EMC Test Report

Project No.	:	1505C099
Equipment	:	IP Phone
Model Name	:	X5G
Applicant	:	Fanvil Technology Co.Ltd
Address	:	3F, Block A, Gaoxinqi Building, Anhua Industrial Park, Qianjin 1st Rd. 35th Dist., Bao'An, Shenzhen, 518101, China
Date of Receipt	:	May 12, 2015
Date of Test	:	May 12, 2015 ~ Jun. 05, 2015
Issued Date	:	Jun. 08, 2015
Tested by	:	BTL Inc.

Testing Engineer : (Bill Zhang)

Technical Manager : (James Chiu)

Authorized Signatory : (Steven Lu)

BTL INC.

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Testing Laboratory 2640

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C**, or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

BTL's report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-EMC-1-1505C099	Original issue.	Jun. 08, 2015

1. CERTIFICATION

Equipment	:	IP Phone
Brand Name	:	Fanvil
Model Name	:	X5G
Applicant	:	Fanvil Technology Co.Ltd
Date of Test	:	May 12, 2015 ~ Jun. 05, 2015
Test Sample	:	ENGINEERING SAMPLE
Standard(s)	:	EN 55022: 2010+AC:2011 Class B EN 61000-3-2:2014 Class A EN 61000-3-3: 2013 EN 55024: 2010 IEC 61000-4-2: 2008 IEC 61000-4-3: 2006 +A1: 2007 +A2: 2010 IEC 61000-4-4: 2012 IEC 61000-4-5: 2014 IEC 61000-4-6: 2013 IEC 61000-4-8: 2009 IEC 61000-4-11: 2004

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-EMC-1-1505C099) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

EMC Emission				
Standard(s)	Test Item	Limit	Judgment	Remark
EN 55022: 2010 +AC :2011	Conducted Emission	Class B	PASS	
	Conducted Telecommunication ports	Class B	PASS	
	Radiated Emission	Class B	PASS	
EN 61000-3-2: 2014	Harmonic Current Emission	Class A	PASS	NOTE(2)
EN 61000-3-3:2013	Voltage Fluctuations & Flicker	------	PASS	
EMC Immunity EN 55024:2010				
Section	Test Item	Performance Criteria	Judgment	Remark
IEC 61000-4-2:2008	Electrostatic Discharge	B	PASS	
IEC 61000-4-3: 2006+A1:2007+A2:2010	RF electromagnetic field	A	PASS	
IEC 61000-4-4: 2012	Fast transients	B	PASS	
IEC 61000-4-5:2014	Surges	B	PASS	
IEC 61000-4-6:2013	Injected Current	A	PASS	
IEC 61000-4-8:2009	Power Frequency Magnetic Field	A	PASS	
IEC 61000-4-11:2004	Volt. Interruptions Volt. Dips	B / C / C	PASS	NOTE(3)

NOTE:

(1) ” N/A” denotes test is not applicable in this Test Report.

(2) If the EUT’s category is Class D and power consumption is less than 75W, there is no limit applied.

(3) Voltage dip: ＞95% reduction – Performance Criteria **B**
Voltage dip: 30% reduction – Performance Criteria **C**
Voltage Interruption: ＞95% reduction – Performance Criteria **C**

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is located at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{cispr} requirement.

The reported uncertainty of measurement **y** ± **U**, where expanded uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95**%.

A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U,(dB)	Note
DG-C02	CISPR	150 kHz ~ 30MHz	2.32	

B. ISN Measurement:

Test Site	Method	Test item	U,(dB)	Note
DG-C02	CISPR	ISN	5.62	
		Capacitive Voltage Probe	2.56	
		RF Current Probe	1.58	

C. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)	Note
DG-CB08 (10m)	CISPR	30MHz ~ 200MHz	V	4.04	
		30MHz ~ 200MHz	H	4.04	
		200MHz ~ 1,000MHz	V	4.08	
		200MHz ~ 1,000MHz	H	4.02	

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)	Note
DG-CB03	CISPR	1GHz~18GHz	V	3.12	
		1GHz~18GHz	H	3.68	

D. Harmonic/ Flicker Measurement :

Test Site	Method	Test item	U	Note
TR06	IEC 61000-3-2	Voltage	0.774%	
	IEC 61000-3-3	Current	0.782%	

E. Immunity Measurement:

Test Site	Method	Test item	U	Note
SR02	IEC 61000-4-2	Voltage (2kV/4kV/6kV/8kV/15kV/25 kV/30 kV)	1.3%	
		Current	3%	
CB05	IEC 61000-4-3	80MHz~3GHz	2.875	
SR05	IEC 61000-4-4	Impulse Amplitude	4 %	
		Timing	3 %	
SR05	IEC 61000-4-5	Impulse Amplitude	4 %	
		Timing	3 %	
CB06	IEC 61000-4-6	CDN: 150kHz~80MHz	1.988 dB	
		EM Clamp: 150kHz~80MHz	1.777 dB	
TR06	IEC 61000-4-8	Magnetic Field Level	3 %	
SR05	IEC 61000-4-11	Impulse Amplitude	4 %	
		Timing	3 %	

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	IP Phone
Brand Name	Fanvil
Model Name	X5G
Model Difference	N/A
Power Source	1# DC Voltage supplied from AC/DC adapter. Manufacturer: SHENZHEN FRECOM ELECTRONICS CO.,LTD. Model: F05W-050100SPAV 2# Supplied from PoE
Power Rating	1# I/P: AC100-240V 50/60Hz 190mA O/P: DC5V 1A 2# DC 48V

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT's maximum operating frequency is 166MHz

3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Handfree
Mode 2	Handset
Mode 3	Headphone
Mode 4	LAN 1Gbps
Mode 5	LAN 100Mbps
Mode 6	LAN 10Mbps
Mode 7	WAN 1Gbps
Mode 8	WAN 100Mbps
Mode 9	WAN 10Mbps

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

For Conducted Test	
Final Test Mode	Description
Mode 1	Handfree
Mode 2	Handset
Mode 3	Headphone

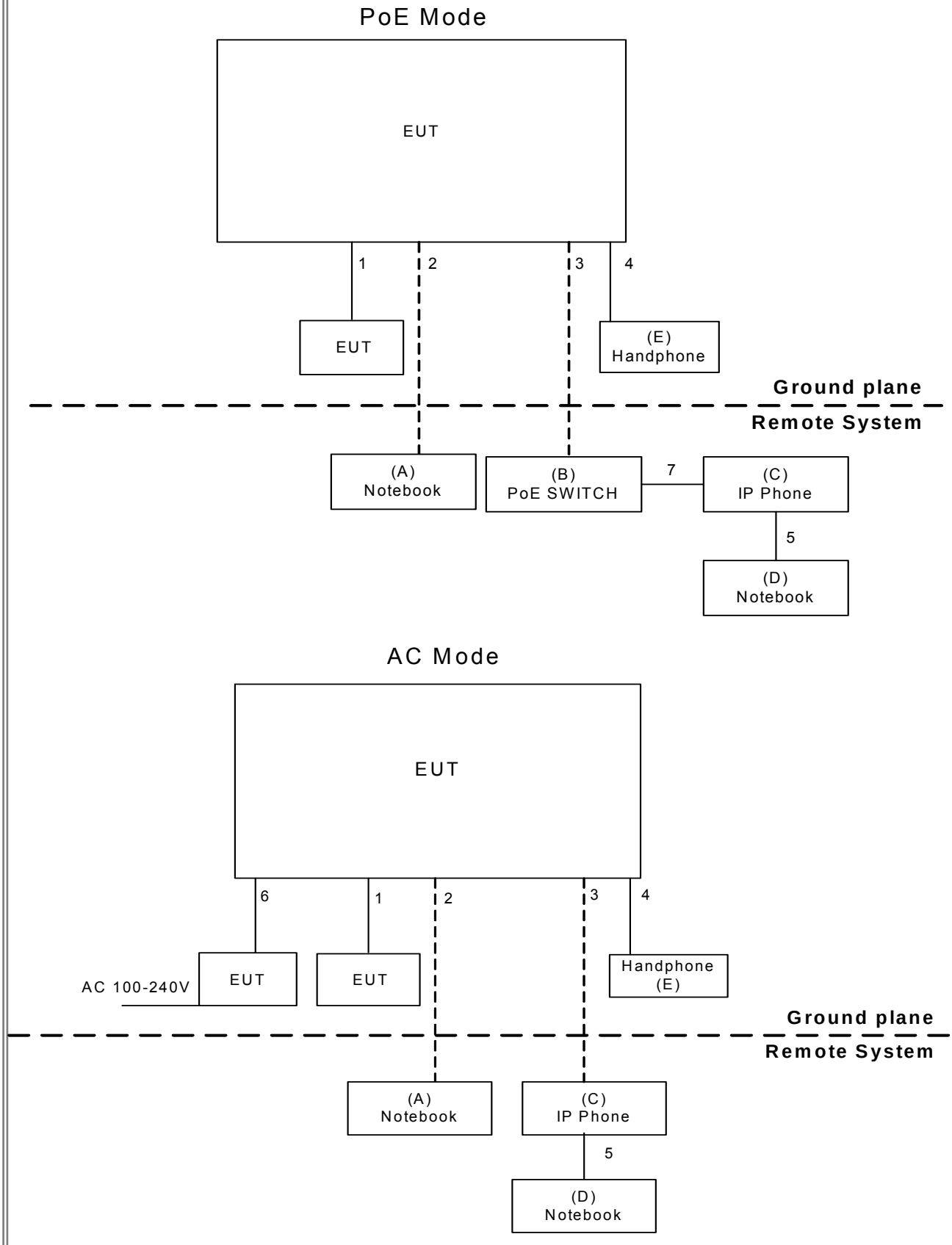
For ISN Test	
Final Test Mode	Description
Mode 4	LAN 1Gbps
Mode 5	LAN 100Mbps
Mode 6	LAN 10Mbps
Mode 7	WAN 1Gbps
Mode 8	WAN 100Mbps
Mode 9	WAN 10Mbps

For Radiated Test	
Final Test Mode	Description
Mode 1	Handfree
Mode 2	Handset
Mode 3	Headphone

Harmonic current emissions & Voltage changes, voltage fluctuations and flicker test	
Final Test Mode	Description
Mode 1	Handfree

For EMS Test	
Final Test Mode	Description
Mode 1	Handfree
Mode 2	Handset
Mode 3	Headphone

3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
A	Notebook	HP	8460P	DOC	CNU1301BJ3
B	PoE SWITCH	D-LINK	DGS-1008P	N/A	QB842D1000045
C	IP PHONE	FANVIL	X5G	DOC	N/A
D	NOTEBOOK	DELL	INSPIRON 1420	DOC	JX193A01SDC2
E	Handphone	FANVIL	N/A	DOC	N/A

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.8m	RJ11 Cable
2	NO	NO	15m	RJ45 Cable
3	NO	NO	15m	RJ45 Cable
4	NO	NO	3m	Audio Cable
5	NO	NO	1m	RJ45 Cable
6	NO	NO	1.8m	DC Cable
7	NO	NO	1m	RJ45 Cable

Note:

(1) The support equipment was authorized by Declaration of Confirmation.
(2) For detachable type I/O cable should be specified the length in m『Length』column.

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION (FREQUENCY RANGE 150KHZ-30MHZ)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

(3) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
Margin Level = Measurement Value - Limit Value

4.1.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	Mar. 28, 2016
2	LISN	R&S	ENV216	101447	Mar. 28, 2016
3	Test Cable	N/A	C_17	N/A	Mar.13, 2016
4	EMI TEST RECEIVER	R&S	ESCS30	833364/017	Mar. 28, 2016
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Mar. 28, 2016
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Remark: ” N/A” denotes No Model Name, Serial No. or No Calibration specified.

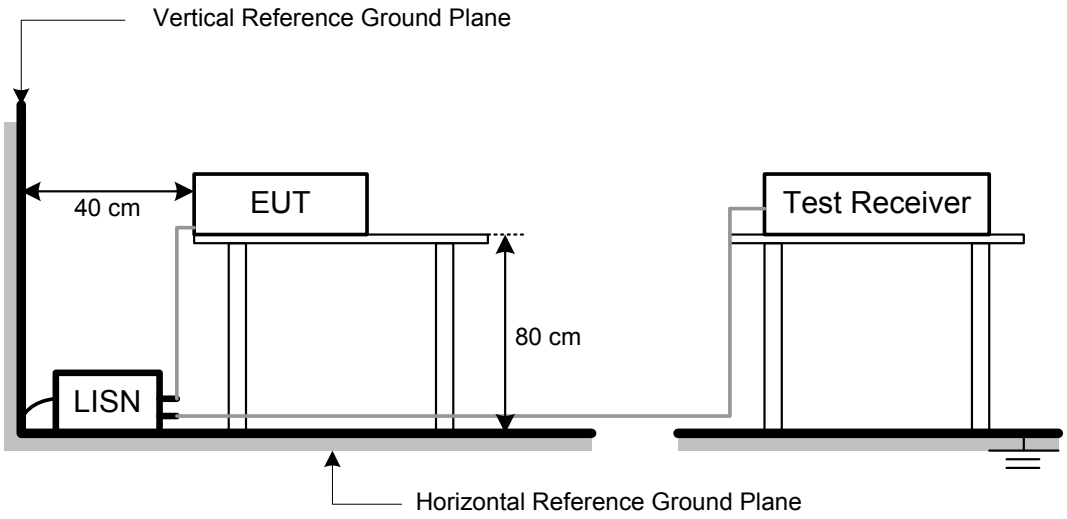
4.1.3 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



4.1.6 EUT OPERATING CONDITIONS

The EUT exercise program used during radiated and/or conducted emission measurement was designed to exercise the various system components in a manner similar to a typical use.

4.1.7 TEST RESULTS

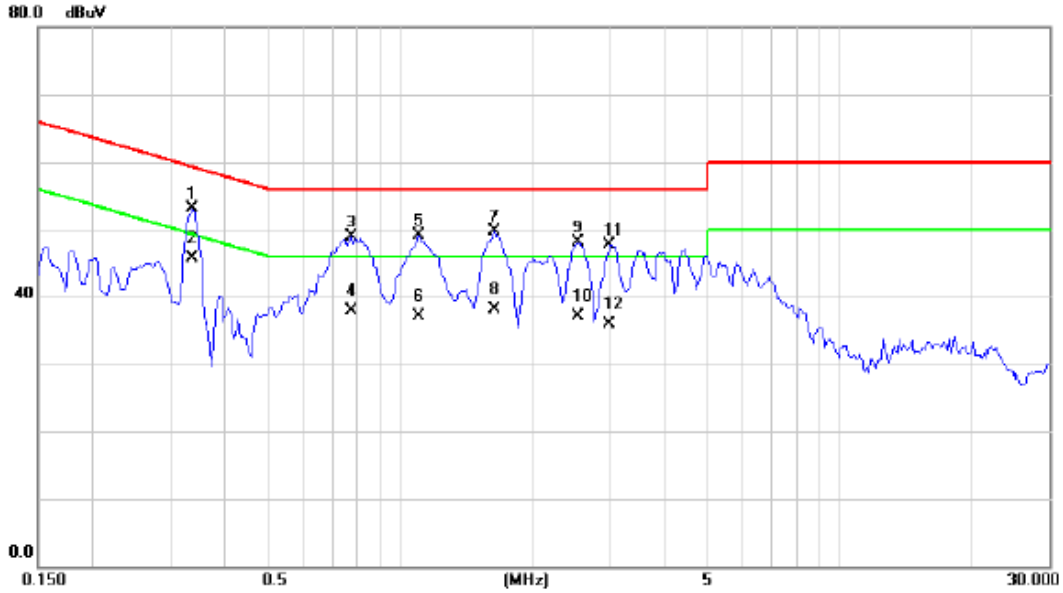
Remark:

(1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz; SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.3 sec./MHz. Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10KHz,VBW=10KHz, Swp. Time =0.3 sec./MHz.

(2) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a " * " marked in AVG Mode column of Interference Voltage Measured.

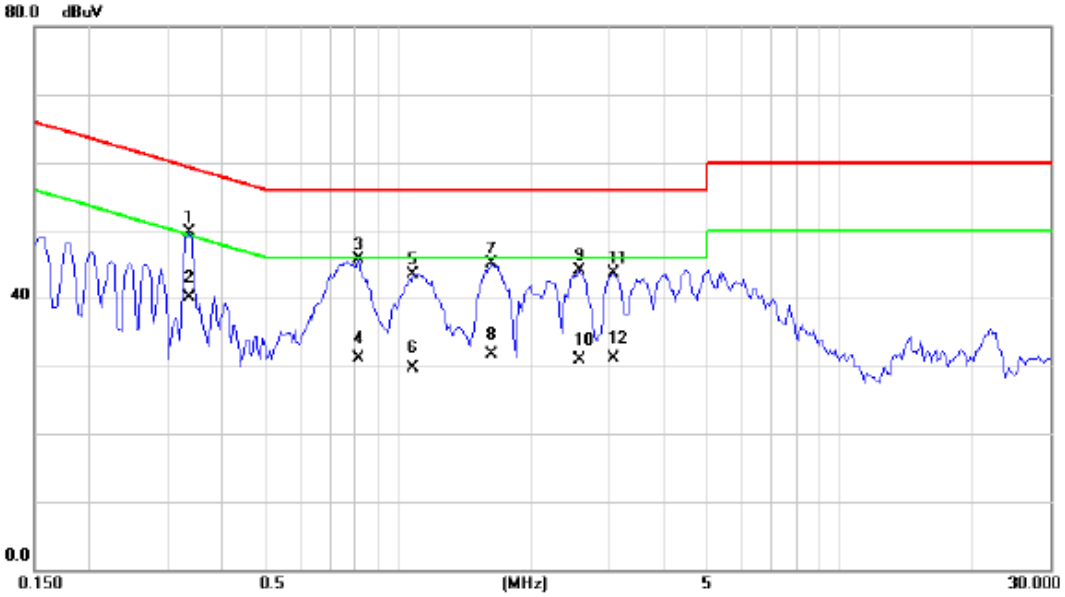
(3) Measuring frequency range from 150KHz to 30MHz.

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handfree	Phase :	Line



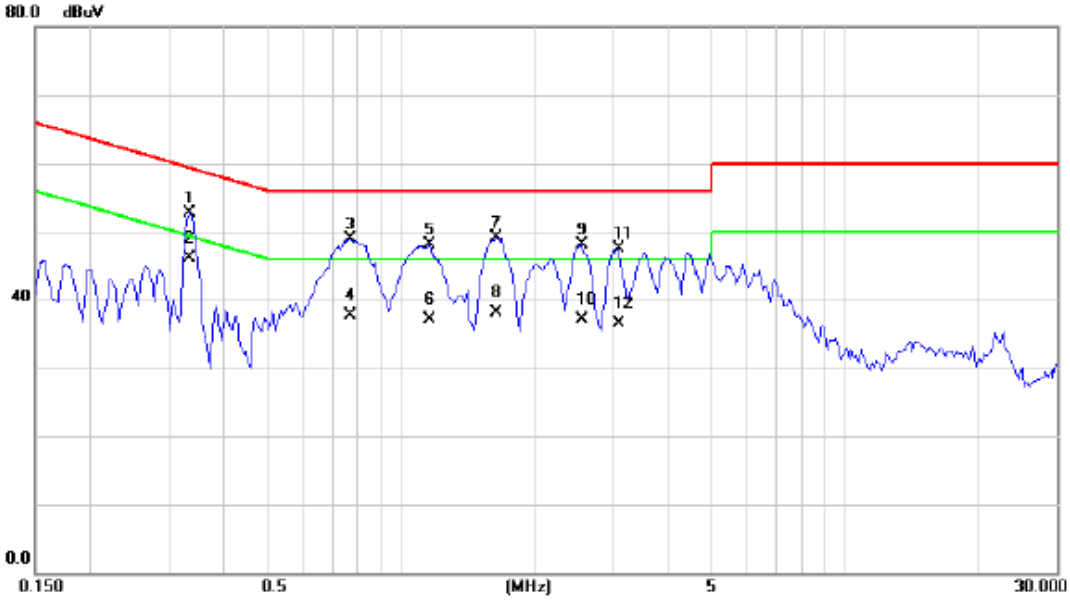
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3375	43.41	9.77	53.18	59.26	-6.08	peak	
2	*	0.3375	36.00	9.77	45.77	49.26	-3.49	AVG	
3		0.7750	39.05	9.93	48.98	56.00	-7.02	peak	
4		0.7750	27.90	9.93	37.83	46.00	-8.17	AVG	
5		1.1070	39.13	10.00	49.13	56.00	-6.87	peak	
6		1.1070	27.10	10.00	37.10	46.00	-8.90	AVG	
7		1.6383	39.77	9.90	49.67	56.00	-6.33	peak	
8		1.6383	28.30	9.90	38.20	46.00	-7.80	AVG	
9		2.5367	38.10	9.94	48.04	56.00	-7.96	peak	
10		2.5367	27.10	9.94	37.04	46.00	-8.96	AVG	
11		2.9977	37.88	9.82	47.70	56.00	-8.30	peak	
12		2.9977	26.10	9.82	35.92	46.00	-10.08	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handfree	Phase :	Neutral



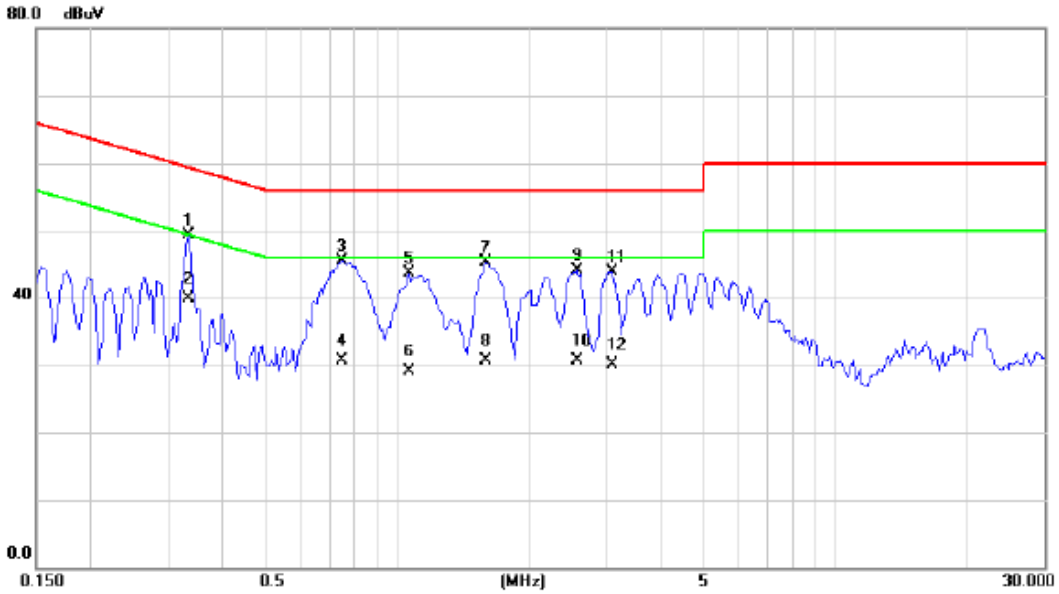
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3375	40.01	9.63	49.64	59.26	-9.62	peak	
2	*	0.3375	30.40	9.63	40.03	49.26	-9.23	AVG	
3		0.8141	36.07	9.73	45.80	56.00	-10.20	peak	
4		0.8141	21.30	9.73	31.03	46.00	-14.97	AVG	
5		1.0797	33.76	9.79	43.55	56.00	-12.45	peak	
6		1.0797	19.90	9.79	29.69	46.00	-16.31	AVG	
7		1.6305	35.16	9.85	45.01	56.00	-10.99	peak	
8		1.6305	21.80	9.85	31.65	46.00	-14.35	AVG	
9		2.5680	34.22	9.86	44.08	56.00	-11.92	peak	
10		2.5680	21.10	9.86	30.96	46.00	-15.04	AVG	
11		3.0664	33.87	9.81	43.68	56.00	-12.32	peak	
12		3.0664	21.20	9.81	31.01	46.00	-14.99	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handset	Phase :	Line



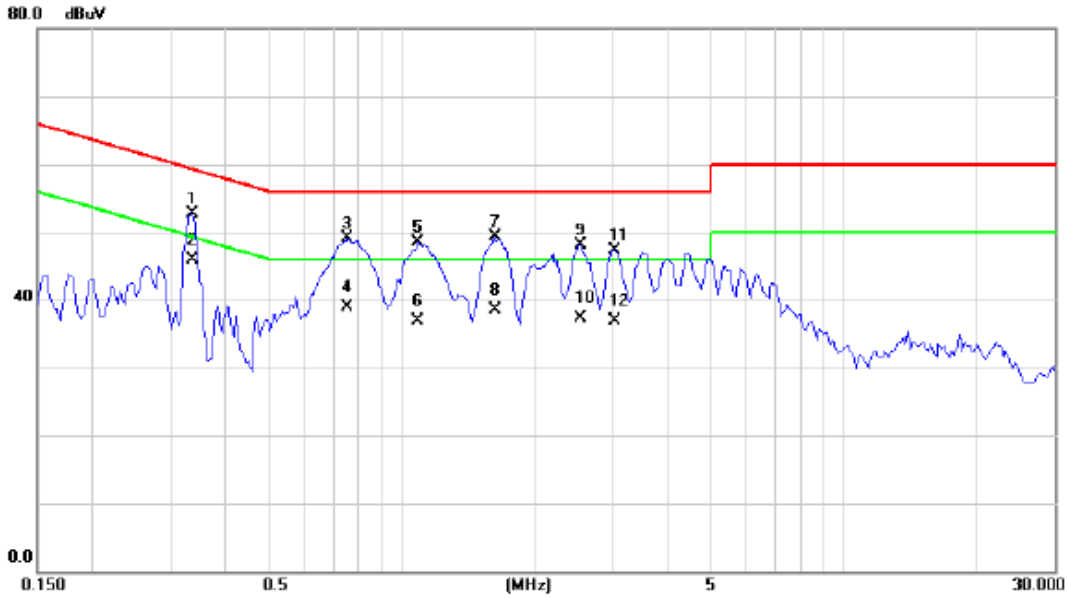
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3336	43.03	9.77	52.80	59.36	-6.56	peak	
2	*	0.3336	36.40	9.77	46.17	49.36	-3.19	AVG	
3		0.7672	39.05	9.92	48.97	56.00	-7.03	peak	
4		0.7672	27.80	9.92	37.72	46.00	-8.28	AVG	
5		1.1617	38.01	10.01	48.02	56.00	-7.98	peak	
6		1.1617	27.00	10.01	37.01	46.00	-8.99	AVG	
7		1.6422	39.27	9.90	49.17	56.00	-6.83	peak	
8		1.6422	28.30	9.90	38.20	46.00	-7.80	AVG	
9		2.5562	38.08	9.93	48.01	56.00	-7.99	peak	
10		2.5562	27.20	9.93	37.13	46.00	-8.87	AVG	
11		3.0898	37.68	9.82	47.50	56.00	-8.50	peak	
12		3.0898	26.60	9.82	36.42	46.00	-9.58	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handset	Phase :	Neutral



