

RF Test Report

For

Applicant Name:

TECNO MOBILE LIMITED

Address:

EUT Name:

Brand Name:

Model Number:

FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG Laptop TECNO S15AM Series Model Number: Refer to section 2

Issued By

Company Name:

Address:

BTF Testing Lab (Shenzhen) Co., Ltd. F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China

Report Number: Test Standards:

BTF230612R00401 47 CFR Part 15.247

Test Conclusion: FCC ID: Test Date: Date of Issue:

Pass 2ADYY-S15AM 2023-03-06 to 2023-05-29 2023-06-15

Prepared By:

Date:

Approved By:

Date:

Chris Lin Lab (Shenzhen)
Chris Liu / Project Engineer
2023-06-15 (
Fron. * *
Ryan.CJ / EMC Manager
2023-06-15

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Revision History			
Version	Issue Date	Revisions Content	
R_V0	2023-06-15	Original	

Note: Once the revision has been made, then previous versions reports are invalid.

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APPENDIX			



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:	TECNO MOBILE LIMITED
Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG

2.2 Manufacturer Information

Company Name:	TECNO MOBILE LIMITED
Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG

2.3 Factory Information

Company Name:	GUANGXI SHANCHAUN TECHNOLOGY CO LTD
Address:	2nd floor of building1 in zone 3、building2 in zone 3, 1st floor of building 2 in zone 4, Guangxi 3nod Smart Industrial Park, No. 3 Gaoke Road, Haicheng District, Beihai City, Guangxi Zhuang Autonomous Region

2.4 General Description of Equipment under Test (EUT)

EUT Name:	Laptop		
Test Model Number:	S15AM		
Series Model Number:	N/A		

2.5 Technical Information

Power Supply:	Li-ion Battery: S1 Nominal Voltage: 11.55V Rated Capacity: 6060mAh/70Wh Typical Capacity: 6160 mAh/71.14Wh Limited Charge Voltage: 13.2V
Power Adaptor:	Adapter1: TCW-A 61S-65W Input: 100-240V~50/60Hz 1.5A Max Output: PD: 5V=3A 9V=3A 12V=3A 15V=3A 20V=3.25A PPS: 3.3-11V=5A Max Adapter2: DS65-2 Input: 100-240V~50/60Hz 1.5A Max Output: PD: 5V=3A 9V=3A 12V=3A 15V=3A 20V=3.25A 65W
Operation Frequency:	2402MHz to 2480MHz
Number of Channels:	40
Modulation Type:	GFSK
Antenna Type:	Integral Antenna
Antenna Gain [#] :	2.94 dBi

Note:

#: The antenna gain provided by the applicant, and the laboratory will not be responsible for the accumulated calculation results which covers the information provided by the applicant.

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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



Test Configuration 4

Test Equipment List 4.1

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&SCHWA RZ	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 COMMNUNICATION 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 COMMNUNICATION 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	/	/	/		

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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 COMMNUNICATION 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 COMMNUNICATION 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-SMASMAM-1 0m	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-1 m	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	/	1	/		
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2021-11-28	2023-11-27		
EMI TEST RECEIVER	ROHDE&SCHWA RZ	ESCI7	101032	2022-11-24	2023-11-23		
SIGNAL ANALYZER	ROHDE&SCHWA RZ	FSQ40	100010	2022-11-24	2023-11-23		

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POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Broadband Preamplilifier	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-1 0m	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-1 m	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	1	/	/		
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2021-11-28	2023-11-27		
EMI TEST RECEIVER	ROHDE&SCHWA RZ	ESCI7	101032	2022-11-24	2023-11-23		
SIGNAL ANALYZER	ROHDE&SCHWA RZ	FSQ40	100010	2022-11-24	2023-11-23		
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/		
Broadband Preamplilifier	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	/	/	1		
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-1 0m	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-1 m	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		

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POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2021-11-28	2023-11-27
EMI TEST RECEIVER	ROHDE&SCHWA RZ	ESCI7	101032	2022-11-24	2023-11-23
SIGNAL ANALYZER	ROHDE&SCHWA RZ	FSQ40	100010	2022-11-24	2023-11-23
POSITIONAL CONTROLLER	SKET	PCI-GPIB	1	1	/
Broadband Preamplilifier	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

25.0 °C
56 % RH
1010 mbar
Keep the EUT in continuous transmitting by select channel and modulations(The value of duty cycle is

plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.



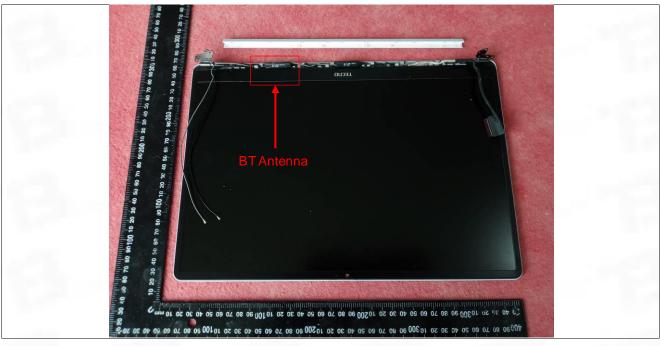
5 Evaluation Results (Evaluation)

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.

5.1.1 Conclusion:





6 Radio Spectrum Matter Test Results (RF)

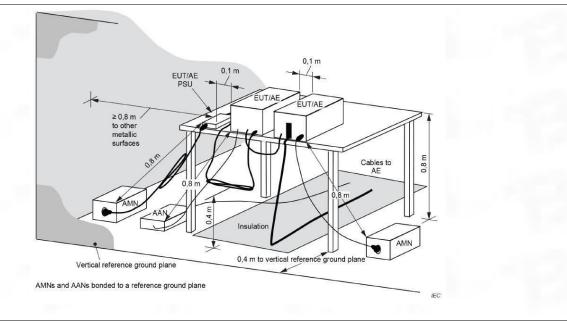
6.1 Conducted Emission at AC power line

Test Requirement:	Except as shown in paragraphs (b that is designed to be connected to frequency voltage that is conducted or frequencies, within the band 15 the following table, as measured us stabilization network (LISN).	o the public utility (AC) ed back onto the AC po 0 kHz to 30 MHz, shall	power line, the radio wer line on any frequency not exceed the limits in
Test Method:	Refer to ANSI C63.10-2013 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices		
	Frequency of emission (MHz)	Conducted limit (dBµV)	
		Quasi-peak	Average
Test Limit:	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
	*Decreases with the logarithm of t	he frequency.	

