# MEASUREMENT REPORT
## FCC PART 15.247 WLAN 802.11b/g/n

| | |
|---|---|
| **FCC ID:** | YZZGXV3275 |
| **APPLICANT:** | Grandstream Networks, Inc. |

| | |
|---|---|
| **Application Type:** | Certification |
| **Product:** | IP Multimedia Phone |
| **Model No.:** | GXV3275 |
| **Brand Name:** | Grandstream |
| **FCC Classification:** | Digital Transmission System (DTS) |
| **FCC Rule Part(s):** | Part 15.247 |
| **Test Procedure(s):** | ANSI C63.10-2009, KDB 558074 D01v03r04 |
| **Test Date:** | January 12 ~ 20, 2016 |

Reviewed By : Robin Wu
( Robin Wu )

Approved By : Marlin Chen
( Marlin Chen )

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

The test results relate only to the samples tested.
This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 558074 D01v03r04. Test results reported herein relate only to the item(s) tested.

# Revision History

| Report No. | Version | Description | Issue Date |
|---|---|---|---|
| 1601RSU01102 | Rev. 01 | Initial report | 01-21-2016 |
| | | | |

Note: The EUT has been got the FCC certificate (FCC ID: YZZGXV3275). The EUT adds one new adapter now and we have shown the conducted emission data and radiated emission data (below 1GHz) in the DTS report.

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Description Page

## §2.1033 General Information

| | |
|---|---|
| **Applicant:** | Grandstream Networks, Inc. |
| **Applicant Address:** | 4th Floor, Rainbow Technology Building #16 New West Rd, Nanshan Science & Technology Park (North District), Shenzhen,China 518057 |
| **Manufacturer:** | Grandstream Networks, Inc. |
| **Manufacturer Address:** | 4th Floor, Rainbow Technology Building #16 New West Rd, Nanshan Science & Technology Park (North District), Shenzhen,China 518057 |
| **Test Site:** | MRT Technology (Suzhou) Co., Ltd |
| **Test Site Address:** | D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China |
| **MRT Registration No.:** | 809388 |
| **FCC Rule Part(s):** | Part 15.247 |
| **Model No.:** | GXV3275 |
| **FCC ID:** | YZZGXV3275 |
| **Test Device Serial No.:** | N/A ☐ Production ☒ Pre-Production ☐ Engineering |
| **FCC Classification:** | Digital Transmission System (DTS) |

### Test Facility / Accreditations

**Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.**

- **MRT facility is a FCC registered (MRT Reg. No. 809388) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules.**
- **MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.**
- **MRT facility is a VCCI registered (R-4179, G-814, C-4664, T-2206) test laboratory with the site description on file at VCCI Council.**
- **MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications and Radio testing for FCC, Industry Canada, EU and TELEC Rules.**

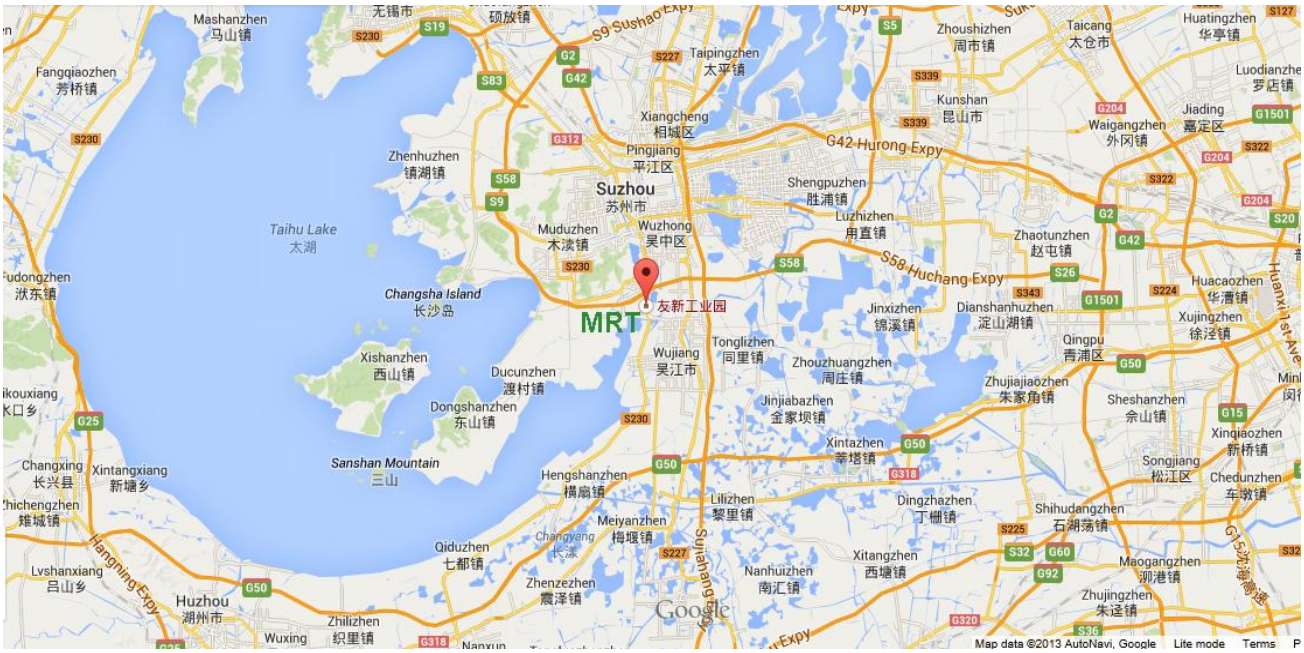
# 1. INTRODUCTION

## 1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

## 1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on September 30, 2013.



# 2. PRODUCT INFORMATION

## 2.1. Equipment Description

| | |
|---|---|
| Product Name | IP Multimedia Phone |
| Model No. | GXV3275 |
| Brand Name | Grandstream |
| WLAN Specification | 802.11b/g/n |
| BT Specification | v3.0 |
| BT Antenna | Small antenna with 0 ~ 2 dBi peak gain |
| WiFi Antenna | FPC Antenna, 1T1R |
| **Components** | |
| Adapter #1 | M/N: H18US1200150A<br>Input: AC 100-240V ~ 50/60Hz, 0.8A max<br>OUTPUT: 12Vdc, 1.5A |
| Adapter #2 | M/N: F18W8-120150SPAUY<br>Input: AC 100-240V ~ 50/60Hz, 0.6A<br>OUTPUT: 12Vdc, 1.5A |

## 2.2. Product Specification Subjective to this Standard

| Product Specification Subjective to this Standard | |
|---|---|
| Transmitter / Receiver Frequency Range | 2412 ~ 2462 MHz |
| Number of Channels | 11 |
| Channel Spacing | 5MHz |
| Type of Modulation | 802.11b: DSSS<br>802.11g/n: OFDM |

Note: For other features of this EUT, test report will be issued separately.

