RF Exposure Evaluation Declaration

FCC ID:	YZZGXV3240D
APPLICANT:	Grandstream Networks, Inc.

Application Type:	Certification
Product:	IP Multimedia Phone
Model No.:	GXV3240D
Brand Name:	Grandstream
FCC Classification:	FCC Part 15 Spread Spectrum Transmitter (DSS) Digital Transmission System (DTS) Unlicensed National Information Infrastructure (UNII)

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ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

Revision History

Report No.	Version	Description	Issue Date
1411RSU03606	Rev. 01	Initial report	12-09-2014

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	IP Multimedia Phone
Model No.	GXV3240D
Frequency Range	**For 2.4G Band:** 802.11b/g/n-HT20: 2412 ~ 2462 MHz **For 5.0G Band:** 802.11a/n-HT20: 5180 ~ 5320MHz 5500 ~ 5700MHz 5745 ~ 5825MHz
Type of Modulation	802.11b: DSSS 802.11g/a/n: OFDM
Adapter	Model: SFF1200150A1BY Input: 100-240V ~ 50/60Hz 0.4A Output: 12.0V ~ 1.5A

1.2. Antenna Description

Antenna Type	Frequency Band (GHz)	Manufacturer	Model	Tx Paths	Max Peak Gain (dBi)
	2.4	DONGGUAN SENLING INDUSTRIAL	SLB-20209 0048	1	2.0
	5.5			1	2.0

2. RF Exposure Evaluation

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula: Pd = (Pout*G)/(4*pi*r2)

Where
Pd = power density in mW/cm2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
Pi = 3.1416
r = distance between observation point and center of the radiator in cm

Pd is the limit of MPE, $1mW/cm^2$. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.2. Test Result of RF Exposure Evaluation

Product	IP Multimedia Phone
Test Item	RF Exposure Evaluation

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2.0dBi for 2.4GHz, 2.0dBi for 5.5GHz in logarithm scale.

Test Mode	Frequency Band (MHz)	Maximum Average Output Power (dBm)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)
FHSS	2402 ~ 2480	-0.15	0.0003	1
802.11b/g/n-HT20	2412 ~ 2462	16.83	0.0152	1
802.11a/n-HT20	5180 ~ 5240, 5500 ~ 5700, 5745 ~ 5825	14.64	0.0092	1

CONCULISON:

Both of the WLAN and Bluetooth can transmit simultaneously.

Therefore, the Max Power Density at R (20 cm) = $0.0003mW/cm^2$+ $0.0152mW/cm^2$ = $0.0155mW/cm^2$ < $1mW/cm^2$.

So the EUT complies with the requirement.

The End