FCC PART 15 SUBPART CTEST REPORT

FCC PART 15.247

Report Reference No.......................:	**CTA24072303302**	
FCC ID .... :	**2AG7C-6062T**	
Compiled by (position+printed name+signature)..:	File administrators Jinghua Xiao	Jinghua Xiao
Supervised by (position+printed name+signature)..:	Test Engineer Lushan Kong	Lushan Kong
Approved by (position+printed name+signature)..:	Manager Eric Wang	Eric Wang
Date of issue.......................................:	Jul.25, 2024	
Representative Laboratory Name. :	**Shenzhen CTA Testing Technology Co., Ltd.**	
Address... :	Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community,Fuhai Street, Bao'an District, Shenzhen, China	
Applicant's name...............................:	**Hangzhou Meari Technology Co., Ltd.**	
Address... :	Building 4,Huiding Intelligent Innovation Center,No. 825,Ruquan Road,Changhe Street,Binjiang District,Hangzhou,Zhejiang,China	
Test specification.............................**:**		
Standard...:	**FCC Part 15.247**	

Test item description.......................:	**Baby Monitor**
Trade Mark...:	N/A
Manufacturer..:	Hangzhou Meari Technology Co., Ltd.
Model/Type reference........................ :	AInanny-Cam
Listed Models ....:	AInanny,AInanny 2-Cam Kit,AInanny A4,AInanny A4 Kit,AInanny A4-2Cam Kit,AInanny A5Pro,AInanny A5Pro Kit,AInanny A5Pro-2cam Kit,Baby 3S,Baby 3T,Baby 3Q,Baby 3F,Baby 3T,Baby 3SM,Baby 3TM,Baby 3QM,Baby 3FM,AInanny D3,AInanny D3 kit,AInanny D3-2Cam Kit,Baby 16T,Baby 16TM
Modulation Type................................ :	GFSK
Operation Frequency......................... :	From 2402MHz to 2480MHz
Hardware Version ....:	BABY3T-T5MB-GC5-REV2_2
Software Version................................:	N/A
Rating...:	DC 5.0V/1.0A by Adapter
Result...:	**PASS**

TEST REPORT

Test Report No. :	**CTA24072303302**	Jul.25, 2024 Date of issue

Equipment under Test	:	Baby Monitor
Model /Type	:	AInanny-Cam
Listed model	:	AInanny,AInanny 2-Cam Kit,AInanny A4,AInanny A4 Kit,AInanny A4-2Cam Kit,AInanny A5Pro,AInanny A5Pro Kit,AInanny A5Pro-2cam Kit,Baby 3S,Baby 3T,Baby 3Q,Baby 3F,Baby 3T,Baby 3SM,Baby 3TM,Baby 3QM,Baby 3FM,AInanny D3,AInanny D3 kit,AInanny D3-2Cam Kit,Baby 16T,Baby 16TM
Applicant	:	**Hangzhou Meari Technology Co., Ltd.**
Address	:	Building 4,Huiding Intelligent Innovation Center,No. 825,Ruquan Road,Changhe Street,Binjiang District,Hangzhou,Zhejiang,China
Manufacturer	:	**Hangzhou Meari Technology Co., Ltd.**
Address	:	4F of Building 1 and 2-4F of Building 2, No. 91 Chutian Road, Xixing Street, Binjiang District, Hangzhou, Zhejiang, China

Test Result:	**PASS**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Contents

1. TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15.247: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.
ANSI C63.10-2020: American National Standard for Testing Unlicensed Wireless Devices
KDB 558074 D01 DTS Meas Guidance v05r02: Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247.

2. SUMMARY

2.1. General Remarks

Date of receipt of test sample	:	Jun.10, 2024
Testing commenced on	:	Jun.10, 2024
Testing concluded on	:	Jul.23, 2024

2.2. Product Description

Product Name	Baby Monitor
Trade Mark	N/A
Model/Type reference	AInanny-Cam
List Models	AInanny,AInanny 2-Cam Kit,AInanny A4,AInanny A4 Kit,AInanny A4-2Cam Kit,AInanny A5Pro,AInanny A5Pro Kit,AInanny A5Pro-2cam Kit,Baby 3S,Baby 3T,Baby 3Q,Baby 3F,Baby 3T,Baby 3SM,Baby 3TM,Baby 3QM,Baby 3FM,AInanny D3,AInanny D3 kit,AInanny D3-2Cam Kit,Baby 16T,Baby 16TM
Model Declaration	PCB board, structure and internal of these model(s) are the same, Only the model name different , So no additional models were tested.
Power supply:	DC 5.0V/1.0A by Adapter
Sample ID	CTA240723033-1#& CTA240723033-2#
Bluetooth	
Operation frequency	2402-2480MHz
Channel Number	40 channels for Bluetooth (DTS)
Channel Spacing	2MHz for Bluetooth (DTS)
Modulation Type	GFSK for Bluetooth (DTS)
WIFI(2.4G Band)	
Frequency Range	2412MHz ~ 2462MHz
Channel Spacing	5MHz
Channel Number	11 Channel for 20MHz bandwidth(2412~2462MHz)
Modulation Type	802.11b: DSSS; 802.11g/n: OFDM; 802.11ax: OFDMA
Antenna Description	FPC antenna, 3.37 dBi(Max.)for 2.4G Band
SRD	
Frequency Range	905-925MHz
Channel Number	11Channel
Channel Spacing	2MHz
Modulation Type	OFDM
Antenna Description	FPC antenna, -0.83 dBi(Max.)for SRD Band

2.3. Equipment Under Test

Power supply system utilised

Power supply voltage	:	○	230V/ 50 Hz	○	120V/60Hz
		○	12 V DC	○	24 V DC
		●	Other (specified in blank below)		

DC 5.0V

2.4. Short description of the Equipment under Test (EUT)

This is a Baby Monitor.
For more details, refer to the user's manual of the EUT.

2.5. EUT operation mode

The Applicant provides communication tools software to control the EUT for staying in continuous transmitting (Duty Cycle more than 98%) and receiving mode for testing .There are 40 channels provided to the EUT. Channel 00/19/39 was selected to test.

Mode of Operations	Frequency Range (MHz)	Data Rate (Mbps)
(BLE)	2402	1
	2440	1
	2480	1
For Conducted Emission		
Test Mode	TX Mode	
For Radiated Emission		
Test Mode	TX Mode	

Channel	Frequency(MHz)	Channel	Frequency(MHz)
0	**2402**	20	2442
1	2404	21	2444
2	2406	22	2446
--	--	--	--
--	--	--	--
18	2438	38	2478
19	**2440**	**39**	**2480**

The EUT has been tested under operating condition.

This test was performed with EUT in X, Y, Z position and the worst case was found when EUT in X position.

AC conducted emission pre-test at both at AC 120V/60Hz and AC 240V/50Hz modes, recorded worst case(AC 120V/60Hz).

Worst-case mode and channel used for 150 KHz-30 MHz power line conducted emissions was the mode and channel with the highest output power, which was determined to be BT LE mode (MCH).

Worst-case mode and channel used for 9 KHz-1000 MHz radiated emissions was the mode and channel with the highest output power, that was determined to be BT LE mode(MCH).

2.6. Block Diagram of Test Setup

2.7. EUT Exercise Software

The system was configured for testing in a continuous transmits condition and change test channels by software (IPOP order) provided by application.

2.8. Special Accessories

Manufacturer	Description	Model	Serial Number	Certificate
SHENZHEN TIANYIN ELECTRONICS CO.,LTD.	Adapter	TPA-46B050100UU	--	IC
Zhuzhou Dachuan Electronic Technology Co.,Ltd.	Adapter	DCT07W050100US-C1	--	IC

2.9. External I/O Cable

I/O Port Description	Quantity	Cable
DC IN Port	1	Non-Shielded, 1.0m
SD Card Port	1	N/A

2.10. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: 2AG7C-6062T** filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

2.11. Modifications

No modifications were implemented to meet testing criteria.

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Shenzhen CTA Testing Technology Co., Ltd.
Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community,Fuhai Street, Bao„an District, Shenzhen, China.

3.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 517856 Designation Number: CN1318
Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.
A2LA-Lab Cert. No.: 6534.01
Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.
The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

3.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the Shenzhen CTA Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.
Hereafter the best measurement capability for Shenzhen CTA Testing Technology Co., Ltd. is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	9KHz~30MHz	3.02 dB	(1)
Radiated Emission	30~1000MHz	4.06 dB	(1)
Radiated Emission	1~18GHz	5.14 dB	(1)
Radiated Emission	18-40GHz	5.38 dB	(1)
Conducted Disturbance	0.15~30MHz	2.14 dB	(1)
Output Peak power	30MHz~18GHz	0.55 dB	(1)
Power spectral density	/	0.57 dB	(1)
Spectrum bandwidth	/	1.1%	(1)
Radiated spurious emission (30MHz-1GHz	30~1000MHz	4.10 dB	(1)
Radiated spurious emission (1GHz-18GHz)	1~18GHz	4.32 dB	(1)
Radiated spurious emission (18GHz-40GHz)	18-40GHz	5.54 dB	(1)

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.5. Test Description

Applied Standard: RSS-247 Issue 3 / RSS-Gen Issue 5				
FCC Rules	Description of Test	Test Sample	Result	Remark
/	On Time and Duty Cycle	CTA240723033-1#	Compliant	Appendix A
§15.247(b)	Maximum Conducted Output Power	CTA240723033-1#	Compliant	Appendix A
§15.247(e)	Power Spectral Density	CTA240723033-1#	Compliant	Appendix A
§15.247(a)(2)	6dB Bandwidth	CTA240723033-1#	Compliant	Appendix A
§2.1047	99% Occupied Bandwidth	CTA240723033-1#	Compliant	Appendix A
§15.209, §15.247(d)	Conducted Spurious Emissions and Band Edges Test	CTA240723033-1#	Compliant	Appendix A
§15.209, §15.247(d)	Radiated Spurious Emissions	CTA240723033-1# CTA240723033-2#	Compliant	Note 1
§15.205	Emissions at Restricted Band	CTA240723033-1#	Compliant	Appendix A
§15.207(a)	AC Conducted Emissions	CTA240723033-2#	Compliant	Note 1
§15.203 §15.247(c)	Antenna Requirements	CTA240723033-1#	Compliant	Note 1
§15.247(i) §2.1091	RF Exposure	/	Compliant	Note 2

Remark:
1. The measurement uncertainty is not included in the test result.
2. NA = Not Applicable; NP = Not Performed
3. Note 1 – Test results inside test report;
4. Note 2 – Test results in other test report (MPE Report).
5. We tested all test mode and recorded worst case in report

3.6. Equipments Used during the Test

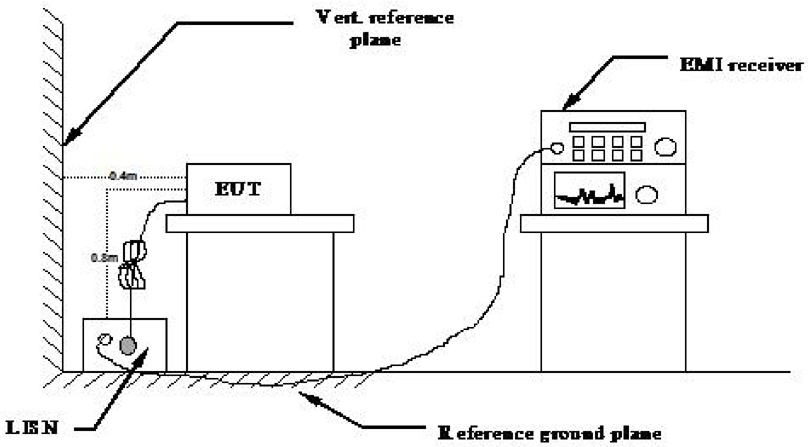
Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
LISN	R&S	ENV216	CTA-308	2023/07/31	2024/08/01
LISN	R&S	ENV216	CTA-314	2023/07/31	2024/08/01
EMI Test Receiver	R&S	ESPI	CTA-307	2023/07/31	2024/08/01
EMI Test Receiver	R&S	ESCI	CTA-306	2023/07/31	2024/08/01
Spectrum Analyzer	Agilent	N9020A	CTA-301	2023/07/31	2024/08/01
Spectrum Analyzer	R&S	FSP	CTA-337	2023/07/31	2024/08/01
Vector Signa generator	Agilent	N5182A	CTA-305	2023/07/31	2024/08/01
Analog Signal Generator	R&S	SML03	CTA-304	2023/07/31	2024/08/01
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	R&S	CTA-302	2023/07/31	2024/08/01
Temperature and humidity meter	Chigo	ZG-7020	CTA-326	2023/07/31	2024/08/01
Ultra-Broadband Antenna	Schwarzbeck	VULB9163	CTA-310	2023/10/17	2024/10/18
Horn Antenna	Schwarzbeck	BBHA 9120D	CTA-309	2023/10/13	2024/10/14
Loop Antenna	Zhinan	ZN30900C	CTA-311	2023/10/17	2024/10/18
Horn Antenna	Beijing Hangwei Dayang	OBH100400	CTA-336	2024/08/05	2024/08/06
Amplifier	Schwarzbeck	BBV 9745	CTA-312	2023/07/31	2024/08/01
Amplifier	Taiwan chengyi	EMC051845B	CTA-313	2023/07/31	2024/08/01
Directional coupler	NARDA	4226-10	CTA-303	2023/07/31	2024/08/01
High-Pass Filter	XingBo	XBLBQ-GTA18	CTA-402	2023/07/31	2024/08/01
High-Pass Filter	XingBo	XBLBQ-GTA27	CTA-403	2023/07/31	2024/08/01
Automated filter bank	Tonscend	JS0806-F	CTA-404	2023/07/31	2024/08/01
Power Sensor	Agilent	U2021XA	CTA-405	2023/07/31	2024/08/01
Amplifier	Schwarzbeck	BBV9719	CTA-406	2023/07/31	2024/08/01
EMI Test Software	Tonscend	JS32-CE	5.0.0.2	/	/
EMI Test Software	Tonscend	JS32-RE	5.0.0.1	/	/
RF Test Software	Tonscend	JS1120-1	3.1.65	/	/
RF Test Software	Tonscend	JS1120-3	3.1.46	/	/

Note: 1. The Cal.Interval was one year.

4. TEST CONDITIONS AND RESULTS

4.1. AC Power Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2020.
2 Support equipment, if needed, was placed as per ANSI C63.10-2020
3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2020
4 The EUT received DC 5.0V power, the adapter received AC120V/60Hz or AC 240V/50Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5 All support equipments received AC power from a second LISN, if any.
6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8 During the above scans, the emissions were maximized by cable manipulation.