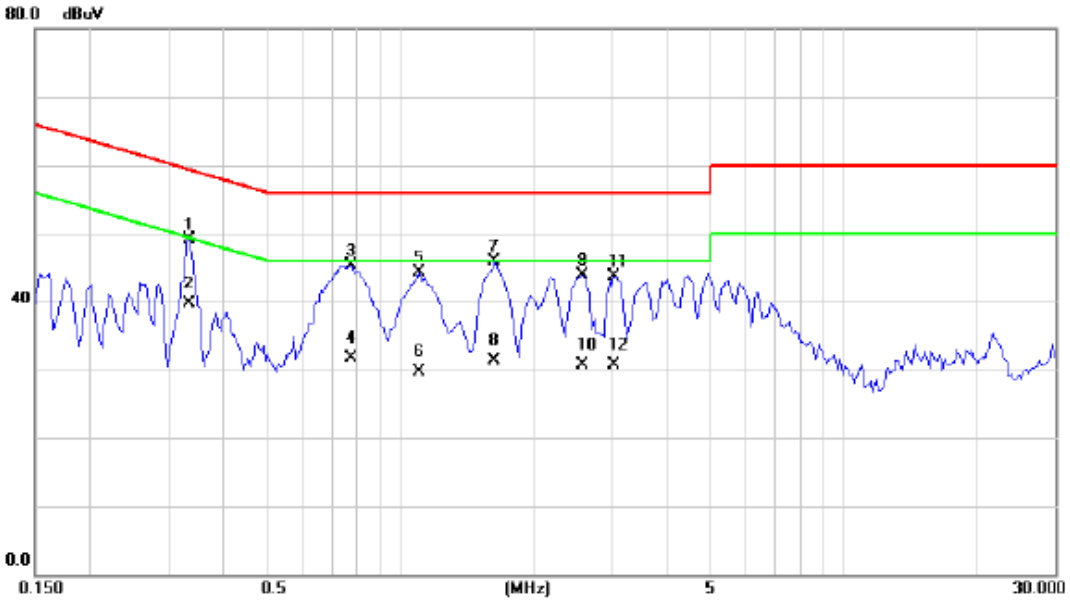
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3336	39.73	9.63	49.36	59.36	-10.00	peak	
2	*	0.3336	30.20	9.63	39.83	49.36	-9.53	AVG	
3		0.7477	35.83	9.71	45.54	56.00	-10.46	peak	
4		0.7477	21.00	9.71	30.71	46.00	-15.29	AVG	
5		1.0641	33.90	9.79	43.69	56.00	-12.31	peak	
6		1.0641	19.30	9.79	29.09	46.00	-16.91	AVG	
7		1.5914	35.56	9.84	45.40	56.00	-10.60	peak	
8		1.5914	20.90	9.84	30.74	46.00	-15.26	AVG	
9		2.5680	34.16	9.86	44.02	56.00	-11.98	peak	
10		2.5680	20.80	9.86	30.66	46.00	-15.34	AVG	
11		3.1016	34.03	9.81	43.84	56.00	-12.16	peak	
12		3.1016	20.20	9.81	30.01	46.00	-15.99	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Headphone	Phase :	Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3375	42.93	9.77	52.70	59.26	-6.56	peak	
2	*	0.3375	36.10	9.77	45.87	49.26	-3.39	AVG	
3		0.7555	39.15	9.92	49.07	56.00	-6.93	peak	
4		0.7555	28.90	9.92	38.82	46.00	-7.18	AVG	
5		1.0914	38.57	10.00	48.57	56.00	-7.43	peak	
6		1.0914	27.00	10.00	37.00	46.00	-9.00	AVG	
7		1.6227	39.42	9.90	49.32	56.00	-6.68	peak	
8		1.6227	28.60	9.90	38.50	46.00	-7.50	AVG	
9		2.5406	38.18	9.94	48.12	56.00	-7.88	peak	
10		2.5406	27.30	9.94	37.24	46.00	-8.76	AVG	
11		3.0313	37.54	9.82	47.36	56.00	-8.64	peak	
12		3.0313	27.00	9.82	36.82	46.00	-9.18	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Headphone	Phase :	Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3336	39.56	9.63	49.19	59.36	-10.17	peak	
2	*	0.3336	30.10	9.63	39.73	49.36	-9.63	AVG	
3		0.7750	35.61	9.73	45.34	56.00	-10.66	peak	
4		0.7750	21.90	9.73	31.63	46.00	-14.37	AVG	
5		1.1031	34.51	9.80	44.31	56.00	-11.69	peak	
6		1.1031	20.00	9.80	29.80	46.00	-16.20	AVG	
7		1.6305	36.04	9.85	45.89	56.00	-10.11	peak	
8		1.6305	21.40	9.85	31.25	46.00	-14.75	AVG	
9		2.5680	33.96	9.86	43.82	56.00	-12.18	peak	
10		2.5680	20.80	9.86	30.66	46.00	-15.34	AVG	
11		3.0273	33.93	9.80	43.73	56.00	-12.27	peak	
12		3.0273	20.90	9.80	30.70	46.00	-15.30	AVG	

4.2 CONDUCTED EMISSION MEASUREMENT AT TELECOMMUNICATION PORTS

4.2.1 LIMITS OF DISTURBANCE AT TELECOMMUNICATION PORTS

Voltage Limit:

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	97-87*	84-74*	84-74*	74-64*
0.5 -30.0	87	74	74	64

Current Limit:

FREQUENCY (MHz)	Class A (dBuA)		Class B (dBuA)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	53-43*	40-30*	40-30*	30-20*
0.5 -30.0	43	30	30	20

NOTE:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

(3) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)

Margin Level = Measurement Value - Limit Value

4.2.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	Mar. 28, 2016
2	LISN	R&S	ENV216	101447	Mar. 28, 2016
3	Test Cable	N/A	C_17	N/A	Mar.13, 2016
4	EMI TEST RECEIVER	R&S	ESCS30	833364/017	Mar. 28, 2016
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Mar. 28, 2016
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
7	ISN	FCC	FCC-TLISN-T2-02	20433	Jul. 10, 2015
8	ISN	Teseq GmbH	ISN T8	30833	Sep. 30, 2015

Remark: ” N/A” denotes No Model Name, Serial No. or No Calibration specified.

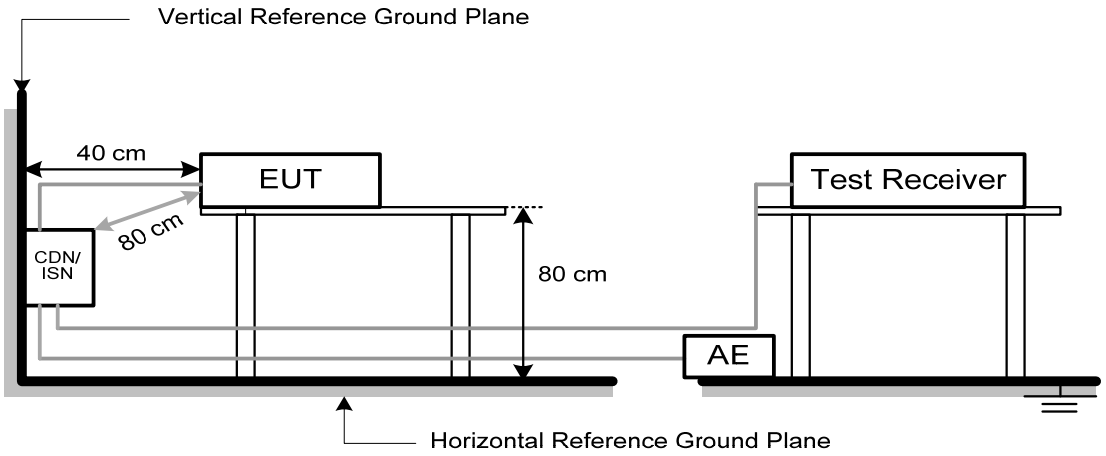
4.2.3 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. ISN at least 80 cm from nearest part of EUT chassis.
e. The communication function of EUT was executed and ISN was connected between EUT and associated equipment and the ISN was connected directly to reference ground plane.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



4.2.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

4.2.7 TEST RESULTS

Remark:

(1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz; SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.3 sec./MHz. Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10KHz,VBW=10KHz, Swp. Time =0.3 sec./MHz.

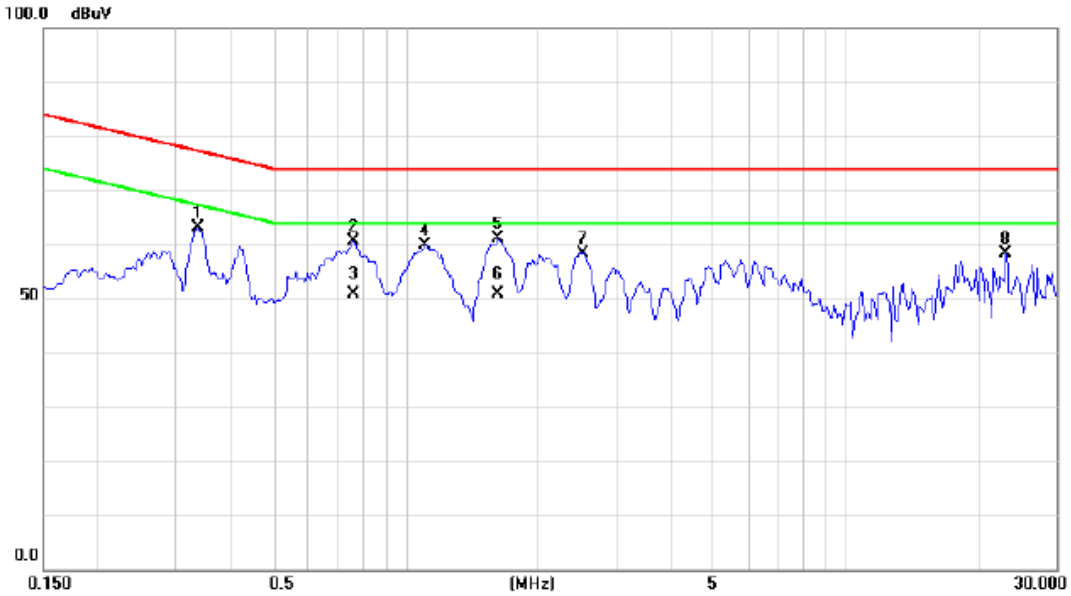
(2) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a " * " marked in AVG Mode column of Interference Voltage Measured.

(3) Measuring frequency range from 150KHz to 30MHz.

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	LAN 1Gbps		

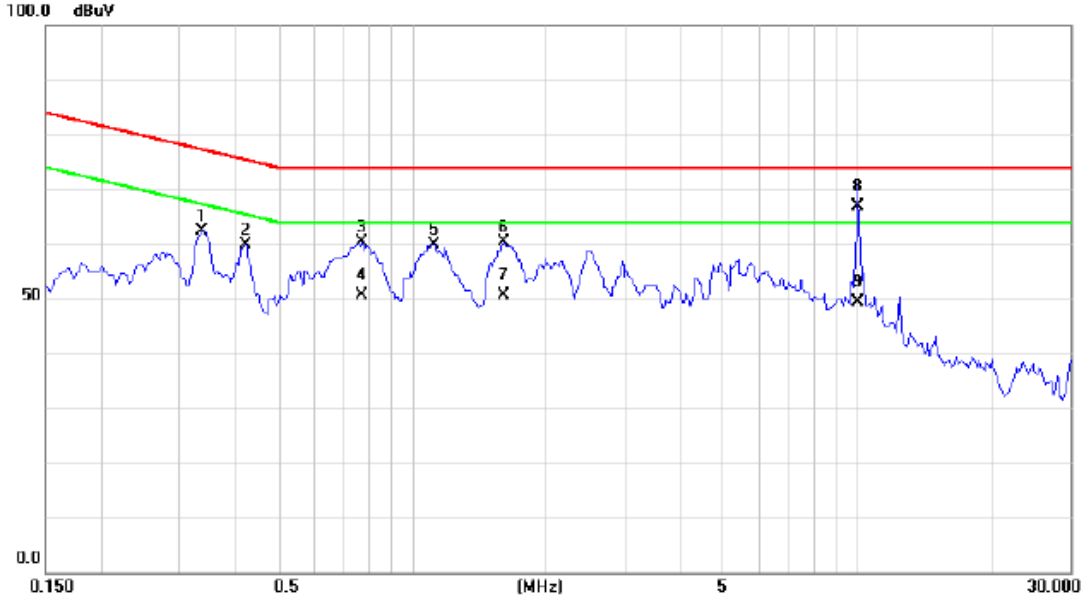
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3063	48.50	9.52	58.02	78.07	-20.05	QP	
2		0.3063	35.30	9.52	44.82	68.07	-23.25	AVG	
3		0.4430	51.80	9.52	61.32	75.01	-13.69	QP	
4	*	0.4430	47.70	9.52	57.22	65.01	-7.79	AVG	
5		0.5172	48.60	9.51	58.11	74.00	-15.89	QP	
6		0.5172	37.30	9.51	46.81	64.00	-17.19	AVG	
7		1.0562	46.10	9.49	55.59	74.00	-18.41	QP	
8		1.0562	41.10	9.49	50.59	64.00	-13.41	AVG	
9		2.6422	46.80	9.51	56.31	74.00	-17.69	QP	
10		2.6422	40.79	9.51	50.30	64.00	-13.70	AVG	
11		5.4102	46.00	9.57	55.57	74.00	-18.43	QP	
12		5.4102	40.00	9.57	49.57	64.00	-14.43	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	LAN 100Mbps		



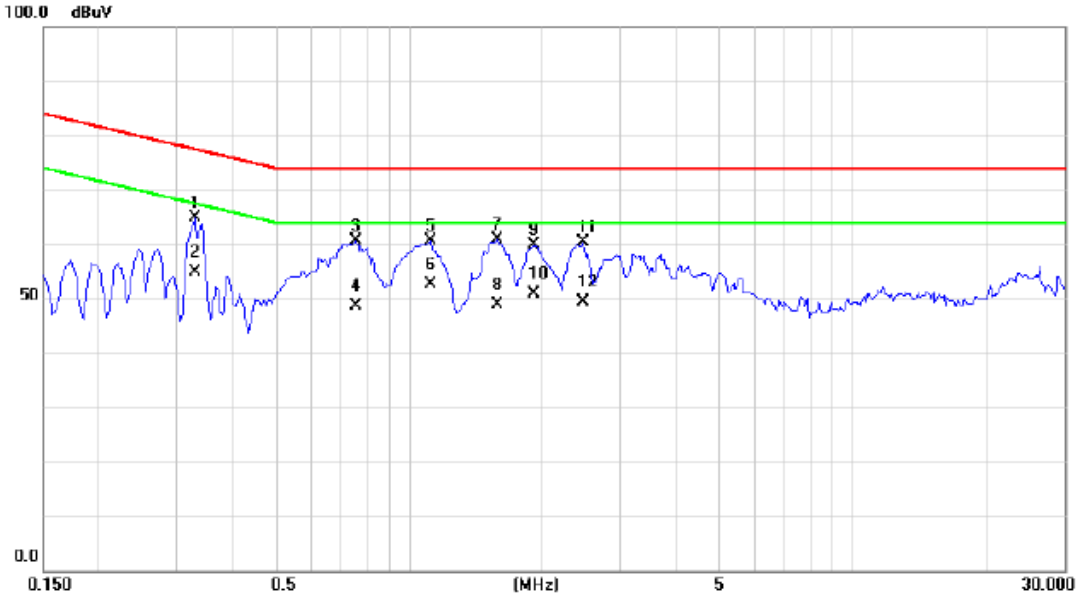
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3375	53.61	9.64	63.25	77.26	-14.01	peak	
2		0.7594	51.13	9.58	60.71	74.00	-13.29	peak	
3		0.7594	41.20	9.58	50.78	64.00	-13.22	AVG	
4		1.1031	50.38	9.58	59.96	74.00	-14.04	peak	
5	*	1.6148	51.48	9.56	61.04	74.00	-12.96	peak	
6		1.6148	41.40	9.56	50.96	64.00	-13.04	AVG	
7		2.5328	48.94	9.56	58.50	74.00	-15.50	peak	
8		23.1290	48.17	10.30	58.47	74.00	-15.53	peak	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	LAN 10Mbps		



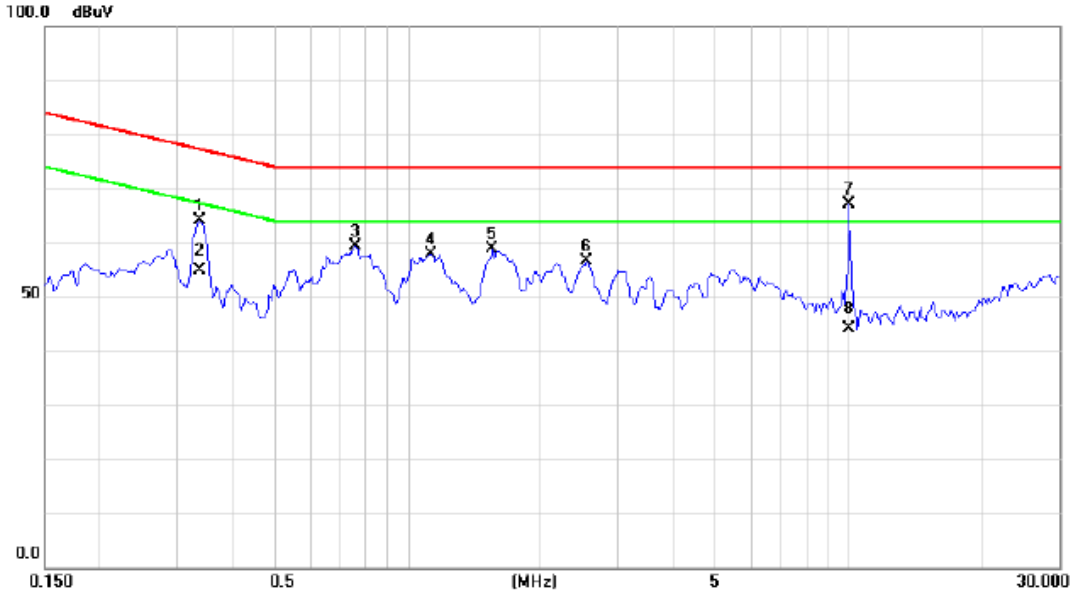
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3375	52.68	9.64	62.32	77.26	-14.94	peak	
2		0.4234	50.17	9.62	59.79	75.38	-15.59	peak	
3		0.7672	50.87	9.58	60.45	74.00	-13.55	peak	
4		0.7672	41.10	9.58	50.68	64.00	-13.32	AVG	
5		1.1227	50.23	9.58	59.81	74.00	-14.19	peak	
6		1.6070	50.88	9.56	60.44	74.00	-13.56	peak	
7		1.6070	41.10	9.56	50.66	64.00	-13.34	AVG	
8	*	10.0000	57.10	9.80	66.90	74.00	-7.10	QP	
9		10.0000	39.60	9.80	49.40	64.00	-14.60	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	WAN 1Gbps		



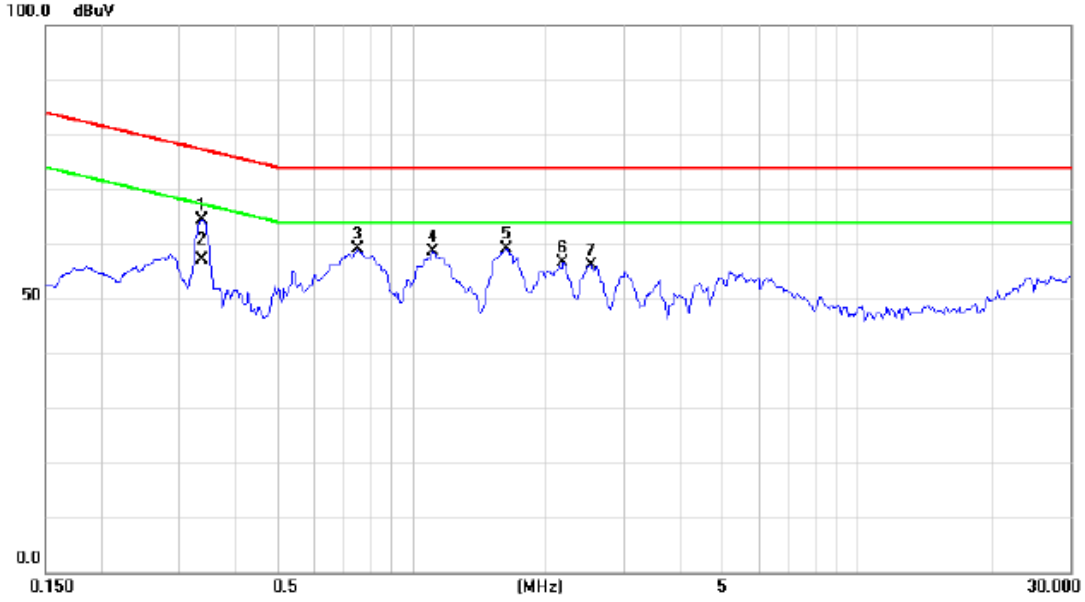
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3297	55.11	9.65	64.76	77.46	-12.70	peak	
2		0.3297	45.11	9.65	54.76	67.46	-12.70	AVG	
3		0.7594	50.99	9.58	60.57	74.00	-13.43	peak	
4		0.7594	38.99	9.58	48.57	64.00	-15.43	AVG	
5		1.1187	51.00	9.58	60.58	74.00	-13.42	peak	
6	*	1.1187	43.00	9.58	52.58	64.00	-11.42	AVG	
7		1.5836	51.32	9.56	60.88	74.00	-13.12	peak	
8		1.5836	39.32	9.56	48.88	64.00	-15.12	AVG	
9		1.9195	50.22	9.55	59.77	74.00	-14.23	peak	
10		1.9195	41.22	9.55	50.77	64.00	-13.23	AVG	
11		2.4625	50.90	9.57	60.47	74.00	-13.53	peak	
12		2.4625	39.90	9.57	49.47	64.00	-14.53	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	WAN 100Mbps		



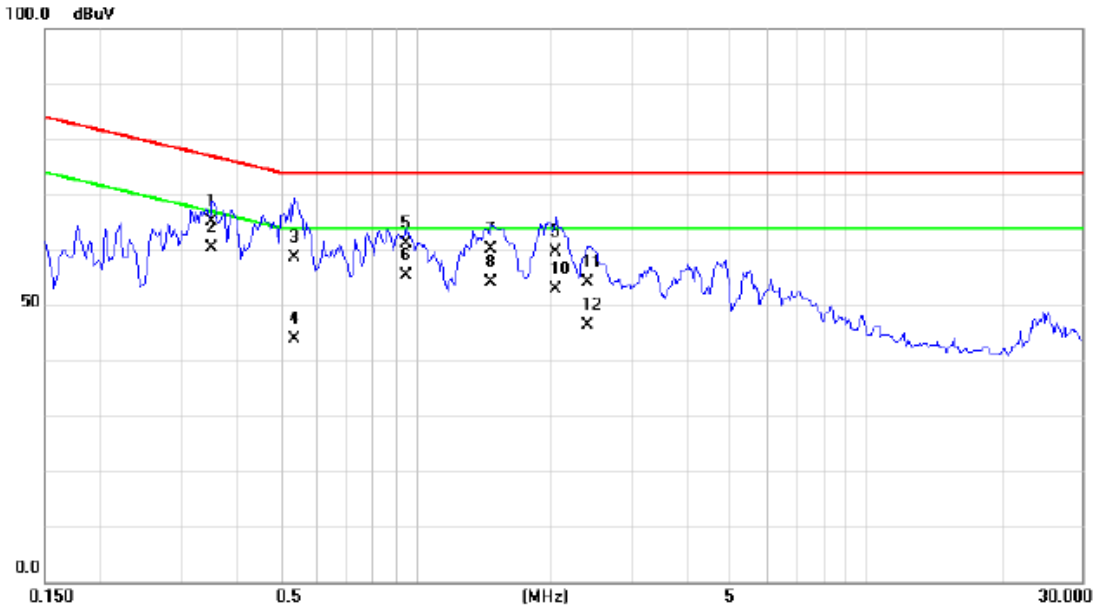
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3375	54.41	9.64	64.05	77.26	-13.21	peak	
2		0.3375	45.30	9.64	54.94	67.26	-12.32	AVG	
3		0.7594	49.70	9.58	59.28	74.00	-14.72	peak	
4		1.1266	48.31	9.58	57.89	74.00	-16.11	peak	
5		1.5523	49.20	9.56	58.76	74.00	-15.24	peak	
6		2.5484	47.01	9.56	56.57	74.00	-17.43	peak	
7	*	10.0000	57.24	9.80	67.04	74.00	-6.96	peak	
8		10.0000	34.30	9.80	44.10	64.00	-19.90	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	WAN 10Mbps		



