

MRT Technology (Suzhou) Co., Ltd Phone: +86-512-66308358 Fax: +86-512-66308368 Web: www.mrt-cert.com Report No.: 1601RSU01003Report Version:V02Issue Date:02-05-2016

# MEASUREMENT REPORT FCC Part 15B

FCC ID:	YZZGXV3240

**APPLICANT:** Grandstream Networks, Inc.

Product:IP Multimedia PhoneModel No.:GXV3240Brand Name:GrandstreamFCC Classification:FCC Class B Digital Device (JBP)FCC Rule Part(s):FCC Part 15 Subpart B: 2014Test Procedure(s):ANSI C63.4: 2014Test Date:January 12 ~ 20, 2016

**Reviewed By** 

Approved By

: Robin Wu ) Marlinchen :

(Marlin Chen)



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 C63.4-2014. Test results reported herein relate only to the item(s) tested.

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# **Revision History**

Report No.	Version	Description	Issue Date
1601RSU01003	Rev. 01	Initial report	01-21-2016
1601RSU01003	Rev. 02	Update the test setup diagram	02-05-2016

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 JBP report.



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# §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 FCC Registration No.:	809388			
Model No.:	GXV3240			
Test Device Serial No.:	N/A Production Pre-Production Engineering			

### **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.

Rac-MRA	American Association for Laboratory Accreditation
	Accredited Laboratory
MRT TEC	CHNOLOGY (SUZHOU) CO., LTD. Suzhou, China for technical competitione in the field of
	Electrical Testing
the competence of testing and call	secondance with the recognized International Standard ISO EE: 17025-2005 General requirements for brains also-variets. This acceditation demonstrates technical competence for a defined scope and the quality management system (refer to joint ISO-LECAE) Community data d January 2009).
	Presented this 17th day of June 2014.
G	Product & CED Product & CED Constant & Constant Confidence Nameber 3(2) (0) Valid to August 31, 2016
For the tests to which	ethes accreditation applies, please ruler to the laboratory's Electrical Scope of Accreditation.



# 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.	GXV3240		
Brand Name	Grandstream		
802.11a/b/g/n	802.11a/b/g/n		
v3.0 + HS, v4.0	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		

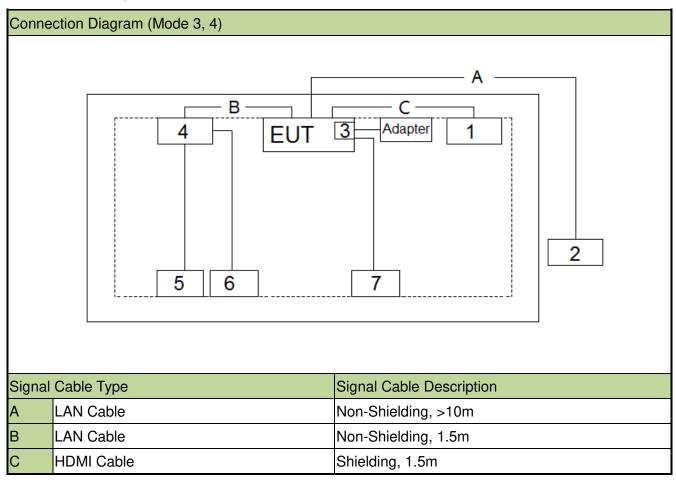
### 2.2. Test Mode

Pre-Test Mode	
	Mode 1: Audio Call with another IP Multimedia Phone, Communicate with PC and
	HDMI Out, Powered by Adapter #1
	Mode 2: Audio Call with another IP Multimedia Phone, Communicate with PC and
EMI Mode	HDMI Out, Powered by Adapter #2
	Mode 3: Video Call with another IP Multimedia Phone, Communicate with PC and
	HDMI Out, Powered by Adapter #1
	Mode 4: Video Call with another IP Multimedia Phone, Communicate with PC and
	HDMI Out, Powered by Adapter #2
Final Test Mod	le
	Mode 3: Video Call with another IP Multimedia Phone, Communicate with PC and
	HDMI Out, Powered by Adapter #1
EMI Mode	Mode 4: Video Call with another IP Multimedia Phone, Communicate with PC and
	HDMI Out, Powered by Adapter #2



## 2.3. Test Configuration

The EUT was tested per the guidance FCC Part 15 Subpart B: 2014 and ANSI C63.4: 2014 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.



