RF TEST REPORT

Product Name: Botslab Video Doorbell 2 Pro

Model Name: R811S

FCC ID: 2A22Z-R810

Issued For : Botslab, Inc.

919 North Market Street, Suite 950, Wilmington, New Castle, Delaware, United States of America

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China

Report Number:	LGT25C014RF05
Sample Received Date:	Mar. 06, 2025
Date of Test:	Mar. 11, 2025 ~ Apr. 08, 2025
Date of Issue:	Apr. 09, 2025

TEST REPORT CERTIFICATION

Applicant:	Botslab, Inc.
Address:	919 North Market Street, Suite 950, Wilmington, New Castle, Delaware, United States of America
Manufacturer:	Botslab, Inc.
Address:	919 North Market Street, Suite 950, Wilmington, New Castle, Delaware, United States of America
Product Name:	Botslab Video Doorbell 2 Pro
Trademark:	Botslab
Model Name:	R811S
Sample Status:	Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC Part 15.249, Subpart C ANSI C63.10-2013	PASS

Prepared by:

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Zane Shan
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Approved by:

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Technical Director

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Revision History

Rev.	Issue Date	Contents
00	Apr. 09, 2025	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part 15.249, Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	--
15.249	Radiated Spurious Emission	PASS	--
15.205	Restricted Band Edge Emission	N/A	--
15.249	20dB Bandwidth	N/A	--
15.203	Antenna Requirement	N/A	--

NOTE:

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

(2) All tests are according to ANSI C63.10-2013.

(3) Base on the original report number LGT24G047RF05, the model R811S has the same PCB board and block diagram and operating principle as the certified prototype of the model R810, they differ only in colors of appearance and the battery. From a technical point of view, it still meets the requirements of the standard except for Radiated Spurious Emission below 1GHz and Conducted Emission, and issued the revised report.

1.1 TEST FACTORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China
Accreditation Certificate	A2LA Certificate No.: 6727.01
	FCC Registration No.: 746540
	CAB ID: CN0136

1.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	RF output power, conducted	±0.68dB
2	Unwanted Emissions, conducted	±2.988dB
3	All emissions, radiated 9K-30MHz	±2.84dB
4	All emissions, radiated 30M-1GHz	±4.39dB
5	All emissions, radiated 1G-6GHz	±5.10dB
6	All emissions, radiated>6G	±5.48dB
7	Conducted Emission (9KHz-150KHz)	±2.79dB
8	Conducted Emission (150KHz-30MHz)	±2.80dB

Note: The measurement uncertainty is not included in the test result.

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	Botslab Video Doorbell 2 Pro
Trademark:	Botslab
Model Name:	R811S
Series Model:	N/A
Model Difference:	N/A
Product Description:	Operation Frequency: 5725~5875MHz Modulation Type: CW Antenna Type: PCB Antenna Antenna Gain(dBi): 2
Rating:	Input 1: AC 8-24V Max, 50/60Hz, 100mA Input 2: DC 5V, 2A
Battery:	Rated Capacity: 6400mAh Rated Voltage: 3.7V
Hardware Version:	R811-V3.1
Software Version:	1.05.55-20240831
Connecting I/O Port(s):	Please refer to the Note 1.

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.
2. The antenna information refers to the manufacturer provide report, applicable only to the tested sample identified in the report. Due to the incorrect antenna information, a series of problems such as the accuracy of the test results will be borne by the customer.

2.2 DESCRIPTION OF THE TEST MODES

For conducted test items and radiated spurious emissions
Each of these EUT operation mode(s) or test configuration mode(s) mentioned below was evaluated respectively.

Worst Mode	Description	Modulation
Mode 1	5738MHz	CW
Mode 2	5822MHz	CW

Note:

(1) All above mode has been measurement, only worst data was reported.

(2) We have be tested for all avaiable U.S. voltage and frequency (For 120V,50/60Hz and 240V, 50/60Hz) for which the device is capable of operation, and the worst case of 120V/60Hz is shown in the report.

(3) The battery is fully-charged during the radited and RF conducted test.

