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Report No.: 1601RSU01001
Report Version: V01
Issue Date: 01-21-2016

MEASUREMENT REPORT
FCC PART 15.247 Bluetooth v3.0 + HS

FCC ID:	YZZGXV3240
APPLICANT:	Grandstream Networks, Inc.

Application Type:	Certification
Product:	IP Multimedia Phone
Model No.:	GXV3240
Brand Name:	Grandstream
FCC Classification:	FCC Part 15 Spread Spectrum Transmitter(DSS)
FCC Rule Part(s):	Part 15.247
Test Procedure(s):	ANSI C63.10-2013, DA 00-705
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 ANSI C63.10-2013 and DA 00-705. Test results reported herein relate only to the item(s) tested.

Revision History

Report No.	Version	Description	Issue Date
1601RSU01001	Rev. 01	Initial report	01-21-2016

Note: The EUT has been got the FCC certificate (FCC ID: YZZGXV3240). The EUT adds two new adapters now and we have shown the conducted emission data and radiated emission data (below 1GHz) in the DSS 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.	GXV3240
FCC ID:	YZZGXV3240
Test Device Serial No.:	N/A ☐ Production ☒ Pre-Production ☐ Engineering
FCC Classification:	FCC Part 15 Spread Spectrum Transmitter (DSS)

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.**

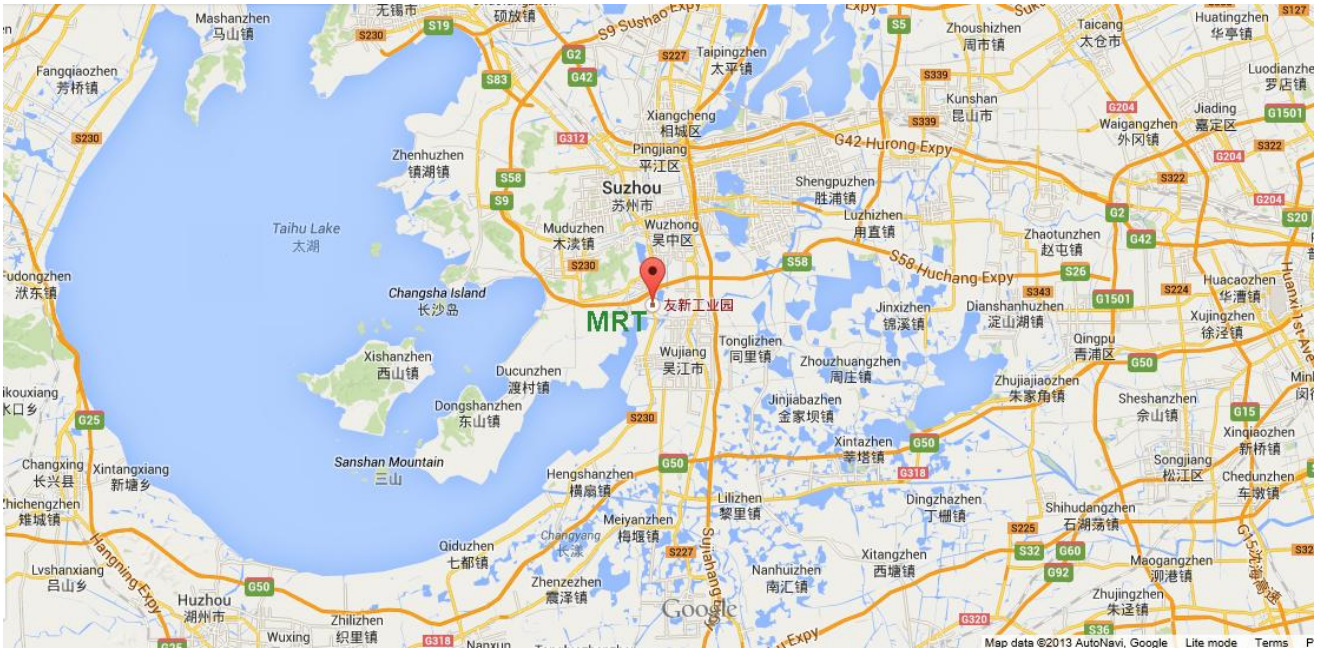
1. INTRODUCTION

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, 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.	GXV3240
Brand Name	Grandstream
WLAN Specification	802.11a/b/g/n
BT Specification	v3.0 + HS, v4.0
BT Antenna	Small antenna with 2dBi peak gain
WiFi Antenna	FPC Antenna, 1T1R
Components	
Adapter #1	M/N: H18US1200150A Input: AC 100-240V ~ 50/60Hz, 0.8A max OUTPUT: 12Vdc, 1.5A
Adapter #2	M/N: F18W8-120150SPAUY Input: AC 100-240V ~ 50/60Hz, 0.6A OUTPUT: 12Vdc, 1.5A

2.2. Product Specification Subjective to this Standard

Product Specification Subjective to this Standard	
Transmitter / Receiver Frequency Range	2402~2480MHz
Number of Channels	79
Channel Spacing	1MHz
Type of Modulation	FHSS
Data Rate	1Mbps(GFSK), 2Mbps(Pi/4 DQPSK), 3Mbps (8DPSK)

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

The equipment under test (EUT) is the **IP Multimedia Phone FCC ID: YZZGXV3240**. The test data contained in this report pertains only to the emissions due to the EUT's Bluetooth transmitter.

