

APPLICATION CERTIFICATION FCC Part 15C

On Behalf of

Shenzhen Fine Offset Electronics Co., Ltd.

Weather Station (Transmitter)

Model No.: WH42B

FCC ID: WA5WH42B

Prepared for : Shenzhen Fine Offset Electronics Co., Ltd.
Address : 2/F., Building no.3, Ping Shan Minqi Industrial Park, Xili
Town, Nanshan District, Shenzhen City, China

Prepared by : Shenzhen Accurate Technology Co., Ltd.
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Report Number : ATE20190312
Date of Test : May 24-May 25, 2019
Date of Report : May 28, 2019

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Test Report Certification

Applicant : Shenzhen Fine Offset Electronics Co., Ltd.

Address : 2/F., Building no.3, Ping Shan Minqi Industrial Park, Xili Town, Nanshan District, Shenzhen City, China

Manufacturer : Shenzhen Fine Offset Electronics Co., Ltd.

Address : 2/F., Building no.3, Ping Shan Minqi Industrial Park, Xili Town, Nanshan District, Shenzhen City, China

Product : Weather Station (Transmitter)

Model No. : WH42B

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 : May 24-May 25, 2019
Date of Report : May 28, 2019

Prepared by :
(S. Yang, Engineer)

Approved & Authorized Signer :
(Sean Liu, Manager)



1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Weather Station (Transmitter)
Model Number	:	WH42B
Frequency Range	:	915MHz
Number of Channels	:	1
Modulation mode	:	FSK
Antenna Gain	:	2.15dBi
Antenna type	:	Wire Antenna
Power Supply	:	DC 2.4V

1.2. Special Accessory and Auxiliary Equipment

N/A

1.3. 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 (ISED) 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

1.4. 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

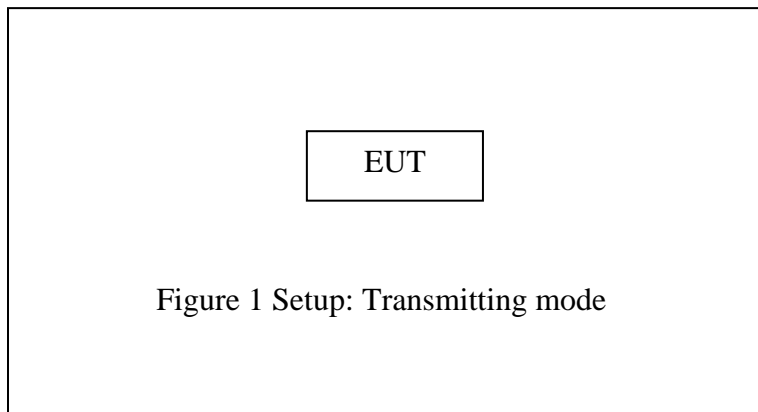
Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Cal. Interval
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 05, 2019	One Year
EMI Test Receiver	Rohde&Schwarz	ESR	101817	Jan. 05, 2019	One Year
Spectrum Analyzer	Rohde&Schwarz	FSV-40	101495	Jan. 05, 2019	One Year
Pre-Amplifier	Agilent	8447D	294A10619	Jan. 05, 2019	One Year
Pre-Amplifier	Compliance Direction	RSU-M2	38322	Jan. 05, 2019	One Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 05, 2019	One Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 05, 2019	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 05, 2019	One Year
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 05, 2019	One Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 05, 2019	One Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 05, 2019	One Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 05, 2019	One Year
Conducted Emission Measurement Software: ES-K1 V1.71					
Radiated Emission Measurement Software: EZ EMC V1.1.4.2					

3. OPERATION OF EUT DURING TESTING

3.1. Operating Mode

The mode is used: **Transmitting mode**
TX Channel: 915MHz

3.2. Configuration and peripherals



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(d), Section 15.35	Radiated Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	Compliant
Section 15.203	Antenna Requirement	Compliant

5. 20DB BANDWIDTH TEST

5.1. Block Diagram of Test Setup



5.2. The Requirement For Section 15.215(c)

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.

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 915MHz.

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.

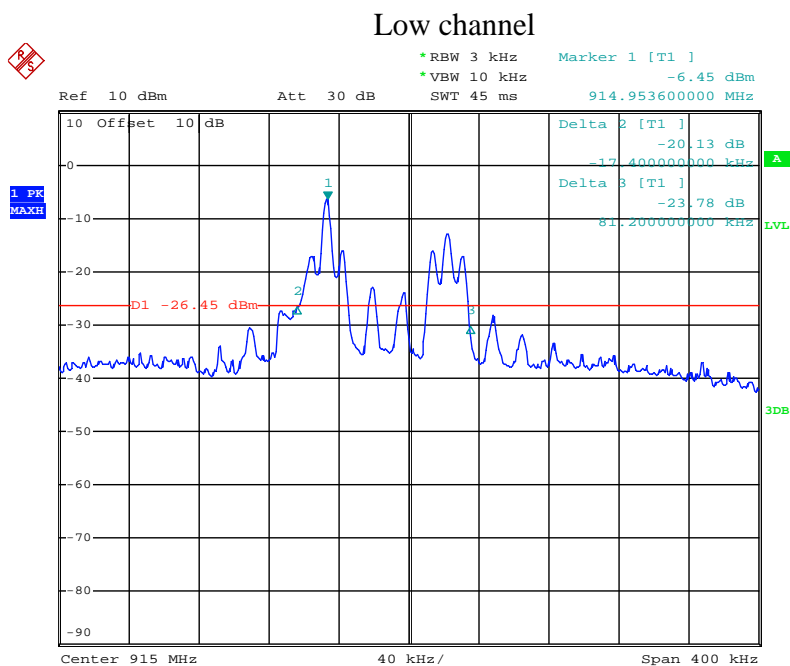
5.4.3. The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW.

5.4.4. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

5.5. Test Results

Frequency (MHz)	20 dB Bandwidth (MHz)
915	0.099

The spectrum analyzer plots are attached as below.