AC Power Conducted Emission Limit

For intentional device, according to §15.207(a) AC Power Conducted Emission Limits is as following：

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
* Decreases with the logarithm of the frequency.		

DISTURBANCE Calculation

The AC mains conducted disturbance is calculated by adding the 10dB Pulse Limiter and Cable Factor and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

CD (dBuV) = RA (dBuV) + PL (dB) + CL (dB)

Where CD = Conducted Disturbance	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	PL = 10 dB Pulse Limiter Factor

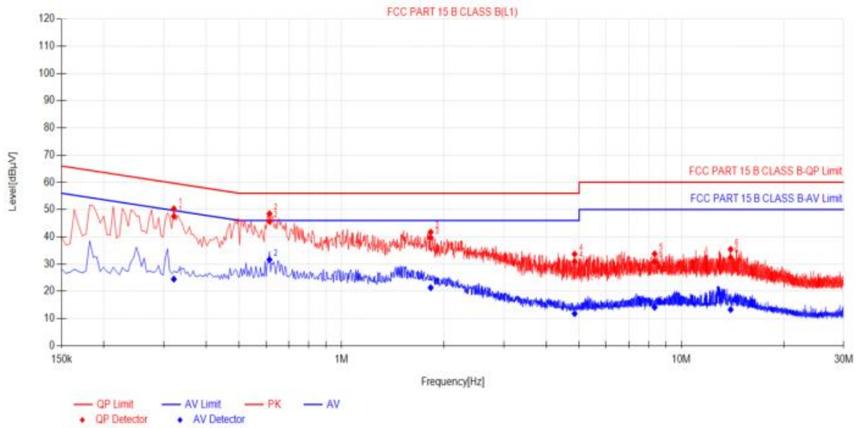
TEST RESULTS

Remark: We measured Conducted Emission at GFSK mode from 150 KHz to 30MHz in AC120V and the worst case was recorded.

Temperature	25℃	Humidity	60%
Test Engineer	Lushan Kong	Configurations	BT

Adapter: TPA-46B050100UU

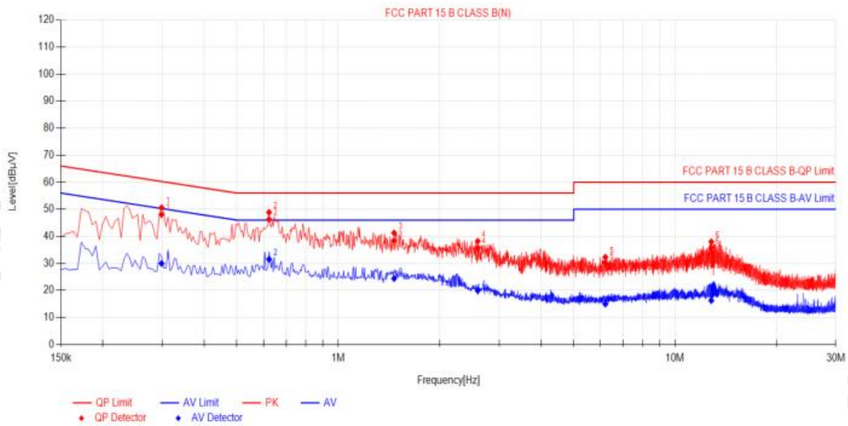
Power supply:	AC 120V/60Hz	Polarization	L



Suspected List

NO.	Freq. [MHz]	Reading [dBμV]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Detector	Type	Verdict
1	0.321	40.38	50.30	9.92	59.68	9.38	PK	L1	PASS
2	0.6135	38.43	48.46	10.03	56.00	7.54	PK	L1	PASS
3	1.8285	31.82	41.74	9.92	56.00	14.26	PK	L1	PASS
4	4.848	23.67	33.65	9.98	56.00	22.35	PK	L1	PASS
5	8.3355	23.49	33.76	10.27	60.00	26.24	PK	L1	PASS
6	13.9515	25.11	35.41	10.30	60.00	24.59	PK	L1	PASS

Power supply:	AC 120V/60Hz	Polarization	N

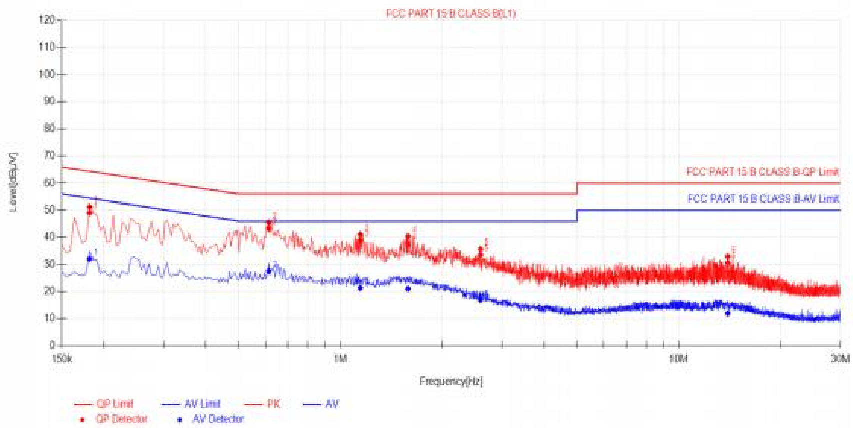


Suspected List

NO.	Freq. [MHz]	Reading [dBμV]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Detector	Type	Verdict
1	0.2985	40.75	50.61	9.86	60.28	9.67	PK	N	PASS
2	0.6225	38.75	48.88	10.13	56.00	7.12	PK	N	PASS
3	1.464	31.12	41.26	10.14	56.00	14.74	PK	N	PASS
4	2.5935	28.06	38.20	10.14	56.00	17.80	PK	N	PASS
5	6.207	22.02	32.31	10.29	60.00	27.69	PK	N	PASS
6	12.8085	27.60	38.01	10.41	60.00	21.99	PK	N	PASS

Adapter: DCT07W050100US-C1

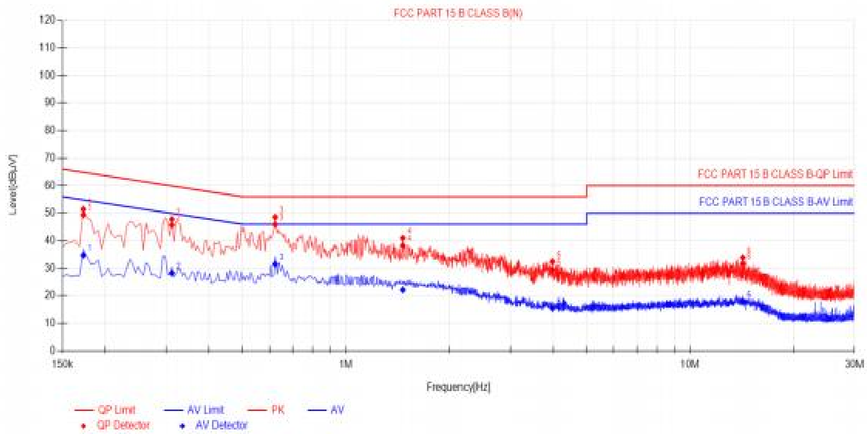
Power supply:	AC 120V/60Hz	Polarization	L



Suspected List

NO.	Freq. [MHz]	Reading [dBμV]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Detector	Type	Verdict
1	0.1815	41.30	51.31	10.01	64.58	13.27	PK	L1	PASS
2	0.6135	35.43	45.46	10.03	56.00	10.54	PK	L1	PASS
3	1.1445	31.12	41.02	9.90	56.00	14.98	PK	L1	PASS
4	1.5855	30.48	40.38	9.90	56.00	15.62	PK	L1	PASS
5	2.5935	25.64	35.73	10.09	56.00	20.27	PK	L1	PASS
6	13.9515	22.67	32.97	10.30	60.00	27.03	PK	L1	PASS

Power supply:	AC 120V/60Hz	Polarization	N



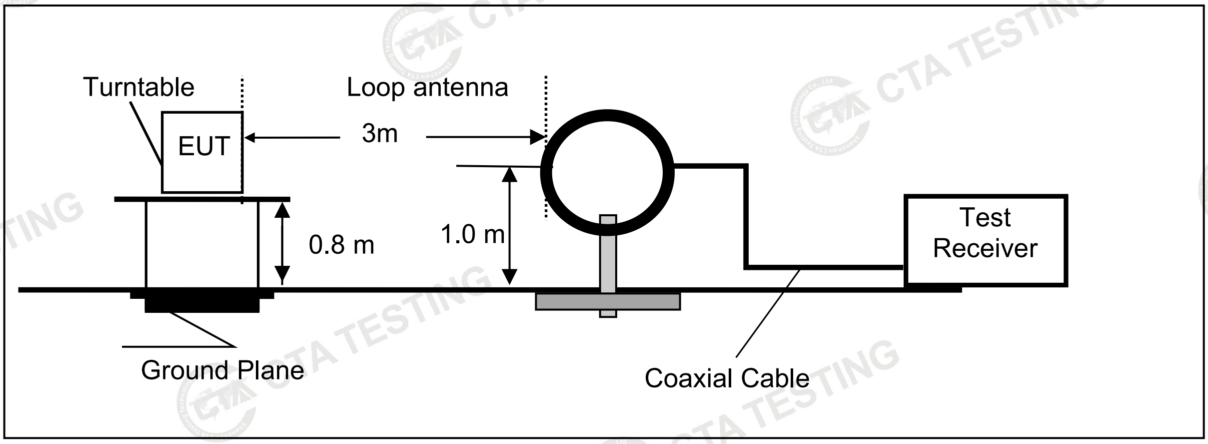
Suspected List

NO.	Freq. [MHz]	Reading [dBμV]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Detector	Type	Verdict
1	0.1725	41.38	51.45	10.07	64.91	13.46	PK	N	PASS
2	0.312	37.94	47.80	9.86	59.94	12.14	PK	N	PASS
3	0.6225	38.45	48.58	10.13	56.00	7.42	PK	N	PASS
4	1.464	30.82	40.96	10.14	56.00	15.04	PK	N	PASS
5	3.9795	22.27	32.39	10.12	56.00	23.61	PK	N	PASS
6	14.217	23.41	33.83	10.42	60.00	26.17	PK	N	PASS

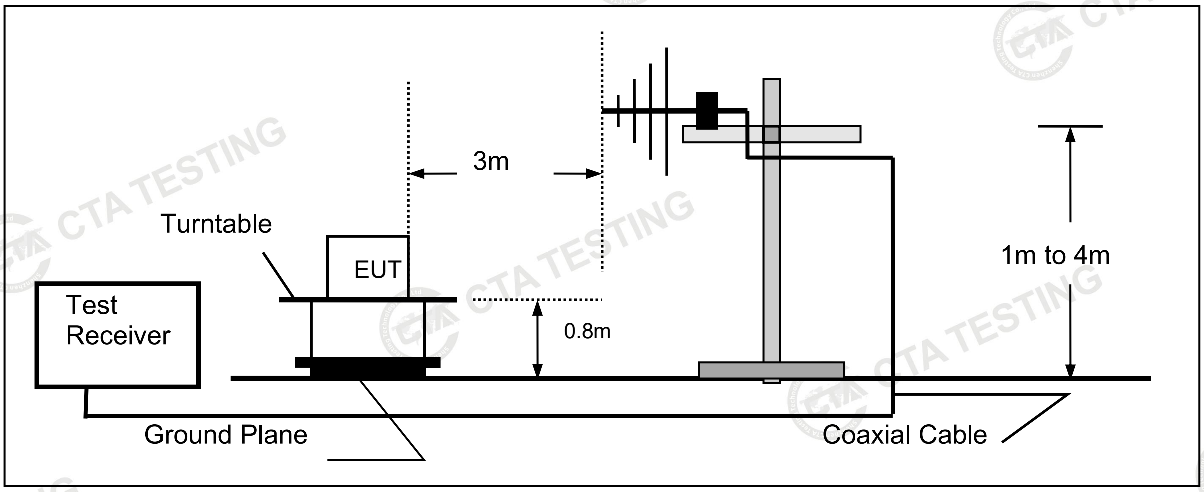
4.2. Radiated Emission

TEST CONFIGURATION

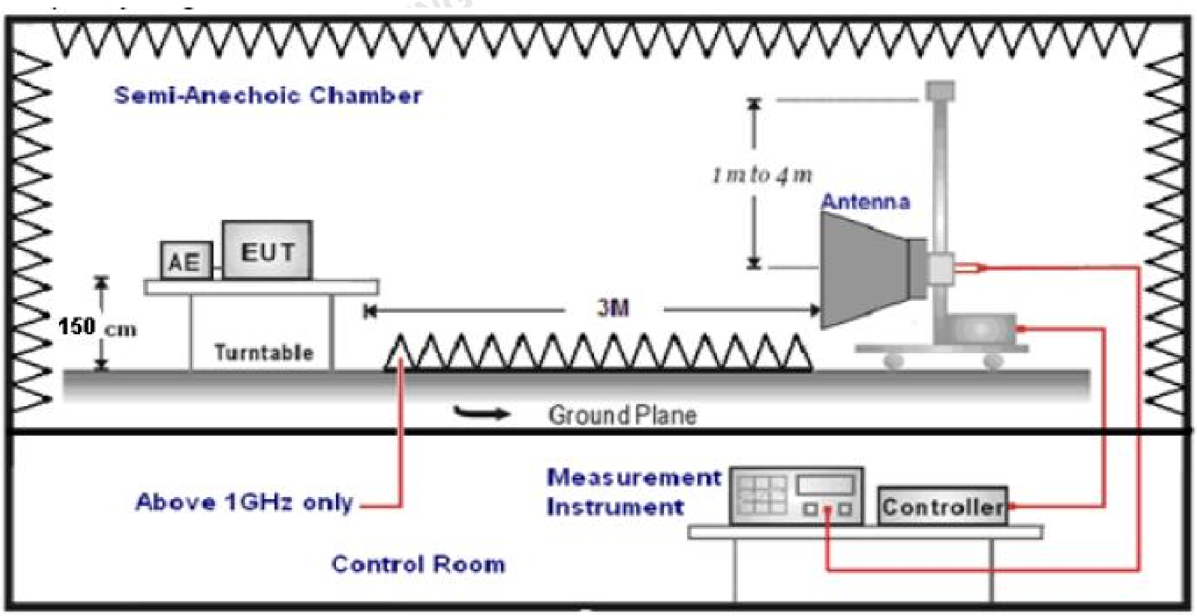
Frequency range 9 KHz – 30MHz



Frequency range 30MHz – 1000MHz



Frequency range above 1GHz-25GHz



TEST PROCEDURE

1. The EUT was placed on a turn table which is 0.8m above ground plane when testing frequency range 9 KHz –1GHz;the EUT was placed on a turn table which is 1.5m above ground plane when testing frequency range 1GHz – 25GHz.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0℃ to 360℃ to acquire the highest emissions from EUT.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.
5. Radiated emission test frequency band from 30MHz to 25GHz.
6. The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance
9KHz-30MHz	Active Loop Antenna	3
30MHz-1GHz	Ultra-Broadband Antenna	3
1GHz-18GHz	Double Ridged Horn Antenna	3
18GHz-25GHz	Horn Anternna	1

7. Setting test receiver/spectrum as following table states:

Test Frequency range	Test Receiver/Spectrum Setting	Detector
9KHz-150KHz	RBW=200Hz/VBW=3KHz,Sweep time=Auto	QP
150KHz-30MHz	RBW=9KHz/VBW=100KHz,Sweep time=Auto	QP
30MHz-1GHz	RBW=120KHz/VBW=1000KHz,Sweep time=Auto	QP
1GHz-40GHz	Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto	Peak

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	

Transd=AF +CL-AG

RADIATION LIMIT

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission from intentional radiators at a distance of 3 meters shall not exceed the following table. According to § 15.247(d), in any 100kHz bandwidth outside the frequency band in which the EUT is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the100kHz bandwidth within the band that contains the highest level of desired power.

