

APPLICATION CERTIFICATION  
On Behalf of  
LEEDARSON LIGHTING CO., LTD

Arrival Sensor

Model No.: 6aB-SS-AG-C0

FCC ID: 2AB2Q-6AB-SS-AG-C0

Prepared for : LEEDARSON LIGHTING CO., LTD  
Address : Xingda Road, Xingtai Industrial Zone, Changtai County,  
Zhangzhou, Fujian, China.

Prepared by : Shenzhen Accurate Technology Co., Ltd.  
Address : 1/F., Building A, Changyuan New Material Port, Science  
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Report Number : ATE20171834  
Date of Test : Aug. 08--Sep. 01, 2017  
Date of Report : Sep. 01, 2017

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## Test Report Certification

Applicant : LEEDARSON LIGHTING CO., LTD.  
Address : Xingda Road, Xingtai Industrial Zone, Changtai County, Zhangzhou, Fujian, China  
Manufacturer : LEEDARSON LIGHTING CO., LTD.  
Address : Xingda Road, Xingtai Industrial Zone, Changtai County, Zhangzhou, Fujian, China  
Product : Arrival Sensor  
Model No. : 6aB-SS-AG-C0  
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 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 ACCURATE TECHNOLOGY CO. LTD is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

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

Date of Test :

Aug. 08--Sep. 01, 2017

Date of Report :

Sep. 01, 2017

Prepared by :

(Tim [Signature] Engineer)

Approved & Authorized Signer :

( Sean Liu, Manager)



## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

EUT	: Arrival Sensor
Model Number	: 6aB-SS-AG-C0
Power Supply	: DC 3.7V via Li-thium battery DC 5V via USB port
Modulation:	: FSK
Operation Frequency	: 908.4MHz @ 40kbps 908.42MHz @ 9.6kbps 916MHz @ 100kbps
Type of Antenna	: Integral antenna
Max antenna gain	: 1.91dBi
Applicant	: LEEDARSON LIGHTING CO., LTD.
Address	: Xingda Road, Xingtai Industrial Zone, Changtai County, Zhangzhou, Fujian, China.
Manufacturer	: LEEDARSON LIGHTING CO., LTD.
Address	: Xingda Road, Xingtai Industrial Zone, Changtai County, Zhangzhou, Fujian, China.
Date of sample received	: Aug. 08, 2017
Date of Test	: Aug. 08, 2017-Sep. 01, 2017

### 1.2. Special Accessory and Auxiliary Equipment

PC	Manufacturer: LENOVO M/N: 4290-RT8 S/N: R9-FW93G 11/08
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### 1.3. Test Facilities

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 = 3.08dB, k=2  
(9kHz-30MHz)

Radiated emission expanded uncertainty = 4.42dB, k=2  
(30MHz-1000MHz)

Radiated emission expanded uncertainty = 4.06dB, k=2  
(Above 1GHz)

## 2. MEASURING DEVICE AND TEST EQUIPMENT

**Table 1: List of Test and Measurement Equipment**

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 07, 2017	1 Year
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 07, 2017	1 Year
Spectrum Analyzer	Rohde&Schwarz	FSV-40	101495	Jan. 07, 2017	1 Year
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 07, 2017	1 Year
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 07, 2017	1 Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 13, 2017	1 Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 13, 2017	1 Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 13, 2017	1 Year
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 13, 2017	1 Year
Open Switch and Control Unit	Rohde&Schwarz	OSP120 + OSP-B157	101244 + 100866	Jan. 07, 2017	1 Year
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 07, 2017	1 Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 07, 2017	1 Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 07, 2017	1 Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 07, 2017	1 Year

### 3. OPERATION OF EUT DURING TESTING

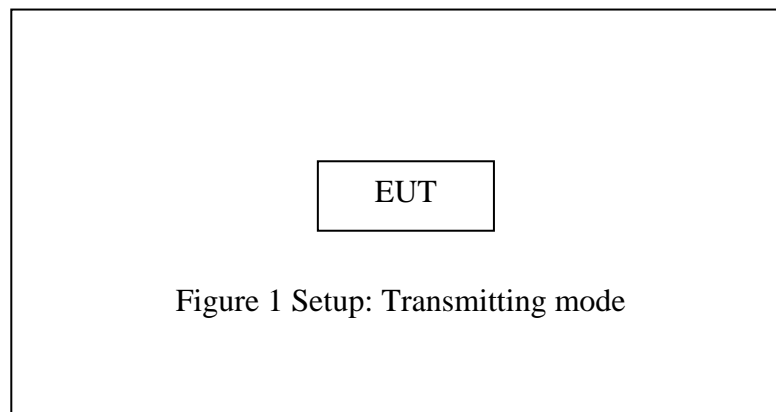
#### 3.1.Operating Mode

The mode is used: **Transmitting mode**

Low Channel: 908.4MHz

High Channel: 916.0MHz

#### 3.2.Configuration and peripherals



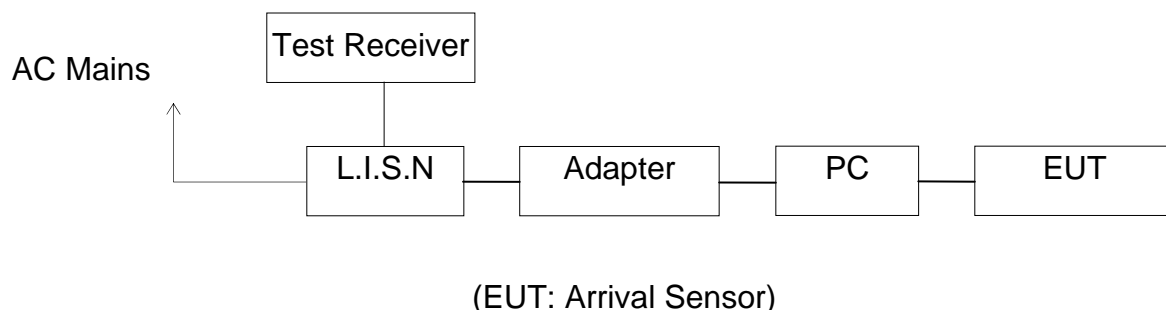
#### 4. TEST PROCEDURES AND RESULTS

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, 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. POWER LINE CONDUCTED MEASUREMENT

### 5.1. Block Diagram of Test Setup



### 5.2. Power Line Conducted Emission Measurement 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.		

### 5.3. Configuration of EUT on Measurement

The following 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.

### 5.4. Operating Condition of EUT

- 5.4.1. Setup the EUT and simulator as shown as Section 5.1.
- 5.4.2. Turn on the power of all equipment.
- 5.4.3. Let the EUT work in test mode and measure it.

### 5.5. Test Procedure

The EUT is put on the plane 0.8 m 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 C63.4: 2014 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.

### 5.6. Power Line Conducted Emission Measurement Results

#### **PASS.**

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

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

The spectral diagrams are attached as below.

## ACCURATE TECHNOLOGY CO.,LTD

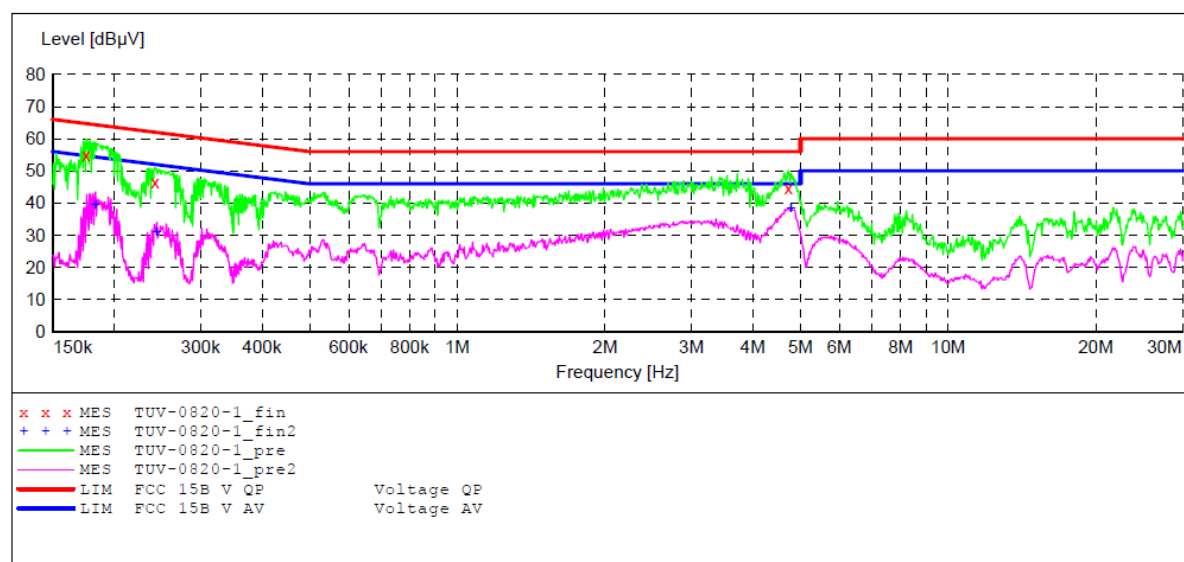
### CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Arrival Sensor M/N:6aB-SS-AG-C0  
 Manufacturer: Leedarson  
 Operating Condition: Charging&z-wave operation  
 Test Site: 1#Shielding Room  
 Operator: WADE  
 Test Specification: N 120V/60Hz  
 Comment: Mains Port  
 Start of Test: 8/20/2017 /

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

Short Description: SUB STD VTERM2 1.70

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
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: "TUV-0820-1\_fin"

8/20/2017

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.175269	54.90	10.5	64.7	9.8	QP	N	GND
0.242179	46.40	10.6	62	15.6	QP	N	GND
4.720838	44.70	11.1	56	11.3	QP	N	GND

### MEASUREMENT RESULT: "TUV-0820-1\_fin2"

8/20/2017

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.183137	39.50	10.5	54.3	14.8	AV	N	GND
0.244120	31.00	10.6	52	21.0	AV	N	GND
4.777715	38.20	11.1	46	7.8	AV	N	GND

