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FCC BT LE REPORT

Certification

Applicant Name:
SAMSUNG Electronics Co., Ltd.

Address:
129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

Date of Issue:
October 17, 2023

Test Site/Location:
74, Seoicheon-ro 578 beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA

Report No.: HCT-RF-2310-FC058

FCC ID:	**A3LSMS926B**
APPLICANT:	**SAMSUNG Electronics Co., Ltd.**

Model:	SM-S926B/DS
Additional Model:	SM-S926B
EUT Type:	Mobile phone
Average Output Power:	Ant.1: 14.91 dBm (30.95 mW) Ant.2: 15.41 dBm (34.75 mW) Dual Ant.1+ Ant.2: 13.49 dBm (22.32 mW)
Frequency Range:	2 402 MHz ~ 2 480 MHz
Modulation type	GFSK
FCC Classification:	Digital Transmission System(DTS)
FCC Rule Part(s):	Part 15.247

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

REVIEWED BY

Report prepared by : Kyung Jun Woo
Engineer of Telecommunication Testing Center

Report approved by : Jong Seok Lee
Manager of Telecommunication Testing Center

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test results were applied only to the test methods required by the standard.

Test Report Statement:
The above Test Report is not related to the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA.

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-2310-FC058	October 17, 2023	- First Approval Report

Table of Contents

1. EUT DESCRIPTION

Model	SM-S926B/DS			
Additional Model	SM-S926B			
EUT Type	Mobile phone			
Power Supply	DC 3.88 V			
Frequency Range	2 402 MHz ~ 2 480 MHz			
Max. RF Output Power (Normal)	Ant.1	Peak (For information only)	1 M Bit/s:	15.394 dBm (34.63 mW)
			2 M Bit/s:	15.776 dBm (37.81 mW)
			125 k Bit/s :	7.213 dBm (5.26 mW)
			500 k Bit/s :	7.236 dBm (5.29 mW)
		Average	1 M Bit/s:	14.87 dBm (30.69 mW)
			2 M Bit/s:	14.91 dBm (30.95 mW)
			125 k Bit/s :	6.85 dBm (4.84 mW)
			500 k Bit/s :	6.84 dBm (4.83 mW)
	Ant.2	Peak (For information only)	1 M Bit/s:	15.509 dBm (35.55 mW)
			2 M Bit/s::	15.330 dBm (34.12 mW)
		Average	1 M Bit/s:	15.41 dBm (34.75 mW)
			2 M Bit/s::	15.29 dBm (33.78 mW)
	Dual Ant.1 + Ant.2	Peak (For information only)	1 M Bit/s:	13.887 dBm (24.47 mW)
			2 M Bit/s::	13.907 dBm (24.59 mW)
		Average	1 M Bit/s:	13.41 dBm (21.95 mW)
			2 M Bit/s::	13.49 dBm (22.32 mW)
Modulation Type	GFSK			
Bluetooth Version	5.3			
Number of Channels	40 Channels			
Date(s) of Tests	August 30, 2023 ~ October 13, 2023			
Serial number	Radiated: R3CW70NE10P Conducted : 7414f9c84c0f7ece			

ANTENNA CONFIGURATIONS

1. Below Tables are the possible configurations.

Amp.	SISO		Dual BT
	Ant1(Core-0)	Ant2(Core-1)	Ant1 & Ant2
ePA Mode	O	O	X
iPA Mode	X	X	O

Note:

1) O = Support, X = Not Support

2) BLE 1M/2Mbps Mode support Dual BT, But 125k/500kbps do not support Dual BT.

2. TEST METHODOLOGY

FCC KDB 558074 D01 15.247 Meas Guidance v05r02 dated April 02, 2019 entitled “guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices and the measurement procedure described in ANSI C63.10(Version : 2013) ‘the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices’.

EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10. (Version :2013) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1 GHz. Above 1 GHz with 1.5 m using absorbers between the EUT and receive antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 6.6.5 of ANSI C63.10. (Version: 2013)

DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

3. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment's, which is traceable to recognized national standards.

Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).

4. FACILITIES AND ACCREDITATIONS

FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil,

Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA.

The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2014) and CISPR Publication 22.

Detailed description of test facility was submitted to the Commission and accepted dated March 31, 2022 (CAB identifier: KR0032).

EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test

Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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."

(1) The antennas of this E.U.T are permanently attached.

(2) The E.U.T Complies with the requirement of §15.203

6. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013.

All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95 % level of confidence.

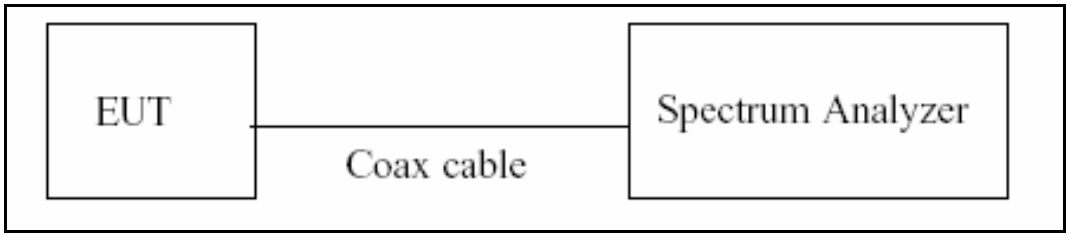
The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.90 (Confidence level about 95 %, k=2)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.14 (Confidence level about 95 %, k=2)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.82 (Confidence level about 95 %, k=2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.74 (Confidence level about 95 %, k=2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.76 (Confidence level about 95 %, k=2)
Radiated Disturbance (Above 40 GHz)	5.52 (Confidence level about 95 %, k=2)

7. DESCRIPTION OF TESTS

7.1. Duty Cycle

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

We tested according to the zero-span measurement method, 6.0)b) in KDB 558074 v05r02.

The largest available value of RBW is 8 MHz and VBW is 8 MHz.

The zero-span method of measuring duty cycle shall not be used if T ≤ 6.25 microseconds. (50/6.25 = 8)

The zero-span method was used because all measured T data are > 6.25 microseconds and both RBW and VBW are > 50/*T*.

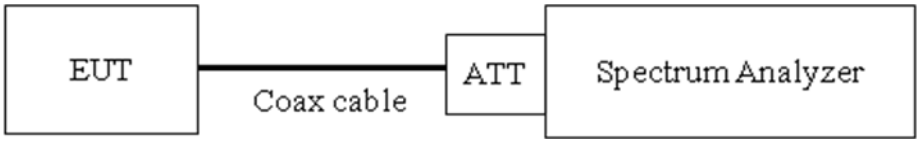
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz (≥ RBW)
3. SPAN = 0 Hz
4. Detector = Peak
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = T_{on}/ T_{total} and Duty Cycle Factor = 10log(1/Duty Cycle)

7.2. 6 dB Bandwidth

Limit

The minimum permissible 6 dB bandwidth is 500 kHz.

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to

(Procedure 8.2 in KDB 558074 v05r02, Procedure 11.8.1 in ANSI 63.10-2013)

1) RBW = 100 kHz
2) VBW ≥ 3 x RBW
3) Detector = Peak
4) Trace mode = max hold
5) Sweep = auto couple
6) Allow the trace to stabilize
7) We tested 6 dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer. X dB is set 6 dB.

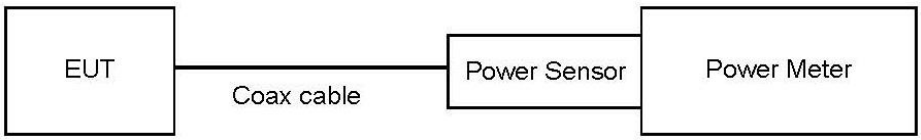
Note : We tested OBW using the automatic bandwidth measurement capability of a spectrum analyzer.

7.3. Output Power

Limit

The maximum permissible conducted output power is 1 Watt.

Test Configuration



Test Procedure

The transmitter output is connected to the Power Meter.

▪ Peak Power (Procedure 11.9.1.3 in ANSI 63.10-2013)

: Measure the peak power of the transmitter.

▪ Average Power (Procedure 8.3.2.3 in KDB 558074 v05r02, Procedure 11.9.2.3 in ANSI 63.10-2013)

1) Measure the duty cycle.
2) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
3) Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Sample Calculation

▪ Conducted Output Power(Peak) = Measured Value + ATT loss + Cable loss

▪ Conducted Output Power(Average) = Measured Value + ATT loss + Cable loss + Duty Cycle Factor

Dual BT Sample Calulation.

Ex) Ant 1 : 11.58 dBm Ant 2 : 12.08 dBm

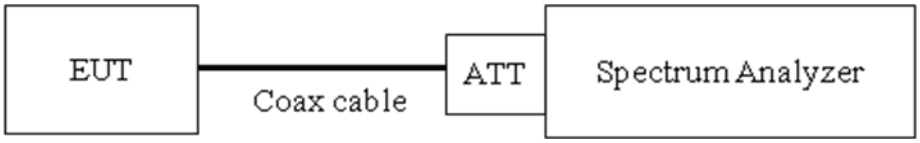
Dual BT(Ant. 1 + Ant. 2) = 11.58 dBm + 12.08 dBm) = (14.387 mW + 16.143 mW) = 30.53 mW = 14.88 dBm

7.4. Power Spectral Density

Limit

The transmitter power density average over 1-second interval shall not be greater than 8 dBm in any 3 kHz BW.

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

We tested according to Procedure 8.4 in KDB 558074 v05r02, Procedure 11.10 in ANSI 63.10-2013.

The spectrum analyzer is set to :

1) Set analyzer center frequency to DTS channel center frequency.
2) Set span to at least 1.5 times the OBW.
3) RBW = 3 kHz ≤ RBW ≤ 100 kHz.
4) VBW ≥ 3 x RBW.
5) Sweep = auto couple
6) Detector = power averaging (rms) or sample detector (when rms not available).
7) Ensure that the number of measurement points in the sweep ≥ [2 ×span / RBW].
8) Employ trace averaging (rms) mode over a minimum of 100 traces
9) Use the peak marker function to determine the maximum amplitude level.
10) Use the peak marker function to determine the maximum amplitude level within the RBW.
    If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.
11) if then duty factor shall be added to adjust the result if the duty cycle is less than 98 %

Sample Calculation

▪ Power Spectral Density = Measured Value + ATT loss + Cable loss + Duty Cycle Factor

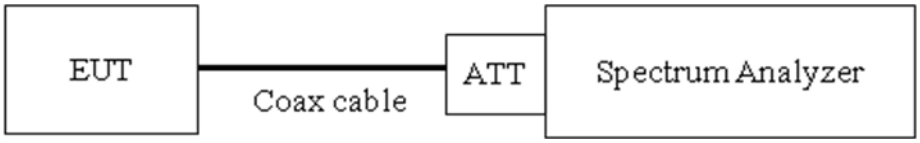
7.5. Conducted Band Edge(Out of Band Emissions) & Conducted Spurious Emissions

Limit

The maximum conducted (average) output power was used to demonstrate compliance, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz.

[Conducted > 20 dBc]

Test Configuration



Test Procedure

The transmitter output is connected to the spectrum analyzer.

(Procedure 8.5 in KDB 558074 v05r02, Procedure 11.11 in ANSI 63.10-2013)

1) RBW = 100 kHz
2) VBW ≥ 3 x RBW
3) Set span to encompass the spectrum to be examined
4) Detector = Peak
5) Trace Mode = max hold
6) Sweep time = auto couple
7) Ensure that the number of measurement points ≥ 2 x Span/VBW
8) Allow trace to fully stabilize.
9) Use peak marker function to determine the maximum amplitude level.

Measurements are made over the 30 MHz to 25 GHz range with the transmitter set to the lowest, middle, and highest channels.

Factors for frequency

Freq(MHz)	Factor(dB)
30	10.33
100	10.45
200	10.55
300	10.61
400	10.64
500	10.66
600	10.68
700	10.70
800	10.77
900	10.85
1 000	10.91
2 000	11.00
2 400	11.10
2 500	11.10
3 000	11.42
4 000	11.68
5 000	12.62
5 150	12.62
6 000	12.62
7 000	12.93
8 000	13.12
9 000	13.19
10 000	13.24
11 000	13.38
12 000	13.43
13 000	13.49
14 000	13.66
15 000	13.96
16 000	14.12
17 000	14.15
18 000	14.05
19 000	14.08
20 000	13.97
21 000	14.23
22 000	14.67
23 000	14.49
24 000	14.62
25 000	14.60

Note : 1. 2400 ~ 2500 MHz is fundamental frequency range.

2. Factor = Attenuator loss + Cable loss

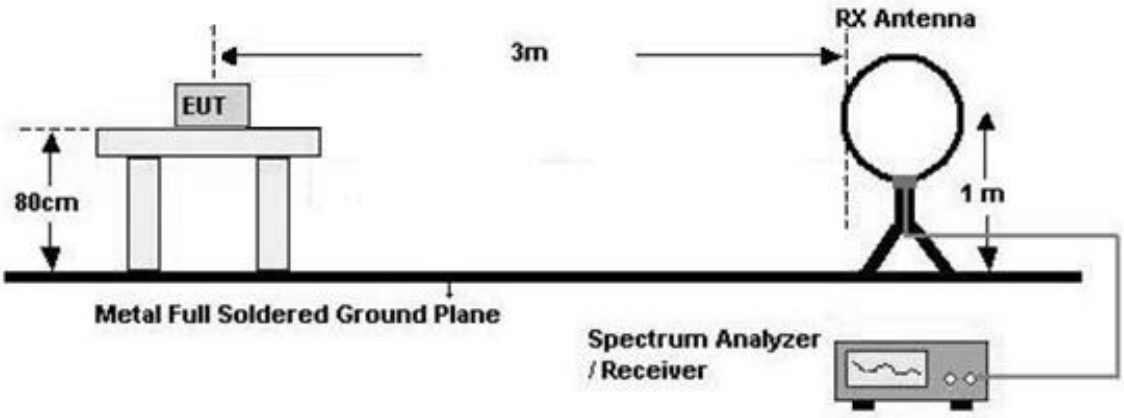
7.6. Radiated Test

Limit

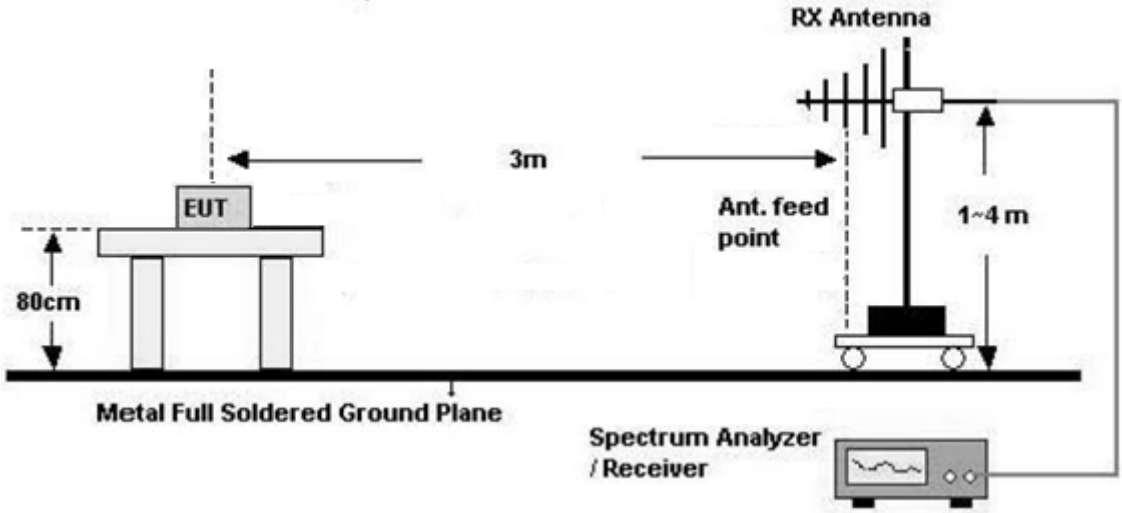
Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