- 15.247(g): In accordance with the Bluetooth Industry Standard, the system is designed to comply with all of the regulations in Section 15.247 when the transmitter is presented with a continuous data (or information) system.

- 15.247(h): In accordance with the Bluetooth Industry Standard, the system does not coordinate its channels selection/ hopping sequence with other frequency hopping systems for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters.

- 15.247(h): The EUT employs Adaptive Frequency Hopping (AFH) which identifies sources of interference namely devices operating in 802.11 WLAN and excludes them from the list of available channels. The process of re-mapping reduces the number of test channels from 79 channels to a minimum number of 20 channels.

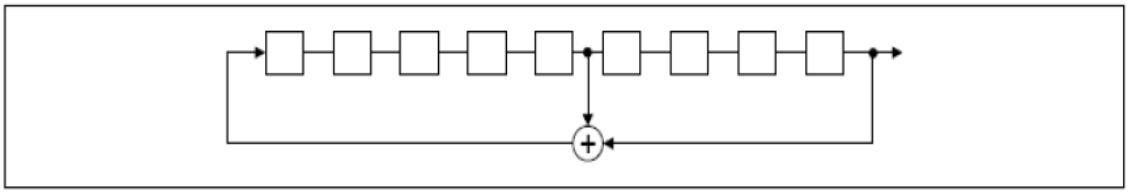
2.3. Operation Frequency / Channel List

Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2403 MHz	02	2404 MHz
03	2405 MHz	04	2406 MHz	05	2407 MHz
06	2408 MHz	07	2409 MHz	08	2410 MHz
09	2411 MHz	10	2412 MHz	11	2413 MHz
12	2414 MHz	13	2415 MHz	14	2416 MHz
15	2417 MHz	16	2418 MHz	17	2419 MHz
18	2420 MHz	19	2421 MHz	20	2422 MHz
21	2423 MHz	22	2424 MHz	23	2425 MHz
24	2426 MHz	25	2427 MHz	26	2428 MHz
27	2429 MHz	28	2430 MHz	29	2431 MHz
30	2432 MHz	31	2433 MHz	32	2434 MHz
33	2435 MHz	34	2436 MHz	35	2437 MHz
36	2438 MHz	37	2439 MHz	38	2440 MHz
39	2441 MHz	40	2442 MHz	41	2443 MHz
42	2444 MHz	43	2445 MHz	44	2446 MHz
45	2447 MHz	46	2448 MHz	47	2449 MHz
48	2450 MHz	49	2451 MHz	50	2452 MHz
51	2453 MHz	52	2454 MHz	53	2455 MHz
54	2456 MHz	55	2457 MHz	56	2458 MHz
57	2459 MHz	58	2460 MHz	59	2461 MHz
60	2462 MHz	61	2463 MHz	62	2464 MHz
63	2465 MHz	64	2466 MHz	65	2467 MHz
66	2468 MHz	67	2469 MHz	68	2470 MHz
69	2471 MHz	70	2472 MHz	71	2473 MHz
72	2474 MHz	73	2475 MHz	74	2476 MHz
75	2477 MHz	76	2478 MHz	77	2479 MHz
78	2480 MHz	N/A	N/A	N/A	N/A

2.4. Pseudorandom Frequency Hopping Sequence

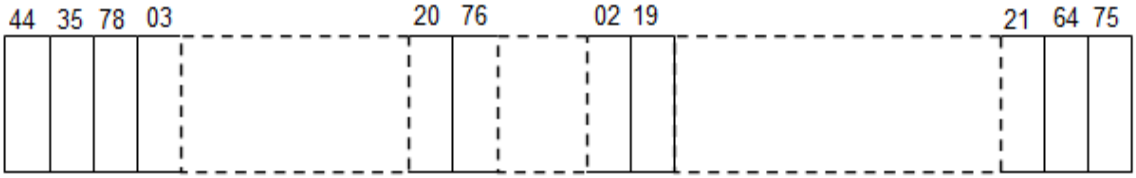
The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONEs; i.e. the shift register is initialized with nine ones.

- Number of shift register stages: 9
- Length of pseudo-random sequence: 2^9 - 1 = 511 bits
- Longest sequence of zeros: 8 (non-inverted signal)



Linear Feedback Shift Register for Generation of the PRBS sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:



Each frequency used equally on the average by each transmitter.

The system receivers have input bandwidths that match the hopping channel bandwidths of their Corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

2.5. Test Configuration

The **IP Multimedia Phone FCC ID: YZZGXV3240** was tested per the guidance of ANSI C63.10-2013 and DA 00-705. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

2.6. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

3. DESCRIPTION of TEST

3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2013), and the “Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems” (DA 00-705) were used in the measurement of the **IP Multimedia Phone FCC ID: YZZGXV3240.**

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.