6.1.1 E.U.T. Operation:

Operating Environment:	
Temperature:	25.2 °C
Humidity:	50.5 %
Atmospheric Pressure:	1010 mbar

6.1.2 Test Setup Diagram:



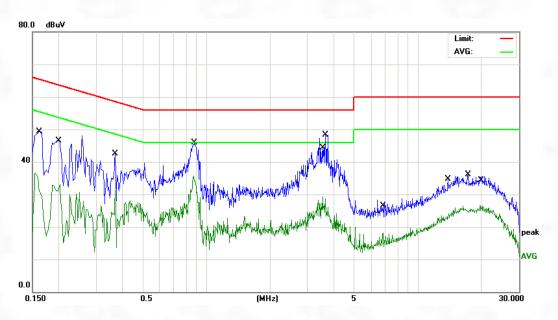
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6.1.3 Test Data:

Line: Line / Band: 2.4G / BW: 1 / CH: M

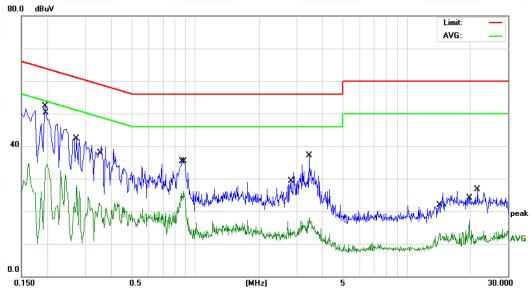


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1620	38.93	10.45	49.38	65.36	-15.98	QP
2		0.2020	22.61	10.45	33.06	53.52	-20.46	AVG
3		0.3700	31.93	10.49	42.42	58.50	-16.08	QP
4		0.3700	20.74	10.49	31.23	48.50	-17.27	AVG
5		0.8700	25.12	10.54	35.66	46.00	-10.34	AVG
6		0.8740	35.26	10.54	45.80	56.00	-10.20	QP
7		3.5420	18.48	10.73	29.21	46.00	-16.79	AVG
8	*	3.6420	37.58	10.73	48.31	56.00	-7.69	QP
9		6.8059	7.35	10.77	18.12	50.00	-31.88	AVG
10		13.8619	23.64	11.12	34.76	60.00	-25.24	QP
11		17.2819	24.89	11.13	36.02	60.00	-23.98	QP
12		20.2580	15.52	11.05	26.57	50.00	-23.43	AVG

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Line: Neutral / Band: 2.4G / BW: 1 / CH: M



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	*	0.1940	41.89	10.45	52.34	63.86	-11.52	QP
2		0.1980	24.07	10.45	34.52	53.69	-19.17	AVG
3		0.2740	31.73	10.47	42.20	60.99	-18.79	QP
4		0.3500	12.07	10.48	22.55	48.96	-26.41	AVG
5		0.8620	24.81	10.54	35.35	56.00	-20.65	QP
6		0.8780	15.55	10.54	26.09	46.00	-19.91	AVG
7		2.8260	18.55	10.72	29.27	56.00	-26.73	QP
8		3.4460	26.31	10.72	37.03	56.00	-18.97	QP
9		3.4460	7.44	10.72	18.16	46.00	-27.84	AVG
10		14.2740	2.06	11.15	13.21	50.00	-36.79	AVG
11		19.7099	6.14	11.06	17.20	50.00	-32.80	AVG
12		21.5340	15.63	11.07	26.70	60.00	-33.30	QP

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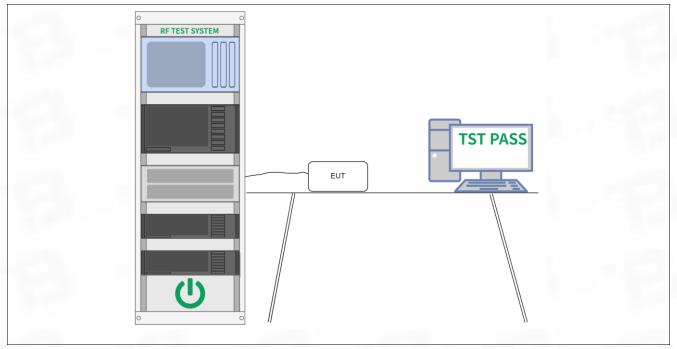
6.2 Occupied Bandwidth

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 >= [3 x 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:	25.8 °C
Humidity:	49.9 %
Atmospheric Pressure:	1010 mbar

6.2.2 Test Setup Diagram:



6.2.3 Test Data:

Please Refer to Appendix for Details.



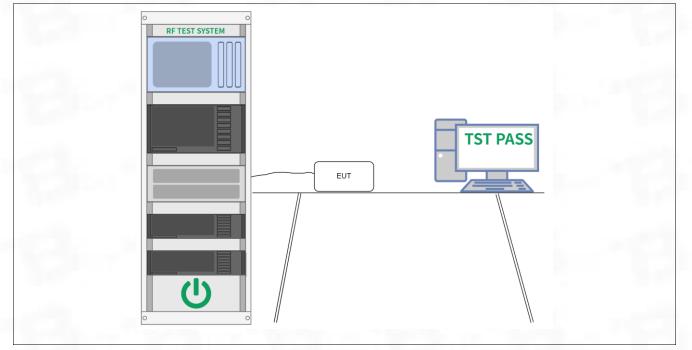
6.3 Maximum Conducted Output Power

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 Environments	

Operating Environment:	
Temperature:	25.8 °C
Humidity:	49.9 %
Atmospheric Pressure:	1010 mbar



6.3.2 Test Setup Diagram:



6.3.3 Test Data:

Please Refer to Appendix for Details.



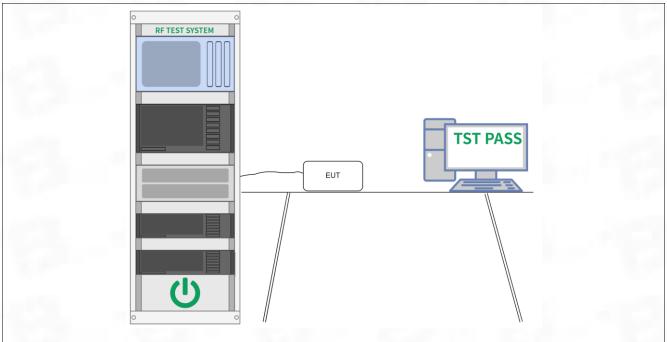
6.4 Power Spectral Density

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:	25.8 °C
Humidity:	49.9 %
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

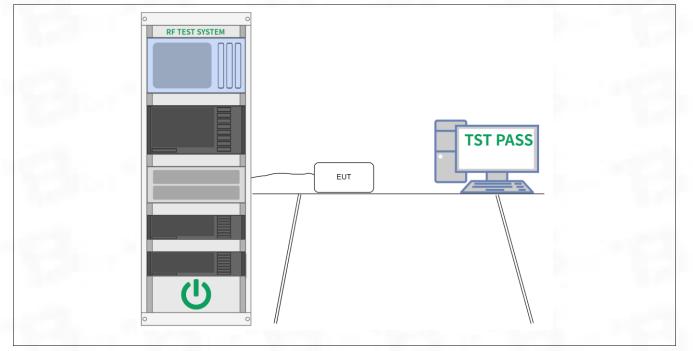
Test Requirement:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band 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:	25.8 °C	
Humidity:	49.9 %	
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:		issions which fall in the restricter mply with the radiated emission (c)).`				
Test Method:	Radiated emissions test	ts				
	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			
Test Limit:	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 sect	ion 6.6.4				
6.6.1 E.U.T. Operation						
Operating Environment:						
Temperature:	22.1 °C					

Temperature:	22.1 °C
Humidity:	46.3 %
Atmospheric Pressure:	1010 mbar



6.6.2 Test Data:

Test result for GFSK Mode (the worst case)

Frequency	Reading	Correct Factor	Emission Level	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
			Low Cha	nnel			
2390	64.76	-8.76	56.00	74	18.00	Н	PK
2390	56.91	-8.76	48.15	54	5.85	н	AV
2390	59.33	-8.73	50.60	74	23.40	V	PK
2390	56.63	-8.73	47.90	54	6.10	V	AV
			High Cha	nnel			
2483.5	63.32	-8.76	54.56	74	19.44	Н	PK
2483.5	55.95	-8.76	47.19	54	6.81	Н	AV
2483.5	61.80	-8.73	53.07	74	20.93	V	PK
2483.5	55.87	-8.73	47.14	54	6.86	V	AV