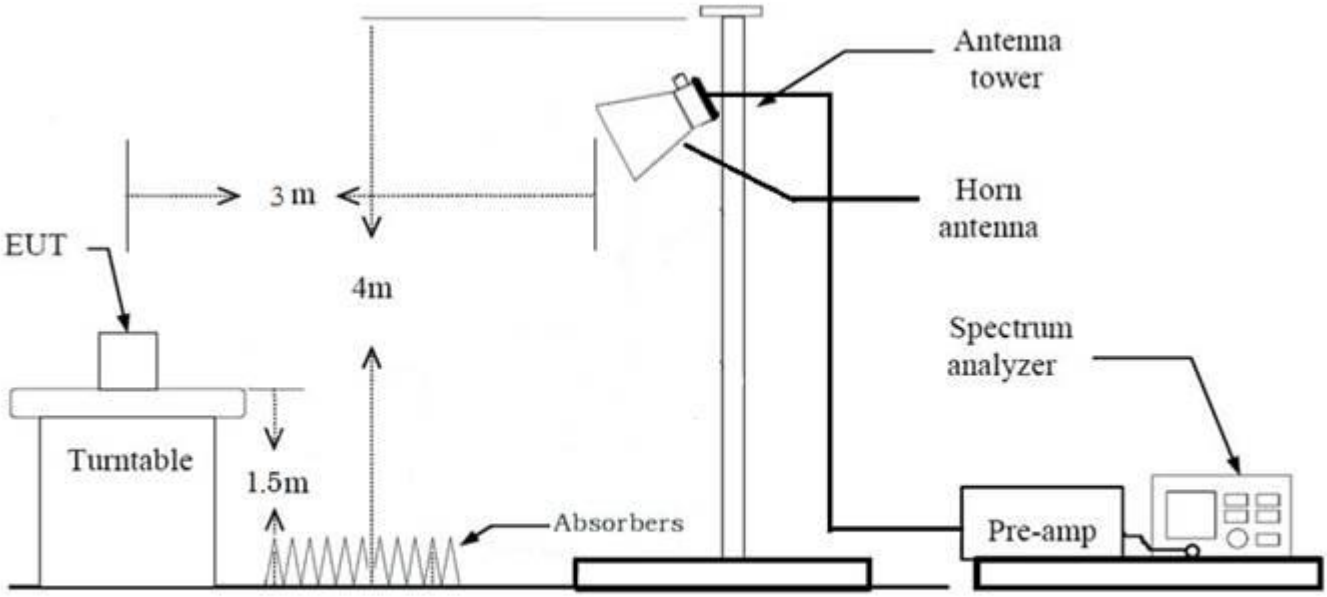
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



Test Procedure of Radiated spurious emissions(Below 30 MHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The loop antenna was placed at a location 3 m from the EUT
3. The EUT is placed on a turntable, which is 0.8 m above ground plane.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization and Parallel to the ground plane in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Distance Correction Factor(0.009 MHz – 0.490 MHz) = 40log(3 m/300 m) = - 80 dB
   Measurement Distance : 3 m
7. Distance Correction Factor(0.490 MHz – 30 MHz) = 40log(3 m/30 m) = - 40 dB
   Measurement Distance : 3 m
8. Spectrum Setting
   - Frequency Range = 9 kHz ~ 30 MHz
   - Detector = Peak
   - Trace = Maxhold
   - RBW = 9 kHz
   - VBW ≥ 3 x RBW
9. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)
10. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

KDB 414788 OFS and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

Test Procedure of Radiated spurious emissions(Below 1 GHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The EUT is placed on a turntable, which is 0.8 m above ground plane.
3. The Hybrid antenna was placed at a location 3 m from the EUT, which is varied from 1m to 4 m to find out the highest emissions.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Spectrum Setting
   (1) Measurement Type(Peak):
      - Measured Frequency Range : 30 MHz – 1 GHz
      - Detector = Peak
      - Trace = Maxhold
      - RBW = 100 kHz
      - VBW ≥ 3 x RBW
   (2) Measurement Type(Quasi-peak):
      - Measured Frequency Range : 30 MHz – 1 GHz
      - Detector = Quasi-Peak
      - RBW = 120 kHz

   In general, (1) is used mainly
7. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L)
8. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

Test Procedure of Radiated spurious emissions (Above 1 GHz)

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. The unit was tested with its standard battery.
8. Spectrum Setting (Method 8.6 in KDB 558074 v05r02, Procedure 11.12 in ANSI 63.10-2013)
   (1) Measurement Type(Peak):
      - Measured Frequency Range : 1 GHz – 25 GHz
      - Detector = Peak
      - Trace = Max hold
      - RBW = 1 MHz
      - VBW ≥ 3 x RBW
   (2) Measurement Type(Average):
      - Duty cycle < 98 %, duty cycle variations are less than ±2 %
      - Measured Frequency Range : 1 GHz – 25 GHz
      - Detector = RMS
      - Averaging type = power (*i.e.*, RMS)
      - RBW = 1 MHz
      - VBW ≥ 3 x RBW
      - Sweep time = auto.
      - Trace mode = average (at least 100 traces).
      - Correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle.

- Duty Cycle Factor (dB) : Please refer to the please refer to section 9.1

9. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
10. Distance extrapolation factor = 20log (test distance / specific distance) (dB)

11. Total

(1)Measurement(Peak)

= Measured Value(Peak)

(2)Measurement(Avg)

= Measured Value(Avg)

- We apply to the offset in range 1 GHz - 18 GHz
- The offset = Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F) - Amp.Gain(A.G)

#Note : Used Average measurement method according to KDB 558074 Section11 Q3

Test Procedure of Radiated Restricted Band Edge

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. The unit was tested with its standard battery.
8. Spectrum Setting

(1) Measurement Type(Peak):

- Measured Frequency Range : 2310 MHz ~ 2390 MHz/ 2483.5 MHz ~ 2500 MHz
- Detector = Peak
- Trace = Max hold
- RBW = 1 MHz
- VBW ≥ 3 x RBW

(2) Measurement Type(Average):

- Duty cycle < 98 %, duty cycle variations are less than ±2 %
- Measured Frequency Range : 2310 MHz ~ 2390 MHz/ 2483.5 MHz ~ 2500 MHz
- Detector = RMS
- Averaging type = power (*i.e.*, RMS)
- RBW = 1 MHz
- VBW ≥ 3 x RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).
- Correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle.

- Duty Cycle Factor (dB) : Please refer to the please refer to section 9.1.

9. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

10. Distance extrapolation factor = 20log (test distance / specific distance) (dB)

11.Total

(1)Measurement(Peak)

= Measured Value(Peak)

(2)Measurement(Avg)

= Measured Value(Avg)

- We apply to the offset in range 1 GHz - 18 GHz
- The offset = Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)

#Note : Used Average measurement method according to KDB 558074 Section11 Q3

7.7. AC Power line Conducted Emissions

Limit

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 μH/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56[a]	56 to 46[a]
0.50 to 5	56	46
5 to 30	60	50

[a]Decreases with the logarithm of the frequency.

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Annex A for the actual connections between EUT and support equipment.

Test Procedure

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors : Quasi Peak and Average Detector.

Sample Calculation

Quasi-peak(Final Result) = Measured Value + Correction Factor

7.8. Worst case configuration and mode

Radiated Test

1. All modes of operation were investigated and the worst case configuration results are reported.
   - Mode : Stand alone, Stand alone + External accessories(Earphone etc)
   - Worstcase : Stand alone
2. EUT Axis
   (1) Ant.1
      - Radiated Spurious Emissions : Y
      - Radiated Restricted Band Edge : X
   (2) Ant.2
      - Radiated Spurious Emissions : Y
      - Radiated Restricted Band Edge : Y
   (3) Dual Ant.1+ Ant.2
      - Radiated Spurious Emissions : Y
      - Radiated Restricted Band Edge : Y
3. All packet length of operation were investigated and the test results are worst case in lowest packet length.
   (Worst case :1M Bit/s 37 Byte, 2M Bit/s 37 Byte)
   (125k, 500k, 1M Bit/s all have the same 1MHz Band width and only Worst result is attached.)
4. All datarate of operation were investigated and the worst case configuration results are reported.
   - Worst case : 1 M, 2 M
5. All position of loop antenna were investigated and the test result is a no critical peak found at all positions.
   - Position : Horizontal, Vertical, Parallel to the ground plane
6. SM-S926B/DS, SM-S926B were tested and the worst case results are reported.
(Worst case : SM-S926B/DS)

AC Power line Conducted Emissions

1. All modes of operation were investigated and the worst case configuration results are reported.
   - Mode : Stand alone+ External accessories(Earphone,etc)+Travel Adapter
            Stand alone + Travel Adapter
   - Worstcase : Stand alone + Travel Adapter
2. SM-S926B/DS, SM-S926B were tested and the worst case results are reported.
   (Worst case : SM-S926B/DS)

Conducted test

1. The EUT was configured with packet length of highest power.
   - ALL supported mode tested.
   - Worst Results refer to Notes for each test item
2. SM-S926B/DS, SM-S926B were tested and the worst case results are reported.

(Worst case : SM-S926B/DS)

8. SUMMARY TEST OF RESULTS

Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
6 dB Bandwidth	§15.247(a)(2)	> 500 kHz	Conducted	PASS
Conducted Maximum Output Power	§15.247(b)(3)	< 1 Watt		PASS
Power Spectral Density	§15.247(e)	< 8 dBm / 3 kHz Band		PASS
Band Edge (Out of Band Emissions)	§15.247(d)	Conducted > 30 dBc		PASS
AC Power line Conducted Emissions	§15.207	cf. Section 7.7		PASS
Radiated Spurious Emissions	§15.247(d), 15.205, 15.209	cf. Section 7.6	Radiated	PASS
Radiated Restricted Band Edge	§15.247(d), 15.205, 15.209	cf. Section 7.6		PASS

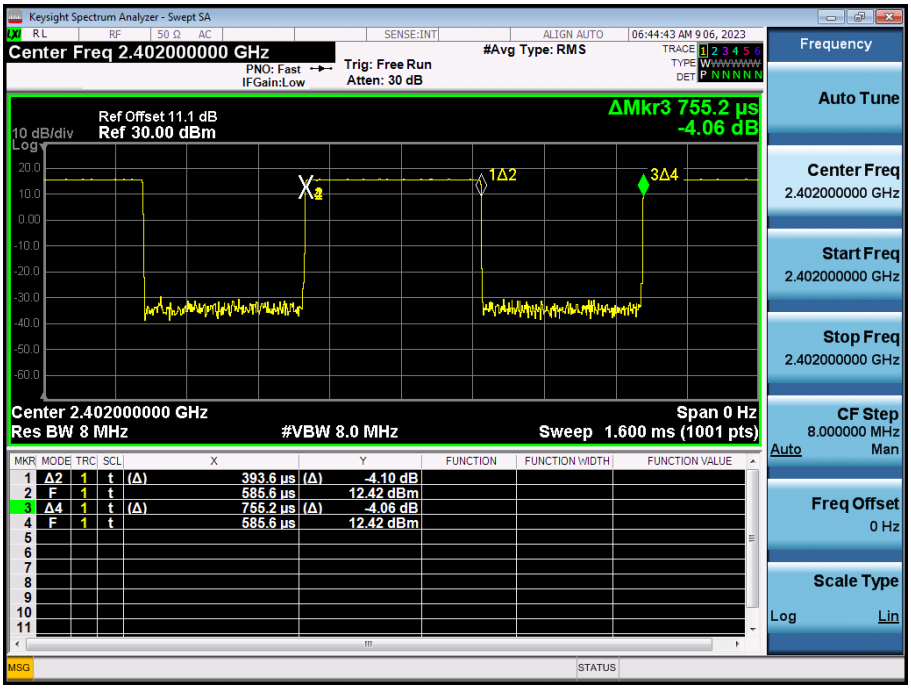
9. TEST RESULT

9.1 DUTY CYCLE

Data rate (Bit/s)	Packet length (Byte)	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
1M	37	0.394	0.755	0.521	2.830
	255	2.140	2.500	0.856	0.675
2M	37	0.210	0.536	0.391	4.077
	255	1.081	1.408	0.768	1.147
125k	37	3.110	4.110	0.757	1.211
	255	17.033	18.067	0.943	0.256
500k	37	1.074	1.819	0.591	2.286
	255	4.560	5.300	0.860	0.653

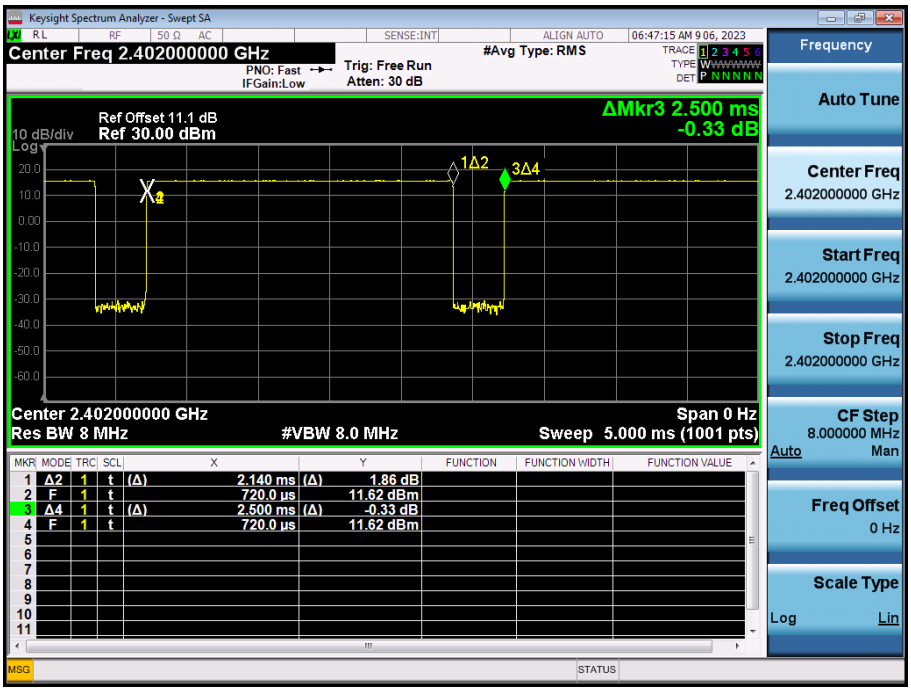
▣ 1 M Bit/s (37 Byte) Test Plots

Duty Cycle (Low-CH 0)



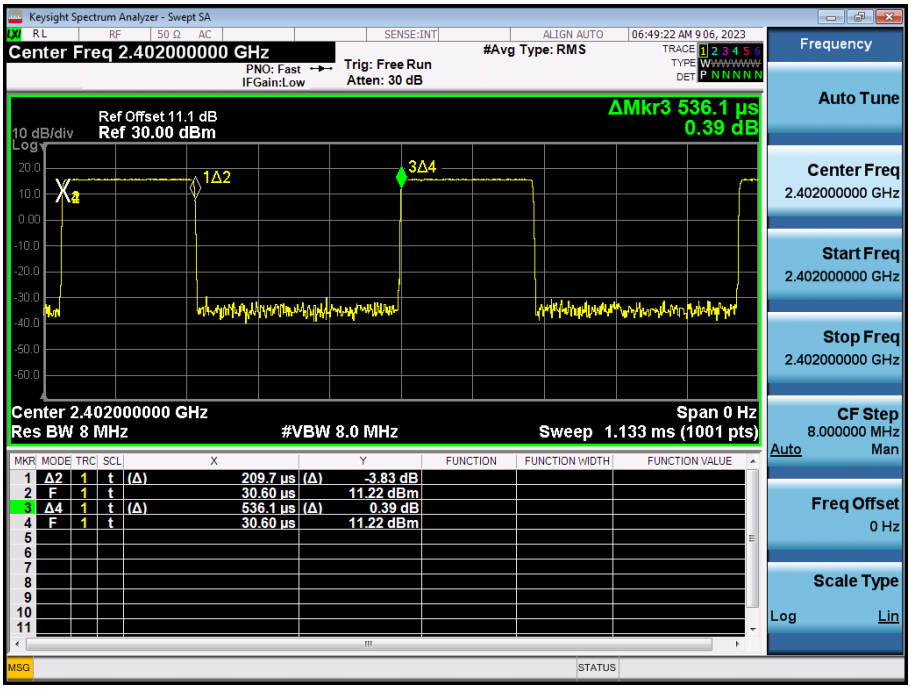
▣ 1 M Bit/s (255 Byte) Test Plots

Duty Cycle (Low-CH 0)



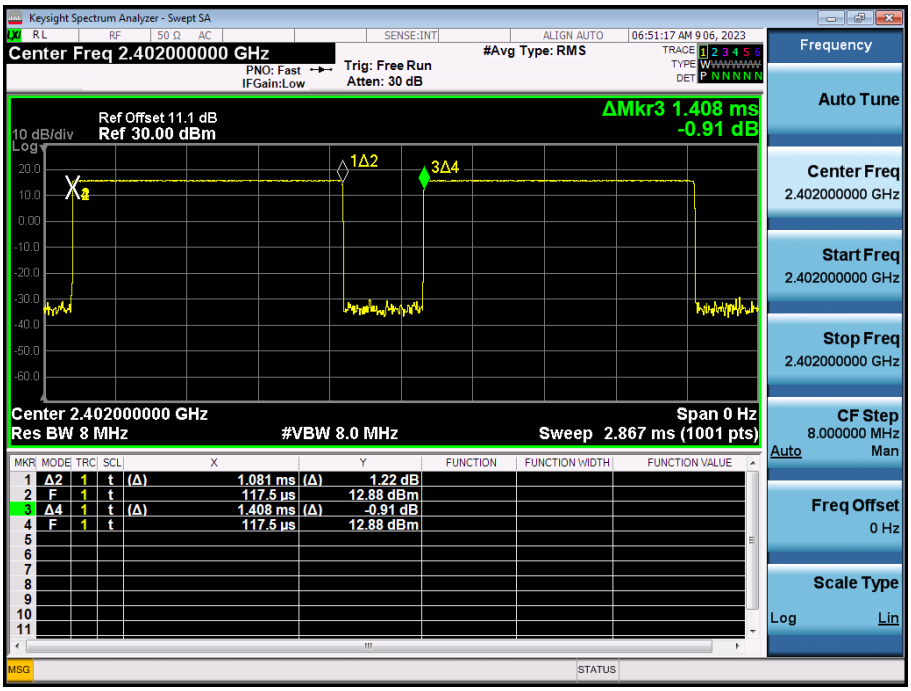
▣ 2 M Bit/s (37 Byte) Test Plots

Duty Cycle (Low-CH 0)