### 2.4. Test System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Produ	ct	Manufacturer	Model No.	Serial No.	Power Cord
1	Television	Sony	KDL-40RM10B	2007861	Non-Shielded, 1.8m
2	IP Phone	Grandstream	GXV3275	N/A	N/A
3	SDHC Card	SanDisk	N/A	N/A	N/A
4	Notebook	Lenovo	X201	3626AM3	Non-Shielded, 1.8m
4	USB Keyboard	Dell	KB212	N/A	N/A
5	USB Mouse	Dell	MS111	N/A	N/A
6	USB Mouse	Dell	MS111	N/A	N/A

Remark: The auxiliary equipment notebook was authorized by FCC Declaration of Confirmation.



#### 2.5. Test Software

1	Setup the EUT and simulators as shown on above.
	(1), Make the EUT set-up as shown above.
2	(2), Power on the EUT and works in "Video Call with another IP Multimedia Phone, Communicate
2	with PC and HDMI Out Mode".
	(3), Start to test.

# 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 Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical Equipment in the Range of 9kHz to 40GHz (ANSI C63.4-2014) was used in the measurement of the **IP Multimedia Phone 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,  $50\Omega/50$ uH 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. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply line(s) will be connected to 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 maximum emission from the EUT. The receiver was scanned from 150 kHz to 30 MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9 kHz. 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 resolution, clock or data exchange speed, scrolling H pattern to the EUT and/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 are used for final measurements on the same test site. Line conducted emissions test results are shown in Section 6.2.



### 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 30 MHz 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 30 MHz, 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, mode of operation, 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 beam-width 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: 3.5dB								
Radiated Emission Measurement								
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)):								
Horizontal: 30MHz~1GHz: 4.07dB								
Vertical: 30MHz~1GHz: 4.18 dB								





# 6. TEST RESULT

### 6.1. Summary

Company Name: Grandstream Networks, Inc.

Test Mode: Video Call with another IP Multimedia Phone, Communicate with PC and HDMI Out Mode;

FCC Part Section(s)	Test Description	Test Result
15.107	Conducted Emissions	Pass
15.109	Radiated Emissions	Pass



### 6.2. Conducted Emission Measurement

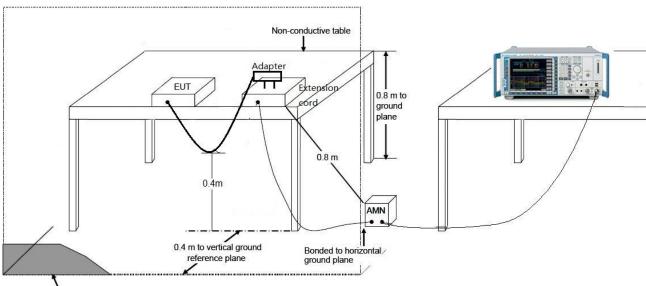
#### 6.2.1. Test Limit

FCC Part 15.107 Limits									
Frequency (MHz)	QP (dBµV)	AV (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.

