TEST REPORT

Product	:	Wireless monitor
Trade mark	:	N/A
Model/Type reference	:	DXR-6
Serial Number	:	N/A
Report Number	:	EED32I00275903
FCC ID	:	2AAAM-DXR-6PU
Date of Issue:	:	Nov. 30 , 2016
Test Standards	:	47 CFR Part 15 Subpart C (2015)
Test result	:	PASS

Prepared for:

Standard Merit Industrial Limited
2/A Harrison Court Stage 6, 10 Man Wan Road,
Kowloon, Hong Kong

Prepared by:

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Tested By: Tom chen (Test Project)

Compiled by: Kevin Ian (Project Engineer)

Reviewed by: Kevin yang (Reviewer)

Approved by: Sheek Luo (Lab supervisor)

Date: Nov. 30 , 2016

Check No.: 2392185320

2 Version

Version No.	Date	Description
00	Nov. 30 , 2016	Original

3 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section 15.203/15.247 (c)	ANSI C63.10-2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15, Subpart C Section 15.207	ANSI C63.10-2013	PASS
Conducted Peak Output Power	47 CFR Part 15, Subpart C Section 15.247 (b)(1)	ANSI C63.10-2013	PASS
20dB Occupied Bandwidth	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10-2013	PASS
Carrier Frequencies Separation	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10-2013	PASS
Hopping Channel Number	47 CFR Part 15, Subpart C Section 15.247 (b)	ANSI C63.10-2013	PASS
Dwell Time	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10-2013	PASS
Pseudorandom Frequency Hopping Sequence	47 CFR Part 15, Subpart C Section 15.247(b)(4)&TCB Exclusion List (7 July 2002)	ANSI C63.10-2013	PASS
RF Conducted Spurious Emissions	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10-2013	PASS
Radiated Spurious emissions	47 CFR Part 15, Subpart C Section 15.205/15.209	ANSI C63.10-2013	PASS

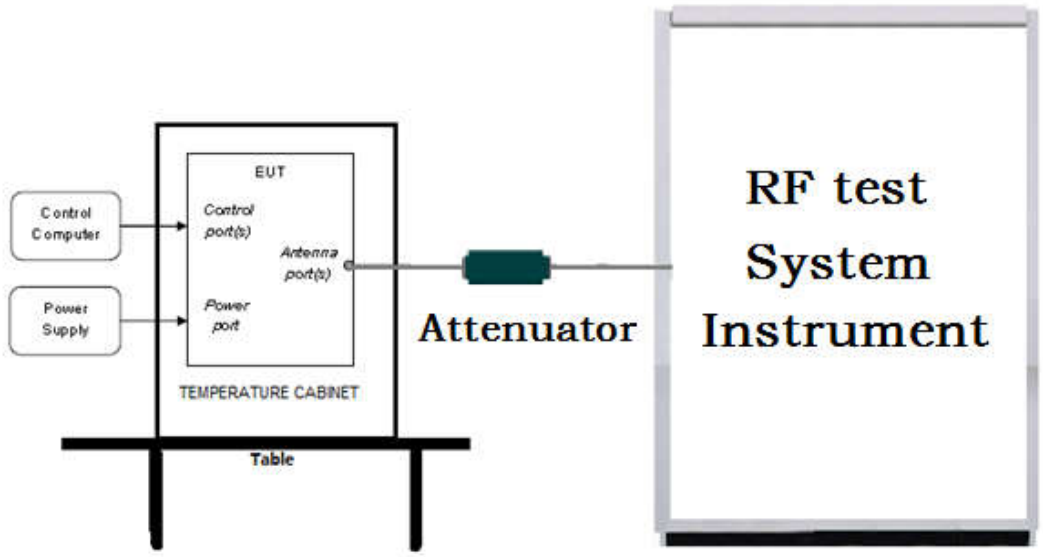
Remark:
The tested samples and the sample information are provided by the client.
Tx: In this whole report Tx (or tx) means Transmitter.
Rx: In this whole report Rx (or rx) means Receiver.
RF: In this whole report RF means Radiated Frequency.
CH: In this whole report CH means channel.
Volt: In this whole report Volt means Voltage.
Temp: In this whole report Temp means Temperature.
Humid: In this whole report Humid means humidity.
Press: In this whole report Press means Pressure.
N/A: In this whole report not application.

4 Content

5 Test Requirement

5.1 Test setup

5.1.1 For Conducted test setup



5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

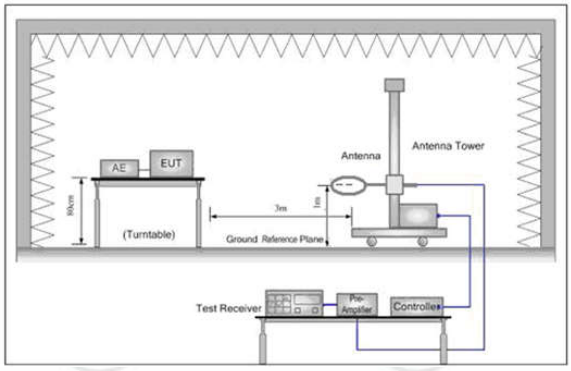


Figure 1. Below 30MHz

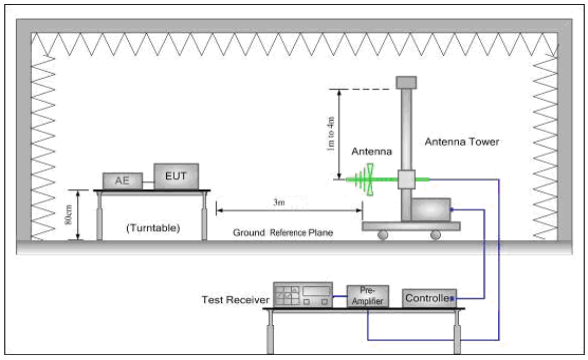


Figure 2. 30MHz to 1GHz

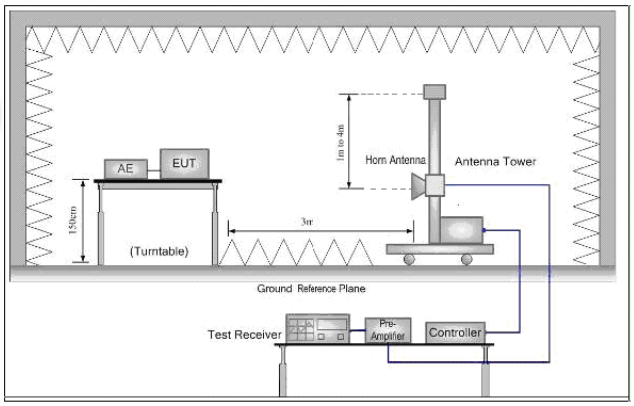
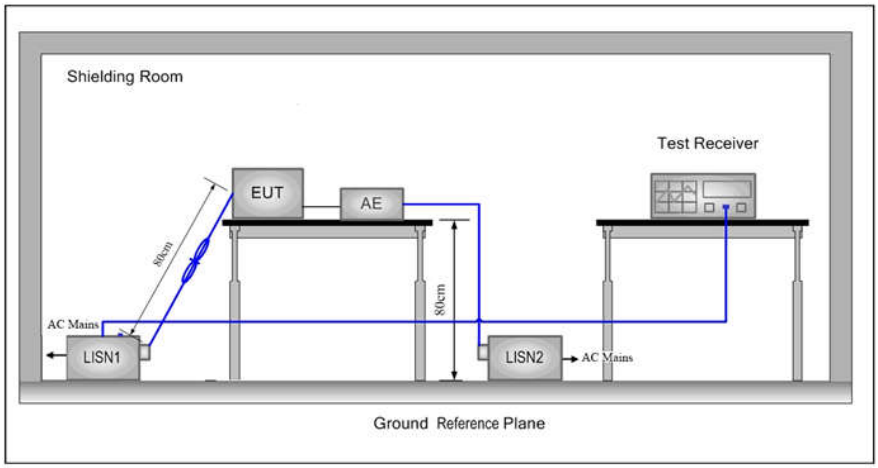


Figure 3. Above 1GHz

5.1.3 For Conducted Emissions test setup

Conducted Emissions setup



5.2 Test Environment

Operating Environment:	
Temperature:	22 °C
Humidity:	53 % RH
Atmospheric Pressure:	1010mbar

5.3 Test Condition

Test Mode	Tx	RF Channel		
		Low(L)	Middle(M)	High(H)
GFSK	2410.875MHz ~2471.625MHz	Channel 1	Channel 10	Channel19
		2410.875MHz	2441.250MHz	2471.625MHz
Transmitter mode:	The EUT transmitted the continuous modulation test signal at the specific channel(s).			

6 General Information

6.1 Client Information

Applicant:	Standard Merit Industrial Limited
Address of Applicant:	2/A Harrison Court Stage 6, 10 Man Wan Road, Kowloon, Hong Kong
Manufacturer:	Foshan Shunde Alford Electronics Co., Ltd,
Address of Manufacturer:	Xinjian Industrial Park, Daliang, Shunde, Foshan City, Guangdong Province, China.

6.2 General Description of EUT

Product Name:	Wireless monitor	
Model No.(EUT):	DXR-6	
Trade mark:	N/A	
EUT Supports Radios application:	2410.875MHz ~2471.625MHz	
Power Supply:	AC adapter 1(Monitor)	Model: BLJ06W050055P1-U Input: 100-240V~50/60Hz, 0.2A Output: 5V⎓550mA
	AC adapter 2(Monitor)	Model: CS3B050055FU Input: 100-240V~50/60Hz 200mA Output: 5.0VDC⎓550mA
Power Supply(Monitor):	3.7V 1200mAH(Lithium-ion Battery)	
Monitor Power Line:	270cm(Unshielded)	
Sample Received Date:	Oct. 26, 2016	
Sample tested Date:	Oct. 26, 2016 to Nov. 30, 2016	

6.3 Product Specification subjective to this standard

Operation Frequency:	2410.875MHz ~2471.625MHz
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK
Number of Channel:	19
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	Mobile production
Test Power Grade:	N/A
Test Software of EUT:	V05
Antenna Type:	Integral
Antenna Gain:	0dBi
Test Voltage:	AC 120V/60Hz, AC 240V/50Hz

Operation Frequency each of channel

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2410.875	6	2427.750	11	2444.625	16	2461.500
2	2414.250	7	2431.125	12	2448.00	17	2464.875
3	2417.625	8	2434.500	13	2451.375	18	2468.2500
4	2421.000	9	2437.875	14	2454.750	19	2471.625
5	2424.375	10	2441.250	15	2458.125	---	---

6.4 Description of Support Units

The EUT has been tested independently.

6.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China 518101
Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385
No tests were sub-contracted.

6.6 Test Facility

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

CNAS-Lab Code: L1910

Centre Testing International Group Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories..

A2LA-Lab Cert. No. 3061.01

Centre Testing International Group Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 886427

Centre Testing International Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 886427.

IC-Registration No.: 7408A-2

The 3m Alternate Test Site of Centre Testing International Group Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 7408A-2 .

IC-Registration No.: 7408B-1

The 10m Alternate Test Site of Centre Testing International Group Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 7408B-1.

NEMKO-Aut. No.: ELA503

Centre Testing International Group Co., Ltd. has been assessed the quality assurance system, the testing facilities, qualifications and testing practices of the relevant parts of the organization. The quality assurance system of the Laboratory has been validated against ISO/IEC 17025 or equivalent. The laboratory also fulfils the conditions described in Nemko Document NLA-10.

VCCI

The Radiation 3 &10 meters site of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-4096.
Main Ports Conducted Interference Measurement of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: C-4563.
Telecommunication Ports Conducted Disturbance Measurement of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: T-2146.
The Radiation 3 meters site of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-758

6.7 Deviation from Standards

None.

6.8 Abnormalities from Standard Conditions

None.

6.9 Other Information Requested by the Customer

None.

6.10 Measurement Uncertainty(95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.31dB (30MHz-1GHz)
		0.57dB(1GHz-18GHz)
3	Radiated Spurious emission test	4.5dB (30MHz-1GHz)
		4.8dB(1GHz-12.75GHz)
4	Conduction emission	3.6dB (9kHz to 150kHz)
		3.2dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	2.8%
7	DC power voltages	0.025%

7 Equipment List

RF test system					
Equipment	**Manufacturer**	**Mode No.**	**Serial Number**	**Cal. Date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
Signal Generator	Keysight	E8257D	MY53401106	04-01-2016	03-31-2017
Spectrum Analyzer	Keysight	N9010A	MY54510339	04-01-2016	03-31-2017
Signal Generator	Keysight	N5182B	MY53051549	04-01-2016	03-31-2017
High-pass filter	Sinoscite	FL3CX03WG18 NM12-0398-002	---	01-12-2016	01-11-2017
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-12-2016	01-11-2017
DC Power	Keysight	E3642A	MY54436035	04-01-2016	03-31-2017
PC-1	Lenovo	R4960d	---	04-01-2016	03-31-2017
BT&WI-FI Automatic control	R&S	OSP120	101374	04-01-2016	03-31-2017
RF control unit	JS Tonscend	JS0806-2	158060006	04-01-2016	03-31-2017
BT&WI-FI Automatic test software	JS Tonscend	JS1120-2	---	04-01-2016	03-31-2017

Conducted disturbance Test					
Equipment	**Manufacturer**	**Mode No.**	**Serial Number**	**Cal. date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
Receiver	R&S	ESCI	100009	06-16-2016	06-15-2017
Temperature/ Humidity Indicator	TAYLOR	1451	1905	04-27-2016	04-26-2017
LISN	R&S	ENV216	100098	06-16-2016	06-15-2017
LISN	schwarzbeck	NNLK8121	8121-529	06-16-2016	06-15-2017
Voltage Probe	R&S	ESH2-Z3	--	07-09-2014	07-07-2017
Current Probe	R&S	EZ17	100106	06-16-2016	06-15-2017
ISN	TESEQ GmbH	ISN T800	30297	01-29-2015	01-27-2017

3M Semi/full-anechoic Chamber					
Equipment	**Manufacturer**	**Mode No.**	**Serial Number**	**Cal. date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
3M Chamber & Accessory Equipment	TDK	SAC-3	---	06-05-2016	06-05-2019
TRILOG Broadband Antenna	SCHWARZBECK	VULB9163	9163-484	05-23-2016	05-22-2017
Microwave Preamplifier	Agilent	8449B	3008A02425	02-04-2016	02-03-2017
Horn Antenna	ETS-LINDGREN	3117	00057407	07-20-2015	07-18-2018
Loop Antenna	ETS	6502	00071730	07-30-2015	07-28-2017
Microwave Preamplifier	A.H.SYSTEMS	PAP-1840-60	6041.6042	06-30-2015	06-28-2018
Horn Antenna	A.H.SYSTEMS	SAS-574 374	---	06-30-2015	06-28-2018
Spectrum Analyzer	R&S	FSP40	100416	06-16-2016	06-15-2017
Receiver	R&S	ESCI	100435	06-16-2016	06-15-2017
Multi device Controller	maturo	NCD/070/10711112	---	01-12-2016	01-11-2017
LISN	schwarzbeck	NNBM8125	81251547	06-16-2016	06-15-2017
LISN	schwarzbeck	NNBM8125	81251548	06-16-2016	06-15-2017
Signal Generator	Agilent	E4438C	MY45095744	04-01-2016	03-31-2017
Signal Generator	Keysight	E8257D	MY53401106	04-01-2016	03-31-2017
Temperature/ Humidity Indicator	TAYLOR	1451	1905	04-27-2016	04-26-2017
Cable line	Fulai(7M)	SF106	5219/6A	01-12-2016	01-11-2017
Cable line	Fulai(6M)	SF106	5220/6A	01-12-2016	01-11-2017
Cable line	Fulai(3M)	SF106	5216/6A	01-12-2016	01-11-2017
Cable line	Fulai(3M)	SF106	5217/6A	01-12-2016	01-11-2017
High-pass filter	Sinoscite	FL3CX03WG18NM12-0398-002	---	01-12-2016	01-11-2017
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-12-2016	01-11-2017
band rejection filter	Sinoscite	FL5CX01CA09CL12-0395-001	---	01-12-2016	01-11-2017
band rejection filter	Sinoscite	FL5CX01CA08CL12-0393-001	---	01-12-2016	01-11-2017
band rejection filter	Sinoscite	FL5CX02CA04CL12-0396-002	---	01-12-2016	01-11-2017
band rejection filter	Sinoscite	FL5CX02CA03CL12-0394-001	---	01-12-2016	01-11-2017

8 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	FCC Part15C (2015)	Subpart C-Intentional Radiators
2	ANSI C63.10-2013	American National Standard for Testing Unlicesed Wireless Devices

Test Results List:

Test requirement	Test method	Test item	Verdict	Note
Part15C Section 15.247 (a)(1)	ANSI 63.10	20dB Occupied Bandwidth	PASS	Appendix A)
Part15C Section 15.247 (a)(1)	ANSI 63.10	Carrier Frequencies Separation	PASS	Appendix B)
Part15C Section 15.247 (a)(1)	ANSI 63.10	Dwell Time	PASS	Appendix C)
Part15C Section 15.247 (b)	ANSI 63.10	Hopping Channel Number	PASS	Appendix D)
Part15C Section 15.247 (b)(1)	ANSI 63.10	Conducted Peak Output Power	PASS	Appendix E)
Part15C Section 15.247(d)	ANSI 63.10	Band-edge for RF Conducted Emissions	PASS	Appendix F)
Part15C Section 15.247(d)	ANSI 63.10	RF Conducted Spurious Emissions	PASS	Appendix G)
Part15C Section 15.247 (a)(1)	ANSI 63.10	Pseudorandom Frequency Hopping Sequence	PASS	Appendix H)
Part15C Section 15.203/15.247 (c)	ANSI 63.10	Antenna Requirement	PASS	Appendix I)
Part15C Section 15.207	ANSI 63.10	AC Power Line Conducted Emission	PASS	Appendix J)
Part15C Section 15.205/15.209	ANSI 63.10	Restricted bands around fundamental frequency (Radiated) Emission)	PASS	Appendix K)
Part15C Section 15.205/15.209	ANSI 63.10	Radiated Spurious Emissions	PASS	Appendix L)

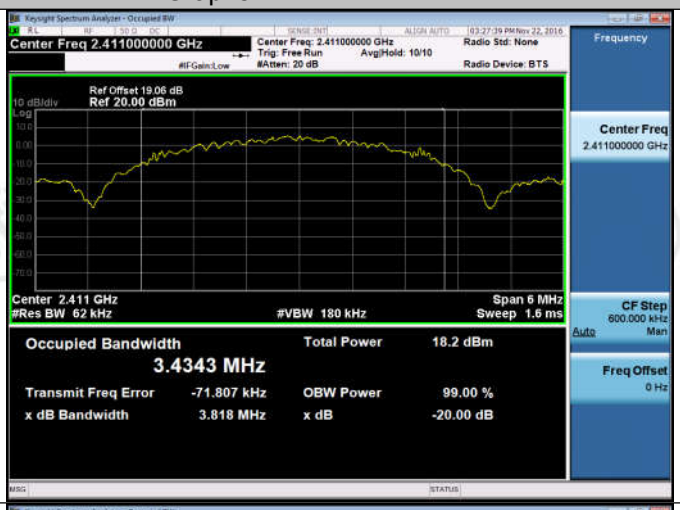
Appendix A): 20dB Occupied Bandwidth

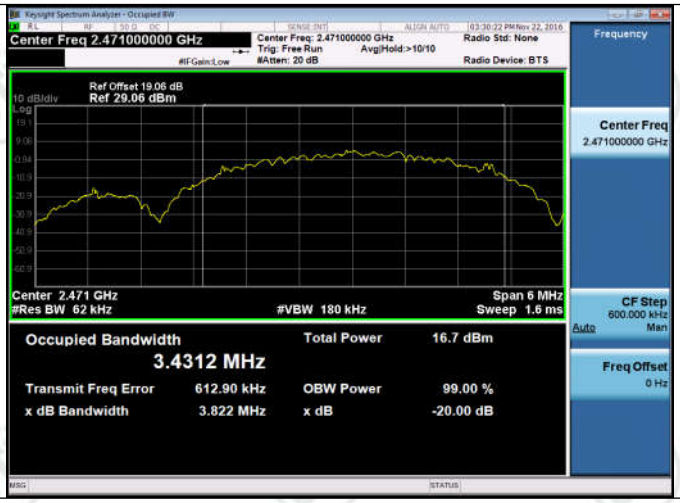
Test Result

Mode	Channel.	20dB Bandwidth [MHz]	99% OBW [MHz]	Verdict	Remark
GFSK	LCH	3.818	3.4343	PASS	Peak detector
GFSK	MCH	3.613	3.4111	PASS	
GFSK	HCH	3.822	3.4312	PASS	

Remark : Pretest the two adapter and found the adapter 1 which is worst case, so only the worst case is recorded in the report.