## 2.3. Operation Frequency / Channel List

802.11b/g/n-HT20

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---|---|---|---|---|---|
| 01 | 2412 MHz | 02 | 2417 MHz | 03 | 2422 MHz |
| 04 | 2427 MHz | 05 | 2432 MHz | 06 | 2437 MHz |
| 07 | 2442 MHz | 08 | 2447 MHz | 09 | 2452 MHz |
| 10 | 2457 MHz | 11 | 2462 MHz | N/A | N/A |

## 2.4. Test Software

The test utility software used during testing was engineering order by applicant.

# 3. DESCRIPTION OF TEST

## 3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2009), and the guidance provided in KDB 558074 D01v03r04 were used in the measurement of the **IP Multimedia Phone FCC ID: YZZGXV3275.**

**Deviation from measurement procedure…….....None**

## 3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an 8'x4'x4' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions were used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2013 at Clause 4.3.

Line conducted emissions test results are shown in Section 6.3.

### 3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A MF Model 210SS turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.
For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 0.8 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.
Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB BeamWidth of horn antenna, the horn antenna should be always directed to the EUT when rising height.

# 4. TEST EQUIPMENT CALIBRATION DATE

Conducted Emissions - SR2

| Instrument | Manufacturer | Type No. | Asset No. | Cali. Interval | Cali. Due Date |
|---|---|---|---|---|---|
| EMI Test Receiver | R&S | ESR7 | MRTSUE06001 | 1 year | 2016/11/03 |
| Two-Line V-Network | R&S | ENV216 | MRTSUE06002 | 1 year | 2016/11/03 |
| Two-Line V-Network | R&S | ENV216 | MRTSUE06003 | 1 year | 2016/11/03 |
| Temperature/ Meter Humidity | Yuhuaze | N/A | MRTSUE06180 | 1 year | 2016/12/20 |

Radiated Emissions - AC2

| Instrument | Manufacturer | Type No. | Asset No. | Cali. Interval | Cali. Due Date |
|---|---|---|---|---|---|
| Spectrum Analyzer | Agilent | N9010A | MRTSUE06124 | 1 year | 2016/06/23 |
| EMI Test Receiver | R&S | ESR7 | MRTSUE06001 | 1 year | 2016/11/03 |
| TRILOG Antenna | Schwarzbeck | VULB9168 | MRTSUE06172 | 1 year | 2016/12/10 |
| Temperature/ Meter Humidity | Mingao | ETH529 | MRTSUE06170 | 1 year | 2016/11/29 |

| **Software** | **Version** | **Function** |
|---|---|---|
| e3 | V 8.3.5 | EMI Test Software |

# 5. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

| AC Conducted Emission Measurement |
| --- |
| Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)):<br>150kHz~30MHz: 3.46dB |
| Radiated Emission Measurement |
| Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)):<br>9kHz ~ 1GHz: 4.18dB |

# 6. TEST RESULT

## 6.1. Summary

**Company Name:** **Grandstream Networks, Inc.**
**FCC ID:** **YZZGXV3275**
**FCC Classification:** **Digital Transmission System (DTS)**
**Data Rate(s)** **1Mbps ~ 11Mbps (b); 6Mbps ~ 54Mbps (g);**
**Tested:** **6.5/7.2Mbps ~ 65/72.2Mbps (n-HT20)**

| FCC Part Section(s) | Test Description | Test Limit | Test Condition | Test Result | Reference |
|---|---|---|---|---|---|
| 15.209 | General Field Strength Limits (Radiated Emission Limits) | Emissions in restricted bands must meet the radiated limits detailed in 15.209 | Radiated | Pass | Section 6.2 |
| 15.207 | AC Conducted Emissions 150kHz - 30MHz | < FCC 15.207 limits | Line Conducted | Pass | Section 6.3 |

**Notes:** All modes of operation and data rates were investigated. For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst case emissions.

## 6.2. Radiated Spurious Emission Measurement

### 6.2.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

| FCC Part 15 Subpart C Paragraph 15.209 | | |
|---|---|---|
| Frequency [MHz] | Field Strength [V/m] | Measured Distance [Meters] |
| 0.009 - 0.490 | 2400/F (kHz) | 300 |
| 0.490 - 1.705 | 24000/F (kHz) | 30 |
| 1.705 - 30 | 30 | 30 |
| 30 - 88 | 100 | 3 |
| 88 - 216 | 150 | 3 |
| 216 - 960 | 200 | 3 |
| Above 960 | 500 | 3 |

### 6.2.2. Test Procedure Used

KDB 558074 D01v03r04 - Section 12.2.3 (quasi-peak measurements)

KDB 558074 D01v03r04 - Section 12.2.4 (peak power measurements)

### 6.2.3. Test Setting

**Peak Field Strength Measurements per Section 12.2.4 of KDB 558074 D01v03r04**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in Table 1
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold

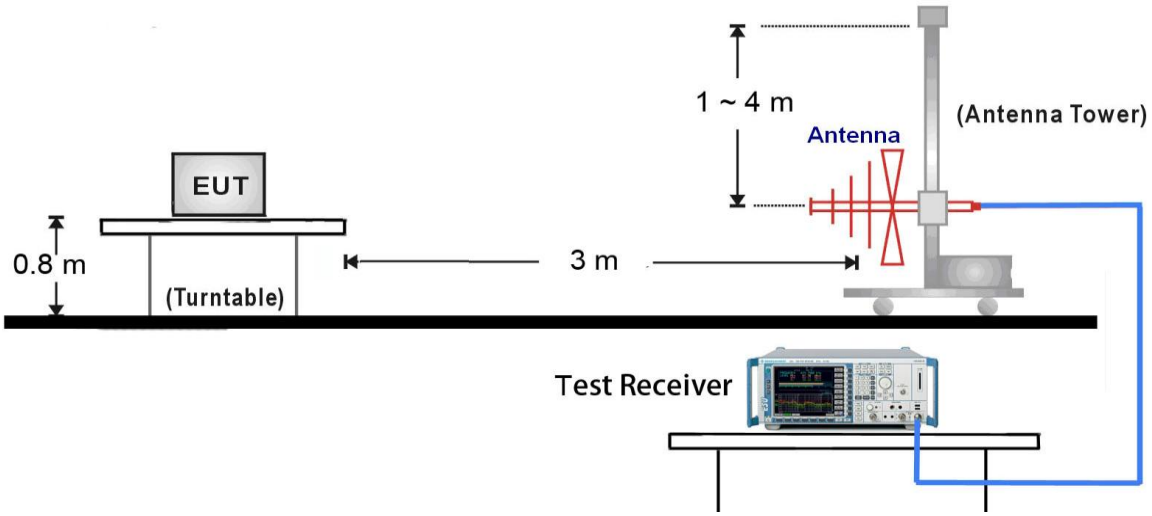
7. Trace was allowed to stabilize

**Table 1 - RBW as a function of frequency**

| Frequency | RBW |
|---|---|
| 9 ~ 150 kHz | 200 ~ 300 Hz |
| 0.15 ~ 30 MHz | 9 ~ 10 kHz |
| 30 ~ 1000 MHz | 100 ~ 120 kHz |
| > 1000 MHz | 1 MHz |

### 6.2.4. Test Setup

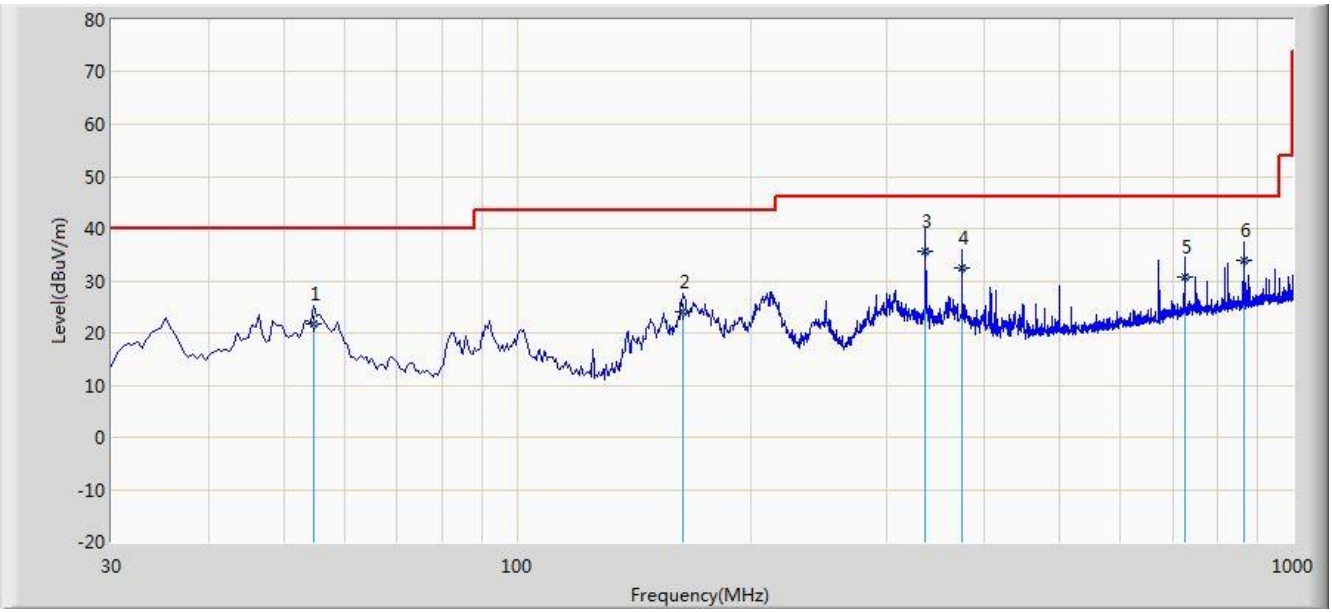
30MHz ~ 1GHz Test Setup:



### 6.2.5. Test Result

**The worst case of Radiated Emission 30MHz ~ 1GHz:**

| | |
|---|---|
| Site: AC2 | Time: 2016/01/20 - 14:49 |
| Limit: FCC_Part15.209_RE(3m)_Class B | Engineer: Lewis Huang |
| Probe: VULB9162_0.03-8GHz | Polarity: Horizontal |
| EUT: IP Multimedia Phone | Power: AC 120V/60Hz |
| **Worst Case Mode:** Transmit at Channel 2412MHz by 802.11b (Adapter #1) | |