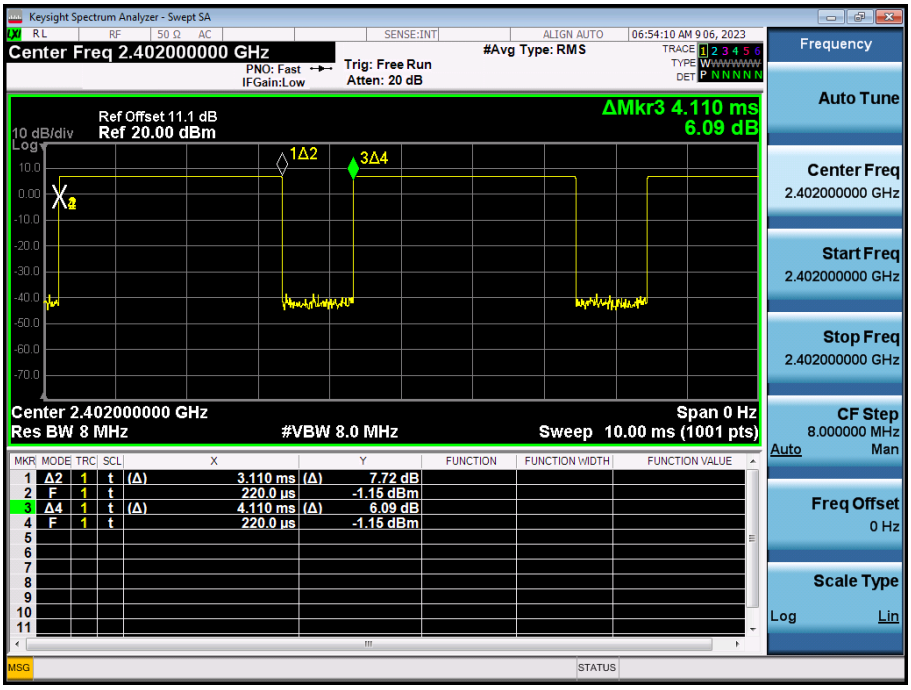
▣ 2 M Bit/s (255 Byte) Test Plots

Duty Cycle (Low-CH 0)



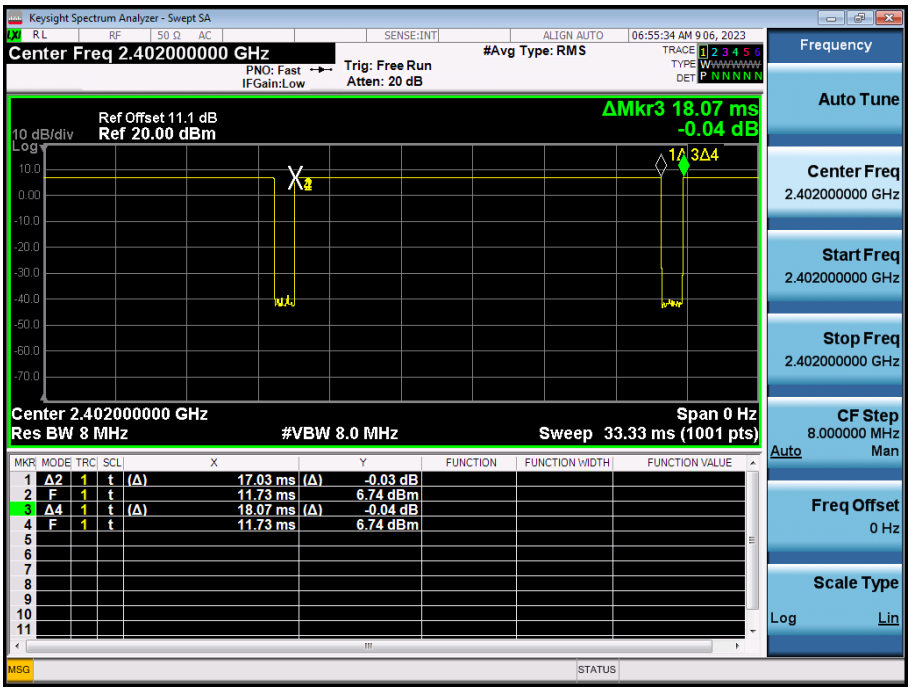
▣ 125 k Bit/s(37 Byte) Test Plots

Duty Cycle (Low-CH 0)



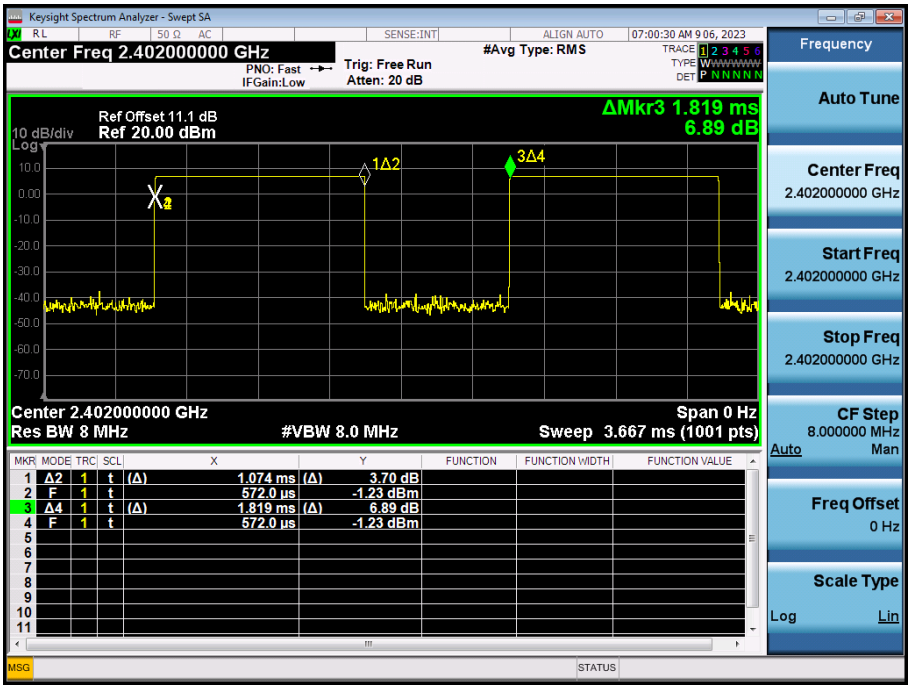
▣ 125 k Bit/s(255 Byte) Test Plots

Duty Cycle (Low-CH 0)



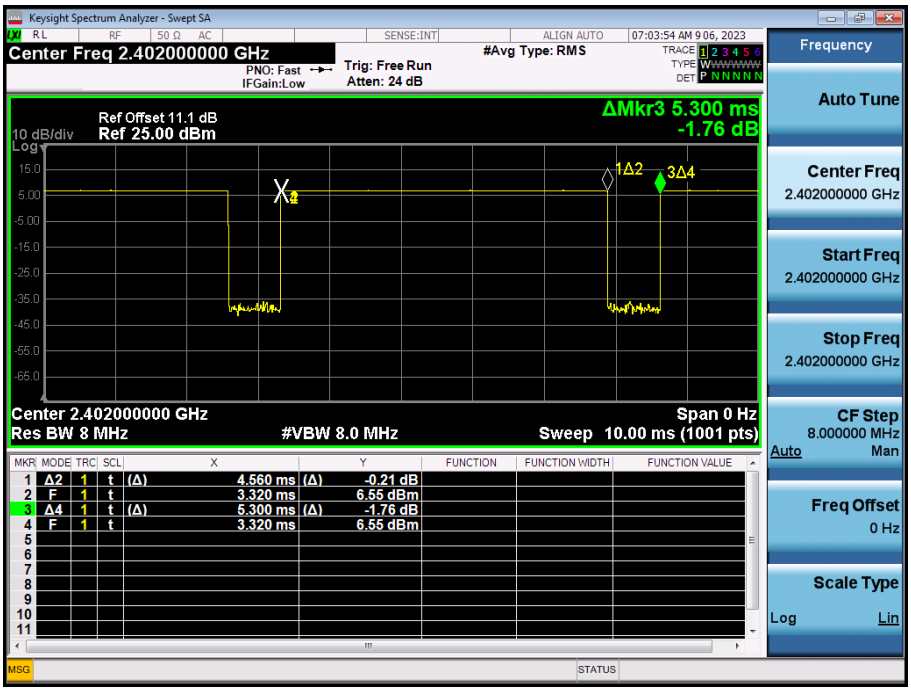
▣ 500 k Bit/s(37 Byte) Test Plots

Duty Cycle (Low-CH 0)



▣ 500 k Bit/s(255 Byte) Test Plots

Duty Cycle (Low-CH 0)



9.2 6 dB BANDWIDTH

[SISO]

[Ant.1]

Mode (Bit/s)	Channel	6 dB Bandwidth (kHz)	Limit (kHz)
1M(37)	0	693.1	> 500
	19	689.5	
	39	692.4	
1M(255)	0	667.0	> 500
	19	666.0	
	39	667.7	
2M(37)	0	1158.2	> 500
	19	1157.9	
	39	1158.0	
2M(255)	0	1145.6	> 500
	19	1147.6	
	39	1160.1	
125k(37)	0	612.5	> 500
	19	614.0	
	39	611.8	
125k(255)	0	611.6	> 500
	19	617.3	
	39	610.4	
500k(37)	0	665.9	> 500
	19	662.3	
	39	665.9	
500k(255)	0	662.2	> 500
	19	665.6	
	39	663.4	

Note:

In order to simplify the report, attached plots were only the narrowest 6 dB BW Channel.

1M Bit/s: 255 Byte

2M Bit/s: 255 Byte

125k Bit/s: 255 Byte

500k Bit/s: 255 Byte

[Ant.2]

Mode (Bit/s)	Channel	6 dB Bandwidth (kHz)	Limit (kHz)
1M(37)	0	684.3	> 500
	19	682.7	
	39	683.8	
1M(255)	0	665.9	> 500
	19	668.9	
	39	669.3	
2M(37)	0	1156.9	> 500
	19	1157.5	
	39	1161.9	
2M(255)	0	1159.1	> 500
	19	1140.2	
	39	1163.2	

Note:

In order to simplify the report, attached plots were only the narrowest 6 dB BW Channel.

1M Bit/s: 255 Byte

2M Bit/s: 255 Byte

[Dual BT]

[Ant.1]

Mode (Bit/s)	Channel	6 dB Bandwidth (kHz)	Limit (kHz)
1M(37)	0	673.6	> 500
	19	677.5	
	39	687.5	
1M(255)	0	664.5	> 500
	19	666.9	
	39	669.6	
2M(37)	0	1151.5	> 500
	19	1159.3	
	39	1158.4	
2M(255)	0	1154.6	> 500
	19	1149.1	
	39	1151.5	

Note:

In order to simplify the report, attached plots were only the narrowest 6 dB BW Channel.

1M Bit/s: 255 Byte

2M Bit/s: 255 Byte

[Ant.2]

Mode (Bit/s)	Channel	6 dB Bandwidth (kHz)	Limit (kHz)
1M(37)	0	673.9	> 500
	19	682.0	
	39	681.7	
1M(255)	0	663.4	> 500
	19	668.9	
	39	669.6	
2M(37)	0	1151.1	> 500
	19	1156.5	
	39	1157.6	
2M(255)	0	1159.3	> 500
	19	1161.9	
	39	1161.6	

Note:

In order to simplify the report, attached plots were only the narrowest 6 dB BW Channel

1M Bit/s: 255 Byte

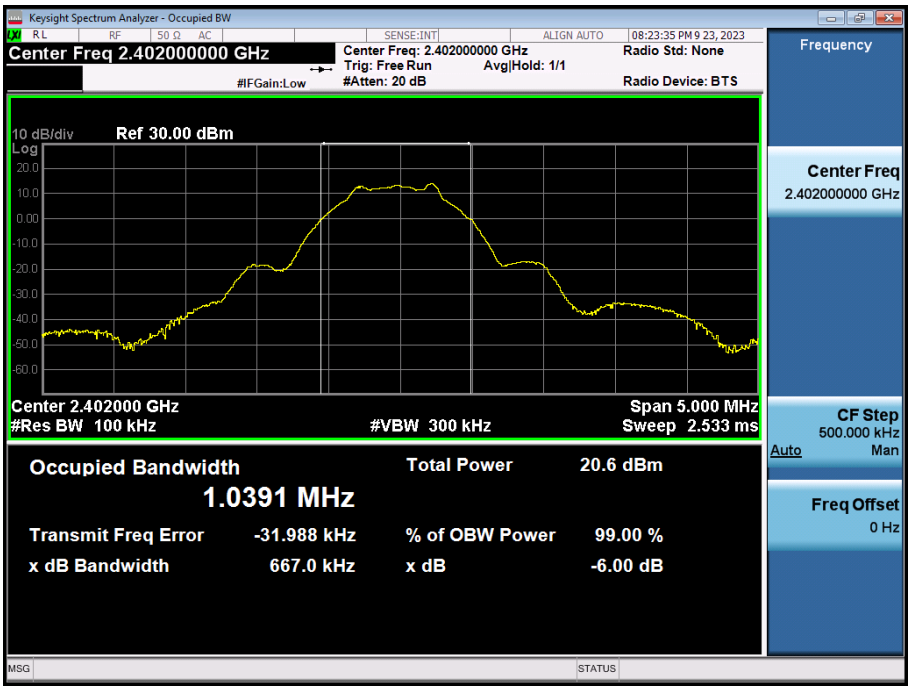
2M Bit/s: 37 Byte

[SISO]

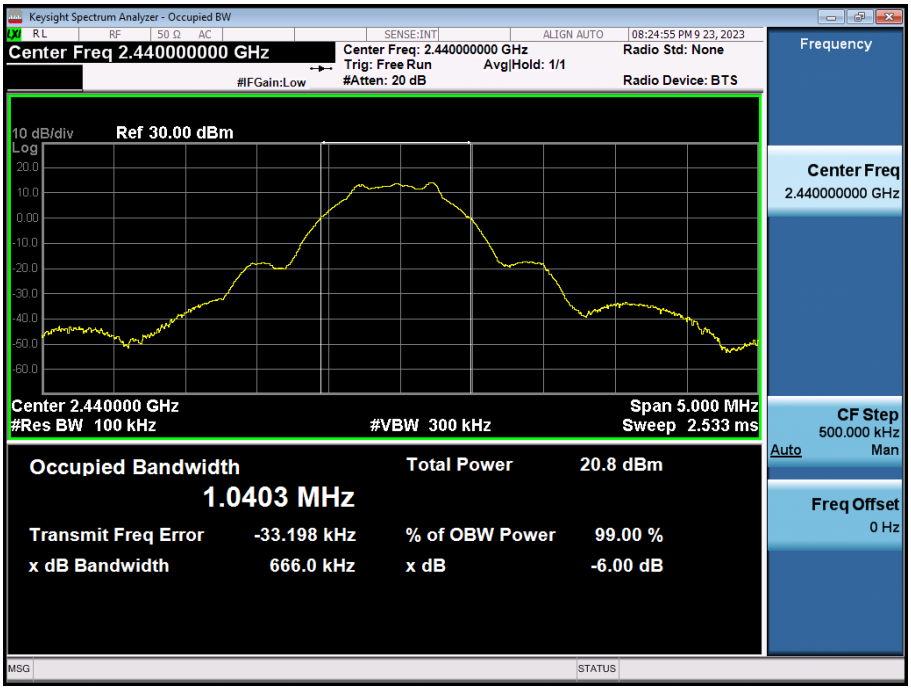
[Ant.1]

▣ 1 MBit/s (255 Byte) Test Plots

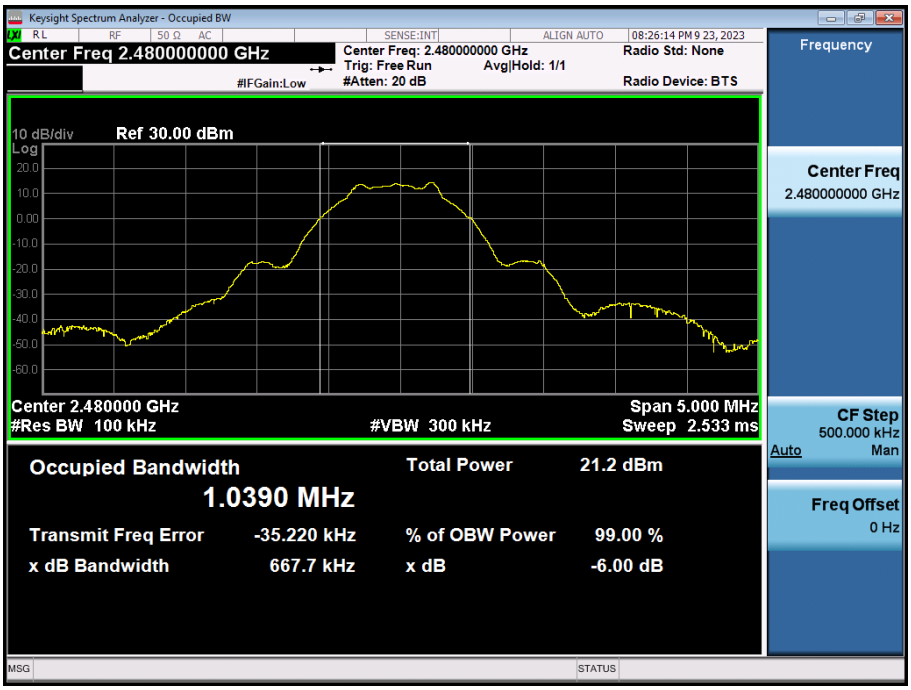
6 dB Bandwidth plot (Low-CH 0)