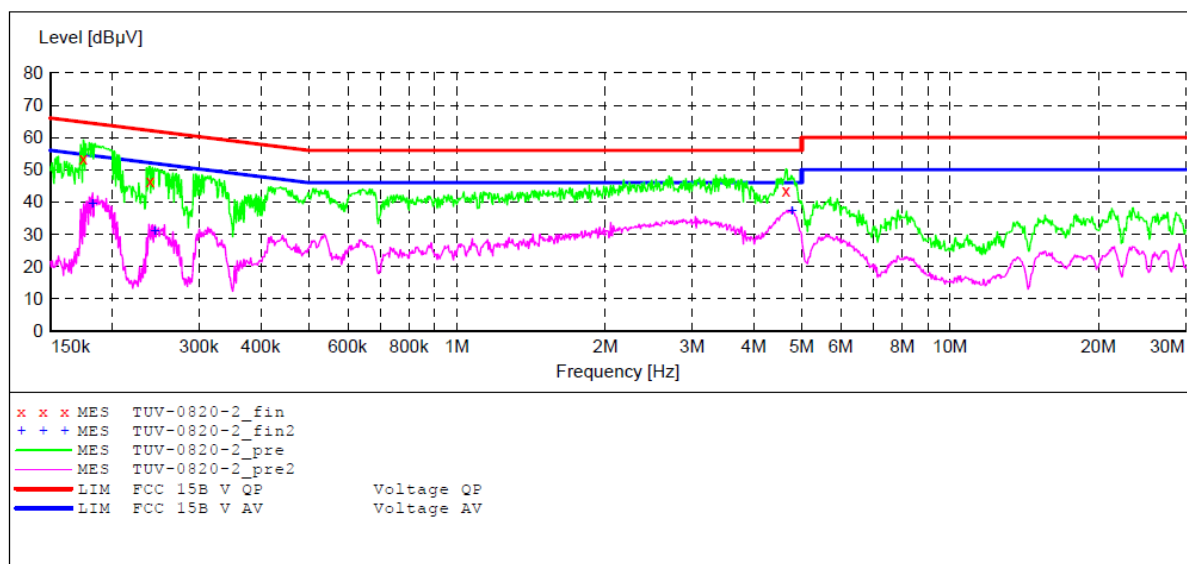
## ACCURATE TECHNOLOGY CO.,LTD

### CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Arrival Sensor M/N:6aB-SS-AG-C0  
 Manufacturer: Leedarson  
 Operating Condition: Charging&z-wave operation  
 Test Site: 1#Shielding Room  
 Operator: WADE  
 Test Specification: L 120V/60Hz  
 Comment: Mains Port  
 Start of Test: 8/20/2017 /

### 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: "TUV-0820-2\_fin"

8/20/2017

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.174571	53.60	10.5	64.7	11.1	QP	L1	GND
0.238343	46.40	10.6	62	15.8	QP	L1	GND
4.646054	43.60	11.1	56	12.4	QP	L1	GND

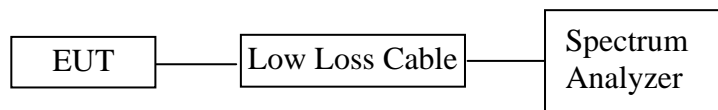
### MEASUREMENT RESULT: "TUV-0820-2\_fin2"

8/20/2017

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.182408	39.40	10.5	54.4	15.0	AV	L1	GND
0.244120	31.00	10.6	52	21.0	AV	L1	GND
4.777715	37.10	11.1	46	8.9	AV	L1	GND

## 6. 20DB BANDWIDTH MEASUREMENT

### 6.1. Block Diagram of Test Setup



### 6.2. 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.

### 6.3. Operating Condition of EUT

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

6.3.2. Turn on the power of all equipment.

6.3.3. Let the EUT work in TX mode then measure it.

### 6.4. Test Procedure

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

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

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

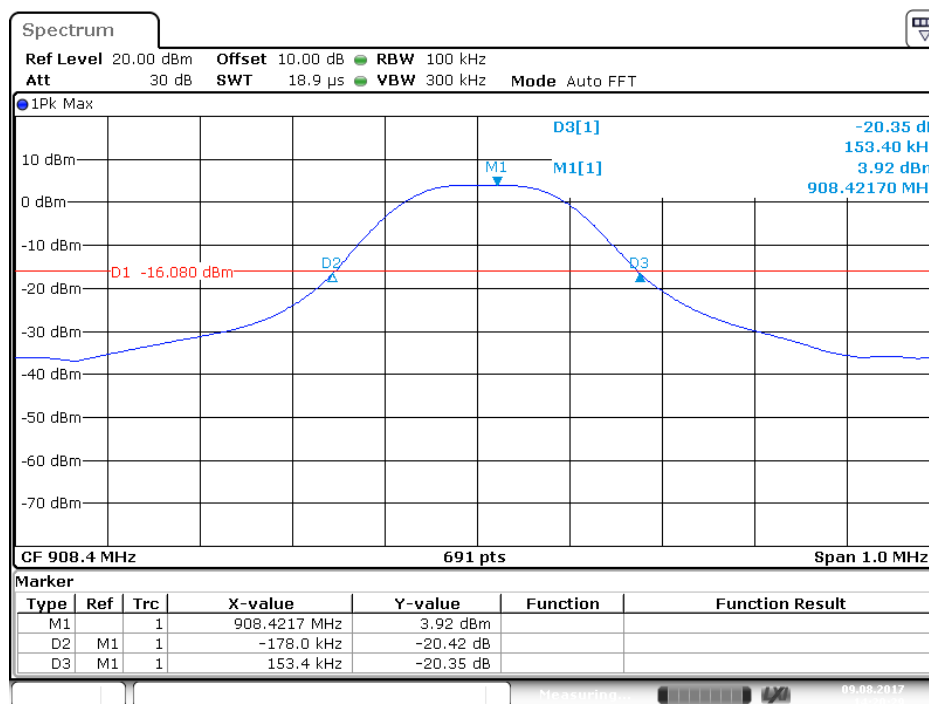
6.4.4. Set the measured low and high frequency and test 20dB bandwidth with spectrum analyzer.

### 6.5. Test Result

Channel	Frequency(MHz)	20 dB Bandwidth(MHz)
Low	908.4	0.3314
High	916.0	0.3575

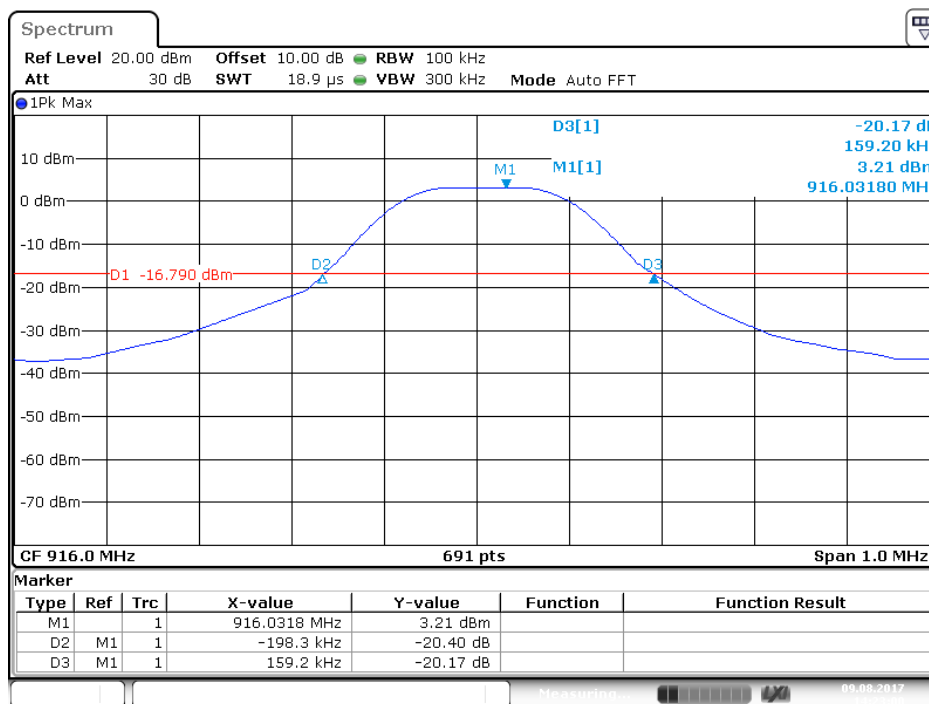
The spectrum analyzer plots are attached as below.

*Low channel:*



Date: 9.AUG.2017 14:20:29

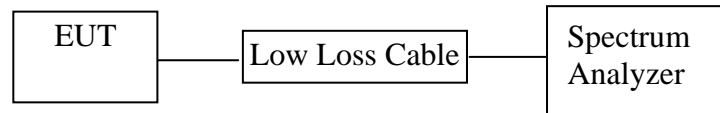
*High channel:*



Date: 9.AUG.2017 14:23:01

## 7. BAND EDGE COMPLIANCE TEST

### 7.1. Block Diagram of Test Setup (Conducted Band Edge)



### 7.2. 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).

### 7.3. EUT Configuration on Measurement

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

### 7.4. Operating Condition of EUT

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

7.4.2. Turn on the power of all equipment.

7.4.3. Let the EUT work in TX mode then measure it.

### 7.5. Test Procedure

Conducted Band Edge:

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

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

**Radiated Band Edge:****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.

**Test Procedure:**

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground(Below 1GHz). 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 bi-log 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 EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

Let the EUT work in TX modes then measure it.

During the radiated emission test, the spectrum analyzer was set with the following configurations:

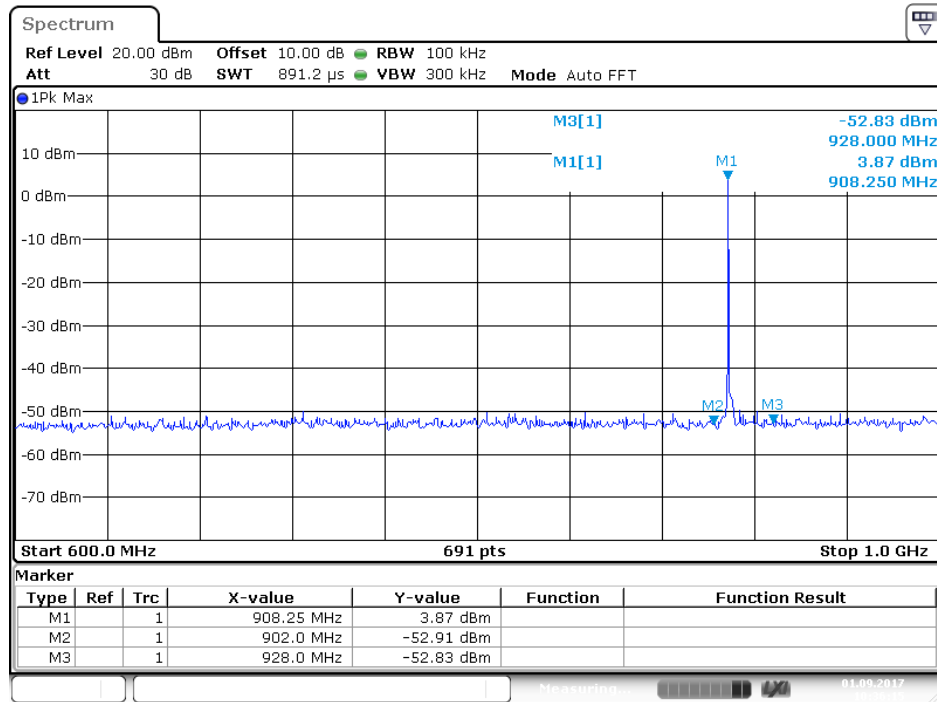
- 1.The resolution bandwidth of test receiver/spectrum analyzer is 100KHz and video bandwidth is 300KHz for peak measurement with peak detector at frequency Below 1GHz.
- 2.The resolution bandwidth of test receiver/spectrum analyzer is 100KHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency Below 1GHz.
- 3.All modes of operation were investigated and the worst-case emissions are reported.

