

Prüfbericht-Nr.: <i>Test report No.:</i>	17055654 002	Auftrags-Nr.: <i>Order No.:</i>	164047018	Seite 1 von 24 <i>Page 1 of 24</i>
Kunden-Referenz-Nr.: <i>Client reference No.:</i>	421245	Auftragsdatum: <i>Order date.:</i>	12.10.2015	
Auftraggeber: <i>Client:</i>	Mobicool Electronic (Zhuhai) Co., Ltd 18 Jinhu Lu, Sanzao, Jinwan, Zhuhai, Guangdong 519041, P.R. China			
Prüfgegenstand: <i>Test item:</i>	Cooler Box			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	CFX28			
Auftrags-Inhalt: <i>Order content:</i>	FCC approval			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.249 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 FCC KDB publication 447498 D01 v06 CFR47 FCC Part 15: Subpart B Section 15.107 CFR47 FCC Part 15: Subpart B Section 15.109			
Wareneingangsdatum: <i>Date of receipt:</i>	13.10.2015			
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000265878-002			
Prüfzeitraum: <i>Testing period:</i>	16.11.2015 - 05.01.2016			
Ort der Prüfung: <i>Place of testing:</i>	Accurate Technology Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by:		kontrolliert von / reviewed by:		
 27.04.2016 Ryan Yang / Senior Project Engineer		 27.04.2016 Sam Lin / Technical Certifier		
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>
				Unterschrift <i>Signature</i>
Sonstiges / Other:				
FCC ID: 2AG66CFX28				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged:</i>		
<p>* Legende: 1 = sehr gut , 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specifications(s) F(ail) = failed a.m. test specifications(s) N/A = not applicable N/T = not tested</p>				
<p>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines.</p> <p><i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p>				

V04

Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 FIELD STRENGTH OF FUNDAMENTAL AND HARMONICS

RESULT: Pass

5.1.3 20dB BANDWIDTH

RESULT: Pass

5.1.4 RADIATED SPURIOUS EMISSION & BAND EDGE

RESULT: Pass

5.1.5 CONDUCTED EMISSION

RESULT: Pass

5.1.6 RADIATED EMISSION

RESULT: Pass

6.1.1 ELECTROMAGNETIC FIELDS

RESULT: Pass

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:
Appendix A: Test Results of 2.4 GHz Wireless mode

2 Test Sites

2.1 Test Facilities

Accurate Technology Co., Ltd.

F1, Bldg. A, Changyuan New Material Port Keyuan Rd., Science & Industry Park, Nanshan Shenzhen,
518057, P.R. China

FCC Registration No.: 752051

Test site Industry Canada No.: 5077A-2

The tests at the test sites have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Accurate Technology Co., Ltd.

Radio Spectrum Test				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
Spectrum Analyzer	R&S	ESPI3	100396/003	09.01.2017
Spectrum Analyzer	Agilent	E7405A	MY45115511	09.01.2017
Temp. & Humid. Chamber	Gongwen	HSD-500	0109	09.01.2017
Conducted Emission				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
Test Receiver	R&S	ESCS30	100307	09.01.2017
L.I.S.N.	Schwarzbeck	NLSK8126	8126431	09.01.2017
Pulse Limiter	R&S	ESH3-Z2	100815	09.01.2017
50_ Coaxial Switch	Anritsu Corp	MP59B	6200283933	09.01.2017
Radiated Emission & Spurious Emission				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
Spectrum Analyzer	R&S	FSV40	101495	01.01.2017
Test Receiver	R&S	ESCS30	100307	01.01.2017
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	01.01.2017
Loop Antenna	Schwarzbeck	FMZB1516	1516131	01.01.2017
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	01.01.2017
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	01.01.2017
RF Switching Unit+PreAMP	Compliance Direction	RSU-M2	38322	01.01.2017
Pre-Amplifier	R&S	CBLU11835 40-01	3791	01.01.2017
50 Coaxial Switch	Anritsu Corp	MP59B	6200506474	01.01.2017
RF Coaxial Cable	SUHNER	N-3m	No.8	01.01.2017
RF Coaxial Cable	RESENBERGER	N-3.5m	No.9	01.01.2017
RF Coaxial Cable	SUHNER	N-6m	No.10	01.01.2017
RF Coaxial Cable	RESENBERGER	N-12m	No.11	01.01.2017
50_ Coaxial Switch	Anritsu Corp	MP59B	6200283933	01.01.2017

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table

Item		Extended Uncertainty
Conducted Emission	Disturbance Voltage (dB μ V)	U=1.94dB, k=2, σ =95%
Radiated Emission (9kHz-30MHz)	Field strength (dB μ V/m)	U=3.08dB, k=2, σ =95%
Radiated Emission (30-1000MHz)	Field strength (dB μ V/m)	U=4.42dB, k=2, σ =95%
Radiated Emission (above 1000MHz)	Field strength (dB μ V/m)	U=4.06dB, k=2, σ =95%
Radio Spectrum		± 0.60 dB
Ambient Temperature		25 °C
Relative Humidity		56 %
Atmospheric Pressure		101 kPa

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The Accurate Technology Co., Ltd. Test facility located at F1, Bldg. A, Changyuan New Material Port Keyuan Rd., Science & Industry Park, Nanshan Shenzhen, 518057, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The EUT is a compressor refrigerator, there are two component of this system: the refrigerator is transmitter, and the display unit is receiver. It operates at 2.4GHz ISM frequency band.

Refer to User Manual and Circuit Diagram for further details.

3.2 Ratings and System Details

Table 2: Technical Specification of Transmitter

Technical Specification	Value
Kind of Equipment	Cooler Box
Type Designation	CFX28
FCC ID	2AG66CFX28
Operating Frequency	2440 MHz
Operating Temperature Range	-20 °C ~ +55 °C
Operating Voltage	AC 100~240V, 50/60Hz DC 12/24V
Testing Voltage	AC 120V, 60Hz DC 12/24V
Type of Modulation	GFSK
Channel Number	1
Antenna Type	PCB Antenna
Antenna Gain	-10.00 dBi

Table 3: Technical Specification of Receiver

Technical Specification	Value
Kind of Equipment	Wireless Display Unit
Type Designation	CFX-WD
Operating Frequency	2440 MHz
Operating Temperature Range	-20 °C ~ +55 °C
Operating Voltage	DC 3V via 2 x 'AAA' size battery
Type of Modulation	GFSK
Channel Number	1
Antenna Type	PCB Antenna
Antenna Gain	-10.00 dBi

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, wireless mode
 - 1. Transmitting
 - 2. Receiving
- B. On, cooling (without wireless communication)
- C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- | | |
|--------------------------|-------------------------|
| - Application Form | - Bill of Material |
| - Block Diagram | - Circuit Diagram |
| - FCC Label and Location | - Operation Description |
| - User Manual | |

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.10: 2013 and ANSI C63.4: 2014

According to clause 3.1, all tests were performed on model CFX28 in this report.

4.3 Special Accessories and Auxiliary Equipment

None.

