



Compliance
Test
Services

623 E. 100 S.
Salt Lake City, UT 84102

Test Report Certification

FCC ID	2A9Z7-TD000
Equipment Under Test	50247
Test Report Serial Number	TR7805_03
Date of Test(s)	December 10 through December 16, 2022
Report Issue Date	15 March 2023

Test Specification	Applicant
47 CFR FCC Part 15, Subpart C RSS-GEN	Teal Drones Inc. 2800 South West Temple, Suite #2 South Salt Lake, UT 84115 U.S.A.



NVLAP LAB CODE 600293-0



Certification of Engineering Report

This report has been prepared by Compliance Test Services (CTS) to document compliance of the device described below with the requirement of Federal Communication Commissions (FCC) Part 15, Subpart C. This report may be reproduced in full. Partial reproduction of this report may only be made with the written consent of the laboratory. The results in this report apply only to the sample tested.

Applicant	Teal Drones Inc.
Manufacturer	Teal Drones Inc.
Brand Name	Teal
Model Number	50247
FCC ID	2A9Z7-TD000

On this 15th day of March 2023, I individually and for Compliance Testing Services certify that the statements made in this engineering report are true, complete and correct to the best of my knowledge and are made in good faith.

Although NVLAP has accredited the Compliance Testing Services testing facilities, this report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. federal government.

Compliance testing Services

Written By: Clay Allred

Reviewed By: Joseph W. Jackson



Revision History		
Revision	Description	Date
01	Original Report Release	15 March 2013
02	Amended Title Page and Section 1	22 March 2023
03	Remove ILAC Logo On Title Page	20 April 2023



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1 Client Information

1.1 Applicant

Company	Teal Drones Inc. 2800 South West Temple, Suite #2 South Salt Lake, UT 84115 U.S.A.
Contact Name	James Russell
Title	Vice President of Engineering

1.2 Manufacturer

Company	Teal Drones Inc. 2800 South West Temple, Suite #2 South Salt Lake, UT 84115 U.S.A.
Contact Name	James Russell
Title	Vice President of Engineering



2 Equipment Under Test (EUT)

2.1 Identification of EUT

Brand Name	Teal
Model Number	50247
Rating/power supply	3V, 200mA
Firmware/Software revision	V2.0.3
Dimensions (mm)	29 x 15.2 x 4
Antenna	Integral – 4.3dBi

2.2 Description of EUT

This Bluetooth radio transmitter module is designed to be installed inside a Teal Drones sUAS to transmit beacons in accordance with FAA 14 CFR Part 89. It is capable of transmitting BLE and Bluetooth 5 LR Coded PHY packets containing telemetry information intended for reception by any Bluetooth receiver. Flight computers onboard the sUAS control the operation and provide the data sent to the radio module for transmission.

2.3 EUT and Support Equipment

The EUT and support equipment used during the test are listed below.

Brand Name Model Number Serial Number	Description	Name of Interface Ports / Interface Cables
BN: Teal MN: 50247 SN: N/A	BLE Module	See Section 2.4
BN: Dell MN: XPS 13 SN: N/A	Laptop	Serial Cable

Notes: (1) EUT

(2) Interface port connected to EUT (See Section 2.4)

The support equipment listed above was not modified in order to achieve compliance with this standard.



2.4 Interface Ports on EUT

Name of Ports	No. of Ports Fitted to EUT	Shielded Cable	Ferrite Core Installed	Cable Description/Length
-	-	-	-	-

2.5 Operating Environment

Power Supply	-
AC Mains Frequency	-
Temperature	22 – 24 °C
Humidity	20 – 27 %
Barometric Pressure	1019 mBar

2.6 Operating Modes

The 50247 was connected to a personal computer laptop and tested using test software in order to enable to constant duty cycle greater or equal to 98%.

2.7 EUT Exercise Software

EUT firmware version 2.0.3 was used to operate the transmitter using a constant transmit mode.

2.8 Block Diagram of Test Configuration

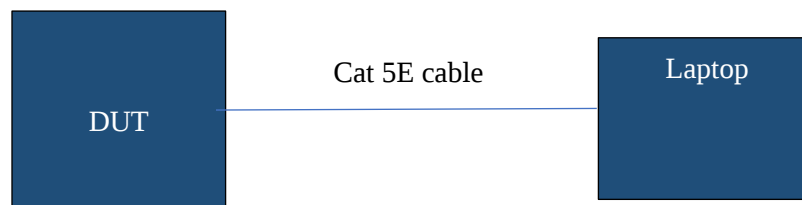


Diagram 1: Test Configuration Block Diagram

2.9 Modification Incorporated/Special Accessories on EUT

There were no modifications made to the EUT during testing to comply with the specification.

2.10 Deviation, Opinions Additional Information or Interpretations from Test Standard

There were no deviations, opinions, additional information or interpretations from the test specification.



3 Test Specification, Method and Procedures

3.1 Test Specification

Title	47 CFR FCC Part 15, Subpart C 15.203, 15.207 and 15.247 Limits and methods of measurement of radio interference characteristics of radio frequency devices.
Purpose of Test	The tests were performed to demonstrate initial compliance

3.2 Methods & Procedures

3.2.1 47 CFR FCC Part 15 Section 15.203

See test standard for details.

3.2.2 47 CFR FCC Part 15 Section 15.207

See test standard for details.

3.2.3 47 CFR FCC Part 15 Section 15.247

See test standard for details.

3.3 FCC Part 15, Subpart C

3.3.1 Summary of Tests

FCC Section	Environmental Phenomena	Frequency Range (MHZ)	Result
15.203	Antenna requirements	Structural Requirement	Compliant
15.207	Conducted Disturbance at Mains Port	0.15 to 30	N/A
15.247(a)	Bandwidth Requirement	2400 to 2483.5	Compliant
15.247(b)	Peak Output Power	2400 to 2483.5	Compliant
15.247(d)	Antenna Conducted Spurious Emissions	0.009 to 25000	Compliant
15.209 / 15.247(d)	Radiated Spurious Emissions	0.009 to 25000	Compliant
15.247(e)	Peak Power Spectral Density	2400 to 2483.5	Compliant

3.4 Results

In the configuration tested, the EUT complied with the requirements of the specification.



3.5 Test Location

Testing was performed at the Compliance Test Services Draper location at 427 West 12800 South, Draper, UT 84020. Compliance Test Services is accredited by National Voluntary Laboratory Accreditation Program (NVLAP); NVLAP Code 600293-0 which is effective until December 31, 2023.



4 Test Equipment

4.1 Direct Connect at the Antenna Port Tests

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
Spectrum Analyzer	R&S	FSV40	2861	11/7/2022	11/7/2023
Signal Generator	R&S	SMB100A	2864	N/A	N/A
Vector Signal Generator	R&S	SMBV100A	2873	N/A	N/A
Switch Extension	R&S	OSP-B157WX	2867	2/22/2023	2/22/2024

Table 1: List of equipment used for Direct Connect at the Antenna Port

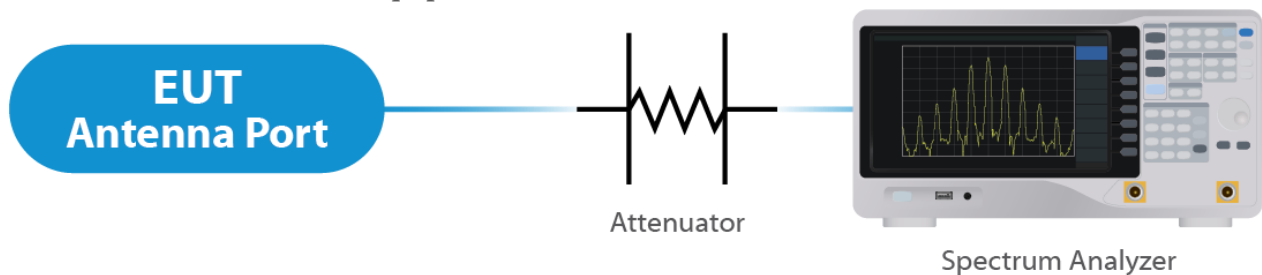


Figure 1: Direct Connect at the Antenna Port Test



4.2 Radiated Emissions

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
EMI Receiver	Keysight	N9038A	2778	1/27/2023	1/27/2024
Pre-Amplifier 9 kHz – 1 GHz	Sonoma Instruments	310N	2889	10/7/2021	10/7/2023
Broadband Antenna	Scwarzbeck	VULB 9163	3062	2/22/2023	2/22/2025
Broadband Antenna	Scwarzbeck	VULB 9163	3071	1/11/2023	1/11/2025
Double Ridge Horn Antenna	Scwarzbeck	BBHA 9120D	3065	9/22/2022	9/22/2024
Log Periodic	Scwarzbeck	STLP 9129	3068	1/27/2023	1/27/2025
15 - 40 GHz Horn Antenna	Scwarzbeck	BBHA 9170	2487	6/09/2022	6/09/2024
1 – 18 GHz Amplifier	Com-Power	PAM 118A	3833	12/9/2022	12/9/2023
Test Software	---	Revision 1	3108	N/A	N/A