6.7 Emissions in restricted frequency bands (below 1GHz)

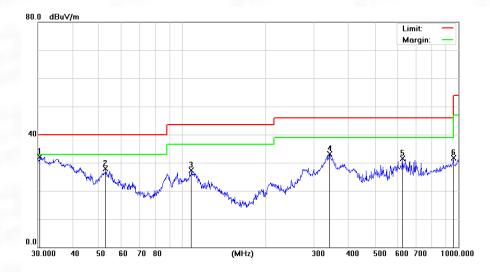
Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).					
Test Method:	Radiated emissions test	S				
	Frequency (MHz)	Field strength (microvolts/meter)	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			
Test Limit:	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 sect	ion 6.6.4				
6.7.1 E.U.T. Operation:		10000				
Operating Environment:						

Operating Environment:				
Temperature:	22.1 °C			
Humidity:	46.3 %	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	and the second sec	
Atmospheric Pressure:	1010 mbar			



6.7.2 Test Data:

Note: All the mode have been tested, and only the worst case of 1M mode are in the report Polarization: Horizontal / Band: 2.4G / BW: 1 / CH: H

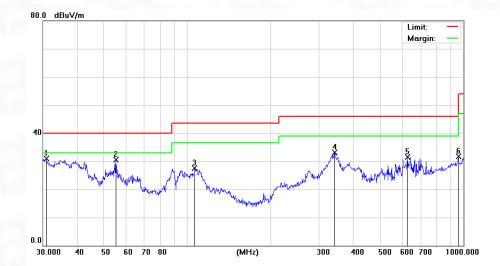


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	30.5305	27.49	4.59	32.08	40.00	-7.92	QP
2		52.7599	33.23	-5.35	27.88	40.00	-12.12	QP
3		107.8876	29.55	-2.28	27.27	43.50	-16.23	QP
4		341.9786	34.89	-1.70	33.19	46.00	-12.81	QP
5		627.2738	29.80	1.64	31.44	46.00	-14.56	QP
6		958.7943	25.07	6.57	31.64	46.00	-14.36	QP

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Polarization: Vertical / Band: 2.4G / BW: 1 / CH: H

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	30.9619	26.57	4.43	31.00	40.00	-9.00	QP
2		55.2207	36.10	-5.64	30.46	40.00	-9.54	QP
3		106.3850	30.08	-2.57	27.51	43.50	-15.99	QP
4		341.9786	34.89	-1.70	33.19	46.00	-12.81	QP
5		627.2738	29.80	1.64	31.44	46.00	-14.56	QP
6		958.7943	25.07	6.57	31.64	46.00	-14.36	QP

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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 test	S	Card of the State		
	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		
Test Limit:	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 sect	ion 6.6.4			
6.8.1 E.U.T. Operation:		1000			
Operating Environment:					

Operating Environment:	
Temperature:	22.1 °C
Humidity:	46.3 %
Atmospheric Pressure:	1010 mbar



6.8.2 Test Data:

		Low channel: 2402MHz								
Freq.	Ant.Pol	Emission Level(dBuV)		Limit 3m(dBuV/m)		Over(dB)				
	(MHz)	H/V	PK	AV	PK	AV	PK	AV		
ĺ	4804	V	60.69	40.44	74	54	-13.31	-13.56		
	7206	V	58.73	39.80	74	54	-15.27	-14.20		
	4804	Н	58.18	39.49	74	54	-15.82	-14.51		
	7206	Н	59.39	40.39	74	54	-14.61	-13.61		

E.e.e.	Middle channel: 2440MHz								
Freq.	Ant.Pol	Emission Level(dBuV)		Limit 3m(dBuV/m)		Over(dB)			
(MHz)	H/V	PK	AV	PK	AV	PK	AV		
4880	V	58.19	41.49	74	54	-15.81	-12.51		
7320	V	58.91	39.64	74	54	-15.09	-14.36		
4880	Н	59.39	40.58	74	54	-14.61	-13.42		
7320	Н	59.01	40.01	74	54	-14.99	-13.99		

E.e.e.	High channel: 2480 MHz							
Freq.	Ant.Pol	Emission L	_evel(dBuV)	Limit 3m(dBuV/m)		Over(dB)		
(MHz)	H/V	PK	AV	PK	AV	PK	AV	
4960	V	60.59	41.42	74	54	-13.41	-12.58	
7440	V	59.97	39.07	74	54	-14.03	-14.93	
4960	Н	58.74	40.58	74	54	-15.26	-13.42	
7440	Н	58.75	39.75	74	54	-15.25	-14.25	

Note:

1. All emissions not reported were more than 20dB below the specified limit or in the noise floor.

2. Emission Level= Reading Level+ Probe Factor +Cable Loss.

3. Data of measurement within this frequency range shown "--" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Appendix

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1. Bandwidth

1.1 BW

1.1.1 Test Result

BLE 1M

Test channel	6dB Emission Bandwidth (kHz)				
Test channel	BT LE mode	Limit	Result		
Lowest	0.653	>500k			
Middle	0.655	>500k	PASS		
Highest	0.667	>500k			

BLE 2M

Test channel	6dB Emission Bandwidth (kHz)				
rest channel	BT LE mode	Limit	Result		
Lowest	1.1	>500k			
Middle	1.118	>500k	PASS		
Highest	1.118	>500k			