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. An 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 for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-40GHz was placed on top of the 1.5 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)): 150kHz~30MHz: 3.46dB
Radiated Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 9kHz ~ 1GHz: 4.18dB

6. TEST RESULT

6.1. Summary

Product Name: **IP Multimedia Phone**
FCC ID: **YZZGXV3240**
Method/System: **Frequency Hopping Spread Spectrum (FHSS)**
Number of Channels: **79**

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

ANSI C63.10-2013 - Section 11.12.1

6.2.3. Test Setting

Peak Field Strength Measurements

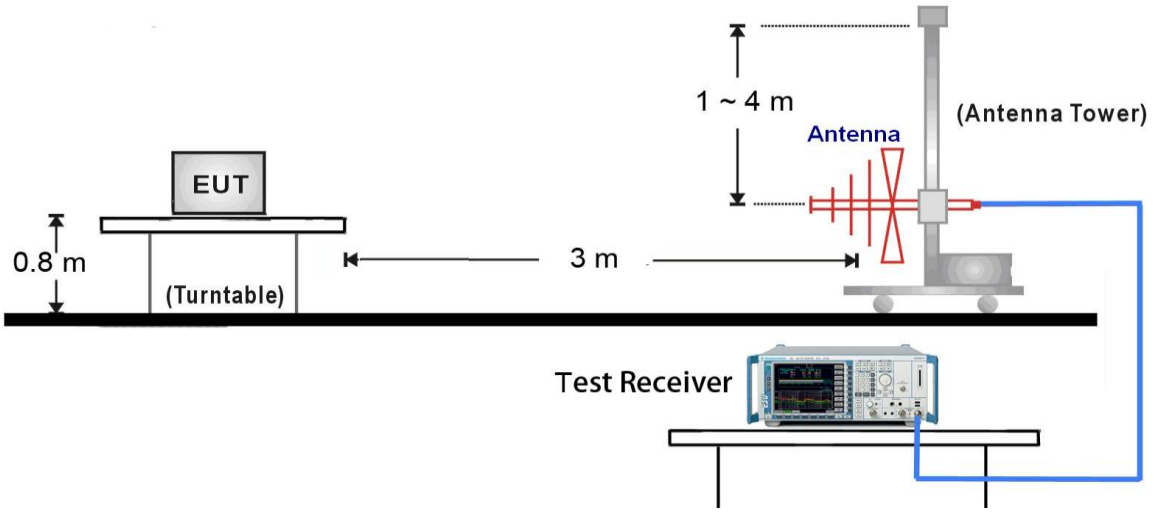
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in Table 1
3. VBW = 3 * RBW
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

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

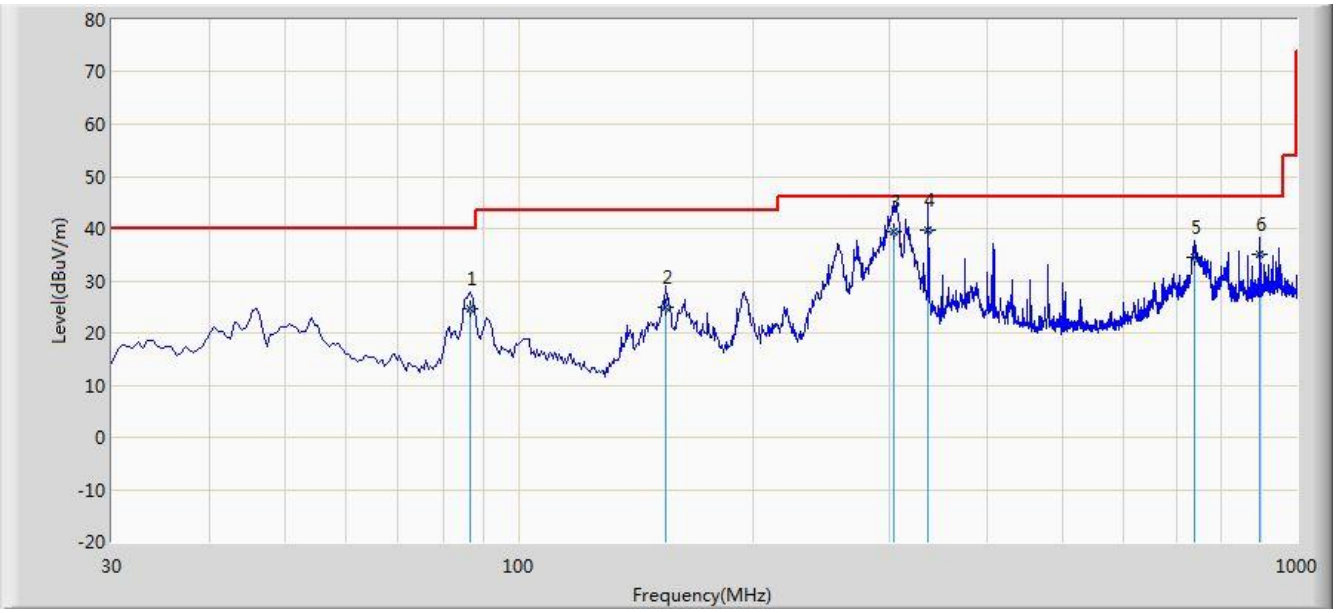
30MHz ~ 1GHz Test Setup:



6.2.5. Test Result

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

Site: AC2	Time: 2016/01/20 - 14:03
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
Worse Case Mode: Transmit at Channel 2480MHz by DH5 (Adapter #1)	