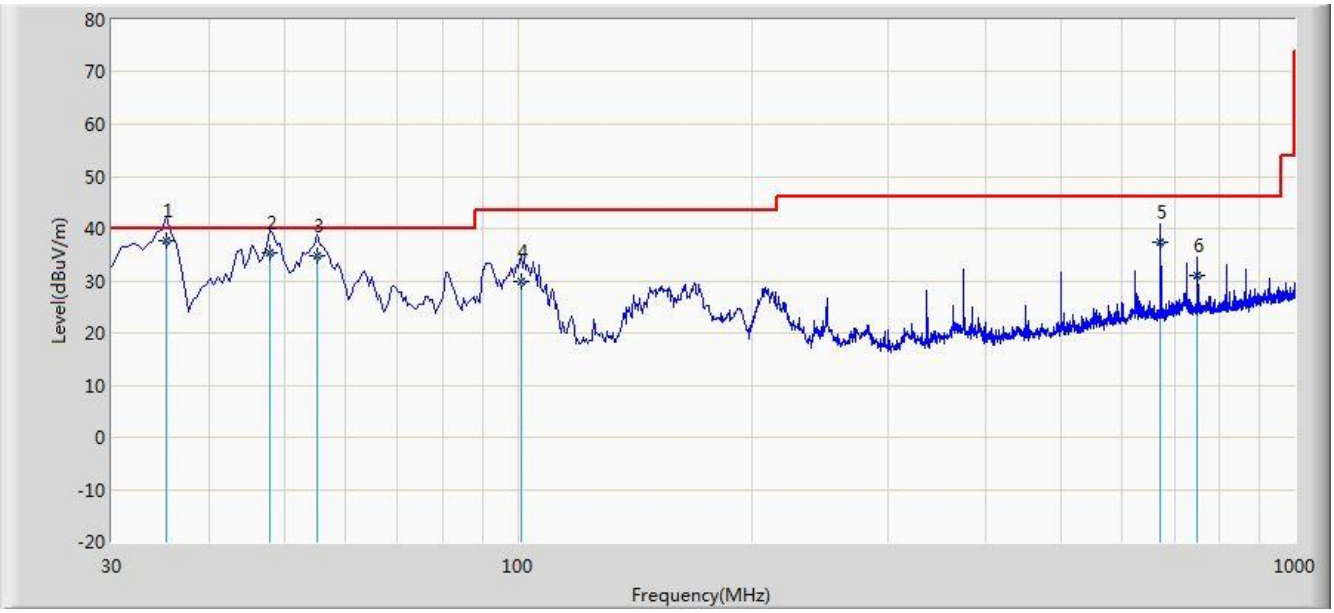



| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 54.735 | 21.677 | 6.950 | -18.323 | 40.000 | 14.727 | QP |
| 2 | | | 163.375 | 23.925 | 13.950 | -19.575 | 43.500 | 9.975 | QP |
| 3 | | * | 336.035 | 35.710 | 20.140 | -10.290 | 46.000 | 15.570 | QP |
| 4 | | | 374.835 | 32.568 | 16.350 | -13.432 | 46.000 | 16.218 | QP |
| 5 | | | 725.975 | 30.667 | 8.690 | -15.333 | 46.000 | 21.977 | QP |
| 6 | | | 864.200 | 33.985 | 10.140 | -12.015 | 46.000 | 23.845 | QP |

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

| | |
|---|---|
| Site: AC2 | Time: 2016/01/20 - 14:50 |
| Limit: FCC_Part15.209_RE(3m)_Class B | Engineer: Lewis Huang |
| Probe: VULB9162_0.03-8GHz | Polarity: Vertical |
| EUT: IP Multimedia Phone | Power: AC 120V/60Hz |
| **Worst Case Mode:** Transmit at Channel 2412MHz by 802.11b (Adapter #1) | |

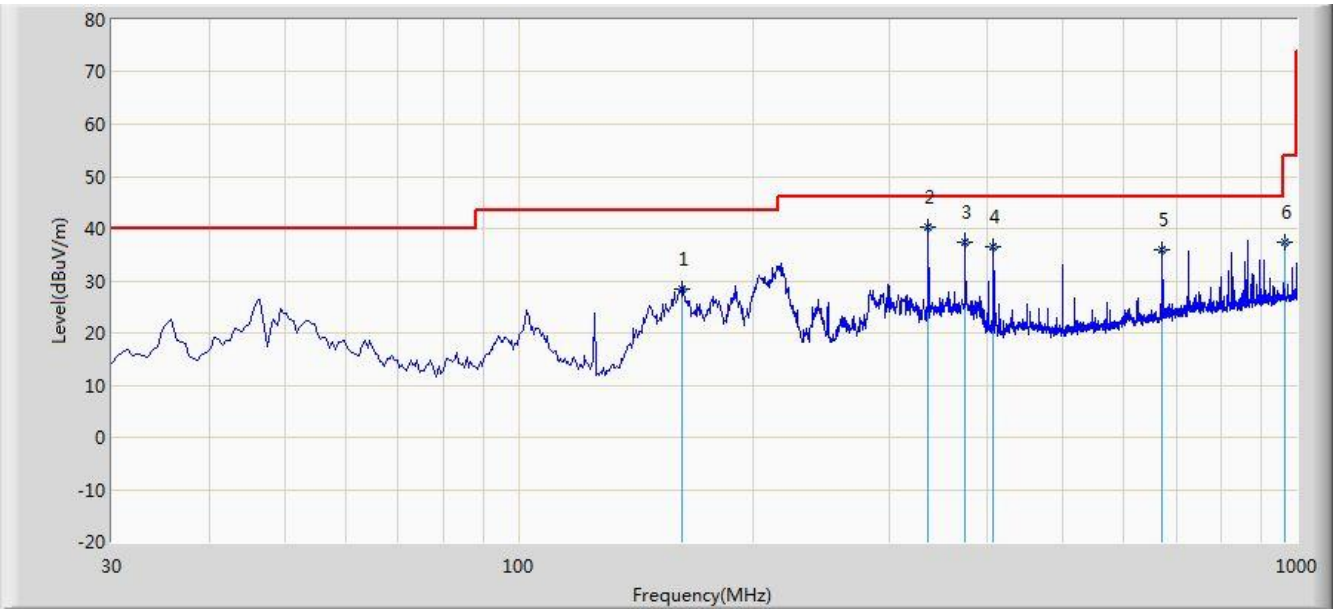



| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | * | 35.335 | 37.582 | 24.580 | -2.418 | 40.000 | 13.001 | QP |
| 2 | | | 47.945 | 35.279 | 20.310 | -4.721 | 40.000 | 14.969 | QP |
| 3 | | | 55.220 | 34.658 | 20.010 | -5.342 | 40.000 | 14.648 | QP |
| 4 | | | 100.810 | 29.935 | 16.850 | -13.565 | 43.500 | 13.085 | QP |
| 5 | | | 672.140 | 37.461 | 16.350 | -8.539 | 46.000 | 21.111 | QP |
| 6 | | | 750.225 | 30.952 | 8.690 | -15.048 | 46.000 | 22.262 | QP |

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

| | |
|---|---|
| Site: AC2 | Time: 2016/01/20 - 15:03 |
| Limit: FCC_Part15.209_RE(3m)_Class B | Engineer: Lewis Huang |
| Probe: VULB9162_0.03-8GHz | Polarity: Horizontal |
| EUT: IP Multimedia Phone | Power: AC 120V/60Hz |
| **Worst Case Mode:** Transmit at Channel 2412MHz by 802.11b (Adapter #2) | |