For AC Conducted Emission

Test Case	
AC Conducted Emission	Mode 3: Keeping TX

2.3 TEST SOFTWARE AND POWER LEVEL

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

Test software Version	Test program: 5.8G	
Engineering Mode	Mode Or Modulation type	Power setting
	CW	default

2.4 DESCRIPTION OF NECESSARY ACCESSORIES AND 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.

Accessories Equipment

Description	Manufacturer	Model	S/N	Rating

Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
Laptop	Lenovo	HKF-16	N/A	N/A
Adapter	Tenpao	S005CAU0500100	N/A	Input: 100-240V ~ 50/60Hz 0.2A Output: 5V, 1A

Note:

(1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

(2) “YES” is means “with core”; “NO” is means “without core”.

2.5 EQUIPMENTS LIST

Conducted Emission					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
EMI Test Receiver	R&S	ESU8	100372	2025.03.06	2026.03.05
LISN	COM-POWER	LI-115	02032	2025.03.05	2026.03.04
LISN	SCHWARZBECK	NNLK 8122	00160	2025.03.05	2026.03.04
Transient Limiter	CYBERTEK	EM5010A	E2250100049	2025.03.05	2026.03.04
Coaxial cables (9kHz-30MHz)	Juncoax	JMR600-NMNM-2M	N.A	2025.03.06	2026.03.05
Temperature & Humidity	JINGCHUANG	BT-3	N.A	2025.03.10	2026.03.09
Testing Software	EMC-I_V1.4.0.3_SKET				

Radiated Test equipment					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
EMI Test Receiver	R&S	ESU8	100372	2025.03.06	2026.03.05
Active loop Antenna	ETS	6502	00049544	2025.03.11	2028.03.10
Spectrum Analyzer	Keysight	N9010B	MY60242508	2025.03.05	2026.03.04
Trilog Broadband Antenna (30M-1G)	SCHWARZBECK	VULB 9168	2705	2024.05.17	2027.05.16
Horn Antenna(1-18G)	SCHWARZBECK	3115	10SL0060	2025.03.10	2028.03.09
Horn Antenna(18-40G)	SCHWARZBECK	BBHA 9170	685	2023.10.23	2026.10.22
Pre-amplifier(30M-1G)	EMtrace	RP01A	02019	2025.03.06	2026.03.05
Pre-amplifier(1-26.5G)	Agilent	8449B	3008A4722	2025.03.06	2026.03.05
Pre-amplifier(18-40G)	SCHWARZBECK	BBV 9721	9721-019	2024.10.21	2025.10.20
Coaxial cables (9kHz-1GHz)	Juncoax	JMR600-NMNM-8M	N.A	2025.03.06	2026.03.05
Coaxial cables (1GHz-18GHz)	TaiHe	UCD460B-NMSM-1M9	N.A	2025.03.06	2026.03.05
Coaxial cables (18GHz-40GHz)	Junkosha Inc.	MWX241-05000KMSKMS	N.A	2025.03.08	2026.03.07
Temperature& Humidity test chamber	AISRY	LX-1000L	171200018	2024.08.05	2025.08.04
Antenna Tower	SAEMC	BK-4AT-BS-D	SK2021093008	N.A	N.A
Temperature & Humidity	JINGCHUANG	BT-3	N.A	2025.03.10	2026.03.09
Testing Software	EMC-I_V1.4.0.3_SKET				

RF Conducted Test equipment					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
Signal Analyzer	Keysight	N9010B	MY60242508	2025.03.05	2026.03.04
Signal Analyzer	Keysight	N9020A	MY50530994	2025.03.05	2026.03.04
Power Sensor	R&S	NRP8S	149.0006K02-104963-Ae	2025.03.06	2026.03.05
RF Automatic Test system	MW	MW100-RFCB	MW220324LG-33	2025.03.06	2026.03.05
MXG Vector Signal Generator	Keysight	N5182B	MY59100717	2025.03.05	2026.03.04
Temperature& Humidity test chamber	AISRY	LX-1000L	171200018	2024.08.05	2025.08.04
Attenuator	eastsheep	90db	N.A	2025.03.06	2026.03.05
Temperature & Humidity	JINGCHUANG	BT-3	N.A	2025.03.10	2026.03.09
Digital multimeter	MASTECH	MS8261	MBGBC83053	2025.03.05	2026.03.04
DC source	Jiuyuan	QJ6010E	N.A	2025.03.09	2026.03.08
Testing Software	MTS8310_V2.0.0.0_MW				

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table.