**7.6.Test Result**

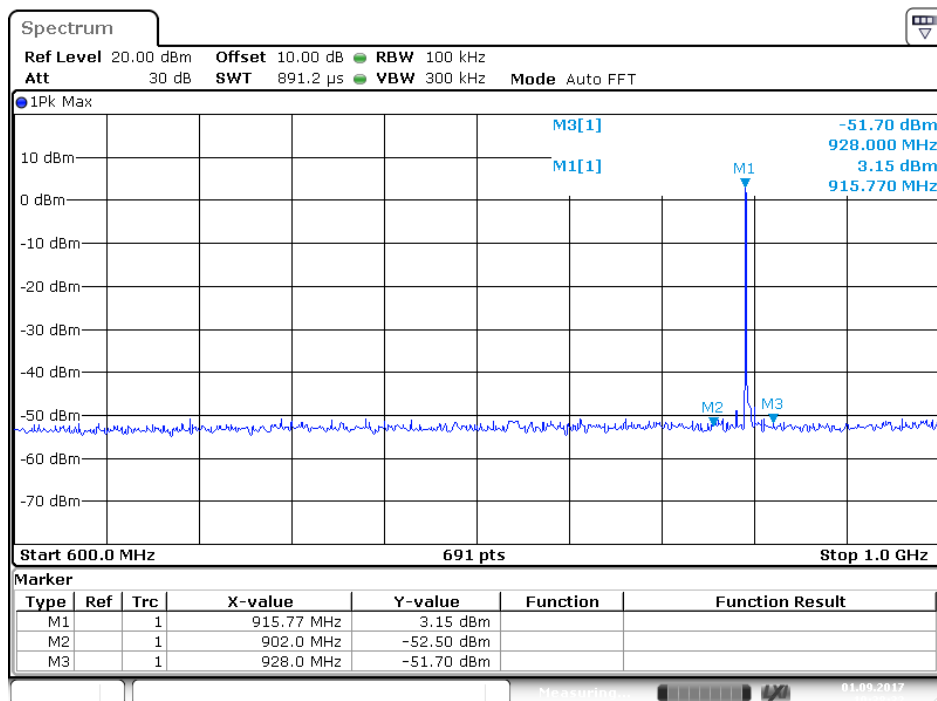
**Pass**



## Conducted Band Edge Result



Date: 1.SEP.2017 10:36:15



Date: 1.SEP.2017 10:38:32

## Radiated Band Edge Result



### ACCURATE TECHNOLOGY CO., LTD.

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

Site: 2# Chamber

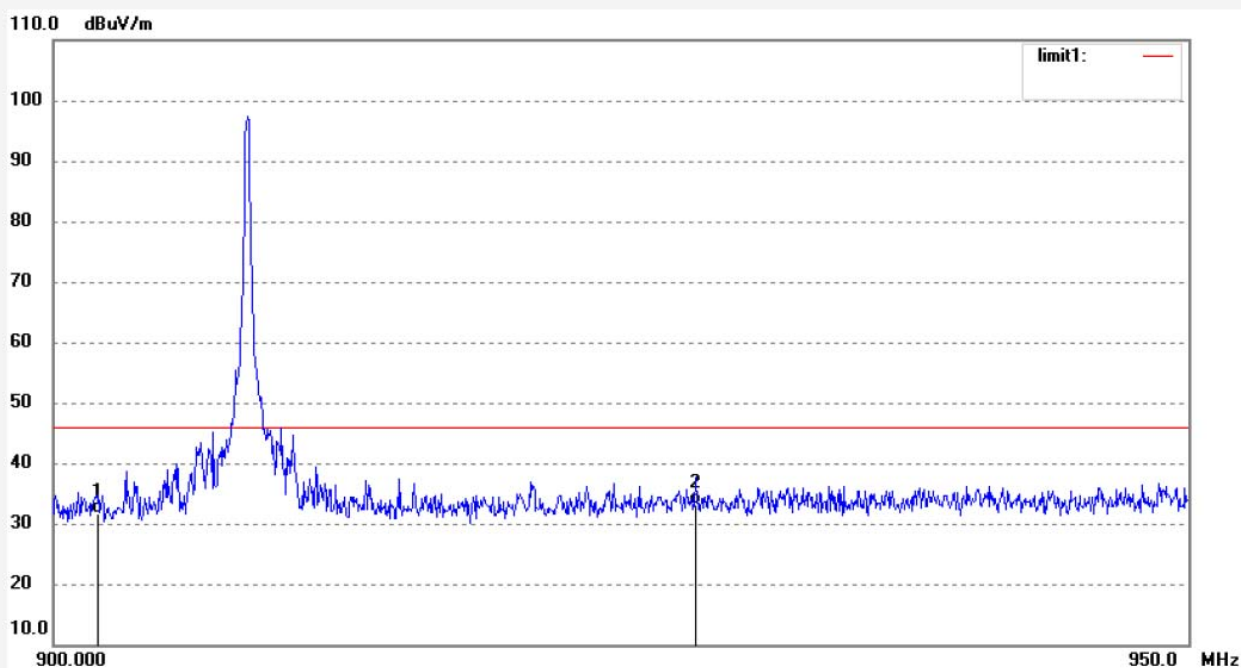
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGW2017 #3816  
Standard: FCC (Band Edge)  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 23 C / 48 %  
EUT: Arrival Sensor  
Mode: TX 908.4MHz  
Model: 6aB-SS-AG-C0  
Manufacturer: Leedarson

Polarization: Horizontal  
Power Source: DC 3.3V  
Date: 17/08/20/  
Time:  
Engineer Signature: WADE  
Distance: 3m

Note:

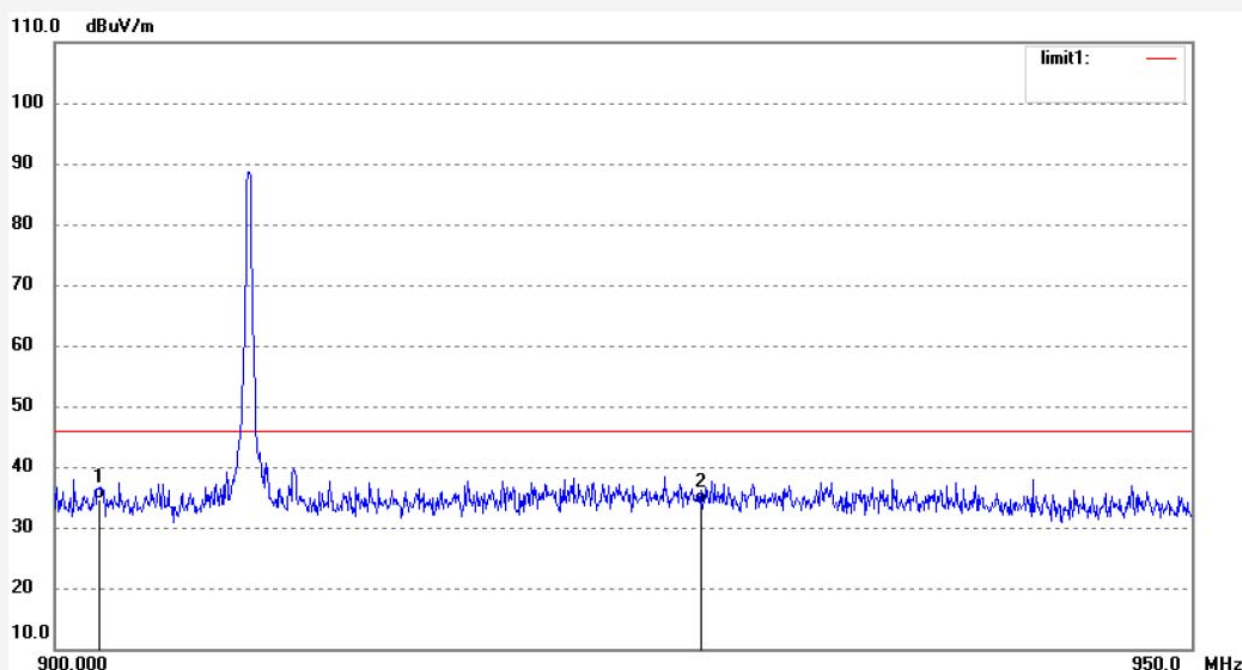


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	902.0000	29.35	2.18	31.53	46.00	-14.47	QP			
2	928.0000	30.41	2.73	33.14	46.00	-12.86	QP			

Job No.: LGW2017 #3815  
Standard: FCC (Band Edge)  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 23 C / 48 %  
EUT: Arrival Sensor  
Mode: TX 908.4MHz  
Model: 6aB-SS-AG-C0  
Manufacturer: Leedarson

Polarization: Vertical  
Power Source: DC 3.3V  
Date: 17/08/20/  
Time:  
Engineer Signature: WADE  
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	902.0000	32.41	2.18	34.59	46.00	-11.41	QP			
2	928.0000	31.07	2.73	33.80	46.00	-12.20	QP			

