APPLICATION CERTIFICATION
On Behalf of
Dongguan Southstar Electronics Limited

echo™ EYE for Camera Unit
Model No.: EE1.0A2

FCC ID: X8C-EE10A2

Prepared for	:	Dongguan Southstar Electronics Limited
Address	:	F Building, 3 Chengtian Rd., Mintian, Shatian Town Dongguan, Guangdong, China
Prepared by	:	ACCURATE TECHNOLOGY CO. LTD
Address	:	F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China
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Report Number	:	ATE20102048
Date of Test	:	October 14-22, 2010
Date of Report	:	October 23, 2010

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Description Page

Test Report Certification

Applicant **:** Dongguan Southstar Electronics Limited

Manufacturer **:** Dongguan Southstar Electronics Limited

EUT Description **:** echo™ EYE for Camera Unit

(A) MODEL NO.: EE1.0A2

(B) SERIAL NO.: N/A

(C) POWER SUPPLY: DC 3.7V(Li-ion battery 1×) or DC 6V/2A (Adapter input)

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247
ANSI C63.4: 2003

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 15.247 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.

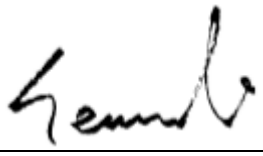
This report applies to above tested sample only. This report shall not be reproduced in part without written approval of ACCURATE TECHNOLOGY CO. LTD.

Date of Test : October 14-22, 2010

Prepared by :

(Engineer)

Approved & Authorized Signer :



(Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	echo™ EYE for Camera Unit
Model Number	:	EE1.0A2
Frequency Band	:	2402MHz-2480MHz
Number of Channels	:	40
Antenna Gain		1dBi
Power Supply	:	DC 3.7V(Li-ion battery 1×) or DC 6V/2A (Adapter input)
Adapter	:	Model: HP-5V1.5 Input: AC 120-240V 50/60Hz Output: DC 6V/2A
Applicant	:	Dongguan Southstar Electronics Limited
Address	:	F Building, 3 Chengtian Rd., Mintian, Shatian Town Dongguan, Guangdong, China
Manufacturer	:	Dongguan Southstar Electronics Limited
Address	:	F Building, 3 Chengtian Rd., Mintian, Shatian Town Dongguan, Guangdong, China
Date of sample received	:	October 10, 2010
Date of Test	:	October 14-22, 2010

1.2.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

1.3.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

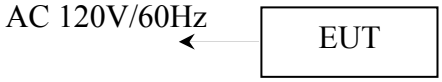
Kind of equipment	Manufacturer	Type	S/N	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 9, 2011
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 9, 2011
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 9, 2011
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	Jan. 9, 2011
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 9, 2011
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 9, 2011
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 9, 2011
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 9, 2011
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 9, 2011
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 9, 2011

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

The mode is used: Transmitting mode
Low Channel: 2402MHz
Middle Channel: 2440MHz
High Channel: 2480MHz
Hopping

3.2.Configuration and peripherals



Setup: Transmitting mode

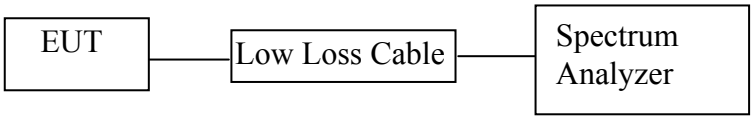
(EUT: echo™ EYE for Camera Unit)

4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.247(a)(1)	20dB Bandwidth Test	Compliant
Section 15.247(a)(1)	Carrier Frequency Separation Test	Compliant
Section 15.247(a)(1)(iii)	Number Of Hopping Frequency Test	Compliant
Section 15.247(a)(1)(iii)	Dwell Time Test	Compliant
Section 15.247(b)(1)	Maximum Peak Output Power Test	Compliant
Section 15.247(d)	Band Edge Compliance Test	Compliant
Section 15.247(d) Section 15.209	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



(EUT: echo™ EYE for Camera Unit)

5.2. The Requirement For Section 15.247(a)(1)

Section 15.247(a)(1): Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

5.3. EUT Configuration on Measurement

The following 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.

5.3.1. echo™ EYE for Camera Unit (EUT)

Model Number	:	EE1.0A2
Serial Number	:	N/A
Manufacturer	:	Dongguan Southstar Electronics Limited

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 TX(Hopping off) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, 2480MHz TX frequency to transmit.

5.5. Test Procedure

5.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

5.5.2. Set RBW of spectrum analyzer to 30kHz and VBW to 100kHz.

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

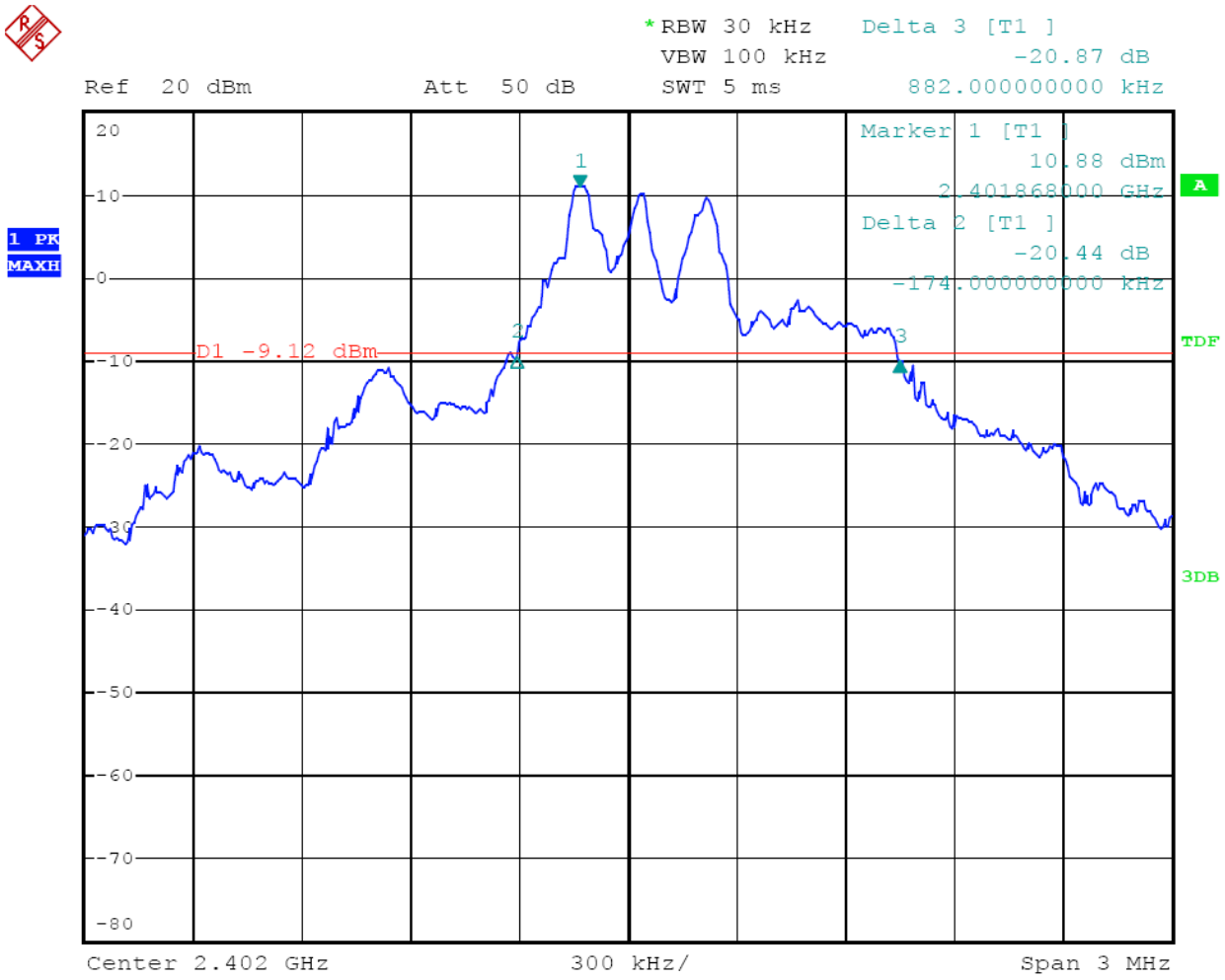
5.6. Test Result

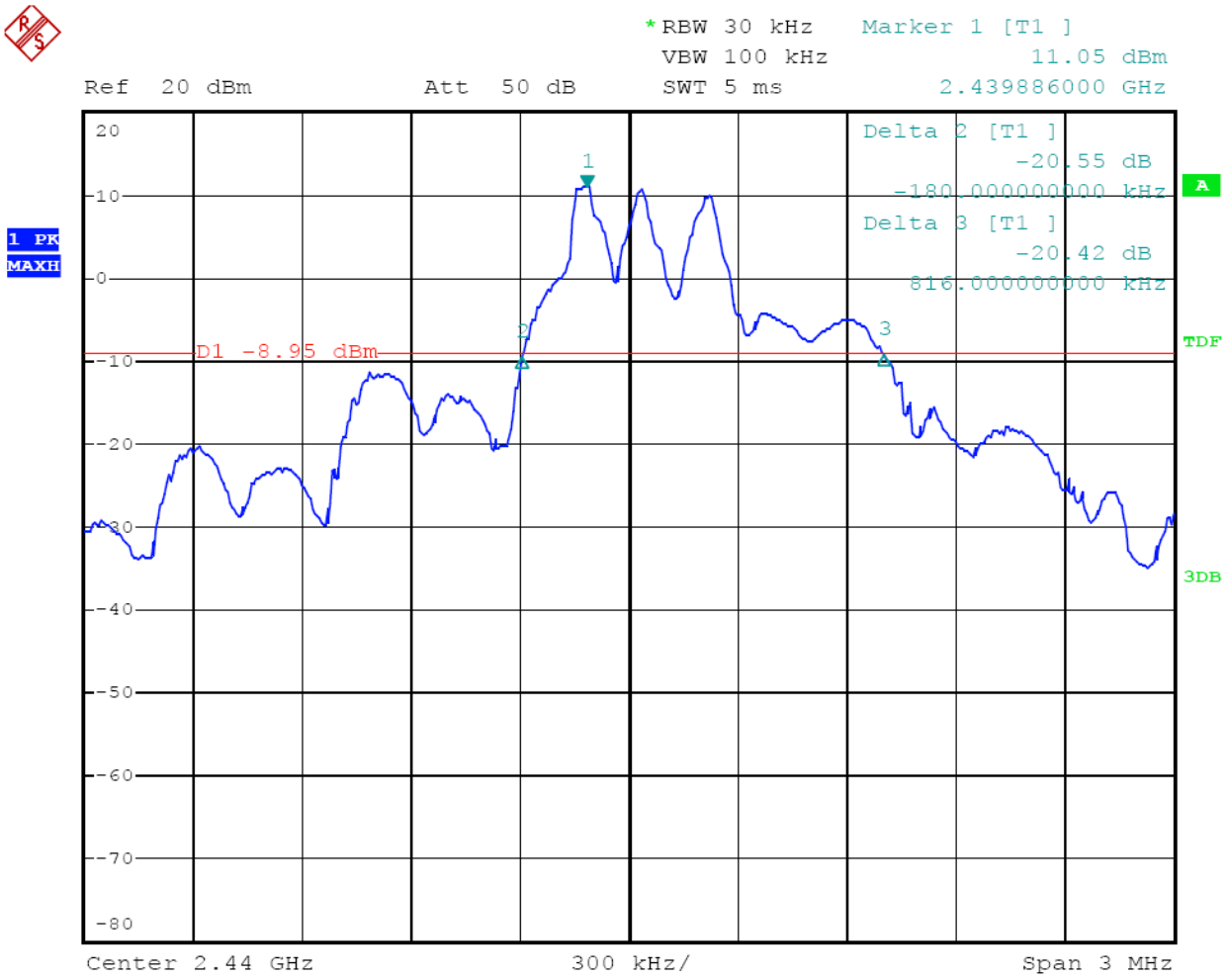
PASS.

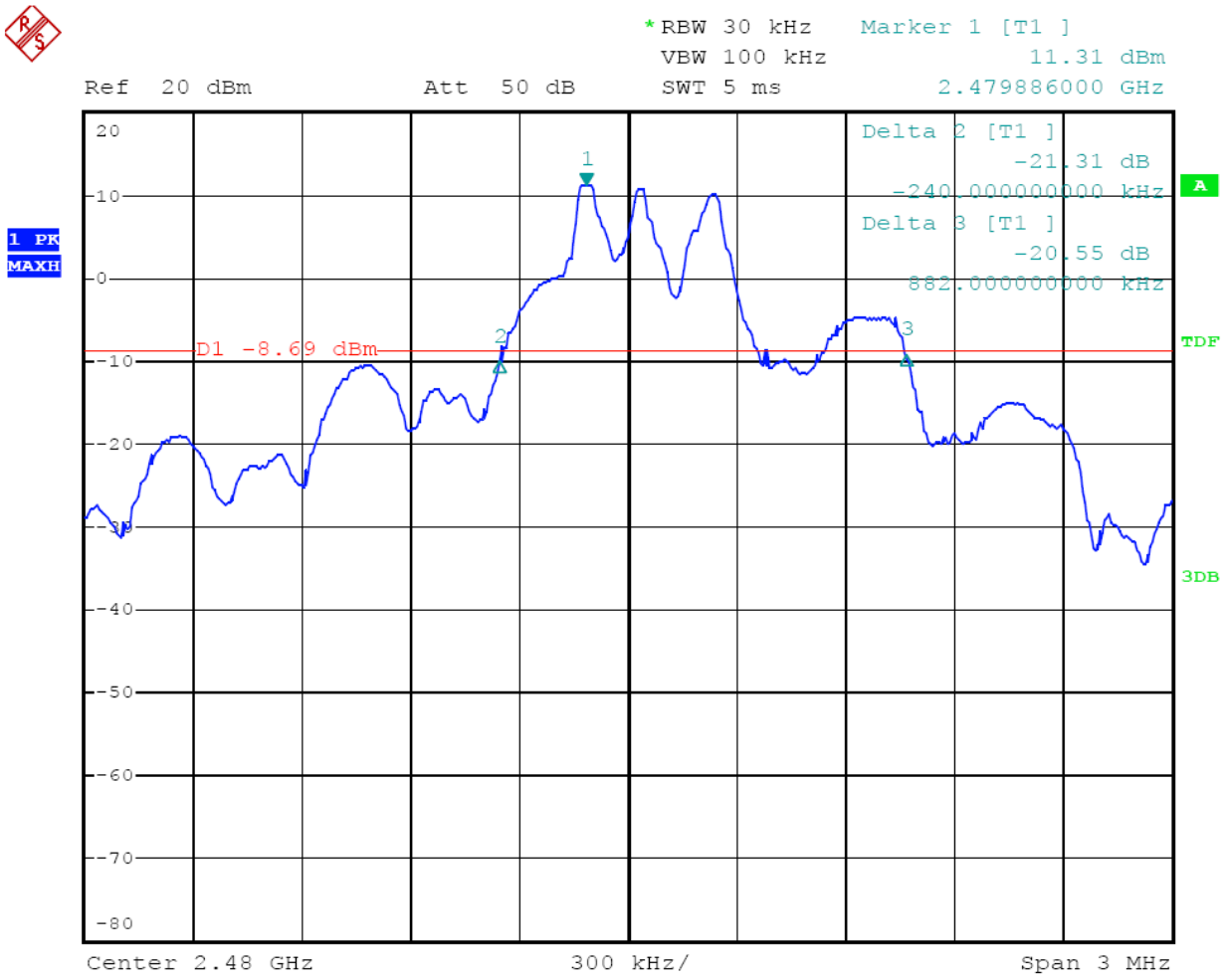
Date of Test:	October 21, 2010	Temperature:	25°C
EUT:	echo™ EYE for Camera Unit	Humidity:	50%
Model No.:	EE1.0A2	Power Supply:	AC 120V/60Hz
Test Mode:	TX	Test Engineer:	Joe

Channel	Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)
Low	2402	1.056	---
Middle	2440	0.996	---
High	2480	1.122	---

The spectrum analyzer plots are attached as below.

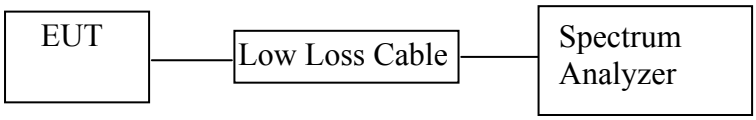

*RBW 30 kHz
VBW 100 kHz
SWT 5 ms
Delta 3 [T1]
-20.87 dB
882.000000000 kHz
Ref 20 dBm
Att 50 dB
Marker 1 [T1]
10.88 dBm
2.401868000 GHz
Delta 2 [T1]
-20.44 dB
-174.000000000 kHz
1 PK
MAXH
A
TDF
3DB
D1 -9.12 dBm
Center 2.402 GHz
300 kHz/
Span 3 MHz


*RBW 30 kHz
VBW 100 kHz
SWT 5 ms
Marker 1 [T1]
11.05 dBm
2.439886000 GHz
Ref 20 dBm
Att 50 dB
Delta 2 [T1]
-20.55 dB
-180.000000000 kHz
Delta 3 [T1]
-20.42 dB
816.000000000 kHz
1 PK
MAXH
A
TDF
3DB
D1 -8.95 dBm
Center 2.44 GHz
300 kHz/
Span 3 MHz


RBW 30 kHz
VBW 100 kHz
SWT 5 ms
Marker 1 [T1]
11.31 dBm
2.479886000 GHz
Ref 20 dBm
Att 50 dB
Delta 2 [T1]
-21.31 dB
-240.000000000 kHz
Delta 3 [T1]
-20.55 dB
882.000000000 kHz
1 PK
MAXH
A
TDF
3DB
D1 -8.69 dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.48 GHz
300 kHz/
Span 3 MHz

6. CARRIER FREQUENCY SEPARATION TEST

6.1. Block Diagram of Test Setup



(EUT: echo™ EYE for Camera Unit)

6.2. The Requirement For Section 15.247(a)(1)

Section 15.247(a)(1): Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudorandomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

6.3. EUT Configuration on Measurement

The following 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.

6.3.1. echo™ EYE for Camera Unit (EUT)

Model Number	:	EE1.0A2
Serial Number	:	N/A
Manufacturer	:	Dongguan Southstar Electronics Limited

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 (Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, 2480MHz TX frequency to transmit.

6.5. Test Procedure

6.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

6.5.2. Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz. Adjust Span to 6 MHz.