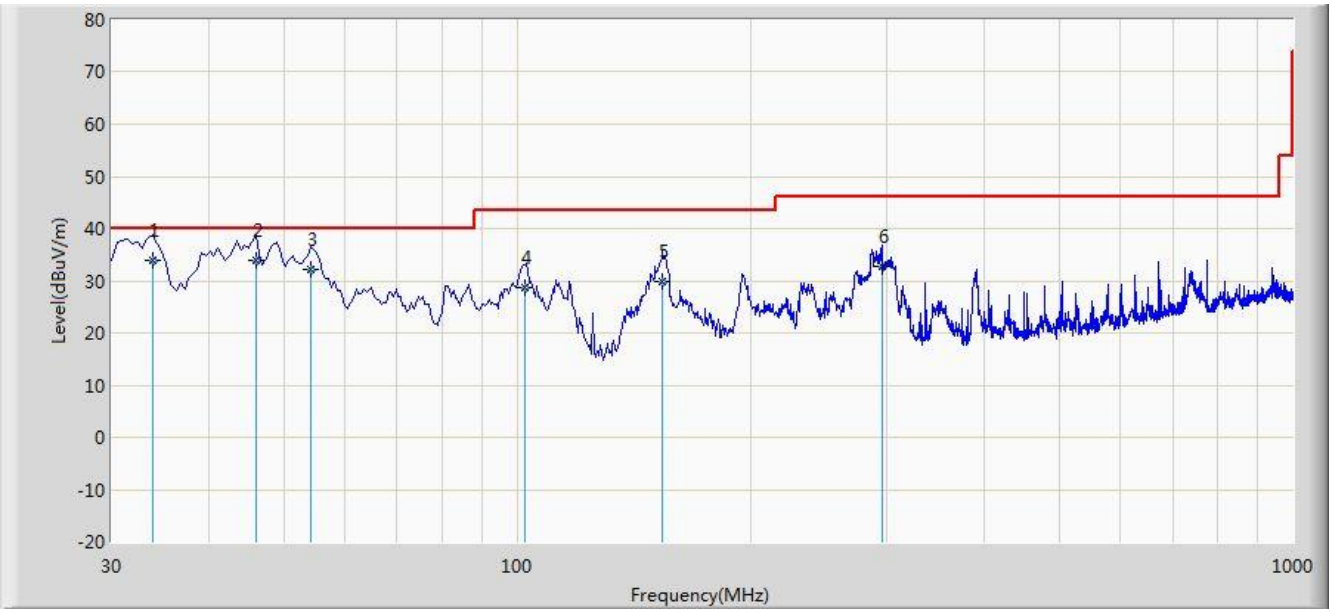


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			86.745	24.646	14.210	-15.354	40.000	10.437	QP
2			154.645	25.029	15.380	-18.471	43.500	9.649	QP
3			304.025	39.525	24.850	-6.475	46.000	14.675	QP
4		*	336.035	39.720	24.150	-6.280	46.000	15.570	QP
5			739.070	34.579	12.450	-11.421	46.000	22.129	QP
6			898.150	35.141	11.010	-10.859	46.000	24.131	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 - 14:06
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
Worse Case Mode: Transmit at Channel 2480MHz by DH5 (Adapter #1)	

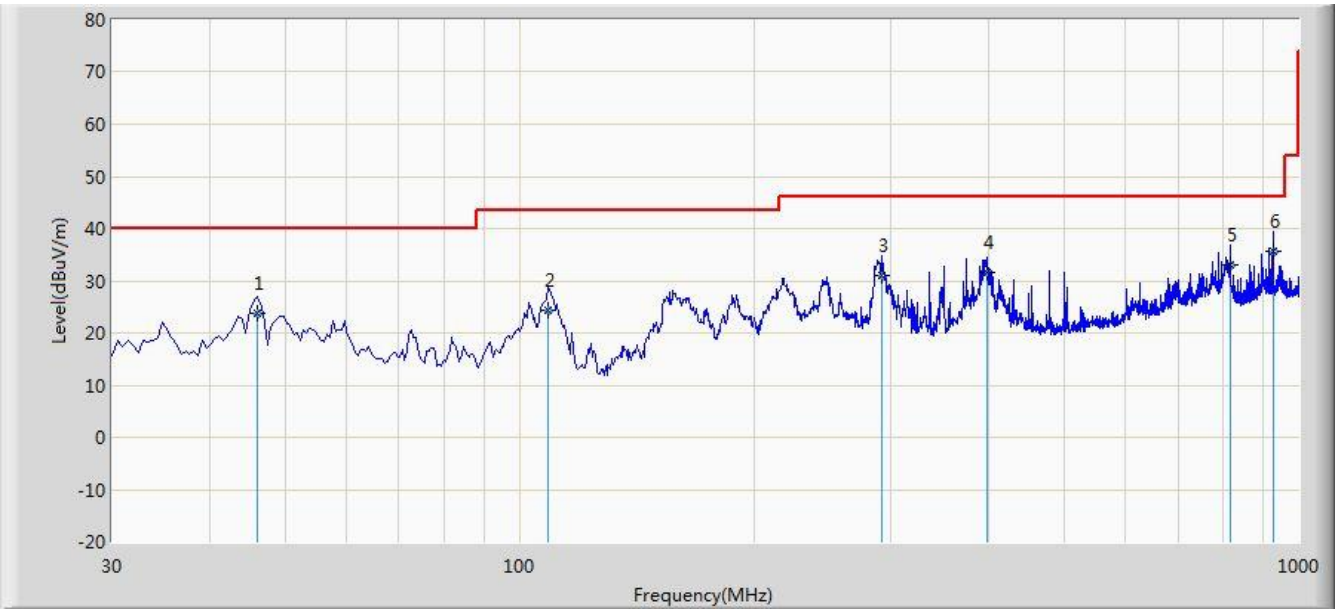


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	33.880	33.980	21.240	-6.020	40.000	12.740	QP
2			46.005	33.856	18.850	-6.144	40.000	15.007	QP
3			54.250	32.276	17.470	-7.724	40.000	14.806	QP
4			102.265	28.670	15.480	-14.830	43.500	13.191	QP
5			154.160	29.874	20.240	-13.626	43.500	9.634	QP
6			295.295	32.779	18.310	-13.221	46.000	14.468	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 - 14:23
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
Worse Case Mode: Transmit at Channel 2480MHz by DH5 (Adapter #2)	