1.1.2 Test Graph



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pectrum Anal	lvzer 1			Lowest cha					
ccupied BW	iyzer i	• +							
EYSIGHT	Input: RF Coupling: DC	Input Z: 50 Ω Corr CCorr	Atten: 30 dB	Trig: Free Run Gate: Off	Center Fre Avg Hold: 1	q: 2.402000000 GHz			
L ↔→• /	Align: Auto	Freq Ref: Int (S)		#IF Gain: Low	Radio Std:				
Graph	▼			Ref LvI Offset 2.	19 dB		M	kr3 2.4025	34000 GI
ale/Div 10.0	0 dB			Ref Value 22.19					-9.18 dB
og 2.2				. 1					
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Res BW 100.				# VIGEO EVV 500.0				Sweep 1.33	
Metrics	•								
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	Occupied Bar	ndwidth				Measure Hace			
		1.8530 MHz				Total Power		2.50 dBm	
	Transmit Frec	Error -	15.761 kHz			% of OBW Power x dB		99.00 % -6.00 dB	
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۲	x dB Bandwid	No. 17, 0000	1.100 MHz						
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Dectrum Anal Coupled BW	C) C ?	Mar 17, 2023 7:29:37 PM		Trig: Free Run Gate: Off	Center Free Avg Hold: 1	q: 2 440000000 GHz 00/100			
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Dectrum Anal Coupled BW EYSIGHT L ++- 7 Graph	C ² 2 yzer 1 Input: RF Coupling: DC Align: Auto	Mar 17, 2023 7:29:37 PM		Trig: Free Run Gate: Off #IF Gain: Low Ref LvI Offset 2.	Center Fre Avg Hold: 1 Radio Std: .22 dB	q: 2 440000000 GHz 00/100	M	kr3 2.4405	53000 GI
ectrum Anal ccupied BW EYSIGHT L +>+ Graph cale/Div 10.0	C ² 2 yzer 1 Input: RF Coupling: DC Align: Auto	Mar 17, 2023 7:29:37 PM		Trig: Free Run Gate: Off #IF Gain: Low	Center Fre Avg Hold: 1 Radio Std: .22 dB	q: 2 440000000 GHz 00/100	M	kr3 2.4405	53000 GI
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Coupled BW EYSIGHT L	C ² 2 yzer 1 Input: RF Coupling: DC Align: Auto	Mar 17, 2023 7:29:37 PM	Atten: 30 dB	Trig: Free Run Gate: Off #IF Gain: Low Ref LvI Offset 2.	Center Fre Avg Hold: 1 Radio Std: .22 dB	q: 2 440000000 GHz 00/100	M	kr3 2.4405	53000 GI 10.95 dB
ectrum Anali coupled BW EYSIGHT L +++ Graph cale/Div 10.0 0 2.2 2.2 2.2 7.8 7.8	C ² 2 yzer 1 Input: RF Coupling: DC Align: Auto	Mar 17, 2023 7:29:37 PM	Atten: 30 dB	Trig: Free Run Gate: Off #IF Gain: Low Ref LvI Offset 2. Ref Value 22.22	Center Fre Avg Hold: 1 Radio Std: .22 dB dBm	q: 2 440000000 GHz 00/100		kr3 2.4405	53000 GH
Contract Anala Coupled BW EYSIGHT L Graph Cale/Div 10.0 09 2.2 2.2 2.2 2.2 7 7 8 7 8 7 8 7 8 7 	C ² 2 yzer 1 Input: RF Coupling: DC Align: Auto	Mar 17, 2023 7:29:37 PM	Atten: 30 dB	Trig: Free Run Gate: Off #IF Gain: Low Ref LvI Offset 2. Ref Value 22.22	Center Fre Avg Hold: 1 Radio Std: .22 dB dBm	q: 2 440000000 GHz 00/100		kr3 2.4405	53000 GI 10.95 dB
Dectrum Anal Coupled BW	C ² 2 yzer 1 Input: RF Coupling: DC Align: Auto	Mar 17, 2023 7:29:37 PM	Atten: 30 dB	Trig: Free Run Gate: Off #IF Gain: Low Ref LvI Offset 2. Ref Value 22.22	Center Fre Avg Hold: 1 Radio Std: .22 dB dBm	q: 2 440000000 GHz 00/100		kr3 2.4405	53000 GI 10.95 dB
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Dectrum Anal ccupied BW EYSIGHT L 7 Graph cale/Div 10.0 22 .22 .78 <	C C C C C C C C C C C C C C C C C C C	Mar 17, 2023 7:29:37 PM	Atten: 30 dB	Trig: Free Run Gate: Off #IF Gain: Low Ref LvI Offset 2. Ref Value 22.22	Center Fre Avg Hold. 1 Radio Std: .22 dB dBm	g: 2.440000000 GHz 00/100 None	3	kr3 2.4405	53000 GH 10.95 dB
Dectrum Anal ccupied BW EYSIGHT L 7 Graph cale/Div 10.0 22 .22 .78 778 78	C C C C C C C C C C C C C C C C C C C	Mar 17, 2023 7:29:37 PM	Atten: 30 dB	Trig: Free Run Gate: Off #IF Gain: Low Ref LvI Offset 2. Ref Value 22.22	Center Fre Avg Hold. 1 Radio Std: .22 dB dBm	g: 2.440000000 GHz 00/100 None		kr3 2.4405	53000 GH 10.95 dB
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				Highest cha	annel					
Spectrum An Occupied BV	alyzer 1 V	• +								
KEYSIGH	Input: RF Coupling: DC Align: Auto	Input Ζ: 50 Ω Corr CCorr Freq Ref: Int (S)	Atten: 30 dB	Trig: Free Run Gate: Off #IF Gain: Low	Center Fre Avg Hold: Radio Std:					
1 Graph Scale/Div 10	▼ 0.0 dB			Ref LvI Offset 2 Ref Value 22.29			M	(r3 2.4805 -	53000 (10.75 d	
Log 12.3 2.29 -7.71		2		1			3			
-17.7 -27.7 -27.7 -37.7	mon and a start of the start of	~~~~~			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			man	**************************************	~~~~
-47.7 -57.7 -67.7										
-07.7 Center 2.480 #Res BW 10				#Video BW 300.	00 kHz			Sweep 1.33	Span 2 ms (10001	MHz 1 pts)
2 Metrics	•									
	Occupied Ba	andwidth				Measure Trace	Trace 1			
		1.8731 MHz				Total Power		2.57 dBm		
	Transmit Fre x dB Bandw		-5.611 kHz 1.118 MHz			% of OBW Power x dB		99.00 % -6.00 dB		
1 5		Mar 17, 2023 7:33:44 PM								



2. Maximum Conducted Output Power

2.1 Power

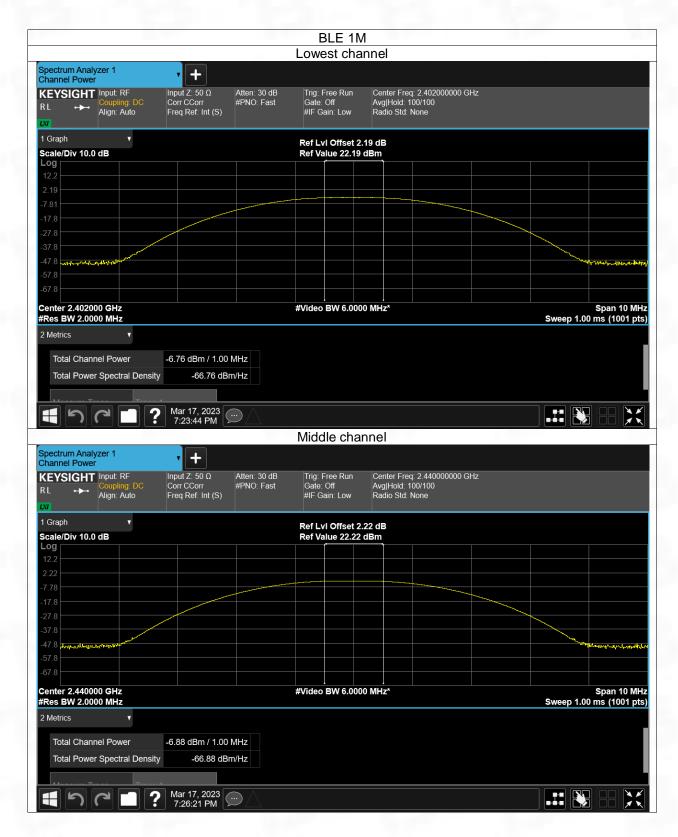
2.1.1 Test Result

BLE 1M					
Test channel	Maximum Conducted Output Power (dBm)	Limit (dBm)	Result		
Lowest	-6.76	30.00	PASS		
Middle	-6.88	30.00	PASS		
Highest	-6.86	30.00	PASS		

BLE 2M					
Test channel	Maximum Conducted Output Power (dBm)	Limit (dBm)	Result		
Lowest	-3.89	30.00	PASS		
Middle	-4.01	30.00	PASS		
Highest	-3.97	30.00	PASS		



