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MAXIMUM PERMISSIBLE EXPOSURE ASSESSMENT REPORT

On Model Name: IP Multimedia Phone

Model Numbers: GXV3275

Brand Name: Grandstream

FCC ID Number: YZZGXV3275

Prepared for Grandstream Networks,INC

Test Report #: SHE-1402-11115-FCC-MPE

Tested by:	Daomen	Galanz
	Daomen/ Engineer	Company Name
Reviewed by:		ECMG
	Jawen Yin/Senior Engineer	Company Name
QC Manager:	Swall Zhang	ECMG
	Swall Zhang/ QC Manager	Company Name

Test Report Released by:	Swall Zhang	March 20th, 2014
	Swall Zhang	Date

Test Location

Tests performed in a Certified ANSI Semi-Anechoic Chamber and Shielded Room.

Test Site Location	*: Galanz*
	25 South Ronggui Rd., Shunde, Foshan,Guangdong, China
Tel	*: (86)-757-23612785*
Fax	*: (86)-757-23612537*

Test Facility

The test facility was recognized, certified, or accredited by the following organizations:

- *CNAL – LAB Code: L2244*

Galanz EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements)for the Competence of Testing Laboratories.

- *FCC – Registration No.: 580210*

Galanz EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC was maintained in our files.

List of Test and Measurement Instruments

No.	Equipment	Manufacturer	Model No.	Serial No.	Calibrated Untill
01	Shielding Room	ETS	N/A	N/A	2014-10-25
02	Spectrum Analyzer (9KHz-30GHz)	R&S	FSP30	100755	2014-10-25
03	EMI Receiver	SCHAFFNER	SMR4503	11725	2014-10-25
04	LISN	ETS	4825/2	1161	2014-10-25
05	Coaxial Cable	ATC-Lab	N/A	N/A	2014-10-25
06	Double-ridged Wave guide horn	ETS	3115	6587	2014-10-25
07	Double-ridged Wave guide horn	ETS	3160	00052486	2014-10-25
08	Microwave system amplifier (0.5G-26.5G)	Agilent	83017A	MY39500438	2014-10-25
09	Band-pass Filter	Micro-Tronic	BRM50702	S/N-030	2014-10-25
10	Biconilog Antenna	ETS	3142C	00042672	2014-10-25
11	Semi-anechoic Chamber	ETS	N/A	N/A	2014-10-25

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Opinions and Interpretations

This test report relates to the abovementioned equipment under test (EUT). Without the permission of ECMG Electronic Technical Testing Corp (Shenzh en) Test Lab this test report is not permitted to be duplicated in extract s.This test report does not entitle to carry any test mark on this or similar products.The manufacturer has sole responsibility of continued compliance of the device.

Statement of Measurement Uncertainty

The data and results referenced in the document are true and accura te.The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities that can account for a nominal measurement error. Furthermore, component and process variability of devices similar to that tested may resultin additional deviation.

Administrative Data

Test Sample	*: IP Multimedia Phone*
Model Name	*: GXV3275*
Model Tested	*: GXV3275*
Receipt Date	*: March 5th, 2014*
Date Tested	*: March 13th to 16th, 2014*
Applicant	*: Grandstream Networks, INC*
Address	*5F, Bldg #1, No.2 Kefa Rd., Science & Technology Park, Shenzhen, China*
Telephone	*: (86)-755-26014600*
Fax	*: (86)-755-26014601*
Manufacturer	*: Grandstream Networks, INC*
Address	*5F, Bldg #1, No.2 Kefa Rd., Science & Technology Park, Shenzhen, China*
Telephone	*: (86)-755-26014600*
Fax	*: (86)-755-26014601*
Factory	*: Grandstream Networks, INC*
Address	*5F, Bldg #1, No.2 Kefa Rd., Science & Technology Park, Shenzhen, China*
Telephone	*: (86)-755-26014600*
Fax	*: (86)-755-26014601*

EUT Description

Grandstream Networks, INC. Tested model GXV3275 (referred to as the EUT in this report) is an IP Multimedia Phone. The EUT is an IP Multimedia Phone with IEEE 80211.b/g/n and Bluetooth Radio functionalityes. Technical specifications of the EUT are as beLows:

Parameters		Ranges
Basic parameters	Rated voltage	DC +12V
	Rated Current	DC 1.5A
Specifications of Bluetooth	Operating band	2402-2480MHz
	Modulation Techniques	FHSS
	Number of Channels:	79 channels
	Data Rate	GFSK (1Mbps), π/4-DQPSK (2Mbps), 8DPSK (3Mbps)
	Type of modulation:	GFSK, DPSK,DQPSK
	Antenna Gain:	Small antennas with 0~2 dBi peak gain
Specifications of IEEE 802.11b/g/n	Operating band	2.400 GHz ~ 2.497 GHz (2.4 GHz ISM Band)
	WLAN standard	IEEE 802.11b/g/n, WiFi compliant
	Modulation	802.11b : DQPSK, DBPSK, CCK 802.11 g/n : OFDM /64-QAM,16-QAM, QPSK, BPSK
	Number of Channels:	11 channels
	Data Rate	802.11b : 1, 2, 5.5, 11Mbps; 802.11g : 6, 9, 12, 18, 24, 36, 48, 54Mbps; 802.11n: 6.5, 13, 19.5, 26, 39, 52, 58.5, 65Mbps; 802.11n : 7.2, 14.4, 21.7, 28.9, 43.3, 57.8, 65,72.2Mbps
	RF Output Power	802.11b /11Mbps : 16 dBm ± 1.5 dB @ EVM -9dB; 802.11g /54Mbps : 15 dBm ± 1.5 dB @ EVM -25dB; 802.11n /65Mbps : 14 dBm ± 1.5 dB @ EVM -28dB
Antenna spec.	Antenna Type	Pipe Copper Antenna,1T1R
	Frequency range	2.4GHz to 2.5GHz

Continue on to next page…

Parameter		Ranges
Antenna spec.	Return Loss	-10dB or less;
	VSWR	1.92Max;
	Gain	2.0 dBi
I/O Ports	USB Port x(2Pcs)	USB devices may be connected via the USB port
	Handset Port	3.5mm stereo headset connector port
	RJ9 Headset Port	Connect RJ9 headset or EHS headset.
	LAN Port	10/100/1000Mbps Ethernet port connect to LAN. It supports PoE.
	PC Port	10/100/1000Mbps Ethernet port connect to PC.
	Power Jack	12V/5A Power Jack used to connect the power adapter
	SD Card Slot	SD card could be inserted in for picture/music/video files storage
	Mini HDMI Port	Connect the display device that supports HDMI.
	3.5mm Headser Port	Connect 3.5mm headset.
Universal power supply	Input	AC 100-240V 50/60Hz,0.4A
	Output	DC 12V,1.5A
	Model	SFF1200150A1BY
	Trademark	Mass power

Note:For more detailed information's or features please refer to user's manual of EUT.

IEEE 802.11b/g/n :Working Frequency of Each Channel:

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
001	2412	007	2442
002	2417	008	2447
003	2422	009	2452
004	2427	010	2457
005	2432	011	2462
006	2437		

ATTACHMENT 1 – RF EXPOSURE COMPLIANCE REQUIREMENT

Applicable Standard:

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio freque ncy energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

Limits for General Population/Uncontrolled Exposure

a) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	***Electric Field Strength (E) (V/m)***	***Magnetic Field Strength (H) (A/m)***	***Power Density (S) (mW/cm2)***	***Averaging Times |E|2 , |H|2 or S (minutes)***
0.3-3.0	*614*	*1.63*	*(100)**	*6*
3.0-30	*1842/f*	*4.89/f*	*(900/f)**	*6*
30-300	*61.4*	*0.163*	*1.0*	*6*
300-1500			*F/300*	*6*
1500-100000			*5*	*6*

(b) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	***Electric Field Strength (E) (V/m)***	***Magnetic Field Strength (H) (A/m)***	***Power Density (S) (mW/cm2)***	***Averaging Times |E|2 , |H|2 or S (minutes)***
0.3-1.34	*614*	*1.63*	*(100)**	*30*
1.34-30	*824/f*	*2.19/f*	*(180/f)**	*30*
30-300	*27.5*	*0.073*	*0.2*	*30*
300-1500			*F/1500*	*30*
1500-100000			*1.0*	*30*

*Note: f=frequency in MHz; *Plane-wave equivalent power density*

MPE Calculation Method:

*E (V/m) = (30*P*G) $^{0.5}$/d Power Density: S (mW/m2) = E^2/377*

E = Electric Field (V/m)
P = Peak RF output Power (W)
G = EUT Antenna numeric gain (numeric)
d = Separation distance between radiator and human body (m)

The formula can be changed to
*S = (30*P*G) / (377*d^2)*

From the peak EUT RF output power, the minimum mobile separation distance d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

Note :
*The maximal conducted peak output power is **24.28dBm (0.268Watt)** in the high channel(2437MHz).*

The best case gain of the antenna is 2.0dBi.
2.0dB logarithmic terms convert to numeric result is nearly 1.58.

Test Result:

Channel (MHz)	Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (W)	Power Density (S) (mW/cm2)	Limit of Power Density (S) (mW/cm2)	Test Result
2437	1.58	24.28	0.268	**0.842**	1.0	Compliant

The unit does meet the requirement.

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