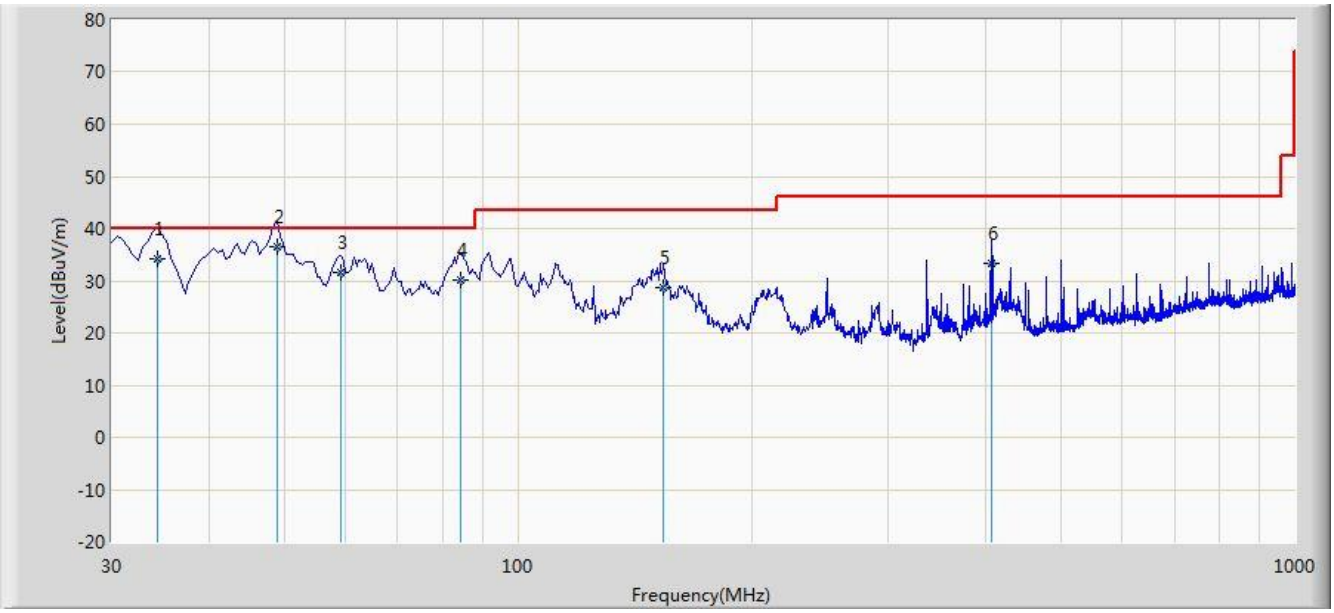


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			46.005	23.646	8.640	-16.354	40.000	15.007	QP
2			109.055	24.454	11.470	-19.046	43.500	12.983	QP
3			292.385	30.990	16.580	-15.010	46.000	14.411	QP
4			398.115	31.465	14.740	-14.535	46.000	16.725	QP
5			816.185	33.145	10.010	-12.855	46.000	23.136	QP
6		*	929.190	35.580	11.240	-10.420	46.000	24.340	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 - 14:25
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
Worse Case Mode: Transmit at Channel 2480MHz by DH5 (Adapter #2)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			34.365	34.082	21.250	-5.918	40.000	12.832	QP
2		*	48.915	36.595	21.630	-3.405	40.000	14.965	QP
3			59.100	31.507	17.480	-8.493	40.000	14.027	QP
4			84.320	30.145	20.150	-9.855	40.000	9.995	QP
5			154.160	28.594	18.960	-14.906	43.500	9.634	QP
6			407.815	33.399	16.540	-12.601	46.000	16.859	QP