Job No.: LGW2017 #3821

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Arrival Sensor

Mode: TX 916MHz

Model: 6aB-SS-AG-C0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3.3V

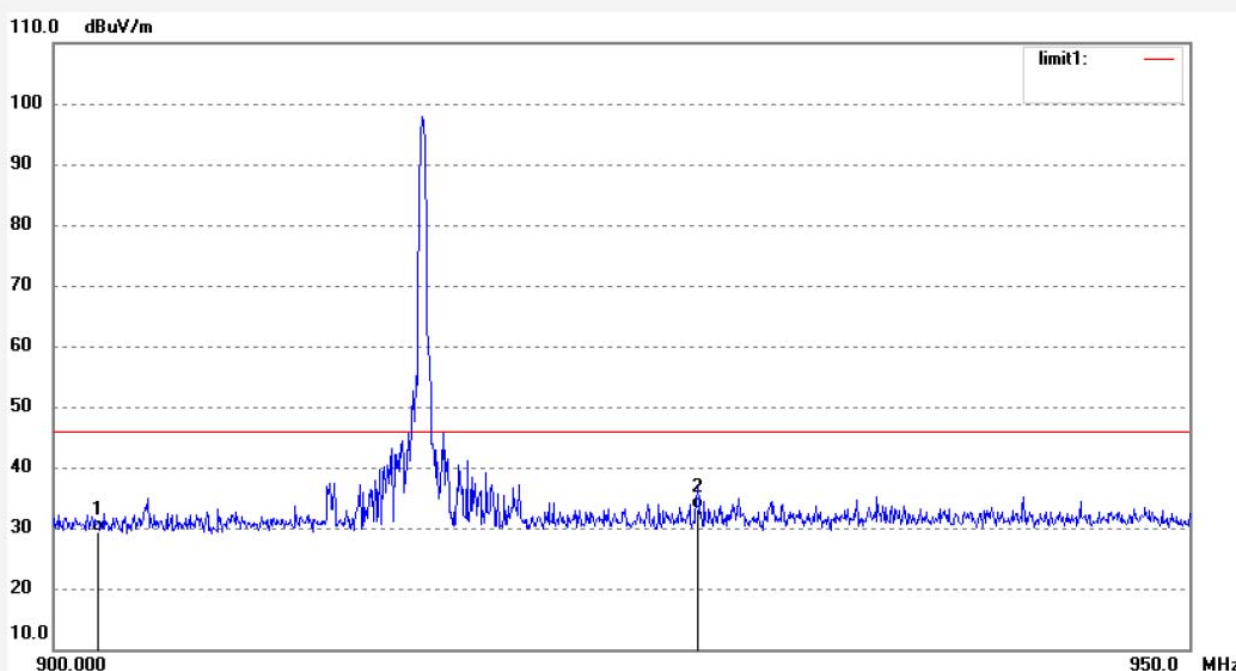
Date: 17/08/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:

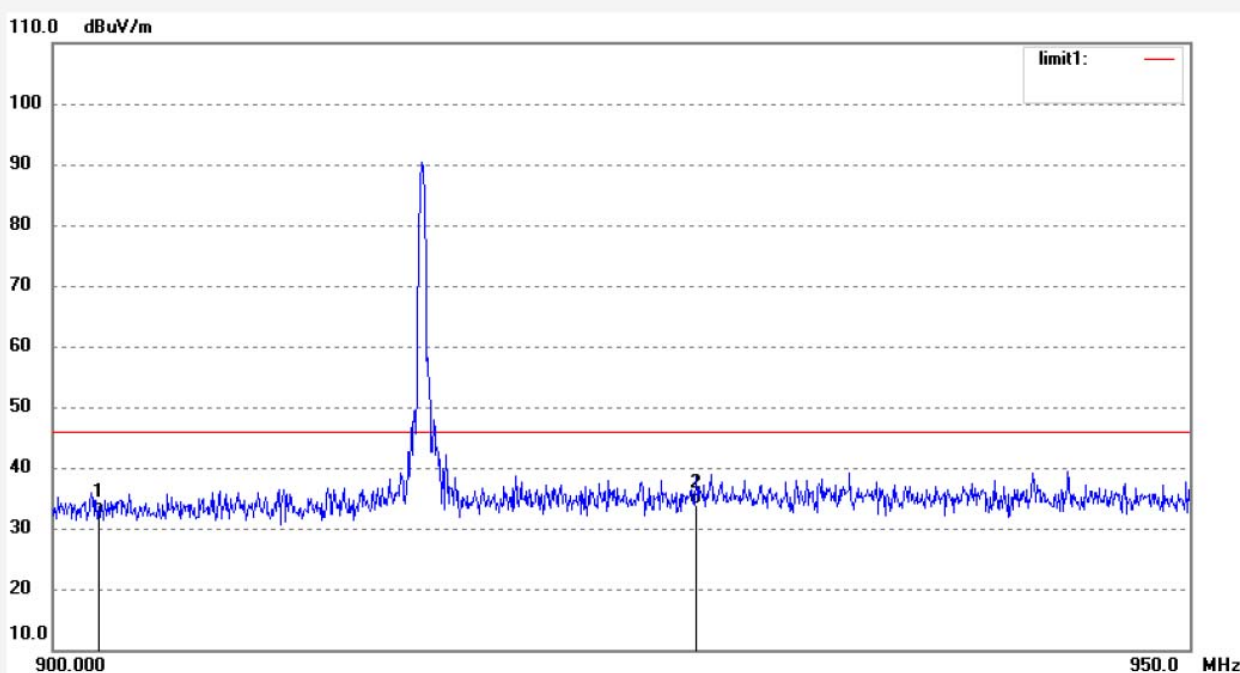


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	902.0000	27.14	2.18	29.32	46.00	-16.68	QP			
2	928.0000	30.34	2.73	33.07	46.00	-12.93	QP			

Job No.: LGW2017 #3822  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 23 C / 48 %  
EUT: Arrival Sensor  
Mode: TX 916MHz  
Model: 6aB-SS-AG-C0  
Manufacturer: Leedarson

Polarization: Vertical  
Power Source: DC 3.3V  
Date: 17/08/20/  
Time:  
Engineer Signature: WADE  
Distance: 3m

Note:



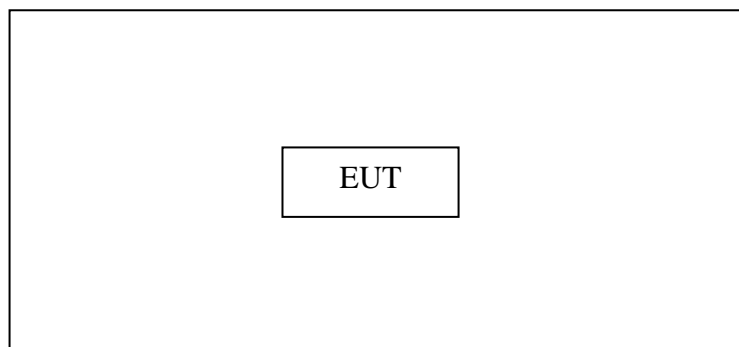
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	902.0000	30.14	2.18	32.32	46.00	-13.68	QP			
2	928.0000	31.22	2.73	33.95	46.00	-12.05	QP			



## 8. RADIATED SPURIOUS EMISSION TEST

### 8.1. Block Diagram of Test Setup

#### 8.1.1. Block diagram of connection between the EUT and peripherals

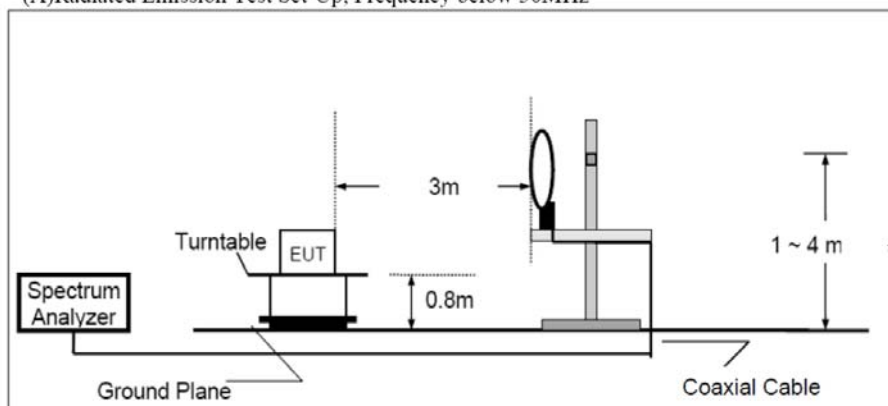


Setup: Transmitting mode

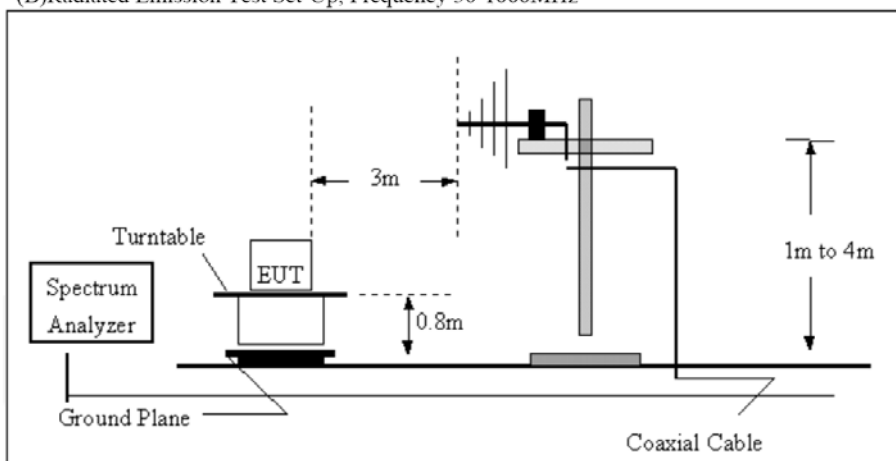
(EUT: Arrival Sensor)

#### 8.1.2. Semi-Anechoic Chamber Test Setup Diagram

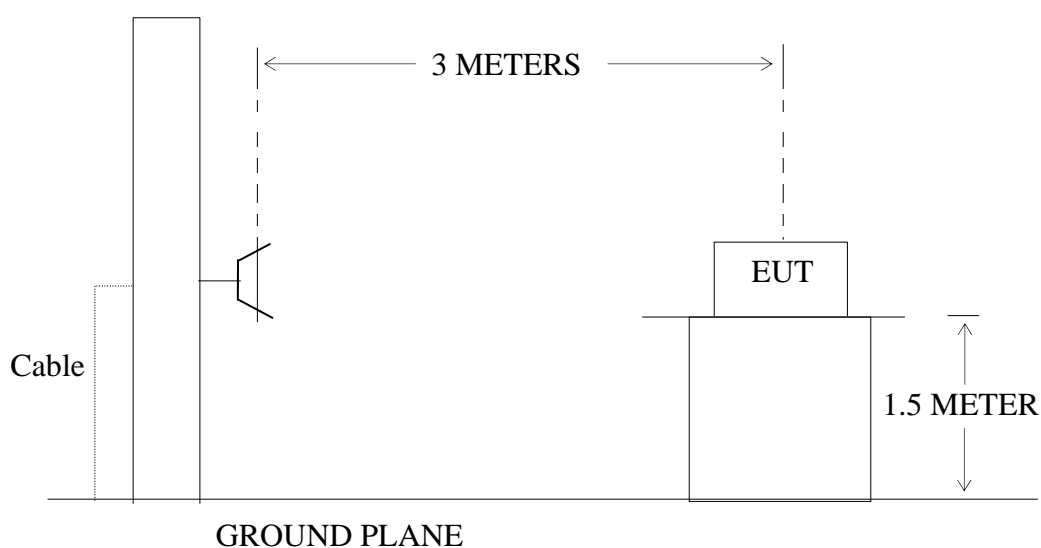
(A) Radiated Emission Test Set-Up, Frequency below 30MHz



(B) Radiated Emission Test Set-Up, Frequency 30-1000MHz



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



8.2.The Limit For Section 15.249

Except as provided in paragraph (b) of this section, 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

### 8.3.Restricted bands of operation

#### 8.3.1.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
<sup>1</sup> 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	( <sup>2</sup> )
13.36-13.41			

<sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510

<sup>2</sup>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 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.