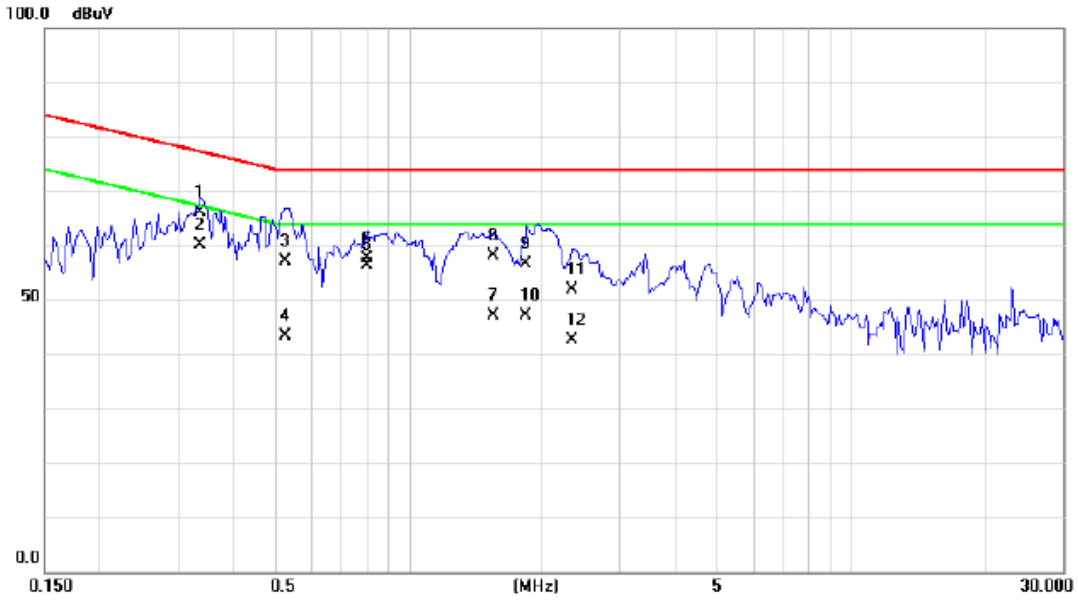
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3375	54.83	9.64	64.47	77.26	-12.79	peak	
2	*	0.3375	47.50	9.64	57.14	67.26	-10.12	AVG	
3		0.7516	49.56	9.58	59.14	74.00	-14.86	peak	
4		1.1148	49.03	9.58	58.61	74.00	-15.39	peak	
5		1.6344	49.60	9.56	59.16	74.00	-14.84	peak	
6		2.1891	47.12	9.55	56.67	74.00	-17.33	peak	
7		2.5133	46.57	9.56	56.13	74.00	-17.87	peak	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	DC 48V
Test Mode :	LAN 1Gbps		



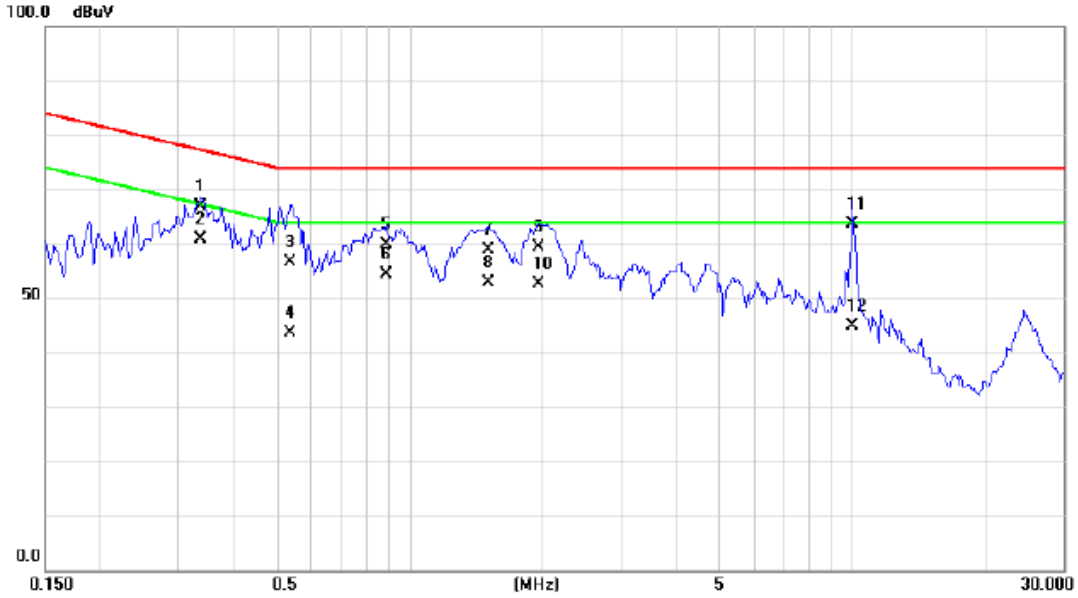
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3531	55.60	9.52	65.12	76.89	-11.77	QP	
2	*	0.3531	50.80	9.52	60.32	66.89	-6.57	AVG	
3		0.5367	49.10	9.51	58.61	74.00	-15.39	QP	
4		0.5367	34.30	9.51	43.81	64.00	-20.19	AVG	
5		0.9508	51.60	9.48	61.08	74.00	-12.92	QP	
6		0.9508	46.00	9.48	55.48	64.00	-8.52	AVG	
7		1.4664	50.70	9.50	60.20	74.00	-13.80	QP	
8		1.4664	44.70	9.50	54.20	64.00	-9.80	AVG	
9		2.0445	50.20	9.50	59.70	74.00	-14.30	QP	
10		2.0445	43.40	9.50	52.90	64.00	-11.10	AVG	
11		2.4078	44.50	9.51	54.01	74.00	-19.99	QP	
12		2.4078	36.90	9.51	46.41	64.00	-17.59	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	DC 48V
Test Mode :	LAN 100Mbps		



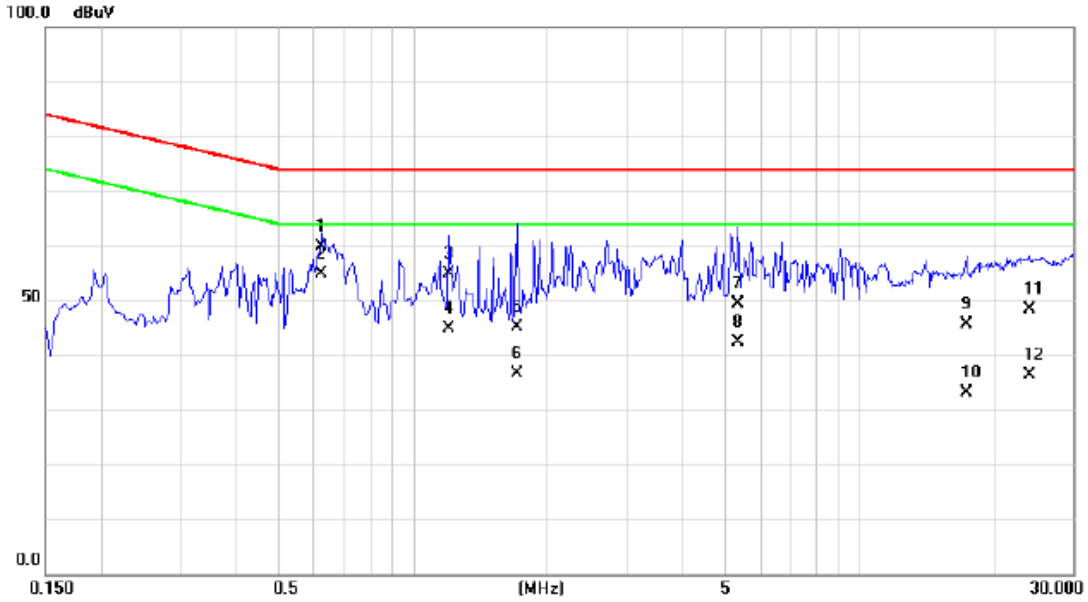
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3375	56.60	9.52	66.12	77.26	-11.14	QP	
2		0.3375	50.70	9.52	60.22	67.26	-7.04	AVG	
3		0.5290	47.70	9.51	57.21	74.00	-16.79	QP	
4		0.5290	33.80	9.51	43.31	64.00	-20.69	AVG	
5		0.8023	46.80	9.48	56.28	74.00	-17.72	QP	
6		0.8023	48.10	9.48	57.58	64.00	-6.42	AVG	
7		1.5562	37.60	9.49	47.09	74.00	-26.91	QP	
8	*	1.5562	48.60	9.49	58.09	64.00	-5.91	AVG	
9		1.8414	47.10	9.50	56.60	74.00	-17.40	QP	
10		1.8414	37.70	9.50	47.20	64.00	-16.80	AVG	
11		2.3413	42.30	9.50	51.80	74.00	-22.20	QP	
12		2.3413	33.10	9.50	42.60	64.00	-21.40	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	DC 48V
Test Mode :	LAN 10Mbps		



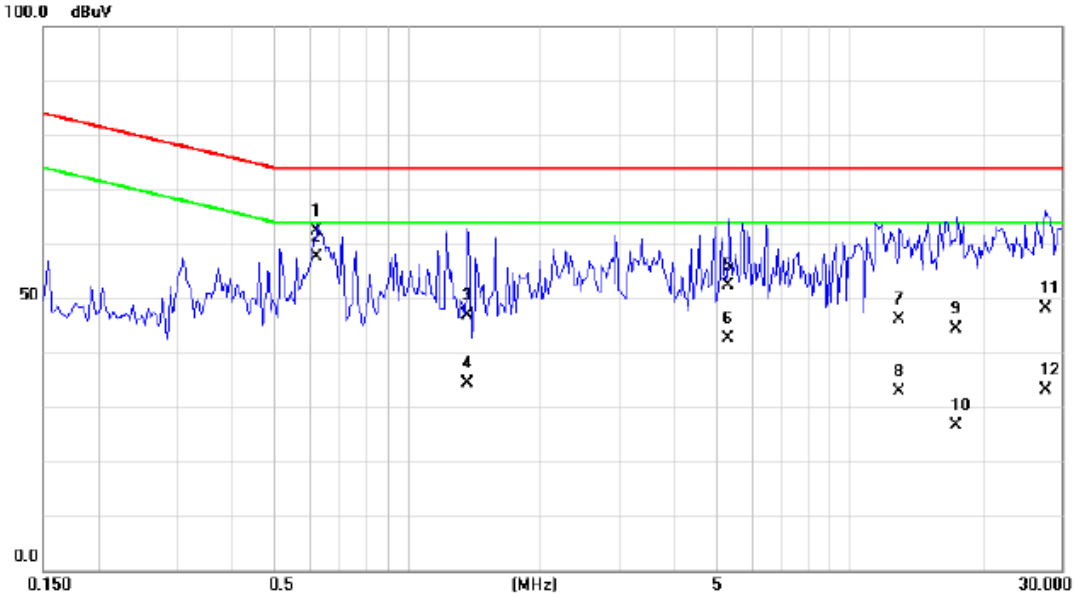
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3375	57.30	9.52	66.82	77.26	-10.44	QP	
2	*	0.3375	51.30	9.52	60.82	67.26	-6.44	AVG	
3		0.5406	47.10	9.51	56.61	74.00	-17.39	QP	
4		0.5406	34.20	9.51	43.71	64.00	-20.29	AVG	
5		0.8883	50.40	9.48	59.88	74.00	-14.12	QP	
6		0.8883	44.80	9.48	54.28	64.00	-9.72	AVG	
7		1.5055	49.40	9.49	58.89	74.00	-15.11	QP	
8		1.5055	43.50	9.49	52.99	64.00	-11.01	AVG	
9		1.9625	49.80	9.50	59.30	74.00	-14.70	QP	
10		1.9625	43.10	9.50	52.60	64.00	-11.40	AVG	
11		9.9961	53.90	9.68	63.58	74.00	-10.42	QP	
12		9.9961	35.10	9.68	44.78	64.00	-19.22	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	DC 48V
Test Mode :	WAN 1Gbps		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.6266	50.30	9.50	59.80	74.00	-14.20	QP	
2	*	0.6266	45.40	9.50	54.90	64.00	-9.10	AVG	
3		1.2007	45.39	9.49	54.88	74.00	-19.12	QP	
4		1.2007	35.39	9.49	44.88	64.00	-19.12	AVG	
5		1.7125	35.60	9.49	45.09	74.00	-28.91	QP	
6		1.7125	27.20	9.49	36.69	64.00	-27.31	AVG	
7		5.3358	39.70	9.57	49.27	74.00	-24.73	QP	
8		5.3358	32.80	9.57	42.37	64.00	-21.63	AVG	
9		17.3008	35.70	9.84	45.54	74.00	-28.46	QP	
10		17.3008	23.30	9.84	33.14	64.00	-30.86	AVG	
11		23.8008	38.30	9.96	48.26	74.00	-25.74	QP	
12		23.8008	26.30	9.96	36.26	64.00	-27.74	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	DC 48V
Test Mode :	WAN 100Mbps		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.6266	52.80	9.50	62.30	74.00	-11.70	QP	
2	*	0.6266	48.20	9.50	57.70	64.00	-6.30	AVG	
3		1.3727	37.40	9.50	46.90	74.00	-27.10	QP	
4		1.3727	25.00	9.50	34.50	64.00	-29.50	AVG	
5		5.3281	42.90	9.57	52.47	74.00	-21.53	QP	
6		5.3281	33.00	9.57	42.57	64.00	-21.43	AVG	
7		12.9844	36.30	9.75	46.05	74.00	-27.95	QP	
8		12.9844	23.10	9.75	32.85	64.00	-31.15	AVG	
9		17.4570	34.50	9.84	44.34	74.00	-29.66	QP	
10		17.4570	16.70	9.84	26.54	64.00	-37.46	AVG	
11		27.6328	38.00	10.05	48.05	74.00	-25.95	QP	
12		27.6328	23.20	10.05	33.25	64.00	-30.75	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	24° C	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	DC 48V
Test Mode :	WAN 10Mbps		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3141	47.20	9.52	56.72	77.86	-21.14	QP	
2		0.3141	40.60	9.52	50.12	67.86	-17.74	AVG	
3		0.5172	48.70	9.51	58.21	74.00	-15.79	QP	
4		0.5172	35.10	9.51	44.61	64.00	-19.39	AVG	
5		0.9391	46.10	9.48	55.58	74.00	-18.42	QP	
6		0.9391	43.60	9.48	53.08	64.00	-10.92	AVG	
7		2.9860	45.70	9.52	55.22	74.00	-18.78	QP	
8		2.9860	35.10	9.52	44.62	64.00	-19.38	AVG	
9		5.3633	43.60	9.57	53.17	74.00	-20.83	QP	
10		5.3633	34.80	9.57	44.37	64.00	-19.63	AVG	
11	*	10.0040	53.50	9.68	63.18	74.00	-10.82	QP	
12		10.0040	35.50	9.68	45.18	64.00	-18.82	AVG	

4.3 RADIATED EMISSION MEASUREMENT

4.3.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Below 1 GHz

FREQUENCY (MHz)	Class A (at 10m) dBuV/m	Class B (at 10m) dBuV/m
	Quasi-peak	Quasi-peak
30 - 230	40	30
230 - 1000	47	37

NOTE:

(1) The limit for radiated test was performed according to as following: CISPR 22.
(2) The tighter limit applies at the band edges.
(3) Emission level (dBuV/m) = 20log Emission level (uV/m).
(4) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
Margin Level = Measurement Value - Limit Value

Above 1 GHz

FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
1000 - 3000	76	56	70	50
3000 - 6000	80	60	74	54

NOTE:

(1) The limit for radiated test was performed according to as following: CISPR 22.
(2) The tighter limit applies at the band edges.
(3) Emission level (dBuV/m) = 20log Emission level (uV/m).
3m Emission level = 10m Emission level + 20log (10m/3m).
(4) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
Margin Level = Measurement Value - Limit Value

FREQUENCY RANGE OF RADIATED MEASUREMENT (FOR UNINTENTIONAL RADIATORS)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5^{th} harmonic of the highest frequency or 6 GHz, whichever is lower

4.3.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	EMCO	3142C	00066462	Mar. 28, 2016
2	Antenna	EMCO	3142C	00066464	Mar. 28, 2016
3	Amplifier	Agilent	8447D	2944A11203	Nov. 02, 2015
4	Amplifier	Agilent	8447D	2944A11204	Nov. 02, 2015
5	Spectrum Analyzer	Agilent	E4443A	MY48250370	Nov. 02, 2015
6	RF Pre-selector	Agilent	N9039A	MY46520201	Nov. 02, 2015
7	Test Cable	N/A	Cable_5m_8m_15 m	N/A	Jan. 04, 2016
8	Test Cable	N/A	Cable_5m_11m_15 m	N/A	Jan. 04, 2016
9	EMI Test Receiver	R&S	ESR3	101862	Jan. 02, 2016
10	RF Pre-selector	Agilent	N9039A	MY46520214	Nov. 02, 2015
11	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
12	Measurement Software	Farad	EZ-EMC Ver.BTL-2ANT-1	N/A	N/A
13	Antenna	ETS	3115	00075789	Mar. 28, 2016
14	Amplifier	Agilent	8449B	3008A02274	Nov. 02, 2015
15	Receiver	AGILENT	N9038A	MY52130039	Sep. 30, 2015
16	Test Cable	N/A	C-68	N/A	Jul. 01, 2015
17	Controller	CT	SC100	N/A	N/A

Remark: ” N/A” denotes No Model Name / Serial No. and No Calibration specified.

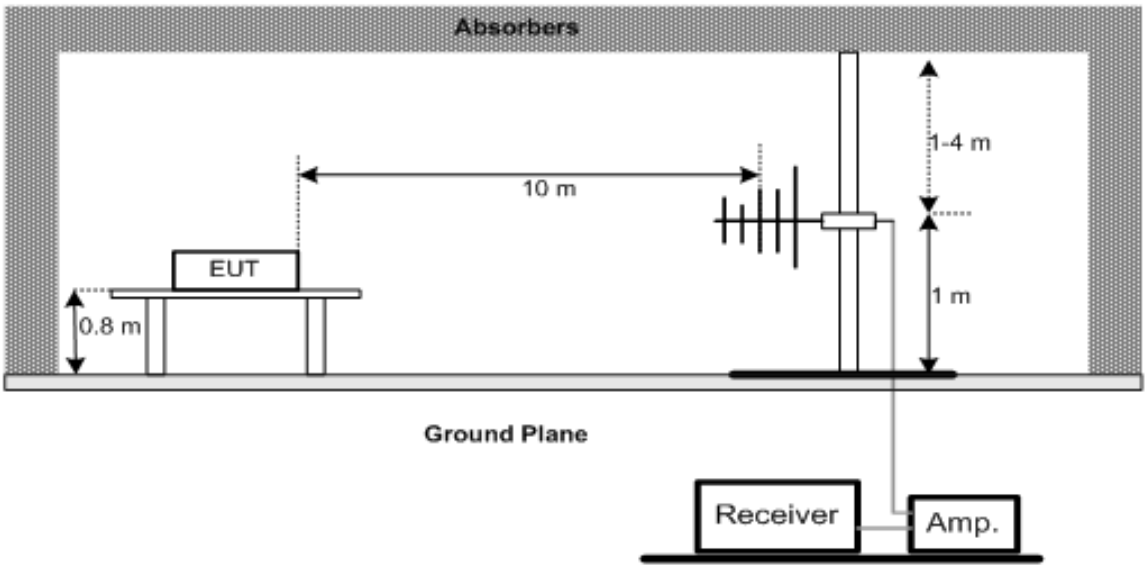
4.3.3 TEST PROCEDURE

a. The measuring distance of at 10 m shall be used for measurements at frequency below 1GHz. The measuring distance of at 3 m shall be used for measurements at frequency above 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1G)
c. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1G)
d. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
e. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
f. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
g. For the actual test configuration, please refer to the related Item –EUT Test Photos.

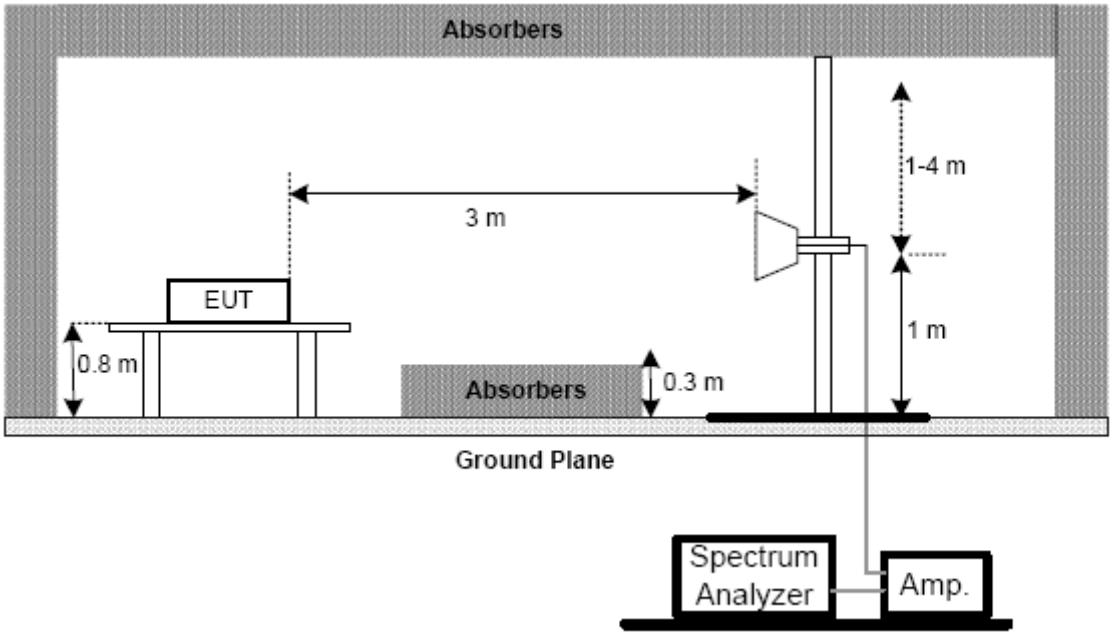
4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP(Below 1000MHZ)



4.3.6 TEST SETUP (Above 1000MHZ)



4.3.7 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.6** Unless otherwise a special operating condition is specified in the follows during the testing.

4.3.8 TEST RESULTS-BETWEEN 30MHZ AND 1000MHZ

Remark:

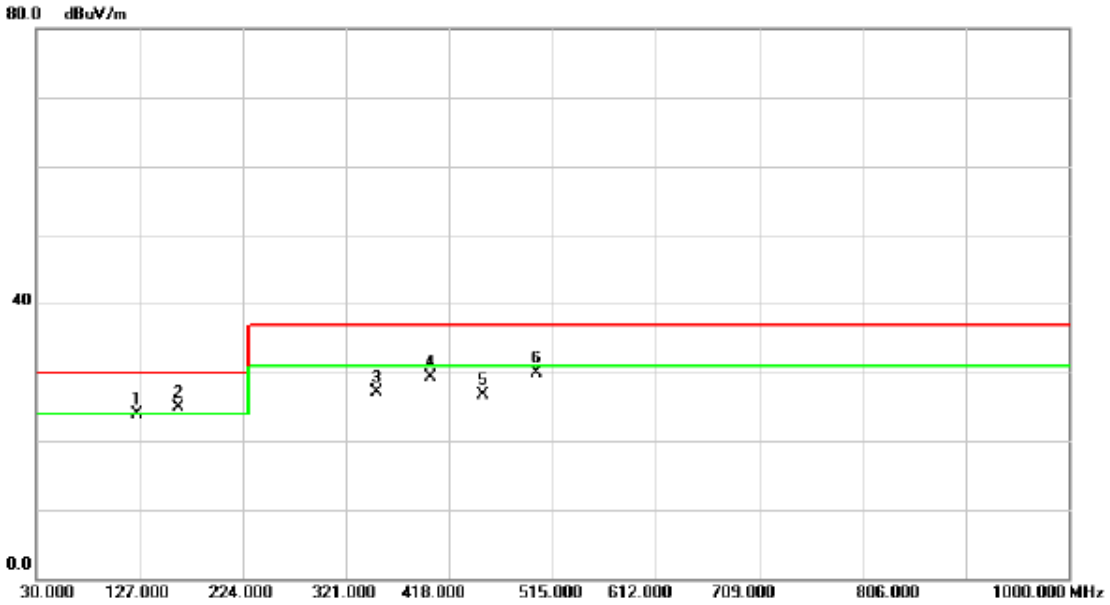
(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz.

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.

(3) Measuring frequency range from 30MHz to 1000MHz.

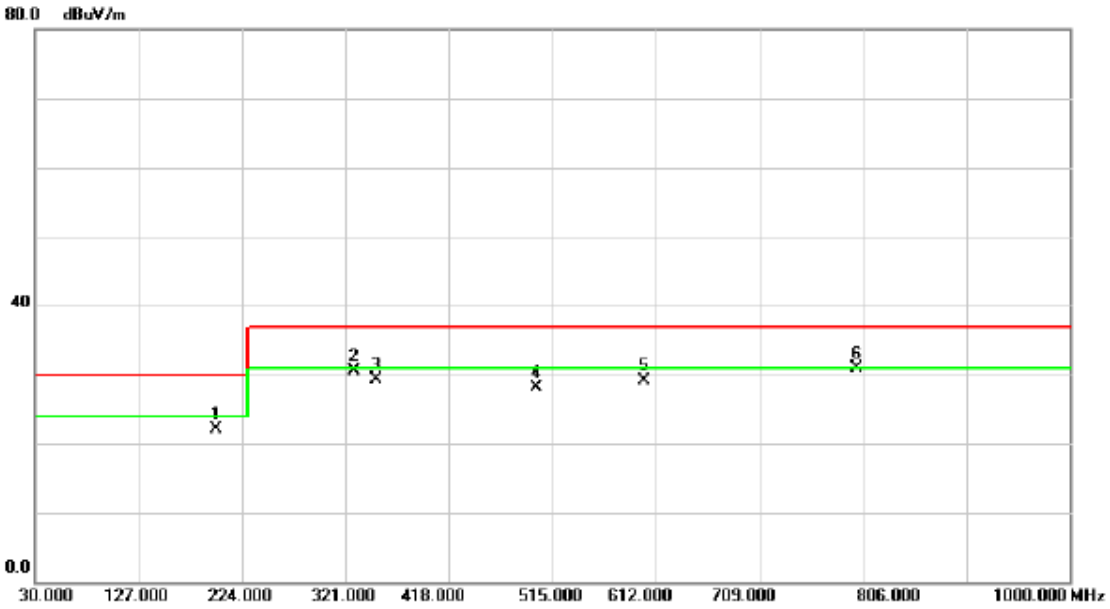
(4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table.