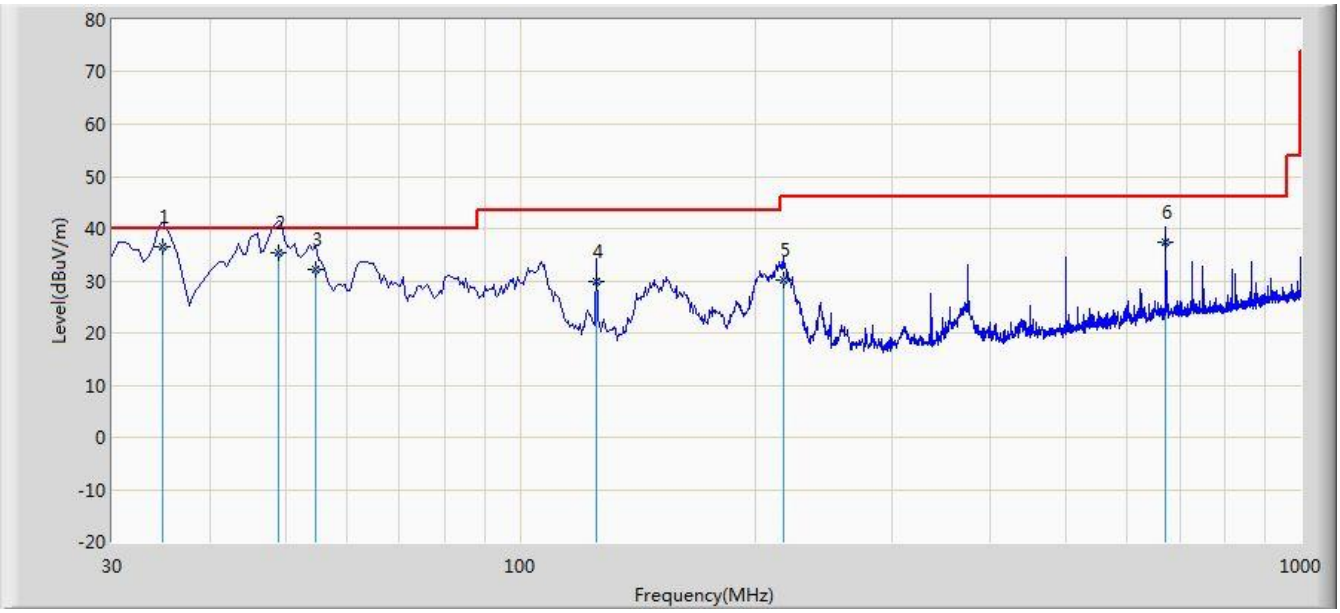



| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 162.405 | 28.485 | 18.547 | -15.015 | 43.500 | 9.938 | QP |
| 2 | | * | 336.035 | 40.410 | 24.840 | -5.590 | 46.000 | 15.570 | QP |
| 3 | | | 374.835 | 37.248 | 21.030 | -8.752 | 46.000 | 16.218 | QP |
| 4 | | | 407.815 | 36.539 | 19.680 | -9.461 | 46.000 | 16.859 | QP |
| 5 | | | 672.140 | 35.981 | 14.870 | -10.019 | 46.000 | 21.111 | QP |
| 6 | | | 964.200 | 37.330 | 12.690 | -16.670 | 54.000 | 24.641 | QP |

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

| | |
|---|---|
| Site: AC2 | Time: 2016/01/20 - 15:04 |
| Limit: FCC_Part15.209_RE(3m)_Class B | Engineer: Lewis Huang |
| Probe: VULB9162_0.03-8GHz | Polarity: Vertical |
| EUT: IP Multimedia Phone | Power: AC 120V/60Hz |
| **Worst Case Mode:** Transmit at Channel 2412MHz by 802.11b (Adapter #2) | |




| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | * | 34.850 | 36.460 | 23.540 | -3.540 | 40.000 | 12.920 | QP |
| 2 | | | 48.915 | 35.329 | 20.364 | -4.671 | 40.000 | 14.965 | QP |
| 3 | | | 54.735 | 32.307 | 17.580 | -7.693 | 40.000 | 14.727 | QP |
| 4 | | | 125.060 | 29.878 | 19.350 | -13.622 | 43.500 | 10.529 | QP |
| 5 | | | 217.210 | 30.173 | 17.580 | -15.827 | 46.000 | 12.592 | QP |
| 6 | | | 672.140 | 37.461 | 16.350 | -8.539 | 46.000 | 21.111 | QP |

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

## 6.1. AC Conducted Emissions Measurement

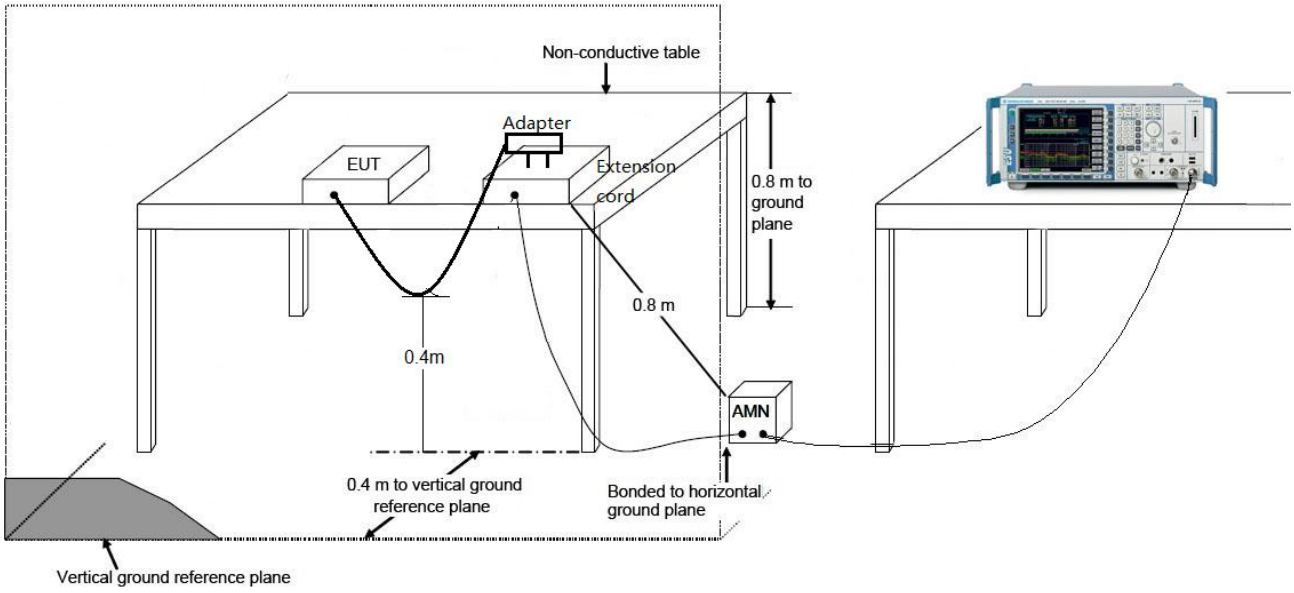
### 6.1.1. Test Limit

| FCC Part 15 Subpart C Paragraph 15.207 Limits | | |
|---|---|---|
| Frequency (MHz) | QP (dBμV) | Average (dBμV) |
| 0.15 - 0.50 | 66 - 56 | 56 - 46 |
| 0.50 - 5.0 | 56 | 46 |
| 5.0 - 30 | 60 | 50 |

Note 1: The lower limit shall apply at the transition frequencies.