### 8.4.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.

### 8.5.Operating Condition of EUT

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

8.5.2.Turn on the power of all equipment.

8.5.3.Let the EUT work in TX mode then measure it.



## 8.6. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground (Below 1GHz). The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground (Above 1GHz). 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 bi-log 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 EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

The frequency range from 30MHz to 10000MHz is checked.

Result = Reading + Corrected Factor

Where Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

During the radiated emission test, the spectrum analyzer was set with the following configurations:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

## 8.7.The Field Strength of Radiation Emission Measurement Results

### PASS.

Low channel(Fundamental frequency):

Frequency (MHz)	Reading (dBμV/m)	Reading (dBμV/m)	Factor Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	PEAK	AV	(dB)	AV	PEAK	AV	PEAK	AV	PEAK	
908.4	95.88	88.23	2.24	90.47	98.12	94.0	114.0	-3.53	-15.88	Horizontal
908.4	84.60	76.37	2.24	78.61	86.84	94.0	114.0	-15.39	-27.16	Vertical

High channel(Fundamental frequency):

Frequency (MHz)	Reading (dBμV/m)	Reading (dBμV/m)	Factor Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	PEAK	AV	(dB)	AV	PEAK	AV	PEAK	AV	PEAK	
916.0	92.97	85.01	2.40	87.41	95.37	94.0	114.0	-6.59	-18.63	Horizontal
916.0	86.83	79.39	2.40	81.79	89.23	94.0	114.0	-12.21	-24.77	Vertical

High channel:

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:  

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss – Amplifier Gain
3. The spectral diagrams display the measurement of peak values.
4. If the peak-detected amplitude can be shown to comply with the average limit, then it is not necessary to perform a separate average measurement.
5. The EUT is tested radiation emission in three axes(X,Y,Z). The worst emissions are reported in three axes.

Low channel:

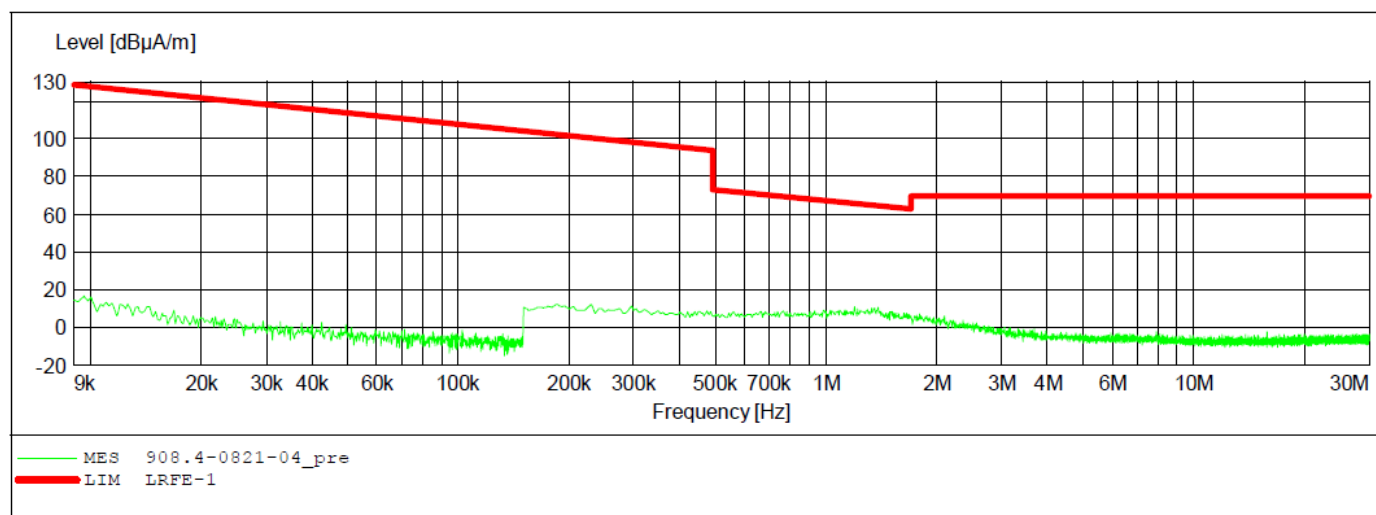
## ACCURATE TECHNOLOGY CO.,LTD

### FCC Class B 3m Radiated

EUT: Arrival Sensor M/N:6aB-SS-AG-C0  
 Manufacturer: Leedarson  
 Operating Condition: TX 908.4MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: X  
 Start of Test: 2017-8-21 /

### SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



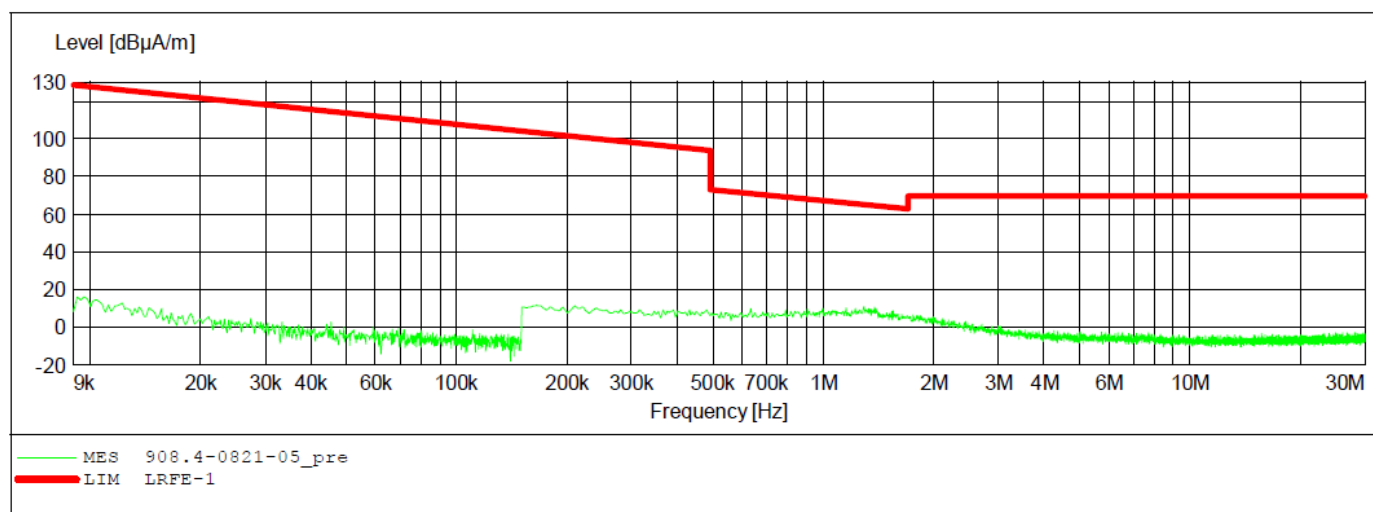
## ACCURATE TECHNOLOGY CO.,LTD

### FCC Class B 3m Radiated

EUT: Arrival Sensor M/N:6aB-SS-AG-C0  
 Manufacturer: Leedarson  
 Operating Condition: TX 908.4MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: Y  
 Start of Test: 2017-8-21 /

### SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



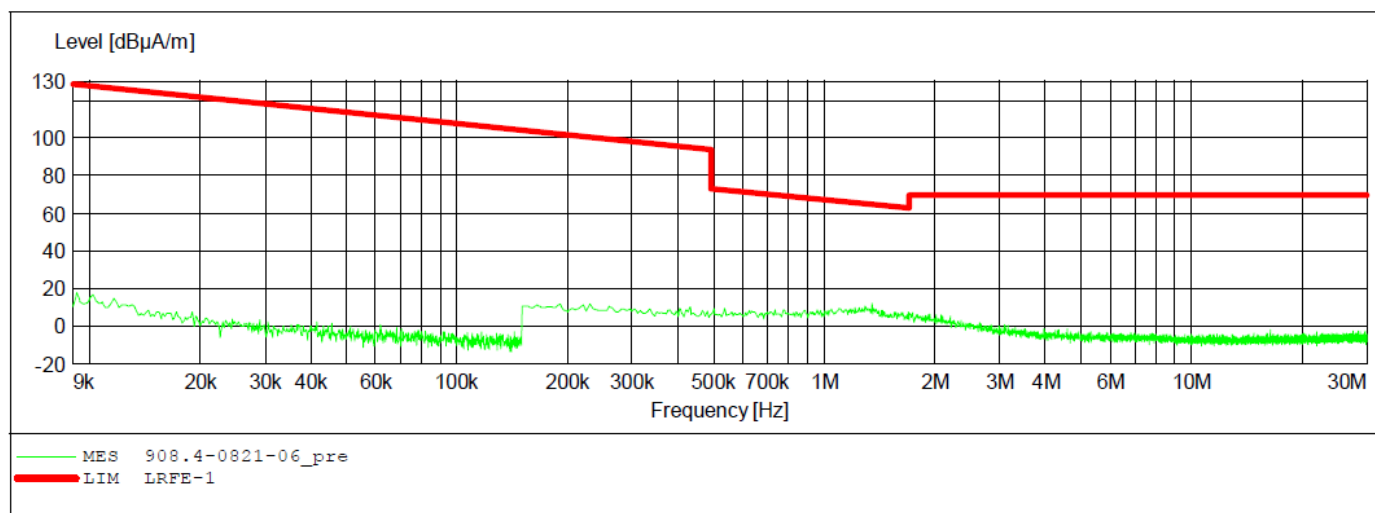
## ACCURATE TECHNOLOGY CO., LTD

### FCC Class B 3m Radiated

EUT: Arrival Sensor M/N:6aB-SS-AG-C0  
 Manufacturer: Leedarson  
 Operating Condition: TX 908.4MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: Z  
 Start of Test: 2017-8-21 /

### SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M	
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M	



## ACCURATE TECHNOLOGY CO., LTD.

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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGW2017 #3813