6.5.3. Set the adjacent channel of the EUT maxhold another trace.

6.5.4. Measurement the channel separation

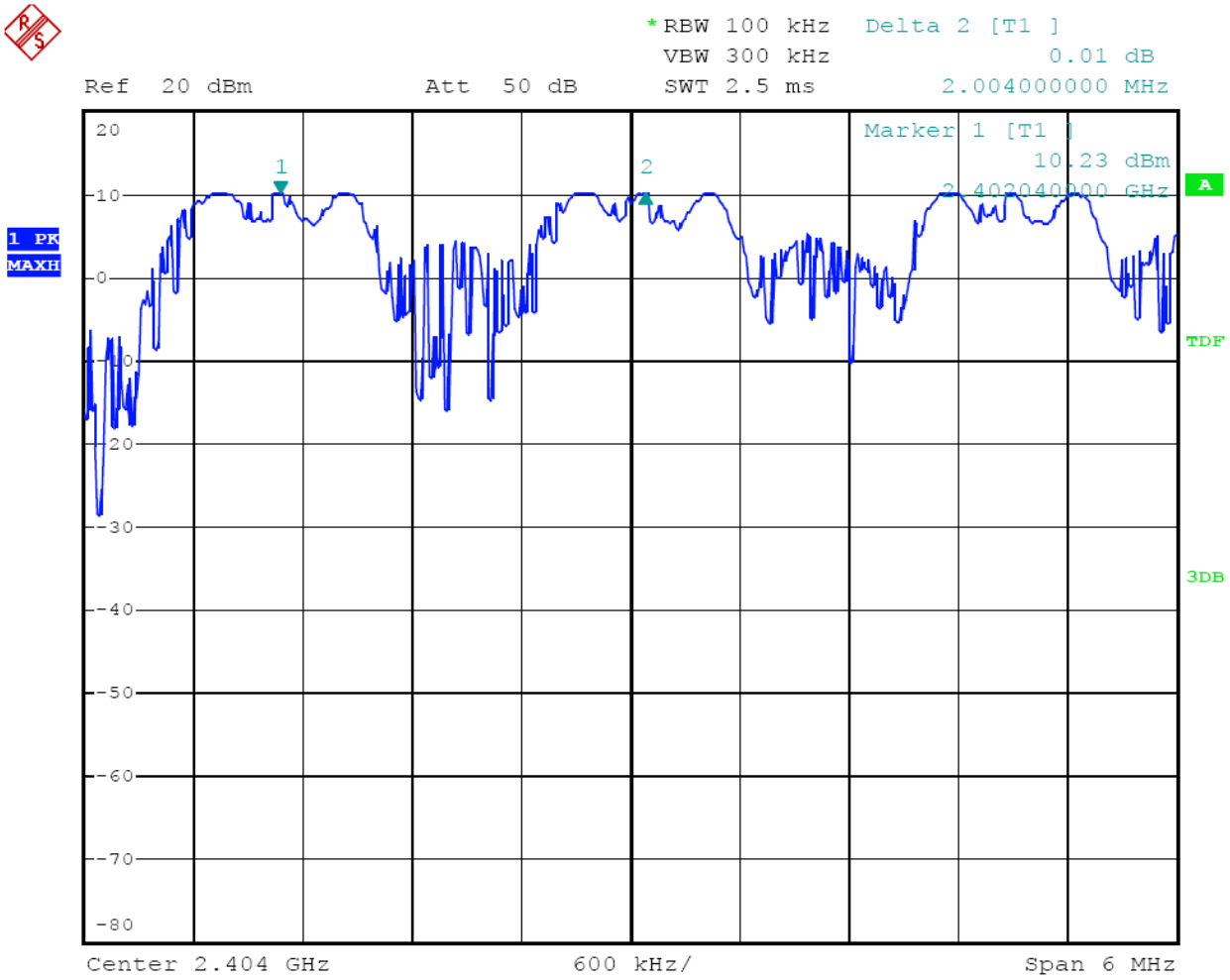
6.6. Test Result

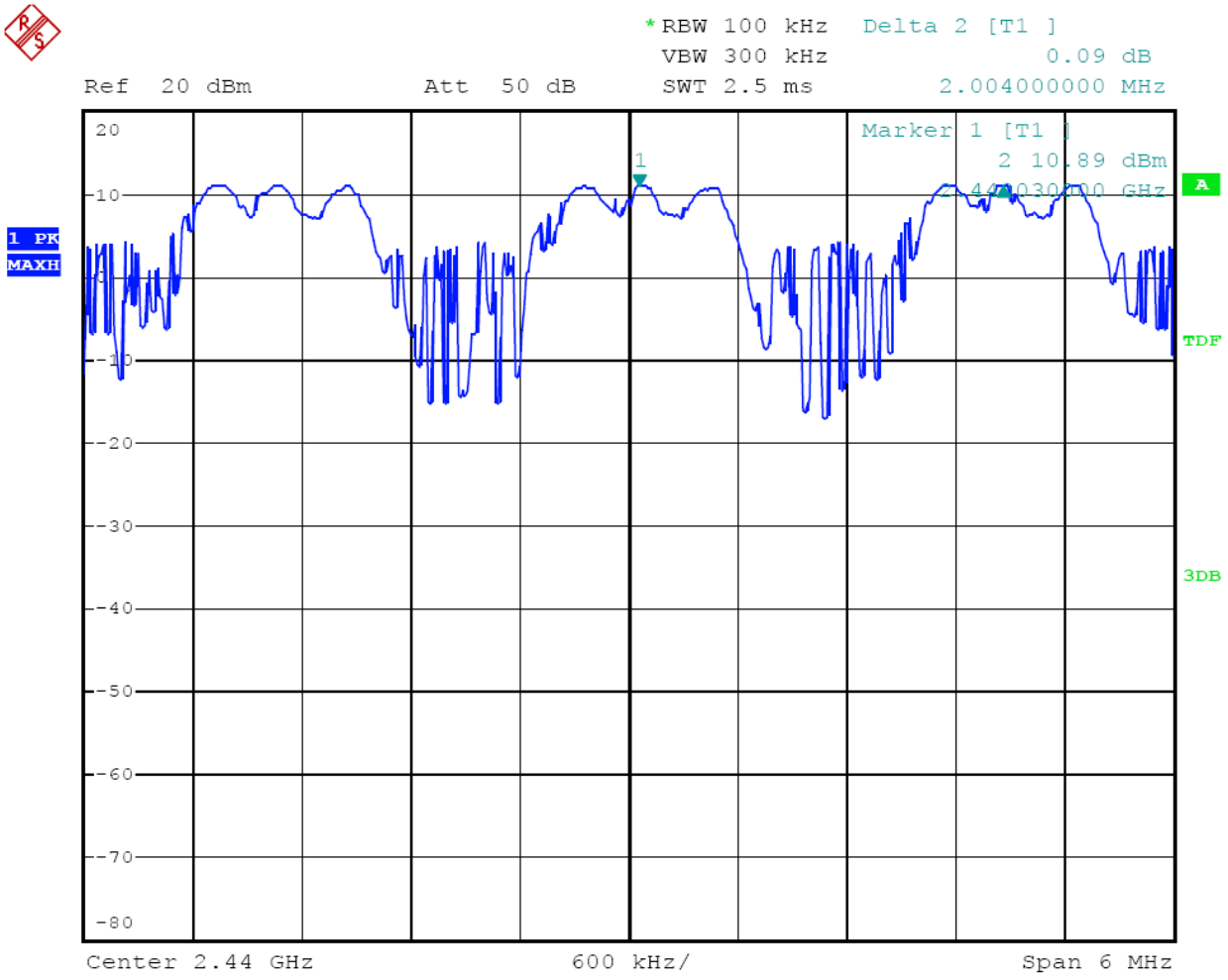
PASS.

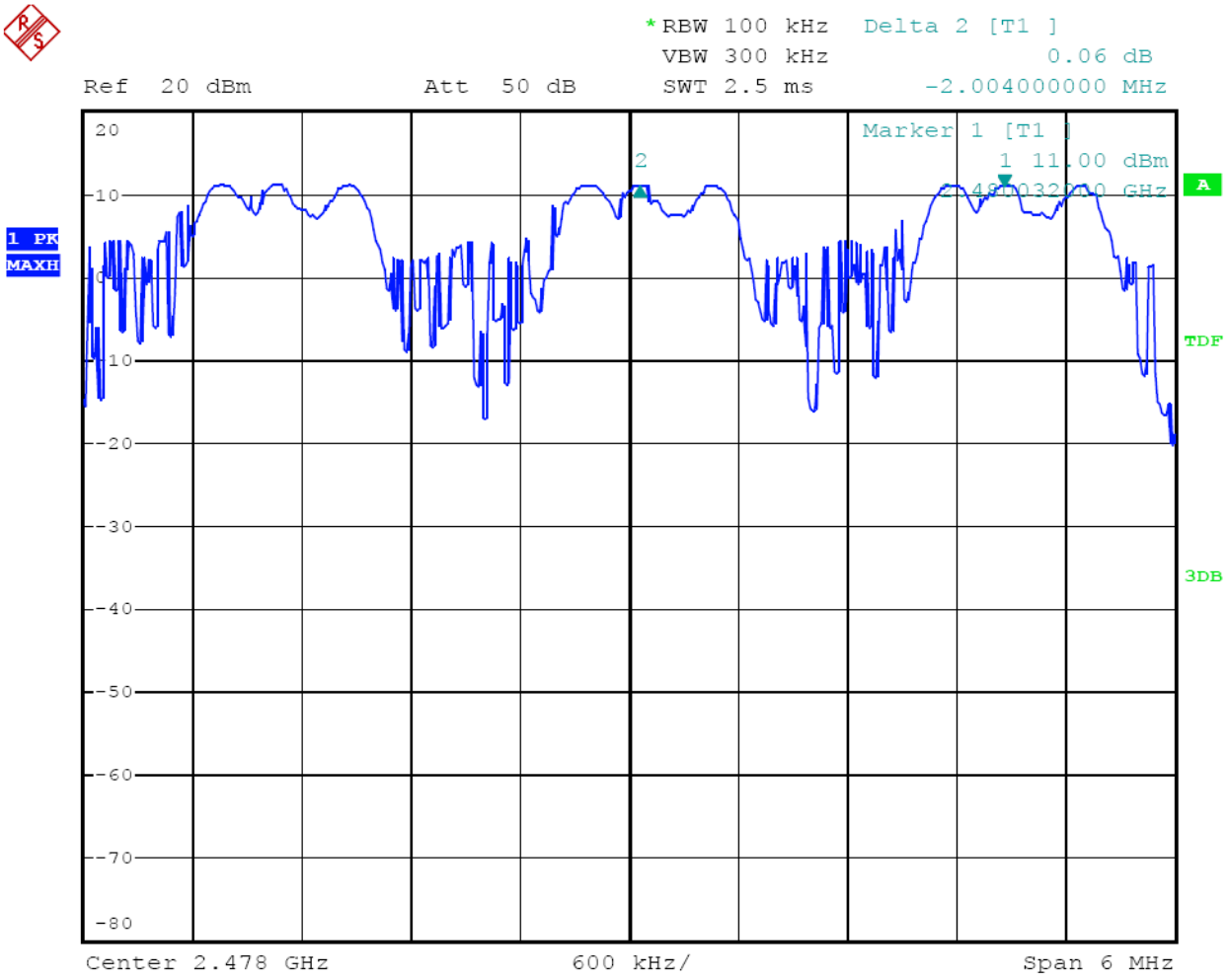
Date of Test:	October 21, 2010	Temperature:	25°C
EUT:	echo™ EYE for Camera Unit	Humidity:	50%
Model No.:	EE1.0A2	Power Supply:	AC 120V/60Hz
Test Mode:	Hopping	Test Engineer:	Joe

Channel	Channel Frequency (MHz)	Channel separation (MHz)	Limit
Low	2402	2.004	> 25 kHz or two-thirds of the 20 dB bandwidth (whichever is greater)
Middle	2440	2.004	> 25 kHz or two-thirds of the 20 dB bandwidth (whichever is greater)
High	2480	2.004	> 25 kHz or two-thirds of the 20 dB bandwidth (whichever is greater)

The spectrum analyzer plots are attached as below.

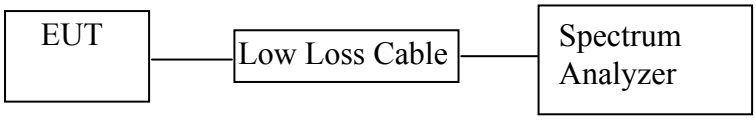

*RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
Delta 2 [T1]
0.01 dB
2.004000000 MHz
Ref 20 dBm
Att 50 dB
Marker 1 [T1]
10.23 dBm
2.402040000 GHz
1 PK
MAXH
A
TDF
3DB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.404 GHz
600 kHz/
Span 6 MHz


*RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
Delta 2 [T1]
0.09 dB
2.004000000 MHz
Ref 20 dBm
Att 50 dB
Marker 1 [T1]
2 10.89 dBm
2.44030000 GHz
1 PK
MAXH
A
TDF
3DB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.44 GHz
600 kHz/
Span 6 MHz


*RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
Delta 2 [T1]
0.06 dB
-2.004000000 MHz
Ref 20 dBm
Att 50 dB
Marker 1 [T1]
1 11.00 dBm
2.48003200 GHz
1 PK
MAXH
A
TDF
3DB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.478 GHz
600 kHz/
Span 6 MHz

7. NUMBER OF HOPPING FREQUENCY TEST

7.1. Block Diagram of Test Setup



(EUT: echo™ EYE for Camera Unit)

7.2. The Requirement For Section 15.247(a)(1)(iii)

Section 15.247(a)(1)(iii): Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

7.3. EUT Configuration on Measurement

The following 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.

7.3.1. echo™ EYE for Camera Unit (EUT)

Model Number	:	EE1.0A2
Serial Number	:	N/A
Manufacturer	:	Dongguan Southstar Electronics Limited

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 (Hopping on) modes measure it.

7.5. Test Procedure

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

7.5.2. Set the spectrum analyzer as Span=90MHz, RBW=300kHz, VBW=300kHz.

7.5.3. Max hold, view and count how many channel in the band.

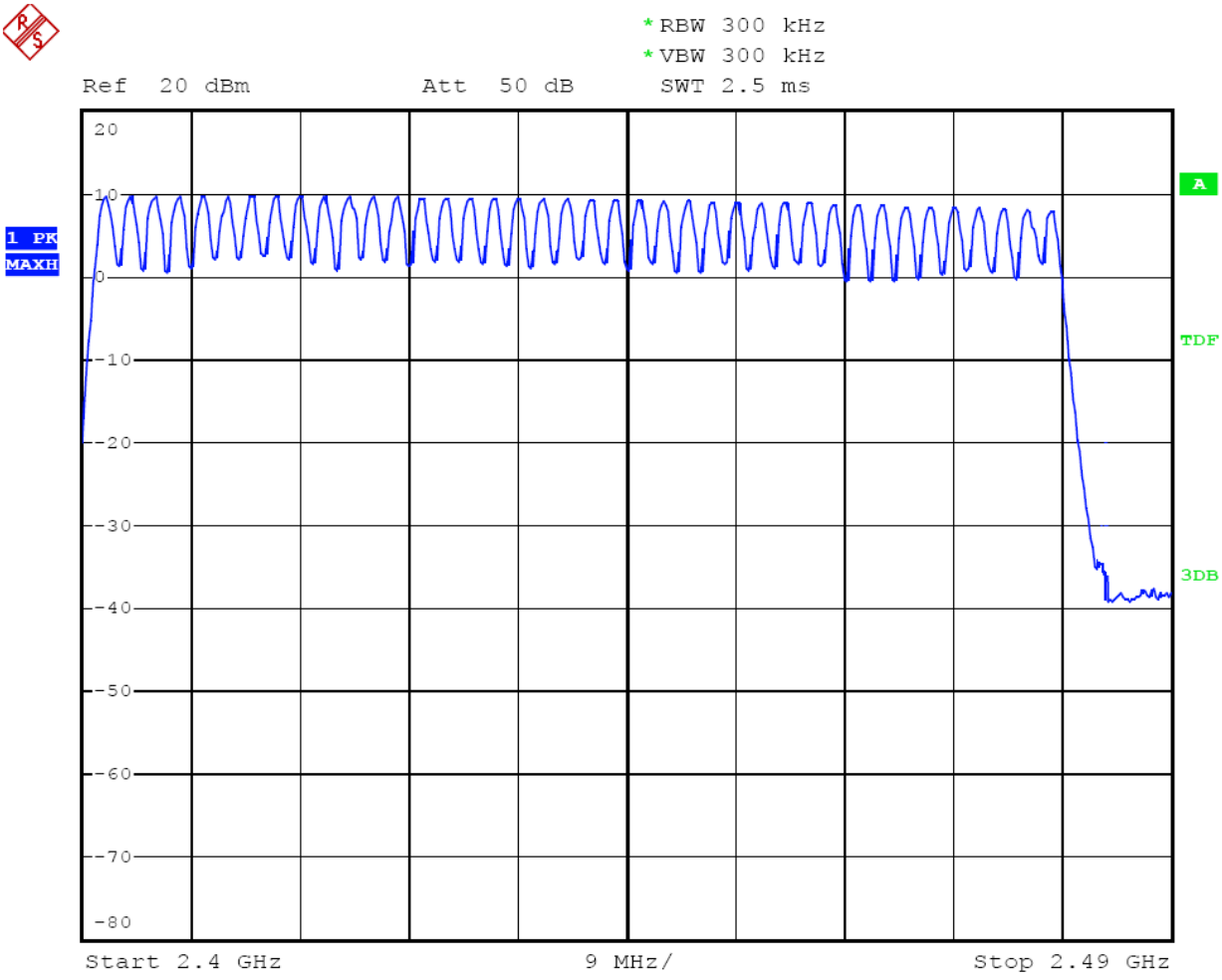
7.6. Test Result

PASS.

Date of Test:	October 21, 2010	Temperature:	25°C
EUT:	echo™ EYE for Camera Unit	Humidity:	50%
Model No.:	EE1.0A2	Power Supply:	AC 120V/60Hz
Test Mode:	Hopping	Test Engineer:	Joe

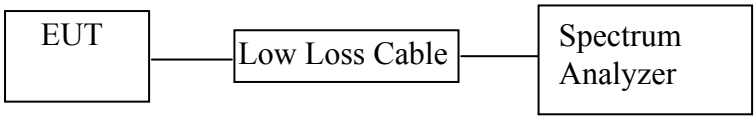
	Measurement result (CH)	Limit (CH)
Total number of hopping channel	40	≥15

The spectrum analyzer plots are attached as below.


* RBW 300 kHz
* VBW 300 kHz
Ref 20 dBm
Att 50 dB
SWT 2.5 ms
1 PK
MAXH
A
TDF
3DB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Start 2.4 GHz
9 MHz/
Stop 2.49 GHz

8. DWELL TIME TEST

8.1. Block Diagram of Test Setup



(EUT: echo™ EYE for Camera Unit)

8.2. The Requirement For Section 15.247(a)(1)(iii)

Section 15.247(a)(1)(iii): Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

8.3. EUT Configuration on Measurement

The following 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.

8.3.1. echo™ EYE for Camera Unit (EUT)

Model Number	:	EE1.0A2
Serial Number	:	N/A
Manufacturer	:	Dongguan Southstat Electronics Limited

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 TX (Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, 2480MHz TX frequency to transmit.

8.5. Test Procedure

8.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

8.5.2. Set center frequency of spectrum analyzer = operating frequency.

8.5.3. Set the spectrum analyzer as RBW=100kHz, VBW=300kHz, Span=0Hz, Adjust Sweep=16s.

8.5.4. Set the spectrum analyzer as RBW=1MHz, VBW=3MHz, Span=0Hz, Adjust Sweep=3ms. Get the pulse time.

8.5.5. Repeat above procedures until all frequency measured were complete.

8.6. Test Result

PASS.