Table 2: List of equipment used for Radiated Emissions

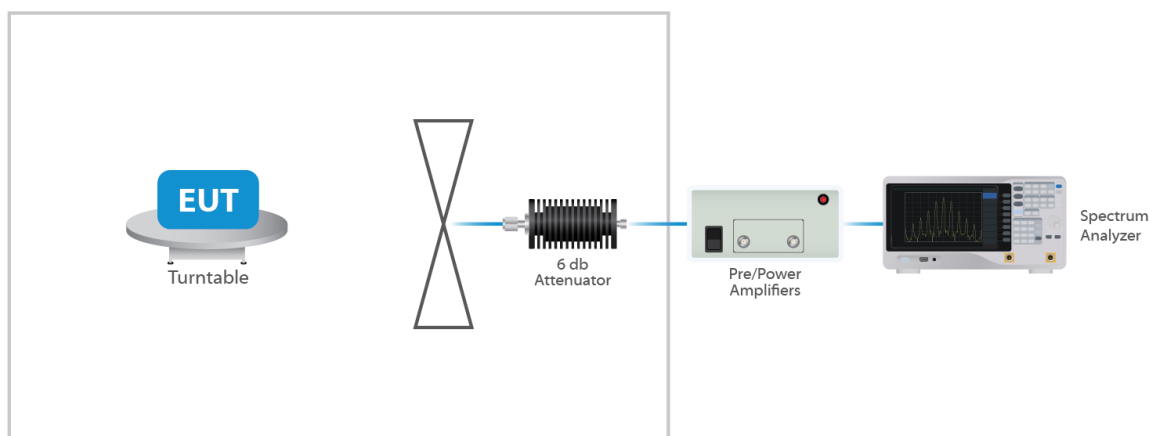


Figure 2: Radiated Emissions Test

4.3 Equipment Calibration

All applicable equipment is calibrated using either an independent calibration laboratory or Compliance Testing Services personnel at intervals defined in ANSI C63.4:2014 following outlined calibration procedures. All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and is available for examination upon request.



4.4 Measurement Uncertainty

Test	Uncertainty ($\pm$ dB)	Confidence (%)
Conducted Emissions	1.44	95
Radiated Emissions (9 kHz to 30 MHz)	2.50	95
Radiated Emissions (30 MHz to 1 GHz)	3.95	95
Radiated Emissions (1 GHz to 18 GHz)	5.56	95
Radiated Emissions (18 GHz to 40 GHz)	5.16	95
Direct Connect Tests	K Factor	Value
Emissions Bandwidth	2	2.0%
Output Power	2	1.0 dB
Peak Power Spectral Density	2	1.3 dB
Band Edge	2	0.8 dB
Transmitter Spurious Emissions	2	1.8 dB



5 Test Results

5.1 §15.203 Antenna Requirements

The EUT uses an integral FPC antenna. The Maximum gain of the antenna per the manufacturer is 4.3 dBi. The antenna is not user replaceable.

Results

The EUT complied with the specification.

*See attachments for full data.

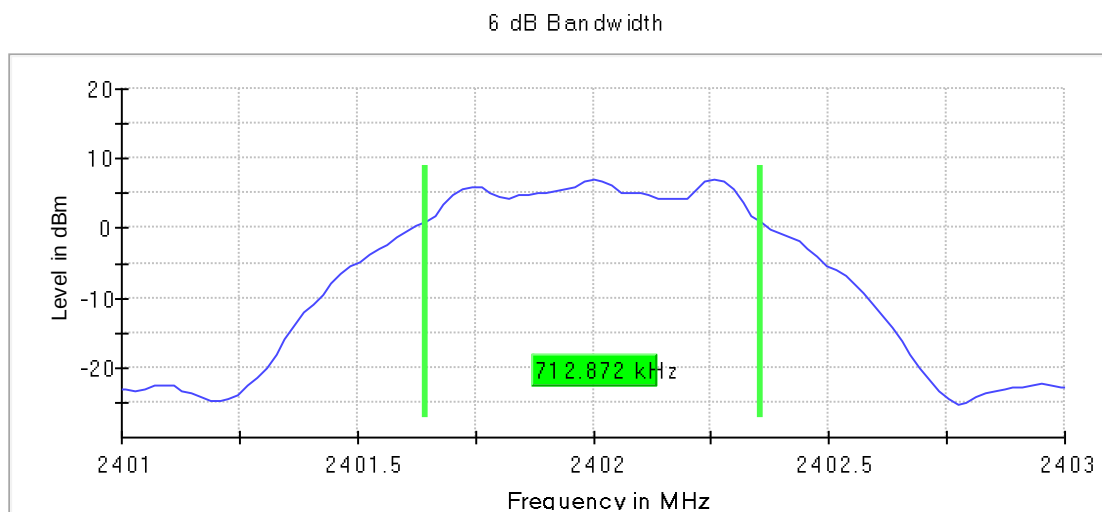


5.2 §15.247(a)(2)

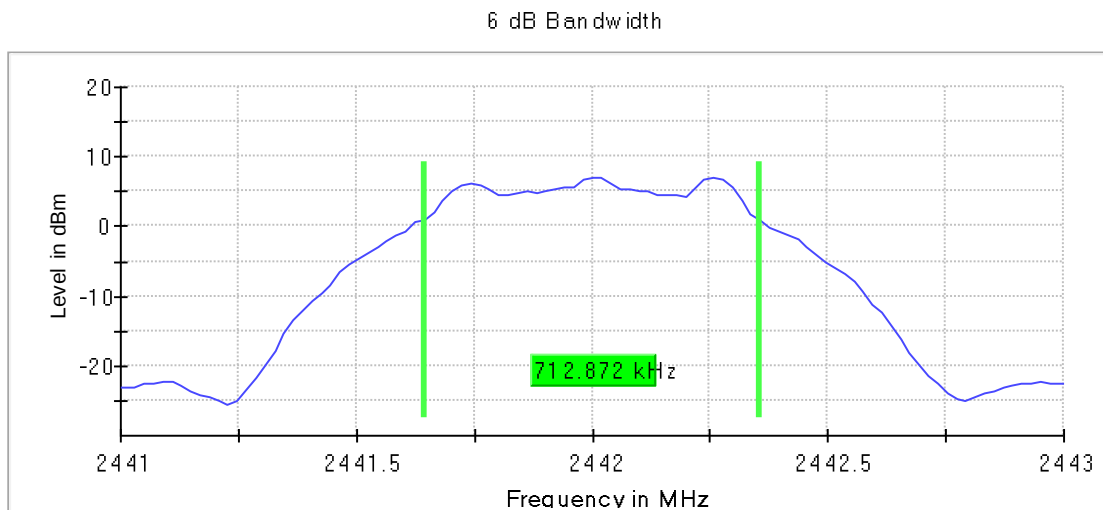
Frequency (MHz)	Emissions 6 dB Bandwidth (MHz)
2402	0.713
2442	0.713
2480	0.713

Result

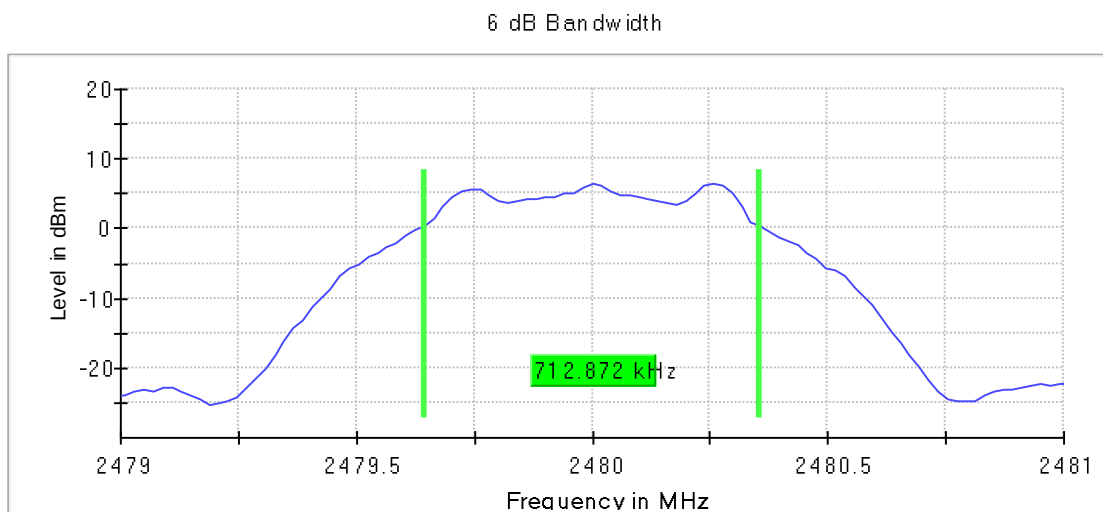
In the configuration tested, the 6 dB bandwidth was greater than 500 kHz; therefore, the EUT complied with the requirements of the specification (see spectrum analyzer plots below).



