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Report No.: 1601RSU00802 Report V0sion: V03 Issue Date: 02-05-2016

MEASUREMENT REPORT FCC Part 15B

APPLICANT: Grandstream Networks, Inc.

Product:	IP Phone
Model No.:	GXP2160
Brand Name:	Grandstream
FCC Classification:	FCC Class B Digital Device (JBP)
FCC Rule Part(s):	FCC Part 15 Subpart B: 2014
Test Procedure(s):	ANSI C63.4: 2014
Test Date:	January 12 ~ 16, 2016

Reviewed By

Approved By

: Robin Wu (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
1601RSU00802	Rev. 01	Initial report	01-18-2016
1601RSU00802	Rev. 02 Update the test date and delete the radiated emission data above 1GHz		01-20-2016
1601RSU00802	Rev. 03	Update the test setup diagram	02-05-2016

Note: The EUT has been got the FCC certificate (FCC ID: YZZGXP2160). The EUT adds two new adapters now and we have shown the conducted emission data and radiated emission data in this report.



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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.:	GXP2160					
Test Device Serial No.:	N/A Droduction 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.

Hac-MRA	1
Accredited Laboratory	
MRT TECHNOLOGY (SUZHOU) CO., LTD.	
Suzhou, China for technical competence in the field of	
Electrical Testing	
This laboratory is according in accordance with the recognized International Standard ISO IEC 17025 2005 General requirements the competence of testing and calibration informatories. This accordination demonstrates technical competence for a definition of a historitory quality management system (refer a joint ISO-IAC-ARA Communique dated 5 January 2009).	
Presented this 17th day of June 2014.	
Peter Mergy- President & CLOB Continues Nameton NCCOM	
For the term to which this accorditation applies, please refer to the laboratory's Electrical Scope of Accorditation.	



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 Phone		
Model No. GXP2160			
Brand Name	Grandstream		
BT Specification	v2.1 + EDR		
Antenna Type	PIFA Antenna		
Antenna Gain 2dBi			
Components			
Adapter #1	M/N: F12US1200100A		
Input: AC 100-240V ~ 50/60Hz, 0.5A max			
OUTPUT: 12Vdc, 1.0A			
Adapter #2 M/N: PEA-120100VA			
	Input: AC 100-240V ~ 50/60Hz, 0.3A		
	OUTPUT: 12Vdc, 1.0A		

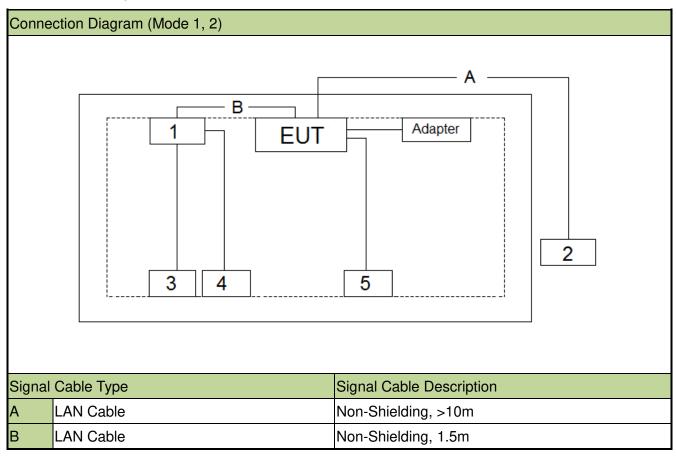
2.2. Test Mode

Test Mode				
EMI Mode	Mode 1: Audio Call with another IP Phone and Communicate with PC and Powered by Adapter #1 Mode 2: Audio Call with another IP Phone and Communicate with PC and 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:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Lenovo	X201	3626AM3	Non-Shielded, 1.8m
2	IP Phone	GRANDSTREAM	GXP2140	N/A	N/A
3	USB Keyboard	Dell	KB212	N/A	N/A
4	USB Mouse	Dell	MS111	N/A	N/A
5	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 Make a Audio Call with another IP Phone and Communicate with PC.
	(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 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 receiver and exploratory measurements were made to determine the frequencies producing 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 Emission - 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
Microwave System Amplifier	Agilent	83017A	MRTSUE06076	1 year	2016/03/29
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	V8.3.5	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 - SR2						
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)):						
150kHz~30MHz: 3.5dB						
Radiated Emission Measurement - AC2						
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.Audio Call with another IP Phone and Communicate with PC andTest Mode:Powered by Adapter #1;
Audio Call with another IP Phone and Communicate with PC and
Powered by Adapter #2;