2.1.2 Test Graph



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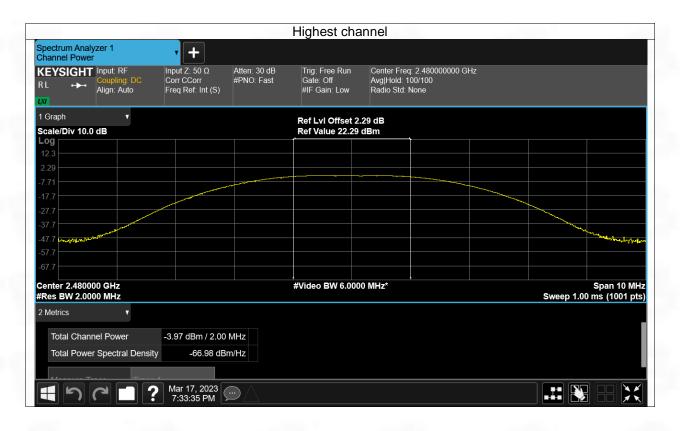
		Highest cha	nnel			
Spectrum Analyzer 1 Channel Power	• +					
Coupling: DC C	nput Ζ: 50 Ω Atten: 30 dB Corr CCorr #PNO: Fast Freq Ref: Int (S)	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq: 2.480000 Avg Hold: 100/100 Radio Std: None	000 GHz		
1 Graph v Scale/Div 10.0 dB Log		Ref LvI Offset 2 Ref Value 22.29				
12.3 2.29						
-7.71						
-37.7 -47.7 man market grand and the start						ประการและ
-57.7 -67.7 Center 2.480000 GHz		#Video BW 6.000	0 MU-*			Span 10 MHz
#Res BW 2.0000 MHz		#VIGEO BW 0.000			Sweep 1.0	0 ms (1001 pts)
2 Metrics v						
Total Channel Power	6.86 dBm / 1.00 MHz -66.86 dBm/Hz					
	Mar 17, 2023 7:27:53 PM					



		BLE 2			
Spectrum Analyzer 1	• +	Lowest ch	lannel		
Channel Power KEYSIGHT RL Coupling: DC Align: Auto	Input Z: 50 Ω Atter	n: 30 dB Trig: Free Run O: Fast Gate: Off #IF Gain: Low	Center Freq: 2.40200000 Avg Hold: 100/100 Radio Std: None	GHz	
1 Graph Scale/Div 10.0 dB Log 12.2		Ref LvI Offsel Ref Value 22.4			
2.19 -7.81 -17.8					
-27.8 -37.8 -47.8 -57.8					A CONTRACT OF CONTRACTOR OF CONTRACT OF CONTRACTOR OF CONTRACT OF CONTRACTOR O
-37.0 -67.8 Center 2.402000 GHz #Res BW 2.0000 MHz		#Video BW 6.0	000 MHz*	Sweep	Span 10 MHz 1.00 ms (1001 pts)
2 Metrics Total Channel Power Total Power Spectral Density	-3.89 dBm / 2.00 MHz /66.90 dBm/Hz				
	Mar 17, 2023 7:29:29 PM			**	
Spectrum Analyzer 1 Channel Power	• +	Middle ch	annei		
KEYSIGHT RL + Align: Auto	Input Z: 50 Ω Atter	1: 30 dB Trig: Free Run O: Fast Gate: Off #IF Gain: Low	Center Freq: 2.44000000 Avg Hold: 100/100 Radio Std: None	GHz	
1 Graph v Scale/Div 10.0 dB		Ref LvI Offset Ref Value 22.2			
Log 12.2 2.22 -7.78					
-17.8 -27.8 -37.8					
-47.8 400 - 57.8					
Center 2.440000 GHz #Res BW 2.0000 MHz		#Video BW 6.0	, 000 MHz*	Sweep	Span 10 MHz 1.00 ms (1001 pts)
2 Metrics Total Channel Power Total Power Spectral Density	-4.01 dBm / 2.00 MHz / -67.02 dBm/Hz				
	Mar 17, 2023 7:31:18 PM	Δ			

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3. Maximum Power Spectral Density

3.1 PSD

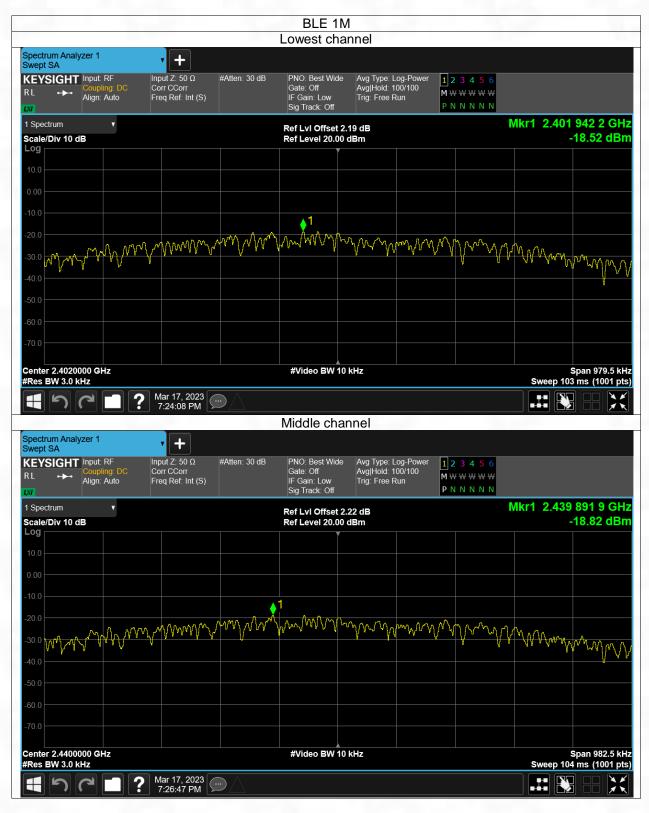
3.1.1 Test Result

Test channel	Power Spectral D	ensity (dBm/3kHz)	
rest channel	BLE 1M	Limit	Result
Lowest	-18.52	8 dBm/3kHz	
Middle	-18.82	8 dBm/3kHz	PASS
Highest	-19.16	8 dBm/3kHz	

Test channel	Power Spectral D	ensity (dBm/3kHz)	
Test channel	BLE 2M	Limit	Result
Lowest	-21.1	8 dBm/3kHz	
Middle	-21.21	8 dBm/3kHz	PASS
Highest	-21.23	8 dBm/3kHz	



3.1.2 Test Graph



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				Highest ch	annel				
Spectrum Analyzer 1 Swept SA		• +							
KEYSIGHT Input: R R L +++ Couplin Align: A	ig: DC Co	out Z: 50 Ω orr CCorr eq Ref: Int (S)	#Atten: 30 dB	PNO: Best Wid Gate: Off IF Gain: Low Sig Track: Off	e Avg Type: L Avg Hold: 1 Trig: Free F	00/100	1 2 3 4 5 6 M \vee \vee \vee \vee \vee V P N N N N N		
1 Spectrum Scale/Div 10 dB Log	v			Ref LvI Offset Ref Level 20.0				Mkr1 2.479) 857 9 GH -19.16 dBi
10.0									
0.00									
	A	<u>, 000000000000000000000000000000000000</u>	1 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	mMM	^ህ ህ ለሳ ጠሊ _የ ር	m. MAN	Nanna		
20.0 30.0 40.0		en and and h		V I I I I	V	₩ 4V	www	M M M M	mm
50.0									
60.0									
Center 2.4800000 GH; Res BW 3.0 kHz	2			#Video BW 1	l0 kHz				Span 1.001 Mi 6 ms (1001 pt
		Nar 17, 2023							

