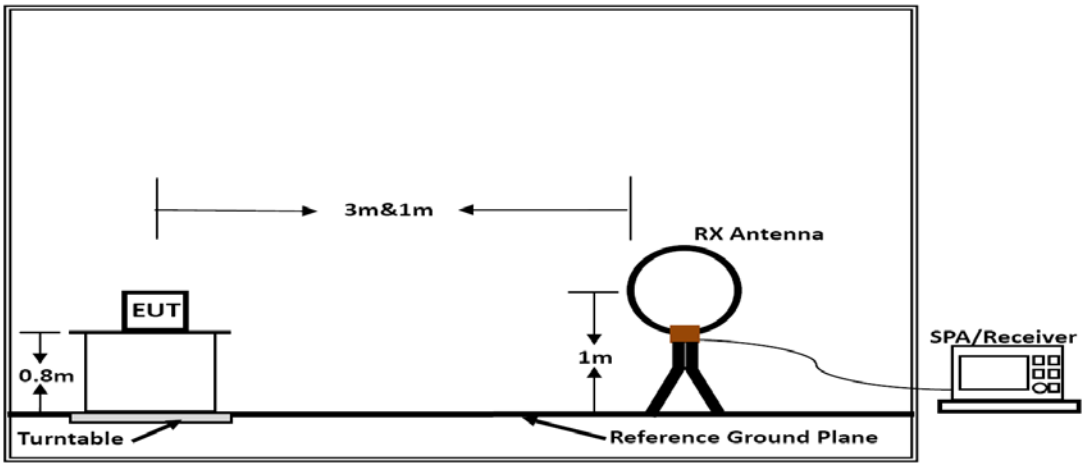
--- The final measurement will be performed with minimum the six highest peaks.

--- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position (± 45°) and antenna movement between 1 and 4 meter.

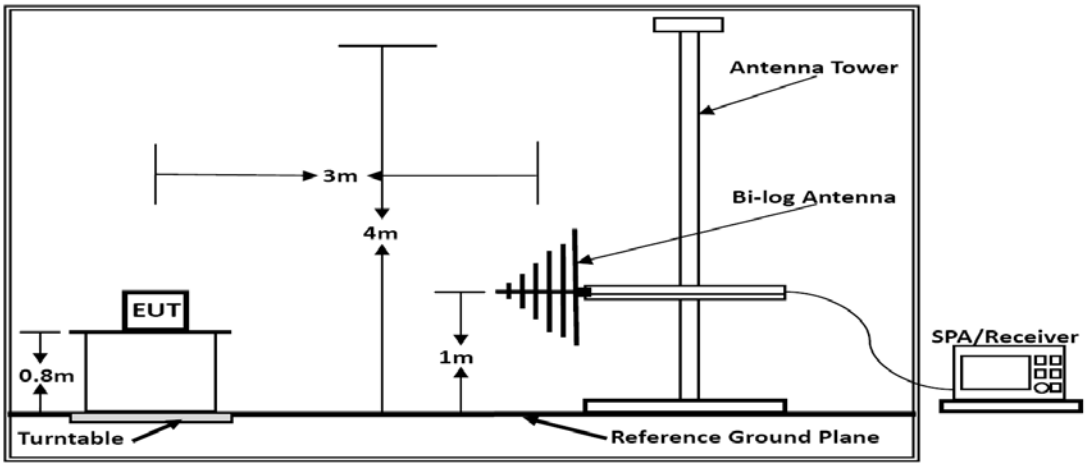
--- The final measurement will be done with QP detector with an EMI receiver.

--- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

6.4. Block Diagram of Test Setup



Below 30MHz

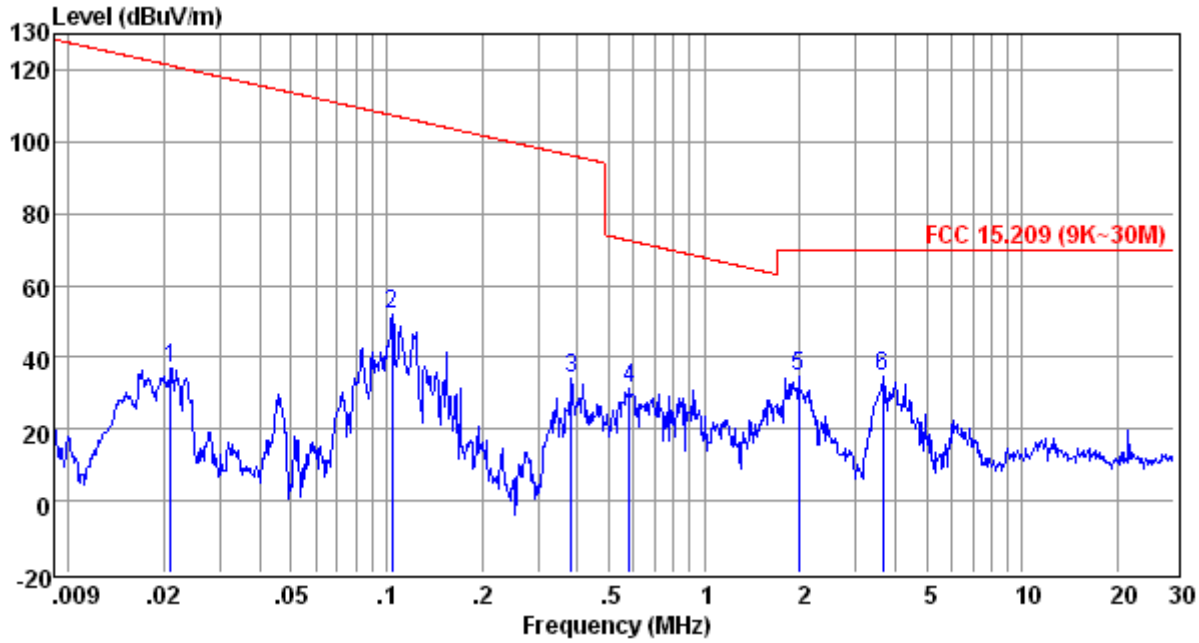


Below 1GHz

6.5. Test Results

Results of Radiated Emissions (9 kHz~30MHz)

Temperature	23.5℃	Humidity	52.8%
Test Engineer	Mina Xu	Configurations	Transmit



	Frequency (MHz)	Reading (dBuV)	Cable Loss (dB)	Antenna Factor (dB/m)	Measured (dBuV/m)	Limit (dBuV/m)	Over (dB)	Remark
1	0.02	15.96	0.30	20.61	36.87	121.22	-84.35	QP
2*	0.125	31.04	0.30	20.60	51.94	107.36	-55.42	QP
3	0.380	13.24	0.30	20.36	33.90	96.15	-62.25	QP
4	0.58	10.76	0.30	20.33	31.39	72.48	-41.09	QP
5	1.98	13.97	0.30	20.28	34.55	69.50	-34.95	QP
6	3.64	13.78	0.30	20.29	34.37	69.50	-35.13	QP

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

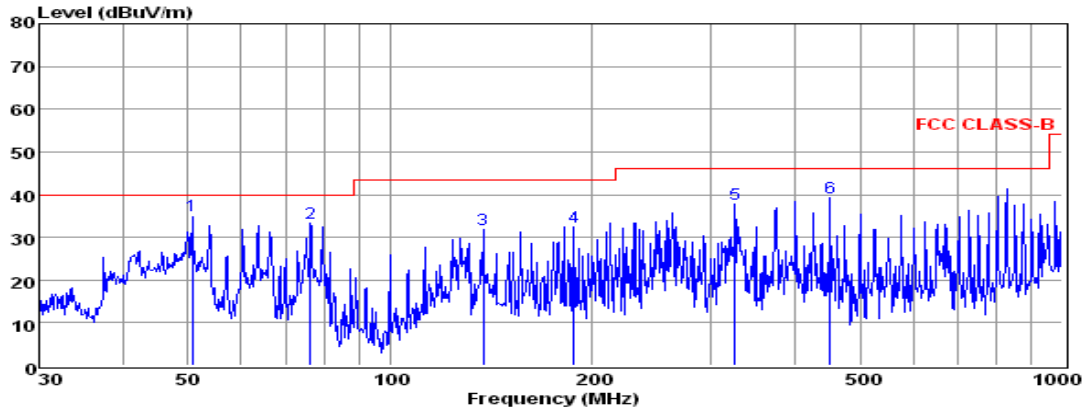
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

Measured at both 90 degree and 0 degree, recorded worst case at 90 degree.

