

APPLICATION CERTIFICATION FCC Part 15C

On Behalf of
Shenzhen Marktrace Co.,Ltd.

2.4G Active RFID Tag

Model No.: MR3848,MR3847D,MR3847C,MR3848L,MR3847U

FCC ID: WKX-MR3848

Prepared for : Shenzhen Marktrace Co.,Ltd.
Address : F3,Bldg,D,Changyuan New Meterial Port, Keyuan
Rd, cience & Industry Park,Nanshan District,,
Shenzhen, China
Prepared by : ACCURATE TECHNOLOGY CO., LTD
Address : F1, Bldg. A, Chan Yuan New Material Port, Keyuan
Rd. Science & Industry Park, Nan Shan, Shenzhen,
Guangdong P.R. China

Tel: (0755) 26503290
Fax: (0755) 26503396

Report Number : ATE20150859
Date of Test : Apr 23-May 05, 2015
Date of Report : May 05, 2015

TABLE OF CONTENTS

Description	Page
Test Report Certification	
1. GENERAL INFORMATION	4
1.1. Description of Device (EUT)	4
1.2. Special Accessory and Auxiliary Equipment	4
1.3. Description of Test Facility	5
1.4. Measurement Uncertainty	5
2. MEASURING DEVICE AND TEST EQUIPMENT	6
3. OPERATION OF EUT DURING TESTING	7
3.1. Operating Mode	7
3.2. Configuration and peripherals	7
4. TEST PROCEDURES AND RESULTS	8
5. 20DB BANDWIDTH MEASUREMENT	9
5.1. Block Diagram of Test Setup	9
5.2. The Requirement For Section 15.215(c)	9
5.3. Operating Condition of EUT	9
5.4. Test Procedure	9
5.5. Test Result	10
6. BAND EDGE COMPLIANCE TEST	11
6.1. Block Diagram of Test Setup	11
6.2. The Requirement For Section 15.249	11
6.3. EUT Configuration on Measurement	11
6.4. Operating Condition of EUT	12
6.5. Test Procedure	12
6.6. Test Result	12
7. RADIATED SPURIOUS EMISSION TEST	17
7.1. Block Diagram of Test Setup	17
7.2. The Limit For Section 15.249	18
7.3. Restricted bands of operation	18
7.4. Configuration of EUT on Measurement	19
7.5. Operating Condition of EUT	19
7.6. Test Procedure	19
7.7. The Field Strength of Radiation Emission Measurement Results	20
8. ANTENNA REQUIREMENT	25
8.1. The Requirement	25
8.2. Antenna Construction	25

Test Report Certification

Applicant& address : Shenzhen Marktrace Co.,Ltd.
F3,Bldg,D,Changyuan New Meterial Port, Keyuan Rd, cience & Industry Park,Nanshan District,, Shenzhen, China

Manufacturer& address : Shenzhen Marktrace Co.,Ltd.
F3,Bldg,D,Changyuan New Meterial Port, Keyuan Rd, cience & Industry Park,Nanshan District,, Shenzhen, China

Product : 2.4G Active RFID Tag

Model No. : MR3848, MR3847D,MR3847C,MR3848L,MR3847U

(Note: These samples are same except for the model number is different for the marketing requirement. So we prepare the MR3848 for test.)

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 :

Apr 23-May 05, 2015

Date of Report:

May 05, 2015

Prepared by :



(Eric Zhang, Engineer)

Approved & Authorized Signer :



(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	2.4G Active RFID Tag
Model Number	:	MR3848,MR3847D,MR3847C,MR3848L, MR3847U (We hereby state that these models are identical in interior structure, electrical circuits and components, just model names are different for the marketing requirement. Therefore only model MR3848 is tested for tests)
Power Supply	:	3V DC (batteries 2×)
Operate Frequency	:	2425MHz
Antenna Gain	:	0dBi
Antenna type	:	PCB Antenna
Applicant	:	Shenzhen Marktrace Co.,Ltd.
Address	:	F3,Bldg,D,Changyuan New Meterial Port, Keyuan Rd, cience & Industry Park,Nanshan District,, Shenzhen, China
Manufacturer	:	Shenzhen Marktrace Co.,Ltd.
Address	:	F3,Bldg,D,Changyuan New Meterial Port, Keyuan Rd, cience & Industry Park,Nanshan District,, Shenzhen, China
Date of sample received	:	Apr 23, 2015
Date of Test	:	Apr 23-May 05, 2015

1.2. Special Accessory and Auxiliary Equipment

N/A

1.3. Description of Test Facility

EMC Lab : Accredited by TUV Rheinland Shenzhen

Listed by FCC
The Registration Number is 752051

Listed by Industry Canada
The Registration Number is 5077A-2

Accredited by China National Accreditation Committee
for Laboratories
The Certificate Registration Number is L3193

Name of Firm : ACCURATE TECHNOLOGY CO. LTD

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

1.4. 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

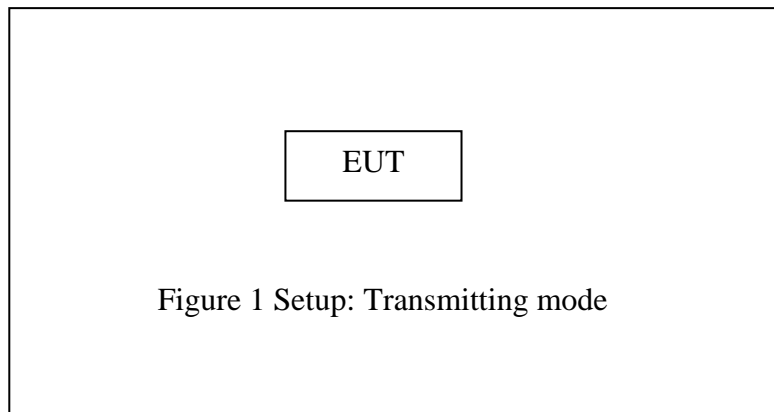
Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Cal. Interval
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 11, 2015	One Year
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 11, 2015	One Year
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 11, 2015	One Year
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 11, 2015	One Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 15, 2015	One Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 15, 2015	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 15, 2015	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1067	Jan. 15, 2015	One Year
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 11, 2015	One Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 11, 2015	One Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 11, 2015	One Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 11, 2015	One Year