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	25° C	Relative Humidity :	60 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handfree	Polarization :	Vertical



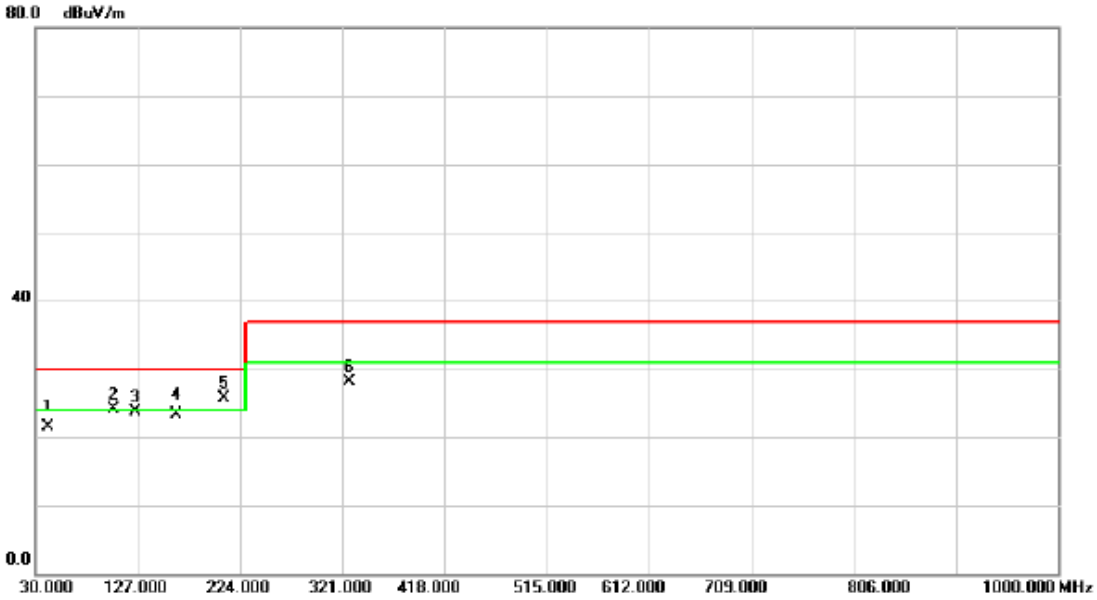
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		125.0000	43.55	-19.61	23.94	30.00	-6.06	peak	
2	*	164.0000	41.58	-16.76	24.82	30.00	-5.18	peak	
3		350.0000	36.39	-9.20	27.19	37.00	-9.81	peak	
4		400.0000	37.72	-8.32	29.40	37.00	-7.60	peak	
5		450.0000	34.25	-7.62	26.63	37.00	-10.37	peak	
6		500.0000	36.08	-6.27	29.81	37.00	-7.19	peak	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	25° C	Relative Humidity :	60 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handfree	Polarization :	Horizontal



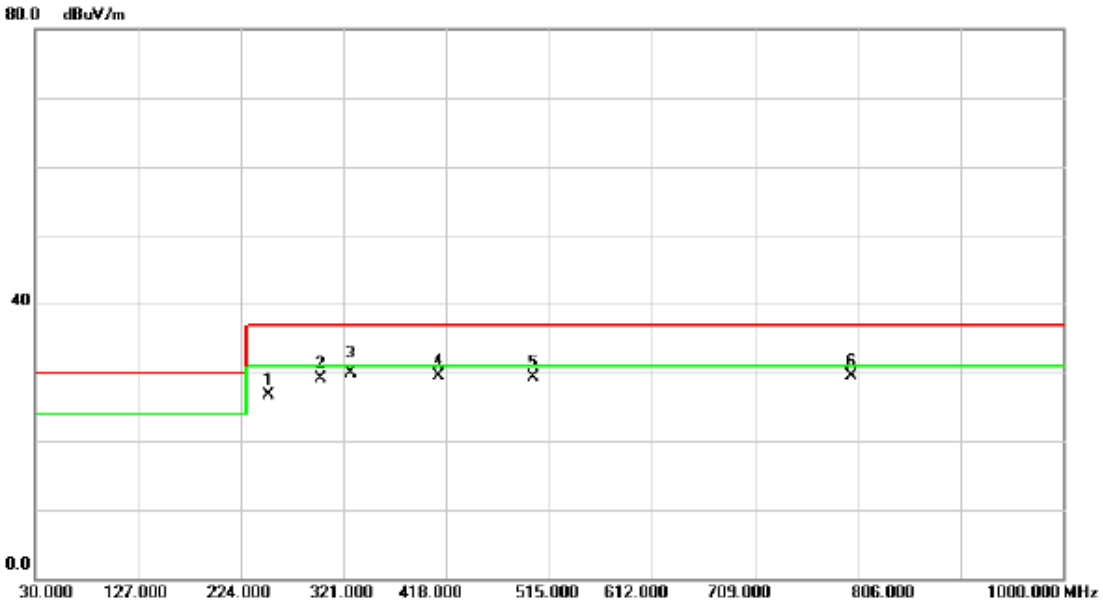
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		199.7500	37.50	-15.35	22.15	30.00	-7.85	peak	
2		329.7300	40.12	-9.67	30.45	37.00	-6.55	peak	
3		350.1000	37.96	-8.60	29.36	37.00	-7.64	peak	
4		500.4500	33.60	-5.49	28.11	37.00	-8.89	peak	
5		600.3600	32.56	-3.42	29.14	37.00	-7.86	peak	
6	*	800.1800	31.14	-0.28	30.86	37.00	-6.14	peak	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	25° C	Relative Humidity :	60 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handset	Polarization :	Vertical



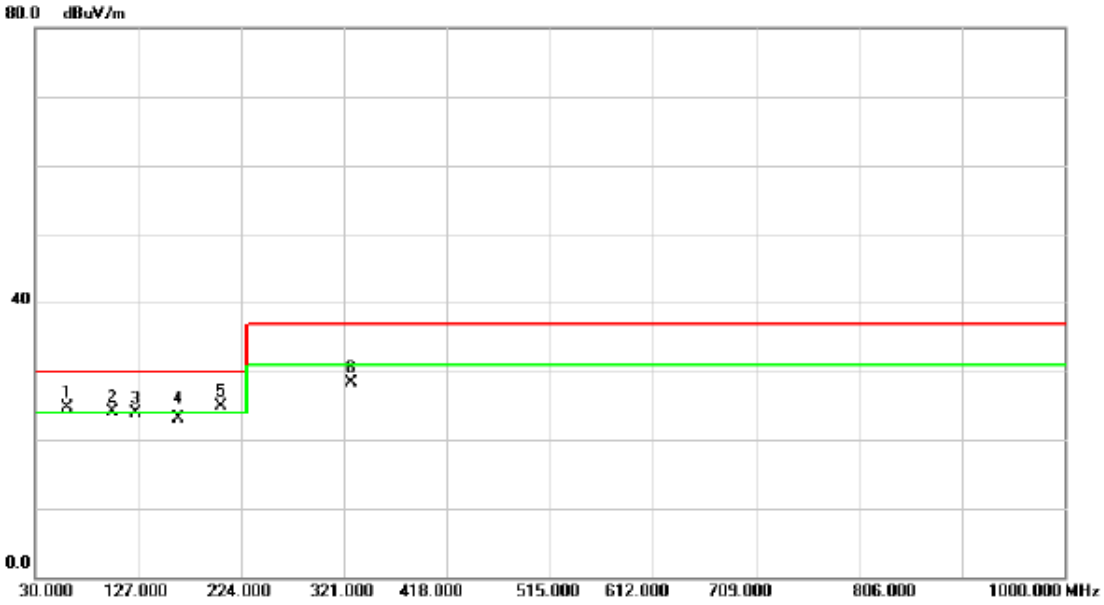
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		42.7215	38.00	-16.52	21.48	30.00	-8.52	QP	
2	!	105.0000	42.81	-18.74	24.07	30.00	-5.93	peak	
3		125.0000	43.22	-19.61	23.61	30.00	-6.39	peak	
4		164.4460	40.02	-16.76	23.26	30.00	-6.74	QP	
5	*	209.5000	40.90	-15.10	25.80	30.00	-4.20	peak	
6		327.5000	38.48	-10.28	28.20	37.00	-8.80	peak	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	25° C	Relative Humidity :	60 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handset	Polarization :	Horizontal



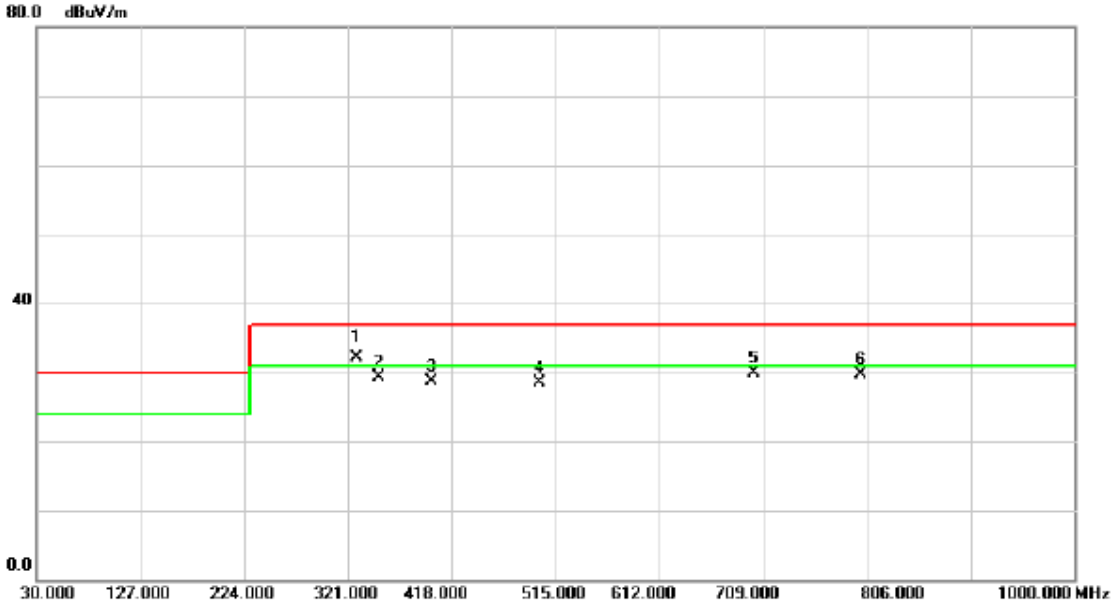
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		250.1900	38.95	-12.17	26.78	37.00	-10.22	peak	
2		299.6600	40.27	-11.17	29.10	37.00	-7.90	peak	
3	*	327.5700	39.80	-9.80	30.00	37.00	-7.00	QP	
4		411.2100	37.18	-7.61	29.57	37.00	-7.43	peak	
5		500.4500	34.80	-5.49	29.31	37.00	-7.69	peak	
6		800.1800	29.77	-0.28	29.49	37.00	-7.51	peak	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	25° C	Relative Humidity :	60 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Headphone	Polarization :	Vertical



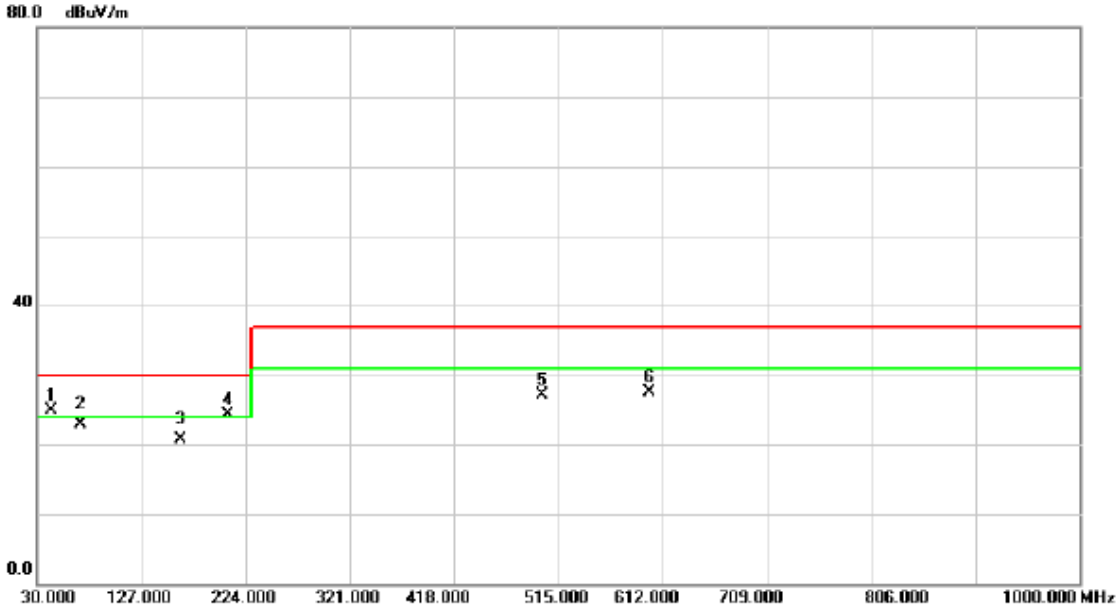
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	!	60.5000	44.42	-19.76	24.66	30.00	-5.34	peak	
2	!	103.5000	42.70	-18.68	24.02	30.00	-5.98	peak	
3		125.0000	43.52	-19.61	23.91	30.00	-6.09	peak	
4		164.9820	39.86	-16.75	23.11	30.00	-6.89	QP	
5	*	205.0000	40.32	-15.46	24.86	30.00	-5.14	peak	
6		327.5000	38.63	-10.28	28.35	37.00	-8.65	peak	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	25° C	Relative Humidity :	60 %
Pressure :	1008 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Headphone	Polarization :	Horizontal



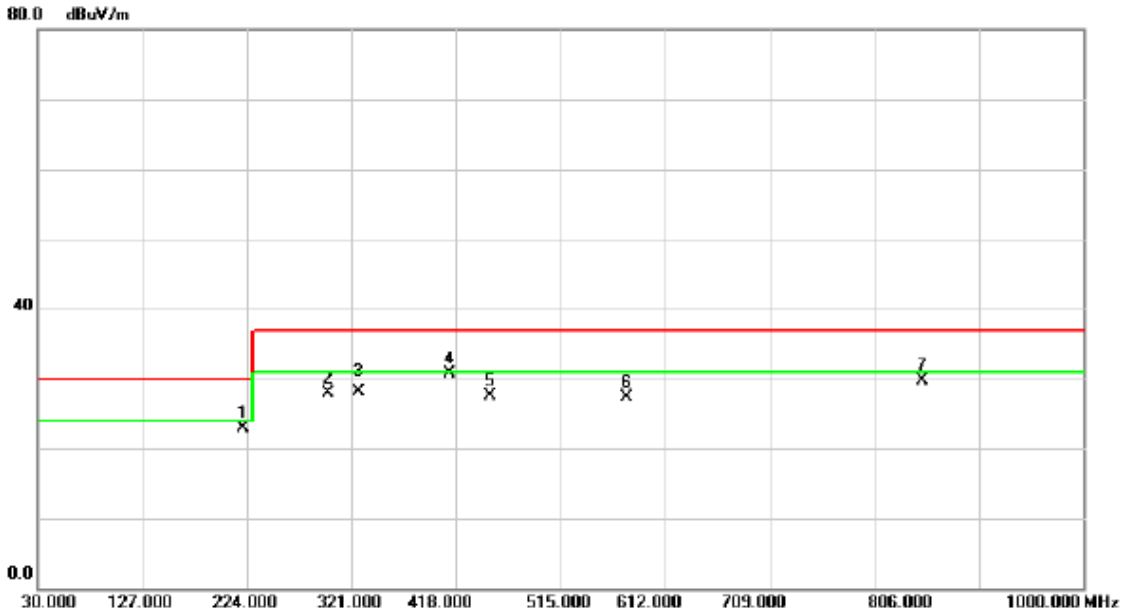
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	329.9100	41.86	-9.66	32.20	37.00	-4.80	QP	
2		350.1000	38.00	-8.60	29.40	37.00	-7.60	peak	
3		399.5700	36.48	-7.72	28.76	37.00	-8.24	peak	
4		500.4500	33.98	-5.49	28.49	37.00	-8.51	peak	
5		700.2700	31.30	-1.34	29.96	37.00	-7.04	peak	
6		800.1800	30.08	-0.28	29.80	37.00	-7.20	peak	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	25° C	Relative Humidity :	60 %
Pressure :	1008 hPa	Test Voltage :	DC 48V
Test Mode :	Handfree	Polarization :	Vertical



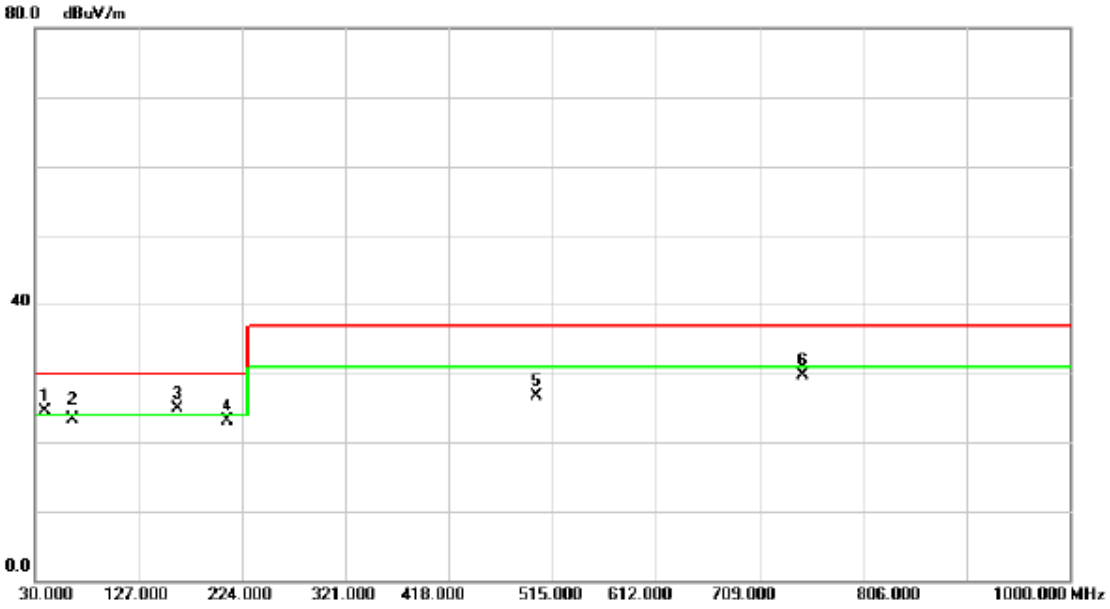
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	43.0000	41.46	-16.61	24.85	30.00	-5.15	peak	
2		70.7447	43.50	-20.64	22.86	30.00	-7.14	QP	
3		164.3505	37.55	-16.76	20.79	30.00	-9.21	QP	
4	!	208.0000	39.62	-15.22	24.40	30.00	-5.60	peak	
5		500.0000	33.29	-6.27	27.02	37.00	-9.98	peak	
6		600.0000	31.74	-4.19	27.55	37.00	-9.45	peak	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	25° C	Relative Humidity :	60 %
Pressure :	1008 hPa	Test Voltage :	DC 48V
Test Mode :	Handfree	Polarization :	Horizontal



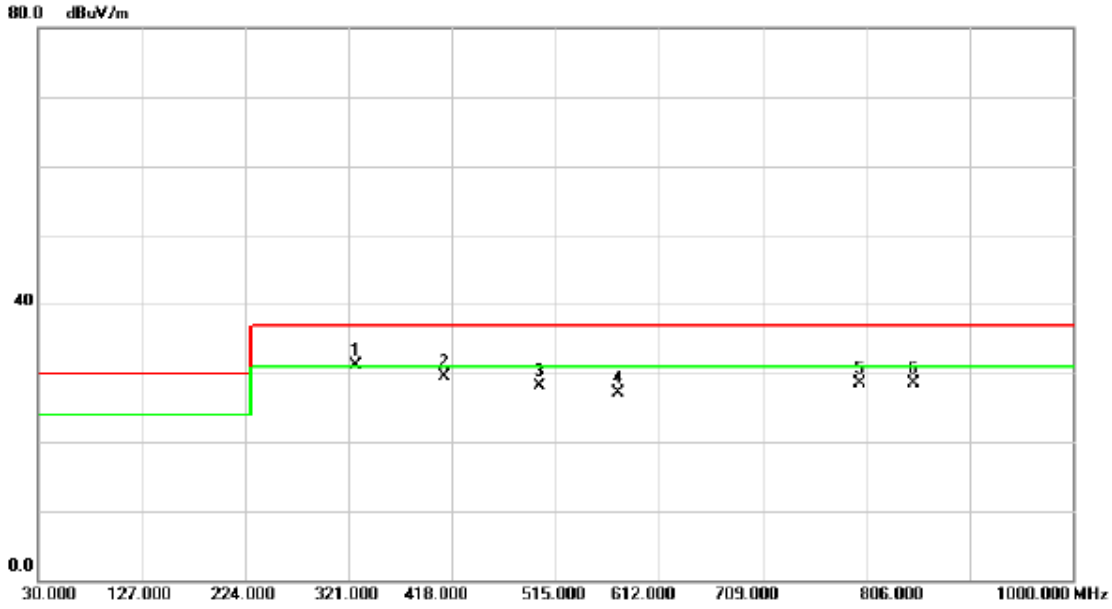
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		221.0900	36.79	-13.80	22.99	30.00	-7.01	peak	
2		299.6600	39.02	-11.17	27.85	37.00	-9.15	peak	
3		327.5920	38.00	-9.80	28.20	37.00	-8.80	QP	
4	*	412.1800	38.29	-7.61	30.68	37.00	-6.32	peak	
5		450.0100	34.08	-6.61	27.47	37.00	-9.53	peak	
6		576.1100	31.90	-4.61	27.29	37.00	-9.71	peak	
7		850.6200	29.16	0.58	29.74	37.00	-7.26	peak	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	25° C	Relative Humidity :	60 %
Pressure :	1008 hPa	Test Voltage :	DC 48V
Test Mode :	Handset	Polarization :	Vertical



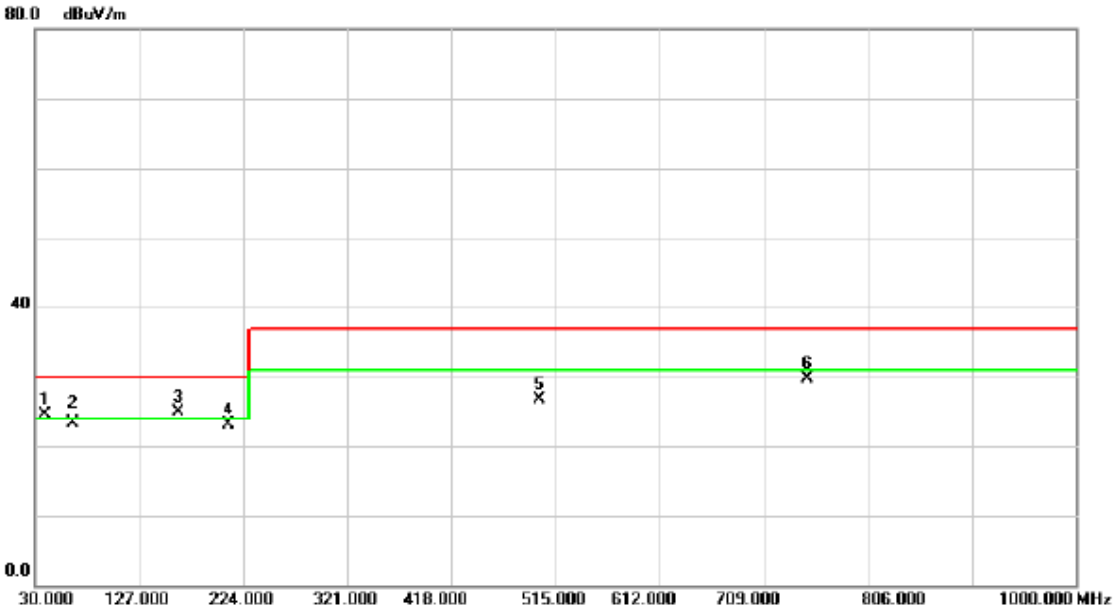
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	!	40.0000	40.08	-15.64	24.44	30.00	-5.56	peak	
2		65.6185	43.54	-20.23	23.31	30.00	-6.69	QP	
3	*	164.0000	41.61	-16.76	24.85	30.00	-5.15	peak	
4		211.0000	38.18	-15.00	23.18	30.00	-6.82	peak	
5		500.0000	33.02	-6.27	26.75	37.00	-10.25	peak	
6		750.0000	31.29	-1.60	29.69	37.00	-7.31	peak	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	25° C	Relative Humidity :	60 %
Pressure :	1008 hPa	Test Voltage :	DC 48V
Test Mode :	Handset	Polarization :	Horizontal



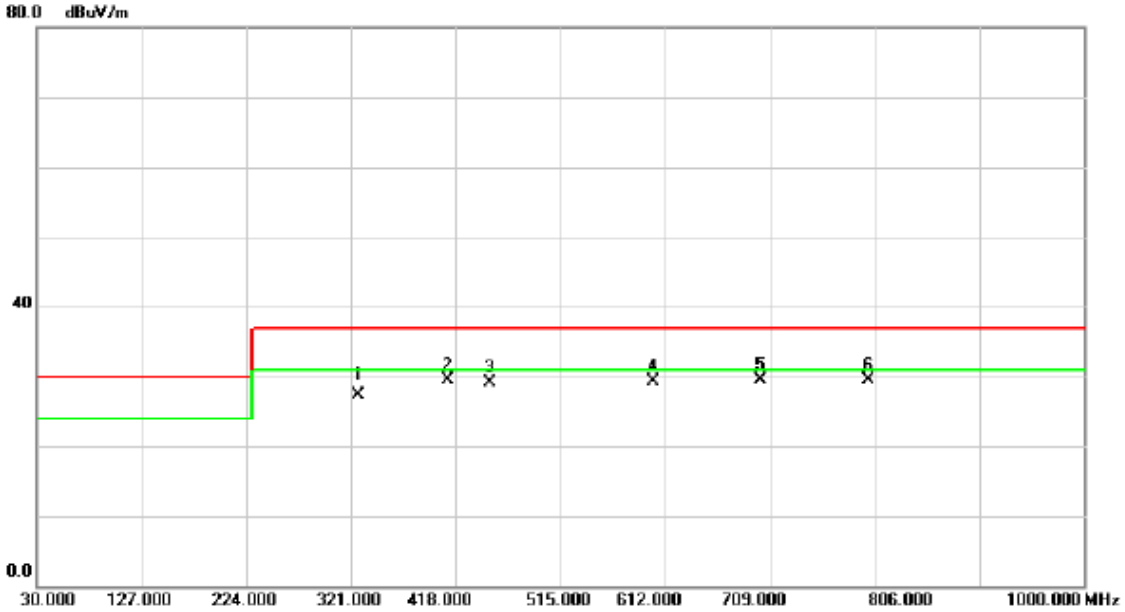
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	327.7900	40.96	-9.78	31.18	37.00	-5.82	peak	
2		410.2400	37.15	-7.63	29.52	37.00	-7.48	peak	
3		500.4500	33.69	-5.49	28.20	37.00	-8.80	peak	
4		574.1700	31.75	-4.65	27.10	37.00	-9.90	peak	
5		800.1800	28.79	-0.28	28.51	37.00	-8.49	peak	
6		850.6200	28.00	0.58	28.58	37.00	-8.42	peak	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	25° C	Relative Humidity :	60 %
Pressure :	1008 hPa	Test Voltage :	DC 48V
Test Mode :	Headphone	Polarization :	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	!	40.0000	40.08	-15.64	24.44	30.00	-5.56	peak	
2		65.6185	43.54	-20.23	23.31	30.00	-6.69	QP	
3	*	164.0000	41.61	-16.76	24.85	30.00	-5.15	peak	
4		211.0000	38.18	-15.00	23.18	30.00	-6.82	peak	
5		500.0000	33.02	-6.27	26.75	37.00	-10.25	peak	
6		750.0000	31.29	-1.60	29.69	37.00	-7.31	peak	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	25° C	Relative Humidity :	60 %
Pressure :	1008 hPa	Test Voltage :	DC 48V
Test Mode :	Headphone	Polarization :	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		327.5300	37.05	-9.80	27.25	37.00	-9.75	QP	
2		410.2400	37.16	-7.63	29.53	37.00	-7.47	peak	
3		450.0100	35.75	-6.61	29.14	37.00	-7.86	peak	
4		600.3600	32.63	-3.42	29.21	37.00	-7.79	peak	
5	*	700.2700	30.92	-1.34	29.58	37.00	-7.42	peak	
6		800.1800	29.81	-0.28	29.53	37.00	-7.47	peak	

4.3.9 TEST RESULTS- Above 1000MHZ

Remark:

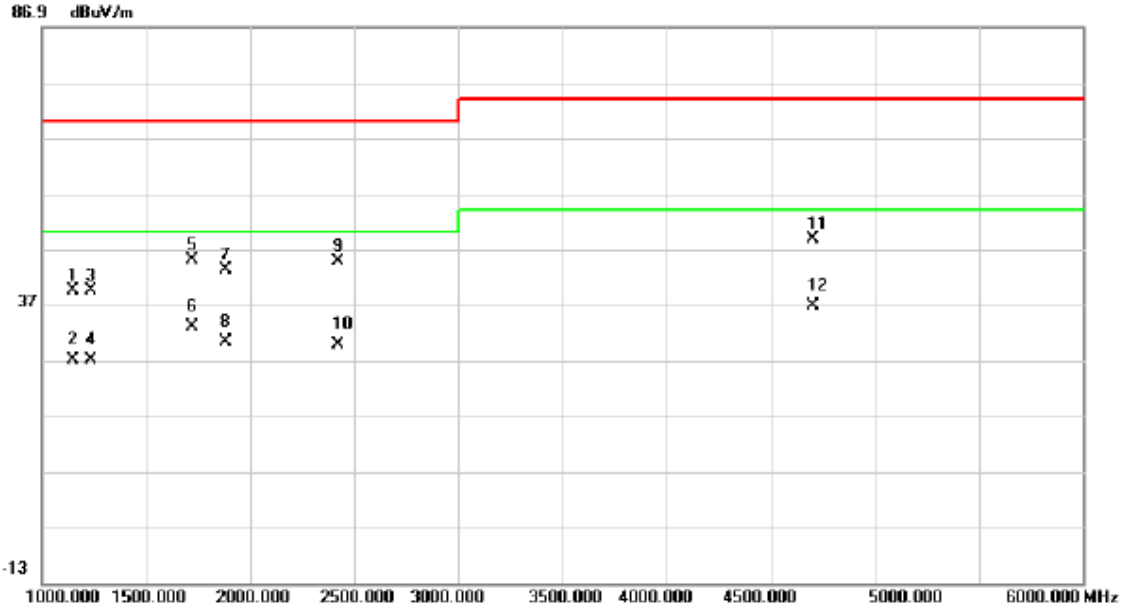
(1) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz; SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz; SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz.