Test Graph

Graphs			
GFSK/LCH			
GFSK/MCH			

GFSK/HCH	 Keysight Spectrum Analyzer - Occupied BW Center Freq 2.471000000 GHz Center Freq: 2.471000000 GHz Trig: Free Run Avg/Hold:>10/10 #Atten: 20 dB Radio Std: None Radio Device: BTS Frequency Ref Offset 19.06 dB 10 dB/div Ref 29.06 dBm Log Center Freq 2.471000000 GHz Center 2.471 GHz #Res BW 62 kHz #VBW 180 kHz Span 6 MHz Sweep 1.6 ms CF Step 600.000 kHz Auto Man Occupied Bandwidth 3.4312 MHz Total Power 16.7 dBm Transmit Freq Error 612.90 kHz OBW Power 99.00 % x dB Bandwidth 3.822 MHz x dB -20.00 dB Freq Offset 0 Hz MSG STATUS	

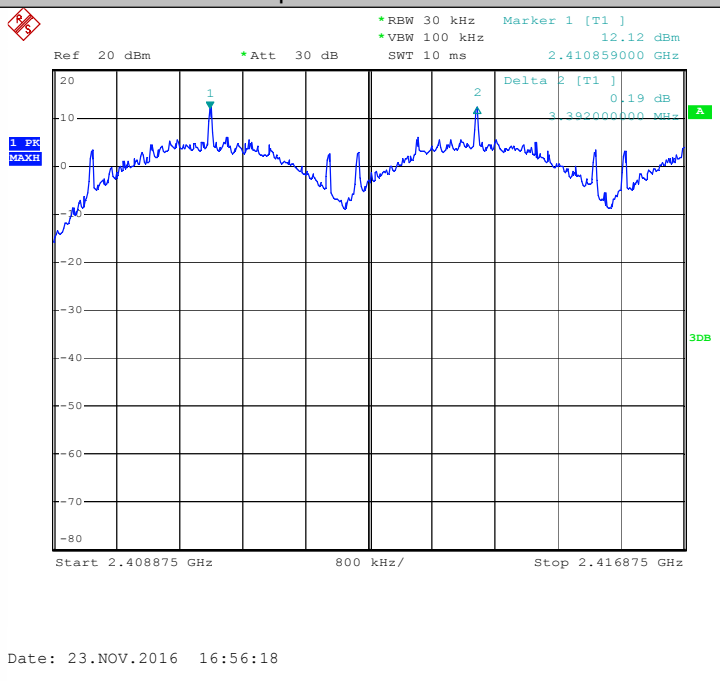
Appendix B): Carrier Frequency Separation

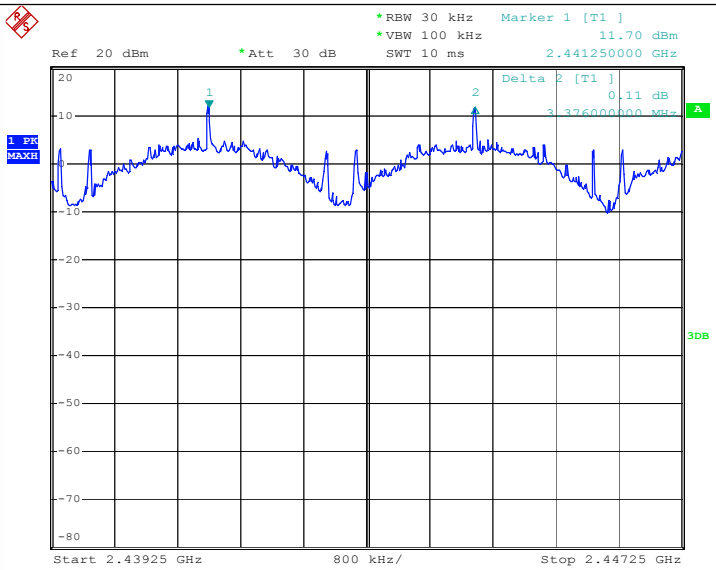
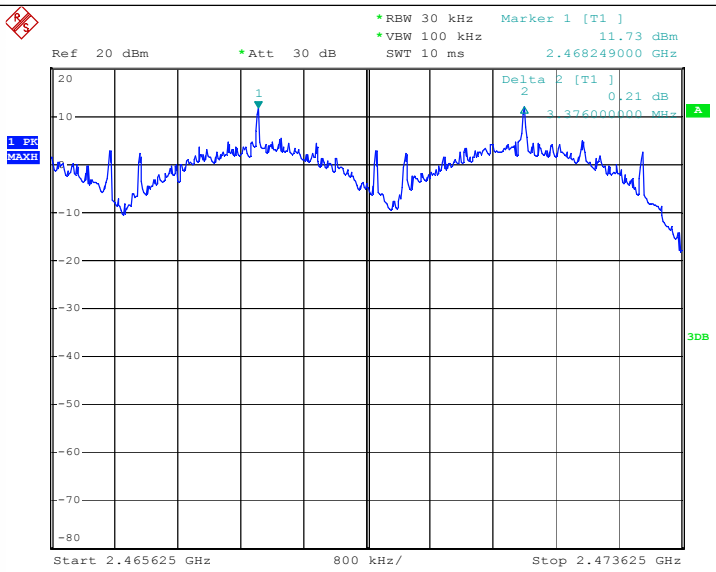
Result Table

Mode	Channel.	Carrier Frequency Separation [MHz]	Verdict
GFSK	LCH	3.392	PASS
GFSK	MCH	3.376	PASS
GFSK	HCH	3.376	PASS

Remark : Pretest the two adapter and found the adapter 1 which is worst case, so only the worst case is recorded in the report.

Test Graph

Graphs	
GFSK/LCH	

GFSK/MCH	 Date: 23.NOV.2016 16:41:06
GFSK/HCH	 Date: 23.NOV.2016 16:20:03

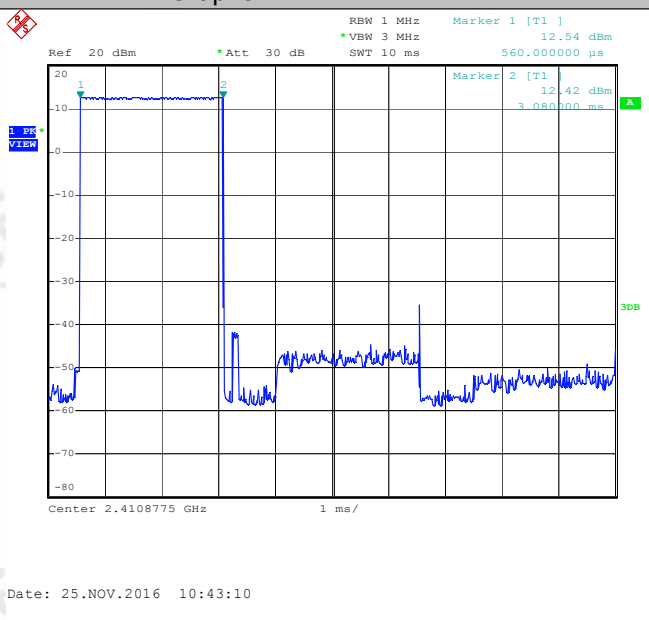
Appendix C): Dwell Time

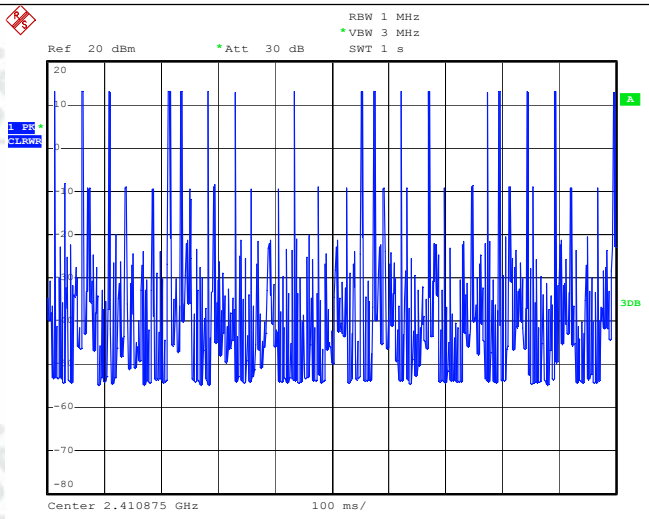
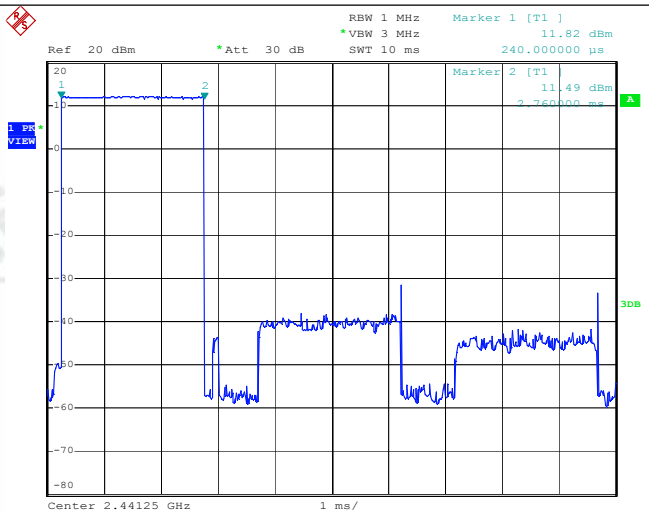
Result Table

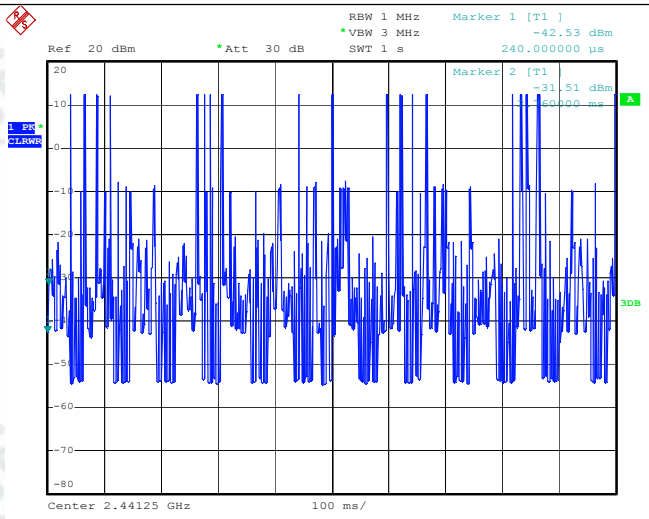
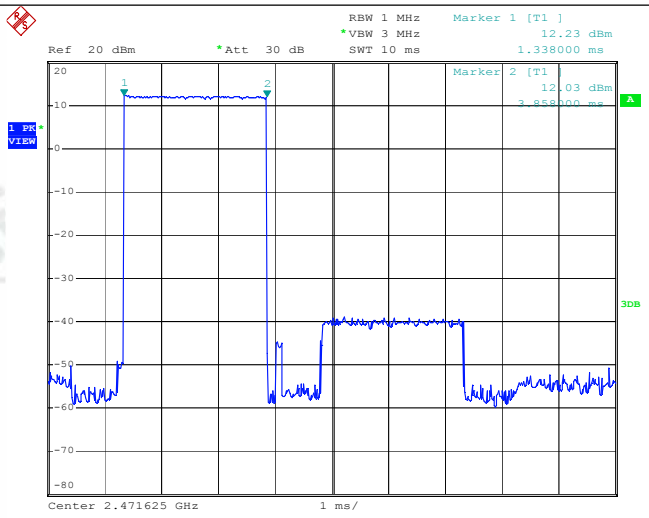
Mode	Channel	Observe time[s]	one set of pulses[ms]	pulses within 1s	Dwell Time[s]	Verdict
GFSK	LCH	7.6	2.52	17	0.326	PASS
GFSK	MCH	7.6	2.52	18	0.345	PASS
GFSK	HCH	7.6	2.52	16	0.306	PASS

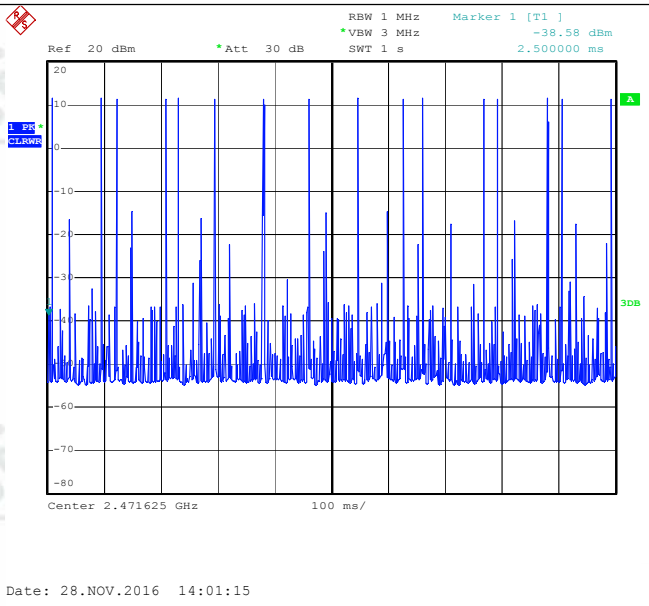
Remark : Pretest the two adapter and found the adapter 1 which is worst case, so only the worst case is recorded in the report.

Test Graph

Graphs	
GFSK/LCH	

	 Date: 23.NOV.2016 17:00:39
GFSK/MCH	 Date: 25.NOV.2016 10:45:59

	 Date: 25.NOV.2016 10:59:30
GFSK/HCH	 Date: 25.NOV.2016 10:21:48

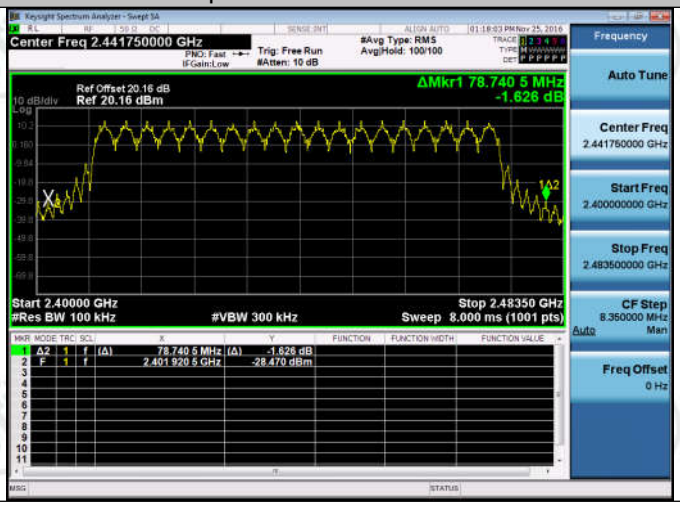

RBW 1 MHz
*VBW 3 MHz
SWT 1 s
Marker 1 [T1]
-38.58 dBm
2.500000 ms
Ref 20 dBm
*Att 30 dB
1 PK*
CLRWR
A
3DB
Center 2.471625 GHz
100 ms/
Date: 28.NOV.2016 14:01:15

Appendix D): Hopping Channel Number

Result Table

Mode	Channel.	Number of Hopping Channel	Verdict
GFSK	Hop	19	PASS

Test Graph

Graphs		
GFSK/Hop		

Appendix E): Conducted Peak Output Power

Result Table

Mode	Channel.	Maximum Peak Output Power [dBm]	Verdict
GFSK	LCH	13.269	PASS
GFSK	MCH	12.751	PASS
GFSK	HCH	12.547	PASS

Remark : Pretest the two adapter and found the adapter 1 which is worst case, so only the worst case is recorded in the report.

Test Graph

Graphs			
GFSK/LCH			
GFSK/MCH			

GFSK/HCH	 Center Freq 2.471000000 GHz PNO: Fast IFGain:Low Trig: Free Run #Atten: 20 dB #Avg Type: RMS Avg/Hold: 100/100 Ref Offset 20.46 dB 10 dB/div Ref 30.00 dBm Mkr1 2.471 045 00 GHz 12.547 dBm Center 2.471000 GHz #Res BW 4 MHz #VBW 4.0 MHz Span 18.00 MHz Sweep 1.067 ms (8001 pts) Frequency Auto Tune Center Freq 2.471000000 GHz Start Freq 2.462000000 GHz Stop Freq 2.480000000 GHz CF Step 1.800000 MHz Auto Man Freq Offset 0 Hz	

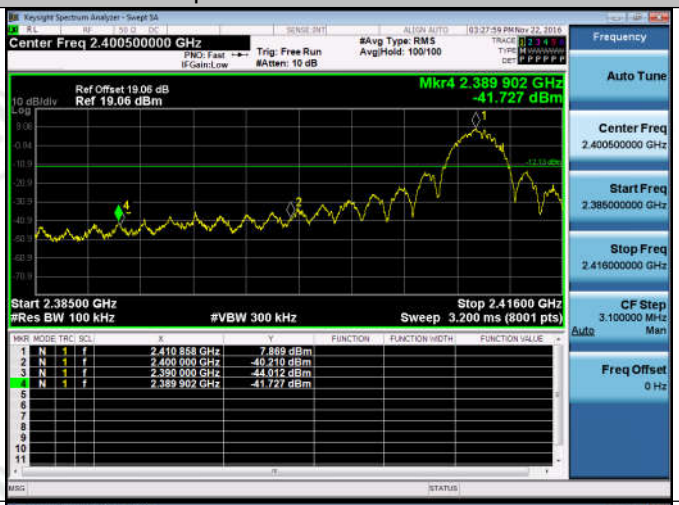
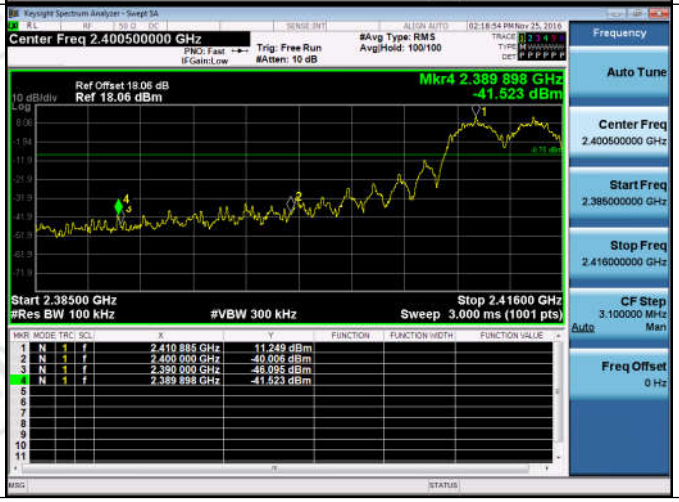
Appendix F): Band-edge for RF Conducted Emissions

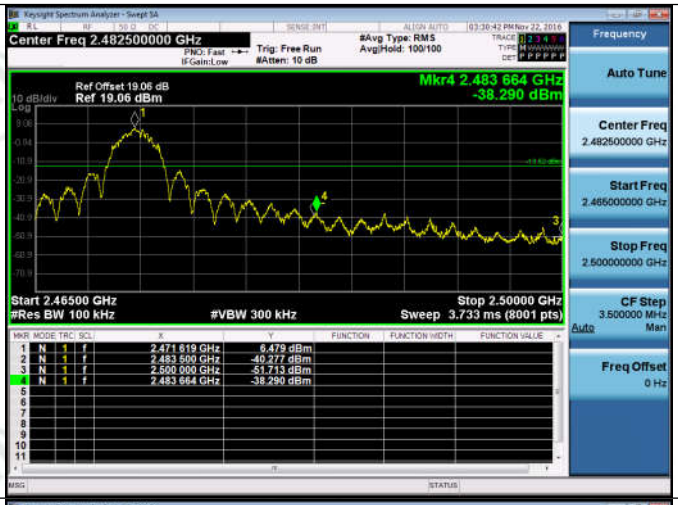
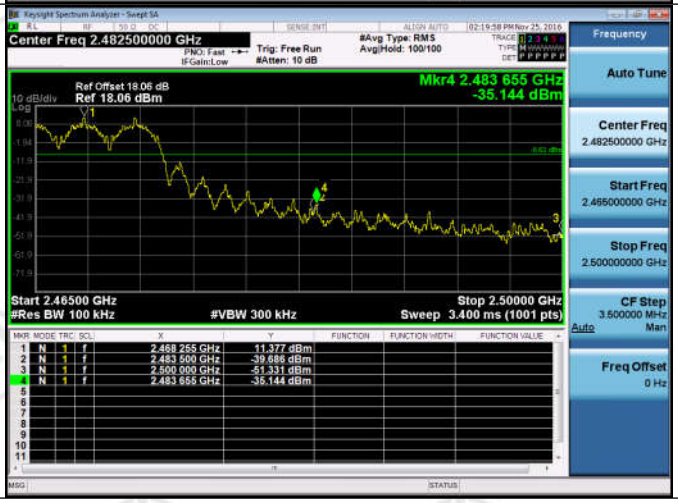
Result Table

Mode	Channel	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	7.869	Off	-41.727	-12.13	PASS
		11.249	On	-41.523	-8.75	PASS
GFSK	HCH	6.479	Off	-38.290	-13.52	PASS
		11.377	On	-35.144	-8.62	PASS

Remark : Pretest the two adapter and found the adapter 1 which is worst case, so only the worst case is recorded in the report.

Test Graph

Graphs		
GFSK/LCH/No Hop		
GFSK/LCH/Hop		

GFSK/HCH/No Hop			
GFSK/HCH/Hop			

Appendix G): RF Conducted Spurious Emissions

Result Table

Mode	Channel	Pref [dBm]	Puw[dBm]	Verdict
GFSK	LCH	7.304	<Limit	PASS
GFSK	MCH	7.44	<Limit	PASS
GFSK	HCH	6	<Limit	PASS

Remark : Pretest the two adapter and found the adapter 1 which is worst case, so only the worst case is recorded in the report.

Test Graph

GFSK_LCH_Graphs		
Pref		
Puw		

GFSK_MCH_Graphs			
Pref			
Puw			

GFSK_HCH_Graphs			
Pref			
Puw			

Appendix H): Pseudorandom Frequency Hopping Sequence

Test Requirement:	47 CFR Part 15**C Section 15.247 (a)(1) requirement:**

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively. Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

EUT Pseudorandom Frequency Hopping Sequence

The embedded FHSS engine uses 19 hopping frequencies. Each channel frequency is selected from a pseudorandom ordered list of hopping frequencies, from 2410.875MHz to 2471.625MHz with separating in 3.375MHz apart from each of the channels.A single data frame is transmitted on each frequency location before skipping to the next hopping frequency in the list. Each channel is occupied 3.45milliseconds.

Typically, the initiation of an FHSS communication is as follows:

1. The initiating party sends a request via a predefined frequency or control channel.

2. The receiving party sends a number, known as a seed back to the initiating party.

3. The initiating party sends a synchronization signal acknowledging to the receiving party as it has successfully established a transmission link.