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

The mode is used: **Transmitting mode**
Channel: 2425MHz

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	N/A
Section 15.203	Antenna Requirement	Compliant

5. 20DB BANDWIDTH MEASUREMENT

5.1. Block Diagram of Test Setup



5.2. The Requirement For Section 15.215(c)

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

5.3. Operating Condition of EUT

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

5.3.2. Turn on the power of all equipment.

5.3.3. Let the EUT work in TX modes measure it. The transmit frequency are 2425 MHz.

5.4. Test Procedure

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

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

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

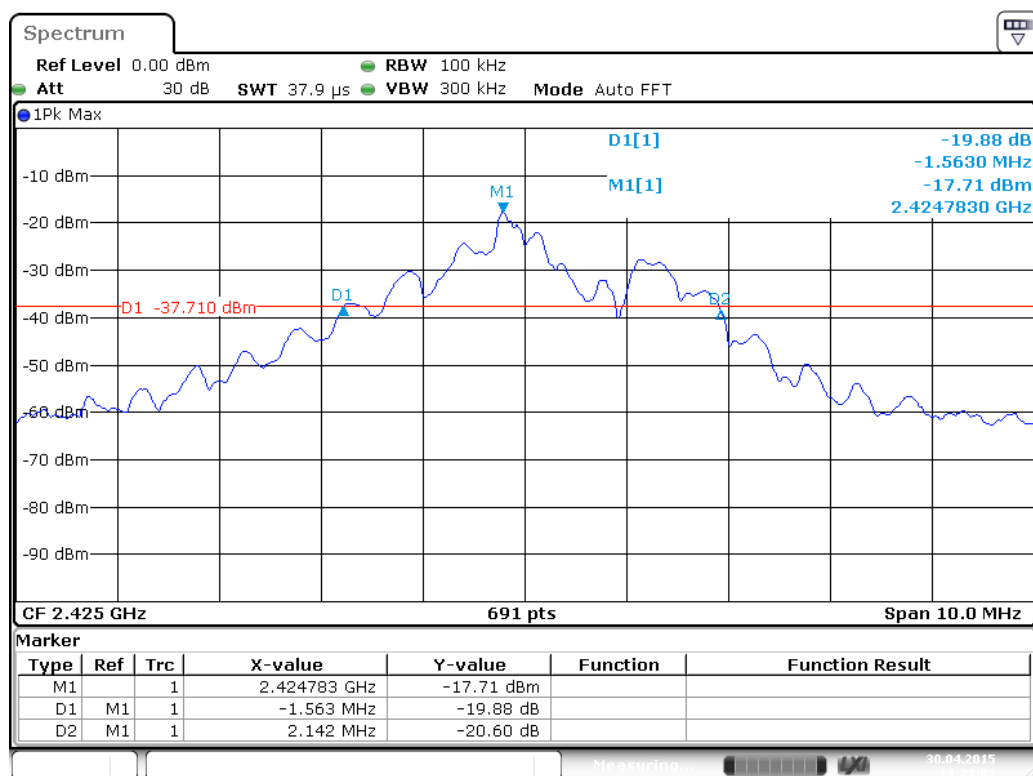
5.4.4. Set the measured low, middle and high frequency and test 20dB bandwidth with spectrum analyzer.

5.5. Test Result

Channel	Frequency (MHz)	20 dB Bandwidth (MHz)
1	2425	3.705

The spectrum analyzer plots are attached as below.

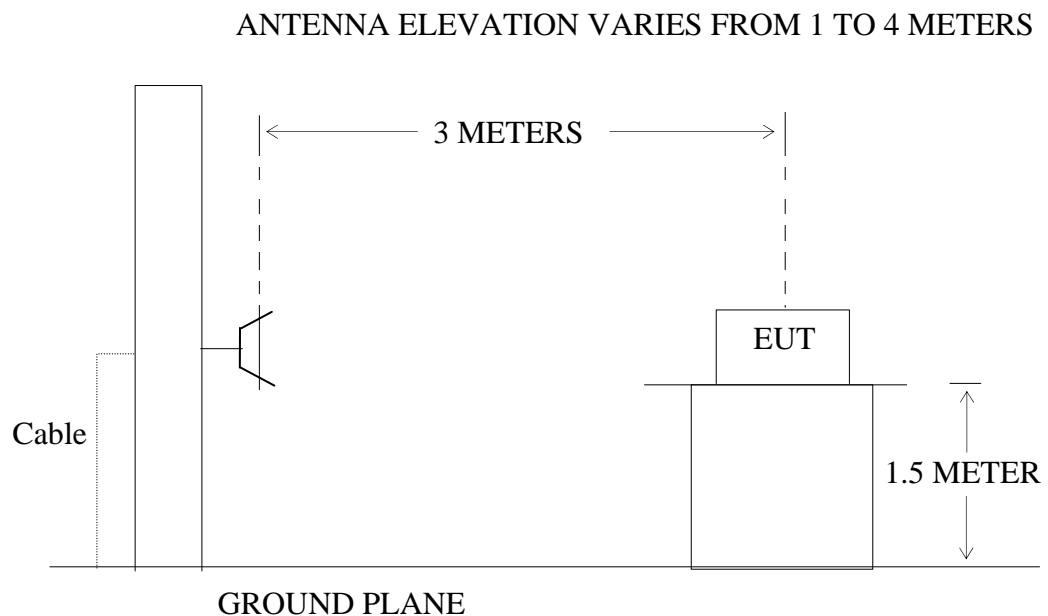
Low channel



Date: 30.APR.2015 13:21:02

6. BAND EDGE COMPLIANCE TEST

6.1. Block Diagram of Test Setup



6.2. The Requirement For Section 15.249

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph A8.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

6.3. EUT Configuration on Measurement

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

6.4. Operating Condition of EUT

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

6.4.2. Turn on the power of all equipment.

6.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2425 MHz..

6.5. Test Procedure

Radiate Band Edge:

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

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

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

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

RBW=1MHz, VBW=1MHz

6.5.5. The band edges was measured and recorded.

6.6. Test Result

Job No.: ricky 2015 #292

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Asset Management Label

Mode: TX

Model: MR3848

Manufacturer: Marktrace

Polarization: Horizontal

Power Source: DC 3V

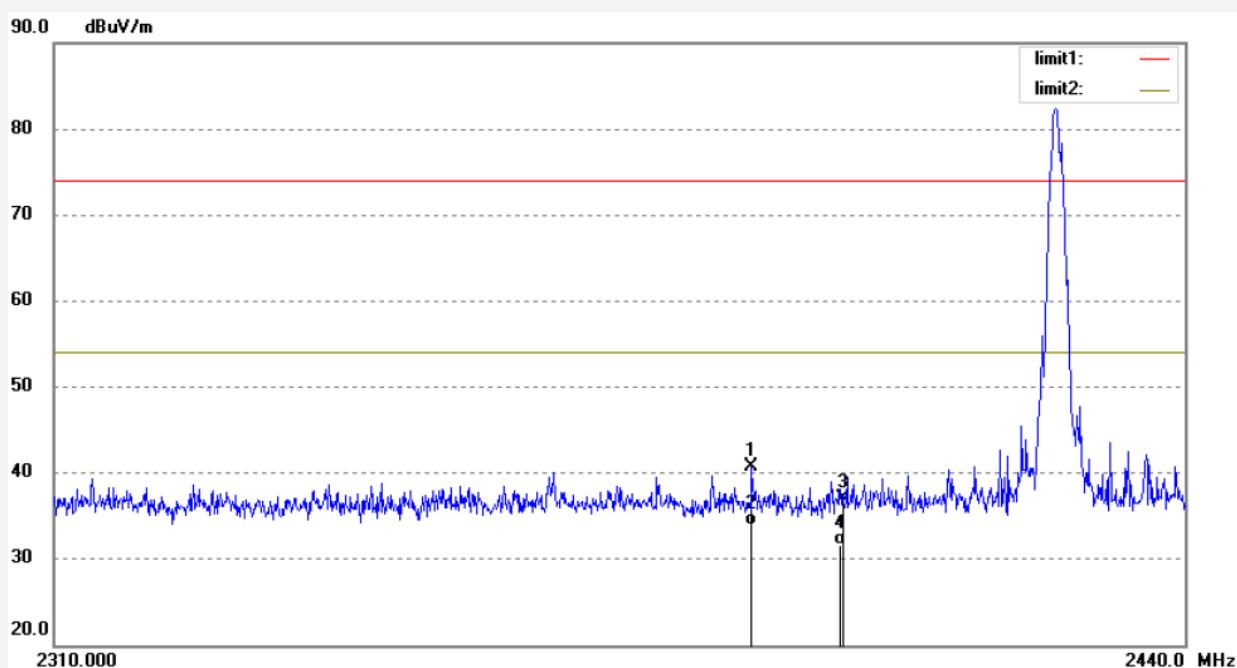
Date: 15/05/04/

Time: 9/18/09

Engineer Signature: Ricky

Distance: 3m

Note: Report NO.:ATE20150859



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2389.398	48.39	-7.57	40.82	74.00	-33.18	peak			
2	2389.398	41.56	-7.57	33.99	54.00	-20.01	AVG			
3	2400.000	44.63	-7.50	37.13	74.00	-36.87	peak			
4	2400.000	39.08	-7.50	31.58	54.00	-22.42	AVG			