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

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

6.3. AC Conducted Emissions Measurement

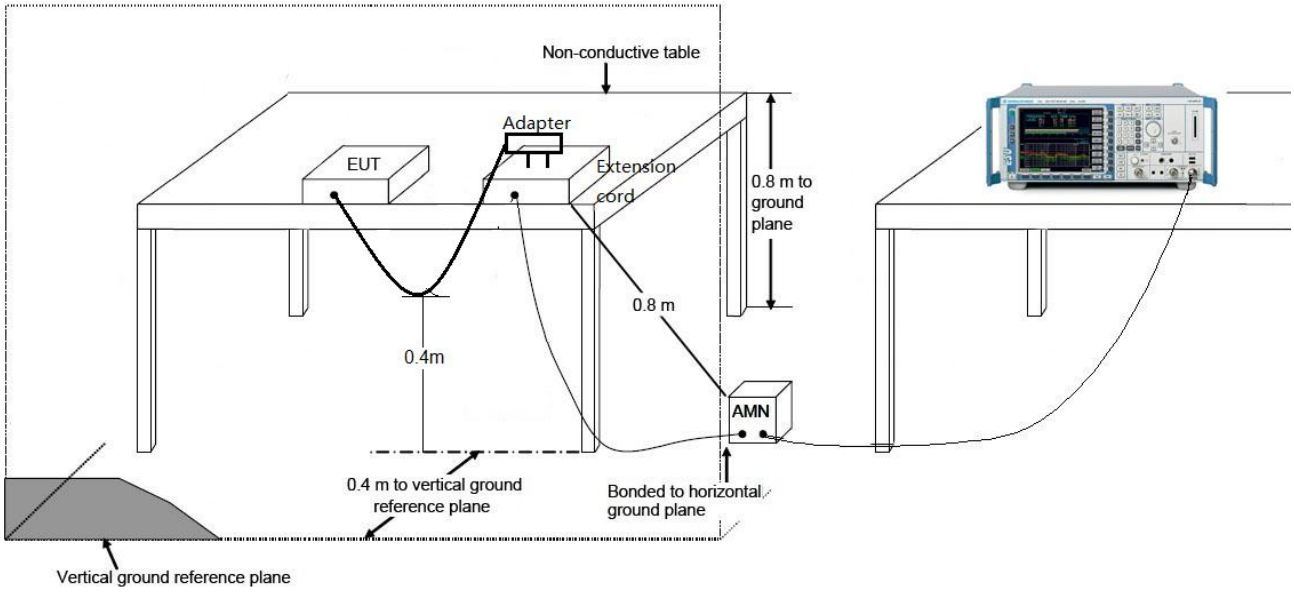
6.3.1. Test Limit

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.

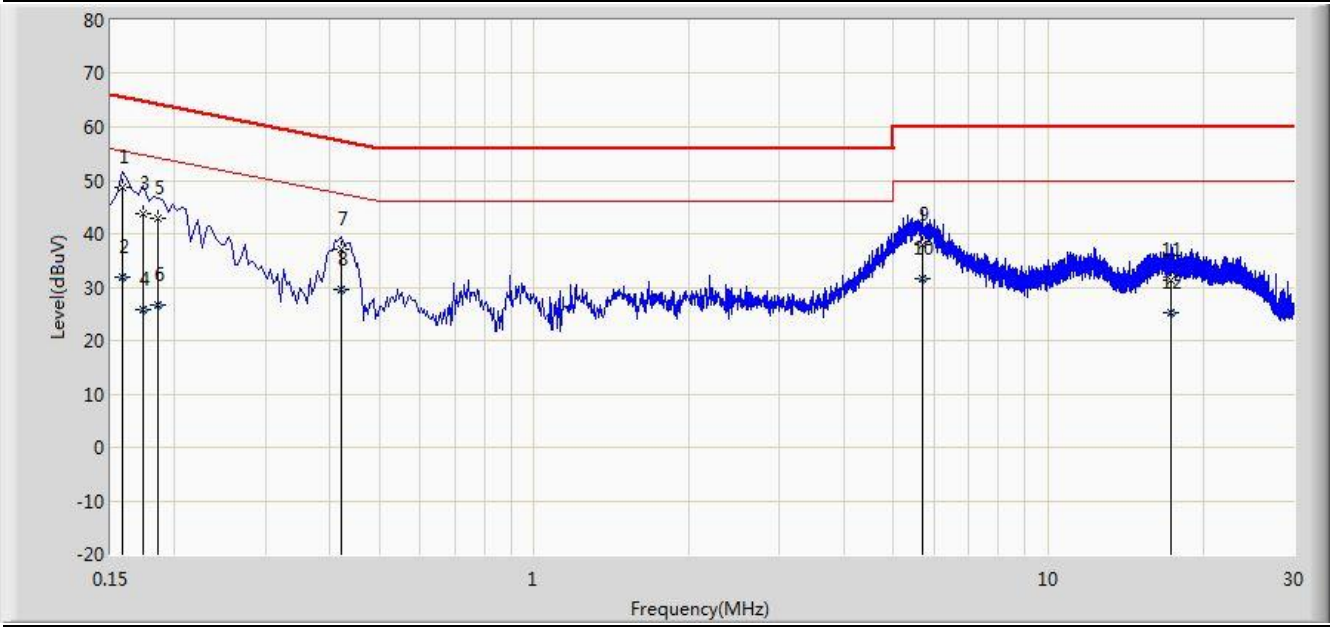
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

6.3.2. Test Setup



6.3.3. Test Result

Site: SR2	Time: 2016/01/12 - 15:52
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 2440MHz by DH5 (Adapter #1)	