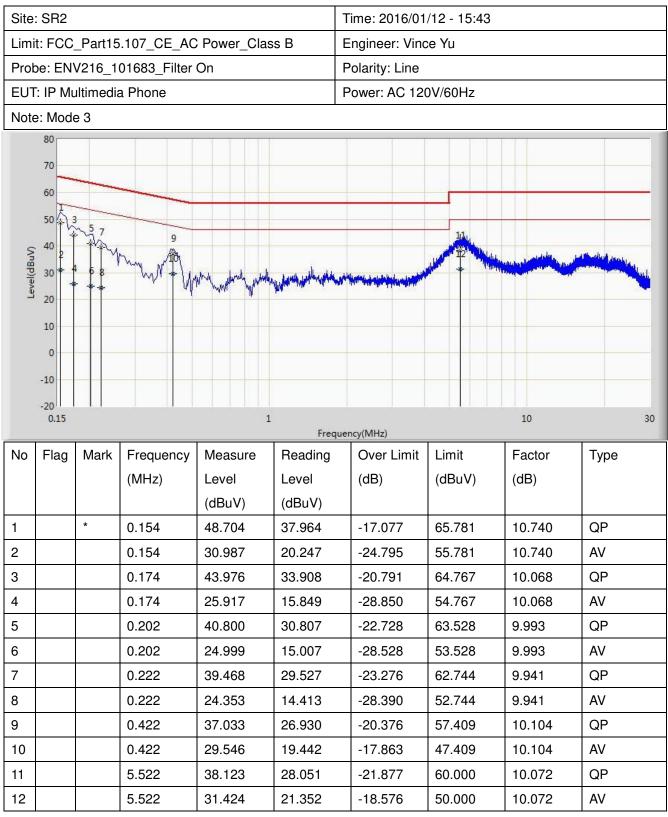
### 6.2.2. Test Setup



Vertical ground reference plane



#### 6.2.3. Test Result of Conducted Emissions



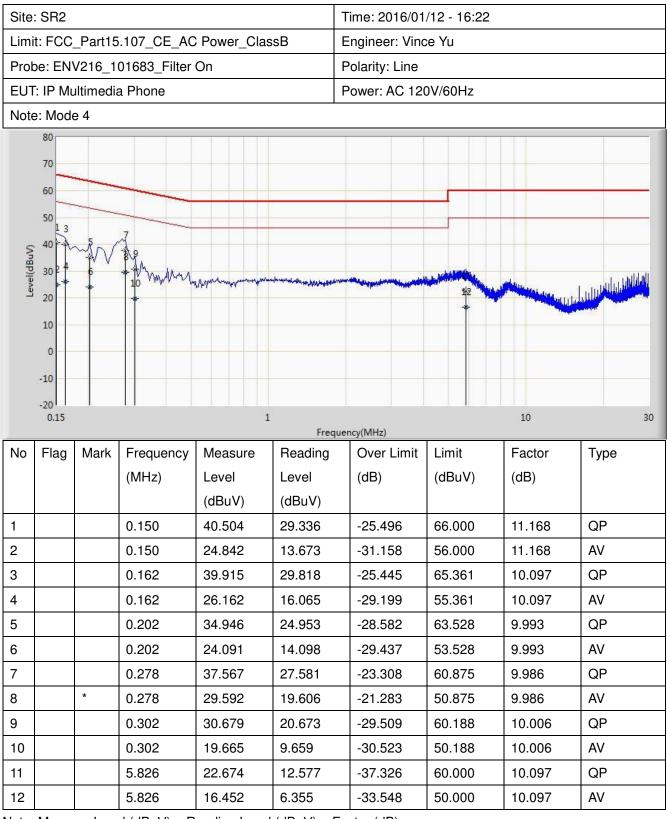
Note: Measure Level (dB $\mu$ V) = Reading Level (dB $\mu$ V) + Factor (dB)