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Arrival Sensor

Mode: TX 908.4MHz

Model: 6aB-SS-AG-C0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3.7V

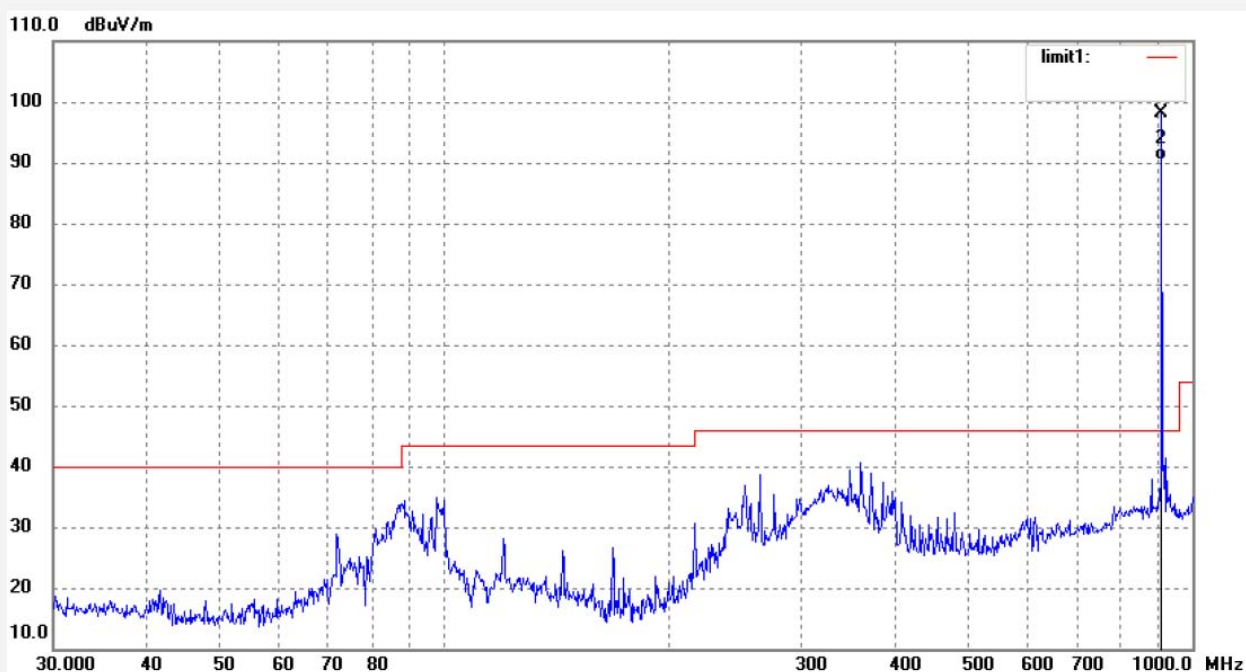
Date: 17/08/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	908.4000	95.88	2.24	98.12	114.0	-15.88	peak			
2	908.4000	88.23	2.24	90.47	94.00	-3.53	AVG			



Job No.: LGW2017 #3814

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Arrival Sensor

Mode: TX 908.4MHz

Model: 6aB-SS-AG-C0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3.7V

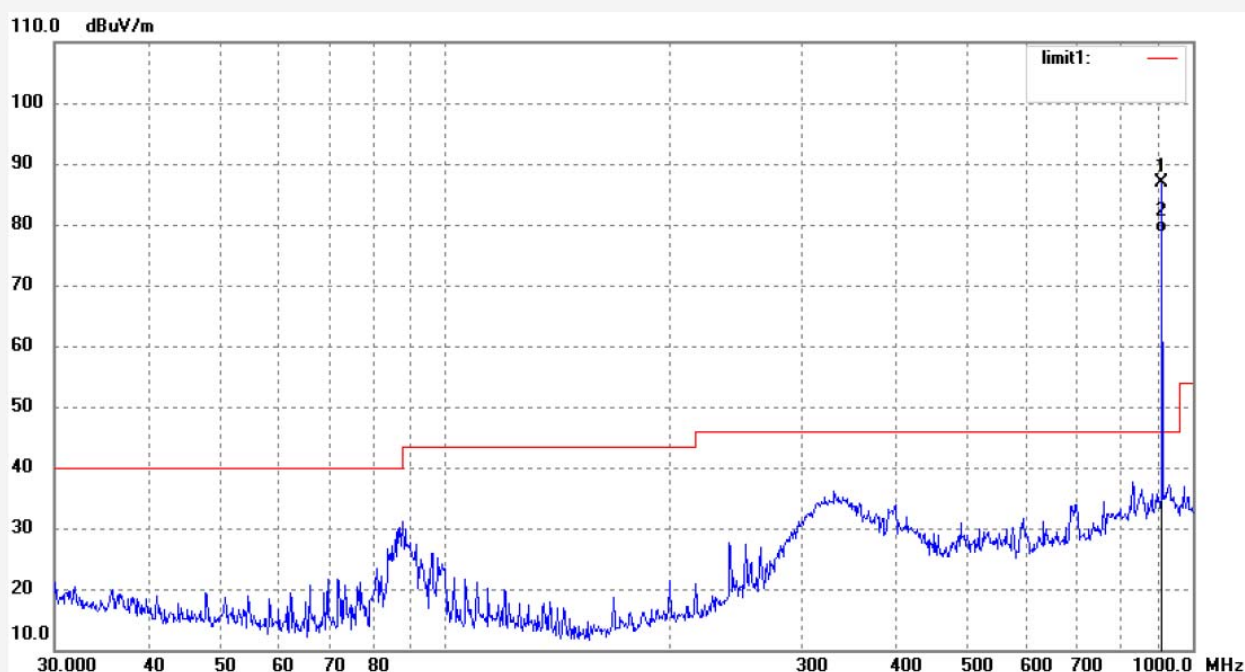
Date: 17/08/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	908.4000	84.60	2.24	86.84	114.0	-27.16	peak			
2	908.4000	76.37	2.24	78.61	94.00	-15.39	AVG			



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Fax:+86-0755-26503396

Job No.: LGW2017 #3817

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Arrival Sensor

Mode: TX 908.4MHz

Model: 6aB-SS-AG-C0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3.7V

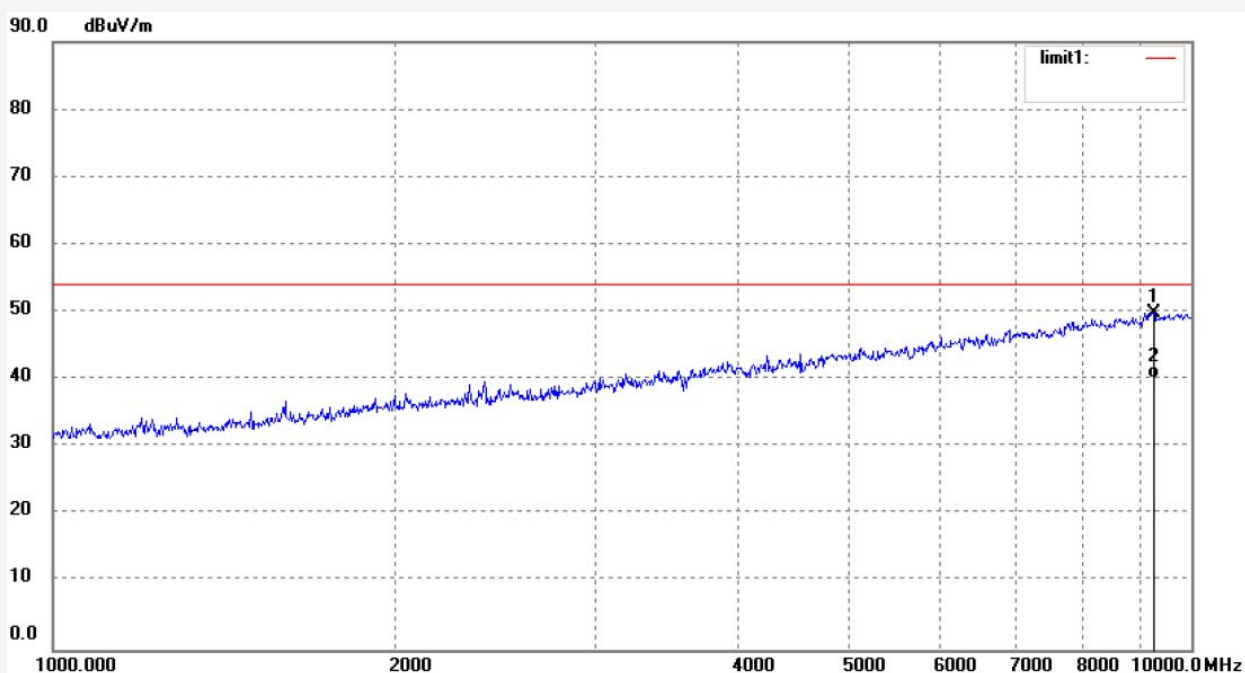
Date: 17/08/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	9268.298	35.69	14.23	49.92	74.00	-24.08	peak			
2	9268.298	25.89	14.23	40.12	54.00	-13.88	AVG			



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Fax:+86-0755-26503396

Job No.: LGW2017 #3818

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Arrival Sensor

Mode: TX 908.4MHz

Model: 6aB-SS-AG-C0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3.7V

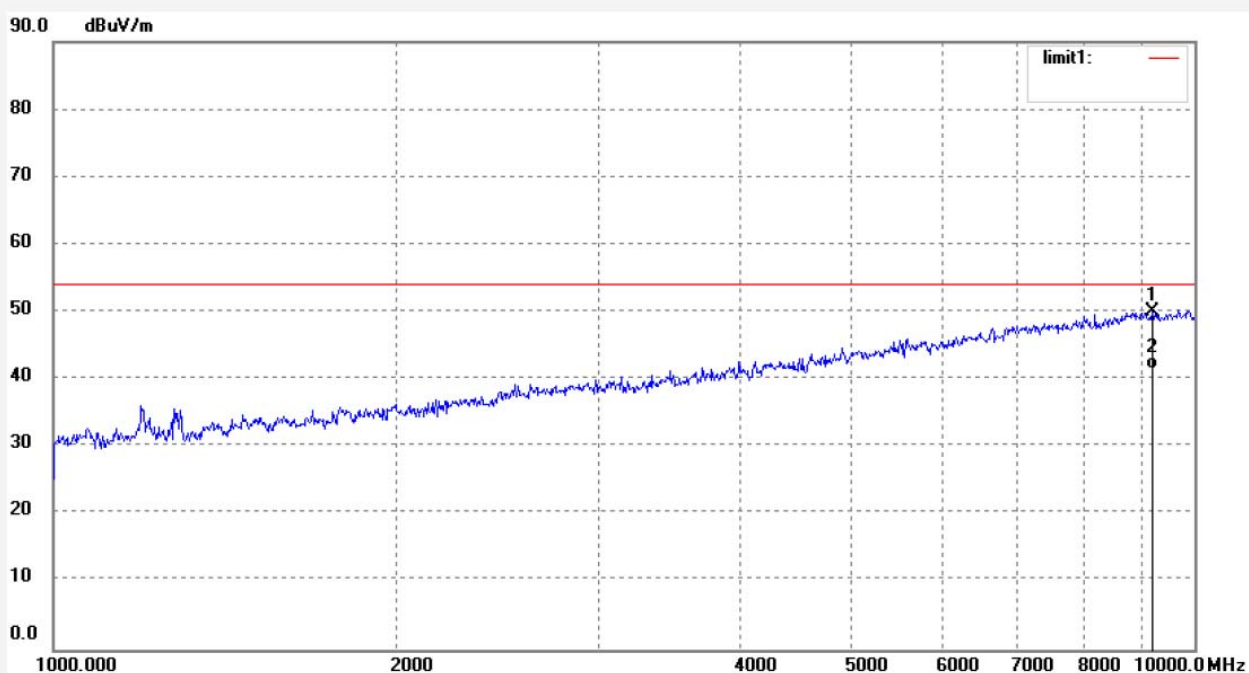
Date: 17/08/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	9183.326	36.61	13.46	50.07	74.00	-23.93	peak			
2	9183.326	28.01	13.46	41.47	54.00	-12.53	AVG			