FREQUENCY (MHz)	Conducted Emission limit (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	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.

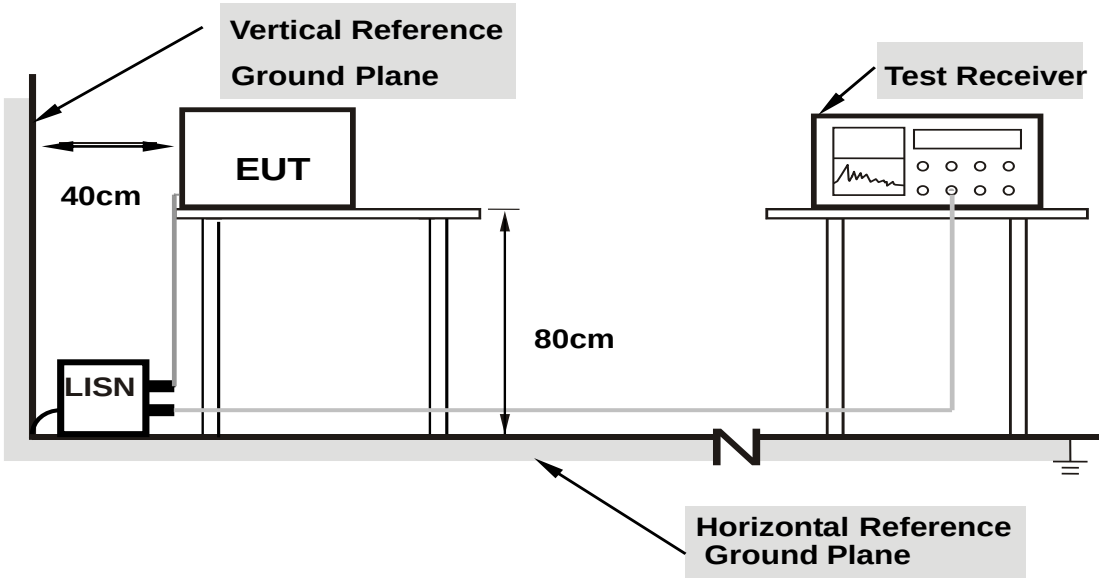
The following table is the setting of the receiver

Receiver Parameters	**Setting**
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.2 TEST PROCEDURE

a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 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 is at least 80 cm from the nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.3 TEST SETUP



Note: 1. Support units were connected to second LISN.

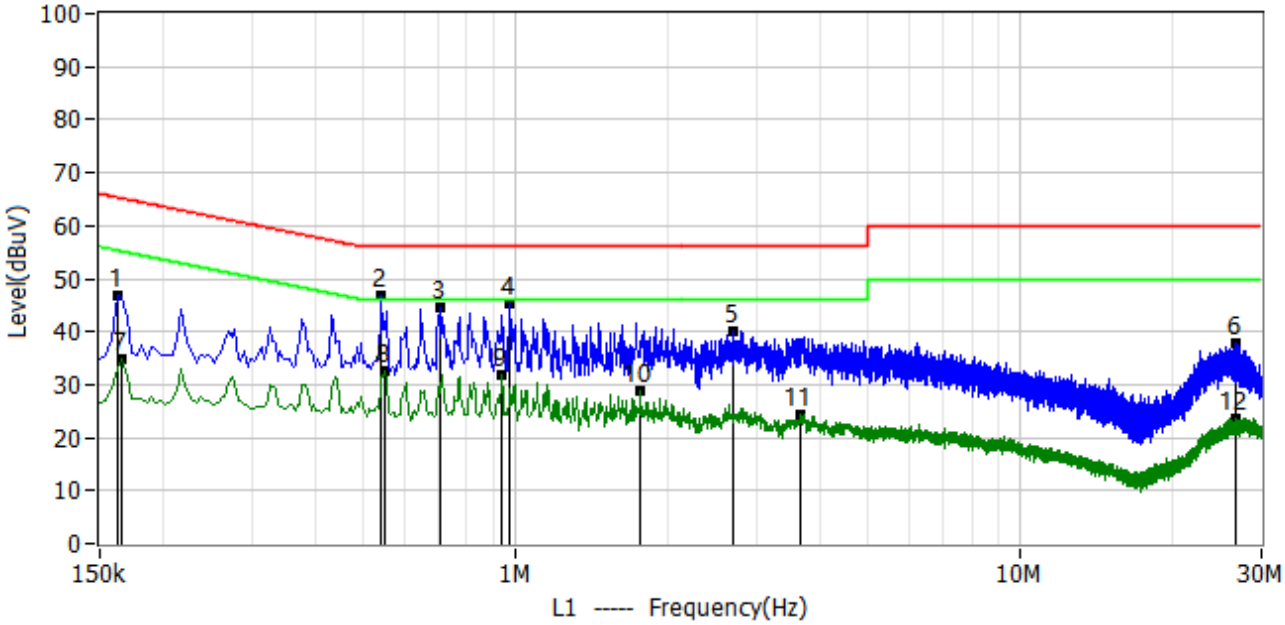
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