Site	: SR2				٦	Time: 2016/01/12 - 15:48					
Limi	t: FCC	_Part15	5.107_CE_AC	Power_Clas	ss B E	Engineer: Vince Yu					
Prob	be: EN	V216_1	01683_Filter	On	F	Polarity: Neutral					
EUT	: IP Mu	ultimedia	a Phone		F	Power: AC 120	0V/60Hz				
Note	e: Mode	ə 3									
Level(dBuV)	80 70 60 13 50 40 24 30 20 10 0	5 7 6 4	Mun SVAN	All Marine and the	where we are a second and the second						
	-10										
No	-20 0.15	Mark	Frequency	1	Freque	ency(MHz)	Limit	10	30		
No		Mark	Frequency	Measure	Freque	Over Limit	Limit	Factor	зо		
No	0.15	Mark	Frequency (MHz)	Measure Level	Freque Reading Level		Limit (dBuV)				
	0.15	Mark	(MHz)	Measure Level (dBuV)	Freque Reading Level (dBuV)	Over Limit (dB)	(dBuV)	Factor (dB)	Туре		
1	0.15	Mark	(MHz) 0.150	Measure Level (dBuV) 48.451	Freque Reading Level (dBuV) 37.309	Over Limit (dB) -17.549	(dBuV) 66.000	Factor (dB) 11.142	Type QP		
1 2	0.15	Mark	(MHz) 0.150 0.150	Measure Level (dBuV) 48.451 29.793	Freque Reading Level (dBuV) 37.309 18.651	Over Limit (dB) -17.549 -26.207	(dBuV) 66.000 56.000	Factor (dB) 11.142 11.142	Type   QP   AV		
1 2 3	0.15		(MHz) 0.150 0.150 0.158	Measure Level (dBuV) 48.451 29.793 48.295	Freque         Reading         Level         (dBuV)         37.309         18.651         38.005	Over Limit (dB) -17.549 -26.207 -17.273	(dBuV) 66.000 56.000 65.568	Factor (dB) 11.142 11.142 10.290	Type     QP     AV     QP		
1 2 3 4	0.15		(MHz) 0.150 0.150 0.158 0.158	Measure Level (dBuV) 48.451 29.793 48.295 32.008	Freque         Reading         Level         (dBuV)         37.309         18.651         38.005         21.718	Over Limit (dB) -17.549 -26.207 -17.273 -23.560	(dBuV) 66.000 56.000 65.568 55.568	Factor (dB) 11.142 11.142 10.290 10.290	Type     QP     AV     QP     AV     QP     AV		
1 2 3 4 5	0.15		(MHz) 0.150 0.150 0.158 0.158 0.194	Measure Level (dBuV) 48.451 29.793 48.295 32.008 42.212	Freque         Reading         Level         (dBuV)         37.309         18.651         38.005         21.718         32.190	Over Limit (dB) -17.549 -26.207 -17.273 -23.560 -21.652	(dBuV) 66.000 56.000 65.568 55.568 63.864	Factor (dB) 11.142 11.142 10.290 10.290 10.021	Type     QP     AV     QP     AV     QP     QP     QP		
1 2 3 4 5 6	0.15		(MHz) 0.150 0.150 0.158 0.158 0.194 0.194	Measure Level (dBuV) 48.451 29.793 48.295 32.008 42.212 28.397	Freque         Reading         Level         (dBuV)         37.309         18.651         38.005         21.718         32.190         18.376	Over Limit (dB) -17.549 -26.207 -17.273 -23.560 -21.652 -25.467	(dBuV) 66.000 56.000 65.568 55.568 63.864 53.864	Factor (dB) 11.142 11.142 10.290 10.290 10.021 10.021	TypeQPAVQPAVQPAVQPAV		
1 2 3 4 5 6 7	0.15		(MHz) 0.150 0.150 0.158 0.158 0.158 0.194 0.194 0.398	Measure Level (dBuV) 48.451 29.793 48.295 32.008 42.212 28.397 34.695	Freque         Reading         Level         (dBuV)         37.309         18.651         38.005         21.718         32.190         18.376         24.584	Over Limit (dB) -17.549 -26.207 -17.273 -23.560 -21.652 -25.467 -23.200	(dBuV) 66.000 56.000 65.568 55.568 63.864 53.864 53.864 57.895	Factor (dB) 11.142 11.142 10.290 10.290 10.021 10.021 10.0111	Type     QP     AV     QP     AV     QP     QP     QP		
1 2 3 4 5 6 7 8	0.15		(MHz) 0.150 0.150 0.158 0.158 0.194 0.194	Measure Level (dBuV) 48.451 29.793 48.295 32.008 42.212 28.397	Freque         Reading         Level         (dBuV)         37.309         18.651         38.005         21.718         32.190         18.376         24.584         15.666	Over Limit (dB) -17.549 -26.207 -17.273 -23.560 -21.652 -25.467 -23.200 -22.119	(dBuV) 66.000 56.000 65.568 55.568 63.864 53.864	Factor (dB) 11.142 11.142 10.290 10.290 10.021 10.021	Type     QP     AV     QP     AV     QP     AV     QP     AV     QP     QP     QP     QP     QP		
1 2 3 4 5 6 7 8 9	0.15		(MHz) 0.150 0.150 0.158 0.158 0.194 0.194 0.398 0.398 0.398 0.458	Measure Level (dBuV) 48.451 29.793 48.295 32.008 42.212 28.397 34.695 25.776 34.434	Freque         Reading         Level         (dBuV)         37.309         18.651         38.005         21.718         32.190         18.376         24.584         15.666         24.278	Over Limit (dB) -17.549 -26.207 -17.273 -23.560 -21.652 -25.467 -23.200 -22.119 -22.295	(dBuV) 66.000 56.000 65.568 55.568 63.864 53.864 57.895 47.895 56.729	Factor (dB) 11.142 11.142 10.290 10.290 10.021 10.021 10.021 10.111 10.111 10.111	TypeQPAVQPAVQPAVQPAVQPAVQPAVQPAV		
1 2 3	0.15		(MHz) 0.150 0.150 0.158 0.158 0.194 0.194 0.398 0.398	Measure Level (dBuV) 48.451 29.793 48.295 32.008 42.212 28.397 34.695 25.776	Freque         Reading         Level         (dBuV)         37.309         18.651         38.005         21.718         32.190         18.376         24.584         15.666	Over Limit (dB) -17.549 -26.207 -17.273 -23.560 -21.652 -25.467 -23.200 -22.119	(dBuV) 66.000 56.000 65.568 55.568 63.864 53.864 57.895 47.895	Factor (dB) 11.142 11.142 10.290 10.290 10.021 10.021 10.0111 10.111	Type         QP         AV         QP         QP         QP         QP		