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	BLE 2M	
Spectrum Analyzer 1	Lowest channel	
Swept SA Imput: RF Input: Z: 50 Ω #Atten: 3 RL → Coupling: DC Corr CCorr Align: Auto Freq Ref: Int (S) #Atten: 3	30 dB PNO: Best Wide Avg Type: Log-Powv Gate: Off Avg Hold: 100/100 IF Gain: Low Trig: Free Run Sig Track: Off	er 123456 M W W W W W P N N N N N
1 Spectrum Scale/Div 10 dB	Ref Lvi Offset 2.19 dB Ref Level 20.00 dBm	Mkr1 2.401 988 45 GHz -21.10 dBm
-10.0	1	
	alawing and a grant and a loss	haland and have a she water the she have
-50.0		
Center 2.4020000 GHz #Res BW 3.0 kHz	#Video BW 10 kHz	Span 1.650 MHz Sweep 174 ms (1001 pts)
Spectrum Analyzer 1	Middle channel	
Spectrum Analyzer 1 Swept SA Image: Feasibility KEYSIGHT RL Input: RF Coupling: DC Align: Auto Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) #Atten: 3		
Spectrum Analyzer 1 Imput Z: 50 Ω Swept SA Imput Z: 50 Ω KEYSIGHT Imput Z: 50 Ω RL Coupling: DC Align: Auto Corr CCorr I Spectrum Scale/Div 10 dB	30 dB PNO: Best Wide Avg Type: Log-Powe Gate: Off Avg Hold: 100/100 IF Gain: Low Trig: Free Run	er 123456 Mwwwww
Spectrum Analyzer 1 Swept SA ↓ KEYSIGHT Input: RF RL ↔ Coupling DC Align: Auto Dread Ref: Int (S)	30 dB PNO: Best Wide Avg Type: Log-Pow Gate: Off Avg Hold: 100/100 IF Gain: Low Trig: Free Run Sig Track: Off Ref LvI Offset 2.22 dB	Ø 123456 M₩₩₩₩₩ PNNNNN Mkr1 2.439 988 3 GHz
Spectrum Analyzer 1 Imput: RF Swept SA Input: Z: 50 Ω KEYSIGHT Imput: RF Coupling: DC Corr CCorr Align: Auto Freq Ref: Int (S) 1 Spectrum Scale/Div 10 dB Log Imput: RF	30 dB PNO: Best Wide Avg Type: Log-Pow Gate: Off Avg Hold: 100/100 IF Gain: Low Trig: Free Run Sig Track: Off Ref LvI Offset 2.22 dB	Ø 123456 M₩₩₩₩₩ PNNNNN Mkr1 2.439 988 3 GHz
Spectrum Analyzer 1 Swept SA ↓ ↓	30 dB PNO: Best Wide Avg Type: Log-Pow Gate: Off Avg Hold: 100/100 IF Gain: Low Trig: Free Run Sig Track: Off Ref LvI Offset 2.22 dB Ref Level 20.00 dBm	Image: Second state sta
Spectrum Analyzer 1 Swept SA KEYSIGHT RL → Coupling DC Align: Auto 1 Spectrum Scale/Div 10 dB Log 10.0 -20.0 -30.0 -50.0 Spectrum 	30 dB PNO: Best Wide Avg Type: Log-Powe Gate: Off AvgHold: 100/100 IF Gain: Low Trig: Free Run Sig Track: Off Ref Level 20.00 dBm	ar 1 2 3 4 5 6 M W W W W P N N N N N Mkr1 2.439 988 3 GHz -21.21 dBm
Spectrum Analyzer 1 Swept SA ↓ 	30 dB PNO: Best Wide Avg Type: Log-Powe Gate: Off AvgHold: 100/100 IF Gain: Low Trig: Free Run Sig Track: Off Ref Level 20.00 dBm	Image: Second state sta
Spectrum Analyzer 1 Swept SA ↓ KEYSIGHT RL Input: RF Coupling: DC Align: Auto Input: Z: 50 Ω Corr CCorr Freq Ref: Int (S) #Atten: 3 I Spectrum ↓ Scale/Div 10 dB ↓ ↓ Log ↓ ↓ ↓ ↓ 10.0 ↓ ↓ ↓ ↓ 20.0 ↓ ↓ ↓ ↓ -0.0 ↓ ↓ ↓ ↓ -0.0 ↓ ↓ ↓ ↓ -0.0 ↓ ↓ ↓ ↓ -0.0 ↓ ↓ ↓ ↓ -0.0 ↓ ↓ ↓ ↓ -0.0 ↓ ↓ ↓ ↓ -0.0 ↓ ↓ ↓ ↓ -0.0 ↓ ↓ ↓ ↓ -0.0 ↓ ↓ ↓ ↓ -0.0 ↓ ↓ ↓ ↓ -0.0 ↓ ↓ ↓ ↓ <td>30 dB PNO: Best Wide Avg Type: Log-Powe Gate: Off AvgHold: 100/100 IF Gain: Low Trig: Free Run Sig Track: Off Ref Level 20.00 dBm</td> <td>Image: Second state sta</td>	30 dB PNO: Best Wide Avg Type: Log-Powe Gate: Off AvgHold: 100/100 IF Gain: Low Trig: Free Run Sig Track: Off Ref Level 20.00 dBm	Image: Second state sta

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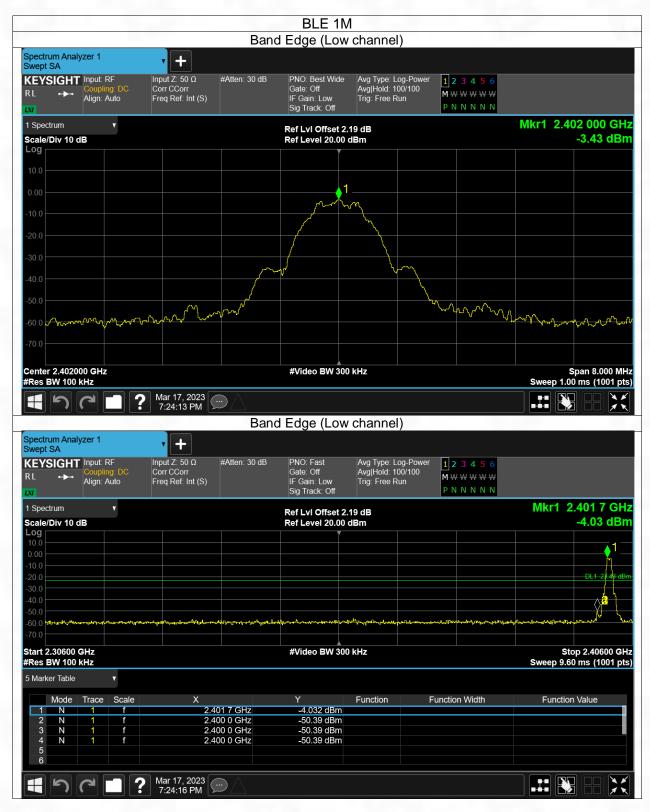


- 4. Unwanted Emissions In Non-restricted Frequency Bands
- 4.1.1Test Result(PASS)