High channel:

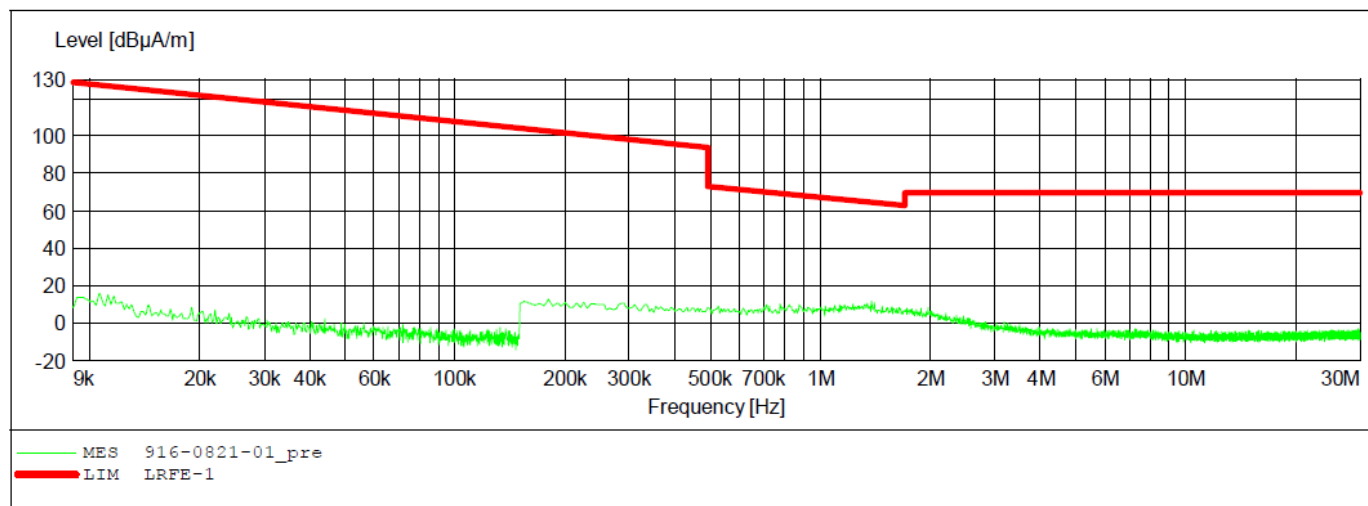
**ACCURATE TECHNOLOGY CO., LTD**

**FCC Class B 3m Radiated**

EUT: Arrival Sensor M/N:6aB-SS-AG-C0  
 Manufacturer: Leedarson  
 Operating Condition: TX 916MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: X  
 Start of Test: 2017-8-21 /

**SCAN TABLE: "LFRE Fin"**

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



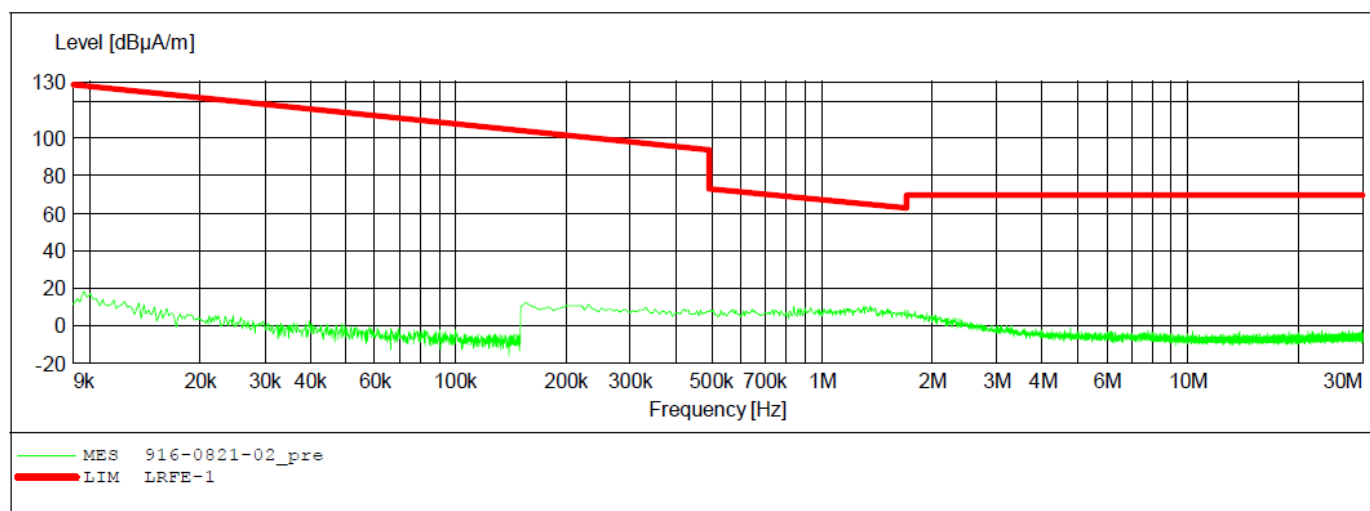
## ACCURATE TECHNOLOGY CO., LTD

### FCC Class B 3m Radiated

EUT: Arrival Sensor M/N:6aB-SS-AG-C0  
 Manufacturer: Leedarson  
 Operating Condition: TX 916MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: Y  
 Start of Test: 2017-8-21 /

### SCAN TABLE: "LFRE 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	1516M	
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M	



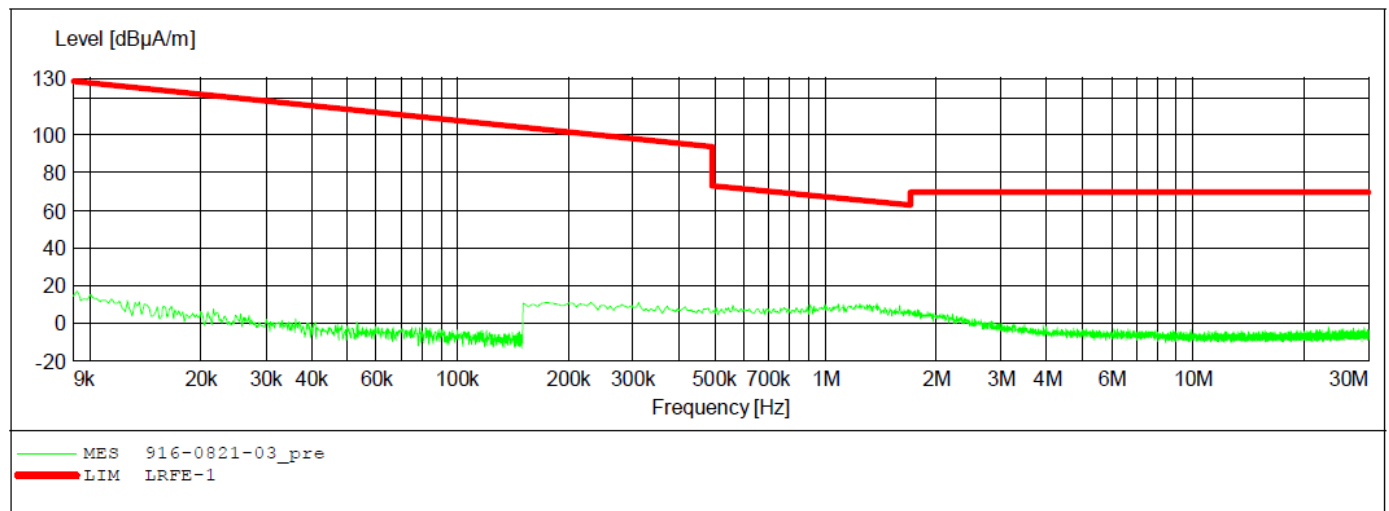
## ACCURATE TECHNOLOGY CO.,LTD

### FCC Class B 3m Radiated

EUT: Arrival Sensor M/N:6aB-SS-AG-C0  
 Manufacturer: Leedarson  
 Operating Condition: TX 916MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: Z  
 Start of Test: 2017-8-21 /

### SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



Job No.: LGW2017 #3820

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Arrival Sensor

Mode: TX 916MHz

Model: 6aB-SS-AG-C0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3.7V

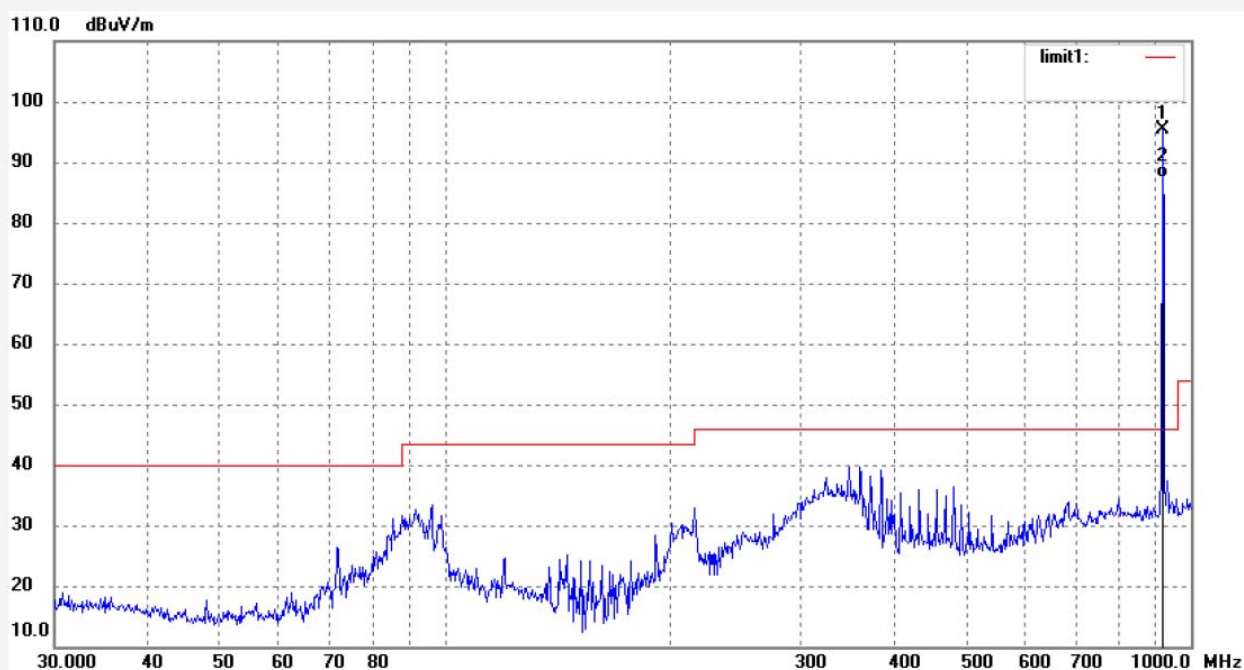
Date: 17/08/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	916.0000	92.97	2.40	95.37	114.0	-18.63	peak			
2	916.0000	85.01	2.40	87.41	94.00	-6.59	AVG			



Job No.: LGW2017 #3819

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Arrival Sensor

Mode: TX 916MHz

Model: 6aB-SS-AG-C0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3.7V

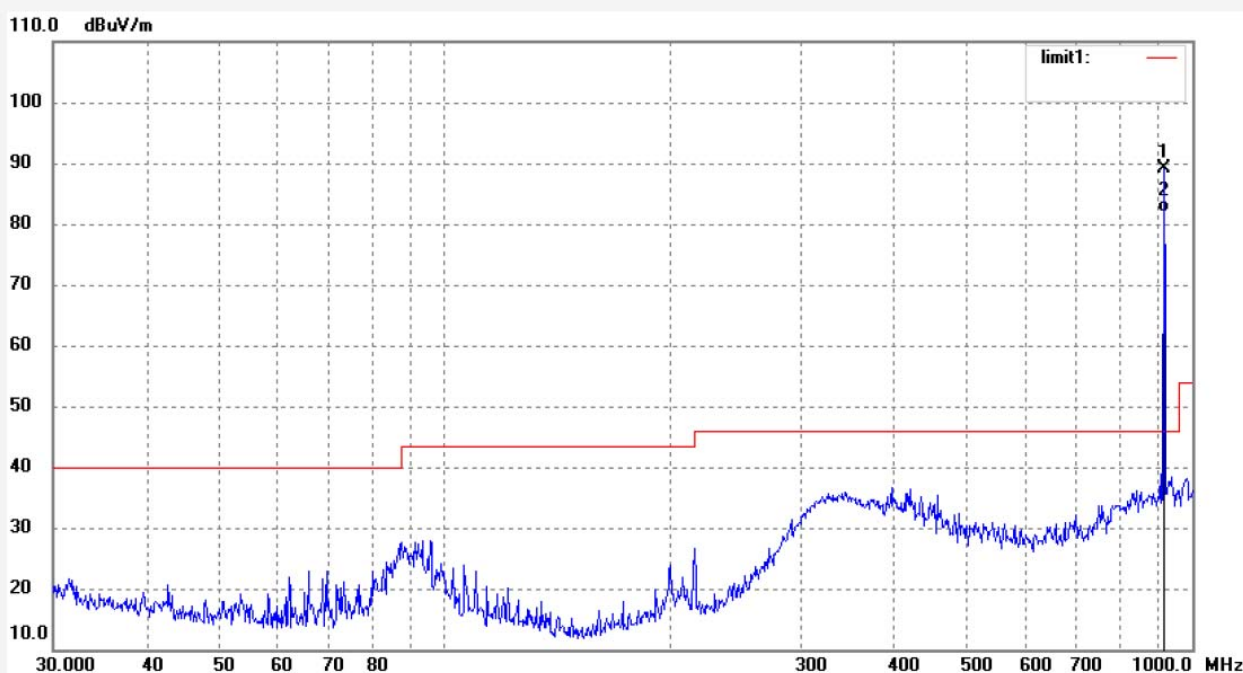
Date: 17/08/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	916.0000	86.83	2.40	89.23	114.0	-24.77	peak			
2	916.0000	79.39	2.40	81.79	94.00	-12.21	AVG			

**ACCURATE TECHNOLOGY CO., LTD.**

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Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGW2017 #3824

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Arrival Sensor

Mode: TX 916MHz

Model: 6aB-SS-AG-C0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3.7V

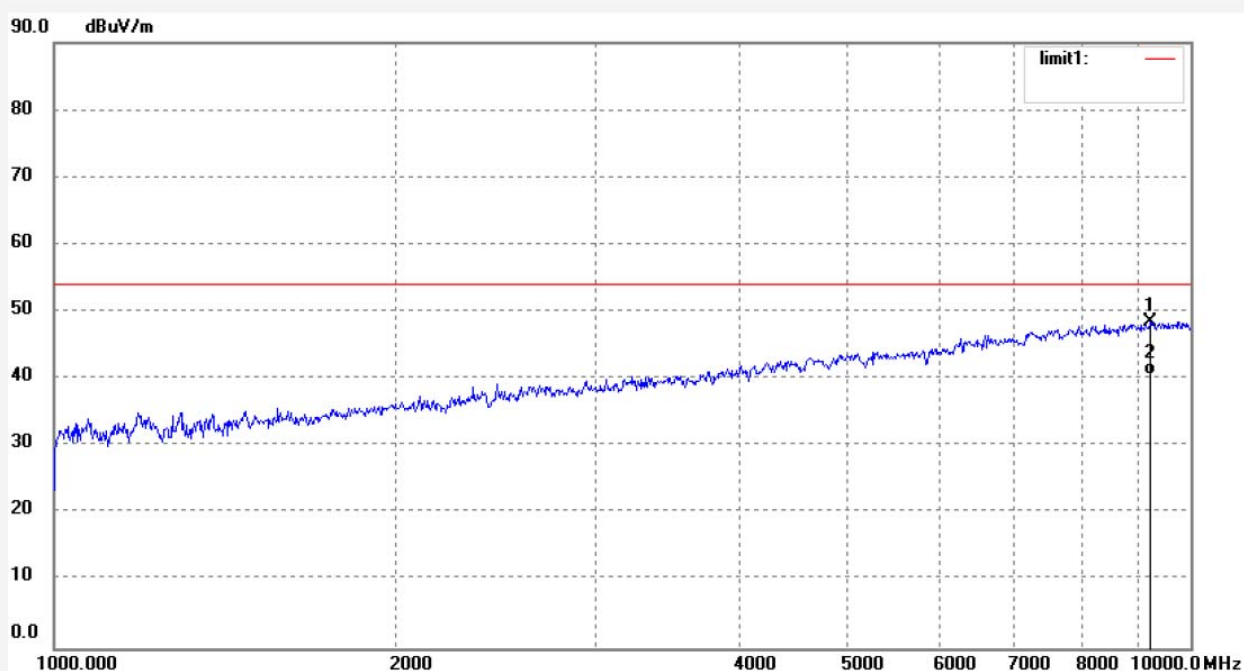
Date: 17/08/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	9225.714	34.68	13.81	48.49	74.00	-25.51	peak			
2	9225.714	26.73	13.81	40.54	54.00	-13.46	AVG			

Job No.: LGW2017 #3823

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Arrival Sensor

Mode: TX 916MHz

Model: 6aB-SS-AG-C0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3.7V

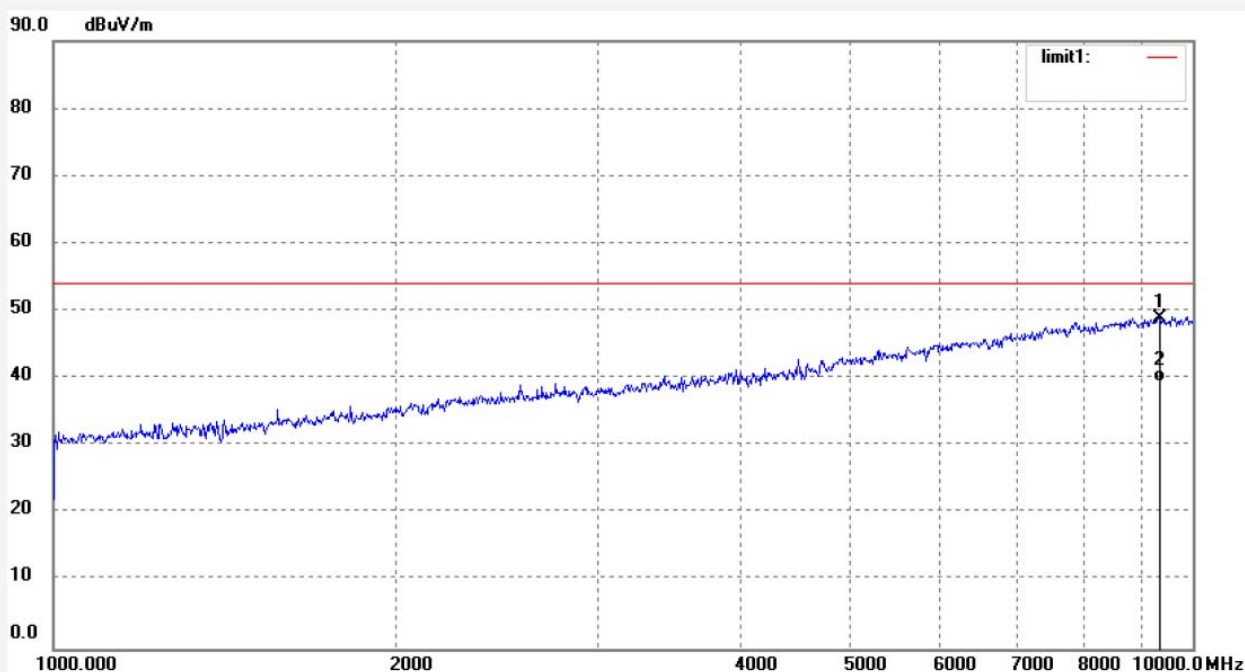
Date: 17/08/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	9354.057	33.86	15.08	48.94	74.00	-25.06	peak			
2	9354.057	24.33	15.08	39.41	54.00	-14.59	AVG			



## 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 1.91dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.

|