The pre-test have done for the EUT in three axes and found the worst emission at position shown in test setup photos.

Frequency (MHz)	Distance (Meters)	Radiated (dBμV/m)	Radiated (μV/m)
0.009-0.49	3	20log(2400/F(KHz))+40log(300/3)	2400/F(KHz)
0.49-1.705	3	20log(24000/F(KHz))+ 40log(30/3)	24000/F(KHz)
1.705-30	3	20log(30)+ 40log(30/3)	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

TEST RESULTS

Remark: We measured Radiated Emission at GFSK mode from 9KHz to 25GHz in AC120V and the worst case was recorded.

Temperature	25℃	Humidity	55%
Test Engineer	Lushan Kong	Configurations	BT

For 9 KHz~30MHz

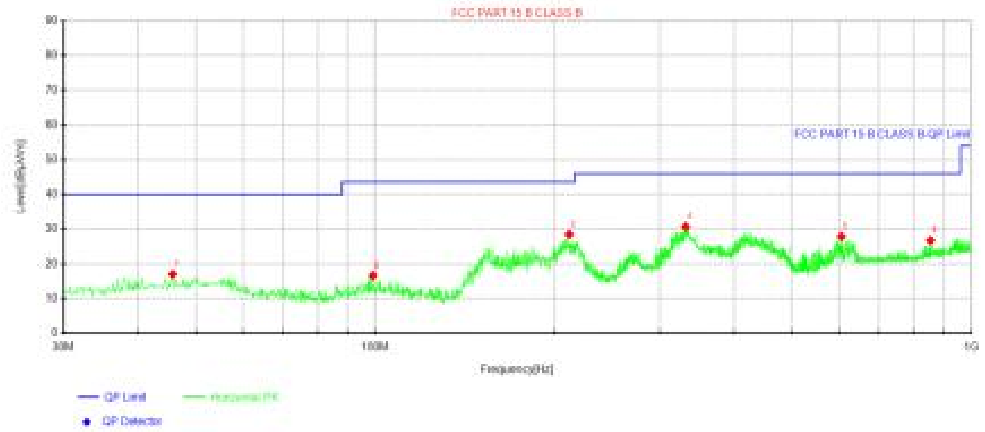
Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Over Limit (dBuV)	Remark
-	-	-	-	See Note

Note:
The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);
Limit line = specific limits (dBuV) + distance extrapolation factor.

For 30MHz to 1000MHz

Adapter: TPA-46B050100UU

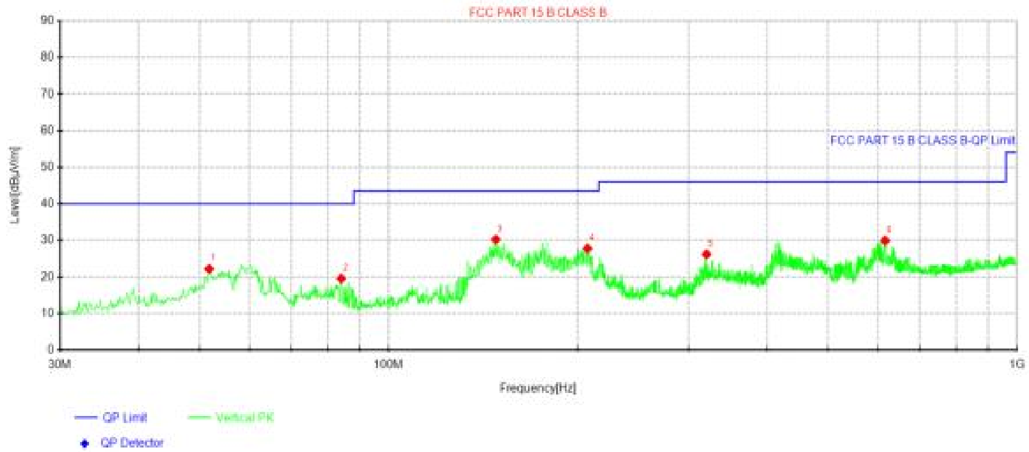
Horizontal



Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	45.7625	28.41	17.02	-11.39	40.00	22.98	100	183	Horizontal
2	99.1125	29.71	16.61	-13.10	43.50	26.89	100	360	Horizontal
3	211.632	41.18	28.48	-12.70	43.50	15.02	100	90	Horizontal
4	331.791	41.55	30.72	-10.83	46.00	15.28	100	3	Horizontal
5	605.937	33.61	27.86	-5.75	46.00	18.14	100	113	Horizontal
6	854.621	30.39	26.73	-3.66	46.00	19.27	100	3	Horizontal

Vertical

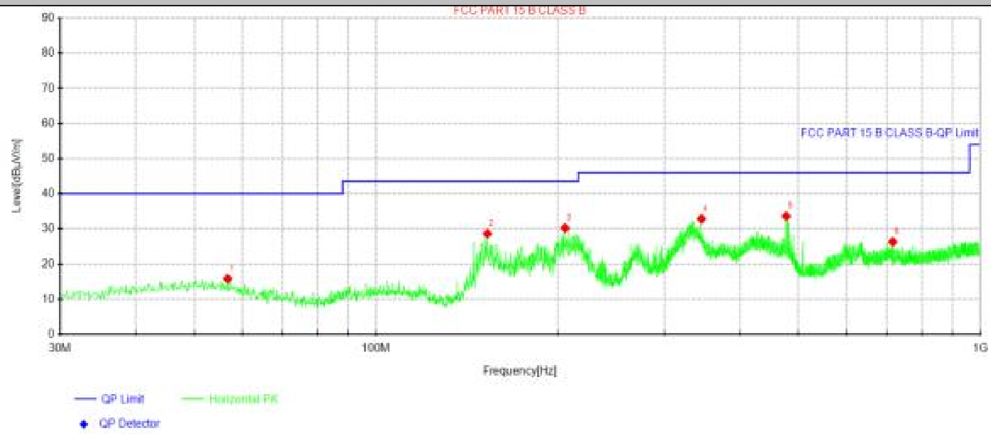


Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	51.825	33.49	22.20	-11.29	40.00	17.80	100	2	Vertical
2	84.0775	35.57	19.55	-16.02	40.00	20.45	100	214	Vertical
3	148.097	45.69	30.23	-15.46	43.50	13.27	100	201	Vertical
4	207.267	40.52	27.76	-12.76	43.50	15.74	100	294	Vertical
5	320.636	37.17	26.22	-10.95	46.00	19.78	100	97	Vertical
6	616.85	35.64	29.94	-5.70	46.00	16.06	100	178	Vertical

Adapter: DCT07W050100US-C1

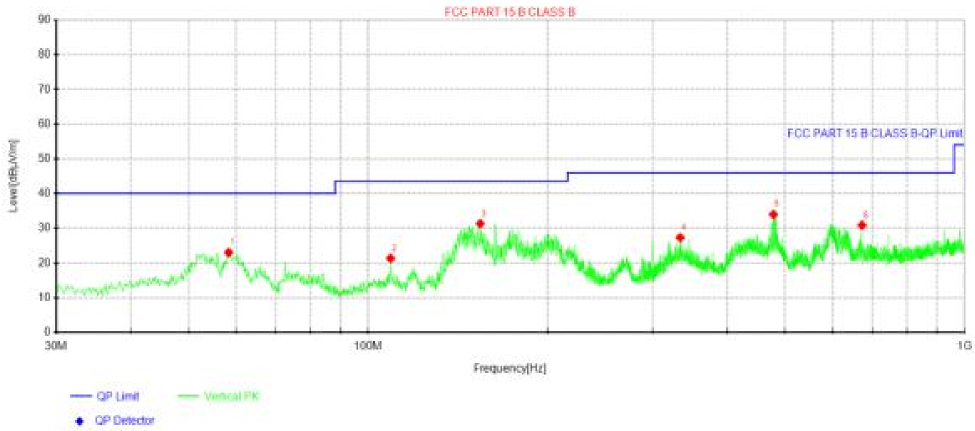
Horizontal



Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	56.7962	27.81	15.83	-11.98	40.00	24.17	100	359	Horizontal
2	152.826	44.23	28.65	-15.58	43.50	14.85	100	21	Horizontal
3	205.448	43.03	30.27	-12.76	43.50	13.23	100	113	Horizontal
4	345.492	43.58	32.84	-10.74	46.00	13.16	100	9	Horizontal
5	477.291	42.95	33.61	-9.34	46.00	12.39	100	193	Horizontal
6	716.275	31.54	26.33	-5.21	46.00	19.67	100	218	Horizontal

Vertical



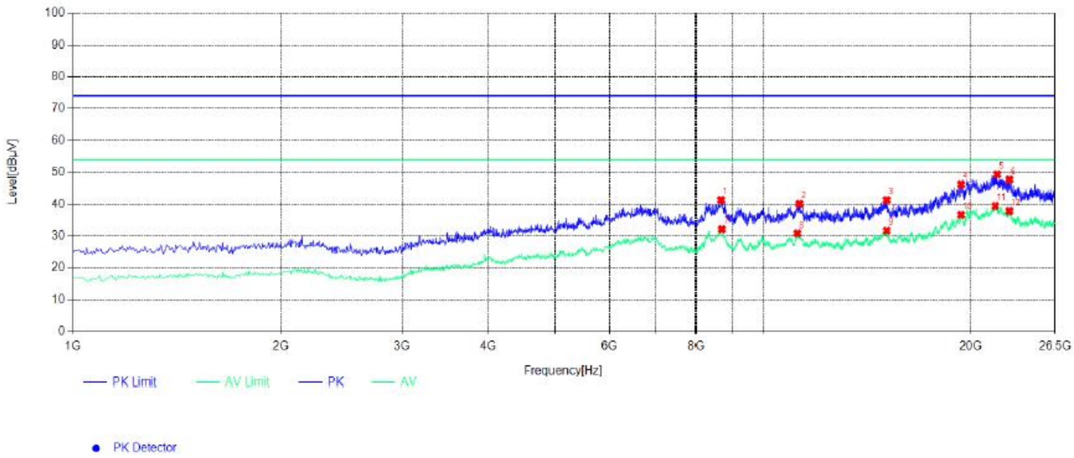
Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	58.3725	35.38	23.01	-12.37	40.00	17.49	100	189	Vertical
2	109.055	34.65	21.37	-13.28	43.50	22.63	100	5	Vertical
3	154.16	46.98	31.31	-15.67	43.50	12.69	100	315	Vertical
4	333.61	38.13	27.31	-10.82	46.00	19.19	100	97	Vertical
5	478.14	43.34	34.00	-9.34	46.00	12.50	100	282	Vertical
6	672.867	36.29	30.89	-5.40	46.00	15.61	100	201	Vertical

For Greater than 1GHz

Horizontal (2402MHz)

Test Graph



Suspected List

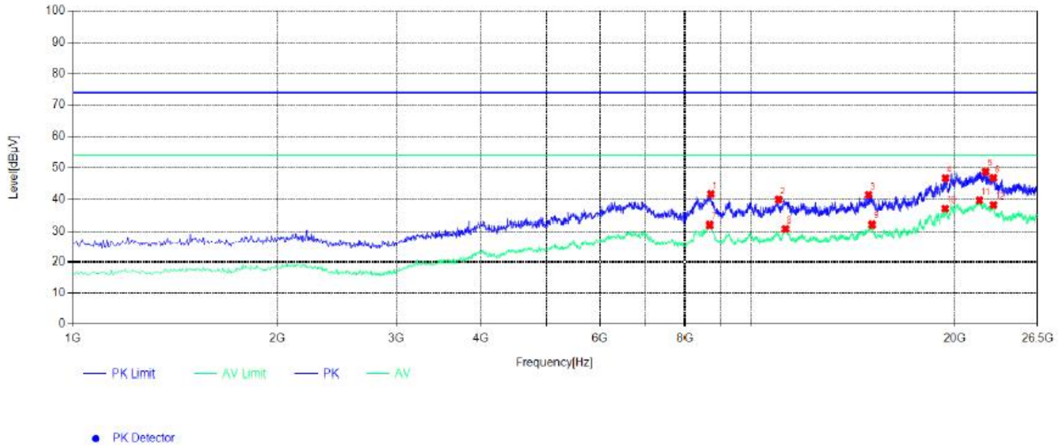
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	6969.06	40.92	0.02	40.94	74	33.06	150	177	PK	Horizonta	PASS
2	8733.03	38.05	0.95	39.01	74	34.99	150	104	PK	Horizonta	PASS
3	15012.00	38.71	1.22	39.93	74	34.07	150	122	PK	Horizonta	PASS
4	19347.94	44.31	1.79	46.10	74	27.90	150	93	PK	Horizonta	PASS
5	21826.97	45.55	2.54	48.09	74	25.91	150	293	PK	Horizonta	PASS
6	22785.96	44.01	2.99	47.00	74	27.00	150	27	PK	Horizonta	PASS
7	8728.08	31.12	-0.14	30.97	54	23.03	150	200	AV	Horizonta	PASS
8	11282.91	29.81	0.65	30.46	54	23.54	150	265	AV	Horizonta	PASS
9	15077.93	29.02	1.56	30.59	54	23.41	150	222	AV	Horizonta	PASS
10	19342.92	33.91	2.02	35.93	54	18.07	150	221	AV	Horizonta	PASS
11	21709.97	37.59	2.51	40.09	54	13.91	150	117	AV	Horizonta	PASS
12	22745.01	35.42	2.62	38.03	54	15.97	150	254	AV	Horizonta	PASS

Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Vertical(2402MHz)

Test Graph



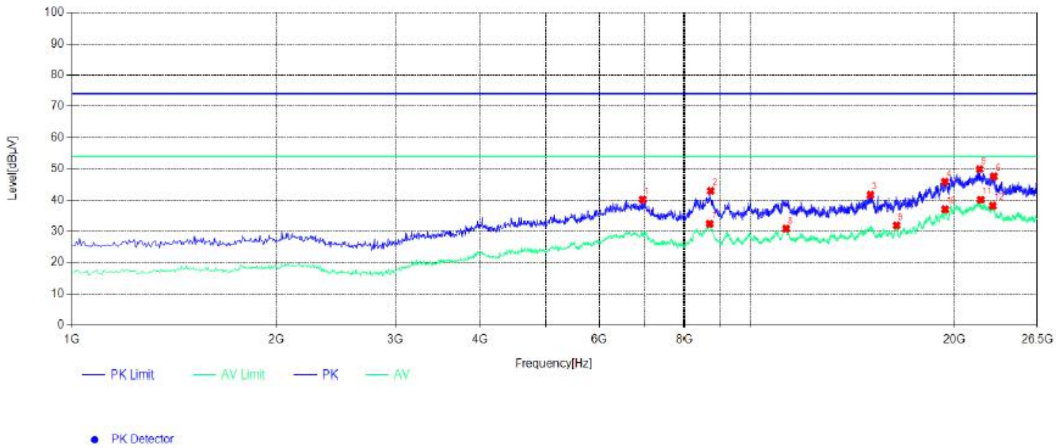
Suspected List											
NO.	Frequency [MHz]	Reading [dBμV/m]	Factor [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	8721.99	40.98	-0.08	40.90	74	33.10	150	171	PK	Vertical	PASS
2	11263.00	38.08	0.95	39.03	74	34.97	150	91	PK	Vertical	PASS
3	15010.81	38.50	1.42	39.92	74	34.08	150	84	PK	Vertical	PASS
4	19346.11	44.22	1.87	46.09	74	27.91	150	86	PK	Vertical	PASS
5	21824.98	45.51	2.58	48.09	74	25.91	150	263	PK	Vertical	PASS
6	22782.21	44.01	2.98	46.98	74	27.02	150	43	PK	Vertical	PASS
7	8728.89	31.03	0.03	31.07	54	22.93	150	182	AV	Vertical	PASS
8	11283.09	29.81	0.69	30.50	54	23.50	150	241	AV	Vertical	PASS
9	15074.24	28.98	1.50	30.48	54	23.52	150	232	AV	Vertical	PASS
10	19339.19	33.97	1.95	35.92	54	18.08	150	191	AV	Vertical	PASS
11	21709.11	37.63	2.39	40.01	54	13.99	150	91	AV	Vertical	PASS
12	22743.08	35.25	2.66	37.91	54	16.09	150	281	AV	Vertical	PASS

Note: 1. Result (dBμV/m) = Reading(dBμV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Horizontal (2440MHz)

Test Graph



Suspected List

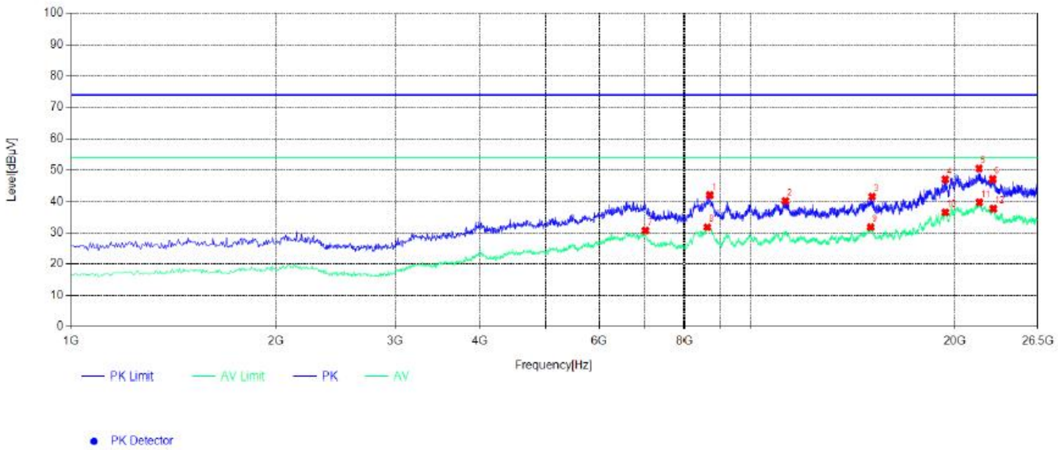
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	8707.04	41.37	-0.34	41.02	74	32.98	150	148	PK	Horizonta	PASS
2	9977.04	38.08	0.92	39.00	74	35.00	150	135	PK	Horizonta	PASS
3	15012.40	38.57	1.48	40.04	74	33.96	150	102	PK	Horizonta	PASS
4	19319.35	44.29	1.77	46.06	74	27.94	150	90	PK	Horizonta	PASS
5	21743.48	45.89	2.14	48.04	74	25.96	150	254	PK	Horizonta	PASS
6	22743.17	43.96	2.94	46.90	74	27.10	150	48	PK	Horizonta	PASS
7	6588.27	31.00	0.07	31.07	54	22.93	150	177	AV	Horizonta	PASS
8	8716.52	29.56	0.91	30.48	54	23.52	150	255	AV	Horizonta	PASS
9	15090.48	29.11	1.47	30.58	54	23.42	150	218	AV	Horizonta	PASS
10	19347.95	34.19	1.83	36.02	54	17.98	150	201	AV	Horizonta	PASS
11	21735.73	37.91	2.16	40.06	54	13.94	150	90	AV	Horizonta	PASS
12	22768.81	35.02	3.02	38.04	54	15.96	150	276	AV	Horizonta	PASS

Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Vertical(2440MHz)

Test Graph



Suspected List

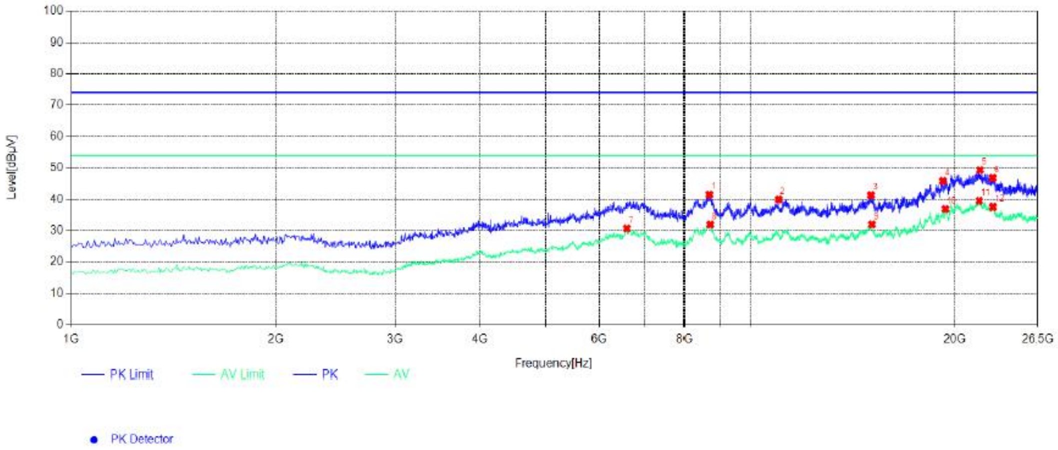
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	8707.04	41.21	-0.27	40.94	74	33.06	150	139	PK	Vertical	PASS
2	11236.98	37.96	1.09	39.05	74	34.95	150	126	PK	Vertical	PASS
3	14959.41	38.82	1.19	40.01	74	33.99	150	127	PK	Vertical	PASS
4	19345.17	43.96	1.95	45.91	74	28.09	150	109	PK	Vertical	PASS
5	21720.62	45.70	2.26	47.96	74	26.04	150	263	PK	Vertical	PASS
6	22766.74	44.26	2.70	46.96	74	27.04	150	45	PK	Vertical	PASS
7	7023.70	31.30	-0.24	31.07	54	22.93	150	176	AV	Vertical	PASS
8	8627.63	29.37	1.08	30.45	54	23.55	150	254	AV	Vertical	PASS
9	14957.48	29.10	1.50	30.60	54	23.40	150	229	AV	Vertical	PASS
10	19355.22	34.06	1.90	35.96	54	18.04	150	219	AV	Vertical	PASS
11	21783.33	37.76	2.29	40.05	54	13.95	150	82	AV	Vertical	PASS
12	22840.92	35.16	2.74	37.91	54	16.09	150	250	AV	Vertical	PASS

Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Horizontal (2480MHz)

Test Graph



Suspected List

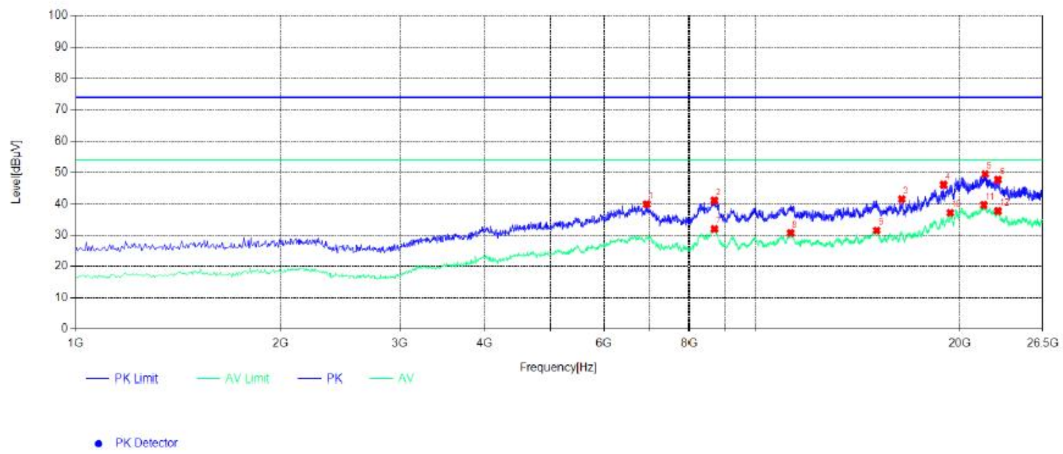
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	8722.03	40.92	0.08	41.00	74	33.00	150	167	PK	Horizonta	PASS
2	11263.03	38.28	0.70	38.98	74	35.02	150	107	PK	Horizonta	PASS
3	15052.65	38.77	1.29	40.06	74	33.94	150	128	PK	Horizonta	PASS
4	19350.67	44.29	1.73	46.02	74	27.98	150	87	PK	Horizonta	PASS
5	19892.46	45.69	2.25	47.94	74	26.06	150	266	PK	Horizonta	PASS
6	22829.93	44.05	3.01	47.06	74	26.94	150	29	PK	Horizonta	PASS
7	8627.19	31.06	-0.04	31.02	54	22.98	150	158	AV	Horizonta	PASS
8	11292.26	29.79	0.66	30.45	54	23.55	150	262	AV	Horizonta	PASS
9	14972.71	29.01	1.51	30.52	54	23.48	150	243	AV	Horizonta	PASS
10	19353.70	33.95	1.98	35.93	54	18.07	150	212	AV	Horizonta	PASS
11	21741.22	37.55	2.38	39.93	54	14.07	150	115	AV	Horizonta	PASS
12	22732.63	35.00	3.06	38.07	54	15.93	150	281	AV	Horizonta	PASS

Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Vertical(2480MHz)

Test Graph



Suspected List

NO.	Frequency [MHz]	Reading [dBμV/m]	Factor [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	6941.98	41.04	-0.09	40.95	74	33.05	150	179	PK	Vertical	PASS
2	8691.95	37.91	1.09	39.00	74	35.00	150	118	PK	Vertical	PASS
3	15151.12	38.84	1.18	40.02	74	33.98	150	92	PK	Vertical	PASS
4	19357.12	44.36	1.63	45.99	74	28.01	150	107	PK	Vertical	PASS
5	21916.01	45.62	2.48	48.10	74	25.90	150	284	PK	Vertical	PASS
6	22804.03	44.06	2.98	47.04	74	26.96	150	68	PK	Vertical	PASS
7	8706.67	31.23	-0.18	31.05	54	22.95	150	181	AV	Vertical	PASS
8	11295.43	29.82	0.75	30.57	54	23.43	150	267	AV	Vertical	PASS
9	16429.20	29.17	1.23	30.40	54	23.60	150	236	AV	Vertical	PASS
10	19346.52	34.33	1.75	36.08	54	17.92	150	222	AV	Vertical	PASS
11	21793.36	37.75	2.34	40.09	54	13.91	150	111	AV	Vertical	PASS
12	22762.65	35.12	2.98	38.10	54	15.90	150	252	AV	Vertical	PASS

Note: 1. Result (dBμV/m) = Reading(dBμV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

REMARKS:

1. Emission level (dBuV/m) =Raw Value (dBuV)+Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
3. Margin value = Limit value- Emission level.
4. The other emission levels were very low against the limit.
5. Measured used 2.4GHz band filter to aviod power amplifer overload.

NOTE: All the modes have been tested and recorded worst mode in the report (Adapter: TPA-46B050100UU).

4.3. On Time and Duty Cycle

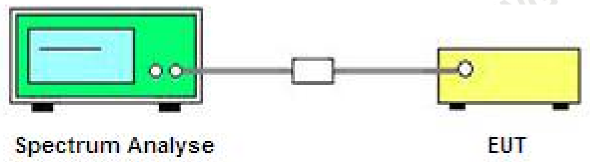
LIMIT

None; for reporting purpose only.

TEST PROCEDURE

1. Set the center frequency of the spectrum analyzer to the transmitting frequency;
2. Set the span=0MHz, RBW=8MHz, VBW=50MHz, Sweep time=5ms;
3. Detector = peak;
4. Trace mode = Single hold.