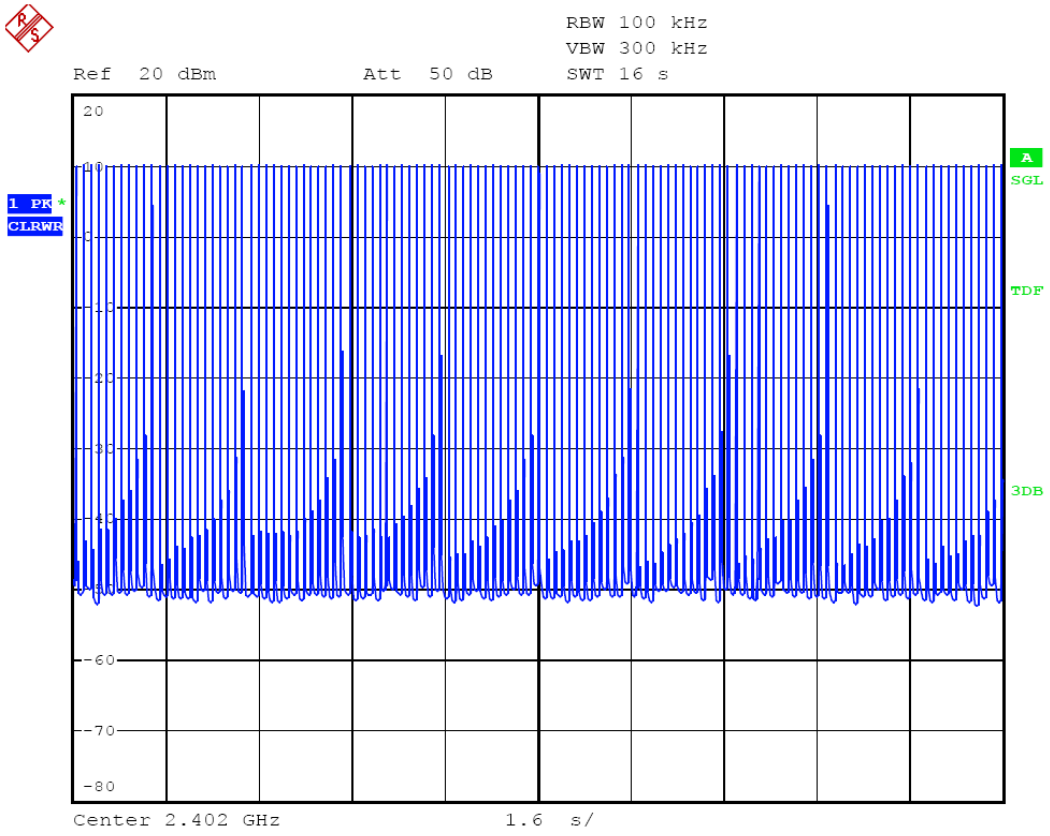
Date of Test:	October 21, 2010	Temperature:	25°C
EUT:	echo™ EYE for Camera Unit	Humidity:	50%
Model No.:	EE1.0A2	Power Supply:	AC 120V/60Hz
Test Mode:	Hopping	Test Engineer:	Joe

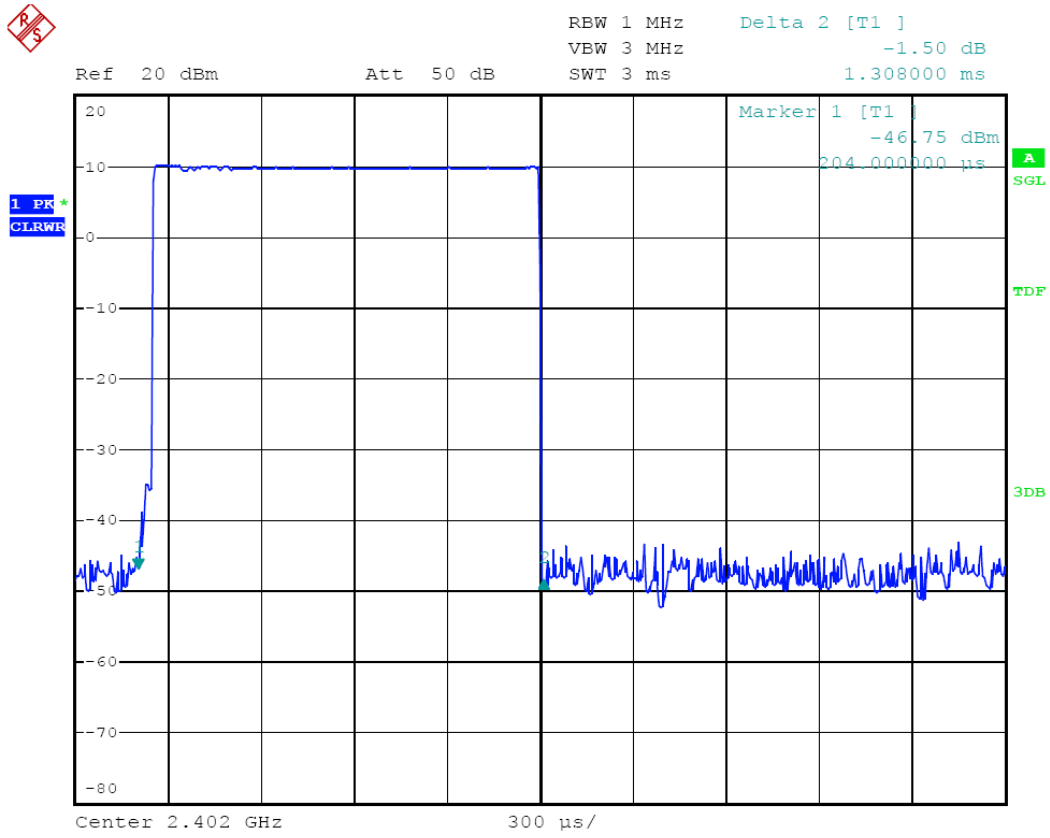
A period transmit time = 0.4 × 40 = 16

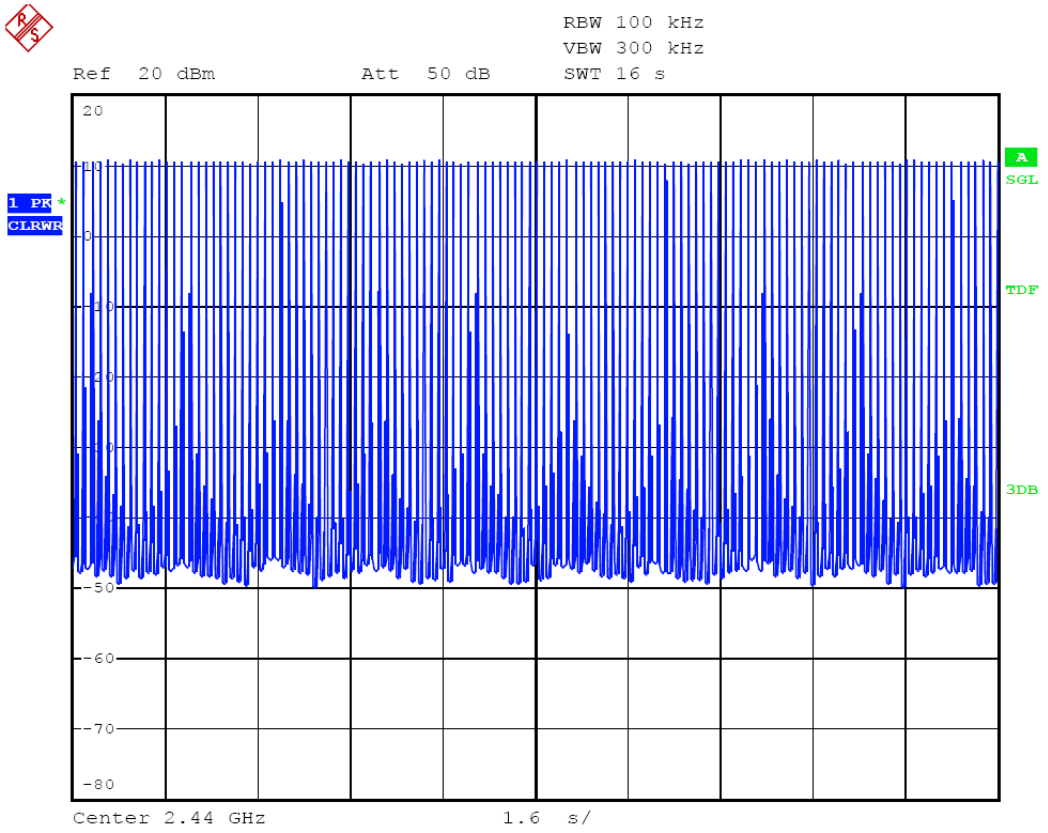
Dwell time = pulse time × burst (in 16 sec.)

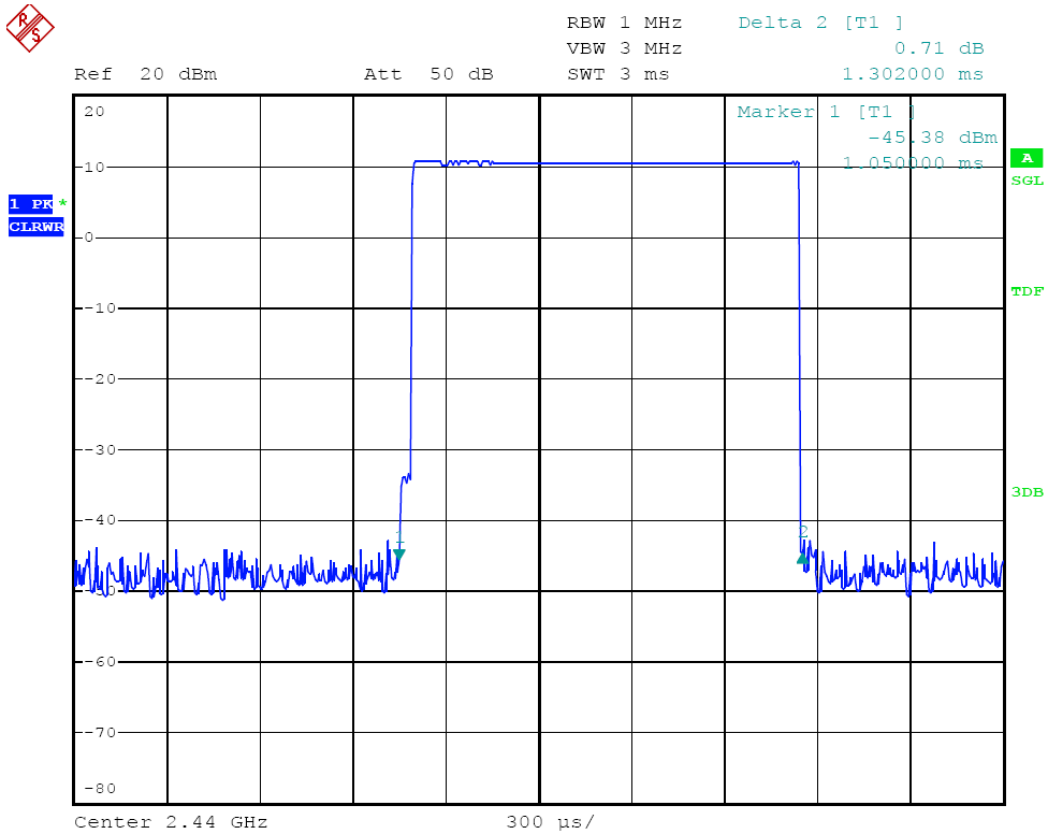
Channel	Channel Frequency (MHz)	Pulse Time (ms)	Burst (in 16 sec.)	Dwell Time (ms)	Limit (ms)
Low	2402	1.308	123	160.9	400
Middle	2440	1.302	123	160.1	400
High	2480	1.314	123	161.6	400

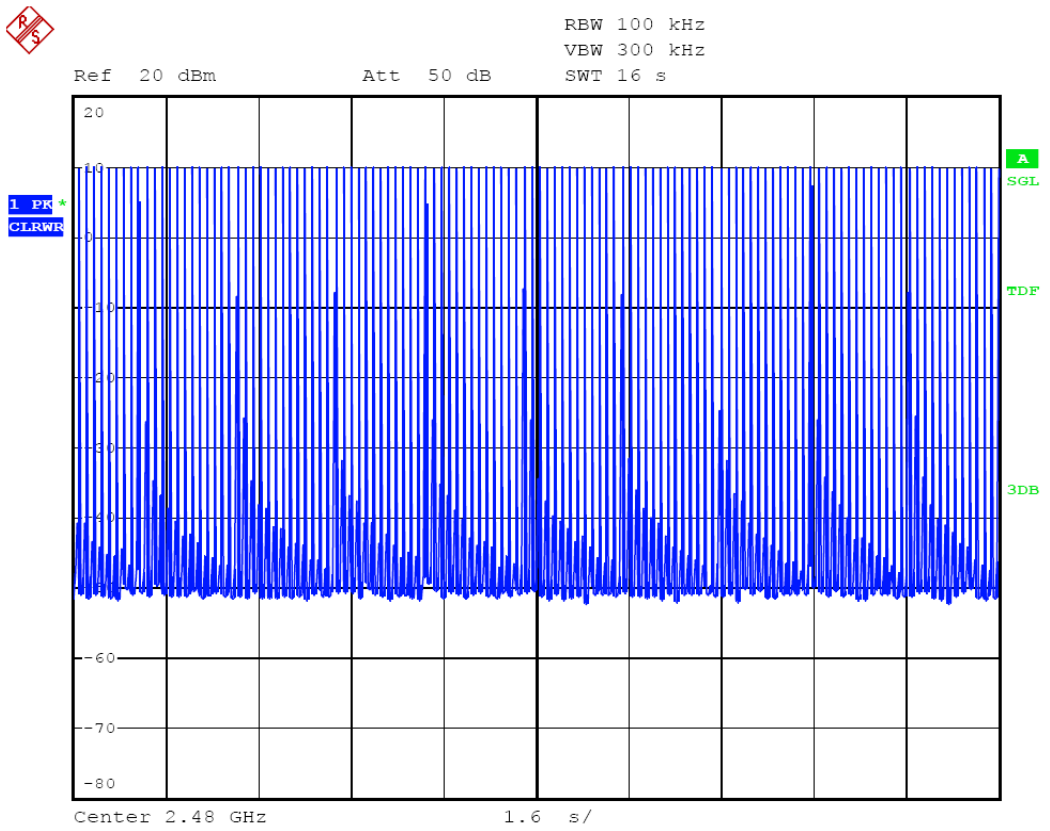
The spectrum analyzer plots are attached as below.

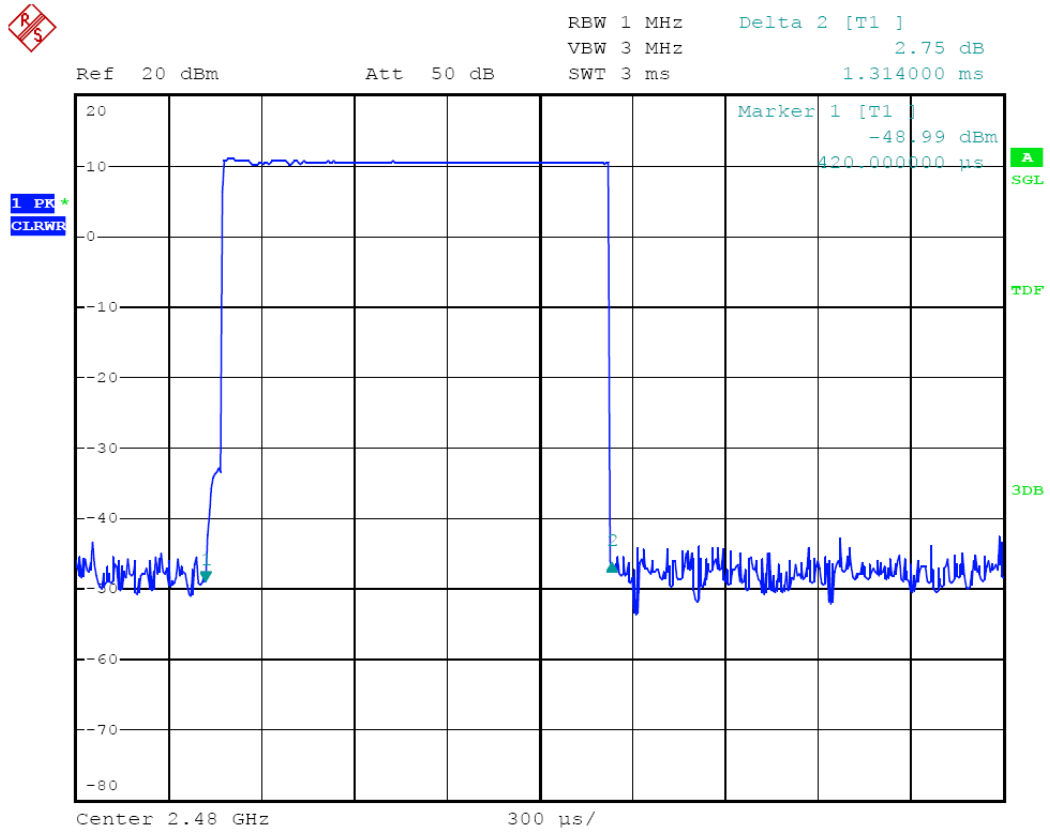

RBW 100 kHz
VBW 300 kHz
Ref 20 dBm
Att 50 dB
SWT 16 s
1 PK *
CLRWR
A
SGL
TDF
3DB
20
-60
-70
-80
Center 2.402 GHz
1.6 s/


RBW 1 MHz
VBW 3 MHz
SWT 3 ms
Delta 2 [T1]
-1.50 dB
1.308000 ms
Marker 1 [T1]
-46.75 dBm
204.000000 µs
Ref 20 dBm
Att 50 dB
1 PK *
CLRWR
A
SGL
TDF
3DB
20
-10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.402 GHz
300 µs/


RBW 100 kHz
VBW 300 kHz
Ref 20 dBm
Att 50 dB
SWT 16 s
1 PK *
CLRWR
A
SGL
TDF
3DB
Center 2.44 GHz
1.6 s/

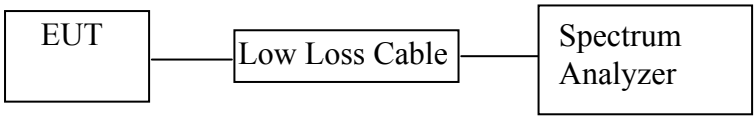

RBW 1 MHz
VBW 3 MHz
SWT 3 ms
Delta 2 [T1]
0.71 dB
1.302000 ms
Marker 1 [T1]
-45.38 dBm
1.050000 ms
Ref 20 dBm
Att 50 dB
1 PK *
CLRWR
A
SGL
TDF
3DB
Center 2.44 GHz
300 µs/


RBW 100 kHz
VBW 300 kHz
Ref 20 dBm
Att 50 dB
SWT 16 s
1 PK
CLRWR
A
SGL
TDF
3DB
Center 2.48 GHz
1.6 s/


RBW 1 MHz
VBW 3 MHz
SWT 3 ms
Delta 2 [T1]
2.75 dB
1.314000 ms
Marker 1 [T1]
-48.99 dBm
420.000000 µs
Ref 20 dBm
Att 50 dB
1 PK
CLRWR
A
SGL
TDF
3DB
Center 2.48 GHz
300 µs/

9. MAXIMUM PEAK OUTPUT POWER TEST

9.1. Block Diagram of Test Setup



(EUT: echo™ EYE for Camera Unit)

9.2. The Requirement For Section 15.247(b)(1)

Section 15.247(b)(1): For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

9.3. EUT Configuration on Measurement

The following 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.

9.3.1. echo™ EYE for Camera Unit (EUT)

Model Number	:	EE1.0A2
Serial Number	:	N/A
Manufacturer	:	Dongguan Southstar Electronics Limited

9.4. Operating Condition of EUT

9.4.1. Setup the EUT and simulator as shown as Section 9.1.

9.4.2. Turn on the power of all equipment.

9.4.3. Let the EUT work in TX (Hopping off) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, 2480MHz TX frequency to transmit.

