### FCC CERTIFICATION On Behalf of Mizco International Inc.

### FM Transmitter Model No.: MP-Q8XL

## FCC ID: RZOMP-Q8XL

| Prepared for<br>Address | : | Mizco International Inc.<br>80 Essex Avenue East Avenel New Jersey 07001 United<br>States  |
|-------------------------|---|--|
| Prepared by<br>Address  | : | Accurate Technology Co., Ltd.<br>F1, Bldg. A, Changyuan New Material Port, Keyuan Rd.<br>Science & Industry Park, Nanshan, Shenzhen, Guangdong<br>P.R. China |
|                         |   | Tel: (0755) 26503290<br>Fax: (0755) 26503396   |

| Report Number  | : | ATE20130366       |
|----------------|---|-------------------|
| Date of Test   | : | March 13-18, 2013 |
| Date of Report | : | March 18, 2013    |

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## Test Report Certification

| Applicant       | : | Mizco International Inc.                    |  |  |
|-----------------|---|---|--|--|
| Manufacturer    | : | DAZA Electronics Company                    |  |  |
| EUT Description | : | FM Transmitter                              |  |  |
|                 |   | (A) MODEL NO.: MP-Q8XL                      |  |  |
|                 |   | (B) SERIAL NO.: N/A                         |  |  |
|                 |   | (C) POWER SUPPLY: DC 12V (Power by Battery) |  |  |
|                 |   |   |  |  |

Measurement Procedure Used:

#### FCC Rules and Regulations Part 15 Subpart C Section 15.239 ANSI 63.4: 2009

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 Section15.239 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 :

March 13-18, 2013

Prepared by :

(Engineer)

Approved & Authorized Signer :

(Manager)

## **1. GENERAL INFORMATION**

## 1.1.Description of Device (EUT)

| EUT                     | : | FM Transmitter  |
|-------------------------|---|---|
| Model Number            | : | MP-Q8XL   |
| Power Supply            | : | DC 12V (Power by Battery)   |
| Operate Frequency       | : | 88.1-88.7MHz (step 0.2MHz)  |
| Applicant<br>Address    | : | Mizco International Inc.<br>80 Essex Avenue East Avenel New Jersey 07001 United<br>States   |
| Manufacturer<br>Address | : | DAZA Electronics Company<br>Bldg. G, Xinmusheng Low Carbon Industrial Park, No. 6<br>Xinmu Road, Pinghu, Longgang District, Shenzhen ,China |
| Date of sample received | : | March 13, 2013  |
| Date of Test            | : | March 13-18, 2013   |

### 1.2. Accessory and Auxiliary Equipment

| iPod | : Manufacturer: Apple |
|------|-----------------------|
|      | Model No.: A1199      |
|      | S/N: 7M6369W3VQ5      |

## 1.3.Description of Test Facility

| EMC Lab                       | : | Accredited by TUV Rheinland Shenzhen   |
|-------------------------------|---|--|
|                               |   | Listed by FCC<br>The Registration Number is 752051   |
|                               |   | Listed by Industry Canada<br>The Registration Number is 5077A-2  |
|                               |   | Accredited by China National Accreditation Committee<br>for Laboratories<br>The Certificate Registration Number is L3193                                   |
| Name of Firm<br>Site Location | : | ACCURATE TECHNOLOGY CO. LTD<br>F1, Bldg. A, Changyuan New Material Port, Keyuan Rd.<br>Science & Industry Park, Nanshan, Shenzhen, Guangdong<br>P.R. China |

## 1.4. 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

| Kind of equipment | Manufacturer  | Туре               | S/N        | Calibrated date | Calibrated until |
|-------------------|---------------|--------------------|------------|-----------------|------------------|
| EMI Test Receiver | Rohde&Schwarz | ESCS30             | 100307     | Jan. 12, 2013   | Jan. 11, 2014    |
| EMI Test Receiver | Rohde&Schwarz | ESPI3              | 101526/003 | Jan. 12, 2013   | Jan. 11, 2014    |
| Spectrum Analyzer | Agilent       | E7405A             | MY45115511 | Jan. 12, 2013   | Jan. 11, 2014    |
| Pre-Amplifier     | Rohde&Schwarz | CBLU118354<br>0-01 | 3791       | Jan. 12, 2013   | Jan. 11, 2014    |
| Loop Antenna      | Schwarzbeck   | FMZB1516           | 1516131    | Feb. 6, 2013    | Feb. 5, 2014     |
| Bilog Antenna     | Schwarzbeck   | VULB9163           | 9163-323   | Feb. 6, 2013    | Feb. 5, 2014     |
| Horn Antenna      | Schwarzbeck   | BBHA9120D          | 9120D-655  | Feb. 6, 2013    | Feb. 5, 2014     |
| Horn Antenna      | Schwarzbeck   | BBHA9170           | 9170-359   | Feb. 6, 2013    | Feb. 5, 2014     |
| LISN              | Rohde&Schwarz | ESH3-Z5            | 100305     | Jan. 12, 2013   | Jan. 11, 2014    |
| LISN              | Schwarzbeck   | NSLK8126           | 8126431    | Jan. 12, 2013   | Jan. 11, 2014    |
| Battery           | CSB           | F2                 | HR1234W    |                 |                  |

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

## 3. SUMMARY OF TEST RESULTS

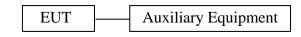
| FCC Rules                           | Description of Test                                       | Result    |
|-------------------------------------|---|-----------|
| Section 15.207                      | Conducted Emission  | N/A       |
| Section 15.239(c)<br>Section 15.209 | Harmonics and Spurious Radiated Emission<br>and Band Edge | Compliant |
| Section 15.239(b)                   | Fundamental Radiated Emission                             | Compliant |
| Section 15.239(a)                   | Occupied Bandwidth  | Compliant |
| Section 15.239                      | Tuning Range  | Compliant |
| Section 15.203                      | Antenna Requirement                                       | Compliant |

Remark: "N/A" means "Not applicable".

## 4. HARMONICS AND SPURIOUS RADIATED EMISSION AND BAND EDGE FOR FCC PART 15 SECTION 15.239(C)

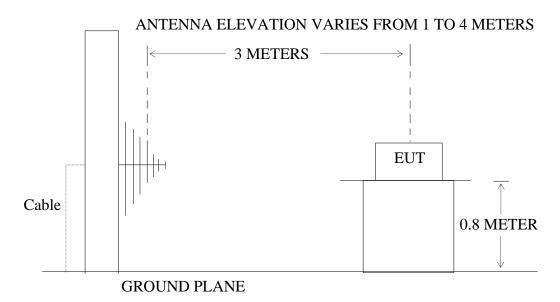
#### 4.1.Block Diagram of Test Setup

4.1.1.Block diagram of connection between the EUT and simulators



(EUT: FM Transmitter)

4.1.2.Semi-Anechoic Chamber Test Setup Diagram



(EUT: FM Transmitter)

#### 4.2. The Emission Limit for section 15.239(c)

4.2.1. The field strength of any emissions radiated on any frequency outside of the specified 200 kHz band shall not exceed the general radiated emission limits in Section 15.209.

|                    |   | Limit,  |  |  |
|--------------------|---|---|--|--|
| Frequency<br>(MHz) | Field Strength of<br>Quasi-peak Value<br>(microvolts/m) | Field Strength of<br>Quasi-peak Value<br>(dBµV/m) | The final measuremen<br>in band 9-90kHz,<br>110-490kHz and<br>above 1000MHz is |  |
| 30 - 88            | 100   | 40  | performed with Average detector.   |  |
| 88 - 216           | 150   | 43.5  | Except those<br>frequency bands<br>mention above, the                          |  |
| 216 - 960          | 200   | 46  | final measurement for<br>frequencies below<br>1000MHz is                       |  |
| Above 960          | 500   | 54  | performed with Quasi<br>Peak detector.   |  |

Radiation Emission Measurement Limits According to Section 15.209

#### 4.3.Configuration of EUT on Measurement

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

4.3.1.FM Transmitter (EUT)

| Model Number  | : | MP-Q8XL                  |
|---------------|---|--------------------------|
| Serial Number | : | N/A                      |
| Manufacturer  | : | DAZA Electronics Company |

#### 4.4.Operating Condition of EUT

4.4.1.Setup the EUT and simulator as shown as Section 4.1.