Note: Measure Level (dB $\mu$ V) = Reading Level (dB $\mu$ V) + Factor (dB)





Note: Measure Level (dB $\mu$ V) = Reading Level (dB $\mu$ V) + Factor (dB)



5.00.0	SR2				Т	Time: 2016/01/12 - 16:30					
Limit:	: FCC	_Part15	.107_CE_AC	Power_Clas	isB E	Engineer: Vince Yu					
Probe: ENV216_101683_Filter On						olarity: Neutr	al				
EUT:	IP Mu	Iltimedia	a Phone		F	ower: AC 120	)V/60Hz				
Note:	: Mode	e 4									
Level(dBuV)	80 70 60 50 1 40 * 8 30 2 20 * 10 0	- mv	5 5 6 1 1 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	9 Munun 19 *	er man and the second particular						
-	-10 -20 0.15		-	1		ncy(MHz)		10	30		
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре		
			(MHz)	Level		(dB)	(dBuV)	(dB)			
			0.454	(dBuV)	(dBuV)	-25.618	05 701	10 710			
1			0.154 0.154	40.163 23.586	29.448 12.871	-32.195	65.781 55.781	10.716 10.716	QP AV		
2			0.134	33.194	23.137	-32.195	64.767	10.718	QP		
J I			0.174	55.134	20.107	-01.070	04.707	10.037			
			0 17/	17 222	7 166	-37 545	54 767	10.057	۵\/		
4			0.174	17.223 37.730	7.166	-37.545	54.767 61.368	10.057	AV		
4 5		*	0.262	37.730	27.720	-23.638	61.368	10.010	QP		
4 5 6		*	0.262 0.262	37.730 30.625	27.720 20.615	-23.638 -20.743	61.368 51.368	10.010 10.010	QP AV		
4 5 6 7		*	0.262 0.262 0.490	37.730 30.625 24.456	27.720 20.615 14.277	-23.638 -20.743 -31.711	61.368 51.368 56.168	10.010 10.010 10.179	QP AV QP		
4 5 6 7 8		*	0.262 0.262 0.490 0.490	37.730 30.625 24.456 18.118	27.720 20.615 14.277 7.939	-23.638 -20.743 -31.711 -28.050	61.368 51.368 56.168 46.168	10.010 10.010 10.179 10.179	QP AV QP AV		
4 5 6 7 8 9		*	0.262 0.262 0.490 0.490 0.974	37.730       30.625       24.456       18.118       22.224	27.720 20.615 14.277 7.939 12.301	-23.638 -20.743 -31.711 -28.050 -33.776	61.368 51.368 56.168 46.168 56.000	10.010 10.010 10.179 10.179 9.923	QP AV QP AV QP		
4 5 6 7 8		*	0.262 0.262 0.490 0.490	37.730 30.625 24.456 18.118	27.720 20.615 14.277 7.939	-23.638 -20.743 -31.711 -28.050	61.368 51.368 56.168 46.168	10.010 10.010 10.179 10.179	QP AV QP AV		