4. The communication begins, and both the receiving and the sending party change their frequencies along ar unpredictable hopping sequence with pseudorandom properties.

Pseudorandom Frequency Hopping Sequence:

2410.875; 2414.250; 2417.625; 2421.000; 2424.375; 2427.750; 2431.125; 2434.500; 2437.875; 2441.250; 2444.625; 2448.000; 2451.375; 2454.750; 2458.125; 2461.500; 2464.875; 2468.250; 2471.625.

System Receiver Input Bandwidth:

The receiver bandwidth is equal to the receiver bandwidth in the 19 hopping channel mode. The receiver bandwidth was verified during RF hopping to the relative channel.

Receiver Hopping Capability:

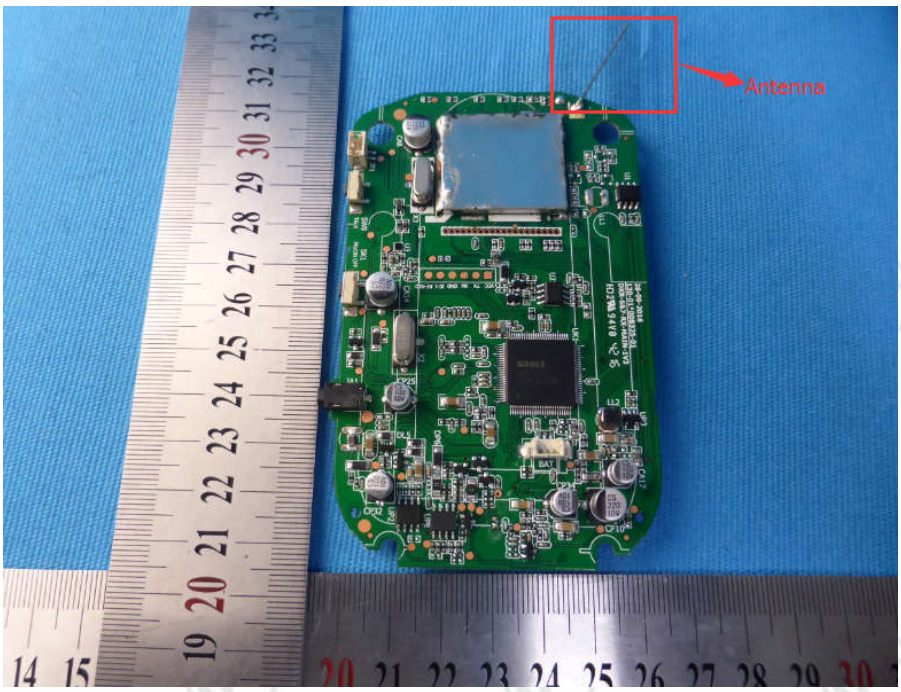
The associated receiver has the ability to shift frequencies in synchronization with the transmitted signals, with they start connect with a same channel and then hop to next channel with a same formula among each other.

Appendix I): Antenna Requirement

15.203 requirement:
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, 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.
15.247(b) (4) requirement:
The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:	

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0dBi.



Appendix J): AC Power Line Conducted Emission

<table>
<tr><td>Test Procedure:</td><td>Test frequency range :150KHz-30MHz
1) The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBμV)</th></tr>
<tr><th>Quasi-peak</th><th>Average</th></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.
NOTE : The lower limit is applicable at the transition frequency</td></tr>
</table>

Measurement Data

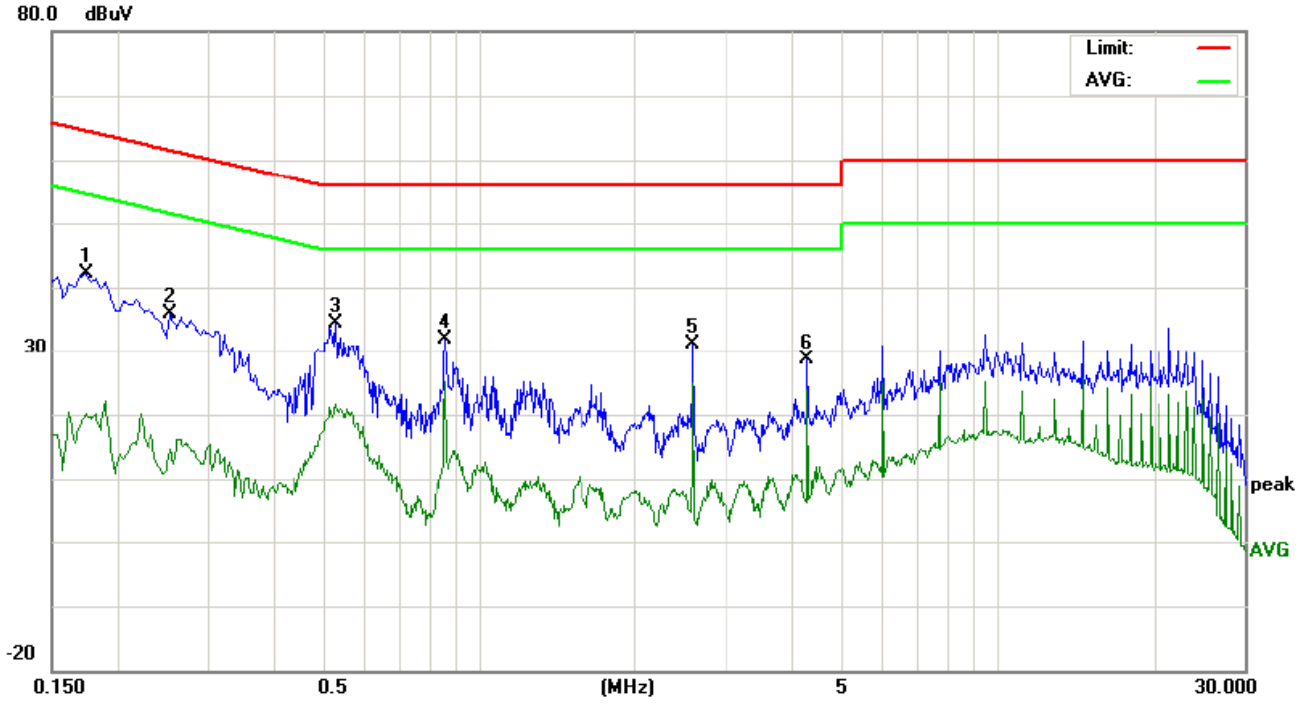
An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Adapter 1: BLJ06W050055P1-U

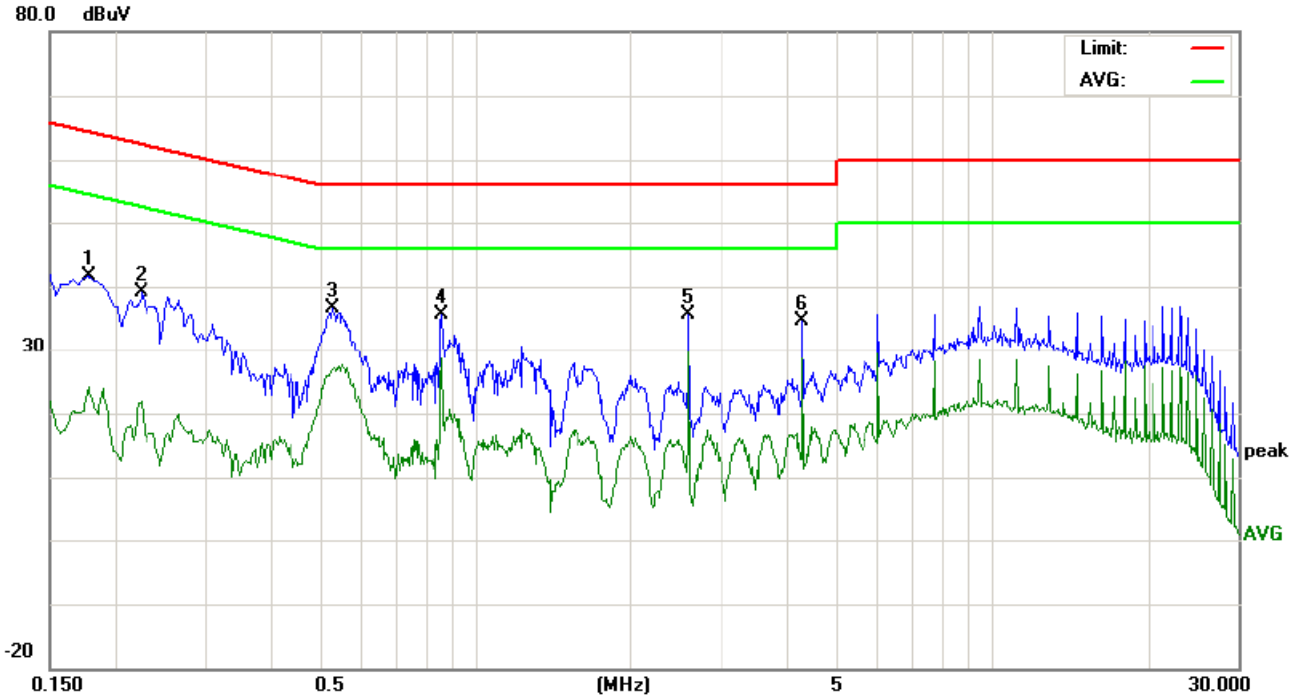
AC 120V/60Hz

Live line:



No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	0.1740	32.29		10.28	9.80	42.09		20.08	64.76	54.76	-22.67	-34.68	P	
2	0.2540	26.06		4.79	9.80	35.86		14.59	61.62	51.62	-25.76	-37.03	P	
3	0.5299	24.44		11.67	9.90	34.34		21.57	56.00	46.00	-21.66	-24.43	P	
4	0.8620	22.18		15.40	9.78	31.96		25.18	56.00	46.00	-24.04	-20.82	P	
5	2.5860	21.03		15.00	10.00	31.03		25.00	56.00	46.00	-24.97	-21.00	P	
6	4.3100	18.59		13.78	10.00	28.59		23.78	56.00	46.00	-27.41	-22.22	P	

Neutral line:

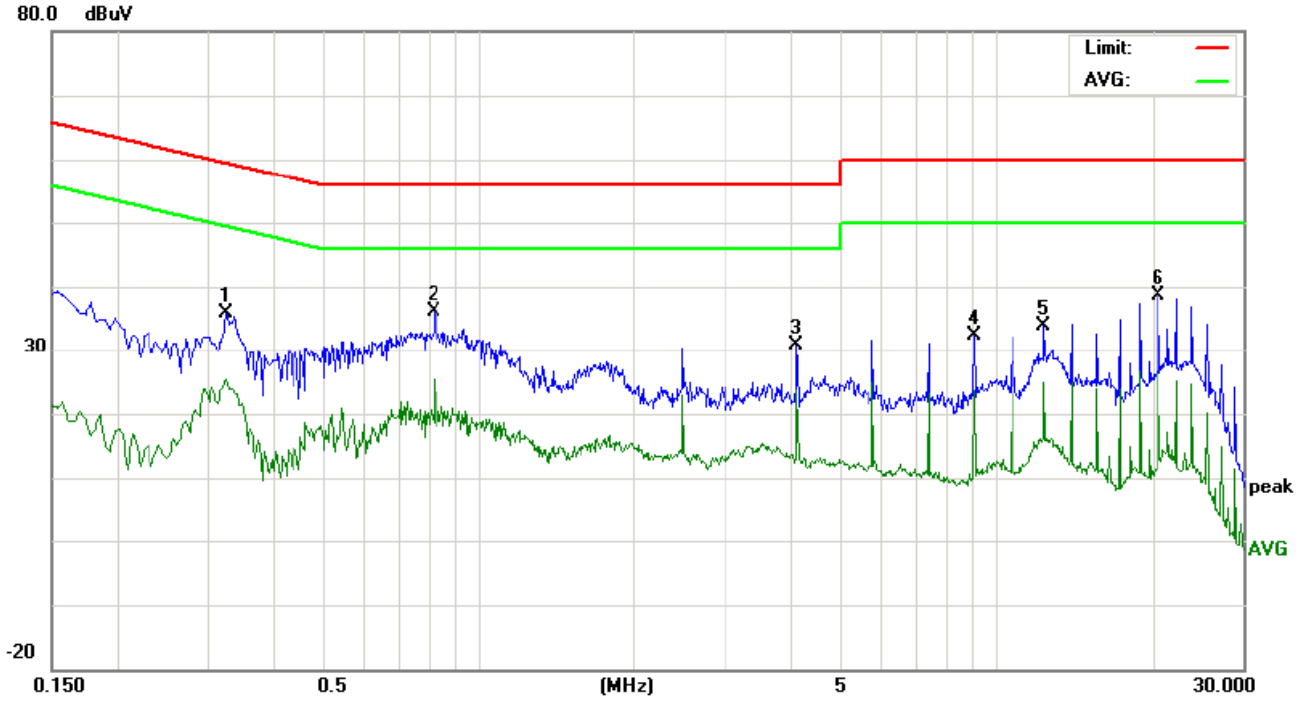


No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	0.1780	31.80		14.36	9.80	41.60		24.16	64.57	54.57	-22.97	-30.41	P	
2	0.2260	29.33		11.97	9.80	39.13		21.77	62.59	52.59	-23.46	-30.82	P	
3	0.5299	26.64		17.09	9.90	36.54		26.99	56.00	46.00	-19.46	-19.01	P	
4	0.8620	25.84		18.81	9.78	35.62		28.59	56.00	46.00	-20.38	-17.41	P	
5	2.5860	25.62		19.67	10.00	35.62		29.67	56.00	46.00	-20.38	-16.33	P	
6	4.3060	24.73		18.67	10.00	34.73		28.67	56.00	46.00	-21.27	-17.33	P	

Adapter 2: CS3B050055FU

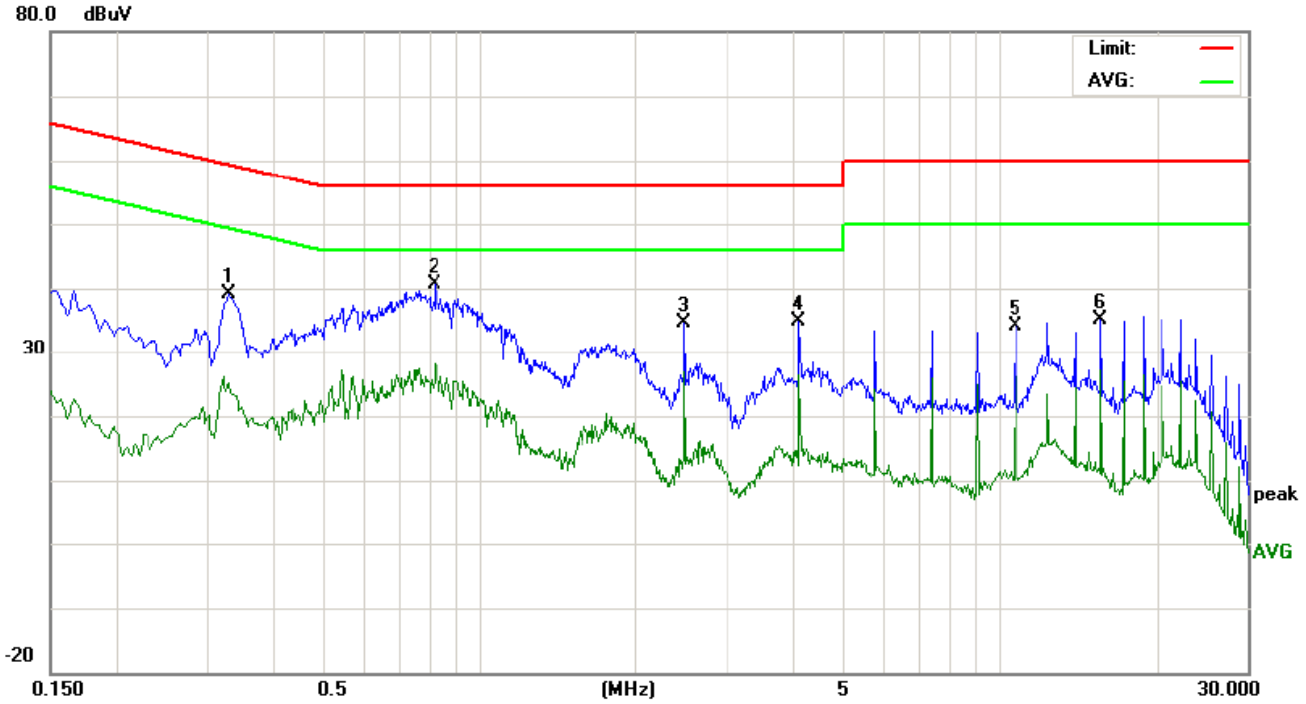
AC 120V/60Hz

Live line:



No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	0.3260	26.05		15.46	9.83	35.88		25.29	59.55	49.55	-23.67	-24.26	P	
2	0.8260	26.34		15.46	9.85	36.19		25.31	56.00	46.00	-19.81	-20.69	P	
3	4.1340	20.95		13.64	10.00	30.95		23.64	56.00	46.00	-25.05	-22.36	P	
4	9.0900	22.33		13.74	10.00	32.33		23.74	60.00	50.00	-27.67	-26.26	P	
5	12.3979	23.85		14.88	10.05	33.90		24.93	60.00	50.00	-26.10	-25.07	P	
6	20.6660	28.80		16.84	9.80	38.60		26.64	60.00	50.00	-21.40	-23.36	P	

Neutral line:



No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	0.3300	29.26		15.30	9.83	39.09		25.13	59.45	49.45	-20.36	-24.32	P	
2	0.8260	30.67		18.33	9.85	40.52		28.18	56.00	46.00	-15.48	-17.82	P	
3	2.4780	24.74		16.85	10.00	34.74		26.85	56.00	46.00	-21.26	-19.15	P	
4	4.1340	24.89		16.38	10.00	34.89		26.38	56.00	46.00	-21.11	-19.62	P	
5	10.7460	24.15		16.15	10.01	34.16		26.16	60.00	50.00	-25.84	-23.84	P	
6	15.7060	25.06		16.96	10.06	35.12		27.02	60.00	50.00	-24.88	-22.98	P	

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

Appendix K): Restricted bands around fundamental frequency (Radiated)

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Test Procedure:

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre).
h. b. Test the EUT in the lowest channel , the Highest channel
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.
j. Repeat above procedures until all frequencies measured was complete.

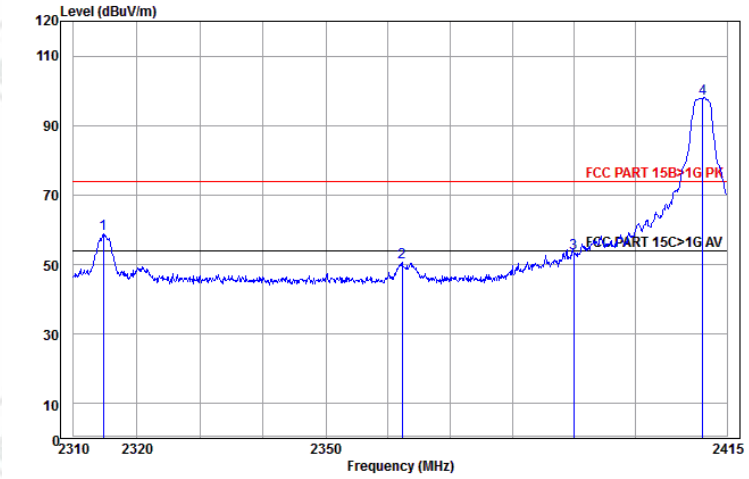
Limit:

Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
	74.0	Peak Value

Test plot as follows:

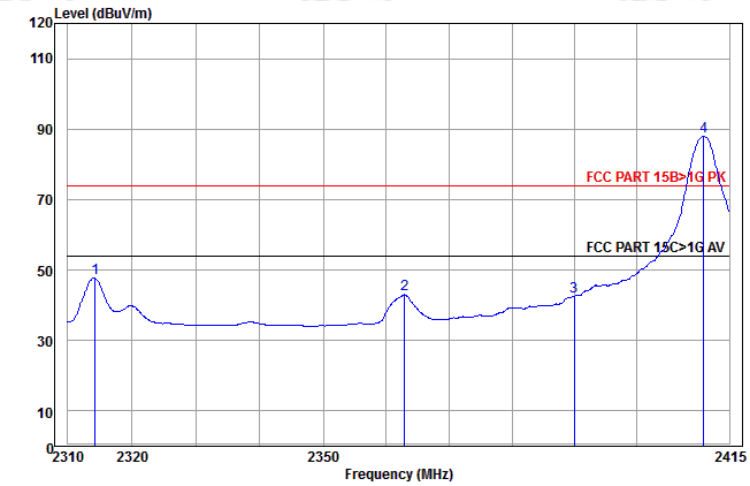
Adapter 1: BLJ06W050055P1-U

Worse case mode:	GFSK		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Horizontal	Remark: Peak



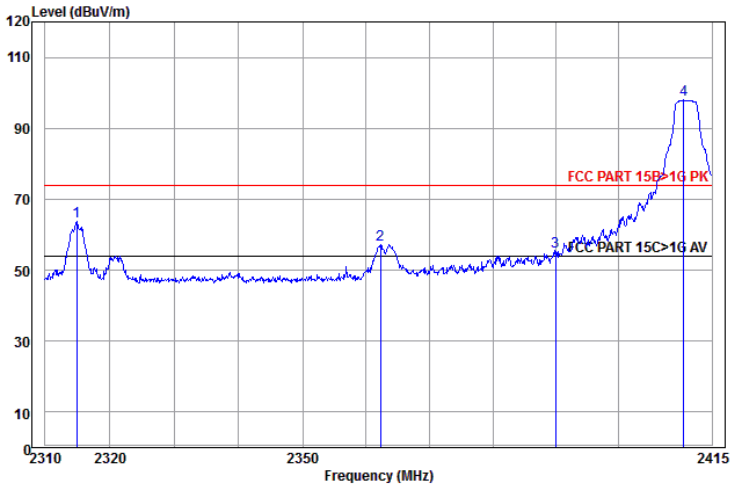
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2314.728	32.38	4.09	34.37	56.76	58.86	74.00	-15.14	Horizontal	
2	2362.232	32.48	4.21	34.38	48.30	50.61	74.00	-23.39	Horizontal	
3	2390.000	32.53	4.28	34.39	51.02	53.44	74.00	-20.56	Horizontal	
4 pp	2411.031	32.58	4.33	34.39	95.29	97.81	74.00	23.81	Horizontal	