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



6.2. Conducted Emission Measurement

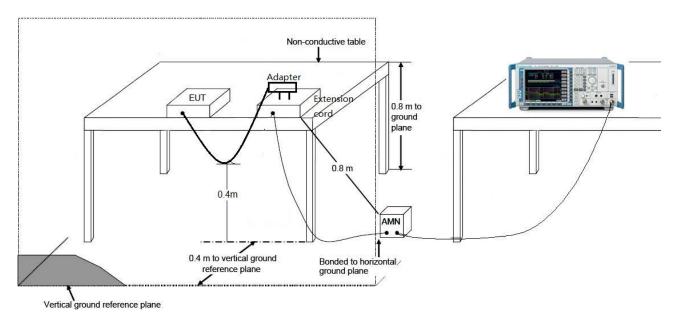
6.2.1. Test Limit

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.

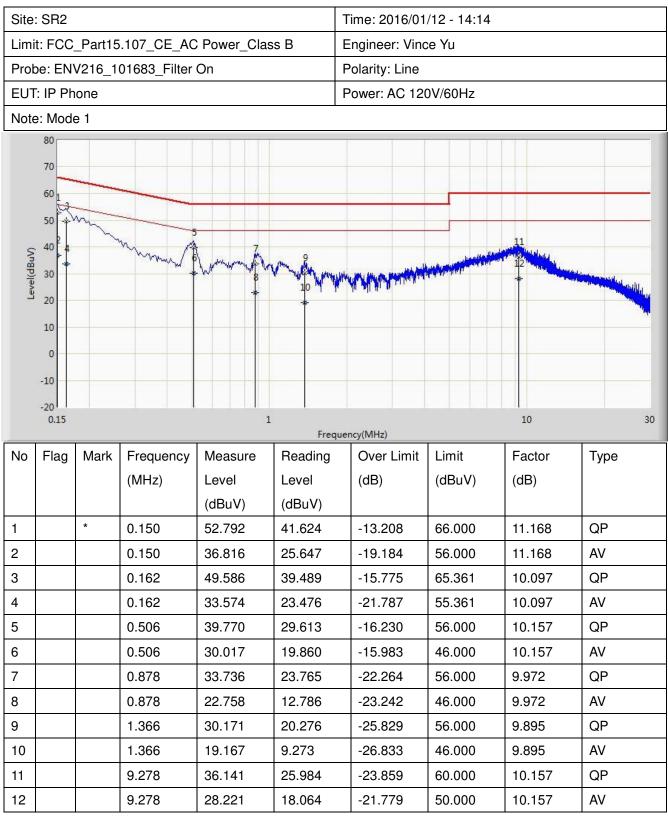
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

6.2.2. Test Setup





6.2.3. Test Result of Conducted Emissions



Note: Measure Level (dB μ V) = Reading Level (dB μ V) + Factor (dB)



Site	: SR2				۲	Time: 2016/01/12 - 14:22				
Limi	t: FCC	_Part15	5.107_CE_AC	Power_Clas	ss B E	Engineer: Vince Yu				
Prol	be: EN	V216_1	01683_Filter	On	F	Polarity: Neutr	al			
EUT	: GXP2	2160			F	Power: AC 12	0V/60Hz			
Note	e: Adap	oter:F12	US1200100A	١	·					
Level(dBuV)	70 60 1 50 40 2 40 40 2 40 2 40 2 40 40 40 40 40 40 40 40 40 40	6 *		9 	h huh					
	-20 0.15			1	Freque	ncy(MHz)		10	30	
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре	
			(MHz)	Level	Level	(dB)	(dBuV)	(dB)		
			0.454	(dBuV)	(dBuV)	10 557	05 704	10 710		
1			0.154	52.225	41.509	-13.557	65.781	10.716	QP	
2			0.154	35.099	24.383	-20.682	55.781	10.716	AV	
3			0.170	49.230	39.167 22.602	-15.730	64.960	10.064	QP	
4 5			0.170	32.666 47.435	37.407	-22.295 -16.601	54.960 64.037	10.064 10.028	AV QP	
			0.190			-16.601	54.037		AV	
6 7			0.190	31.300 40.996	21.272 30.819	-15.004	56.000	10.028	QP	
7 8		*	0.506	33.893	23.716	-12.107	46.000	10.177	AV	
o 9			0.894	30.059	20.091	-12.107	46.000 56.000	9.967	QP	
			0.894	21.005	11.037	-25.941	46.000	9.967	AV	
10	1		0.094	21.003						
10			0.570	22 1 00	00 046	06 070		10 100		
10 11 12			9.570 9.570	33.128 26.557	22.946 16.375	-26.872 -23.443	60.000 50.000	10.182 10.182	QP AV	