Graph 1: 2402 MHz 6dB Emissions Bandwidth



Graph 2: 2442MHz 6dB Emissions Bandwidth



Graph 3: 2480MHz 6dB Emissions Bandwidth

*See attachments for full data.



5.3 §15.247(b)(3) Maximum Average Output Power

The maximum average RF conducted output power measured for this device was 13.5 dBm or 22.4 mW. The limit is 30 dBm or 1 Watt when using antennas with 6 dBi or less gain. The antenna has a gain of 4.3 dBi.

Frequency (MHz)	Measured Output Power (dBm)	Output Power (mW)
2402	13.5	22.4
2442	13.5	22.4
2480	13.0	20.0

Result

In the configuration tested, the maximum average RF output power was less than 1 watt; therefore, the EUT complied with the requirements of the specification.

*See attachments for full data.



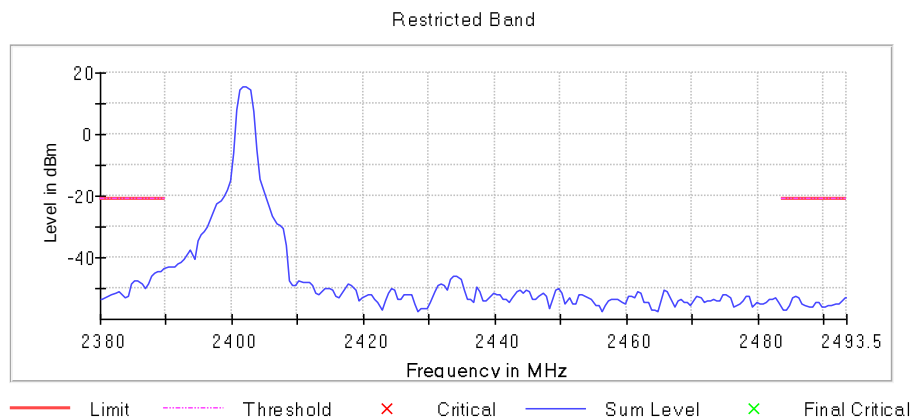
5.4 §15.247(d) Spurious Emissions

5.4.1 Conducted Spurious Emissions

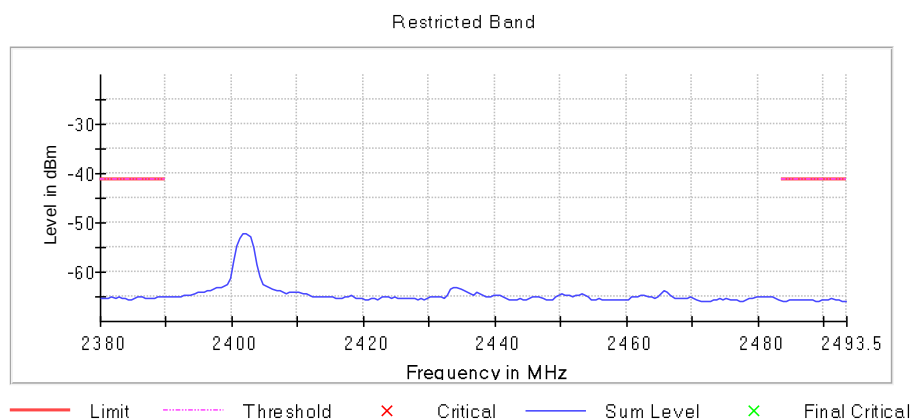
The frequency range from the lowest frequency generated or used in the device to the tenth harmonic of the highest fundamental frequency was investigated to measure any antenna-conducted emissions. The table show the measurement data from spurious emissions noted across the frequency range when transmitting at the lowest frequency, middle frequency and upper frequency. Shown below are plots with the EUT tuned to the upper and lower channels. These demonstrate compliance with the provisions of this section at the band edges.

The emissions must be attenuated 30 dB below the highest power spectral density level measured within the authorized band as measured with a 100 kHz RBW. The highest power measured power spectral density was 2.3 dBm; therefore, the criteria is $2.3 - 30 = -27.7$ dBm.

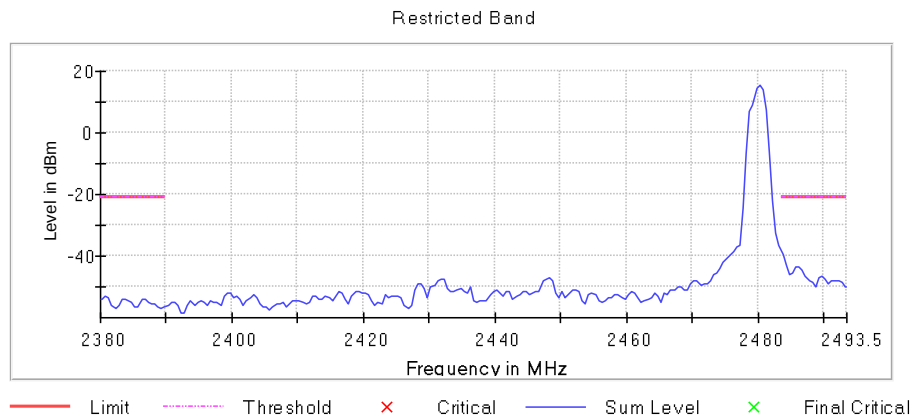
Result



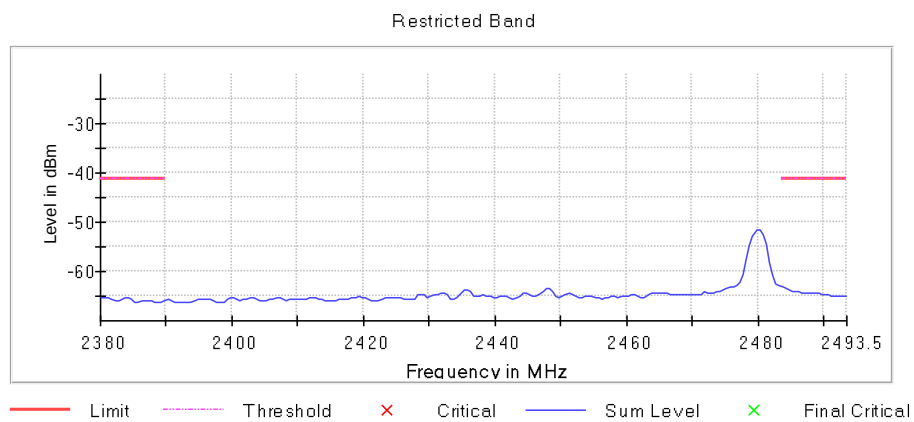
Graph 5: Peak Low Channel Band Edge Plot



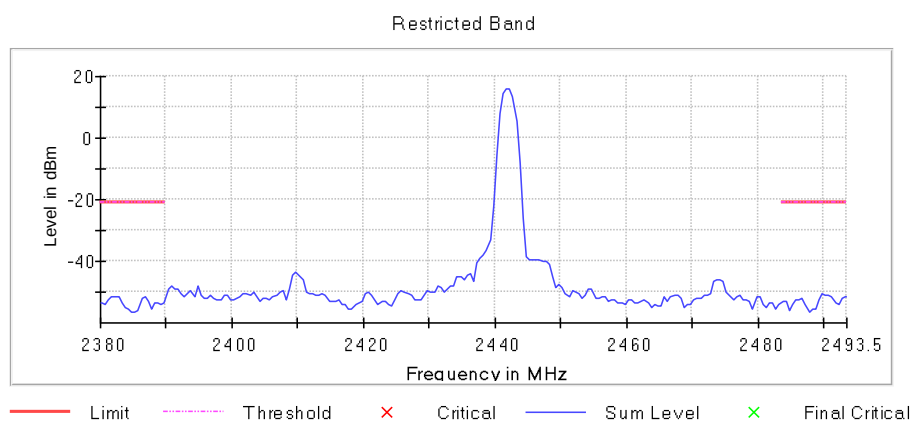
Graph 6: Average Low Channel Band Edge Plot