Worse case mode:	GFSK		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Horizontal	Remark: Average



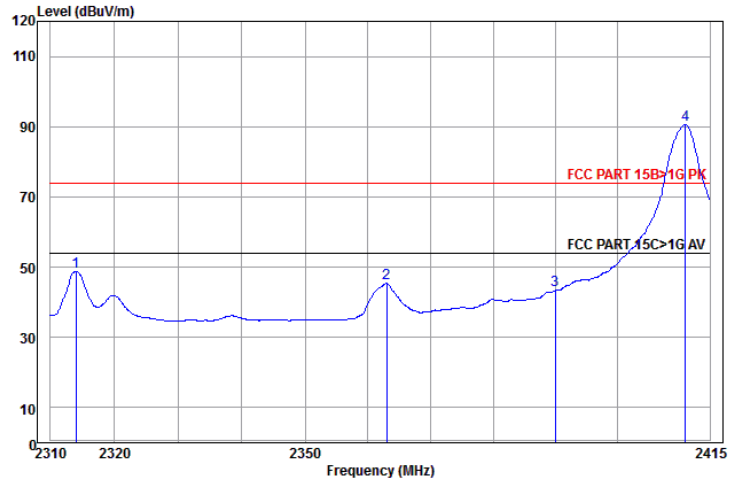
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2314.214	32.38	4.09	34.37	45.59	47.69	54.00	-6.31	Horizontal	Average
2	2362.862	32.48	4.21	34.38	40.71	43.02	54.00	-10.98	Horizontal	Average
3	2390.000	32.53	4.28	34.39	40.24	42.66	54.00	-11.34	Horizontal	Average
4 pp	2410.817	32.58	4.33	34.39	85.53	88.05	54.00	34.05	Horizontal	Average

Worse case mode:	GFSK		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Vertical	Remark: Peak



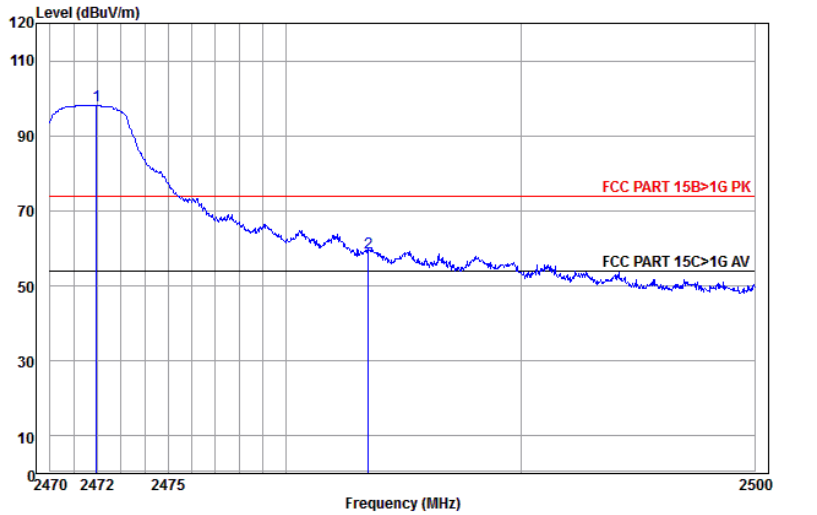
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2314.831	32.39	4.09	34.37	61.50	63.61	74.00	-10.39	Vertical	
2	2362.232	32.48	4.21	34.38	54.87	57.18	74.00	-16.82	Vertical	
3	2390.000	32.53	4.28	34.39	52.98	55.40	74.00	-18.60	Vertical	
4 pp	2410.495	32.57	4.33	34.39	95.45	97.96	74.00	23.96	Vertical	

Worse case mode:	GFSK		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Vertical	Remark: Average



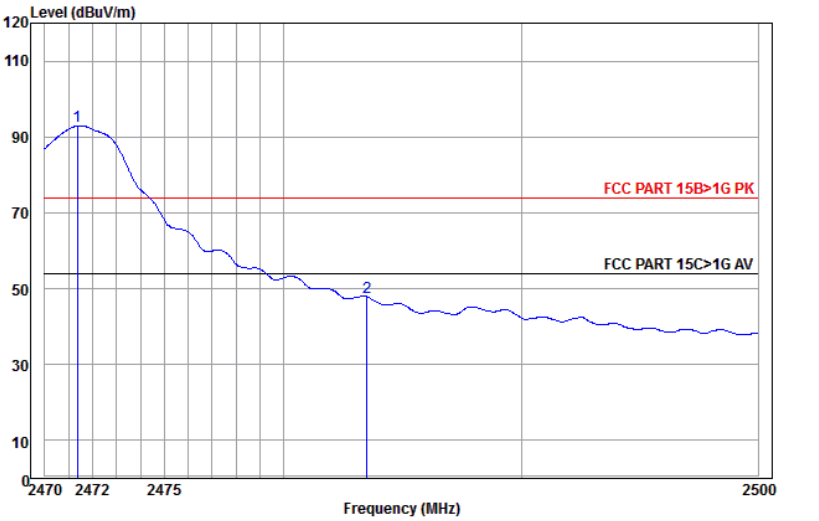
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2314.008	32.38	4.09	34.37	46.66	48.76	54.00	-5.24	Vertical	Average
2	2362.967	32.48	4.21	34.38	42.98	45.29	54.00	-8.71	Vertical	Average
3	2390.000	32.53	4.28	34.39	40.94	43.36	54.00	-10.64	Vertical	Average
4 pp	2411.031	32.58	4.33	34.39	87.92	90.44	54.00	36.44	Vertical	Average

Worse case mode:	GFSK		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Horizontal	Remark: Peak



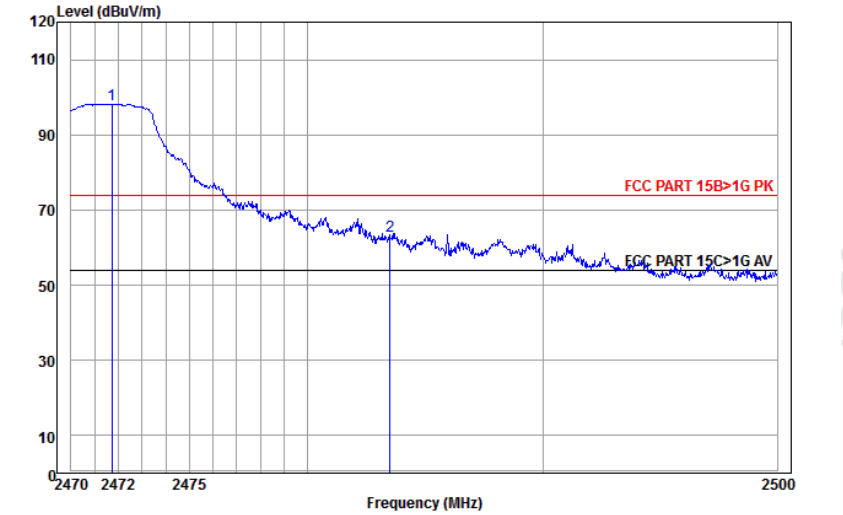
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2471.969	32.69	4.48	34.40	95.46	98.23	74.00	24.23	Horizontal	
2	2483.500	32.71	4.51	34.41	55.96	58.77	74.00	-15.23	Horizontal	

Worse case mode:	GFSK		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Horizontal	Remark: Average



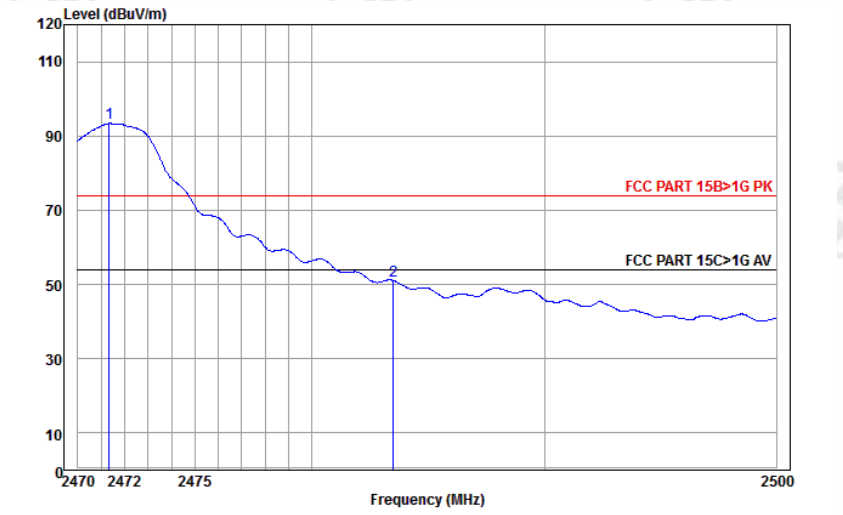
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2471.372	32.69	4.48	34.40	90.09	92.86	54.00	38.86	Horizontal	Average
2	2483.500	32.71	4.51	34.41	45.07	47.88	54.00	-6.12	Horizontal	Average

Worse case mode:	GFSK		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Vertical	Remark: Peak



	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2471.730	32.69	4.48	34.40	95.47	98.24	74.00	24.24	Vertical	
2	2483.500	32.71	4.51	34.41	60.37	63.18	74.00	-10.82	Vertical	

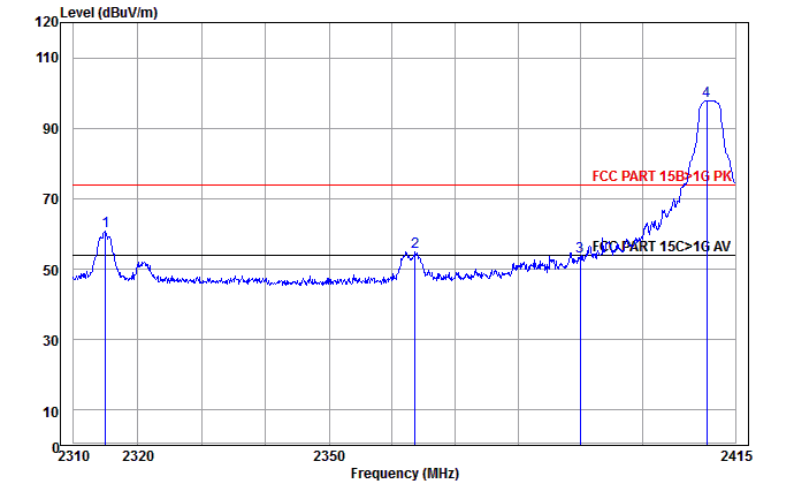
Worse case mode:	GFSK		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Vertical	Remark: Average



	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2471.342	32.69	4.48	34.40	90.59	93.36	54.00	39.36	Vertical	Average
2	2483.500	32.71	4.51	34.41	48.20	51.01	54.00	-2.99	Vertical	Average

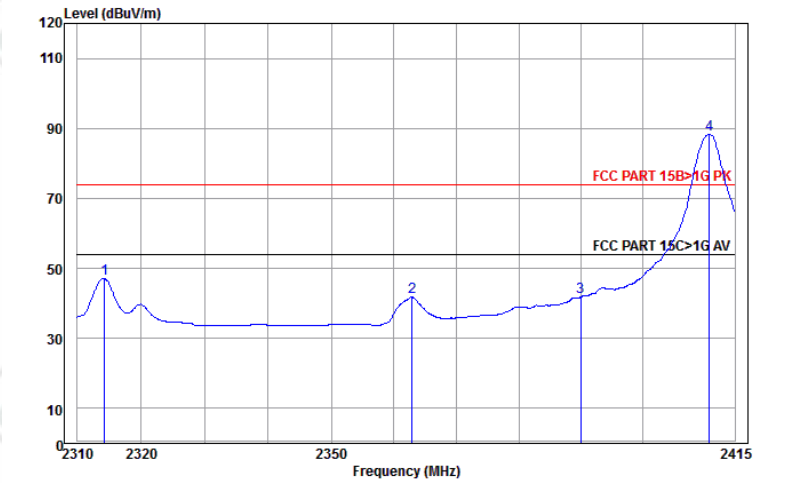
Adapter 2: CS3B050055FU

Worse case mode:	GFSK		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Horizontal	Remark: Peak



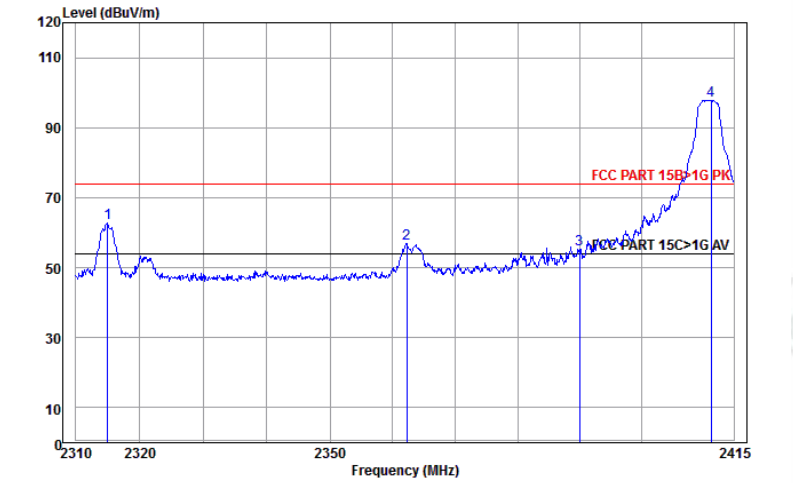
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2314.934	32.39	4.09	34.37	58.64	60.75	74.00	-13.25	Horizontal	
2	2363.597	32.48	4.21	34.38	52.70	55.01	74.00	-18.99	Horizontal	
3	2390.000	32.53	4.28	34.39	51.33	53.75	74.00	-20.25	Horizontal	
4 pp	2410.388	32.57	4.33	34.39	95.29	97.80	74.00	23.80	Horizontal	

Worse case mode:	GFSK		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Horizontal	Remark: Average



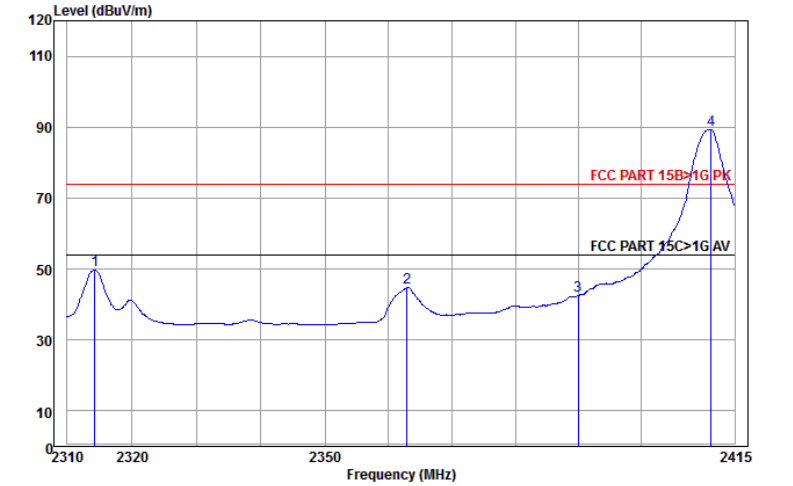
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2314.214	32.38	4.09	34.37	44.98	47.08	54.00	-6.92	Horizontal	Average
2	2362.862	32.48	4.21	34.38	39.52	41.83	54.00	-12.17	Horizontal	Average
3	2390.000	32.53	4.28	34.39	39.47	41.89	54.00	-12.11	Horizontal	Average
4 pp	2410.817	32.58	4.33	34.39	85.76	88.28	54.00	34.28	Horizontal	Average

Worse case mode:	GFSK		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Vertical	Remark: Peak



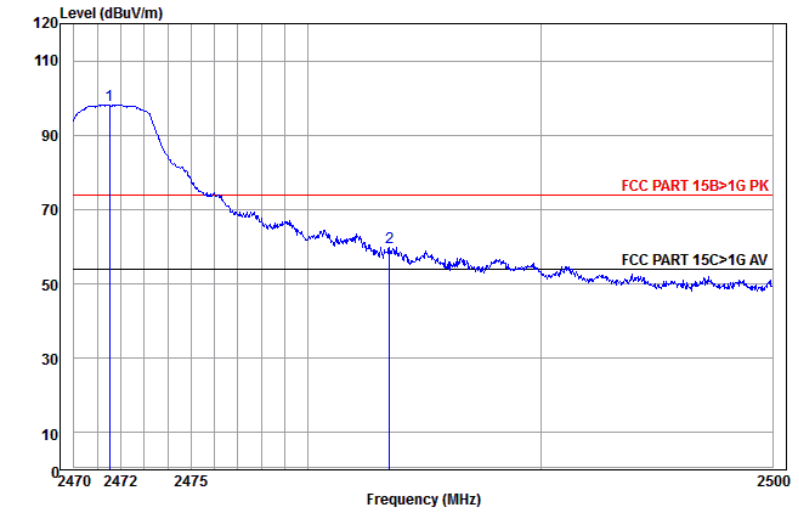
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2314.934	32.39	4.09	34.37	60.83	62.94	74.00	-11.06	Vertical	
2	2362.232	32.48	4.21	34.38	54.46	56.77	74.00	-17.23	Vertical	
3	2390.000	32.53	4.28	34.39	52.84	55.26	74.00	-18.74	Vertical	
4 pp	2411.353	32.58	4.33	34.39	95.32	97.84	74.00	23.84	Vertical	

Worse case mode:	GFSK		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Vertical	Remark: Average



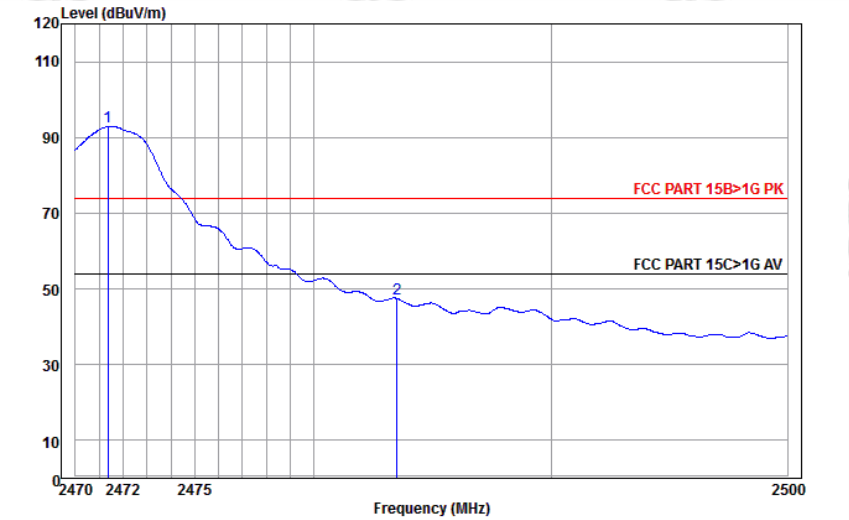
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2314.214	32.38	4.09	34.37	47.66	49.76	54.00	-4.24	Vertical	Average
2	2362.862	32.48	4.21	34.38	42.46	44.77	54.00	-9.23	Vertical	Average
3	2390.000	32.53	4.28	34.39	40.14	42.56	54.00	-11.44	Vertical	Average
4 pp	2411.246	32.58	4.33	34.39	86.86	89.38	54.00	35.38	Vertical	Average

Worse case mode:	GFSK		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Horizontal	Remark: Peak



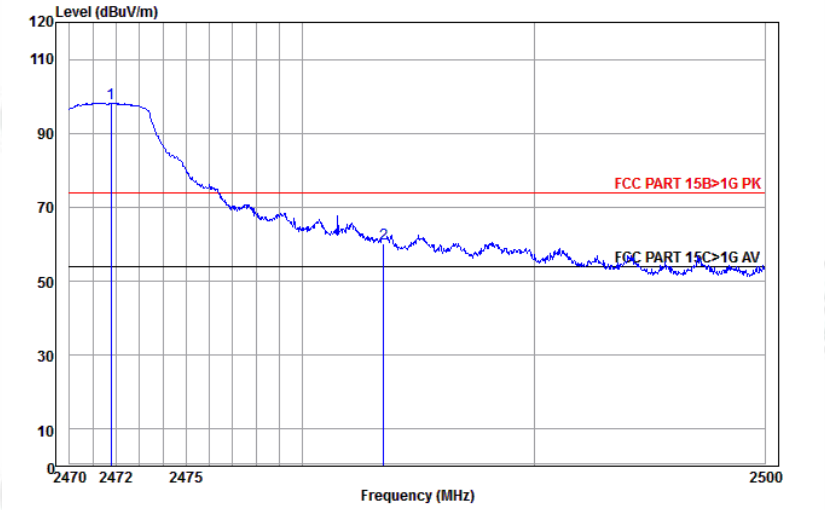
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2471.521	32.69	4.48	34.40	95.39	98.16	74.00	24.16	Horizontal	
2	2483.500	32.71	4.51	34.41	57.06	59.87	74.00	-14.13	Horizontal	

Worse case mode:	GFSK		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Horizontal	Remark: Average



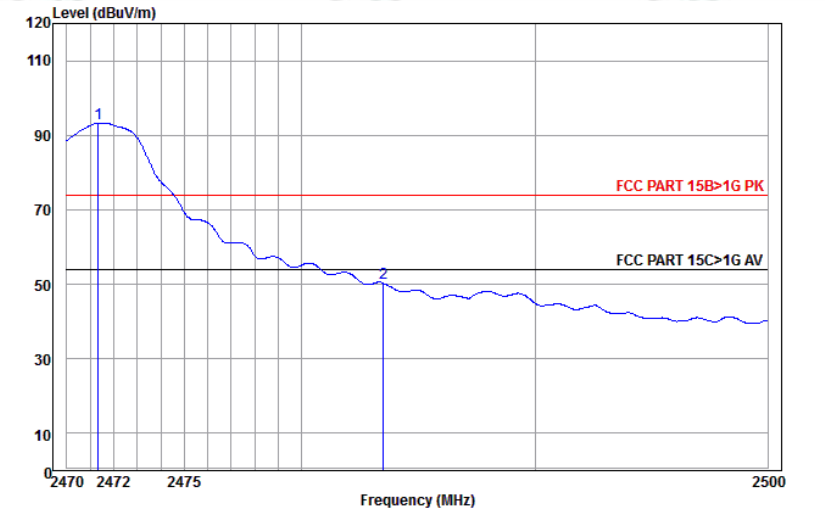
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2471.372	32.69	4.48	34.40	90.06	92.83	54.00	38.83	Horizontal	Average
2	2483.500	32.71	4.51	34.41	44.65	47.46	54.00	-6.54	Horizontal	Average

Worse case mode:	GFSK		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Vertical	Remark: Peak



	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2471.790	32.69	4.48	34.40	95.26	98.03	74.00	24.03	Vertical	
2	2483.500	32.71	4.51	34.41	57.19	60.00	74.00	-14.00	Vertical	

Worse case mode:	GFSK		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Vertical	Remark: Average



	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	2471.342	32.69	4.48	34.40	90.51	93.28	54.00	39.28	Vertical	Average
2	2483.500	32.71	4.51	34.41	47.45	50.26	54.00	-3.74	Vertical	Average

Note:
1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level =Receiver Reading - Correct Factor
Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Appendix L): Radiated Spurious Emissions

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120 kHz	300kHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Test Procedure:

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre).
h. Test the EUT in the lowest channel ,the middle channel ,the Highest channel
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.
j. Repeat above procedures until all frequencies measured was complete.

