



RF Test Report

For

Applicant Name: Shenzhen Sunchip Technology Co.,Ltd
Address: 2nd-3rd Floor, Building 4, Fuan Industry Area Phase 2, Dayang Development Zone, Fuyong, Baoan, Shenzhen, China
EUT Name: RK3588 Edge Computing Device
Brand Name:  SUNCHIP
Model Number: AD-0160
Series Model Number: Refer to Section 2

Issued By

Company Name: BTF Testing Lab (Shenzhen) Co., Ltd.
Address: F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Report Number: BTF230317R01203
Test Standards: 47 CFR Part 15.247
FCC ID: 2AWFG-AD0160
Test Conclusion: Pass
Test Date: 2023-03-19 to 2023-03-31
Date of Issue: 2023-04-10

Prepared By:

Gavin Cui

Date:

Gavin Cui / Project Engineer
2023-04-10

Approved By:



Date:

Ryan.CJ / EMC Manager
2023-04-10

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Revision History		
Version	Issue Date	Revisions Content
R_V0	2023-04-10	Original
<i>Note: Once the revision has been made, then previous versions reports are invalid.</i>		

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1 Introduction

1.1 Identification of Testing Laboratory

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130

1.2 Identification of the Responsible Testing Location

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130
FCC Registration Number:	518915
Designation Number:	CN1330

1.3 Announcement

- (1) The test report reference to the report template version v0.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) This document may not be altered or revised in any way unless done so by BTF and all revisions are duly noted in the revisions section.
- (5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
- (6) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

2 Product Information

2.1 Application Information

Company Name:	Shenzhen Sunchip Technology Co.,Ltd
Address:	2nd-3rd Floor, Building 4, Fuan Industry Area Phase 2,Dayang Development Zone, Fuyong, Baoan, Shenzhen, China

2.2 Manufacturer Information

Company Name:	Shenzhen Sunchip Technology Co.,Ltd
Address:	2nd-3rd Floor, Building 4, Fuan Industry Area Phase 2,Dayang Development Zone, Fuyong, Baoan, Shenzhen, China

2.3 Factory Information

Company Name:	Shenzhen Sunchip Technology Co.,Ltd
Address:	2nd-3rd Floor, Building 4, Fuan Industry Area Phase 2,Dayang Development Zone, Fuyong, Baoan, Shenzhen, China

2.4 General Description of Equipment under Test (EUT)

EUT Name:	RK3588 Edge Computing Device
Test Model Number:	AD-0160
Series Model Number:	AD-0160A, AD-0160B, AD-0160C, AD-0160D
Description of Model differentiation:	The model name is different from the exterior color of the case, others are the same.

2.5 Technical Information

Power Adaptor:	DC 12V
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz;
Number of Channels:	802.11b/g/n(HT20): 11 Channels;
Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK); 802.11g: OFDM(BPSK, QPSK, 16QAM, 64QAM); 802.11n(HT20): OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type:	External antenna
Antenna Gain:	2.78dBi

3 Summary of Test Results

3.1 Test Standards

The tests were performed according to following standards:

47 CFR Part 15.247: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

3.2 Uncertainty of Test

Item	Measurement Uncertainty
Conducted Emission (150 kHz-30 MHz)	±2.64dB
The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3.3 Summary of Test Result

Item	Standard	Requirement	Result
Antenna requirement	47 CFR Part 15.247	Part 15.203	Pass
Conducted Emission at AC power line	47 CFR Part 15.247	47 CFR 15.207(a)	Pass
Occupied Bandwidth	47 CFR Part 15.247	47 CFR 15.247(a)(2)	Pass
Maximum Conducted Output Power	47 CFR Part 15.247	47 CFR 15.247(b)(3)	Pass
Power Spectral Density	47 CFR Part 15.247	47 CFR 15.247(e)	Pass
Emissions in non-restricted frequency bands	47 CFR Part 15.247	47 CFR 15.247(d)	Pass
Band edge emissions (Radiated)	47 CFR Part 15.247	47 CFR 15.247(d)	Pass
Emissions in restricted frequency bands (below 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d)	Pass
Emissions in restricted frequency bands (above 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d)	Pass

4 Test Configuration

4.1 Test Equipment List

Conducted Emission at AC power line					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Pulse Limiter	SCHWARZBECK	VTSD 9561-F	00953	2022-11-24	2023-11-23
Coaxial Switcher	SCHWARZBECK	CX210	CX210	2022-11-24	2023-11-23
V-LISN	SCHWARZBECK	NSLK 8127	01073	2022-11-24	2023-11-23
LISN	AFJ	LS16/110VAC	16010020076	2023-02-23	2024-02-22
EMI Receiver	ROHDE&SCHWARZ	ESCI3	101422	2022-11-24	2023-11-23

Occupied Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RFTest software	/	V1.00	/	/	/
RF Control Unit	Techy	TR1029-1	/	2022-11-24	2023-11-23
RF Sensor Unit	Techy	TR1029-2	/	2022-11-24	2023-11-23
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2022-11-24	2023-11-23
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2022-11-24	2023-11-23
WIDEBAND RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2022-11-24	2023-11-23
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2022-11-24	2023-11-23

Maximum Conducted Output Power					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RFTest software	/	V1.00	/	/	/
RF Control Unit	Techy	TR1029-1	/	2022-11-24	2023-11-23
RF Sensor Unit	Techy	TR1029-2	/	2022-11-24	2023-11-23
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2022-11-24	2023-11-23
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2022-11-24	2023-11-23
WIDEBAND RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2022-11-24	2023-11-23
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2022-11-24	2023-11-23

Power Spectral Density					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RFTest software	/	V1.00	/	/	/

RF Control Unit	Techy	TR1029-1	/	2022-11-24	2023-11-23
RF Sensor Unit	Techy	TR1029-2	/	2022-11-24	2023-11-23
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2022-11-24	2023-11-23
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2022-11-24	2023-11-23
WIDEBAND RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2022-11-24	2023-11-23
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2022-11-24	2023-11-23

Emissions in non-restricted frequency bands

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RFTest software	/	V1.00	/	/	/
RF Control Unit	Techy	TR1029-1	/	2022-11-24	2023-11-23
RF Sensor Unit	Techy	TR1029-2	/	2022-11-24	2023-11-23
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2022-11-24	2023-11-23
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2022-11-24	2023-11-23
WIDEBAND RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2022-11-24	2023-11-23
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2022-11-24	2023-11-23

Band edge emissions (Radiated)

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Coaxial cable Multiflex 141	Schwarzbeck	N/SMA 0.5m	517386	2023-03-24	2024-03-23
Preamplifier	SCHWARZBECK	BBV9744	00246	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF1-SMAM-10m	21101566	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-10m	21101570	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF1-SMAM-1m	21101568	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-1m	21101576	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-2.5m	21101573	2022-11-24	2023-11-23
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2021-11-28	2023-11-27
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI7	101032	2022-11-24	2023-11-23
SIGNAL ANALYZER	ROHDE&SCHWARZ	FSQ40	100010	2022-11-24	2023-11-23

POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Broadband Preamplifier	SCHWARZBECK	BBV9718D	00008	2023-03-24	2024-03-23
Horn Antenna	SCHWARZBECK	BBHA9120D	2597	2022-05-22	2024-05-21
EZ EMC	Frad	FA-03A2 RE+	/	/	/
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Log periodic antenna	SCHWARZBECK	VULB 9168	01328	2021-11-28	2023-11-27

Emissions in restricted frequency bands (below 1GHz)

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Coaxial cable Multiflex 141	Schwarzbeck	N/SMA 0.5m	517386	2023-03-24	2024-03-23
Preamplifier	SCHWARZBECK	BBV9744	00246	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF1-SMASMAM-10m	21101566	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-10m	21101570	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF1-SMASMAM-1m	21101568	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-1m	21101576	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-2.5m	21101573	2022-11-24	2023-11-23
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2021-11-28	2023-11-27
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI7	101032	2022-11-24	2023-11-23
SIGNAL ANALYZER	ROHDE&SCHWARZ	FSQ40	100010	2022-11-24	2023-11-23
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Broadband Preamplifier	SCHWARZBECK	BBV9718D	00008	2023-03-24	2024-03-23
Horn Antenna	SCHWARZBECK	BBHA9120D	2597	2022-05-22	2024-05-21
EZ EMC	Frad	FA-03A2 RE+	/	/	/
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Log periodic antenna	SCHWARZBECK	VULB 9168	01328	2021-11-28	2023-11-27

Emissions in restricted frequency bands (above 1GHz)

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Coaxial cable Multiflex 141	Schwarzbeck	N/SMA 0.5m	517386	2023-03-24	2024-03-23
Preamplifier	SCHWARZBECK	BBV9744	00246	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF1-SMASMAM-10m	21101566	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-10m	21101570	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF1-SMASMAM-1m	21101568	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-1m	21101576	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-2.5m	21101573	2022-11-24	2023-11-23

POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2021-11-28	2023-11-27
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI7	101032	2022-11-24	2023-11-23
SIGNAL ANALYZER	ROHDE&SCHWARZ	FSQ40	100010	2022-11-24	2023-11-23
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Broadband Preamplifier	SCHWARZBECK	BBV9718D	00008	2023-03-24	2024-03-23
Horn Antenna	SCHWARZBECK	BBHA9120D	2597	2022-05-22	2024-05-21
EZ EMC	Frad	FA-03A2 RE+	/	/	/
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Log periodic antenna	SCHWARZBECK	VULB 9168	01328	2021-11-28	2023-11-27

4.2 Test Auxiliary Equipment

The EUT was tested as an independent device.

4.3 Test Modes

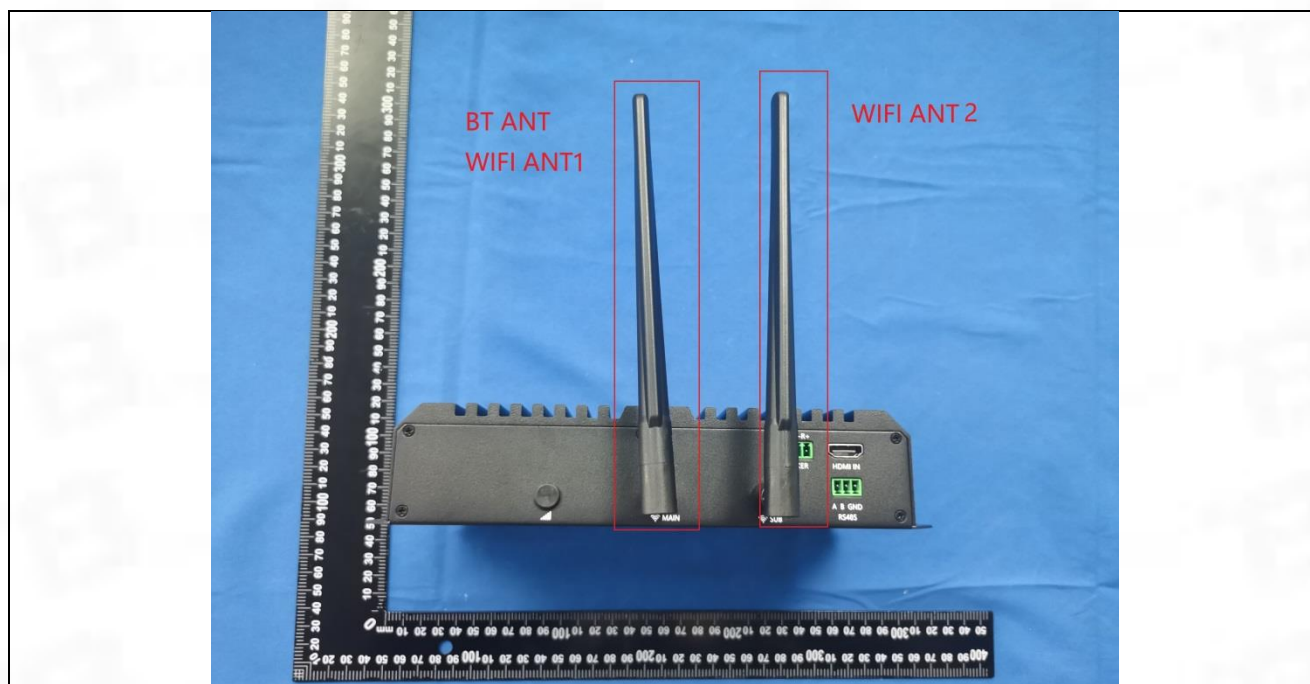
No.	Test Modes	Description
TM1	802.11b mode	Keep the EUT in 802.11b transmitting mode.
TM2	802.11g mode	Keep the EUT in 802.11g transmitting mode.
TM3	802.11n(HT20) mode	Keep the EUT in 802.11n(HT20) transmitting mode.

5 Evaluation Results (Evaluation)

5.1 Antenna requirement

Test 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 shall be considered sufficient to comply with the provisions of this section.
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5.1.1 Conclusion:



Note: The product has two external antennas, both two are 2.78dBi antenna gain and the product is a CDD device with the same gain, according to KDB 662911 D01 section F, the Directional gain = $G_{ant} + \text{Array gain}$. For power spectral density measurements on all antenna, $\text{Array gain} = 10\log(N_{ant}/N_{ss})$ dB, $N_{ss} = 1$. Directional gain = $G_{ant} + \text{Array gain} = 2.78 + 10\log(2/1) = 5.79$ dBi,

For power measurements on IEEE 802.11 devices, $\text{Array gain} = 0$ dB for $N_{ant} \leq 4$. Directional gain = $G_{ant} + \text{Array gain} = 2.78 + 0 = 2.78$ dBi,

Power limit: 30dBm

PSD limit = 8dBm/3KHz

6 Radio Spectrum Matter Test Results (RF)

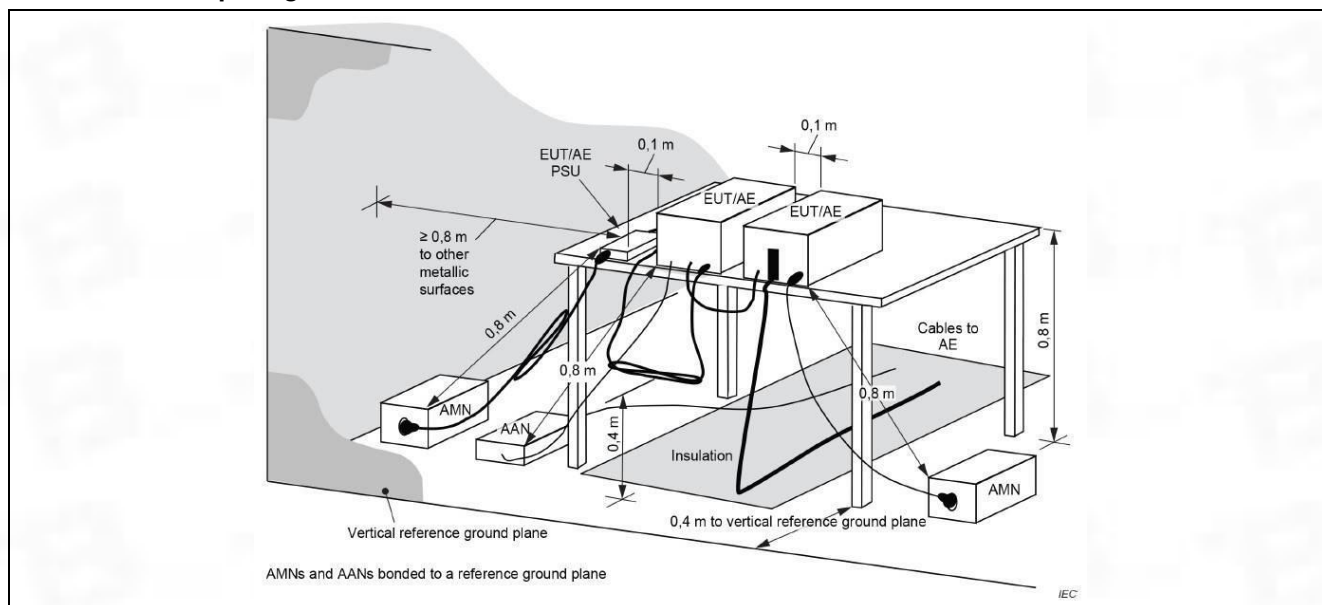
6.1 Conducted Emission at AC power line

Test Requirement:	Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).		
Test Method:	Refer to ANSI C63.10-2013 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices		
Test Limit:	Frequency of emission (MHz)	Conducted limit (dB μ V)	
		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.			

6.1.1 E.U.T. Operation:

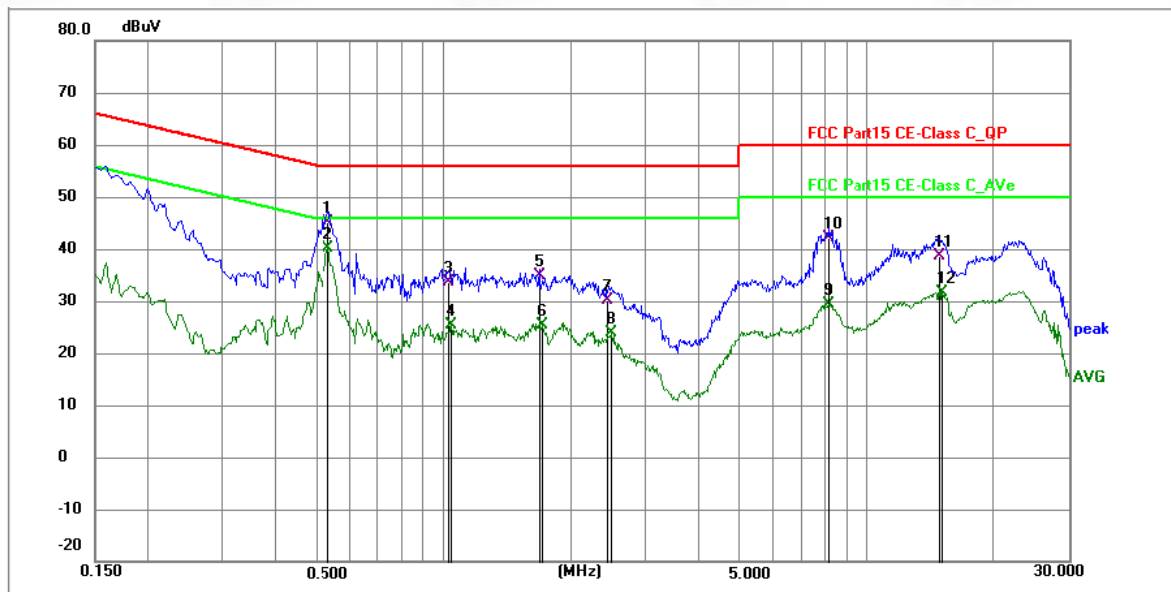
Operating Environment:	
Temperature:	23.5 °C
Humidity:	51.7 %
Atmospheric Pressure:	1010 mbar

6.1.2 Test Setup Diagram:



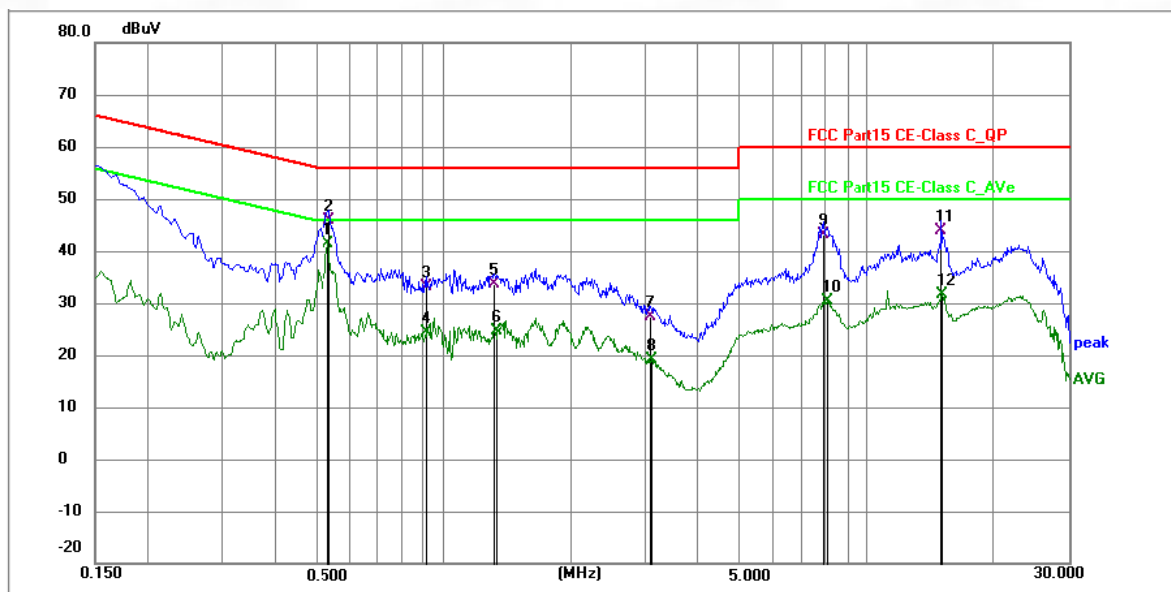
6.1.3 Test Data:

TM1 / Line: Line / Band: 2.4G / BW: 20 / CH: M



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.5322	34.38	10.63	45.01	56.00	-10.99	QP	P	
2 *	0.5322	29.62	10.63	40.25	46.00	-5.75	AVG	P	
3	1.0275	22.84	10.78	33.62	56.00	-22.38	QP	P	
4	1.0455	14.72	10.78	25.50	46.00	-20.50	AVG	P	
5	1.6845	24.17	10.72	34.89	56.00	-21.11	QP	P	
6	1.7115	14.54	10.72	25.26	46.00	-20.74	AVG	P	
7	2.4539	21.72	8.43	30.15	56.00	-25.85	QP	P	
8	2.4944	15.60	8.23	23.83	46.00	-22.17	AVG	P	
9	8.0790	18.47	10.82	29.29	50.00	-20.71	AVG	P	
10	8.1330	31.33	10.82	42.15	60.00	-17.85	QP	P	
11	14.8871	27.64	10.92	38.56	60.00	-21.44	QP	P	
12	15.0810	20.72	10.92	31.64	50.00	-18.36	AVG	P	

TM1 / Line: Neutral / Band: 2.4G / BW: 20 / CH: M



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1 *	0.5322	30.68	10.63	41.31	46.00	-4.69	AVG	P	
2	0.5370	35.14	10.63	45.77	56.00	-10.23	QP	P	
3	0.9102	22.25	10.76	33.01	56.00	-22.99	QP	P	
4	0.9102	13.58	10.76	24.34	46.00	-21.66	AVG	P	
5	1.3200	22.85	10.75	33.60	56.00	-22.40	QP	P	
6	1.3425	13.90	10.75	24.65	46.00	-21.35	AVG	P	
7	3.0840	22.16	5.29	27.45	56.00	-28.55	QP	P	
8	3.0930	13.81	5.25	19.06	46.00	-26.94	AVG	P	
9	7.8673	32.36	10.80	43.16	60.00	-16.84	QP	P	
10	8.0472	19.56	10.81	30.37	50.00	-19.63	AVG	P	
11	15.0270	33.13	10.82	43.95	60.00	-16.05	QP	P	
12	15.0990	20.91	10.82	31.73	50.00	-18.27	AVG	P	

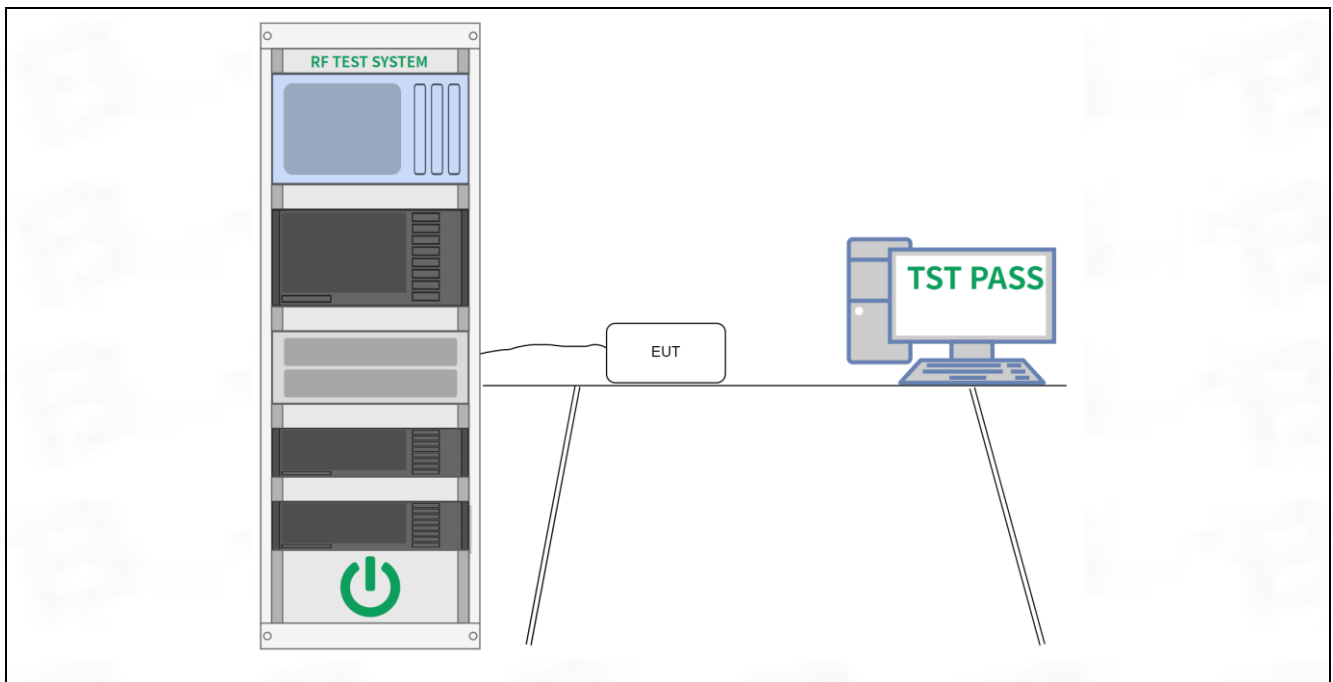
6.2 Occupied Bandwidth

Test Requirement:	Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.
Test Method:	DTS bandwidth
Test Limit:	Section (a)(2), Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.
Procedure:	a) Set RBW = 100 kHz. b) Set the VBW $\geq [3 \times \text{RBW}]$. c) Detector = peak. d) Trace mode = max hold. e) Sweep = auto couple. f) Allow the trace to stabilize. g) 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.

6.2.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23.5 °C
Humidity:	51.7 %
Atmospheric Pressure:	1010 mbar

6.2.2 Test Setup Diagram:



6.2.3 Test Data:

Please Refer to Appendix for Details.

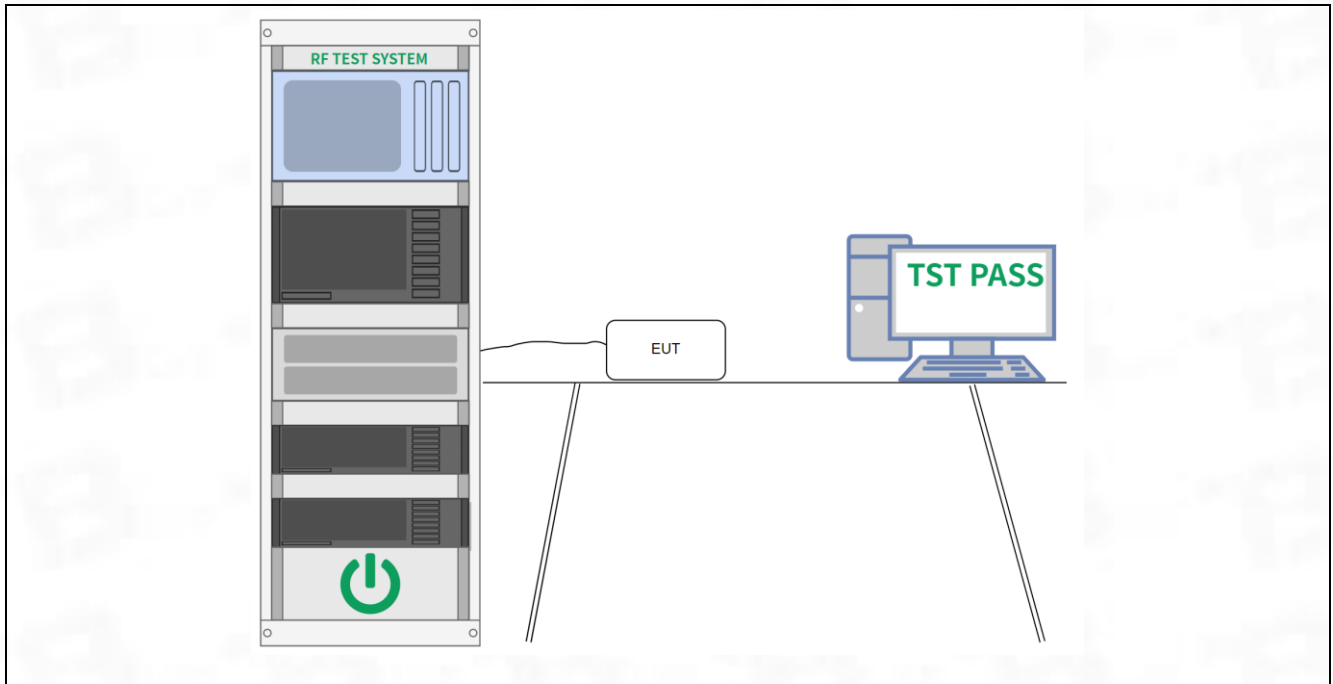
6.3 Maximum Conducted Output Power

Test Requirement:	For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.
Test Method:	Maximum peak conducted output power
Test Limit:	For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.
Procedure:	ANSI C63.10-2013, section 11.9.1 Maximum peak conducted output power

6.3.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23.5 °C
Humidity:	51.7 %
Atmospheric Pressure:	1010 mbar

6.3.2 Test Setup Diagram:



6.3.3 Test Data:

Please Refer to Appendix for Details.

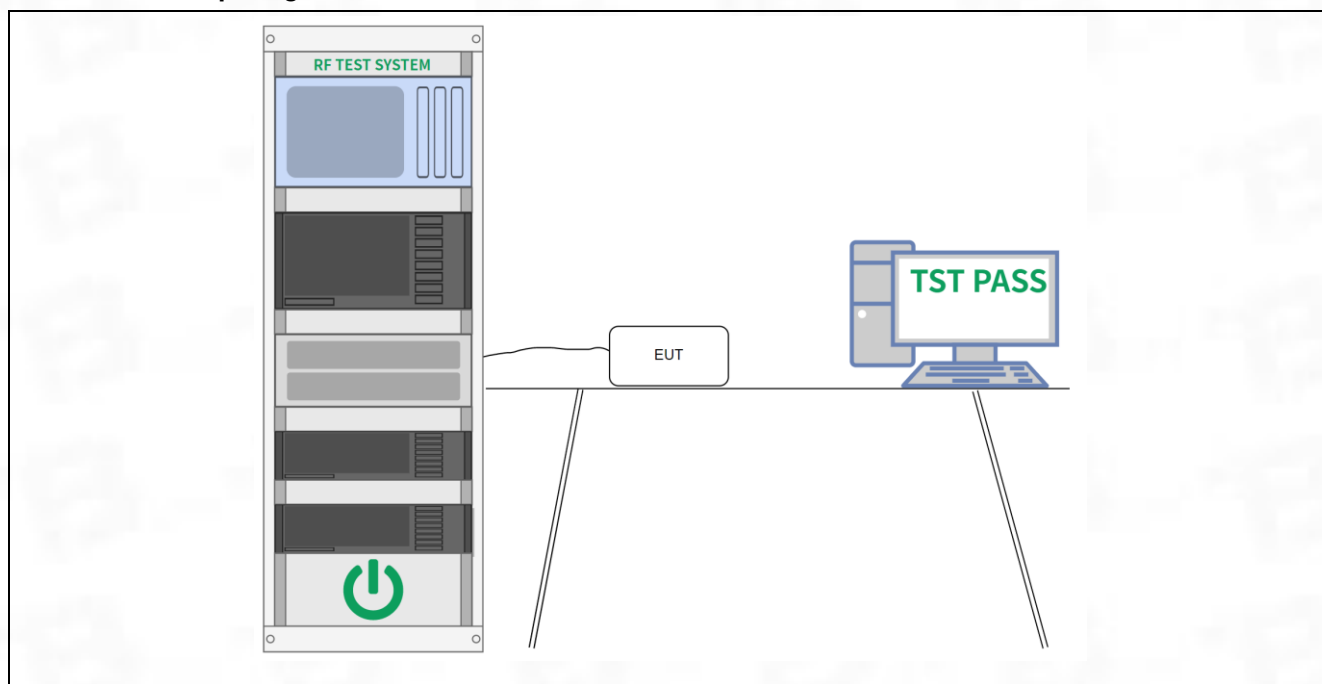
6.4 Power Spectral Density

Test Requirement:	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. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.
Test Method:	Maximum power spectral density level in the fundamental emission
Test 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. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

6.4.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23.5 °C
Humidity:	51.7 %
Atmospheric Pressure:	1010 mbar

6.4.2 Test Setup Diagram:



6.4.3 Test Data:

Please Refer to Appendix for Details.

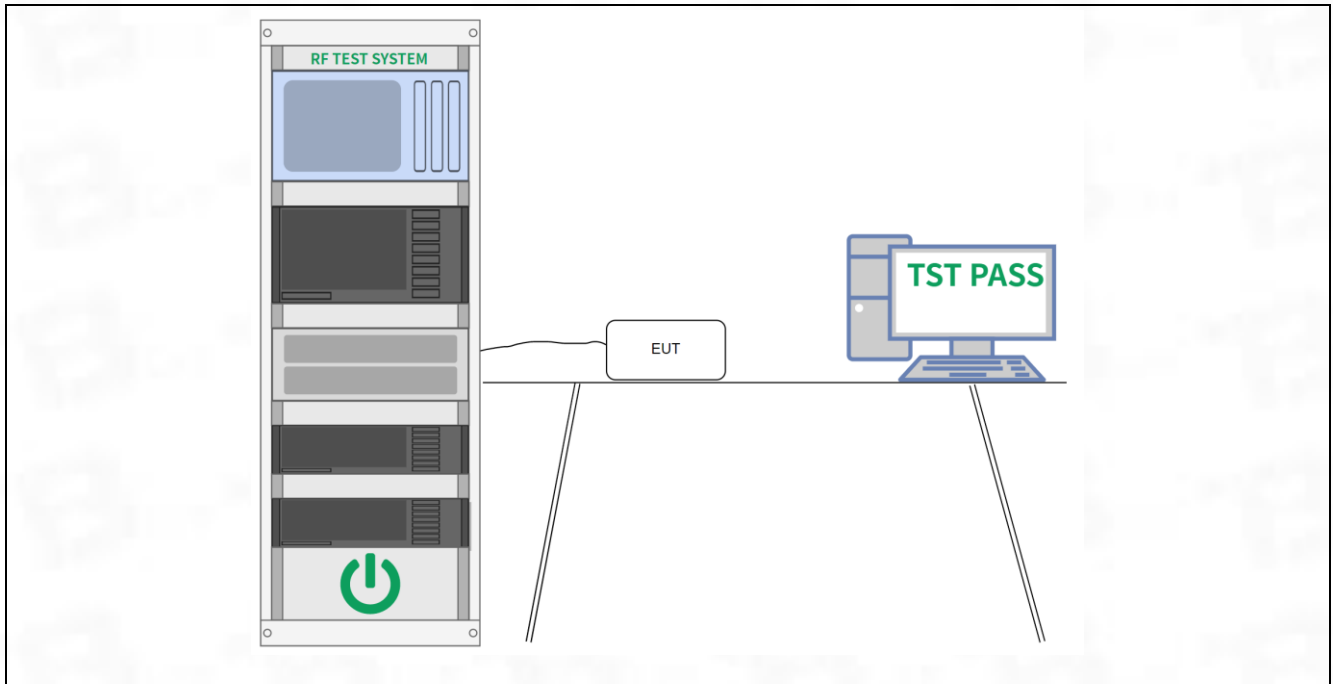
6.5 Emissions in non-restricted frequency bands

Test Requirement:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator 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 the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required.
Test Method:	Emissions in nonrestricted frequency bands
Test Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator 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 the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required.
Procedure:	ANSI C63.10-2013 Section 11.11.1, Section 11.11.2, Section 11.11.3

6.5.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23.5 °C
Humidity:	51.7 %
Atmospheric Pressure:	1010 mbar

6.5.2 Test Setup Diagram:



6.5.3 Test Data:

Please Refer to Appendix for Details.

6.6 Band edge emissions (Radiated)

Test Requirement:	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 Method:	Radiated emissions tests		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.			
Procedure:	ANSI C63.10-2013 section 6.6.4		

6.6.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23.5 °C
Humidity:	51.7 %
Atmospheric Pressure:	1010 mbar

6.6.2 Test Data:

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	69.29	-30.59	38.70	74.00	-35.30	peak	P
2	2390.000	69.94	-30.49	39.45	74.00	-34.55	peak	P
3 *	2400.000	81.42	-30.48	50.94	74.00	-23.06	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	68.29	-30.59	37.70	74.00	-36.30	peak	P
2	2390.000	71.44	-30.49	40.95	74.00	-33.05	peak	P
3 *	2400.000	79.92	-30.48	49.44	74.00	-24.56	peak	P

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1 *	2483.500	81.84	-30.39	51.45	74.00	-22.55	peak	P
2	2488.775	81.44	-30.38	51.06	74.00	-22.94	peak	P
3	2500.000	72.25	-30.37	41.88	74.00	-32.12	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1 *	2483.500	78.84	-30.39	48.45	74.00	-25.55	peak	P
2	2487.452	73.27	-30.38	42.89	74.00	-31.11	peak	P
3	2500.000	71.25	-30.37	40.88	74.00	-33.12	peak	P

TM2 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	69.07	-30.59	38.48	74.00	-35.52	peak	P
2	2390.000	71.40	-30.49	40.91	74.00	-33.09	peak	P
3 *	2400.000	81.22	-30.48	50.74	74.00	-23.26	peak	P

TM2 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	71.07	-30.59	40.48	74.00	-33.52	peak	P
2	2390.000	71.90	-30.49	41.41	74.00	-32.59	peak	P
3 *	2400.000	80.72	-30.48	50.24	74.00	-23.76	peak	P

TM2 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.500	76.48	-30.39	46.09	74.00	-27.91	peak	P
2 *	2485.378	78.84	-30.39	48.45	74.00	-25.55	peak	P
3	2500.000	77.54	-30.37	47.17	74.00	-26.83	peak	P

TM2 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.500	78.98	-30.39	48.59	74.00	-25.41	peak	P
2 *	2485.378	79.34	-30.39	48.95	74.00	-25.05	peak	P
3	2500.000	74.04	-30.37	43.67	74.00	-30.33	peak	P

TM3 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	70.03	-30.59	39.44	74.00	-34.56	peak	P
2	2390.000	72.67	-30.49	42.18	74.00	-31.82	peak	P
3 *	2400.000	81.65	-30.48	51.17	74.00	-22.83	peak	P

TM3 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	68.03	-30.59	37.44	74.00	-36.56	peak	P
2	2390.000	69.67	-30.49	39.18	74.00	-34.82	peak	P
3 *	2400.000	79.65	-30.48	49.17	74.00	-24.83	peak	P

TM3 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.500	79.10	-30.39	48.71	74.00	-25.29	peak	P
2 *	2486.517	81.62	-30.39	51.23	74.00	-22.77	peak	P
3	2500.000	77.89	-30.37	47.52	74.00	-26.48	peak	P

TM3 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.500	77.10	-30.39	46.71	74.00	-27.29	peak	P
2 *	2488.827	78.95	-30.38	48.57	74.00	-25.43	peak	P
3	2500.000	76.89	-30.37	46.52	74.00	-27.48	peak	P

6.7 Emissions in restricted frequency bands (below 1GHz)

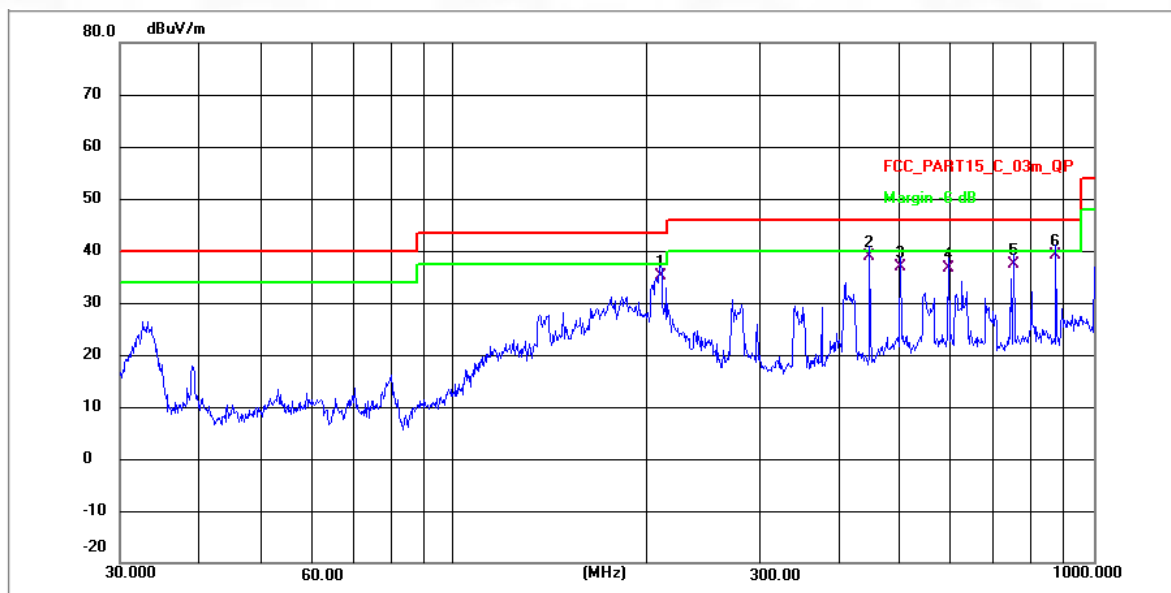
Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`		
Test Method:	Radiated emissions tests		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.			
Procedure:	ANSI C63.10-2013 section 6.6.4		

6.7.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23.5 °C
Humidity:	51.7 %
Atmospheric Pressure:	1010 mbar

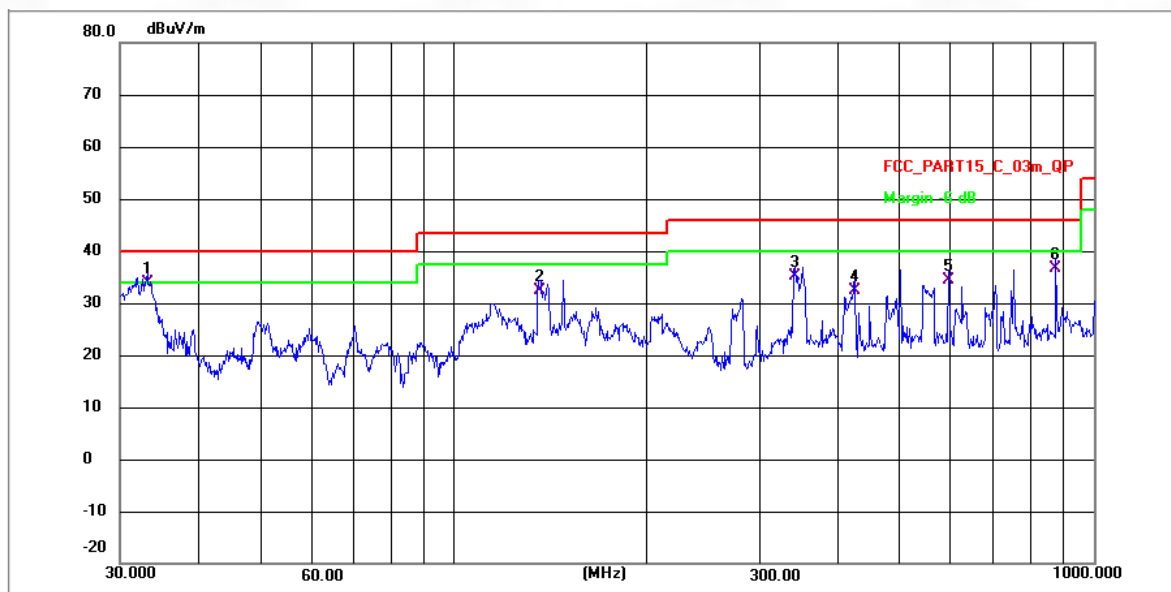
6.7.2 Test Data:

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	210.4168	62.11	-26.88	35.23	43.50	-8.27	QP	P
2	445.6321	61.47	-22.49	38.98	46.00	-7.02	QP	P
3	500.3011	58.00	-21.14	36.86	46.00	-9.14	QP	P
4	594.0904	58.85	-22.13	36.72	46.00	-9.28	QP	P
5	750.1083	61.34	-23.96	37.38	46.00	-8.62	QP	P
6 *	875.2470	61.70	-22.49	39.21	46.00	-6.79	QP	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1 *	33.1530	54.64	-20.68	33.96	40.00	-6.04	QP	P
2	136.2208	60.41	-27.91	32.50	43.50	-11.00	QP	P
3	339.5888	60.16	-25.11	35.05	46.00	-10.95	QP	P
4	422.0577	55.87	-23.60	32.27	46.00	-13.73	QP	P
5	594.0904	56.63	-22.13	34.50	46.00	-11.50	QP	P
6	875.2470	59.10	-22.49	36.61	46.00	-9.39	QP	P

6.8 Emissions in restricted frequency bands (above 1GHz)

Test Requirement:	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 Method:	Radiated emissions tests		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.			
Procedure:	ANSI C63.10-2013 section 6.6.4		

6.8.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23.5 °C
Humidity:	51.7 %
Atmospheric Pressure:	1010 mbar

6.8.2 Test Data:

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	6522.601	72.89	-26.06	46.83	74.00	-27.17	peak	P
2	7183.679	73.12	-25.89	47.23	74.00	-26.77	peak	P
3	8817.505	72.88	-25.52	47.36	74.00	-26.64	peak	P
4	11034.556	74.97	-24.41	50.56	74.00	-23.44	peak	P
5 *	12574.571	74.71	-22.68	52.03	74.00	-21.97	peak	P
6	14951.474	72.23	-20.66	51.57	74.00	-22.43	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	6745.000	69.34	-25.87	43.47	74.00	-30.53	peak	P
2	8548.980	70.30	-25.75	44.55	74.00	-29.45	peak	P
3	10980.469	71.82	-24.44	47.38	74.00	-26.62	peak	P
4	13446.694	72.33	-21.09	51.24	74.00	-22.76	peak	P
5 *	15358.827	74.58	-22.06	52.52	74.00	-21.48	peak	P
6	17860.074	70.13	-18.48	51.65	74.00	-22.35	peak	P

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	6575.603	68.02	-26.01	42.01	74.00	-31.99	peak	P
2	8573.726	71.73	-25.72	46.01	74.00	-27.99	peak	P
3	11840.867	70.62	-23.55	47.07	74.00	-26.93	peak	P
4	12340.533	71.21	-22.88	48.33	74.00	-25.67	peak	P
5	14189.385	70.25	-21.86	48.39	74.00	-25.61	peak	P
6 *	17803.380	69.31	-18.37	50.94	74.00	-23.06	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	6690.633	71.06	-25.92	45.14	74.00	-28.86	peak	P
2	7684.131	72.84	-26.23	46.61	74.00	-27.39	peak	P
3	11053.709	72.17	-24.43	47.74	74.00	-26.26	peak	P
4	13446.694	68.83	-21.09	47.74	74.00	-26.26	peak	P
5	15217.425	71.32	-21.45	49.87	74.00	-24.13	peak	P
6 *	17860.074	69.13	-18.48	50.65	74.00	-23.35	peak	P

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	6177.627	65.07	-26.47	38.60	74.00	-35.40	peak	P
2	7491.148	70.09	-26.28	43.81	74.00	-30.19	peak	P
3	10879.377	71.30	-24.65	46.65	74.00	-27.35	peak	P
4	14034.390	72.01	-21.77	50.24	74.00	-23.76	peak	P
5	15204.236	70.19	-21.39	48.80	74.00	-25.20	peak	P
6 *	17818.824	70.54	-18.39	52.15	74.00	-21.85	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	6669.394	67.64	-25.94	41.70	74.00	-32.30	peak	P
2	8499.703	69.46	-25.79	43.67	74.00	-30.33	peak	P
3	10980.469	72.58	-24.44	48.14	74.00	-25.86	peak	P
4	13821.036	70.69	-21.48	49.21	74.00	-24.79	peak	P
5	15704.483	71.81	-22.14	49.67	74.00	-24.33	peak	P
6 *	17598.732	69.25	-17.97	51.28	74.00	-22.72	peak	P

TM2 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	7622.194	70.79	-26.25	44.54	74.00	-29.46	peak	P
2	8421.450	71.25	-25.84	45.41	74.00	-28.59	peak	P
3	9355.754	68.25	-24.73	43.52	74.00	-30.48	peak	P
4	11397.613	70.46	-24.59	45.87	74.00	-28.13	peak	P
5 *	15094.767	70.39	-20.92	49.47	74.00	-24.53	peak	P
6	17141.878	67.88	-18.49	49.39	74.00	-24.61	peak	P

TM2 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	7517.175	67.48	-26.28	41.20	74.00	-32.80	peak	P
2	8271.879	73.49	-25.95	47.54	74.00	-26.46	peak	P
3	10664.553	69.65	-25.10	44.55	74.00	-29.45	peak	P
4	12351.238	71.24	-22.87	48.37	74.00	-25.63	peak	P
5	15204.236	71.07	-21.39	49.68	74.00	-24.32	peak	P
6 *	17608.908	69.83	-17.98	51.85	74.00	-22.15	peak	P

TM2 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	7235.775	74.22	-25.95	48.27	74.00	-25.73	peak	P
2	8556.396	72.69	-25.74	46.95	74.00	-27.05	peak	P
3	11114.580	73.93	-24.46	49.47	74.00	-24.53	peak	P
4	13777.163	72.51	-21.41	51.10	74.00	-22.90	peak	P
5	14916.942	71.97	-20.77	51.20	74.00	-22.80	peak	P
6 *	17644.572	71.09	-18.06	53.03	74.00	-20.97	peak	P

TM2 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	7235.775	72.22	-25.95	46.27	74.00	-27.73	peak	P
2	9569.074	70.29	-24.50	45.79	74.00	-28.21	peak	P
3	11322.095	73.76	-24.56	49.20	74.00	-24.80	peak	P
4	11957.804	73.79	-23.17	50.62	74.00	-23.38	peak	P
5	15221.824	74.27	-21.47	52.80	74.00	-21.20	peak	P
6 *	17629.279	71.52	-18.03	53.49	74.00	-20.51	peak	P

TM2 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2924.709	67.31	-30.07	37.24	74.00	-36.76	peak	P
2	4820.802	74.92	-29.05	45.87	74.00	-28.13	peak	P
3	8271.879	72.99	-25.95	47.04	74.00	-26.96	peak	P
4	11322.095	73.76	-24.56	49.20	74.00	-24.80	peak	P
5 *	13423.394	73.09	-21.14	51.95	74.00	-22.05	peak	P
6	14698.665	73.21	-21.44	51.77	74.00	-22.23	peak	P

TM2 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	7235.775	72.72	-25.95	46.77	74.00	-27.23	peak	P
2	8271.879	72.99	-25.95	47.04	74.00	-26.96	peak	P
3	11322.095	74.76	-24.56	50.20	74.00	-23.80	peak	P
4	14034.390	73.40	-21.77	51.63	74.00	-22.37	peak	P
5	15221.824	73.27	-21.47	51.80	74.00	-22.20	peak	P
6 *	17958.427	71.87	-18.66	53.21	74.00	-20.79	peak	P

TM3 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	7235.775	73.22	-25.95	47.27	74.00	-26.73	peak	P
2	8271.879	74.49	-25.95	48.54	74.00	-25.46	peak	P
3	11322.095	75.76	-24.56	51.20	74.00	-22.80	peak	P
4	13765.222	74.11	-21.39	52.72	74.00	-21.28	peak	P
5	16258.741	72.73	-21.02	51.71	74.00	-22.29	peak	P
6 *	18000.000	71.85	-18.74	53.11	74.00	-20.89	peak	P

TM3 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	7235.775	72.72	-25.95	46.77	74.00	-27.23	peak	P
2	9596.773	71.25	-24.50	46.75	74.00	-27.25	peak	P
3	11322.095	74.76	-24.56	50.20	74.00	-23.80	peak	P
4	13423.394	73.09	-21.14	51.95	74.00	-22.05	peak	P
5 *	15221.824	74.77	-21.47	53.30	74.00	-20.70	peak	P
6	17608.908	70.33	-17.98	52.35	74.00	-21.65	peak	P

TM3 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2929.786	67.80	-30.06	37.74	74.00	-36.26	peak	P
2	4820.802	72.92	-29.05	43.87	74.00	-30.13	peak	P
3	7235.775	71.22	-25.95	45.27	74.00	-28.73	peak	P
4	13777.163	71.51	-21.41	50.10	74.00	-23.90	peak	P
5	14981.755	71.15	-20.56	50.59	74.00	-23.41	peak	P
6 *	18000.000	69.85	-18.74	51.11	74.00	-22.89	peak	P

TM3 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	4820.802	74.42	-29.05	45.37	74.00	-28.63	peak	P
2	7277.725	70.20	-26.01	44.19	74.00	-29.81	peak	P
3	8809.863	69.30	-25.52	43.78	74.00	-30.22	peak	P
4	11108.157	73.07	-24.45	48.62	74.00	-25.38	peak	P
5	13689.835	69.43	-21.28	48.15	74.00	-25.85	peak	P
6 *	17608.908	69.83	-17.98	51.85	74.00	-22.15	peak	P

TM3 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	7072.426	66.11	-25.74	40.37	74.00	-33.63	peak	P
2	7708.600	69.42	-26.23	43.19	74.00	-30.81	peak	P
3	8445.827	68.95	-25.83	43.12	74.00	-30.88	peak	P
4	10345.757	70.32	-25.19	45.13	74.00	-28.87	peak	P
5 *	12658.444	72.81	-22.55	50.26	74.00	-23.74	peak	P
6	17206.409	67.62	-18.36	49.26	74.00	-24.74	peak	P

TM3 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: H

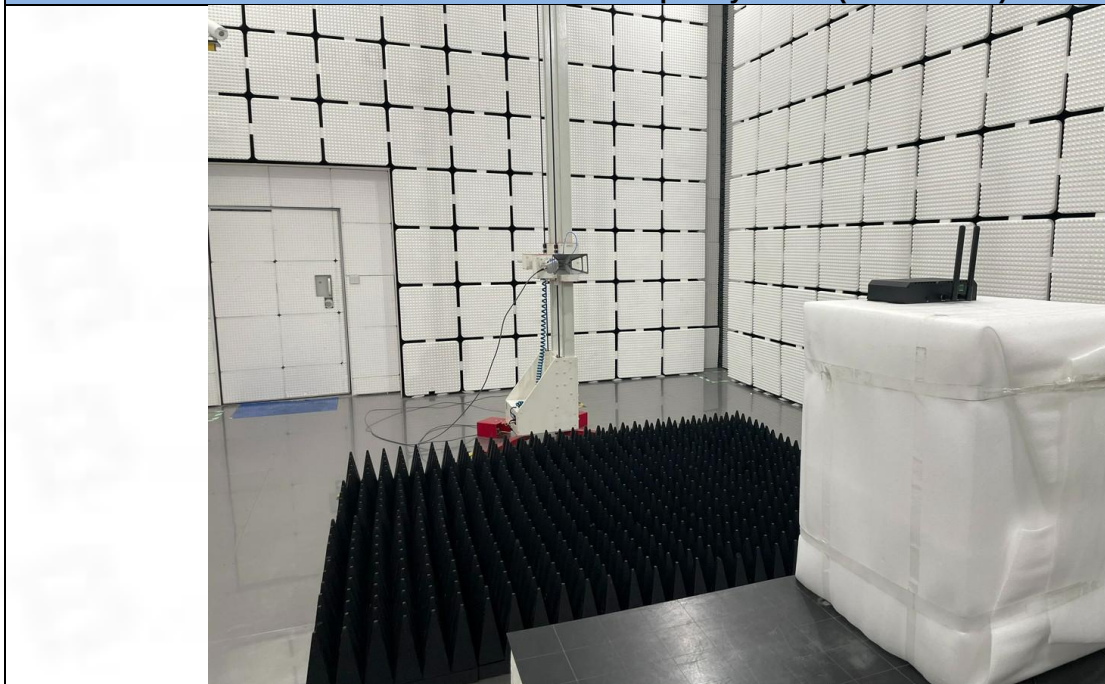
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	6657.838	69.66	-25.95	43.71	74.00	-30.29	peak	P
2	7918.622	70.89	-26.15	44.74	74.00	-29.26	peak	P
3	9596.773	71.25	-24.50	46.75	74.00	-27.25	peak	P
4	12248.142	69.42	-22.92	46.50	74.00	-27.50	peak	P
5	15204.236	70.07	-21.39	48.68	74.00	-25.32	peak	P
6 *	17793.091	68.94	-18.34	50.60	74.00	-23.40	peak	P

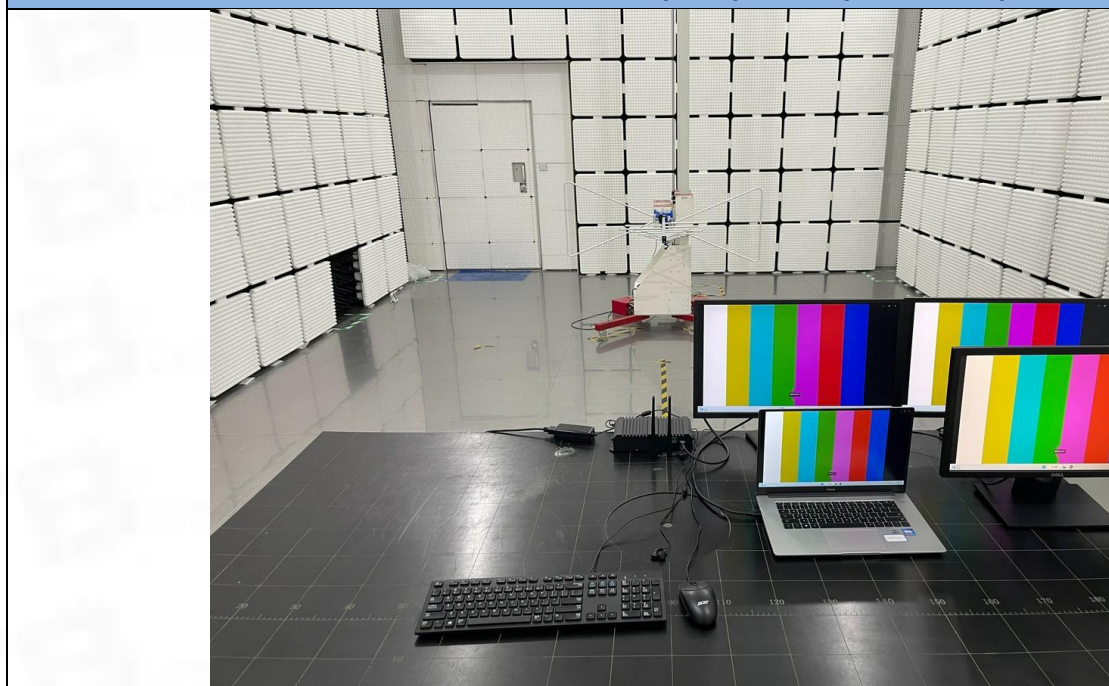
7 Test Setup Photos

Conducted Emission at AC power line

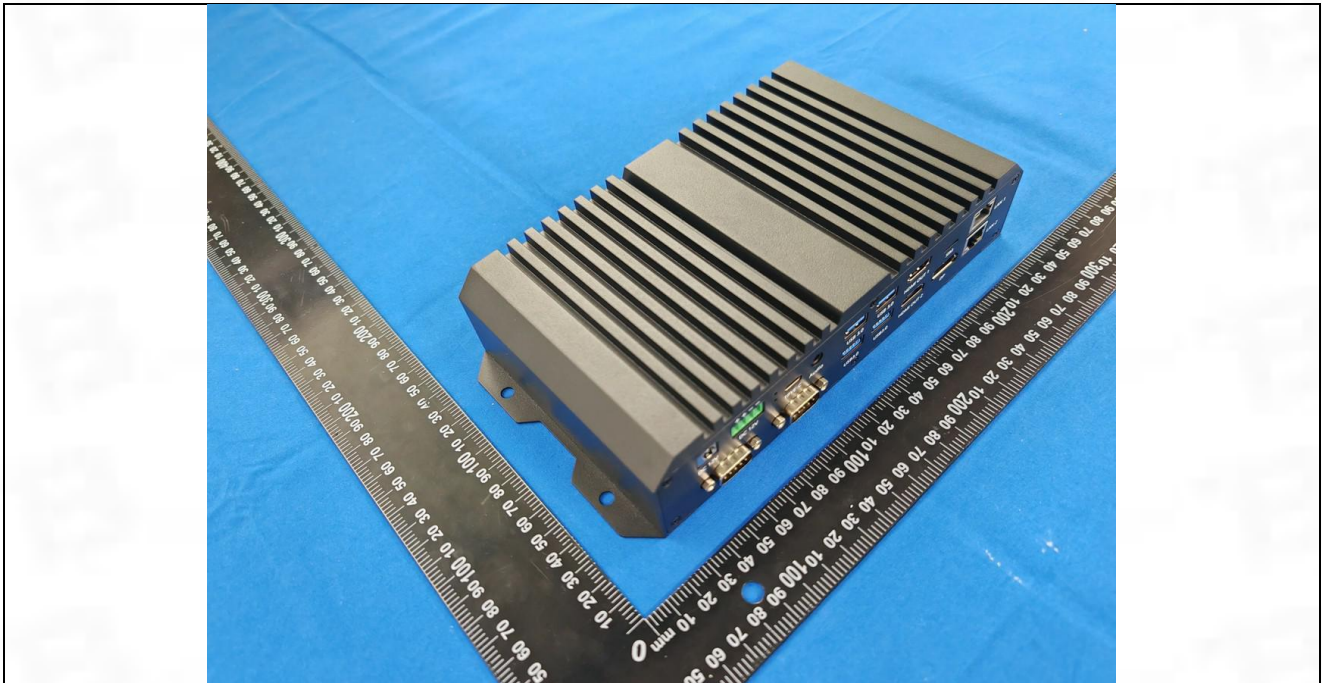
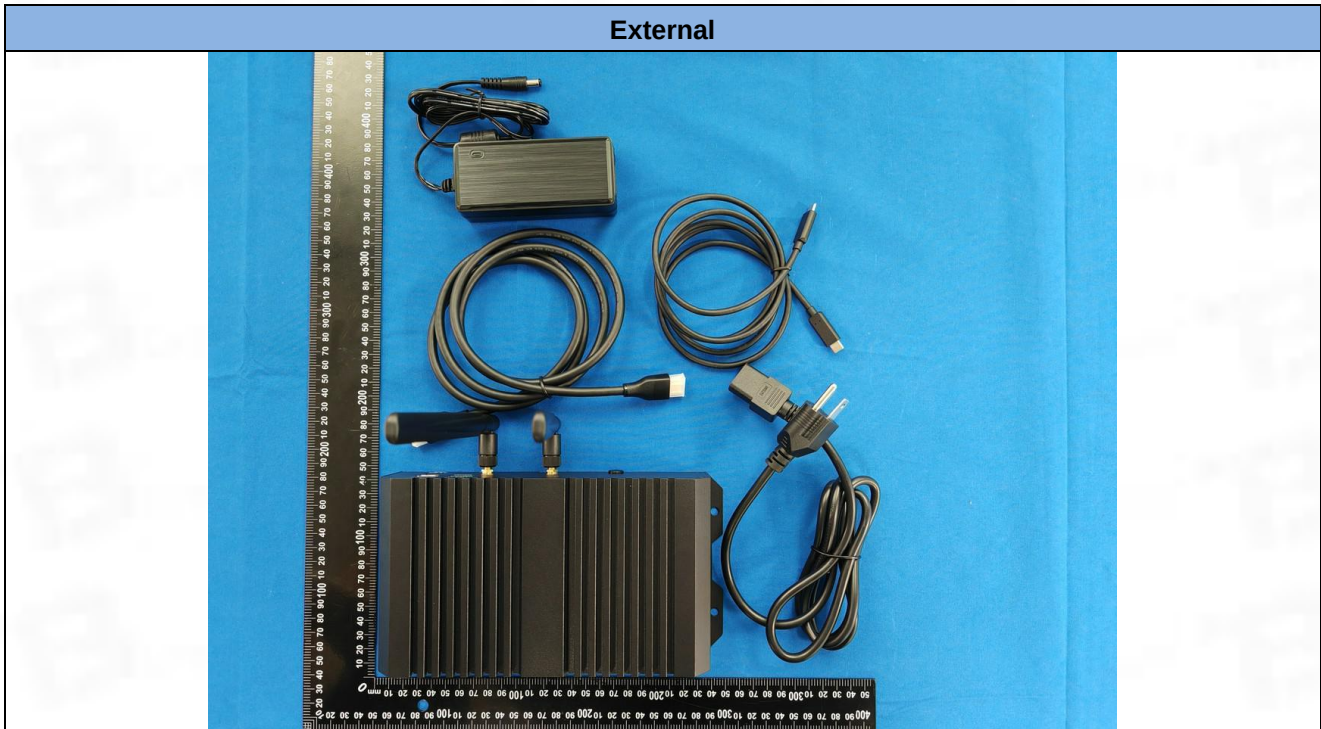


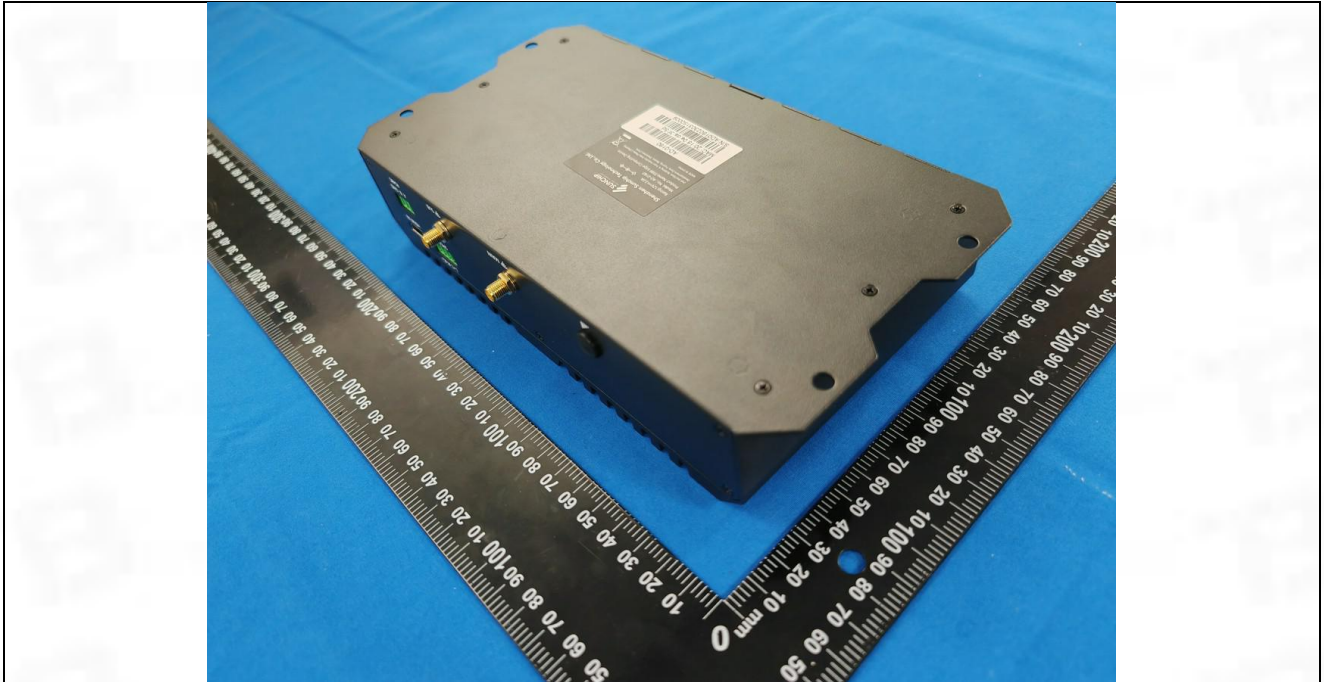
Band edge emissions (Radiated)
Emissions in restricted frequency bands (above 1GHz)

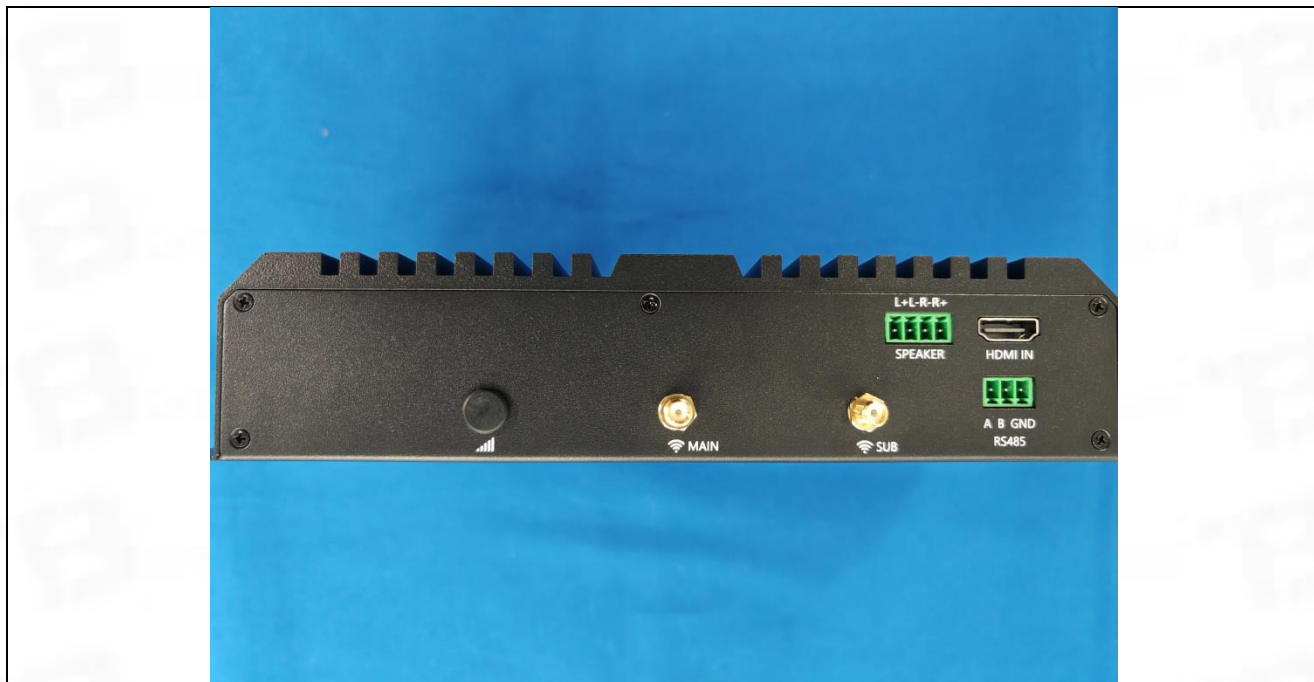


Emissions in restricted frequency bands (below 1GHz)

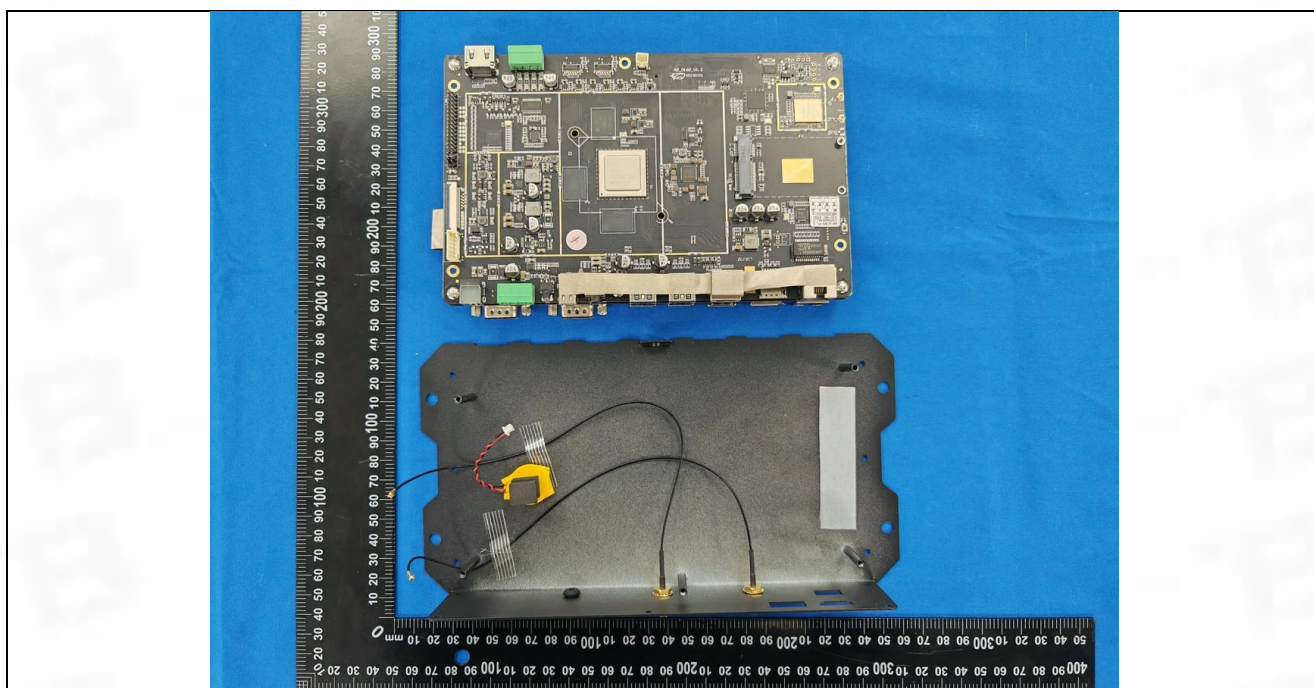
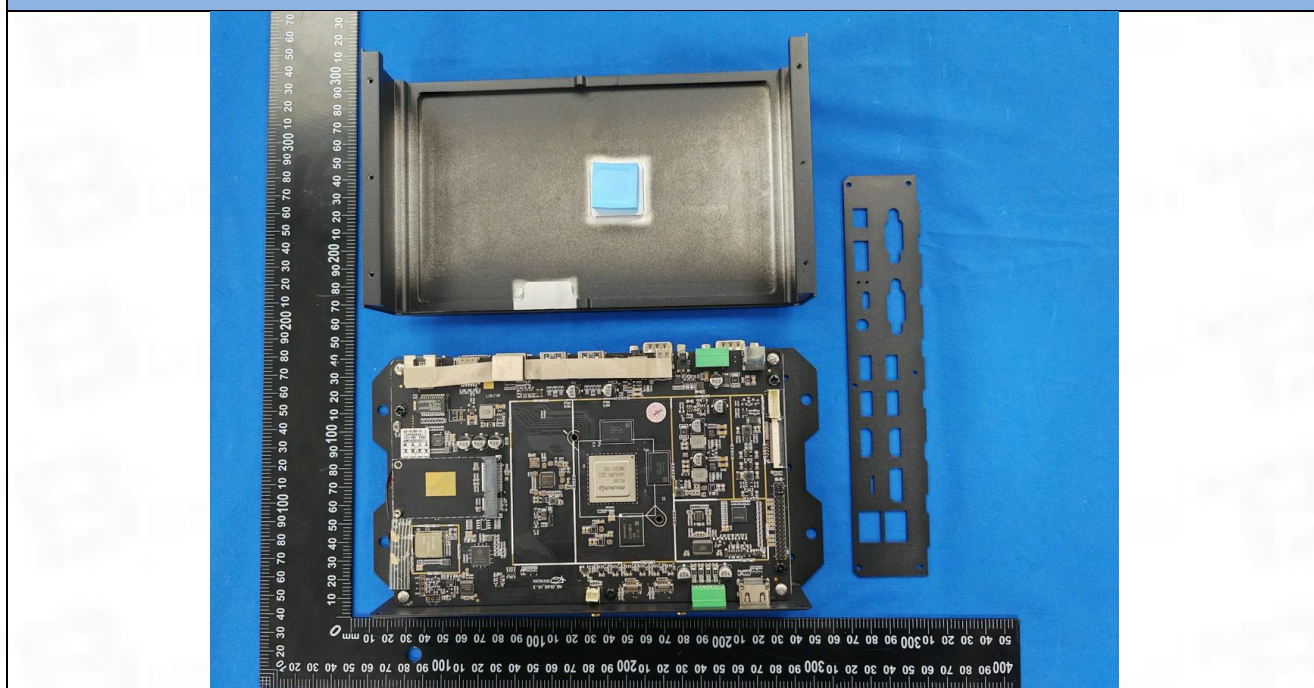
8 EUT Constructional Details (EUT Photos)

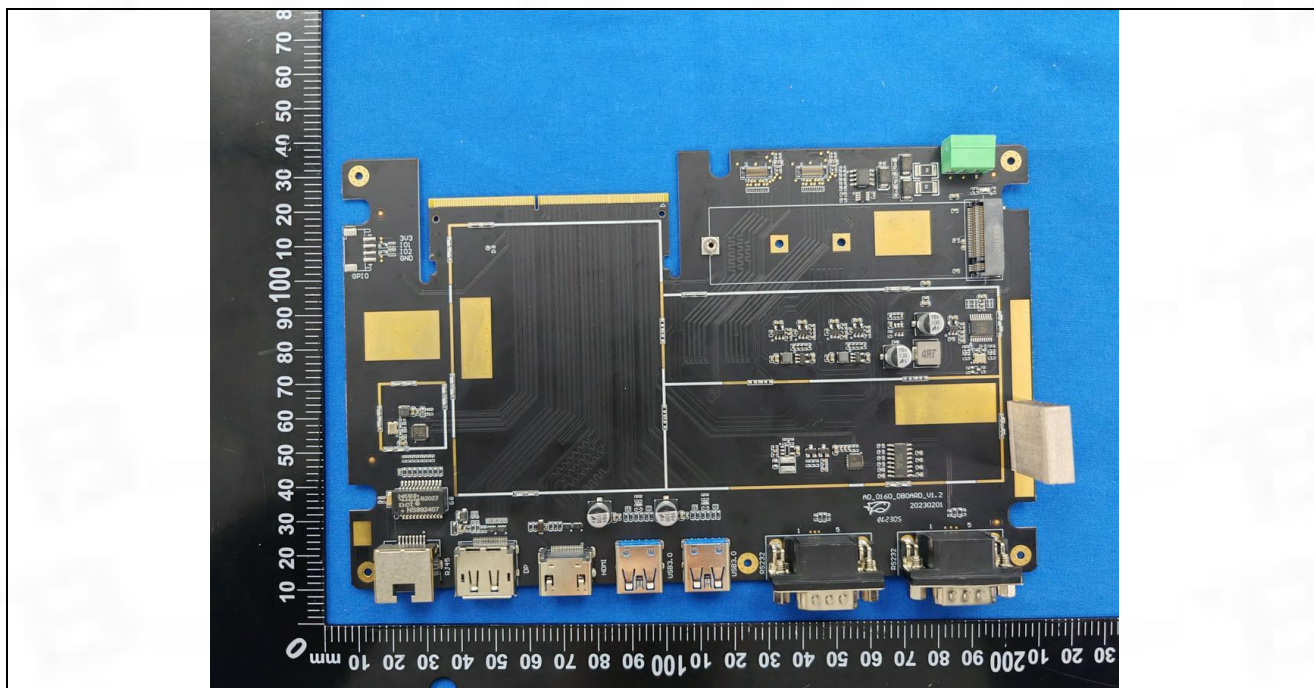
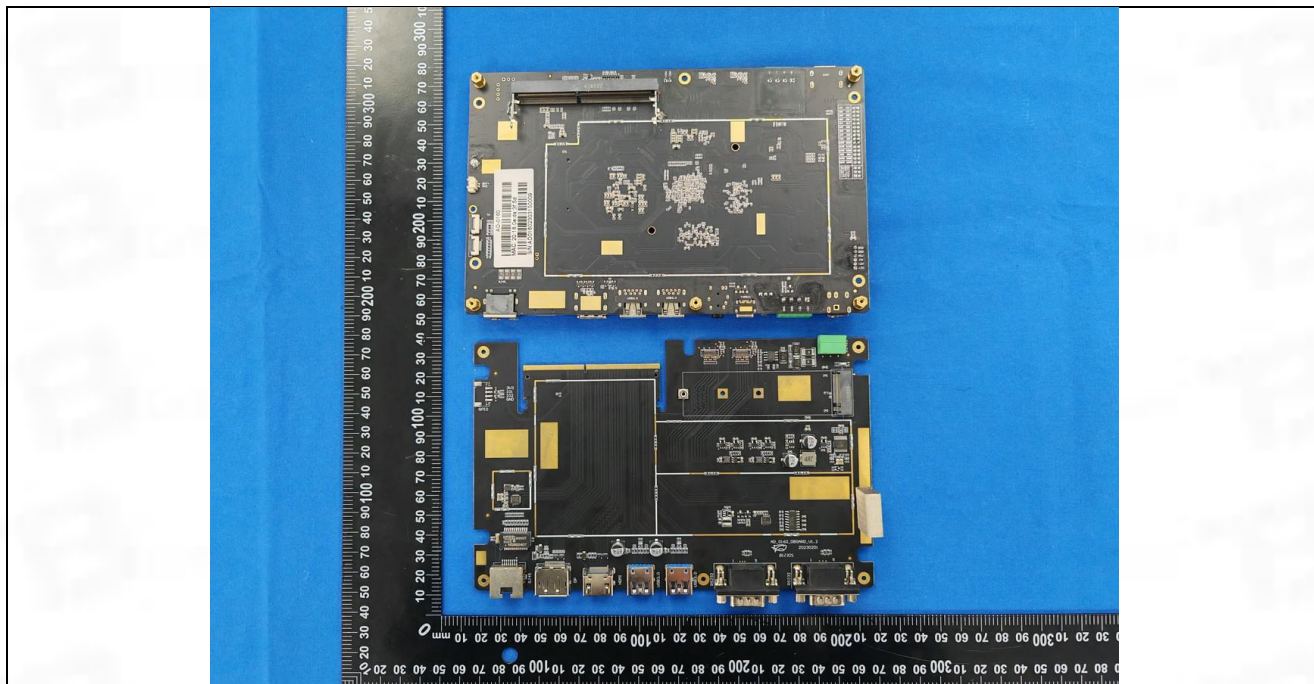


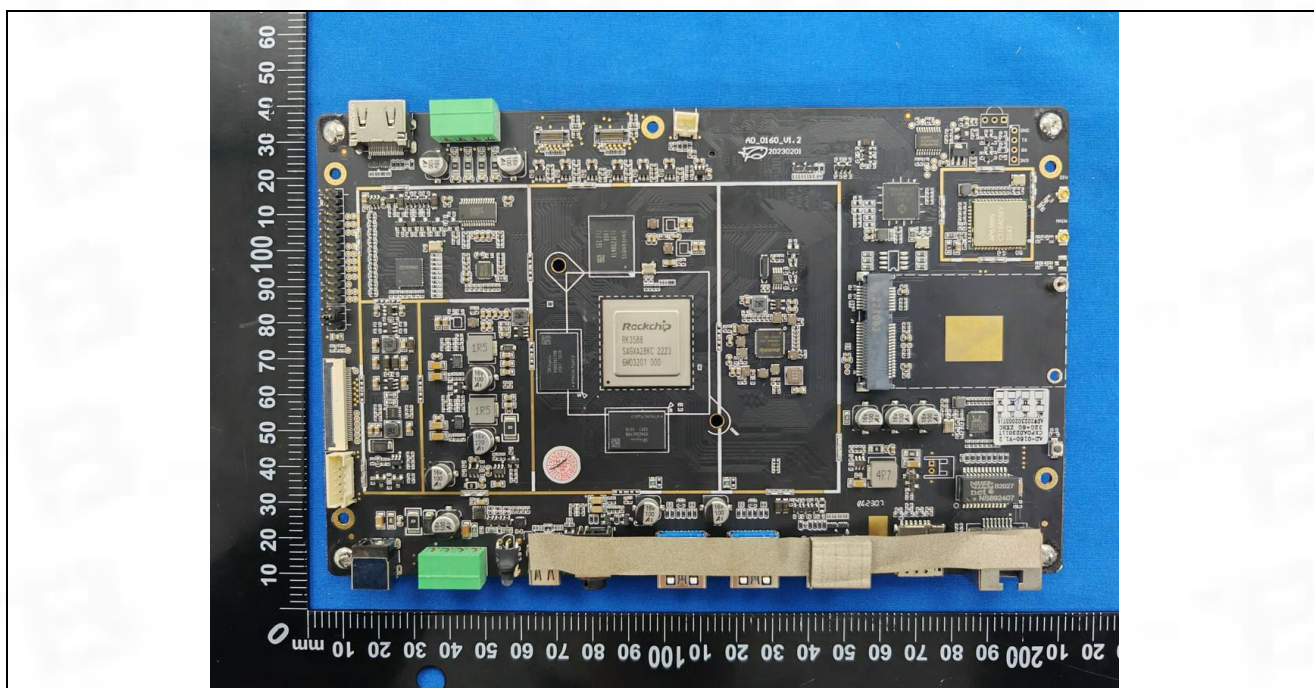
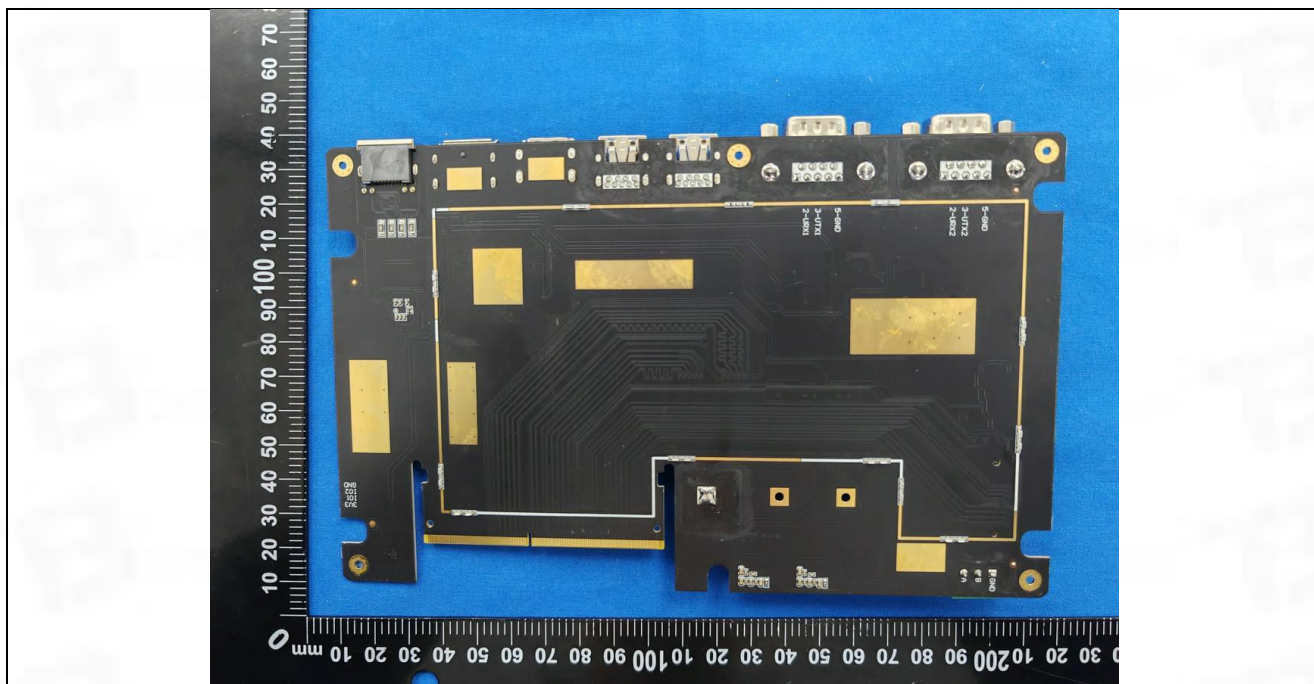


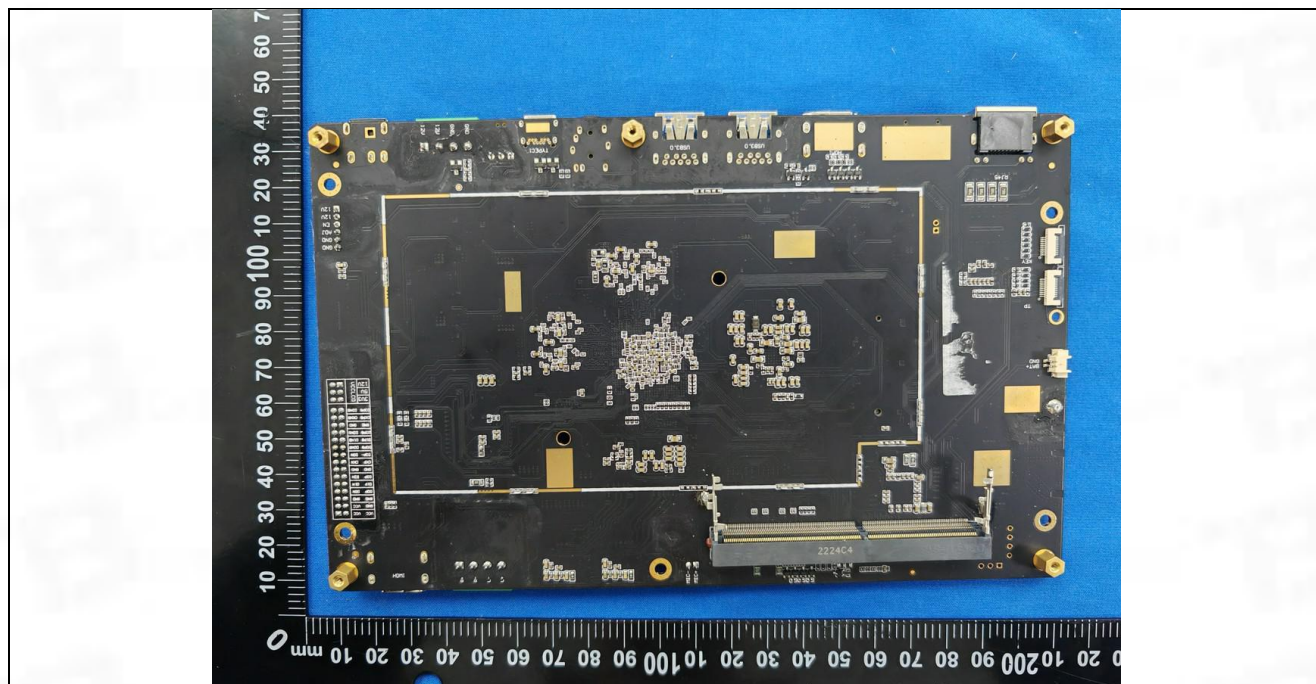


Internal









Appendix

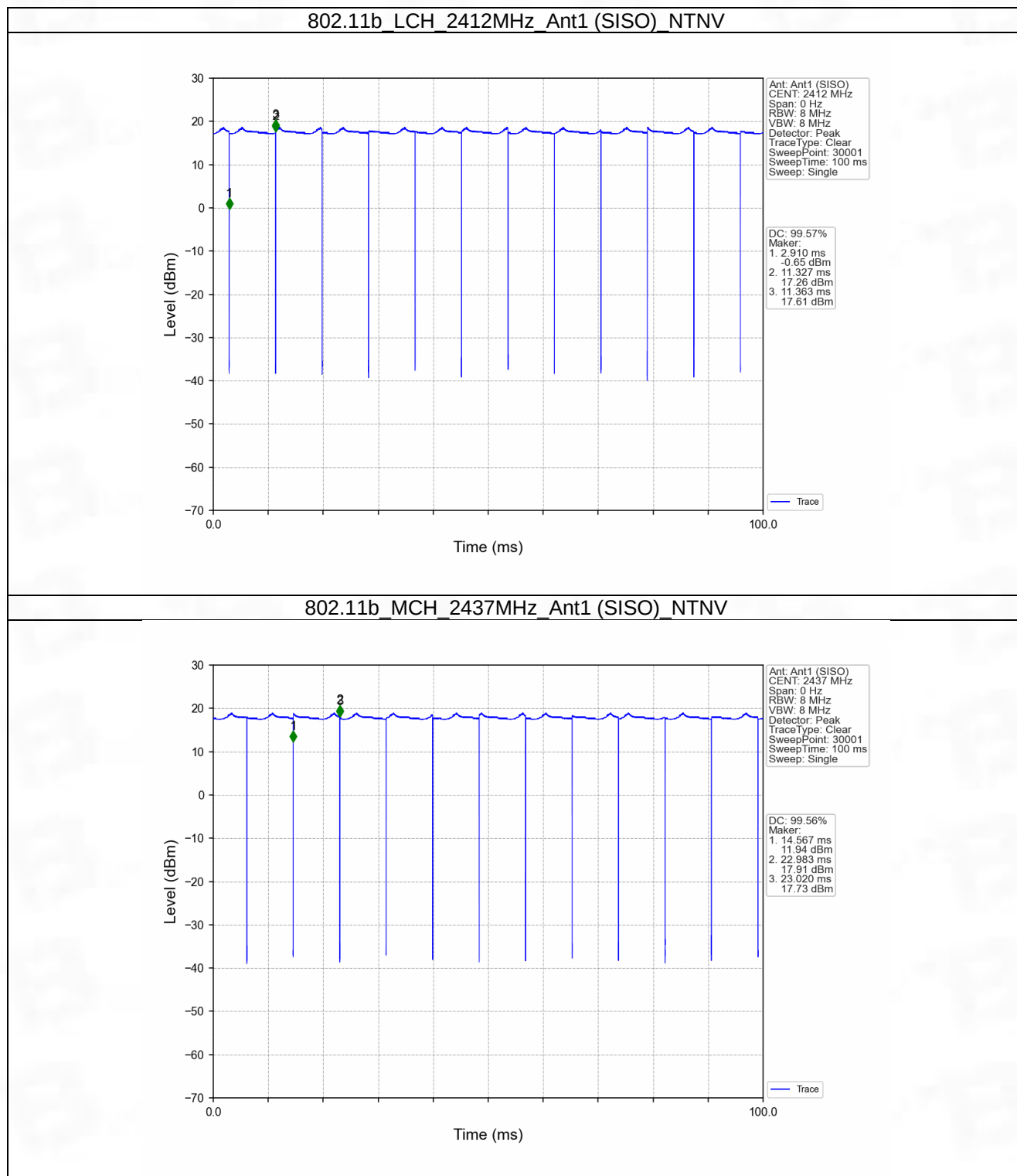
1. Duty Cycle

1.1 Ant1

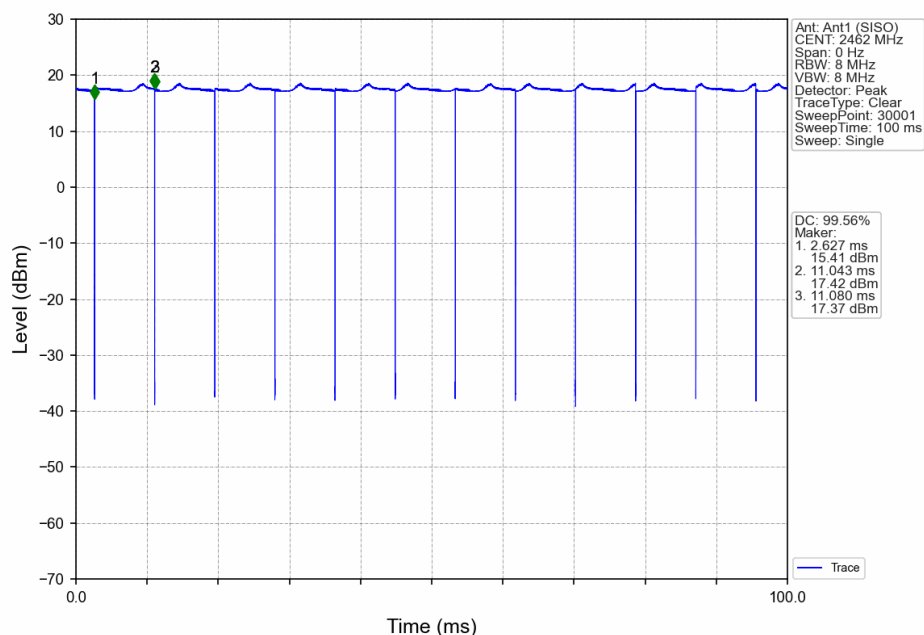
1.1.1 Test Result

Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	8.417	8.453	99.57	0.02	0.04
		2437	8.416	8.453	99.56	0.02	0.04
		2462	8.416	8.453	99.56	0.02	0.04
802.11g	SISO	2412	1.396	1.438	97.08	0.13	0.00
		2437	1.397	1.439	97.08	0.13	0.03
		2462	1.397	1.439	97.08	0.13	0.00
802.11n (HT20)	MIMO	2412	1.308	1.350	96.89	0.14	0.04
		2437	1.309	1.351	96.89	0.14	0.03
		2462	1.308	1.350	96.89	0.14	0.03

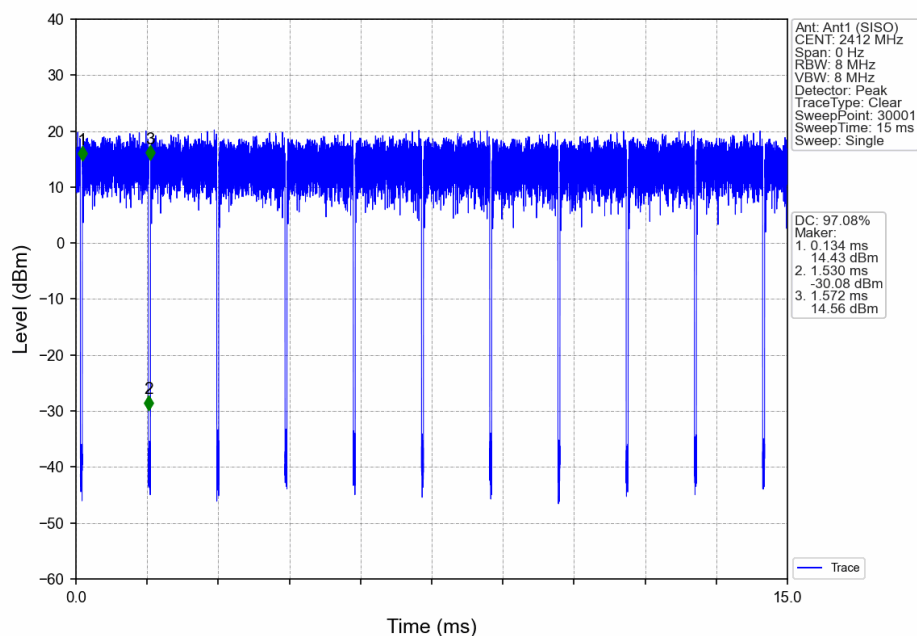
1.1.2 Test Graph



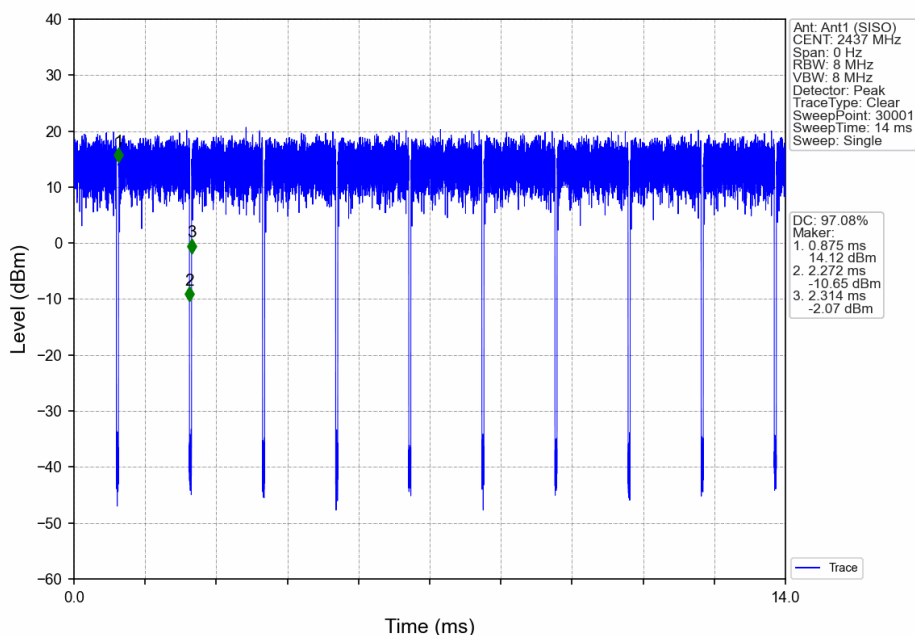
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



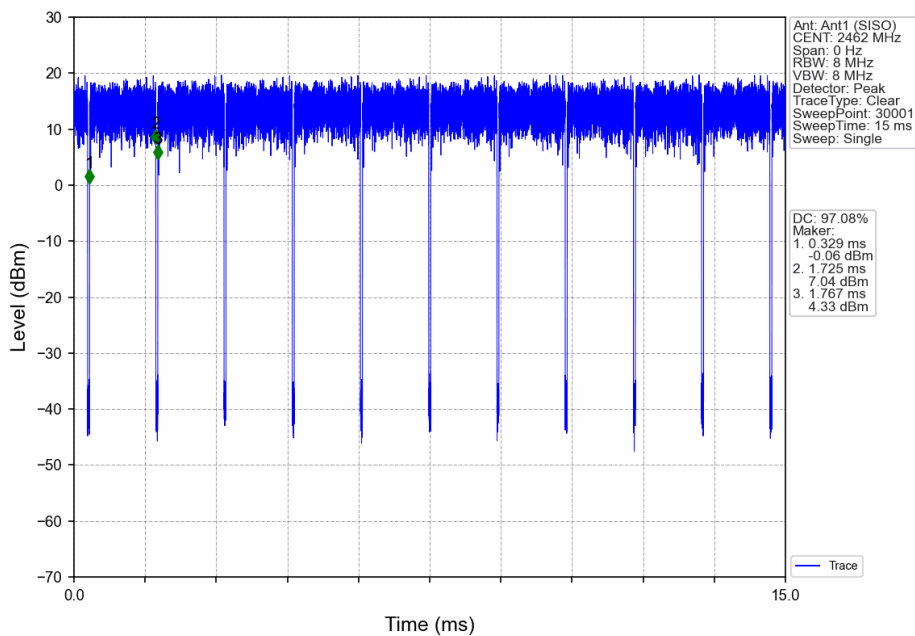
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



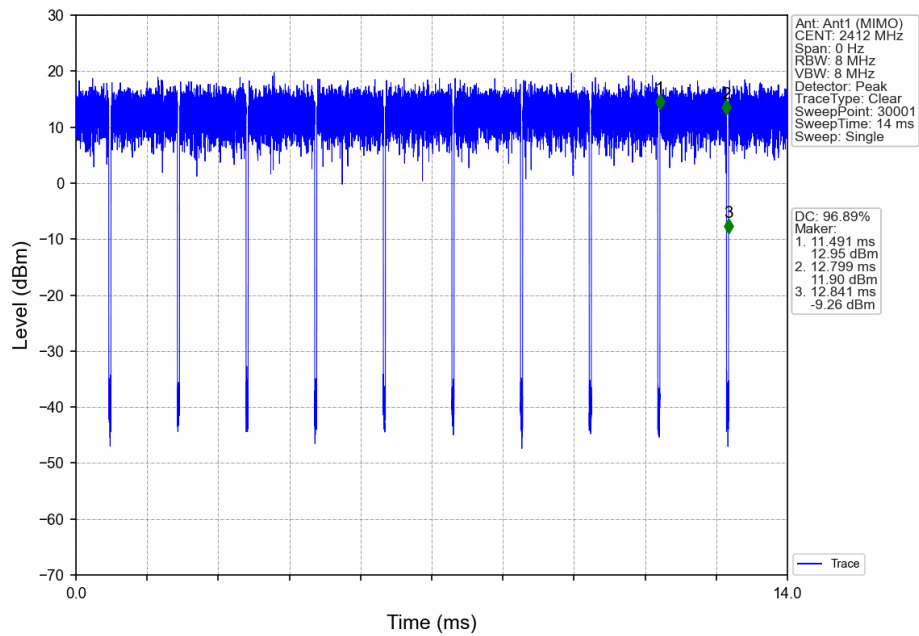
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



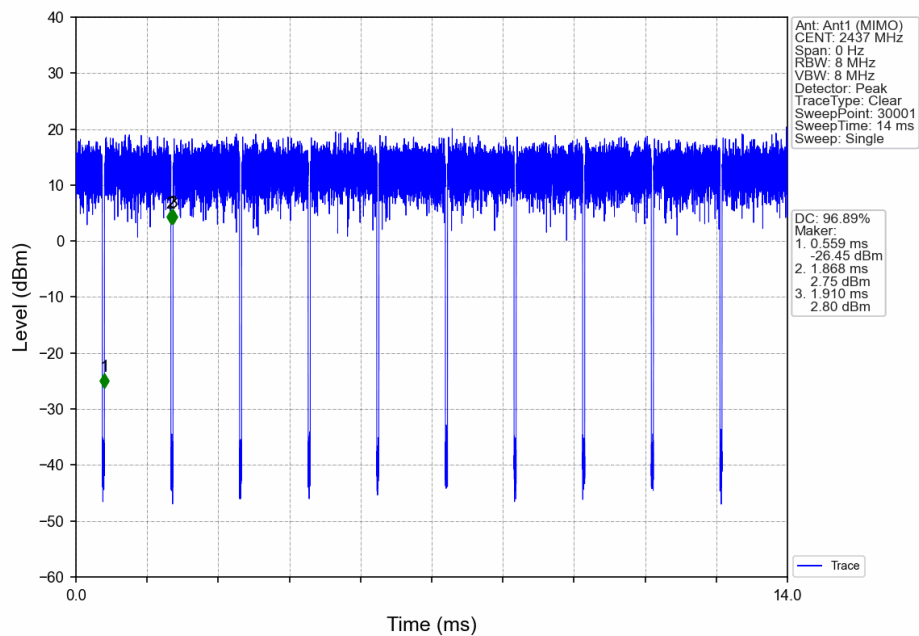
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

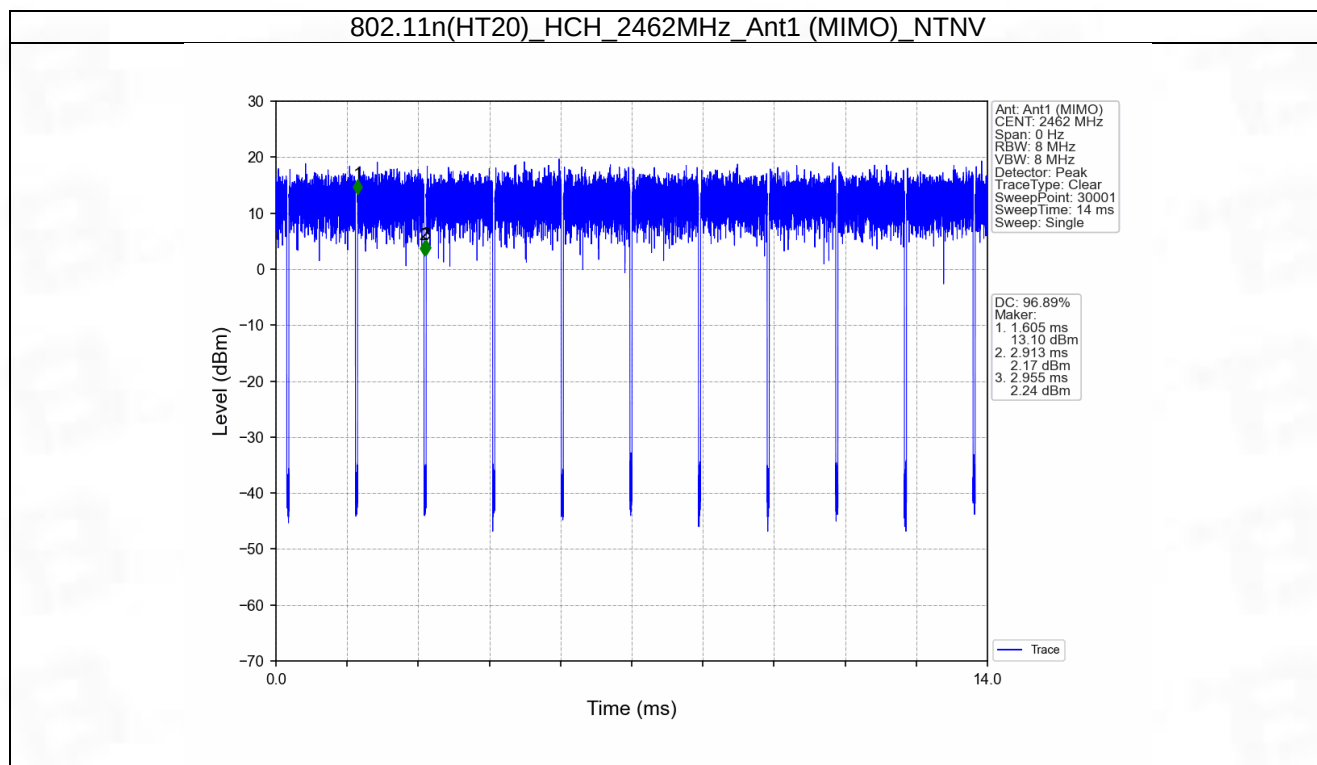


802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV





2. Bandwidth

2.1 OBW

2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict
				Result	
802.11b	SISO	2412	1	10.416	Pass
		2437	1	10.412	Pass
		2462	1	10.398	Pass
802.11g	SISO	2412	1	17.999	Pass
		2437	1	18.036	Pass
		2462	1	18.017	Pass
802.11n (HT20)	MIMO	2412	1	18.893	Pass
		2437	1	18.913	Pass
		2462	1	18.900	Pass