3.4 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

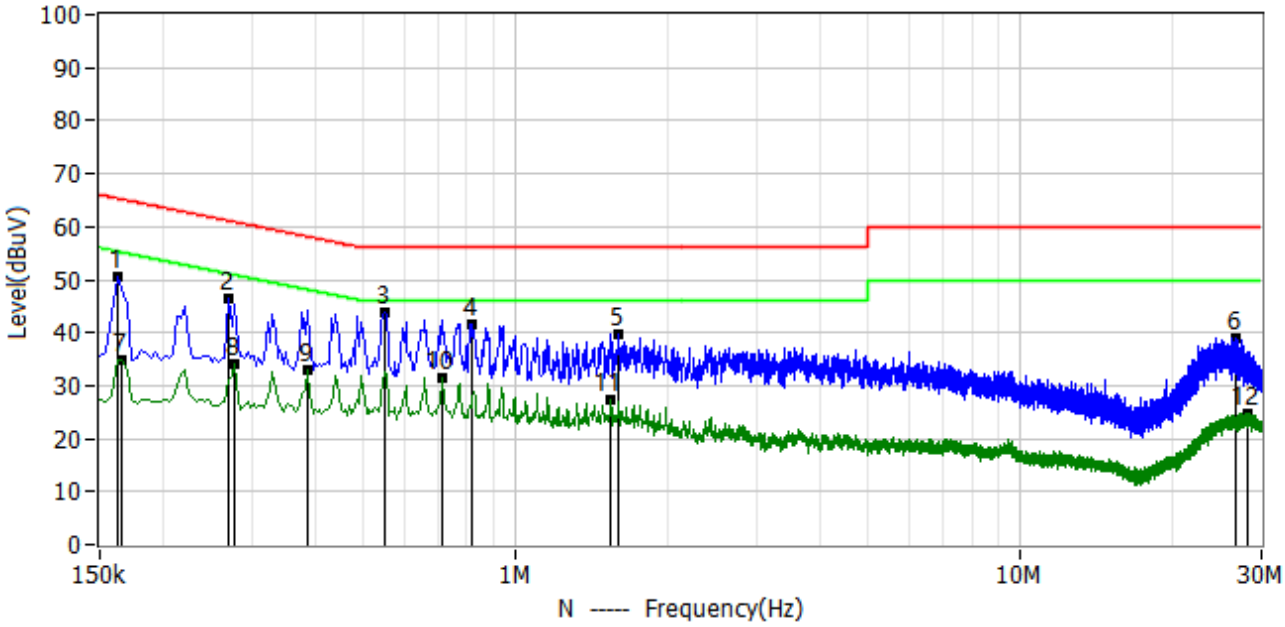
3.5 TEST RESULTS

Project: LGT25C014	Test Engineer: LiuH
EUT: Botslab Video Doorbell 2 Pro	Temperature: 24.5℃
M/N: R811S	Humidity: 66%RH
Test Voltage: AC 120V/60Hz	Test Data: 2025-03-15
Test Mode: TX 5738MHz	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	0.162	36.30	10.34	46.64	65.36	-18.72	QP	L1
2*	0.542	36.52	10.35	46.87	56.00	-9.13	QP	L1
3*	0.706	34.34	10.35	44.69	56.00	-11.31	QP	L1
4*	0.974	34.97	10.36	45.33	56.00	-10.67	QP	L1
5*	2.702	29.47	10.56	40.03	56.00	-15.97	QP	L1
6*	26.762	26.77	10.89	37.66	60.00	-22.34	QP	L1
7*	0.166	24.51	10.34	34.85	55.16	-20.31	AV	L1
8*	0.550	22.17	10.35	32.52	46.00	-13.48	AV	L1
9*	0.938	21.57	10.36	31.93	46.00	-14.07	AV	L1
10*	1.766	18.20	10.51	28.71	46.00	-17.29	AV	L1
11*	3.666	13.68	10.57	24.25	46.00	-21.75	AV	L1
12*	26.662	12.76	10.89	23.65	50.00	-26.35	AV	L1

Project: LGT25C014	Test Engineer: LiuH
EUT: Botslab Video Doorbell 2 Pro	Temperature: 24.5℃
M/N: R811S	Humidity: 66%RH
Test Voltage: AC 120V/60Hz	Test Data: 2025-03-15
Test Mode: TX 5738MHz	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	0.162	40.05	10.44	50.49	65.36	-14.87	QP	N
2*	0.270	35.92	10.44	46.36	61.12	-14.76	QP	N
3*	0.550	33.21	10.45	43.66	56.00	-12.34	QP	N
4*	0.822	31.28	10.46	41.74	56.00	-14.26	QP	N
5*	1.598	29.30	10.57	39.87	56.00	-16.13	QP	N
6*	26.690	28.20	10.81	39.01	60.00	-20.99	QP	N
7*	0.166	24.49	10.44	34.93	55.16	-20.23	AV	N
8*	0.278	23.61	10.44	34.05	50.88	-16.83	AV	N
9*	0.386	22.60	10.45	33.05	48.15	-15.10	AV	N
10*	0.718	21.14	10.45	31.59	46.00	-14.41	AV	N
11*	1.542	16.78	10.56	27.34	46.00	-18.66	AV	N
12*	28.038	13.79	11.01	24.80	50.00	-25.20	AV	N

4. RADIATED EMISSION MEASUREMENT

4.1 RADIATED EMISSION LIMITS