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

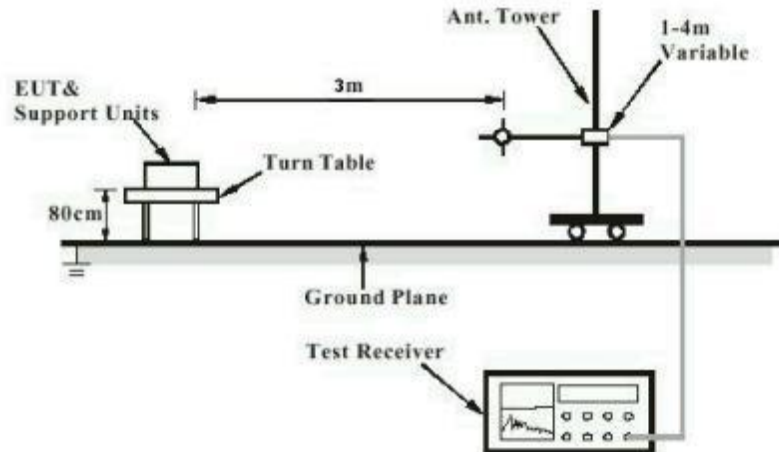


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

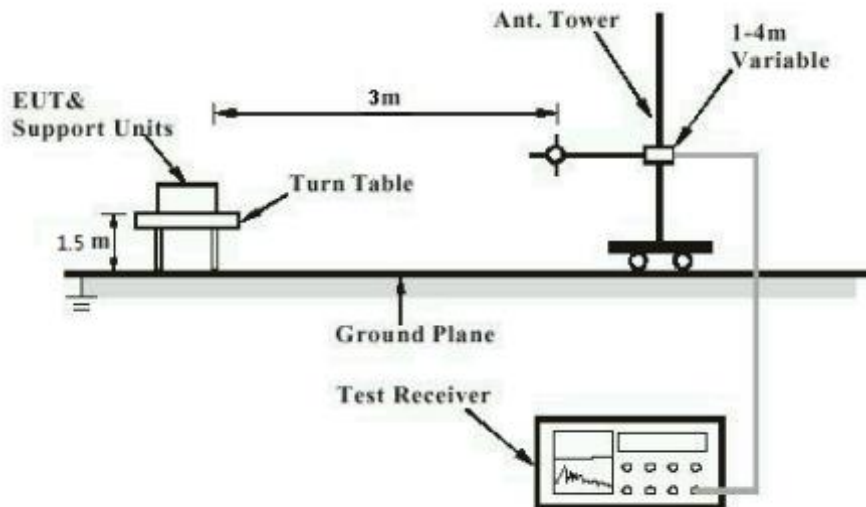


Diagram of Measurement Configuration for Mains Conduction Measurement

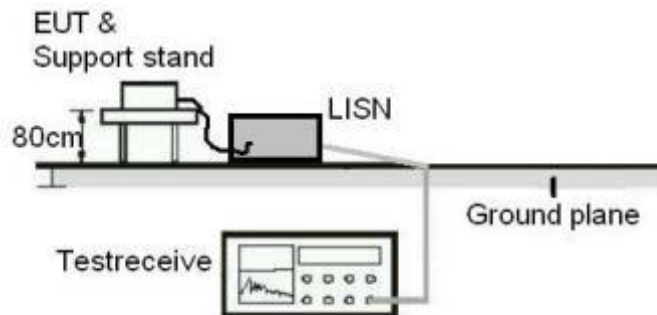
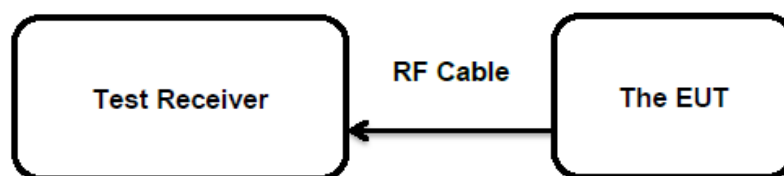


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.203

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is -10.00 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 Field Strength of Fundamental and Harmonics

RESULT:
Pass
Test Specification

Test standard	: FCC Part 15.249(a)
Basic standard	: ANSI C63.10: 2013
Limits	: FCC Part 15.249(a)
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: 23.12.2015
Input voltage	: AC 120V, 60Hz
Operation mode	: A.1
Test channel	: 2440 MHz
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

Table 4: Test Result of Field Strength of Fundamental and Harmonics

Test Channel (MHz)	Measured Result (dBuV/m)	Limit (dBuV/m)	Detector	Polarity	Verdict
2440 MHz	78.80	114	Peak	Horizontal	Pass
	77.19	94	Average		
	85.51	114	Peak	Vertical	Pass
	82.96	94	Average		
Note: 1. No harmonics were found. 2. The average value of fundamental = Peak value + 20*log (Duty cycle). 3. Duty cycle = $\frac{T_{x_{on}}}{T_{x_{(on+off)}}}$ = 0.22, hence, 20*log (Duty cycle) = -13.15 dB.					

5.1.3 20dB Bandwidth

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.215
Basic standard : ANSI C63.10: 2013
Kind of test site : Shielded Room

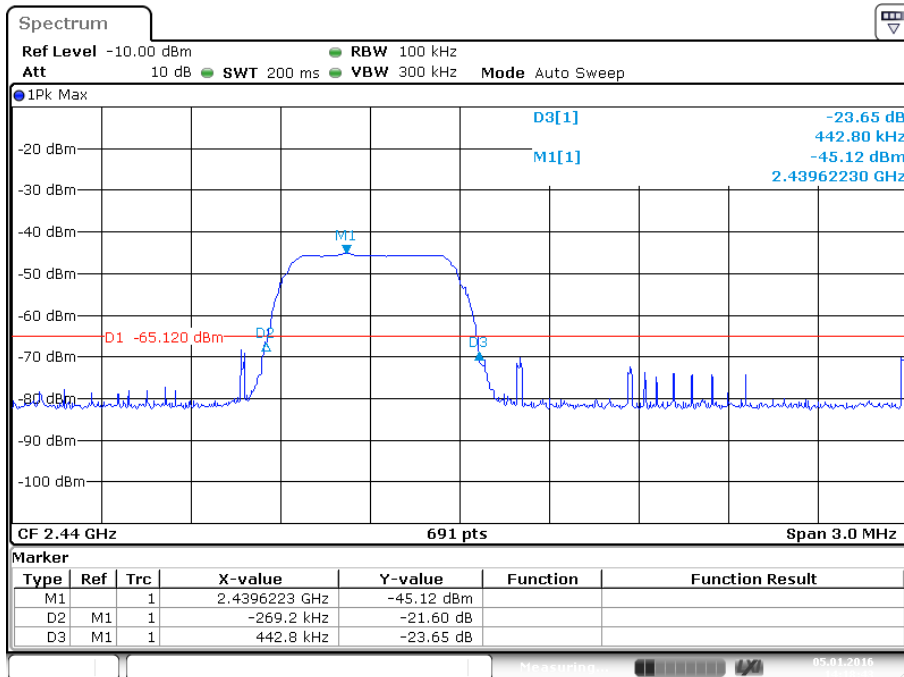
Test Setup

Date of testing : 05.01.2016
Input voltage : AC 120V, 60Hz
Operation mode : A.1
Test channel : 2440 MHz
Ambient temperature : 25 °C
Relative humidity : 56 %
Atmospheric pressure : 101 kPa

Table 5: Test Result of 20dB Bandwidth

Test Channel (MHz)	20dB Bandwidth (kHz)	Limit (kHz)
2440 MHz	712.00	/

For the measurement records, refer to following test plot:

Test Plot of 20dB Bandwidth


Date: 5.JAN.2016 14:18:43

5.1.4 Radiated Spurious Emission & Band Edge

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.249
Basic standard	: ANSI C63.10: 2013
Limits	: FCC Part 15.249
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: Refer to test plots
Input voltage	: AC 120V, 60Hz
Operation mode	: A.1
Test channel	: 2440 MHz
Ambient temperature	: 23 °C
Relative humidity	: 48 %
Atmospheric pressure	: 101 kPa

Remark:

During the pretest the EUT was rotated through three orthogonal axes to determine the attitude that maximizes the emissions. After that the EUT was manually handled to find the orientation that has the maximum emission, which is the orientation shown in the test set-up photos.

Testing was carried out within frequency range 9kHz to the tenth harmonics.

For the measurement records, refer to the appendix A.

5.1.5 Conducted Emission

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.207(a) & FCC Part 15.107(a)
Basic standard	: ANSI C63.10: 2013 & ANSI C63.4: 2014
Frequency range	: 0.15 – 30MHz
Limits	: FCC Part 15.207(a) & FCC Part 15.107(a)
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 22.12.2015
Input voltage	: AC 120V, 60Hz
Operation mode	: A.1, B
Earthing	: Not connected
Ambient temperature	: 23 °C
Relative humidity	: 48 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A.