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading Compliance with the QP Limits and then QP Mode measurement didn't perform.

(3) Measuring frequency range from 1GHz to 6GHz.

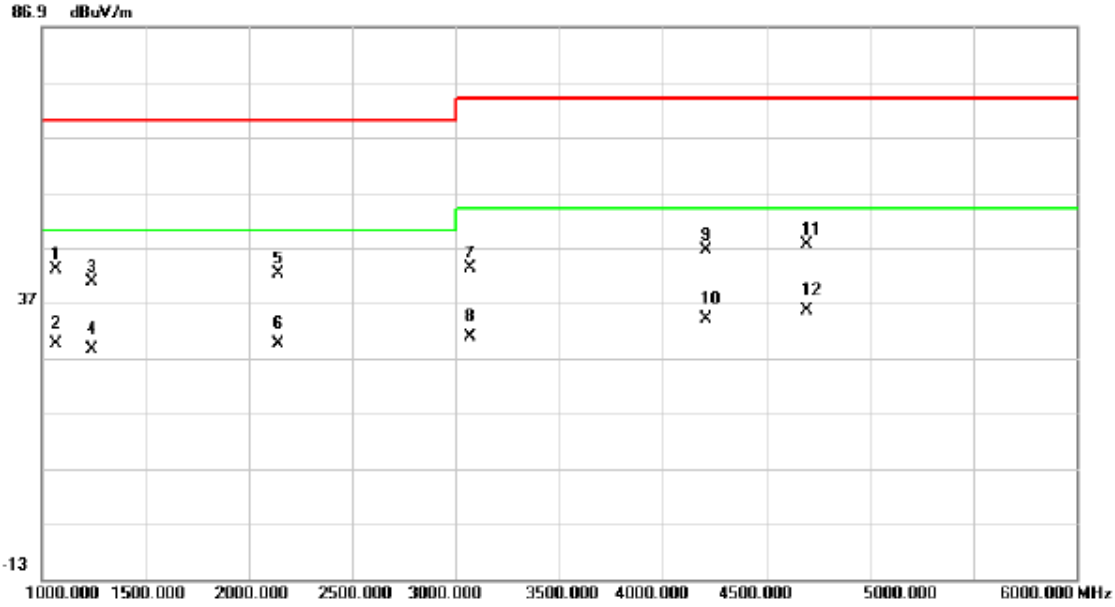
(4) For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also Complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	28° C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handfree	Polarization:	Vertical



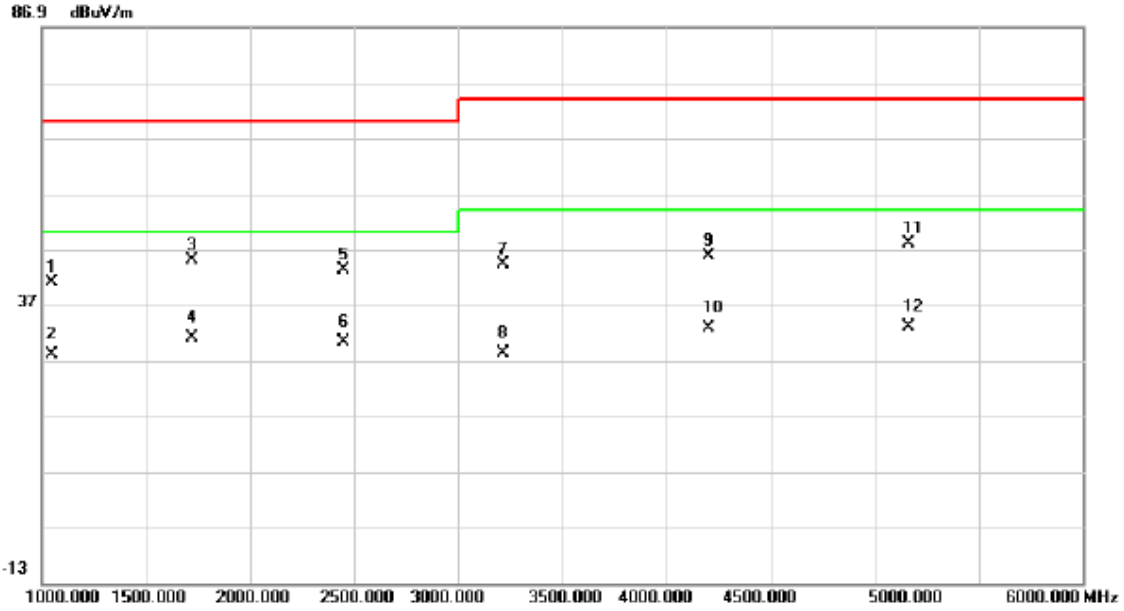
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1150.000	46.69	-7.22	39.47	70.00	-30.53	peak	
2		1150.000	34.23	-7.22	27.01	50.00	-22.99	AVG	
3		1235.000	46.06	-6.63	39.43	70.00	-30.57	peak	
4		1235.000	33.62	-6.63	26.99	50.00	-23.01	AVG	
5		1720.000	48.20	-3.22	44.98	70.00	-25.02	peak	
6	*	1720.000	36.15	-3.22	32.93	50.00	-17.07	AVG	
7		1885.000	45.20	-2.04	43.16	70.00	-26.84	peak	
8		1885.000	32.36	-2.04	30.32	50.00	-19.68	AVG	
9		2425.000	45.42	-0.74	44.68	70.00	-25.32	peak	
10		2425.000	30.62	-0.74	29.88	50.00	-20.12	AVG	
11		4700.000	43.16	5.54	48.70	74.00	-25.30	peak	
12		4700.000	31.28	5.54	36.82	54.00	-17.18	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	28° C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handfree	Polarization:	Horizontal



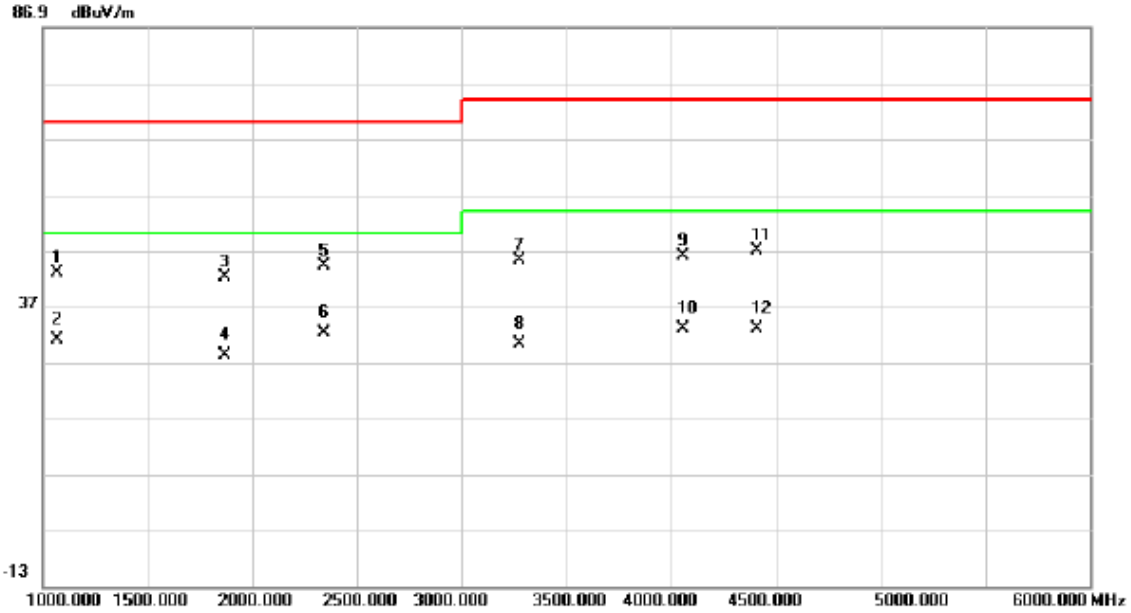
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1070.000	50.74	-7.78	42.96	70.00	-27.04	peak	
2		1070.000	37.35	-7.78	29.57	50.00	-20.43	AVG	
3		1240.000	47.30	-6.60	40.70	70.00	-29.30	peak	
4		1240.000	35.23	-6.60	28.63	50.00	-21.37	AVG	
5		2145.000	43.23	-1.06	42.17	70.00	-27.83	peak	
6		2145.000	30.62	-1.06	29.56	50.00	-20.44	AVG	
7		3070.000	43.00	0.27	43.27	74.00	-30.73	peak	
8		3070.000	30.54	0.27	30.81	54.00	-23.19	AVG	
9		4210.000	41.93	4.59	46.52	74.00	-27.48	peak	
10		4210.000	29.56	4.59	34.15	54.00	-19.85	AVG	
11		4695.000	42.08	5.53	47.61	74.00	-26.39	peak	
12	*	4695.000	30.03	5.53	35.56	54.00	-18.44	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	28° C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handset	Polarization:	Vertical



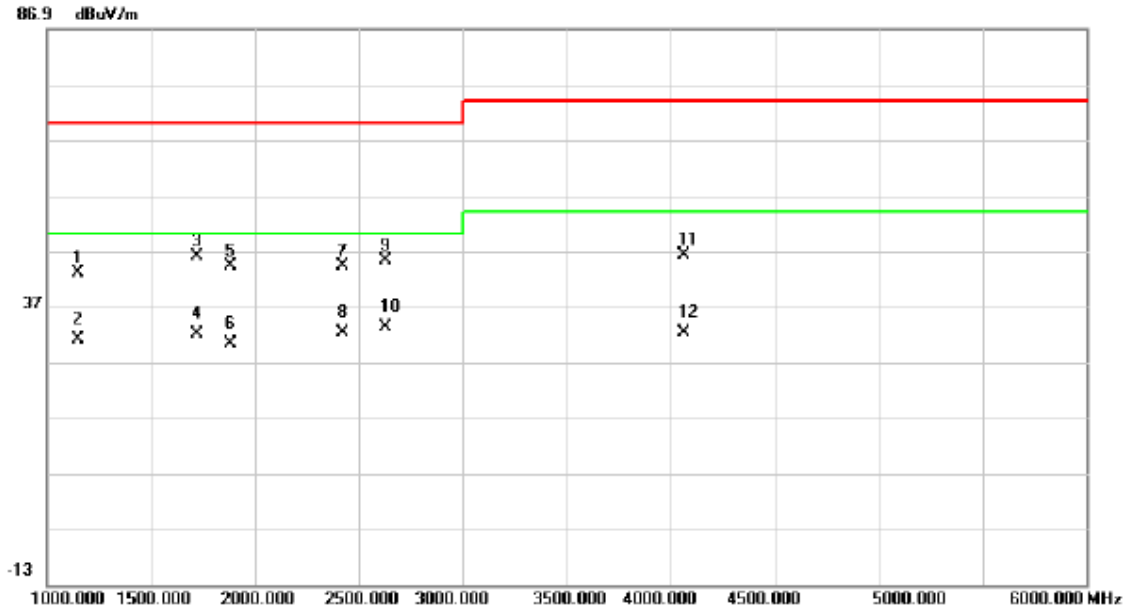
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1050.000	48.84	-7.92	40.92	70.00	-29.08	peak	
2		1050.000	35.84	-7.92	27.92	50.00	-22.08	AVG	
3		1720.000	48.20	-3.22	44.98	70.00	-25.02	peak	
4	*	1720.000	34.20	-3.22	30.98	50.00	-19.02	AVG	
5		2450.000	44.10	-0.71	43.39	70.00	-26.61	peak	
6		2450.000	31.10	-0.71	30.39	50.00	-19.61	AVG	
7		3215.000	43.52	0.72	44.24	74.00	-29.76	peak	
8		3215.000	27.52	0.72	28.24	54.00	-25.76	AVG	
9		4200.000	41.19	4.57	45.76	74.00	-28.24	peak	
10		4200.000	28.19	4.57	32.76	54.00	-21.24	AVG	
11		5160.000	41.39	6.76	48.15	74.00	-25.85	peak	
12		5160.000	26.39	6.76	33.15	54.00	-20.85	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	28° C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handset	Polarization:	Horizontal



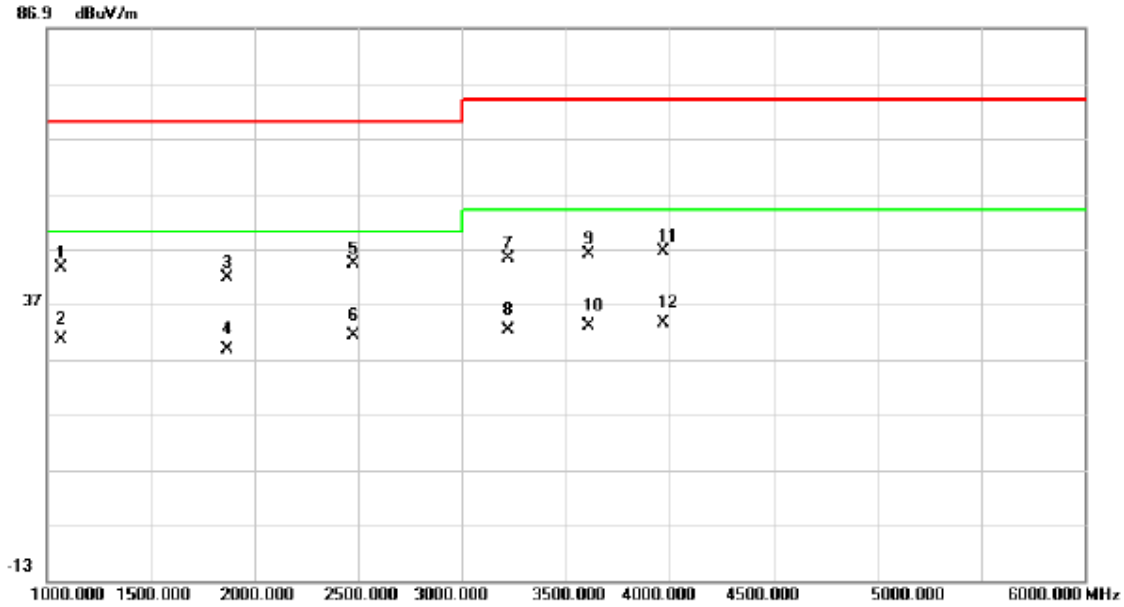
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1070.000	50.74	-7.78	42.96	70.00	-27.04	peak	
2		1070.000	38.74	-7.78	30.96	50.00	-19.04	AVG	
3		1870.000	44.31	-2.15	42.16	70.00	-27.84	peak	
4		1870.000	30.31	-2.15	28.16	50.00	-21.84	AVG	
5		2345.000	45.04	-0.83	44.21	70.00	-25.79	peak	
6	*	2345.000	33.04	-0.83	32.21	50.00	-17.79	AVG	
7		3275.000	44.39	0.91	45.30	74.00	-28.70	peak	
8		3275.000	29.39	0.91	30.30	54.00	-23.70	AVG	
9		4055.000	41.65	4.36	46.01	74.00	-27.99	peak	
10		4055.000	28.65	4.36	33.01	54.00	-20.99	AVG	
11		4410.000	42.07	4.88	46.95	74.00	-27.05	peak	
12		4410.000	28.07	4.88	32.95	54.00	-21.05	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	28° C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Headphone	Polarization:	Vertical



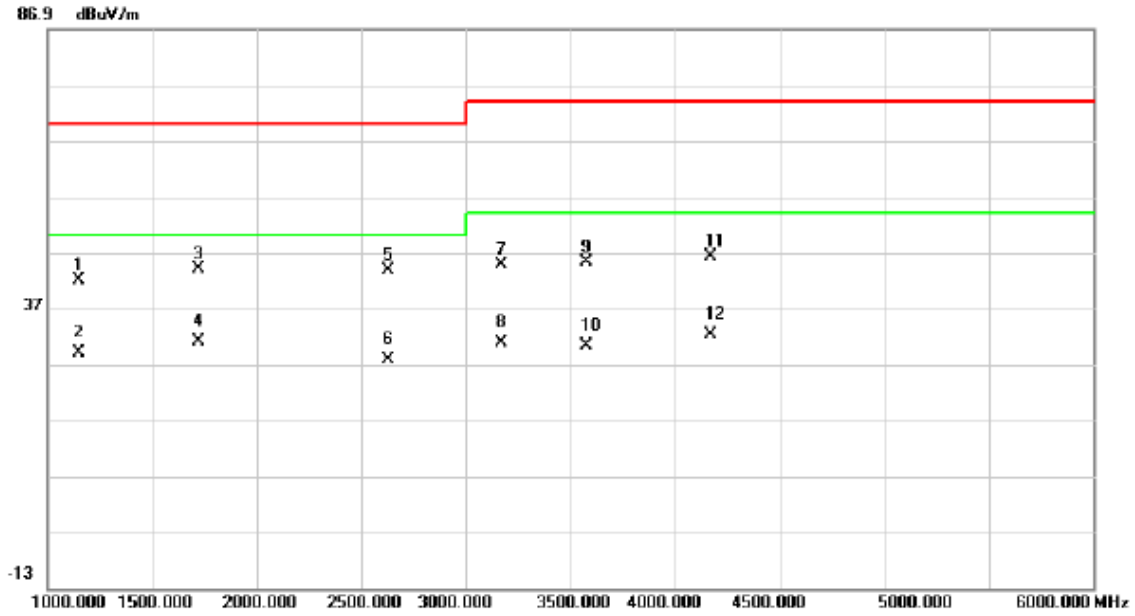
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1150.000	50.19	-7.22	42.97	70.00	-27.03	peak	
2		1150.000	38.19	-7.22	30.97	50.00	-19.03	AVG	
3		1720.000	49.20	-3.22	45.98	70.00	-24.02	peak	
4		1720.000	35.20	-3.22	31.98	50.00	-18.02	AVG	
5		1885.000	46.20	-2.04	44.16	70.00	-25.84	peak	
6		1885.000	32.20	-2.04	30.16	50.00	-19.84	AVG	
7		2425.000	44.92	-0.74	44.18	70.00	-25.82	peak	
8		2425.000	32.92	-0.74	32.18	50.00	-17.82	AVG	
9		2630.000	45.79	-0.46	45.33	70.00	-24.67	peak	
10	*	2630.000	33.79	-0.46	33.33	50.00	-16.67	AVG	
11		4060.000	41.97	4.38	46.35	74.00	-27.65	peak	
12		4060.000	27.97	4.38	32.35	54.00	-21.65	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	28° C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Headphone	Polarization:	Horizontal



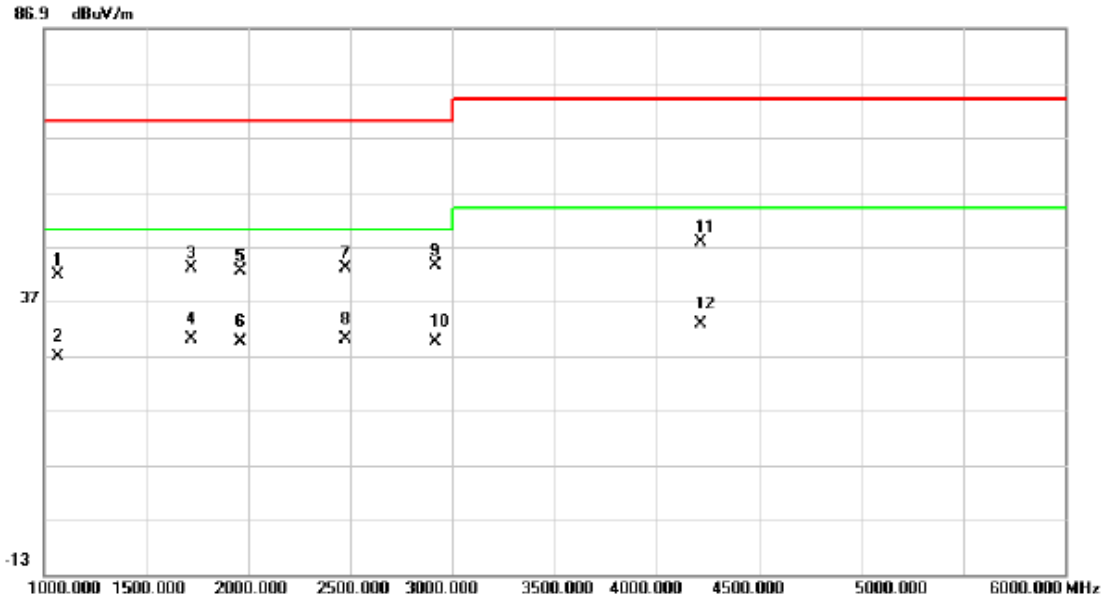
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1070.000	51.24	-7.78	43.46	70.00	-26.54	peak	
2		1070.000	38.24	-7.78	30.46	50.00	-19.54	AVG	
3		1870.000	43.81	-2.15	41.66	70.00	-28.34	peak	
4		1870.000	30.81	-2.15	28.66	50.00	-21.34	AVG	
5		2475.000	45.02	-0.68	44.34	70.00	-25.66	peak	
6	*	2475.000	32.02	-0.68	31.34	50.00	-18.66	AVG	
7		3220.000	44.54	0.74	45.28	74.00	-28.72	peak	
8		3220.000	31.54	0.74	32.28	54.00	-21.72	AVG	
9		3610.000	43.82	2.21	46.03	74.00	-27.97	peak	
10		3610.000	30.82	2.21	33.03	54.00	-20.97	AVG	
11		3970.000	42.39	4.13	46.52	74.00	-27.48	peak	
12		3970.000	29.39	4.13	33.52	54.00	-20.48	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	28° C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	DC 48V
Test Mode :	Handfree	Polarization:	Vertical



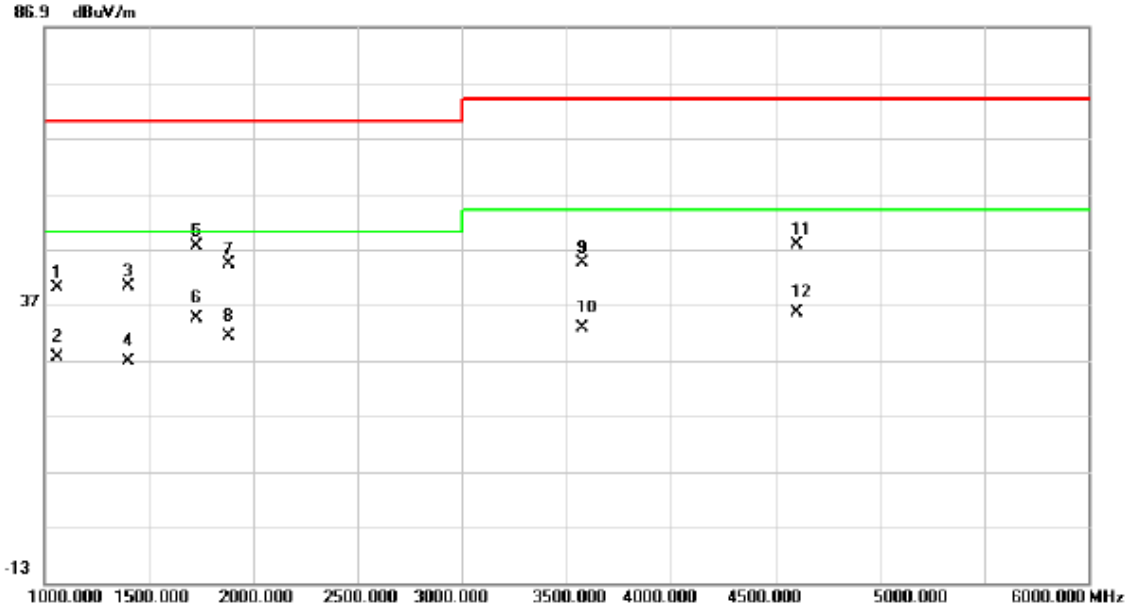
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1150.000	49.19	-7.22	41.97	70.00	-28.03	peak	
2		1150.000	36.19	-7.22	28.97	50.00	-21.03	AVG	
3		1720.000	47.20	-3.22	43.98	70.00	-26.02	peak	
4	*	1720.000	34.20	-3.22	30.98	50.00	-19.02	AVG	
5		2630.000	44.29	-0.46	43.83	70.00	-26.17	peak	
6		2630.000	28.29	-0.46	27.83	50.00	-22.17	AVG	
7		3170.000	44.13	0.59	44.72	74.00	-29.28	peak	
8		3170.000	30.13	0.59	30.72	54.00	-23.28	AVG	
9		3575.000	43.31	2.01	45.32	74.00	-28.68	peak	
10		3575.000	28.31	2.01	30.32	54.00	-23.68	AVG	
11		4170.000	41.80	4.53	46.33	74.00	-27.67	peak	
12		4170.000	27.80	4.53	32.33	54.00	-21.67	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	28° C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	DC 48V
Test Mode :	Handfree	Polarization:	Horizontal