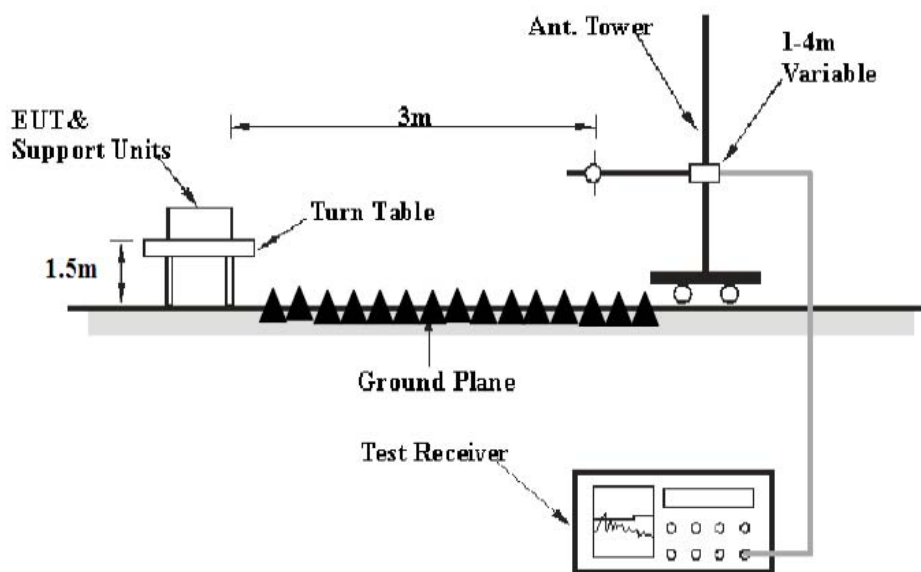


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6. BAND EDGE COMPLIANCE TEST

6.1. Block Diagram of Test Setup

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



6.2. The Requirement For Section 15.249(d)

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.

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 915MHz.

6.5. Test Procedure

Radiate Band Edge:

6.5.1. The EUT is placed on a turntable, which is 0.8m 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:

6.5.5. RBW=120kHz, VBW=300kHz

6.5.6. The band edges was measured and recorded.

6.6. Test Results

Pass.

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.

The spectrum analyzer plots are attached as below.

Job No.: star2016 #2933

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Weather Station (Transmitter)

Mode: TX

Model: WH42B

Manufacturer: Fine Offset

Polarization: Horizontal

Power Source: DC 2.4V

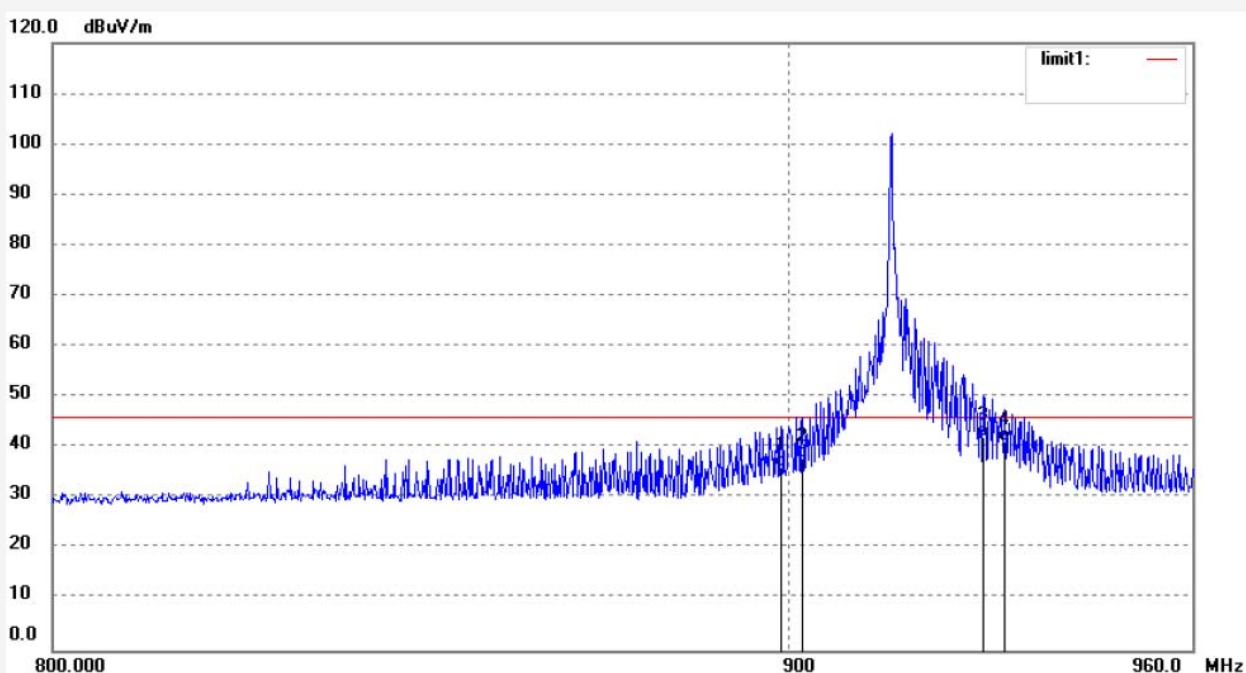
Date: 19/05/25/

Time: 10/12/34

Engineer Signature: star

Distance: 3m

Note: Report No.: ATE20190312



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	898.8799	34.12	2.17	36.29	46.00	-9.71	QP			
2	902.0000	35.69	2.18	37.87	46.00	-8.13	QP			
3	928.0000	39.52	2.73	42.25	46.00	-3.75	QP			
4	931.6798	38.46	2.78	41.24	46.00	-4.76	QP			

Job No.: star2016 #2932

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Weather Station (Transmitter)