6 dB Bandwidth plot (Mid-CH 19)

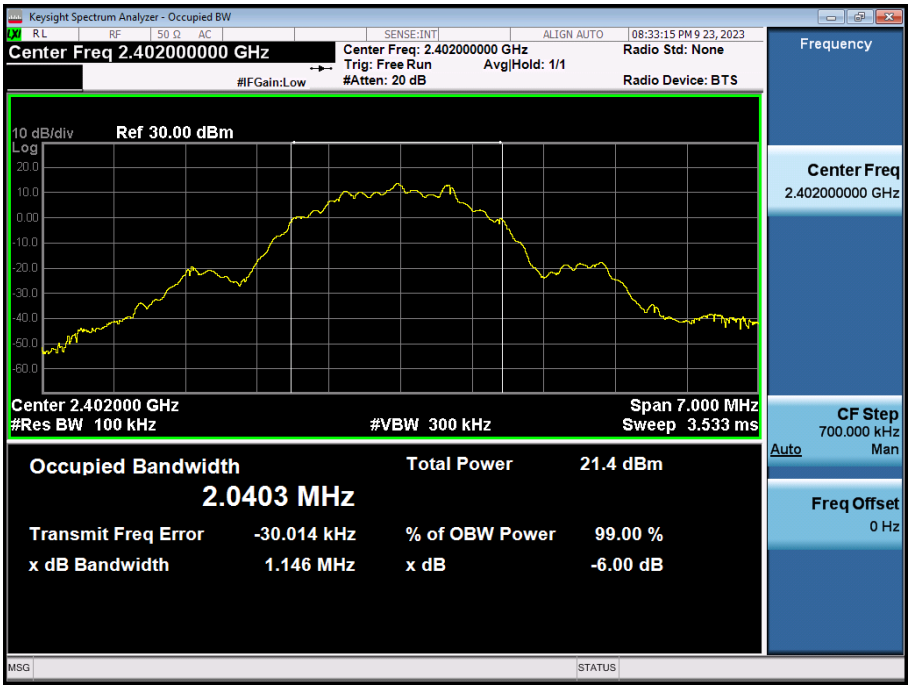


6 dB Bandwidth plot (High-CH 39)

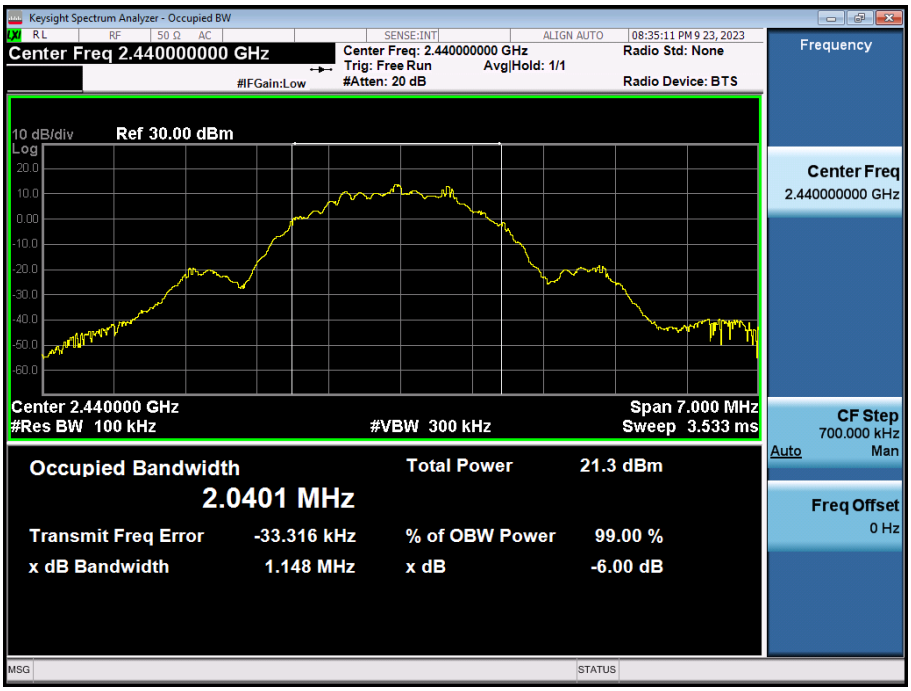


▣ 2 MBit/s (255 Byte) Test Plots

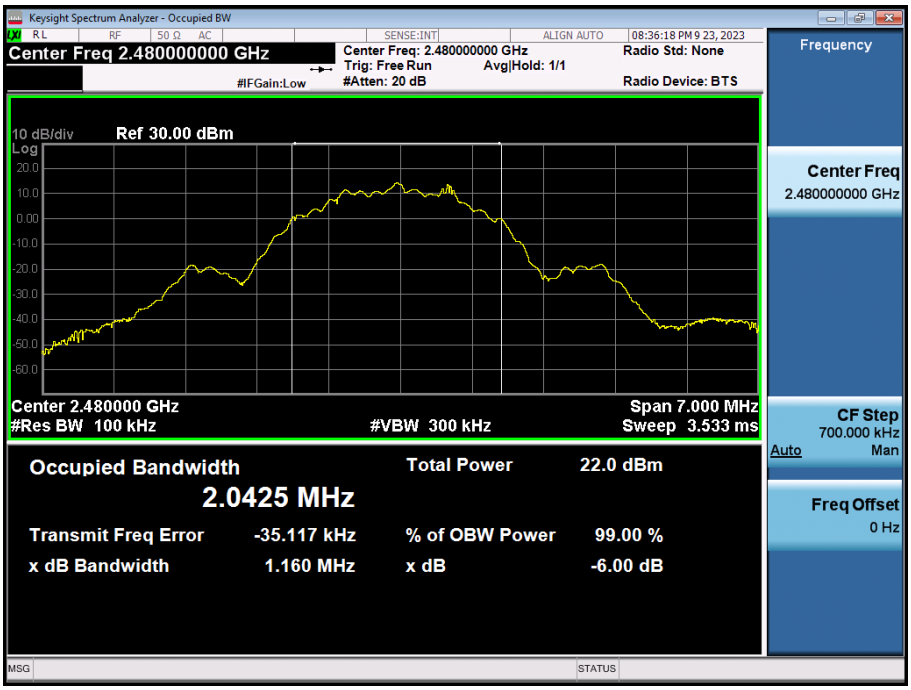
6 dB Bandwidth plot (Low-CH 0)



6 dB Bandwidth plot (Mid-CH 19)

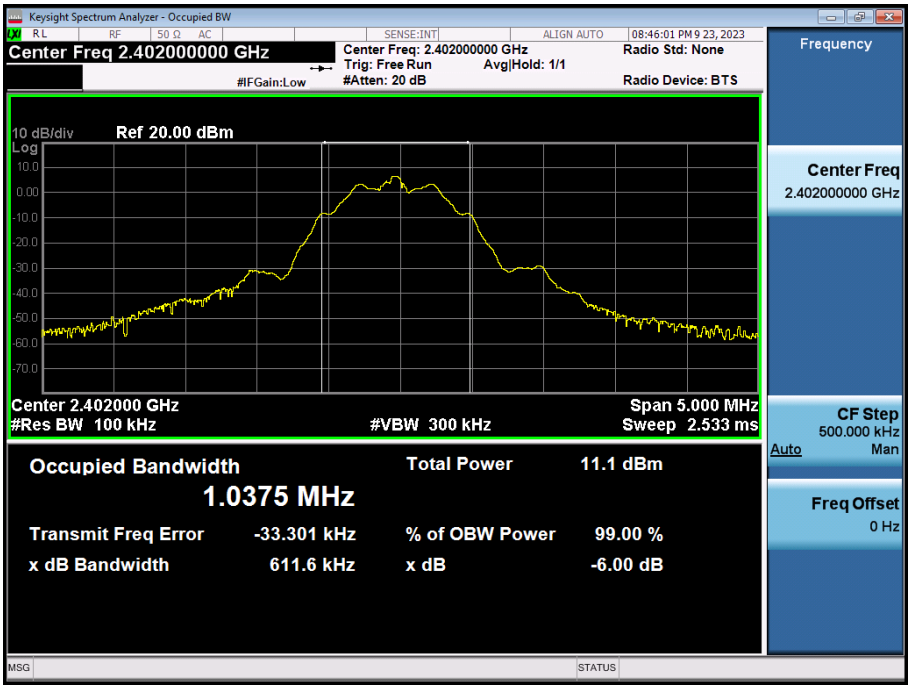


6 dB Bandwidth plot (High-CH 39)

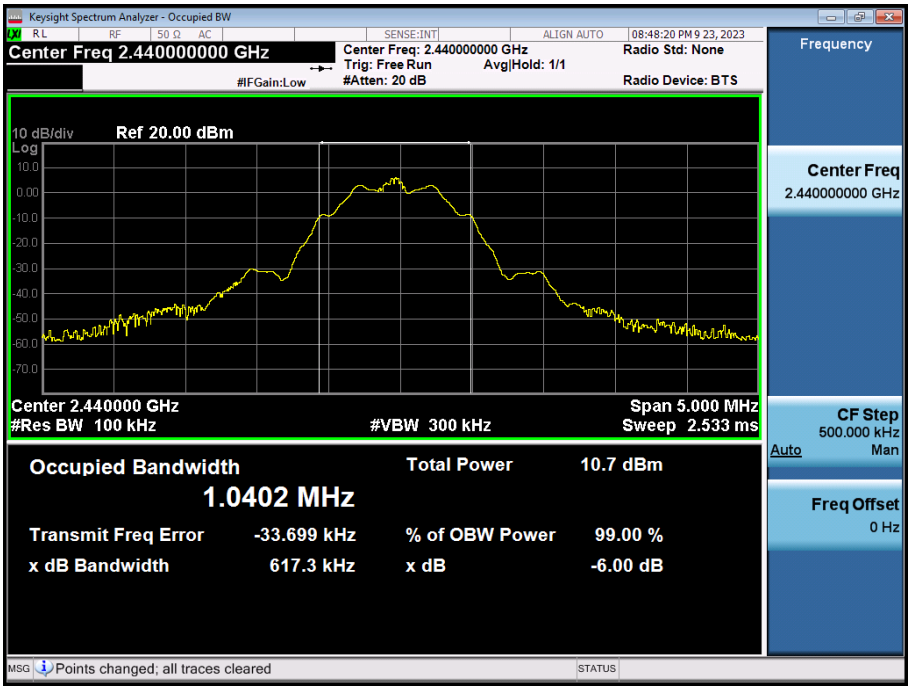


▣ 125k Bit/s(255 Byte) Test Plots

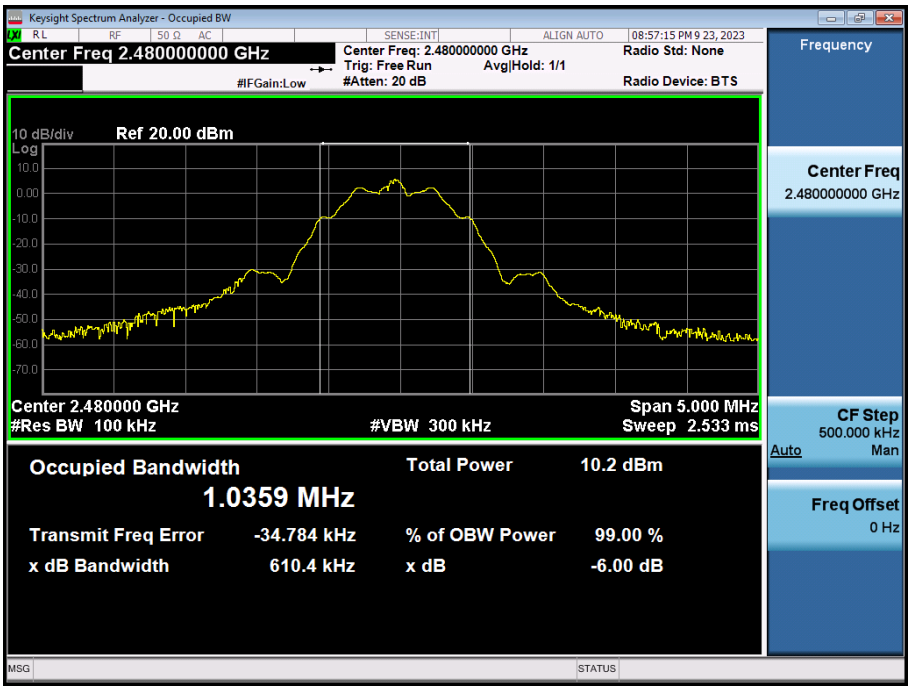
6 dB Bandwidth plot (Low-CH 0)



6 dB Bandwidth plot (Mid-CH 19)

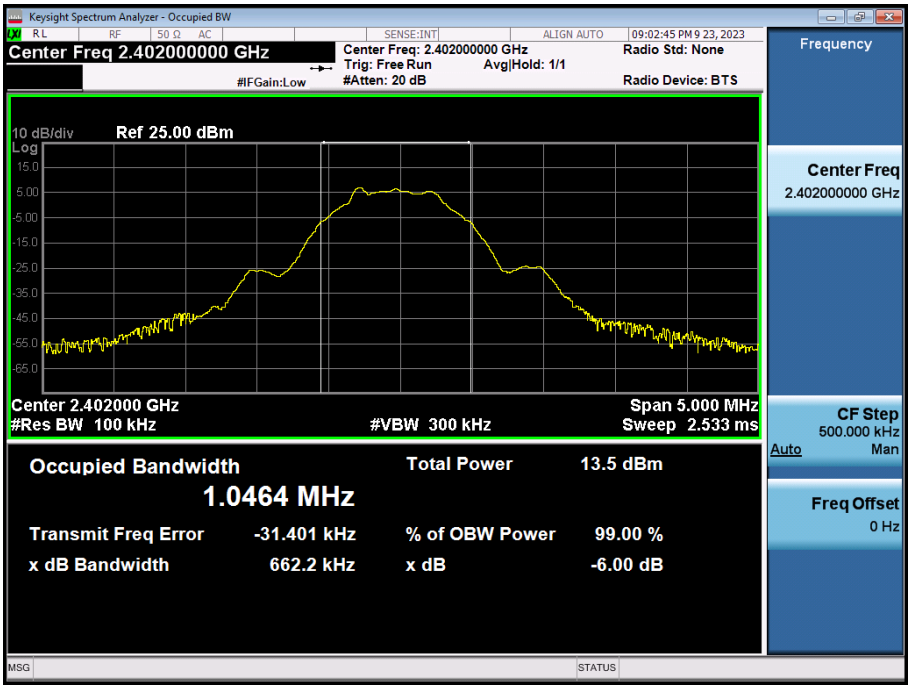


6 dB Bandwidth plot (High-CH 39)