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on Part 15.249, Part 15.209(a) limit in the table below has to be followed.

Standard FCC 15.209

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3
Above 1000	Other:74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	3

Standard FCC 15.249

Frequency of Emission (MHz)	**Field Strength of fundamental (millivolts /meter)**	**Field Strength of Harmonics (microvolts/meter)**
900~928	50	500
2400~2483.5	50	500
5725~5875	50	500
24000~242500	250	2500

Notes:

(1) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Spectrum Parameter	Setting
Detector	Peak/AV
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB (emission in restricted band)	>20BW
VB (emission in restricted band)	=3xRB

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
	90kHz~110kHz / RB 200Hz for QP
	110kHz~490kHz / RB 200Hz for PK & AV
	490kHz~30MHz / RB 9kHz for QP
	30MHz~1000MHz / RB 120kHz for QP

4.2 TEST PROCEDURE

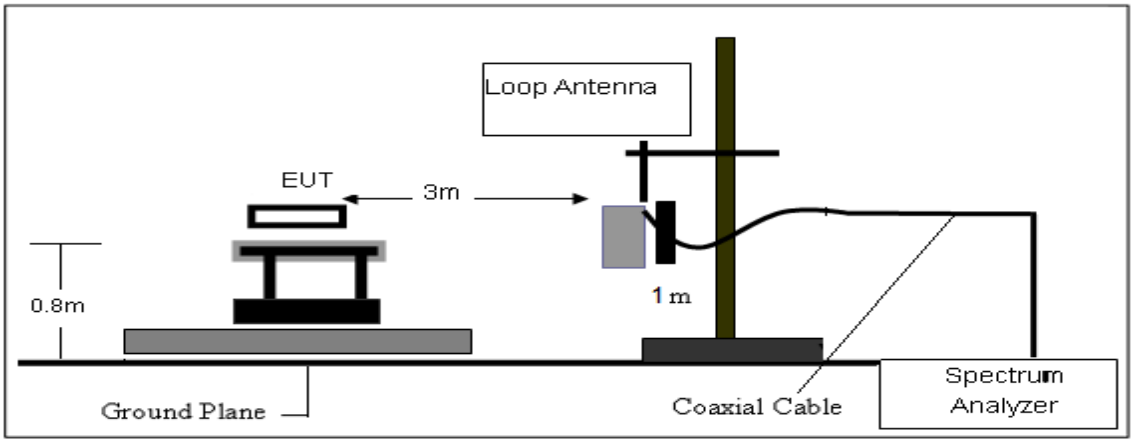
a. The measuring distance at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
b. The EUT was placed on the top of a rotating table 0.8 m (above 1GHz is 1.5 m) above the ground at a 3 m anechoic chamber test site. The table was rotated 360 degree to determine the position of the highest radiation.
c. The height of the equipment shall be 0.8 m(above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. Horizontal and vertical polarization of the antenna are set to make the measurement.
d. 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 QuasiPeak detector mode will be re-measured.
e. If the Peak Mode measured value is compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and no additional QP Mode measurement was performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