Note: Measure Level (dB μ V) = Reading Level (dB μ V) + Factor (dB)



Site	: SR2				7	Time: 2016/01	/12 - 20:01			
Lim	it: FCC	_Part15	.107_CE_AC	Power_Clas	ss B E	Engineer: Vince Yu				
Probe: ENV216_101683_Filter On						Polarity: Line				
EUT	Г: IP Ph	one			F	Power: AC 120	0V/60Hz			
Note	e: Mode	e 2								
Level(dBuV)	10 0	10	m v s v f	man Manage	lyyaday "y tabatuyadan					
	-10 -20 0.15			1	Freque	ncy(MHz)		10	30	
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре	
			(MHz)			(dB)	(dBuV)	(dB)		
			0.450	(dBuV)	(dBuV)	40.455	05 500	10.011	0.0	
1			0.158	49.414	39.103	-16.155	65.568	10.311	QP	
2			0.158	31.526	21.215 36.521	-24.042	55.568	10.311	AV	
3			0.174 0.174	46.588 29.179	19.111	-18.179	64.767 54.767	10.068 10.068	QP AV	
4 5			0.174	45.228	35.223	-25.588 -18.466	63.694	10.005	QP	
5 6			0.198	28.754	18.750	-18.466	53.694	10.005	AV	
7			0.398	34.685	24.601	-23.210	57.895	10.084	QP	
8			0.398	27.740	17.657	-20.155	47.895	10.084	AV	
9			0.486	40.724	30.569	-15.512	56.236	10.155	QP	
10		*	0.486	35.793	25.638	-10.443	46.236	10.155	AV	
11			6.666	35.118	24.969	-24.882	60.000	10.149	QP	
	1					-				
12			6.666	28.314	18.165	-21.686	50.000	10.149	AV	

Note: Measure Level (dB μ V) = Reading Level (dB μ V) + Factor (dB)