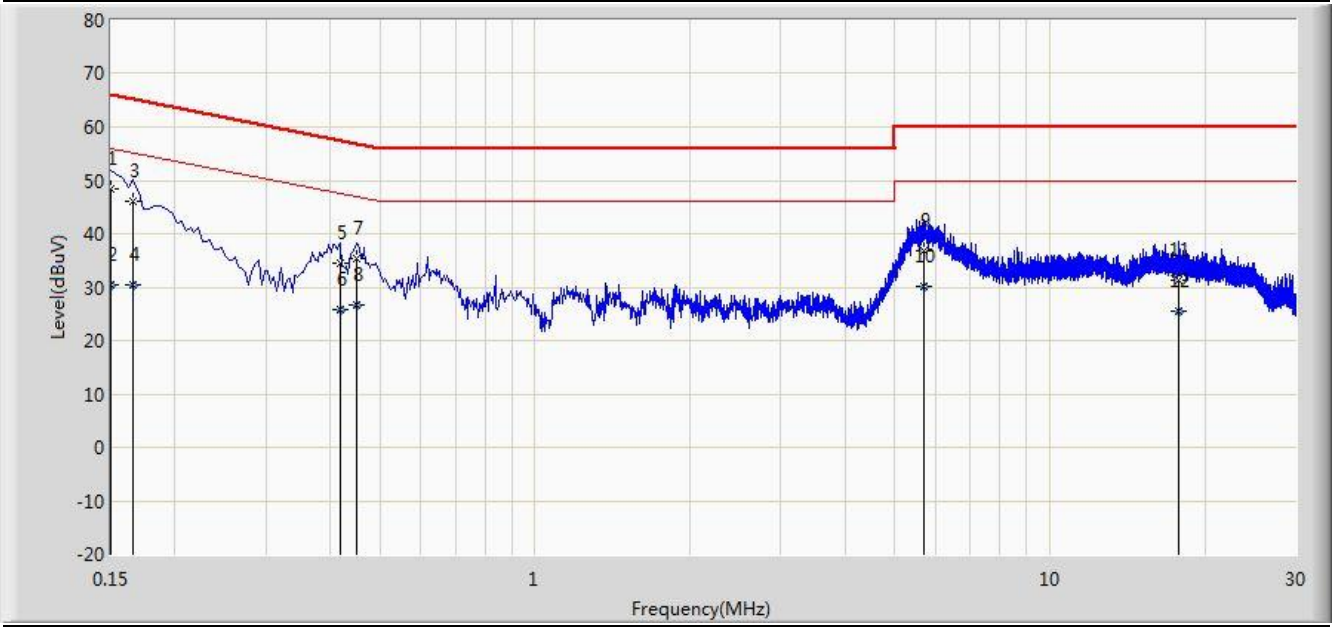


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.158	48.805	38.494	-16.764	65.568	10.311	QP
2			0.158	31.820	21.509	-23.748	55.568	10.311	AV
3			0.174	43.639	33.571	-21.129	64.767	10.068	QP
4			0.174	25.821	15.753	-28.946	54.767	10.068	AV
5			0.186	42.936	32.897	-21.278	64.213	10.039	QP
6			0.186	26.700	16.662	-27.513	54.213	10.039	AV
7			0.422	37.044	26.940	-20.365	57.409	10.104	QP
8			0.422	29.449	19.346	-17.960	47.409	10.104	AV
9			5.678	38.091	27.996	-21.909	60.000	10.095	QP
10			5.678	31.499	21.404	-18.501	50.000	10.095	AV
11			17.310	31.193	21.101	-28.807	60.000	10.092	QP
12			17.310	25.270	15.178	-24.730	50.000	10.092	AV

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

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

Site: SR2	Time: 2016/01/12 - 15:56
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 2440MHz by DH5 (Adapter #1)	

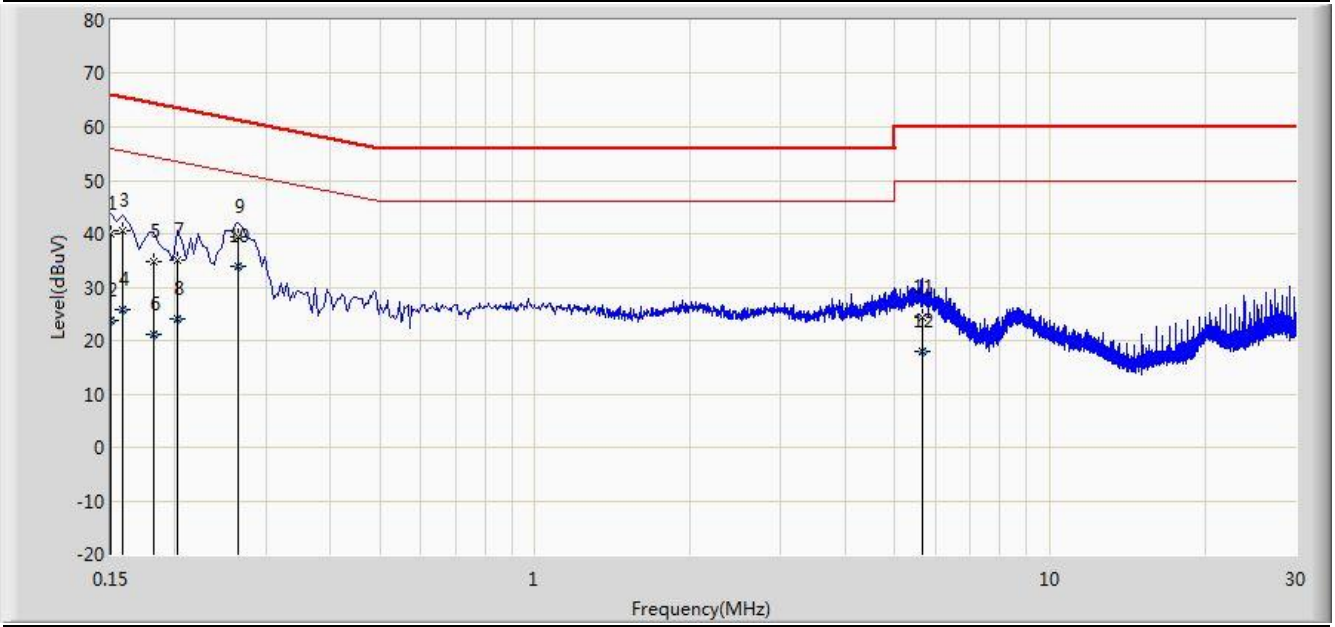


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.150	48.382	37.240	-17.618	66.000	11.142	QP
2			0.150	30.391	19.249	-25.609	56.000	11.142	AV
3			0.166	45.989	35.917	-19.170	65.158	10.071	QP
4			0.166	30.375	20.304	-24.783	55.158	10.071	AV
5			0.418	34.620	24.494	-22.868	57.488	10.126	QP
6			0.418	25.884	15.758	-21.604	47.488	10.126	AV
7			0.450	35.477	25.327	-21.398	56.875	10.150	QP
8			0.450	26.556	16.406	-20.319	46.875	10.150	AV
9			5.678	36.734	26.628	-23.266	60.000	10.106	QP
10			5.678	30.045	19.939	-19.955	50.000	10.106	AV
11			17.754	31.187	21.054	-28.813	60.000	10.133	QP
12			17.754	25.407	15.274	-24.593	50.000	10.133	AV