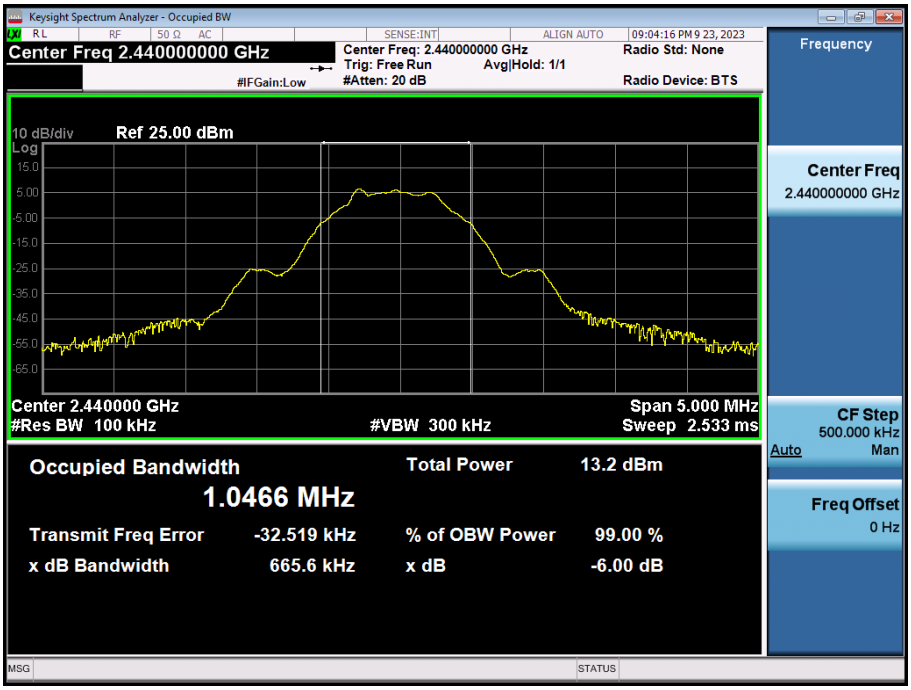


▣ 500k Bit/s(255 Byte) Test Plots

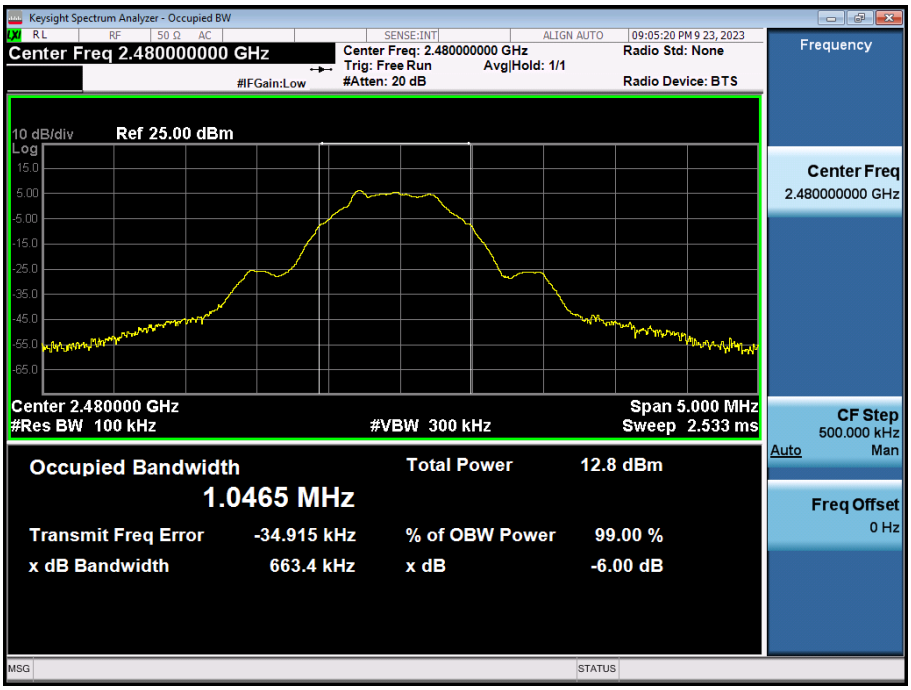
6 dB Bandwidth plot (Low-CH 0)



6 dB Bandwidth plot (Mid-CH 19)



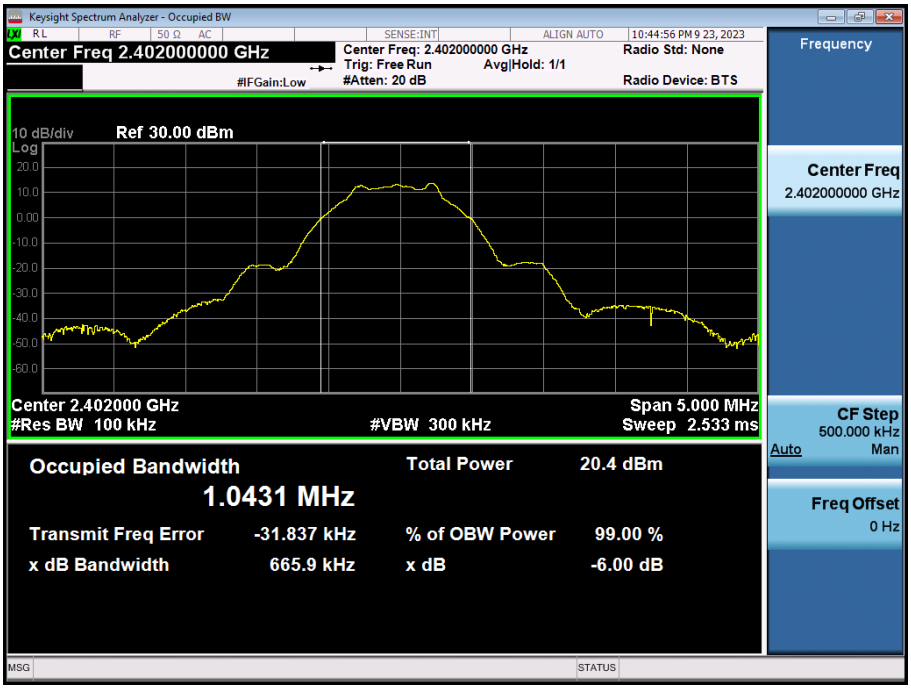
6 dB Bandwidth plot (High-CH 39)



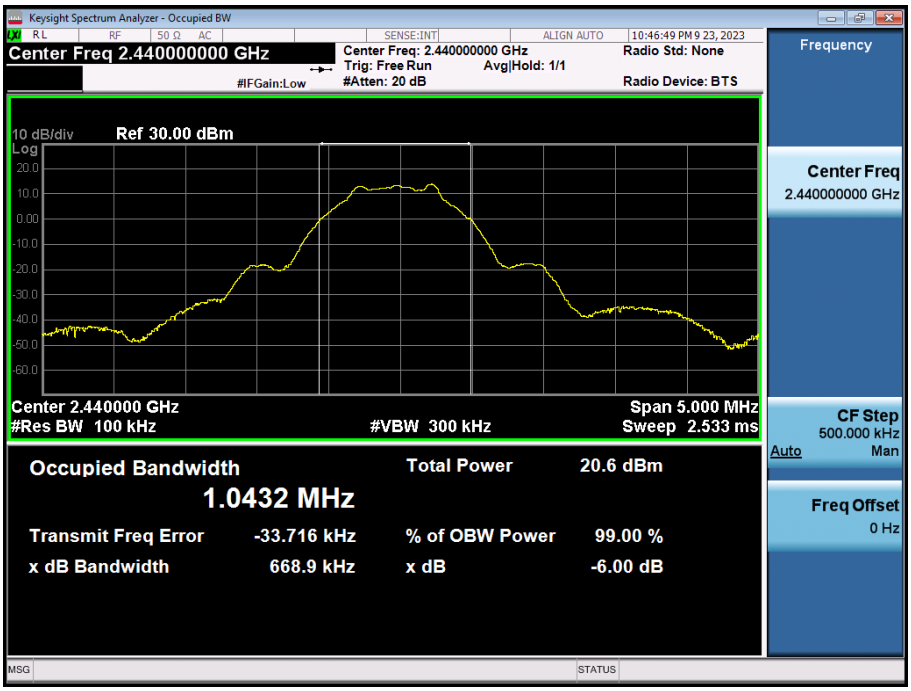
[Ant.2]

▣ 1 MBit/s (255 Byte) Test Plots

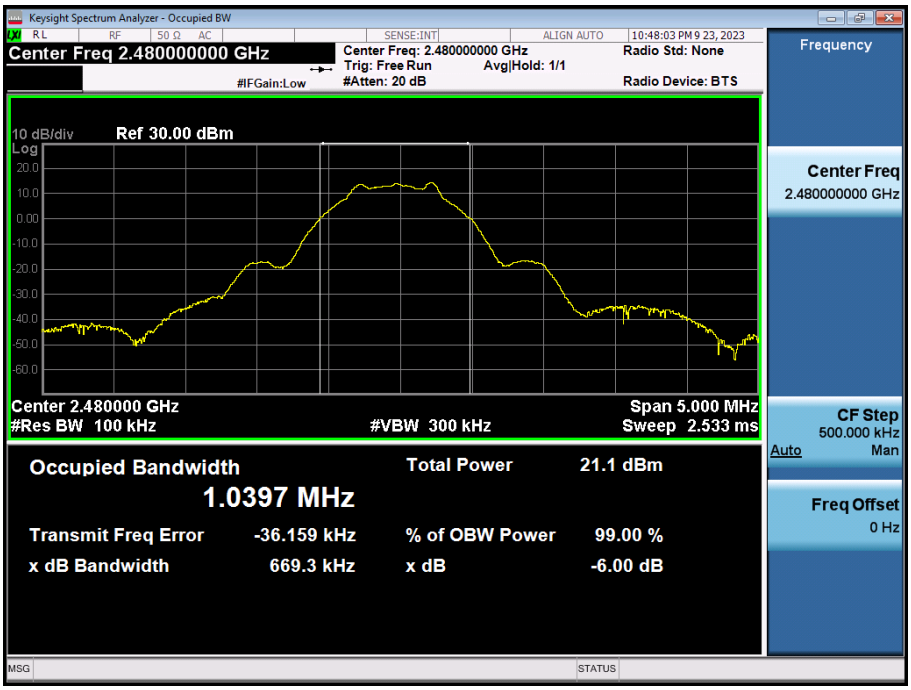
6 dB Bandwidth plot (Low-CH 0)



6 dB Bandwidth plot (Mid-CH 19)

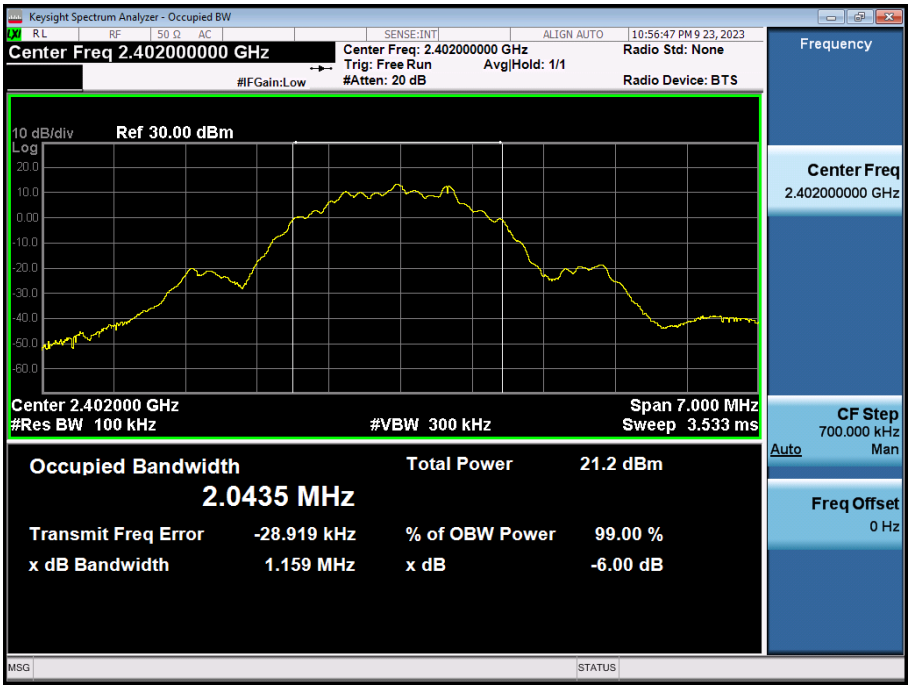


6 dB Bandwidth plot (High-CH 39)

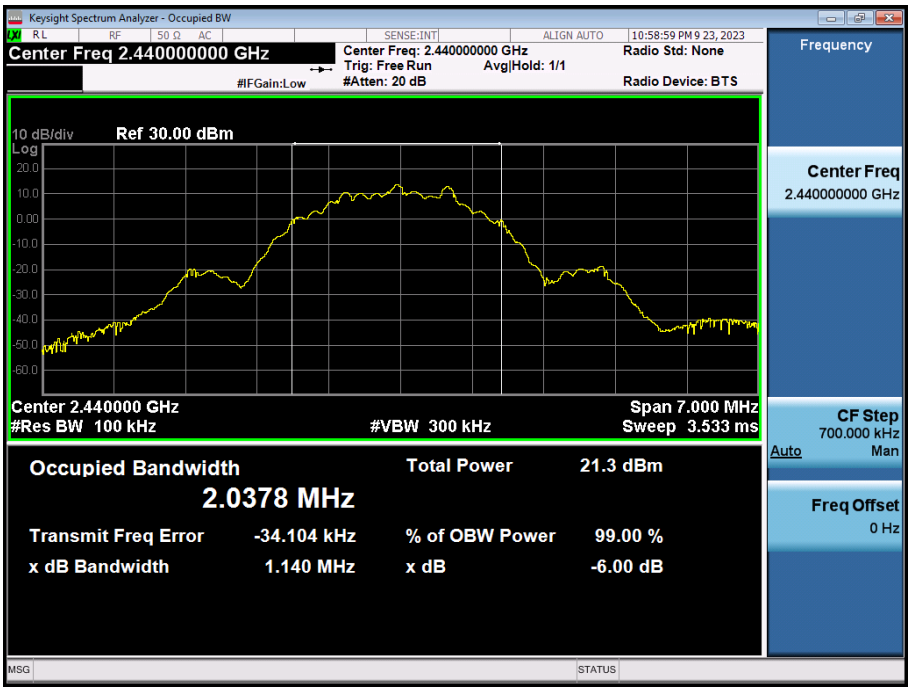


▣ 2 MBit/s (255 Byte) Test Plots

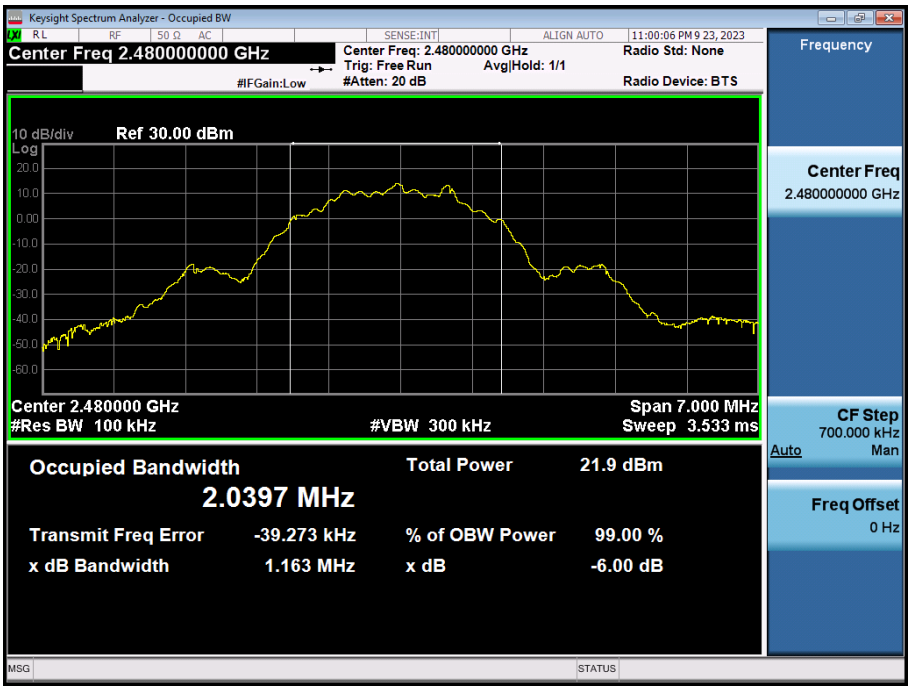
6 dB Bandwidth plot (Low-CH 0)



6 dB Bandwidth plot (Mid-CH 19)



6 dB Bandwidth plot (High-CH 39)

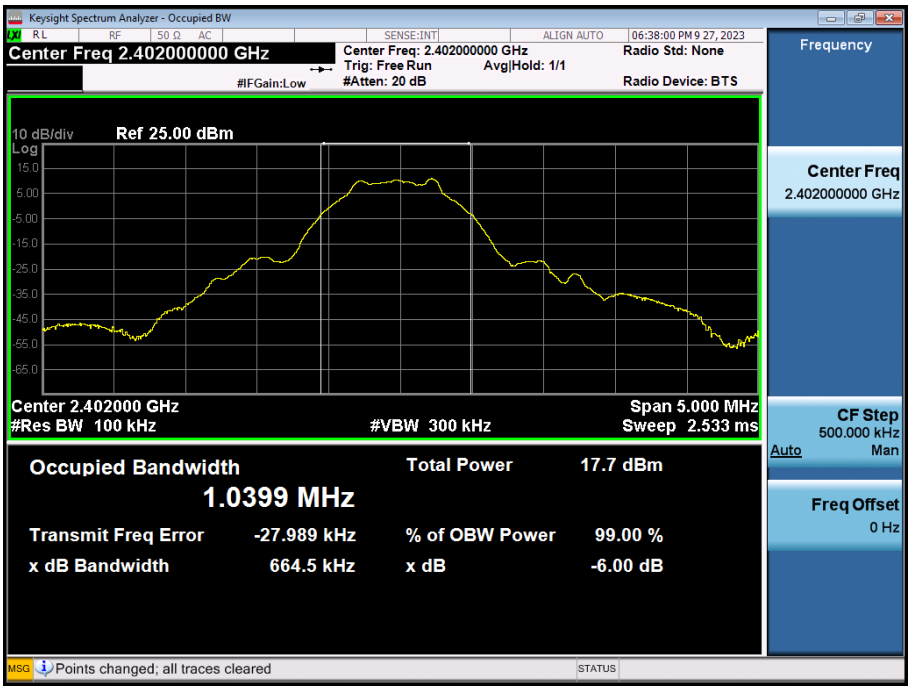


[Dual BT]