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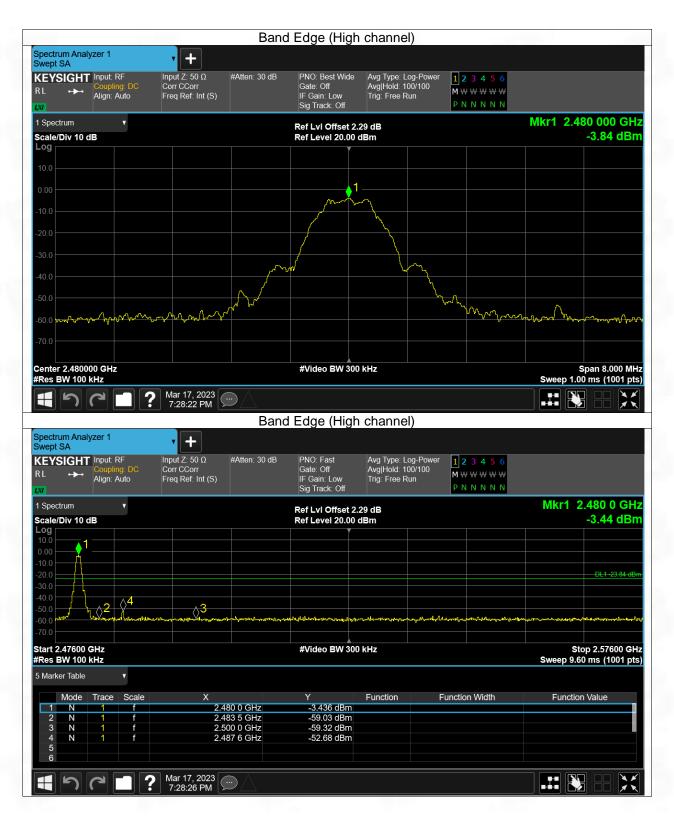


4.1.2 Test Graph



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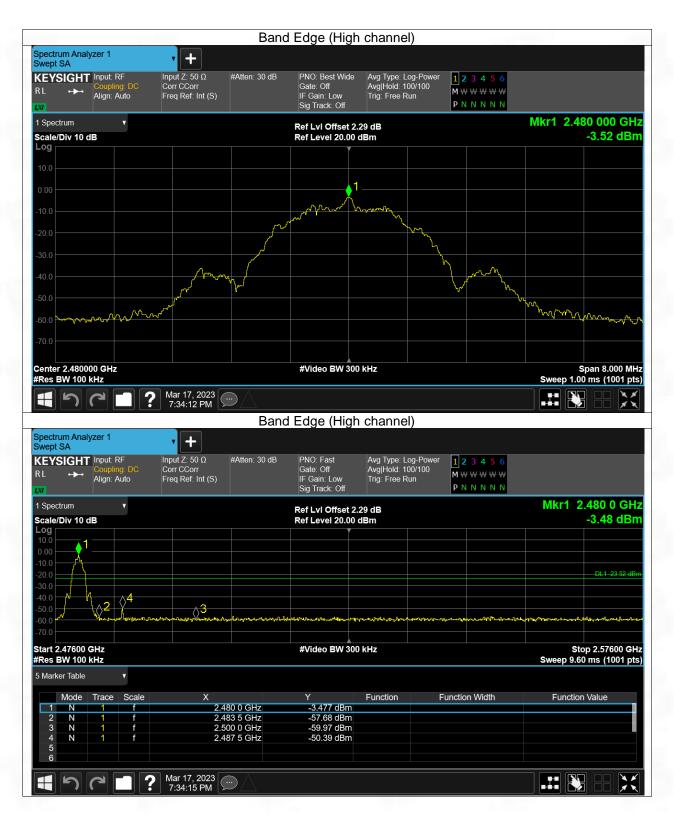