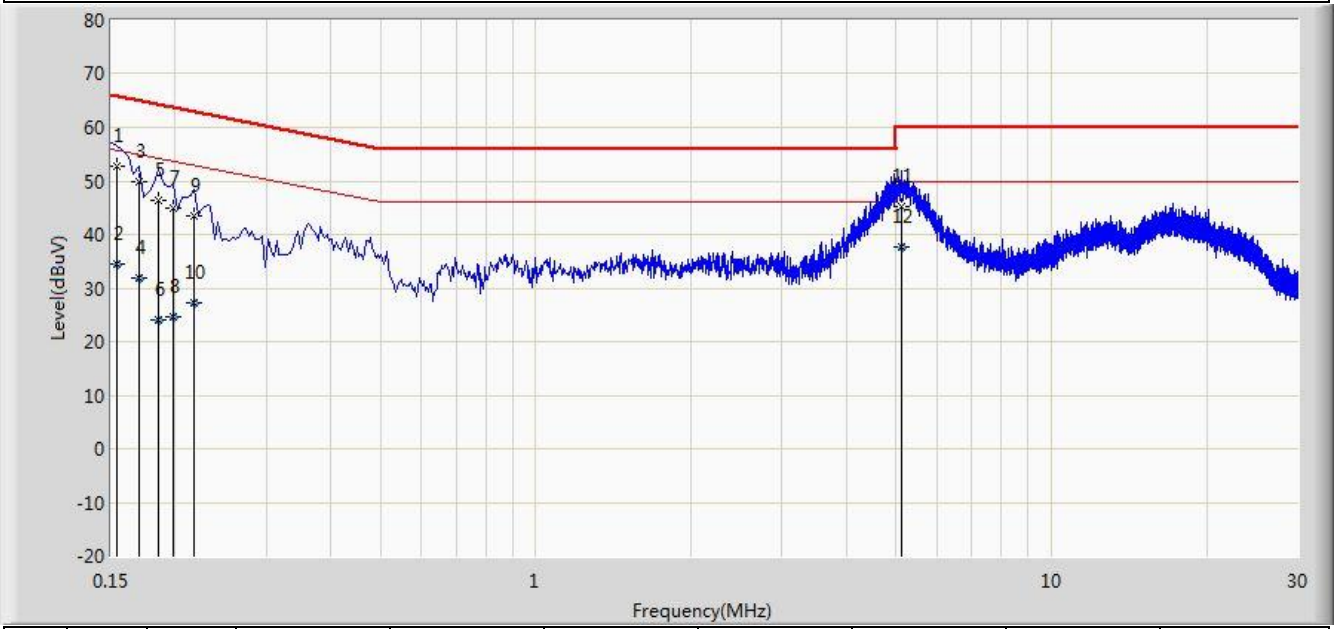
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

### 6.1.2. Test Setup



### 6.1.3. Test Result

| | |
|---|---|
| Site: SR2 | Time: 2016/01/12 - 17:16 |
| Limit: FCC_Part15.207_CE_AC Power_Class B | Engineer: Vince Yu |
| Probe: ENV216_101683_Filter On | Polarity: Line |
| EUT: IP Multimedia Phone | Power: AC 120V/60Hz |
| Note: Transmit at Channel 2412MHz by 802.11b (Adapter #1) | |