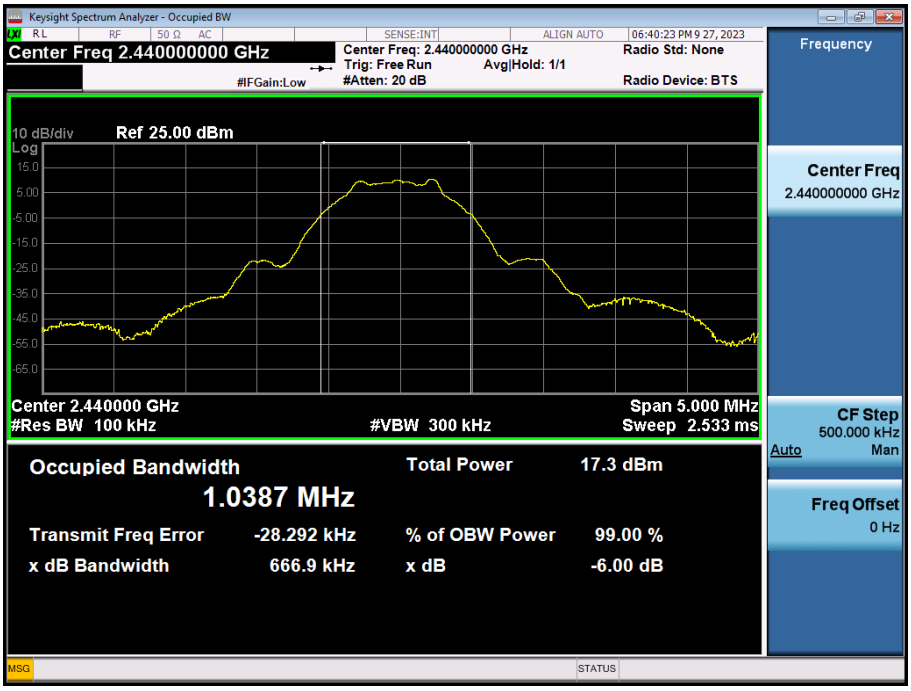
[Ant.1]

▣ 1 MBit/s (255 Byte) Test Plots

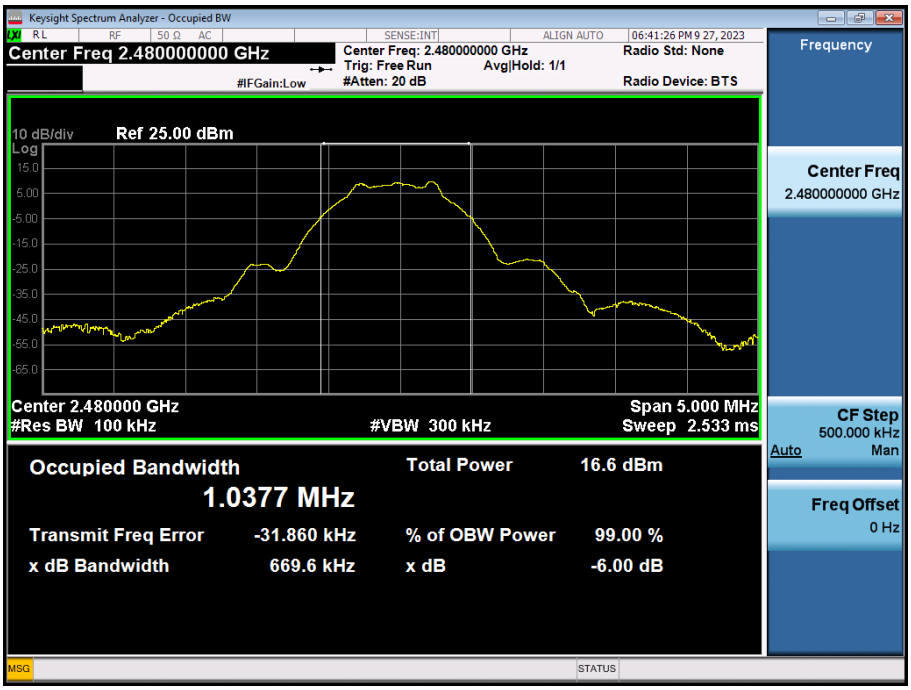
6 dB Bandwidth plot (Low-CH 0)



6 dB Bandwidth plot (Mid-CH 19)

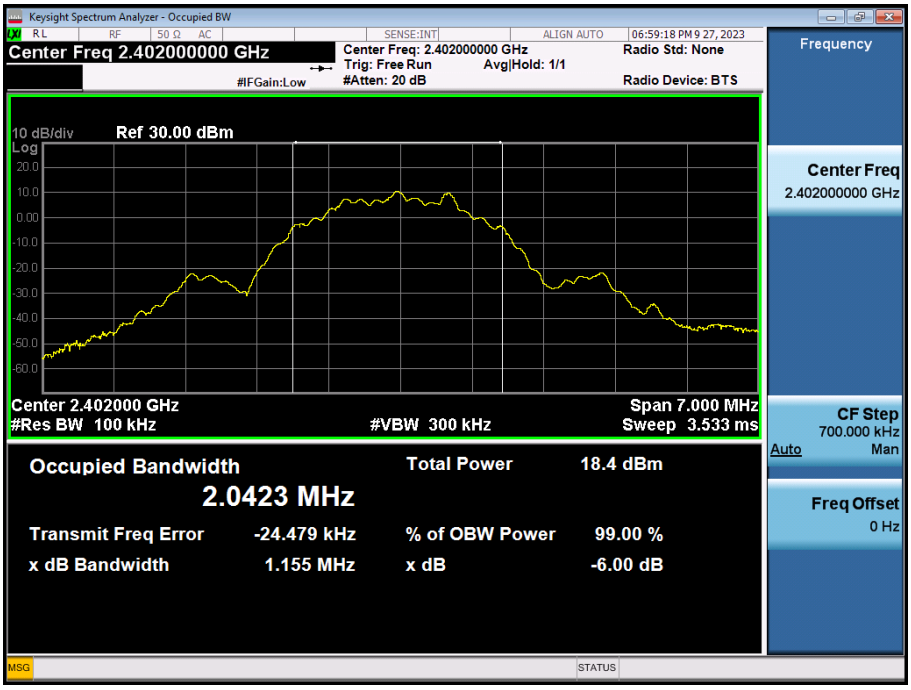


6 dB Bandwidth plot (High-CH 39)

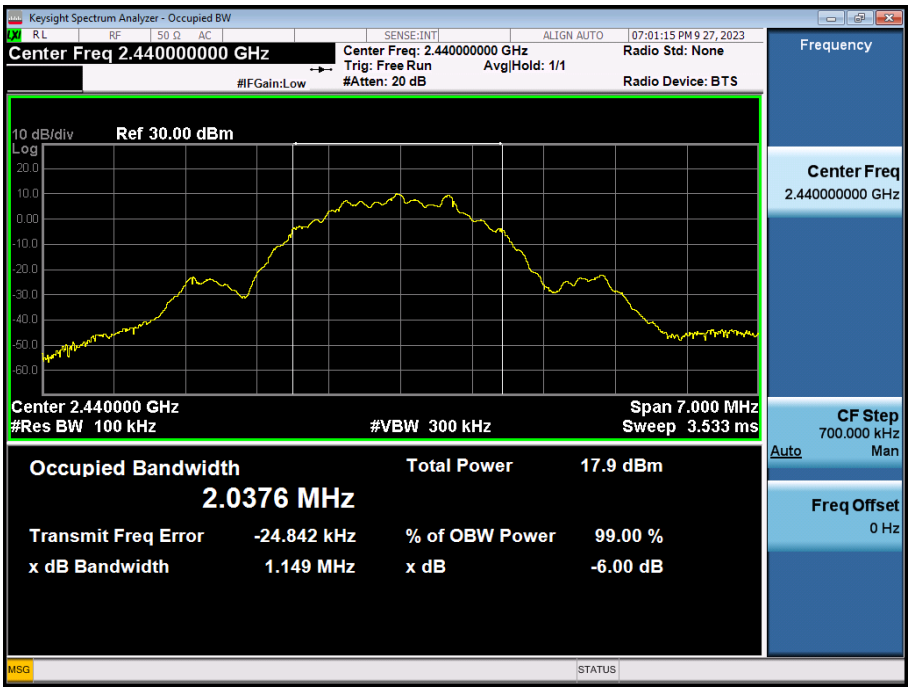


▣ 2 MBit/s (255 Byte) Test Plots

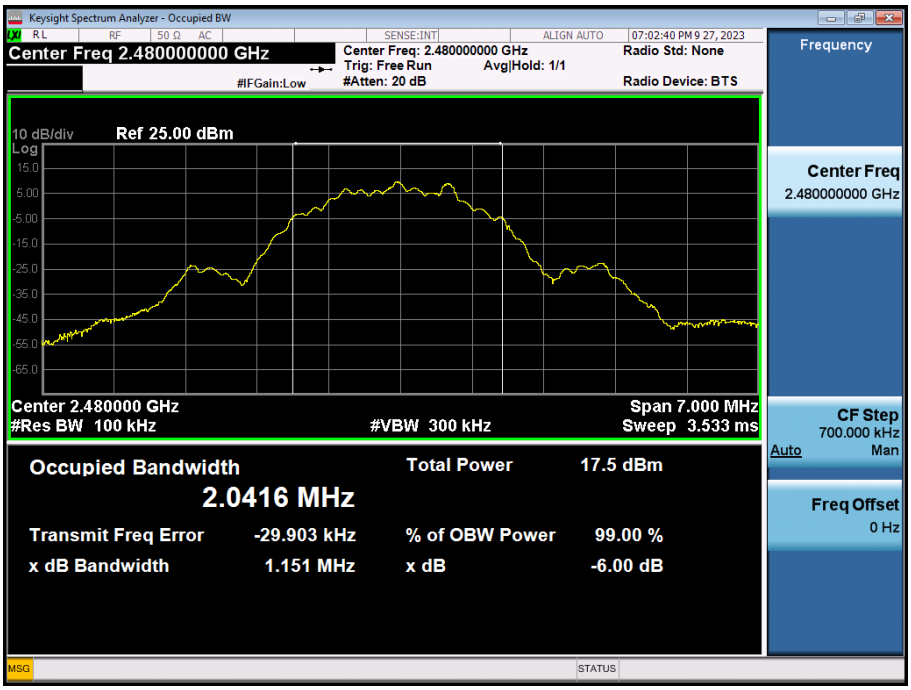
6 dB Bandwidth plot (Low-CH 0)



6 dB Bandwidth plot (Mid-CH 19)



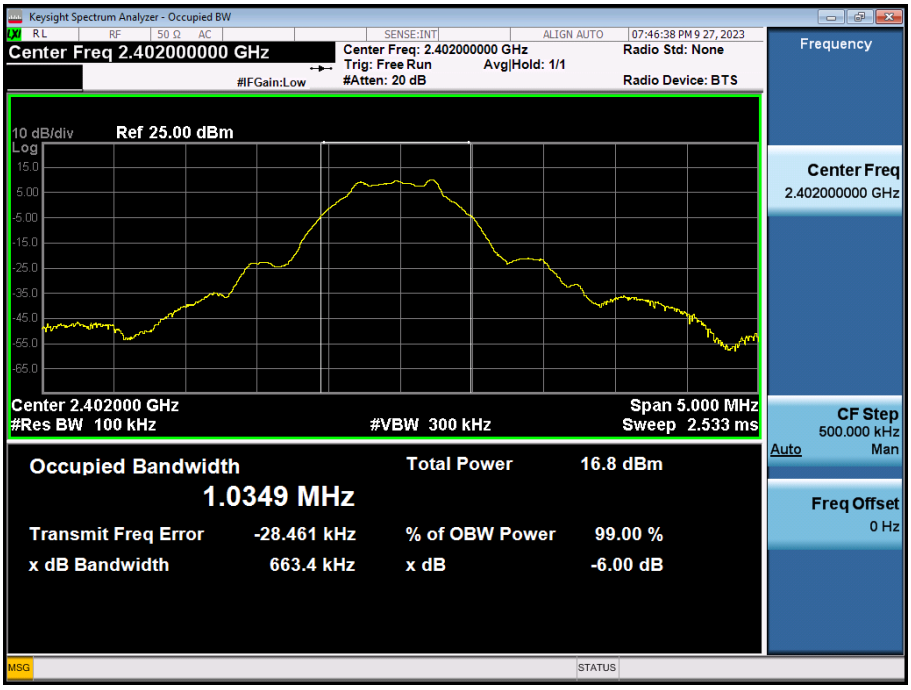
6 dB Bandwidth plot (High-CH 39)



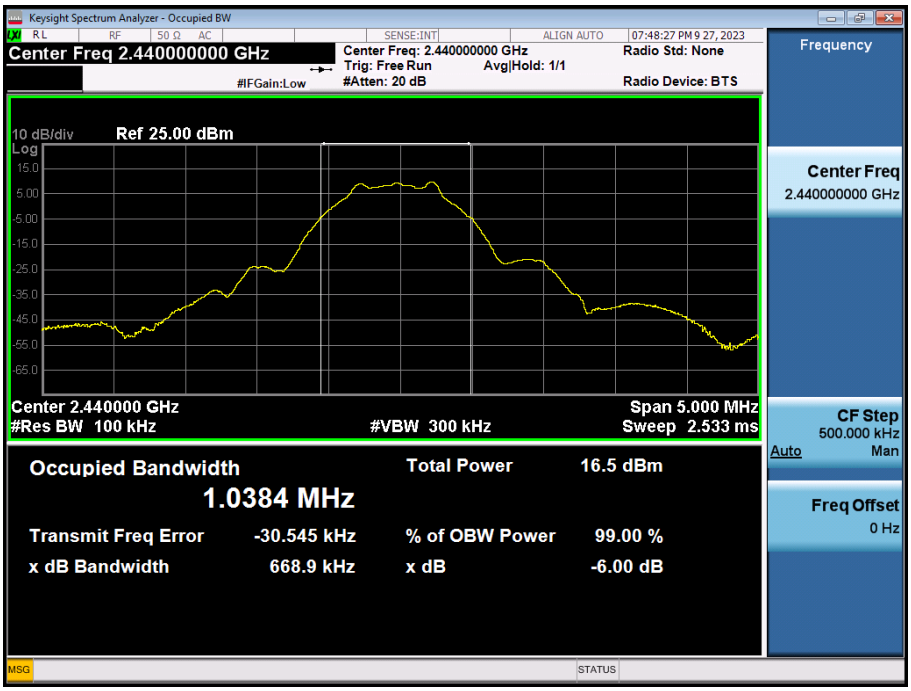
[Ant.2]

▣ 1 MBit/s (255 Byte) Test Plots

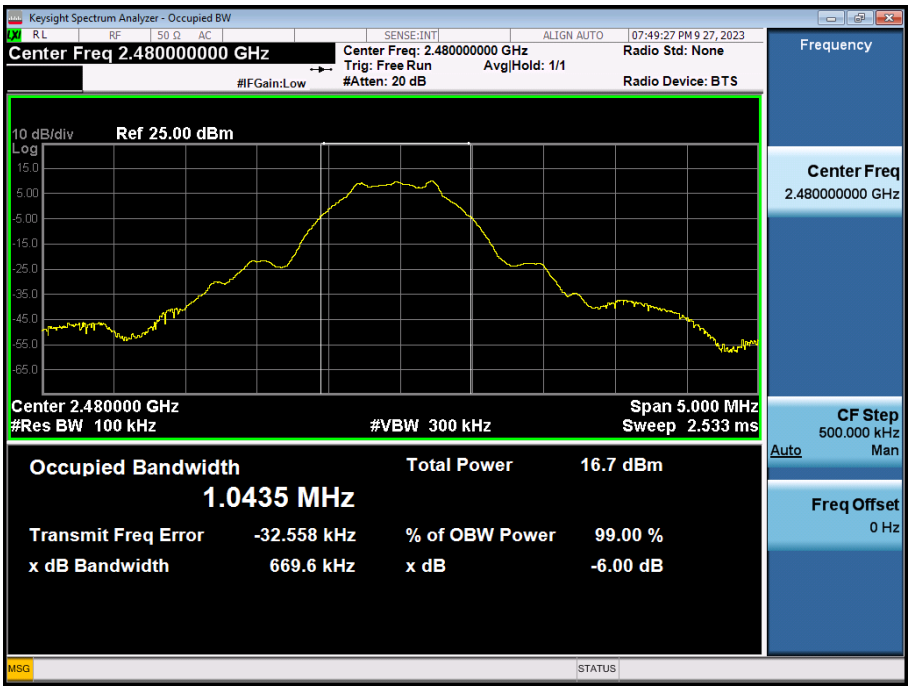
6 dB Bandwidth plot (Low-CH 0)



6 dB Bandwidth plot (Mid-CH 19)