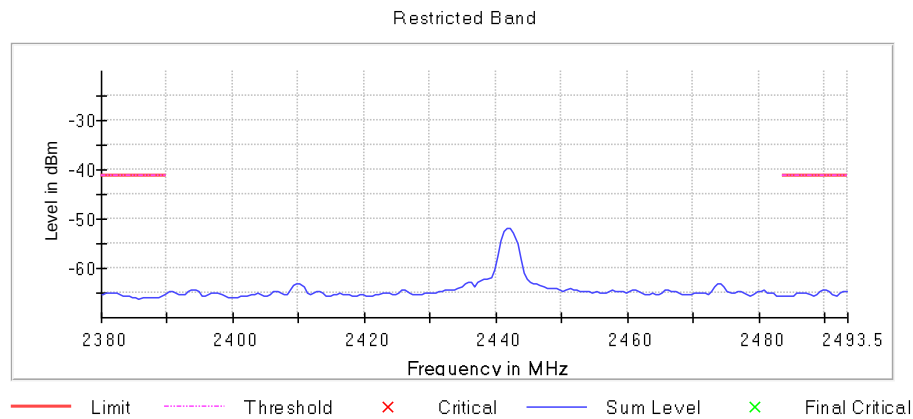
Graph 7: Peak High Channel Band Edge Plot



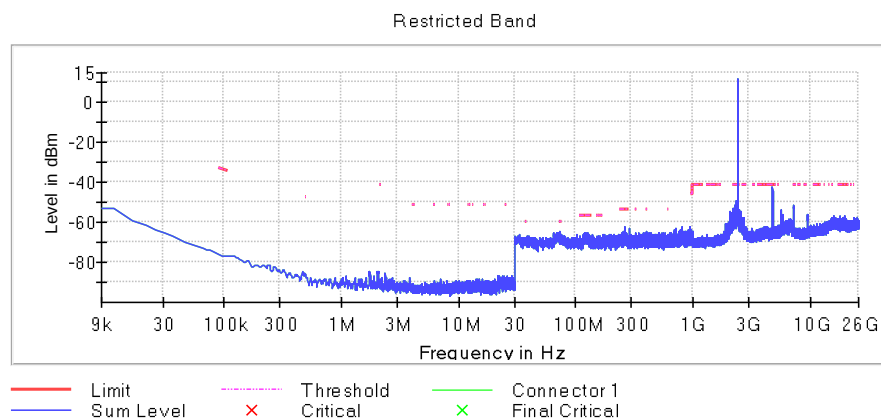
Graph 8: Average High Channel Band Edge Plot



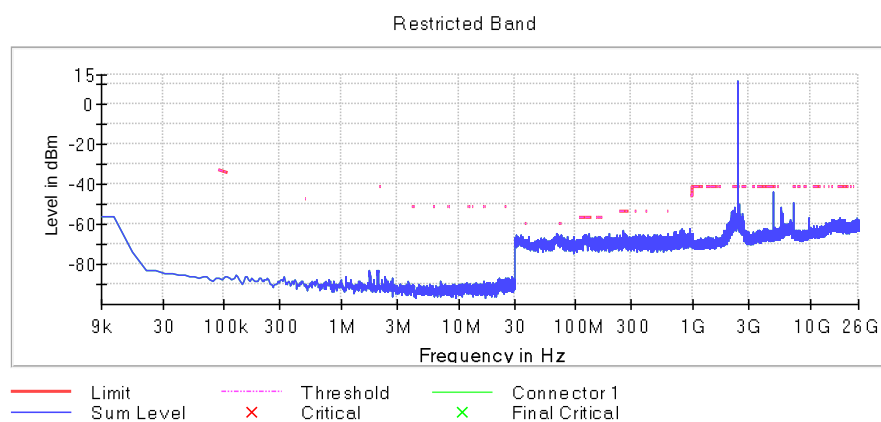
Graph 9: Peak Middle Channel Band Edge Plot



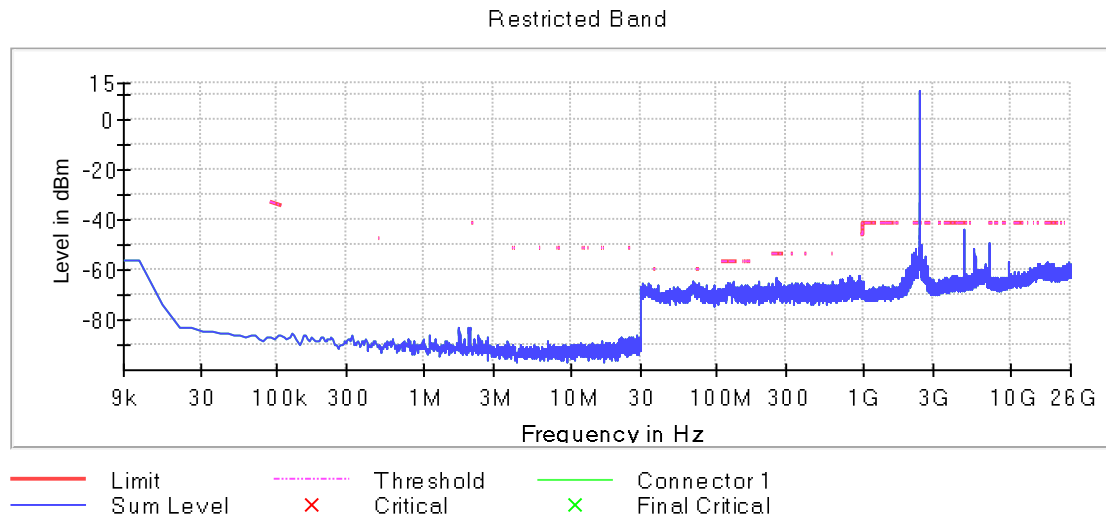
Graph 10: Average Middle Channel Band Edge Plot



Graph 11: Average Low Channel Restricted Band Emissions – Average (Worst Case)



Graph 12: Middle Channel Restricted Band Emissions – Average (Worst Case)



Graph 13: High Channel Restricted Band Emissions – Average (Worst Case)

5.4.2 Radiated Spurious Emissions in the Restricted Bands of §15.205

The frequency range from the lowest frequency generated or used in the device to the tenth harmonic of the highest fundamental emissions was investigated to measure any radiated emissions in the restricted bands. The following tables show measurements of any emissions that fell into the restricted bands of §15.205. The tables show the worst-case emissions measured from the EUT. For frequencies above 18.0 GHz, a measurement distance of 1 meter was used. The noise floor was a minimum of 6 dB below the limits. The emissions in the restricted bans must meet the limits specified in §15.209. Tabular data for each of the spurious emissions is shown below for each of the units. Plots of the band edges are also shown.

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin	Azimuth (°)	Height	Pol.	RBW (Hz)	Correction (dB)
43.84 MHz	12.435	40	-27.565	356	1.878	Vertical	120 kHz	-12.349
192.35 MHz	33.774	43.5	-9.726	104	2.216	Vertical	120 kHz	-13.664
192.33 MHz	41.505	43.5	-1.995	40	1.516	Horizontal	120 kHz	-13.669
215.99 MHz	39.014	46	-6.986	165	1.677	Horizontal	120 kHz	-13.833