Note: Measure Level (dB $\mu$ V) = Reading Level (dB $\mu$ V) + Factor (dB)



### 6.3. Radiated Emission Measurement

#### 6.3.1. Test Limit

FCC Part 15.109 Limits										
Frequency (MHz)	Distance (m)	Level (dBµV/m)								
30 - 88	3	40								
88 - 216	3	43.5								
216 - 960	3	46								
Above 960	3	54								

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

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note 3: E field strength  $(dB\mu V/m) = 20 \log E$  field strength (uV/m)

### 6.3.2. Test Frequency selected

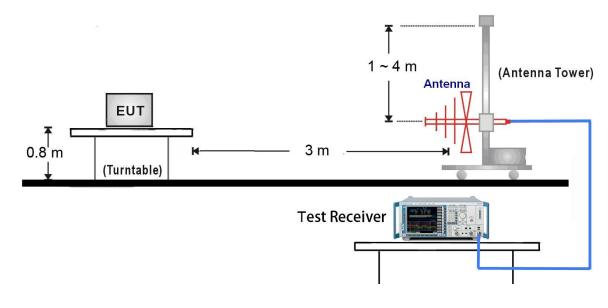
For an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower



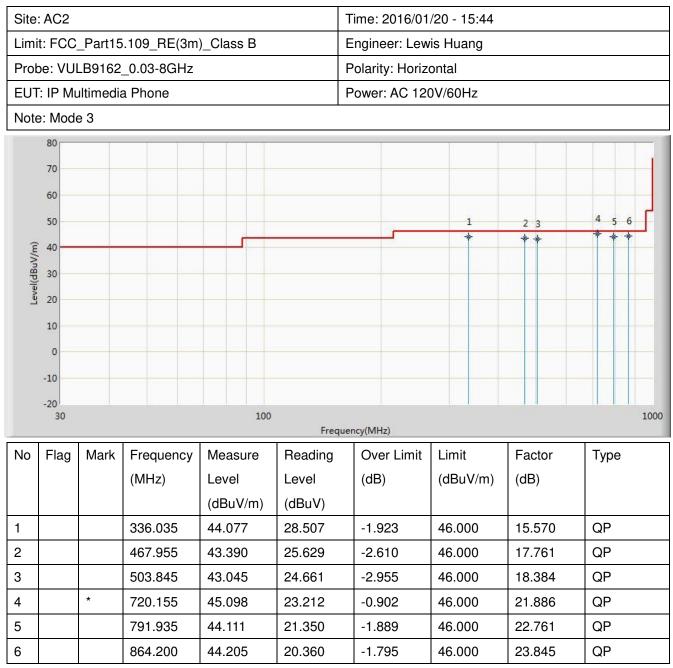
### 6.3.3. Test Setup

<u>30MHz ~ 1GHz Test Setup:</u>





#### 6.3.4. Test Result of Radiated Emissions



Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)