Site	SR2				Т	īme: 2016/01	/12 - 20:05				
Limi	t: FCC	_Part15	5.107_CE_AC	Power_Clas	s B E	Engineer: Vince Yu					
Probe: ENV216_101683_Filter On						Polarity: Neutr	al				
EUT	: IP Ph	ione			F	Power: AC 120	0V/60Hz				
Note	e: Mode	e 2									
Level(dBuV)	70 60 50 40 20 20 10 0	3			WTWW		9 11 10 12 * *				
	-10										
No	-20 0.15	Mark	Frequency	1 Measure	Freque	ncy(MHz)	Limit	10 Factor	30 Type		
No		Mark	Frequency (MHz)	Measure Level	Freque Reading Level	ncy(MHz) Over Limit (dB)	Limit (dBuV)	10 Factor (dB)	зо		
No 1	0.15	Mark	(MHz)	Measure Level (dBuV)	Freque Reading Level (dBuV)	Over Limit (dB)	(dBuV)	Factor (dB)	Туре		
	0.15	Mark	(MHz) 0.150	Measure Level (dBuV) 49.401	Freque Reading Level (dBuV) 38.259	Over Limit (dB) -16.599	(dBuV) 66.000	Factor (dB) 11.142	Type QP		
1	0.15	Mark	(MHz)	Measure Level (dBuV)	Freque Reading Level (dBuV)	Over Limit (dB)	(dBuV)	Factor (dB)	Туре		
1 2	0.15	Mark	(MHz) 0.150 0.150 0.182	Measure Level (dBuV) 49.401 32.304	Frequent Reading Level (dBuV) 38.259 21.162 35.791	Over Limit (dB) -16.599 -23.696 -18.561	(dBuV) 66.000 56.000	Factor (dB) 11.142 11.142 10.042	TypeQPAV		
1 2 3	0.15	Mark	(MHz) 0.150 0.150	Measure Level (dBuV) 49.401 32.304 45.833	Frequent Reading Level (dBuV) 38.259 21.162	Over Limit (dB) -16.599 -23.696	(dBuV) 66.000 56.000 64.394	Factor (dB) 11.142 11.142	TypeQPAVQP		
1 2 3 4	0.15	Mark	(MHz) 0.150 0.150 0.182 0.182	Measure Level (dBuV) 49.401 32.304 45.833 30.212	Frequent Reading Level (dBuV) 38.259 21.162 35.791 20.169	Over Limit (dB) -16.599 -23.696 -18.561 -24.182	(dBuV) 66.000 56.000 64.394 54.394	Factor (dB) 11.142 11.142 10.042 10.042	Type QP AV QP AV QP AV		
1 2 3 4 5 6	0.15		(MHz) 0.150 0.150 0.182 0.182 0.478	Measure Level (dBuV) 49.401 32.304 45.833 30.212 41.949	Freque Reading Level (dBuV) 38.259 21.162 35.791 20.169 31.779	Over Limit (dB) -16.599 -23.696 -18.561 -24.182 -14.425	(dBuV) 66.000 56.000 64.394 54.394 56.374	Factor (dB) 11.142 11.142 10.042 10.042 10.170	Type QP AV QP AV QP QP		
1 2 3 4 5 6 7	0.15		(MHz) 0.150 0.150 0.182 0.182 0.478 0.478	Measure Level (dBuV) 49.401 32.304 45.833 30.212 41.949 35.570	Freque Reading Level (dBuV) 38.259 21.162 35.791 20.169 31.779 25.399	Over Limit (dB) -16.599 -23.696 -18.561 -24.182 -14.425 -10.804	(dBuV) 66.000 56.000 64.394 54.394 56.374 46.374	Factor (dB) 11.142 11.142 10.042 10.042 10.170 10.170	Type QP AV QP AV QP AV QP AV QP AV		
1 2 3 4 5 6 7 8	0.15		(MHz) 0.150 0.150 0.182 0.182 0.478 0.478 4.870	Measure Level (dBuV) 49.401 32.304 45.833 30.212 41.949 35.570 34.745	Freque Reading Level (dBuV) 38.259 21.162 35.791 20.169 31.779 25.399 24.710	Over Limit (dB) -16.599 -23.696 -18.561 -24.182 -14.425 -10.804 -21.255	(dBuV) 66.000 56.000 64.394 54.394 56.374 46.374 56.000	Factor (dB) 11.142 11.142 10.042 10.042 10.170 10.170 10.035	TypeQPAVQPAVQPAVQPQPQPQP		
1 2 3 4 5 6 7 8	0.15		(MHz) 0.150 0.150 0.182 0.182 0.478 0.478 4.870 4.870	Measure Level (dBuV) 49.401 32.304 45.833 30.212 41.949 35.570 34.745 25.411	Freque Reading Level (dBuV) 38.259 21.162 35.791 20.169 31.779 25.399 24.710 15.376	Over Limit (dB) -16.599 -23.696 -18.561 -24.182 -14.425 -10.804 -21.255 -20.589	(dBuV) 66.000 56.000 64.394 54.394 56.374 46.374 56.000 46.000	Factor (dB) 11.142 11.142 10.042 10.042 10.170 10.170 10.035 10.035	Type QP AV QP		
1 2 3 4 5 6 7 8 9	0.15		(MHz) 0.150 0.150 0.182 0.182 0.182 0.478 0.478 4.870 4.870 6.594	Measure Level (dBuV) 49.401 32.304 45.833 30.212 41.949 35.570 34.745 25.411 37.439	Freque Reading Level (dBuV) 38.259 21.162 35.791 20.169 31.779 25.399 24.710 15.376 27.278	Over Limit (dB) -16.599 -23.696 -18.561 -24.182 -14.425 -10.804 -21.255 -20.589 -22.561	(dBuV) 66.000 56.000 64.394 54.394 56.374 46.374 46.374 56.000 46.000 60.000	Factor (dB) 11.142 11.142 10.042 10.042 10.170 10.170 10.035 10.035 10.161	Type QP AV QP		

Note: Measure Level (dB μ V) = Reading Level (dB μ 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

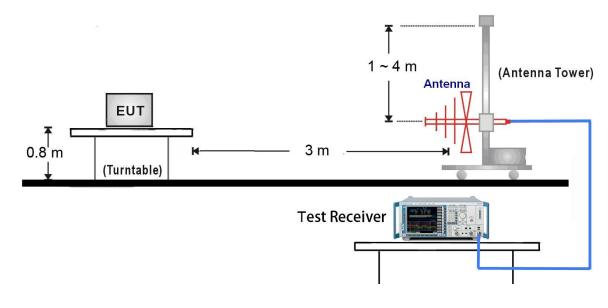
For an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

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



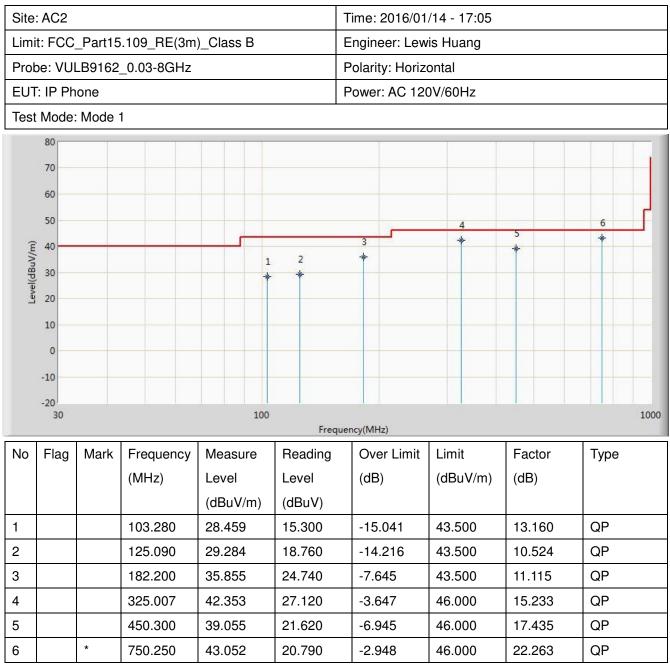
6.3.3. Test Setup

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





6.3.4. Test Result of Radiated Emissions



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



Site	AC2					Time: 2016/01	/14 - 17:05			
Limi	t: FCC	_Part15	5.109_RE(3m)_Class B		Engineer: Lewis Huang				
Prob	be: VU	LB9162	_0.03-8GHz			Polarity: Vertic	al			
EUT	: IP Ph	none				Power: AC 120	0V/60Hz			
Test	Mode	: Mode	1							
	80 70 60 50									
Level(dBuV/m)	1		3	*	5			6		
	-10 -20 30			100	Frequ	ency(MHz)			1000	
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Туре	
1		*	32.425	36.847	24.380	-3.153	40.000	12.467	QP	
2			37.469	33.334	19.980	-6.666	40.000	13.354	QP	
3			46.150	36.072	21.070	-3.928	40.000	15.001	QP	
4			82.350	35.126	25.410	-4.874	40.000	9.716	QP	
5			125.020	39.514	28.980	-3.986	43.500	10.534	QP	
6			628.100	36.989	16.560	-9.011	46.000	20.429	QP	

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



Site:	AC2					Time:	2016/01	/14 - 17:06				
Limit: FCC_Part15.109_RE(3m)_Class B Probe: VULB9162_0.03-8GHz							Engineer: Lewis Huang					
							ty: Horiz	ontal				
EUT	: IP Ph	one				Power	: AC 12	0V/60Hz				
Test	Mode	Mode	2									
	80											
	70			-							-	
	60											
	50							2		6	-f	
Ē	40						1	* 3 *	4 ⁵ ≽ *	*	_	
dBuV/	30						*					
Level(dBuV/m)	20											
-	10											
	0											
	-10											
	-20											
	30			10		quency(MF	17)				1000	
No	Flag	Mark	Frequency	Measure	Reading		er Limit	Limit	Factor	Туре		
			(MHz)	Level	Level	(dB		(dBuV/m)	(dB)			
				(dBuV/m)	(dBuV)	,	,	, ,				
1			250.200	34.206	20.510	-11.	.794	46.000	13.696	QP		
2		*	325.000	43.033	27.800	-2.9	967	46.000	15.233	QP		
3			375.100	39.202	22.980	-6.7	798	46.000	16.221	QP		
4			415.600	38.773	21.800	-7.2	227	46.000	16.973	QP		
5			480.150	39.949	21.950	-6.0)51	46.000	17.999	QP		
6			750.320	41.783	19.520	-4.2	217	46.000	22.263	QP		

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



Site: AC2 Limit: FCC_Part15.109_RE(3m)_Class B Probe: VULB9162_0.03-8GHz EUT: IP Phone						Time: 2016/01/14 - 17:06 Engineer: Lewis Huang Polarity: Vertical Power: AC 120V/60Hz													
										Test	Mode	: Mode 2	2			·			
											80 70								
											60								
	50								f										
Ê	40		2	3	4 5			6											
BuV/I	30		*	*	**			*											
Level(dBuV/m)	-																		
Ľ	20																		
	10																		
	0																		
	-10																		
	-20 30	100							1000										
		1			Free	quenc <mark>y(MH</mark> z)		1											
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре										
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)											
				(dBuV/m)	(dBuV)														
1			30.000	27.657	15.590	-12.343	40.000	12.067	QP										
2			65.320	35.051	22.600	-4.949	40.000	12.451	QP										
3		*	81.030	35.264	25.730	-4.736	40.000	9.534	QP										
4			125.080	38.165	27.640	-5.335	43.500	10.526	QP										
5			131.840	36.571	26.640	-6.929	43.500	9.931	QP										
6			492.300	33.803	15.600	-12.197	46.000	18.203	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 Phone FCC ID: YZZGXP2160

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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