9.5. Test Procedure

9.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

9.5.2. Set RBW of spectrum analyzer to 2MHz and VBW to 6MHz.

9.5.3. Measurement the maximum peak output power.

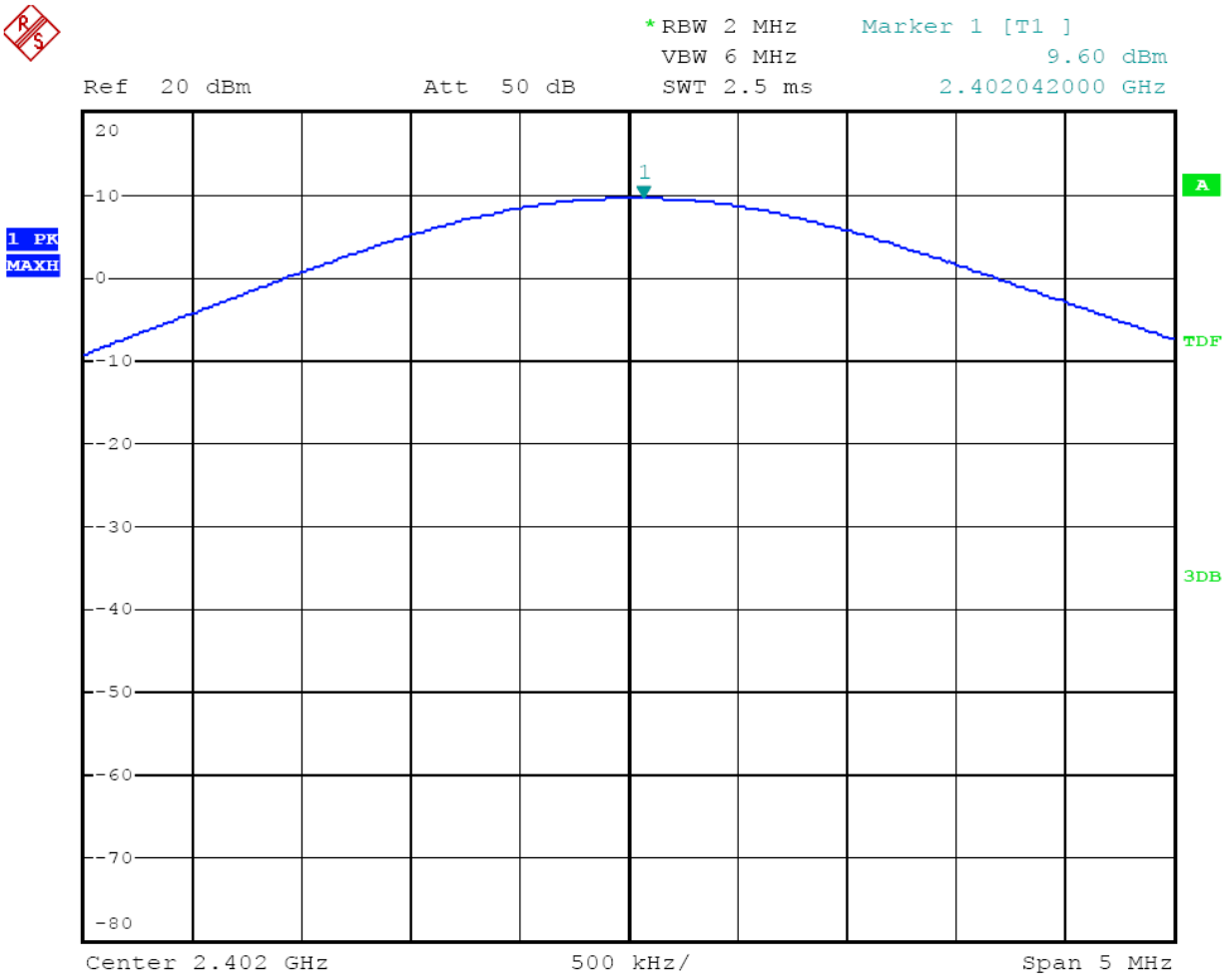
9.6. Test Result

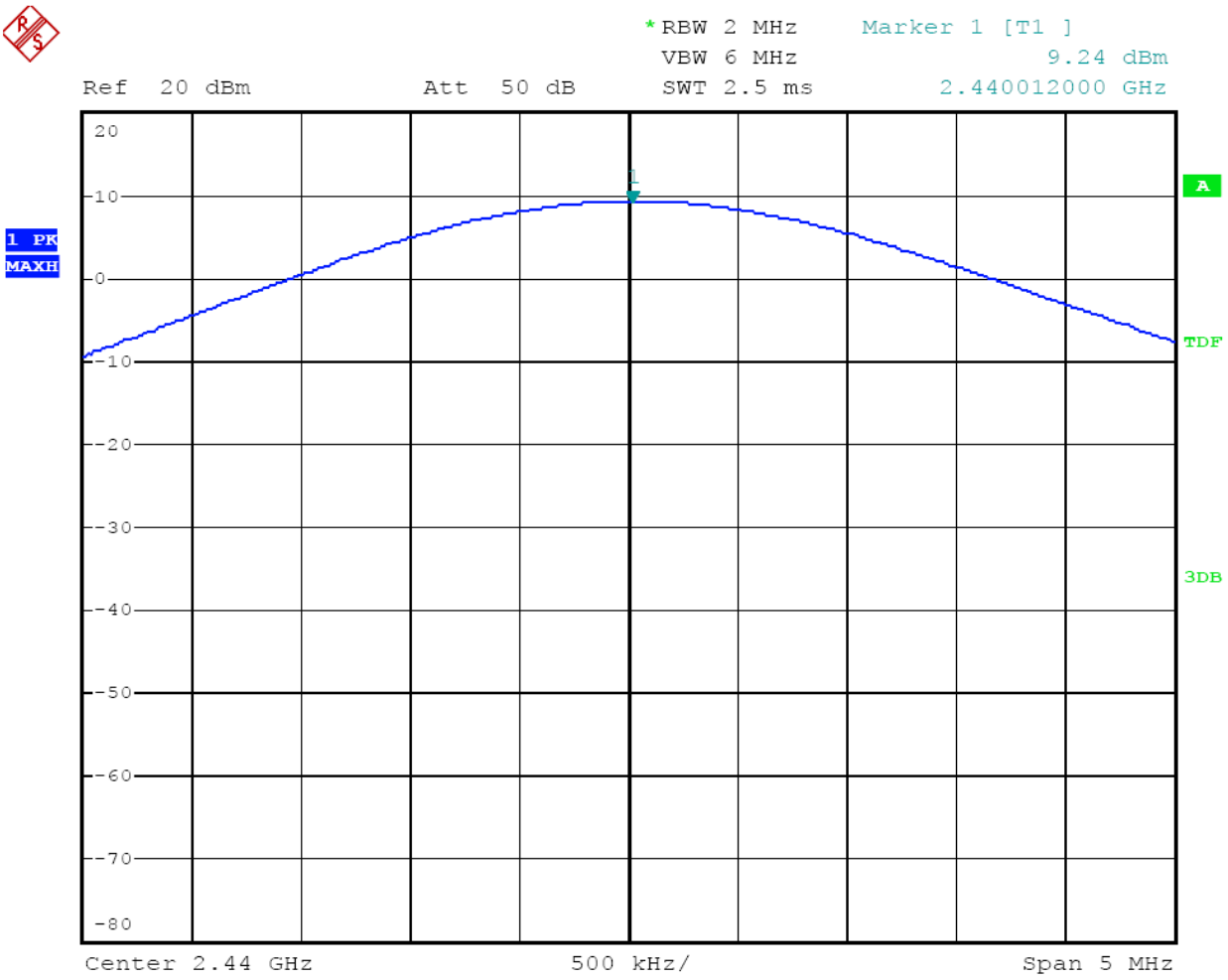
PASS.

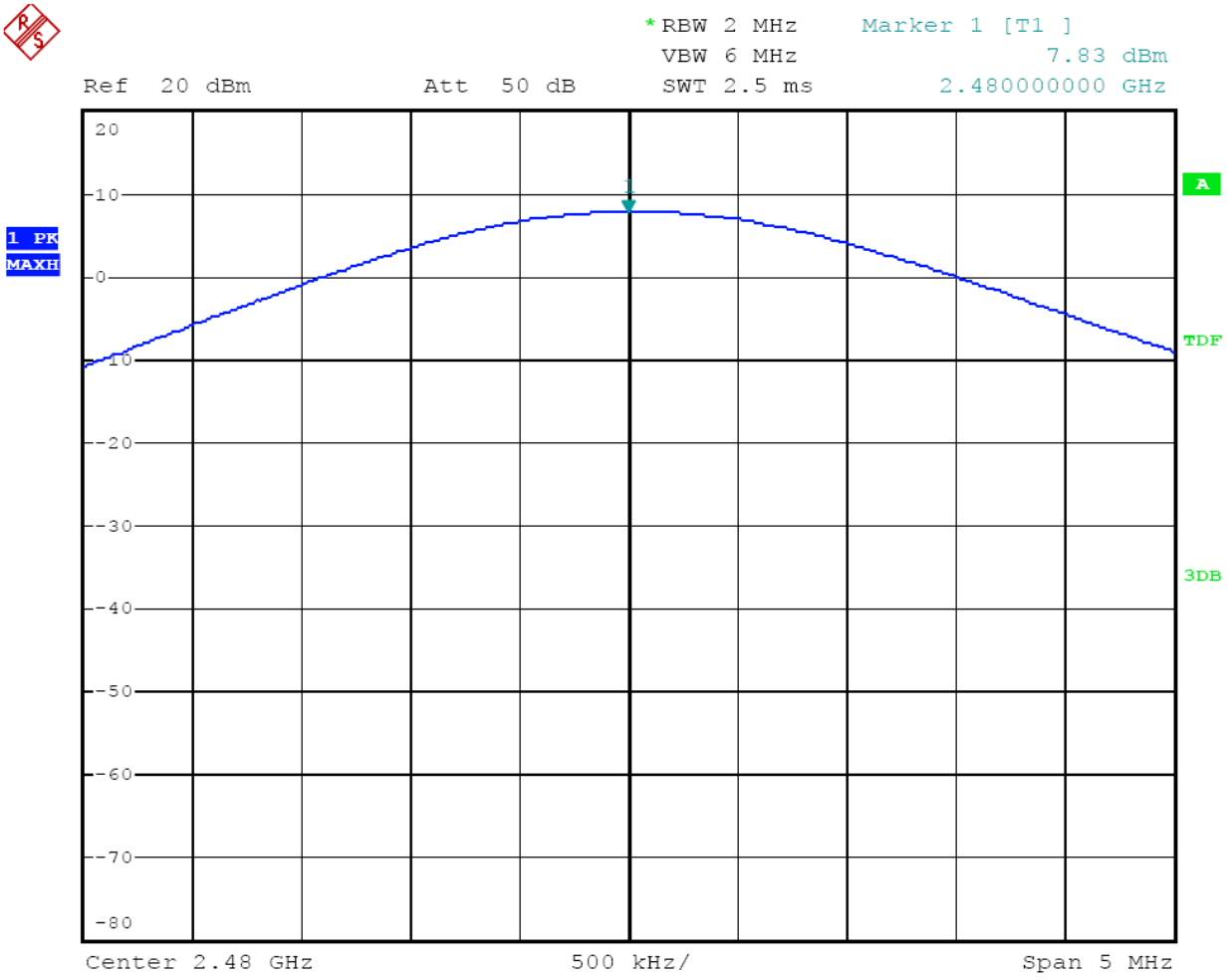
Date of Test:	October 21, 2010	Temperature:	25°C
EUT:	echo™ EYE for Camera Unit	Humidity:	50%
Model No.:	EE1.0A2	Power Supply:	AC 120V/60Hz
Test Mode:	TX	Test Engineer:	Joe

Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Limits dBm / W
Low	2402	9.60	9.120	30 dBm / 1 W
Middle	2440	9.24	8.395	30 dBm / 1 W
High	2480	7.83	6.067	30 dBm / 1 W

The spectrum analyzer plots are attached as below.

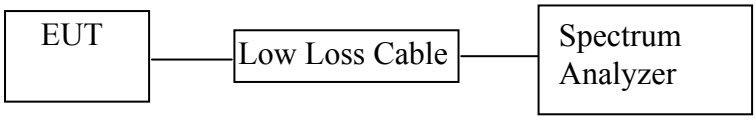

*RBW 2 MHz
VBW 6 MHz
SWT 2.5 ms
Marker 1 [T1]
9.60 dBm
2.402042000 GHz
Ref 20 dBm
Att 50 dB
1 PK
MAXH
A
TDF
3DB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.402 GHz
500 kHz/
Span 5 MHz


*RBW 2 MHz
VBW 6 MHz
SWT 2.5 ms
Marker 1 [T1]
9.24 dBm
2.440012000 GHz
Ref 20 dBm
Att 50 dB
1 PK
MAXH
A
TDF
3DB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.44 GHz
500 kHz/
Span 5 MHz


*RBW 2 MHz
VBW 6 MHz
SWT 2.5 ms
Marker 1 [T1]
7.83 dBm
2.480000000 GHz
Ref 20 dBm
Att 50 dB
1 PK
MAXH
A
TDF
3DB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.48 GHz
500 kHz/
Span 5 MHz

10.BAND EDGE COMPLIANCE CONDUCTED TEST

10.1.Block Diagram of Test Setup



(EUT: echo™ EYE for Camera Unit)

10.2.The Requirement For Section 15.247(d)

Section 15.247(d): 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 (b)(3) of this section, 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).

10.3.EUT Configuration on Measurement

The following 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.

10.3.1.echo™ EYE for Camera Unit (EUT)

Model Number	:	EE1.0A2
Serial Number	:	N/A
Manufacturer	:	Dongguan Southstar Electronics Limited

10.4. Operating Condition of EUT

10.4.1. Setup the EUT and simulator as shown as Section 10.1.

10.4.2. Turn on the power of all equipment.

10.4.3. Let the EUT work in TX (Hopping off, Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2480MHz TX frequency to transmit.

10.5. Test Procedure

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

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

10.5.3. The band edges was measured and recorded.

10.6.Test Result

Pass

Date of Test:	October 22, 2010	Temperature:	25°C
EUT:	echo™ EYE for Camera Unit	Humidity:	50%
Model No.:	EE1.0A2	Power Supply:	AC 120V/60Hz
Test Mode:	TX (Hopping off)	Test Engineer:	Joe

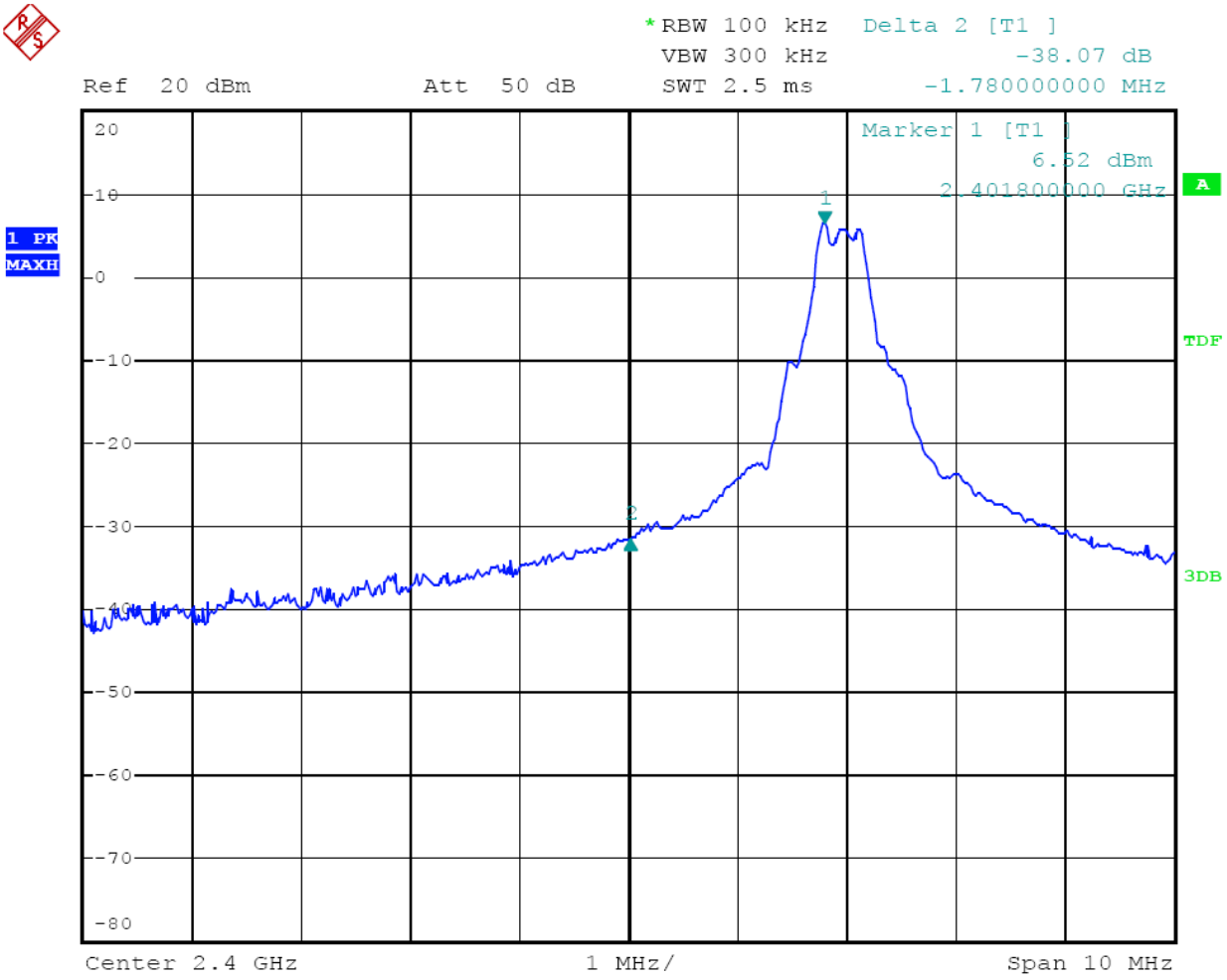
Conducted test

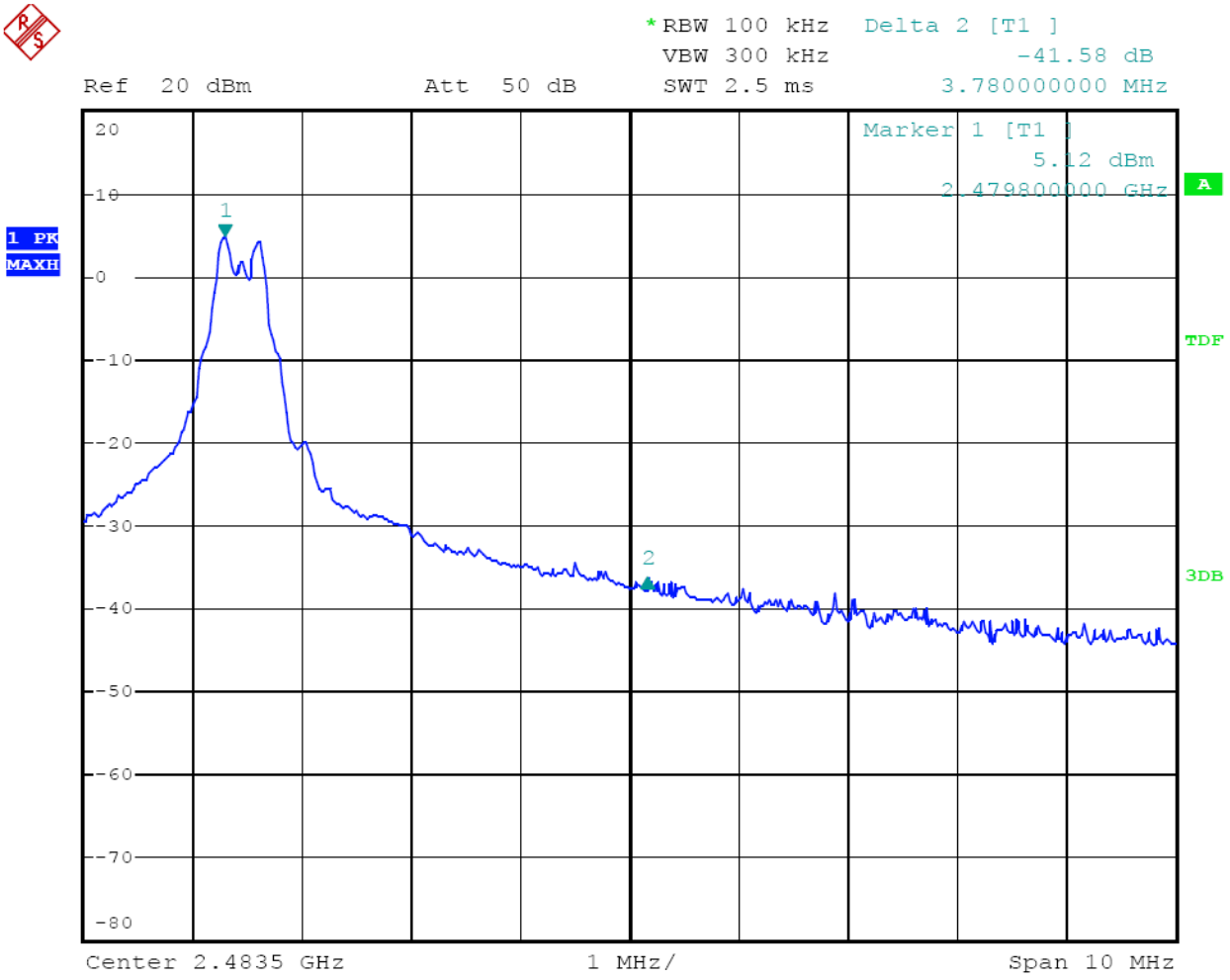
Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2402	38.07	> 20dBc
2480	41.58	> 20dBc