Job No.: ricky 2015 #293

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Asset Management Label

Mode: TX

Model: MR3848

Manufacturer: Marktrace

Polarization: Vertical

Power Source: DC 3V

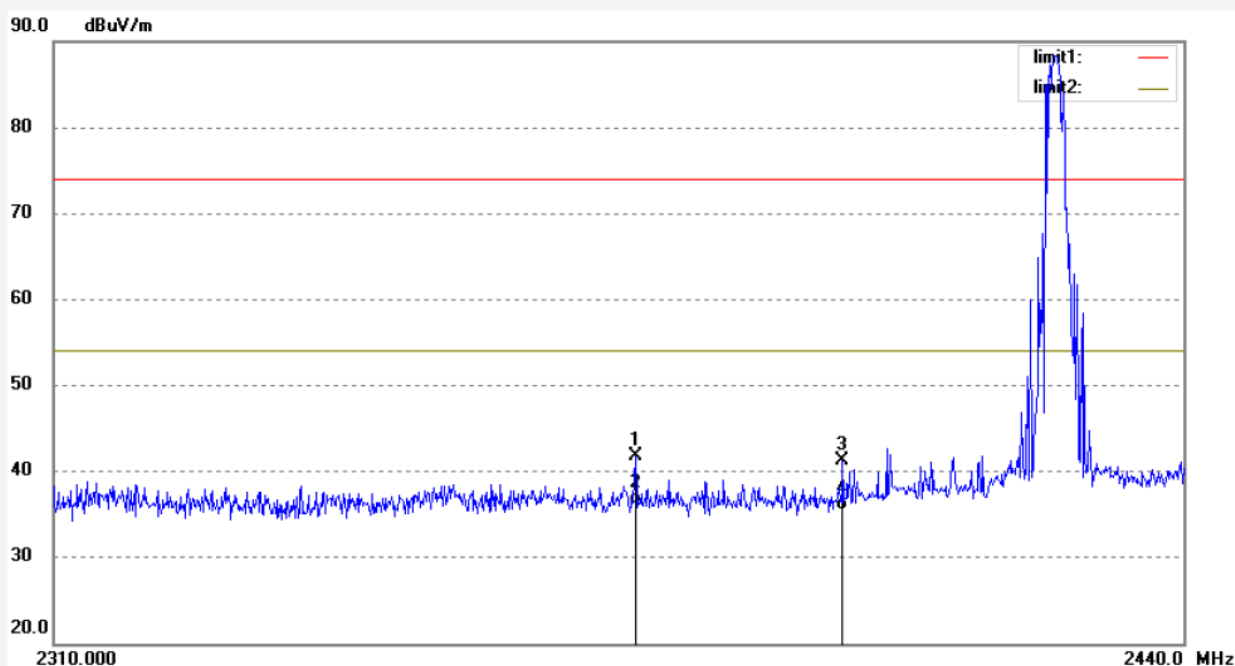
Date: 15/05/04/

Time: 9/19/43

Engineer Signature: Ricky

Distance: 3m

Note: Report NO.:ATE20150859



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2376.065	49.53	-7.67	41.86	74.00	-32.14	peak			
2	2376.065	43.88	-7.67	36.21	54.00	-17.79	AVG			
3	2400.000	48.81	-7.50	41.31	74.00	-32.69	peak			
4	2400.000	43.07	-7.50	35.57	54.00	-18.43	AVG			

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

Site: 1# Chamber

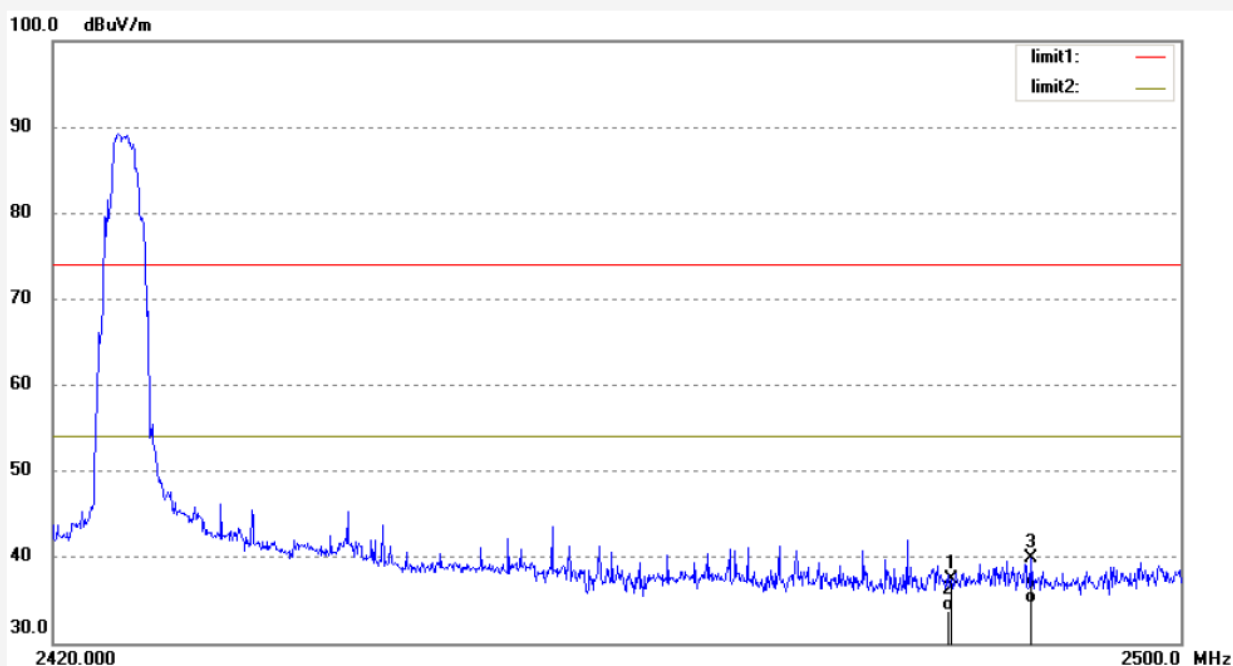
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: ricky 2015 #294
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Asset Management Label
Mode: TX
Model: MR3848
Manufacturer: Marktrace

Polarization: Vertical
Power Source: DC 3V
Date: 15/05/04/
Time: 9/28/52
Engineer Signature: Ricky
Distance: 3m

Note: Report NO.:ATE20150859



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	44.87	-7.38	37.49	74.00	-36.51	peak			
2	2483.500	41.20	-7.38	33.82	54.00	-20.18	AVG			
3	2489.188	47.29	-7.39	39.90	74.00	-34.10	peak			
4	2489.188	41.97	-7.39	34.58	54.00	-19.42	AVG			