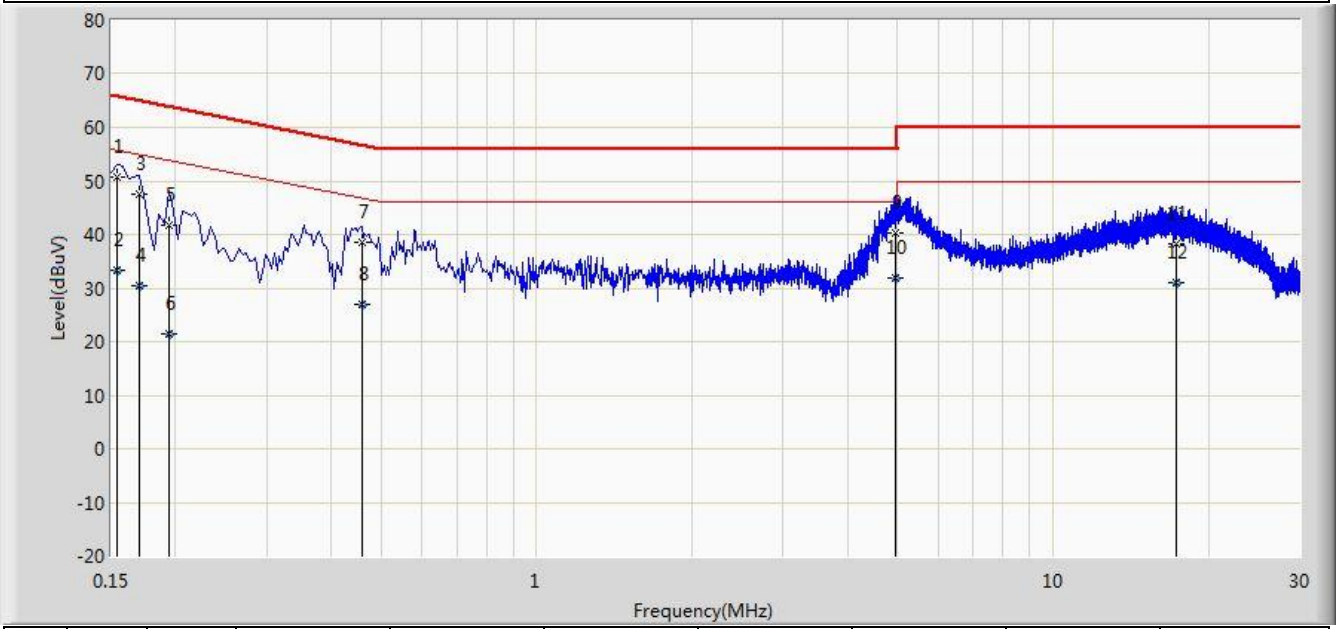



| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 0.154 | 52.852 | 42.112 | -12.929 | 65.781 | 10.740 | QP |
| 2 | | | 0.154 | 34.382 | 23.642 | -21.400 | 55.781 | 10.740 | AV |
| 3 | | | 0.170 | 49.803 | 39.726 | -15.157 | 64.960 | 10.078 | QP |
| 4 | | | 0.170 | 31.988 | 21.910 | -22.973 | 54.960 | 10.078 | AV |
| 5 | | | 0.186 | 46.270 | 36.231 | -17.944 | 64.213 | 10.039 | QP |
| 6 | | | 0.186 | 24.003 | 13.964 | -30.210 | 54.213 | 10.039 | AV |
| 7 | | | 0.198 | 44.809 | 34.804 | -18.885 | 63.694 | 10.005 | QP |
| 8 | | | 0.198 | 24.659 | 14.654 | -29.035 | 53.694 | 10.005 | AV |
| 9 | | | 0.218 | 43.547 | 33.602 | -19.348 | 62.895 | 9.945 | QP |
| 10 | | | 0.218 | 27.175 | 17.230 | -25.720 | 52.895 | 9.945 | AV |
| 11 | | | 5.102 | 45.200 | 35.152 | -14.800 | 60.000 | 10.048 | QP |
| 12 | | * | 5.102 | 37.804 | 27.756 | -12.196 | 50.000 | 10.048 | AV |

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

| | |
|---|---|
| Site: SR2 | Time: 2016/01/12 - 18:42 |
| Limit: FCC_Part15.207_CE_AC Power_Class B | Engineer: Vince Yu |
| Probe: ENV216_101683_Filter On | Polarity: Neutral |
| EUT: IP Multimedia Phone | Power: AC 120V/60Hz |
| Note: Transmit at Channel 2412MHz by 802.11b (Adapter #1) | |

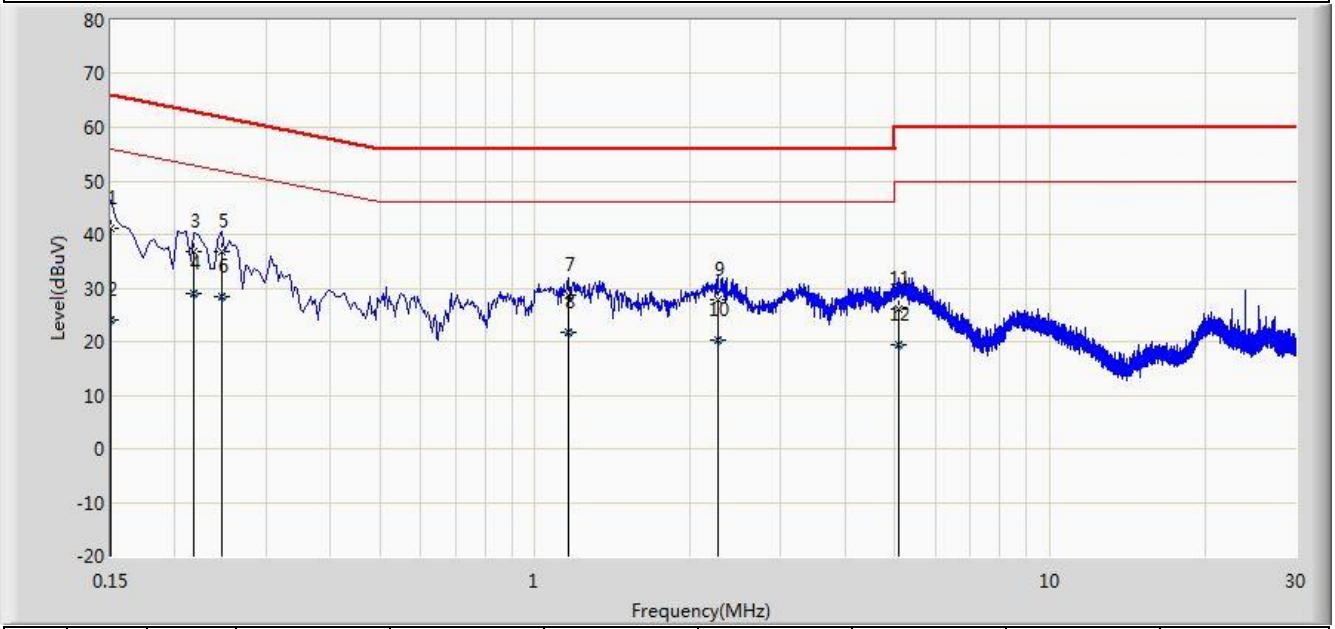



| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 0.154 | 50.642 | 39.926 | -15.139 | 65.781 | 10.716 | QP |
| 2 | | | 0.154 | 33.455 | 22.739 | -22.327 | 55.781 | 10.716 | AV |
| 3 | | | 0.170 | 47.651 | 37.587 | -17.310 | 64.960 | 10.064 | QP |
| 4 | | | 0.170 | 30.391 | 20.327 | -24.569 | 54.960 | 10.064 | AV |
| 5 | | | 0.194 | 41.677 | 31.656 | -22.187 | 63.864 | 10.021 | QP |
| 6 | | | 0.194 | 21.536 | 11.514 | -32.328 | 53.864 | 10.021 | AV |
| 7 | | | 0.458 | 38.564 | 28.409 | -18.164 | 56.729 | 10.156 | QP |
| 8 | | | 0.458 | 26.895 | 16.740 | -19.833 | 46.729 | 10.156 | AV |
| 9 | | | 4.954 | 40.191 | 30.157 | -15.809 | 56.000 | 10.034 | QP |
| 10 | | * | 4.954 | 32.028 | 21.994 | -13.972 | 46.000 | 10.034 | AV |
| 11 | | | 17.330 | 38.302 | 28.170 | -21.698 | 60.000 | 10.131 | QP |
| 12 | | | 17.330 | 31.120 | 20.988 | -18.880 | 50.000 | 10.131 | AV |

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

| | |
|---|---|
| Site: SR2 | Time: 2016/01/12 - 18:58 |
| Limit: FCC_Part15.207_CE_AC Power_Class B | Engineer: Vince Yu |
| Probe: ENV216_101683_Filter On | Polarity: Line |
| EUT: IP Multimedia Phone | Power: AC 120V/60Hz |
| Note: Transmit at Channel 2412MHz by 802.11b (Adapter #2) | |