Mode: TX

Model: WH42B

Manufacturer: Fine Offset

Polarization: Vertical

Power Source: DC 2.4V

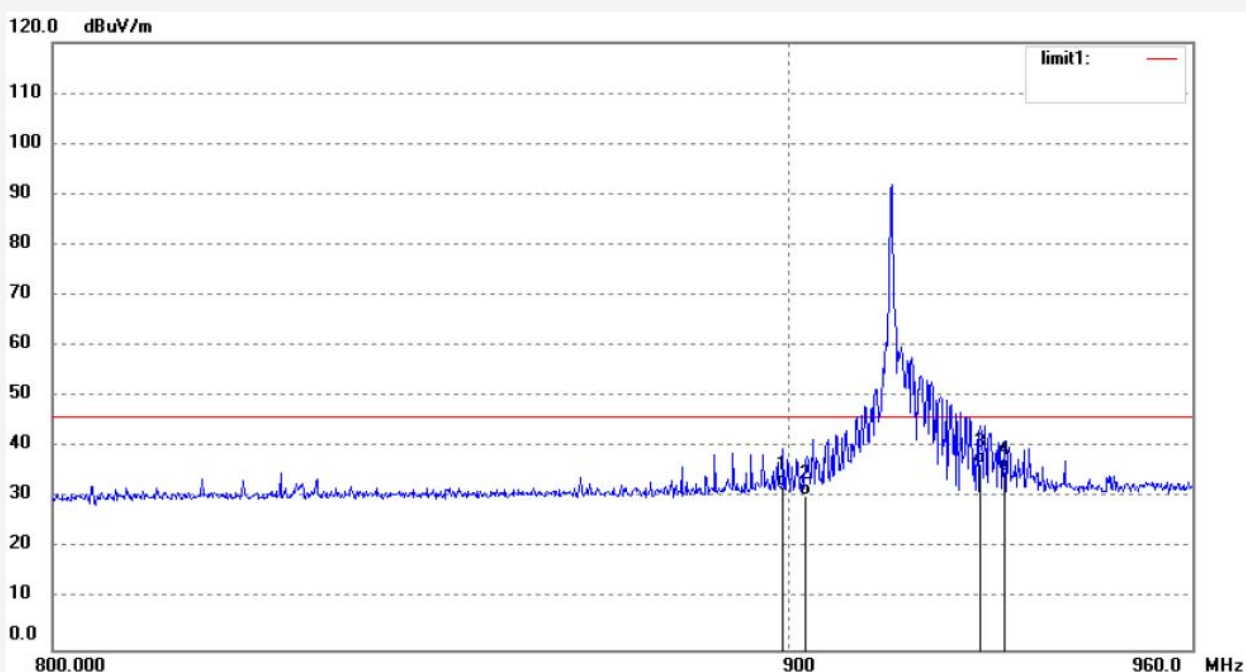
Date: 19/05/25/

Time: 10/10/43

Engineer Signature: star

Distance: 3m

Note: Report No.: ATE20190312

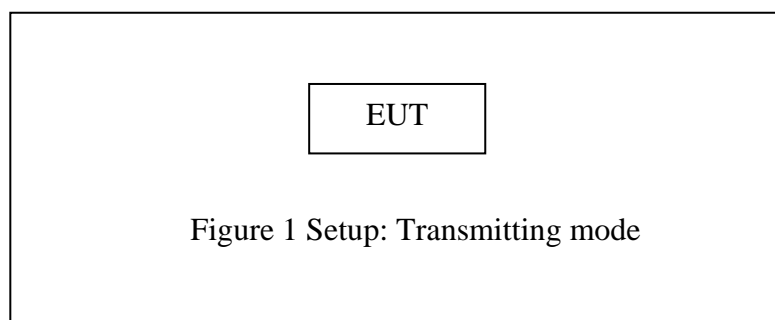


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	899.2000	30.00	2.17	32.17	46.00	-13.83	QP			
2	902.0000	28.13	2.18	30.31	46.00	-15.69	QP			
3	928.0000	34.00	2.73	36.73	46.00	-9.27	QP			
4	931.6798	32.40	2.78	35.18	46.00	-10.82	QP			

7. RADIATED SPURIOUS EMISSION TEST

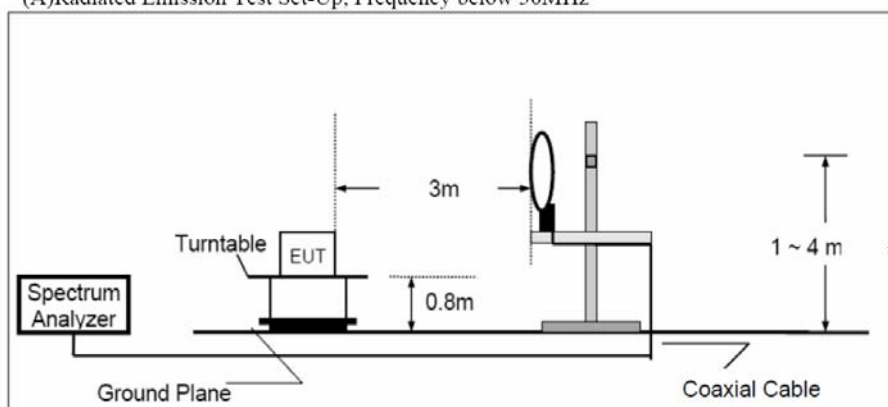
7.1. Block Diagram of Test Setup

7.1.1. Block diagram of connection between the EUT and peripherals

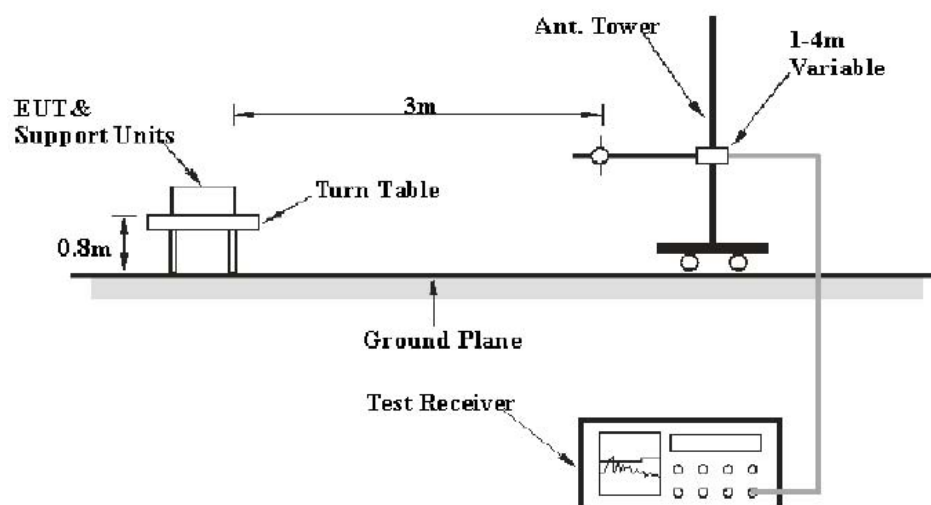


7.1.2. Semi-Anechoic Chamber Test Setup Diagram

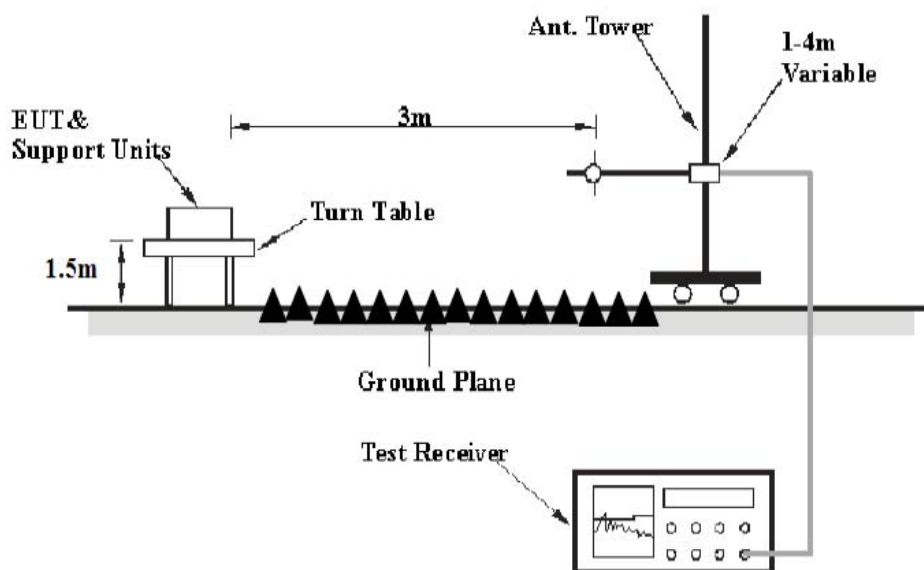
(A) Radiated Emission Test Set-Up, Frequency below 30MHz



(B) Radiated Emission Test Set-Up, Frequency 30MHz-1GHz



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



7.2. The Limit For Section 15.249(d)

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.

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			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510

²Above 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 Section 15.209 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 915MHz.

7.6. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8m(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. This EUT was tested in 3 orthogonal positions and the worst case position data was reported.

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 10GHz 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

7.7. Data Sample

Frequency (MHz)	Reading (dB μ v)	Factor (dB/m)	Result (dB μ v/m)	Limit (dB μ v/m)	Margin (dB)	Remark
X.XX	48.69	-13.35	35.34	46	-10.66	QP

Frequency(MHz) = Emission frequency in MHz

Reading(dB μ v) = Uncorrected Analyzer/Receiver reading

Factor (dB/m) = Antenna factor + Cable Loss – Amplifier gain

Result(dB μ v/m) = Reading(dB μ v) + Factor(dB/m)

Limit (dB μ v/m) = Limit stated in standard

Margin (dB) = Result(dB μ v/m) - Limit (dB μ v/m)

QP = Quasi-peak Reading

Calculation Formula:

Margin(dB) = Result (dB μ V/m)–Limit(dB μ V/m)

Result(dB μ V/m)= Reading(dB μ V)+ 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. Test Results

Pass.

The frequency range from 9 kHz to 10GHz is checked.

The radiation emissions from 9kHz-30MHz are not reported, because the test values lower than the limits of 20dB.

The spectrum analyzer plots are attached as below.



30MHz to 1GHz Test data

ACCURATE TECHNOLOGY CO., LTD.

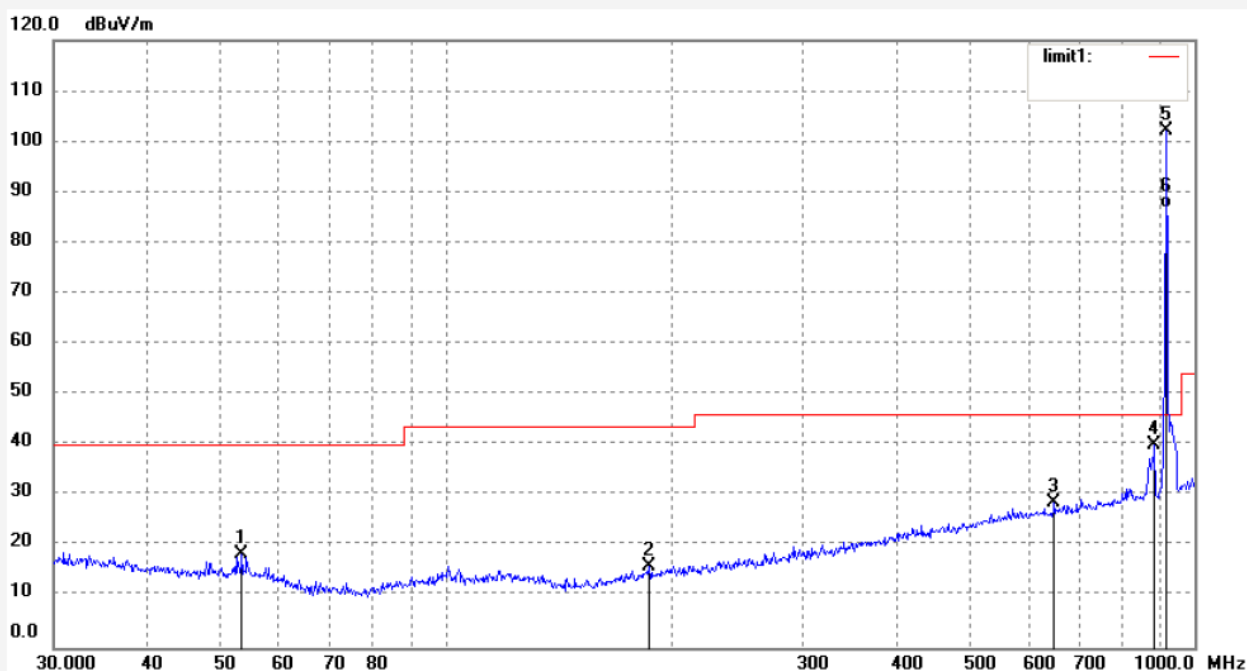
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star2016 #2928
Standard: FCC Part 15C 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Weather Station (Transmitter)
Mode: TX
Model: WH42B
Manufacturer: Fine Offset

Polarization: Horizontal
Power Source: DC 2.4V
Date: 19/05/25/
Time: 9/29/01
Engineer Signature: star
Distance: 3m

Note: Report No.: ATE20190312



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	53.5052	31.19	-12.85	18.34	40.00	-21.66	peak			
2	187.0954	28.46	-12.53	15.93	43.50	-27.57	peak			
3	649.6597	30.45	-1.81	28.64	46.00	-17.36	peak			
4	884.5027	37.97	2.08	40.05	46.00	-5.95	peak			
5	915.0010	99.86	2.37	102.23	114.00	-11.77	peak			
6	915.0140	84.43	2.37	86.80	94.00	-7.2	AVG			

Job No.: star2016 #2929

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Weather Station (Transmitter)

Mode: TX

Model: WH42B

Manufacturer: Fine Offset

Polarization: Vertical

Power Source: DC 2.4V

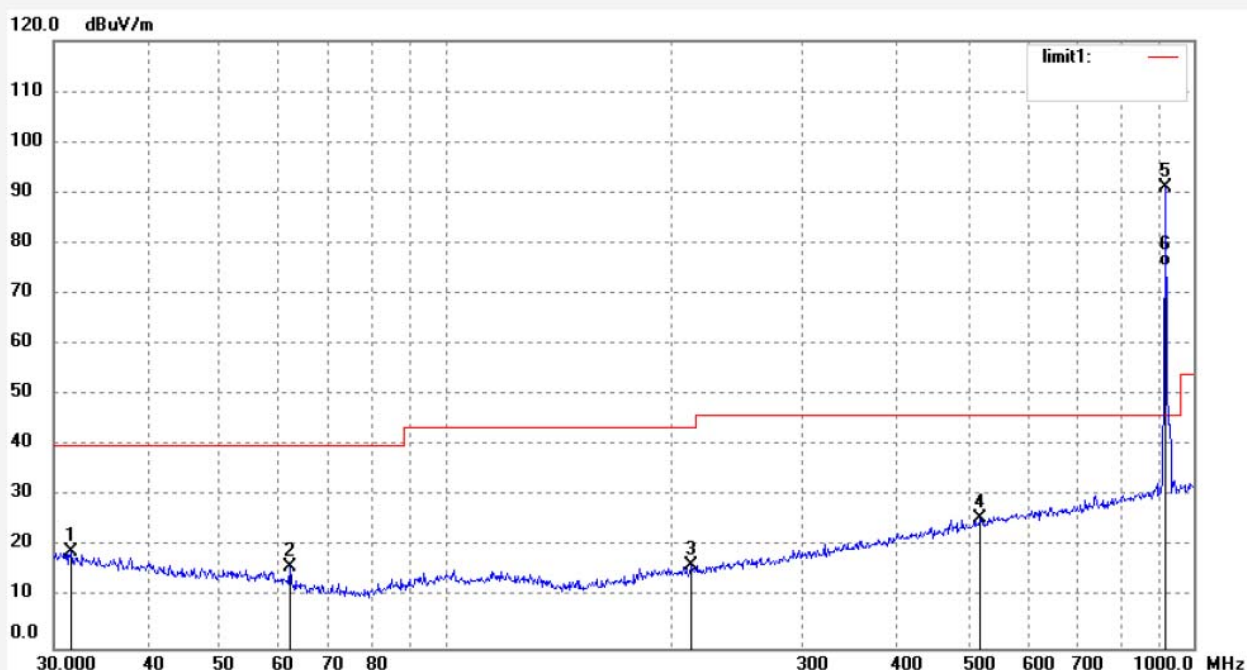
Date: 19/05/25/

Time: 9/44/44

Engineer Signature: star

Distance: 3m

Note: Report No.: ATE20190312



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	31.6202	28.58	-9.41	19.17	40.00	-20.83	peak			
2	61.9951	30.71	-14.62	16.09	40.00	-23.91	peak			
3	213.0149	28.10	-11.81	16.29	43.50	-27.21	peak			
4	519.0647	29.65	-3.86	25.79	46.00	-20.21	peak			
5	915.0040	88.56	2.37	90.93	114.00	-23.07	peak			
6	915.0087	73.17	2.37	75.54	94.00	-18.46	AVG			

Job No.: star2016 #2931

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Weather Station (Transmitter)

Mode: TX

Model: WH42B

Manufacturer: Fine Offset

Polarization: Horizontal

Power Source: DC 2.4V

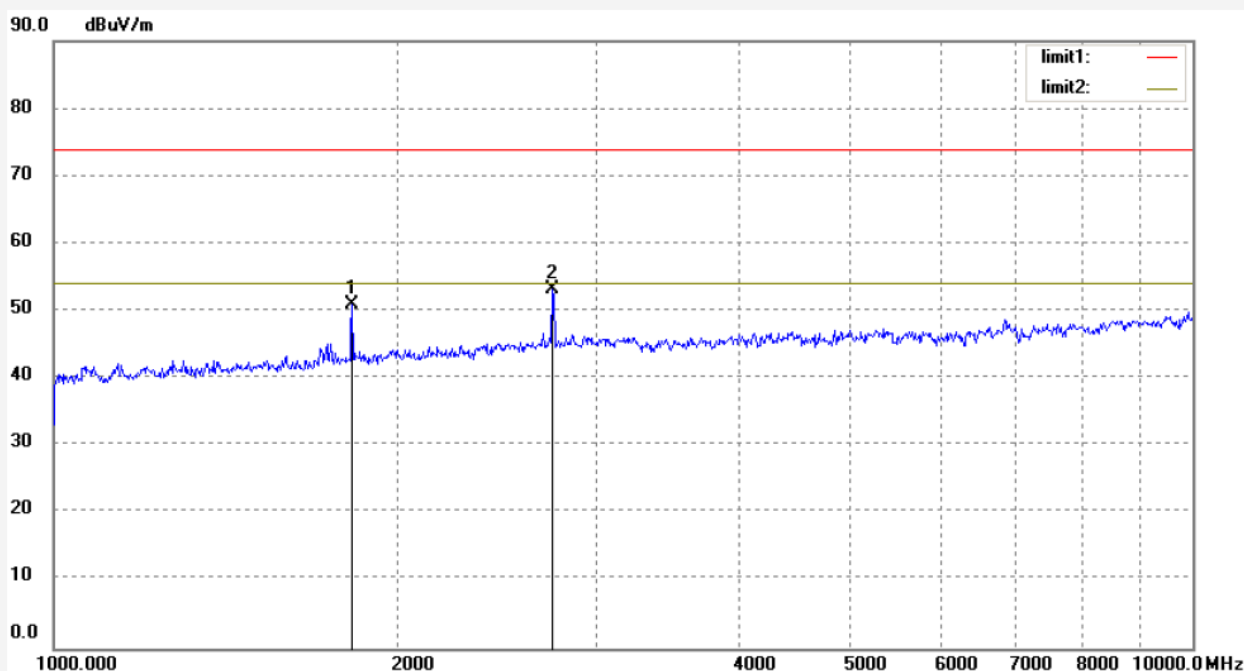
Date: 19/05/25/

Time: 9/53/54

Engineer Signature: star

Distance: 3m

Note: Report No.: ATE20190312



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1830.100	53.51	-2.59	50.92	74.00	-23.08	peak			
2	2745.074	51.58	1.58	53.16	74.00	-20.84	peak			



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Job No.: star2016 #2930

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Weather Station (Transmitter)

Mode: TX

Model: WH42B

Manufacturer: Fine Offset

Polarization: Vertical

Power Source: DC 2.4V

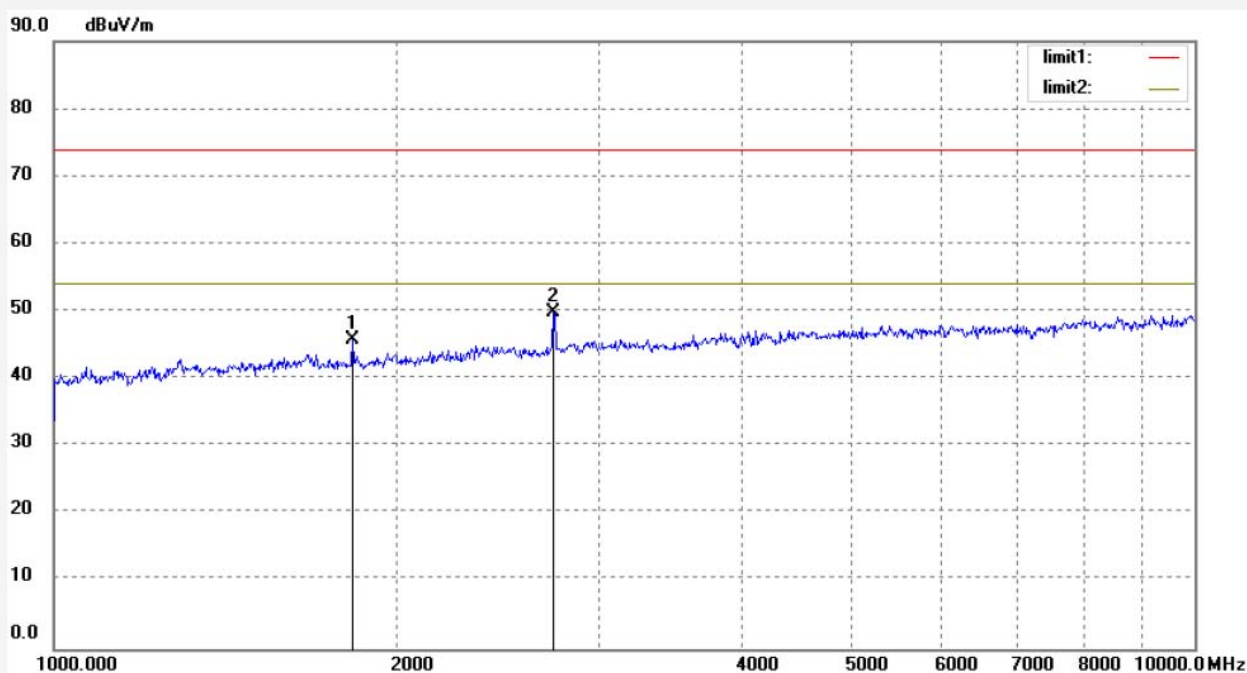
Date: 19/05/25/

Time: 9/51/15

Engineer Signature: star

Distance: 3m

Note: Report No.: ATE20190312

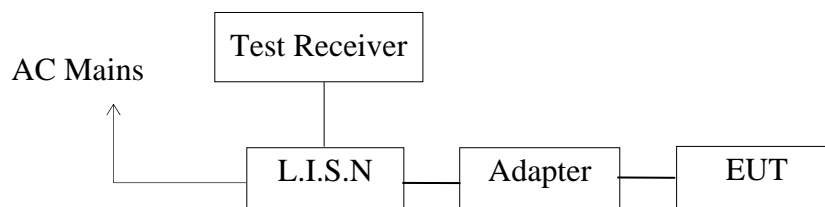


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1830.100	48.29	-2.59	45.70	74.00	-28.30	peak			
2	2745.074	48.35	1.58	49.93	74.00	-24.07	peak			

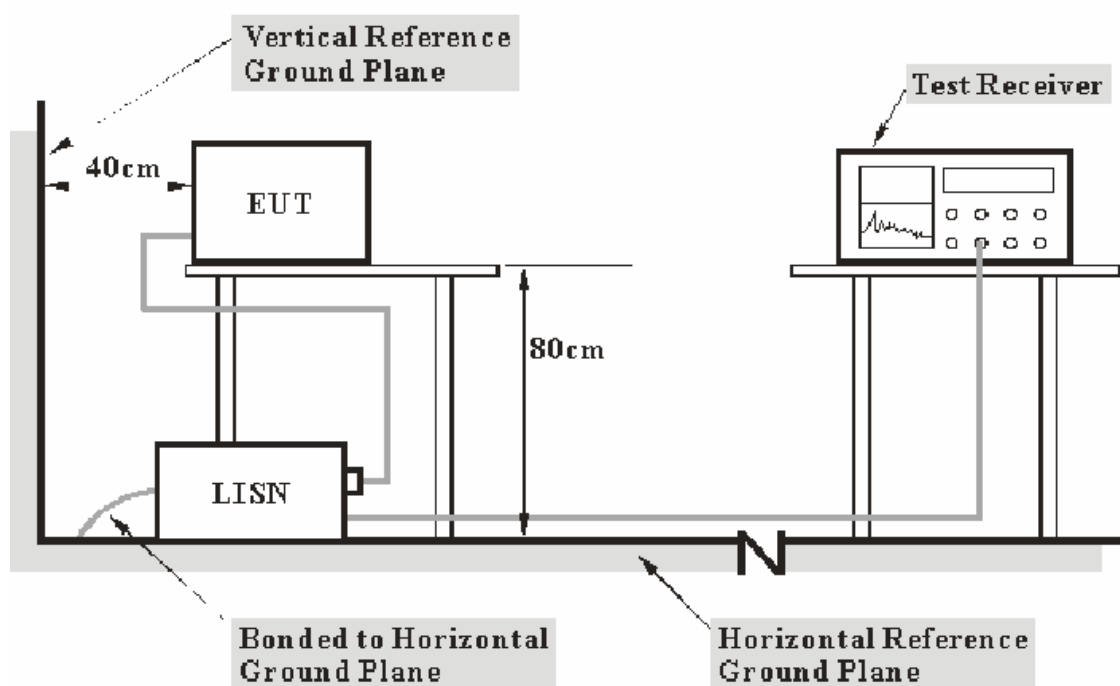
8. AC POWER LINE CONDUCTED EMISSION TEST

8.1. Block Diagram of Test Setup

8.1.1. Block diagram of connection between the EUT and simulators



8.1.2. Test System Setup



- Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

8.2. Test Limits

Frequency (MHz)	Limit dB(μV)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0
NOTE1: The lower limit shall apply at the transition frequencies.		
NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.		

8.3. Configuration of EUT on Measurement

The equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a 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 test mode and measure it.

8.5. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

8.6. Data Sample

Frequency (MHz)	Transducer value (dB)	QuasiPeak Level (dBμV)	Average Level (dBμV)	QuasiPeak Limit (dBμV)	Average Limit (dBμV)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
X.XX	10.6	25.3	17.0	59.0	49.0	33.4	31.7	Pass

Frequency(MHz) = Emission frequency in MHz

Transducer value(dB) = Insertion loss of LISN + Cable Loss

Level(dBμV) = Quasi-peak Reading/Average Reading + Transducer value

Limit (dBμV) = Limit stated in standard

Margin = Limit (dBμV) - Level (dBμV)

Calculation Formula:

Margin = Limit (dBμV) - Level (dBμV)

8.7. Test Result

Pass.

The frequency range from 150kHz to 30MHz is checked.

Maximizing procedure was performed on the six (6) highest emissions of the EUT. Emissions attenuated more than 20 dB below the permissible value are not reported.

All data was recorded in the Quasi-peak and average detection mode.

The spectral diagrams are attached as below.

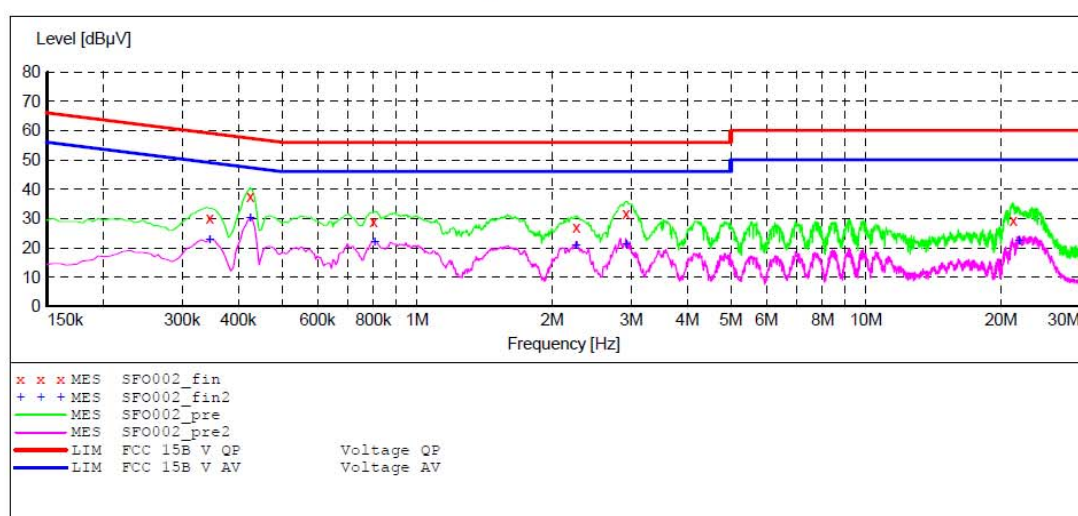
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15 C

EUT: Weather Station (Transmitter) M/N:WH42B
 Manufacturer: Fine Offset
 Operating Condition: Wireless communication
 Test Site: 1#Shielding Room
 Operator: star
 Test Specification: L 240V/60Hz
 Comment: Report No.: ATE20190312
 Start of Test: 5/24/2019 / 3:33:21PM

SCAN TABLE: "V 9K-30MHz fin"

Short Description: SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008
 Average
 150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average



MEASUREMENT RESULT: "SFO002_fin"

5/24/2019 3:37PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.345000	30.10	10.6	59	29.0	QP	L1	GND
0.425000	37.50	10.7	57	19.8	QP	L1	GND
0.800000	28.90	10.8	56	27.1	QP	L1	GND
2.260000	27.00	11.0	56	29.0	QP	L1	GND
2.920000	31.80	11.1	56	24.2	QP	L1	GND
21.295000	29.40	11.4	60	30.6	QP	L1	GND

MEASUREMENT RESULT: "SFO002_fin2"

5/24/2019 3:37PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.345000	22.60	10.6	49	26.5	AV	L1	GND
0.425000	29.90	10.7	47	17.4	AV	L1	GND
0.805000	22.00	10.8	46	24.0	AV	L1	GND
2.260000	20.60	11.0	46	25.4	AV	L1	GND
2.920000	21.10	11.1	46	24.9	AV	L1	GND
21.910000	22.20	11.4	50	27.8	AV	L1	GND

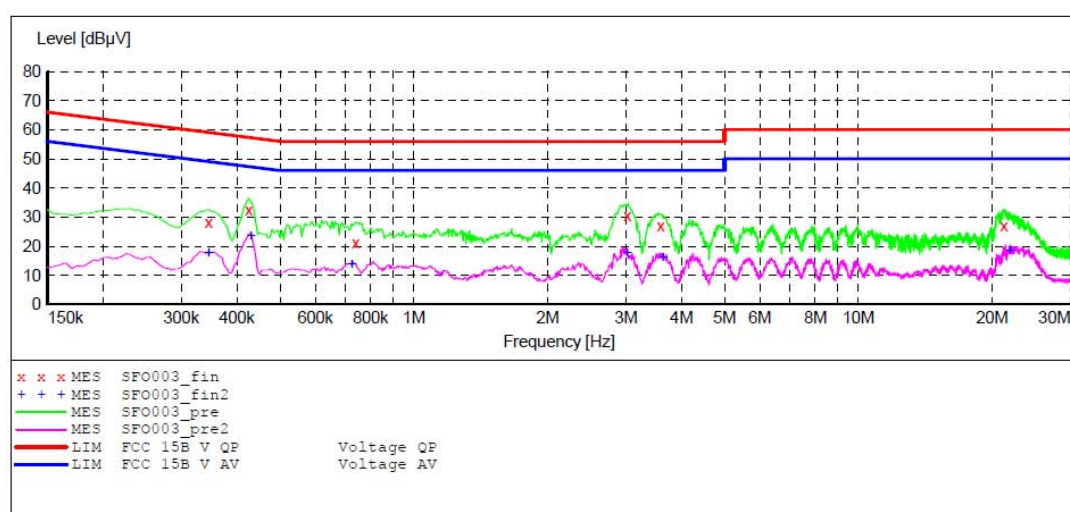
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 C

EUT: Weather Station (Transmitter) M/N:WH42B
 Manufacturer: Fine Offset
 Operating Condition: Wireless communication
 Test Site: 1#Shielding Room
 Operator: star
 Test Specification: N 240V/60Hz
 Comment: Report No.: ATE20190312
 Start of Test: 5/24/2019 / 3:38:39PM

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008
 Average
 150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average



MEASUREMENT RESULT: "SFO003_fin"

5/24/2019 3:42PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.345000	28.00	10.6	59	31.1	QP	N	GND
0.425000	32.30	10.7	57	25.0	QP	N	GND
0.740000	21.20	10.8	56	34.8	QP	N	GND
3.020000	30.40	11.1	56	25.6	QP	N	GND
3.590000	27.00	11.1	56	29.0	QP	N	GND
21.235000	27.10	11.4	60	32.9	QP	N	GND

MEASUREMENT RESULT: "SFO003_fin2"

5/24/2019 3:42PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.345000	17.70	10.6	49	31.4	AV	N	GND
0.430000	23.50	10.7	47	23.8	AV	N	GND
0.725000	13.80	10.8	46	32.2	AV	N	GND
3.020000	17.70	11.1	46	28.3	AV	N	GND
3.630000	16.10	11.1	46	29.9	AV	N	GND
21.910000	18.30	11.4	50	31.7	AV	N	GND

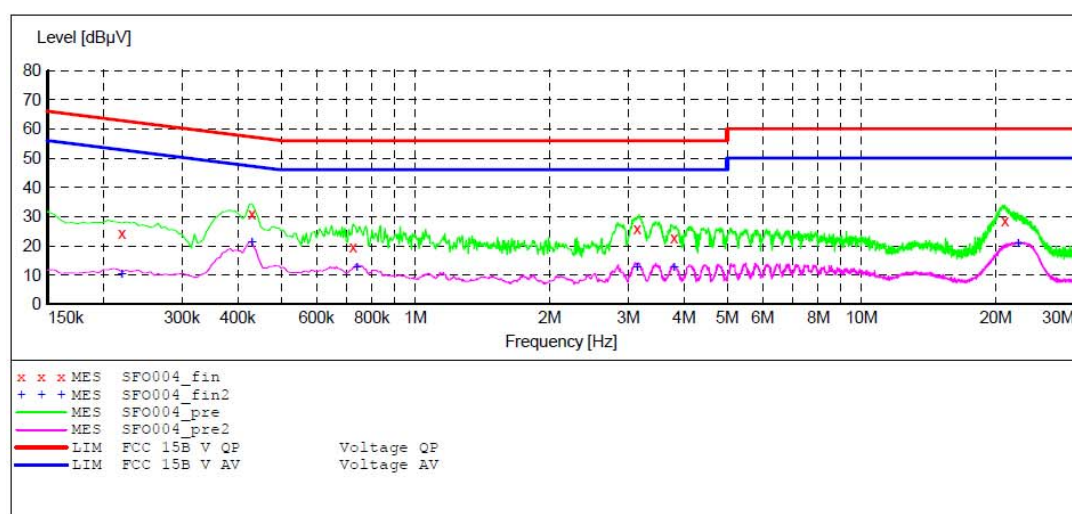
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 C