Job No.: ricky 2015 #295

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Asset Management Label

Mode: TX

Model: MR3848

Manufacturer: Marktrace

Polarization: Horizontal

Power Source: DC 3V

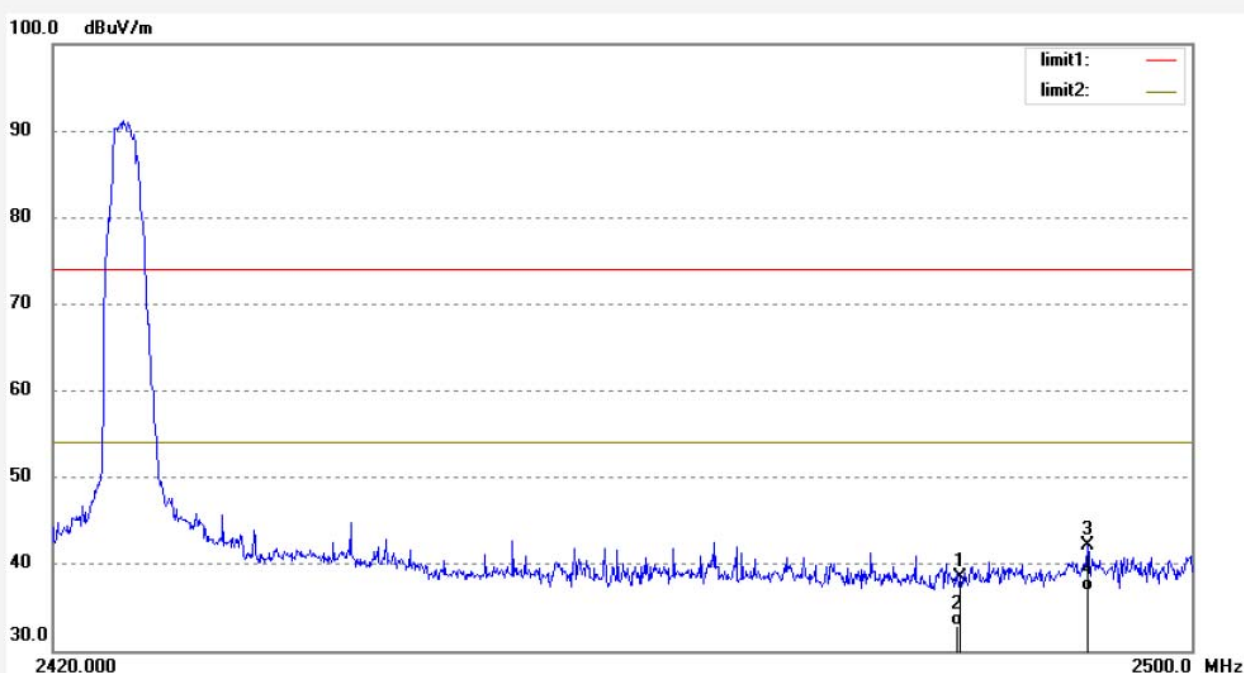
Date: 15/05/04/

Time: 9/28/52

Engineer Signature: Ricky

Distance: 3m

Note: Report NO.:ATE20150859



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	45.87	-7.38	38.49	74.00	-35.51	peak			
2	2483.500	40.33	-7.38	32.95	54.00	-21.05	AVG			
3	2492.597	49.54	-7.39	42.15	74.00	-31.85	peak			
4	2492.597	44.28	-7.39	36.89	54.00	-17.11	AVG			

Note:

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

7. RADIATED SPURIOUS EMISSION TEST

7.1. Block Diagram of Test Setup

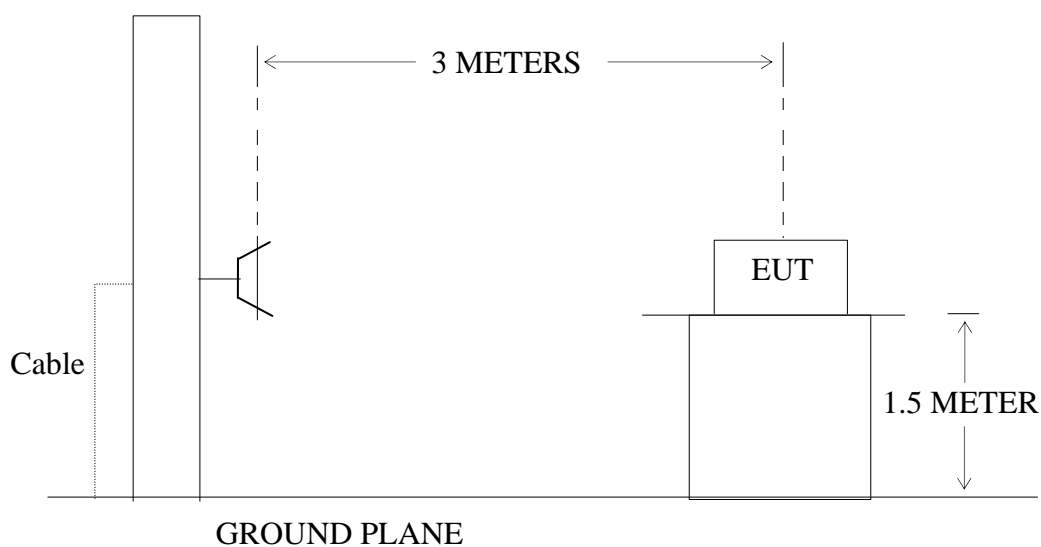
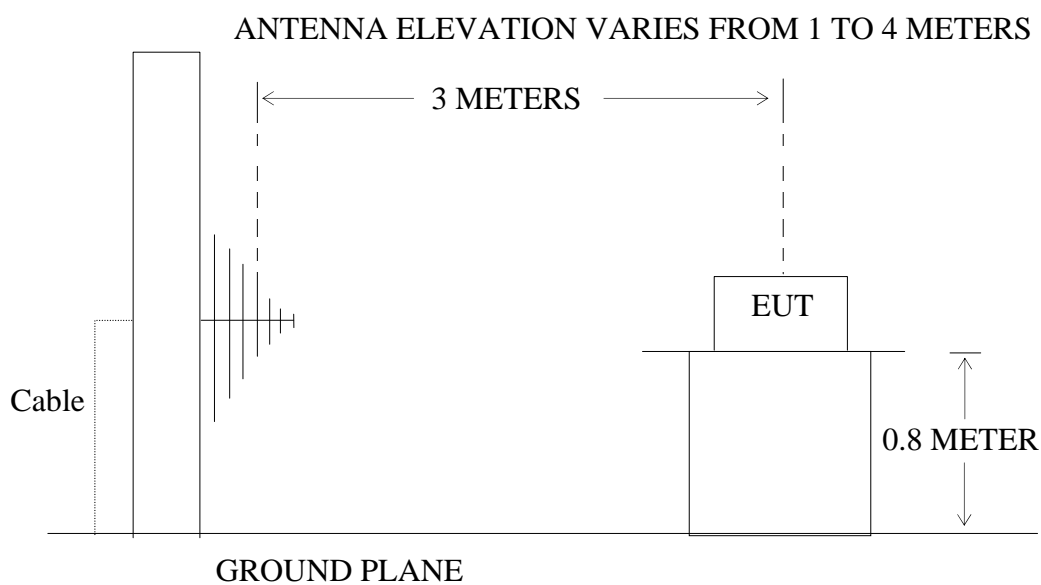
7.1.1. Block diagram of connection between the EUT and peripherals