- 4.4.2.Turn on the power of all equipment.
- 4.4.3. Let the EUT work in TX modes [Connect EUT use Auxiliary Equipment (iPod) playing typical audio signal with a 2.5 kHz tone at a level 16 dB higher than that required to produce a frequency deviation of 75 kHz] and measure it. The transmit frequency are 88.1-88.7MHz. We select 88.1MHz, 88.5MHz, 88.7MHz TX frequency to transmit.

#### 4.5.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4: 2009 on radiated emission measurement.

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

The frequency range from 30MHz to 1000MHz is checked.

The final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

# 4.6.The Field Strength of Radiation Emission Measurement Results **PASS.**

The frequency range 30MHz to 1000MHz is investigated.

| Date of Test: | March 15, 2013                | Temperature:   | 25°C   |
|---------------|-------------------------------|----------------|--------|
| EUT:          | FM Transmitter                | Humidity:      | 50%    |
| Model No.:    | MP-Q8XL                       | Power Supply:  | DC 12V |
|               | TX 88.1MHz (Connect to iPod's |                |        |
| Test Mode:    | Dock)                         | Test Engineer: | Bob    |

Harmonics and Spurious radiation emission

| Polarization | Frequency<br>(MHz) | Reading(dBµV/m)<br>QP | Factor<br>Corr.( dB) | Result(dBµV/m)<br>QP | Limits(dBµV/m)<br>QP | Margin(dB)<br>QP |
|--------------|--------------------|-----------------------|----------------------|----------------------|----------------------|------------------|
| Horizontal   | 176.2685           | 61.07                 | -22.21               | 38.86                | 43.50                | -4.64            |
| Vertical     | 176.2684           | 57.70                 | -21.05               | 36.65                | 43.50                | -6.85            |

#### Band edge

| Polarization | Frequency<br>(MHz) | Reading(dBµV/m)<br>QP | Factor<br>Corr.( dB) | Result(dBµV/m)<br>QP | Limits(dBµV/m)<br>QP | Margin(dB)<br>QP |
|--------------|--------------------|-----------------------|----------------------|----------------------|----------------------|------------------|
| Horizontal   | 87.7600            | 29.00                 | -22.63               | 6.37                 | 40.00                | -33.63           |
| Horizontal   | 88.0000            | 53.78                 | -22.63               | 31.15                | 40.00                | -8.85            |
| Horizontal   | 88.2000            | 54.00                 | -22.64               | 31.36                | 43.50                | -12.14           |
| Horizontal   | 89.7800            | 29.07                 | -22.68               | 6.39                 | 43.50                | -37.11           |
| Vertical     | 87.2960            | 29.87                 | -22.48               | 7.39                 | 40.00                | -32.61           |
| Vertical     | 88.0000            | 59.94                 | -22.38               | 37.56                | 40.00                | -2.44            |
| Vertical     | 88.2000            | 60.87                 | -22.35               | 38.52                | 43.50                | -4.98            |
| Vertical     | 89.7960            | 30.22                 | -22.12               | 8.10                 | 43.50                | -35.40           |

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

Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss - Amplifier Gain

| Date of Test: | March 15, 2013                | Temperature:   | 25°C   |
|---------------|-------------------------------|----------------|--------|
| EUT:          | FM Transmitter                | Humidity:      | 50%    |
| Model No.:    | MP-Q8XL                       | Power Supply:  | DC 12V |
|               | TX 88.5MHz (Connect to iPod's |                |        |
| Test Mode:    | Dock)                         | Test Engineer: | Bob    |

#### Harmonics and Spurious radiation emission

| Polarization | Frequency<br>(MHz) | Reading(dBµV/m)<br>QP | Factor<br>Corr.( dB) | Result(dBµV/m)<br>QP | Limits(dBµV/m)<br>QP | Margin(dB)<br>QP |
|--------------|--------------------|-----------------------|----------------------|----------------------|----------------------|------------------|
| Horizontal   | 176.8876           | 63.93                 | -22.14               | 41.79                | 43.50                | -1.71            |
| Vertical     | 176.8876           | 58.50                 | -21.04               | 37.46                | 43.50                | -6.04            |

#### Band edge

| Polarization | Frequency<br>(MHz) | Reading(dBµV/m)<br>QP | Factor<br>Corr.( dB) | Result(dBµV/m)<br>QP | Limits(dBµV/m)<br>QP | Margin(dB)<br>QP |
|--------------|--------------------|-----------------------|----------------------|----------------------|----------------------|------------------|
| Horizontal   | 87.2600            | 28.83                 | -22.48               | 6.35                 | 40.00                | -33.65           |
| Horizontal   | 88.4000            | 58.97                 | -22.32               | 36.65                | 43.50                | -6.85            |
| Horizontal   | 88.6000            | 59.73                 | -22.29               | 37.44                | 43.50                | -6.06            |
| Horizontal   | 89.6080            | 27.54                 | -22.14               | 5.40                 | 43.50                | -38.10           |
| Vertical     | 86.8760            | 29.17                 | -22.60               | 6.57                 | 40.00                | -33.43           |
| Vertical     | 88.4000            | 51.28                 | -22.64               | 28.64                | 43.50                | -14.86           |
| Vertical     | 88.6000            | 51.82                 | -22.65               | 29.17                | 43.50                | -14.33           |
| Vertical     | 89.3040            | 27.48                 | -22.67               | 4.81                 | 43.50                | -38.69           |

#### 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

Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss – Amplifier Gain

| Date of Test: | March 15, 2013                | Temperature:   | 25°C   |
|---------------|-------------------------------|----------------|--------|
| EUT:          | FM Transmitter                | Humidity:      | 50%    |
| Model No.:    | MP-Q8XL                       | Power Supply:  | DC 12V |
|               | TX 88.7MHz (Connect to iPod's |                |        |
| Test Mode:    | Dock)                         | Test Engineer: | Bob    |

#### Harmonics and Spurious radiation emission

| Polarization | Frequency<br>(MHz) | Reading(dBµV/m)<br>QP | Factor<br>Corr.( dB) | Result(dBµV/m)<br>QP | Limits(dBµV/m)<br>QP | Margin(dB)<br>QP |
|--------------|--------------------|-----------------------|----------------------|----------------------|----------------------|------------------|
| Horizontal   | 177.5091           | 63.20                 | -22.08               | 41.12                | 43.50                | -2.38            |
| Vertical     | 177.5092           | 59.40                 | -21.03               | 38.37                | 43.50                | -5.13            |