Site	AC2						Time: 2	2016/01	/20 - 15	:44				
Limit: FCC_Part15.109_RE(3m)_Class B Probe: VULB9162_0.03-8GHz							Engineer: Lewis Huang Polarity: Vertical							
EUT	: IP M	ultimedia	a Phone				Power	: AC 12	0V/60Hz					
Note	e: Mod	e 3												
	80 70 60													
0	50	1		2	<u></u>			-	3			4	5	-6-
Level(dBuV/m)	40 <u>30</u> 20	*		*					*					
	10 0													
	-10													-
	-20 30	.1.		1 4	100	Frequ	iency(MH	z)						1000
No	Flag	Mark	Frequency (MHz)	Meas Leve (dBu)	I	Reading Level (dBuV)	Ove (dB)	er Limit )	Limit (dBuV/m)		Factor (dB)		Туре	
1			40.670	34.85	50	20.860	-5.1	50	40.000	)	13.989		QP	
2			79.955	37.22	21	27.836	-2.7	79	40.000	)	9.385		QP	
3			336.035	39.21	14	23.644	-6.7	86	46.000	)	15.570		QP	
4			594.055	43.53	30	23.522	-2.4	70	46.000	)	20.008		QP	
5		*	742.465	44.78	31	22.606	-1.2	19	46.000	)	22.175		QP	
6			864.200	43.93	33	20.088	-2.0	67	46.000	)	23.845		QP	

Note: Measure Level  $(dB\mu V/m)$  = Reading Level  $(dB\mu V)$  + Factor (dB)



Site	AC2					Time: 2016/01	/20 - 15:44					
Limi	t: FCC	_Part15	5.109_RE(3m	)_Class B		Engineer: Lewis Huang Polarity: Horizontal						
Prob	e: VU	LB9162	_0.03-8GHz									
EUT	: IP Mu	ultimedia	a Phone			Power: AC 12	0V/60Hz					
Note	e: Mod	e 4										
	80											
	60											
	50								3 4 5 6			
_							*	2	* ** *			
m//m	40											
Level(dBuV/m)	30											
Lei	20											
	10			<u>.</u>								
	0			· · · · · · · · · · · · · · · · · · ·								
	-10											
	-20 30			100					1000			
				100		uency(MHz)			1000			
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре			
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)				
				(dBuV/m)	(dBuV)							
1			336.035	42.472	26.902	-3.528	46.000	15.570	QP			
2			445.645	41.643	24.287	-4.357	46.000	17.356	QP			
3			742.465	44.865	22.690	-1.135	46.000	22.175	QP			
4		*	827.825	45.288	21.955	-0.712	46.000	23.333	QP			
5			863.715	44.752	20.909	-1.248	46.000	23.842	QP			
6			935.980	44.406	20.013	-1.594	46.000	24.394	QP			

Note: Measure Level  $(dB\mu V/m)$  = Reading Level  $(dB\mu V)$  + Factor (dB)



Site: AC2							Time: 2016/01/20 - 15:44						
Limit: FCC_Part15.109_RE(3m)_Class B Probe: VULB9162_0.03-8GHz							Engineer: Lewis Huang						
							Polarity: Vertical						
EUT	: IP M	ultimedia	a Phone			I	Power: A	AC 120	)V/60Hz				
Note	e: Mod	e 4											
	80										1		
	70			·									
	60			• <u> </u>									
	50									3	4	56	
Ê	40 1		2		j		_			*	*	**	
BuV/	30		*										
Level(dBuV/m)	20												
-													
	10												
	0												
	-10												
	-20 30				100							1000	
				1			ency(MHz)			1			
No	Flag	Mark	Frequency	Measu	ure	Reading	Over	Limit	Limit	Factor	Тур	е	
			(MHz)	Level		Level	(dB)		(dBuV/m)	(dB)			
				(dBuV	/m)	(dBuV)							
1			31.940	36.963	3	24.580	-3.037	7	40.000	12.383	QP		
2			66.375	32.232	2	20.140	-7.768	3	40.000	12.092	QP		
3		*	594.055	45.090	)	25.082	-0.910	)	46.000	20.008	QP		
4			742.465	44.004	4	21.829	-1.996	6	46.000	22.175	QP		
5			863.715	43.612	2	19.769	-2.388	3	46.000	23.842	QP		
6			890.875	44.780	)	20.712	-1.220	)	46.000	24.068	QP		

Note: Measure Level  $(dB\mu V/m)$  = Reading Level  $(dB\mu V)$  + Factor (dB)



# 7. CONCLUSION

The data collected relate only the item(s) tested and show that the IP Multimedia Phone FCC ID:

YZZGXV3240 has been tested to comply with the requirements specified in §15.107 and §15.109 of

the FCC Rules.

The End

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