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

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

Site: SR2	Time: 2016/01/12 - 16:30
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 2440MHz by DH5 (Adapter #2)	

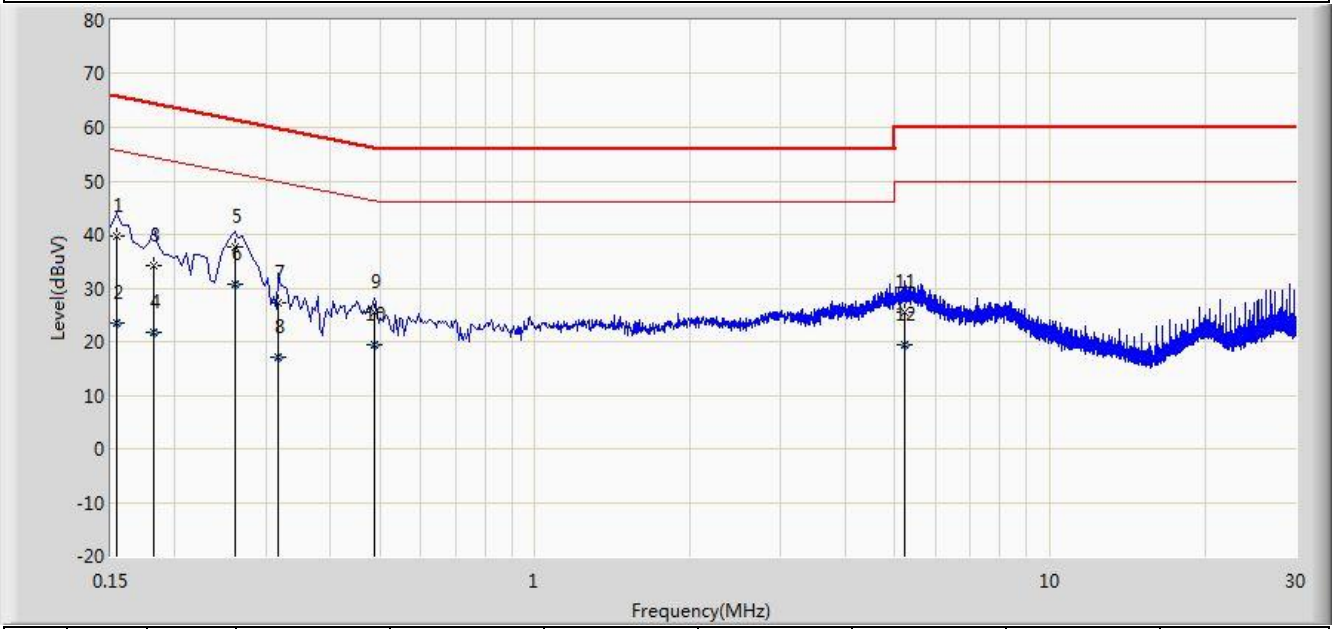


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.150	39.918	28.749	-26.082	66.000	11.168	QP
2			0.150	23.698	12.530	-32.302	56.000	11.168	AV
3			0.158	40.560	30.249	-25.008	65.568	10.311	QP
4			0.158	25.841	15.530	-29.727	55.568	10.311	AV
5			0.182	34.918	24.869	-29.476	64.394	10.048	QP
6			0.182	21.111	11.063	-33.283	54.394	10.048	AV
7			0.202	35.123	25.130	-28.405	63.528	9.993	QP
8			0.202	24.168	14.176	-29.359	53.528	9.993	AV
9			0.266	39.474	29.497	-21.768	61.242	9.977	QP
10		*	0.266	34.001	24.025	-17.240	51.242	9.977	AV
11			5.646	24.357	14.267	-35.643	60.000	10.090	QP
12			5.646	18.112	8.022	-31.888	50.000	10.090	AV

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

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

Site: SR2	Time: 2016/01/12 - 16:34
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 2440MHz by DH5 (Adapter #2)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.154	39.777	29.061	-26.004	65.781	10.716	QP
2			0.154	23.590	12.874	-32.191	55.781	10.716	AV
3			0.182	34.284	24.242	-30.110	64.394	10.042	QP
4			0.182	21.878	11.836	-32.516	54.394	10.042	AV
5			0.262	37.721	27.711	-23.647	61.368	10.010	QP
6		*	0.262	30.587	20.577	-20.781	51.368	10.010	AV
7			0.318	27.184	17.133	-32.574	59.759	10.051	QP
8			0.318	17.243	7.192	-32.516	49.759	10.051	AV
9			0.486	25.524	15.348	-30.712	56.236	10.176	QP
10			0.486	19.421	9.245	-26.815	46.236	10.176	AV
11			5.218	25.398	15.342	-34.602	60.000	10.055	QP
12			5.218	19.320	9.264	-30.680	50.000	10.055	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: YZZGXV3240** is in compliance with Part 15C of the FCC Rules.

The End