5.1.6 Radiated Emission

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.109(a)
Basic standard	: ANSI C63.4: 2014
Frequency range	: 30 - 6000MHz
Classification	: Class B
Limits	: FCC Part 15.109(a)
Kind of test site	: 3m Semi-anechoic Chamber & 3m Full-anechoic Chamber

Test Setup

Date of testing	: 23.12.2015
Input voltage	: AC 120V, 60Hz DC 12/24V
Operation mode	: B
Earthing	: Not connected
Ambient temperature	: 23 °C
Relative humidity	: 48 %
Atmospheric pressure	: 101 kPa

For the measurement records, please refer to the attached appendix A. The test data in appendix A is the worst result after the EUTs were tested with different voltages.

6 Safety Human Exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT:**Pass****Test Specification**

Test standard : FCC KDB Publication 447498 v06

Measurement Record:

The minimum distance for the EUT is less than 5mm.

Since maximum peak output power of the transmitter is 0.00711 mW <10 mW.

Hence the EUT is excluded from SAR evaluation according to FCC KDB Publication 447498 D01 General RF Exposure Guidance v06.

7 Photographs of the Test Set-Up

Photograph 1: Set-up for Radiated Spurious Emission (9kHz ~ 30MHz)



Photograph 2: Set-up for Radiated Spurious Emission (30MHz~1GHz)



Photograph 3: Set-up for Radiated Spurious Emission (1GHz ~ 18GHz)



Photograph 4: Set-up for Radiated Spurious Emission (18GHz ~ 26GHz)



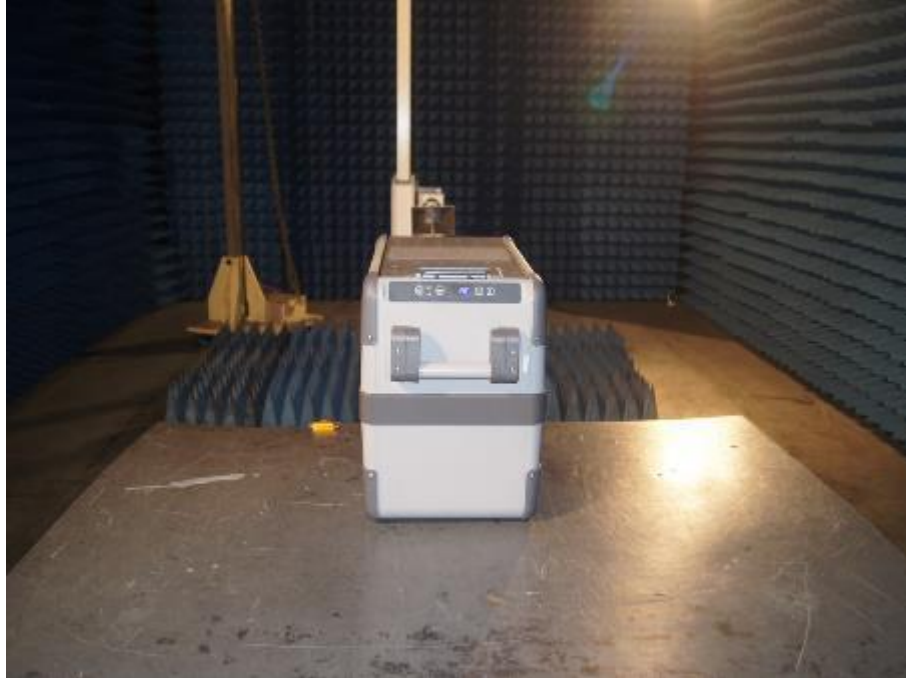
Photograph 5: Set-up for Conducted Emission



Photograph 6: Set-up for Radiated Emission (30MHz ~ 1GHz)



Photograph 7: Set-up for Radiated Emission (1GHz ~ 6GHz)



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Appendix A

Test Results of 2.4GHz Wireless Mode

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NOTE

During the pretest the EUT was rotated through three orthogonal axes to determine the attitude that maximizes the emissions. After that the EUT was manually handled to find the orientation that has the maximum emission, which is the orientation shown in the test set-up photos.

Appendix A.1: Radiated Spurious Emission

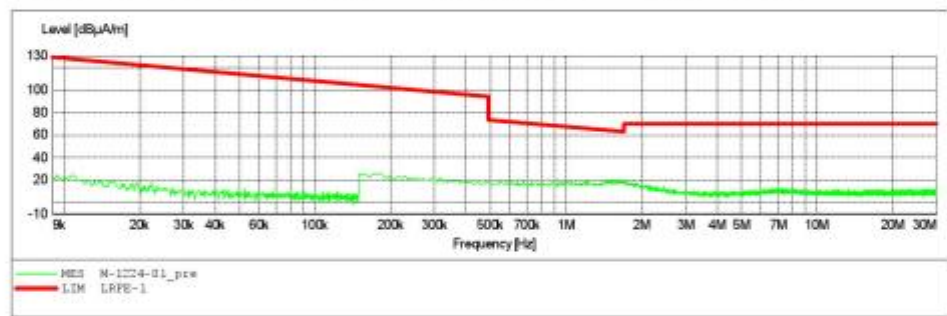
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3m Radiated

EUT: Cooler Box M/N:CFX-65
Manufacturer: Mobicoool
Operating Condition: TX 2440MHz
Test Site: 2# Chamber
Operator: LAN
Test Specification: AC 120V/60Hz
Comment: X
Start of Test: 2015-12-24 /

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



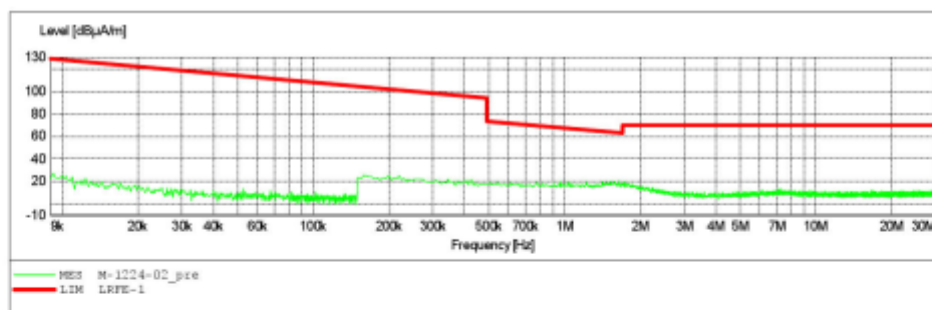
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Cooler Box M/N:CFX-65
Manufacturer: Mobicoool
Operating Condition: TX 2440MHz
Test Site: 2# Chamber
Operator: LAN
Test Specification: AC 120V/60Hz
Comment: Y
Start of Test: 2015-12-24 /

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



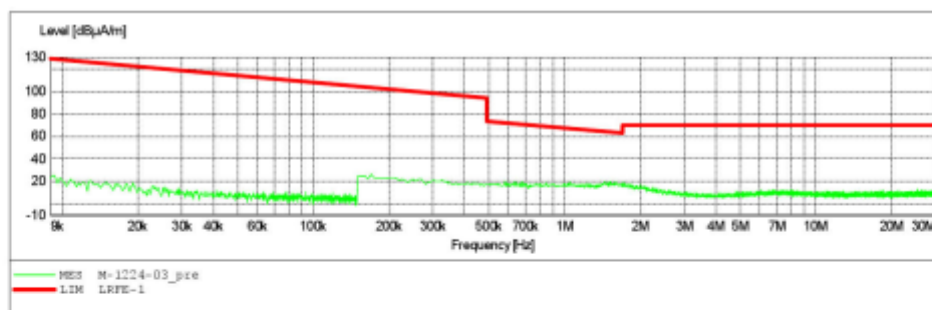
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Cooler Box M/N:CFX-65
Manufacturer: Mobicoool
Operating Condition: TX 2440MHz
Test Site: 2# Chamber
Operator: LAN
Test Specification: AC 120V/60Hz
Comment: Z
Start of Test: 2015-12-24 /

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.

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.: LAN2015 #3978

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Cooler Box

Mode: TX 2440MHz

Model: CFX-65

Manufacturer: Mobicool

Polarization: Horizontal

Power Source: AC 120V/60Hz

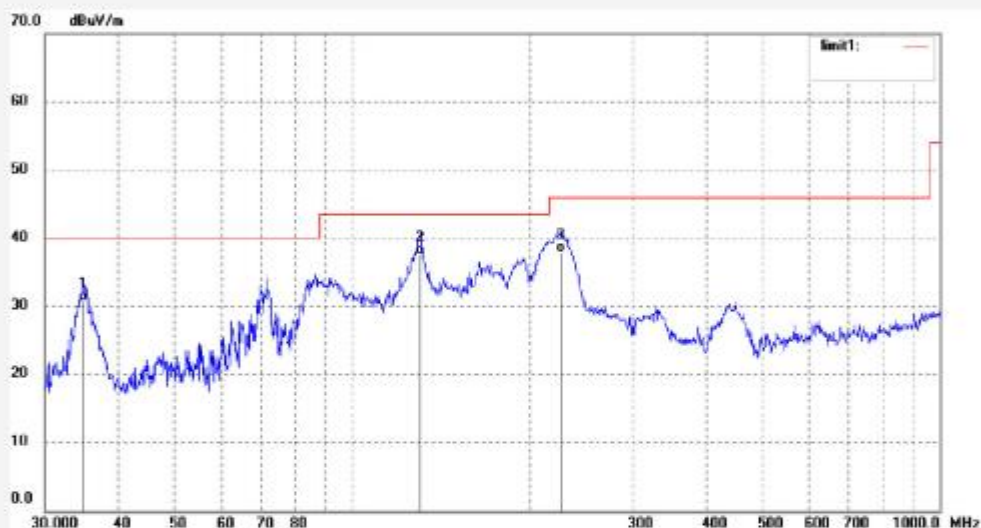
Date: 15/12/23/

Time:

Engineer Signature: PEI

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	34.8823	40.23	-9.58	30.65	40.00	-9.35	QP			
2	130.3788	51.15	-13.54	37.61	43.50	-5.89	QP			
3	226.0994	49.10	-11.27	37.83	46.00	-8.17	QP			



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.: LAN2015 #3979

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Cooler Box

Mode: TX 2440MHz

Model: CFX-65

Manufacturer: Mobicool

Polarization: Vertical

Power Source: AC 120V/60Hz

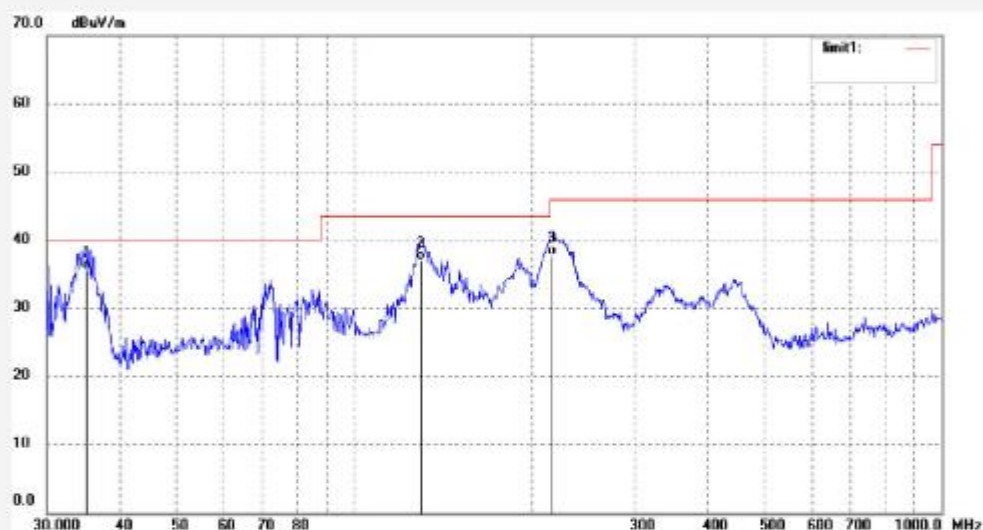
Date: 15/12/23/

Time:

Engineer Signature: PEI

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	35.0048	45.22	-9.59	35.63	40.00	-4.37	QP			
2	129.9225	50.49	-13.52	36.97	43.50	-6.53	QP			
3	217.5442	49.41	-11.63	37.78	46.00	-8.22	QP			



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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.: LAN2015 #3980

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Cooler Box

Mode: TX 2440MHz

Model: CFX-65

Manufacturer: Mobicool

Polarization: Horizontal

Power Source: AC 120V/60Hz

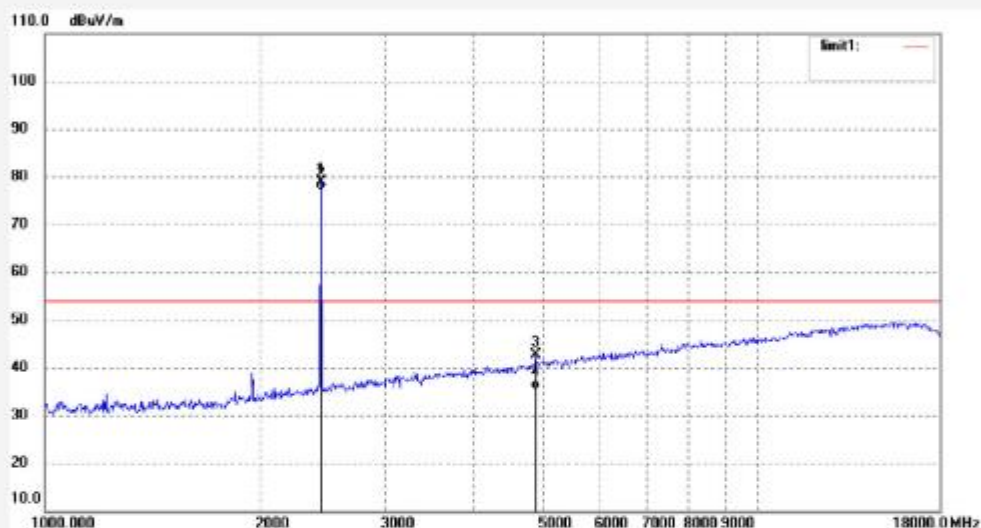
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Time:

Engineer Signature: PEI

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	2440.000	86.16	-7.36	78.80	114.00	-35.20	peak			
2	2440.000	84.55	-7.36	77.19	94.00	-16.81	AVG			
3	4880.021	42.42	0.13	42.55	54.00	-11.45	peak			
4	4880.021	35.21	0.13	35.34	54.00	-18.66	AVG			



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

Job No.: LAN2015 #3981

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Cooler Box

Mode: TX 2440MHz

Model: CFX-65

Manufacturer: Mobicool

Polarization: Vertical

Power Source: AC 120V/60Hz

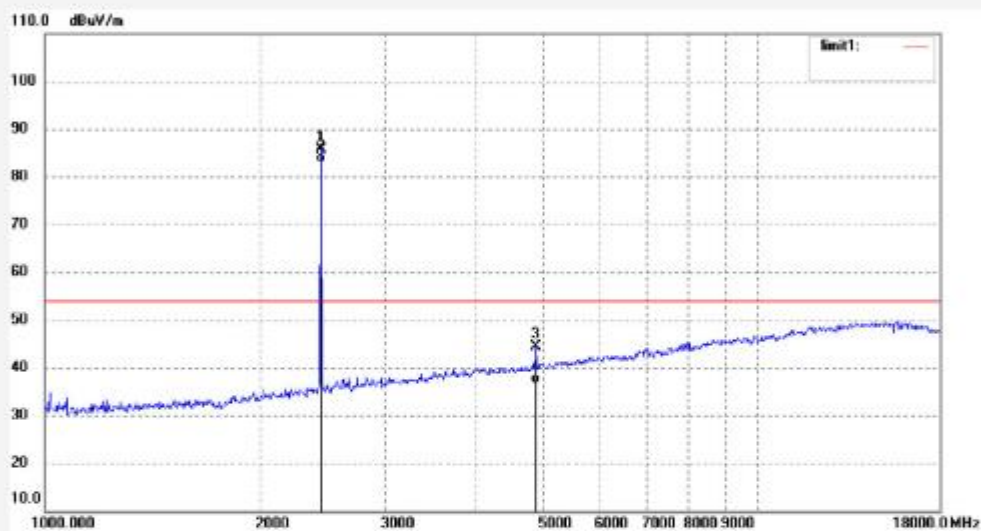
Date: 15/12/23/

Time:

Engineer Signature: PEI

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	2440.000	92.87	-7.36	85.51	114.00	-28.49	peak			
2	2440.000	90.32	-7.36	82.96	94.00	-11.04	AVG			
3	4880.015	44.31	0.13	44.44	54.00	-9.56	peak			
4	4880.015	36.57	0.13	36.70	54.00	-17.30	AVG			



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Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LAN2015 #4074

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Cooler Box

Mode: TX 2440MHz

Model: CFX-65

Manufacturer: Mobicool

Polarization: Vertical

Power Source: AC 120V/60Hz

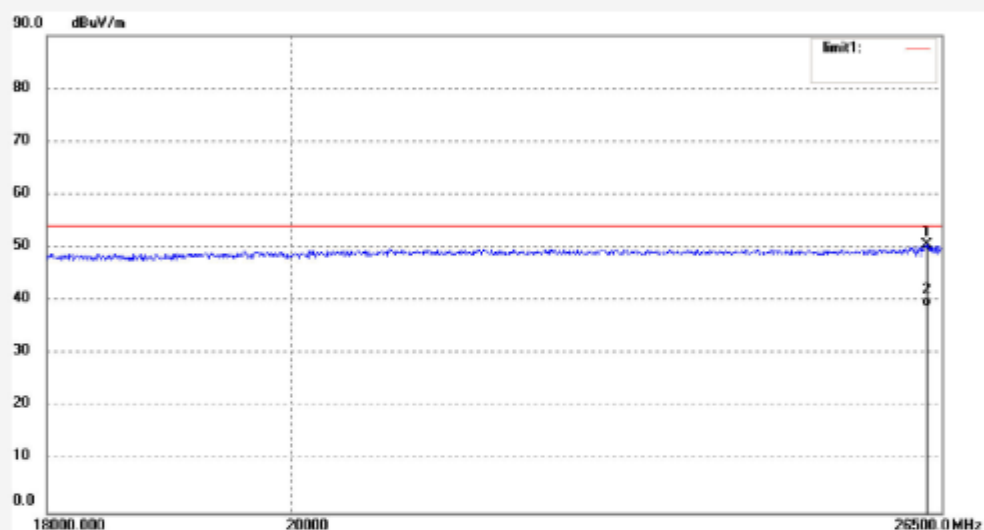
Date: 2015/12/24

Time:

Engineer Signature: PEI

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	26326.330	33.56	17.02	50.58	54.00	-3.42	peak			
2	26326.330	21.90	17.02	38.92	54.00	-15.08	AVG			



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

Job No.: LAN2015 #4075

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Cooler Box

Mode: TX 2440MHz

Model: CFX-65

Manufacturer: Mobicool

Polarization: Horizontal

Power Source: AC 120V/60Hz

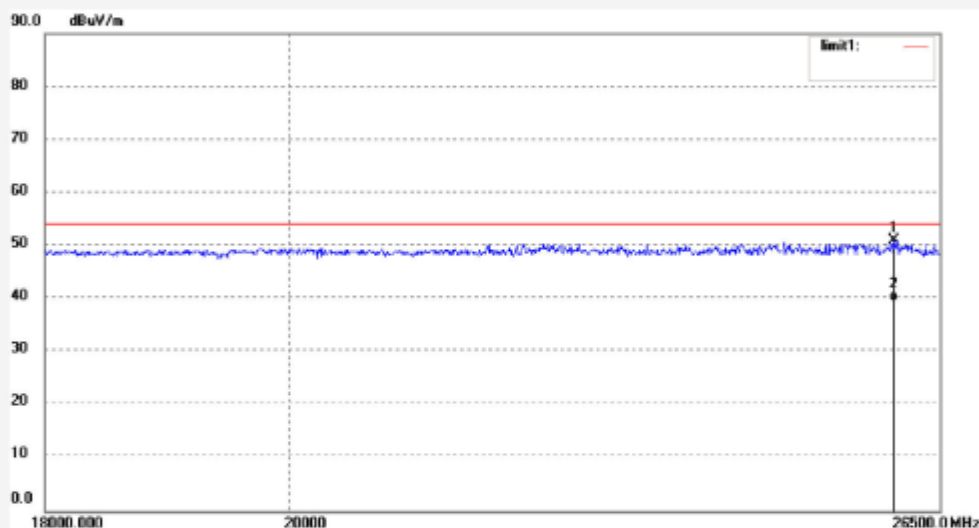
Date: 2015/12/24

Time:

Engineer Signature: PEI

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	25982.398	33.75	17.24	50.99	54.00	-3.01	peak			
2	25982.398	22.31	17.24	39.55	54.00	-14.45	AVG			

Appendix A.2: Band Edge



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Site: 2# Chamber

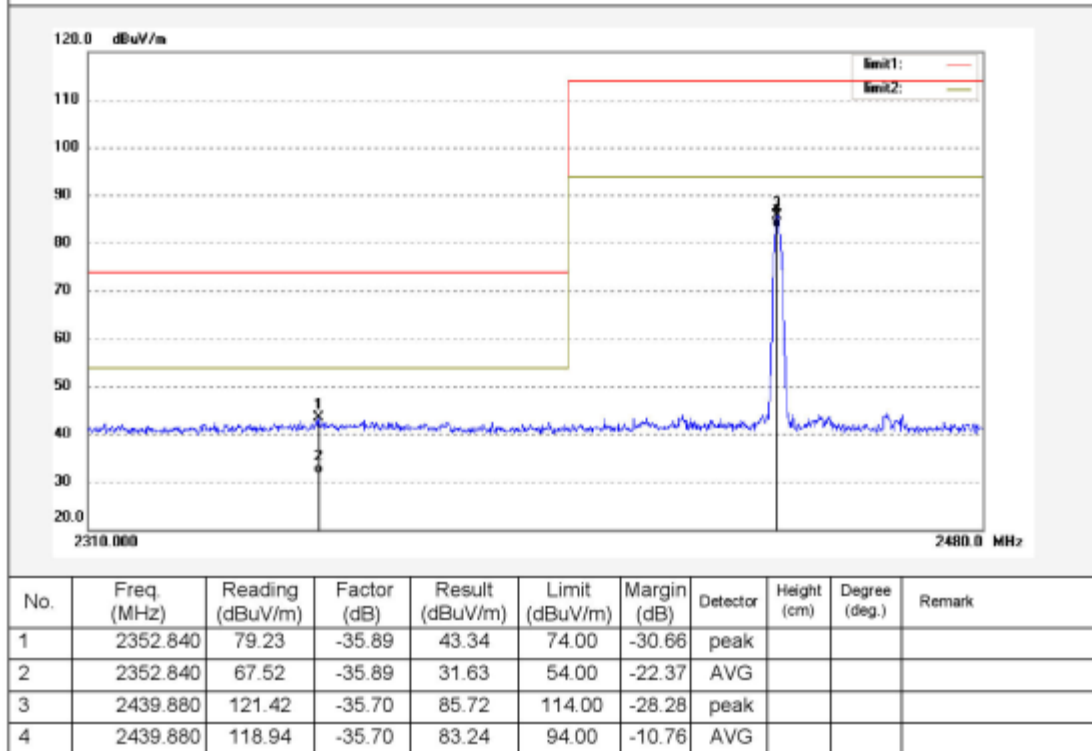
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LAN2015 #4088
Standard: FCC (Band Edge)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Cooler Box
Mode: TX 2440MHz
Model: CFX-65
Manufacturer: Mobicool

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 2015/12/24
Time:
Engineer Signature: PEI
Distance: 3m

Note:





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Site: 2# Chamber

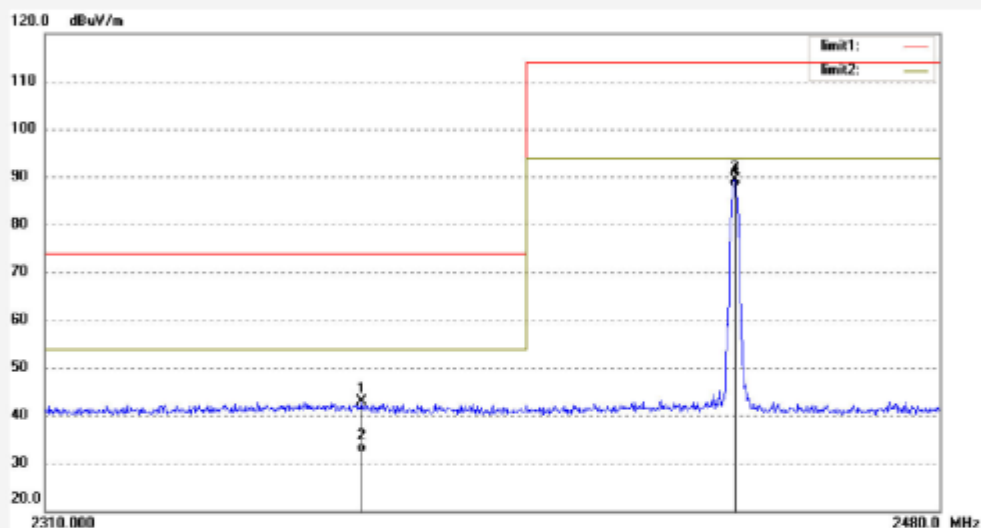
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LAN2015 #4089
Standard: FCC (Band Edge)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Cooler Box
Mode: TX 2440MHz
Model: CFX-65
Manufacturer: Mobicoool

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 2015/12/24
Time:
Engineer Signature: PEI
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	2368.820	78.60	-35.82	42.78	74.00	-31.22	peak			
2	2368.820	67.99	-35.82	32.17	54.00	-21.83	AVG			
3	2440.050	125.04	-35.70	89.34	114.00	-24.66	peak			
4	2440.050	123.39	-35.70	87.69	94.00	-6.31	AVG			



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Site: 2# Chamber

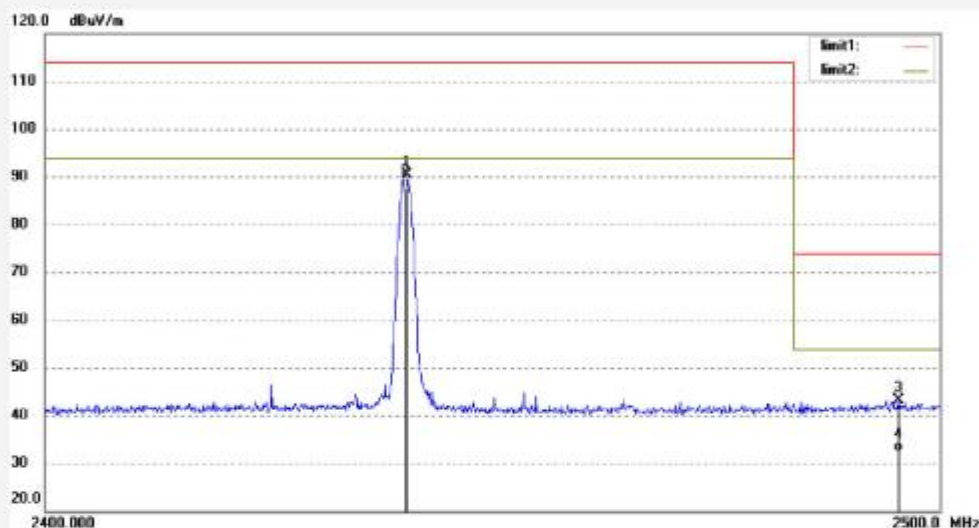
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LAN2015 #4090
Standard: FCC (Band Edge)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Cooler Box
Mode: TX 2440MHz
Model: CFX-65
Manufacturer: Mobicool

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 2015/12/24
Time:
Engineer Signature: PEI
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	2440.000	125.97	-35.70	90.27	114.00	-23.73	peak			
2	2440.000	123.45	-35.70	87.75	94.00	-6.25	AVG			
3	2495.400	79.08	-35.88	43.20	74.00	-30.80	peak			
4	2495.400	68.14	-35.88	32.26	54.00	-21.74	AVG			



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Site: 2# Chamber

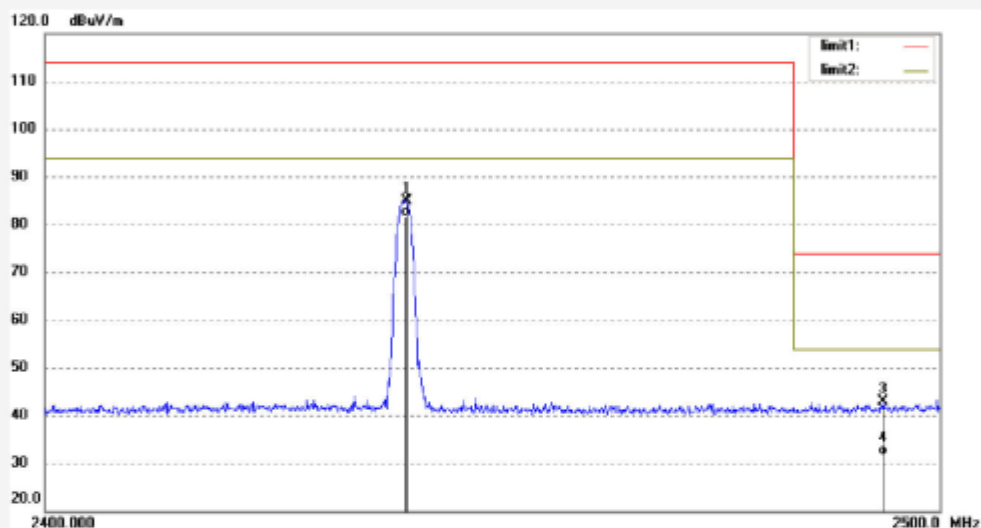
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LAN2015 #4091
Standard: FCC (Band Edge)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Cooler Box
Mode: TX 2440MHz
Model: CFX-65
Manufacturer: Mobicool

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 2015/12/24
Time:
Engineer Signature: PEI
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	2440.000	120.70	-35.70	85.00	114.00	-29.00	peak			
2	2440.000	117.24	-35.70	81.54	94.00	-12.46	AVG			
3	2493.600	78.81	-35.87	42.94	74.00	-31.06	peak			
4	2493.600	67.58	-35.87	31.71	54.00	-22.29	AVG			

Appendix A.3: Conducted Emission

FCC Part 15C

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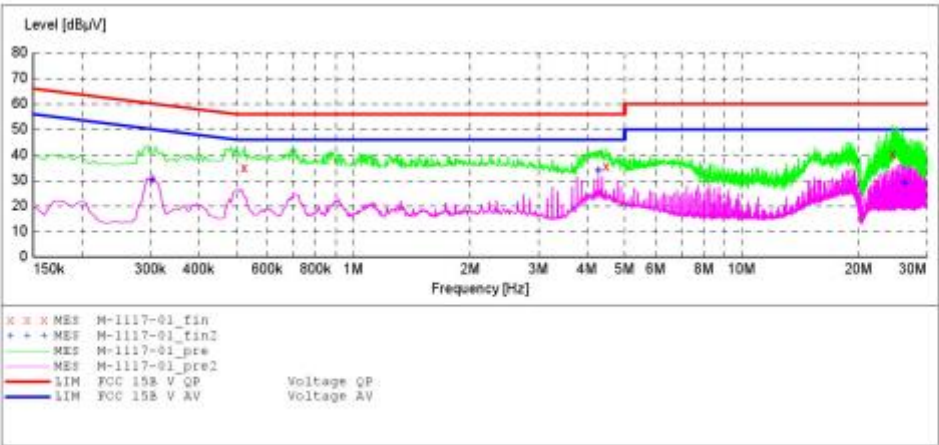
CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Cooler Box M/N:CFX-65
 Manufacturer: Mobicoool
 Operating Condition: Transmitting mode
 Test Site: 1#Shielding Room
 Operator: LAN
 Test Specification: L 120V/60Hz
 Comment: Mains Port
 Start of Test: 11/17/2015 /

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

Short Description: _SUB STD VTERM2 1.70

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
5.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	Average	1.0 s	9 kHz	NSLK8126 2008



MEASUREMENT RESULT: "M-1117-01_fin"

11/17/2015

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.525000	34.90	10.7	56	21.1	QP	L1	GND
4.490000	35.40	11.1	56	20.6	QP	L1	GND
24.520000	50.40	11.5	60	9.6	QP	L1	GND

MEASUREMENT RESULT: "M-1117-01_fin2"

11/17/2015

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.305000	30.90	10.6	50	19.2	AV	L1	GND
4.280000	33.80	11.1	46	12.2	AV	L1	GND
26.335000	32.00	11.5	50	18.0	AV	L1	GND

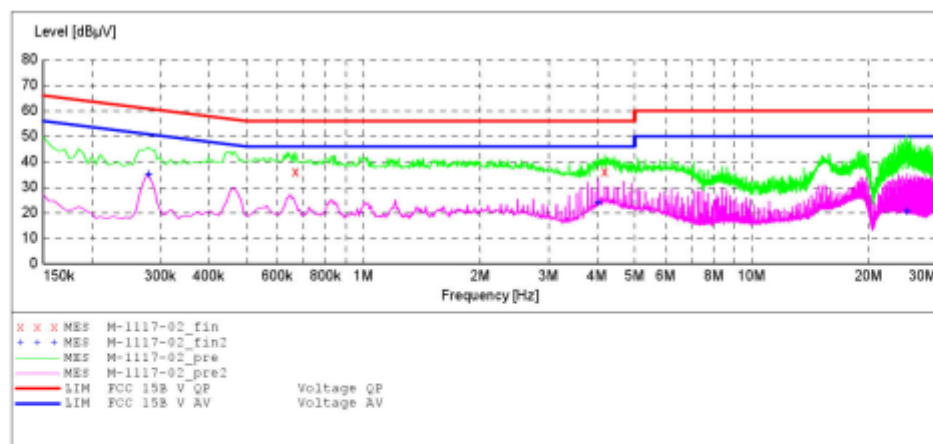
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Cooler Box M/N:CFX-65
Manufacturer: Mobicool
Operating Condition: Transmitting mode
Test Site: 1#Shielding Room
Operator: LAN
Test Specification: N 120V/60Hz
Comment: Mains Port
Start of Test: 11/17/2015 /

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: "M-1117-02_fin"

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.670000	36.10	10.8	56	19.9	QP	N	GND
4.190000	36.00	11.1	56	20.0	QP	N	GND
25.090000	50.70	11.5	60	9.3	QP	N	GND

MEASUREMENT RESULT: "M-1117-02_fin2"

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.280000	34.90	10.6	51	15.9	AV	N	GND
4.030000	29.60	11.1	46	16.4	AV	N	GND
25.165000	30.30	11.5	50	19.7	AV	N	GND

FCC Part 15B

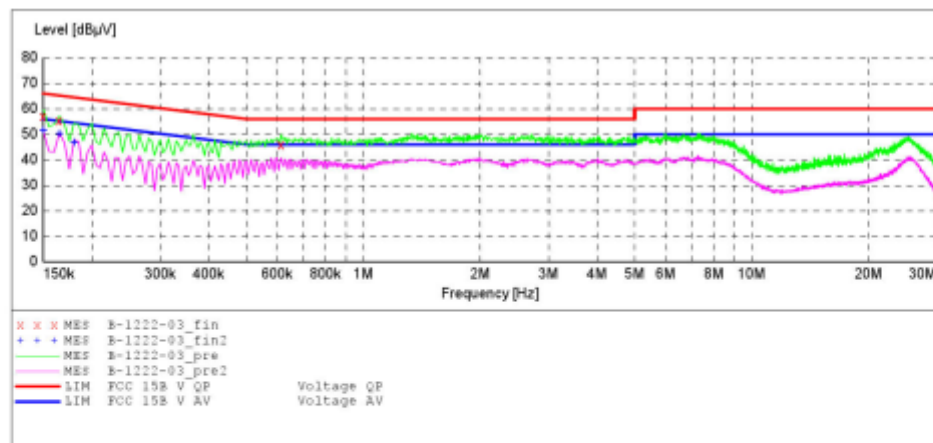
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Cooler box M/N:CFX28
Manufacturer: Mobicoool
Operating Condition: On
Test Site: 1#Shielding Room
Operator: LAN
Test Specification: N 120V/60Hz
Comment: Mains Port
Start of Test: 12/22/2015 /

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: "B-1222-03_fin"

12/22/2015

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.150000	57.10	10.5	66	8.9	QP	N	GND
0.165000	55.20	10.5	65	10.0	QP	N	GND
0.615000	45.70	10.7	56	10.3	QP	N	GND

MEASUREMENT RESULT: "B-1222-03_fin2"

12/22/2015

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.150000	51.50	10.5	56	4.5	AV	N	GND
0.165000	50.20	10.5	55	5.0	AV	N	GND
0.180000	46.60	10.5	55	7.9	AV	N	GND

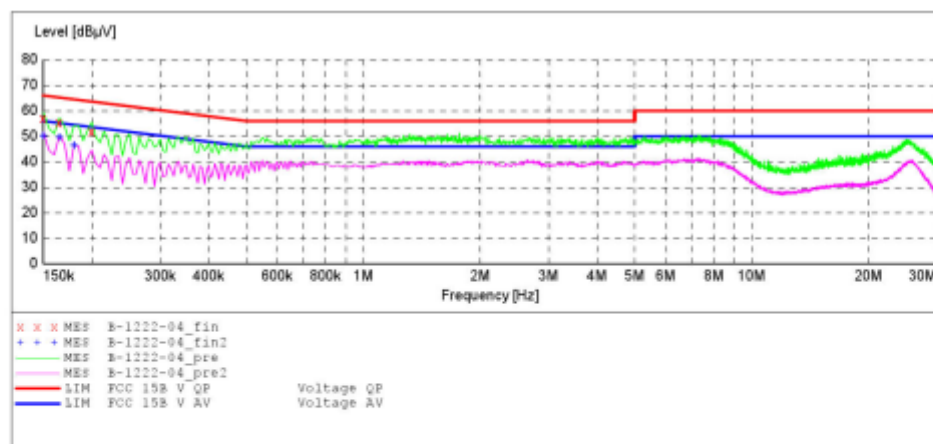
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Cooler box M/N:CFX28
Manufacturer: Mobicoool
Operating Condition: On
Test Site: 1#Shielding Room
Operator: LAN
Test Specification: L 120V/60Hz
Comment: Mains Port
Start of Test: 12/22/2015 /

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: "B-1222-04_fin"

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.150000	56.90	10.5	66	9.1	QP	L1	GND
0.165000	55.20	10.5	65	10.0	QP	L1	GND
0.200000	51.70	10.5	64	11.9	QP	L1	GND

MEASUREMENT RESULT: "B-1222-04_fin2"

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.150000	50.10	10.5	56	5.9	AV	L1	GND
0.165000	49.50	10.5	55	5.7	AV	L1	GND
0.180000	46.40	10.5	55	8.1	AV	L1	GND

Appendix A.4: Radiated Emission

FCC Part 15B



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.: Ian2015 #3974

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Cooler box

Mode: On

Model: CFX28

Manufacturer: MBICOOL

Polarization: Vertical

Power Source: AC 120V/60Hz

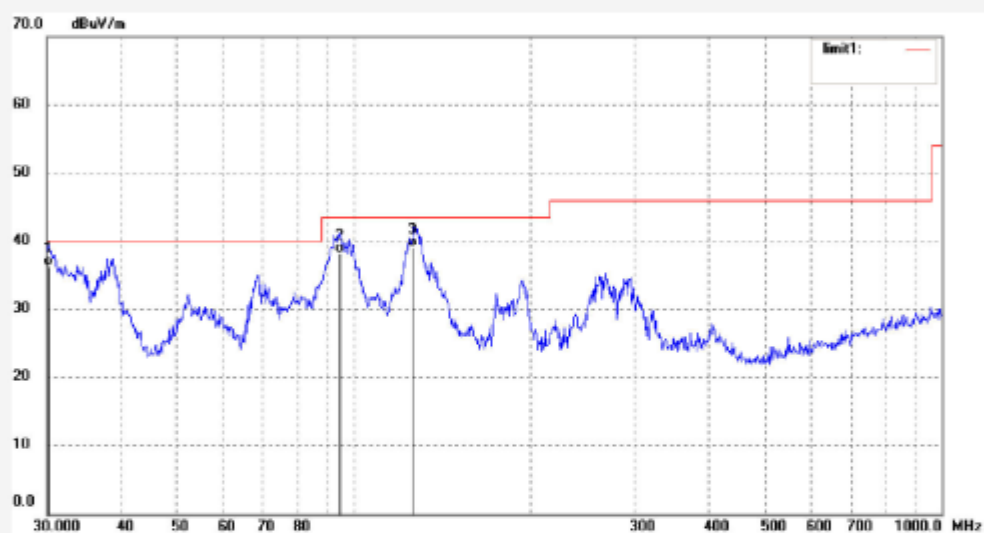
Date: 15/12/23/

Time:

Engineer Signature: PEI

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	30.2110	44.43	-8.13	36.30	40.00	-3.70	QP			
2	94.4283	52.57	-14.41	38.16	43.50	-5.34	QP			
3	125.8863	52.48	-13.41	39.07	43.50	-4.43	QP			



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Site: 2# Chamber

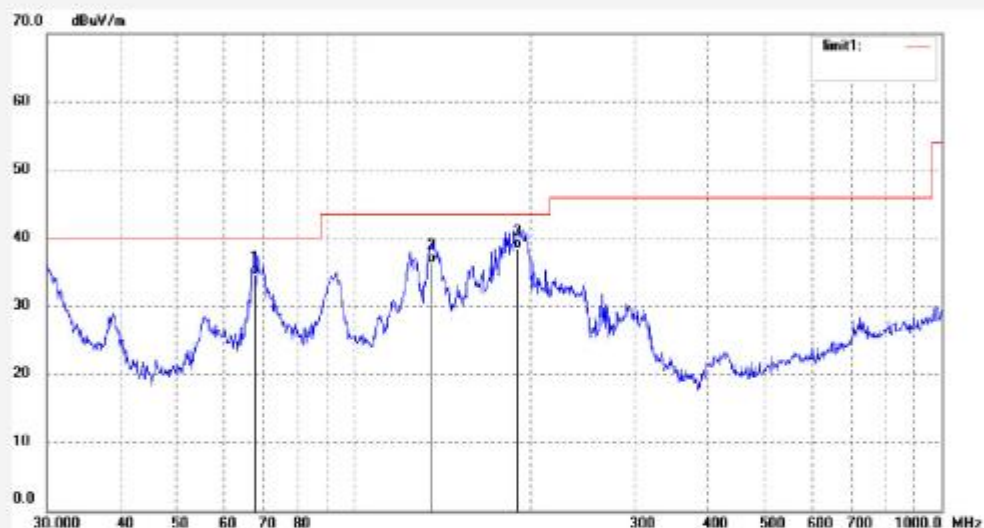
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: lan2015 #3975
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Cooler box
Mode: On
Model: CFX28
Manufacturer: MBICOOL

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 15/12/23/
Time:
Engineer Signature: PEI
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	67.6751	49.84	-15.32	34.52	40.00	-5.48	QP			
2	135.5062	50.13	-13.86	36.27	43.50	-7.23	QP			
3	189.7384	50.86	-12.43	38.43	43.50	-5.07	QP			



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Site: 2# Chamber

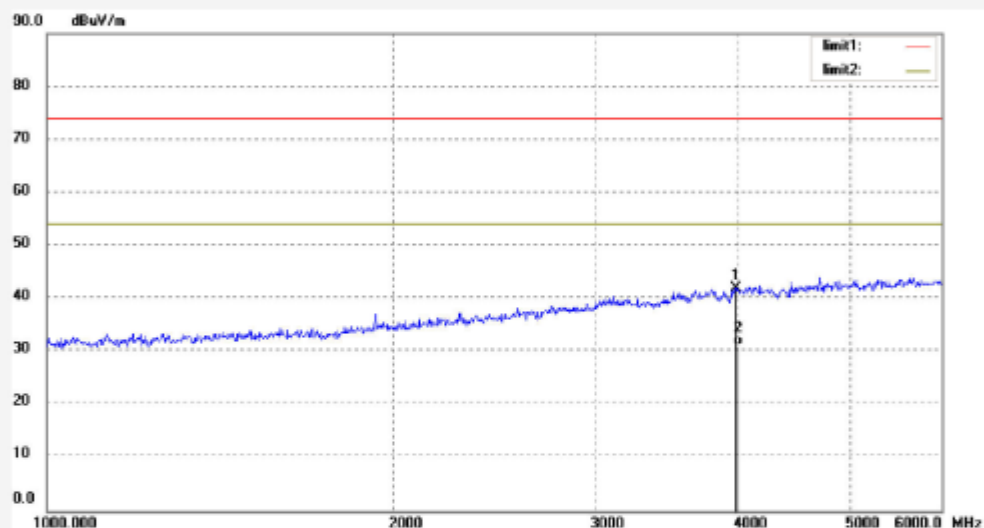
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: lan2015 #3976
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Cooler box
Mode: On
Model: CFX28
Manufacturer: MBICOOL

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 15/12/23/
Time:
Engineer Signature: PEI
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	3973.530	43.66	-1.73	41.93	74.00	-32.07	peak			
2	3973.530	32.85	-1.73	31.12	54.00	-22.88	AVG			



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

Site: 2# Chamber

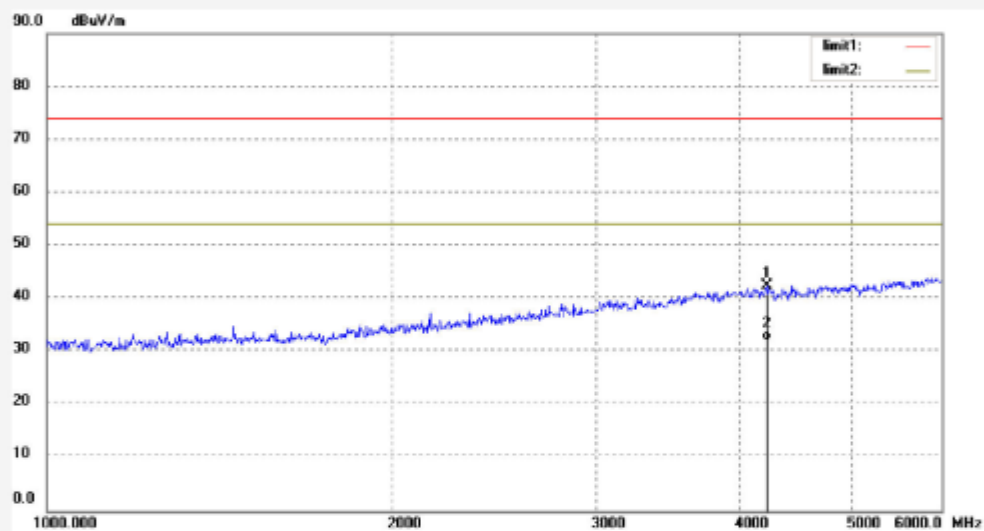
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: Ian2015 #3977
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Cooler box
Mode: On
Model: CFX28
Manufacturer: MBICOOL

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 15/12/23/
Time:
Engineer Signature: PEI
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	4223.122	44.17	-1.67	42.50	74.00	-31.50	peak			
2	4223.122	33.78	-1.67	32.11	54.00	-21.89	AVG			