#### Band edge

| Polarization | Frequency<br>(MHz) | Reading(dBµV/m)<br>QP | Factor<br>Corr.( dB) | Result(dBµV/m)<br>QP | Limits(dBµV/m)<br>QP | Margin(dB)<br>QP |
|--------------|--------------------|-----------------------|----------------------|----------------------|----------------------|------------------|
| Horizontal   | 86.6157            | 28.93                 | -22.58               | 6.35                 | 40.00                | -33.65           |
| Horizontal   | 88.6000            | 88.6000 59.63         |                      | -22.29 37.34 43.50   |                      | -6.16            |
| Horizontal   | 88.8000            | 60.01                 | -22.26               | 37.75                | 43.50                | -5.75            |
| Horizontal   | 89.5318            | 27.56                 | -22.15               | 5.41                 | 43.50                | -38.09           |
| Vertical     | 86.8960            | 30.10                 | -22.60               | 7.50                 | 40.00                | -32.50           |
| Vertical     | 88.6000            | 52.42                 | -22.65               | 29.77                | 43.50                | -13.73           |
| Vertical     | 88.8000            | 50.86                 | -22.65               | 28.21                | 43.50                | -15.29           |
| Vertical     | 89.8080            | 28.95                 | -22.68               | 6.27                 | 43.50                | -37.23           |

#### 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:

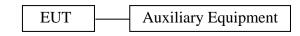
Result = Reading + Corrected Factor

Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss - Amplifier Gain

## 5. FUNDAMENTAL RADIATED EMISSION FOR FCC PART 15 SECTION 15.239(B)

#### 5.1.Block Diagram of Test Setup

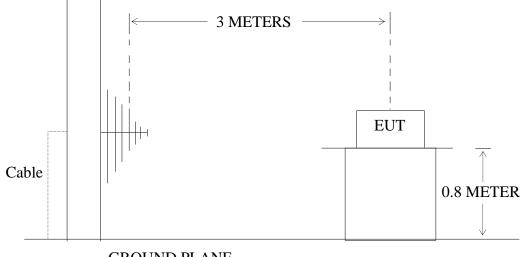
5.1.1.Block diagram of connection between the EUT and simulators



(EUT: FM Transmitter)

5.1.2. Semi-Anechoic Chamber Test Setup Diagram

ANTENNA ELEVATION VARIES FROM 1 TO 4 METERS



GROUND PLANE

(EUT: FM Transmitter)

#### 5.2. The Emission Limit For Section 15.239(b)

5.2.1.The field strength of any emission within the permitted 200kHz band shall not exceed 250microvolts/meter at 3 meters. The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in section 15.35 for limiting peak emissions apply.

#### 5.3.EUT Configuration on Measurement

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

5.3.1.FM Transmitter (EUT)

| Model Number  | : | MP-Q8XL                  |
|---------------|---|--------------------------|
| Serial Number | : | N/A                      |
| Manufacturer  | : | DAZA Electronics Company |

#### 5.4. Operating Condition of EUT

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

5.4.2.Turn on the power of all equipment.

5.4.3. Let the EUT work in TX modes [Connect EUT use Auxiliary Equipment (iPod) playing typical audio signal with a 2.5 kHz tone at a level 16 dB higher than that required to produce a frequency deviation of 75 kHz] and measure it. The transmit frequency are 88.1-88.7MHz. We select 88.1MHz, 88.5MHz, 88.7MHz TX frequency to transmit.

#### 5.5.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4: 2009 on radiated emission measurement.

The bandwidth of test receiver is set at 300kHz.

#### 5.6. The Emission Measurement Result

#### PASS.

| Date of Test: | March 15, 2013                | Temperature:   | 25°C   |
|---------------|-------------------------------|----------------|--------|
| EUT:          | FM Transmitter                | Humidity:      | 50%    |
| Model No.:    | MP-Q8XL                       | Power Supply:  | DC 12V |
|               | TX 88.1MHz (Connect to iPod's |                |        |
| Test Mode:    | dock)                         | Test Engineer: | Bob    |

#### **Fundamental Radiated Emissions**

| Frequency | Reading( | dBµV/m) | Factor (dB) | Result(dBµV/m) |       | Limit(dBµV/m) |       | Margin (dB) |        |              |
|-----------|----------|---------|-------------|----------------|-------|---------------|-------|-------------|--------|--------------|
| (MHz)     | AV       | PEAK    | Corr.       | AV             | PEAK  | AV            | PEAK  | AV          | PEAK   | Polarization |
| 88.1000   | 65.22    | 68.17   | -22.64      | 42.58          | 45.53 | 48.00         | 68.00 | -5.42       | -2.47  | Horizontal   |
| 88.1000   | 62.53    | 65.18   | -22.37      | 40.16          | 42.81 | 48.00         | 68.00 | -7.84       | -25.19 | Vertical     |

Note:

1. Measurement was performed with modulated signal with average detector and peak detector.

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

Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss - Amplifier Gain

| Date of Test: | March 11-12, 2013             | Temperature:   | 25°C   |
|---------------|-------------------------------|----------------|--------|
| EUT:          | FM Transmitter                | Humidity:      | 50%    |
| Model No.:    | MP-Q8XL                       | Power Supply:  | DC 12V |
|               | TX 88.5MHz (Connect to iPod's |                |        |
| Test Mode:    | dock)                         | Test Engineer: | Bob    |

#### **Fundamental Radiated Emissions**

| Frequency | Reading(c | dBμV/m) | Factor (dB) | Result(d | BµV/m) | Limit(d | BµV/m) | Margi | n (dB) |              |
|-----------|-----------|---------|-------------|----------|--------|---------|--------|-------|--------|--------------|
| (MHz)     | AV        | PEAK    | Corr.       | AV       | PEAK   | AV      | PEAK   | AV    | PEAK   | Polarization |
| 88.5000   | 66.85     | 69.48   | -22.64      | 44.21    | 46.84  | 48.00   | 68.00  | -3.79 | -21.16 | Horizontal   |
| 88.5000   | 61.83     | 64.72   | -22.30      | 39.53    | 42.42  | 48.00   | 68.00  | -8.47 | -25.58 | Vertical     |

Note:

1. Measurement was performed with modulated signal with average detector and peak detector.

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

Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss – Amplifier Gain

| Date of Test: | March 11-12, 2013             | Temperature:   | 25°C   |
|---------------|-------------------------------|----------------|--------|
| EUT:          | FM Transmitter                | Humidity:      | 50%    |
| Model No.:    | MP-Q8XL                       | Power Supply:  | DC 12V |
|               | TX 88.7MHz (Connect to iPod's |                |        |
| Test Mode:    | dock)                         | Test Engineer: | Bob    |

#### **Fundamental Radiated Emissions**

| I | Frequency | Reading( | dBμV/m) | Factor (dB) | Result(d | BµV/m) | Limit(dl | BµV/m) | Margi | in (dB) |              |
|---|-----------|----------|---------|-------------|----------|--------|----------|--------|-------|---------|--------------|
|   | (MHz)     | AV       | PEAK    | Corr.       | AV       | PEAK   | AV       | PEAK   | AV    | PEAK    | Polarization |
|   | 88.7000   | 66.89    | 69.30   | -22.65      | 44.24    | 46.65  | 48.00    | 68.00  | -3.76 | -21.35  | Horizontal   |
|   | 88.7000   | 63.28    | 66.66   | -22.28      | 41.00    | 44.38  | 48.00    | 68.00  | -7.00 | -23.62  | Vertical     |

Note:

1. Measurement was performed with modulated signal with average detector and peak detector.

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

Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss - Amplifier Gain

## 6. OCCUPIED BANDWIDTH FOR FCC PART 15 SECTION 15.239(A)

#### 6.1. The Requirement For Section 15.239(a)

6.1.1. Emission from the device shall be confined within a band 200kHz wide centered on the operating frequency. The 200kHz band shall lie wholly within the frequency range of 88-108MHz.