TEST CONFIGURATION



TEST RESULTS

For reporting purpose only.

Please refer to Appendix A.1.

4.4. Maximum Peak Output Power

TEST CONFIGURATION

TEST PROCEDURE

According to KDB 558074 D01 15.247 Measurement Guidance v05r02 Section 8.3.1 Maximum peak conducted output power, 8.3.1.3 The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

LIMIT

The Maximum Peak Output Power Measurement is 30dBm.

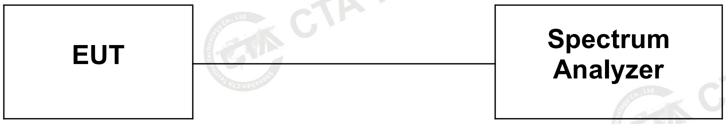
TEST RESULTS

For reporting purpose only.

Please refer to Appendix A.4.

4.5. Power Spectral Density

TEST CONFIGURATION



TEST PROCEDURE

1.Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2.Set the RBW =3 kHz.
3.Set the VBW =10 KHz.
4.Set the span to 1.5 times the DTS channel bandwidth.
5.Detector = peak.
6.Sweep time = auto couple.
7.Trace mode = max hold.
8.Allow trace to fully stabilize.
9.Use the peak marker function to determine the maximum power level.
10.If measured value exceeds limit,reduce RBW(no less than 3 kHz)and repeat.
11.The resulting peak PSD level must be 8 dBm.

LIMIT

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST RESULTS

For reporting purpose only.

Please refer to Appendix A.5.

4.6. 99% and 6dB Bandwidth

TEST CONFIGURATION

TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW=100 KHz and VBW=300KHz.
The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.
According to KDB 558074 D01 DTS Meas Guidance v05r02 for one of the following procedures may be used to determine the modulated DTS device signal bandwidth.
1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

LIMIT

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz

TEST RESULTS

For reporting purpose only.

Please refer to Appendix A.2.

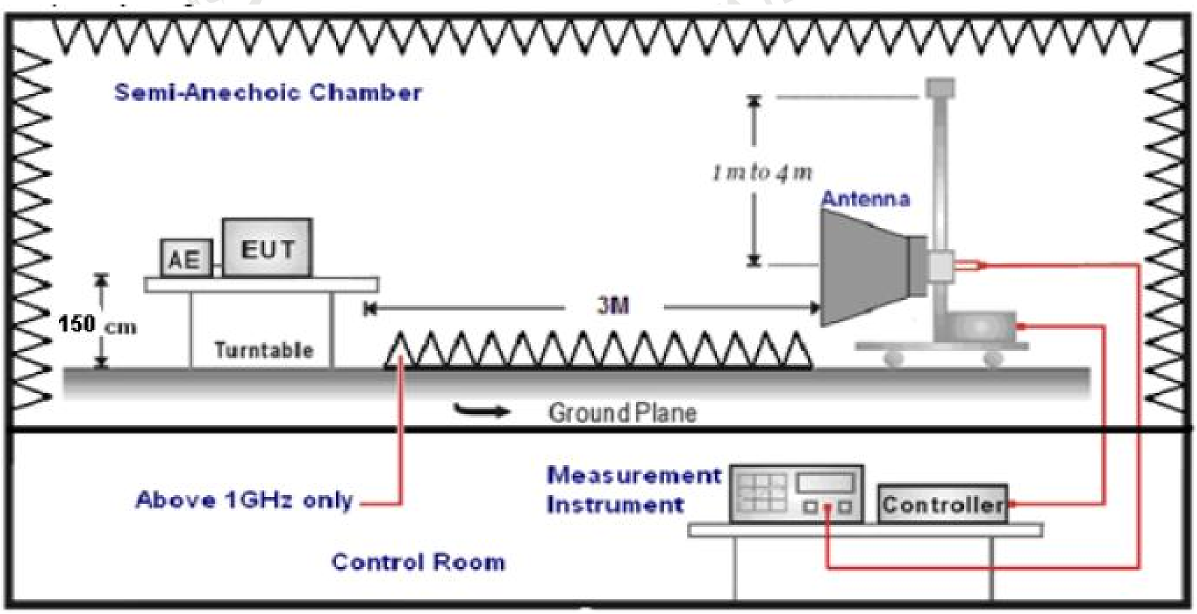
Please refer to Appendix A.3.

4.7. Conducted Spurious Emissions and Band Edge Compliance of RF Emission

TEST REQUIREMENT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section 5.4(4), the attenuation required shall be 30 dB instead of 20dB. Attenuation below the general field strength limits specified in RSS-Gen Issue 4 is not required. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

TEST CONFIGURATION



TEST PROCEDURE

1.The EUT was placed on a turn table which is 1.5m above ground plane.
2.Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0℃ to 360℃ to acquire the highest emissions from EUT.
3.And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4.Repeat above procedures until all frequency measurements have been completed..
5.The distance between test antenna and EUT was 3 meter:
6.Setting test receiver/spectrum as following table states:

Test Frequency range	Test Receiver/Spectrum Setting	Detector
1GHz-40GHz	Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto	Peak

LIMIT

Below -20dB of the highest emission level in operating band.
Radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)

TEST RESULTS

4.7.1 For Conducted at Restricted Band Measurement

For reporting purpose only.

Please refer to Appendix A.8.

4.7.2 For Conducted Bandedge Measurement

For reporting purpose only.

Please refer to Appendix A.6.

4.7.3 For Conducted Spurious Emissions Measurement

For reporting purpose only.

Please refer to Appendix A.7.

4.8. Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 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.

And according to FCC 47 CFR Section 15.247 (c), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Test Result

The antenna used for this product is FPC Antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 3.37dBi.

Reference to the **Internal photos**.