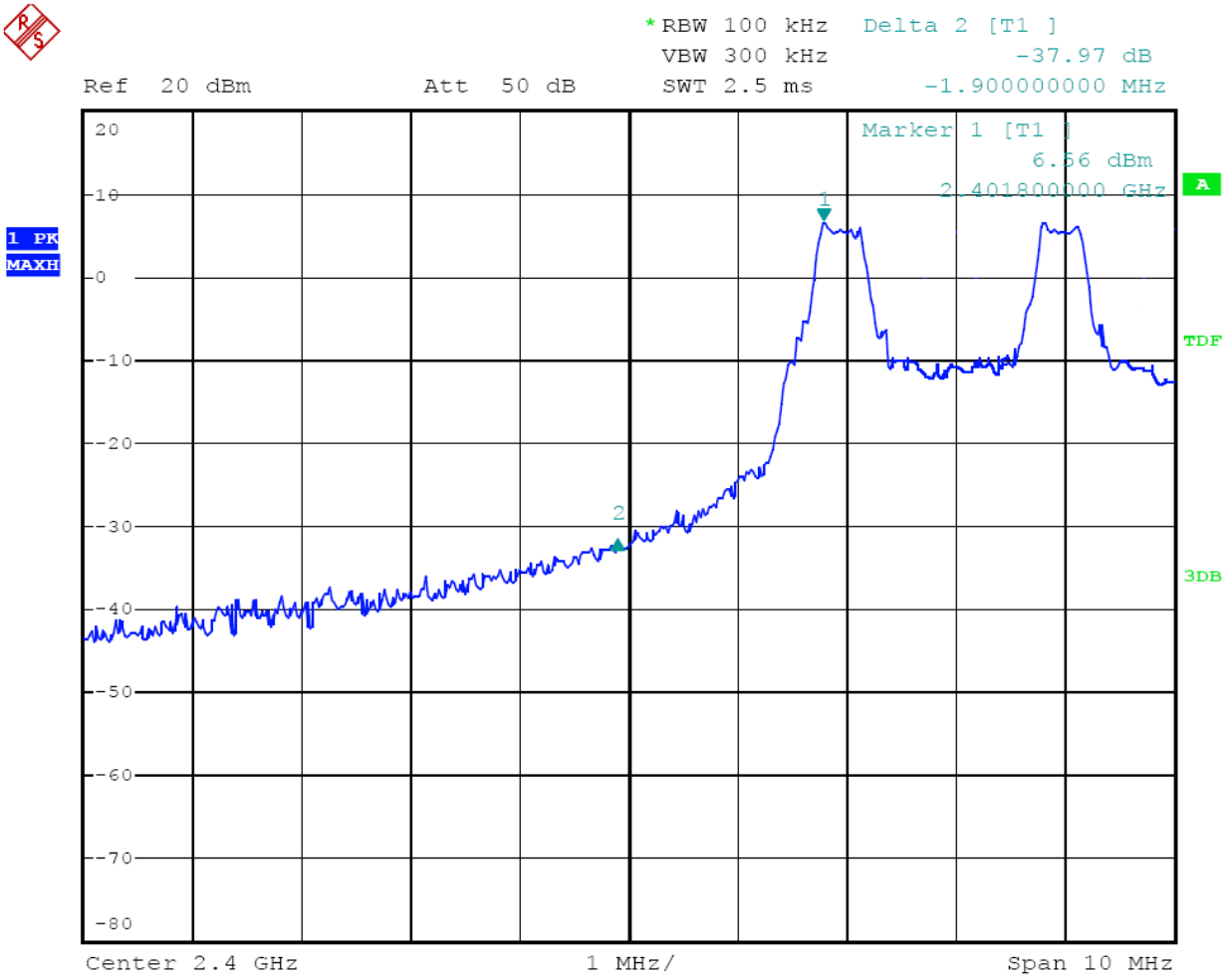
Date of Test:	October 22, 2010	Temperature:	25°C
EUT:	echo™ EYE for Camera Unit	Humidity:	50%
Model No.:	EE1.0A2	Power Supply:	AC 120V/60Hz
Test Mode:	TX (Hopping on)	Test Engineer:	Joe

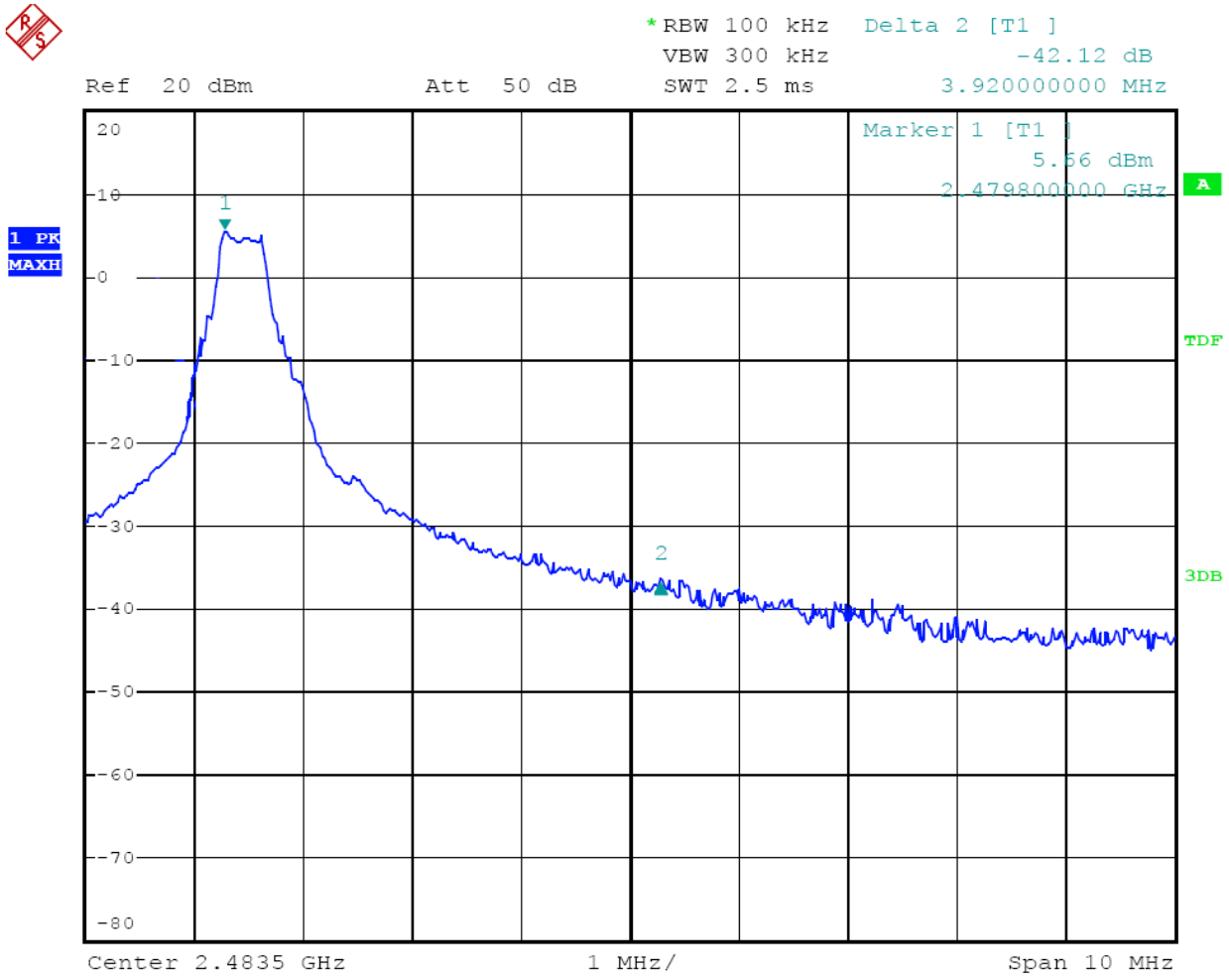
Conducted test

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2402	37.97	> 20dBc
2480	42.12	> 20dBc


*RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
Delta 2 [T1]
-38.07 dB
-1.780000000 MHz
Ref 20 dBm
Att 50 dB
Marker 1 [T1]
6.52 dBm
2.401800000 GHz
1 PK
MAXH
A
TDF
3DB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.4 GHz
1 MHz/
Span 10 MHz


*RBW 100 kHz
Delta 2 [T1]
VBW 300 kHz
-41.58 dB
Ref 20 dBm
Att 50 dB
SWT 2.5 ms
3.780000000 MHz
Marker 1 [T1]
5.12 dBm
2.479800000 GHz
1 PK
MAXH
A
TDF
3DB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.4835 GHz
1 MHz/
Span 10 MHz

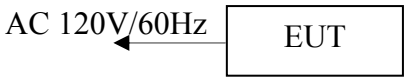

*RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
Delta 2 [T1]
-37.97 dB
-1.900000000 MHz
Ref 20 dBm
Att 50 dB
Marker 1 [T1]
6.56 dBm
2.401800000 GHz
1 PK
MAXH
A
TDF
3DB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.4 GHz
1 MHz/
Span 10 MHz


*RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
Delta 2 [T1]
-42.12 dB
3.920000000 MHz
Ref 20 dBm
Att 50 dB
Marker 1 [T1]
5.56 dBm
2.479800000 GHz
1 PK
MAXH
A
TDF
3DB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.4835 GHz
1 MHz/
Span 10 MHz

11.RADIATED SPURIOUS EMISSION AND BANDEDGE TEST

11.1.Block Diagram of Test Setup

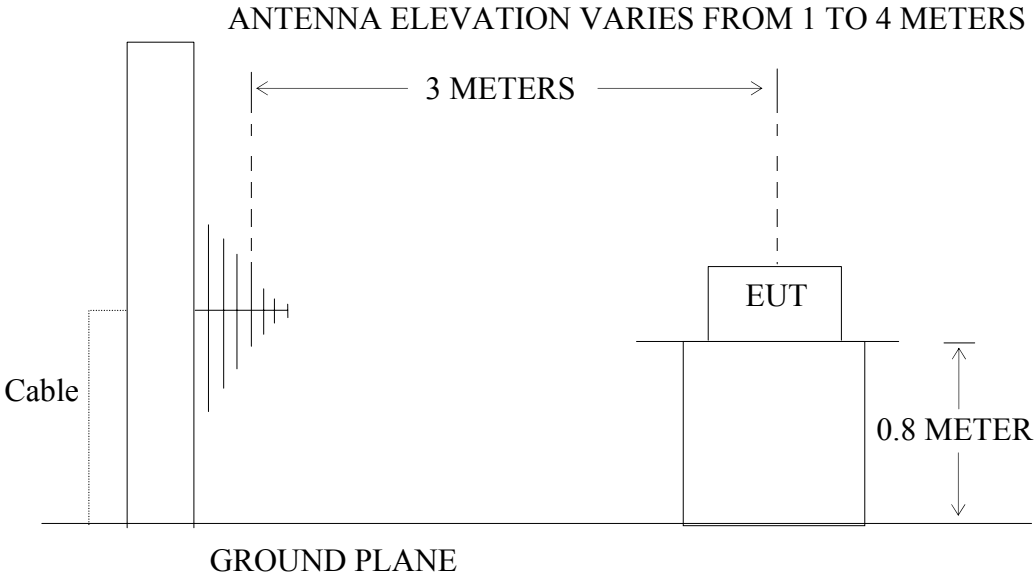
11.1.1.Block diagram of connection between the EUT and simulators



Setup: Transmitting mode

(EUT: echo™ EYE for Camera Unit)

11.1.2.Semi-Anechoic Chamber Test Setup Diagram



(EUT: echo™ EYE for Camera Unit)

11.2.The Limit For Section 15.247(d)

Section 15.247(d): 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 (b)(3) of this section, 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).

11.3.Restricted bands of operation

11.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

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

[2]Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

11.4.Configuration of EUT on Measurement

The following 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.

11.4.1.echo™ EYE for Camera Unit (EUT)

Model Number	:	EE1.0A2
Serial Number	:	N/A
Manufacturer	:	Dongguan Southstar Electronics Limited

11.5.Operating Condition of EUT

11.5.1.Setup the EUT and simulator as shown as Section 11.1.

11.5.2.Turn on the power of all equipment.

11.5.3.Let the EUT work in TX (Hopping off) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, 2480MHz TX frequency to transmit.

11.6.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter 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 C63.4: 2003 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

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

The frequency range from 30MHz to 25000MHz is checked.

The final measurement in band 9-90kHz, 110-490kHz 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.

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

11.7.The Field Strength of Radiation Emission Measurement Results

PASS.

Date of Test:	October 18-19, 2010	Temperature:	25°C
EUT:	echo™ EYE for Camera Unit	Humidity:	50%
Model No.:	EE1.0A2	Power Supply:	AC 120V/60Hz
Test Mode:	TX (2402MHz)	Test Engineer:	Joe

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Factor Corr. (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
312.0150	23.58	19.10	42.68	46.0	-3.32	Vertical
432.0180	19.29	22.97	42.26	46.0	-3.74	Vertical
444.0220	19.76	22.90	42.66	46.0	-3.34	Vertical
312.0150	23.71	19.10	42.81	46.0	-3.19	Horizontal
432.0180	19.92	22.97	42.89	46.0	-3.11	Horizontal
444.0220	20.07	22.90	42.97	46.0	-3.03	Horizontal

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading(dBμV/m)		Factor Corr. (dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2400.00	41.21	44.60	-7.46	33.75	37.14	54	74	-20.25	-36.86	Vertical
2402.010	104.91	108.34	-7.45	97.46	100.89	-	-	-	-	Vertical
*4804.017	50.33	53.74	-0.30	50.03	53.44	54	74	-3.97	-20.56	Vertical
7206.024	43.44	46.88	2.97	46.41	49.85	54	74	-7.59	-24.15	Vertical
2400.00	40.72	44.04	-7.46	33.26	36.58	54	74	-20.74	-37.42	Horizontal
2402.010	103.18	106.60	-7.45	95.73	99.15	-	-	-	-	Horizontal
*4804.017	49.90	53.33	-0.30	49.60	53.03	54	74	-4.40	-20.97	Horizontal
7206.024	42.67	46.19	2.97	45.64	49.16	54	74	-8.36	-24.84	Horizontal

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

2. *: Denotes restricted band of operation.

Date of Test:	October 18-19, 2010	Temperature:	25°C
EUT:	echo™ EYE for Camera Unit	Humidity:	50%
Model No.:	EE1.0A2	Power Supply:	AC 120V/60Hz
Test Mode:	TX (2440MHz)	Test Engineer:	Joe

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Factor Corr. (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
312.0150	23.82	19.10	42.92	46.0	-3.08	Vertical
432.0180	19.82	22.97	42.79	46.0	-3.21	Vertical
444.0220	19.81	22.90	42.71	46.0	-3.29	Vertical
312.0150	23.71	19.10	42.81	46.0	-3.19	Horizontal
432.0180	19.76	22.97	42.73	46.0	-3.27	Horizontal
444.0220	20.08	22.90	42.98	46.0	-3.02	Horizontal

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading(dBμV/m)		Factor Corr. (dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2440.011	104.91	108.36	-7.36	97.55	101.00	-	-	-	-	Vertical
*4880.018	50.02	53.46	0.13	50.15	53.59	54	74	-3.85	-20.41	Vertical
*7320.026	42.70	46.16	3.24	45.94	49.40	54	74	-8.06	-24.60	Vertical
2440.011	103.35	106.82	-7.36	95.99	99.46	-	-	-	-	Horizontal
*4880.018	49.48	52.93	0.13	49.61	53.06	54	74	-4.39	-20.94	Horizontal
*7320.026	42.23	45.66	3.24	45.47	48.90	54	74	-8.53	-25.10	Horizontal

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

2. *: Denotes restricted band of operation.

Date of Test:	October 18-19, 2010	Temperature:	25°C
EUT:	echo™ EYE for Camera Unit	Humidity:	50%
Model No.:	EE1.0A2	Power Supply:	AC 120V/60Hz
Test Mode:	TX (2480MHz)	Test Engineer:	Joe

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Factor Corr. (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
312.0150	23.66	19.10	42.76	46.0	-3.24	Vertical
432.0180	19.99	22.97	42.96	46.0	-3.04	Vertical
444.0220	20.19	22.90	43.09	46.0	-2.91	Vertical
312.0150	23.78	19.10	42.88	46.0	-3.12	Horizontal
432.0180	19.91	22.97	42.88	46.0	-3.12	Horizontal
444.0220	20.08	22.90	42.98	46.0	-3.02	Horizontal

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading(dBμV/m)		Factor Corr. (dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2480.012	104.80	108.32	-7.37	97.43	100.95	-	-	-	-	Vertical
2483.500	41.16	44.71	-7.37	33.79	37.34	54	74	-20.21	-36.66	Vertical
*4960.018	49.62	53.08	0.52	50.14	53.60	54	74	-3.86	-20.40	Vertical
*7440.025	42.42	45.85	3.69	46.11	49.54	54	74	-7.89	-24.46	Vertical
2480.012	103.06	106.54	-7.37	95.69	99.17	-	-	-	-	Horizontal
2483.500	40.63	44.06	-7.37	33.26	36.69	54	74	-20.74	-37.31	Horizontal
*4960.018	49.07	52.54	0.52	49.59	53.06	54	74	-4.41	-20.94	Horizontal
*7440.025	41.83	45.27	3.69	45.52	48.96	54	74	-8.48	-25.04	Horizontal

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

2. *: Denotes restricted band of operation.

ACCURATE TECHNOLOGY CO., LTD.
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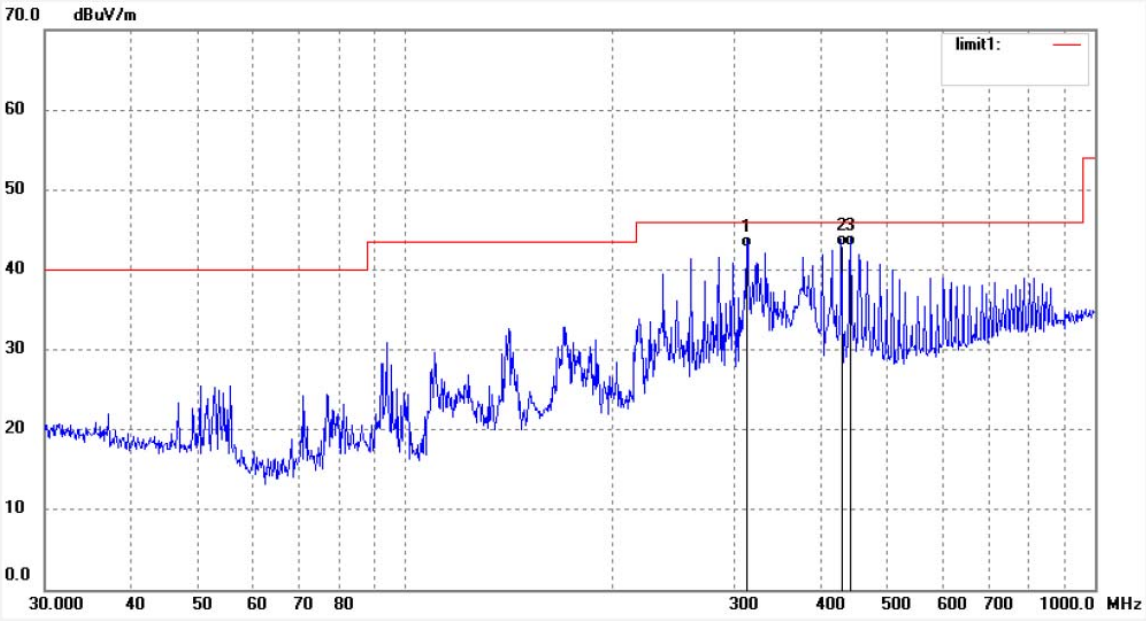
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #948	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2010/10/18
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 11:06:05
EUT: echo™ EYE for Camera Unit	Engineer Signature: Joe
Mode: TX 2402MHz	Distance: 3m
Model: EE1.0A2	
Manufacturer: Dongguan Southstar Electronics Limited	

Note: Sample No.:102329 Report No.:ATE20102048

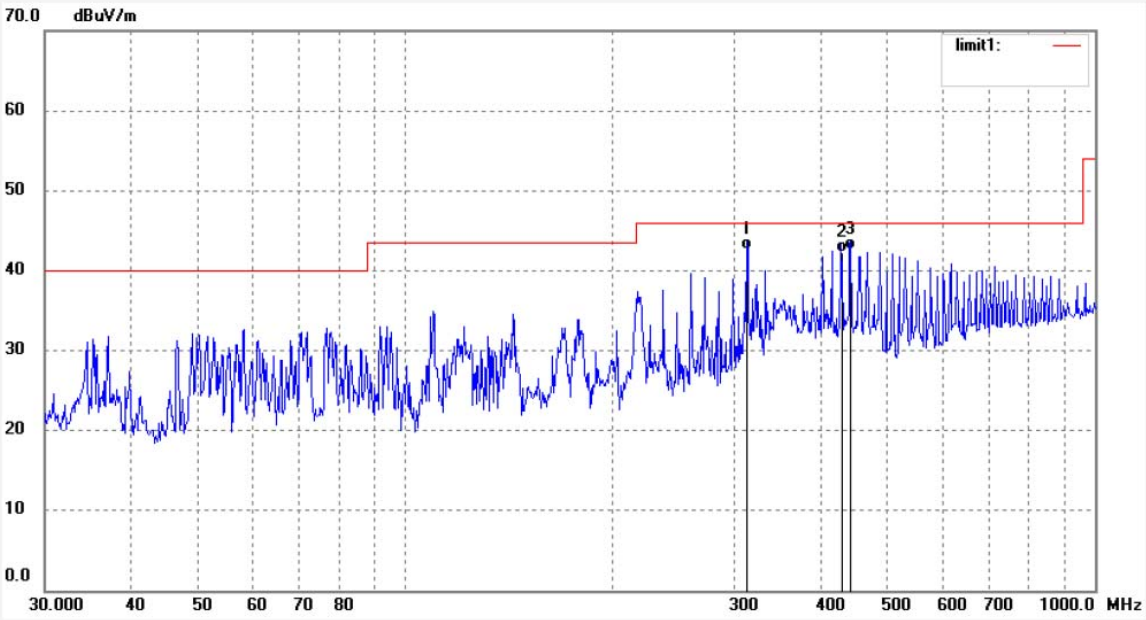


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	312.0150	23.71	19.10	42.81	46.00	-3.19	QP			
2	432.0180	19.92	22.97	42.89	46.00	-3.11	QP			
3	444.0220	20.07	22.90	42.97	46.00	-3.03	QP			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #947	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2010/10/18
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 11:02:31
EUT: echo™ EYE for Camera Unit	Engineer Signature: Joe
Mode: TX 2402MHz	Distance: 3m
Model: EE1.0A2	
Manufacturer: Dongguan Southstar Electronics Limited	