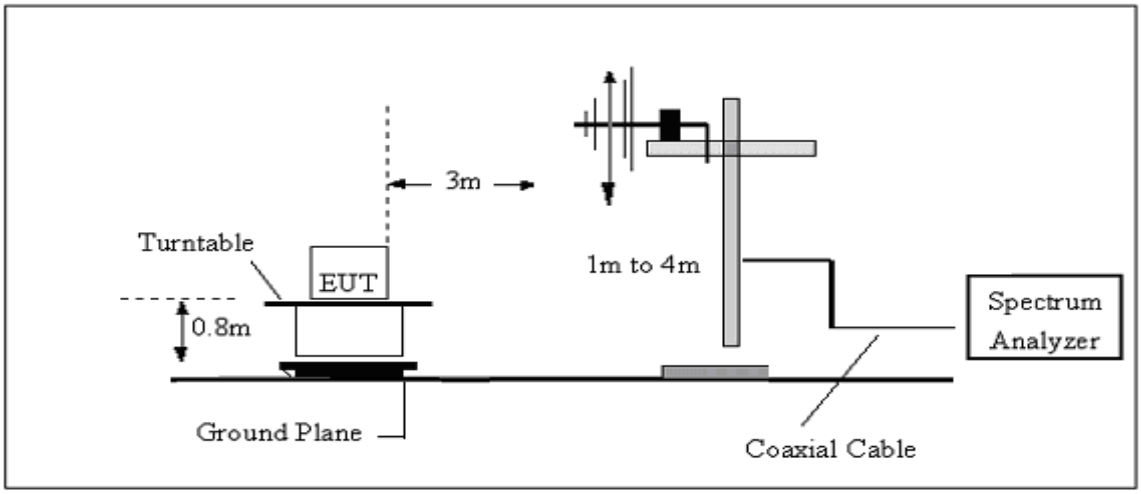
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

4.3 TEST SETUP

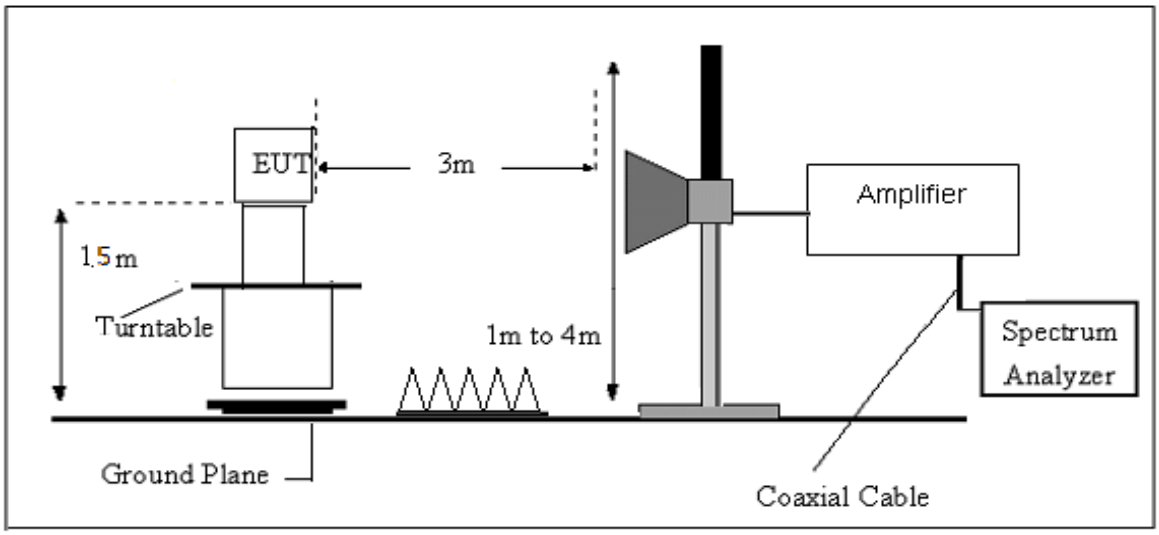
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