Setup: Transmitting mode

(EUT: MR3848)

7.1.2. Semi-Anechoic Chamber Test Setup Diagram



7.2.The Limit 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 under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

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 measure it. The transmit frequency are 2425MHz.

7.6.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter(Below 1GHz) and 1.5m(above 1GHz) high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

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

The frequency range from 9 kHz to 25GHz is checked.

The final measurement in band 9-90 kHz, 110-490 kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

RBW (120 kHz), VBW (300 kHz) for QP detector below 1GHz

Peak detector above 1GHz

RBW (1 MHz), VBW (3MHz) for Peak measurement

RBW (1 MHz), VBW (10Hz) for AV measurement

The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

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

7.7.The Field Strength of Radiation Emission Measurement Results

PASS.

Fundamental Radiated Emissions

Frequency (MHz)	Reading(dB μ V/m)		Factor(dB) Corr.	Result(dB μ V/m)		Limit(dB μ V/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2425.00	89.21	95.36	-7.43	81.78	87.93	94.00	114.00	-12.22	-26.07	Vertical
2425.00	95.00	101.86	-7.43	87.57	94.43	94.00	114.00	-6.43	-19.57	Horizontal

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

2. *: Denotes restricted band of operation.

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

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

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

6. The 18-25GHz emissions are not reported, because the levels are too low against the limit

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

Site: 1# Chamber

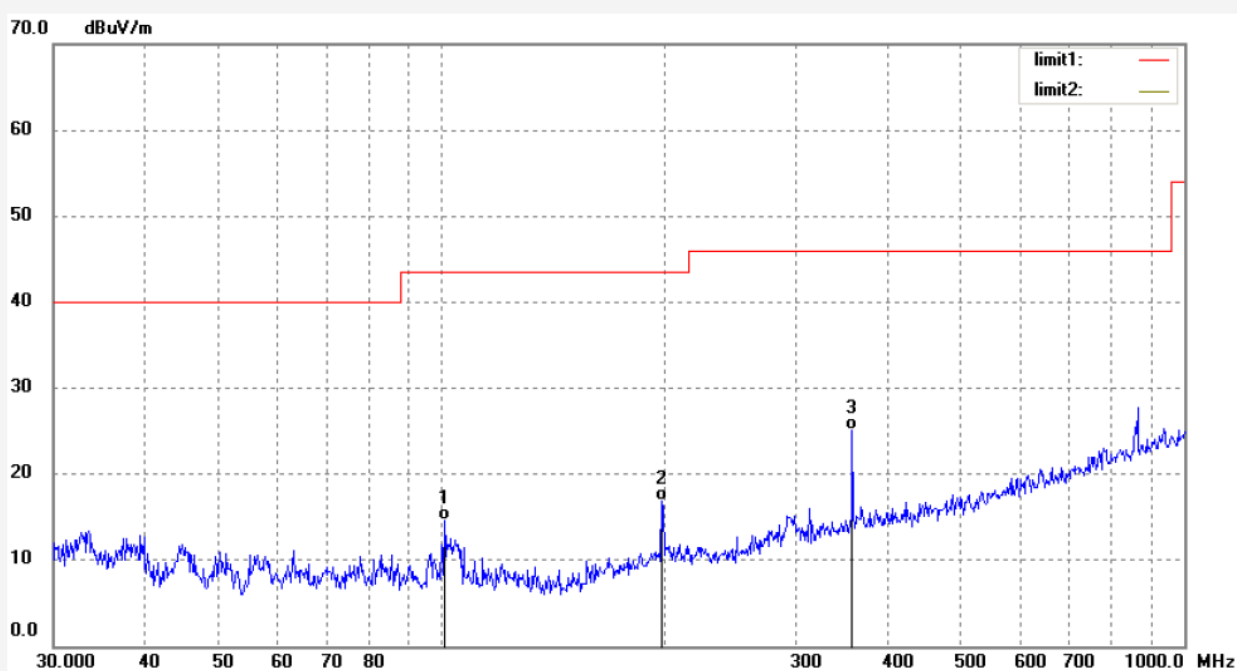
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: ricky 2015 #296
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Asset Management Label
Mode: TX
Model: MR3848
Manufacturer: Marktrace

Polarization: Vertical
Power Source: DC 3V
Date: 15/05/04/
Time: 9/37/25
Engineer Signature: Ricky
Distance: 3m