EUT: Weather Station (Transmitter) M/N:WH42B
 Manufacturer: Fine Offset
 Operating Condition: Wireless communication
 Test Site: 1#Shielding Room
 Operator: star
 Test Specification: N 120V/60Hz
 Comment: Report No.: ATE20190312
 Start of Test: 5/24/2019 / 3:44:14PM

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008
 Average
 150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average



MEASUREMENT RESULT: "SFO004_fin"

5/24/2019 3:48PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.220000	24.10	10.6	63	38.7	QP	N	GND
0.430000	31.00	10.7	57	26.3	QP	N	GND
0.725000	19.60	10.8	56	36.4	QP	N	GND
3.140000	25.60	11.1	56	30.4	QP	N	GND
3.800000	22.70	11.1	56	33.3	QP	N	GND
20.950000	28.60	11.4	60	31.4	QP	N	GND

MEASUREMENT RESULT: "SFO004_fin2"

5/24/2019 3:48PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.220000	10.20	10.6	53	42.6	AV	N	GND
0.430000	21.10	10.7	47	26.2	AV	N	GND
0.740000	12.70	10.8	46	33.3	AV	N	GND
3.140000	12.60	11.1	46	33.4	AV	N	GND
3.800000	12.50	11.1	46	33.5	AV	N	GND
22.450000	20.80	11.4	50	29.2	AV	N	GND

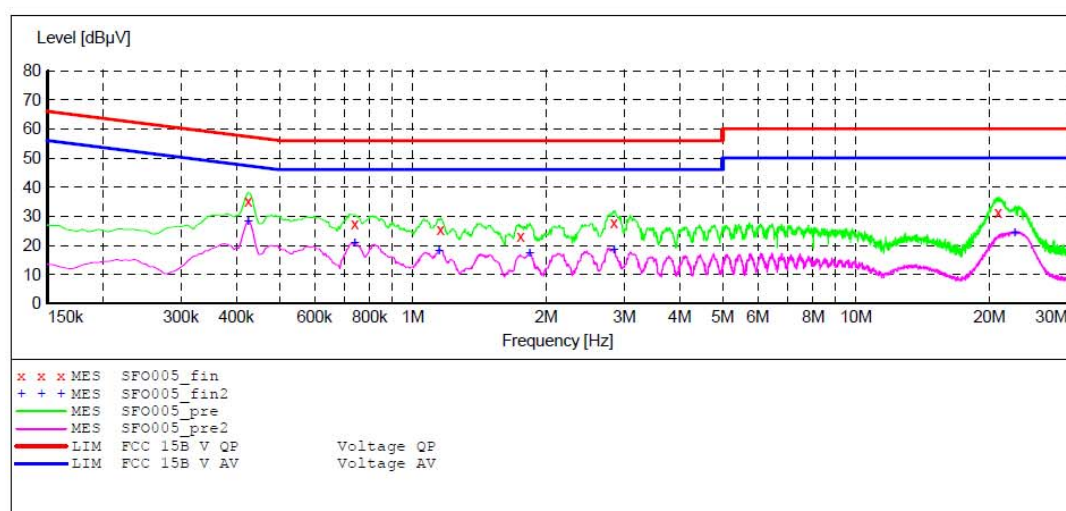
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 C

EUT: Weather Station (Transmitter) M/N:WH42B
 Manufacturer: Fine Offset
 Operating Condition: Wireless communication
 Test Site: 1#Shielding Room
 Operator: star
 Test Specification: L 120V/60Hz
 Comment: Report No.: ATE20190312
 Start of Test: 5/24/2019 / 3:49:32PM

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008
 Average
 150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average



MEASUREMENT RESULT: "SFO005_fin"

5/24/2019 3:54PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.425000	35.20	10.7	57	22.1	QP	L1	GND
0.740000	27.30	10.8	56	28.7	QP	L1	GND
1.155000	25.40	10.9	56	30.6	QP	L1	GND
1.750000	23.20	11.0	56	32.8	QP	L1	GND
2.840000	27.90	11.0	56	28.1	QP	L1	GND
20.905000	31.30	11.4	60	28.7	QP	L1	GND

MEASUREMENT RESULT: "SFO005_fin2"

5/24/2019 3:54PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.425000	28.10	10.7	47	19.2	AV	L1	GND
0.740000	20.80	10.8	46	25.2	AV	L1	GND
1.145000	18.20	10.9	46	27.8	AV	L1	GND
1.835000	17.30	11.0	46	28.7	AV	L1	GND
2.840000	18.50	11.0	46	27.5	AV	L1	GND
22.780000	24.10	11.4	50	25.9	AV	L1	GND

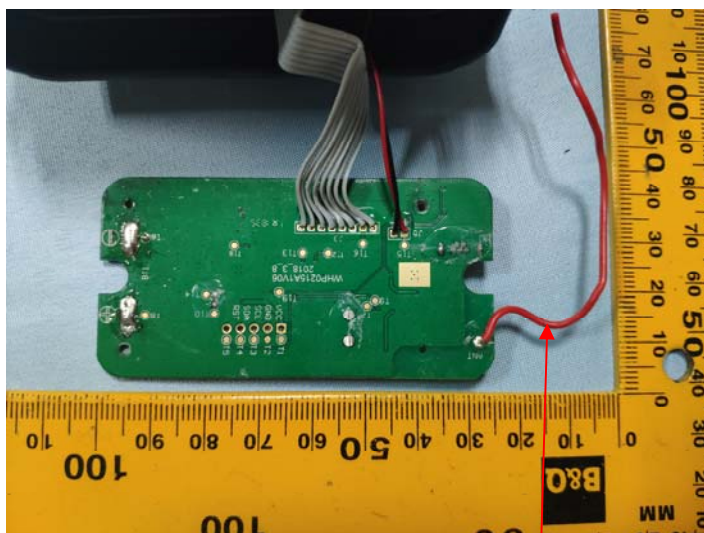
9. ANTENNA REQUIREMENT

9.1. 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.

9.2. Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Antenna gain of EUT is 2.15dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna

***** End of Test Report *****