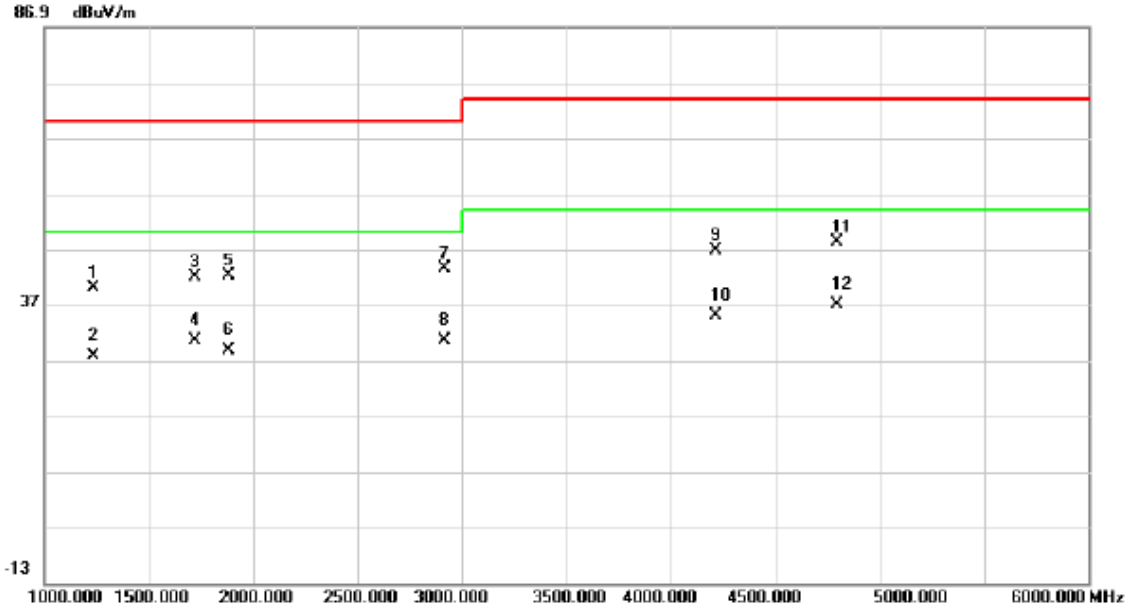
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1070.000	49.53	-7.78	41.75	70.00	-28.25	peak	
2		1070.000	34.53	-7.78	26.75	50.00	-23.25	AVG	
3		1720.000	46.33	-3.22	43.11	70.00	-26.89	peak	
4		1720.000	33.33	-3.22	30.11	50.00	-19.89	AVG	
5		1965.000	44.07	-1.48	42.59	70.00	-27.41	peak	
6		1965.000	31.07	-1.48	29.59	50.00	-20.41	AVG	
7		2475.000	43.81	-0.68	43.13	70.00	-26.87	peak	
8	*	2475.000	30.81	-0.68	30.13	50.00	-19.87	AVG	
9		2915.000	43.65	-0.07	43.58	70.00	-26.42	peak	
10		2915.000	29.65	-0.07	29.58	50.00	-20.42	AVG	
11		4215.000	43.12	4.59	47.71	74.00	-26.29	peak	
12		4215.000	28.12	4.59	32.71	54.00	-21.29	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	28° C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	DC 48V
Test Mode :	Handset	Polarization:	Vertical



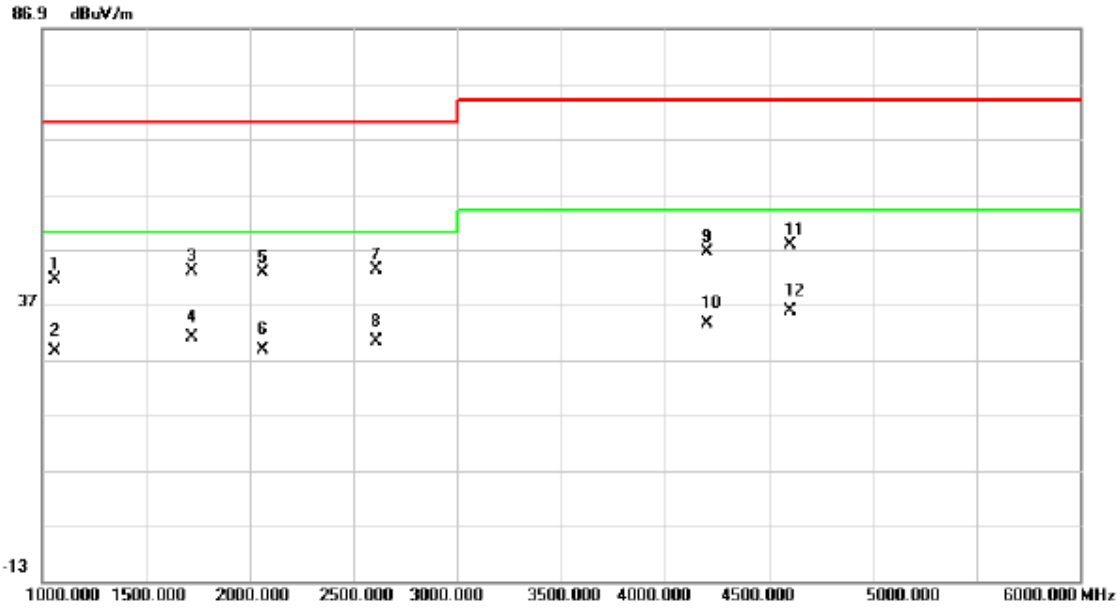
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1065.000	47.80	-7.81	39.99	70.00	-30.01	peak	
2		1065.000	35.25	-7.81	27.44	50.00	-22.56	AVG	
3		1400.000	45.79	-5.47	40.32	70.00	-29.68	peak	
4		1400.000	32.24	-5.47	26.77	50.00	-23.23	AVG	
5		1730.000	50.55	-3.14	47.41	70.00	-22.59	peak	
6	*	1730.000	37.62	-3.14	34.48	50.00	-15.52	AVG	
7		1885.000	46.25	-2.04	44.21	70.00	-25.79	peak	
8		1885.000	33.43	-2.04	31.39	50.00	-18.61	AVG	
9		3575.000	42.42	2.01	44.43	74.00	-29.57	peak	
10		3575.000	30.85	2.01	32.86	54.00	-21.14	AVG	
11		4600.000	42.51	5.27	47.78	74.00	-26.22	peak	
12		4600.000	30.26	5.27	35.53	54.00	-18.47	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	28° C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	DC 48V
Test Mode :	Handset	Polarization:	Horizontal



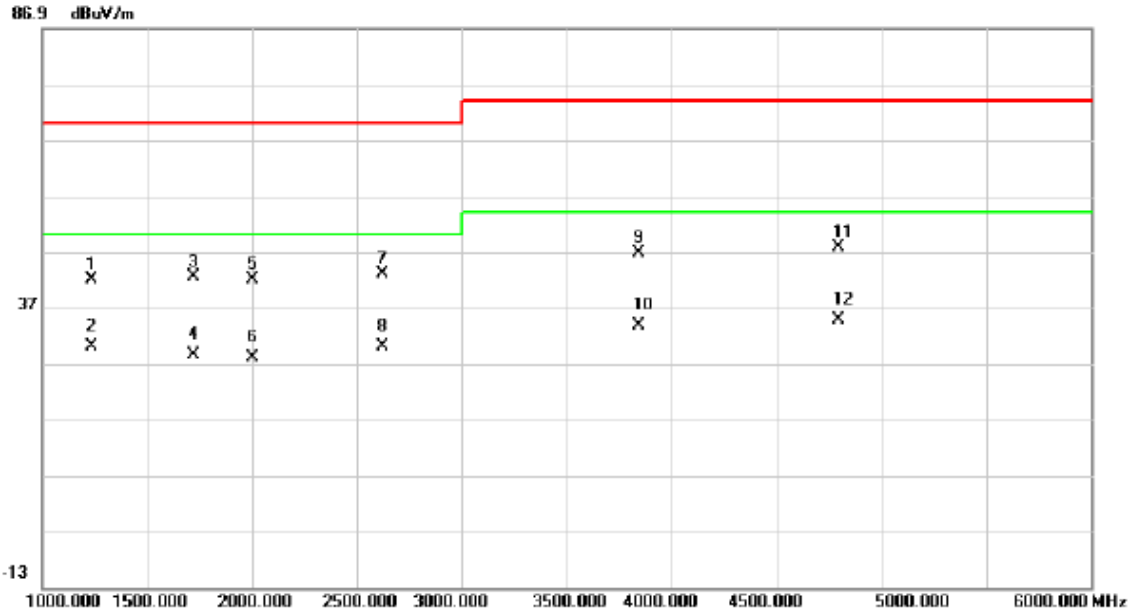
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1235.000	46.68	-6.63	40.05	70.00	-29.95	peak	
2		1235.000	34.53	-6.63	27.90	50.00	-22.10	AVG	
3		1720.000	45.33	-3.22	42.11	70.00	-27.89	peak	
4		1720.000	33.65	-3.22	30.43	50.00	-19.57	AVG	
5		1885.000	44.44	-2.04	42.40	70.00	-27.60	peak	
6		1885.000	30.78	-2.04	28.74	50.00	-21.26	AVG	
7		2915.000	43.65	-0.07	43.58	70.00	-26.42	peak	
8		2915.000	30.69	-0.07	30.62	50.00	-19.38	AVG	
9		4215.000	42.12	4.59	46.71	74.00	-27.29	peak	
10		4215.000	30.53	4.59	35.12	54.00	-18.88	AVG	
11		4795.000	42.53	5.79	48.32	74.00	-25.68	peak	
12	*	4795.000	31.25	5.79	37.04	54.00	-16.96	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	28° C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	DC 48V
Test Mode :	Headphone	Polarization:	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1065.000	49.30	-7.81	41.49	70.00	-28.51	peak	
2		1065.000	36.30	-7.81	28.49	50.00	-21.51	AVG	
3		1725.000	46.11	-3.18	42.93	70.00	-27.07	peak	
4		1725.000	34.11	-3.18	30.93	50.00	-19.07	AVG	
5		2065.000	43.96	-1.15	42.81	70.00	-27.19	peak	
6		2065.000	29.96	-1.15	28.81	50.00	-21.19	AVG	
7		2610.000	43.84	-0.50	43.34	70.00	-26.66	peak	
8		2610.000	30.84	-0.50	30.34	50.00	-19.66	AVG	
9		4205.000	42.04	4.58	46.62	74.00	-27.38	peak	
10		4205.000	29.04	4.58	33.62	54.00	-20.38	AVG	
11		4600.000	42.51	5.27	47.78	74.00	-26.22	peak	
12	*	4600.000	30.51	5.27	35.78	54.00	-18.22	AVG	

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	28° C	Relative Humidity :	56 %
Pressure :	1006 hPa	Test Voltage :	DC 48V
Test Mode :	Headphone	Polarization:	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1235.000	48.68	-6.63	42.05	70.00	-27.95	peak	
2		1235.000	36.68	-6.63	30.05	50.00	-19.95	AVG	
3		1720.000	45.83	-3.22	42.61	70.00	-27.39	peak	
4		1720.000	31.83	-3.22	28.61	50.00	-21.39	AVG	
5		2000.000	43.36	-1.23	42.13	70.00	-27.87	peak	
6		2000.000	29.36	-1.23	28.13	50.00	-21.87	AVG	
7		2625.000	43.49	-0.48	43.01	70.00	-26.99	peak	
8		2625.000	30.49	-0.48	30.01	50.00	-19.99	AVG	
9		3840.000	43.31	3.42	46.73	74.00	-27.27	peak	
10		3840.000	30.31	3.42	33.73	54.00	-20.27	AVG	
11		4795.000	42.03	5.79	47.82	74.00	-26.18	peak	
12	*	4795.000	29.03	5.79	34.82	54.00	-19.18	AVG	

4.8 HARMONICS CURRENT MEASUREMENT

4.8.1 LIMITS OF HARMONICS CURRENT MEASUREMENT

EN 61000-3-2/IEC 61000-3-2						
Equipment Category	Harmonic Order n	Max. Permissible Harmonic Current A	Equipment Category	Harmonic Order n	Max. Permissible Harmonic Current A	mA/w
Class A	Odd Harmonics		Class D	Odd Harmonics only		
	3	2.30		3	2.30	3.4
	5	1.14		5	1.14	1.9
	7	0.77		7	0.77	1.0
	9	0.40		9	0.40	0.5
	11	0.33		11	0.33	0.35
	13	0.21		13	0.21	0.30
	15≤n≤39	0.15 x 15/n		15≤n≤39	0.15 x 15/n	3.85/n
	Even Harmonics					
	2	1.08				
	4	0.43				
	6	0.30				
	8≤n≤40	0.23 x 8/n				

4.8.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Harmonic & Flicker	California	PACS-1	72344	Jan. 16, 2016
2	Power Source	California	3001iX	56309	Jan. 16, 2016
3	Measurement Software	California	CTS3.0 Vertion 3.2.0.35	N/A	N/A

Remark: “N/A” denotes no model name, serial no. or calibration specified.

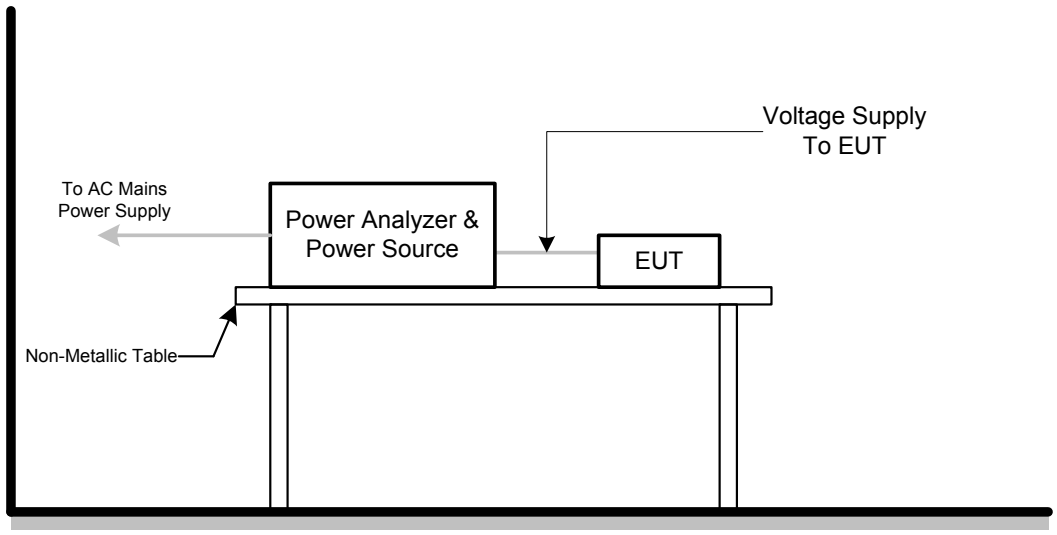
4.8.3 TEST PROCEDURE

a. The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the maximum harmonic components under normal operating conditions.
b. The classification of EUT is according to section 5 of EN 61000-3-2:2014. The EUT is classified as follows:
   Class A: Balanced three-phase equipment, Household appliances excluding equipment as Class D, Tools excluding portable tools, Dimmers for incandescent lamps, audio equipment, equipment not specified in one of the three other classes.
   Class B: Portable tools. Arc welding equipment which is not professional equipment.
   Class C: Lighting equipment.
   Class D: Equipment having a specified power less than or equal to 600 W of the following types: Personal computers and personal computer monitors and television receivers.
c. The correspondent test program of test instrument to measure the current harmonics emanated from EUT is chosen. The measure time shall be not less than the time necessary for the EUT to be exercised.
d. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.8.4 DEVIATION FROM TEST STANDARD

No deviation

4.8.5 TEST SETUP



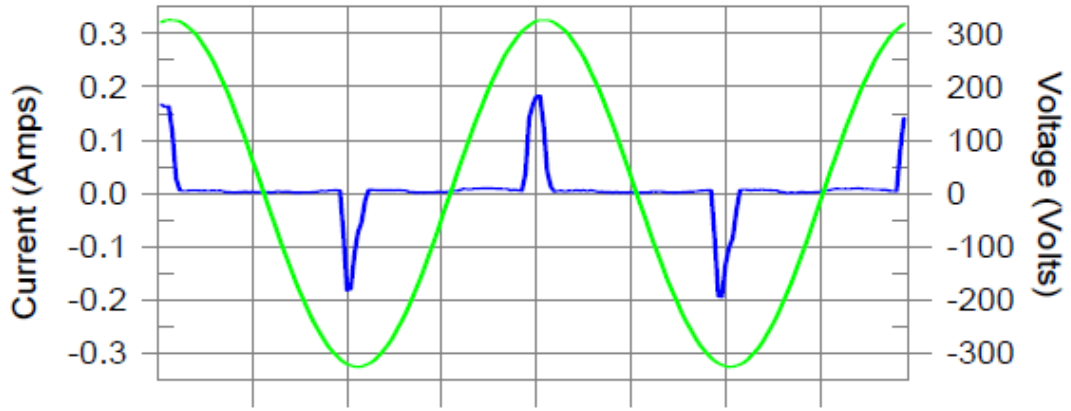
4.8.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.6** Unless otherwise a special operating condition is specified in the follows during the testing.

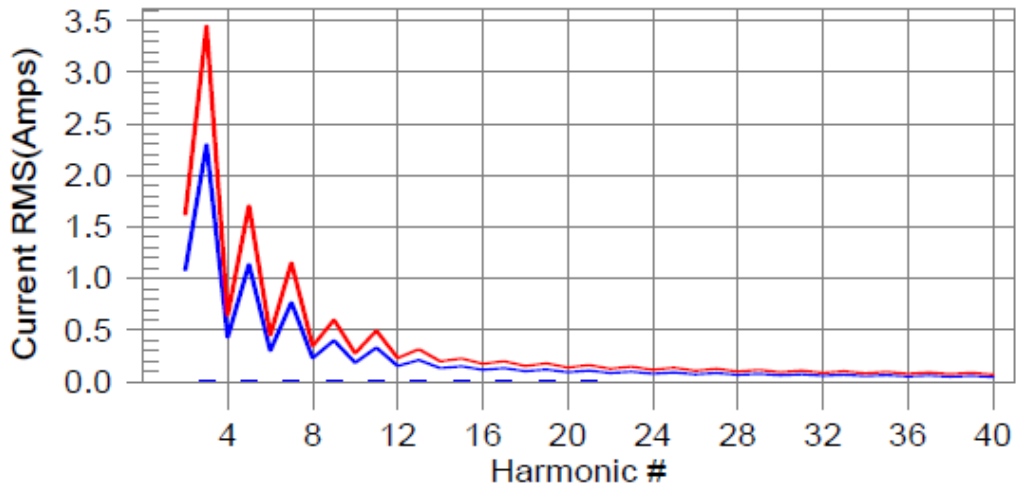
4.8.7 TEST RESULTS

Harmonics – Class-A per Ed. 3.2(Run time)			
EUT:	IP Phone	Model Name :	X5G
Temperature:	24° C	Relative Humidity:	56%
Pressure:	1010 hPa	Test Power :	AC 230V/50Hz
Test Mode :	Handfree		

Current & voltage waveforms



Harmonics and Class A limit line European Limits



Test result: Pass Worst harmonic was #15 with 3.42% of the limit.

Current Test Result Summary (Run time)			
EUT:	IP Phone	Model Name :	X5G
Temperature:	24 °C	Relative Humidity:	56%
Test Power :	AC 230V/50Hz		
Test Mode :	Handfree		

THC(A): 0.02 I-THD(%): 204.90 POHC(A): 0.000 POHC Limit(A): 0.251

Highest parameter values during test:

V_RMS (Volts):	230.08	Frequency(Hz):	50.00
I_Peak (Amps):	0.222	I_RMS (Amps):	0.047
I_Fund (Amps):	0.015	Crest Factor:	6.818
Power (Watts):	3.5	Power Factor:	0.469

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.001	1.080	0.1	0.001	1.620	0.07	Pass
3	0.010	2.300	0.5	0.014	3.450	0.42	Pass
4	0.001	0.430	0.2	0.001	0.645	0.12	Pass
5	0.010	1.140	0.9	0.013	1.710	0.79	Pass
6	0.000	0.300	0.1	0.000	0.450	0.08	Pass
7	0.009	0.770	1.2	0.012	1.155	1.06	Pass
8	0.000	0.230	0.1	0.000	0.345	0.06	Pass
9	0.008	0.400	2.1	0.011	0.600	1.79	Pass
10	0.000	0.184	0.1	0.000	0.276	0.09	Pass
11	0.007	0.330	2.2	0.009	0.495	1.84	Pass
12	0.000	0.153	0.1	0.000	0.230	0.07	Pass
13	0.006	0.210	3.0	0.007	0.315	2.36	Pass
14	0.000	0.131	0.0	0.000	0.197	0.06	Pass
15	0.005	0.150	3.4	0.006	0.225	2.58	Pass
16	0.000	0.115	0.1	0.000	0.173	0.07	Pass
17	0.004	0.132	3.1	0.004	0.199	2.17	Pass
18	0.000	0.102	0.1	0.000	0.153	0.08	Pass
19	0.003	0.118	2.6	0.003	0.178	1.76	Pass
20	0.000	0.092	0.1	0.000	0.138	0.08	Pass
21	0.002	0.107	2.1	0.002	0.161	1.41	Pass
22	0.000	0.084	0.1	0.000	0.125	0.10	Pass
23	0.002	0.098	1.6	0.002	0.147	1.13	Pass
24	0.000	0.077	0.1	0.000	0.115	0.10	Pass
25	0.001	0.090	1.2	0.001	0.135	0.99	Pass
26	0.000	0.071	0.1	0.000	0.106	0.10	Pass
27	0.001	0.083	1.0	0.001	0.125	0.93	Pass
28	0.000	0.066	0.1	0.000	0.099	0.10	Pass
29	0.001	0.078	1.0	0.001	0.116	0.90	Pass
30	0.000	0.061	0.1	0.000	0.092	0.09	Pass
31	0.001	0.073	1.0	0.001	0.109	0.85	Pass
32	0.000	0.058	0.1	0.000	0.086	0.08	Pass
33	0.001	0.068	1.0	0.001	0.102	0.78	Pass
34	0.000	0.054	0.1	0.000	0.081	0.07	Pass
35	0.001	0.064	0.9	0.001	0.096	0.69	Pass
36	0.000	0.051	0.0	0.000	0.077	0.07	Pass
37	0.000	0.061	0.8	0.001	0.091	0.61	Pass
38	0.000	0.048	0.1	0.000	0.073	0.06	Pass
39	0.000	0.058	0.7	0.000	0.087	0.53	Pass
40	0.000	0.046	0.1	0.000	0.069	0.07	Pass

Voltage Source Verification Data (Run time)			
EUT:	IP Phone	Model Name :	X5G
Temperature:	24°C	Relative Humidity:	56%
Test Power :	AC 230V/50Hz		
Test Mode :	Handfree		

Highest parameter values during test:

Voltage (Vrms):	230.08	Frequency(Hz):	50.00
I_Peak (Amps):	0.222	I_RMS (Amps):	0.047
I_Fund (Amps):	0.015	Crest Factor:	6.818
Power (Watts):	3.5	Power Factor:	0.469

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.115	0.460	24.90	OK
3	0.517	2.071	24.96	OK
4	0.045	0.460	9.80	OK
5	0.063	0.920	6.81	OK
6	0.018	0.460	3.93	OK
7	0.023	0.690	3.29	OK
8	0.013	0.460	2.93	OK
9	0.032	0.460	6.91	OK
10	0.014	0.460	3.14	OK
11	0.014	0.230	6.15	OK
12	0.010	0.230	4.14	OK
13	0.011	0.230	4.74	OK
14	0.007	0.230	3.07	OK
15	0.010	0.230	4.23	OK
16	0.010	0.230	4.16	OK
17	0.005	0.230	2.38	OK
18	0.010	0.230	4.39	OK
19	0.009	0.230	3.74	OK
20	0.015	0.230	6.51	OK
21	0.005	0.230	2.30	OK
22	0.012	0.230	5.26	OK
23	0.007	0.230	2.91	OK
24	0.005	0.230	2.35	OK
25	0.005	0.230	2.03	OK
26	0.008	0.230	3.51	OK
27	0.007	0.230	2.89	OK
28	0.007	0.230	3.20	OK
29	0.006	0.230	2.61	OK
30	0.005	0.230	2.25	OK
31	0.004	0.230	1.92	OK
32	0.005	0.230	2.22	OK
33	0.007	0.230	2.93	OK
34	0.003	0.230	1.24	OK
35	0.003	0.230	1.11	OK
36	0.003	0.230	1.20	OK
37	0.004	0.230	1.87	OK
38	0.003	0.230	1.22	OK
39	0.002	0.230	1.04	OK
40	0.006	0.230	2.51	OK

4.9 VOLTAGE FLUCTUATION AND FLICKS MEASUREMENT

4.9.1 LIMITS OF VOLTAGE FLUCTUATION AND FLICKSMEASUREMENT

Tests	Limits	Descriptions
	IEC/EN 61000-3-3	
Pst	≤ 1.0, Tp= 10 min.	Short Term Flicker Indicator
Plt	≤ 0.65, Tp=2 hr.	Long Term Flicker Indicator
dc	≤ 3.3%	Relative Steady-State V-Chang
dmax	≤ 4%	Maximum Relative V-change
d (t)	≤ 3.3% for > 500 ms	Relative V-change characteristic

4.9.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Harmonic & Flicker	California	PACS-1	72344	Jan. 16, 2016
2	Power Source	California	3001iX	56309	Jan. 16, 2016
3	Measurement Software	California	CTS3.0 Vertion 3.2.0.35	N/A	N/A

Remark: “N/A” denotes no model name, serial no. or calibration specified.