Note: Report NO.:ATE20150859

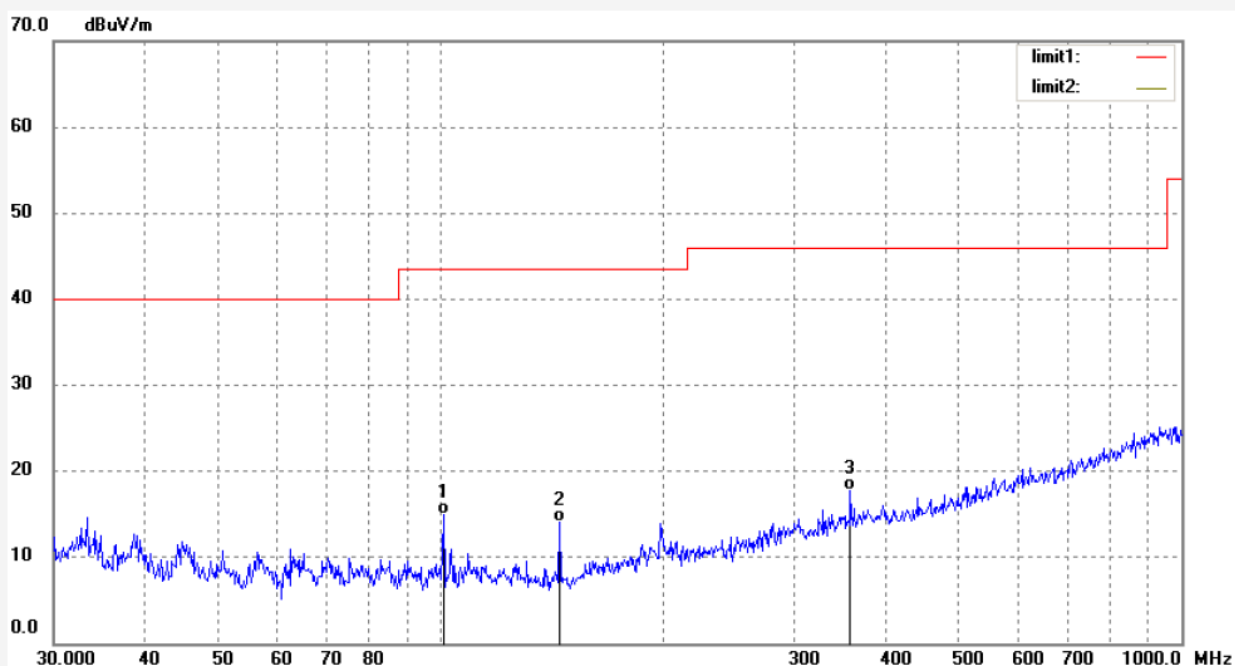


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	100.8248	37.41	-22.74	14.67	43.50	-28.83	QP			
2	197.9457	37.25	-20.35	16.90	43.50	-26.60	QP			
3	357.1925	41.09	-16.02	25.07	46.00	-20.93	QP			

Job No.: ricky 2015 #297
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Asset Management Lable
Mode: TX
Model: MR3848
Manufacturer: Marktrace

Polarization: Horizontal
Power Source: DC 3V
Date: 15/05/04/
Time: 9/38/24
Engineer Signature: Ricky
Distance: 3m

Note: Report NO.:ATE20150859



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	100.8248	37.68	-22.74	14.94	43.50	-28.56	QP			
2	144.7899	37.71	-23.69	14.02	43.50	-29.48	QP			
3	357.1925	33.78	-16.02	17.76	46.00	-28.24	QP			



ACCURATE TECHNOLOGY CO., LTD.

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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: ricky 2015 #291

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Asset Management Label

Mode: TX

Model: MR3848

Manufacturer: Marktrace

Polarization:Horizontal

Power Source: DC 3V

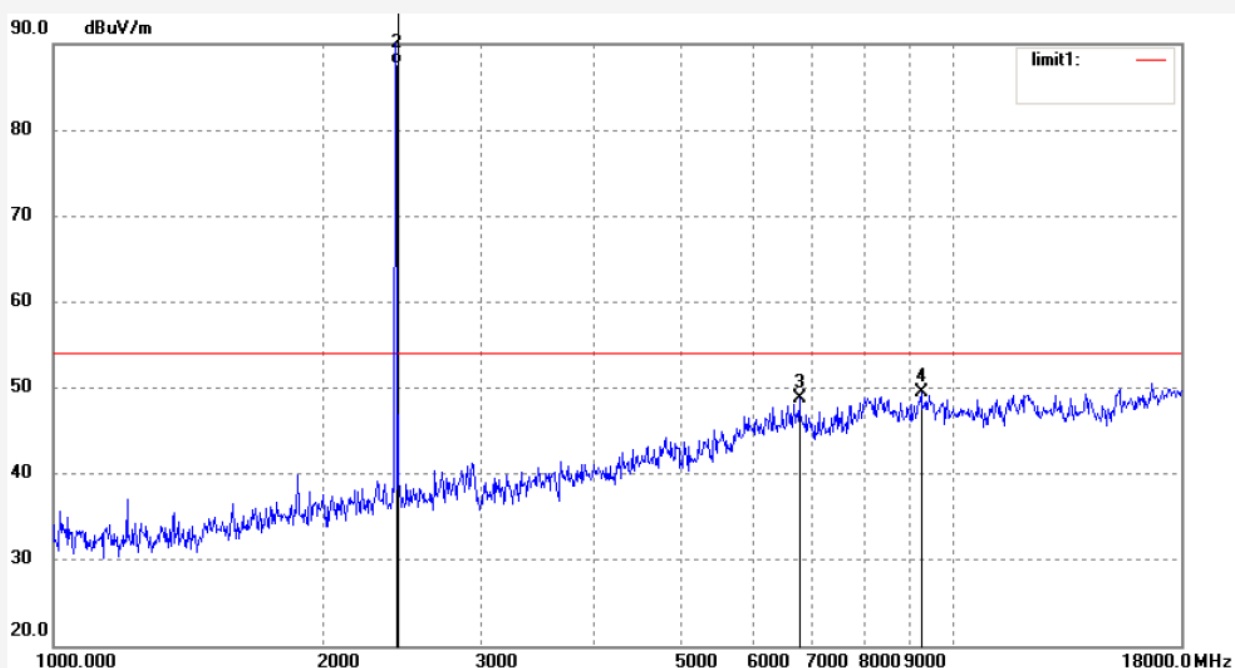
Date: 15/05/04/

Time: 9/15/44

Engineer Signature: Ricky

Distance: 3m

Note: Report NO.:ATE20150859



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2425.000	101.86	-7.43	94.43	114.00	-19.57	peak			
2	2425.000	95.00	-7.43	87.57	94.00	-6.43	AVG			
3	6769.050	43.78	5.09	48.87	54.00	-5.13	peak			
4	9242.484	40.04	9.50	49.54	54.00	-4.46	peak			

Job No.: ricky 2015 #290

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Asset Management Label

Mode: TX

Model: MR3848

Manufacturer: Marktrace

Polarization: Vertical

Power Source: DC 3V

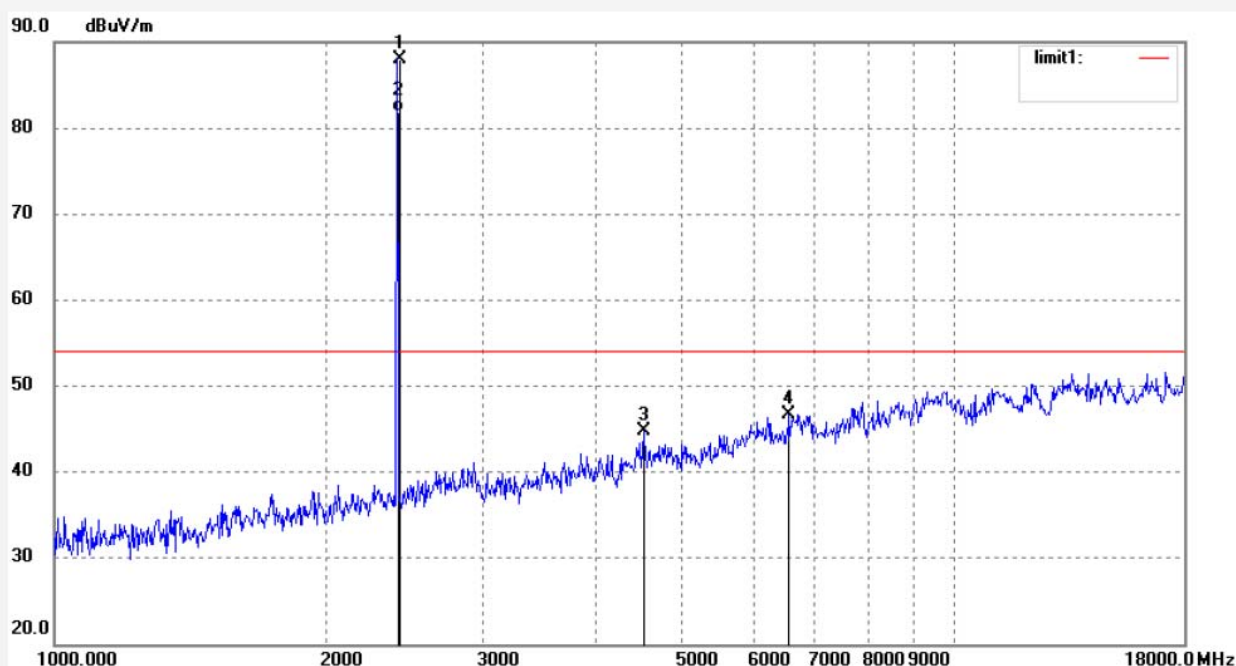
Date: 15/05/04/

Time: 9/14/51

Engineer Signature: Ricky

Distance: 3m

Note: Report NO.:ATE20150859



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2425.000	95.36	-7.43	87.93	114.00	-26.07	peak			
2	2425.000	89.21	-7.43	81.78	94.00	-12.22	AVG			
3	4516.634	45.53	-0.83	44.70	54.00	-9.30	peak			
4	6555.750	42.20	4.45	46.65	54.00	-7.35	peak			

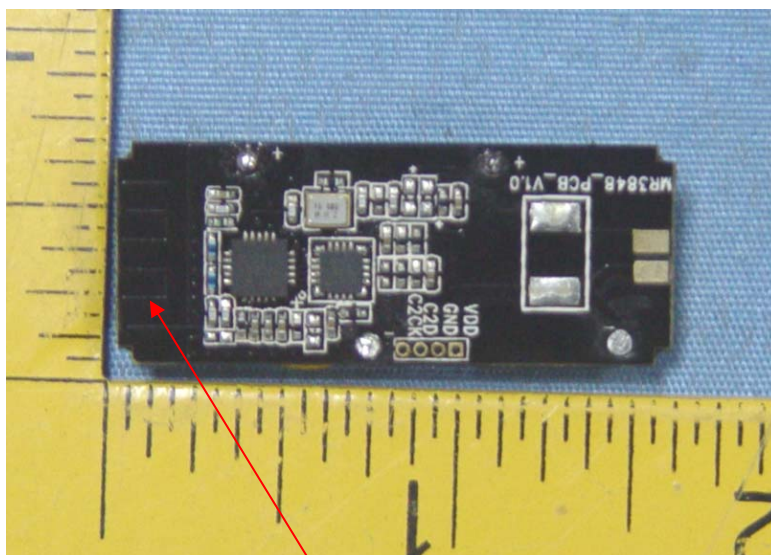
8. ANTENNA REQUIREMENT

8.1.The Requirement

According to Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

8.2.Antenna Construction

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



Antenna