#### 6.2.EUT Configuration on Measurement

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

6.2.1.FM Transmitter (EUT)

| Model Number  | : | MP-Q8XL                  |
|---------------|---|--------------------------|
| Serial Number | : | N/A                      |
| Manufacturer  | : | DAZA Electronics Company |

#### 6.3. Operating Condition of EUT

- 6.3.1.Setup the EUT and simulator as shown as Section 5.1.
- 6.3.2.Turn on the power of all equipment.
- 6.3.3. Let the EUT work in TX modes [Connect EUT use Auxiliary Equipment (iPod) playing typical audio signal with a 2.5 kHz tone at a level 16 dB higher than that required to produce a frequency deviation of 75 kHz] measure it. The transmit frequency are 88.1-88.7MHz. We are select 88.1MHz, 88.5MHz, 88.7MHz TX frequency to transmit.

#### **6.4.Test Procedure**

- 6.4.1. The EUT was placed on a turn table which is 0.8m above ground plane.
- 6.4.2. Set EUT as normal operation. Playing typical audio signal with a 2.5 kHz tone at a level 16 dB higher than that required to produce a frequency deviation of 75 kHz
- 6.4.3. Set EMI test receiver Center Frequency = fundamental frequency, RBW= 3kHz, VBW= 10kHz, Span=300kHz.
- 6.4.4. Set EMI test receiver Max hold. Mark peak, -26dB.

### 6.5.Test Result

#### The EUT does meet the FCC requirement.

| Frequency<br>(MHz) | Occupied Bandwidth<br>(kHz) |
|--------------------|-----------------------------|
| 88.1               | 84.6                        |
| 88.5               | 85.2                        |
| 88.7               | 85.8                        |

The spectral diagrams in appendix I.

## 7. TUNING RANGE

#### 7.1. The Requirement For Section 15.239

88-108MHz

#### 7.2.EUT Configuration on Measurement

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

7.2.1. FM Transmitter (EUT)

| Model Number  | : | MP-Q8XL                  |
|---------------|---|--------------------------|
| Serial Number | : | N/A                      |
| Manufacturer  | : | DAZA Electronics Company |

- 7.3. Operating Condition of EUT
  - 7.3.1.Setup the EUT and simulator as shown as Section 5.1.
  - 7.3.2.Turn on the power of all equipment.
  - 7.3.3. Let the EUT work in TX modes [Connect EUT use Auxiliary Equipment (iPod) playing typical audio signal with a 2.5 kHz tone at a level 16 dB higher than that required to produce a frequency deviation of 75 kHz] measure it. The transmit frequency are 88.1-88.7MHz. We are select 88.1M, 88.5M, 88.7MHz TX frequency to transmit.

#### 7.4.Test Procedure

- 7.4.1.The EUT was placed on a turn table which is 0.8m above ground plane.
- 7.4.2.Set the EUT working on the working frequency.
- 7.4.3. Set EMI test receiver center frequency = working frequency, RBW=3kHz, VBW= 10kHz, Span=300kHz.
- 7.4.4.Measuring the working frequency.
- 7.4.5. The working frequency should be inside 88-108 MHz.

## 7.5.Test Result

#### The EUT does meet the FCC requirement.

| Display of the EUT LED<br>(MHz) | Display of the EMI test receiver<br>(MHz) |
|---------------------------------|---|
| 88.1                            | 88.1592                                   |
| 88.5                            | 88.4586                                   |
| 88.7                            | 88.6586                                   |

The working frequency rang is from 88.1 to 88.7MHz.