Results of Radiated Emissions (30MHz~1GHz)

Horizontal

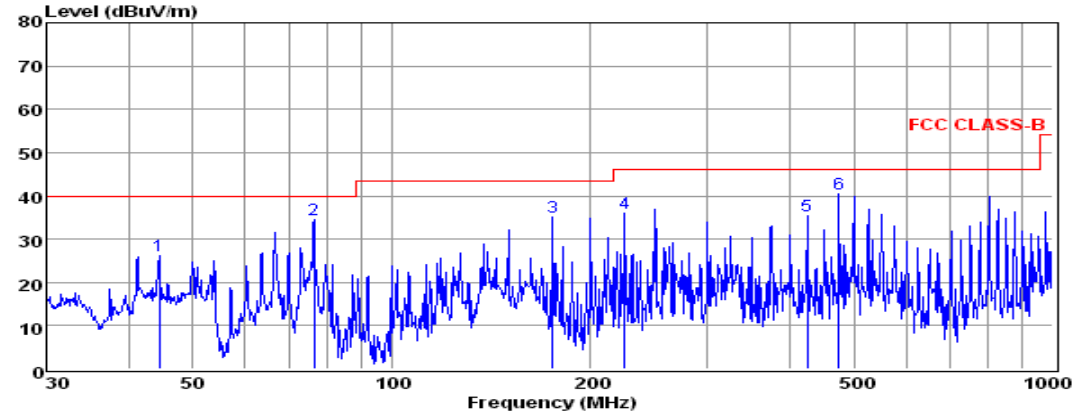


pol: HORIZONTAL

	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	50.76	21.31	0.54	13.21	35.06	40.00	-4.94	QP
2	75.98	24.68	0.54	7.94	33.16	40.00	-6.84	QP
3	137.42	22.81	0.70	8.38	31.89	43.50	-11.61	QP
4	187.75	21.19	0.98	10.36	32.53	43.50	-10.97	QP
5	325.60	23.15	1.04	13.55	37.74	46.00	-8.26	QP
6	451.14	22.25	1.35	15.58	39.18	46.00	-6.82	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that ate 20db blow the offficial limit are not reported

Vertical



pol: VERTICAL

	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	44.43	12.35	0.41	13.55	26.31	40.00	-13.69	QP
2	76.24	26.05	0.47	7.98	34.50	40.00	-5.50	QP
3	175.04	24.95	0.73	9.33	35.01	43.50	-8.49	QP
4	225.31	23.75	0.89	11.44	36.08	46.00	-9.92	QP
5	425.03	18.84	1.16	15.49	35.49	46.00	-10.51	QP
6	475.50	23.27	1.33	15.96	40.56	46.00	-5.44	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that ate 20db blow the offficial limit are not reported

Note:

1). Pre-scan all modes and recorded the worst case results in this report.

2). Emission level (dBuV/m) = 20 log Emission level (uV/m).

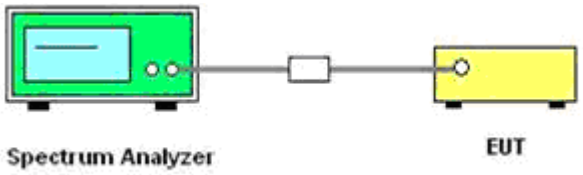
3). Corrected Reading: Antenna Factor + Cable Loss + Read Level = Level.

7. 99% and 20dB Bandwidth Measurement

7.1. Standard Applicable

According to §15.215, device must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

7.2. Block Diagram of Test Setup



7.3. Test Procedure

Use the following spectrum analyzer settings:

Span = 5 KHz

RBW = 1 KHz

VBW = 3 KHz

Sweep = auto

Detector function = peak

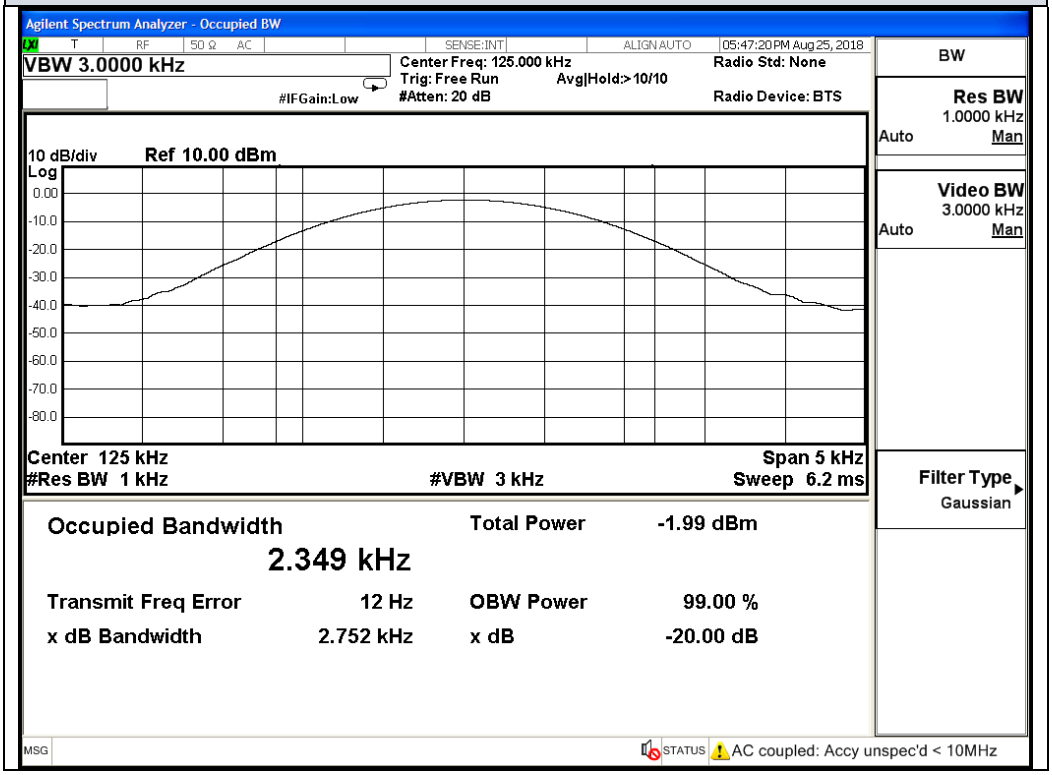
Trace = max hold

The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).

7.4. Test Results

99% and 20dB Bandwidth Measurement			
Test Frequency (KHz)	99% Occupied Bandwidth (KHz)	20dB Bandwidth (Hz)	Limit (KHz)
125	2.349	2.752	No Limit

99% and 20dB Bandwidth
OOK



8. Antenna Requirements

8.1 Standard Applicable

According to antenna requirement of §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. The manufacturer may design the unit so that a broken antenna can be re-placed by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

8.2 Antenna Connected Construction

8.2.1. Standard Applicable

According to § 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.

8.2.2. Antenna Connector Construction

The antenna gain used for transmitting is 0dBi, the antenna is an external antenna connect to PCB board and no consideration of replacement. Please see EUT photo for details.

8.3. Results: Compliance.

9. LIST OF MEASURING EQUIPMENTS

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1	Power Meter	R&S	NRVS	100444	2018-06-16	2019-06-15
2	Power Sensor	R&S	NRV-Z81	100458	2018-06-16	2019-06-15
3	Power Sensor	R&S	NRV-Z32	10057	2018-06-16	2019-06-15
4	ESA-E SERIES SPECTRUM ANALYZER	Agilent	E4407B	MY41440754	2017-11-17	2018-11-16
5	MXA Signal Analyzer	Agilent	N9020A	MY49100040	2018-06-16	2019-06-15
6	SPECTRUM ANALYZER	R&S	FSP	100503	2018-06-16	2019-06-15
7	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2018-06-16	2019-06-15
8	Positioning Controller	MF	MF-7082	/	2018-06-16	2019-06-15
9	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
10	EMI Test Receiver	R&S	ESR 7	101181	2018-06-16	2019-06-15
11	AMPLIFIER	QuieTek	QTK-A2525G	CHM10809065	2017-11-17	2018-11-16
12	Active Loop Antenna	SCHWARZBECK	FMZB 1519B	00005	2018-06-22	2019-06-21
13	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2018-05-02	2019-05-01
14	Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1925	2018-07-02	2019-07-01
15	Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	791	2017-09-20	2020-09-19
16	Broadband Preamplifier	SCHWARZBECK	BBV 9719	9719-025	2017-09-20	2020-09-19
17	RF Cable-R03m	Jye Bao	RG142	CB021	2018-06-16	2019-06-15
18	RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	2018-06-16	2019-06-15
19	TEST RECEIVER	R&S	ESCI	101142	2018-06-16	2019-06-15
20	RF Cable-CON	UTIFLEX	3102-26886-4	CB049	2018-06-16	2019-06-15
21	10dB Attenuator	SCHWARZBECK	MTS-IMP136	261115-001-0032	2018-06-16	2019-06-15
22	Artificial Mains	R&S	ENV216	101288	2018-06-16	2019-06-15
23	RF Control Unit	JS Tonscend Corporation	JS0806-2	178060073	2017-10-28	2018-10-27
24	JS1120-3 BT/WIFI Test Software	JS Tonscend Corporation	JS1120-3	/	N/A	N/A
Note: All equipment is calibrated through GUANGZHOU LISAI CALIBRATION AND TEST CO.,LTD.						

10. TEST SETUP PHOTOGRAPHS OF EUT

Please refer to separated files for Test Setup Photos of the EUT.

11. EXTERIOR PHOTOGRAPHS OF THE EUT

Please refer to separated files for External Photos of the EUT.

12. INTERIOR PHOTOGRAPHS OF THE EUT

Please refer to separated files for Internal Photos of the EUT.

----------THE END OF TEST REPORT----------