Note: Sample No.:102329 Report No.:ATE20102048



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	312.0150	23.58	19.10	42.68	46.00	-3.32	QP			
2	432.0180	19.29	22.97	42.26	46.00	-3.74	QP			
3	444.0220	19.76	22.90	42.66	46.00	-3.34	QP			

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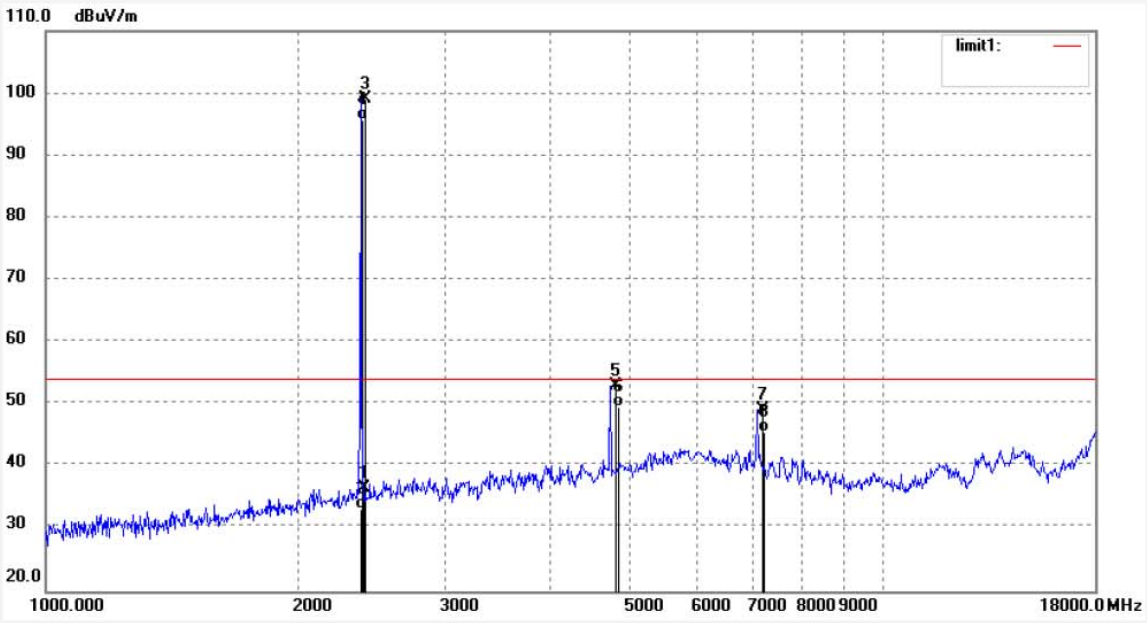
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #954
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 50 %
EUT: echo™ EYE for Camera Unit
Mode: TX 2402MHz
Model: EE1.0A2
Manufacturer: Dongguan Southstar Electronics Limited

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 2010/10/19
Time: 9:18:17
Engineer Signature: Joe
Distance: 3m

Note: Sample No.:102329 Report No.:ATE20102048



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	44.04	-7.46	36.58	74.00	-37.42	peak			
2	2400.000	40.72	-7.46	33.26	54.00	-20.74	AVG			
3	2402.010	106.60	-7.45	99.15	-	-	peak			
4	2402.010	103.18	-7.45	95.73	-	-	AVG			
5	4804.017	53.33	-0.30	53.03	74.00	-20.97	peak			
6	4804.017	49.90	-0.30	49.60	54.00	-4.40	AVG			
7	7206.024	46.19	2.97	49.16	74.00	-24.84	peak			
8	7206.024	42.67	2.97	45.64	54.00	-8.36	AVG			

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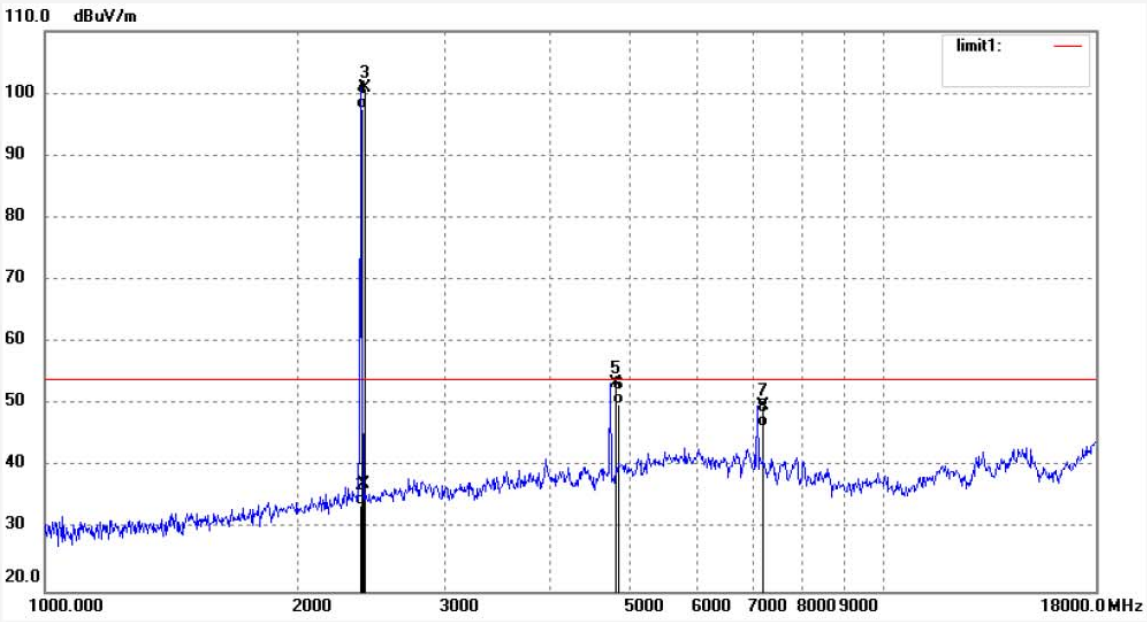
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #953
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 50 %
EUT: echo™ EYE for Camera Unit
Mode: TX 2402MHz
Model: EE1.0A2
Manufacturer: Dongguan Southstar Electronics Limited

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 2010/10/19
Time: 9:14:05
Engineer Signature: Joe
Distance: 3m

Note: Sample No.:102329 Report No.:ATE20102048



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	44.60	-7.46	37.14	74.00	-36.86	peak			
2	2400.000	41.21	-7.46	33.75	54.00	-20.25	AVG			
3	2402.010	108.34	-7.45	100.89	-	-	peak			
4	2402.010	104.91	-7.45	97.46	-	-	AVG			
5	4804.017	53.74	-0.30	53.44	74.00	-20.56	peak			
6	4804.017	50.33	-0.30	50.03	54.00	-3.97	AVG			
7	7206.024	46.88	2.97	49.85	74.00	-24.15	peak			
8	7206.024	43.44	2.97	46.41	54.00	-7.59	AVG			

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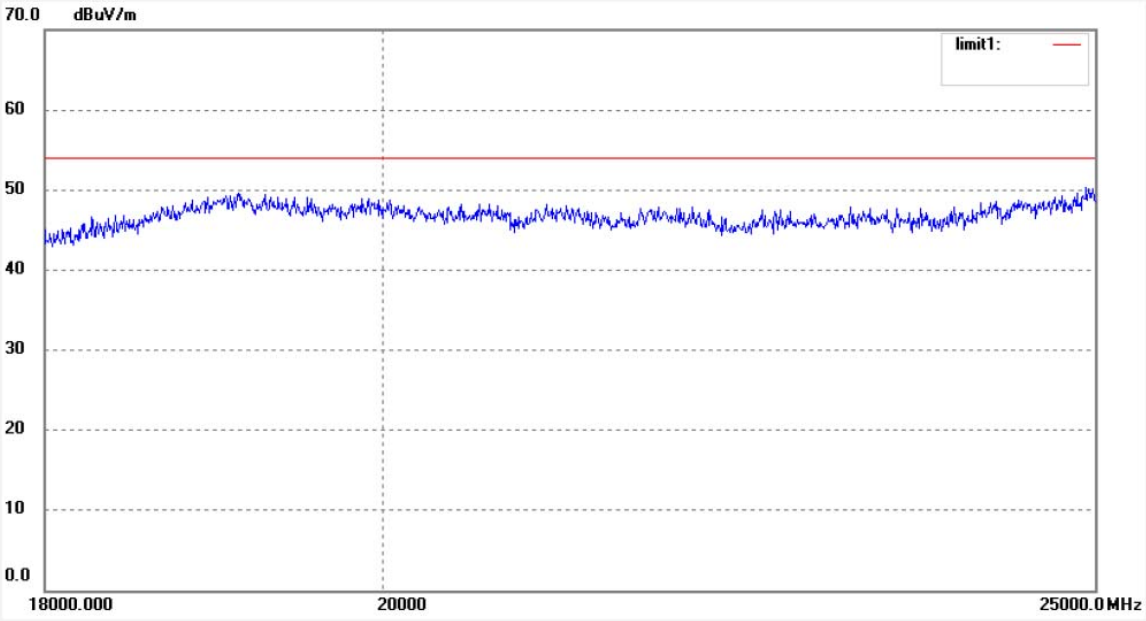
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #959	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2010/10/19
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 9:43:09
EUT: echo™ EYE for Camera Unit	Engineer Signature: Joe
Mode: TX 2402MHz	Distance: 3m
Model: EE1.0A2	
Manufacturer: Dongguan Southstar Electronics Limited	

Note: Sample No.:102329 Report No.:ATE20102048



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

ACCURATE TECHNOLOGY CO., LTD.
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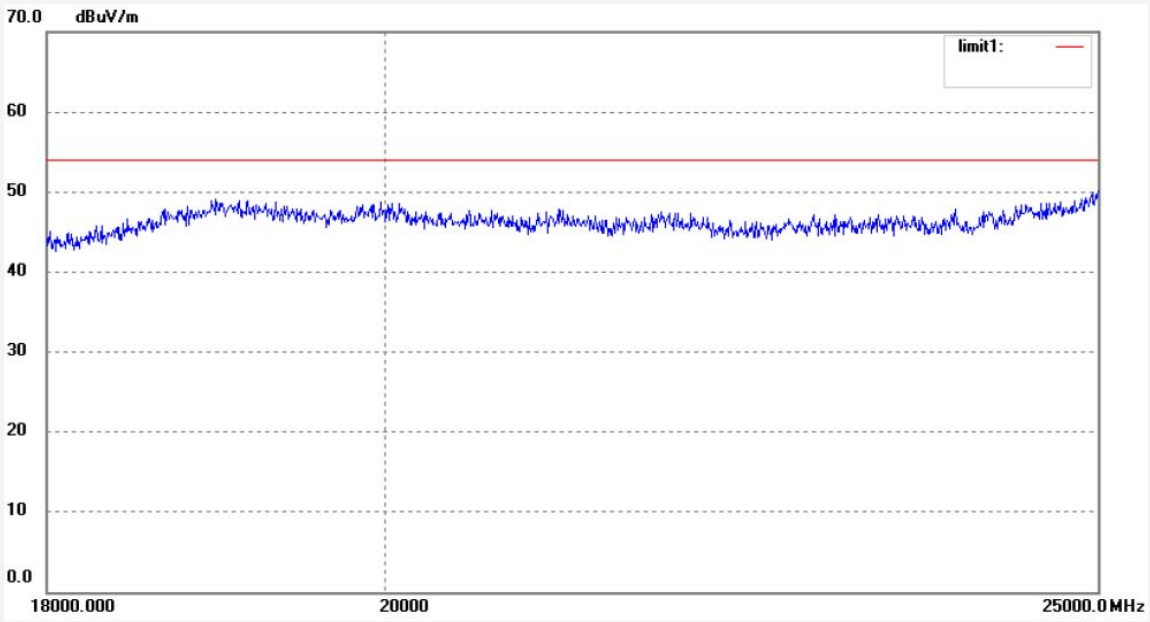
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #960	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2010/10/19
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 9:46:43
EUT: echo™ EYE for Camera Unit	Engineer Signature: Joe
Mode: TX 2402MHz	Distance: 3m
Model: EE1.0A2	
Manufacturer: Dongguan Southstar Electronics Limited	

Note: Sample No.:102329 Report No.:ATE20102048

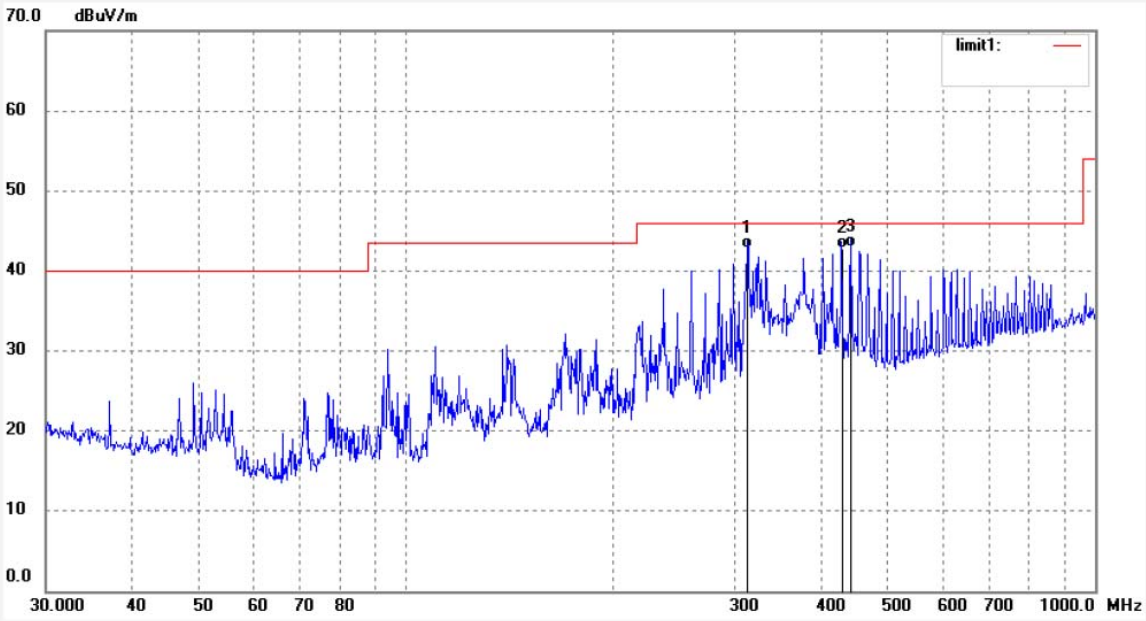


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #949	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2010/10/18
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 11:10:34
EUT: echo™ EYE for Camera Unit	Engineer Signature: Joe
Mode: TX 2440MHz	Distance: 3m
Model: EE1.0A2	
Manufacturer: Dongguan Southstar Electronics Limited	

Note: Sample No.:102329 Report No.:ATE20102048



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	312.0150	23.71	19.10	42.81	46.00	-3.19	QP			
2	432.0180	19.76	22.97	42.73	46.00	-3.27	QP			
3	444.0220	20.08	22.90	42.98	46.00	-3.02	QP			

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Site: 966 chamber
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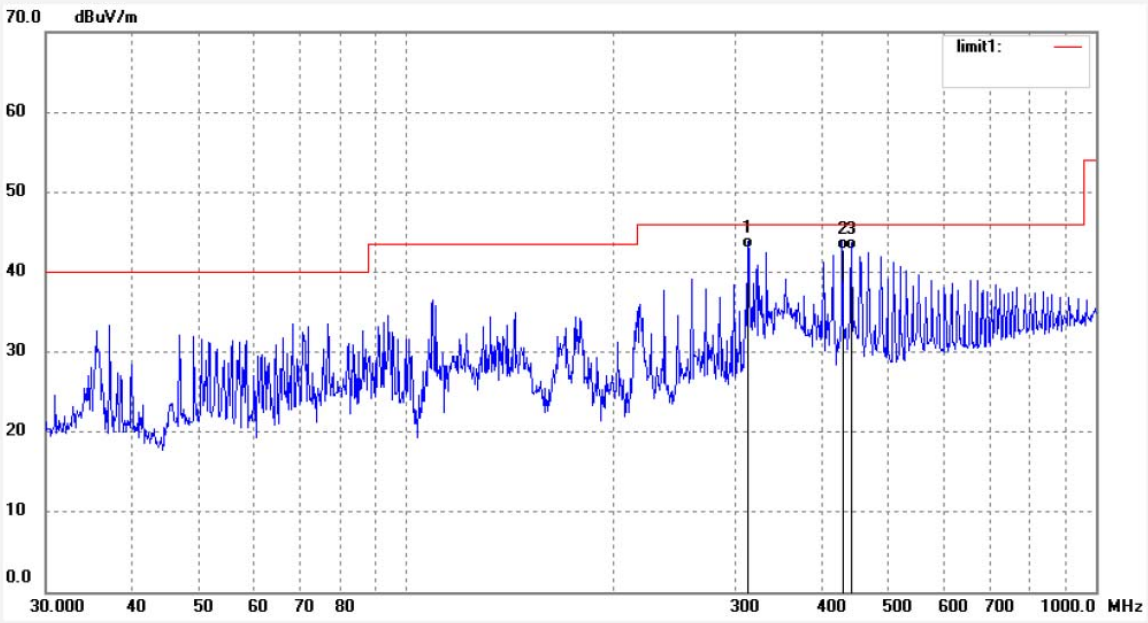
Fax:+86-0755-26503396

Job No.: joe #950	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2010/10/18
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 11:14:15
EUT: echo™ EYE for Camera Unit	Engineer Signature: Joe
Mode: TX 2440MHz	Distance: 3m
Model: EE1.0A2	
Manufacturer: Dongguan Southstar Electronics Limited	

Note: Sample No.:102329 Report No.:ATE20102048



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	312.0150	23.82	19.10	42.92	46.00	-3.08	QP			
2	432.0230	19.82	22.97	42.79	46.00	-3.21	QP			
3	444.0220	19.81	22.90	42.71	46.00	-3.29	QP			

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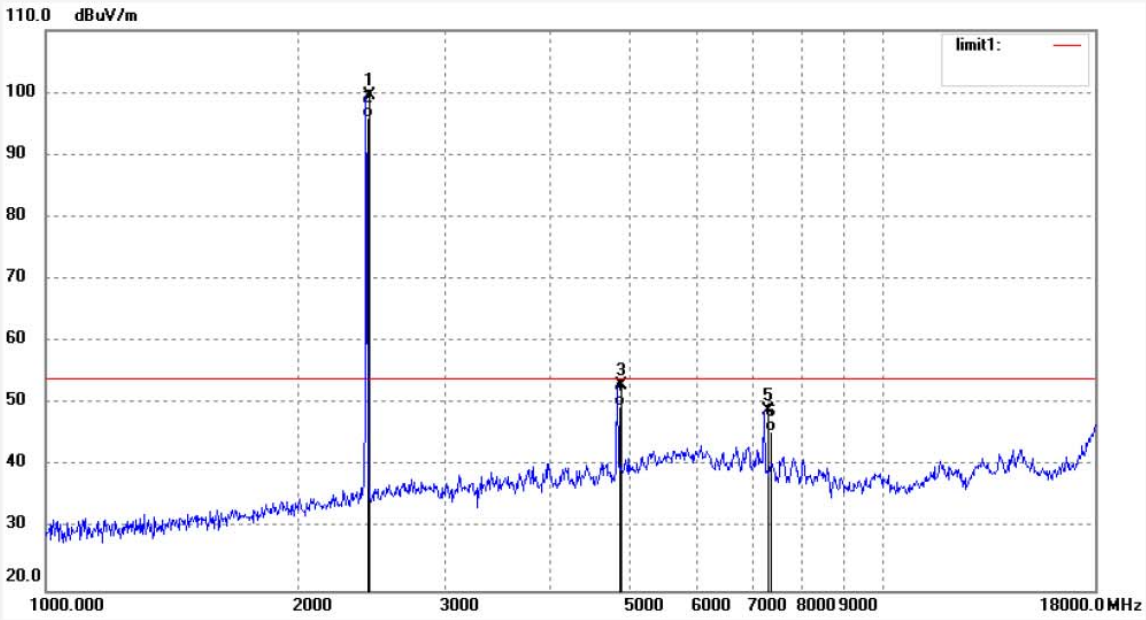
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #955
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 50 %
EUT: echo™ EYE for Camera Unit
Mode: TX 2440MHz
Model: EE1.0A2
Manufacturer: Dongguan Southstar Electronics Limited

