

APPLICATION CERTIFICATION FCC Part 15C  
On Behalf of  
Ultra Imagination Technology Pty Ltd

Turntable  
Model No.: MB-USBTR128XXX

FCC ID: 2AKDE-MB-USBTR128

Prepared for : Ultra Imagination Technology Pty Ltd  
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Melbourne, Victoria, 3156, Australia  
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Report No. : ATE20162343  
Date of Test : Nov 03, 2016--Nov 14, 2016  
Date of Report : Nov 15, 2016

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## Test Report Certification

Applicant : Ultra Imagination Technology Pty Ltd  
Manufacturer : Dongguan Fenggang Haiping Electronic Factory  
EUT Description : Turntable  
(A) MODEL NO.: MB-USBTR128XXX  
(B) TRADE NAME.: mbeat  
(C) Adapter Input Voltage: AC 100~240V 50/60Hz

Measurement Procedure Used:

**FCC Rules and Regulations Part 15 Subpart C Section 15.247:2016  
ANSI C63.10: 2013**

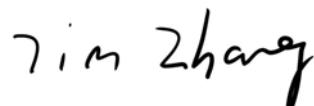
The EUT was tested according to DTS test procedure of Apr 08, 2016 KDB558074 D01 DTS Meas Guidance v03r05 for compliance to FCC 47CFR 15.247 requirements

The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247 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 :	Nov 03, 2016--Nov 14, 2016
Date of Report:	Nov 15, 2016

Prepared by :

  
( Tim.zhang, Engineer)

Approved & Authorized Signer :

  
(Sean Liu, Manager)

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

EUT : Turntable

Model Number : MB-USBTR128XXX  
(Note: XXX represents the color, the main test model is MB-USBTR128BRO)

Bluetooth version : BT V4.0 LE mode

Frequency Range : 2402MHz-2480MHz

Number of Channels : 40

Antenna Gain(Max) : 0dBi

Antenna type : PCB Antenna

Trade Name : mbeat

Adapter Input Voltage : AC 100~240V 50/60Hz

Adapter 1 information : Model: XY-1200500U  
Input: AC100-240V; 50/60Hz 0.3A MAX  
Output: DC 12.0V; 0.5A

Adapter 2 information : Model: RHD10W120050  
Input: AC100-240V; 50/60Hz 1.5A MAX  
Output: DC 12V; 0.5A

Modulation mode : GFSK

Applicant : Ultra Imagination Technology Pty Ltd

Address : Unit 15, No. 19 Cornhill Street, Ferntree gully, Melbourne, Victoria, 3156, Australia

Manufacturer : Dongguan Fenggang Haiping Electronic Factory

Address : 3F, Building C, No.68 Hongshi Road, Buxin, Yantian, Fenggang, Dongguan

Date of sample received : Nov 03, 2016

Date of Test : Nov 03, 2016--Nov 14, 2016

## 1.2.Carrier Frequency of Channels

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channe 1	Frequency (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

## 1.3.Special Accessory and Auxiliary Equipment

Audio load

## 1.4.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

## 1.5.Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty (9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty (30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty (Above 1GHz)	=	4.06dB, k=2

## 2. MEASURING DEVICE AND TEST EQUIPMENT

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

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 10, 2016	Jan. 09, 2017
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 10, 2016	Jan. 09, 2017
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 10, 2016	Jan. 09, 2017
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 10, 2016	Jan. 09, 2017
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 14, 2016	Jan. 13, 2017
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 14, 2016	Jan. 13, 2017
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 14, 2016	Jan. 13, 2017
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 14, 2016	Jan. 13, 2017
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 10, 2016	Jan. 09, 2017
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 10, 2016	Jan. 09, 2017
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 10, 2016	Jan. 09, 2017
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 10, 2016	Jan. 09, 2017

### 3. OPERATION OF EUT DURING TESTING

#### 3.1. Operating Mode

The mode is used: **BLE Transmitting mode**

Low Channel: 2402MHz

Middle Channel: 2440MHz

High Channel: 2480MHz

#### 3.2. Configuration and peripherals

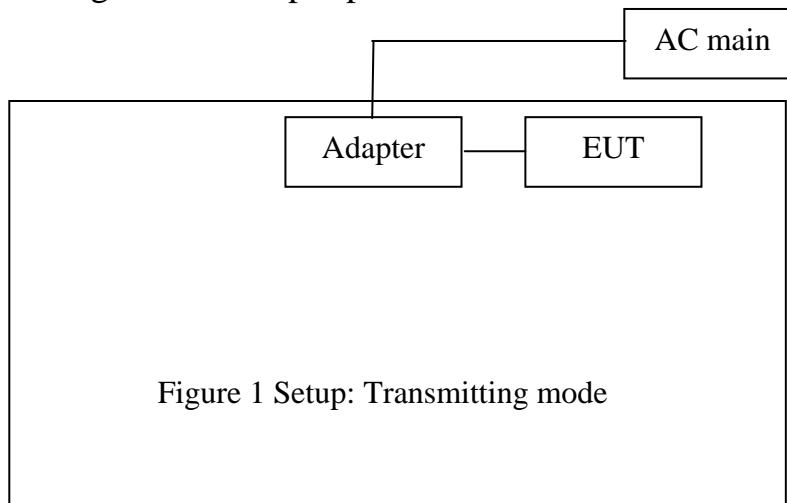


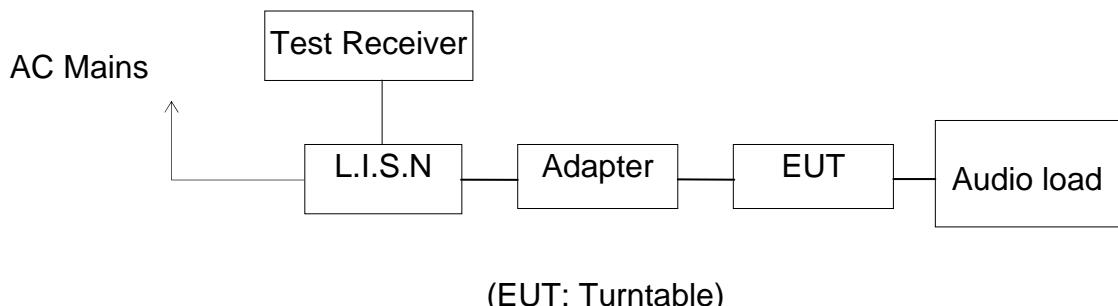
Figure 1 Setup: Transmitting mode

#### 4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.247(a)(2)	6dB Bandwidth Test	Compliant
Section 15.247(e)	Power Spectral Density Test	Compliant
Section 15.247(b)(3)	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 15.247(d)	Conducted Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	Compliant
Section 15.203	Antenna Requirement	Compliant

## 5. POWER LINE CONDUCTED MEASUREMENT

### 5.1. Block Diagram of Test Setup



### 5.2. Power Line Conducted Emission Measurement Limits

Frequency (MHz)	Limit dB( $\mu$ V)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0

NOTE1: The lower limit shall apply at the transition frequencies.  
NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

### 5.3. Configuration of EUT on Measurement

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

### 5.4. Operating Condition of EUT

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

5.4.2. Turn on the power of all equipment.

5.4.3. Let the EUT work in test mode and measure it.

### 5.5.Test Procedure

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

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

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

### 5.6.Power Line Conducted Emission Measurement Results

**PASS.**

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

## Adapter 1 test data:

Test mode : BT communicating(AC 120V/60Hz)								
<b><u>MEASUREMENT RESULT: "HP-1104-09_fin"</u></b>								
11/4/2016 9:29AM								
Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE	
0.330000	42.80	10.6	59.5	16.7	QP	L1	GND	
0.665000	45.70	10.8	56	10.3	QP	L1	GND	
1.075000	39.50	10.9	56	16.5	QP	L1	GND	
4.430000	34.50	11.1	56	21.5	QP	L1	GND	
5.350000	34.90	11.2	60	25.1	QP	L1	GND	
12.910000	24.10	11.3	60	35.9	QP	L1	GND	
<b><u>MEASUREMENT RESULT: "HP-1104-09_fin2"</u></b>								
11/4/2016 9:29AM								
Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE	
0.310000	34.80	10.6	50	15.2	AV	L1	GND	
0.670000	32.50	10.8	46	13.5	AV	L1	GND	
1.075000	31.10	10.9	46	14.9	AV	L1	GND	
3.470000	26.50	11.1	46	19.5	AV	L1	GND	
5.290000	23.30	11.2	50	26.7	AV	L1	GND	
22.585000	13.00	11.4	50	37.0	AV	L1	GND	
<b><u>MEASUREMENT RESULT: "HP-1104-10_fin"</u></b>								
11/4/2016 9:33AM								
Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE	
0.150000	45.70	10.5	66	20.3	QP	N	GND	
0.720000	38.70	10.8	56	17.3	QP	N	GND	
1.935000	39.00	11.0	56	17.0	QP	N	GND	
2.560000	37.30	11.0	56	18.7	QP	N	GND	
5.150000	32.30	11.2	60	27.7	QP	N	GND	
12.430000	26.90	11.3	60	33.1	QP	N	GND	
<b><u>MEASUREMENT RESULT: "HP-1104-10_fin2"</u></b>								
11/4/2016 9:33AM								
Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE	
0.310000	20.50	10.6	50	29.5	AV	N	GND	
0.515000	21.70	10.7	46	24.3	AV	N	GND	
1.940000	24.80	11.0	46	21.2	AV	N	GND	
2.600000	22.30	11.0	46	23.7	AV	N	GND	
5.380000	18.90	11.2	50	31.1	AV	N	GND	
23.440000	13.70	11.5	50	36.3	AV	N	GND	

Test mode : BT communicating(AC 240V/60Hz)

**MEASUREMENT RESULT: "HP-1104-08\_fin"**

11/4/2016 9:22AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.325000	44.40	10.6	59.6	15.2	QP	L1	GND
0.870000	41.80	10.8	56	14.2	QP	L1	GND
1.735000	42.20	10.9	56	13.8	QP	L1	GND
2.440000	43.20	11.0	56	12.8	QP	L1	GND
5.280000	34.60	11.2	60	25.4	QP	L1	GND
12.445000	26.60	11.3	60	33.4	QP	L1	GND

**MEASUREMENT RESULT: "HP-1104-08\_fin2"**

11/4/2016 9:22AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.270000	29.90	10.6	51.1	21.2	AV	L1	GND
0.540000	30.20	10.7	46	15.8	AV	L1	GND
0.925000	28.70	10.8	46	17.3	AV	L1	GND
2.430000	30.00	11.0	46	16.0	AV	L1	GND
5.430000	23.60	11.2	50	26.4	AV	L1	GND
17.065000	16.50	11.4	50	33.5	AV	L1	GND

**MEASUREMENT RESULT: "HP-1104-07\_fin"**

11/4/2016 9:18AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.300000	37.00	10.6	60.2	23.2	QP	N	GND
0.670000	38.30	10.8	56	17.7	QP	N	GND
1.745000	44.50	11.0	56	11.5	QP	N	GND
2.540000	41.00	11.0	56	15.0	QP	N	GND
7.380000	33.30	11.2	60	26.7	QP	N	GND
17.305000	30.30	11.4	60	29.7	QP	N	GND

**MEASUREMENT RESULT: "HP-1104-07\_fin2"**

11/4/2016 9:18AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.340000	25.70	10.6	49.2	23.5	AV	N	GND
0.410000	27.70	10.7	48	19.9	AV	N	GND
1.420000	27.80	10.9	46	18.2	AV	N	GND
2.590000	27.60	11.0	46	18.4	AV	N	GND
5.330000	23.60	11.2	50	26.4	AV	N	GND
13.060000	16.20	11.3	50	33.8	AV	N	GND

## Adapter 2 test data:

Test mode : BT communicating(AC 120V/60Hz)																																																																
<b><u>MEASUREMENT RESULT: "HP-1104-12_fin"</u></b>																																																																
11/4/2016 9:44AM																																																																
<table><thead><tr><th>Frequency MHz</th><th>Level dB<math>\mu</math>V</th><th>Transd dB</th><th>Limit dB<math>\mu</math>V</th><th>Margin dB</th><th>Detector</th><th>Line</th><th>PE</th></tr></thead><tbody><tr><td>0.310000</td><td>45.90</td><td>10.6</td><td>60</td><td>14.1</td><td>QP</td><td>L1</td><td>GND</td></tr><tr><td>0.865000</td><td>45.40</td><td>10.8</td><td>56</td><td>10.6</td><td>QP</td><td>L1</td><td>GND</td></tr><tr><td>1.850000</td><td>47.00</td><td>11.0</td><td>56</td><td>9.0</td><td>QP</td><td>L1</td><td>GND</td></tr><tr><td>2.580000</td><td>42.20</td><td>11.0</td><td>56</td><td>13.8</td><td>QP</td><td>L1</td><td>GND</td></tr><tr><td>6.120000</td><td>35.70</td><td>11.2</td><td>60</td><td>24.3</td><td>QP</td><td>L1</td><td>GND</td></tr><tr><td>13.285000</td><td>23.20</td><td>11.3</td><td>60</td><td>36.8</td><td>QP</td><td>L1</td><td>GND</td></tr></tbody></table>									Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE	0.310000	45.90	10.6	60	14.1	QP	L1	GND	0.865000	45.40	10.8	56	10.6	QP	L1	GND	1.850000	47.00	11.0	56	9.0	QP	L1	GND	2.580000	42.20	11.0	56	13.8	QP	L1	GND	6.120000	35.70	11.2	60	24.3	QP	L1	GND	13.285000	23.20	11.3	60	36.8	QP	L1	GND
Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE																																																									
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2.580000	42.20	11.0	56	13.8	QP	L1	GND																																																									
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13.285000	23.20	11.3	60	36.8	QP	L1	GND																																																									
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Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE																																																									
0.310000	34.80	10.6	50	15.2	AV	L1	GND																																																									
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5.240000	22.60	11.2	50	27.4	AV	L1	GND																																																									
26.395000	12.50	11.5	50	37.5	AV	L1	GND																																																									
<b><u>MEASUREMENT RESULT: "HP-1104-11_fin"</u></b>																																																																
11/4/2016 9:39AM																																																																
<table><thead><tr><th>Frequency MHz</th><th>Level dB<math>\mu</math>V</th><th>Transd dB</th><th>Limit dB<math>\mu</math>V</th><th>Margin dB</th><th>Detector</th><th>Line</th><th>PE</th></tr></thead><tbody><tr><td>0.360000</td><td>36.70</td><td>10.6</td><td>58.7</td><td>22.0</td><td>QP</td><td>N</td><td>GND</td></tr><tr><td>0.675000</td><td>33.80</td><td>10.8</td><td>56</td><td>22.2</td><td>QP</td><td>N</td><td>GND</td></tr><tr><td>1.850000</td><td>39.80</td><td>11.0</td><td>56</td><td>16.2</td><td>QP</td><td>N</td><td>GND</td></tr><tr><td>2.400000</td><td>35.50</td><td>11.0</td><td>56</td><td>20.5</td><td>QP</td><td>N</td><td>GND</td></tr><tr><td>5.590000</td><td>30.10</td><td>11.2</td><td>60</td><td>29.9</td><td>QP</td><td>N</td><td>GND</td></tr><tr><td>12.895000</td><td>24.10</td><td>11.3</td><td>60</td><td>35.9</td><td>QP</td><td>N</td><td>GND</td></tr></tbody></table>									Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE	0.360000	36.70	10.6	58.7	22.0	QP	N	GND	0.675000	33.80	10.8	56	22.2	QP	N	GND	1.850000	39.80	11.0	56	16.2	QP	N	GND	2.400000	35.50	11.0	56	20.5	QP	N	GND	5.590000	30.10	11.2	60	29.9	QP	N	GND	12.895000	24.10	11.3	60	35.9	QP	N	GND
Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE																																																									
0.360000	36.70	10.6	58.7	22.0	QP	N	GND																																																									
0.675000	33.80	10.8	56	22.2	QP	N	GND																																																									
1.850000	39.80	11.0	56	16.2	QP	N	GND																																																									
2.400000	35.50	11.0	56	20.5	QP	N	GND																																																									
5.590000	30.10	11.2	60	29.9	QP	N	GND																																																									
12.895000	24.10	11.3	60	35.9	QP	N	GND																																																									
<b><u>MEASUREMENT RESULT: "HP-1104-11_fin2"</u></b>																																																																
11/4/2016 9:39AM																																																																
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Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE																																																									
0.360000	23.70	10.6	48.7	25.0	AV	N	GND																																																									
0.470000	22.70	10.7	47	23.8	AV	N	GND																																																									
1.900000	23.40	11.0	46	22.6	AV	N	GND																																																									
2.670000	22.60	11.0	46	23.4	AV	N	GND																																																									
5.150000	19.80	11.2	50	30.2	AV	N	GND																																																									
23.035000	12.30	11.4	50	37.7	AV	N	GND																																																									

## Test mode : BT communicating(AC 240V/60Hz)

**MEASUREMENT RESULT: "HP-1104-05\_fin"**

11/4/2016 9:08AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.360000	44.50	10.6	58.7	14.2	QP	L1	GND
0.540000	46.60	10.7	56	9.4	QP	L1	GND
1.775000	45.50	11.0	56	10.5	QP	L1	GND
2.560000	45.60	11.0	56	10.4	QP	L1	GND
5.440000	36.90	11.2	60	23.1	QP	L1	GND
12.610000	27.50	11.3	60	32.5	QP	L1	GND

**MEASUREMENT RESULT: "HP-1104-05\_fin2"**

11/4/2016 9:08AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.360000	29.90	10.6	48.7	18.8	AV	L1	GND
0.535000	32.60	10.7	46	13.4	AV	L1	GND
0.980000	35.10	10.8	46	10.9	AV	L1	GND
2.340000	31.90	11.0	46	14.1	AV	L1	GND
5.440000	25.90	11.2	50	24.1	AV	L1	GND
16.360000	17.80	11.4	50	32.2	AV	L1	GND

**MEASUREMENT RESULT: "HP-1104-06\_fin"**

11/4/2016 9:12AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.220000	37.40	10.6	62.8	25.4	QP	N	GND
0.580000	36.20	10.7	56	19.8	QP	N	GND
1.010000	38.10	10.8	56	17.9	QP	N	GND
2.680000	38.40	11.0	56	17.6	QP	N	GND
6.510000	29.90	11.2	60	30.1	QP	N	GND
17.875000	28.60	11.4	60	31.4	QP	N	GND

**MEASUREMENT RESULT: "HP-1104-06\_fin2"**

11/4/2016 9:12AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.325000	25.80	10.6	49.6	23.8	AV	N	GND
0.645000	27.20	10.8	46	18.8	AV	N	GND
1.625000	27.80	10.9	46	18.2	AV	N	GND
2.230000	26.70	11.0	46	19.3	AV	N	GND
5.330000	22.20	11.2	50	27.8	AV	N	GND
16.990000	17.60	11.4	50	32.4	AV	N	GND

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

The spectral diagrams are attached as below.

## Adapter 1 test data

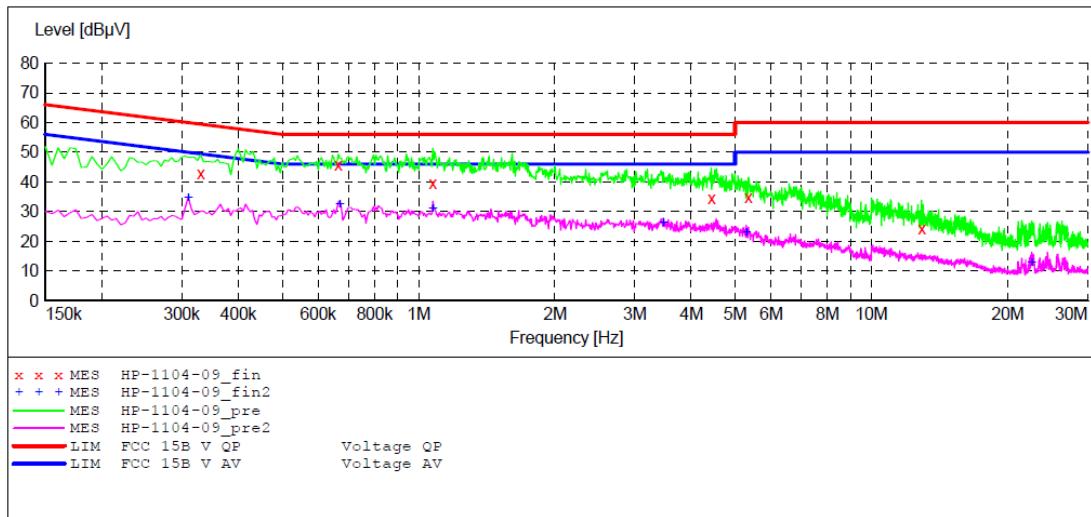
ACCURATE TECHNOLOGY CO., LTD

## CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Turntable M/N:MB-USBTR128BRO  
 Manufacturer: HAIPING  
 Operating Condition: BT operation  
 Test Site: 1#Shielding Room  
 Operator: DING  
 Test Specification: L 120V/60Hz  
 Comment: Report NO.:ATE20162343  
 Start of Test: 11/4/2016 / 9:23:48AM

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

Short Description:			SUB STD VTERM2 1.70		
Start Frequency	Stop Frequency	Step Width	Detector Meas. Time	IF Bandw.	Transducer
9.0 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	9 kHz	NSLK8126 2008
			QuasiPeak 1.0 s		
			Average		

**MEASUREMENT RESULT: "HP-1104-09\_fin"**

11/4/2016 9:29AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.330000	42.80	10.6	59.5	16.7	QP	L1	GND
0.665000	45.70	10.8	56	10.3	QP	L1	GND
1.075000	39.50	10.9	56	16.5	QP	L1	GND
4.430000	34.50	11.1	56	21.5	QP	L1	GND
5.350000	34.90	11.2	60	25.1	QP	L1	GND
12.910000	24.10	11.3	60	35.9	QP	L1	GND

**MEASUREMENT RESULT: "HP-1104-09\_fin2"**

11/4/2016 9:29AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.310000	34.80	10.6	50	15.2	AV	L1	GND
0.670000	32.50	10.8	46	13.5	AV	L1	GND
1.075000	31.10	10.9	46	14.9	AV	L1	GND
3.470000	26.50	11.1	46	19.5	AV	L1	GND
5.290000	23.30	11.2	50	26.7	AV	L1	GND
22.585000	13.00	11.4	50	37.0	AV	L1	GND

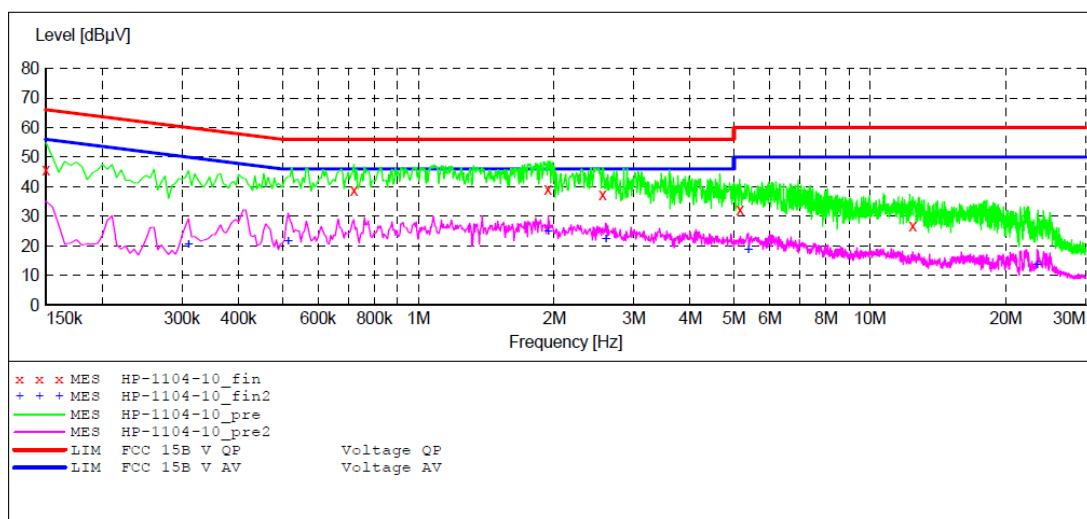
## ACCURATE TECHNOLOGY CO., LTD

## CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Turntable M/N:MB-USBTR128BRO  
 Manufacturer: HAIPING  
 Operating Condition: BT operation  
 Test Site: 1#Shielding Room  
 Operator: DING  
 Test Specification: N 120V/60Hz  
 Comment: Report NO.:ATE20162343  
 Start of Test: 11/4/2016 / 9:29:41AM

**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: "HP-1104-10\_fin"**

11/4/2016 9:33AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.150000	45.70	10.5	66	20.3	QP	N	GND
0.720000	38.70	10.8	56	17.3	QP	N	GND
1.935000	39.00	11.0	56	17.0	QP	N	GND
2.560000	37.30	11.0	56	18.7	QP	N	GND
5.150000	32.30	11.2	60	27.7	QP	N	GND
12.430000	26.90	11.3	60	33.1	QP	N	GND

**MEASUREMENT RESULT: "HP-1104-10\_fin2"**

11/4/2016 9:33AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.310000	20.50	10.6	50	29.5	AV	N	GND
0.515000	21.70	10.7	46	24.3	AV	N	GND
1.940000	24.80	11.0	46	21.2	AV	N	GND
2.600000	22.30	11.0	46	23.7	AV	N	GND
5.380000	18.90	11.2	50	31.1	AV	N	GND
23.440000	13.70	11.5	50	36.3	AV	N	GND

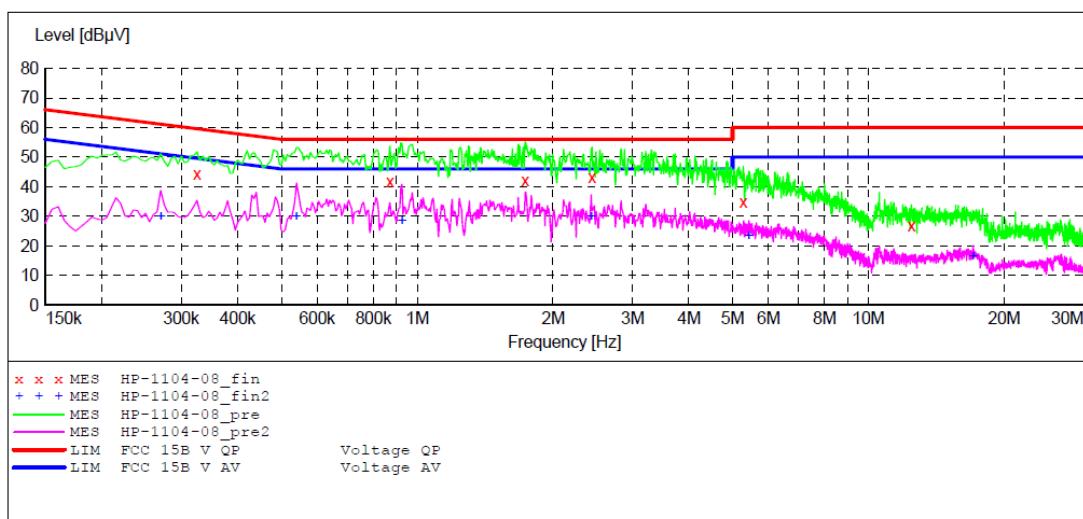
ACCURATE TECHNOLOGY CO., LTD

## CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Turntable M/N:MB-USBTR128BRO  
 Manufacturer: HAIPING  
 Operating Condition: BT operation  
 Test Site: 1#Shielding Room  
 Operator: DING  
 Test Specification: L 240V/60Hz  
 Comment: Report NO.:ATE20162343  
 Start of Test: 11/4/2016 / 9:19:38AM

**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: "HP-1104-08\_fin"**

11/4/2016 9:22AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.325000	44.40	10.6	59.6	15.2	QP	L1	GND
0.870000	41.80	10.8	56	14.2	QP	L1	GND
1.735000	42.20	10.9	56	13.8	QP	L1	GND
2.440000	43.20	11.0	56	12.8	QP	L1	GND
5.280000	34.60	11.2	60	25.4	QP	L1	GND
12.445000	26.60	11.3	60	33.4	QP	L1	GND

**MEASUREMENT RESULT: "HP-1104-08\_fin2"**

11/4/2016 9:22AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.270000	29.90	10.6	51.1	21.2	AV	L1	GND
0.540000	30.20	10.7	46	15.8	AV	L1	GND
0.925000	28.70	10.8	46	17.3	AV	L1	GND
2.430000	30.00	11.0	46	16.0	AV	L1	GND
5.430000	23.60	11.2	50	26.4	AV	L1	GND
17.065000	16.50	11.4	50	33.5	AV	L1	GND

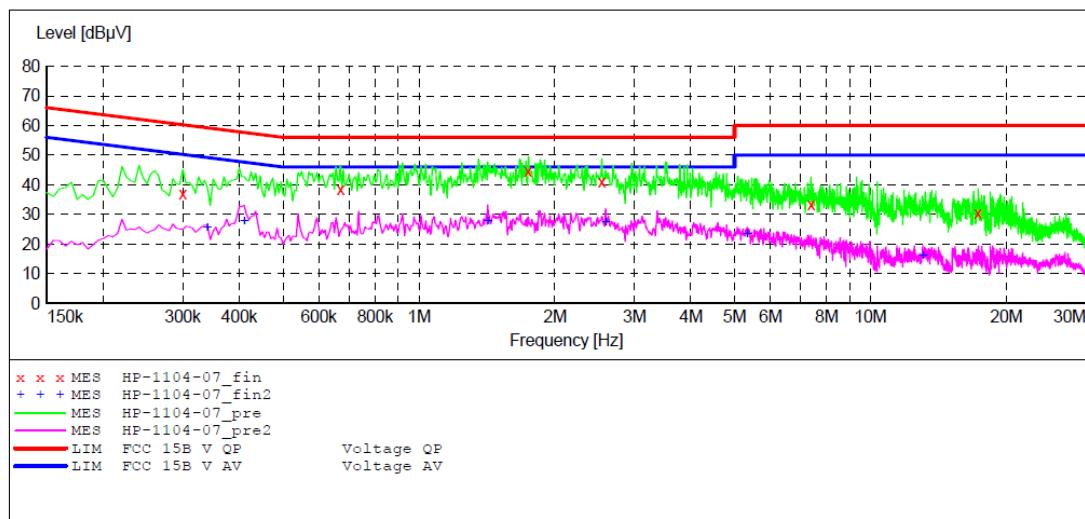
ACCURATE TECHNOLOGY CO., LTD

## CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Turntable M/N:MB-USBTR128BRO  
 Manufacturer: HAIPING  
 Operating Condition: BT operation  
 Test Site: 1#Shielding Room  
 Operator: DING  
 Test Specification: N 240V/60Hz  
 Comment: Report NO.:ATE20162343  
 Start of Test: 11/4/2016 / 9:14:41AM

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

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

**MEASUREMENT RESULT: "HP-1104-07\_fin"**

Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dB $\mu$ V	dB	dB $\mu$ V	dB			
0.300000	37.00	10.6	60.2	23.2	QP	N	GND
0.670000	38.30	10.8	56	17.7	QP	N	GND
1.745000	44.50	11.0	56	11.5	QP	N	GND
2.540000	41.00	11.0	56	15.0	QP	N	GND
7.380000	33.30	11.2	60	26.7	QP	N	GND
17.305000	30.30	11.4	60	29.7	QP	N	GND

**MEASUREMENT RESULT: "HP-1104-07\_fin2"**

Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dB $\mu$ V	dB	dB $\mu$ V	dB			
0.340000	25.70	10.6	49.2	23.5	AV	N	GND
0.410000	27.70	10.7	48	19.9	AV	N	GND
1.420000	27.80	10.9	46	18.2	AV	N	GND
2.590000	27.60	11.0	46	18.4	AV	N	GND
5.330000	23.60	11.2	50	26.4	AV	N	GND
13.060000	16.20	11.3	50	33.8	AV	N	GND

## Adapter 2 test data

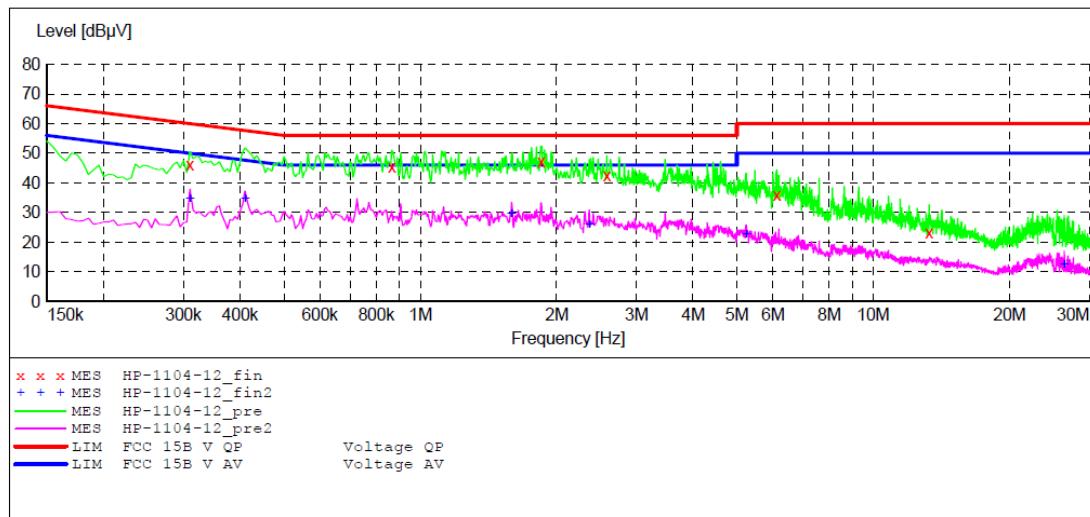
ACCURATE TECHNOLOGY CO., LTD

## CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Turntable M/N:MB-USBTR128BRO  
 Manufacturer: HAIPING  
 Operating Condition: BT operation  
 Test Site: 1#Shielding Room  
 Operator: DING  
 Test Specification: L 120V/60Hz  
 Comment: Report NO.:ATE20162343  
 Start of Test: 11/4/2016 / 9:40:24AM

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

Short Description:				SUB STD VTERM2 1.70	
Start Frequency	Stop Frequency	Step Width	Detector Meas.	IF Time Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak 1.0 s	200 Hz	NSLK8126 2008
			Average		
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak 1.0 s	9 kHz	NSLK8126 2008
			Average		

**MEASUREMENT RESULT: "HP-1104-12\_fin"**

11/4/2016 9:44AM	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dB $\mu$ V	dB	dB $\mu$ V	dB			
	0.310000	45.90	10.6	60	14.1	QP	L1	GND
	0.865000	45.40	10.8	56	10.6	QP	L1	GND
	1.850000	47.00	11.0	56	9.0	QP	L1	GND
	2.580000	42.20	11.0	56	13.8	QP	L1	GND
	6.120000	35.70	11.2	60	24.3	QP	L1	GND
	13.285000	23.20	11.3	60	36.8	QP	L1	GND

**MEASUREMENT RESULT: "HP-1104-12\_fin2"**

11/4/2016 9:44AM	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dB $\mu$ V	dB	dB $\mu$ V	dB			
	0.310000	34.80	10.6	50	15.2	AV	L1	GND
	0.410000	34.60	10.7	48	13.0	AV	L1	GND
	1.590000	29.50	10.9	46	16.5	AV	L1	GND
	2.360000	26.10	11.0	46	19.9	AV	L1	GND
	5.240000	22.60	11.2	50	27.4	AV	L1	GND
	26.395000	12.50	11.5	50	37.5	AV	L1	GND

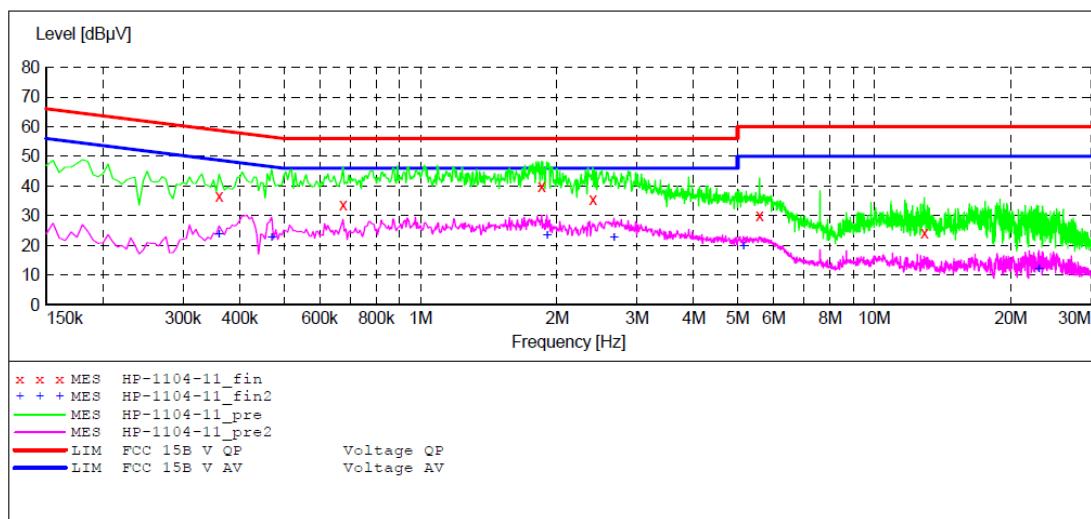
ACCURATE TECHNOLOGY CO., LTD

## CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Turntable M/N:MB-USBTR128BRO  
 Manufacturer: HAIPING  
 Operating Condition: BT operation  
 Test Site: 1#Shielding Room  
 Operator: DING  
 Test Specification: N 120V/60Hz  
 Comment: Report NO.:ATE20162343  
 Start of Test: 11/4/2016 / 9:35:20AM

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

Short Description:		SUB STD VTERM2 1.70				
Start Frequency	Stop Frequency	Step Width	Detector	Meas.	IF Time	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	NSLK8126 2008
			Average			
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	NSLK8126 2008
			Average			

**MEASUREMENT RESULT: "HP-1104-11\_fin"**

11/4/2016 9:39AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.360000	36.70	10.6	58.7	22.0	QP	N	GND
0.675000	33.80	10.8	56	22.2	QP	N	GND
1.850000	39.80	11.0	56	16.2	QP	N	GND
2.400000	35.50	11.0	56	20.5	QP	N	GND
5.590000	30.10	11.2	60	29.9	QP	N	GND
12.895000	24.10	11.3	60	35.9	QP	N	GND

**MEASUREMENT RESULT: "HP-1104-11\_fin2"**

11/4/2016 9:39AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.360000	23.70	10.6	48.7	25.0	AV	N	GND
0.470000	22.70	10.7	47	23.8	AV	N	GND
1.900000	23.40	11.0	46	22.6	AV	N	GND
2.670000	22.60	11.0	46	23.4	AV	N	GND
5.150000	19.80	11.2	50	30.2	AV	N	GND
23.035000	12.30	11.4	50	37.7	AV	N	GND

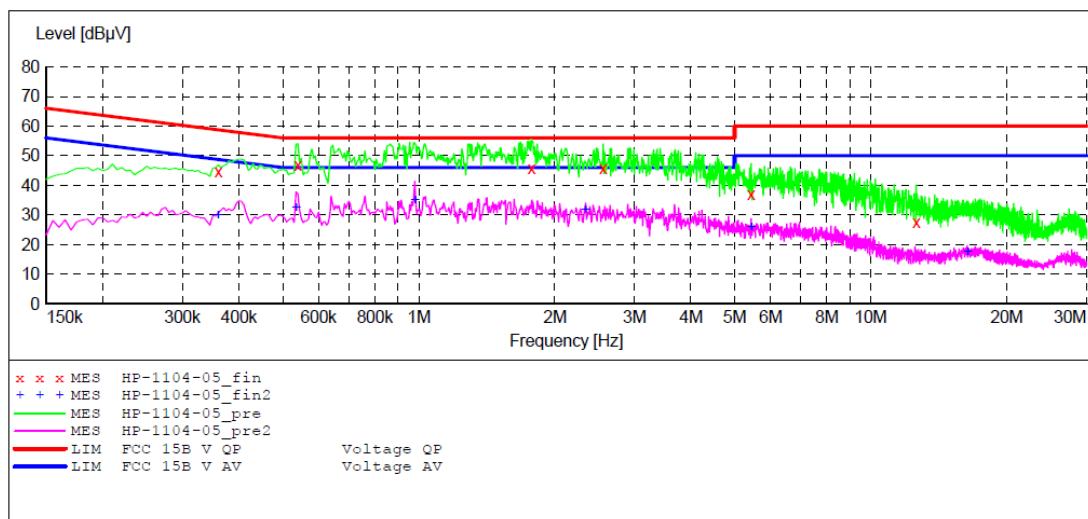
ACCURATE TECHNOLOGY CO., LTD

## CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Turntable M/N:MB-USBTR128BRO  
 Manufacturer: HAIPING  
 Operating Condition: BT operation  
 Test Site: 1#Shielding Room  
 Operator: DING  
 Test Specification: L 240V/60Hz  
 Comment: Report NO.:ATE20162343  
 Start of Test: 11/4/2016 / 9:03:16AM

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

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

**MEASUREMENT RESULT: "HP-1104-05\_fin"**

11/4/2016 9:08AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.360000	44.50	10.6	58.7	14.2	QP	L1	GND
0.540000	46.60	10.7	56	9.4	QP	L1	GND
1.775000	45.50	11.0	56	10.5	QP	L1	GND
2.560000	45.60	11.0	56	10.4	QP	L1	GND
5.440000	36.90	11.2	60	23.1	QP	L1	GND
12.610000	27.50	11.3	60	32.5	QP	L1	GND

**MEASUREMENT RESULT: "HP-1104-05\_fin2"**

11/4/2016 9:08AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.360000	29.90	10.6	48.7	18.8	AV	L1	GND
0.535000	32.60	10.7	46	13.4	AV	L1	GND
0.980000	35.10	10.8	46	10.9	AV	L1	GND
2.340000	31.90	11.0	46	14.1	AV	L1	GND
5.440000	25.90	11.2	50	24.1	AV	L1	GND
16.360000	17.80	11.4	50	32.2	AV	L1	GND

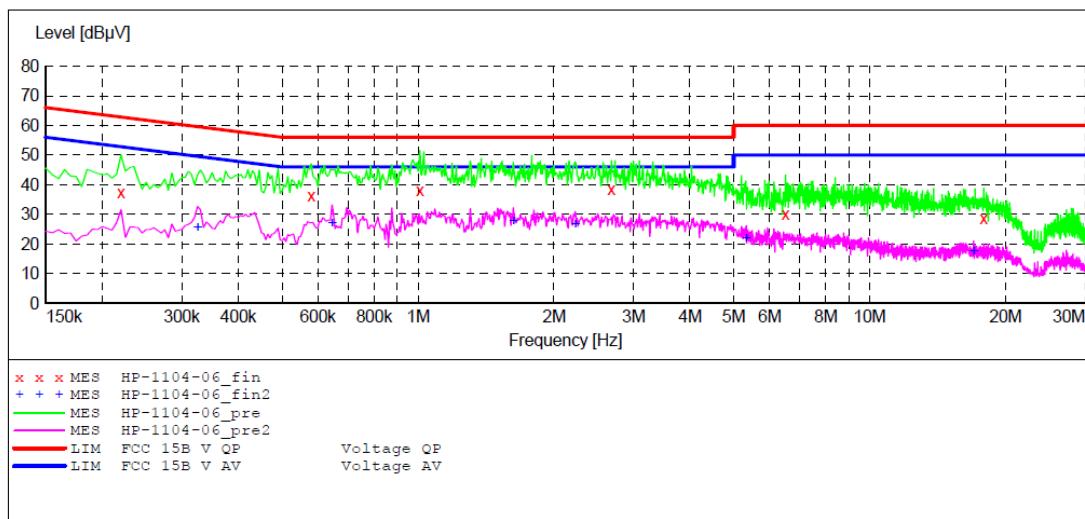
## ACCURATE TECHNOLOGY CO., LTD

## CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Turntable M/N:MB-USBTR128BRO  
 Manufacturer: HAIPING  
 Operating Condition: BT operation  
 Test Site: 1#Shielding Room  
 Operator: DING  
 Test Specification: N 240V/60Hz  
 Comment: Report NO.:ATE20162343  
 Start of Test: 11/4/2016 / 9:09:13AM

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

Short Description:		SUB STD VTERM2 1.70				
Start Frequency	Stop Frequency	Step Width	Detector	Meas.	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	NSLK8126 2008
				Average		
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	NSLK8126 2008
				Average		

**MEASUREMENT RESULT: "HP-1104-06\_fin"**

11/4/2016 9:12AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.220000	37.40	10.6	62.8	25.4	QP	N	GND
0.580000	36.20	10.7	56	19.8	QP	N	GND
1.010000	38.10	10.8	56	17.9	QP	N	GND
2.680000	38.40	11.0	56	17.6	QP	N	GND
6.510000	29.90	11.2	60	30.1	QP	N	GND
17.875000	28.60	11.4	60	31.4	QP	N	GND

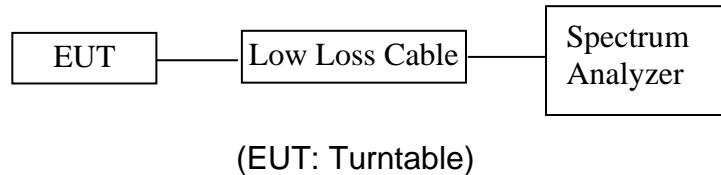
**MEASUREMENT RESULT: "HP-1104-06\_fin2"**

11/4/2016 9:12AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.325000	25.80	10.6	49.6	23.8	AV	N	GND
0.645000	27.20	10.8	46	18.8	AV	N	GND
1.625000	27.80	10.9	46	18.2	AV	N	GND
2.230000	26.70	11.0	46	19.3	AV	N	GND
5.330000	22.20	11.2	50	27.8	AV	N	GND
16.990000	17.60	11.4	50	32.4	AV	N	GND

## 6. 6DB BANDWIDTH MEASUREMENT

### 6.1. Block Diagram of Test Setup



### 6.2. The Requirement For Section 15.247(a)(2)

Section 15.247(a)(2): Systems using digital modulation techniques may operate in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

### 6.3. EUT Configuration on Measurement

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

### 6.4. Operating Condition of EUT

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

6.4.2. Turn on the power of all equipment.

6.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, and 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 100 kHz and VBW to 300 kHz.

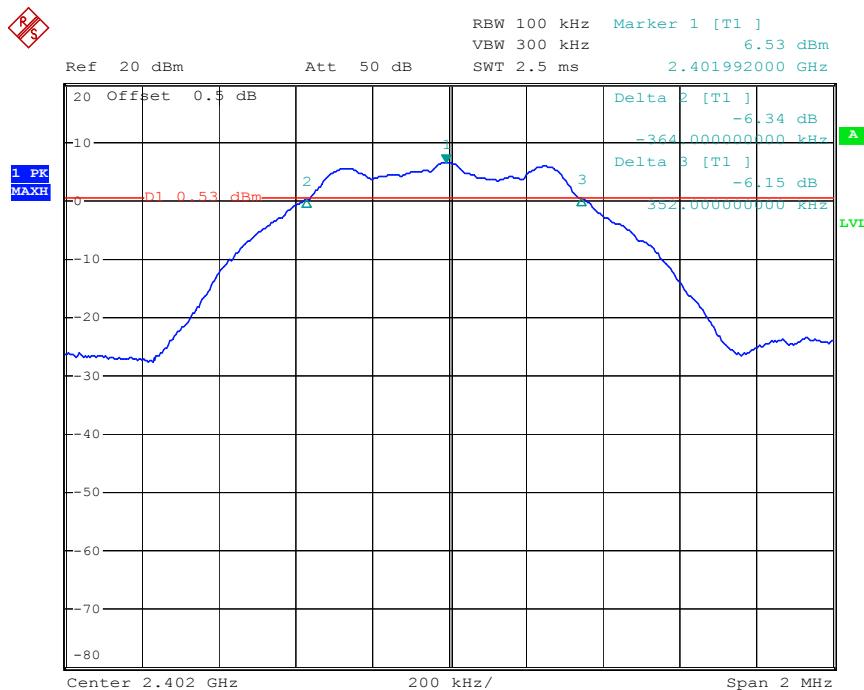
6.5.3. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

## 6.6.Test Result

Channel	Frequency (MHz)	6 dB Bandwith (MHz)	Minimum Limit(MHz)	PASS/FAIL
0	2402	0.716	0.5	PASS
19	2440	0.712	0.5	PASS
39	2480	0.696	0.5	PASS

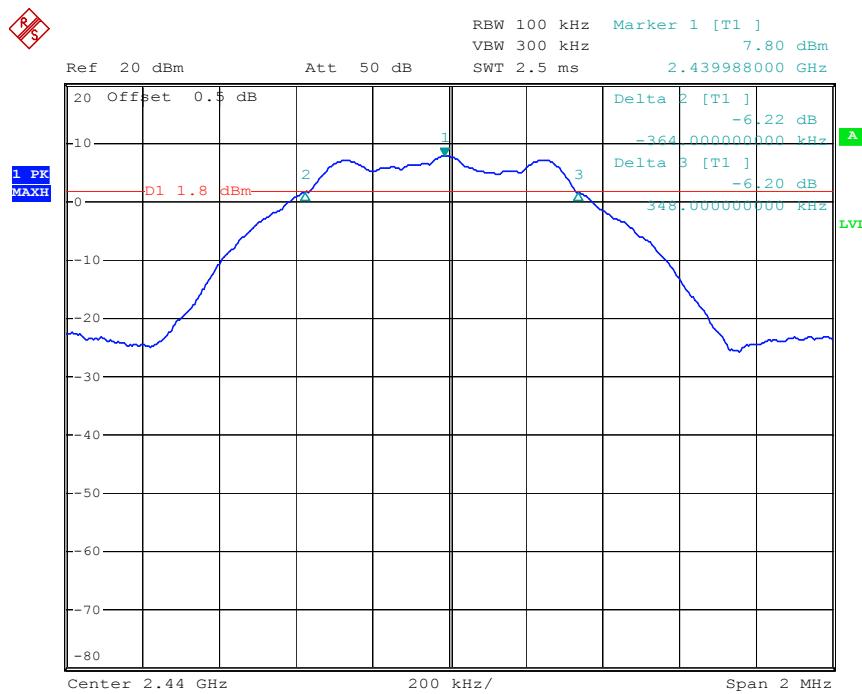
The spectrum analyzer plots are attached as below.

*channel 0*



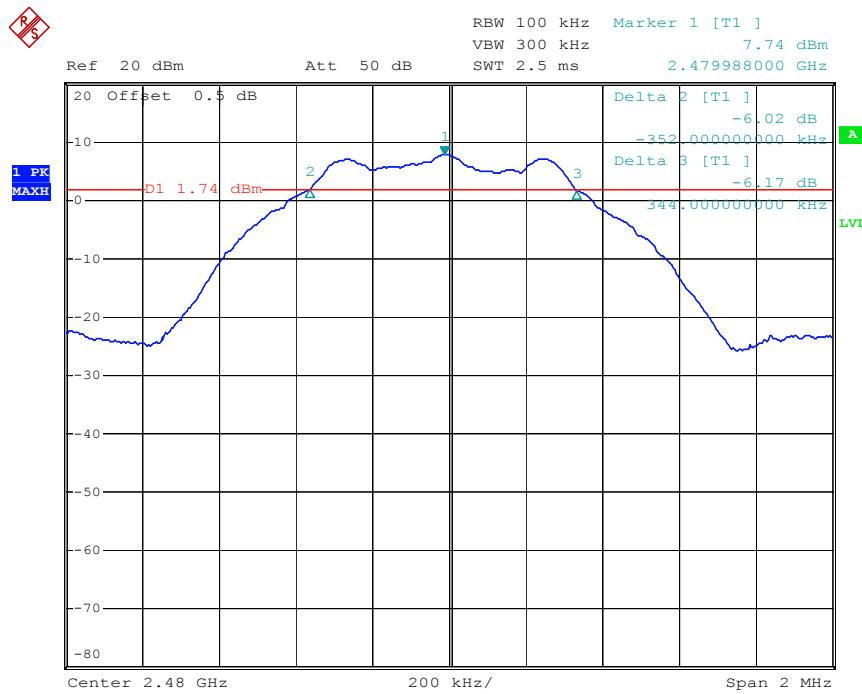
Date: 14.NOV.2016 10:18:28

## channel 19



Date: 14.NOV.2016 10:19:45

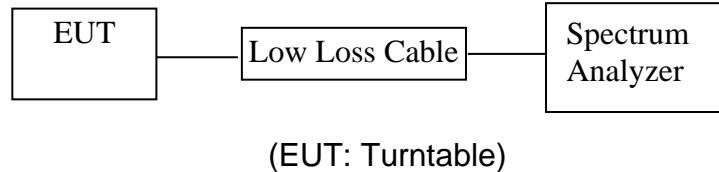
## channel 39



Date: 14.NOV.2016 10:16:12

## 7. MAXIMUM PEAK OUTPUT POWER

### 7.1. Block Diagram of Test Setup



### 7.2. The Requirement For Section 15.247(b)(3)

Section 15.247(b)(3): For systems using digital modulation in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands: 1 Watt.

### 7.3. EUT Configuration on Measurement

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

### 7.4. Operating Condition of EUT

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

7.4.2. Turn on the power of all equipment.

7.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

### 7.5. Test Procedure

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

7.5.2. Test method is options 1 from KDB558074 D01 DTS Meas Guidance v03r05

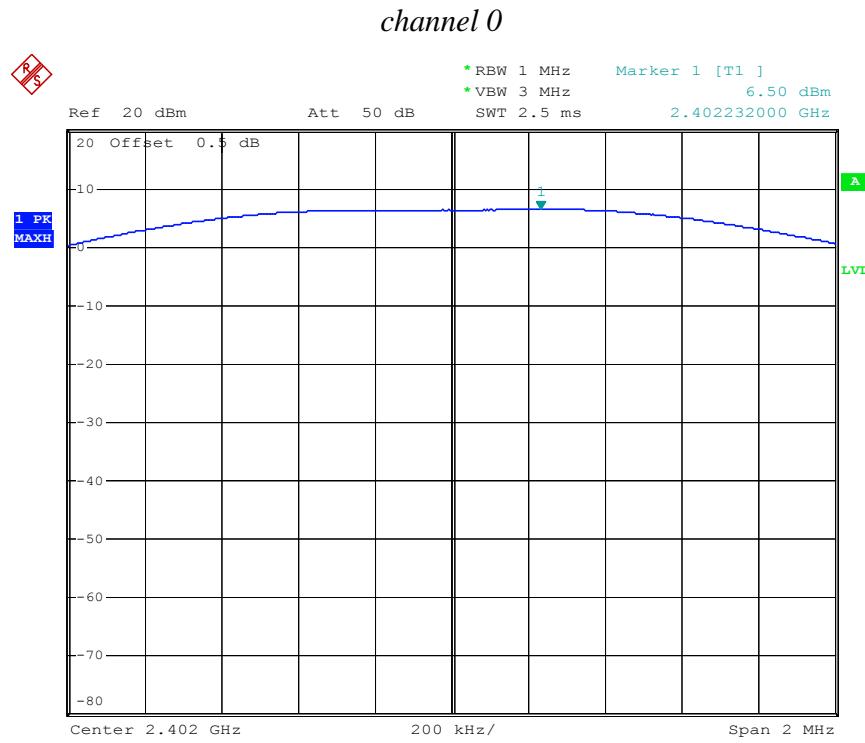
7.5.3. Set RBW of spectrum analyzer to 1 MHz and VBW to 3 MHz.

7.5.4. Measurement the maximum peak output power.

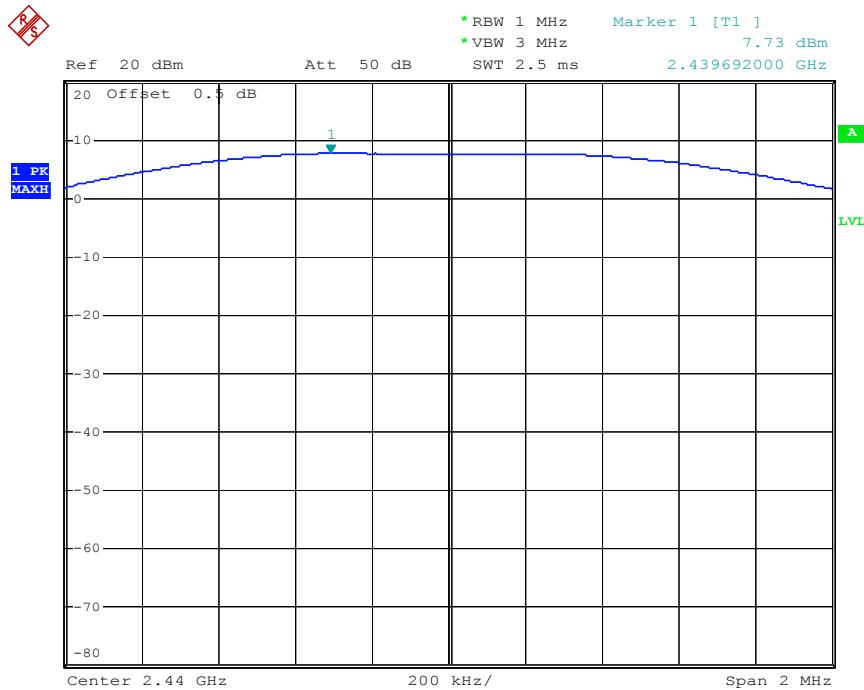
## 7.6. Test Result

Channel	Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
0	2402	6.50	30	PASS
19	2440	7.73	30	PASS
39	2480	7.71	30	PASS

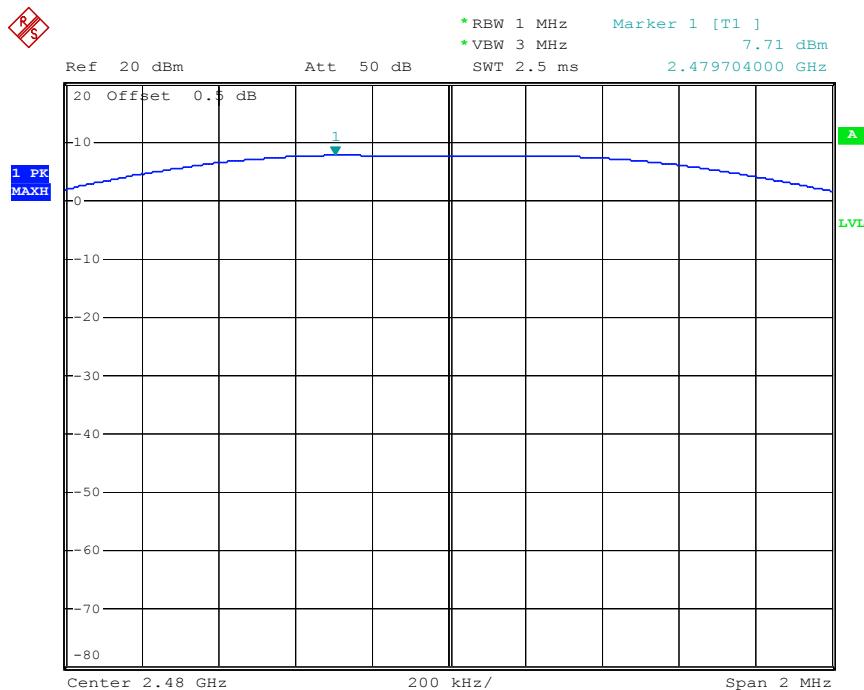
The spectrum analyzer plots are attached as below.



Date: 14.NOV.2016 10:24:43

*channel 19*

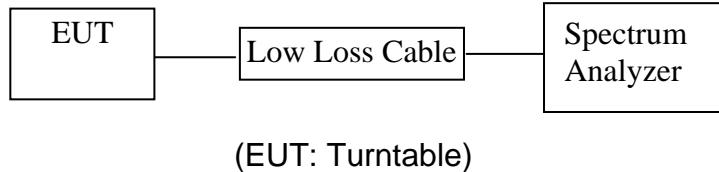
Date: 14.NOV.2016 10:24:22

*channel 39*

Date: 14.NOV.2016 10:23:39

## 8. POWER SPECTRAL DENSITY MEASUREMENT

### 8.1. Block Diagram of Test Setup



### 8.2. The Requirement For Section 15.247(e)

Section 15.247(e): For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

### 8.3. EUT Configuration on Measurement

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

### 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 modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

## 8.5. Test Procedure

8.5.1. The EUT was tested according to DTS test procedure of Apr 08, 2016 KDB558074 D01 DTS Meas Guidance v03r05 for compliance to FCC 47CFR 15.247 requirements.

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

8.5.3. Measurement Procedure PKPSD:

8.5.4. This procedure must be used if maximum peak conducted output power was used to demonstrate compliance to the fundamental output power limit, and is optional if the maximum (average) conducted output power was used to demonstrate compliance.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW to:  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
4. Set the VBW  $\geq 3 \times \text{RBW}$ .
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

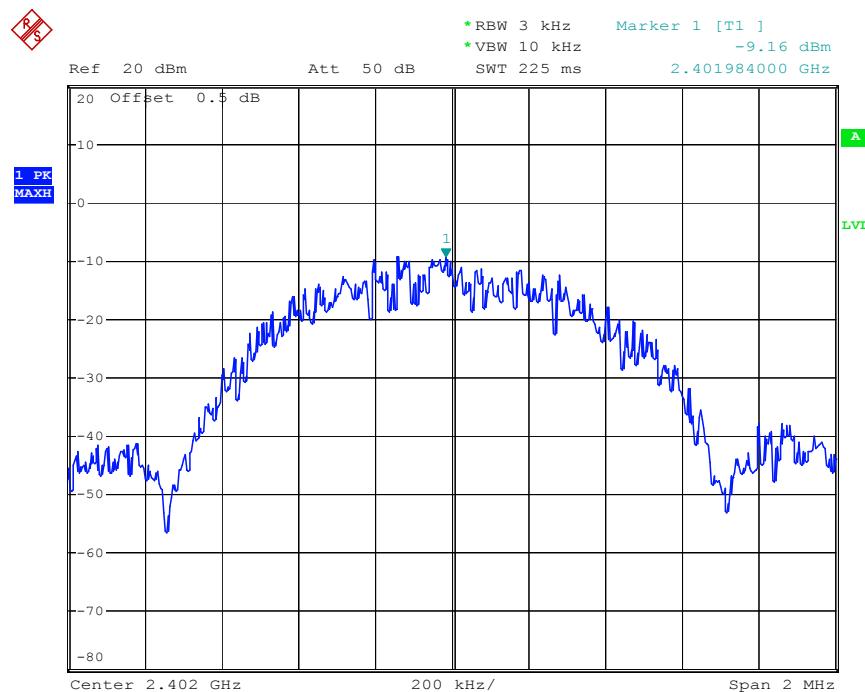
8.5.5. Measurement the maximum power spectral density.

## 8.6. Test Result

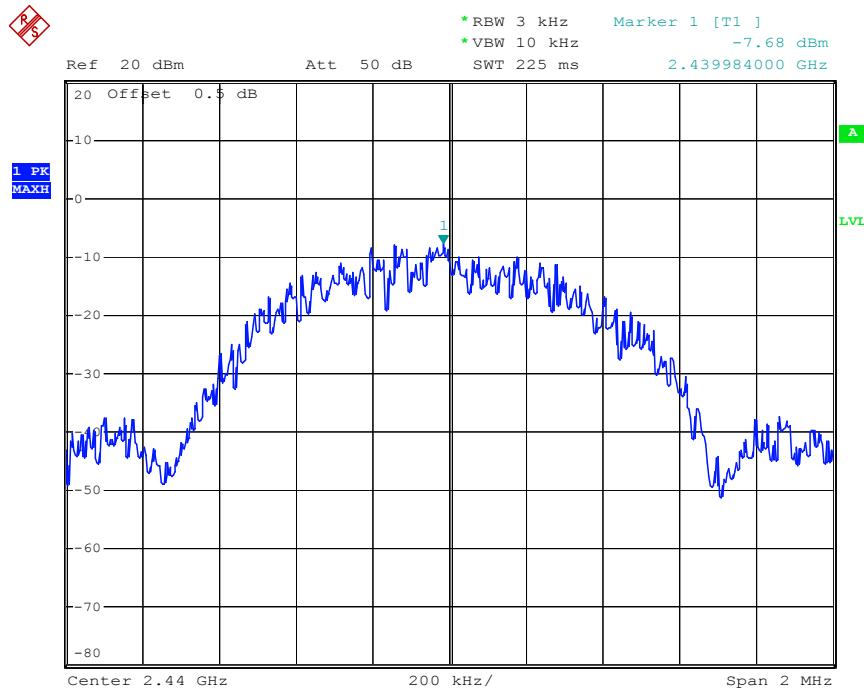
CHANNEL NUMBER	FREQUENCY (MHz)	PSD (dBm/3KHz)	LIMIT (dBm/3KHz)	PASS/FAIL
0	2402	-9.16	8	PASS
19	2440	-7.68	8	PASS
39	2480	-7.84	8	PASS

The spectrum analyzer plots are attached as below.

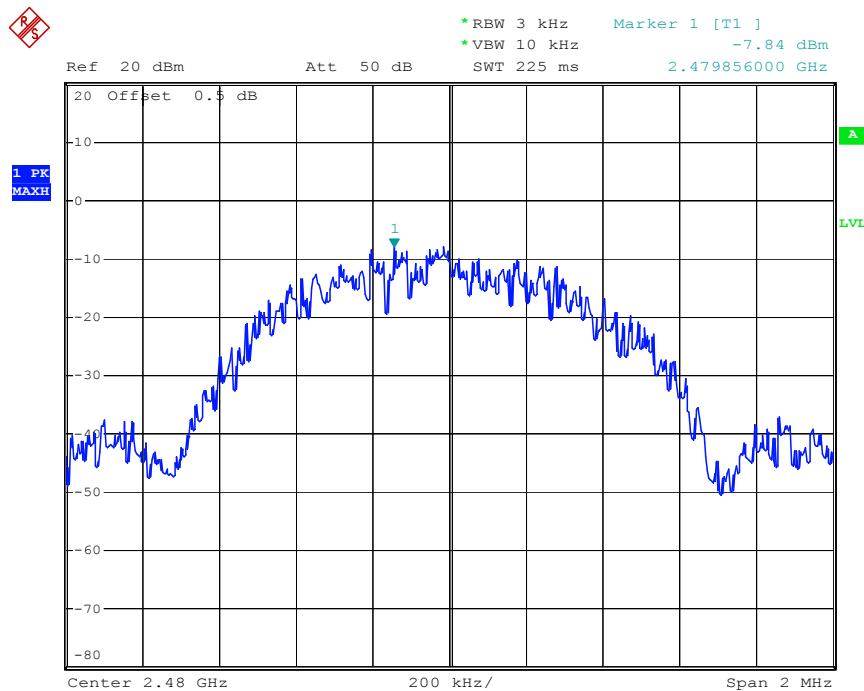
*channel 0*



Date: 14.NOV.2016 10:25:44

*channel 19*

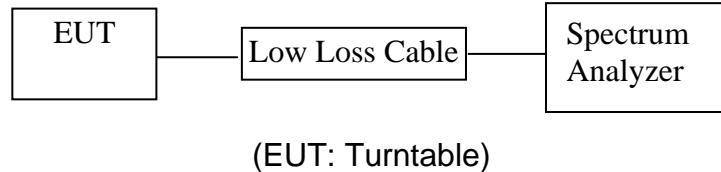
Date: 14.NOV.2016 10:26:19

*channel 39*

Date: 14.NOV.2016 10:26:49

## 9. BAND EDGE COMPLIANCE TEST

### 9.1. Block Diagram of Test Setup



### 9.2. 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).

### 9.3. EUT Configuration on Measurement

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

### 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 modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2480MHz TX frequency to transmit.

## 9.5. Test Procedure

Conducted Band Edge:

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

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

9.5.3. Radiate Band Edge:

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

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

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

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

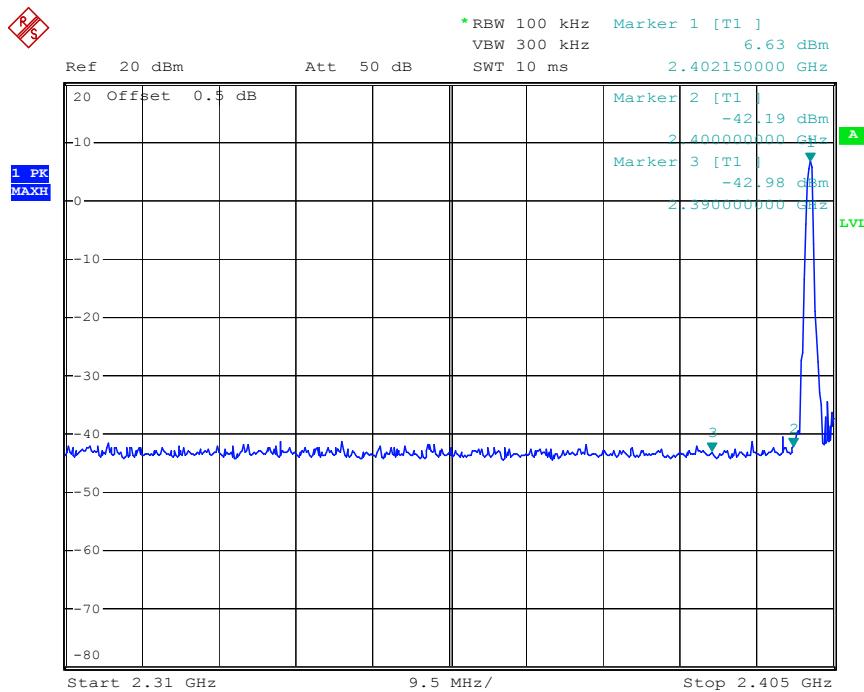
9.5.8. RBW=1MHz, VBW=1MHz

9.5.9. The band edges were measured and recorded.

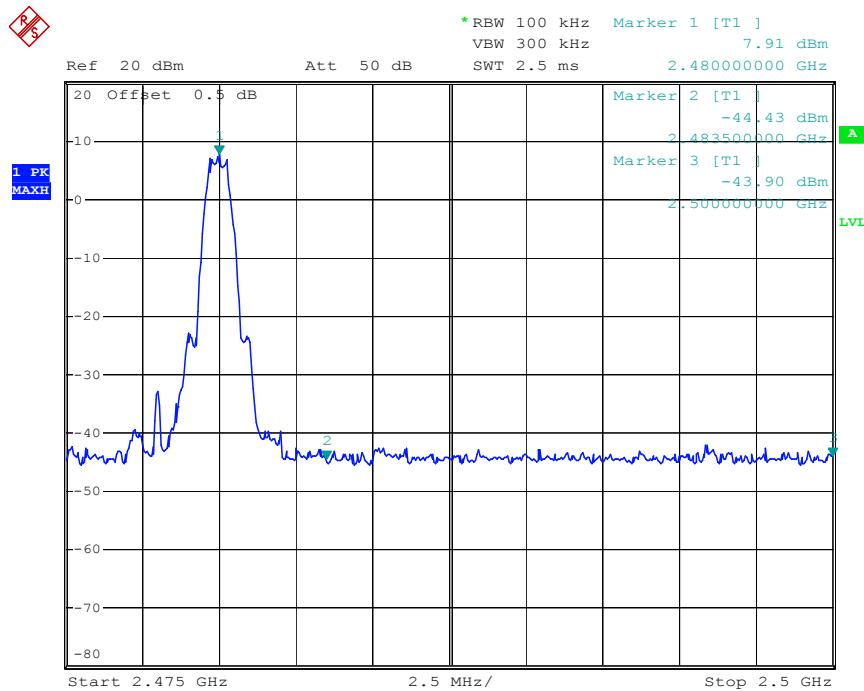
## 9.6. Test Result

**Pass**

Channel	Frequency	Delta peak to band emission	Limit(dBc)
0	2.4GHz	48.82	20
39	2.4835GHz	52.34	20

*channel 0*

Date: 14.NOV.2016 10:21:38

*channel 39*

Date: 14.NOV.2016 10:22:50

**Radiated Band Edge Result**

Date of Test:	Nov 04, 2016	Temperature:	25°C
EUT:	Turntable	Humidity:	50%
Model No.:	MB-USBTR128BRO	Power Supply:	AC 120V/60Hz
Test Mode:	TX (2402MHz) GFSK	Test Engineer:	Star

Frequency (MHz)	Reading(dB $\mu$ V/m)		Factor(dB) Corr.	Result(dB $\mu$ V/m)		Limit(dB $\mu$ V/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2390.000	33.67	41.70	-7.64	26.03	34.06	54.00	74.00	-27.97	-39.94	Vertical
2400.000	47.06	65.74	-7.61	39.45	58.13	54.00	74.00	-14.55	-15.87	Vertical
2390.000	33.67	40.10	-7.64	26.03	32.46	54.00	74.00	-27.97	-41.54	Horizontal
2400.000	57.04	65.76	-7.61	49.43	58.15	54.00	74.00	-4.57	-15.85	Horizontal

Date of Test:	Nov 04, 2016	Temperature:	25°C
EUT:	Turntable	Humidity:	50%
Model No.:	MB-USBTR128BRO	Power Supply:	AC 120V/60Hz
Test Mode:	TX (2480MHz) GFSK	Test Engineer:	Star

Frequency (MHz)	Reading(dB $\mu$ V/m)		Factor(dB) Corr.	Result(dB $\mu$ V/m)		Limit(dB $\mu$ V/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2483.500	40.40	47.54	-7.37	33.03	40.17	54.00	74.00	-20.97	-33.83	Vertical
2500.000	32.65	39.42	-7.32	25.33	32.10	54.00	74.00	-28.67	-41.90	Vertical
2483.500	41.00	49.55	-7.37	33.63	42.18	54.00	74.00	-20.37	-31.82	Horizontal
2500.000	32.70	40.53	-7.32	25.38	33.21	54.00	74.00	-28.62	-40.79	Horizontal

Note:

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

Job No.: STAR2016 #1142

Polarization: Horizontal

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 16/11/04/

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

Time: 17/13/43

EUT: Turntable

Engineer Signature: star

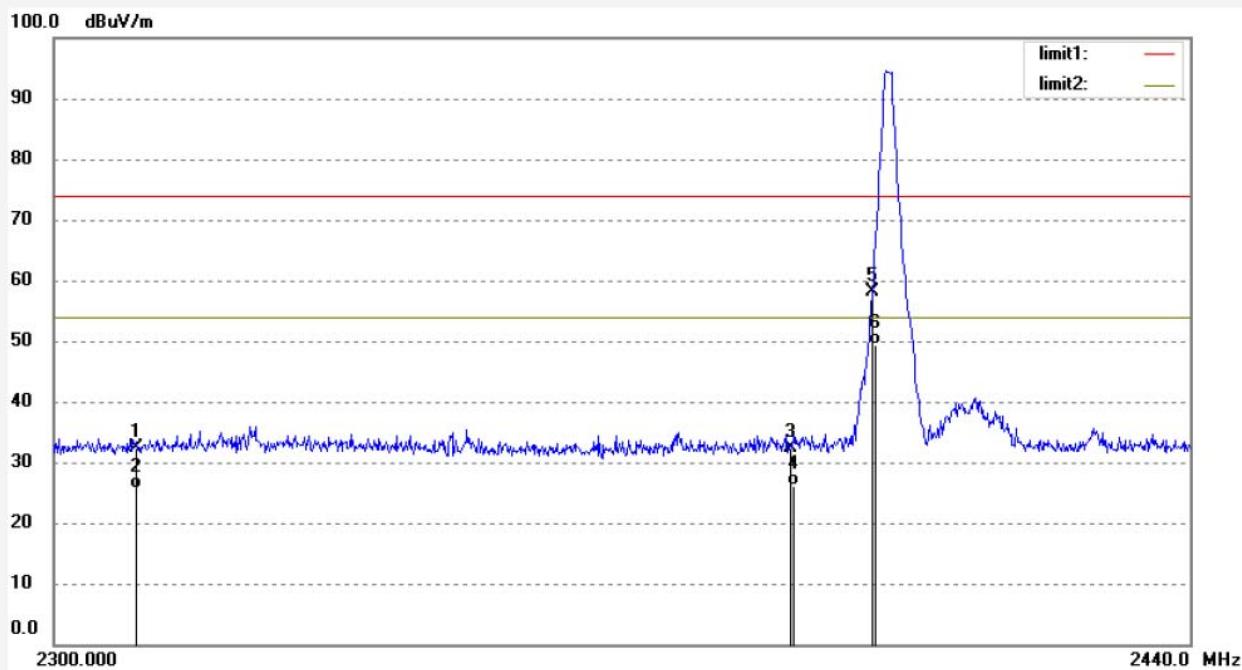
Mode: TX 2402MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	40.19	-7.87	32.32	74.00	-41.68	peak			
2	2310.000	33.50	-7.87	25.63	54.00	-28.37	AVG			
3	2390.000	40.10	-7.64	32.46	74.00	-41.54	peak			
4	2390.000	33.67	-7.64	26.03	54.00	-27.97	AVG			
5	2400.000	65.76	-7.61	58.15	74.00	-15.85	peak			
6	2400.000	57.04	-7.61	49.43	54.00	-4.57	AVG			

Job No.: STAR2016 #1143

Polarization: Vertical

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 16/11/04/

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

Time: 17/14/55

EUT: Turntable

Engineer Signature: star

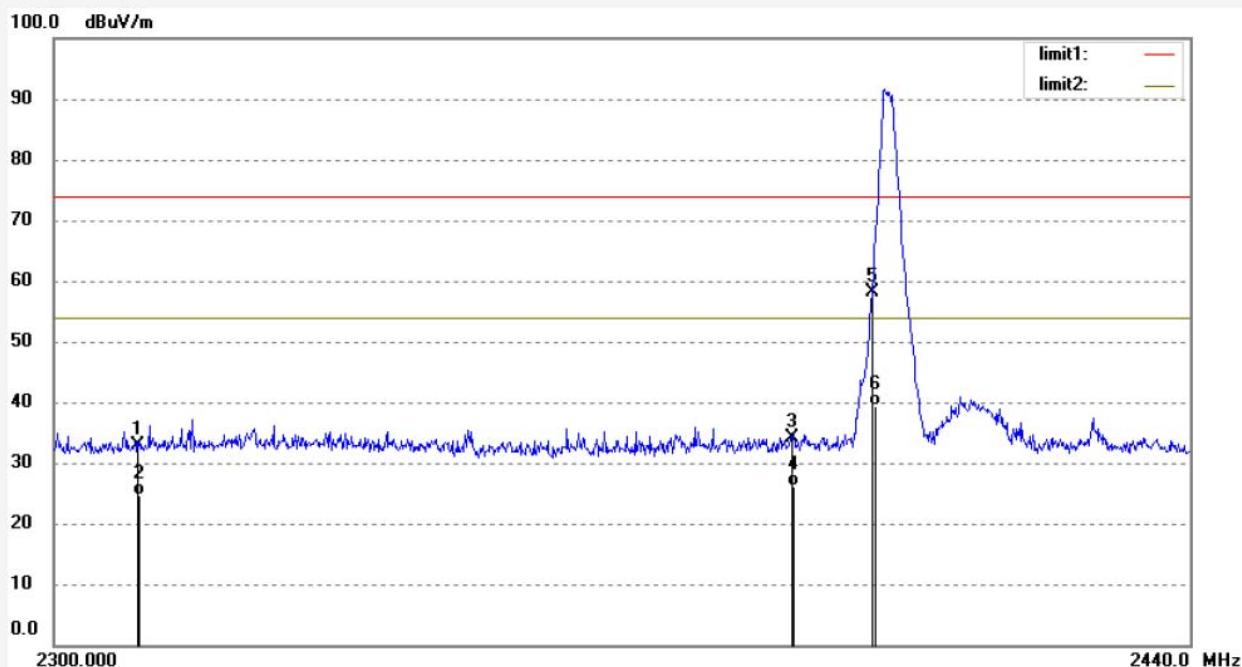
Mode: TX 2402MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	40.86	-7.87	32.99	74.00	-41.01	peak			
2	2310.000	32.52	-7.87	24.65	54.00	-29.35	AVG			
3	2390.000	41.70	-7.64	34.06	74.00	-39.94	peak			
4	2390.000	33.67	-7.64	26.03	54.00	-27.97	AVG			
5	2400.000	65.74	-7.61	58.13	74.00	-15.87	peak			
6	2400.000	47.06	-7.61	39.45	54.00	-14.55	AVG			

Job No.: STAR2016 #1145

Polarization: Horizontal

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 16/11/04/

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

Time: 17/18/21

EUT: Turntable

Engineer Signature: star

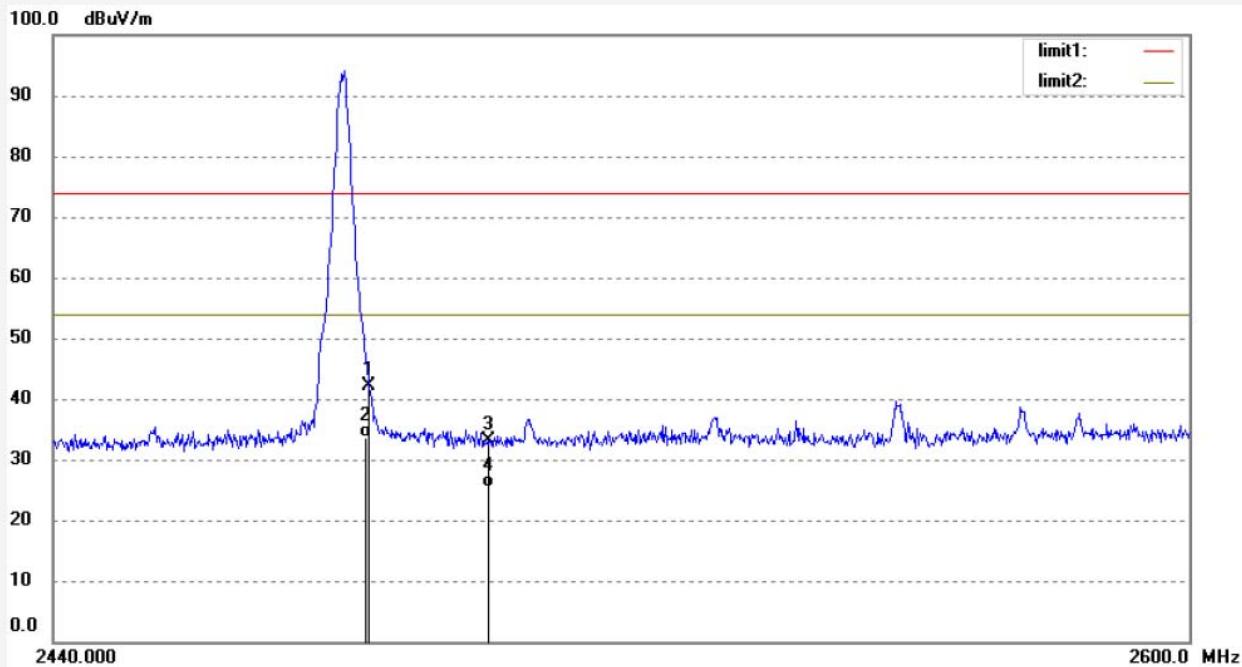
Mode: TX 2480MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	49.55	-7.37	42.18	74.00	-31.82	peak			
2	2483.500	41.00	-7.37	33.63	54.00	-20.37	AVG			
3	2500.000	40.53	-7.32	33.21	74.00	-40.79	peak			
4	2500.000	32.70	-7.32	25.38	54.00	-28.62	AVG			

Job No.: STAR2016 #1144

Polarization: Vertical

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 16/11/04/

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

Time: 17/17/13

EUT: Turntable

Engineer Signature: star

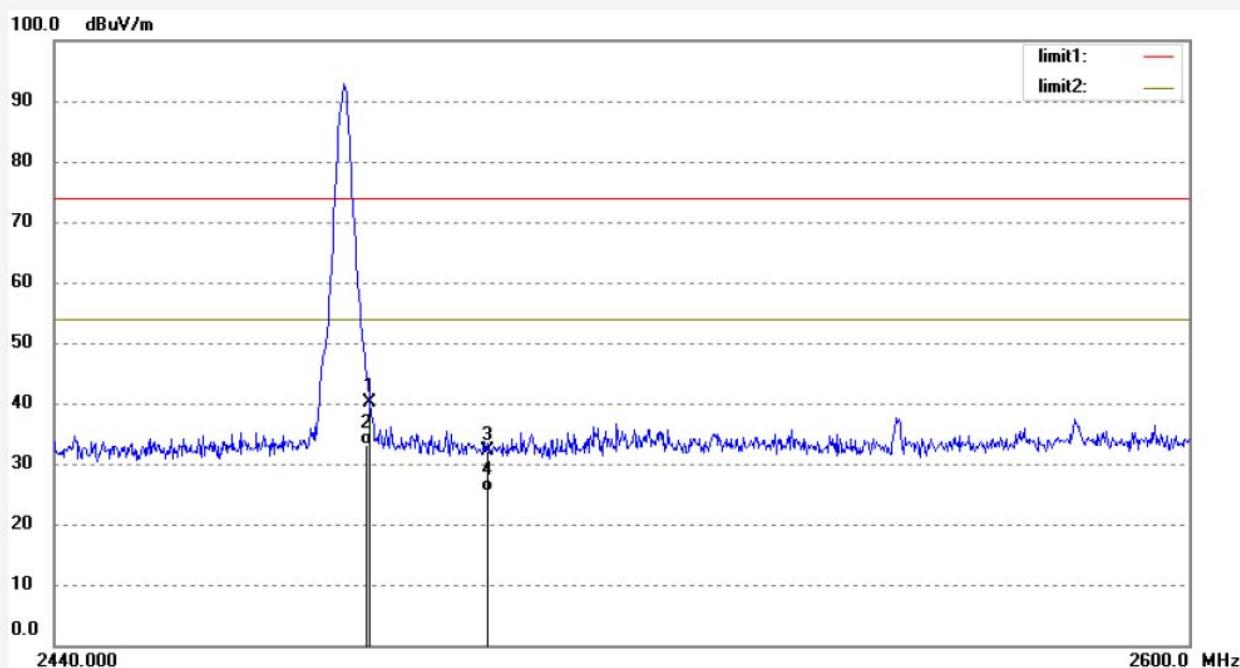
Mode: TX 2480MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343

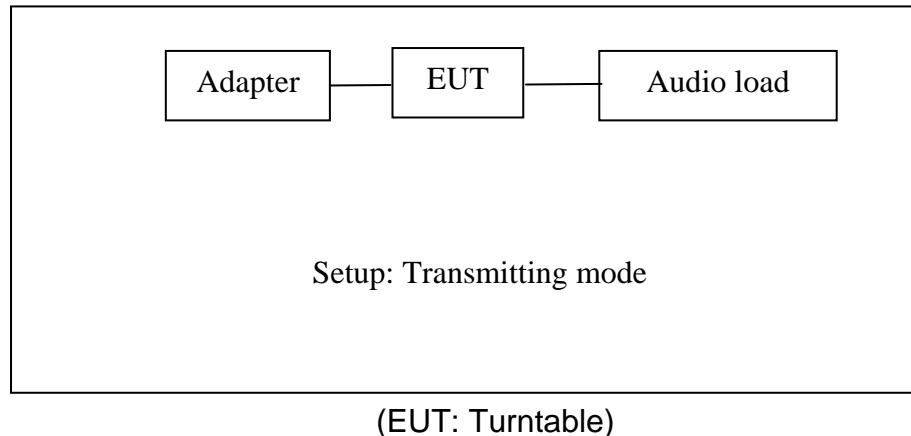


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	47.54	-7.37	40.17	74.00	-33.83	peak			
2	2483.500	40.40	-7.37	33.03	54.00	-20.97	AVG			
3	2500.000	39.42	-7.32	32.10	74.00	-41.90	peak			
4	2500.000	32.65	-7.32	25.33	54.00	-28.67	AVG			

## 10.RADIATED SPURIOUS EMISSION TEST

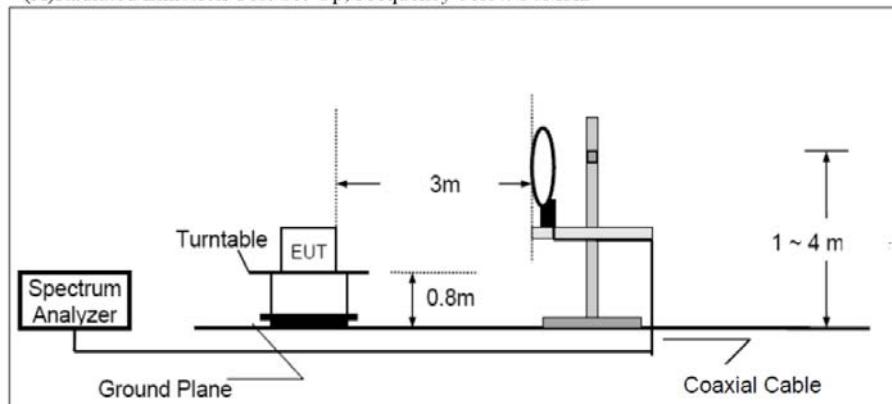
### 10.1.Block Diagram of Test Setup

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

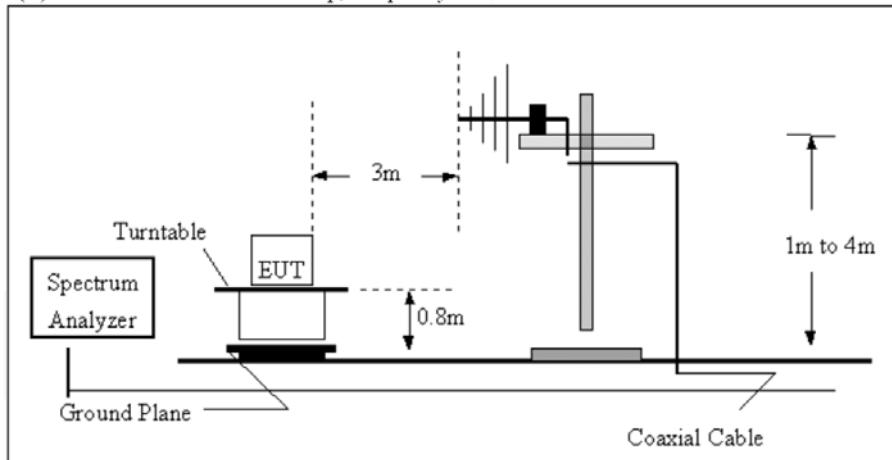


#### 10.1.2.Semi-Anechoic Chamber Test Setup Diagram

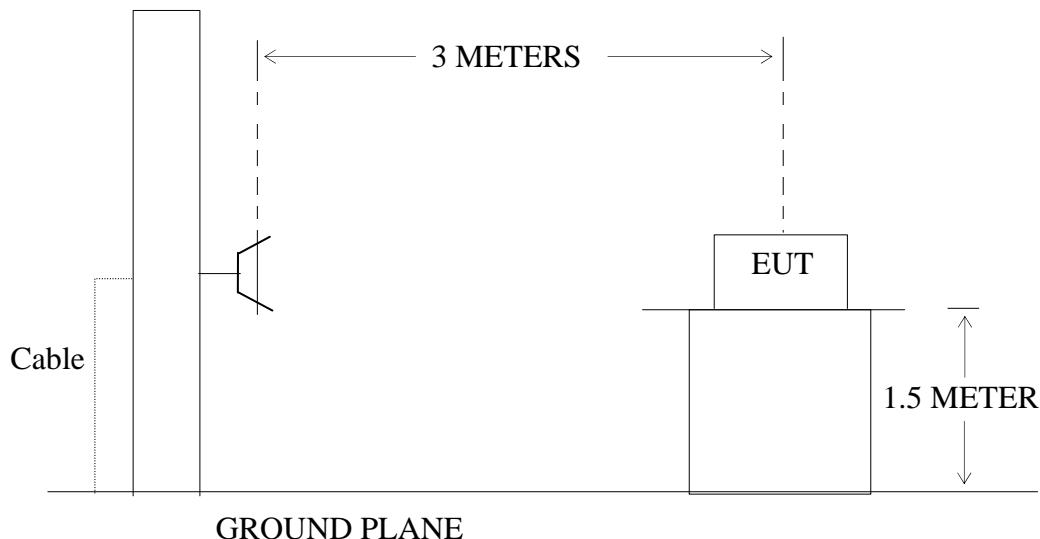
(A)Radiated Emission Test Set-Up, Frequency below 30MHz



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



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



### 10.2.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).

### 10.3.Restricted bands of operation

#### 10.3.1.FCC Part 15.205 Restricted bands of operation

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

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

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

<sup>2</sup>Above 38.6

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

### 10.4.Configuration of EUT on Measurement

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

## 10.5.Operating Condition of EUT

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

10.5.2.Turn on the power of all equipment.

10.5.3.Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

## 10.6.Test Procedure

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

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

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

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

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

10.7.The Field Strength of Radiation Emission Measurement Results  
**PASS.**

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

**2. \*: Denotes restricted band of operation.**

**3.The radiation emissions from 9K-30MHz and 18-25GHz are not reported, because the test values lower than the limits of 20dB.**

**4. The EUT is equipped with two adapters, but this will only affect the Radiation Emission Measurement below 1GHz, So we only tested a set of worst case data for the Radiation Emission Measurement above 1GHz.**

## 30M-1GHz

## Adapter 1 test data



ACCURATE TECHNOLOGY CO., LTD.

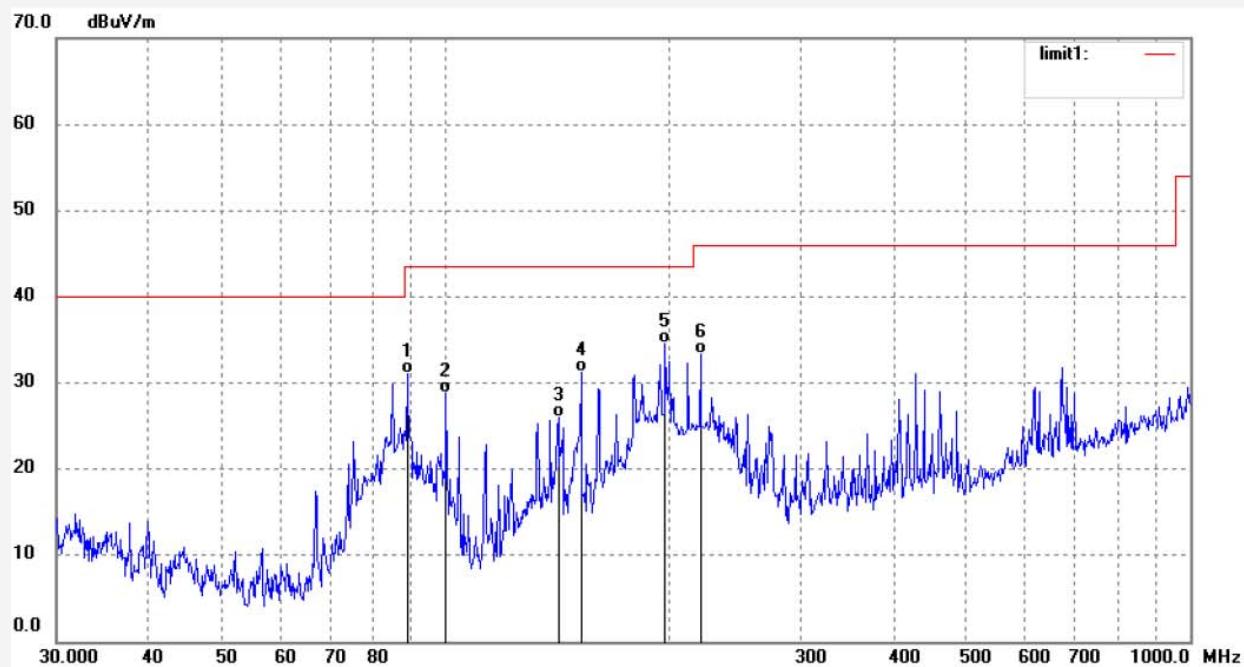
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

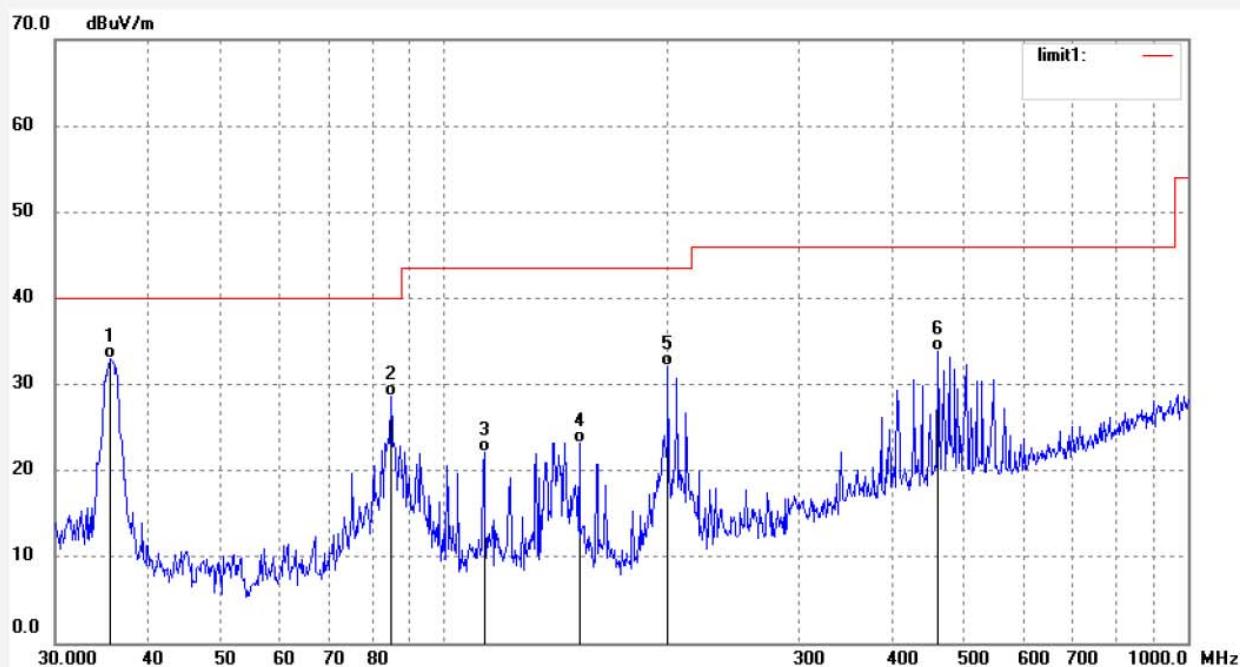
Fax:+86-0755-26503396

Job No.: ding #2808	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/11/08/
Temp.( C)/Hum.(%) 25 C / 55 %	Time: 10/38/38
EUT: Turntable	Engineer Signature: DING
Mode: TX 2402MHz	Distance: 3m
Model: MB-USBTR128BRO	
Manufacturer: HAIPING	
Note: Report NO.:ATE20162343	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	88.8452	53.02	-21.93	31.09	43.50	-12.41	QP			
2	100.1188	51.35	-22.63	28.72	43.50	-14.78	QP			
3	141.7694	48.32	-22.34	25.98	43.50	-17.52	QP			
4	152.0902	53.37	-22.17	31.20	43.50	-12.30	QP			
5	197.2514	53.30	-18.81	34.49	43.50	-9.01	QP			
6	219.9500	51.82	-18.40	33.42	46.00	-12.58	QP			

Job No.: ding #2809	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 16/11/08/
Temp.( C)/Hum.(%) 25 C / 55 %	Time: 10/39/27
EUT: Turntable	Engineer Signature: DING
Mode: TX 2402MHz	Distance: 3m
Model: MB-USBTR128BRO	
Manufacturer: HAIPING	
Note: Report NO.:ATE20162343	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	35.5112	49.20	-16.16	33.04	40.00	-6.96	QP			
2	84.8783	50.52	-21.97	28.55	40.00	-11.45	QP			
3	113.2200	43.91	-21.84	22.07	43.50	-21.43	QP			
4	152.0902	45.40	-22.17	23.23	43.50	-20.27	QP			
5	200.0432	50.72	-18.66	32.06	43.50	-11.44	QP			
6	461.6313	45.42	-11.51	33.91	46.00	-12.09	QP			

Job No.: ding #2811

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 16/11/08/

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

Time: 10/41/04

EUT: Turntable

Engineer Signature: DING

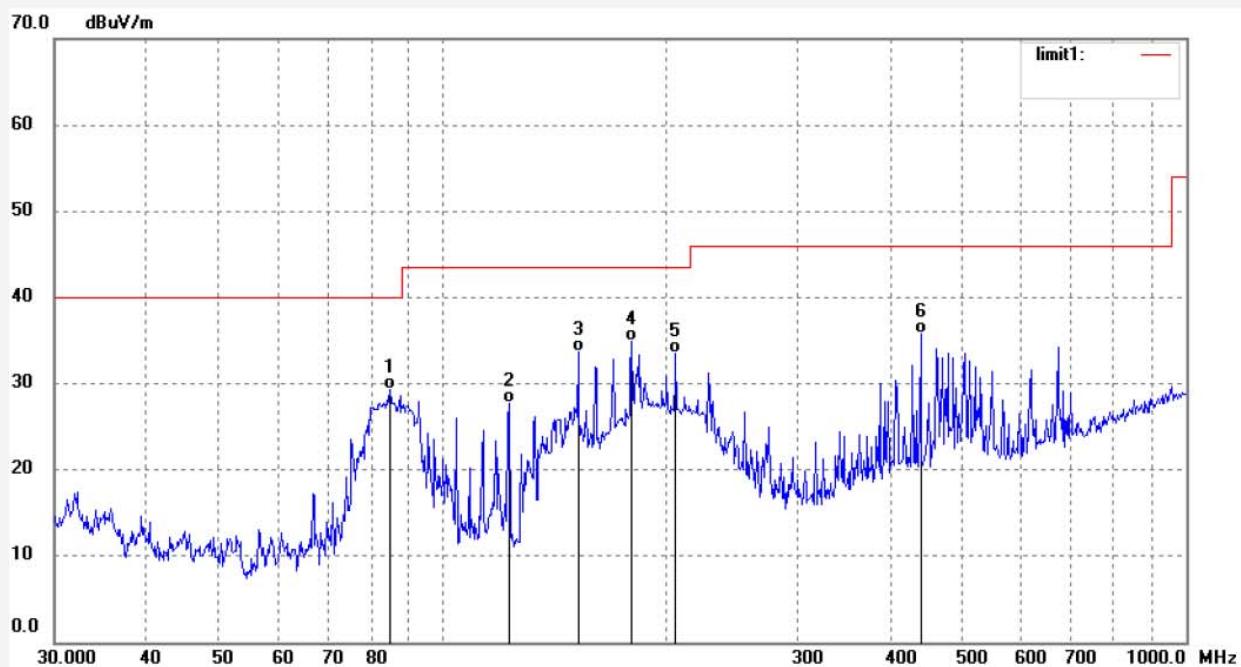
Mode: TX 2440MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	84.8783	51.29	-21.97	29.32	40.00	-10.68	QP			
2	122.7494	49.77	-21.99	27.78	43.50	-15.72	QP			
3	152.0902	55.93	-22.17	33.76	43.50	-9.74	QP			
4	179.3989	55.27	-20.38	34.89	43.50	-8.61	QP			
5	205.7458	52.05	-18.48	33.57	43.50	-9.93	QP			
6	439.4730	47.96	-12.18	35.78	46.00	-10.22	QP			



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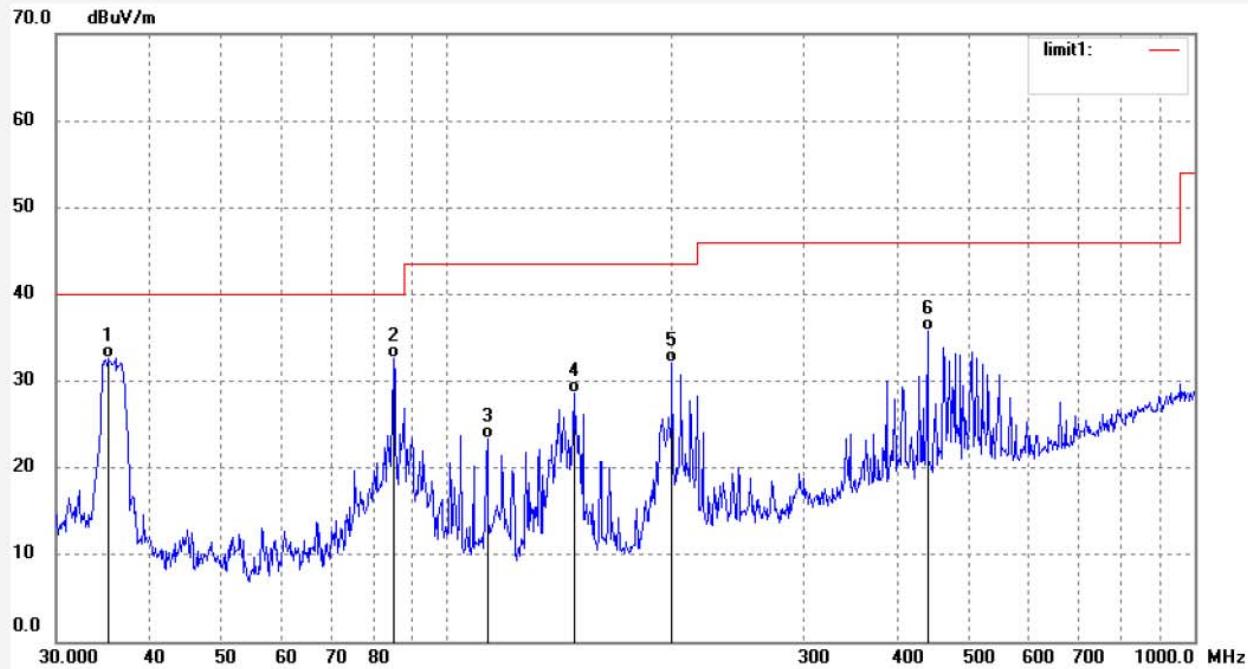
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber  
Tel:+86-0755-26503290  
Fax:+86-0755-26503396

Job No.: ding #2810  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: Turntable  
Mode: TX 2440MHz  
Model: MB-USBTR128BRO  
Manufacturer: HAIPING

Polarization: Vertical  
Power Source: AC 120V/60Hz  
Date: 16/11/08/  
Time: 10/40/06  
Engineer Signature: DING  
Distance: 3m

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	35.2625	48.72	-16.05	32.67	40.00	-7.33	QP			
2	84.8782	54.65	-21.97	32.68	40.00	-7.32	QP			
3	113.2199	45.16	-21.84	23.32	43.50	-20.18	QP			
4	147.8746	50.98	-22.36	28.62	43.50	-14.88	QP			
5	200.0432	50.72	-18.66	32.06	43.50	-11.44	QP			
6	439.4730	47.96	-12.18	35.78	46.00	-10.22	QP			



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Site: 1# Chamber  
Tel:+86-0755-26503290  
Fax:+86-0755-26503396

Job No.: ding #2812

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 16/11/08/

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

Time: 10/41/43

EUT: Turntable

Engineer Signature: DING

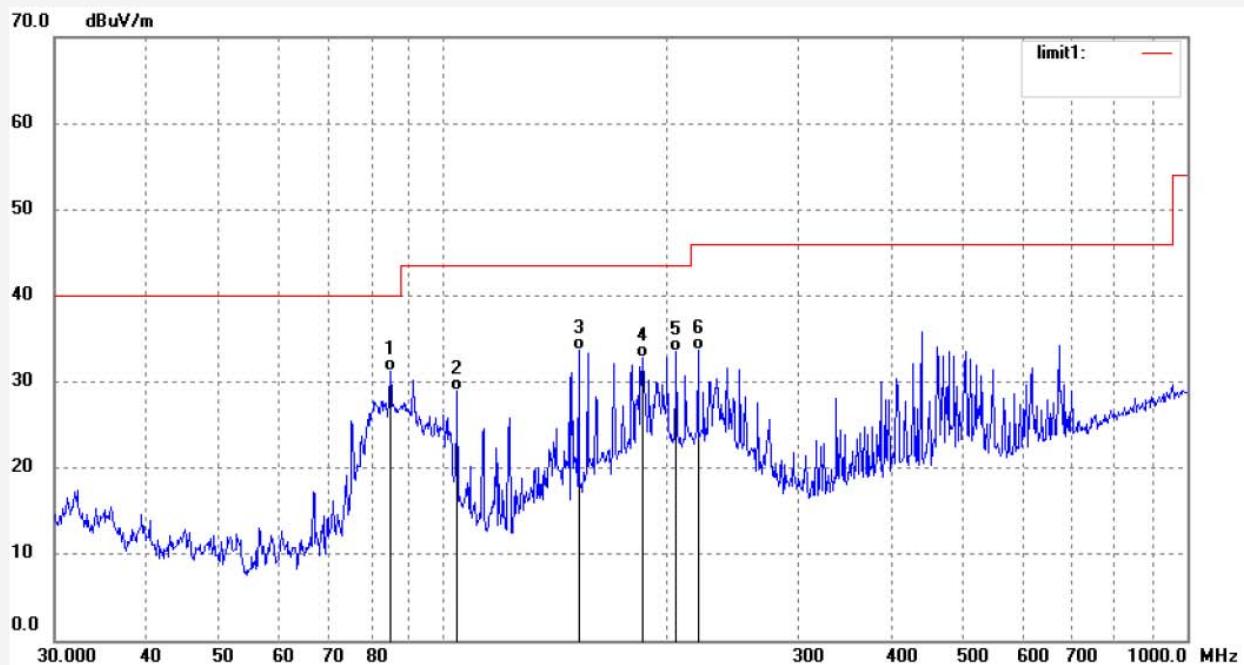
Mode: TX 2480MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	84.8783	53.27	-21.97	31.30	40.00	-8.70	QP			
2	104.4303	51.66	-22.71	28.95	43.50	-14.55	QP			
3	152.0902	55.82	-22.17	33.65	43.50	-9.85	QP			
4	185.1626	52.62	-19.83	32.79	43.50	-10.71	QP			
5	205.7458	52.05	-18.48	33.57	43.50	-9.93	QP			
6	219.9500	52.02	-18.40	33.62	46.00	-12.38	QP			



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Site: 1# Chamber  
Tel:+86-0755-26503290  
Fax:+86-0755-26503396

Job No.: ding #2813

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 16/11/08/

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

Time: 10/42/53

EUT: Turntable

Engineer Signature: DING

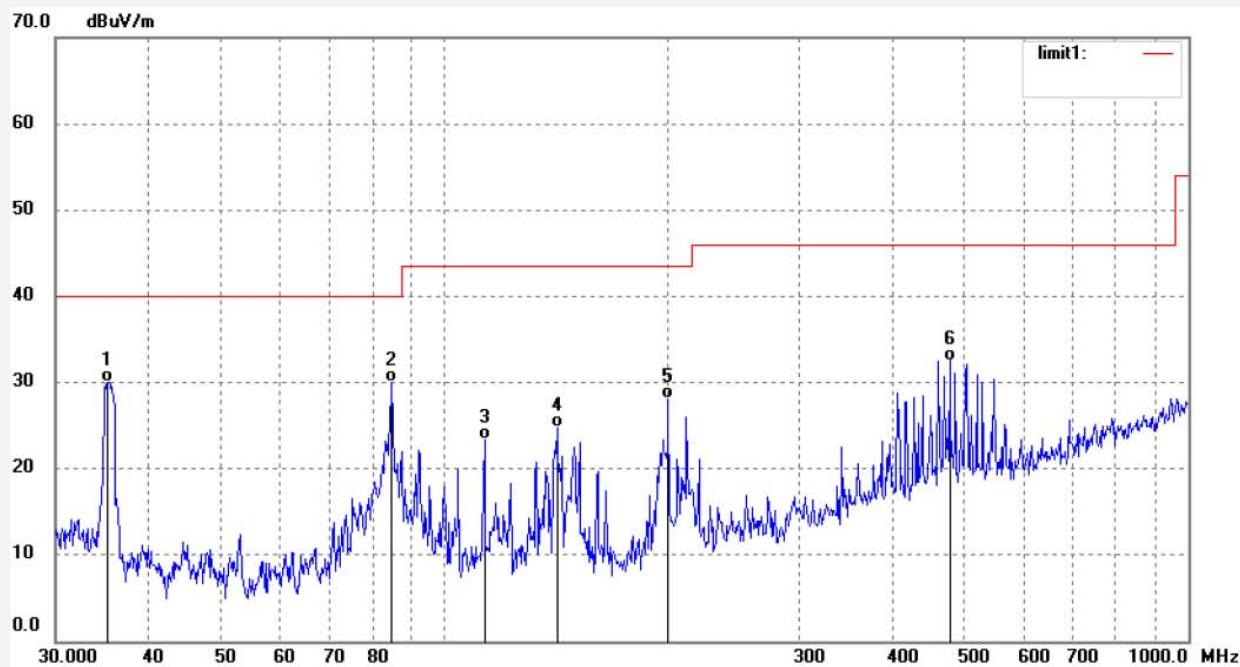
Mode: TX 2480MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	35.2626	46.13	-16.05	30.08	40.00	-9.92	QP			
2	84.8783	51.96	-21.97	29.99	40.00	-10.01	QP			
3	113.2200	45.16	-21.84	23.32	43.50	-20.18	QP			
4	141.7694	47.04	-22.34	24.70	43.50	-18.80	QP			
5	200.0432	46.77	-18.66	28.11	43.50	-15.39	QP			
6	478.1394	43.80	-11.25	32.55	46.00	-13.45	QP			

## Adapter 2 test data



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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: DING #2792

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 16/11/05/

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

Time: 9/33/59

EUT: Turntable

Engineer Signature: DING

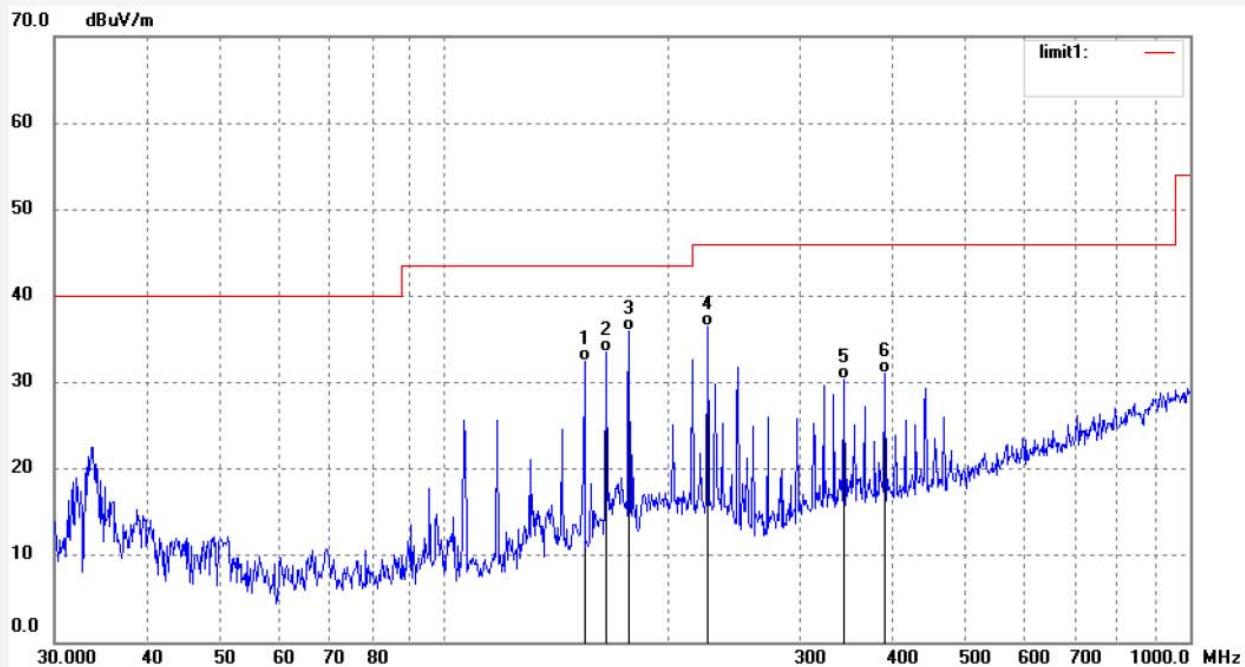
Mode: TX 2402MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	154.2428	54.36	-21.98	32.38	43.50	-11.12	QP			
2	164.8912	54.37	-20.85	33.52	43.50	-9.98	QP			
3	176.8953	56.64	-20.63	36.01	43.50	-7.49	QP			
4	225.4267	54.76	-18.33	36.43	46.00	-9.57	QP			
5	343.6506	44.38	-14.08	30.30	46.00	-15.70	QP			
6	389.9874	44.29	-13.15	31.14	46.00	-14.86	QP			

Job No.: DING #2791

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 16/11/05/

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

Time: 9/33/13

EUT: Turntable

Engineer Signature: DING

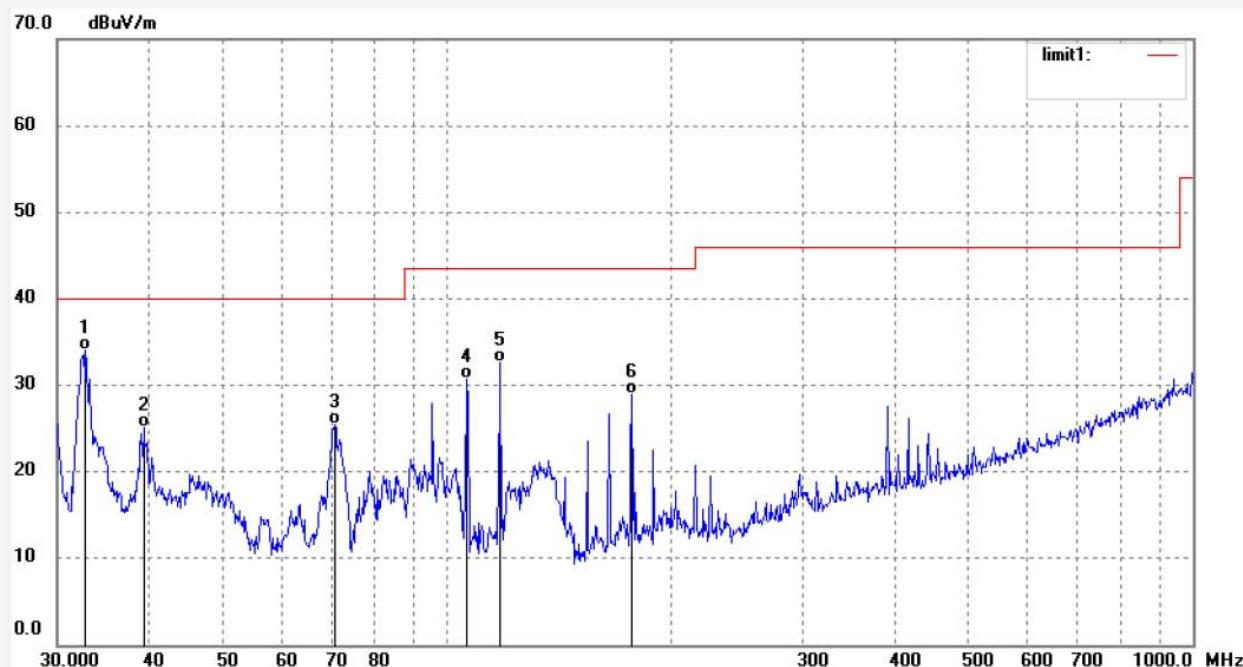
Mode: TX 2402MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.7544	49.44	-15.39	34.05	40.00	-5.95	QP			
2	39.1824	42.83	-17.74	25.09	40.00	-14.91	QP			
3	70.7047	47.65	-22.12	25.53	40.00	-14.47	QP			
4	106.2811	53.17	-22.49	30.68	43.50	-12.82	QP			
5	117.6815	54.60	-21.89	32.71	43.50	-10.79	QP			
6	176.8953	49.54	-20.63	28.91	43.50	-14.59	QP			

Job No.: DING #2793

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 16/11/05/

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

Time: 9/34/56

EUT: Turntable

Engineer Signature: DING

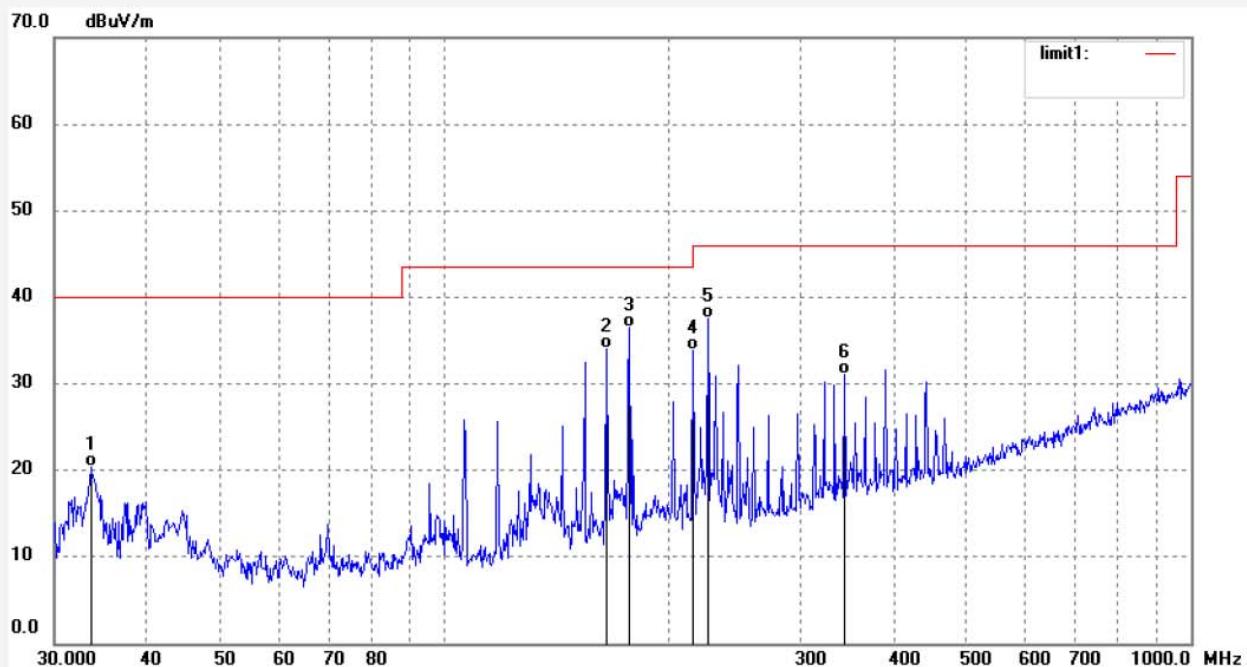
Mode: TX 2440MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.5700	36.02	-15.59	20.43	40.00	-19.57	QP			
2	164.8912	54.87	-20.85	34.02	43.50	-9.48	QP			
3	176.8953	57.15	-20.63	36.52	43.50	-6.98	QP			
4	215.3616	52.28	-18.41	33.87	43.50	-9.63	QP			
5	225.4267	55.88	-18.33	37.55	46.00	-8.45	QP			
6	343.6506	45.14	-14.08	31.06	46.00	-14.94	QP			

Job No.: DING #2794

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 16/11/05/

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

Time: 9/36/56

EUT: Turntable

Engineer Signature: DING

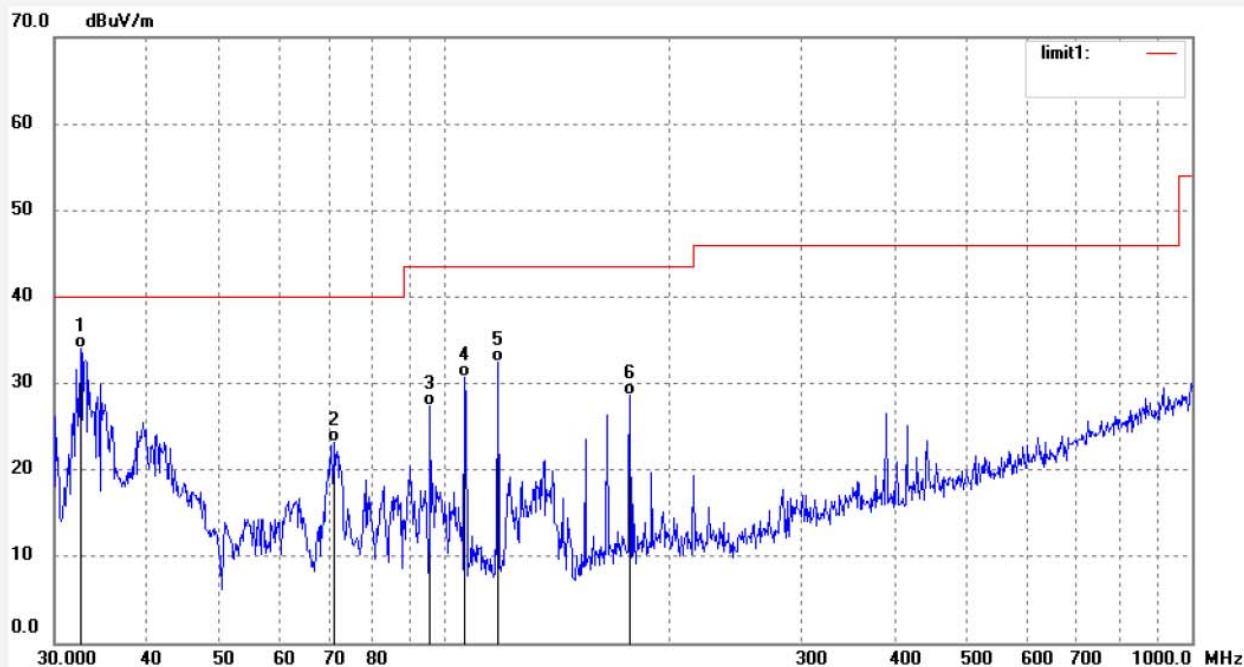
Mode: TX 2440MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.5250	49.31	-15.32	33.99	40.00	-6.01	QP			
2	71.2033	45.29	-22.14	23.15	40.00	-16.85	QP			
3	95.6485	49.37	-21.99	27.38	43.50	-16.12	QP			
4	106.2812	53.12	-22.49	30.63	43.50	-12.87	QP			
5	117.6815	54.42	-21.89	32.53	43.50	-10.97	QP			
6	176.8953	49.20	-20.63	28.57	43.50	-14.93	QP			

Job No.: DING #2796

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 16/11/05/

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

Time: 9/38/44

EUT: Turntable

Engineer Signature: DING

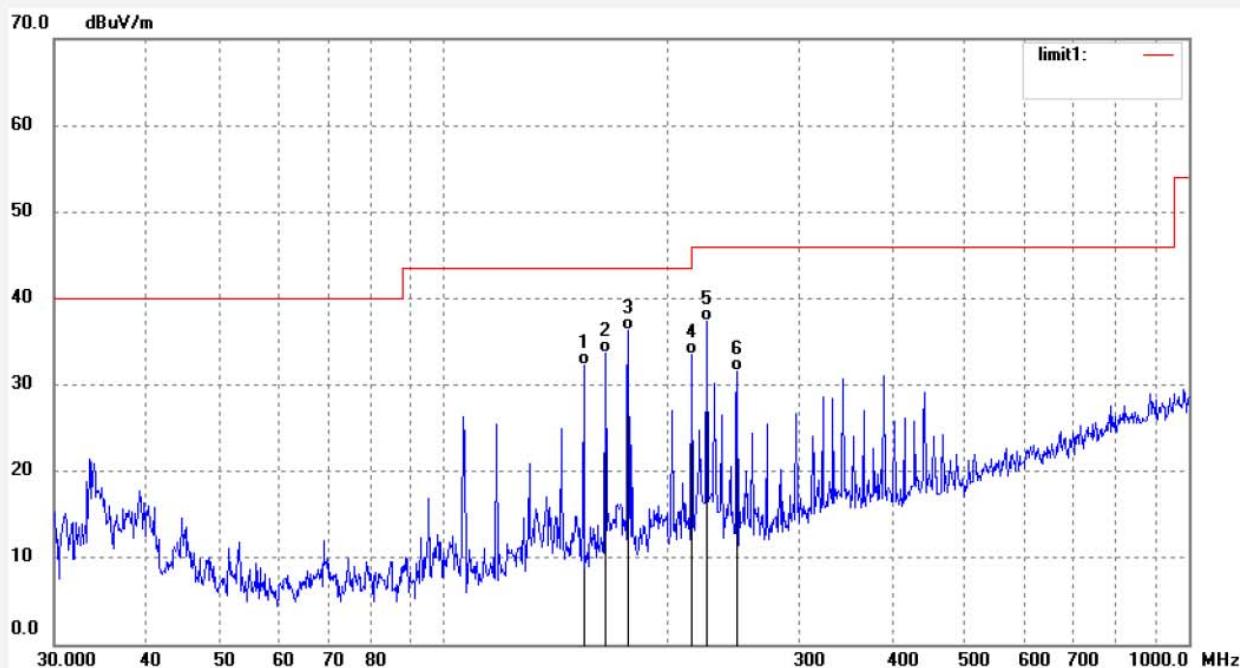
Mode: TX 2480MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	154.2428	54.25	-21.98	32.27	43.50	-11.23	QP			
2	164.8912	54.62	-20.85	33.77	43.50	-9.73	QP			
3	176.8953	56.88	-20.63	36.25	43.50	-7.25	QP			
4	215.3616	51.84	-18.41	33.43	43.50	-10.07	QP			
5	225.4267	55.73	-18.33	37.40	46.00	-8.60	QP			
6	247.8595	49.72	-18.14	31.58	46.00	-14.42	QP			

Job No.: DING #2795

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 16/11/05/

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

Time: 9/37/34

EUT: Turntable

Engineer Signature: DING

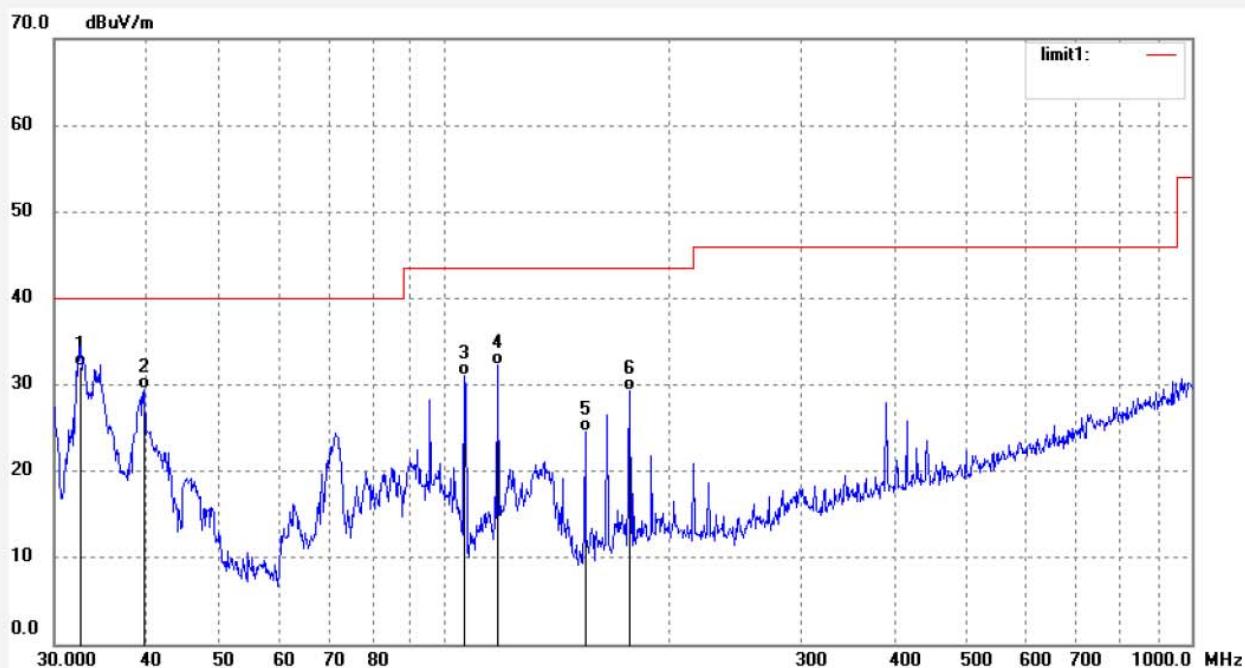
Mode: TX 2480MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.1840	47.34	-15.24	32.10	40.00	-7.90	QP			
2	39.5977	47.48	-17.92	29.56	40.00	-10.44	QP			
3	106.2812	53.49	-22.49	31.00	43.50	-12.50	QP			
4	117.6815	54.21	-21.89	32.32	43.50	-11.18	QP			
5	154.2428	46.52	-21.98	24.54	43.50	-18.96	QP			
6	176.8953	49.93	-20.63	29.30	43.50	-14.20	QP			

## Above 1GHz



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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.: ding #877

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 2016/11/05

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

Time: 18:32:38

EUT: Turntable

Engineer Signature:

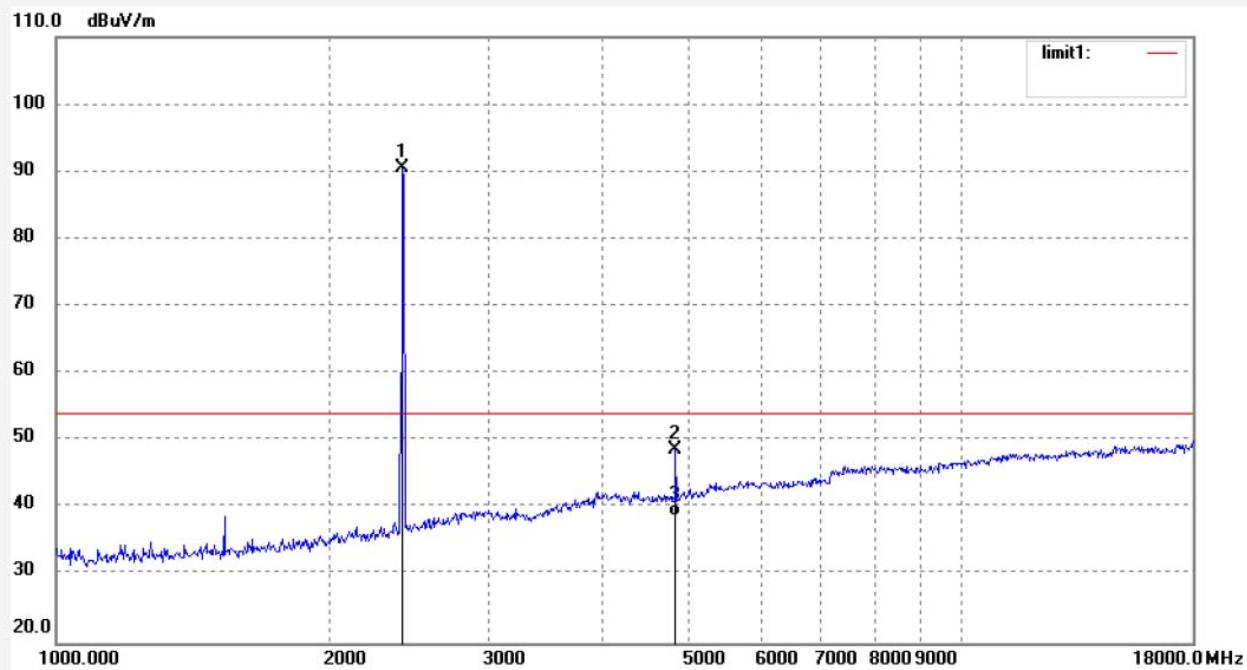
Mode: TX 2402MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.672	98.03	-7.43	90.60			peak			
2	4804.962	48.92	-0.19	48.73	74.00	-25.27	peak			
3	4804.962	38.99	-0.19	38.80	54.00	-15.20	AVG			

Job No.: ding #878

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 2016/11/05

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

Time: 18:36:48

EUT: Turntable

Engineer Signature:

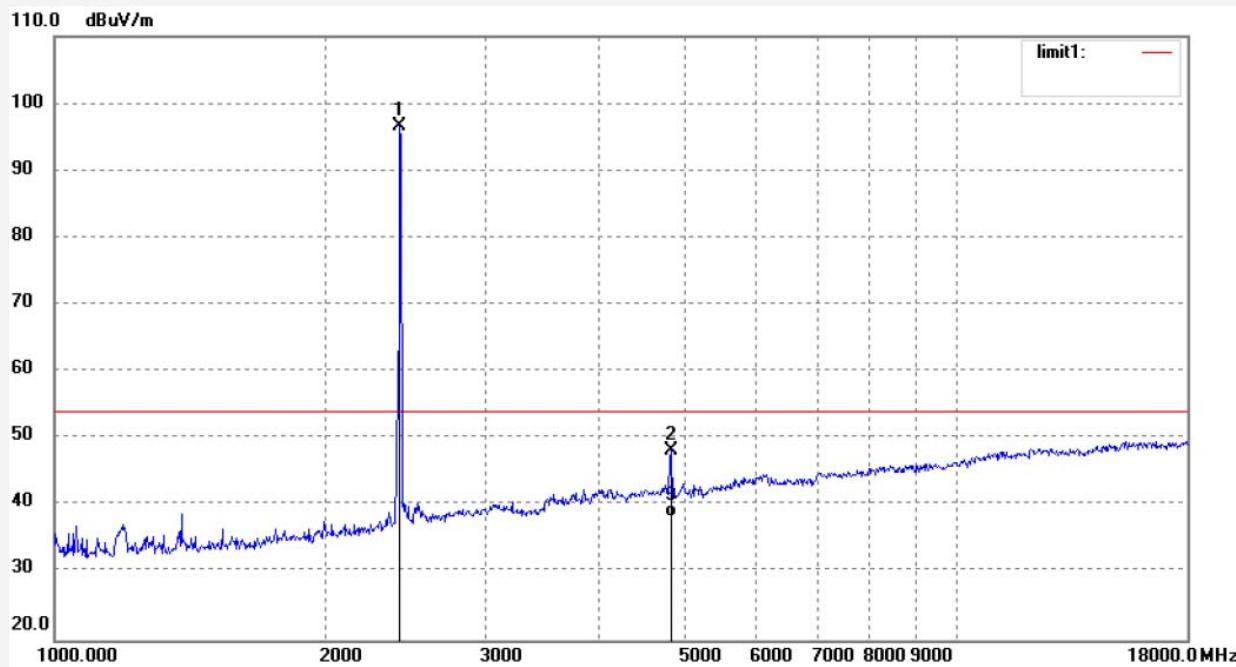
Mode: TX 2402MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.672	104.08	-7.43	96.65			peak			
2	4804.016	48.44	-0.19	48.25	74.00	-25.75	peak			
3	4804.016	38.43	-0.19	38.24	54.00	-15.76	Avg			

Job No.: ding #876

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 2016/11/05

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

Time: 18:30:42

EUT: Turntable

Engineer Signature:

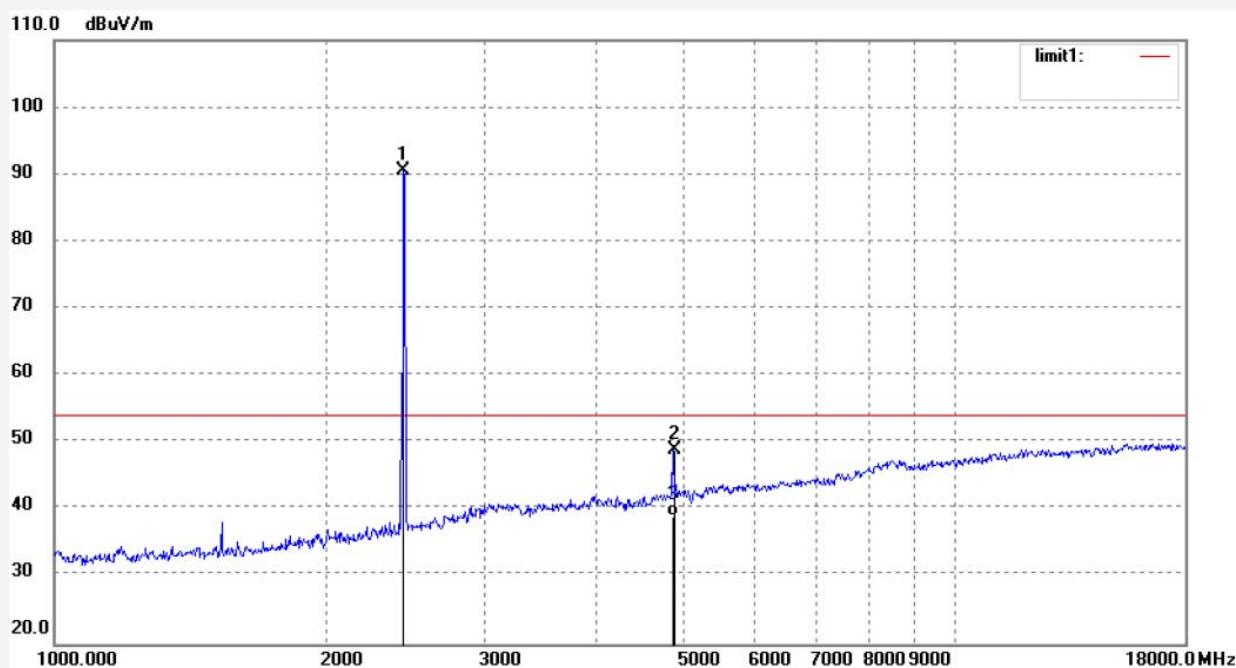
Mode: TX 2440MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.751	97.93	-7.35	90.58			peak			
2	4880.975	48.67	0.15	48.82	74.00	-25.18	peak			
3	4880.975	38.80	0.15	38.95	54.00	-15.05	AVG			



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

Job No.: ding #875

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 2016/11/05

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

Time: 18:28:38

EUT: Turntable

Engineer Signature:

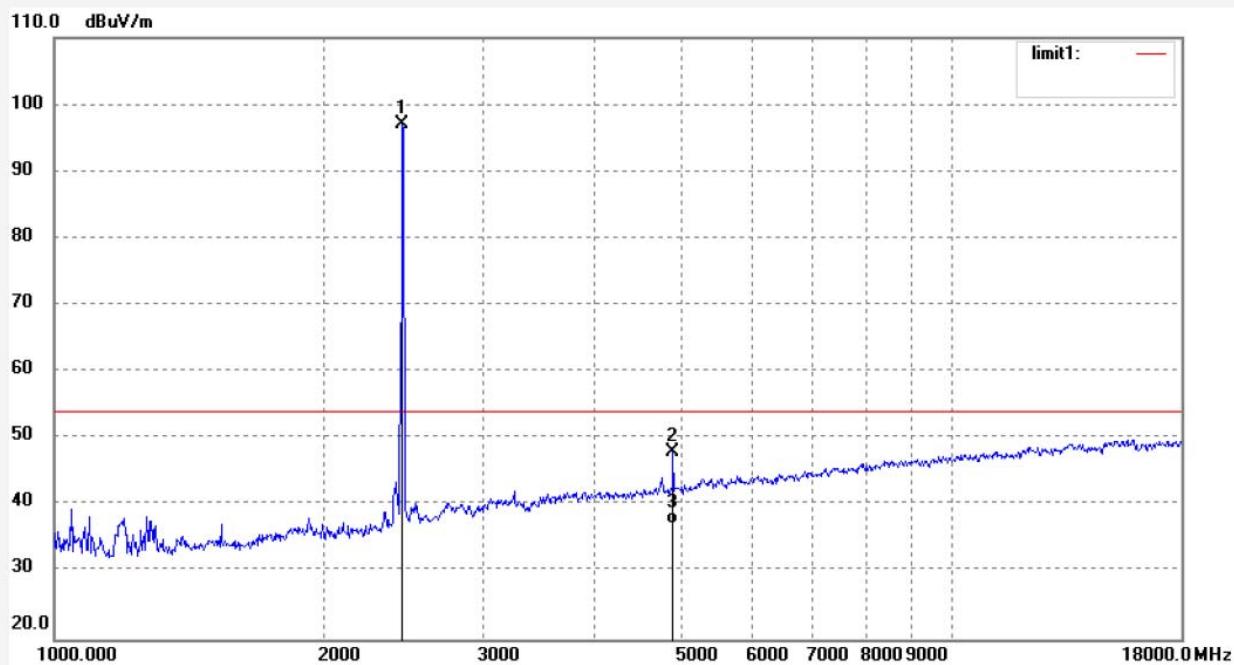
Mode: TX 2440MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.751	104.44	-7.35	97.09			peak			
2	4880.151	47.76	0.15	47.91	74.00	-26.09	peak			
3	4880.151	37.13	0.15	37.28	54.00	-16.72	AVG			

Job No.: ding #873

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 2016/11/05

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

Time: 18:15:06

EUT: Turntable

Engineer Signature:

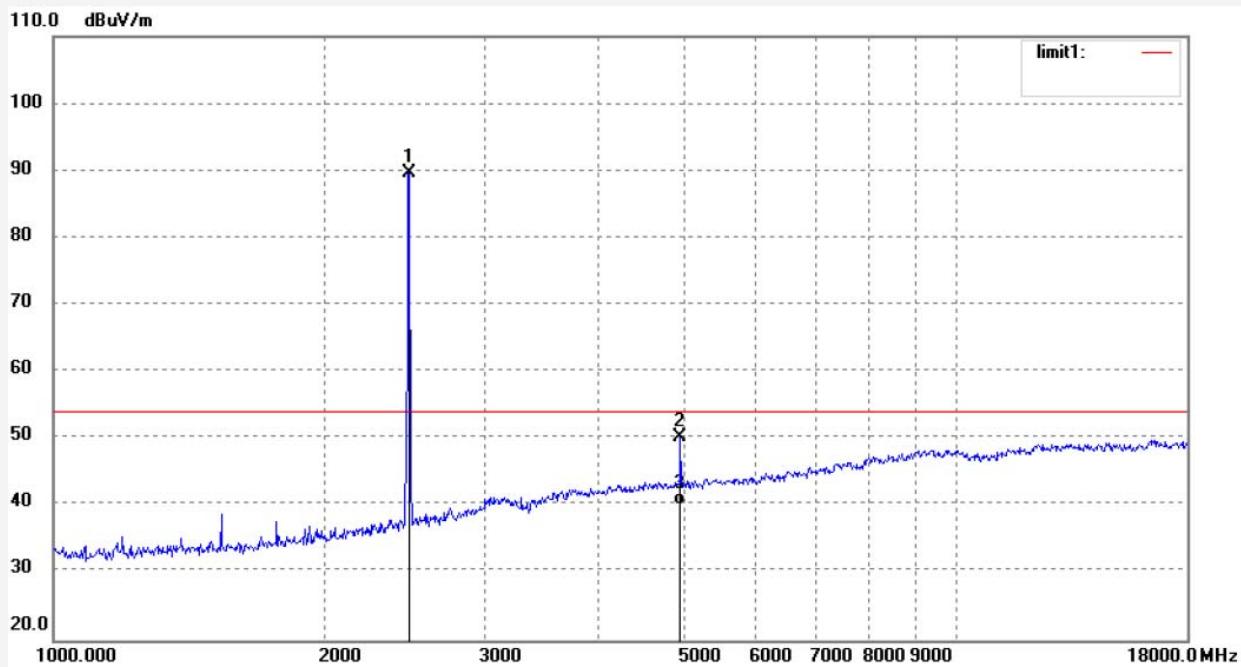
Mode: TX 2480MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.310	97.06	-7.36	89.70			peak			
2	4960.993	49.92	0.45	50.37	74.00	-23.63	peak			
3	4960.993	39.60	0.45	40.05	54.00	-13.95	AVG			

Job No.: ding #874

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 2016/11/05

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

Time: 18:17:09

EUT: Turntable

Engineer Signature:

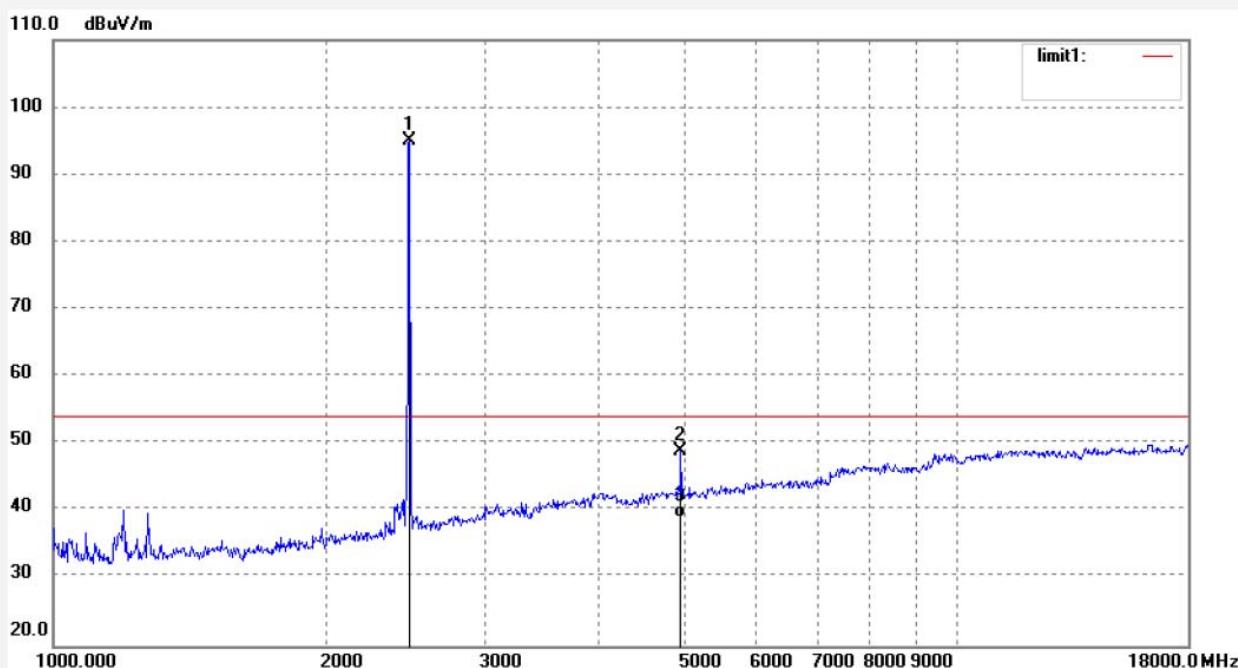
Mode: TX 2480MHz

Distance: 3m

Model: MB-USBTR128BRO

Manufacturer: HAIPING

Note: Report NO.:ATE20162343



No.	Freq. (MHz)	Reading (dB <sub>UV</sub> /m)	Factor (dB)	Result (dB <sub>UV</sub> /m)	Limit (dB <sub>UV</sub> /m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.310	102.43	-7.36	95.07			peak			
2	4960.993	48.45	0.45	48.90	74.00	-25.10	peak			
3	4960.993	38.66	0.45	39.11	54.00	-14.89	Avg			

## 11. ANTENNA REQUIREMENT

### 11.1. 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.

### 11.2. Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Max Antenna gain of EUT is 0dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.