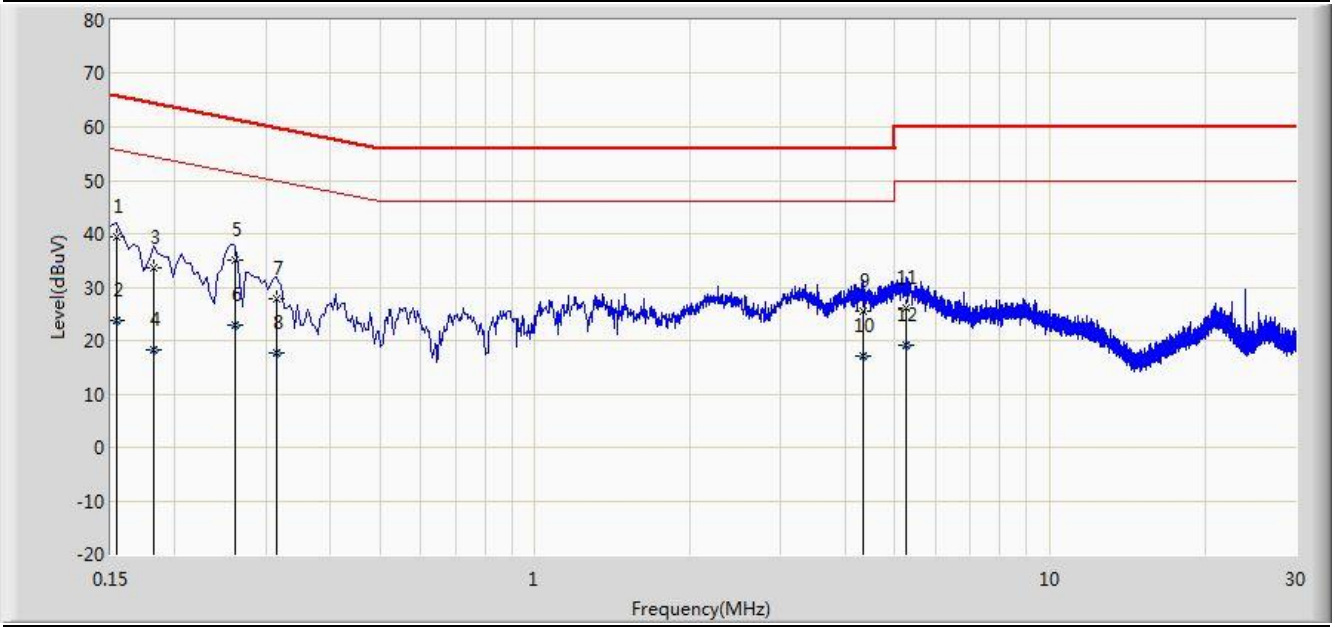



| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 0.150 | 41.156 | 29.988 | -24.844 | 66.000 | 11.168 | QP |
| 2 | | | 0.150 | 23.928 | 12.760 | -32.072 | 56.000 | 11.168 | AV |
| 3 | | | 0.218 | 36.792 | 26.847 | -26.103 | 62.895 | 9.945 | QP |
| 4 | | | 0.218 | 28.937 | 18.992 | -23.958 | 52.895 | 9.945 | AV |
| 5 | | | 0.246 | 36.876 | 26.915 | -25.016 | 61.891 | 9.961 | QP |
| 6 | | * | 0.246 | 28.517 | 18.557 | -23.374 | 51.891 | 9.961 | AV |
| 7 | | | 1.158 | 28.773 | 18.869 | -27.227 | 56.000 | 9.903 | QP |
| 8 | | | 1.158 | 21.797 | 11.894 | -24.203 | 46.000 | 9.903 | AV |
| 9 | | | 2.266 | 27.857 | 17.994 | -28.143 | 56.000 | 9.864 | QP |
| 10 | | | 2.266 | 20.350 | 10.486 | -25.650 | 46.000 | 9.864 | AV |
| 11 | | | 5.090 | 25.987 | 15.942 | -34.013 | 60.000 | 10.045 | QP |
| 12 | | | 5.090 | 19.487 | 9.441 | -30.513 | 50.000 | 10.045 | AV |

Note: Measure Level (dBµV) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

| | |
|---|---|
| Site: SR2 | Time: 2016/01/12 - 19:02 |
| Limit: FCC_Part15.207_CE_AC Power_Class B | Engineer: Vince Yu |
| Probe: ENV216_101683_Filter On | Polarity: Neutral |
| EUT: IP Multimedia Phone | Power: AC 120V/60Hz |
| Note: Transmit at Channel 2412MHz by 802.11b (Adapter #2) | |




| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 0.154 | 39.346 | 28.630 | -26.435 | 65.781 | 10.716 | QP |
| 2 | | | 0.154 | 23.847 | 13.132 | -31.934 | 55.781 | 10.716 | AV |
| 3 | | | 0.182 | 33.520 | 23.478 | -30.874 | 64.394 | 10.042 | QP |
| 4 | | | 0.182 | 18.326 | 8.284 | -36.068 | 54.394 | 10.042 | AV |
| 5 | | * | 0.262 | 35.213 | 25.203 | -26.155 | 61.368 | 10.010 | QP |
| 6 | | | 0.262 | 22.967 | 12.957 | -28.400 | 51.368 | 10.010 | AV |
| 7 | | | 0.314 | 27.786 | 17.738 | -32.078 | 59.864 | 10.048 | QP |
| 8 | | | 0.314 | 17.779 | 7.731 | -32.085 | 49.864 | 10.048 | AV |
| 9 | | | 4.334 | 25.481 | 15.493 | -30.519 | 56.000 | 9.988 | QP |
| 10 | | | 4.334 | 17.018 | 7.030 | -28.982 | 46.000 | 9.988 | AV |
| 11 | | | 5.250 | 26.228 | 16.173 | -33.772 | 60.000 | 10.054 | QP |
| 12 | | | 5.250 | 19.243 | 9.189 | -30.757 | 50.000 | 10.054 | AV |

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

# 7. CONCLUSION

The data collected relate only the item(s) tested and show that the **IP Multimedia Phone FCC ID: YZZGXV3275** is in compliance with Part 15C of the FCC Rules.

The End