Limit:

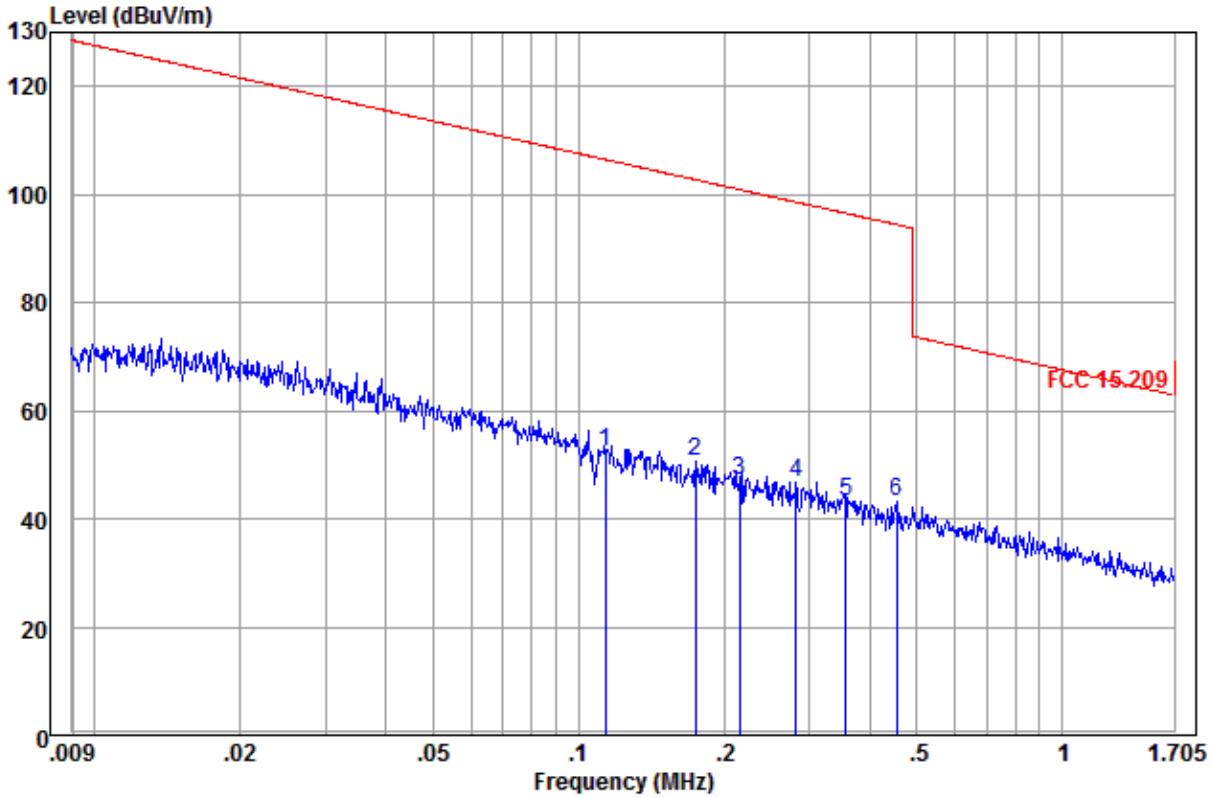
Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

Radiated Spurious Emissions test Data:

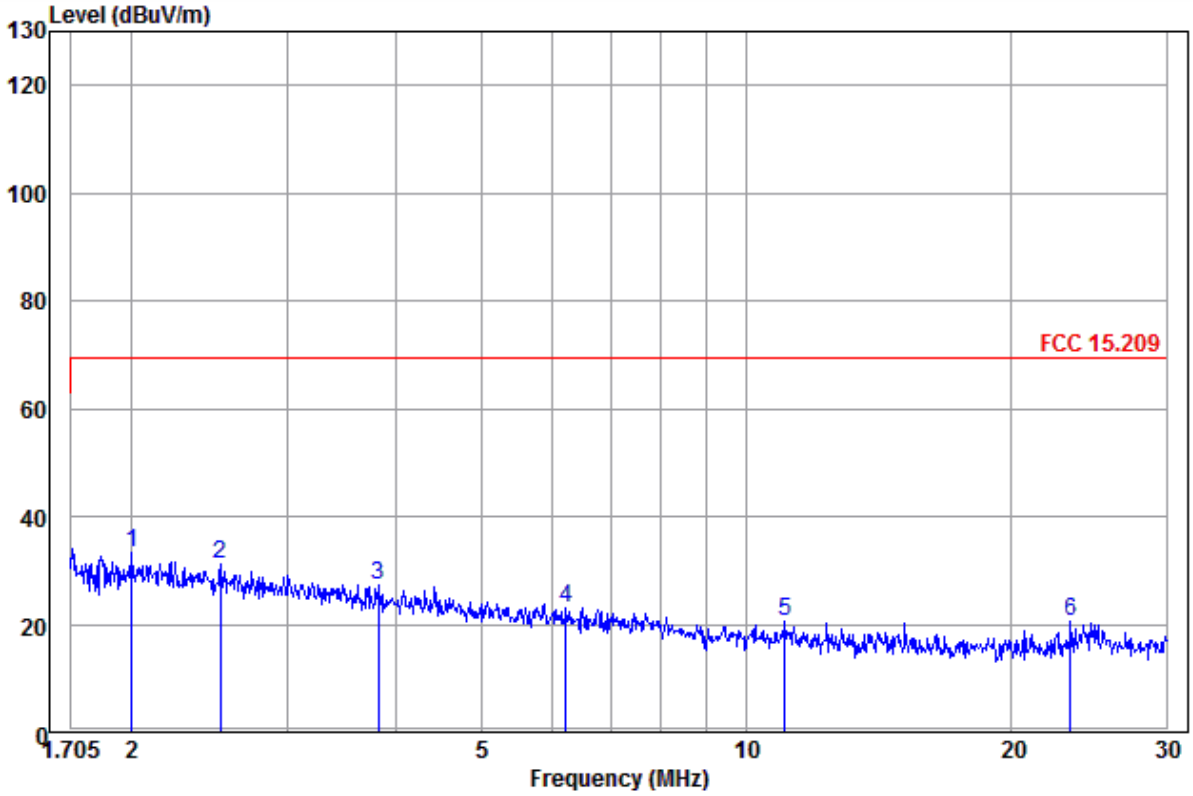
Radiated Emission below 30MHz

9KHz-1.705MHz			
Worse case mode:GFSK	Test Frequency: Lowest	Transmitting	Polarization: X



	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	0.114	11.40	0.11	40.85	52.36	106.47	-54.11	Vertical	Peak
2	0.175	11.37	0.11	39.15	50.63	102.73	-52.10	Vertical	Peak
3	0.216	11.33	0.11	35.80	47.24	100.91	-53.67	Vertical	Peak
4	0.282	11.30	0.11	35.34	46.75	98.59	-51.84	Vertical	Peak
5	0.357	11.30	0.12	31.81	43.23	96.54	-53.31	Vertical	Peak
6 pp	0.455	11.30	0.12	31.65	43.07	94.45	-51.38	Vertical	Peak

1.705MHz-30MHz			
Worse case mode:GFSK	Test Frequency: Lowest	Transmitting	Polarization: X

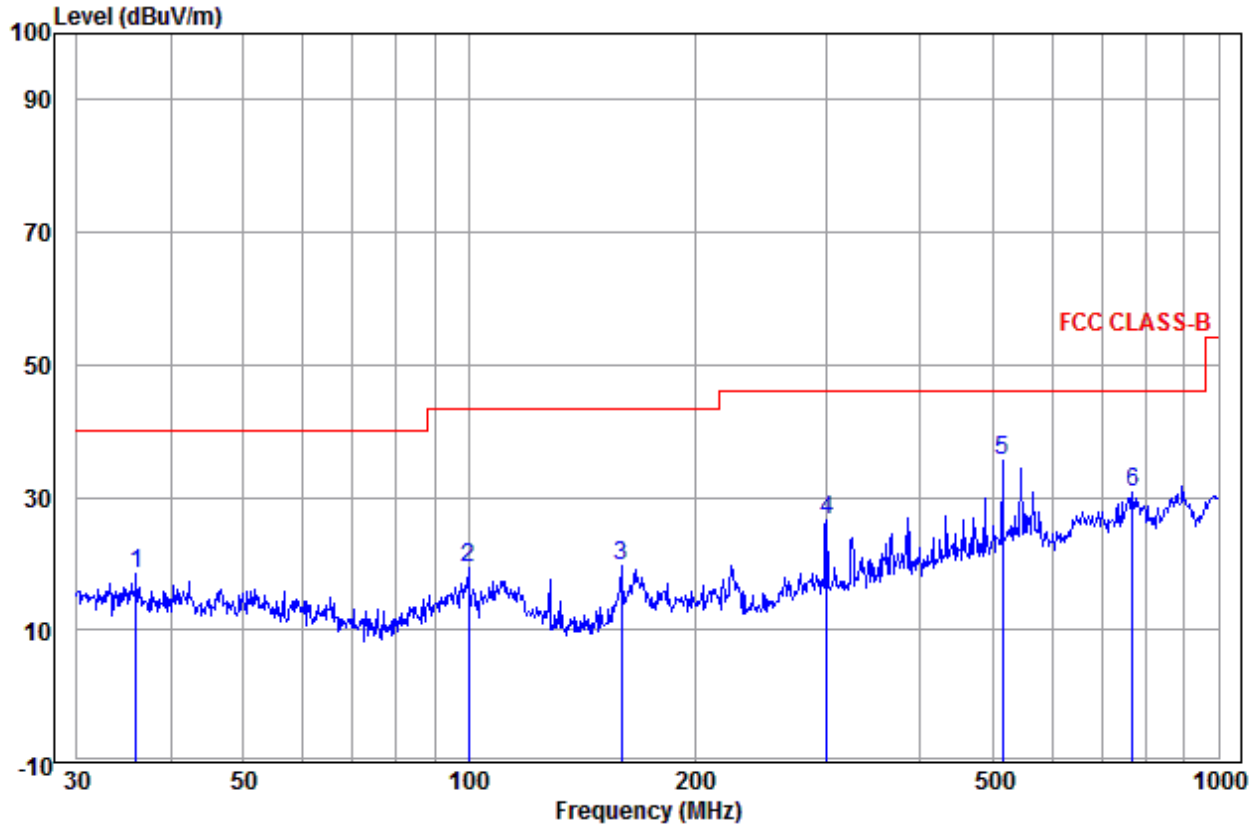


	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp	1.996	11.40	0.20	21.86	33.46	69.50	-36.04	Vertical	QP
2	2.518	11.46	0.18	19.47	31.11	69.50	-38.39	Vertical	QP
3	3.806	11.33	0.19	15.61	27.13	69.50	-42.37	Vertical	QP
4	6.232	11.10	0.30	11.68	23.08	69.50	-46.42	Vertical	QP
5	11.059	10.85	0.65	9.07	20.57	69.50	-48.93	Vertical	QP
6	23.376	9.68	0.96	9.89	20.53	69.50	-48.97	Vertical	QP

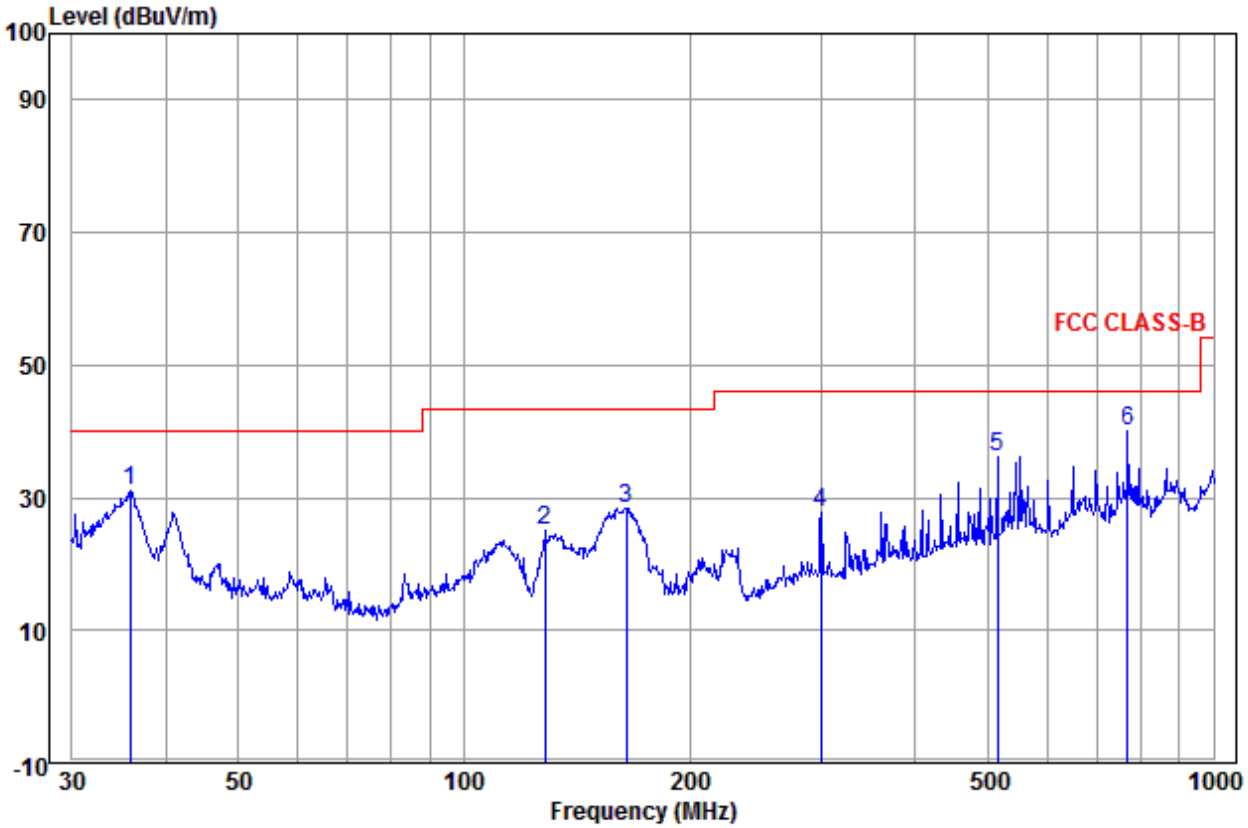
Remark: For 9kHz~30MHz test, The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case X axis with Adapter 1 is shown in the report. Adapter 1 and Adapter 2, lowest,middle,highest channel are tested, only show worst data in the report.

Radiated Emission 30MHz-1GHz

Adapter 1: BLJ06W050055P1-U

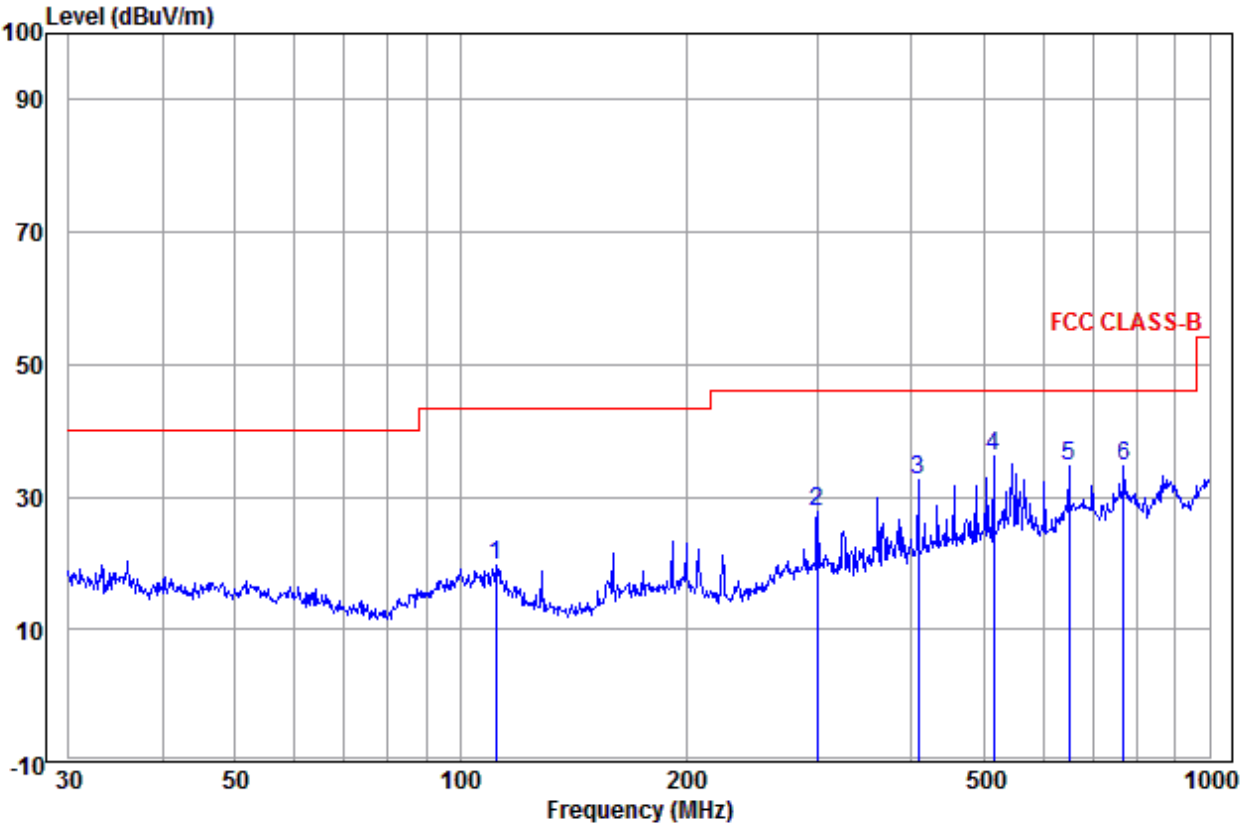


	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	36.001	13.58	0.77	4.08	18.43	40.00	-21.57	Horizontal	
2	99.878	13.18	1.57	4.48	19.23	43.50	-24.27	Horizontal	
3	159.784	10.12	1.72	7.89	19.73	43.50	-23.77	Horizontal	
4	300.367	13.51	2.38	10.78	26.67	46.00	-19.33	Horizontal	
5 pp	515.437	18.46	3.16	13.84	35.46	46.00	-10.54	Horizontal	
6	768.748	21.23	3.94	5.67	30.84	46.00	-15.16	Horizontal	

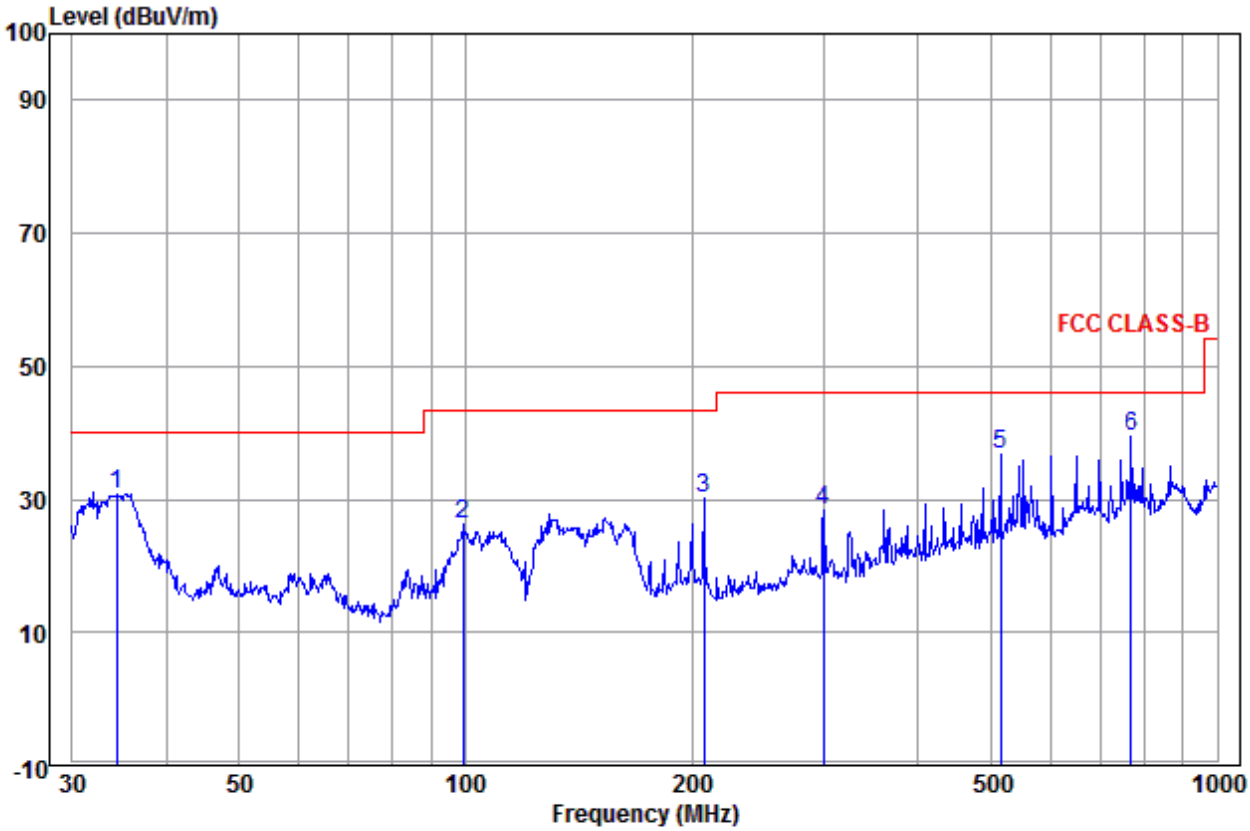


	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	35.875	13.56	0.78	16.74	31.08	40.00	-8.92	Vertical	
2	128.113	11.06	1.58	12.50	25.14	43.50	-18.36	Vertical	
3	164.908	10.33	1.79	16.33	28.45	43.50	-15.05	Vertical	
4	299.316	13.49	2.38	11.86	27.73	46.00	-18.27	Vertical	
5	515.437	18.46	3.16	14.66	36.28	46.00	-9.72	Vertical	
6 pp	768.748	21.23	3.94	14.76	39.93	46.00	-6.07	Vertical	

Adapter 2: CS3B050055FU



	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	111.347	12.27	1.57	5.90	19.74	43.50	-23.76	Horizontal	
2	299.316	13.49	2.38	11.75	27.62	46.00	-18.38	Horizontal	
3	408.946	16.45	2.84	13.34	32.63	46.00	-13.37	Horizontal	
4 pp	515.437	18.46	3.16	14.61	36.23	46.00	-9.77	Horizontal	
5	649.660	19.59	3.57	11.50	34.66	46.00	-11.34	Horizontal	
6	768.748	21.23	3.94	9.54	34.71	46.00	-11.29	Horizontal	



	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	34.396	13.31	0.88	16.63	30.82	40.00	-9.18	Vertical	
2	99.180	13.04	1.57	11.63	26.24	43.50	-17.26	Vertical	
3	207.850	11.74	2.23	16.11	30.08	43.50	-13.42	Vertical	
4	299.316	13.49	2.38	12.37	28.24	46.00	-17.76	Vertical	
5	515.437	18.46	3.16	15.05	36.67	46.00	-9.33	Vertical	
6 pp	768.748	21.23	3.94	14.36	39.53	46.00	-6.47	Vertical	

Transmitter Emission above 1GHz

Adapter 1: BLJ06W050055P1-U

Worse case mode:		GFSK		Test channel:		Lowest	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1192.011	30.21	2.51	34.97	48.35	46.10	74.00	-27.90	Pass	H
1617.862	31.09	2.93	34.58	47.35	46.79	74.00	-27.21	Pass	H
4821.750	34.73	5.11	34.35	45.27	50.76	74.00	-23.24	Pass	H
5747.586	35.71	6.87	34.30	41.31	49.59	74.00	-24.41	Pass	H
7232.625	36.42	6.69	34.90	41.94	50.15	74.00	-23.85	Pass	H
9643.500	37.92	7.70	35.07	37.85	48.40	74.00	-25.60	Pass	H
1182.943	30.18	2.50	34.98	48.54	46.24	74.00	-27.76	Pass	V
1428.142	30.73	2.76	34.74	47.73	46.48	74.00	-27.52	Pass	V
1846.834	31.47	3.12	34.40	46.86	47.05	74.00	-26.95	Pass	V
4821.750	34.73	5.11	34.35	44.77	50.26	74.00	-23.74	Pass	V
7232.625	36.42	6.69	34.90	39.40	47.61	74.00	-26.39	Pass	V
9643.500	37.92	7.70	35.07	38.31	48.86	74.00	-25.14	Pass	V

Worse case mode:		GFSK		Test channel:		Middle	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1182.943	30.18	2.50	34.98	48.64	46.34	74.00	-27.66	Pass	H
1406.496	30.68	2.74	34.76	47.30	45.96	74.00	-28.04	Pass	H
1642.761	31.13	2.95	34.56	46.86	46.38	74.00	-27.62	Pass	H
4882.500	34.85	5.08	34.33	45.11	50.71	74.00	-23.29	Pass	H
7323.750	36.43	6.77	34.90	41.69	49.99	74.00	-24.01	Pass	H
9765.000	38.05	7.60	35.05	38.32	48.92	74.00	-25.08	Pass	H
1201.149	30.23	2.52	34.96	47.70	45.49	74.00	-28.51	Pass	V
1446.435	30.77	2.78	34.72	47.11	45.94	74.00	-28.06	Pass	V
1846.834	31.47	3.12	34.40	46.58	46.77	74.00	-27.23	Pass	V
4882.500	34.85	5.08	34.33	44.22	49.82	74.00	-24.18	Pass	V
7323.750	36.43	6.77	34.90	41.74	50.04	74.00	-23.96	Pass	V
9765.000	38.05	7.60	35.05	36.87	47.47	74.00	-26.53	Pass	V

Worse case mode:		GFSK		Test channel:		Highest	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1201.149	30.23	2.52	34.96	47.74	45.53	74.00	-28.47	Pass	H
1659.574	31.16	2.97	34.54	46.51	46.10	74.00	-27.90	Pass	H
1851.542	31.48	3.12	34.40	47.65	47.85	74.00	-26.15	Pass	H
4943.250	34.98	5.06	34.32	44.03	49.75	74.00	-24.25	Pass	H
7414.875	36.44	6.85	34.90	41.55	49.94	74.00	-24.06	Pass	H
9886.500	38.18	7.50	35.02	37.54	48.20	74.00	-25.80	Pass	H
1210.356	30.25	2.53	34.95	47.99	45.82	74.00	-28.18	Pass	V
1659.574	31.16	2.97	34.54	46.58	46.17	74.00	-27.83	Pass	V
2060.463	31.84	3.41	34.31	45.45	46.39	74.00	-27.61	Pass	V
4943.250	34.98	5.06	34.32	45.24	50.96	74.00	-23.04	Pass	V
7414.875	36.44	6.85	34.90	40.99	49.38	74.00	-24.62	Pass	V
9886.500	38.18	7.50	35.02	40.34	51.00	74.00	-23.00	Pass	V

Adapter 2: CS3B050055FU

Worse case mode:		GFSK		Test channel:		Lowest	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1207.279	30.24	2.52	34.96	47.65	45.45	74.00	-28.55	Pass	H
1417.277	30.71	2.75	34.75	47.35	46.06	74.00	-27.94	Pass	H
1870.490	31.51	3.14	34.39	46.71	46.97	74.00	-27.03	Pass	H
4821.750	34.73	5.11	34.35	41.47	46.96	74.00	-27.04	Pass	H
7232.625	36.42	6.69	34.90	41.45	49.66	74.00	-24.34	Pass	H
9643.500	37.92	7.70	35.07	39.44	49.99	74.00	-24.01	Pass	H
1185.958	30.19	2.50	34.98	47.95	45.66	74.00	-28.34	Pass	V
1589.289	31.04	2.91	34.60	46.12	45.47	74.00	-28.53	Pass	V
1846.834	31.47	3.12	34.40	46.47	46.66	74.00	-27.34	Pass	V
4882.500	34.85	5.08	34.33	41.48	47.08	74.00	-26.92	Pass	V
7323.750	36.43	6.77	34.90	42.27	50.57	74.00	-23.43	Pass	V
9765.000	38.05	7.60	35.05	38.84	49.44	74.00	-24.56	Pass	V

Worse case mode:		GFSK		Test channel:		Middle	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1213.441	30.26	2.53	34.95	47.64	45.48	74.00	-28.52	Pass	H
1435.431	30.74	2.77	34.73	46.53	45.31	74.00	-28.69	Pass	H
1597.401	31.05	2.92	34.59	47.07	46.45	74.00	-27.55	Pass	H
4882.500	34.85	5.08	34.33	45.24	50.84	74.00	-23.16	Pass	H
7323.750	36.43	6.77	34.90	42.60	50.90	74.00	-23.10	Pass	H
9765.000	38.05	7.60	35.05	37.16	47.76	74.00	-26.24	Pass	H
1207.279	30.24	2.52	34.96	47.77	45.57	74.00	-28.43	Pass	V
1439.090	30.75	2.77	34.73	47.39	46.18	74.00	-27.82	Pass	V
4213.211	33.34	5.35	34.53	43.63	47.79	74.00	-26.21	Pass	V
4883.519	34.86	5.08	34.33	44.30	49.91	74.00	-24.09	Pass	V
7323.750	36.43	6.77	34.90	41.72	50.02	74.00	-23.98	Pass	V
9765.000	38.05	7.60	35.05	38.24	48.84	74.00	-25.16	Pass	V

Worse case mode:		GFSK		Test channel:		Highest	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1204.210	30.24	2.52	34.96	48.25	46.05	74.00	-27.95	Pass	H
1651.146	31.15	2.96	34.55	46.99	46.55	74.00	-27.45	Pass	H
1860.992	31.49	3.13	34.39	46.38	46.61	74.00	-27.39	Pass	H
4943.250	34.98	5.06	34.32	43.67	49.39	74.00	-24.61	Pass	H
7414.875	36.44	6.85	34.90	39.95	48.34	74.00	-25.66	Pass	H
9886.500	38.18	7.50	35.02	38.69	49.35	74.00	-24.65	Pass	H
1204.210	30.24	2.52	34.96	48.47	46.27	74.00	-27.73	Pass	V
1663.803	31.17	2.97	34.54	47.57	47.17	74.00	-26.83	Pass	V
2065.715	31.85	3.42	34.32	46.29	47.24	74.00	-26.76	Pass	V
4943.250	34.98	5.06	34.32	44.78	50.50	74.00	-23.50	Pass	V
7414.875	36.44	6.85	34.90	40.82	49.21	74.00	-24.79	Pass	V
9886.500	38.18	7.50	35.02	39.01	49.67	74.00	-24.33	Pass	V

Note:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

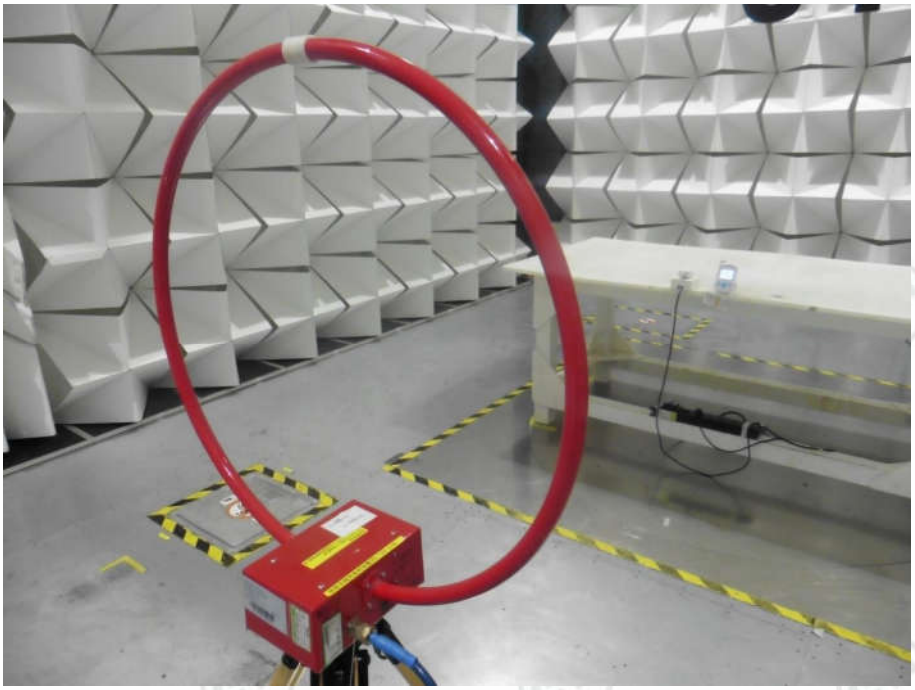
Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

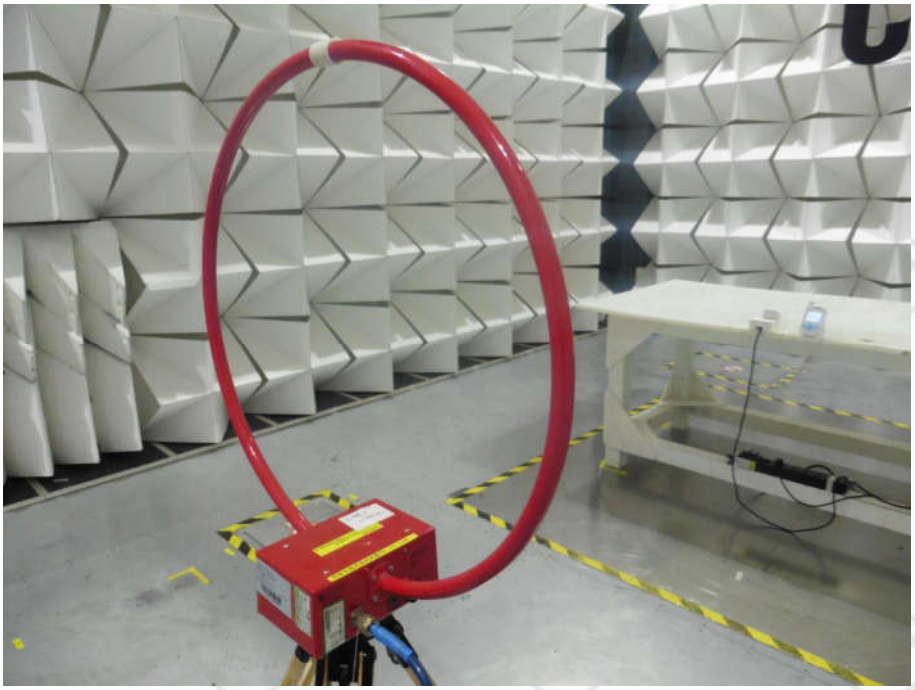
2) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

PHOTOGRAPHS OF TEST SETUP

Test Model No.: DXR-6

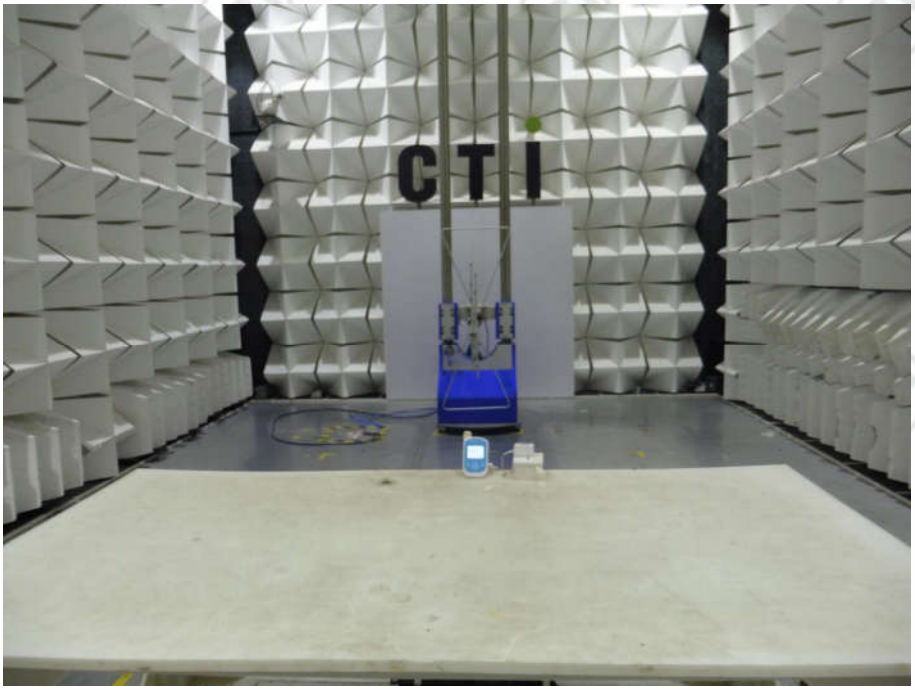


Radiated spurious emission Test Setup for adapter 1(Below 30MHz)



Radiated spurious emission Test Setup for adapter 2(Below 30MHz)

Radiated spurious emission Test Setup for adapter 1(Below 1GHz)



Radiated spurious emission Test Setup for adapter 2(Below 1GHz)

Radiated spurious emission Test Setup for adapter 1(Above 1GHz)

Radiated spurious emission Test Setup for adapter 2(Above 1GHz)

Conducted Emission for adapter 1

Conducted Emission for adapter 2

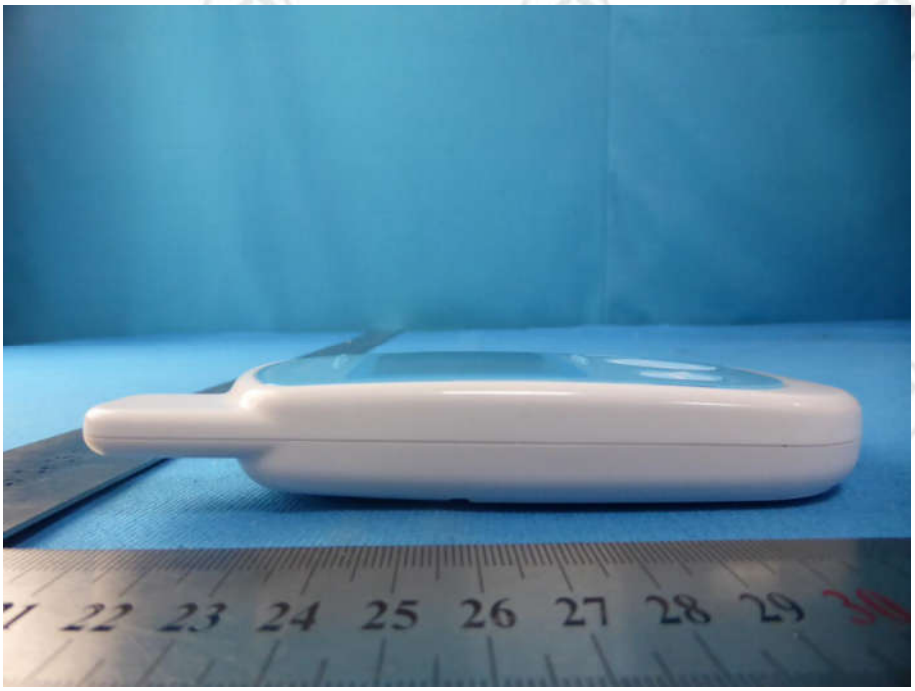
PHOTOGRAPHS OF EUT Constructional Details

Test Model No.: DXR-6

View of Product-1

View of Product-2

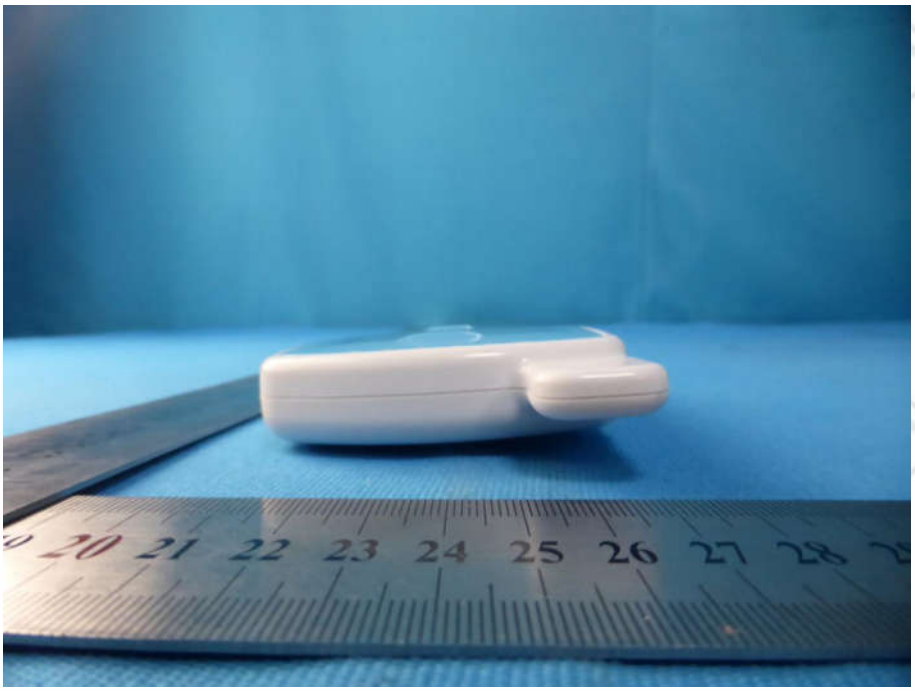
View of Product-3



View of Product-4

View of Product-5

View of Product-6



View of Product-7

View of Product-8

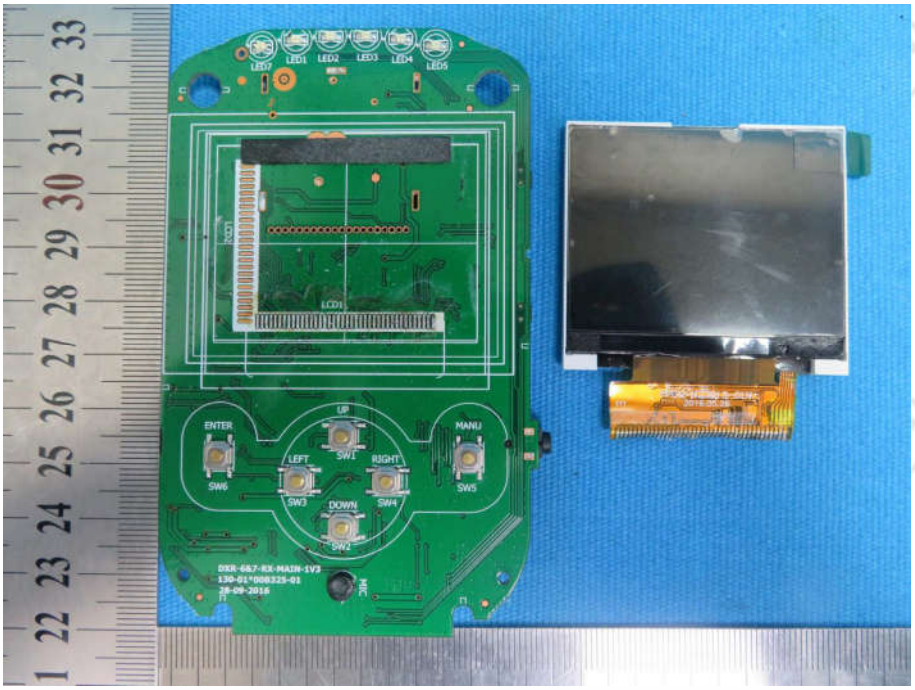
View of Product-9

View of Product-10

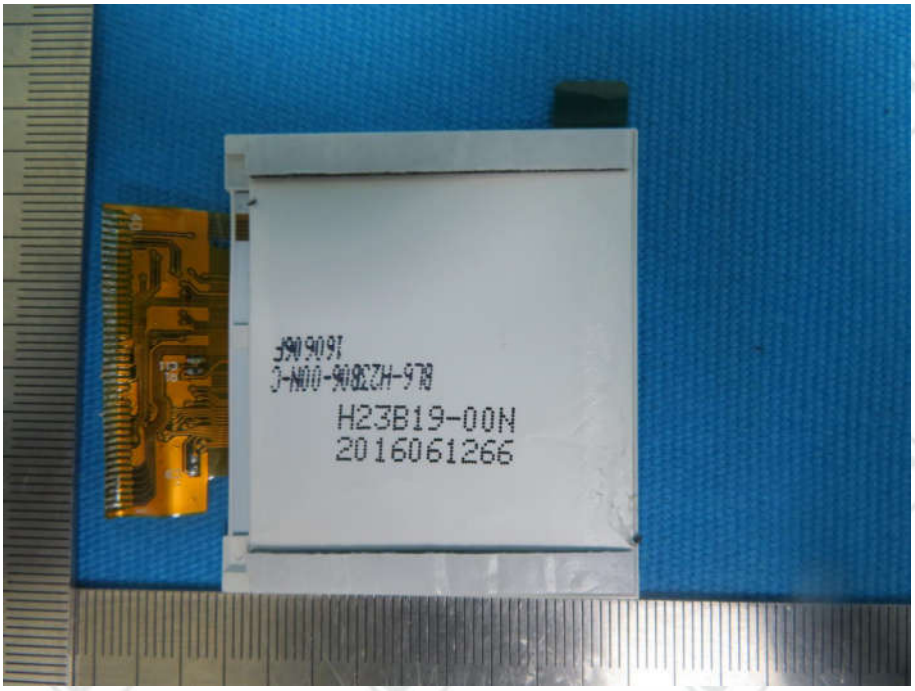
View of Product-11

View of Product-12

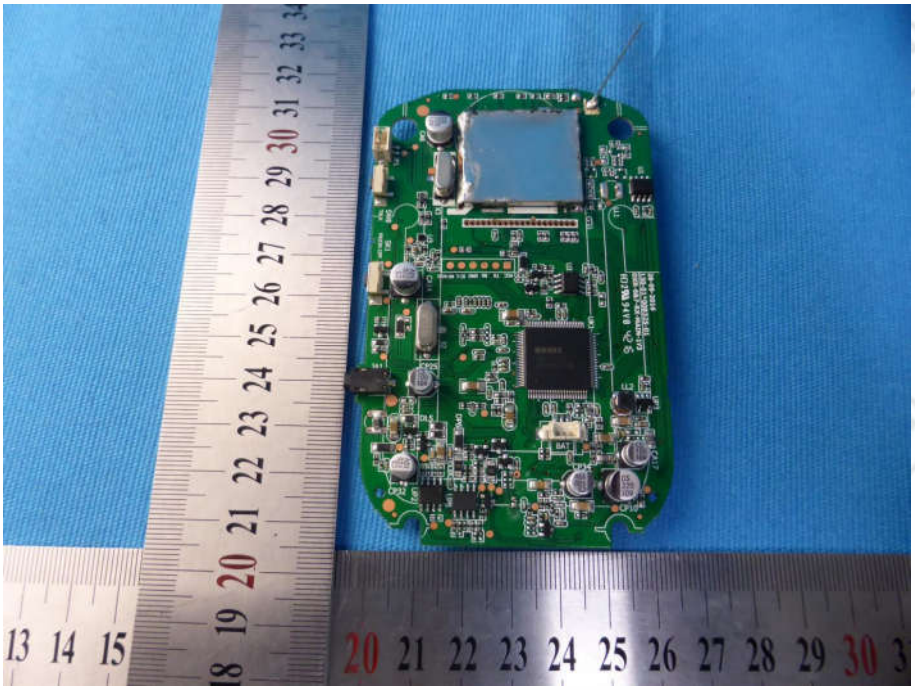
View of Product-13



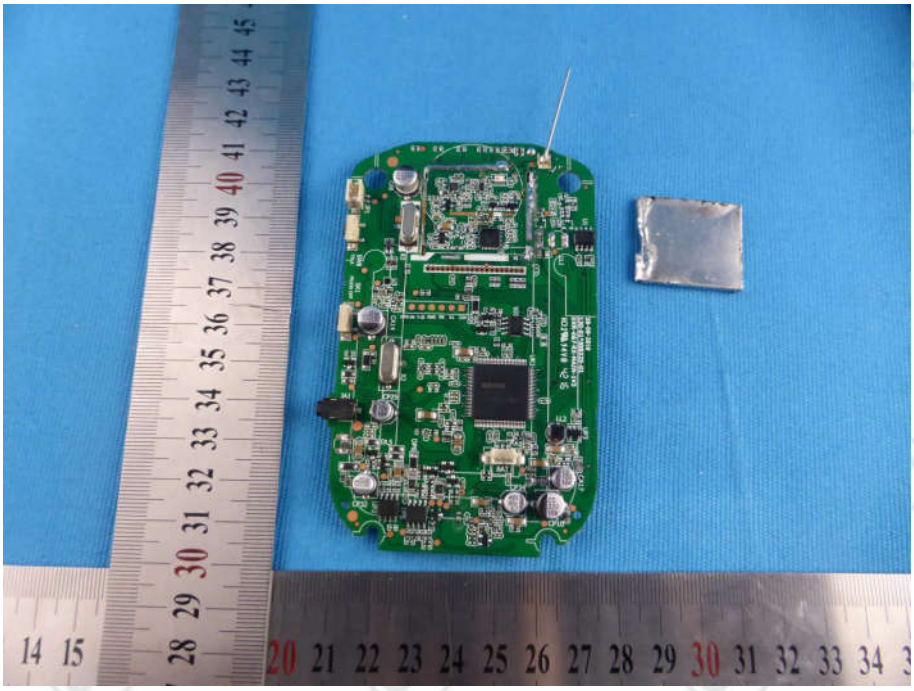
View of Product-14



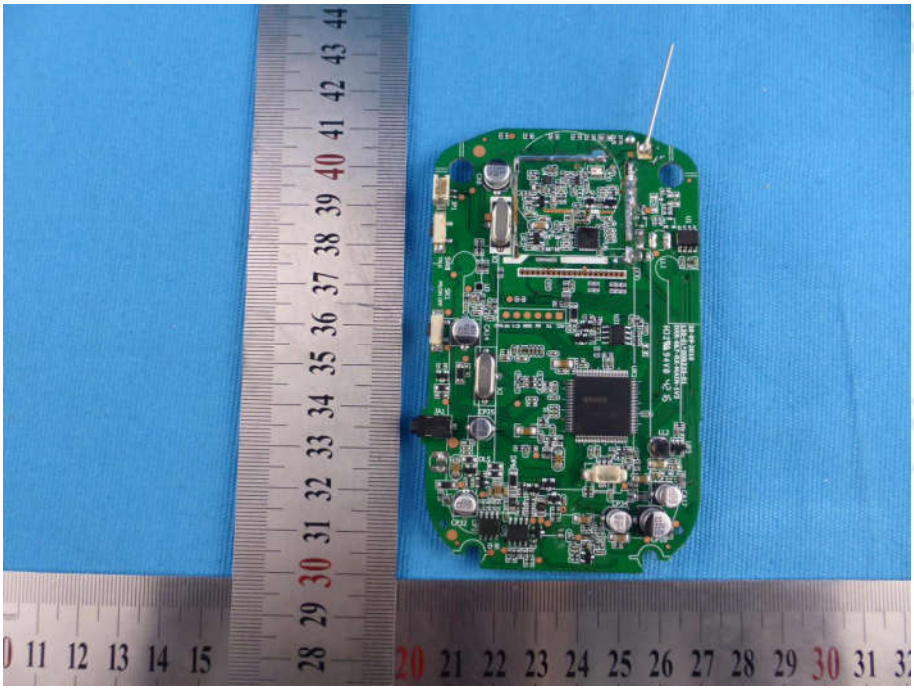
View of Product-15



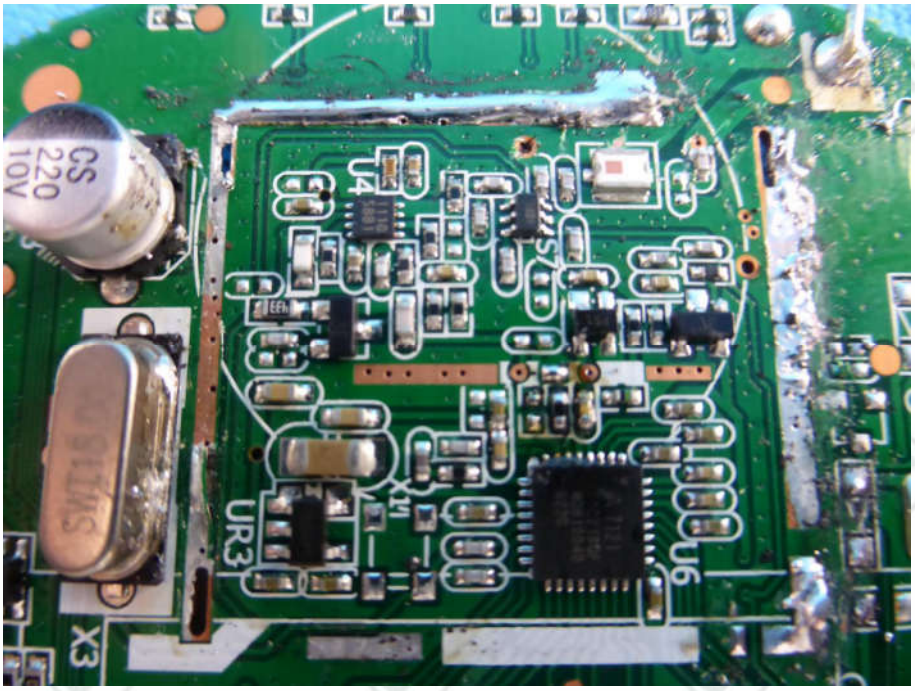
View of Product-16



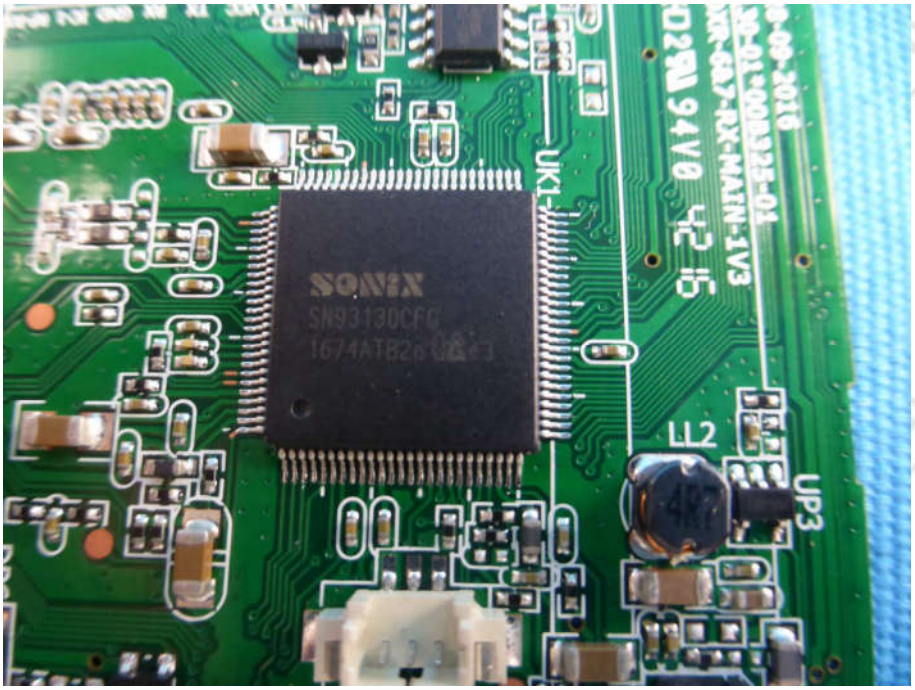
View of Product-17



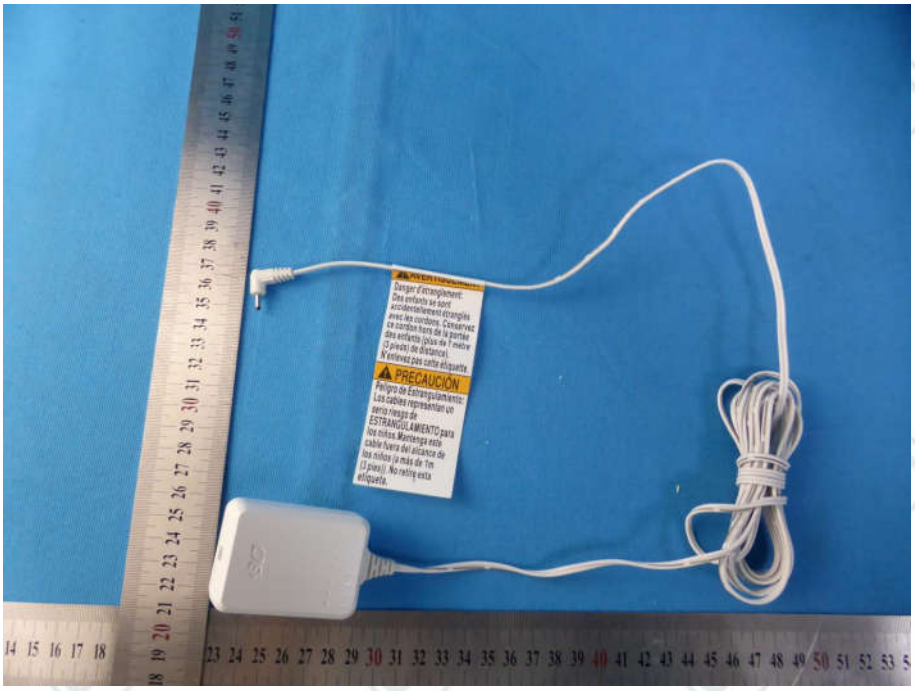
View of Product-18



View of Product-19



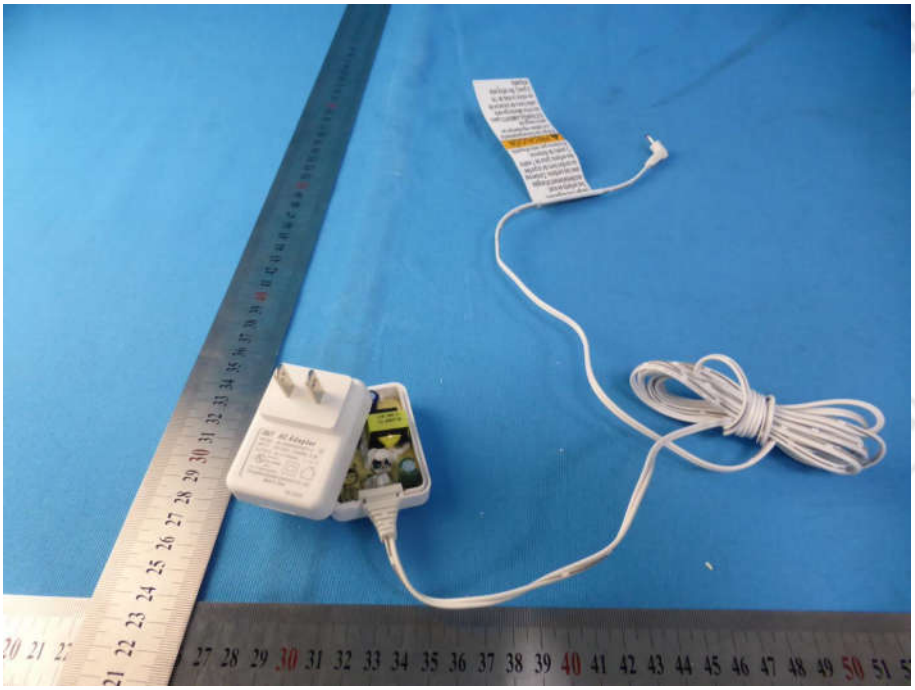
View of Product-20



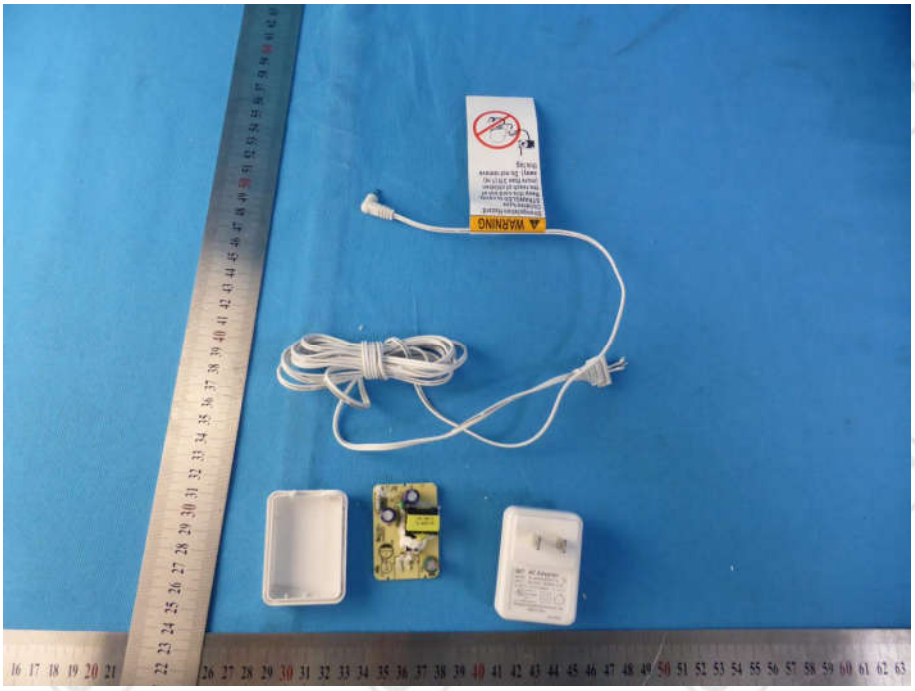
View of Product-21(Adapter 1: BLJ06W050055P1-U)

View of Product-22(Adapter 1: BLJ06W050055P1-U)

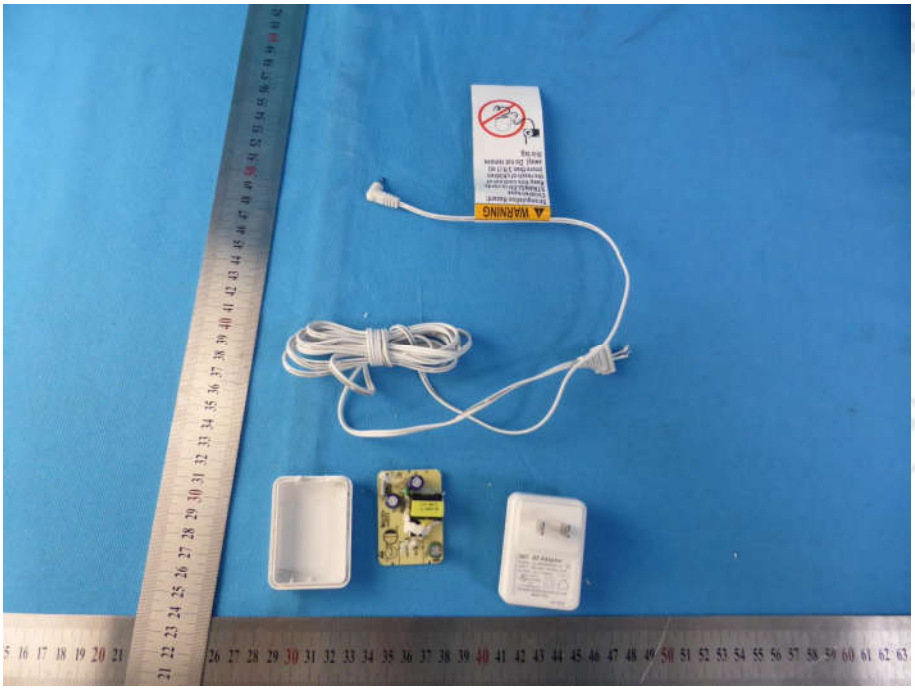
View of Product-23(Adapter 1: BLJ06W050055P1-U)