5. TEST SETUP PHOTOS OF THE EUT

Adapter: TPA-46B050100UU

Photo of Radiated Emissions Measurement

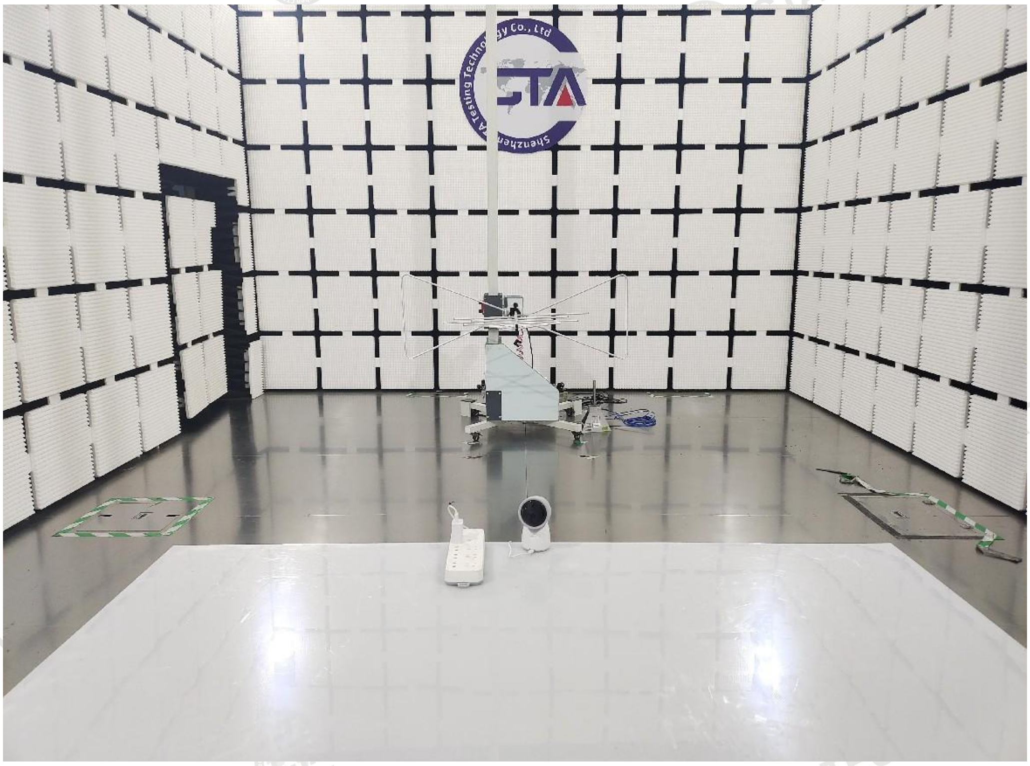


Fig. 1

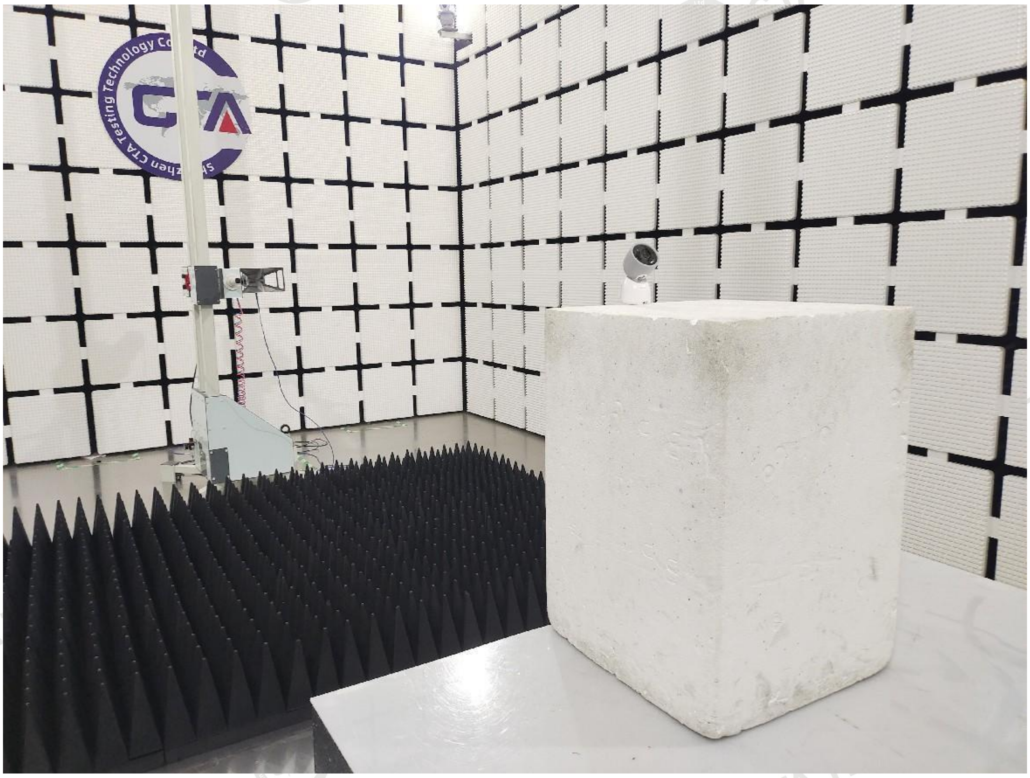


Fig. 2

Photo of Conducted Emission Measurement

Fig. 3

Adapter:DCT07W050100US-C1

Photo of Radiated Emissions Measurement

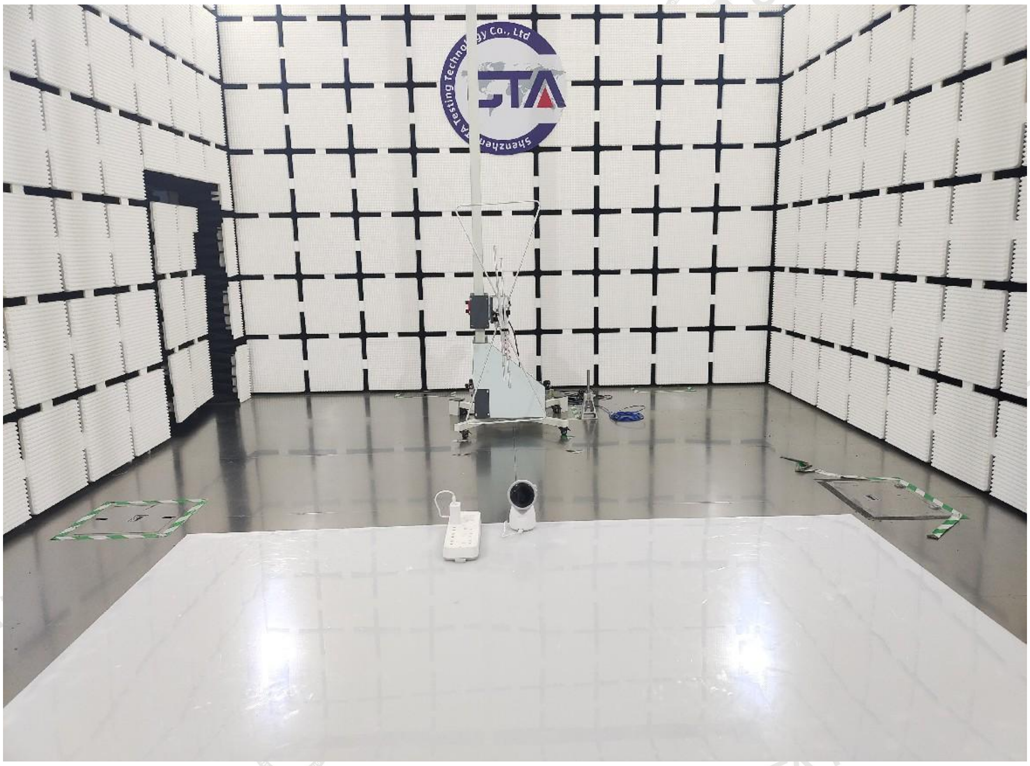


Fig. 1

Fig. 2

Photo of Conducted Emission Measurement

Fig. 3

6. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

Fig. 1

Fig. 2

Fig. 3

Fig. 4

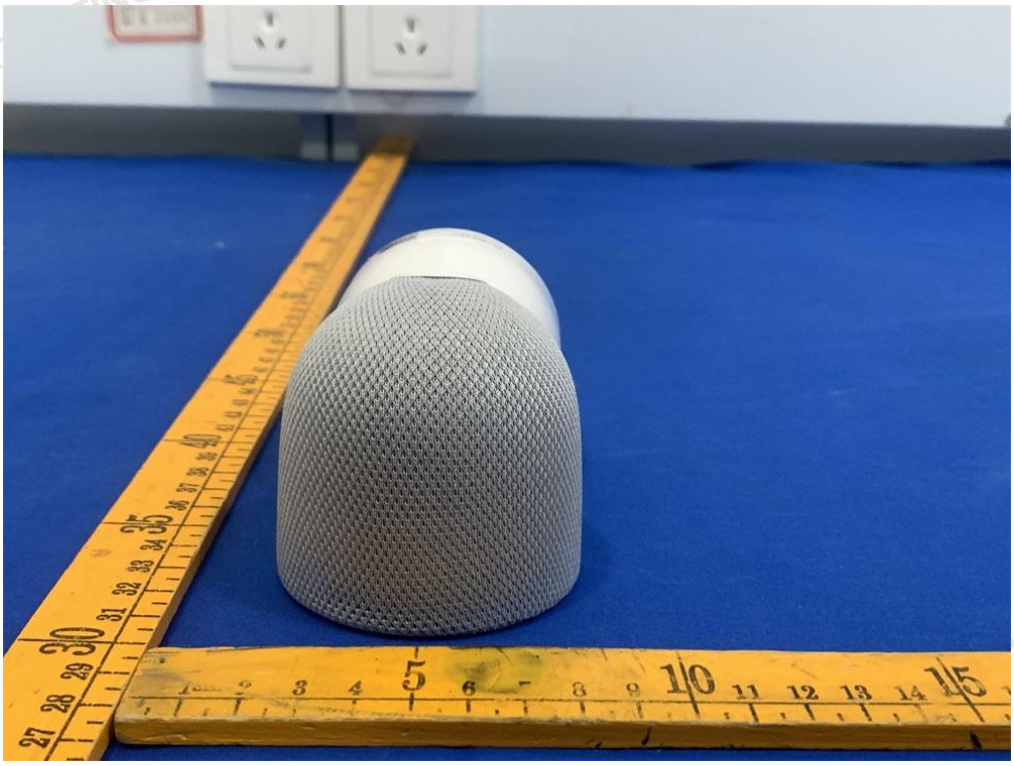


Fig. 5

Fig. 6

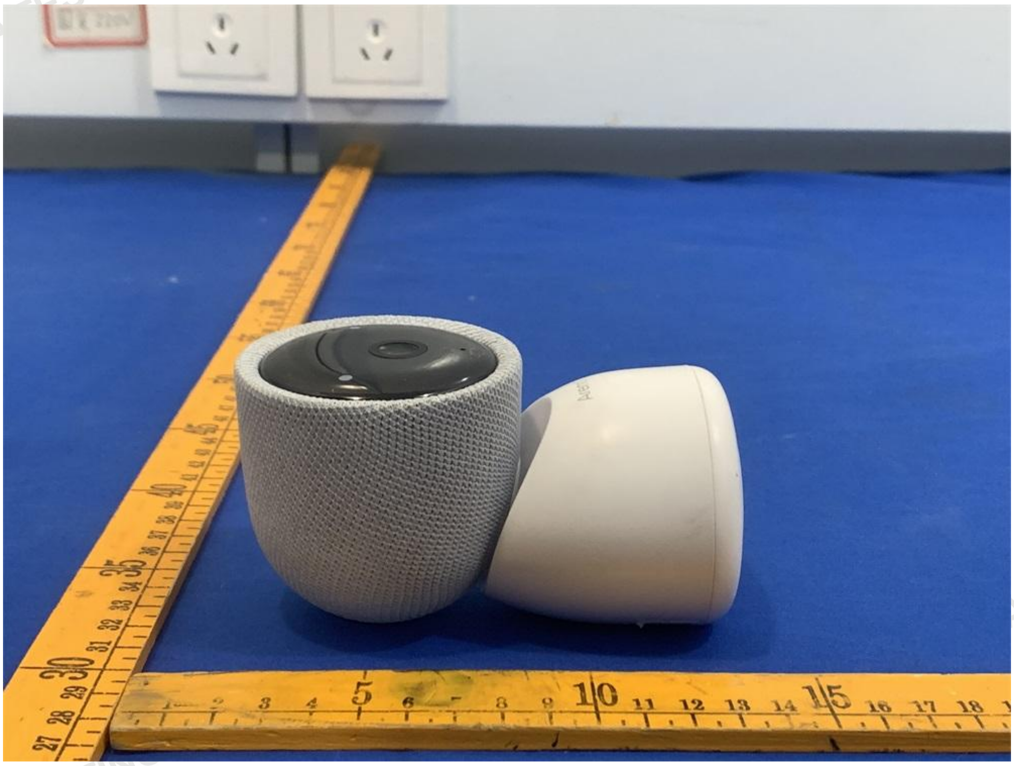


Fig. 7


SZTY
Switching Adapter
Model:TPA-46B050100UU
Input:100-240V ~ 50/60Hz 0.2A
Output:5.0V ⎓ 1000mA
EFFICIENCY LEVEL: VI
LPS
LISTED
E326703
I.T.E power supply
SHENZHEN TIANYIN ELECTRONICS CO., LTD.
Made in China

Fig. 8


AC/DC ADAPTOR
Model:DCT07W050100US-C1
Input:100-240V~50/60Hz 250mA
Output:5.0V⎓1.0A
Conforms to UL Std.62368-1
Certified to CSA Std.C22.2
No.62368-1
S/N: PPPPPPPYYMMDDXXXXXX Made in China
Zhuzhou Dachuan Electronic Technology Co.,Ltd.
VI
C US
Intertek
5013076