4.4 EUT OPERATING CONDITIONS

Please refer to section 3.4 of this report.

4.5 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

Where

FS = Field Strength

CL = Cable Attenuation Factor (Cable Loss)

RA = Reading Amplitude

AG = Amplifier Gain

AF = Antenna Factor

For example

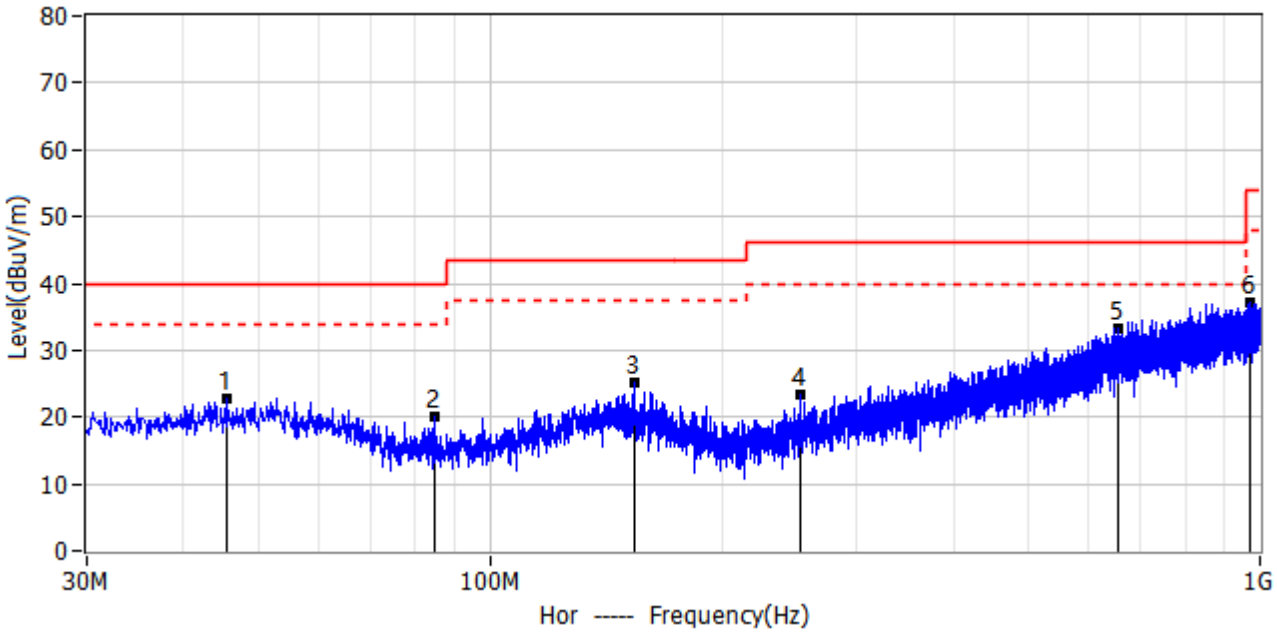
Frequency	FS	RA	AF	CL	AG	Factor
(MHz)	(dBμV/m)	(dBμV/m)	(dB)	(dB)	(dB)	(dB)
300	40	58.1	12.2	1.6	31.9	-18.1