4.9.3 TEST PROCEDURE

a. Harmonic Current Test:
Test was performed according to the procedures specified in Clause 5.0 of IEC555-2 and/or Sub-clause 6.2 of IEC 61000-3-2 depend on which standard adopted for compliance measurement.

b. Fluctuation and Flickers Test:
Tests was performed according to the Test Conditions/Assessment of Voltage Fluctuations specified in Clause 5.0/6.0 of IEC555-3 and/or Clause 6.0/4.0 of IEC 61000-3-3 depend on which standard adopted for compliance measurement.

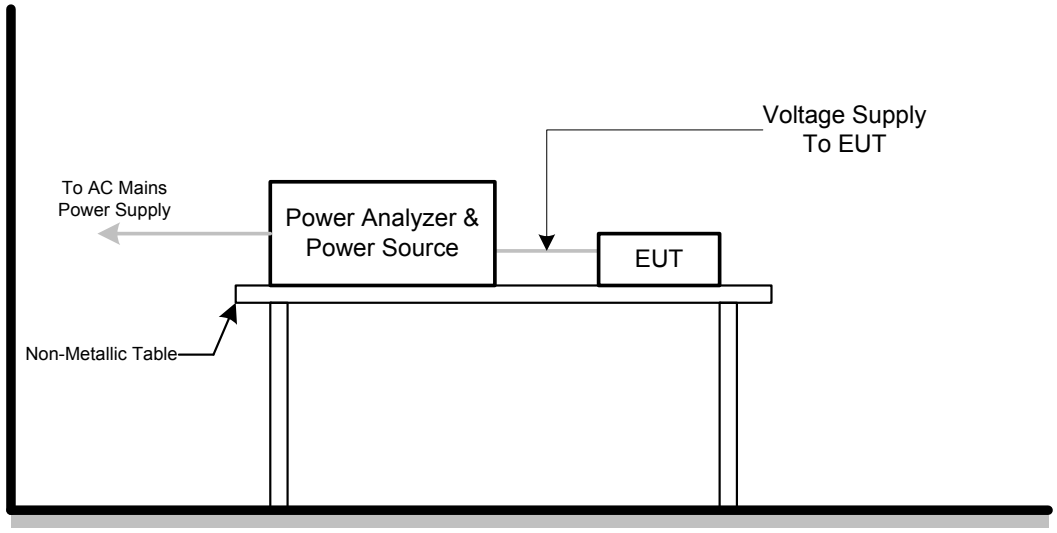
c. All types of harmonic current and/or voltage fluctuation in this report are assessed by direct measurement using flicker-meter.

d. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.9.4 DEVIATION FROM TEST STANDARD

No deviation

4.9.5 TEST SETUP



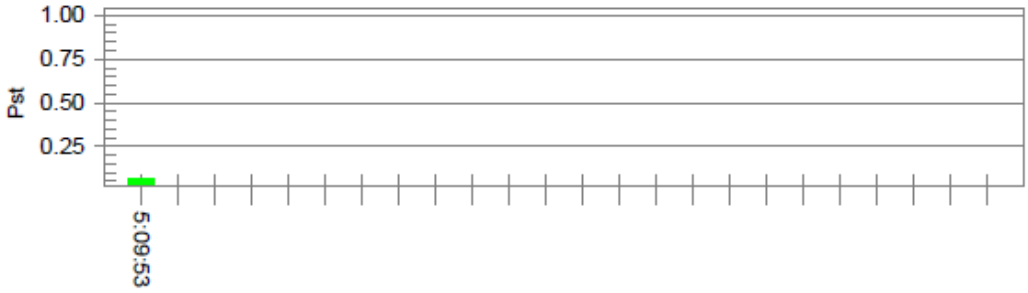
4.9.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.6** Unless otherwise a special operating condition is specified in the follows during the testing.

4.9.7 TEST RESULTS

EUT:	IP Phone	Model Name :	X5G
Temperature:	24 ˚C	Relative Humidity:	56%
Test Power :	AC 230V/50Hz		
Test Mode :	Handfree		

Pst and limit line European Limits



Plt and limit line

Parameter values recorded during the test:

Vrms at the end of test (Volt):	229.99			
Highest dt (%):	0.00	Test limit (%):	3.30	Pass
Time(mS) > dt:	0.0	Test limit (mS):	500.0	Pass
Highest dc (%):	0.00	Test limit (%):	3.30	Pass
Highest dmax (%):	0.00	Test limit (%):	4.00	Pass
Highest Pst (10 min. period):	0.064	Test limit:	1.000	Pass
Highest Plt (2 hr. period):	0.028	Test limit:	0.650	Pass

5. EMC IMMUNITY TEST

5.1 STANDARD COMPLIANCE/SEVERITY LEVEL/CRITERIA

Tests Standard No.	TEST SPECIFICATION Level	Test Mode Test Ports	Criteria
1. ESD IEC/EN 61000-4-2	±8kV air discharge ±4kV contact discharge	Direct Mode	B
	±4kV HCP discharge ±4kV VCP discharge	Indirect Mode	B
2. RS IEC/EN 61000-4-3	80 MHz to 1000 MHz 3V/m(rms), 1 KHz, 80%, AM modulated	Enclosure	A
3. EFT/Burst IEC/EN 61000-4-4	±1.0kV(peak) 5/50ns Tr/Th 5KHz Repetition Freq.	Power Supply Port	B
	±0.5 kV(peak) 5/50ns Tr/Th 5KHz Repetition Freq.	CTL/Signal Data Line Port	B
4. Surges IEC/EN 61000-4-5	±1 kV(5P/5N) 1.2/50(8/20) Tr/Th us	L-N	B
	±2 kV(5P/5N) 1.2/50(8/20) Tr/Th us	L-PE N-PE	B
	±0.5 kV(5P/5N) 1.2/50(8/20) Tr/Th us	CTL/Signal Port	B
5 Injected Current IEC/EN 61000-4-6	0.15 MHz to 80 MHz 3V(rms), 1KHz 80%, AM Modulated 150Ω source impedance	CTL/Signal Port	A
	0.15 MHz to 80 MHz 3V(rms), 1KHz 80%, AM Modulated 150Ω source impedance	AC Power Port	A
	0.15 MHz to 80 MHz 3V(rms), 1KHz 80%, AM Modulated 150Ω source impedance	DC Power Port	A
6. Power Frequency Magnetic Field IEC/EN 61000-4-8	50 Hz/60Hz, 1A/m	Enclosure	A
7. Volt. Interruptions Volt. Dips IEC/EN 61000-4-11	Voltage dip＞95% Voltage dip 30% Interruption＞95%	AC Power Port	B C C

5.2 GENERAL PERFORMANCE CRITERIA

According to **EN55024** standard, the general performance criteria as following:

Criterion A	The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.
Criterion B	After the test, the equipment shall continue to operate as intended without operator Intervention. No degradation of performance or loss of function is allowed, after the application of the phenomenon below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is allowed. However, no change of operating state if stored data allowed to persist after the test. If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.
Criterion C	Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

5.3 GENERAL PERFORMANCE CRITERIA TEST SETUP

The EUT tested system was configured as the statements of **4.1.6** Unless otherwise a special operating condition is specified in the follows during the testing.

5.4 ESD TESTING

5.4.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-2
Discharge Impedance:	330 ohm / 150 pF
Required Performance	B
Discharge Voltage:	Air Discharge: ±2kV/±4kV/±8kV/±15kV (Direct) Contact Discharge: ±2kV/±4kV/±6kV/±8kV (Direct/Indirect)
Polarity:	Positive & Negative
Number of Discharge:	Air Discharge: min. 20 times at each test point Contact Discharge: min. 200 times in total
Discharge Mode:	Single Discharge
Discharge Period:	1 second minimum

5.4.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	ESD Generator	TESEQ AG	NSG 437	450	Jul. 10, 2015

Remark: ” N/A” denotes No Model Name / Serial No. and No Calibration specified.

5.4.3 TEST PROCEDURE

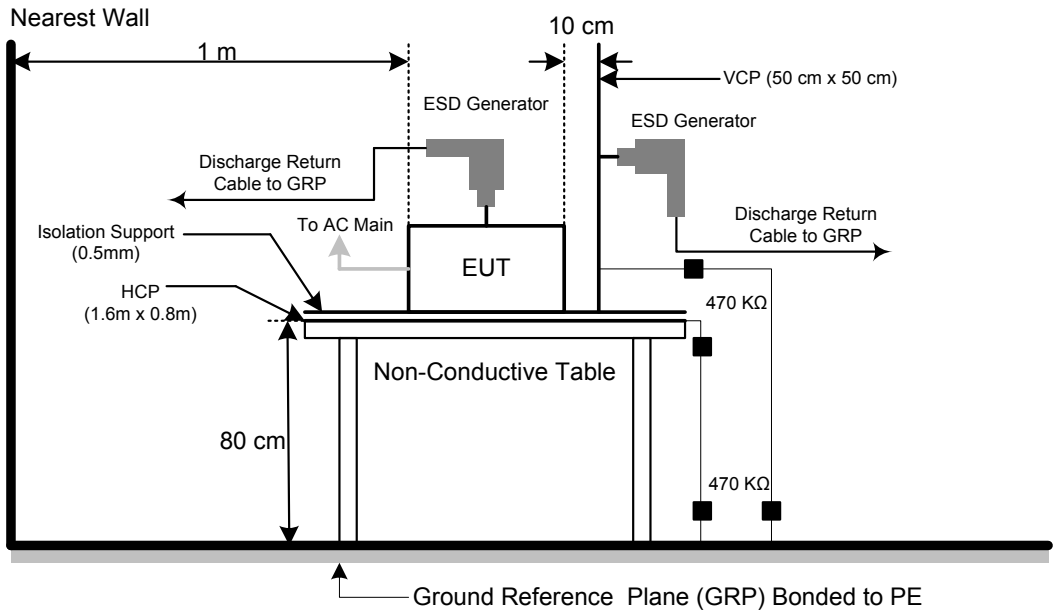
The test generator necessary to perform direct and indirect application of discharges to the EUT in the following manner:

a. Contact discharge was applied to conductive surfaces and coupling planes of the EUT.
   During the test, it was performed with single discharges. For the single discharge time between successive single discharges was at least 1 second. The EUT shall be exposed to at least 200 discharges, 100 each at negative and positive polarity, at a minimum of four test points. One of the test points shall be subjected to at least 50 indirect discharges to the center of the front edge of the horizontal coupling plane. The remaining three test points shall each receive at least 50 direct contact discharges.
   If no direct contact test points are available, then at least 200 indirect discharges shall be applied in the indirect mode. Test shall be performed at a maximum repetition rate of one discharge per second.
   Vertical Coupling Plane (VCP):
   The coupling plane, of dimensions 0.5m x 0.5m, is placed parallel to, and positioned at a distance 0.1m from, the EUT, with the Discharge Electrode touching the coupling plane. The four faces of the EUT will be performed with electrostatic discharge.
   Horizontal Coupling Plane (HCP):
   The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1m from the EUT, with the Discharge Electrode touching the coupling plane. The four faces of the EUT will be performed with electrostatic discharge.
b. Air discharges at insulation surfaces of the EUT.
   It was at least ten single discharges with positive and negative at the same selected point.
c. For the actual test configuration, please refer to the related Item –EUT Test Photos.

5.4.4 DEVIATION FROM TEST STANDARD

No deviation

5.4.5 TEST SETUP



Note:

TABLE-TOP EQUIPMENT

The configuration consisted of a wooden table 0.8 meters high standing on the Ground Reference Plane. The GRP consisted of a sheet of aluminum at least 0.25mm thick, and 2.5 meters square connected to the protective grounding system. A Horizontal Coupling Plane (1.6m x 0.8m) was placed on the table and attached to the GRP by means of a cable with 940k total impedance. The equipment under test, was installed in a representative system as described in section 7 of IEC /EN 61000-4-2, and its cables were placed on the HCP and isolated by an insulating support of 0.5mm thickness. A distance of 1-meter minimum was provided between the EUT and the walls of the laboratory and any other metallic structure.

FLOOR-STANDING EQUIPMENT

The equipment under test was installed in a representative system as described in section 7 of IEC/EN 61000-4-2, and its cables were isolated from the Ground Reference Plane by an insulating support of 0.1meter thickness. The GRP consisted of a sheet of aluminum that is at least 0.25mm thick, and 2.5meters square connected to the protective grounding system and extended at least 0.5 meters from the EUT on all sides.

5.4.6 TEST RESULTS

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	26° C	Relative Humidity :	50 %
Pressure :	1012 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handfree, Handset, Headphone		

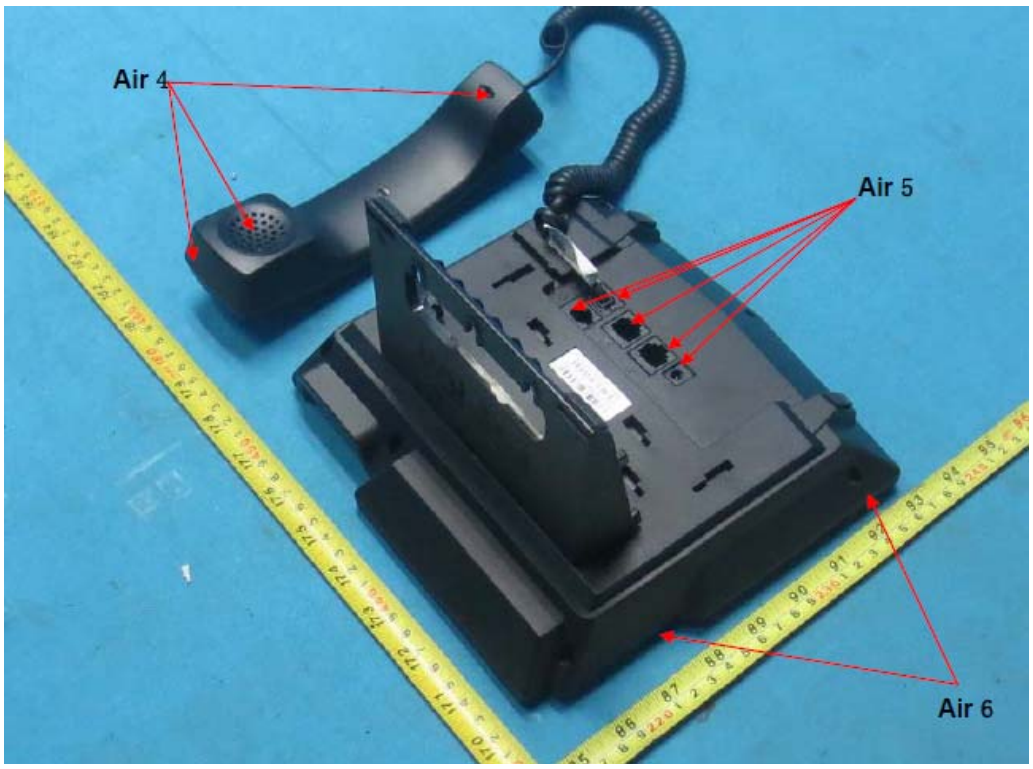
Mode	Air Discharge								Contact Discharge							
	2 kV		4 kV		8 kV		- kV		2 kV		4 kV		- kV		- kV	
Location	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P	N
1	A	A	A	A	A	A	-	-	-	-	-	-	-	-	-	-
2	A	A	A	A	A	A	-	-	-	-	-	-	-	-	-	-
3	A	A	A	A	A	A	-	-	-	-	-	-	-	-	-	-
4	A	A	A	A	A	A	-	-	-	-	-	-	-	-	-	-
5	A	A	A	A	A	A	-	-	-	-	-	-	-	-	-	-
6	A	A	A	A	A	A	-	-	-	-	-	-	-	-	-	-
7	A	A	A	A	A	A	-	-	-	-	-	-	-	-	-	-
8	A	A	A	A	A	A	-	-	-	-	-	-	-	-	-	-
9	A	A	A	A	A	A	-	-	-	-	-	-	-	-	-	-
Criterion	**B**						-		**B**				-		-	
Result	**A**						-		**N/A**				-		-	
Judgment	**PASS**						-		**N/A**				-		-	

Mode	HCP Discharge								VCP Discharge							
	2 kV		4 kV		- kV		- kV		2 kV		4 kV		- kV		- kV	
Location	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P	N
1	A	A	A	A	-	-	-	-	A	A	A	A	-	-	-	-
2	A	A	A	A	-	-	-	-	A	A	A	A	-	-	-	-
3	A	A	A	A	-	-	-	-	A	A	A	A	-	-	-	-
4	A	A	A	A	-	-	-	-	A	A	A	A	-	-	-	-
Criterion	**B**				-		-		**B**				-		-	
Result	**A**				-		-		**A**				-		-	
Judgment	**PASS**				-		-		**PASS**				-		-	

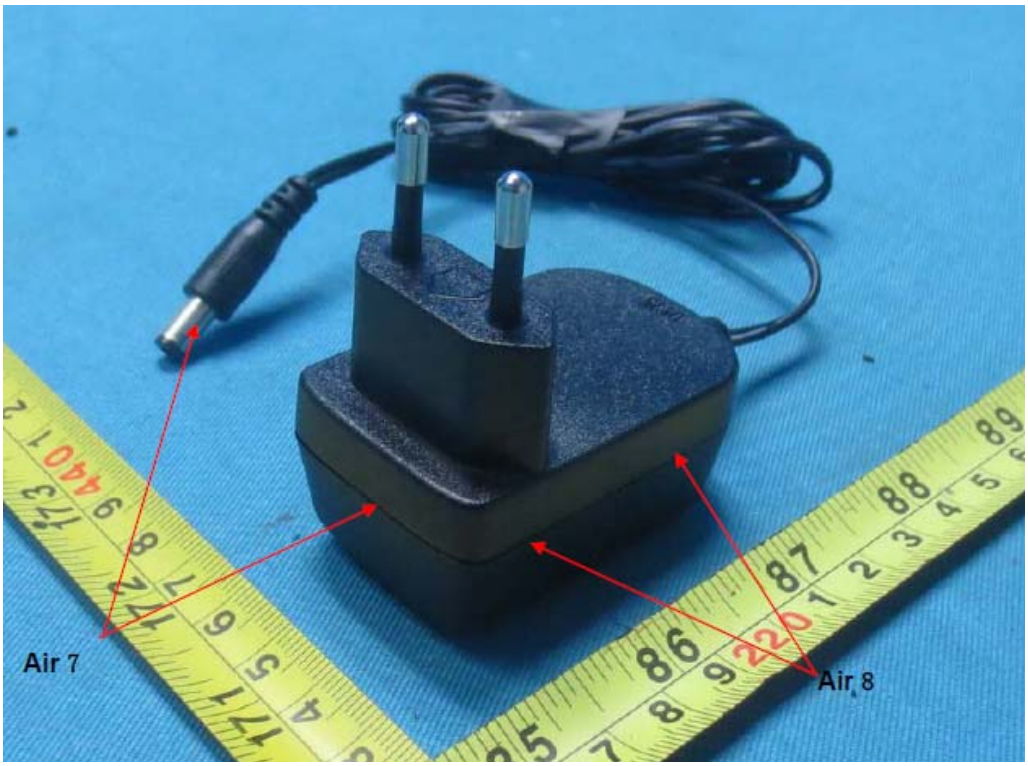
Note:

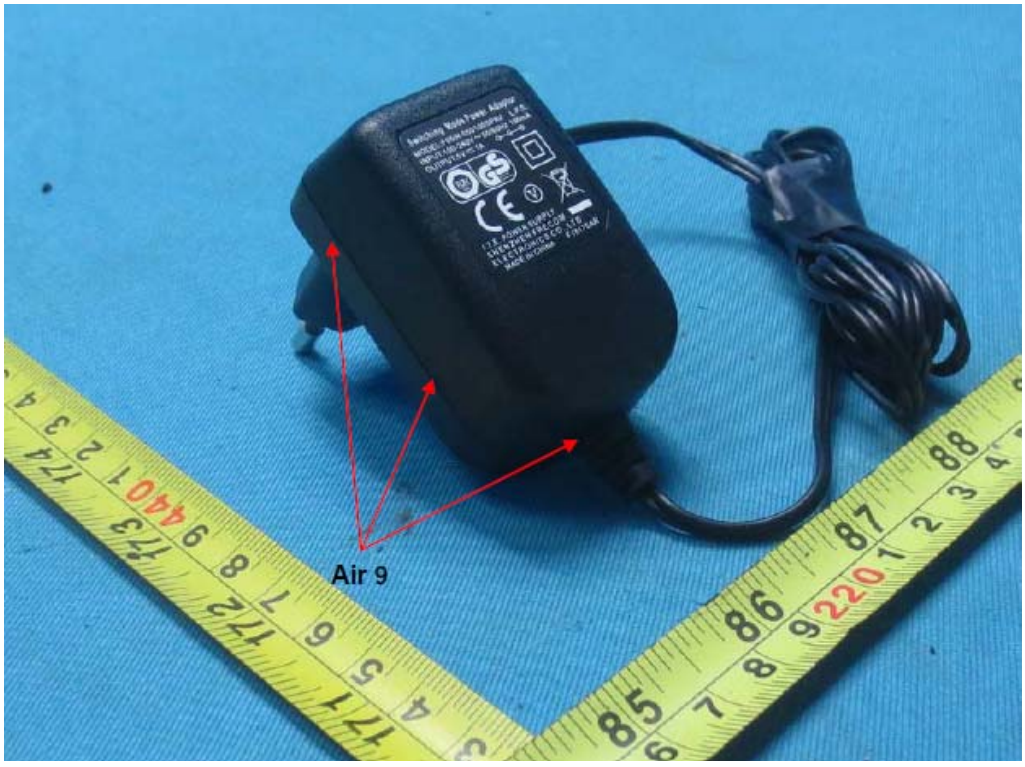
1) P/N denotes the Positive/Negative polarity of the output voltage.
2) Test condition:
   Direct / Indirect (HCP/VCP) discharges: Minimum 25 times (Positive/Negative) at each point. Air discharges: Minimum 10 times (Positive/Negative) at each point.
3) Test location(s) in which discharge (Air and contact discharge) to be applied illustrated by photos shown in next page(s)
4) The Indirect (HCP/VCP) discharges description of test point as following:
   1.left side 2.right side 3.front side 4.rear side
5) N/A - denotes test is not applicable in this test report
6) Criteria A: No observation of any performance degradation.
7) Criteria B: Some degradation of performance is observed but the equipment continues to operate as intended.
8) Criteria C: Loss of functionality, but self-recoverable by user, without loss of information or settings.

5.4.7 PHOTO(S) SHOWN THE LOCATION(S) OF ESD EVALUATED



PHOTO(S) SHOWN THE LOCATION(S) OF ESD EVALUATED





5.5 RS TESTING

5.5.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-3
Required Performance	A
Frequency Range:	80 MHz - 1000 MHz
Field Strength:	3 V/m
Modulation:	1kHz Sine Wave, 80%, AM Modulation
Frequency Step:	1% of fundamental
Polarity of Antenna:	Horizontal and Vertical
Test Distance:	3 m
Antenna Height:	1.5 m
Dwell Time:	at least 3 seconds

5.5.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Digital Signal Generator	HP	ESG-D3000A	US36260188	Mar. 28, 2016
2	Antenna	ETS	3142C	00047662	Mar. 28, 2016
3	Power amplifier	MILMEGA	80RF1000-250	N/A	Nov. 02, 2015
4	Amplifier	AR	50S1G4A	326720	Mar. 28, 2016
5	Measurement Software	TOYO	IM5/R Ver 3.8.050	N/A	N/A

Remark: ” N/A” denotes No Model Name / Serial No. and No Calibration specified.

5.5.3 TEST PROCEDURE

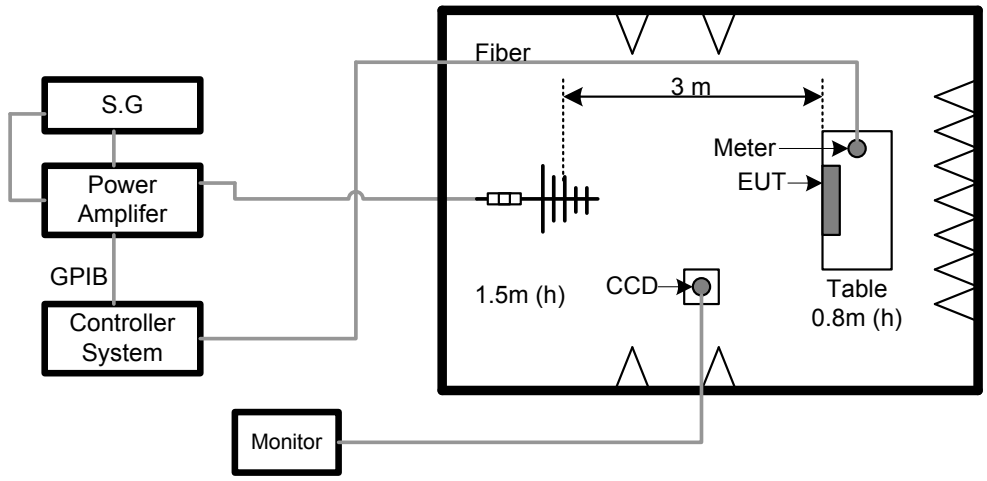
The EUT and support equipment, which are placed on a table that is 0.8 meter above ground and the testing was performed in a fully-anechoic chamber.
The testing distance from antenna to the EUT was 3 meters.
The other condition as following manner:

a. The field strength level was 3 V/m.
b. The frequency range is swept from 80 MHz - 1000 MHz, with the signal 80% amplitude modulated with a 1kHz sine wave. The rate of sweep did not exceed 1.5x 10-3 decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.
c. Sweep Frequency 900 MHz, with the Duty Cycle:1/8 and Modulation: Pulse 217 Hz(if applicable)
d. The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.
e. The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP



Note:

TABLE-TOP EQUIPMENT

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-3 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

FLOOR-STANDING EQUIPMENT

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-3 was placed on a non-conductive wood support 0.1 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

5.5.6 TEST RESULTS

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	26° C	Relative Humidity :	50 %
Pressure :	1012 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handfree, Handset, Headphone		

Frequency Range (MHz)	RF Field Position	R.F. Field Strength	Azimuth	Criteria	Results	Judgment
80 - 1000	H / V	3 V/m (rms) AM Modulated 1000Hz, 80%	0	**A**	**A**	**PASS**
			90			
			180			
			270			

Note:

1) P/N denotes the Positive/Negative polarity of the output voltage.
2) N/A - denotes test is not applicable in this test report.
3) Criteria A: No observation of any performance degradation.
4) Criteria B: Some degradation of performance is observed but the equipment continues to operate as intended.
5) Criteria C: Loss of functionality, but self-recoverable by user, without loss of information or settings.