Fig. 9

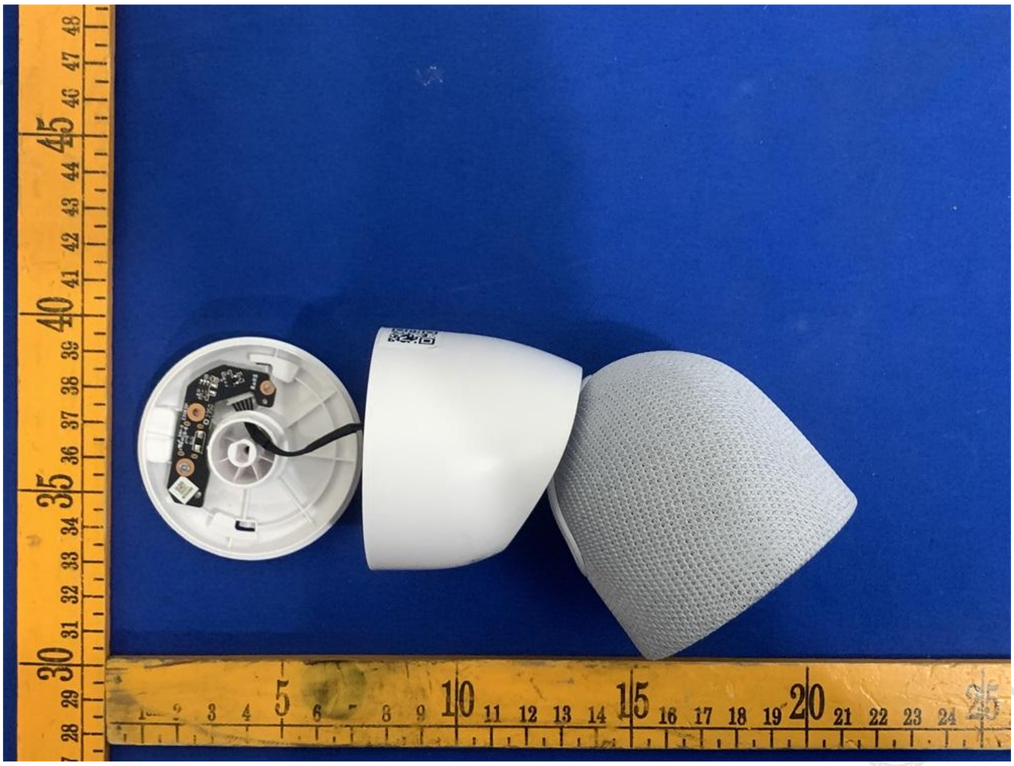


Fig. 10

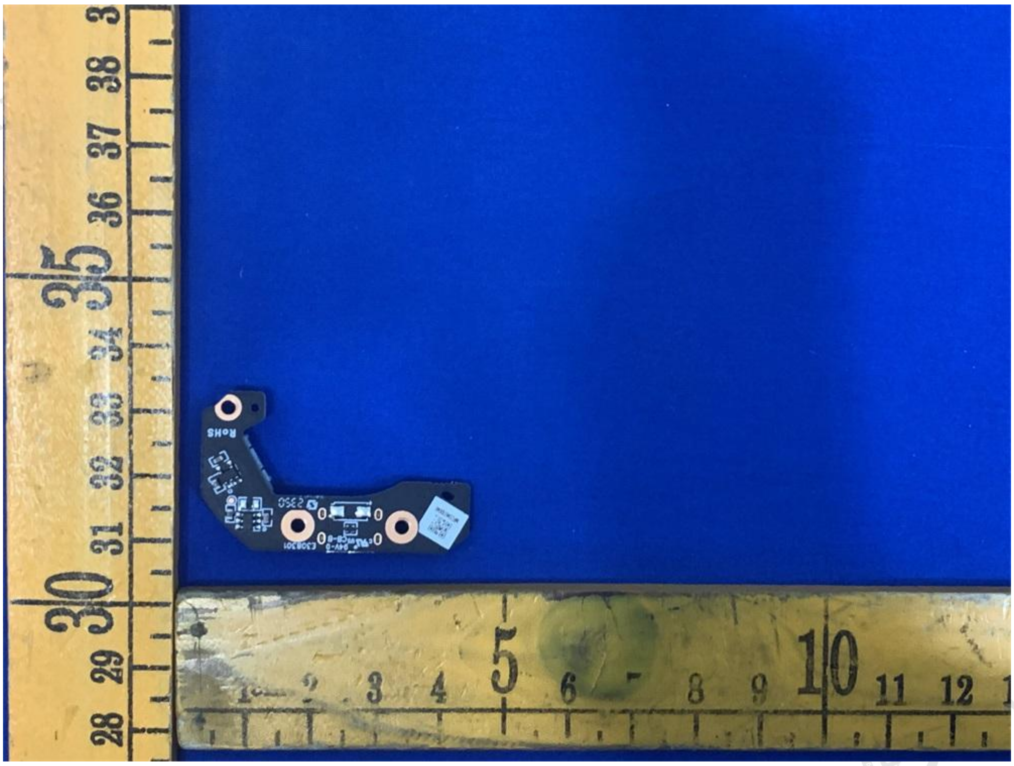


Fig. 11


Fig. 12

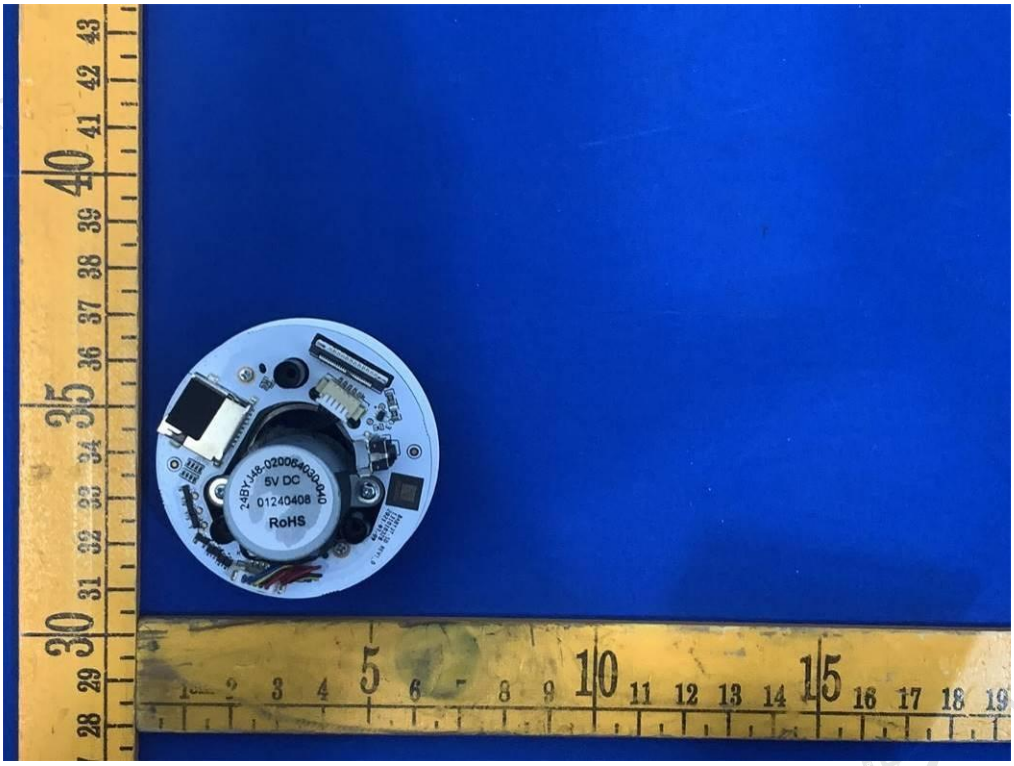


Fig. 13

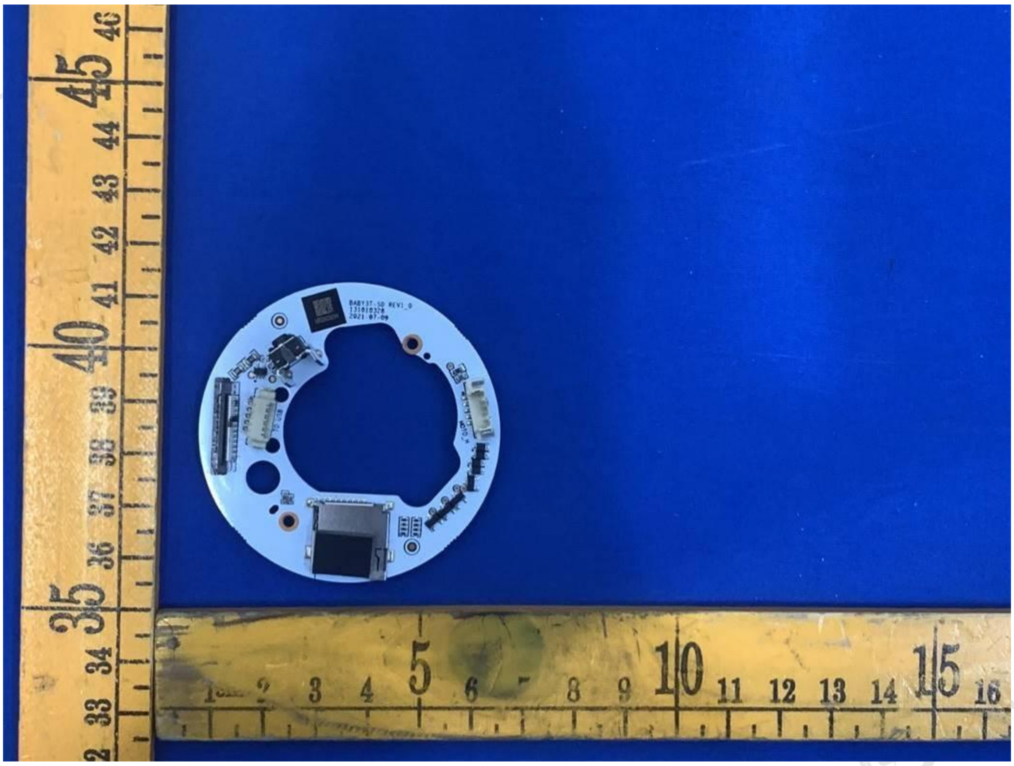


Fig. 14

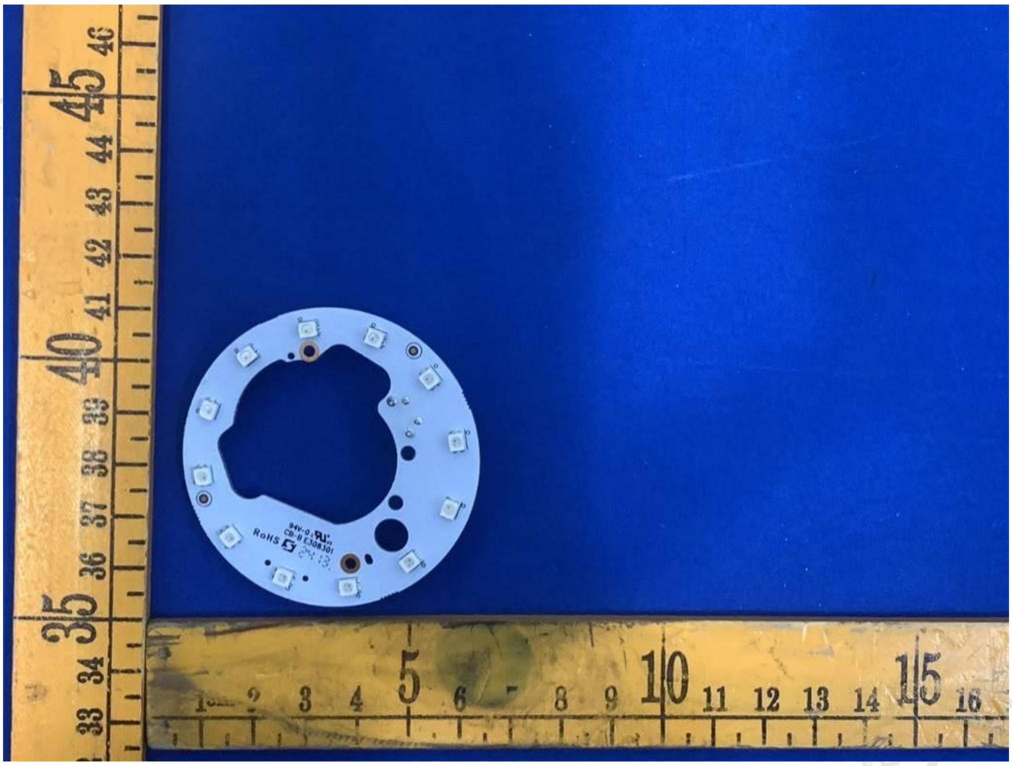


Fig. 15

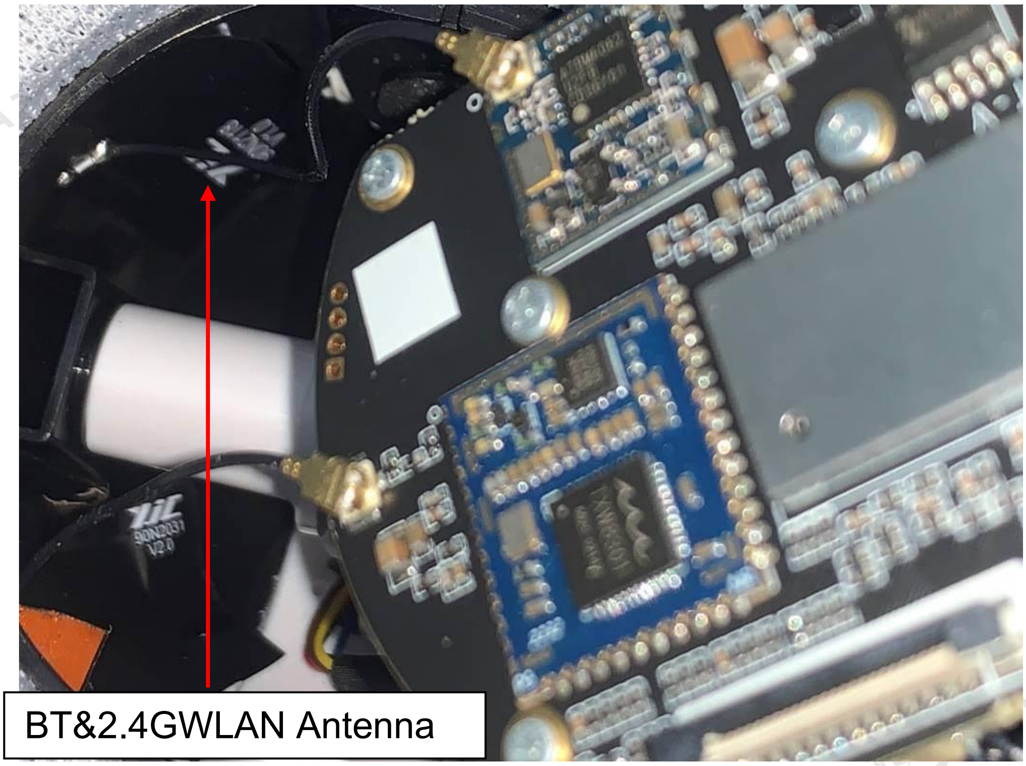


Fig. 16

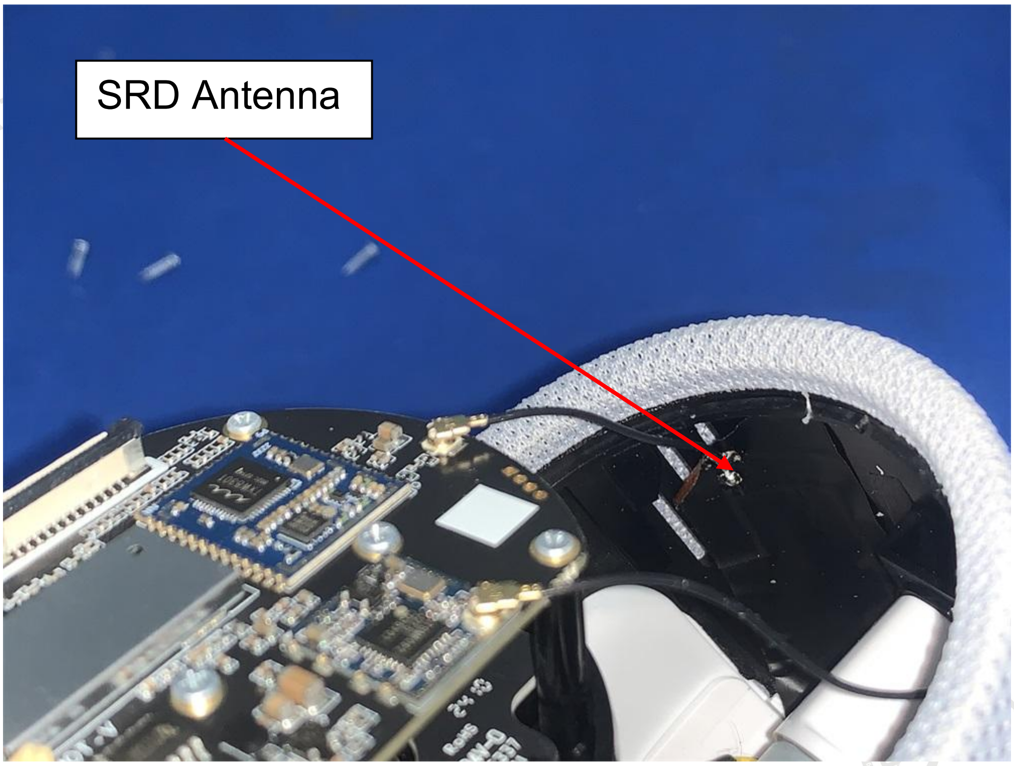


Fig. 17

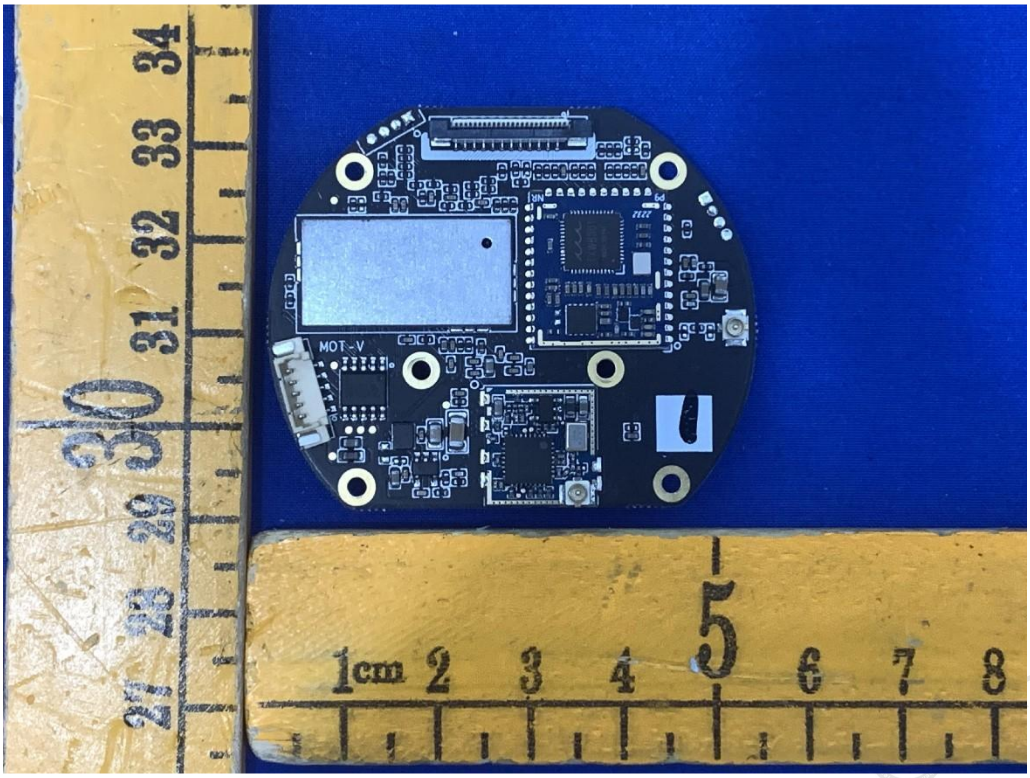