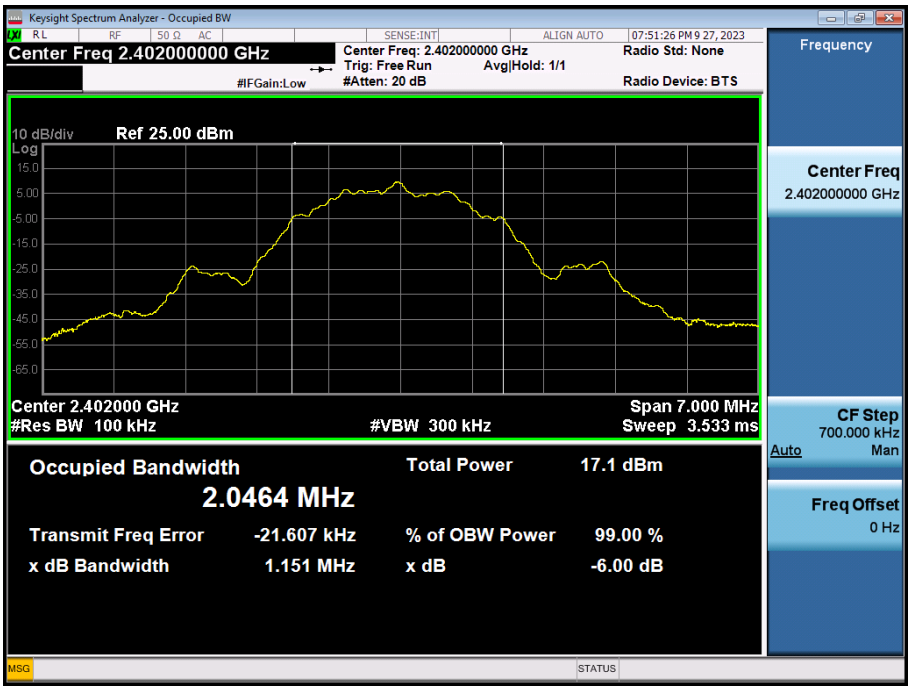


6 dB Bandwidth plot (High-CH 39)

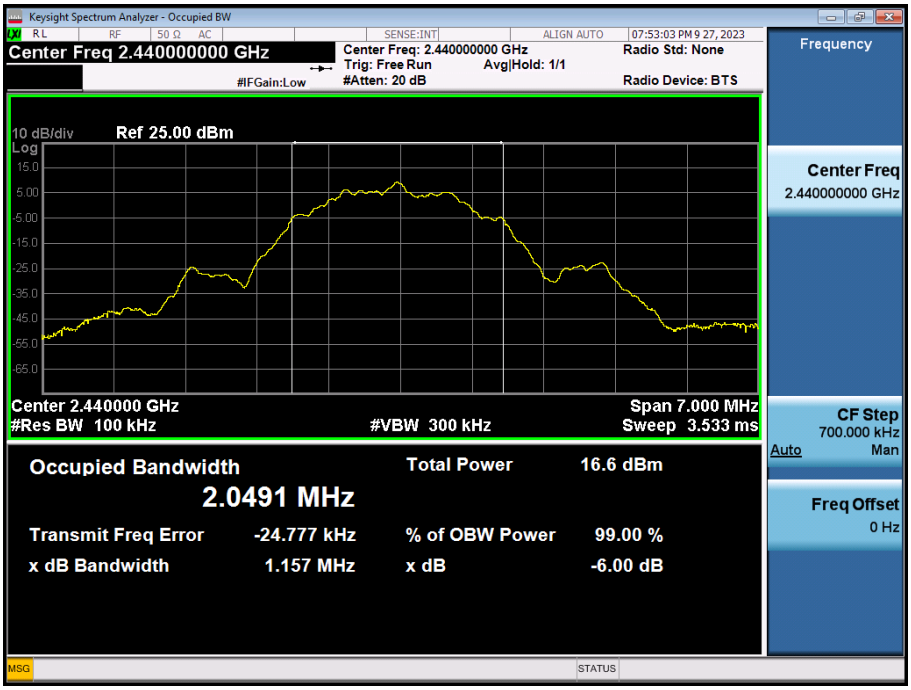


▣ 2 MBit/s (37 Byte) Test Plots

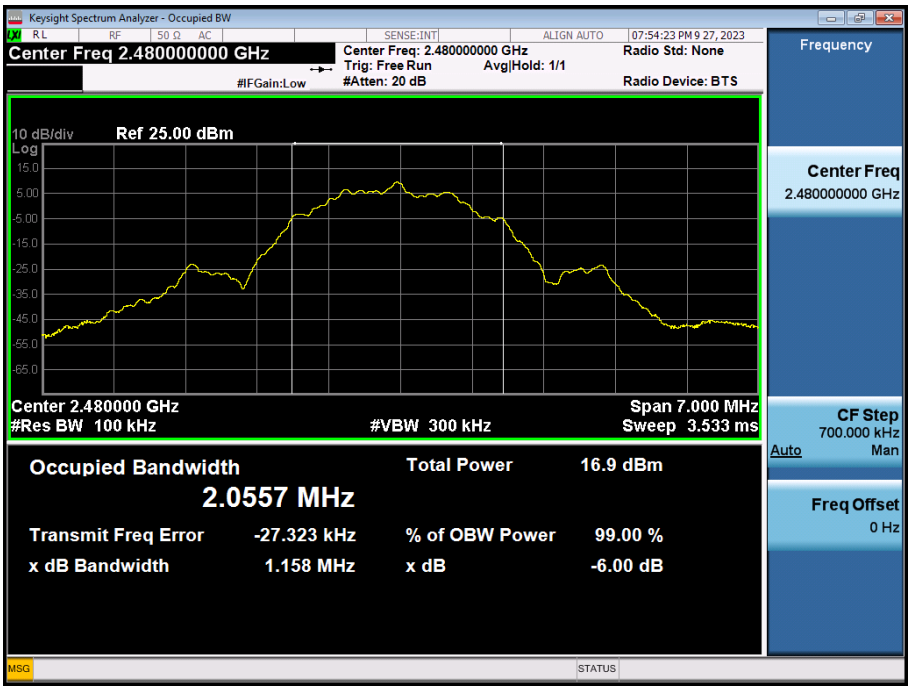
6 dB Bandwidth plot (Low-CH 0)



6 dB Bandwidth plot (Mid-CH 19)



6 dB Bandwidth plot (High-CH 39)



9.3 OUTPUT POWER

Peak Power

[SISO]

[Ant.1]

Data rate	Packet length	LE Mode		Peak Power (dBm)	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel		
1M	37	2402	0	14.566	30
		2440	19	14.606	
		2480	39	15.394	
	255	2402	0	14.162	
		2440	19	14.298	
		2480	39	14.762	
2M	37	2402	0	14.633	
		2440	19	14.936	
		2480	39	15.776	
	255	2402	0	14.393	
		2440	19	14.595	
		2480	39	15.174	
125k	37	2402	0	7.213	
		2440	19	6.932	
		2480	39	6.340	
	255	2402	0	7.179	
		2440	19	6.869	
		2480	39	6.294	
500k	37	2402	0	7.081	
		2440	19	6.990	
		2480	39	6.424	
	255	2402	0	7.236	
		2440	19	6.943	
		2480	39	6.307	

[Ant.2]

Data rate	Packet length	LE Mode		Peak Power (dBm)	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel		
1M	37	2402	0	14.495	30
		2440	19	14.716	
		2480	39	15.509	
	255	2402	0	14.153	
		2440	19	14.288	
		2480	39	15.396	
2M	37	2402	0	14.657	
		2440	19	14.720	
		2480	39	15.287	
	255	2402	0	14.393	
		2440	19	14.555	
		2480	39	15.330	

[Dual BLE]

[Ant.1]

Data rate	Packet length	LE Mode		Peak Power (dBm)	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel		
1M	37	2402	0	11.123	30
		2440	19	10.615	
		2480	39	10.236	
	255	2402	0	10.954	
		2440	19	10.635	
		2480	39	10.271	
2M	37	2402	0	11.002	
		2440	19	10.750	
		2480	39	10.333	
	255	2402	0	11.108	
		2440	19	10.812	
		2480	39	10.462	

[Ant.2]

Data rate	Packet length	LE Mode		Peak Power (dBm)	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel		
1M	37	2402	0	10.616	30
		2440	19	10.203	
		2480	39	10.533	
	255	2402	0	10.741	
		2440	19	10.165	
		2480	39	10.592	
2M	37	2402	0	10.772	
		2440	19	10.342	
		2480	39	10.540	
	255	2402	0	10.675	
		2440	19	10.279	
		2480	39	10.594	

[Dual BLE(Ant. 1 + Ant .2)]

Data rate	Packet length	LE Mode		Dual BLE Ant.1 Power(dBm)	Dual BLE Ant.2 Power(dBm)	Dual BLE Power(dBm) (Ant. 1 + Ant. 2)	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel				
1M	37	2402	0	11.123	10.616	13.887	30
		2440	19	10.615	10.203	13.424	
		2480	39	10.236	10.533	13.397	
	255	2402	0	10.954	10.741	13.859	
		2440	19	10.635	10.165	13.417	
		2480	39	10.271	10.592	13.445	
2M	37	2402	0	11.002	10.772	13.899	
		2440	19	10.750	10.342	13.561	
		2480	39	10.333	10.540	13.448	
	255	2402	0	11.108	10.675	13.907	
		2440	19	10.812	10.279	13.564	
		2480	39	10.462	10.594	13.539	

Average Power

Note :

1. Total Power [dBm] = Measured Power [dBm] + Duty Cycle Factor [dB]

[SISO]

[Ant.1]

Data rate (Bit/s)	Packet length (Byte)	LE Mode		Measured Power (dBm)	Duty Cycle Factor (dB)	Result (dBm)	Limit (dBm)
		Frequency [MHz]	Channel				
1M	37	2402	0	10.91	2.83	13.74	30
		2440	19	11.31	2.83	14.14	
		2480	39	12.04	2.83	14.87	
	255	2402	0	12.83	0.68	13.51	
		2440	19	13.20	0.68	13.88	
		2480	39	13.74	0.68	14.42	
2M	37	2402	0	9.72	4.08	13.80	
		2440	19	10.15	4.08	14.23	
		2480	39	10.83	4.08	14.91	
	255	2402	0	12.42	1.15	13.57	
		2440	19	12.78	1.15	13.93	
		2480	39	13.35	1.15	14.50	
125k	37	2402	0	5.60	1.21	6.81	
		2440	19	5.22	1.21	6.43	
		2480	39	4.99	1.21	6.20	
	255	2402	0	6.59	0.26	6.85	
		2440	19	6.20	0.26	6.46	
		2480	39	5.83	0.26	6.09	
500k	37	2402	0	4.55	2.29	6.84	
		2440	19	4.23	2.29	6.52	
		2480	39	3.79	2.29	6.08	
	255	2402	0	6.13	0.65	6.78	
		2440	19	5.90	0.65	6.55	
		2480	39	5.39	0.65	6.04	

[Ant.2]

Data rate (Bit/s)	Packet length (Byte)	LE Mode		Measured Power (dBm)	Duty Cycle Factor (dB)	Result (dBm)	Limit (dBm)
		Frequency [MHz]	Channel				
1M	37	2402	0	11.42	2.83	14.25	30
		2440	19	11.52	2.83	14.35	
		2480	39	12.58	2.83	15.41	
	255	2402	0	13.42	0.68	14.10	
		2440	19	13.53	0.68	14.21	
		2480	39	14.62	0.68	15.30	
2M	37	2402	0	10.20	4.08	14.28	
		2440	19	10.25	4.08	14.33	
		2480	39	11.21	4.08	15.29	
	255	2402	0	13.10	1.15	14.25	
		2440	19	13.18	1.15	14.33	
		2480	39	14.11	1.15	15.26	

[Dual BLE]

[Ant.1]

Data rate	Packet length	LE Mode		Measured Power	Duty Cycle Factor	Result	Limit
(Bit/s)	(Byte)	Frequency [MHz]	Channel	(dBm)	(dB)	(dBm)	(dBm)
1M	37	2402	0	7.76	2.83	10.59	30
		2440	19	7.52	2.83	10.35	
		2480	39	6.96	2.83	9.79	
	255	2402	0	9.89	0.68	10.57	
		2440	19	9.68	0.68	10.36	
		2480	39	9.08	0.68	9.76	
2M	37	2402	0	6.60	4.08	10.68	
		2440	19	6.22	4.08	10.30	
		2480	39	5.60	4.08	9.68	
	255	2402	0	9.50	1.15	10.65	
		2440	19	9.14	1.15	10.29	
		2480	39	8.52	1.15	9.67	

[Ant.2]

Data rate	Packet length	LE Mode		Measured Power	Duty Cycle Factor	Result	Limit
(Bit/s)	(Byte)	Frequency [MHz]	Channel	(dBm)	(dB)	(dBm)	(dBm)
1M	37	2402	0	7.38	2.83	10.21	30
		2440	19	7.23	2.83	10.06	
		2480	39	7.55	2.83	10.38	
	255	2402	0	9.56	0.68	10.24	
		2440	19	9.35	0.68	10.03	
		2480	39	9.66	0.68	10.34	
2M	37	2402	0	6.19	4.08	10.27	
		2440	19	5.94	4.08	10.02	
		2480	39	6.33	4.08	10.41	
	255	2402	0	9.07	1.15	10.22	
		2440	19	8.86	1.15	10.01	
		2480	39	9.24	1.15	10.39	

[Dual BLE(Ant. 1 + Ant .2)]

Data rate	Packet length	LE Mode		Dual BLE Ant.1 Power	Dual BLE Ant.2 Power	Dual BLE Power(dBm) (Ant. 1 + Ant. 2)	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel	(dBm)	(dBm)		
1M	37	2402	0	10.59	10.21	13.41	30
		2440	19	10.35	10.06	13.22	
		2480	39	9.79	10.38	13.11	
	255	2402	0	10.57	10.24	13.41	
		2440	19	10.36	10.03	13.20	
		2480	39	9.76	10.34	13.07	
2M	37	2402	0	10.68	10.27	13.49	
		2440	19	10.30	10.02	13.17	
		2480	39	9.68	10.41	13.07	
	255	2402	0	10.65	10.22	13.45	
		2440	19	10.29	10.01	13.16	
		2480	39	9.67	10.39	13.05	

9.4 POWER SPECTRAL DENSITY

Note :

1. Total PSD = Measured PSD + Duty Cycle Factor
2. In order to simplify the report, The plots were attached with the highest PSD Mode.
   Worst case : 125k Bit/s (255 Byte)

[SISO]

[Ant.1]

Frequency (MHz)	Channel No.	Mode	Test Result			
			Measured PSD (dBm/3 kHz)	Duty Cycle Factor(dB)	Total PSD (dBm/ 3kHz)	Limit
2402	0	1 MBit/s 37 Byte	-5.131	2.83	-2.301	8 dBm / 3 kHz
2440	19		-5.623	2.83	-2.793	
2480	39		-5.250	2.83	-2.420	
2402	0	1 MBit/s 255 Byte	-7.411	0.68	-6.736	
2440	19		-7.729	0.68	-7.054	
2480	39		-7.312	0.68	-6.637	
2402	0	2 MBit/s 37 Byte	-7.878	4.08	-3.801	
2440	19		-7.479	4.08	-3.402	
2480	39		-6.217	4.08	-2.140	
2402	0	2 MBit/s 255 Byte	-10.349	1.15	-9.202	
2440	19		-10.223	1.15	-9.076	
2480	39		-9.713	1.15	-8.566	
2402	0	125k 37 Byte	-1.265	1.21	-0.054	
2440	19		-1.333	1.21	-0.122	
2480	39		-1.673	1.21	-0.462	
2402	0	125k 255 Byte	0.087	0.26	0.343	
2440	19		-0.369	0.26	-0.113	
2480	39		-0.913	0.26	-0.657	
2402	0	500k 37 Byte	-5.645	2.29	-3.359	
2440	19		-6.083	2.29	-3.797	
2480	39		-8.464	0.65	-7.811	
2402	0	500k 255 Byte	-11.012	0.65	-10.359	
2440	19		-12.355	0.65	-11.702	
2480	39		-12.130	0.65	-11.477	

[Ant.2]

Frequency (MHz)	Channel No.	Mode	Test Result			
			Measured PSD (dBm/3 kHz)	Duty Cycle Factor(dB)	Total PSD (dBm/ 3kHz)	Limit
2402	0	1 MBit/s 37 Byte	-5.888	2.83	-3.058	8 dBm / 3 kHz
2440	19		-5.482	2.83	-2.652	
2480	39		-5.222	2.83	-2.392	
2402	0	1 MBit/s 255 Byte	-8.331	0.68	-7.656	
2440	19		-8.302	0.68	-7.627	
2480	39		-7.121	0.68	-6.446	
2402	0	2 MBit/s 37 Byte	-7.563	4.08	-3.486	
2440	19		-7.632	4.08	-3.555	
2480	39		-7.528	4.08	-3.451	
2402	0	2 MBit/s 255 Byte	-10.555	1.15	-9.408	
2440	19		-10.477	1.15	-9.330	
2480	39		-9.796	1.15	-8.649	

[Dual BT]

[Ant.1]

Frequency (MHz)	Channel No.	Mode	Test Result			
			Measured PSD (dBm/3 kHz)	Duty Cycle Factor(dB)	Total PSD (dBm/ 3kHz)	Limit
2402	0	1M Bit/s 37 Byte	-8.187	2.83	-5.357	8dBm/3kHz
2440	19		-9.260	2.83	-6.430	
2480	39		-9.117	2.83	-6.287	
2402	0	1M Bit/s 255 Byte	-10.934	0.68	-10.259	
2440	19		-11.729	0.68	-11.054	
2480	39		-12.067	0.68	-11.392	
2402	0	2M Bit/s 37 Byte	-10.768	4.08	-6.691	
2440	19		-11.168	4.08	-7.091	
2480	39		-11.726	4.08	-7.649	
2402	0	2M Bit/s 255 Byte	-13.370	1.15	-12.223	
2440	19		-13.823	1.15	-12.676	
2480	39		-14.382	1.15	-13.235	