5.6 EFT/BURST TESTING

5.6.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-4
Required Performance	B
Test Voltage :	AC Power Line: ±1 kV
Polarity:	Positive & Negative
Impulse Frequency:	5 kHz: except for xDSL equipment 100 kHz: only for single lines of xDSL equipment.
Impulse Wave shape :	5/50 ns
Burst Duration:	15 ms
Burst Period:	300 ms
Test Duration:	Not less than 1 min.

5.6.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	THE MODULAR SOLUTION FOR 6 KV APPLICATIONS	Teseq	NSG 3060	1423	Aug. 29, 2015
2	CDN	EMC PARTNER	CDN-UTP8	040	Mar. 28, 2016
3	Measurement Software	Teseq	Win 3000 Version 1.2.0	N/A	N/A

Remark: ” N/A” denotes No Model Name / Serial No. and No Calibration specified.

5.6.3 TEST PROCEDURE

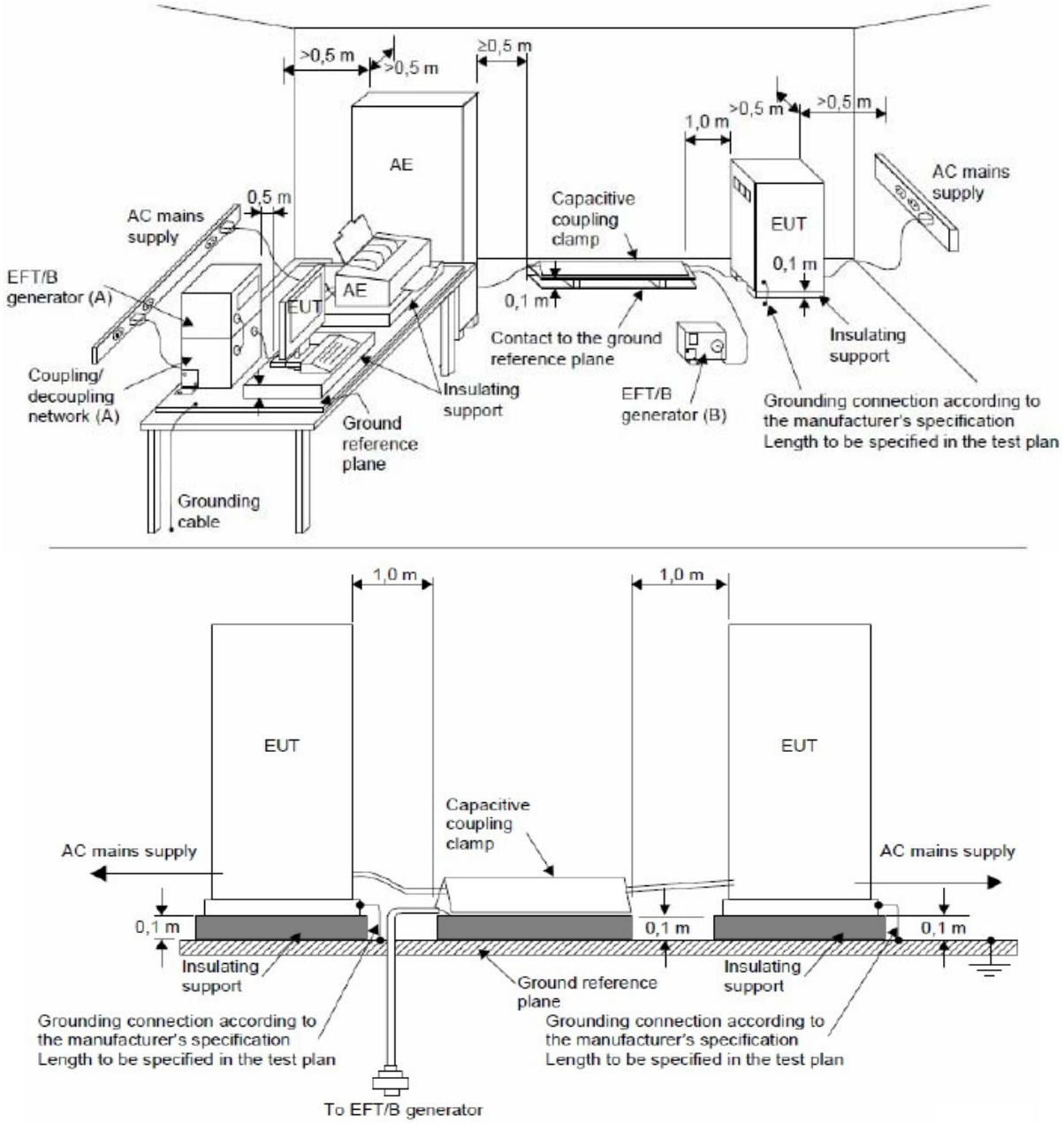
The EUT and support equipment(s) are placed on a table that is 0.8 meter high above a metal ground plane and should be located 0.1m+/-0.01m high above the Ground Reference Plane (1m*1m min. and 0.65mm thick min).
The other condition as following manner:

a. The length of power cord between the coupling device and the EUT should not exceed 1 meter.
b. Both positive and negative polarity discharges were applied.
c. The duration time of each test sequential was 1 minute
d. For the actual test configuration, please refer to the related Item –EUT Test Photos.

5.6.4 DEVIATION FROM TEST STANDARD

No deviation

5.6.5 TEST SETUP



Note:

TABLE-TOP EQUIPMENT

The configuration consisted of a wooden table (0.8m high) standing on the Ground Reference Plane. The GRP consisted of a sheet of aluminum (at least 0.25mm thick and 2.5m square) connected to the protective grounding system. A minimum distance of 0.5m was provided between the EUT and the walls of the laboratory or any other metallic structure.

FLOOR-STANDING EQUIPMENT

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-4 and its cables, were isolated from the Ground Reference Plane by an insulating support that is 0.1-meter thick. The GRP consisted of a sheet of aluminum (at least 0.25mm thick and 2.5m square) connected to the protective grounding system.

5.6.6 TEST RESULTS

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	26° C	Relative Humidity :	50 %
Pressure :	1012 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handfree, Handset, Headphone		

EUT Ports Tested		Polarity	Repetition Frequency	Test Level 1 kV	Criterion	Result	Judgment
AC Power Port	Line (L)	+	5 kHz	A	**B**	**A**	**PASS**
		-	5 kHz	A			
	Neutral (N)	+	5 kHz	A	**B**	**A**	**PASS**
		-	5 kHz	A			
	Ground (PE)	+	5 kHz	-	**B**	**N/A**	**N/A**
		-	5 kHz	-			

EUT Ports Tested		Polarity	Repetition Frequency	Test Level 0.5 kV	Criterion	Result	Judgment
Signal/Data/ Control Port （RJ11）	N/A	+	5 kHz	A	**B**	**A**	**PASS**
		-	5 kHz	A			
Signal/Data/ Control Port （RJ45）	N/A	+	5 kHz	A	**B**	**A**	**PASS**
		-	5 kHz	A			

Note:

1) N/A - denotes test is not applicable in this test report
2) Criterion A: No observation of any performance degradation.
3) Criterion B: Some degradation of performance is observed but the equipment continues to operate as intended.
4) Criterion C: Loss of functionality, but self-recoverable by user, without loss of information or settings.

5.7 SURGE TESTING

5.7.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-5
Required Performance	B
Wave-Shape:	Combination Wave 1.2/50 us Open Circuit Voltage 8 /20 us Short Circuit Current
Test Voltage :	Power Line: ±0.5 kV, ±1 kV
Surge Input/Output:	L-N, L-PE, N-PE
Generator Source:	2 ohm between networks
Impedance:	12 ohm between network and ground
Polarity:	Positive/Negative
Phase Angle:	0 /90/180/270
Pulse Repetition Rate:	1 time / min. (maximum)
Number of Tests:	5 positive and 5 negative at selected points

5.7.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	THE MODULAR SOLUTION FOR 6 KV APPLICATIONS	Teseq	NSG 3060	1423	Aug. 29, 2015
2	Measurement Software	Teseq	Win 3000 Version 1.2.0	N/A	N/A

Remark: ” N/A” denotes No Model Name / Serial No. and No Calibration specified.

5.7.3 TEST PROCEDURE

a. For EUT power supply:

The surge is to be applied to the EUT power supply terminals via the capacitive coupling network. Decoupling networks are required in order to avoid possible adverse effects on equipment not under test that may be powered by the same lines, and to provide sufficient decoupling impedance to the surge wave. The power cord between the EUT and the coupling/decoupling networks shall be 2meters in length (or shorter).

b. For test applied to unshielded unsymmetrically operated interconnection lines of EUT:

The surge is applied to the lines via the capacitive coupling. The coupling /decoupling networks shall not influence the specified functional conditions of the EUT. The interconnection line between the EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).

c. For test applied to unshielded symmetrically operated interconnection /telecommunication lines of EUT:

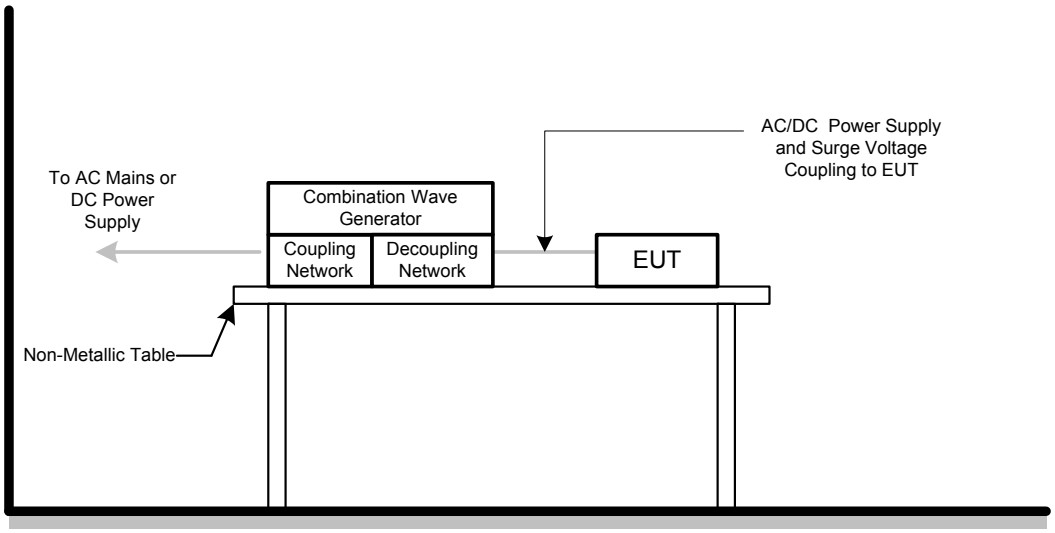
The surge is applied to the lines via gas arrestors coupling. Test levels below the ignition point of the coupling arrestor cannot be specified. The interconnection line between the EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).

d. For the actual test configuration, please refer to the related Item –EUT Test Photos.

5.7.4 DEVIATION FROM TEST STANDARD

No deviation

5.7.5 TEST SETUP



5.7.6 TEST RESULTS

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	26° C	Relative Humidity :	50 %
Pressure :	1012 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handfree, Handset, Headphone		

Wave Form EUT Ports Tested		1.2/50(8/20)Tr/Th μs						Criterion	Result	Judgment
		Polarity	Phase	Voltage						
				0.5 kV	1 kV	2 kV	- kV			
AC	L – N	+/-	0°	A	A	-	-	**B**	**A**	**PASS**
		+/-	90°	A	A	-	-			
		+/-	180°	A	A	-	-			
		+/-	270°	A	A	-	-			
	L – PE	+/-	0°	-	-	-	-	**B**	**N/A**	**N/A**
		+/-	90°	-	-	-	-			
		+/-	180°	-	-	-	-			
		+/-	270°	-	-	-	-			
	N - PE	+/-	0°	-	-	-	-	**B**	**N/A**	**N/A**
		+/-	90°	-	-	-	-			
		+/-	180°	-	-	-	-			
		+/-	270°	-	-	-	-			

Wave Form EUT Ports Tested		1.2/50(8/20)Tr/Th μs					Criterion	Result	Judgment
		Polarity	Voltage						
			0.5 kV	1 kV	- kV	- kV			
Signal Line	N/A (42 ohm)	+/-	-	-	-	-	**C**	**N/A**	**N/A**

Note:

1) Polarity and Numbers of Impulses: 5 Pst / Ngt at each tested mode
2) N/A - denotes test is not applicable in this Test Report
3) Criteria A: No observation of any performance degradation.
4) Criteria B: Some degradation of performance is observed but the equipment continues to operate as intended.
5) Criteria C: Loss of functionality, but self-recoverable by user, without loss of information or settings.

5.8 INJECTION CURRENT TESTING

5.8.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-6
Required Performance	A
Frequency Range:	0.15 MHz - 80 MHz
Field Strength:	3 Vr.m.s.
Modulation:	1kHz Sine Wave, 80%, AM Modulation
Frequency Step:	1% of fundamental
Dwell Time:	at least 3 seconds

5.8.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Signal Generator	HP	8648A	3636A02964	Mar. 28, 2016
2	Power Amplifier	Teseq	CBA230M-080	T43748	Mar. 28, 2016
3	Power CDN	FCC	FCC-801-M2/M3-16A	100271	Mar. 28, 2016
4	Signal Line CDN	FCC	F-090407-1004-1	100518	Mar. 28, 2016
5	Signal Line CDN	FCC	FCC-801-T2-RJ11	100269	Mar. 28, 2016
6	Measurement Software	TOYO	IM5/C Ver 3.7.028	N/A	N/A

Remark: ” N/A” denotes No Model Name / Serial No. and No Calibration specified.

5.8.3 TEST PROCEDURE

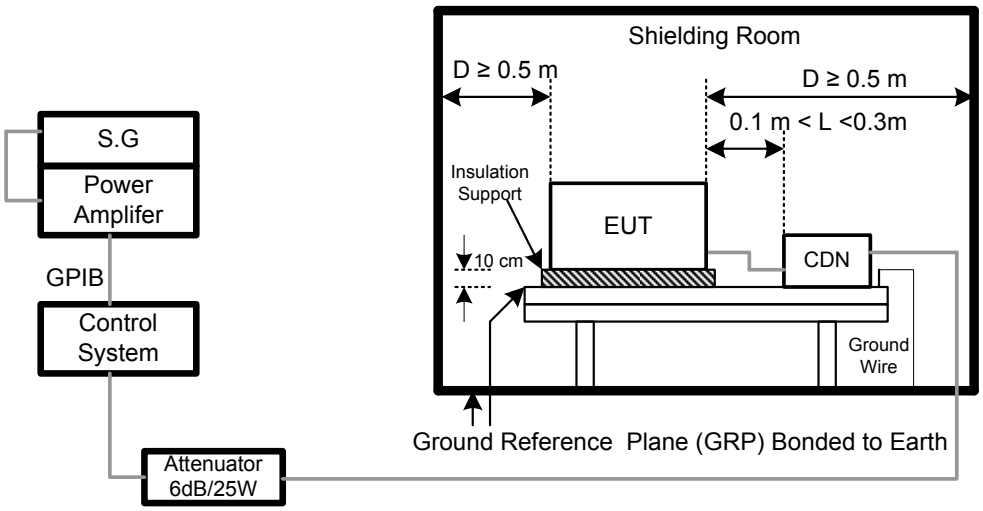
The EUT and support equipment, are placed on a table that is 0.8 meter above a metal ground plane measured 1m*1m min. and 0.65mm thick min.
The other condition as following manner:

a. The field strength level was 3V.
b. The frequency range is swept from 150 KHz to 80 MHz, with the signal 80% amplitude modulated with a 1kHz sine wave. The rate of sweep did not exceed 1.5x 10-3 decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.
c. The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.
d. For the actual test configuration, please refer to the related Item –EUT Test Photos.

5.8.4 DEVIATION FROM TEST STANDARD

No deviation

5.8.5 TEST SETUP



For the actual test configuration, please refer to the related Item –EUT Test Photos.

NOTE:

FLOOR-STANDING EQUIPMENT

The equipment to be tested is placed on an insulating support of 0.1 meters height above a ground reference plane. All relevant cables shall be provided with the appropriate coupling and decoupling devices at a distance between 0.1 meters and 0.3 meters from the projected geometry of the EUT on the ground reference plane.

5.8.6 TEST RESULTS

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	26° C	Relative Humidity :	50 %
Pressure :	1012 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handfree, Handset, Headphone		

Test Ports (Mode)	Freq. Range (MHz)	Field Strength	Criteria	Results	Judgment
Input/ Output AC. Power Port	0.15 ---80	3V(rms) AM Modulated 1000Hz, 80%	**A**	**A**	**PASS**
Input/ Output DC. Power Port	0.15 --- 80		**A**	**N/A**	**N/A**
Signal Line (RJ45)	0.15 --- 80		**A**	**A**	**PASS**
Signal Line (RJ11)	0.15 --- 80		**A**	**A**	**PASS**

Note:

1) N/A - denotes test is not applicable in this Test Report.
2) Criteria A: No observation of any performance degradation.
3) Criteria B: Some degradation of performance is observed but the equipment continues to operate as intended.
4) Criteria C: Loss of functionality, but self-recoverable by user, without loss of information or settings.

5.9 POWER FREQUENCY MAGNETIC FIELD TESTING

5.9.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-8
Required Performance	A
Frequency Range:	50Hz/60Hz
Field Strength:	1 A/m
Observation Time:	1 minute
Inductance Coil:	Rectangular type, 1mx1m

5.9.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Magnetic Field Test Generator	FCC	F-1000-4-8-G-125A	04032	Mar. 28, 2016
2	Magnetic Field immunity loop	Thermo KeyTek	F-1000-4-8/9/10-L-1M	04024	Mar. 28, 2016

Remark: ” N/A” denotes No Model Name / Serial No. and No Calibration specified.

5.9.3 TEST PROCEDURE

The EUT and support equipment, are placed on a table that is 0.8 meter above a metal ground plane measured 1m*1m min. and 0.65mm thick min.

The other condition as following manner:

a. The equipment cabinets shall be connected to the safety earth directly on the GRP via the earth terminal of the EUT.

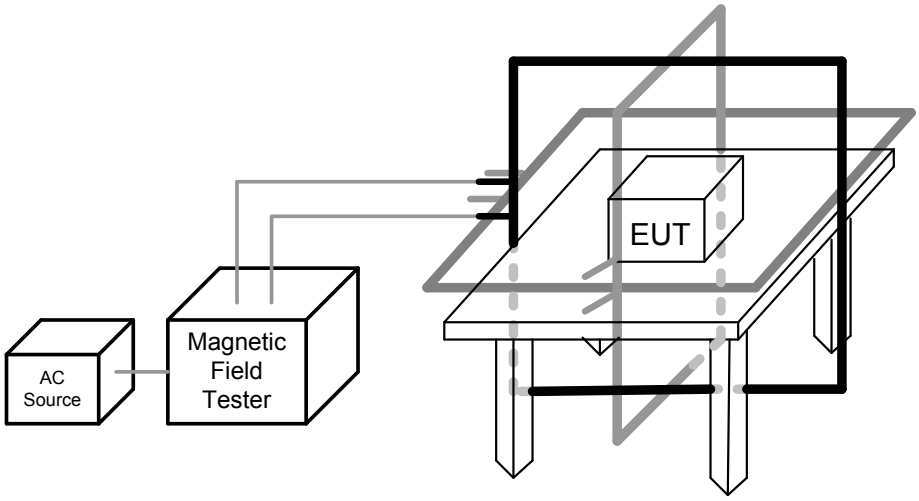
b. The cables supplied or recommended by the equipment manufacturer shall be used. 1 meter of all cables used shall be exposed to the magnetic field.

c. For the actual test configuration, please refer to the related Item –EUT Test Photos.

5.9.4 DEVIATION FROM TEST STANDARD

No deviation

5.9.5 TEST SETUP



Note:

TABLE-TOP EQUIPMENT

The equipment shall be subjected to the test magnetic field by using the induction coil of standard dimension (1 m x 1 m). The induction coil shall then be rotated by 90 degrees in order to expose the EUT to the test field with different orientations.

FLOOR-STANDING EQUIPMENT

The equipment shall be subjected to the test magnetic field by using induction coils of suitable dimensions. The test shall be repeated by moving and shifting the induction coils, in order to test the whole volume of the EUT for each orthogonal direction. The test shall be repeated with the coil shifted to different positions along the side of the EUT, in steps corresponding to 50% of the shortest side of the coil. The induction coil shall then be rotated by 90 degrees in order to expose the EUT to the test field with different orientations.

5.9.6 TEST RESULTS

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	26° C	Relative Humidity :	50 %
Pressure :	1012 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handfree, Handset, Headphone		

50Hz

Test Mode	Test Level	Antenna aspect	Duration (s)	Criteria	Results	Judgment
Enclosure	1 A/m	X	60	**A**	**A**	**PASS**
Enclosure	1 A/m	Y	60	**A**	**A**	**PASS**
Enclosure	1 A/m	Z	60	**A**	**A**	**PASS**

60Hz

Test Mode	Test Level	Antenna aspect	Duration (s)	Criteria	Results	Judgment
Enclosure	1 A/m	X	60	**A**	**A**	**PASS**
Enclosure	1 A/m	Y	60	**A**	**A**	**PASS**
Enclosure	1 A/m	Z	60	**A**	**A**	**PASS**

Note:

1) N/A - denotes test is not applicable in this test report
2) Criteria A: No observation of any performance degradation.
3) Criteria B: Some degradation of performance is observed but the equipment continues to operate as intended.
4) Criteria C: Loss of functionality, but self-recoverable by user, without loss of information or settings.

5.10 VOLTAGE INTERRUPTION/DIPS TESTING

5.10.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-11
Required Performance	B (For >95% Voltage Dips) C (For 30% Voltage Dips) C (For >95% Voltage Interruptions)
Test Duration Time:	Minimum three test events in sequence
Interval between Event:	Minimum ten seconds
Phase Angle:	0°/45°/90°/135°/180°/225°/270°/315°/360°
Test Cycle:	3 times

5.10.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	THE MODULAR SOLUTION FOR 6 KV APPLICATIONS	Teseq	NSG 3060	1423	Aug. 29, 2015
2	Measurement Software	Teseq	Win 3000 Version 1.2.0	N/A	N/A

Remark: “N/A” denotes no model name, serial no. or calibration specified.

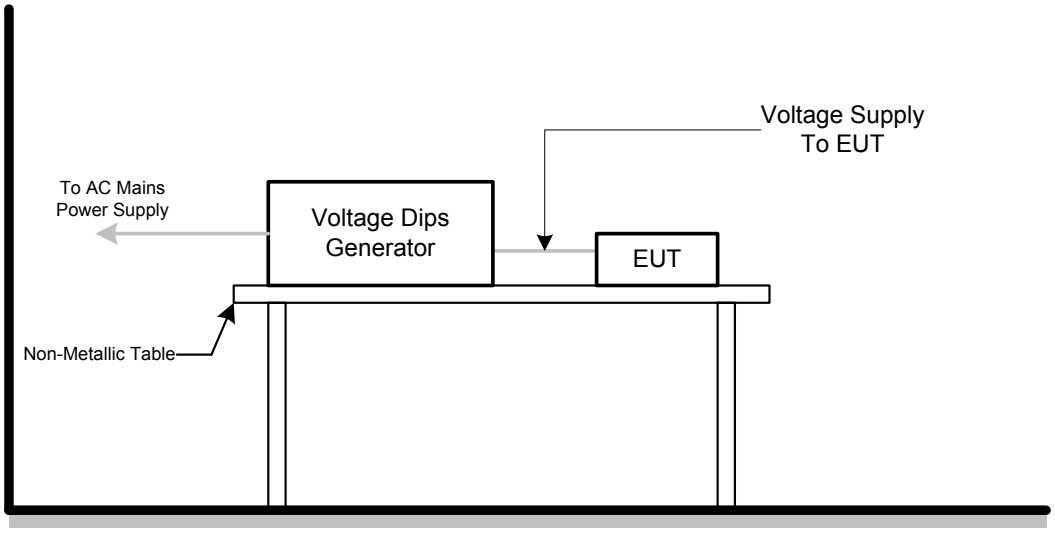
5.10.3 TEST PROCEDURE

The EUT shall be tested for each selected combination of test levels and duration with a sequence of three dips/interruptions with intervals of 10 s minimum (between each test event). Each representative mode of operation shall be tested. Abrupt changes in supply voltage shall occur at zero crossings of the voltage waveform.

5.10.4 DEVIATION FROM TEST STANDARD

No deviation

5.10.5 TEST SETUP



For the actual test configuration, please refer to the related Item –EUT Test Photos.

5.10.6 TEST RESULTS

E.U.T :	IP Phone	Model Name :	X5G
Temperature :	26° C	Relative Humidity :	50 %
Pressure :	1012 hPa	Test Voltage :	AC 230/50Hz
Test Mode :	Handfree, Handset, Headphone		

AC 230V/50Hz				
Voltage Reduction	Periods	Criteria	Results	Judgment
Voltage dip ＞95%	0.5	**B**	**A**	**PASS**
Voltage dip 30%	25	**C**	**A**	**PASS**
Interruption＞95%	250	**C**	**C**	**PASS**

AC 100V/50Hz				
Voltage Reduction	Periods	Criteria	Results	Judgment
Voltage dip ＞95%	0.5	**B**	**A**	**PASS**
Voltage dip 30%	25	**C**	**B**	**PASS**
Interruption＞95%	250	**C**	**C**	**PASS**

AC 240V/50Hz				
Voltage Reduction	Periods	Criteria	Results	Judgment
Voltage dip ＞95%	0.5	**B**	**A**	**PASS**
Voltage dip 30%	25	**C**	**A**	**PASS**
Interruption＞95%	250	**C**	**C**	**PASS**

Note:

1) N/A - denotes test is not applicable in this test report.
2) Criterion A: No observation of any performance degradation.
3) Criterion B: Some degradation of performance is observed but the equipment continues to operate as intended.
4) Criterion C: Loss of functionality, but self-recoverable by user, without loss of information or settings.