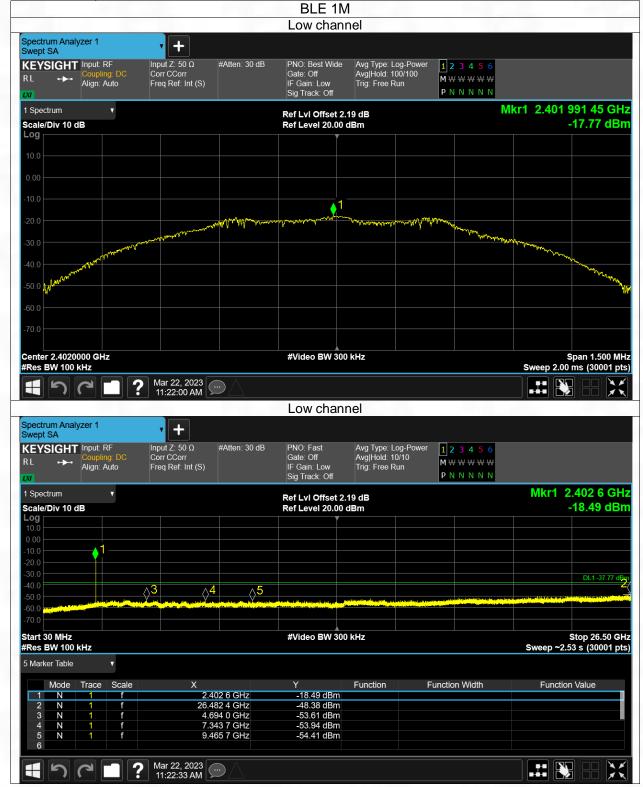






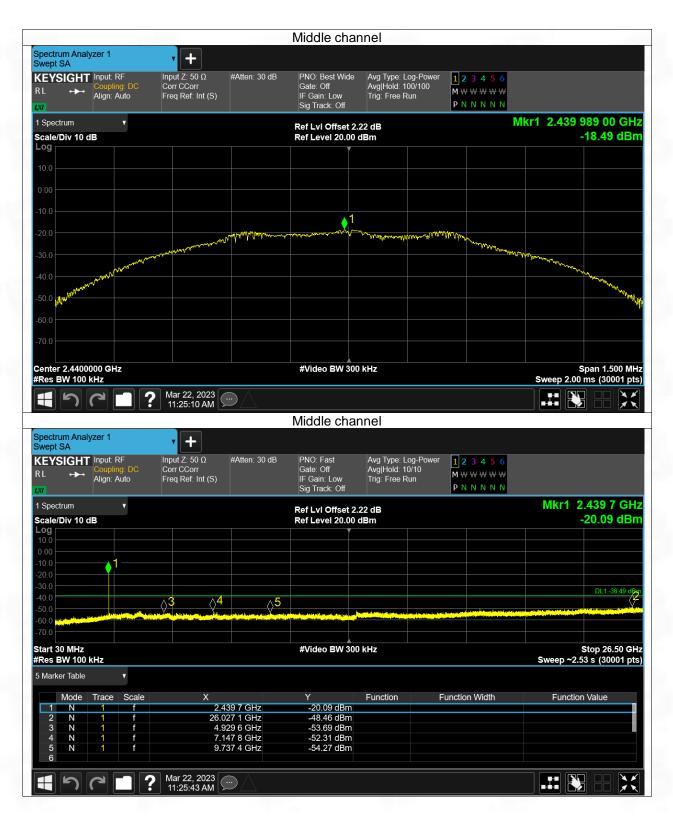


Conducted RF Spurious Emission

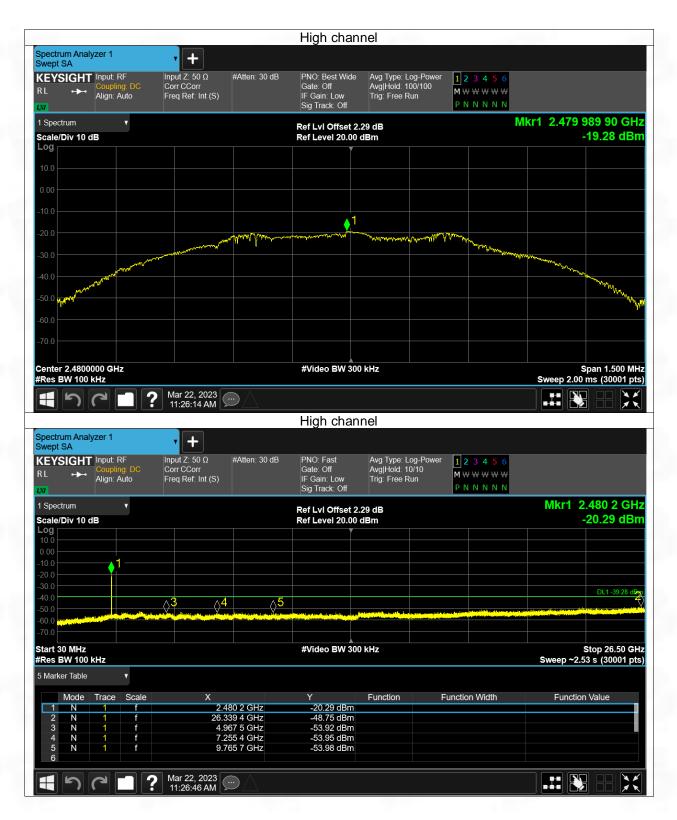


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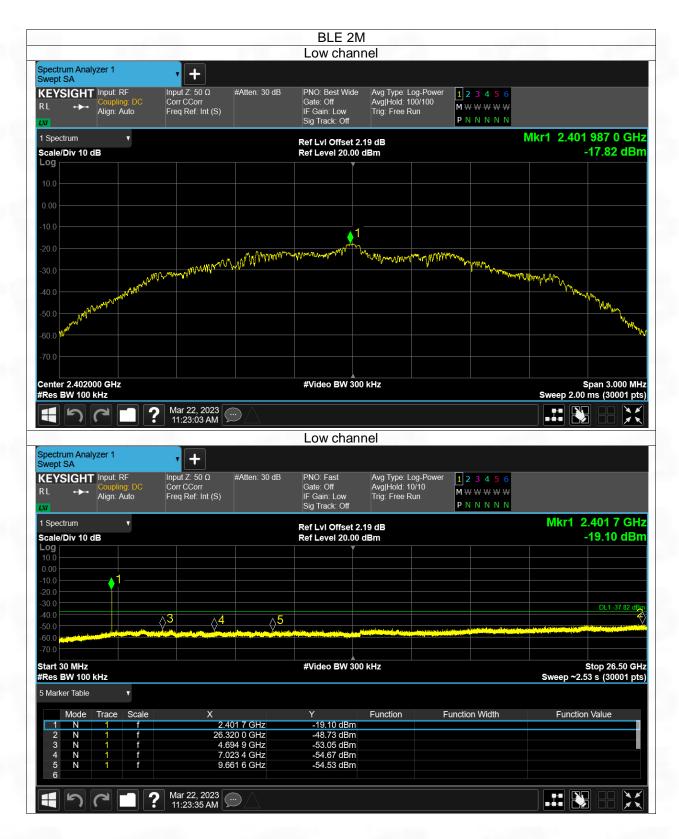




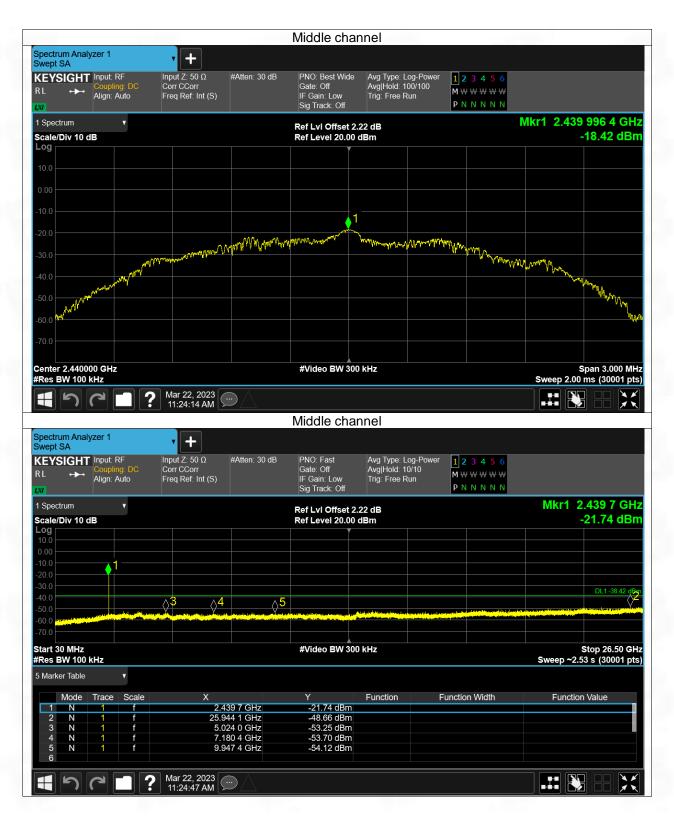




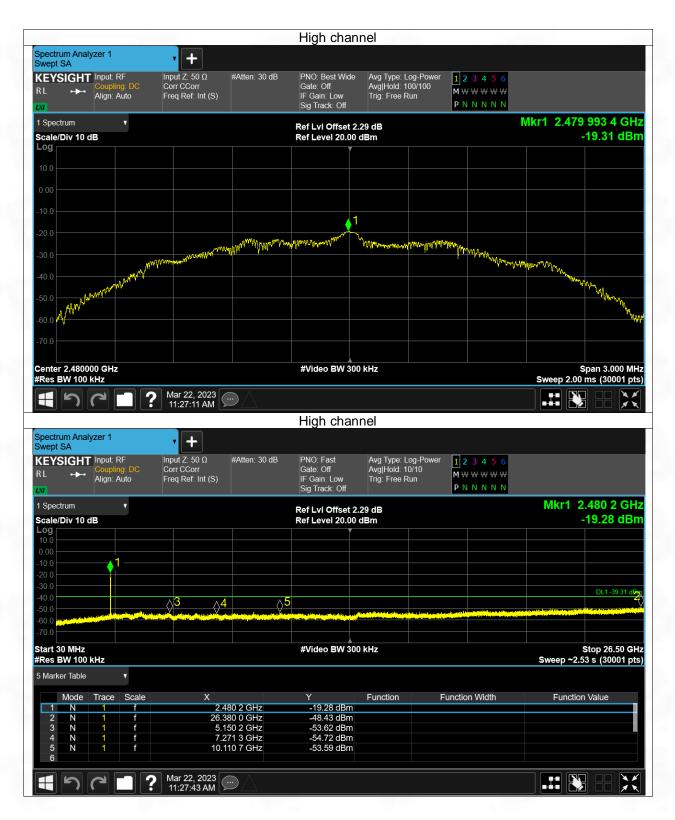














Test Report Number: BTF230612R00401



BTF Testing Lab (Shenzhen) Co., Ltd.

F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China

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