Fig. 18

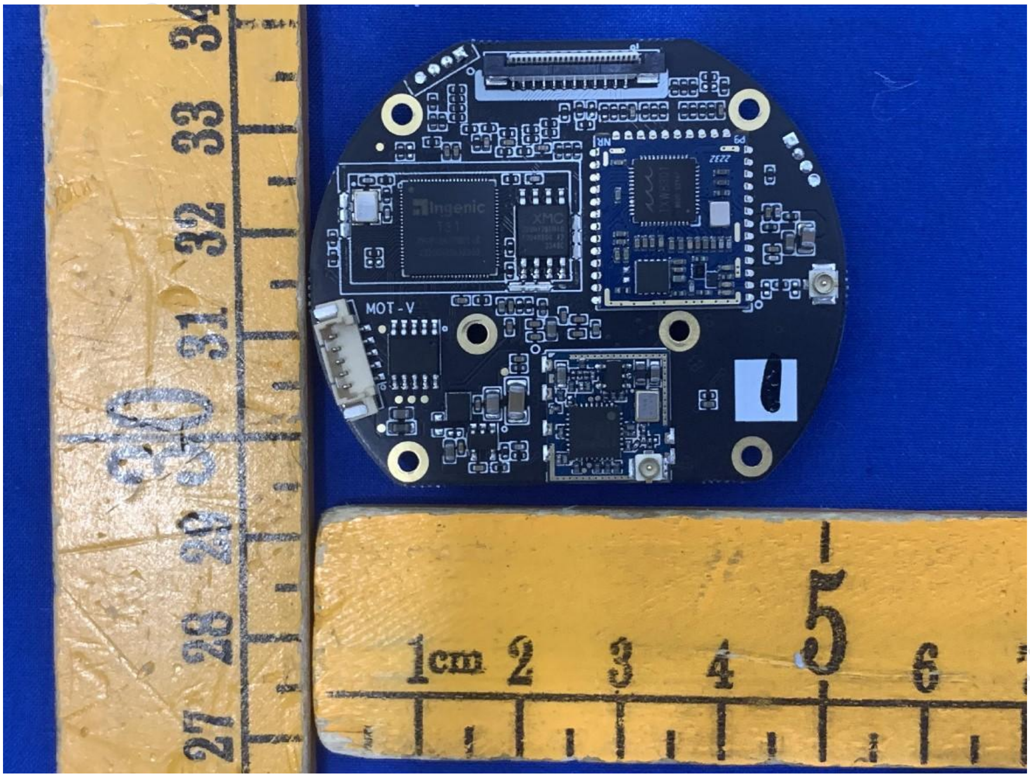


Fig. 19

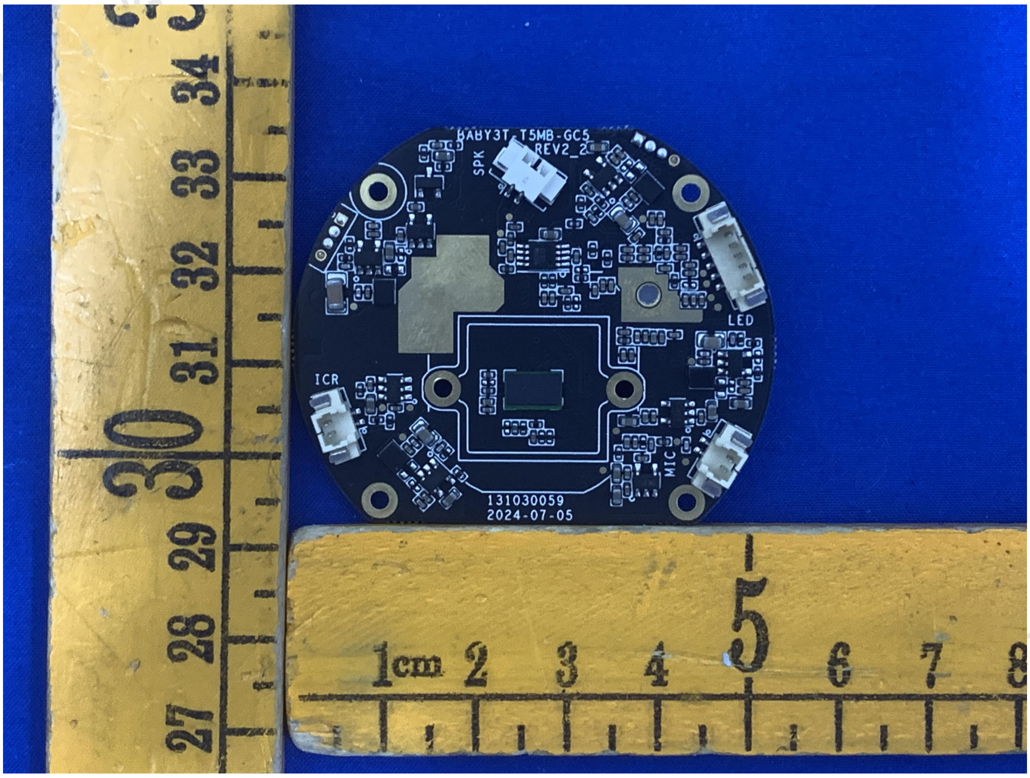


Fig. 20

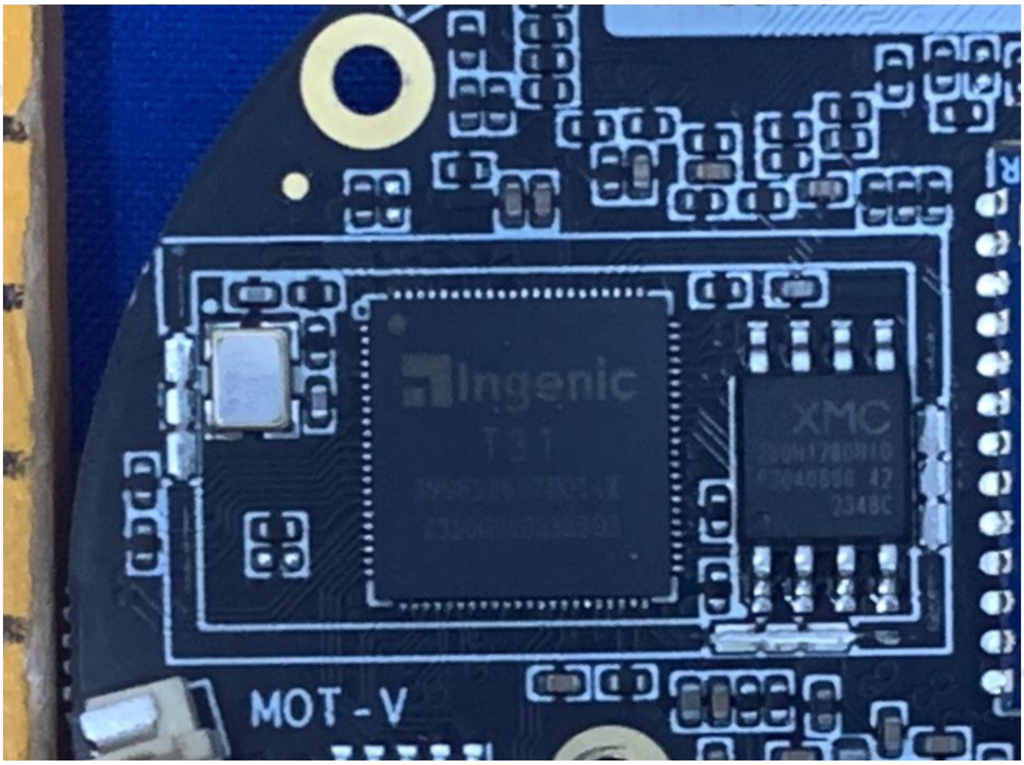


Fig. 21

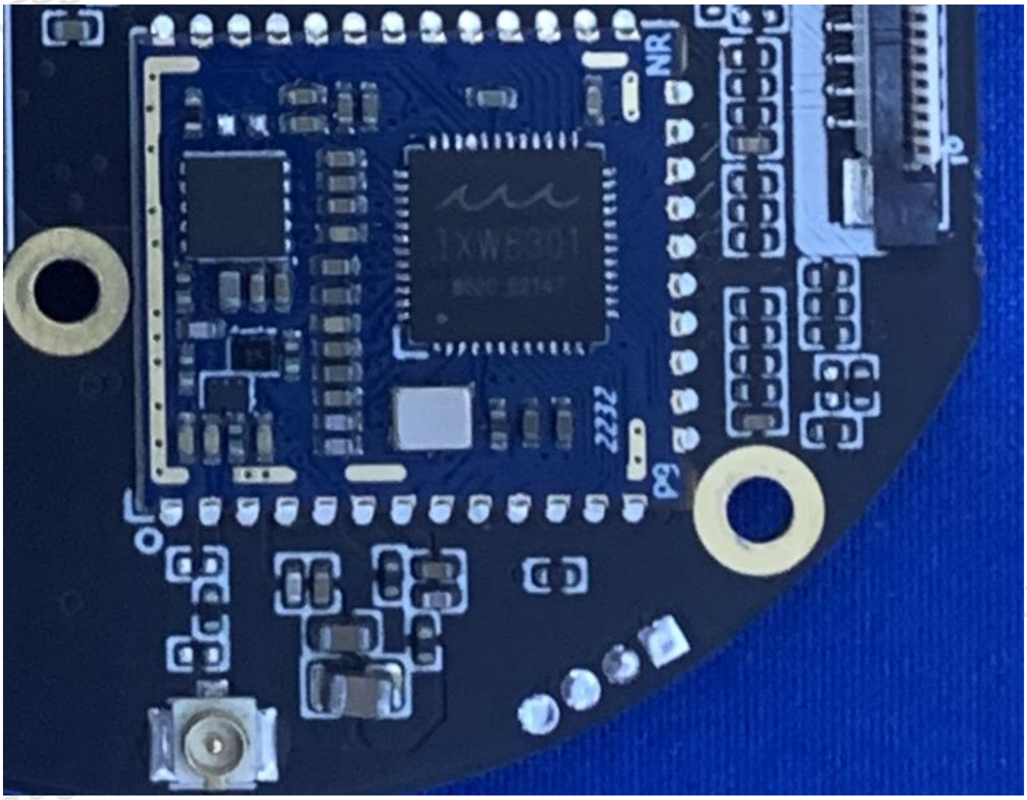


Fig. 22

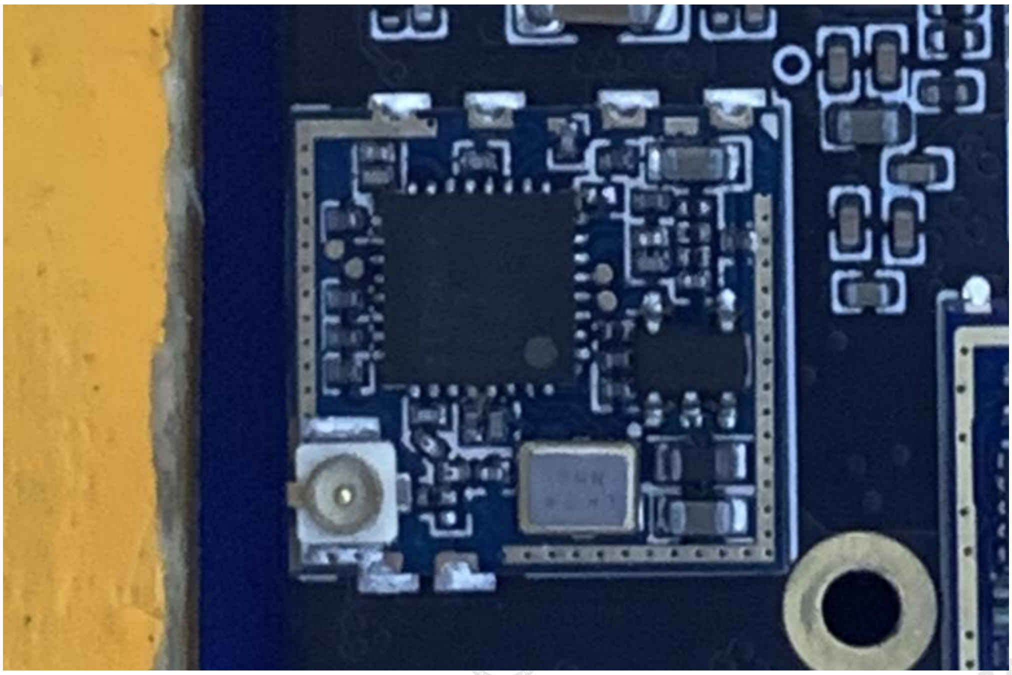


Fig. 23

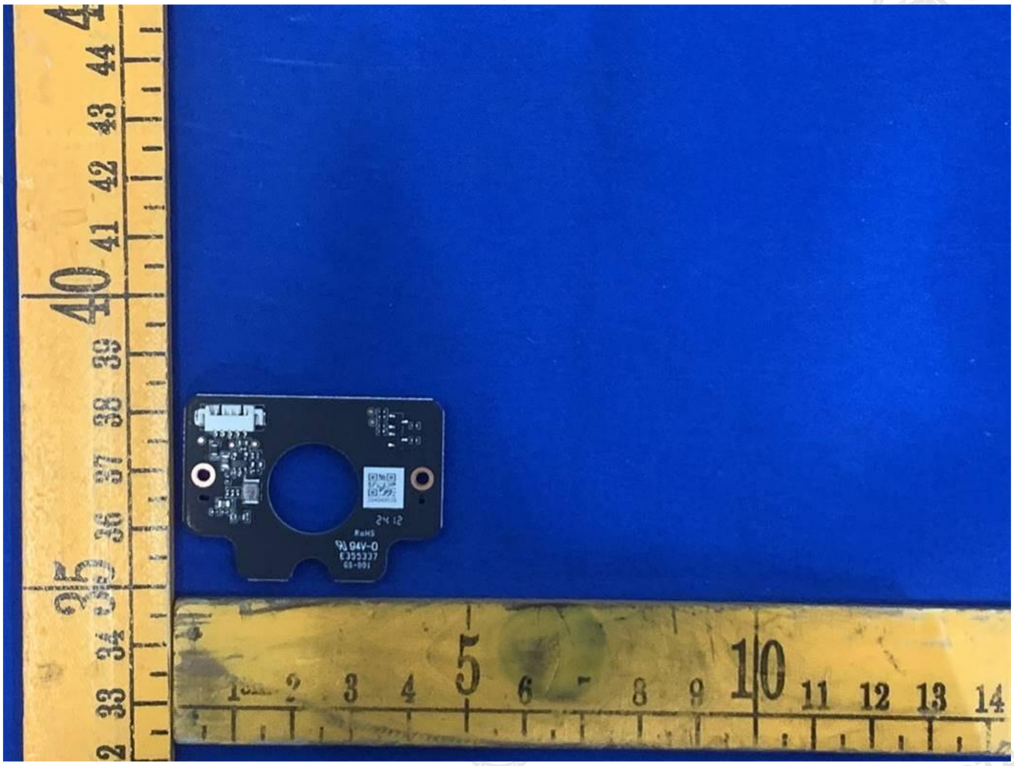


Fig. 24

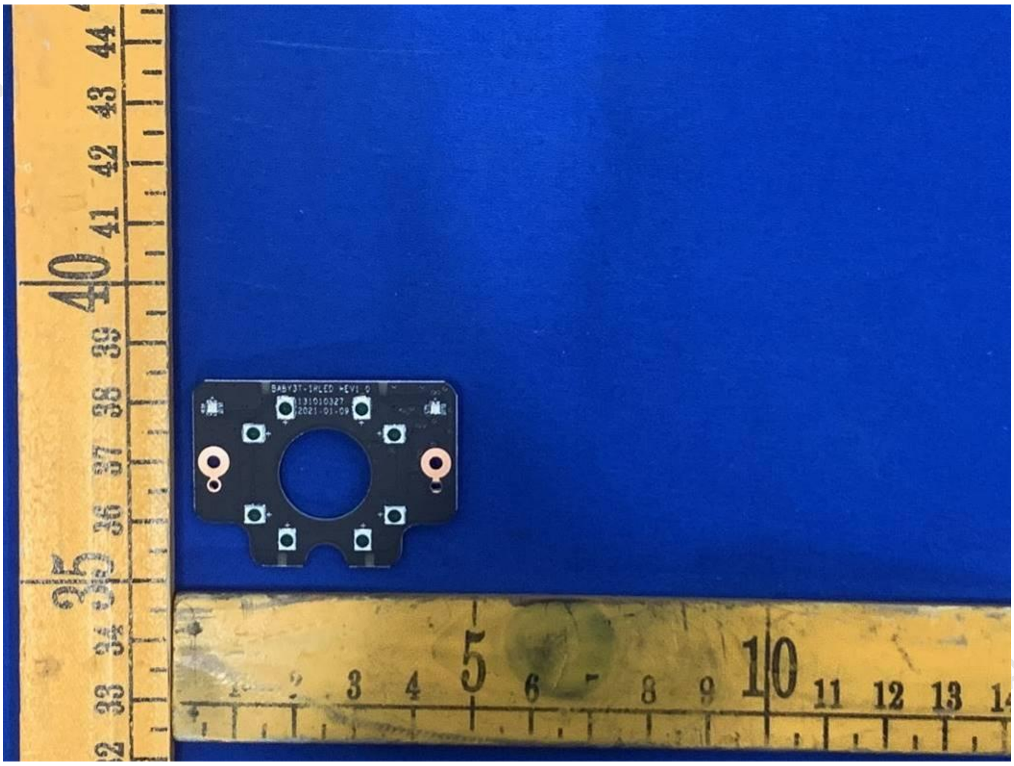


Fig. 25

......................End of Report........................