FCC Part 15.231

TEST REPORT

For

Hangzhou Meari Technology Co., Ltd.

Room 604-605, Building 1,No.768 Jianghong Road, Changhe street, Binjiang District, Hangzhou, Zhejiang, China

FCC ID: 2AG7C-BELL19T

Report Type:	**Product Type:**
Original Report	Wireless DoorBell

Report Producer : Nana Hsu

Report Number : RXZ211227005RF01

Report Date : 2022-04-14

Reviewed By: Andy Shih

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Revision History

Revision	No.	Report Number	Issue Date	Description	Author/ Revised by
0.0	RXZ211227005	RXZ211227005RF01	2022-04-14	Original Report	Nana Hsu

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1 General Information

1.1 Product Description for Equipment under Test (EUT)

Applicant	Hangzhou Meari Technology Co., Ltd.
	Room 604-605, Building 1,No.768 Jianghong Road, Changhe street, Binjiang District, Hangzhou, Zhejiang, China
Manufacturer	Hangzhou Meari Technology Co., Ltd.
	Room 604-605, Building 1,No.768 Jianghong Road, Changhe street, Binjiang District, Hangzhou, Zhejiang, China
Brand(Trade) Name	N/A
Product (Equipment)	Wireless DoorBell
Main Model Name	Bell 19S
Series Model Name	Bell 19T, Bell 19Q, Bell 19X
Model Discrepancy	The major electrical and mechanical constructions of series models are identical to the basic model, except different model name. The model, Bell 19S is the testing sample, and the final test data are shown on this test report.
Frequency Range	433.9 MHz
Modulation Type	OOK
Number of Channels	1 Channel
Antenna Specification	FPC Antenna / 2 dBi
Power Operation (Voltage Range)	DC 5V/1A from adapter ; battery (4800mAh) adapter 1: Model: GTA92-0501000US adapter 2: Model: TPA-46B050100UU
Received Date	Dec 27, 2021
Date of Test	Jan 20, 2022 ~ Apr 12, 2022

*All measurement and test data in this report was gathered from production sample serial number: RXZ211227005-3 (Assigned by BACL, New Taipei Laboratory).

1.2 Objective

This report is prepared on behalf of *Hangzhou Meari Technology Co., Ltd.* all the test measurements were performed according to the measurement procedure described in ANSI C63.10 - 2013.

1.3 Related Submittal(s)/Grant(s)

FCC Part 15.247 DTS submission with FCC ID: 2AG7C-BELL19T

1.4 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

1.5 Statement

Decision Rule: No, (The test results do not include MU judgment)

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
The determination of the test results does not require consideration of the uncertainty of the measurement, unless the assessment is required by customer agreement, regulation or standard document specification.
Bay Area Compliance Laboratories Corp. (New Taipei Laboratory) is not responsible for the authenticity of the information provided by the applicant that affects the test results.

1.6 Measurement Uncertainty

Parameter		Uncertainty
AC Mains		+/- 2.36 dB
Emissions Bandwidth		+/- 0.35 MHz
Unwanted Emissions, conducted		+/- 1.69 dBm
Emissions, radiated	30 MHz~1GHz	+/- 5.22 dB
	1 GHz~18 GHz	+/- 6.12 dB
Temperature		+/- 1.27 °C
Humidity		+/- 3 %

1.7 Environmental Conditions

Test Site	Test Date	Temperature (℃)	Relative Humidity (%)	ATM Pressure (hPa)	Test Engineer
AC Line Conducted Emissions	2022/1/20	22.6	63	1010	Boris Kao
Radiation Spurious Emissions	2022/4/12	21.1	70	1010	Aaron Pan
Deactivation Test	2022/3/16	25	46	1010	Boris Kao
Emissions Bandwidth	2022/3/16	25	46	1010	Boris Kao

1.8 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (New Taipei Laboratory) to collect test data is located on

☒70, Lane 169, Sec. 2, Datong Road, Xizhi Dist., New Taipei City 22183, Taiwan, R.O.C.

Bay Area Compliance Laboratories Corp. (New Taipei Laboratory) Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3732) and the FCC designation No.TW3732 under the Mutual Recognition Agreement (MRA) in FCC Test.

2 System Test Configuration

2.1 Description of Test Configuration

Channel list:

Channel	Frequency (MHz)
1	433.9

2.2 Equipment Modifications

No modification was made to the EUT.

2.3 EUT Exercise Software

No test software was used

2.4 Test Mode

Pre-scan

AC Line Conducted Emissions and Radiated Spurious Emissions

Model 1: Bell 19S + Adapter (GTA92-0501000US)

Model 2: Bell 19S + Adapter (TPA-46B050100UU)

Worst case is the Mode 2: Bell 19S + Adapter (TPA-46B050100UU)

Model 2: Bell 19S + Adapter (TPA-46B050100UU) for all test item.

Model 1: Bell 19S + Adapter (GTA92-0501000US) test AC Line Conducted Emissions and Below 1GHz Radiated Spurious Emissions.

2.5 Support Equipment List and Details

Description	Manufacturer	Model Number	S/N
NB	DELL	E6410	8N7PXN1
Adapter	GPO	GTA92-0501000US	N/A
Adapter	SZTY	TPA-46B050100UU	N/A

2.6 External Cable List and Details

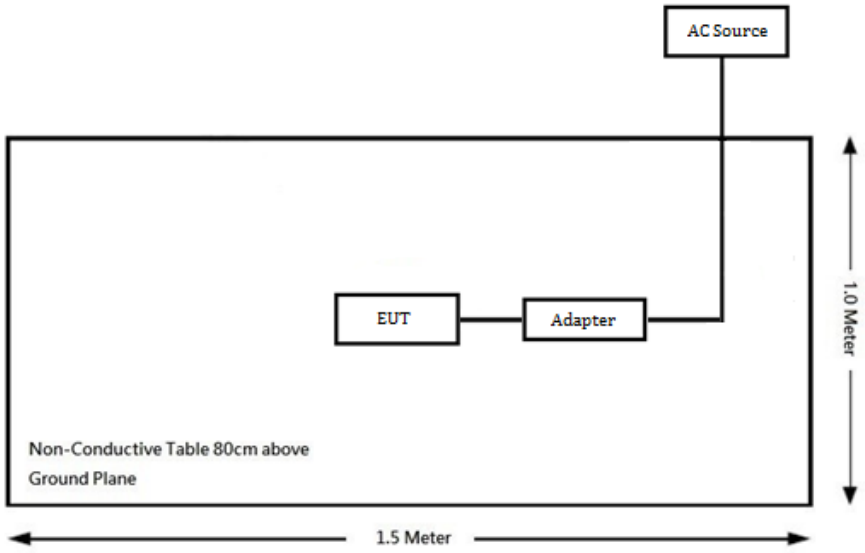
Cable Description	Length (m)	From	To
Micro USB Cable	1m	EUT	Adapter

2.7 Block Diagram of Test Setup

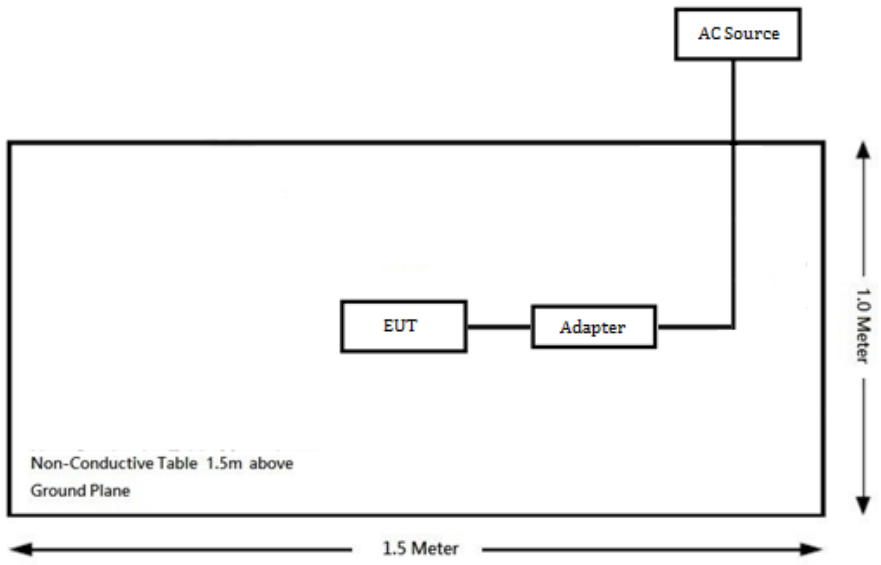
See test photographs attached in setup photos for the actual connections between EUT and support equipment.

Radiation:

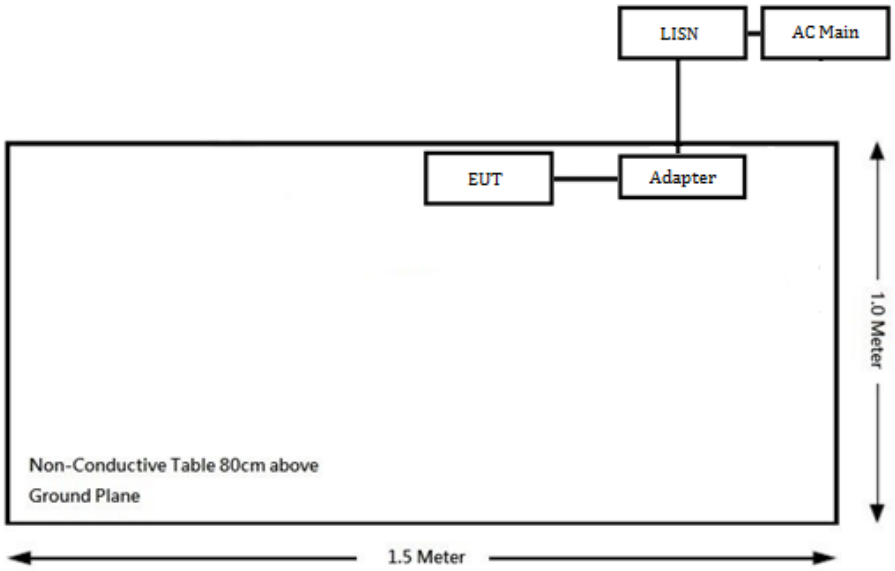
Below 1GHz:



Above 1GHz:



Conduction:


LISN
AC Main
EUT
Adapter
1.0 Meter
Non-Conductive Table 80cm above
Ground Plane
1.5 Meter

3 Summary of Test Results

FCC Rules	Description of Test	Results
§15.203	Antenna Requirement	Compliance
§15.207(a)	Conducted Emissions	Compliance
§15.205, §15.209, §15.231(b)	Radiated Emissions	Compliance
§15.231(a)(1)	Deactivation Test	Compliance
§15.231(c)	20dB Emission Bandwidth	Compliance

4 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
AC Line Conduction Room (CON-A)					
LISN	Rohde & Schwarz	ENV216	101612	2022/1/14	2023/1/13
EMI Test Receiver	Rohde & Schwarz	ESW8	100947	2021/7/23	2022/7/22
Pulse Limiter	Rohde & Schwarz	ESH3Z2	TXZEM104	2021/7/29	2022/7/28
RF Cable	EMEC	EM-CB5D	1	2021/6/11	2022/6/10
Software	AUDIX	E3	V9.150826k	N.C.R	N.C.R
Radiated Room (966-A)					
Bilog Antenna with 6 dB Attenuator	SUNOL SCIENCES & EMEC	JB6/UNAT-6+	A050115/15542_01	2022/02/14	2023/02/13
Horn Antenna	EMCO	SAS-571	1020	2021/4/23	2022/4/22
Preamplifier	Sonoma	310N	130602	2021/6/8	2022/6/7
Preamplifier	A.H. system Inc.	PAM-0118P	466	2021/11/4	2022/11/3
Spectrum Analyzer	Rohde & Schwarz	FSV40	101435	2022/1/13	2023/1/12
EMI Test Receiver	Rohde & Schwarz	ESR7	101419	2021/11/9	2022/11/8
Micro flex Cable	UTIFLEX	UFB197C-1-2362-70U-70U	225757-001	2022/1/24	2023/1/23
Coaxial Cable	COMMATE	PEWC	8Dr	2021/12/24	2022/12/23
Coaxial Cable	UTIFLEX	UFB311A-Q-1440-300300	220490-006	2022/1/24	2023/1/23
Coaxial Cable	JUNFLON	J12J102248-00-B-5	AUG-07-15-044	2021/12/24	2022/12/23
Cable	EMC	EMC105-SM-SM-10000	201003	2022/1/24	2023/1/23
Software	Farad	EZ_EMC	BACL-03A1	N.C.R	N.C.R
Conducted Room					
Spectrum Analyzer	Rohde & Schwarz	FSV40	101204	2021/6/10	2022/6/9
Cable	UTIFLEX	UFA210A	9435	2021/10/5	2022/10/4

***Statement of Traceability:** BACL Corp. attests that all of the calibrations on the equipment items listed above*

were traceable to the SI System of Units via the R.O.C. Center for Measurement Standards of the Electronics Testing Center, Taiwan (ETC) or to another internationally recognized National Metrology Institute (NMI), and were compliant with the current Taiwan Accreditation Foundation (TAF) requirements

5 FCC §15.203 – Antenna Requirements

3.1 Applicable Standard

An intentional radiator shall be designed to ensure that no antenna other than that furnished by theresponsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

3.2 Antenna Connected Construction

The EUT has one internal antenna arrangement for SRD and the antenna gain is 2 dBi; fulfill the requirement of this section. Please refer to EUT photos.

Result: Compliant.

4 FCC §15.207(a) – AC Line Conducted Emissions

4.1 Applicable Standard

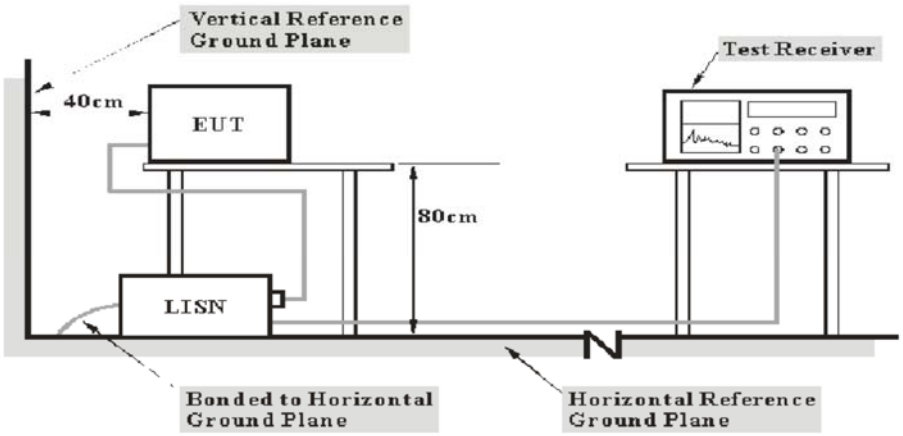
According to §15.207

For an intentional radiator that is designed to be connected to the public utility (AC) power line, 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, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequencies ranges.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56 Note 1	56 to 46 Note 1
0.5-5	56	46
5-30	60	50

Note 1: Decreases with the logarithm of the frequency.

4.2 EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

4.3 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150kHz to 30MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations

Frequency Range	IF B/W
150kHz – 30MHz	9kHz

4.4 Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

4.5 Corrected Factor & Margin Calculation

The factor is calculated by adding LISN/ISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Factor = LISN VDF + Cable Loss + Transient Limiter Attenuation

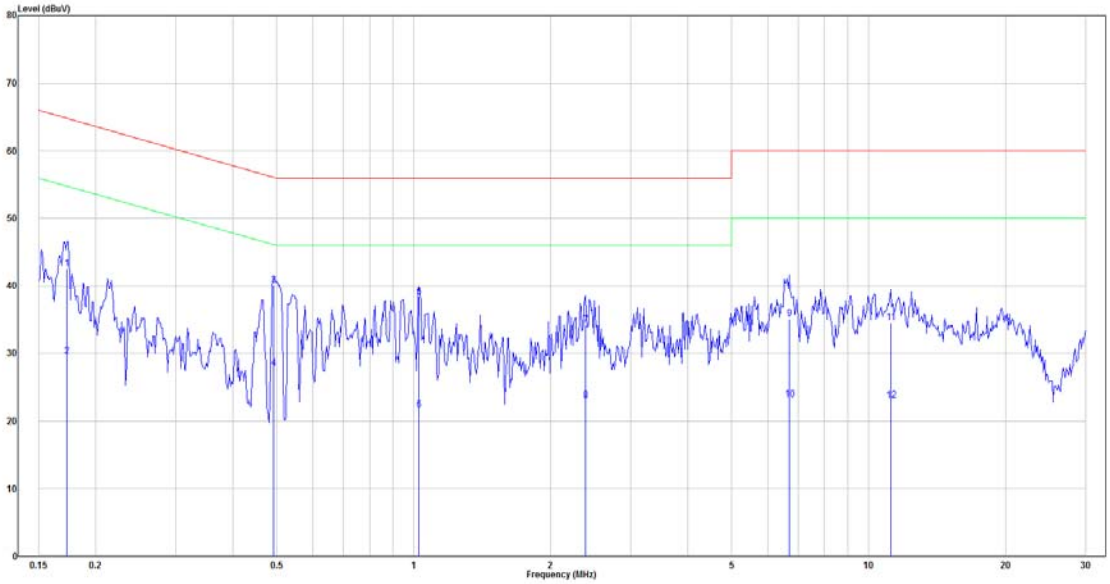
The “Over Limit” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an over limit of -7 dB means the emission is 7 dB below the limit. The equation for Over Limit calculation is as follows:

Over Limit = Level – Limit Line

4.6 Test Results

Adapter: GTA92-0501000US

Main: AC120 V, 60 Hz, Line



No.	Frequency	Reading	Correct	Result	Limit	Over limit	Remark
	(MHz)	(dBuV)	Factor(dB)	(dBuV)	(dBuV)	(dB)	
1	0.173	23.02	19.50	42.52	64.81	-22.29	QP
2	0.173	9.92	19.50	29.42	54.81	-25.39	Average
3	0.491	20.64	19.52	40.16	56.14	-15.98	QP
4	0.491	8.18	19.52	27.70	46.14	-18.44	Average
5	1.027	18.71	19.54	38.25	56.00	-17.75	QP
6	1.027	2.13	19.54	21.67	46.00	-24.33	Average
7	2.384	14.50	19.59	34.09	56.00	-21.91	QP
8	2.384	3.36	19.59	22.95	46.00	-23.05	Average
9	6.698	15.35	19.69	35.04	60.00	-24.96	QP
10	6.698	3.43	19.69	23.12	50.00	-26.88	Average
11	11.198	14.72	19.76	34.48	60.00	-25.52	QP
12	11.198	3.29	19.76	23.05	50.00	-26.95	Average

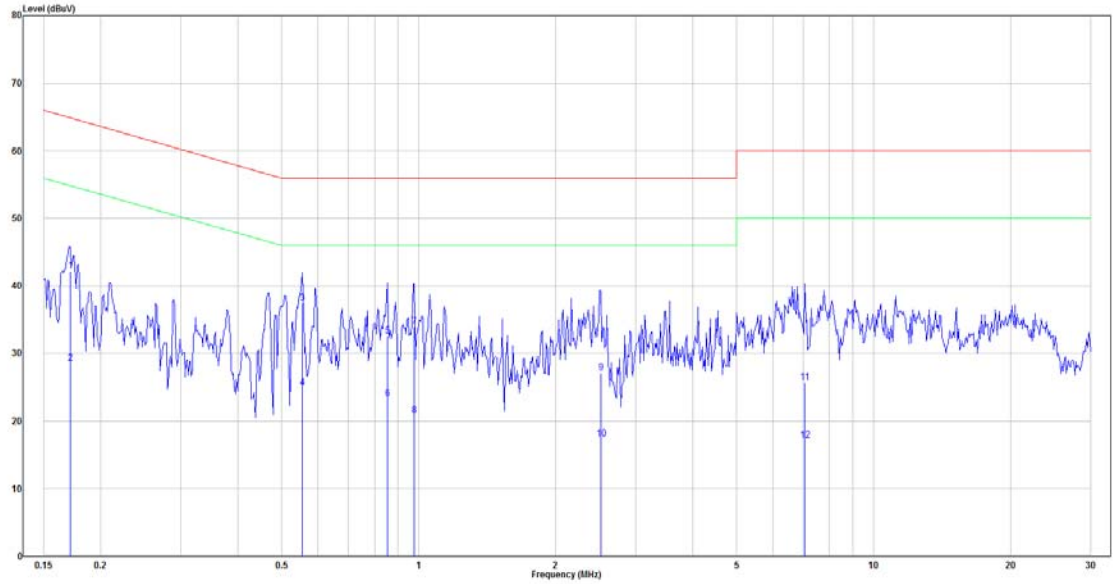
Note:

Level = Read Level + Factor

Over Limit = Level – Limit Line

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss + Attenuator

Main: AC120 V, 60 Hz, Neutral



No.	Frequency	Reading	Correct	Result	Limit	Over limit	Remark
	(MHz)	(dBuV)	Factor(dB)	(dBuV)	(dBuV)	(dB)	
1	0.171	22.68	19.50	42.18	64.90	-22.72	QP
2	0.171	8.94	19.50	28.44	54.90	-26.46	Average
3	0.555	17.79	19.52	37.31	56.00	-18.69	QP
4	0.555	5.35	19.52	24.87	46.00	-21.13	Average
5	0.853	12.96	19.53	32.49	56.00	-23.51	QP
6	0.853	3.66	19.53	23.19	46.00	-22.81	Average
7	0.979	14.30	19.53	33.83	56.00	-22.17	QP
8	0.979	1.34	19.53	20.87	46.00	-25.13	Average
9	2.513	7.52	19.59	27.11	56.00	-28.89	QP
10	2.513	-2.27	19.59	17.32	46.00	-28.68	Average
11	7.062	6.00	19.70	25.70	60.00	-34.30	QP
12	7.062	-2.63	19.70	17.07	50.00	-32.93	Average

Note:

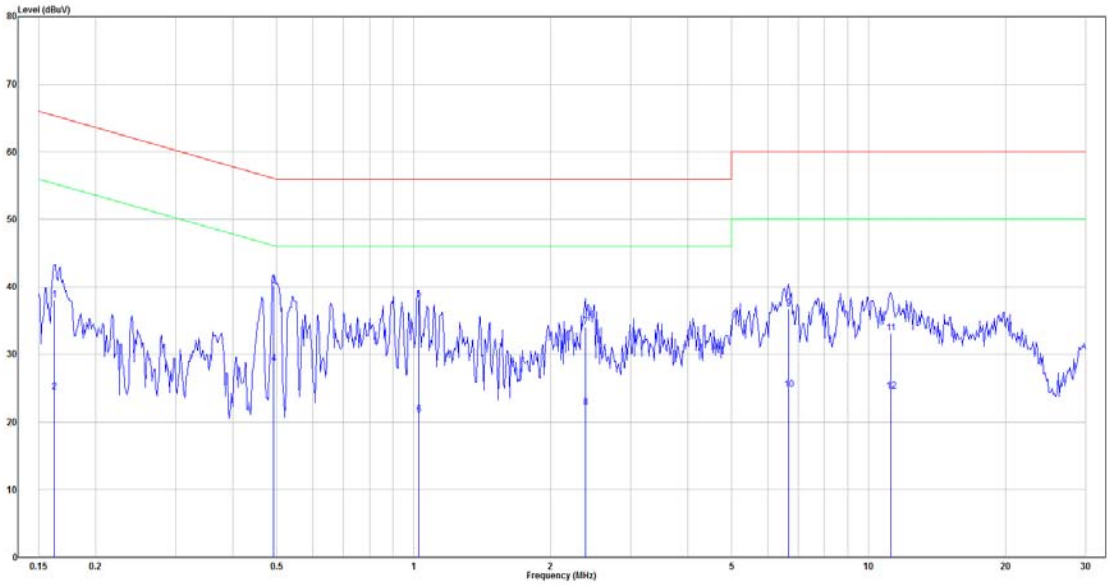
Level = Read Level + Factor

Over Limit = Level – Limit Line

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss + Attenuator

Adapter: TPA-46B050100UU

Main: AC120 V, 60 Hz, Line



No.	Frequency	Reading	Correct	Result	Limit	Over limit	Remark
	(MHz)	(dBuV)	Factor(dB)	(dBuV)	(dBuV)	(dB)	
1	0.162	18.46	19.50	37.96	65.34	-27.38	QP
2	0.162	4.86	19.50	24.36	55.34	-30.98	Average
3	0.491	20.71	19.52	40.23	56.14	-15.91	QP
4	0.491	9.00	19.52	28.52	46.14	-17.62	Average
5	1.027	18.50	19.54	38.04	56.00	-17.96	QP
6	1.027	1.54	19.54	21.08	46.00	-24.92	Average
7	2.384	14.43	19.59	34.02	56.00	-21.98	QP
8	2.384	2.47	19.59	22.06	46.00	-23.94	Average
9	6.662	17.00	19.69	36.69	60.00	-23.31	QP
10	6.662	5.06	19.69	24.75	50.00	-25.25	Average
11	11.198	13.28	19.76	33.04	60.00	-26.96	QP
12	11.198	4.77	19.76	24.53	50.00	-25.47	Average

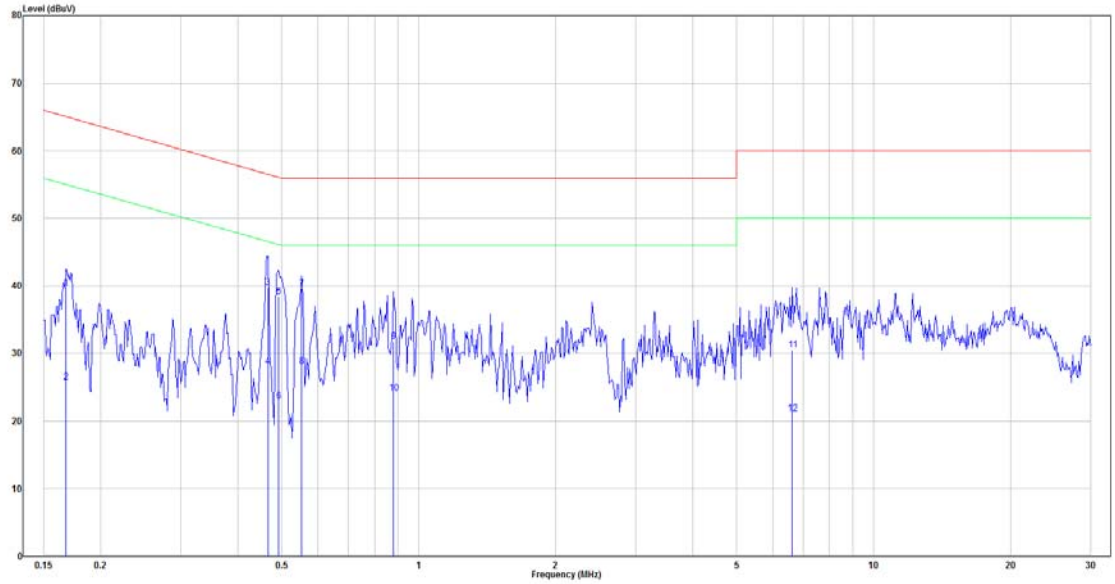
Note:

Level = Read Level + Factor

Over Limit = Level – Limit Line

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss + Attenuator

Main: AC120 V, 60 Hz, Neutral



No.	Frequency	Reading	Correct	Result	Limit	Over limit	Remark
	(MHz)	(dBuV)	Factor(dB)	(dBuV)	(dBuV)	(dB)	
1	0.168	20.19	19.50	39.69	65.08	-25.39	QP
2	0.168	6.19	19.50	25.69	55.08	-29.39	Average
3	0.466	20.20	19.52	39.72	56.58	-16.86	QP
4	0.466	8.49	19.52	28.01	46.58	-18.57	Average
5	0.491	18.78	19.52	38.30	56.14	-17.84	QP
6	0.491	3.39	19.52	22.91	46.14	-23.23	Average
7	0.552	19.97	19.52	39.49	56.00	-16.51	QP
8	0.552	8.44	19.52	27.96	46.00	-18.04	Average
9	0.880	12.15	19.53	31.68	56.00	-24.32	QP
10	0.880	4.50	19.53	24.03	46.00	-21.97	Average
11	6.627	10.74	19.70	30.44	60.00	-29.56	QP
12	6.627	1.40	19.70	21.10	50.00	-28.90	Average

Note:

Level = Read Level + Factor

Over Limit = Level – Limit Line

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss + Attenuator

7 FCC §15.209, §15.205 , §15.231(b) – Radiated Emissions

8.1 Applicable Standard

FCC §15.205, §15.209, §15.231 (b)

According to FCC §15.231(b), the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emission (microvolts/meter)
40.66 – 40.70	2250	225
70 – 130	1250	125
130 – 174	1250 to 3750 **	125 to 375 **
174 – 260	3750	375
160 – 470	3750 to 12500 **	375 to 1250 **
Above 470	12500	1250

**: Linear interpolations.

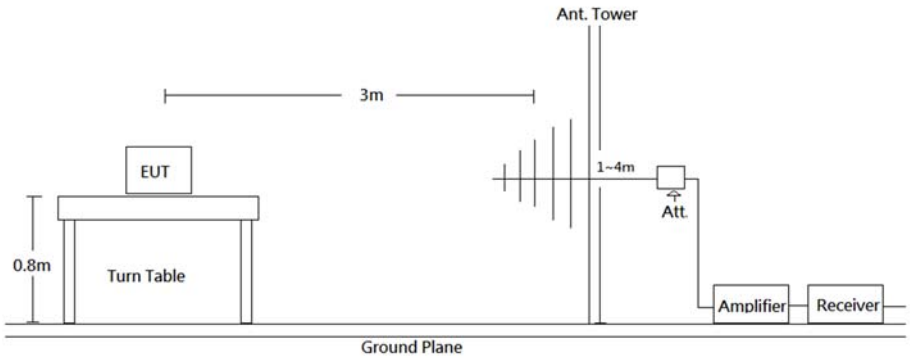
(1) The above field strength limits are specified at a distance of 3 meters. The tighter limits apply at the band edges.

(2) Intentional radiators operating under the provisions of this section shall demonstrate compliance with the limits on the field strength of emissions, as shown in the above table, based on the average value of the measured emissions. As an alternative, compliance with the limits in the above table may be based on the use of measurement instrumentation with a CISPR quasi-peak detector. The specific method of measurement employed shall be specified in the application for equipment authorization. If average emission measurements are employed, the provisions in §15.35 for averaging pulsed emissions and for limiting peak emissions apply. Further, compliance with the provisions of §15.205 shall be demonstrated using the measurement instrumentation specified in that section.

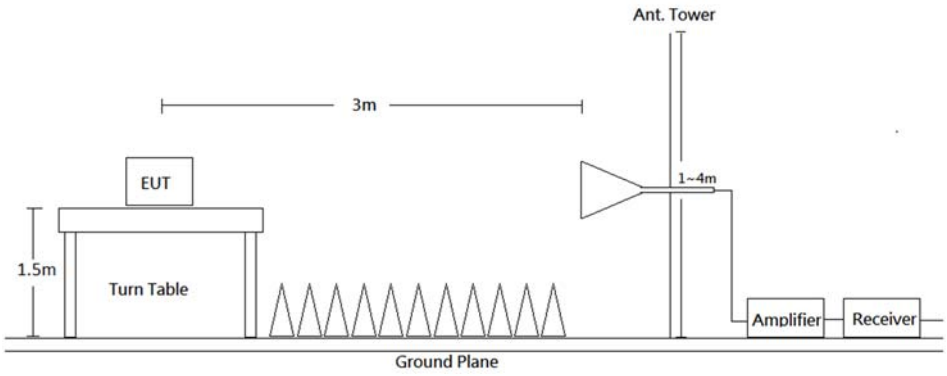
(3) The limits on the field strength of the spurious emissions in the above table are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in §15.209, whichever limit permits a higher field strength.

8.2 EUT Setup

Below 1 GHz:



Above 1 GHz:



Radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC Part 15.209 and FCC 15.231 Limits.

8.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 5 GHz. During the radiated emission test, the EMI test receiver was set with the following configurations measurement method 6.3 in ANSI C63.10.