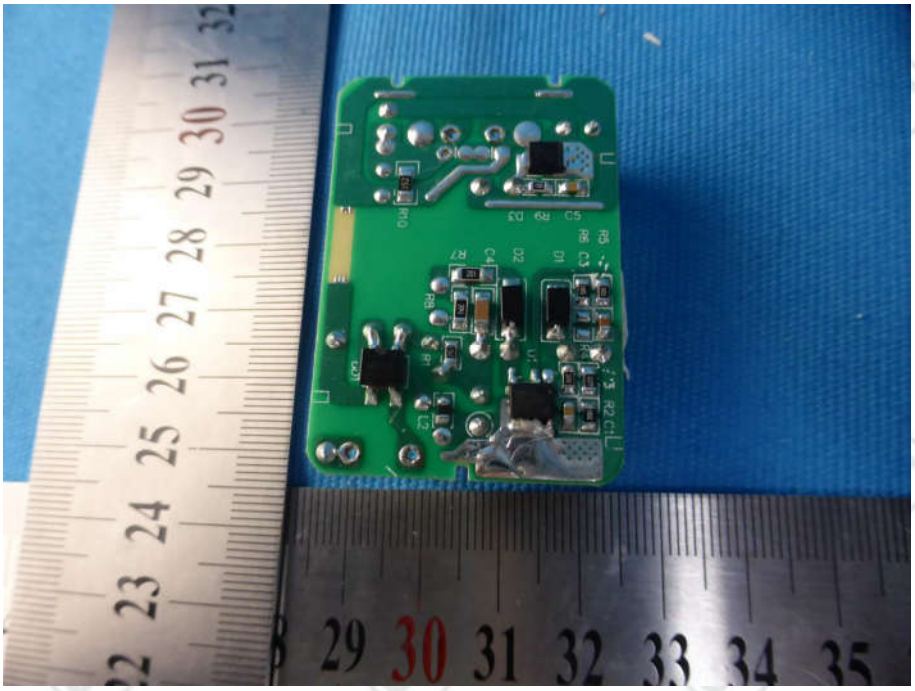
View of Product-24(Adapter 1: BLJ06W050055P1-U)



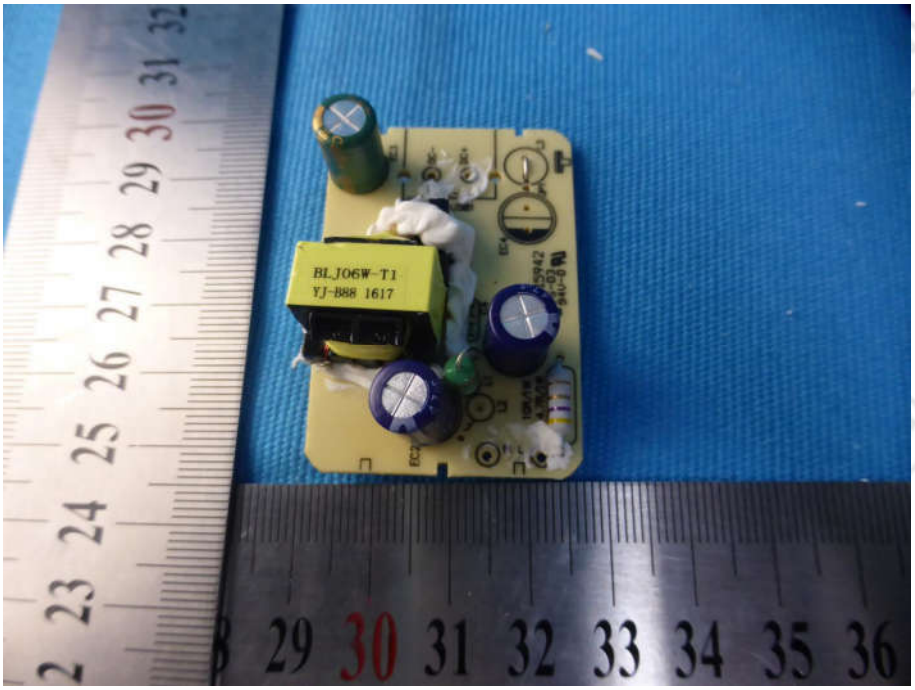
View of Product-25(Adapter 1: BLJ06W050055P1-U)



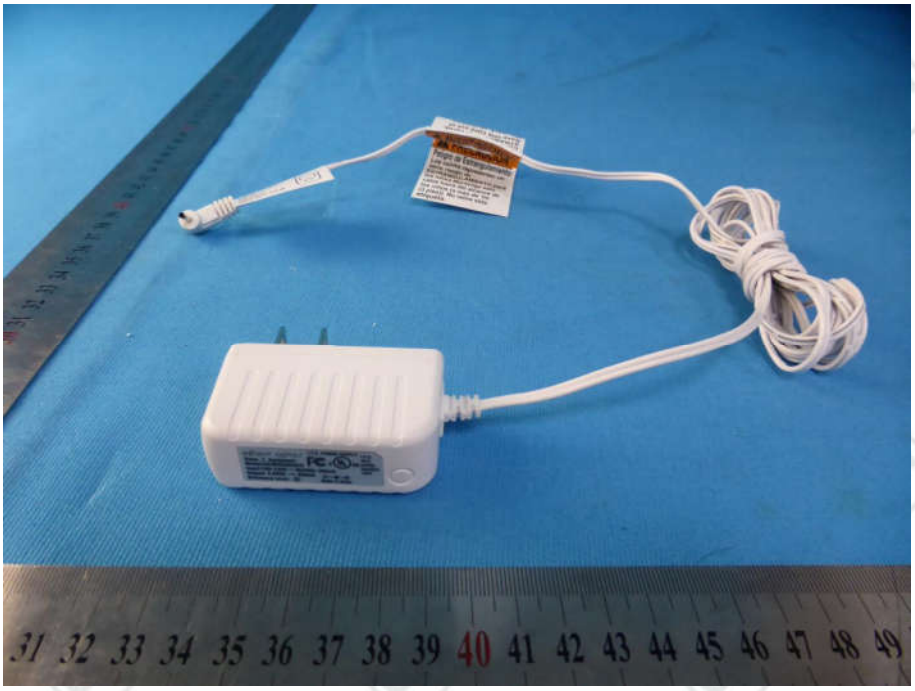
View of Product-26(Adapter 1: BLJ06W050055P1-U)



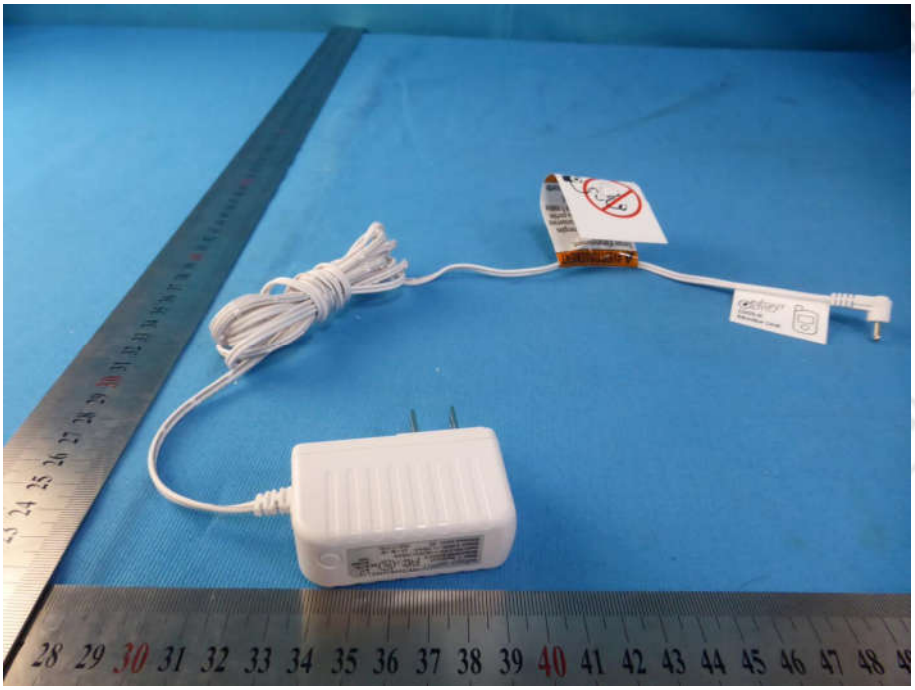
View of Product-27(Adapter 1: BLJ06W050055P1-U)



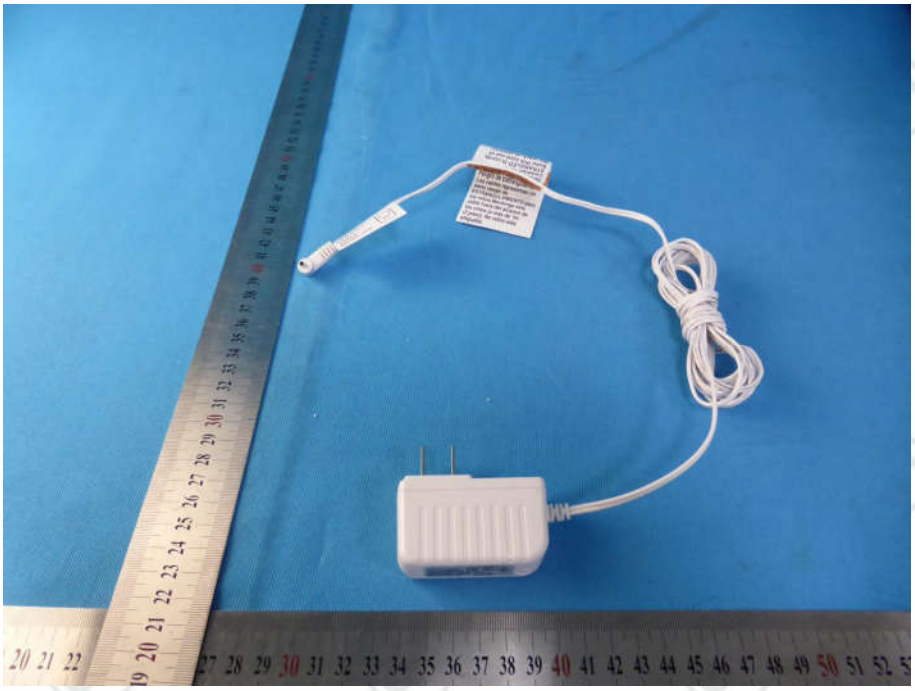
View of Product-28(Adapter 1: BLJ06W050055P1-U)



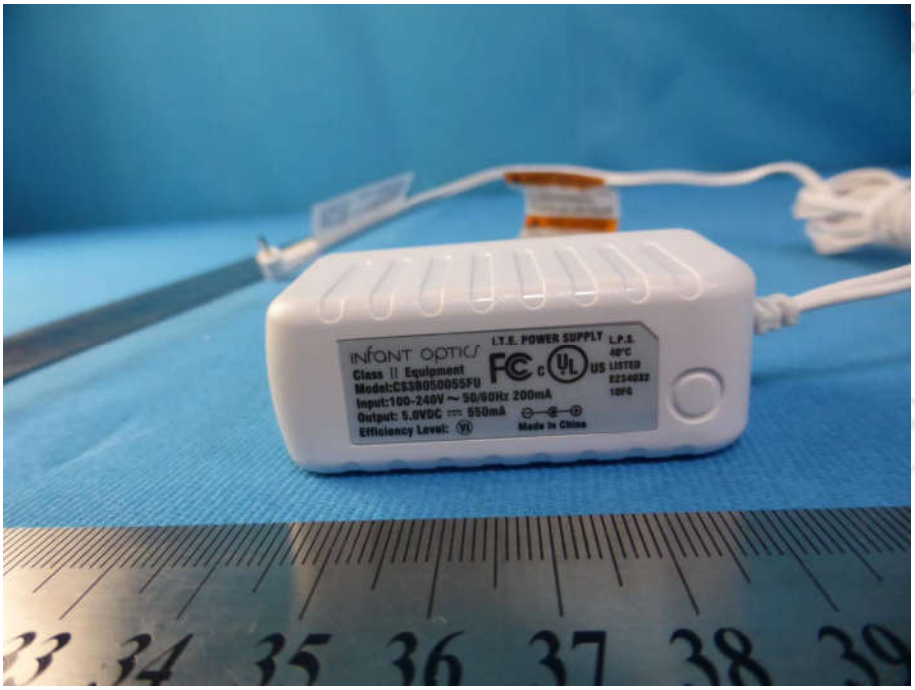
View of Product-29(Adapter 2: CS3B050055FU)



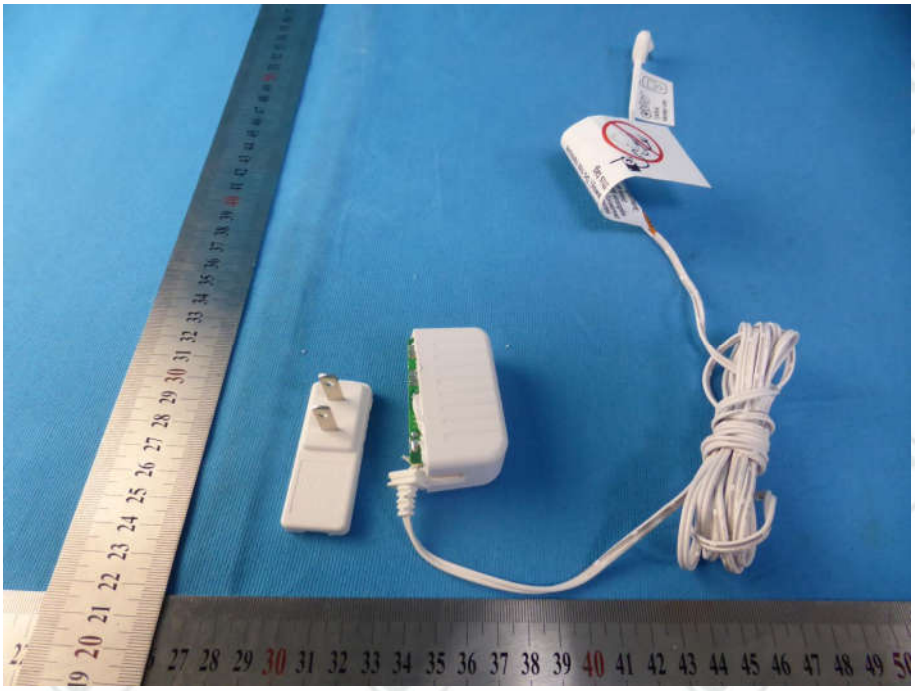
View of Product-30(Adapter 2: CS3B050055FU)



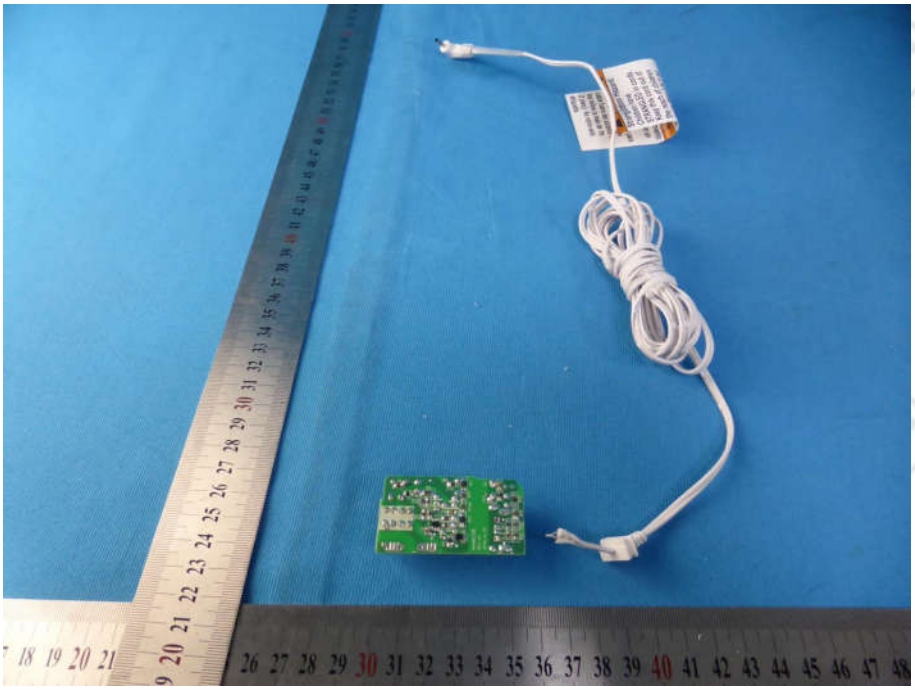
View of Product-31(Adapter 2: CS3B050055FU)



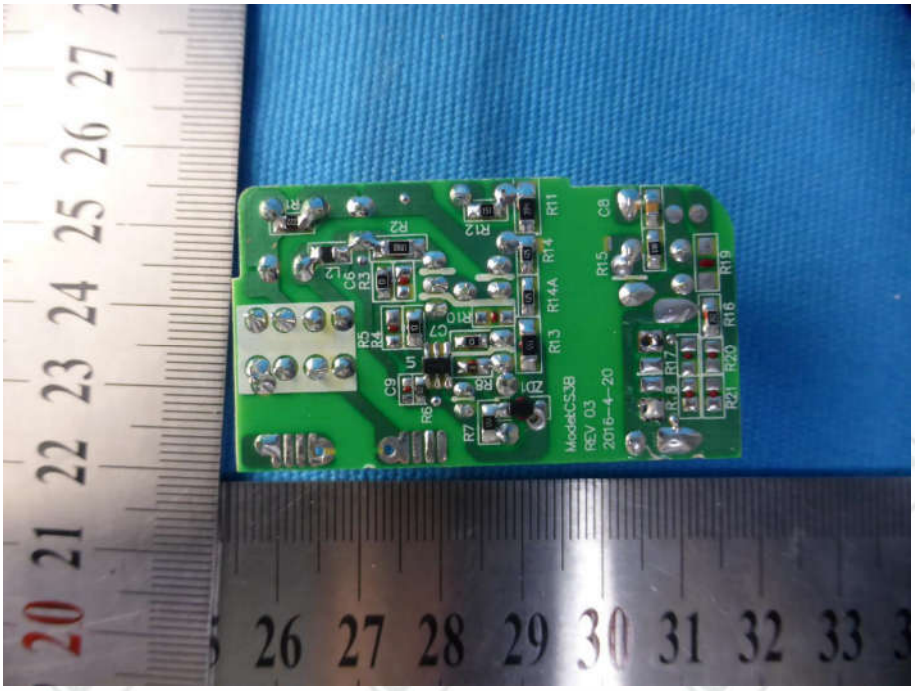
View of Product-32(Adapter 2: CS3B050055FU)



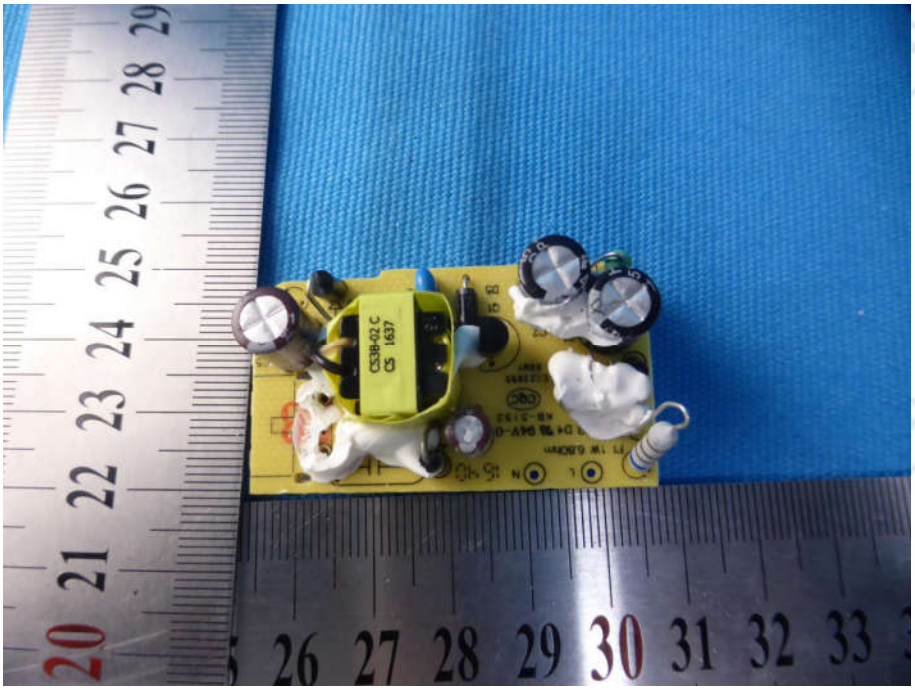
View of Product-33(Adapter 2: CS3B050055FU)



View of Product-34(Adapter 2: CS3B050055FU)



View of Product-35(Adapter 2: CS3B050055FU)



View of Product-36(Adapter 2: CS3B050055FU)

*** End of Report ***

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