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 2010/10/19
Time: 9:23:20
Engineer Signature: Joe
Distance: 3m

Note: Sample No.:102329 Report No.:ATE20102048



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.011	106.82	-7.36	99.46	-	-	peak			
2	2440.011	103.35	-7.36	95.99	-	-	AVG			
3	4880.018	52.93	0.13	53.06	74.00	-20.94	peak			
4	4880.018	49.48	0.13	49.61	54.00	-4.39	AVG			
5	7320.026	45.66	3.24	48.90	74.00	-25.10	peak			
6	7320.026	42.23	3.24	45.47	54.00	-8.53	AVG			

ACCURATE TECHNOLOGY CO., LTD.
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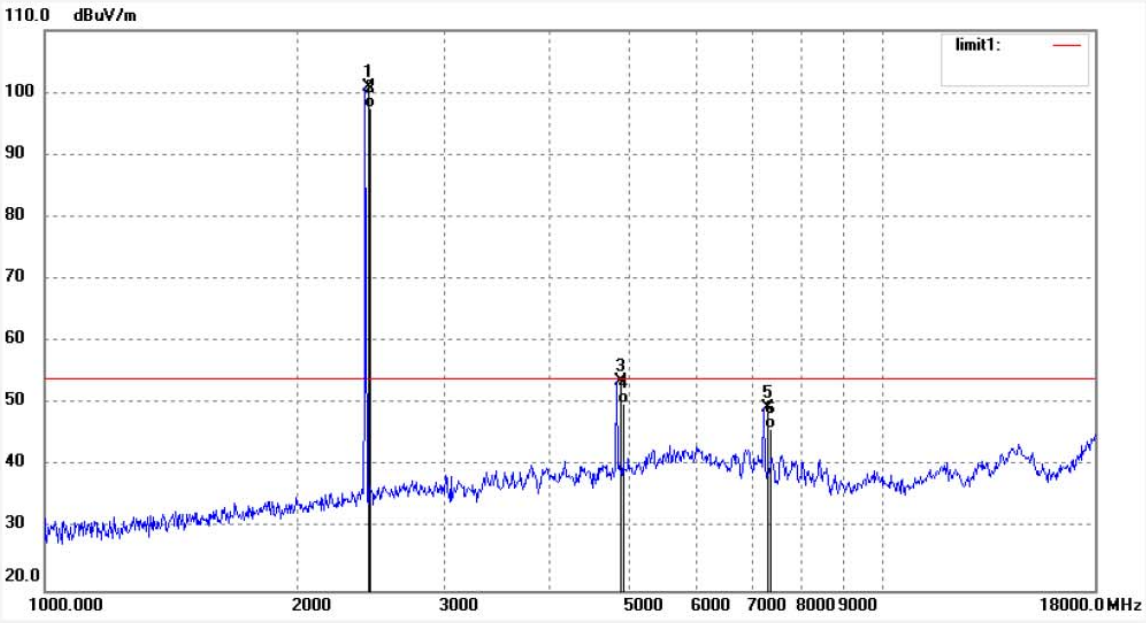
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #956
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 50 %
EUT: echo™ EYE for Camera Unit
Mode: TX 2440MHz
Model: EE1.0A2
Manufacturer: Dongguan Southstar Electronics Limited

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 2010/10/19
Time: 9:27:27
Engineer Signature: Joe
Distance: 3m

Note: Sample No.:102329 Report No.:ATE20102048



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.011	108.36	-7.36	101.00	-	-	peak			
2	2440.011	104.91	-7.36	97.55	-	-	AVG			
3	4880.018	53.46	0.13	53.59	74.00	-20.41	peak			
4	4880.018	50.02	0.13	50.15	54.00	-3.85	AVG			
5	7320.026	46.16	3.24	49.40	74.00	-24.60	peak			
6	7320.026	42.70	3.24	45.94	54.00	-8.06	AVG			

ACCURATE TECHNOLOGY CO., LTD.
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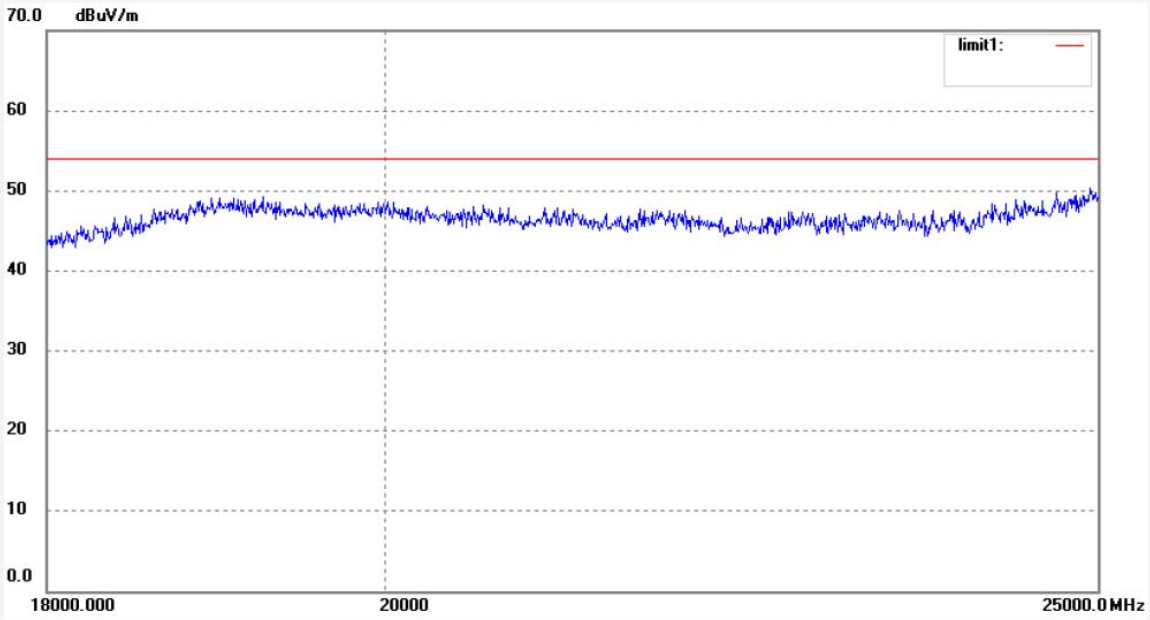
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #962	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2010/10/19
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 9:55:00
EUT: echo™ EYE for Camera Unit	Engineer Signature: Joe
Mode: TX 2440MHz	Distance: 3m
Model: EE1.0A2	
Manufacturer: Dongguan Southstar Electronics Limited	

Note: Sample No.:102329 Report No.:ATE20102048

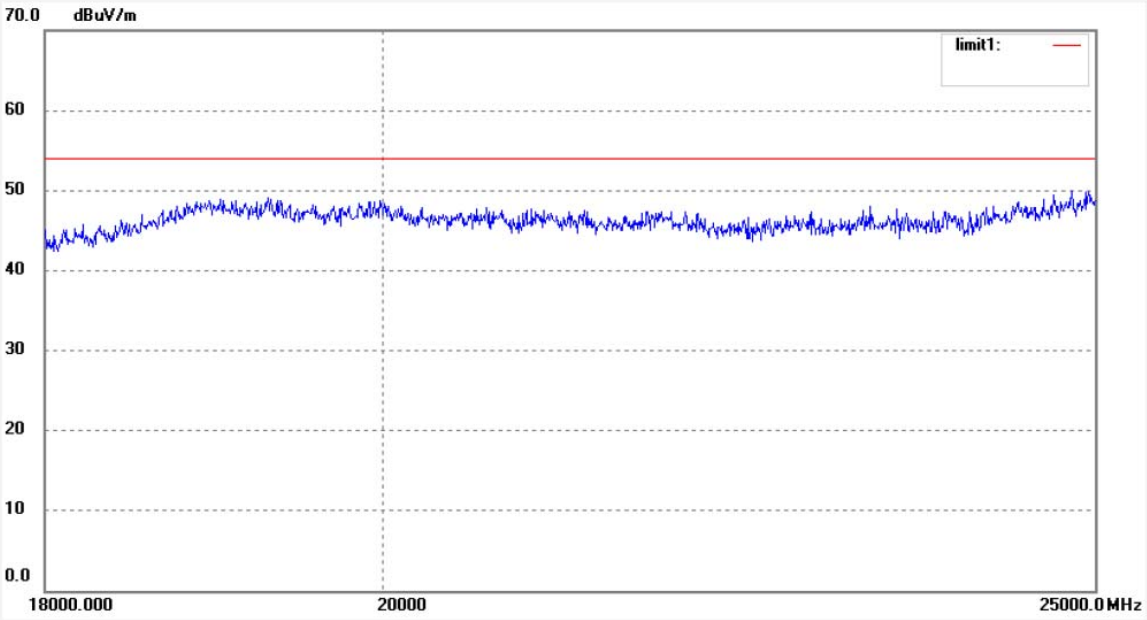


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #961	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2010/10/19
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 9:51:19
EUT: echo™ EYE for Camera Unit	Engineer Signature: Joe
Mode: TX 2440MHz	Distance: 3m
Model: EE1.0A2	
Manufacturer: Dongguan Southstar Electronics Limited	

Note: Sample No.:102329 Report No.:ATE20102048

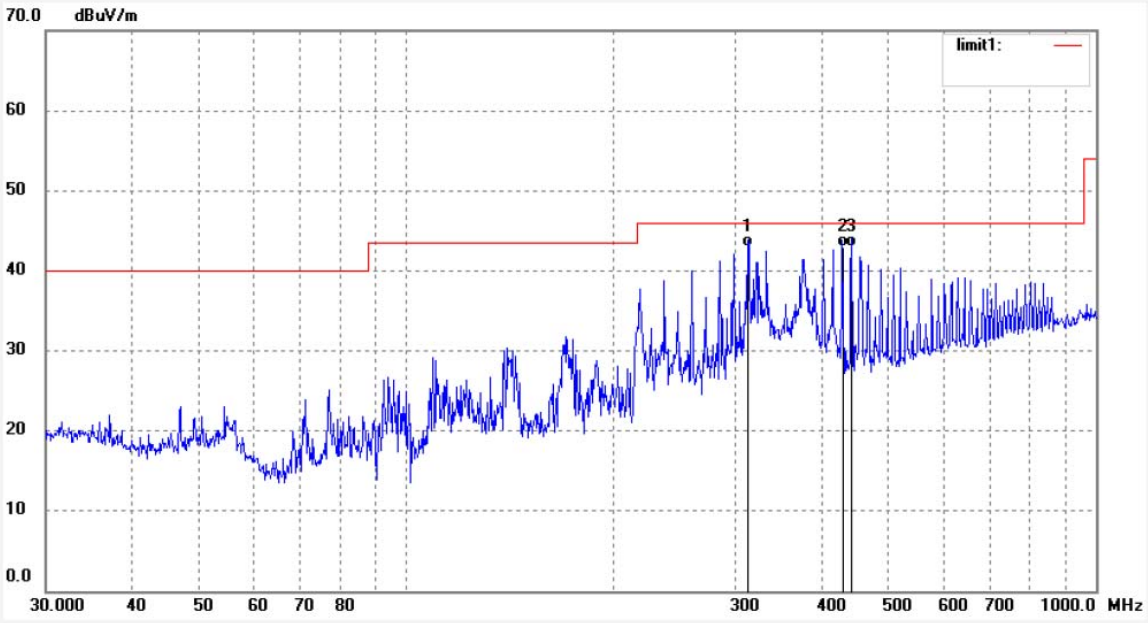


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #952	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2010/10/18
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 11:22:21
EUT: echo™ EYE for Camera Unit	Engineer Signature: Joe
Mode: TX 2480MHz	Distance: 3m
Model: EE1.0A2	
Manufacturer: Dongguan Southstar Electronics Limited	

Note: Sample No.:102329 Report No.:ATE20102048



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	312.0150	23.78	19.10	42.88	46.00	-3.12	QP			
2	432.0180	19.91	22.97	42.88	46.00	-3.12	QP			
3	444.0220	20.08	22.90	42.98	46.00	-3.02	QP			

ACCURATE TECHNOLOGY CO., LTD.
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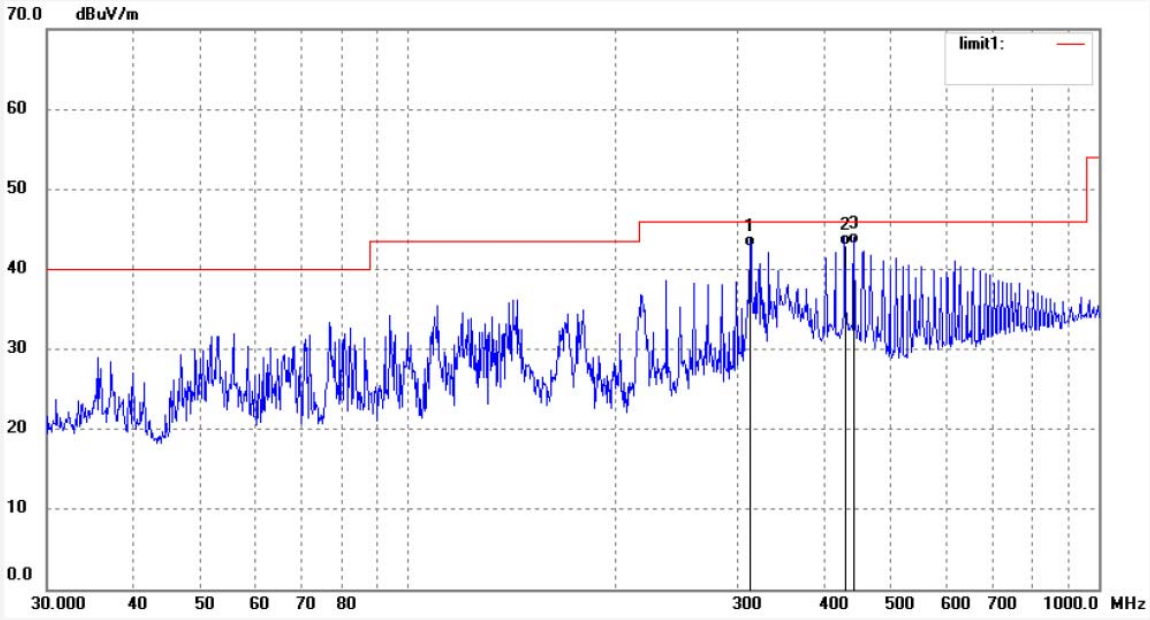
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #951
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 50 %
EUT: echo™ EYE for Camera Unit
Mode: TX 2480MHz
Model: EE1.0A2
Manufacturer: Dongguan Southstar Electronics Limited

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 2010/10/18
Time: 11:18:36
Engineer Signature: Joe
Distance: 3m

Note: Sample No.:102329 Report No.:ATE20102048



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	312.0150	23.66	19.10	42.76	46.00	-3.24	QP			
2	432.0180	19.99	22.97	42.96	46.00	-3.04	QP			
3	444.0220	20.19	22.90	43.09	46.00	-2.91	QP			

ACCURATE TECHNOLOGY CO., LTD.
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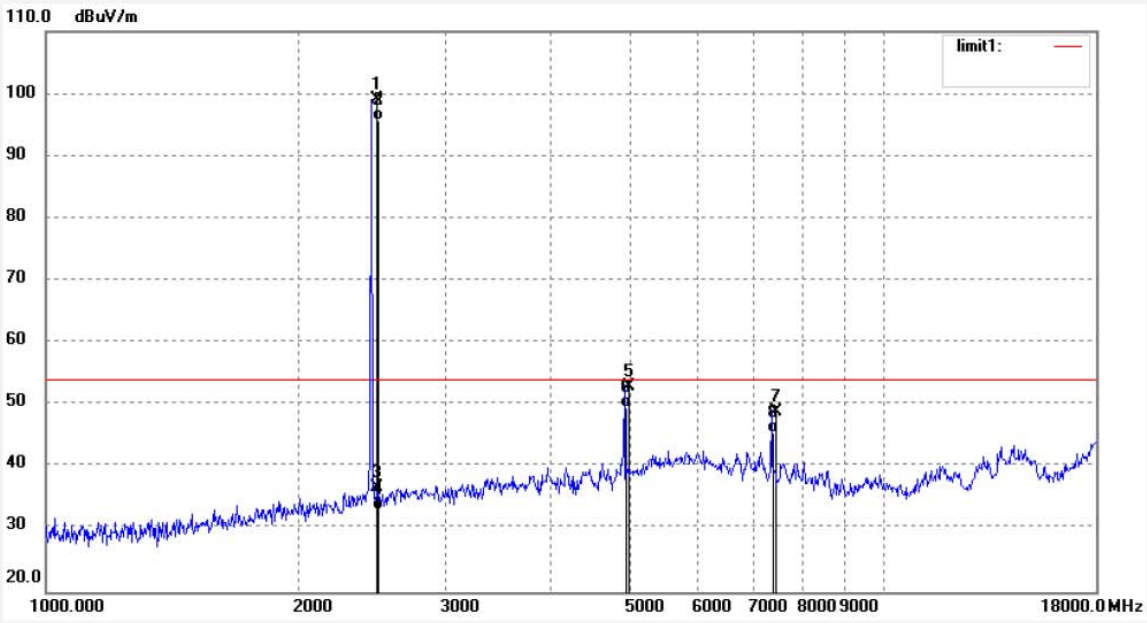
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #958
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 50 %
EUT: echo™ EYE for Camera Unit
Mode: TX 2480MHz
Model: EE1.0A2
Manufacturer: Dongguan Southstar Electronics Limited

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 2010/10/19
Time: 9:36:35
Engineer Signature: Joe
Distance: 3m

Note: Sample No.:102329 Report No.:ATE20102048



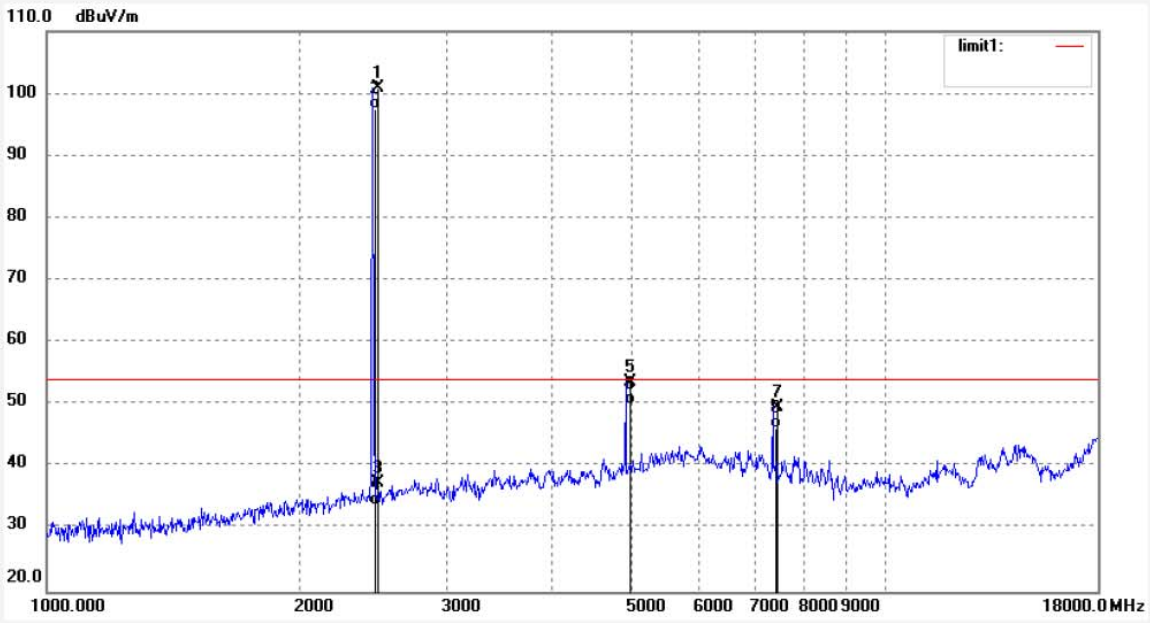
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.012	106.54	-7.37	99.17	-	-	peak			
2	2480.012	103.06	-7.37	95.69	-	-	AVG			
3	2483.500	44.06	-7.37	36.69	74.00	-37.31	peak			
4	2483.500	40.63	-7.37	33.26	54.00	-20.74	AVG			
5	4960.018	52.54	0.52	53.06	74.00	-20.94	peak			
6	4960.018	49.07	0.52	49.59	54.00	-4.41	AVG			
7	7440.025	45.27	3.69	48.96	74.00	-25.04	peak			
8	7440.025	41.83	3.69	45.52	54.00	-8.48	AVG			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #957
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 50 %
EUT: echo™ EYE for Camera Unit
Mode: TX 2480MHz
Model: EE1.0A2
Manufacturer: Dongguan Southstar Electronics Limited