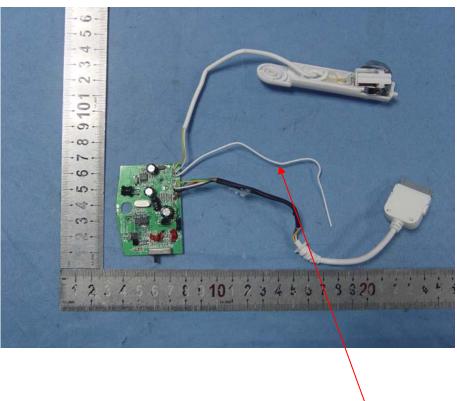
## 8. ANTENNA REQUIREMENT

#### 8.1. The Requirement

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

#### 8.2. Antenna Construction

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

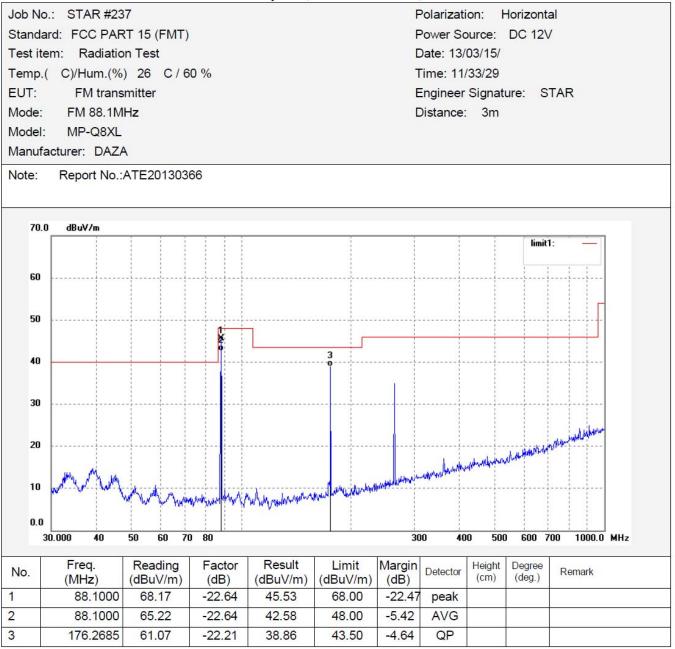


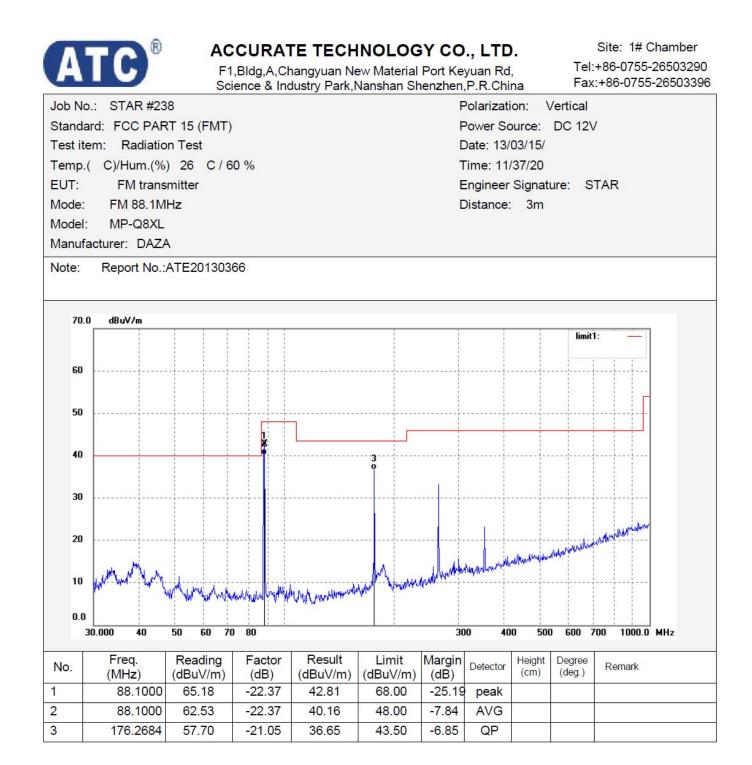
Antenna

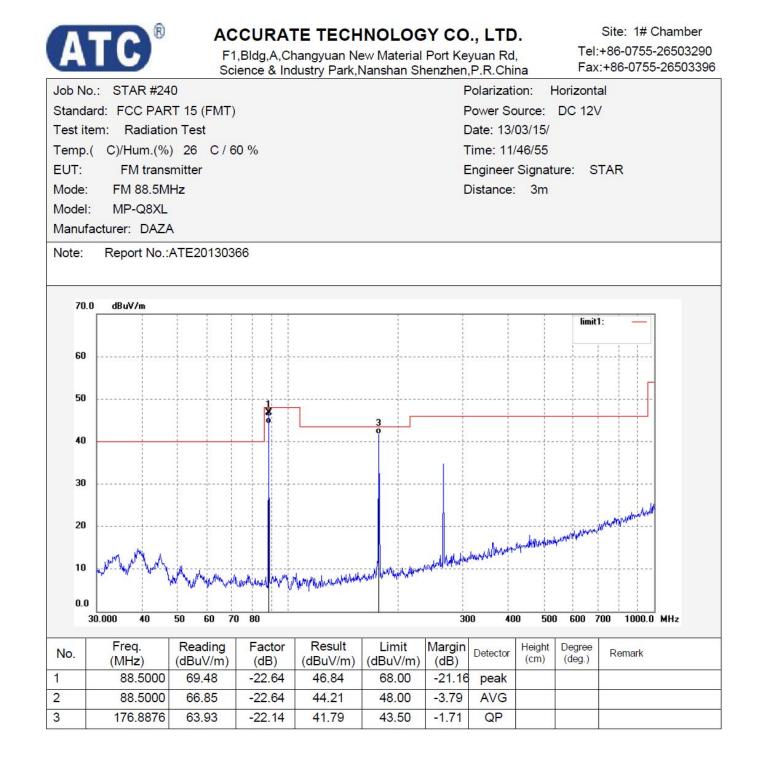
## APPENDIX I (Test Curves)

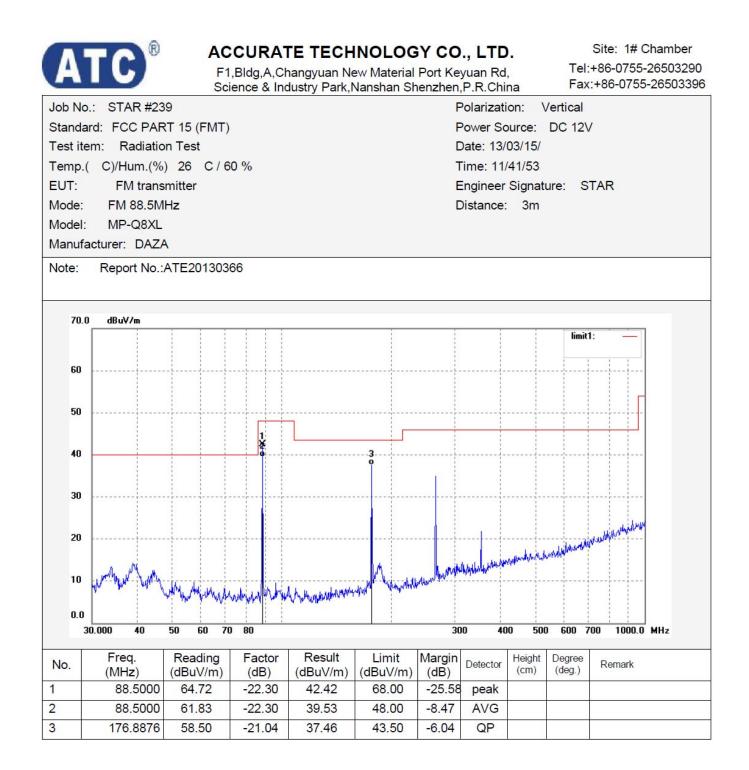


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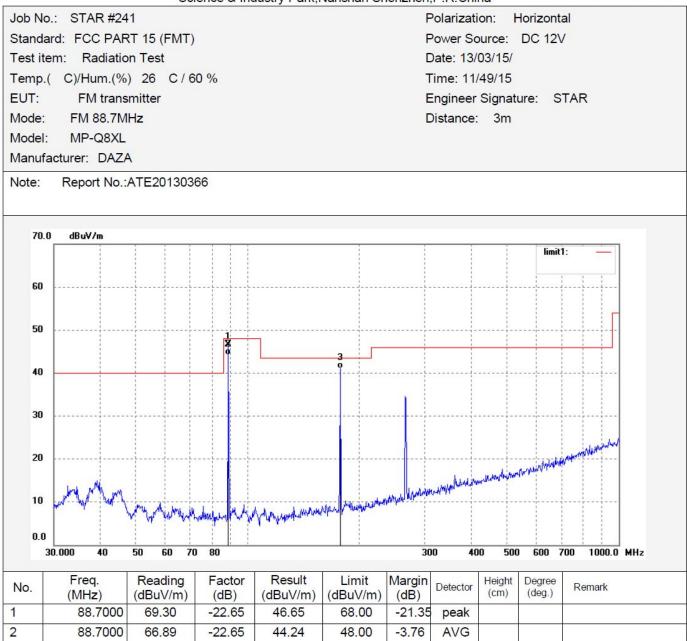








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3

177.5091

63.20

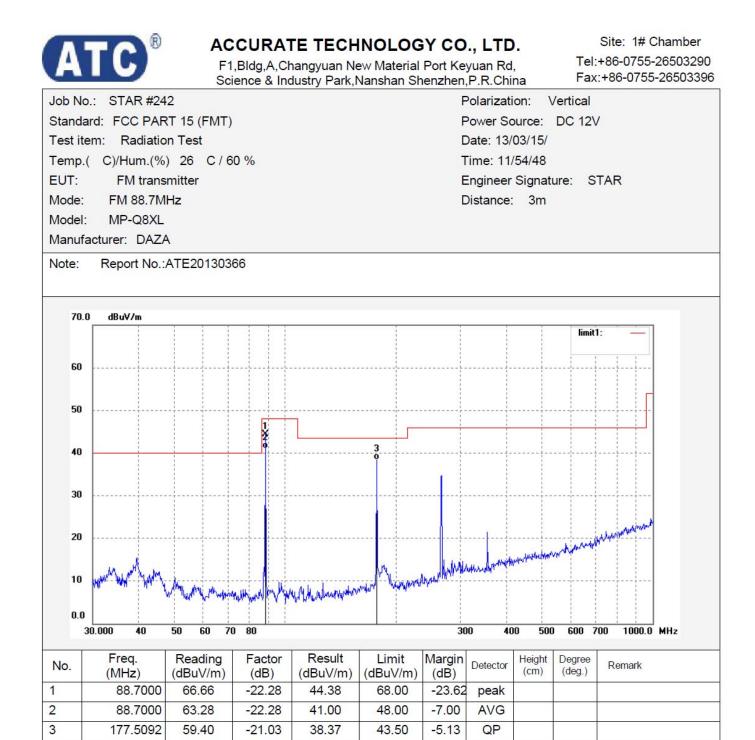
-22.08

41.12

43.50

-2.38

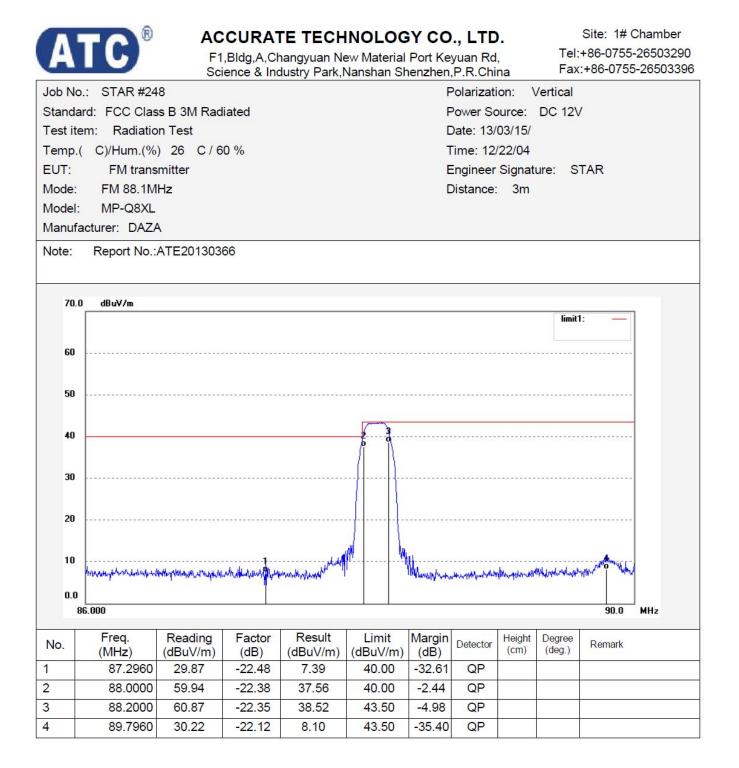
QP

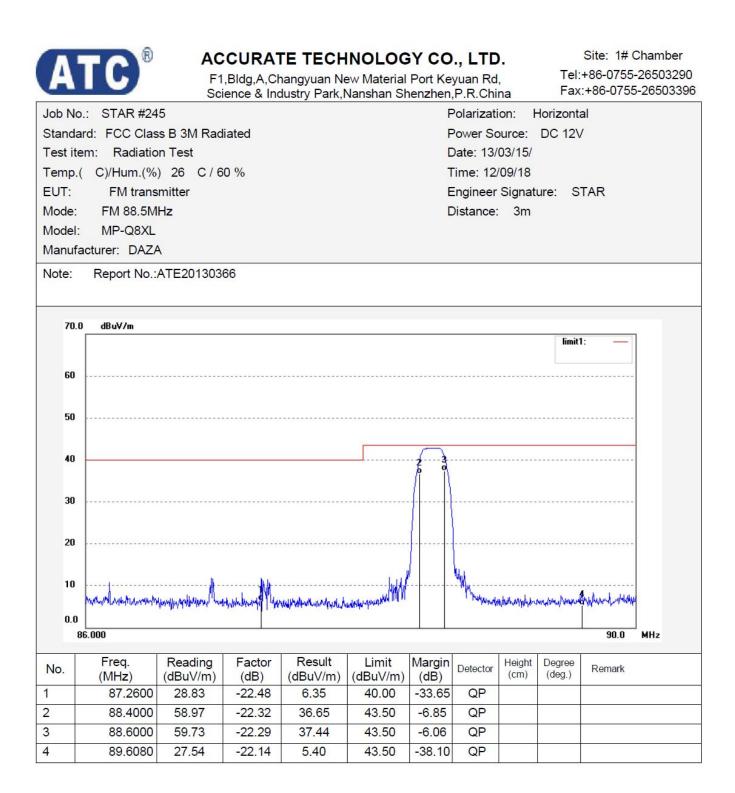


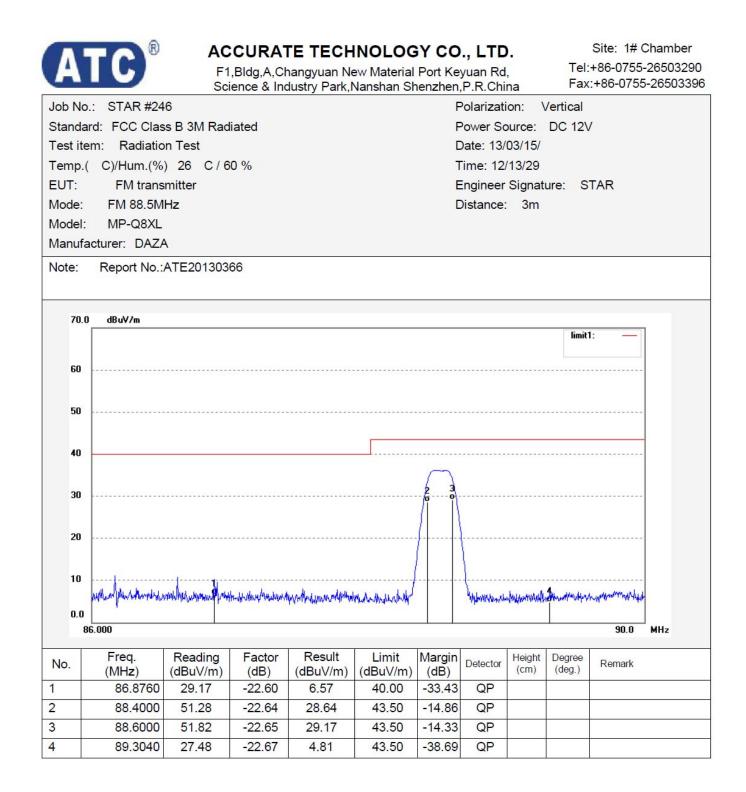


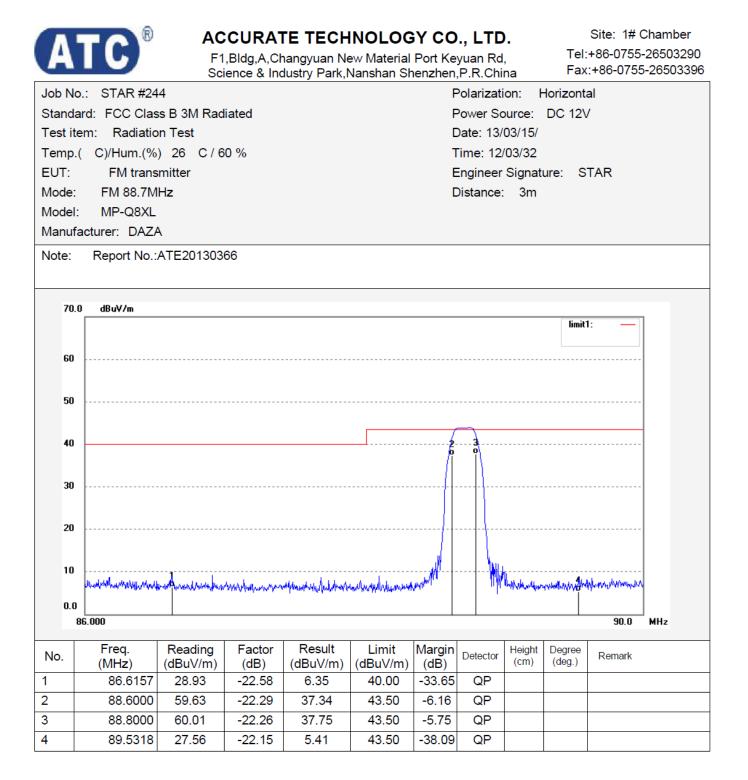
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| Job No                |   |                              |                          |                    |                            |  | ,P.R.China                    |                          |          |
|-----------------------|---|------------------------------|--------------------------|--------------------|----------------------------|--|-------------------------------|--------------------------|----------|
|                       | o.: STAR #24  | 7                            |                          |                    |                            | F  | Polarization:                 | Horizont                 | tal      |
| Standa                | ard: FCC Clas                                       | s B 3M Rad                   | ated                     |                    |                            | F  | ower Source                   | e: DC 12                 | V        |
| Test it               | tem: Radiatio                                       | n Test                       |                          |                    |                            | [  | Date: 13/03/                  | 15/                      |          |
| Temp.                 | .( C)/Hum.(%  | ) 26 C/6                     | 0 %                      |                    |                            | -  | Time: 12/17/                  | 03                       |          |
| EUT:                  | FM trans  | mitter                       |                          |                    |                            | E  | Engineer Sig                  | nature: S                | TAR      |
| Mode:                 | FM 88.1M  | Hz                           |                          |                    |                            | C  | Distance:                     | 3m                       |          |
| Model                 | : MP-Q8XL   |                              |                          |                    |                            |  |                               |                          |          |
| Manuf                 | facturer: DAZA                                      | 4                            |                          |                    |                            |  |                               |                          |          |
| Note:                 | Report No.:   | ATE201303                    | 66                       |                    |                            |  |                               |                          |          |
| 70.                   | .0 dBuV/m   |                              |                          |                    |                            |  |                               | limit                    | 1        |
|                       |   |                              |                          |                    |                            |  |                               |                          |          |
| 60                    |   |                              |                          |                    |                            |  |                               |                          |          |
|                       |   |                              |                          |                    |                            |  |                               |                          |          |
| 50                    |   |                              |                          |                    |                            |  |                               |                          |          |
|                       |   |                              |                          |                    |                            |  |                               |                          |          |
| 40                    |   |                              |                          |                    |                            |  |                               |                          |          |
|                       |   |                              |                          |                    |                            |  |                               |                          |          |
| 40                    |   |                              |                          |                    | 5 1                        |  |                               |                          |          |
|                       |   |                              |                          |                    | 8 3                        |  |                               |                          |          |
| 30                    |   |                              |                          |                    | 6 5                        |  |                               |                          |          |
| 30                    |   |                              |                          |                    | 2 30                       |  |                               |                          |          |
|                       |   |                              |                          |                    | 8 3                        |  |                               |                          |          |
| 30                    |   |                              |                          |                    | 2 30                       |  |                               |                          |          |
| 30                    |   |                              |                          | 1.00%              | e de                       |  |                               |                          |          |
| 30<br>20<br>10        | ognow between out of                                | waterman                     | hallondonyah (ja         | monand             | 2                          | where any the following the fo | hereasthereaster              | ul waa waa waa ku da     | L., Many |
| 30<br>20<br>10<br>0.0 | Myrred Industry March 19                            | ungunununu                   | halbondonyal-life        | manunal            | e d                        | utor antest  | henrytheranisely              | el waar structured       |          |
| 30<br>20<br>10<br>0.0 | ognow between out of                                | waterman                     | tullionalonyotille       | manually           | 6                          | utor antical   | herrightenersely              | dwyrddwrdd               | 90.0 MHz |
| 30<br>20<br>10<br>0.0 | Myrred Industry March 19                            | Reading<br>(dBuV/m)          | Factor<br>(dB)           | Result<br>(dBuV/m) | Limit<br>(dBuV/m)          | Margin<br>(dB)   | Detector He                   | ight Degree<br>m) (deg.) |          |
| 30<br>20<br>10<br>0.0 | иучуни и иниципальна<br>86.000<br>Freq.             | Reading                      | Factor                   |                    | Limit                      | Margin   | Detector He                   | ight Degree              | 90.0 MHz |
| 30<br>20<br>10<br>0.0 | и<br>мули<br>86.000<br>Freq.<br>(MHz)               | Reading<br>(dBuV/m)          | Factor<br>(dB)           | (dBuV/m)           | Limit<br>(dBuV/m)          | Margin<br>(dB)   | Detector He                   | ight Degree              | 90.0 MHz |
| 30<br>20<br>10        | муни<br>муни<br>86.000<br>Freq.<br>(MHz)<br>87.7600 | Reading<br>(dBuV/m)<br>29.00 | Factor<br>(dB)<br>-22.63 | (dBuV/m)<br>6.37   | Limit<br>(dBuV/m)<br>40.00 | Margin<br>(dB)<br>-33.63   | Detector He<br>(c<br>QP<br>QP | ight Degree              | 90.0 MHz |





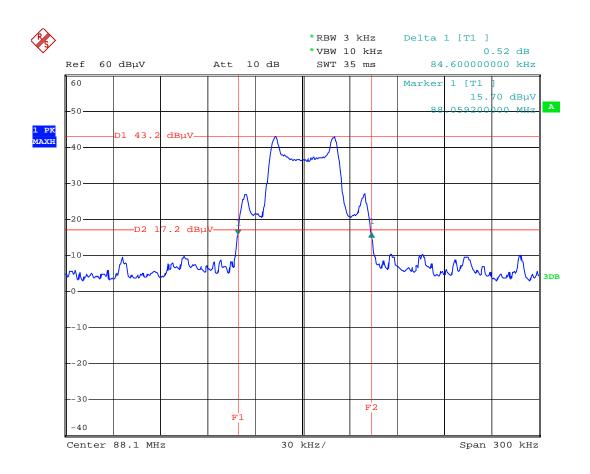




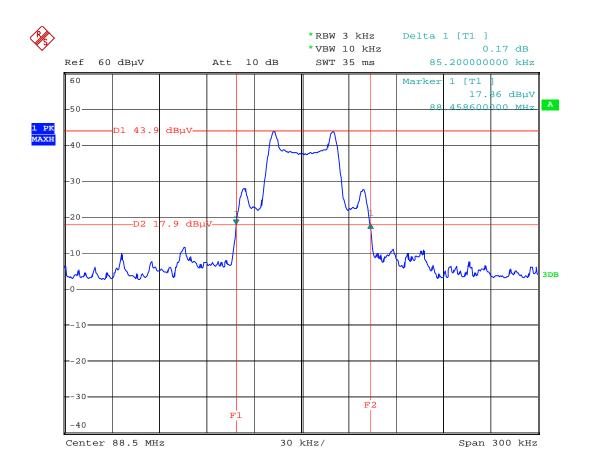


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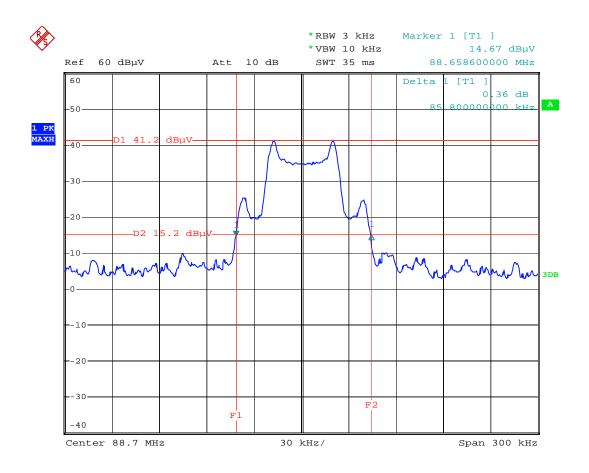
| h NI-                            |                                      | -                                     |                                    |                                     |                                     |  |                         |               |                     |                           |                    |
|----------------------------------|--------------------------------------|---------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|--|-------------------------|---------------|---------------------|---------------------------|--------------------|
| D 110                            | o.: STAR #24                         | 3                                     |                                    |                                     |                                     | F  | Polarizati              | on: \         | /ertical            |                           |                    |
| anda                             | rd: FCC Clas                         | s B 3M Rad                            | liated                             |                                     |                                     | F  | ower Sc                 | ource:        | DC 12\              | /                         |                    |
| st ite                           | em: Radiatio                         | on Test                               |                                    |                                     |                                     |  | Date: 13/               | 03/15/        |                     |                           |                    |
| mp.(                             | ( C)/Hum.(%                          | ) 26 C/6                              | 0 %                                |                                     |                                     | Т  | <sup>-</sup> ime: 11/   | 59/51         |                     |                           |                    |
| JT:                              | FM trans                             | mitter                                |                                    |                                     |                                     | E  | Engineer                | Signat        | ure: S              | TAR                       |                    |
| ode:                             | FM 88.7M                             | Hz                                    |                                    |                                     |                                     |  | Distance:               | 3m            |                     |                           |                    |
| odel:                            | MP-Q8XL                              |                                       |                                    |                                     |                                     |  |                         |               |                     |                           |                    |
| anufa                            | acturer: DAZA                        | 4                                     |                                    |                                     |                                     |  |                         |               |                     |                           |                    |
| ote:                             | Report No.:                          | ATE201303                             | 66                                 |                                     |                                     |  |                         |               |                     |                           |                    |
|                                  |                                      |                                       |                                    |                                     |                                     |  |                         |               |                     |                           |                    |
| 70.0                             | ) dBuV/m                             |                                       |                                    |                                     |                                     |  |                         |               |                     |                           |                    |
|                                  |                                      |                                       |                                    |                                     |                                     |  |                         |               | limit               | 1: —                      | 1                  |
|                                  |                                      |                                       |                                    |                                     |                                     |  |                         |               |                     |                           |                    |
| 60                               |                                      |                                       |                                    |                                     |                                     |  |                         |               |                     |                           | -                  |
|                                  | 1                                    |                                       |                                    |                                     |                                     |  |                         |               |                     |                           | 1                  |
|                                  |                                      |                                       |                                    |                                     |                                     |  |                         |               |                     |                           |                    |
| 50                               |                                      |                                       |                                    |                                     |                                     |  |                         |               |                     |                           | đ                  |
| 50                               |                                      |                                       |                                    |                                     |                                     |  |                         |               |                     |                           |                    |
| 50<br>40                         |                                      |                                       |                                    |                                     |                                     |  |                         |               |                     |                           | -                  |
|                                  |                                      |                                       |                                    |                                     |                                     |  | 1777MW2                 |               |                     |                           | -                  |
|                                  |                                      |                                       |                                    |                                     |                                     | 4  |                         |               |                     |                           | -                  |
| 40                               |                                      |                                       |                                    |                                     |                                     | -  | 1177714<br>             |               |                     |                           |                    |
| 40                               |                                      |                                       |                                    |                                     |                                     | 1  | 1/milion<br>3<br>0<br>0 |               |                     |                           | -                  |
| 40<br>30                         |                                      |                                       |                                    |                                     |                                     | 1  | 1/mily<br>3<br>0        |               |                     |                           | -                  |
| 40<br>30                         |                                      |                                       |                                    |                                     |                                     | 1  | 9<br>                   |               |                     |                           | -                  |
| 40<br>30<br>20                   |                                      | www.water                             | Waland and Manageline of           |                                     | uquerrelismAqUeldur                 | 1  |                         |               | e valdere dir value | at Windows                |                    |
| 40<br>30<br>20                   |                                      | ummentur                              | walan ang magana                   |                                     | uqueently the Aphendee              | t de la constante de la consta | 1/17/14<br>3<br>        |               | en stand            | 04.115/114.49.49.164<br>0 | -                  |
| 40<br>30<br>20<br>10             |                                      | wymanadada                            | waland and the again of            |                                     | uquerrelistic Agletalue.            | t de la construcción de la const |                         | 444-4-164W-4A | es alfore for all   |                           | -<br>-<br>-<br>-   |
| 40<br>30<br>20<br>10<br>0.0<br>8 | 56.000<br>Freq.                      | Reading                               | Factor                             | Result                              | Limit                               | Margin   |                         | Height        | Degree              | 90.0                      | -<br>-<br>MHz      |
| 40<br>30<br>20<br>10             | 86.000<br>Freq.<br>(MHz)             | Reading<br>(dBuV/m)                   | Factor<br>(dB)                     | Result<br>(dBuV/m)                  | Limit<br>(dBuV/m)                   | Margin<br>(dB)   | Detector                |               |                     |                           | -<br>-<br>-<br>MHz |
| 40<br>30<br>20<br>10<br>0.0<br>8 | Freq.<br>(MHz)<br>86.8960            | Reading<br>(dBuV/m)<br>30.10          | Factor<br>(dB)<br>-22.60           | Result<br>(dBuV/m)<br>7.50          | Limit<br>(dBuV/m)<br>40.00          | Margin<br>(dB)<br>-32.50   | Detector                | Height        | Degree              | 90.0                      | -<br>-<br>-<br>-   |
| 40<br>30<br>20<br>10<br>0.0<br>8 | Freq.<br>(MHz)<br>86.8960<br>88.6000 | Reading<br>(dBuV/m)<br>30.10<br>52.42 | Factor<br>(dB)<br>-22.60<br>-22.65 | Result<br>(dBuV/m)<br>7.50<br>29.77 | Limit<br>(dBuV/m)<br>40.00<br>43.50 | Margin<br>(dB)<br>-32.50<br>-13.73   | Detector<br>QP<br>QP    | Height        | Degree              | 90.0                      | -<br>-<br>-<br>MHz |
| 40<br>30<br>20<br>10<br>0.0<br>8 | Freq.<br>(MHz)<br>86.8960            | Reading<br>(dBuV/m)<br>30.10          | Factor<br>(dB)<br>-22.60           | Result<br>(dBuV/m)<br>7.50          | Limit<br>(dBuV/m)<br>40.00          | Margin<br>(dB)<br>-32.50   | Detector                | Height        | Degree              | 90.0                      | -<br>MHz           |



Date: 15.MAR.2013 16:56:54



Date: 15.MAR.2013 17:00:51



Date: 15.MAR.2013 17:07:31