Factor=AF+CL-AG

4.6 TEST RESULTS

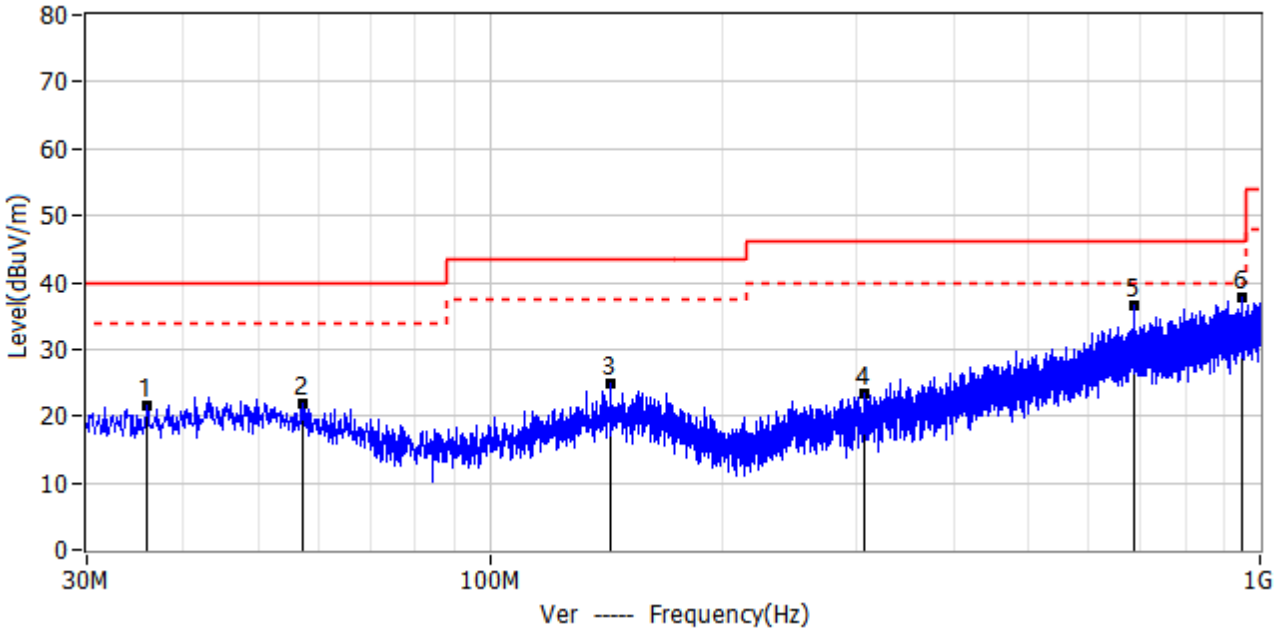
Note: All the modes have been tested, found worst case at TX 5738MHz, recorded the worst case results in this report.

Project: LGT25C014	Test Engineer: LiuH
EUT: Botslab Video Doorbell 2 Pro	Temperature: 24.5℃
M/N: R811S	Humidity: 66%RH
Test Voltage: Battery	Test Data: 2025-03-15
Test Mode: TX 5738MHz	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	45.520	2.49	20.42	22.91	40.00	-17.09	QP	Hor
2*	84.805	3.89	16.21	20.10	40.00	-19.90	QP	Hor
3*	153.918	3.62	21.62	25.24	43.50	-18.26	QP	Hor
4*	252.979	3.35	19.90	23.25	46.00	-22.75	QP	Hor
5*	652.619	3.63	29.66	33.29	46.00	-12.71	QP	Hor
6*	972.355	3.62	33.63	37.25	54.00	-16.75	QP	Hor

Project: LGT25C014	Test Engineer: LiuH
EUT: Botslab Video Doorbell 2 Pro	Temperature: 24.5℃
M/N: R811S	Humidity: 66%RH
Test Voltage: Battery	Test Data: 2025-03-15
Test Mode: TX 5738MHz	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	35.820	1.79	19.84	21.63	40.00	-18.37	QP	Ver
2*	57.039	1.93	20.00	21.93	40.00	-18.07	QP	Ver
3*	143.733	3.60	21.29	24.89	43.50	-18.61	QP	Ver
4*	306.208	1.93	21.53	23.46	46.00	-22.54	QP	Ver
5*	687.539	6.43	30.09	36.52	46.00	-9.48	QP	Ver
6*	945.923	4.09	33.64	37.73	46.00	-8.27	QP	Ver

APPENDIX I - PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS

Note: Please see the attached R811S_EUT Photos.

※※※※※END OF THE REPORT※※※※※