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 2010/10/19
Time: 9:32:34
Engineer Signature: Joe
Distance: 3m

Note: Sample No.:102329 Report No.:ATE20102048



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.012	108.32	-7.37	100.95	-	-	peak			
2	2480.012	104.80	-7.37	97.43	-	-	AVG			
3	2483.500	44.71	-7.37	37.34	74.00	-36.66	peak			
4	2483.500	41.16	-7.37	33.79	54.00	-20.21	AVG			
5	4960.018	53.08	0.52	53.60	74.00	-20.40	peak			
6	4960.018	49.62	0.52	50.14	54.00	-3.86	AVG			
7	7440.025	45.85	3.69	49.54	74.00	-24.46	peak			
8	7440.025	42.42	3.69	46.11	54.00	-7.89	AVG			

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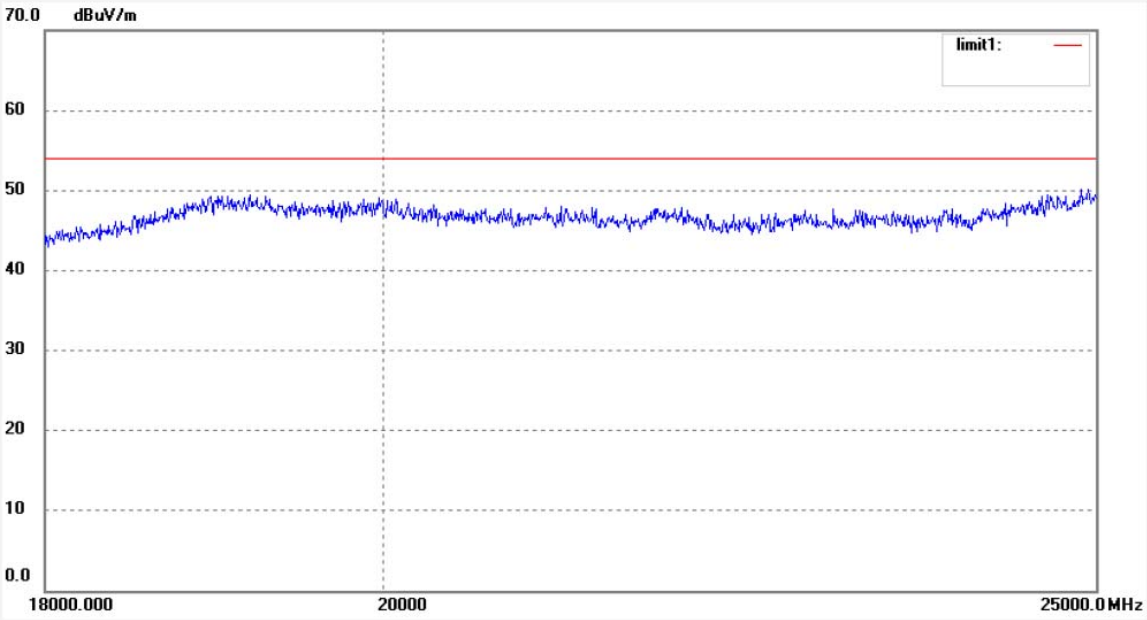
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: joe #963	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2010/10/19
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 9:59:21
EUT: echo™ EYE for Camera Unit	Engineer Signature: Joe
Mode: TX 2480MHz	Distance: 3m
Model: EE1.0A2	
Manufacturer: Dongguan Southstar Electronics Limited	

Note: Sample No.:102329 Report No.:ATE20102048



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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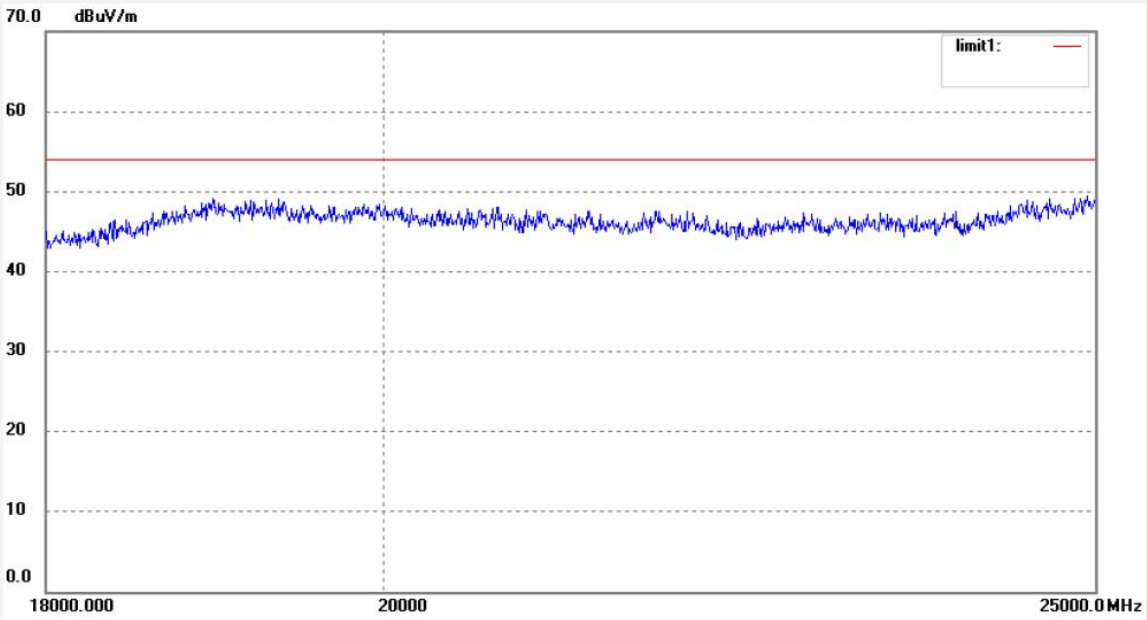
Fax:+86-0755-26503396

Job No.: joe #964	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 2010/10/19
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 10:03:08
EUT: echo™ EYE for Camera Unit	Engineer Signature: Joe
Mode: TX 2480MHz	Distance: 3m
Model: EE1.0A2	
Manufacturer: Dongguan Southstar Electronics Limited	

Note: Sample No.:102329 Report No.:ATE20102048

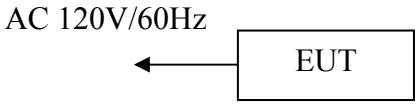


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

12. AC POWER LINE CONDUCTED EMISSION FOR FCC PART 15 SECTION 15.207(A)

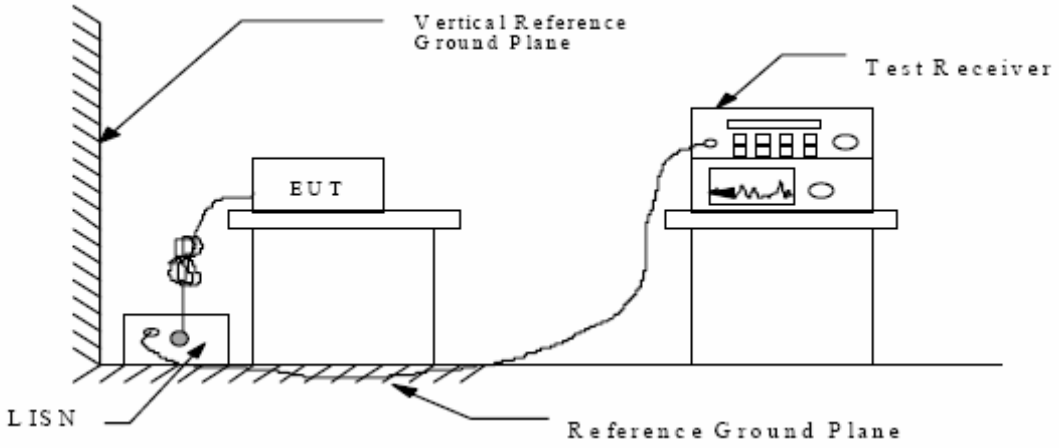
12.1. Block Diagram of Test Setup

12.1.1. Block diagram of connection between the EUT and simulators



(EUT: echo™ EYE for Camera Unit)

12.1.2. Shielding Room Test Setup Diagram



(EUT: echo™ EYE for Camera Unit)

12.2. The Emission Limit

12.2.1. Conducted Emission Measurement Limits According to Section 15.207(a)

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

* Decreases with the logarithm of the frequency.

12.3.Configuration of EUT on Measurement

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

12.3.1.echo^{TM} EYE for Camera Unit (EUT)

Model Number	**:**	EE1.0A2
Serial Number	**:**	N/A
Manufacturer	**:**	Dongguan Southstar Electronics Limited

12.4.Operating Condition of EUT

12.4.1.Setup the EUT and simulator as shown as Section 12.1.

12.4.2.Turn on the power of all equipment.

12.4.3.Let the EUT work in TX 2440MHz mode measure it.

12.5.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 C63.4: 2003 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.

12.6.Power Line Conducted Emission Measurement Results

PASS.

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

Date of Test:	October 14, 2010	Temperature:	25°C
EUT:	echo™ EYE for Camera Unit	Humidity:	50%
Model No.:	EE1.0A2	Power Supply:	AC 120V/60Hz
Test Mode:	TX 2440MHz	Test Engineer:	Joe

Frequency (MHz)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Detector	Line
0.199949	54.70	63.6	-8.9	QP	Neutral
0.300440	47.80	60.2	-12.4	QP	
0.500809	42.00	56.0	-14.0	QP	
0.200748	44.30	53.6	-9.3	AV	
2.009114	37.70	46.0	-8.3	AV	
2.107702	37.30	46.0	-8.7	AV	
0.199949	51.10	63.6	-12.5	QP	Live
0.500809	45.60	56.0	-10.4	QP	
2.009114	43.10	56.0	-12.9	QP	
0.500809	38.50	46.0	-7.5	AV	
2.009114	39.20	46.0	-6.8	AV	
2.107702	37.80	46.0	-8.2	AV	

Emissions attenuated more than 20 dB below the permissible value are not reported.
The spectral diagrams are attached as below.

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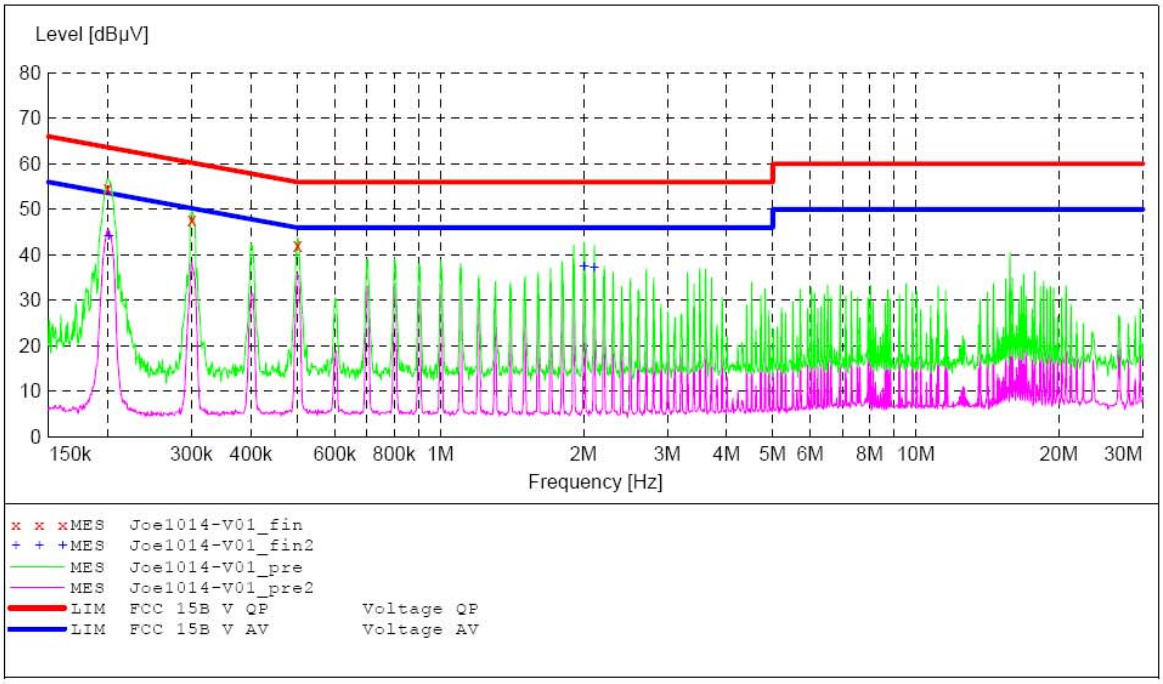
CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                  echo™ EYE for Camera Unit   M/N:EE1.0A2
Manufacturer:         Dongguan Southstar Electronics Limited
Operating Condition:  On
Test Site:            1#Shielding Room
Operator:             Joe
Test Specification:   N 120V/60Hz
Comment:              Sampel No.:102329   Report No.:ATE20102048
Start of Test:        10/14/2010 / 13:50:23PM
```

SCAN TABLE: "V 150K-30MHz fin"

```
  Short Description:           _SUB_STD_VTERM2 1.70
  Start      Stop       Step      Detector  Meas.     IF      Transducer
  Frequency  Frequency  Width               Time      Bandw.
  150.0 kHz  30.0 MHz   0.8 %     QuasiPeak 1.0 s     9 kHz   NSLK8126 2008
                                  Average
```



MEASUREMENT RESULT: "Joe1014-V01_fin"

10/14/2010 13:52PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.199949	54.70	11.2	64	8.9	QP	N	GND
0.300440	47.80	11.6	60	12.4	QP	N	GND
0.500809	42.00	12.0	56	14.0	QP	N	GND

MEASUREMENT RESULT: "Joe1014-V01_fin2"

10/14/2010 13:52PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.200748	44.30	11.2	54	9.3	AV	N	GND
2.009114	37.70	11.7	46	8.3	AV	N	GND
2.107702	37.30	11.6	46	8.7	AV	N	GND

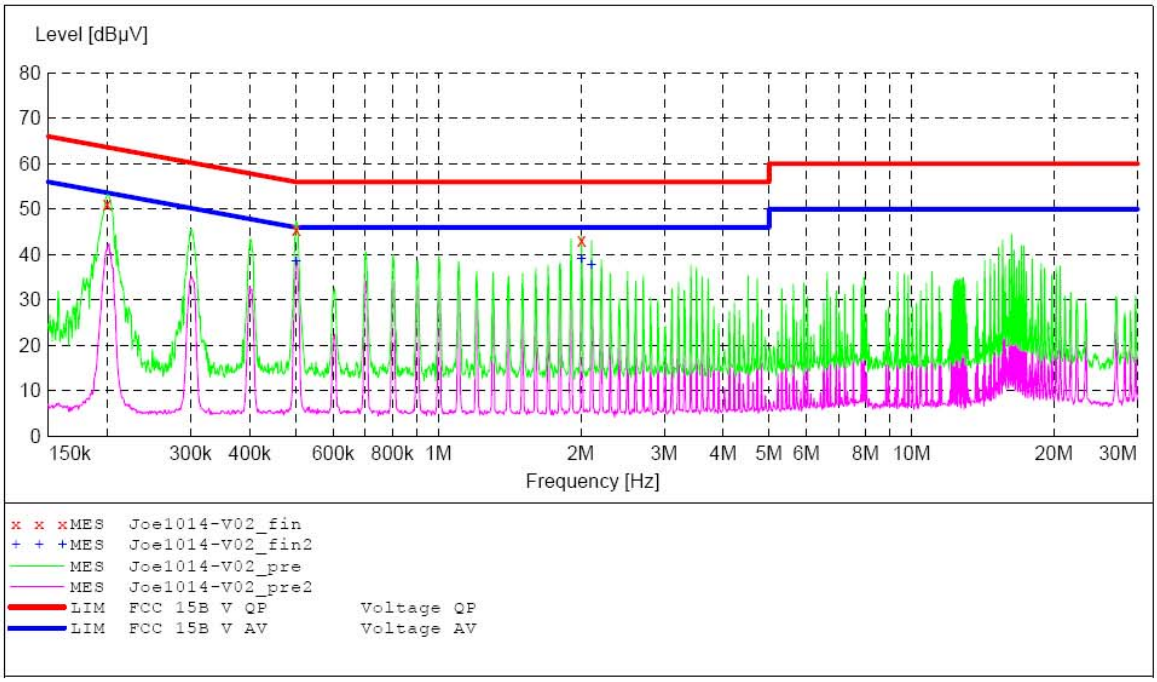
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                  echo™ EYE for Camera Unit   M/N:EE1.0A2
Manufacturer:         Dongguan Southstar Electronics Limited
Operating Condition:  On
Test Site:            1#Shielding Room
Operator:             Joe
Test Specification:   L 120V/60Hz
Comment:              Sampel No.:102329   Report No.:ATE20102048
Start of Test:        10/14/2010 / 13:53:24PM
```

SCAN TABLE: "V 150K-30MHz fin"

```
  Short Description:            _SUB_STD_VTERM2 1.70
  Start      Stop       Step      Detector  Meas.     IF       Transducer
  Frequency  Frequency  Width               Time      Bandw.
  150.0 kHz  30.0 MHz   0.8 %     QuasiPeak 1.0 s     9 kHz    NSLK8126 2008
                                  Average
```



MEASUREMENT RESULT: "Joe1014-V02_fin"

10/14/2010 13:55PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.199949	51.10	11.2	64	12.5	QP	L1	GND
0.500809	45.60	12.0	56	10.4	QP	L1	GND
2.009114	43.10	11.7	56	12.9	QP	L1	GND

MEASUREMENT RESULT: "Joe1014-V02_fin2"

10/14/2010 13:55PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.500809	38.50	12.0	46	7.5	AV	L1	GND
2.009114	39.20	11.7	46	6.8	AV	L1	GND
2.107702	37.80	11.6	46	8.2	AV	L1	GND

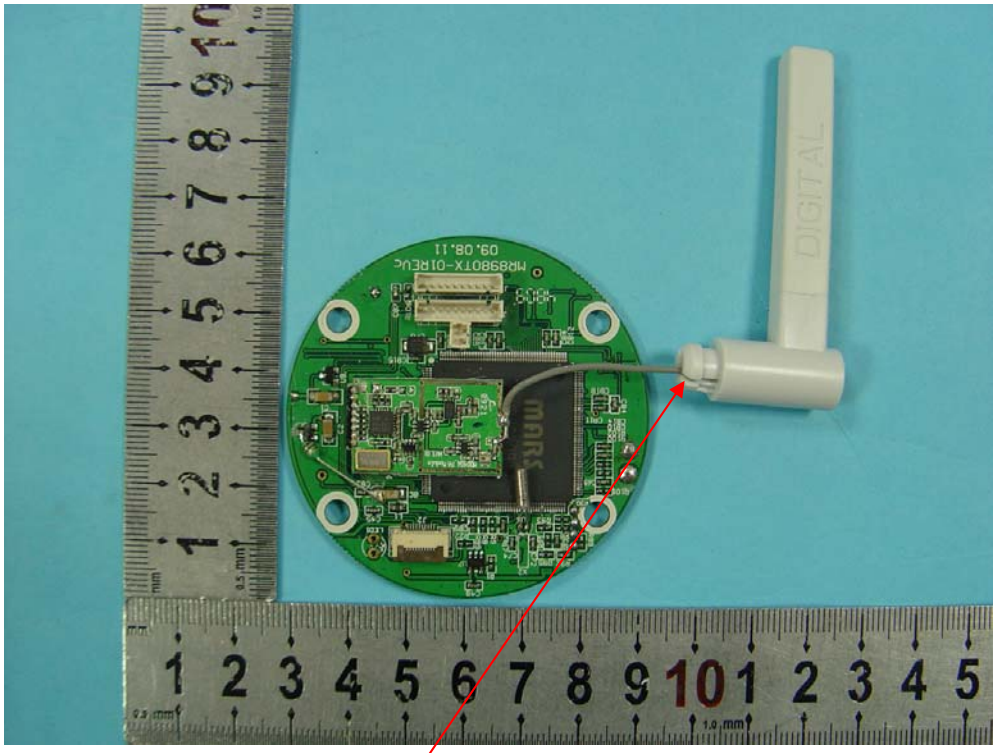
13. ANTENNA REQUIREMENT

13.1. 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.

13.2. Antenna Construction

The device is equipped with unique antenna, no consideration of replacement. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna