Test Report

Report No.:	MTi210330008-05E2
Date of issue:	July 30, 2021
Applicant:	EKEN GROUP LIMITED
Product name:	Smart Video Doorbell
Model(s):	T8, K8, K6, K7, K9, V8, T6, T9, V6, V9
FCC ID:	2ADDG-T8

Shenzhen Microtest Co., Ltd.
http://www.mtitest.com

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Instructions

1. The report shall not be partially reproduced without the written consent of the laboratory;
2. The test results of this report are only responsible for the samples submitted;
3. This report is invalid without the seal and signature of the laboratory;
4. This report is invalid if transferred, altered or tampered with in any form without authorization;
5. Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

Table of Contents

TEST RESULT CERTIFICATION

Applicant's name.....	EKEN GROUP LIMITED
Address	Room 2511-2512, Meilan Business Center Qianjin Two Road, XiXiang, Baoan District Shenzhen, Guangdong China
Manufacturer's Name.....	Shenzhen Puge Electronics Co., Ltd.
Address	2F Building E, No. 1 LingXia Road, FengHuang Community, FuYong Street, BaoAn District, Shenzhen.
Product description	
Product name	Smart Video Doorbell
Trademark	N/A
Model Name	T8
Serial Model.....	K8, K6, K7, K9, V8, T6, T9, V6, V9
Standards	FCC Part 15.231
Test procedure	ANSI C63.10-2013
Date of Test	
Date (s) of performance of tests.....:	May 10, 2021 ~ July 20, 2021
Test Result.....:	Pass

This device described above has been tested by Shenzhen Microtest Co., Ltd. and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Testing Engineer : Danny Xu

(Danny Xu)

Technical Manager : Leo Su

(Leo Su)

Authorized Signatory : Tom Xue

(Tom Xue)

1 General description

1.1 Descriptions of EUT

Product name:	Smart Video Doorbell
Model name:	T8
Series model:	K8, K6, K7, K9, V8, T6, T9, V6, V9
Difference of series model:	All the model are the same circuit and RF module, except the appearance and model No..
Tx/Rx frequency range:	Tx:433.92MHz
Modulation type:	ASK
Power source:	DC 5V from adapter AC 120V/60Hz or DC 7.4V from battery
Battery:	DC 3.7V*2 cell “AA” alkaline battery
Adapter information:	N/A
Antenna designation:	Spring Antenna(Antenna Gain:1dBi)
Hardware version:	V1.1
Software version:	1.4.2

1.2 Operation channel list

Channel	Frequency
1	433.92MHz

1.3 Frequency Channel Under Test

Channel	Frequency
1	433.92MHz

1.4 Ancillary equipment list

Equipment	Model	S/N	Manufacturer
Adapter	HW-090200CH0	/	Huizhou BYD Electronics Co., Ltd.

1.5 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	Brand	Model/Type No.	Series No.	Note
/	/	/	/	/	
/	/	/	/	/	

Note:

(1)The support equipment was authorized by Declaration of Confirmation.

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

2 Summary of Test Results

Test procedures according to the technical standards:

Item	FCC Part No.	Description of Test	Result	Remark
1	15.203	Antenna requirement	Pass	
2	15.207	AC power line conducted emission	Pass	
3	15.231(b)	Field strength of fundamental and harmonic emissions	Pass	
4	15.205 and 15.209	Radiated emission and bandedge	Pass	
5	15.231(c)	Occupied Bandwidth	Pass	
6	15.231(a)(2)	Release time	Pass	

3 Test Facilities and Accreditations

3.1 Test laboratory

Test Laboratory	Shenzhen Microtest Co., Ltd
Location	101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao' an District, Shenzhen, Guangdong, China.
FCC Registration No.:	448573

3.2 Environmental conditions

Temperature:	15ºC~35ºC
Humidity	20%~75%
Atmospheric pressure	98kPa~101kPa

3.3 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 %

RF frequency	1×10^{-7}
RF power, conducted	±1.38dB
Conducted emission(150kHz~30MHz)	±0.21dB
Radiated emission(30MHz~1GHz)	±4.68dB
Radiated emission (above 1GHz)	±4.89dB
Temperature	±0.5°C
Humidity	± 2 %

3.4 Test software

Software Name	Manufacturer	Model	Version
RF Test System	Shenzhen JS tonscend co., ltd	JS1120-3	2.5.77.0418

4 Equipment list

Equipment No.	Equipment Name	Manufacturer	Model	Serial No.	Calibration date	Due date
MTI-E043	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2021/06/02	2022/06/01
MTI-E044	TRILOG Broadband Antenna	schwarabeck	VULB 9163	9163-1338	2021/05/30	2023/05/29
MTI-E047	Amplifier	Hewlett-Packard	8447F	3113A06150	2021/06/02	2022/06/01
MTI-E089	ESG Vector Signal Generator	Agilent	N5182A	MY49060455	2021/06/02	2022/06/01
MTI-E058	ESG Series Analog Ssignal Generator	Agilent	E4421B	GB40051240	2021/06/02	2022/06/01
MTI-E062	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2021/06/02	2022/06/01
MTI-E078	Synthesized Sweeper	Agilent	83752A	3610A01957	2021/06/02	2022/06/01
MTI-E079	DC Power Supply	Agilent	E3632A	MY40027695	2021/06/02	2022/06/01
MTI-E045	Double Ridged Broadband Horn Antenna	schwarabeck	BBHA 9120D	9120D-2278	2021/05/30	2023/05/29
MTI-E048	Amplifier	Agilent	8449B	3008A02400	2021/06/02	2022/06/01
MTI-E021	EMI Test Receiver	Rohde&schwarz	ESCS30	100210	2021/06/02	2022/06/01
MTI-E022	Pulse Limiter	Schwarzbeck	VSTD 9561-F	00679	2021/06/02	2022/06/01
MTI-E023	Artificial mains network	Schwarzbeck	NSLK 8127	NSLK 8127 #841	2021/06/02	2022/06/01
MTI-E046	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00044	2021/05/30	2023/05/29

Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).

5 Test Result

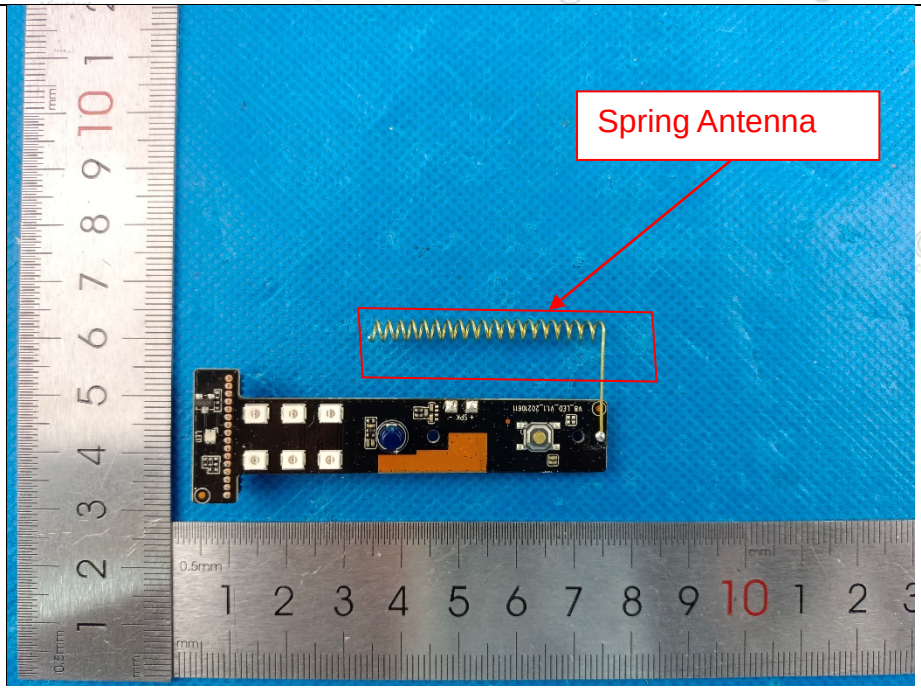
5.1 Antenna requirement

5.1.1 Requirement defined in FCC 15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible 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. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

5.1.2 EUT antenna description

The radio antenna of EUT is a Spring antenna, the maximum gain is 1dBi. So the antenna meets the requirement of this part.



5.2 AC power line conducted emission

5.2.1 Limit

Frequency (MHz)	Limit	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Note: Decreases with the logarithm of the frequency from 0.15MHz to 0.5MHz.

5.2.2 Test method

1. 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 equipment powered from additional LISN(s). The LISN provide 50 Ohm/50uH of coupling impedance for the measuring instrument.

2. 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.

3. 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.

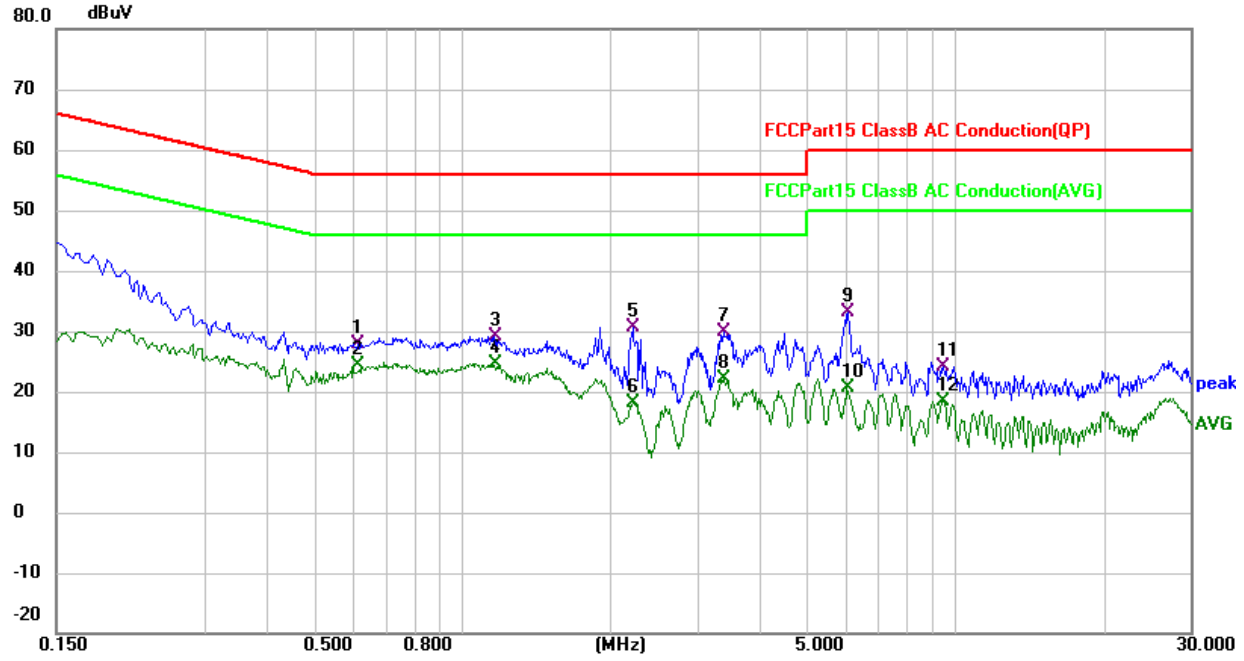
4. LISN is at least 80 cm from nearest part of EUT chassis.

5. The resolution bandwidth of EMI test receiver is set at 9kHz.

5.2.3 Test Result

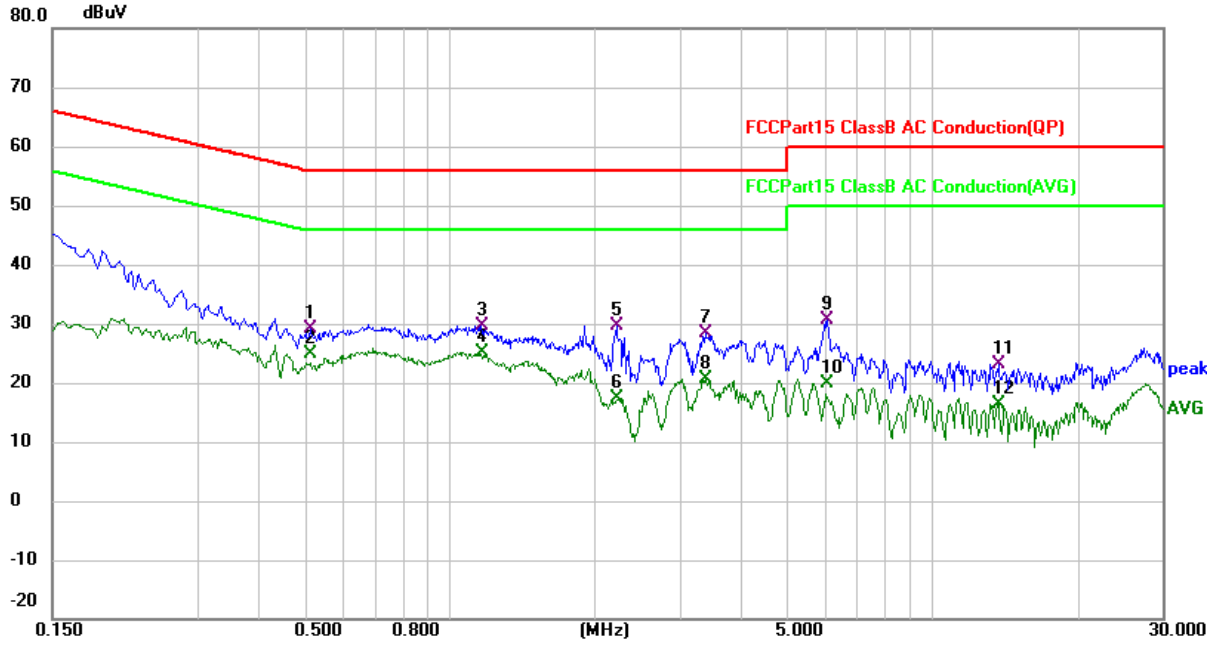
Test data

EUT:	Smart Video Doorbell	Model Name:	T8
Pressure:	1010hPa	Phase:	L
Test Voltage:	DC 5V from adapter AC 120V/60Hz	Test Mode:	Charging+TX



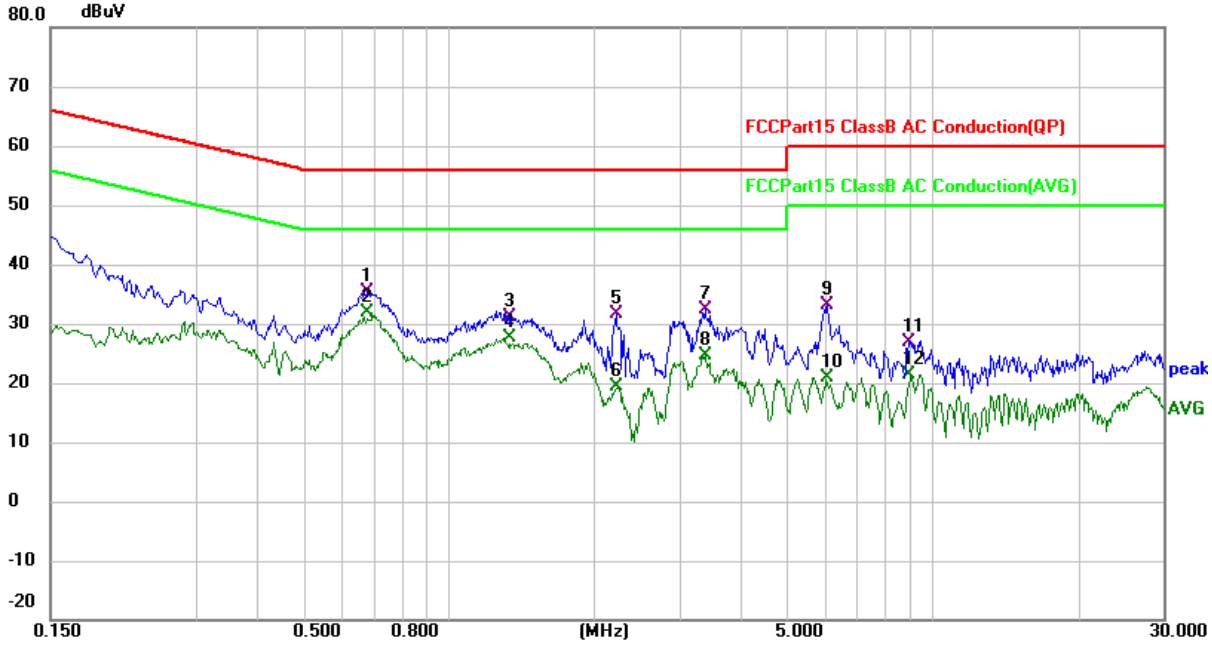
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.6139	16.87	11.01	27.88	56.00	-28.12	QP
2		0.6139	13.25	11.01	24.26	46.00	-21.74	AVG
3		1.1615	15.49	13.55	29.04	56.00	-26.96	QP
4	*	1.1615	11.15	13.55	24.70	46.00	-21.30	AVG
5		2.2219	14.90	15.83	30.73	56.00	-25.27	QP
6		2.2219	2.21	15.83	18.04	46.00	-27.96	AVG
7		3.3980	18.49	11.39	29.88	56.00	-26.12	QP
8		3.3980	10.85	11.39	22.24	46.00	-23.76	AVG
9		6.0579	21.72	11.40	33.12	60.00	-26.88	QP
10		6.0579	9.26	11.40	20.66	50.00	-29.34	AVG
11		9.4657	12.68	11.51	24.19	60.00	-35.81	QP
12		9.4657	6.92	11.51	18.43	50.00	-31.57	AVG

EUT:	Smart Video Doorbell	Model Name:	T8
Pressure:	1010hPa	Phase:	N
Test Voltage:	DC 5V from adapter AC 120V/60Hz	Test Mode:	Charging+TX



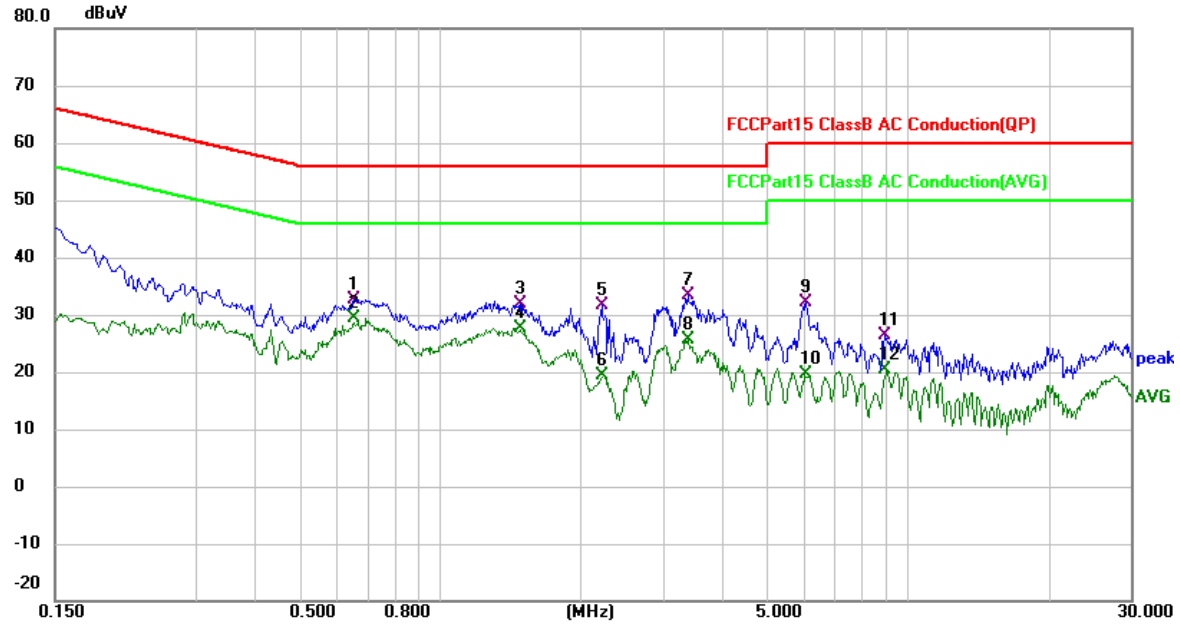
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.5140	18.23	10.92	29.15	56.00	-26.85	QP
2		0.5140	14.08	10.92	25.00	46.00	-21.00	AVG
3		1.1617	15.99	13.55	29.54	56.00	-26.46	QP
4	*	1.1617	11.61	13.55	25.16	46.00	-20.84	AVG
5		2.2219	13.90	15.83	29.73	56.00	-26.27	QP
6		2.2219	1.66	15.83	17.49	46.00	-28.51	AVG
7		3.3980	16.99	11.39	28.38	56.00	-27.62	QP
8		3.3980	9.35	11.39	20.74	46.00	-25.26	AVG
9		6.0579	19.22	11.40	30.62	60.00	-29.38	QP
10		6.0579	8.50	11.40	19.90	50.00	-30.10	AVG
11		13.7459	11.46	11.63	23.09	60.00	-36.91	QP
12		13.7459	4.75	11.63	16.38	50.00	-33.62	AVG

EUT:	Smart Video Doorbell	Model Name:	T8
Pressure:	1010hPa	Phase:	L
Test Voltage:	DC 5V from adapter AC 240V/60Hz	Test Mode:	Charging+TX



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.6780	24.42	11.06	35.48	56.00	-20.52	QP
2	*	0.6780	20.88	11.06	31.94	46.00	-14.06	AVG
3		1.3380	17.19	13.95	31.14	56.00	-24.86	QP
4		1.3380	13.67	13.95	27.62	46.00	-18.38	AVG
5		2.2219	15.90	15.83	31.73	56.00	-24.27	QP
6		2.2219	3.66	15.83	19.49	46.00	-26.51	AVG
7		3.3980	20.99	11.39	32.38	56.00	-23.62	QP
8		3.3980	13.35	11.39	24.74	46.00	-21.26	AVG
9		6.0579	21.72	11.40	33.12	60.00	-26.88	QP
10		6.0579	9.50	11.40	20.90	50.00	-29.10	AVG
11		8.9500	15.45	11.49	26.94	60.00	-33.06	QP
12		8.9500	9.94	11.49	21.43	50.00	-28.57	AVG

EUT:	Smart Video Doorbell	Model Name:	T8
Pressure:	1010hPa	Phase:	N
Test Voltage:	DC 5V from adapter AC 240V/60Hz	Test Mode:	Charging+TX



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.6540	21.56	11.04	32.60	56.00	-23.40	QP
2	*	0.6540	18.40	11.04	29.44	46.00	-16.56	AVG
3		1.4818	17.54	14.25	31.79	56.00	-24.21	QP
4		1.4818	13.44	14.25	27.69	46.00	-18.31	AVG
5		2.2219	15.90	15.83	31.73	56.00	-24.27	QP
6		2.2219	3.66	15.83	19.49	46.00	-26.51	AVG
7		3.3980	21.99	11.39	33.38	56.00	-22.62	QP
8		3.3980	14.35	11.39	25.74	46.00	-20.26	AVG
9		6.0579	20.72	11.40	32.12	60.00	-27.88	QP
10		6.0579	8.33	11.40	19.73	50.00	-30.27	AVG
11		8.9500	14.95	11.49	26.44	60.00	-33.56	QP
12		8.9500	8.87	11.49	20.36	50.00	-29.64	AVG

5.3 Field strength of fundamental and harmonic emissions

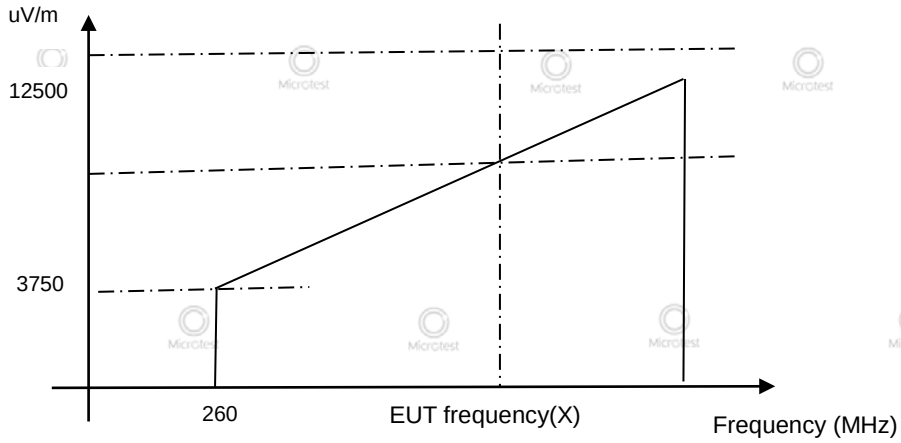
5.3.1 Limits

Intentional radiators may operate at a periodic rate exceeding that specified in paragraph (a) of this section and may be employed for any type of operation, including operation prohibited in paragraph (a) of this section, provided the intentional radiator complies with the provisions of paragraphs (b) through (d) of this section, except the field strength table in paragraph (b) of this section is replaced by the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emissions (microvolts/meter)
40.66-40.70	2.250	225
70-130	1.250	125
130-174	[1]1250 to 3750	[1]125 to 375
174-260	3.750	375
260-470	[1]3750 to 12500	[1]375 to 1250
Above 470	12500	1250

[1]Linear interpolations.

For example for 433.925MHz



The Field Strength of Fundamental Emissions (Operating Frequency) is:

3750 uV/m = 20*log (3750) dBuV/m = 71.48 dBuV/m

12500 uV/m = 20*log (12500) dBuV/m = 81.94 dBuV/m

For example the Fundamental emission is 433.925MHz, the limit is X.

(433.925-260)/(470-260)=(X-3750)/(12500-3750)

173.925/210 =(X-3750)/8750

X = 10996.875uV/m

AV Limit = 20*log (10996.875) dBuV/m = 80.83 dBuV/m

PK Limit = 100.83 dBuV/m

5.3.2 Test Method

1. The EUT is placed on a turntable, which is 0.8m above ground plane for test frequency range blew 1GHz, and 1.5m above ground plane for test frequency range above 1GHz.

2. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.

3. Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for f ≥ 1GHz

RBW = 100 kHz for f < 1 GHz

VBW ≥ RBW

Sweep = Auto

Detector function = Peak

Trace = max hold

4. Follow the guidelines in ANSI C63.4-2014 with respect to maximizing the emission by rotating the EUT, adjusting the measurement antenna height and polarization, etc. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, submit this data. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

5. The peak level, once corrected, must comply with the limit specified in Section 15.209. Set the spectrum to

RBW = 1MHz

VBW = 10Hz

Detector = PK for AV value, while maintaining all of the other instrument settings

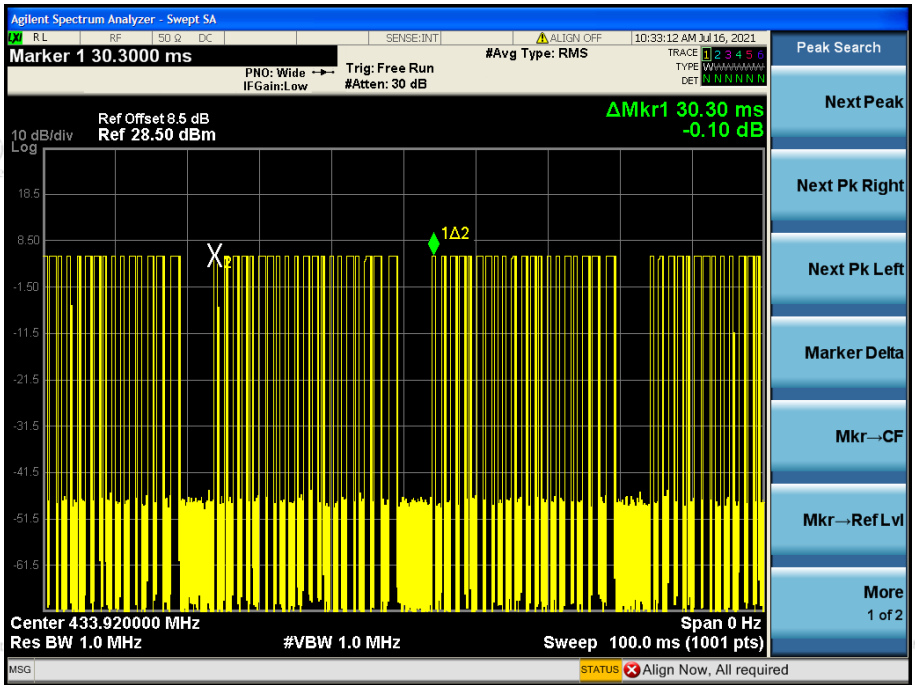
5.3.3 Test Result

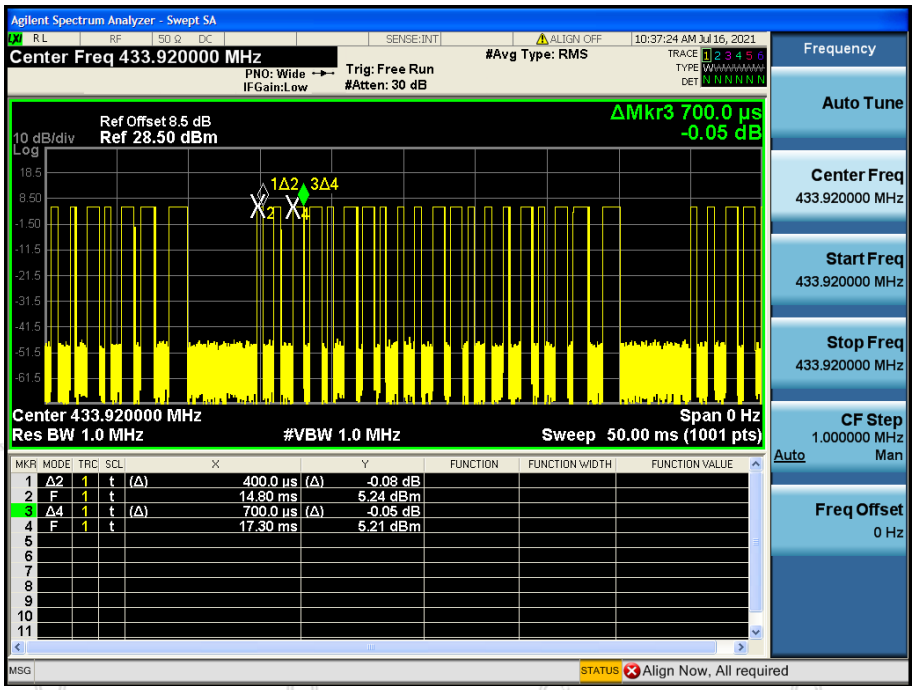
Field Strength of Fundamental Emissions and Field strength of spurious emissions Value					
Operating Frequency (MHz)	Field Strength (dBuV/m)	Detector	Limit @3m (dBuV/m)	Margin (dB)	Antenna
433.920	89.26	Peak	100.83	22.57	Vertical
	80.46	Average	80.83	0.37	Vertical
	87.52	Peak	100.83	21.31	Horizontal
	78.72	Average	80.83	2.11	Horizontal
867.840	60.34	Peak	80.83	26.49	Vertical
	51.54	Average	60.83	9.29	Vertical
	59.45	Peak	80.83	27.38	Horizontal
	50.66	Average	60.83	10.17	Horizontal

Note:

1. If the PK measured values lower than average mode limit, the EUT shall be deemed to meet average limits and then no additional average mode measurement performed.
2. EUT Pre-scan X/Y/Z orientation, only worst case is presented in the report(Y orientation).
3. Calculate Average value based on Duty Cycle correction factor:
    1. Duty Cycle=Ton/(Ton+Toff)= 11ms/30.3ms = 0.3630=36.30%
    2. Duty Cycle factor= 20lg (Duty Cycle) =20lg (0.3630) = -8.80dB
    3. Average=Peak+ Duty Cycle factor
4. Margin: Limit- Field Strength

433.92MHz


Agilent Spectrum Analyzer - Swept SA
Marker 1 30.3000 ms
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
10:33:12 AM Jul 16, 2021
Ref Offset 8.5 dB
10 dB/div
Log
Ref 28.50 dBm
ΔMkr1 30.30 ms
-0.10 dB
1Δ2
Center 433.920000 MHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 100.0 ms (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
Align Now, All required


Agilent Spectrum Analyzer - Swept SA
Center Freq 433.920000 MHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
10:37:24 AM Jul 16, 2021
Ref Offset 8.5 dB
10 dB/div
Log
Ref 28.50 dBm
ΔMkr3 700.0 µs
-0.05 dB
1Δ2 3Δ4
Center 433.920000 MHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 50.00 ms (1001 pts)
1 Δ2 1 t (Δ) 400.0 µs (Δ) -0.08 dB
2 F 1 t 14.80 ms 5.24 dBm
3 Δ4 1 t (Δ) 700.0 µs (Δ) -0.05 dB
4 F 1 t 17.30 ms 5.21 dBm
Frequency
Auto Tune
Center Freq
433.920000 MHz
Start Freq
433.920000 MHz
Stop Freq
433.920000 MHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz
Align Now, All required

5.4 Occupied Bandwidth

5.4.1 Test method

Use the following spectrum analyzer settings:

Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
RBW ≥1% of the 20 dB bandwidth
VBW ≥RBW
Sweep = auto
Detector function = peak
Trace = max hold

The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth and 99% occupied bandwidth of the emission.

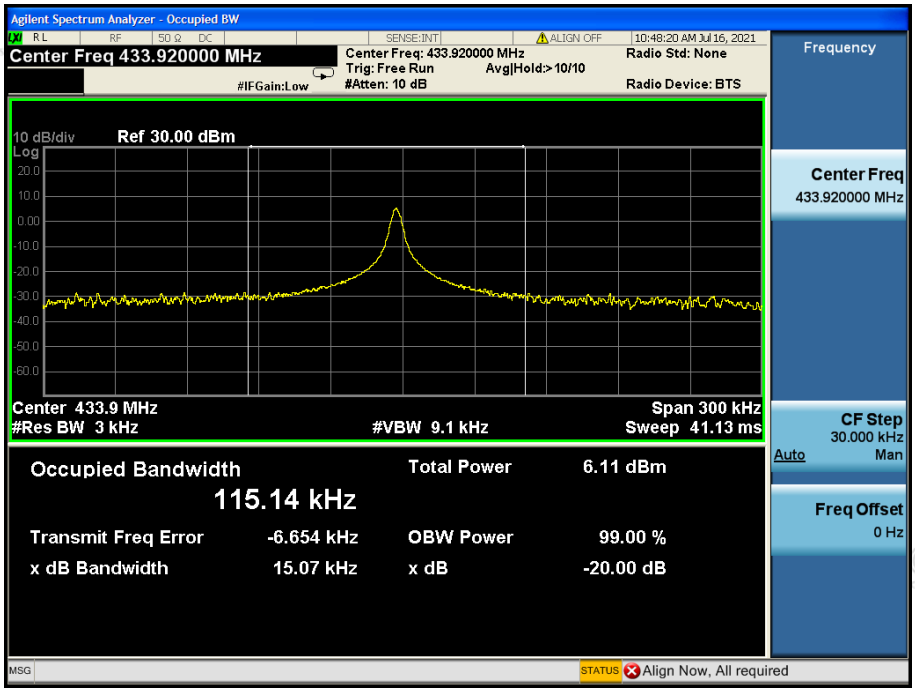
5.4.2 Test result

Test modulation: ASK

Frequency (MHz)	20dB emission bandwidth (MHz)	99% occupied bandwidth (MHz)	Limit (MHz)
433.92	0.01507	0.11514	1.0848

Test plots as below

433.92MHz



5.5 Radiated emission and Band edge spurious emission

5.5.1 Limit

Emissions radiated outside of the specified frequency bands, except for harmonic emissions, (b)shall be attenuated by at least 50 dB below the level of the fundamental emissions or to the general field strength limits listed in RSS-Gen, whichever is less stringent.

Frequency (MHz)	Field strength μV/m	Field strength dBμV/m	Detector	Measurement distance
30-88	100	40	QP	3m
88-216	150	43.5	QP	
216-960	200	46	QP	
960-1000	500	54	QP	
Above 1000	500	54	AV	
Above 1000	5000	74	PK	

5.5.2 Test method

1. The EUT is placed on a turntable, which is 0.8m above ground plane for test frequency range blew 1GHz, and 1.5m above ground plane for test frequency range above 1GHz.

2. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.

3. Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured
RBW = 1 MHz for f ≥ 1GHz
100 kHz for f < 1 GHz, VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

4. Follow the guidelines in ANSI C63.4-2014 with respect to maximizing the emission by rotating the EUT, adjusting the measurement antenna height and polarization, etc. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, submit this data. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

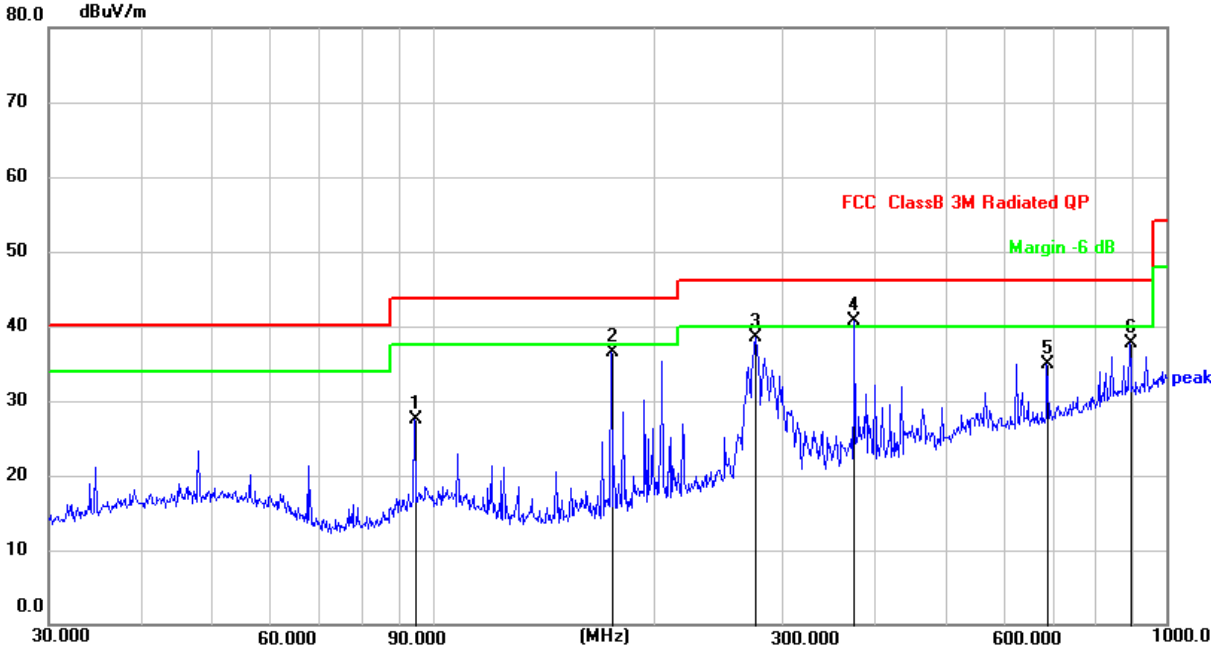
5. The peak level, once corrected, must comply with the limit specified in Section 15.209. Set the RBW = 1MHz, VBW = 10Hz, Detector = PK for AV value, while maintaining all of the other instrument settings.

5.5.3 Test Result

Note:
If the PK measured values lower than average mode limit, the EUT shall be deemed to meet average limits and then no additional average mode measurement performed.

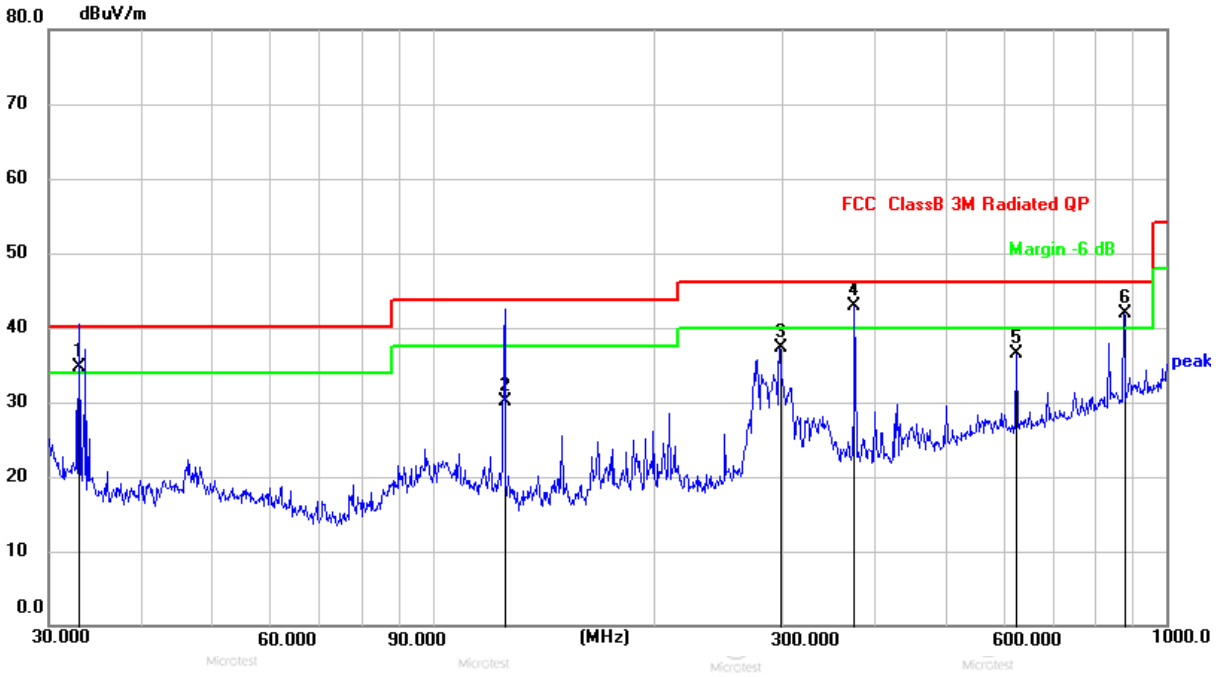
Between 30MHz – 1GHz

EUT：	Smart Video Doorbell	Model Name ：	T8
Pressure：	1010 hPa	Phase:	H
Test Mode ：	Charging+TX	Test Voltage ：	DC 5V from adapter AC 120V/60Hz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	94.4284	41.11	-13.61	27.50	43.50	-16.00	QP
2	175.0368	50.35	-13.88	36.47	43.50	-7.03	QP
3	275.1570	47.83	-9.32	38.51	46.00	-7.49	QP
4 *	375.9385	48.53	-7.83	40.70	46.00	-5.30	QP
5	687.1507	36.66	-1.82	34.84	46.00	-11.16	QP
6	890.7278	36.36	1.39	37.75	46.00	-8.25	QP

EUT：	Smart Video Doorbell	Model Name ：	T8
Pressure：	1010 hPa	Phase:	V
Test Mode ：	Charging+TX	Test Voltage ：	DC 5V from adapter AC 120V/60Hz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 !	32.9791	49.25	-14.45	34.80	40.00	-5.20	QP
2	125.4457	44.72	-14.52	30.20	43.50	-13.30	QP
3	297.2241	45.94	-8.73	37.21	46.00	-8.79	QP
4 *	375.9385	50.82	-7.83	42.99	46.00	-3.01	QP
5	625.0780	39.33	-2.80	36.53	46.00	-9.47	QP
6 !	875.2470	40.61	1.31	41.92	46.00	-4.08	QP

1GHz-6GHz

No.	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Polar (H/V)	Dectector
1	1355.753	43.29	-9.96	33.39	80.83	-40.69	Horizontal	PK
2	2070.146	44.93	-9.17	35.77	80.83	-38.54	Horizontal	PK
3	3157.066	44.72	-9.25	35.56	80.83	-38.65	Horizontal	PK
4	3852.218	42.99	-9.04	33.87	80.83	-40.15	Horizontal	PK
5	4902.921	47.67	-9.96	37.69	80.83	-36.27	Horizontal	PK
6	5613.546	43.62	-9.65	33.88	80.83	-40.13	Horizontal	PK
7	1355.753	37.29	-9.96	24.59	60.83	-36.24	Horizontal	AV
8	2070.146	34.93	-9.17	26.97	60.83	-33.86	Horizontal	AV
9	3157.066	34.72	-9.25	26.76	60.83	-34.07	Horizontal	AV
10	3852.218	32.99	-9.04	25.07	60.83	-35.76	Horizontal	AV
11	4902.921	37.67	-9.96	28.89	60.83	-31.94	Horizontal	AV
12	5613.546	33.62	-9.65	25.08	60.83	-35.75	Horizontal	AV
1	1526.357	47.79	-9.77	38.15	80.83	-35.15	Vertical	PK
2	2202.478	48.04	-9.93	38.24	80.83	-35.87	Vertical	PK
3	3053.815	47.59	-9.10	38.47	80.83	-35.64	Vertical	PK
4	3928.964	46.41	-9.90	36.54	80.83	-37.29	Vertical	PK
5	5199.719	52.55	-9.11	43.62	80.83	-30.96	Vertical	PK
6	5680.498	49.41	-9.87	39.48	80.83	-34.48	Vertical	PK
7	1526.357	39.25	-9.77	29.35	60.83	-31.48	Vertical	AV
8	2202.478	38.83	-9.93	29.44	60.83	-31.39	Vertical	AV
9	3053.815	37.52	-9.10	29.67	60.83	-31.16	Vertical	AV
10	3928.964	36.26	-9.90	27.74	60.83	-33.09	Vertical	AV
11	5199.719	32.52	-9.11	34.82	60.83	-26.01	Vertical	AV
12	5680.498	39.22	-9.87	30.68	60.83	-30.15	Vertical	AV

Note:

1. Absolute Level = Reading Level+ Factor, Margin= Absolute Level- Limit, Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Calculate Average value based on Duty Cycle correction factor:
    1. Duty Cycle=Ton/(Ton+Toff)= 11ms/30.3ms = 0.3630=36.30%
    2. Duty Cycle factor= 20lg (Duty Cycle) =20lg (0.3630) = -8.80dB
    3. Average=Peak+ Duty Cycle factor

5.6 Transmitter timeout

5.6.1 Limit

A transmitter activated automatically shall cease transmission within 5 seconds after activation.

5.6.2 Test method

Setup the EUT as show in the block diagram above.

Set Spectrum Analyzer

Centre Frequency = Fundamental Frequency

RBW=100 kHz, VBW= 300 kHz

Span= 0 Hz

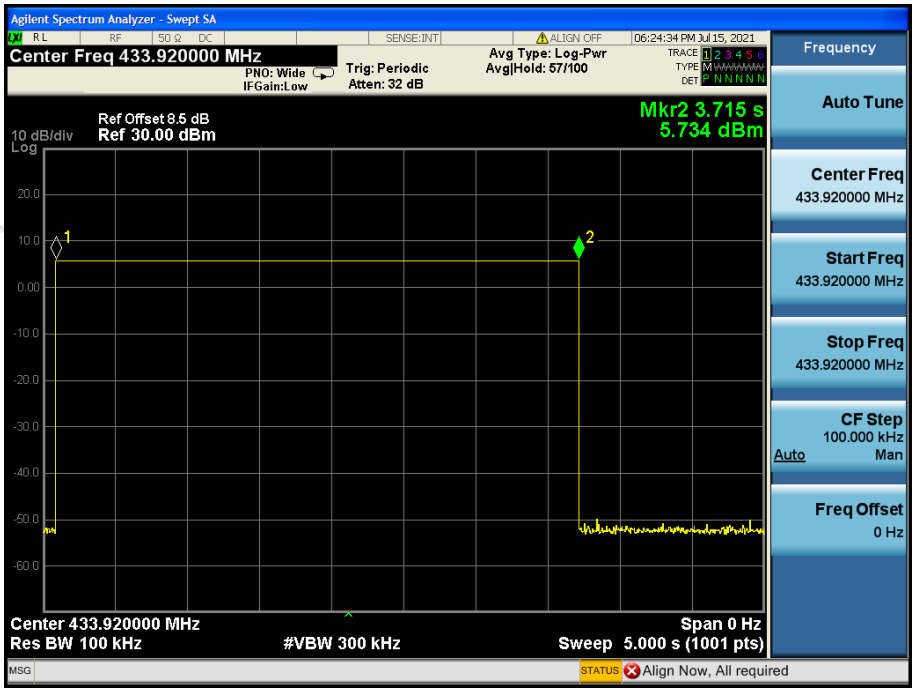
Sweep Time= 5 Seconds.

Setup the EUT as normal operation and press Transmitter button

Release the button, use Delta Mark function to test the time.

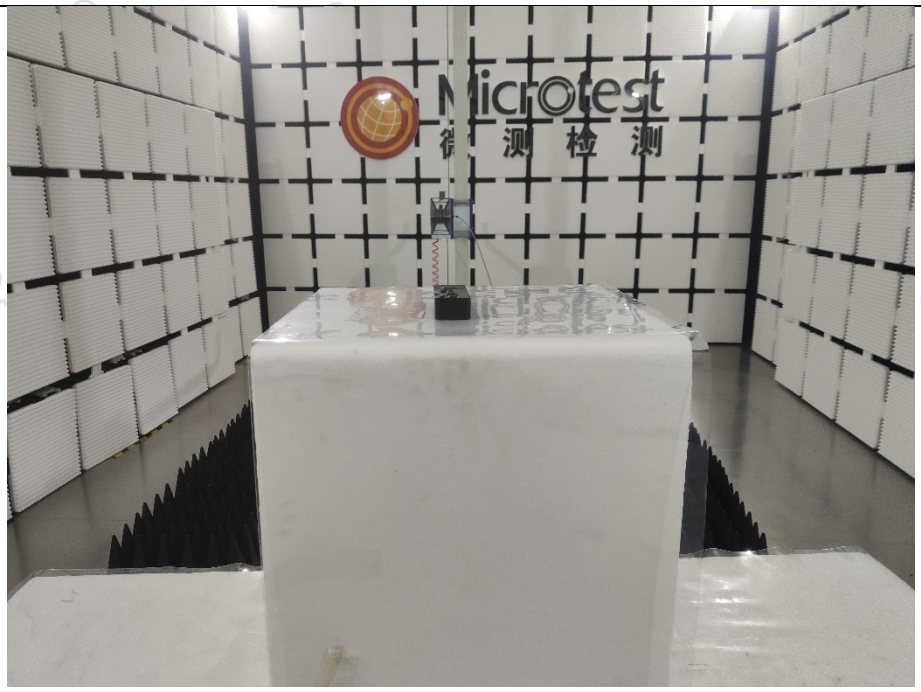
5.6.3 Test Result

Cease time(s)	Limit(s)	Result
3.715	5	Pass



Photographs of the Test Setup

Radiated emission – below 1GHz

Radiated emission – above 1GHz


Conducted emission

Photographs of the EUT

See the APPENDIX 1- EUT PHOTO.

----End of Report----