30-1000MHz RE



Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Detector	RBW (Hz)	Correction (dB)
4.8039 GHz	48.959	74	-25.041	178	3.81	Vertical	Peak	1 MHz	-0.373
7.2062 GHz	48.438	74	-25.562	222	3.458	Vertical	Peak	1 MHz	6.748
9.608 GHz	51.788	74	-22.212	205	3.808	Vertical	Peak	1 MHz	9.786
4.8039 GHz	44.38	54	-9.62	178	3.81	Vertical	Average	1 MHz	-0.373
7.2062 GHz	36.126	54	-17.874	222	3.458	Vertical	Average	1 MHz	6.748
9.608 GHz	40.691	54	-13.309	205	3.808	Vertical	Average	1 MHz	9.786
4.804 GHz	51.054	74	-22.946	277	3.81	Horizontal	Peak	1 MHz	-0.373
7.2059 GHz	52.172	74	-21.828	327	3.286	Horizontal	Peak	1 MHz	6.746
9.6079 GHz	53.294	74	-20.706	235	2.932	Horizontal	Peak	1 MHz	9.786
4.804 GHz	47.604	54	-6.396	277	3.81	Horizontal	Average	1 MHz	-0.373
7.2059 GHz	45.854	54	-8.146	327	3.286	Horizontal	Average	1 MHz	6.746
9.6079 GHz	43.841	54	-10.159	235	2.932	Horizontal	Average	1 MHz	9.786
4.88 GHz	54.644	74	-19.356	180	3.635	Vertical	Peak	1 MHz	-0.03
7.3199 GHz	56.26	74	-17.74	7	2.932	Vertical	Peak	1 MHz	6.893
9.7599 GHz	58.294	74	-15.706	178	2.932	Vertical	Peak	1 MHz	10.16
4.88 GHz	52.467	54	-1.533	180	3.635	Vertical	Average	1 MHz	-0.03
7.3199 GHz	52.487	54	-1.513	7	2.932	Vertical	Average	1 MHz	6.893
9.7599 GHz	53.497	54	-0.503	178	2.932	Vertical	Average	1 MHz	10.16
4.8798 GHz	53.738	74	-20.262	274	1.63	Horizontal	Peak	1 MHz	-0.03
7.3199 GHz	54.536	74	-19.464	314	1.63	Horizontal	Peak	1 MHz	6.893
9.76 GHz	54.832	74	-19.168	223	1.631	Horizontal	Peak	1 MHz	10.16
4.8798 GHz	51.219	54	-2.781	274	1.63	Horizontal	Average	1 MHz	-0.03
7.3199 GHz	49.915	54	-4.085	314	1.63	Horizontal	Average	1 MHz	6.893
9.76 GHz	47.073	54	-6.927	223	1.631	Horizontal	Average	1 MHz	10.16
4.9598 GHz	49.375	74	-24.625	163	3.609	Vertical	Peak	1 MHz	0.191
7.4401 GHz	50.123	74	-23.877	42	3.108	Vertical	Peak	1 MHz	7.044
4.9598 GHz	44.719	54	-9.281	163	3.609	Vertical	Average	1 MHz	0.191
7.4401 GHz	41.376	54	-12.624	42	3.108	Vertical	Average	1 MHz	7.044
4.9599 GHz	54.487	74	-19.513	274	1.632	Horizontal	Peak	1 MHz	0.192
7.44 GHz	54.128	74	-19.872	312	1.63	Horizontal	Peak	1 MHz	7.043
4.9599 GHz	52.232	54	-1.768	274	1.632	Horizontal	Average	1 MHz	0.192
7.44 GHz	49.419	54	-4.581	312	1.63	Horizontal	Average	1 MHz	7.043

1-26GHz RE

Result

All emissions in the restricted bands of §15.205 met the limits specified in §15.209; therefore, the EUT complies with the specification.



5.5 §15.247(e) Maximum Average Power Spectral Density

The maximum average power spectral density conducted from the intentional radiator of the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. Results of this testing are summarized.

Frequency (MHz)	Measurement (dBm)	Criteria (dBm)
2402	-3.1	8.0
2442	-3.0	8.0
2480	-3.7	8.0

Result

The maximum average power spectral density was less than the limit of 8 dBm; therefore, the EUT complies with the specification.

*See attachments for full data.



7 Attachments - Test Data

FCC Part 47 §15.247 2400-2483.5 MHz 2018

Hardware Setup: WMS Measurements\TS8997 Hardware SetupJB

Spectrum Analyzer:	SA FSV 40 (SA FSV 40) @ VISA (ADR TCPIP::192.168.48.100::inst0::instr), SN 1321.3008K40/101752, FW 3.70
Vector Generator:	VG SMW200A (VG SMW200A) @ VISA (ADR TCPIP0::A-N5182B- 301471::inst0::INSTR), SN 101752, FW 3.70
Generator:	SMB100A (SMB100A) @ VISA (ADR TCPIP::192.168.48.122::inst0::instr), SN 180599, FW 3.1.19.15- 3.20.390.24 / Drv:5.8.0
OSP:	OSP-B157W8PLUS (OSP-B157W8PLUS) @ VISA (ADR TCPIP::192.168.48.157::inst0::instr), SN 1527.1144.06 / 100955, FW 2.00.1.0



Summary

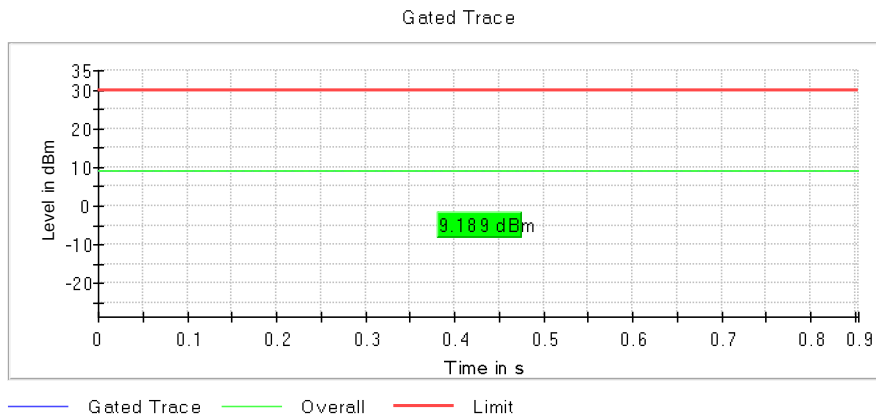
Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
RF output power	2402.000	20.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2402.000	20.0	1.000000	PASS
Peak Power Spectral Density	2402.000	20.0	1.000000	PASS
Occupied Channel Bandwidth 99%	2402.000	20.0	1.000000	PASS
Band Edge low	2402.000	20.0	1.000000	PASS
Tx Spurious Emission	2402.000	20.0	1.000000	PASS
Emissions in restricted frequency bands (Average)	2402.000	20.0	1.000000	PASS
RF output power	2442.000	20.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2442.000	20.0	1.000000	PASS
Peak Power Spectral Density	2442.000	20.0	1.000000	PASS
Occupied Channel Bandwidth 99%	2442.000	20.0	1.000000	PASS
Tx Spurious Emission	2442.000	20.0	1.000000	PASS
Emissions in restricted frequency bands (Average)	2442.000	20.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2480.000	20.0	1.000000	PASS
Occupied Channel Bandwidth 99%	2480.000	20.0	1.000000	PASS
Band Edge high	2480.000	20.0	1.000000	PASS
Tx Spurious Emission	2480.000	20.0	1.000000	PASS
Emissions in restricted frequency bands (Average)	2480.000	20.0	1.000000	PASS



RF output power (2402 MHz; 20.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
2402.000000	9.2	30.0	13.5	85.611	PASS



OSP PowerMeter settings

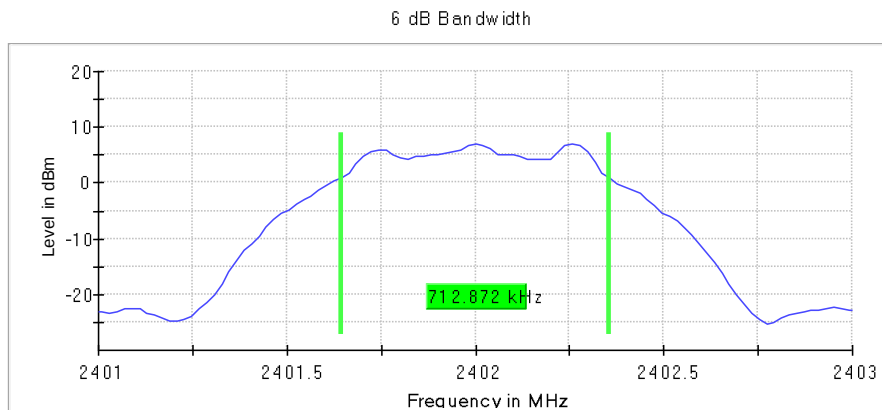
Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

Minimum Emission Bandwidth 6 dB (2402 MHz; 20.000 dBm; 1 MHz)

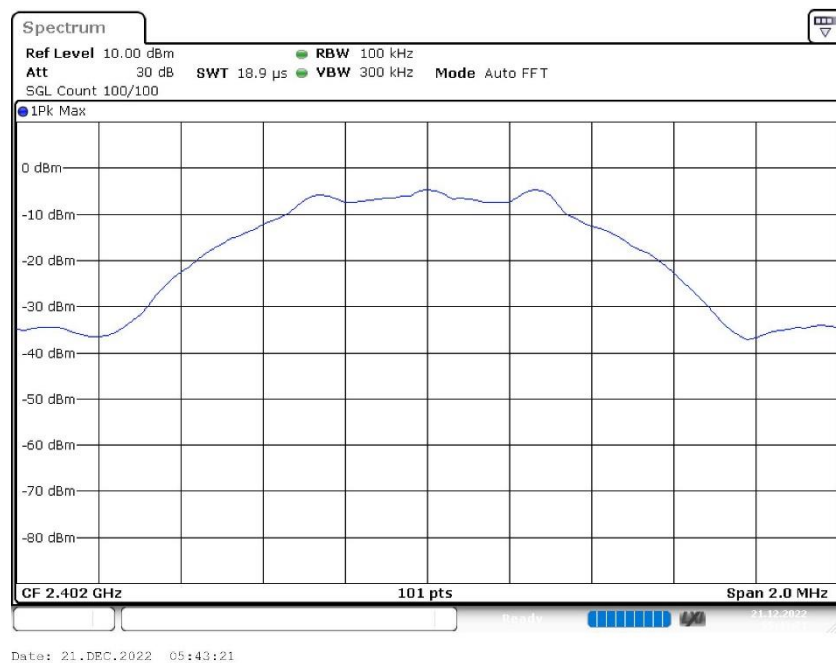
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	0.712872	0.500000	---	2401.643564	2402.356436

DUT Frequency (MHz)	Max Level (dBm)	Result
2402.000000	7.1	PASS



Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40300 GHz	2.40300 GHz
Span	2.000 MHz	2.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	101	~ 40
SweepTime	18.938 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100



Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	12 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.06 dB	0.50 dB

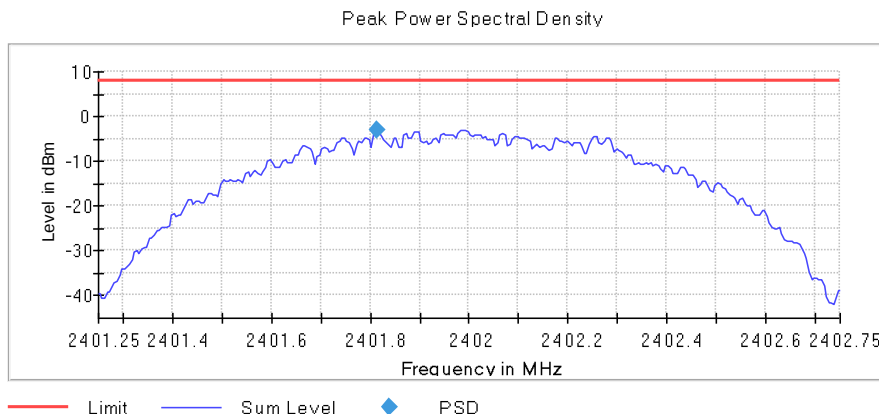
Peak Power Spectral Density (2402 MHz; 20.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2402.000000	2401.812500	-3.066	8.0	PASS

Ports

Port	State
1	used



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40125 GHz	2.40125 GHz
Stop Frequency	2.40275 GHz	2.40275 GHz
Span	1.500 MHz	1.500 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	300	~ 300
SweepTime	1.500 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off



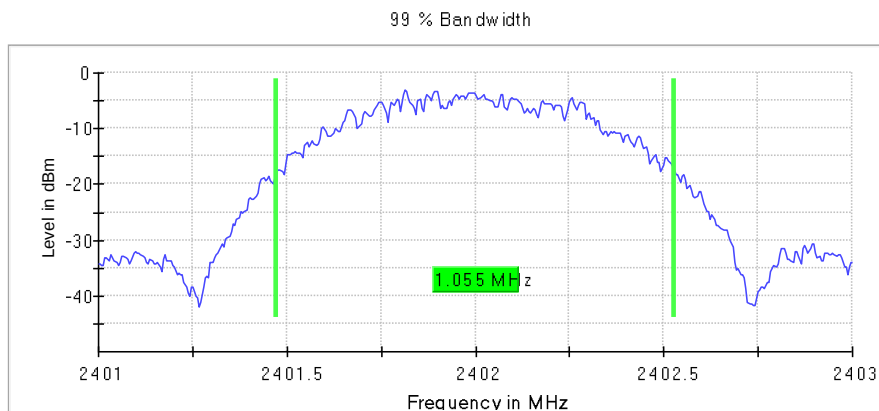
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	5 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.16 dB	0.50 dB

Occupied Channel Bandwidth 99% (2402 MHz; 20.000 dBm; 1 MHz)

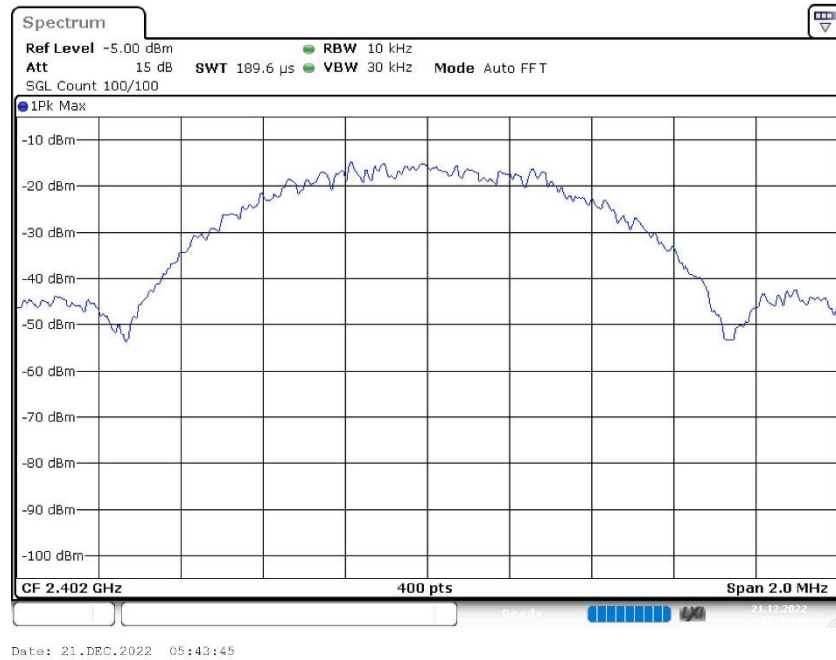
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	1.055000	---	---	2401.472500	2402.527500

DUT Frequency (MHz)	Result
2402.000000	PASS



Bandwidth



Measurement

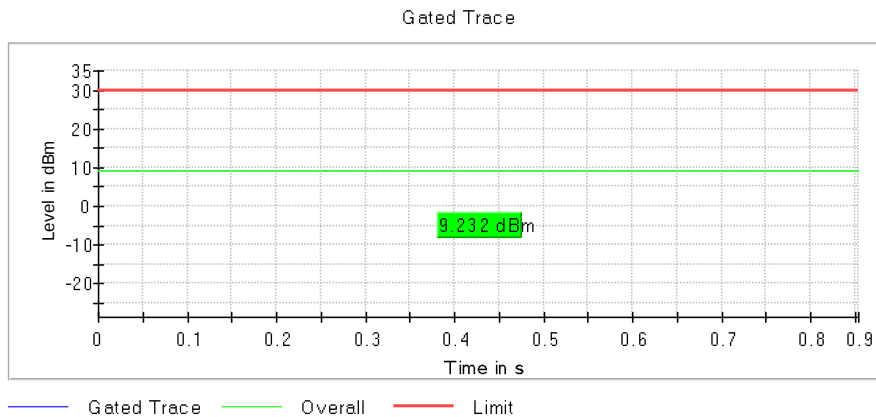
Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40300 GHz	2.40300 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 μ s	AUTO
Reference Level	-5.000 dBm	-5.000 dBm
Attenuation	15.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	6 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.22 dB	0.30 dB



RF output power (2442 MHz; 20.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
2442.000000	9.2	30.0	13.5	85.611	PASS



OSP PowerMeter settings

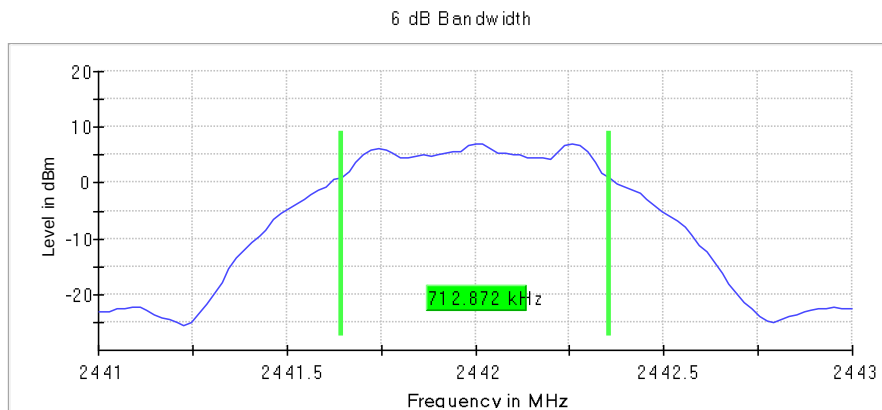
Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

Minimum Emission Bandwidth 6 dB (2442 MHz; 20.000 dBm; 1 MHz)

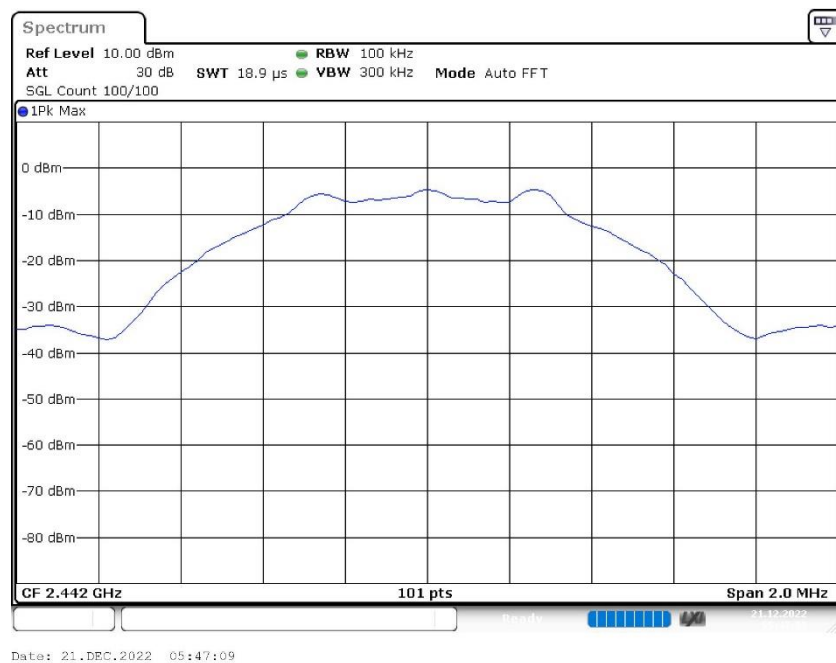
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2442.000000	0.712872	0.500000	---	2441.643564	2442.356436

DUT Frequency (MHz)	Max Level (dBm)	Result
2442.000000	7.1	PASS



Bandwidth



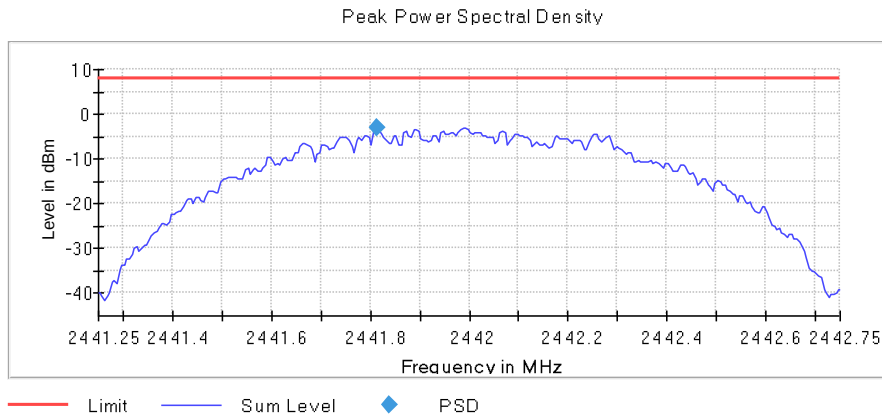
Peak Power Spectral Density (2442 MHz; 20.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2442.000000	2441.812500	-3.023	8.0	PASS

Ports

Port	State
1	used



Measurement

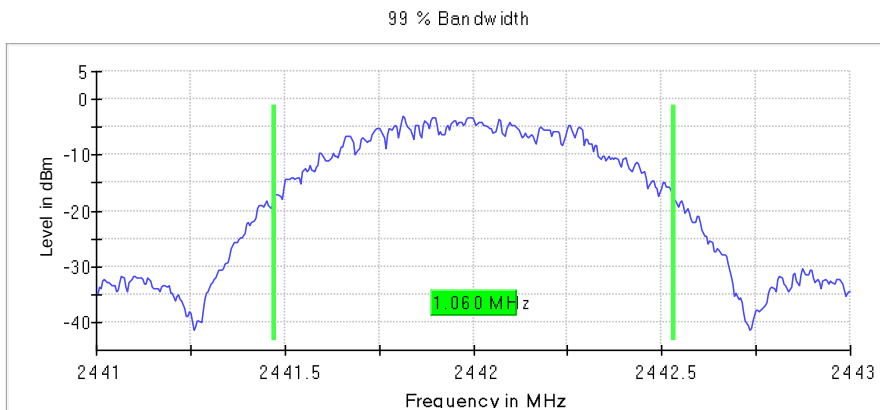
Setting	Instrument Value	Target Value
Start Frequency	2.44125 GHz	2.44125 GHz
Stop Frequency	2.44275 GHz	2.44275 GHz
Span	1.500 MHz	1.500 MHz
RBW	10.000 kHz	≤ 10.000 kHz
VBW	30.000 kHz	≥ 30.000 kHz
SweepPoints	300	~ 300
SweepTime	1.500 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.35 dB	0.50 dB

Occupied Channel Bandwidth 99% (2442 MHz; 20.000 dBm; 1 MHz)

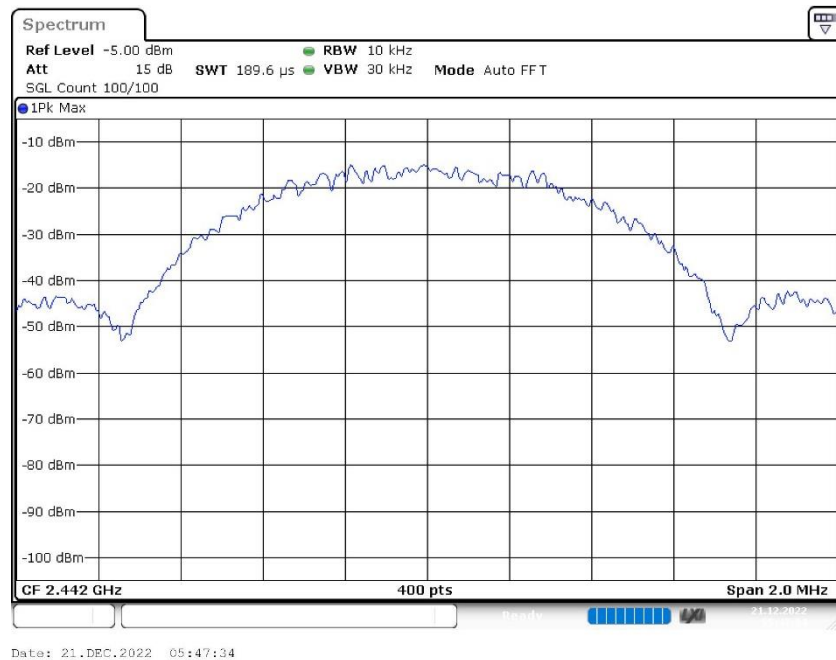
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2442.000000	1.060000	---	---	2441.472500	2442.532500

DUT Frequency (MHz)	Result
2442.000000	PASS



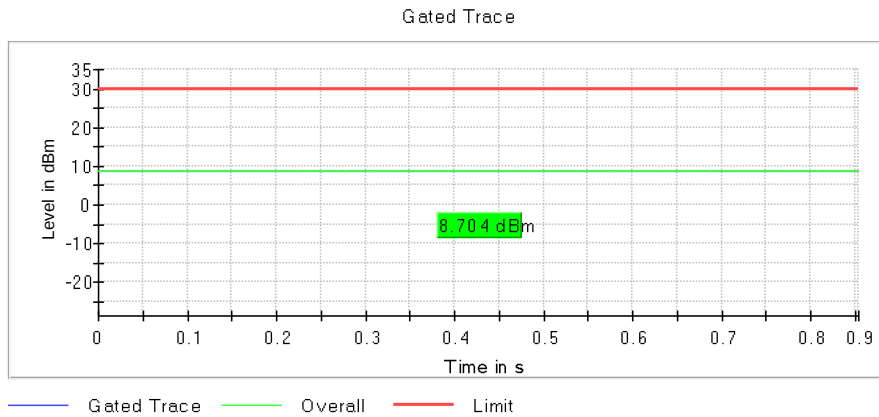
Bandwidth



RF output power (2480 MHz; 20.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
2480.000000	8.7	30.0	13.0	85.611	PASS



OSP PowerMeter settings

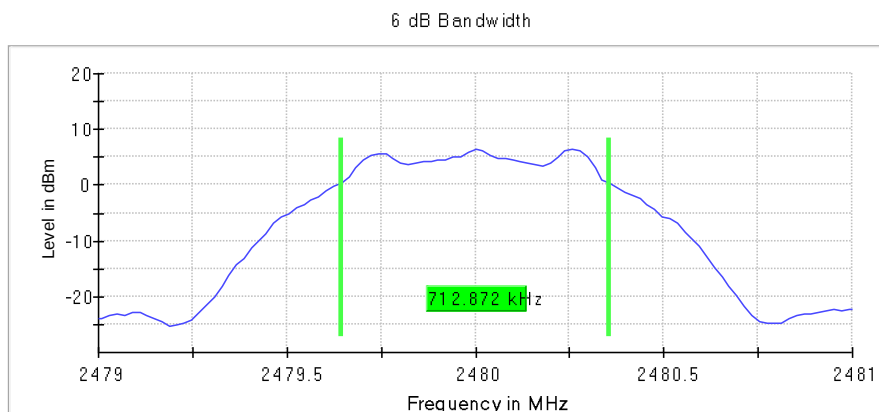
Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

Minimum Emission Bandwidth 6 dB (2480 MHz; 20.000 dBm; 1 MHz)

6 dB Bandwidth

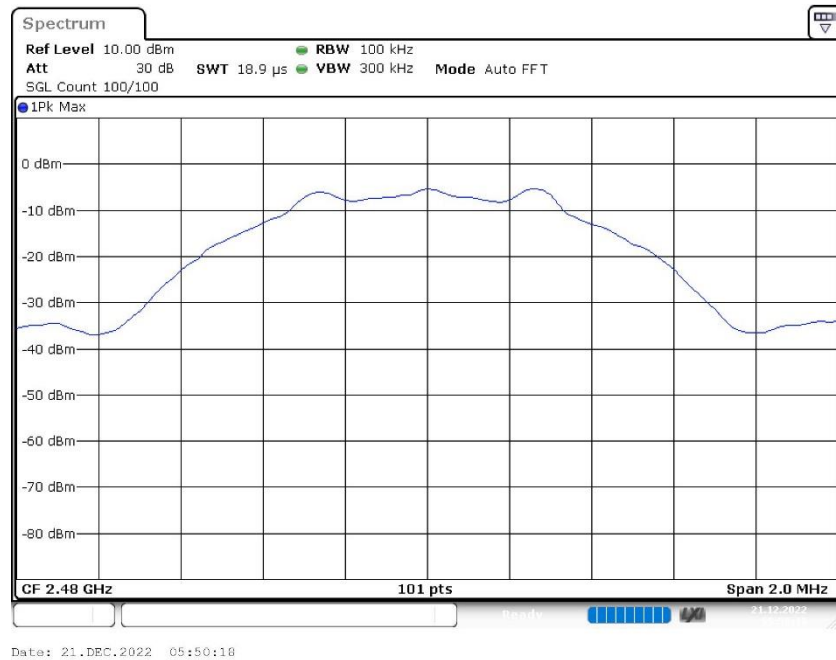
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	0.712872	0.500000	---	2479.643564	2480.356436

DUT Frequency (MHz)	Max Level (dBm)	Result
2480.000000	6.4	PASS





Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47900 GHz	2.47900 GHz
Stop Frequency	2.48100 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	101	~ 40
SweepTime	18.938 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	14 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.07 dB	0.50 dB



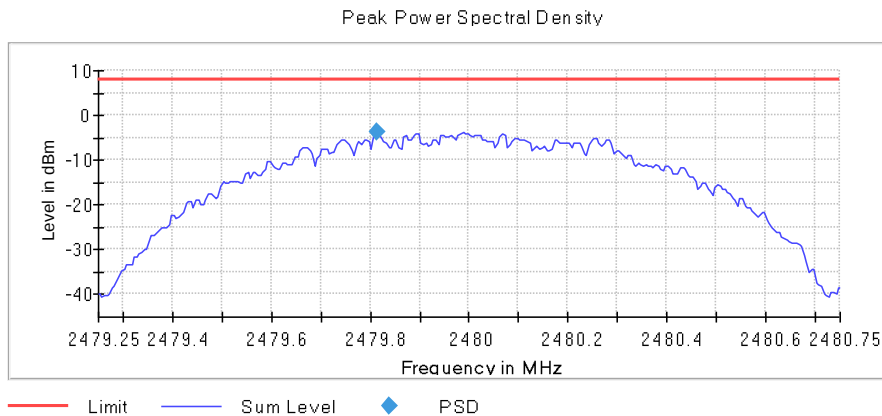
Peak Power Spectral Density (2480 MHz; 20.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2480.000000	2479.812500	-3.660	8.0	PASS

Ports

Port	State
1	used



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47925 GHz	2.47925 GHz
Stop Frequency	2.48075 GHz	2.48075 GHz
Span	1.500 MHz	1.500 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	300	~ 300
SweepTime	1.500 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.17 dB	0.50 dB



Occupied Channel Bandwidth 99% (2480 MHz; 20.000 dBm; 1 MHz)

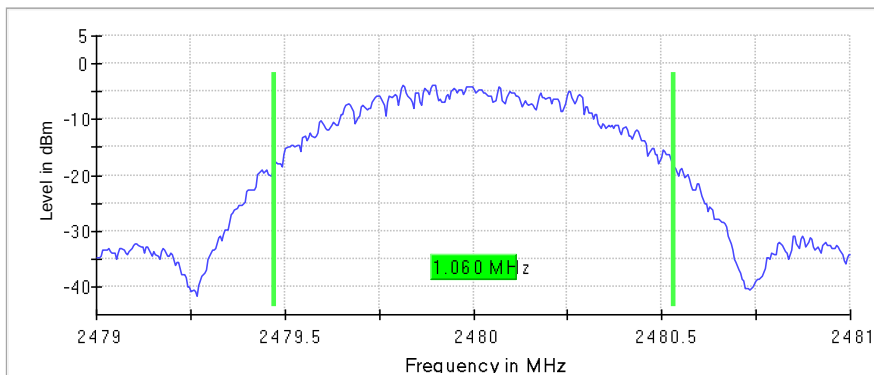
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	1.060000	---	---	2479.472500	2480.532500

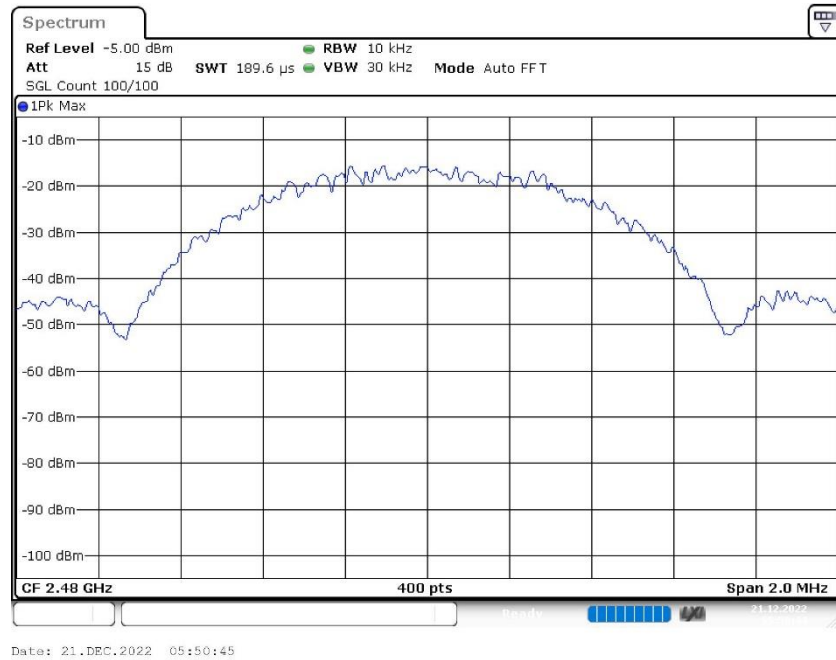
(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2480.000000	PASS

99 % Bandwidth



Bandwidth





-- End of Test Report --