Frequency Range	RBW	VBW	Detector
30-1000 MHz	100 kHz	300 kHz	PK
Above 1 GHz	1 MHz	3 MHz	PK

8.4 Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

8.5 Corrected Factor & Margin Calculation

The Correct Factor is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

Margin = Result – Limit

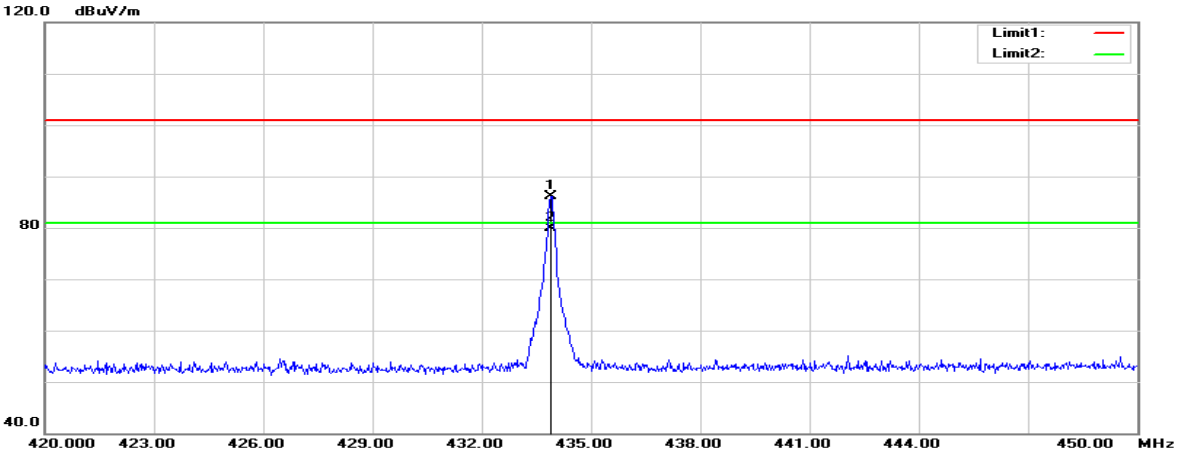
8.6 Test Results

Test Mode: Transmitting

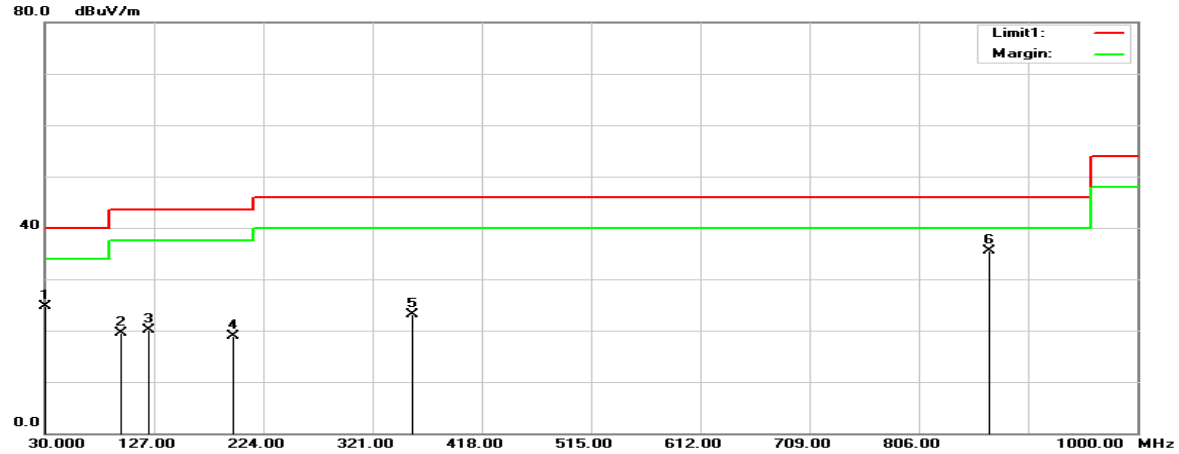
Adapter: TPA-46B050100UU *(Pre-scan with three orthogonal axis, and worse case as Z axis.)*

Horizontal

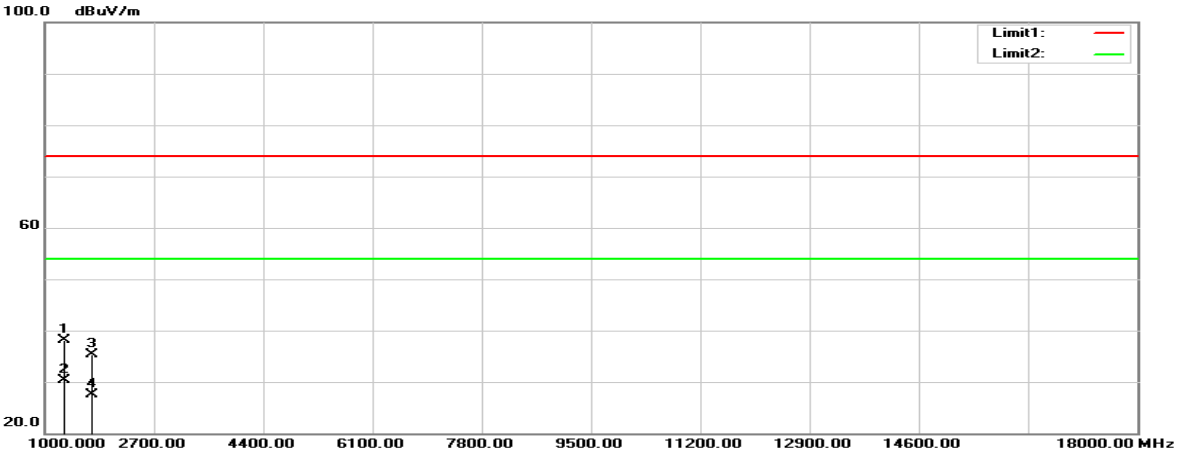
Fundamental:



30MHz-1GHz

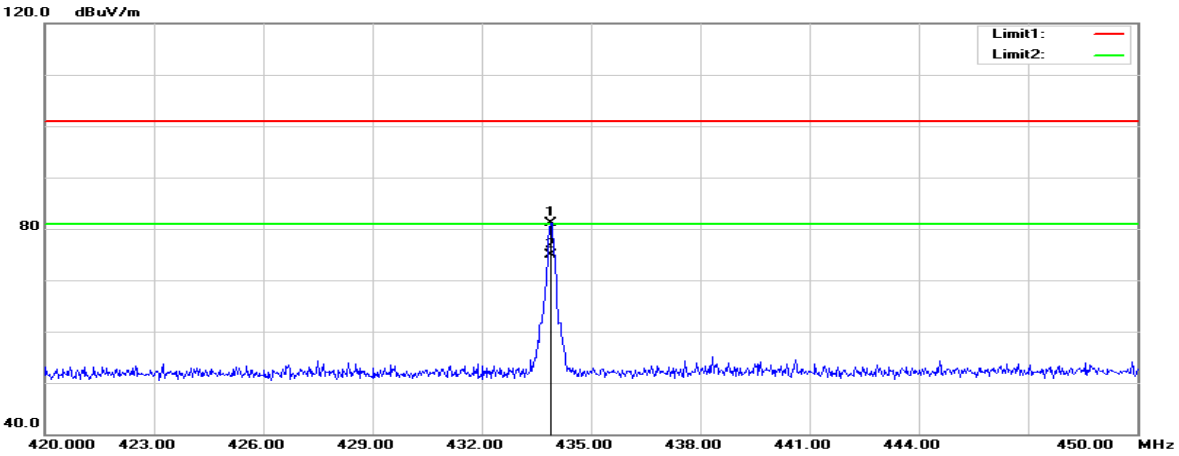


1GHz-5GHz

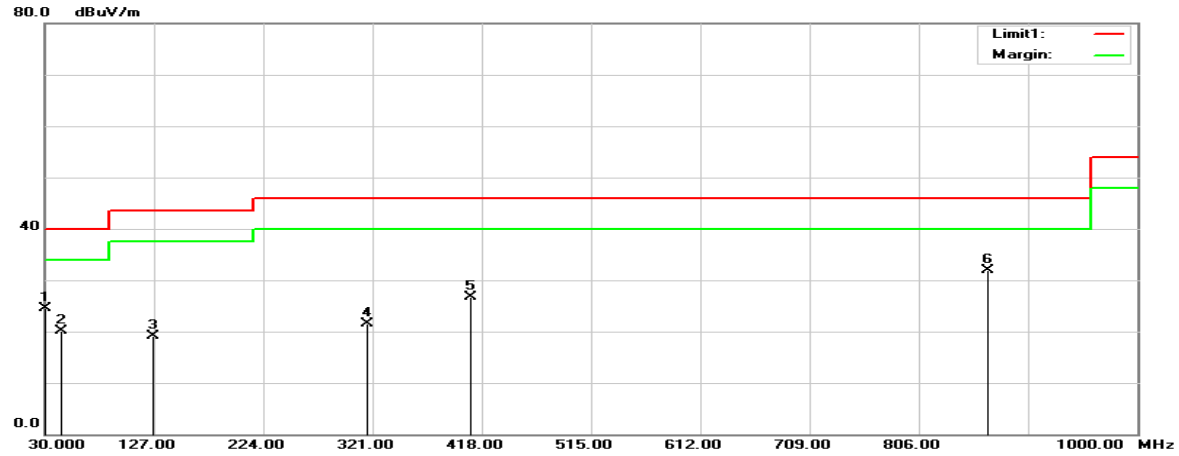


Vertical

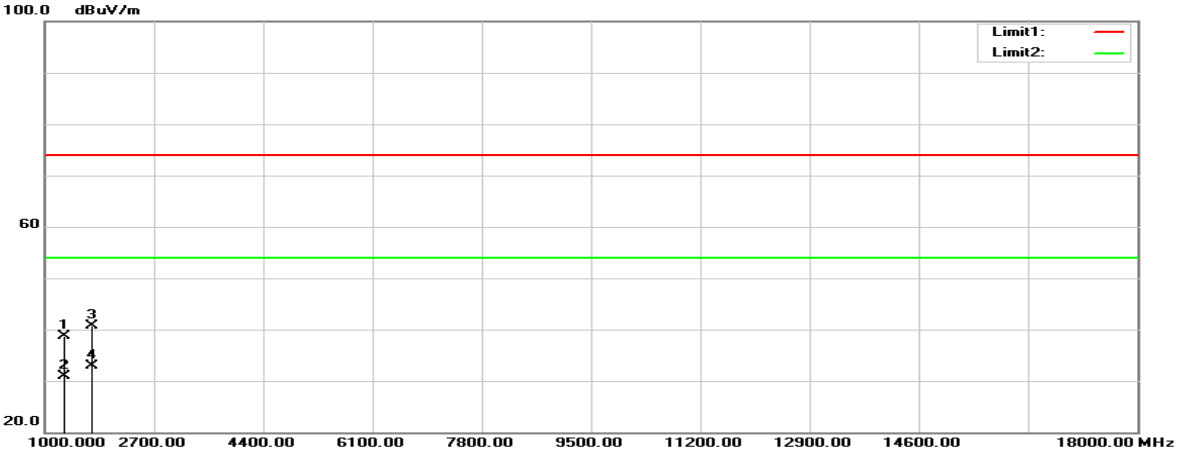
Fundamental:



30MHz-1GHz



1GHz-5GHz



Below 1GHz

Horizontal

Frequency (MHz)	Reading (dBµV)	Correct Factor(dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
30.0000	26.86	-2.23	24.63	60.82	-36.19	100	91	peak
97.9000	32.32	-12.75	19.57	60.82	-41.25	100	59	peak
122.1500	28.40	-8.21	20.19	60.82	-40.63	100	251	peak
196.8400	28.49	-9.63	18.86	60.82	-41.96	100	182	peak
355.9200	29.13	-6.01	23.12	60.82	-37.70	100	34	peak
433.9000	89.85	-3.80	86.05	100.82	-14.77	110	271	peak
433.9000	86.05	-6.22	79.83	80.82	-0.99	110	271	AVG
867.8000	31.00	4.52	35.52	80.82	-45.30	100	261	peak
867.8000	35.52	-6.22	29.30	60.82	-31.52	100	261	AVG

Vertical

Frequency (MHz)	Reading (dBµV)	Correct Factor(dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
30.0000	26.70	-2.23	24.47	60.82	-36.35	100	252	peak
44.5500	32.71	-12.55	20.16	60.82	-40.66	100	28	peak
126.0300	27.09	-8.08	19.01	43.50	-24.49	100	136	peak
316.1500	28.52	-7.02	21.50	60.82	-39.32	100	301	peak
408.3000	31.18	-4.43	26.75	46.00	-19.25	100	292	peak
433.9000	84.88	-3.80	81.08	100.82	-19.74	100	255	peak
433.9000	81.08	-6.22	74.86	80.82	-5.96	100	255	AVG
867.8000	27.35	4.51	31.86	80.82	-48.96	100	258	peak
867.8000	31.86	-6.22	25.64	60.82	-35.18	100	258	AVG

Note 1: If the spurious emissions maximized peak measured value complies with the QP/Average limit, it is unnecessary to perform an QP/Average measurement.

Note 2:

Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)

Margin (dB) = Result (dBµV /m) – Limit (dBµV/m)

Note 3:

Calculate Average value based on Duty Cycle correction factor:

Tp = 100ms

Ton = Burst1*N1 + Burst2*N2 = 0.437*33 + 1.276*27

= 14.421 + 34.452 = 48.873 ms

Duty Cycle Corrected Factor = 20*log(Ton/Tp) = 20*log(48.873ms/100ms) = -6.22 dB

Average value = Peak value + Duty Cycle Corrected Factor

Above 1GHz

Horizontal

Frequency (MHz)	Reading (dBµV)	Correct Factor(dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1301.700	53.08	-14.97	38.11	74.00	-35.89	150	255	peak
1301.700	45.29	-14.97	30.32	54.00	-23.68	150	255	AVG
1735.600	48.71	-13.37	35.34	80.82	-45.48	150	255	peak
1735.600	35.34	-6.22	29.12	60.82	-31.70	150	255	AVG

Vertical

Frequency (MHz)	Reading (dBµV)	Correct Factor(dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1301.700	53.62	-14.97	38.65	74.00	-35.35	150	272	peak
1301.700	45.89	-14.97	30.92	54.00	-23.08	150	272	AVG
1735.600	54.11	-13.37	40.74	80.82	-40.08	150	272	peak
1735.600	40.74	-6.22	34.52	60.82	-26.30	150	272	AVG

Note 1:

Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)

Margin (dB) = Result (dBµV /m) – Limit (dBµV/m)

Note 2:

Calculate Average value based on Duty Cycle correction factor:

Tp = 100ms

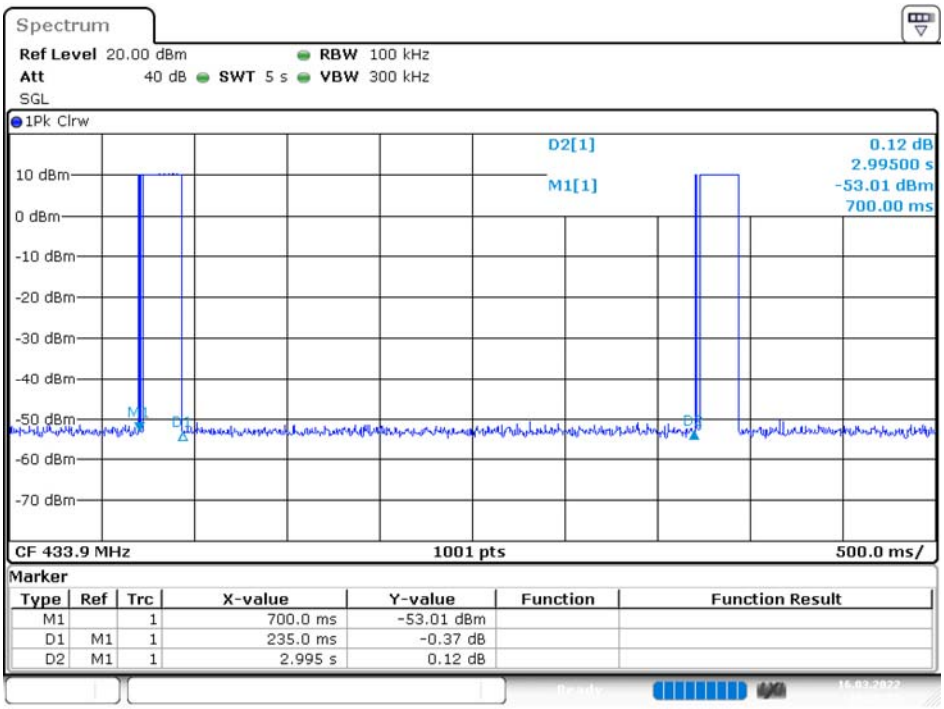
Ton = Burst1*N1 + Burst2*N2 = 0.437*33 + 1.276*27

= 14.421 + 34.452 = 48.873 ms

Duty Cycle Corrected Factor = 20*log(Ton/Tp) = 20*log(48.873ms/100ms) = -6.22 dB

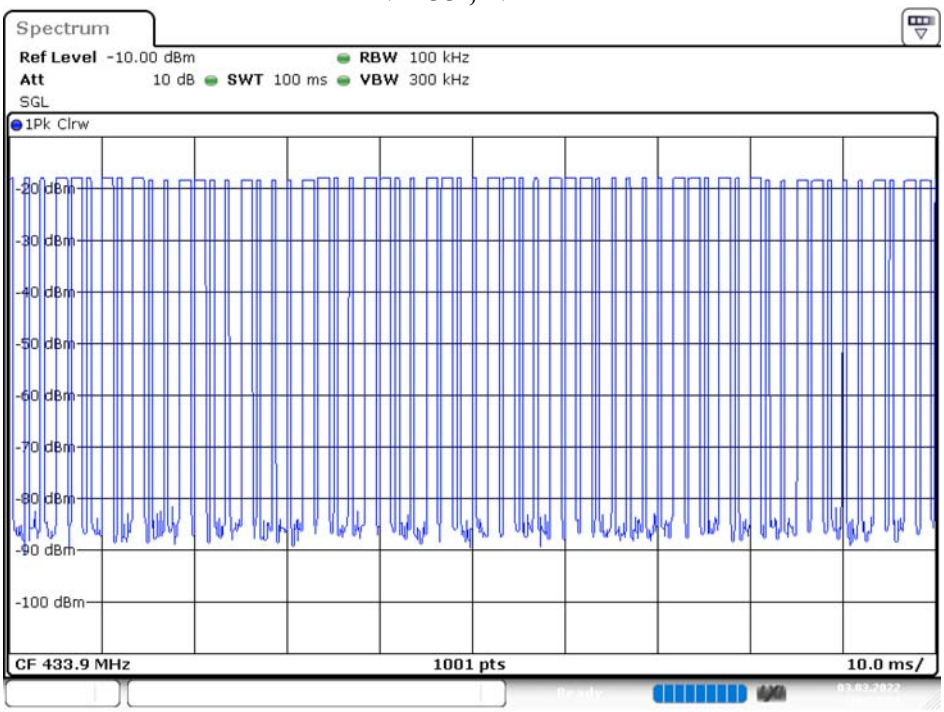
Average value = Peak value + Duty Cycle Corrected Factor

Duty Cycle



Date: 16.MAR.2022 10:26:06

N1=33 , N2=27



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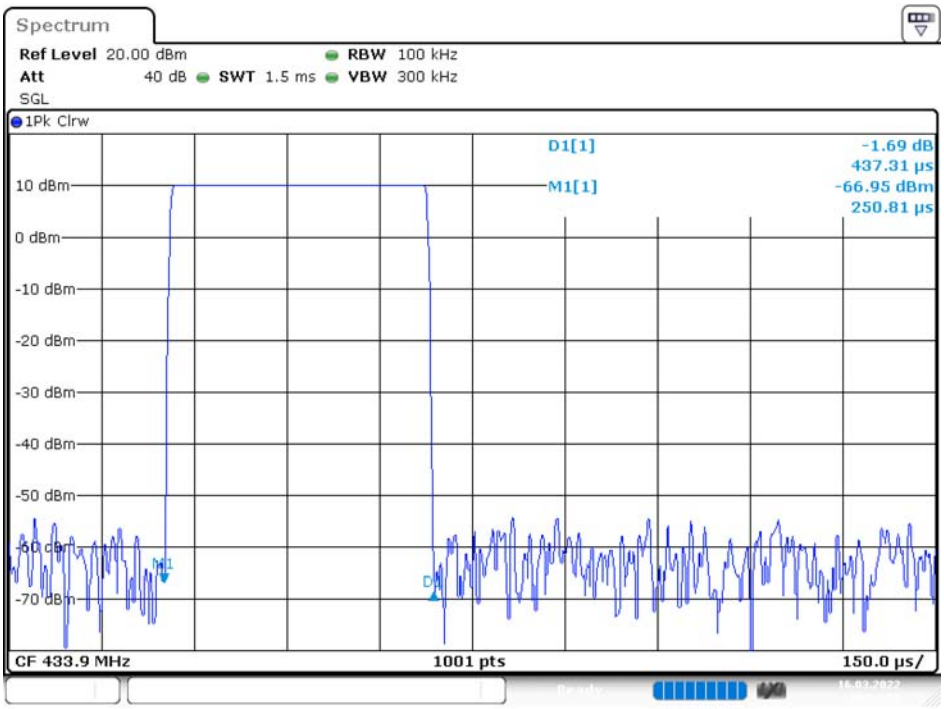
Duty Cycle Burst 1



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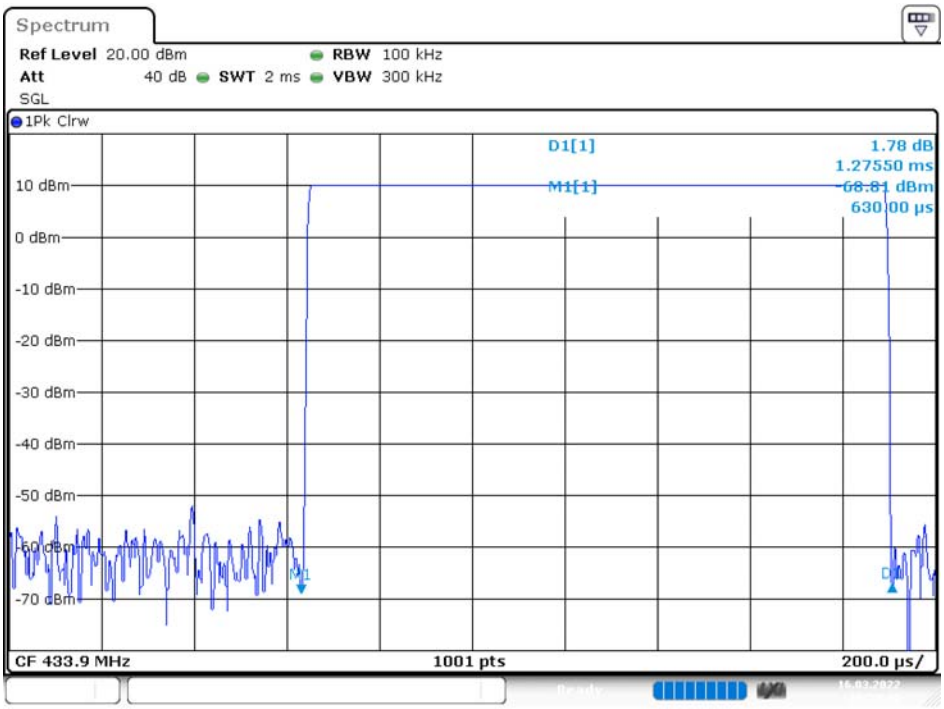
Duty Cycle Burst 2



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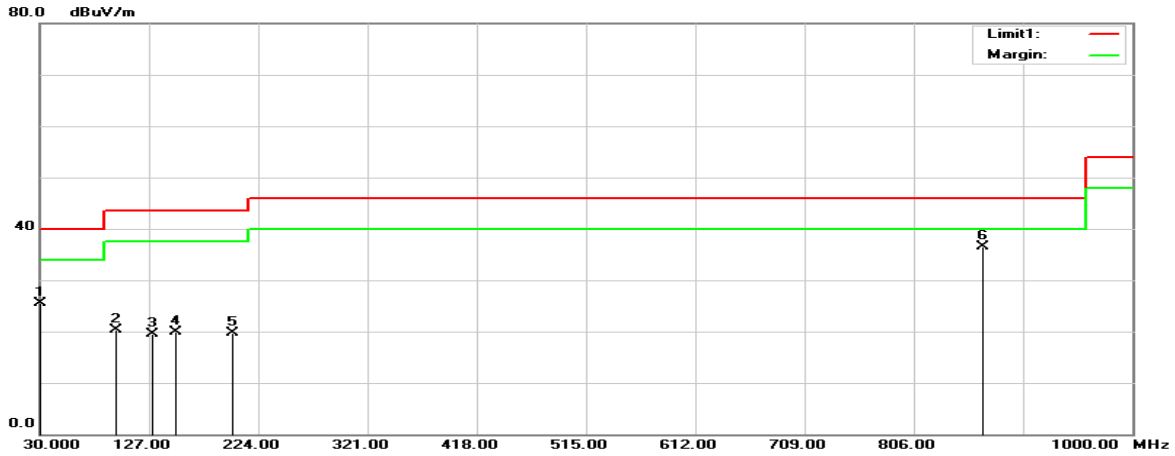
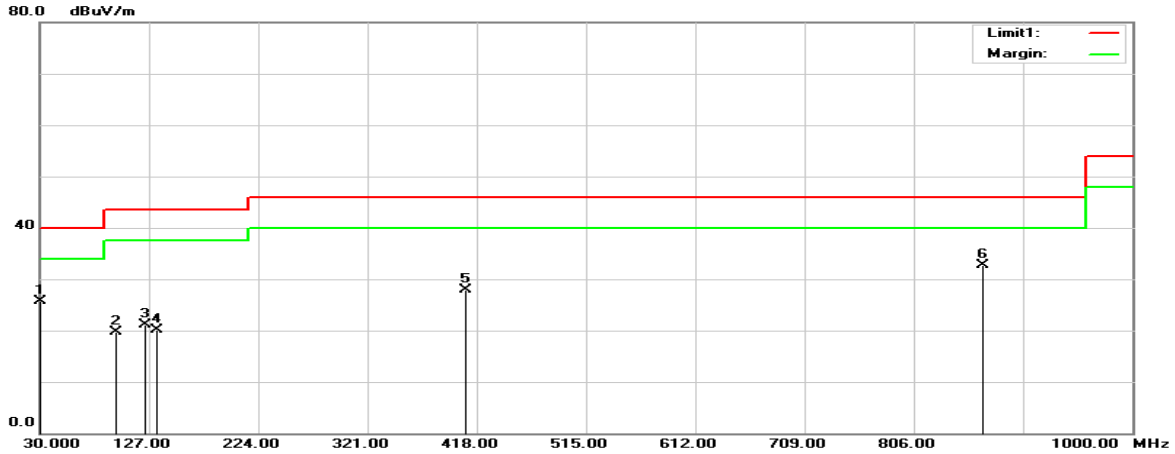
Adapter: GTA92-0501000US

Horizontal



Vertical



Below 1GHz

Horizontal

Frequency (MHz)	Reading (dBµV)	Correct Factor(dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
30.0000	27.64	-2.23	25.41	60.82	-35.41	100	122	peak
97.9000	33.06	-12.75	20.31	60.82	-40.51	100	98	peak
129.9100	27.66	-8.13	19.53	43.50	-23.97	100	253	peak
150.2800	29.33	-9.51	19.82	60.82	-41.00	100	53	peak
201.6900	29.49	-9.71	19.78	60.82	-41.04	100	131	peak
867.8000	32.05	4.51	36.56	80.82	-44.26	100	105	peak
867.8000	35.56	-6.22	29.34	60.82	-31.48	100	105	AVG

Vertical

Frequency (MHz)	Reading (dBµV)	Correct Factor(dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
30.0000	27.96	-2.23	25.73	60.82	-35.09	100	52	peak
97.9000	32.43	-12.75	19.68	60.82	-41.14	100	62	peak
124.0900	29.24	-8.19	21.05	43.50	-22.45	100	74	peak
133.7900	28.47	-8.42	20.05	43.50	-23.45	100	159	peak
408.3000	32.41	-4.43	27.98	46.00	-18.02	100	12	peak
867.8000	28.16	4.51	32.67	80.82	-48.15	100	275	peak
867.8000	32.67	-6.22	26.45	60.82	-34.37	100	275	AVG

If the spurious emissions maximized peak measured value complies with the QP/Average limit, it is unnecessary to perform an QP/Average measurement.

Result = Reading + Correct Factor
Margin = Result – Limit
Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain
Spurious emissions more than 20 dB below the limit were not reported.

9 FCC §15.231(a)(1) –Deactivation Testing

9.1 Applicable Standard

Per FCC §15.231(a) (1), A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released

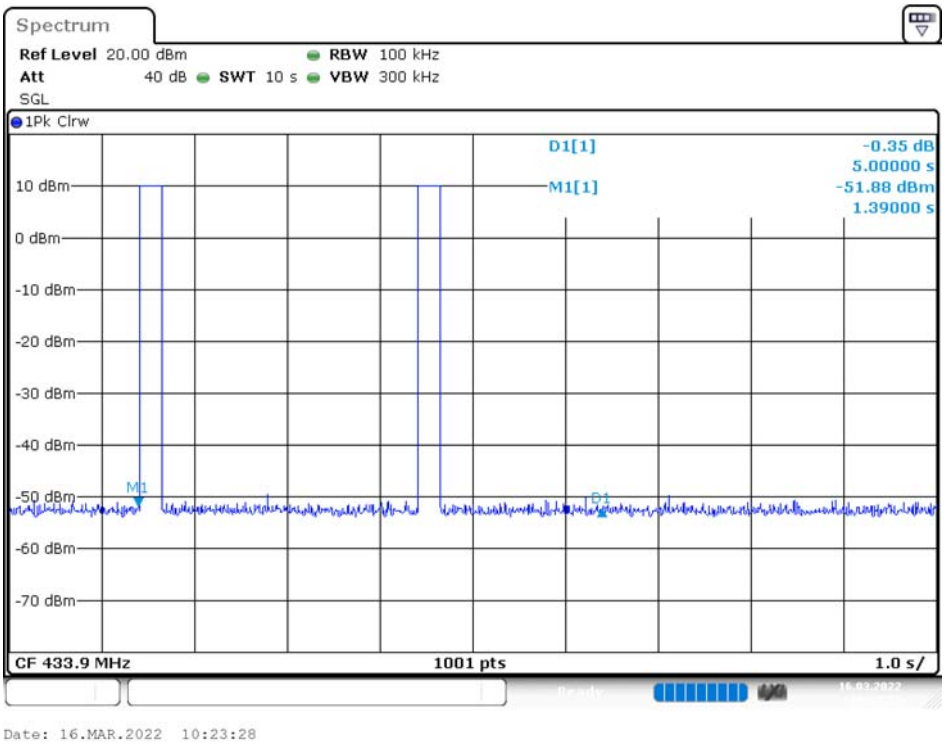
9.2 Test Procedure

1. With the EUT's antenna attached, the waveform was received by the test antenna which was connected to the spectrum analyzer.
2. Set center frequency of spectrum analyzer=operating frequency.
3. Set the spectrum analyzer as RBW=100k VBW=300k Span=0Hz.
4. Repeat above procedures until all frequency measured was complete.

9.3 Test Results

Test mode: Transmitting

5S



10 FCC §15.231(c) – 20 dB Emission Bandwidth Testing

10.1 Applicable Standard

Per 15.231(c), The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. Bandwidth is determined at the points 20 dB down from the modulated carrier.

10.2 Test Procedure

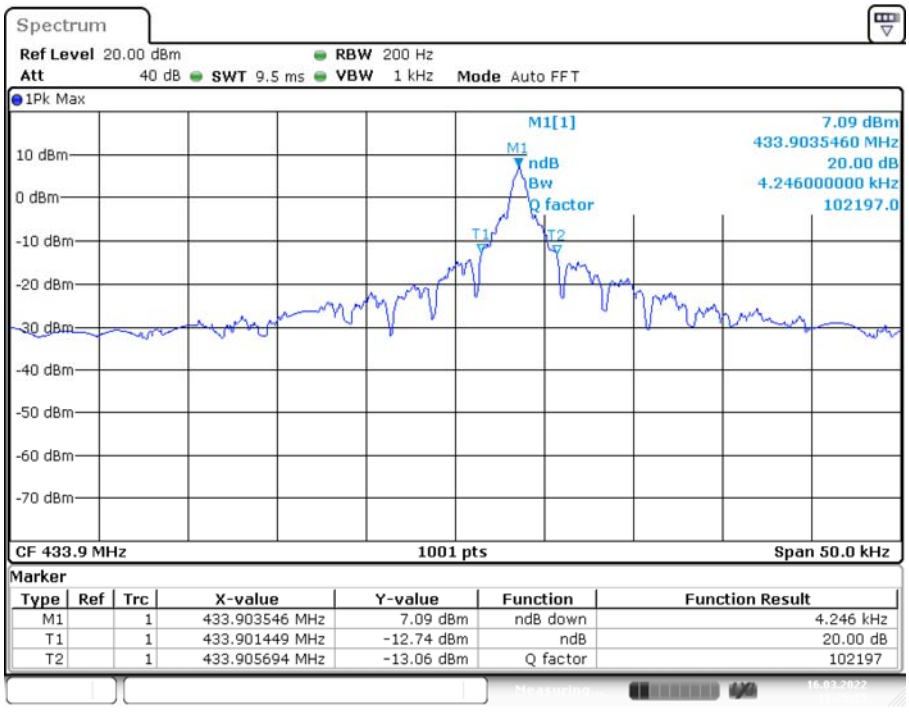
With the EUT's antenna attached, the waveform was received by the test antenna which was connected to the spectrum analyzer, plot the 20 dB bandwidth.

10.3 Test Results

Frequency (MHz)	20 dB Emission Bandwidth (kHz)	Limit (kHz)	Result
433.9	4.25	1084.75	Compliance

Note: Limit = 0.25% * Center Frequency = 0.25% * 433.9 MHz = 1084.75 kHz

20 dB Emission Bandwidth



******* END OF REPORT *******