[Ant.2]

Frequency (MHz)	Channel No.	Mode	Test Result			
			Measured PSD (dBm/3 kHz)	Duty Cycle Factor(dB)	Total PSD (dBm/ 3kHz)	Limit
2402	0	1M Bit/s 37 Byte	-9.537	2.83	-6.707	8dBm/3kHz
2440	19		-10.058	2.83	-7.228	
2480	39		-9.406	2.83	-6.576	
2402	0	1M Bit/s 255 Byte	-11.699	0.68	-11.024	
2440	19		-12.229	0.68	-11.554	
2480	39		-12.216	0.68	-11.541	
2402	0	2M Bit/s 37 Byte	-12.097	4.08	-8.020	
2440	19		-11.492	4.08	-7.415	
2480	39		-11.784	4.08	-7.707	
2402	0	2M Bit/s 255 Byte	-14.351	1.15	-13.204	
2440	19		-14.596	1.15	-13.449	
2480	39		-14.524	1.15	-13.377	

[Dual BLE(Ant.1+ Ant.2)]

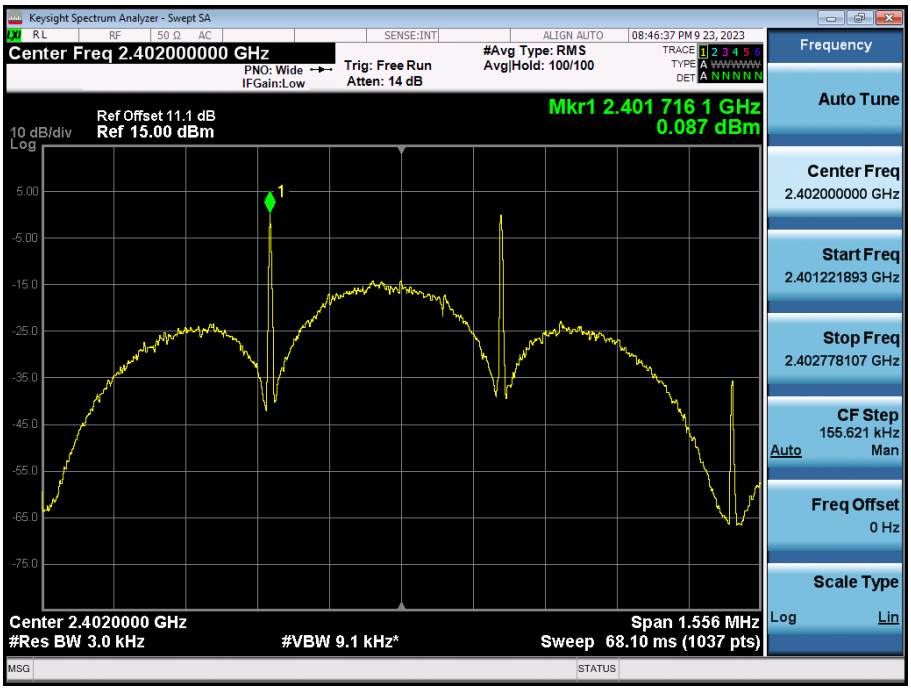
Frequency (MHz)	Channel No.	Mode	Test Result			
			Dual BLE Ant. 1 PSD (dBm/3 kHz)	Dual BLE Ant. 2 PSD (dBm/3 kHz)	Dual BLE PSD (Ant.1 + Ant.2) (dBm/3 kHz)	Limit
2402	0	1 MBit/s 37 Byte	-5.357	-6.707	-2.969	8 dBm / 3 kHz
2440	19		-6.430	-7.228	-3.800	
2480	39		-6.287	-6.576	-3.419	
2402	0	1 MBit/s 255 Byte	-10.259	-11.024	-7.614	
2440	19		-11.054	-11.554	-8.286	
2480	39		-11.392	-11.541	-8.455	
2402	0	2 MBit/s 37 Byte	-6.691	-8.020	-4.295	
2440	19		-7.091	-7.415	-4.240	
2480	39		-7.649	-7.707	-4.668	
2402	0	2 MBit/s 255 Byte	-12.223	-13.204	-9.675	
2440	19		-12.676	-13.449	-10.035	
2480	39		-13.235	-13.377	-10.295	

[SISO]

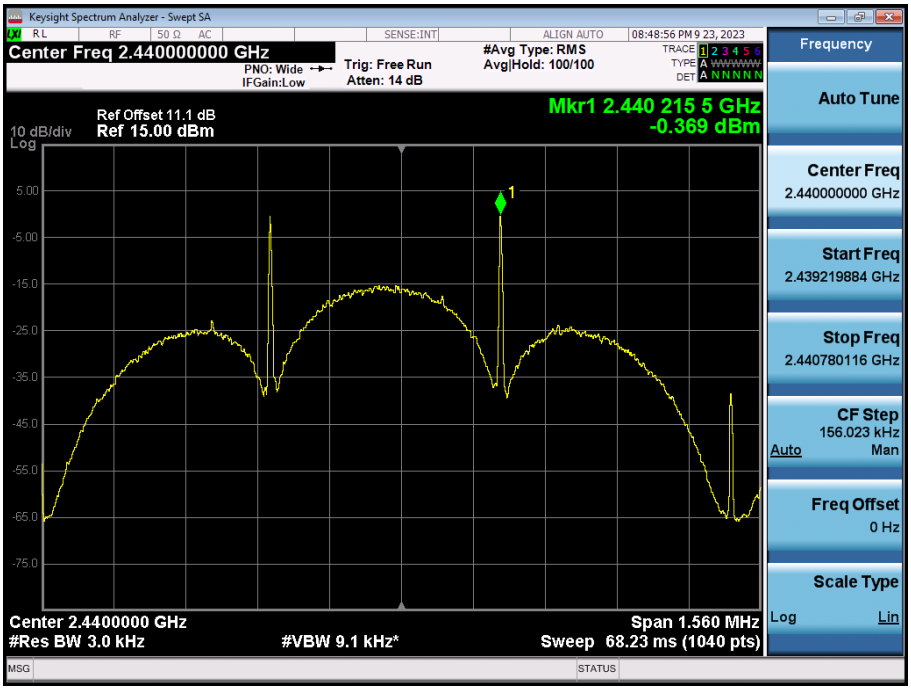
[Ant.1]

▣ 125k Bit/s (255 Byte) Test Plots

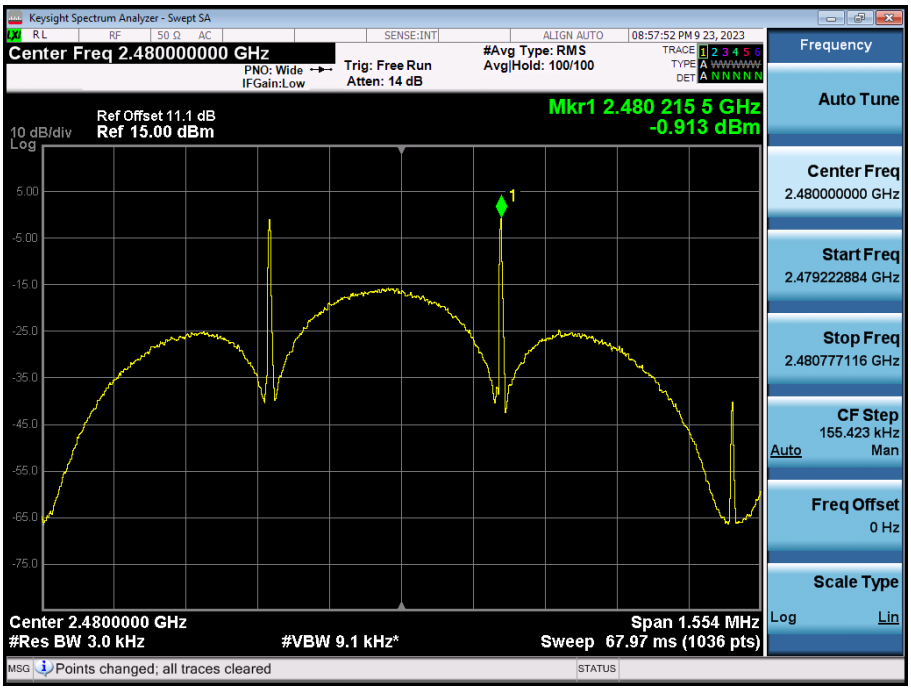
Power Spectral Density (Low-CH 0)



Power Spectral Density (Mid-CH 19)



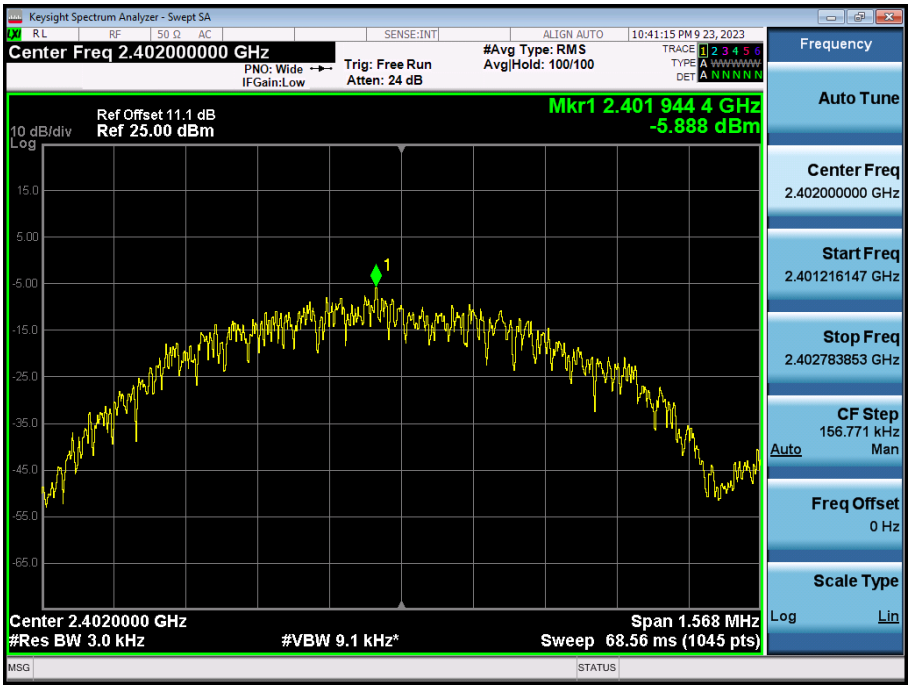
Power Spectral Density (High-CH 39)



[Ant.2]

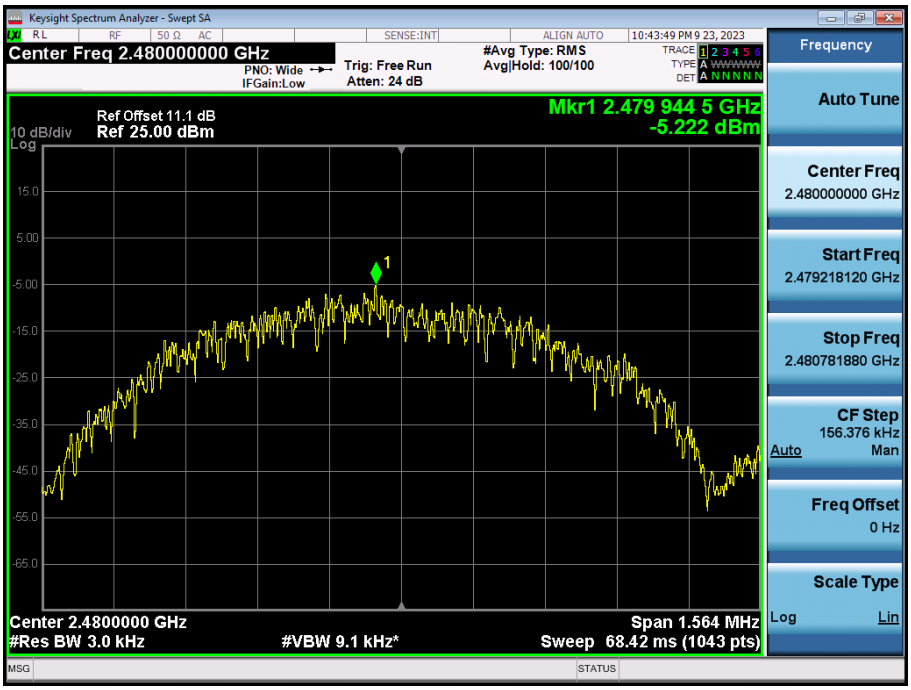
▣ 1M Bit/s (37 Byte) Test Plots

Power Spectral Density (Low-CH 0)



Power Spectral Density (Mid-CH 19)

Power Spectral Density (High-CH 39)

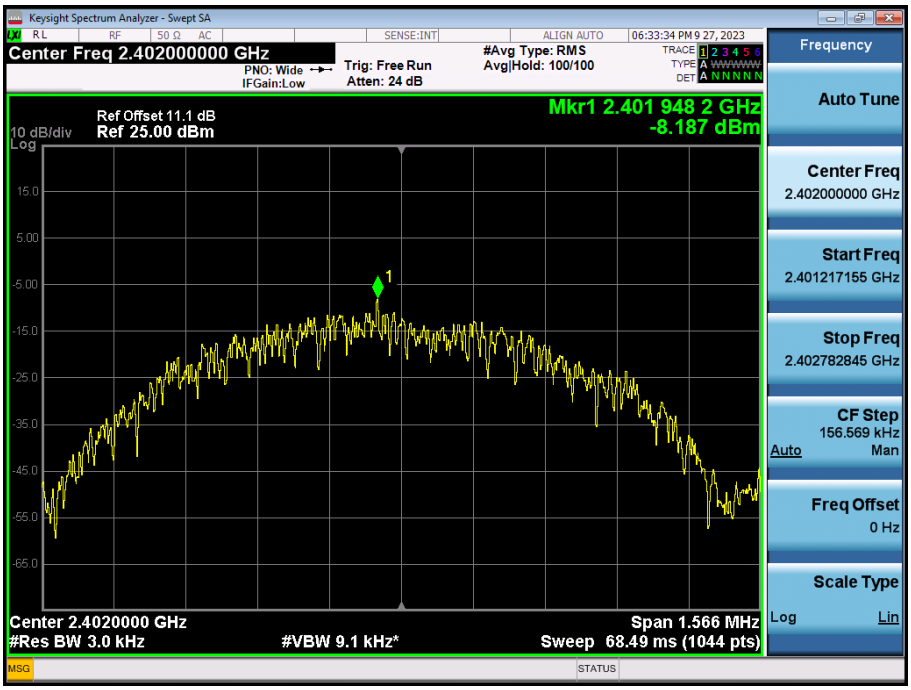


[Dual BT]

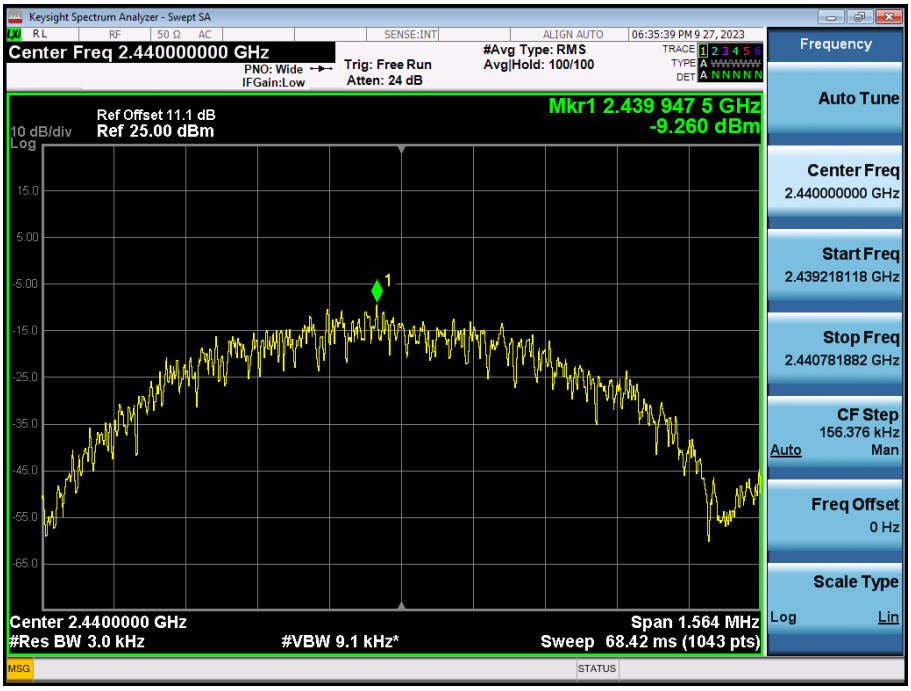
[Ant.1]

▣ 1M Bit/s (37 Byte) Test Plots

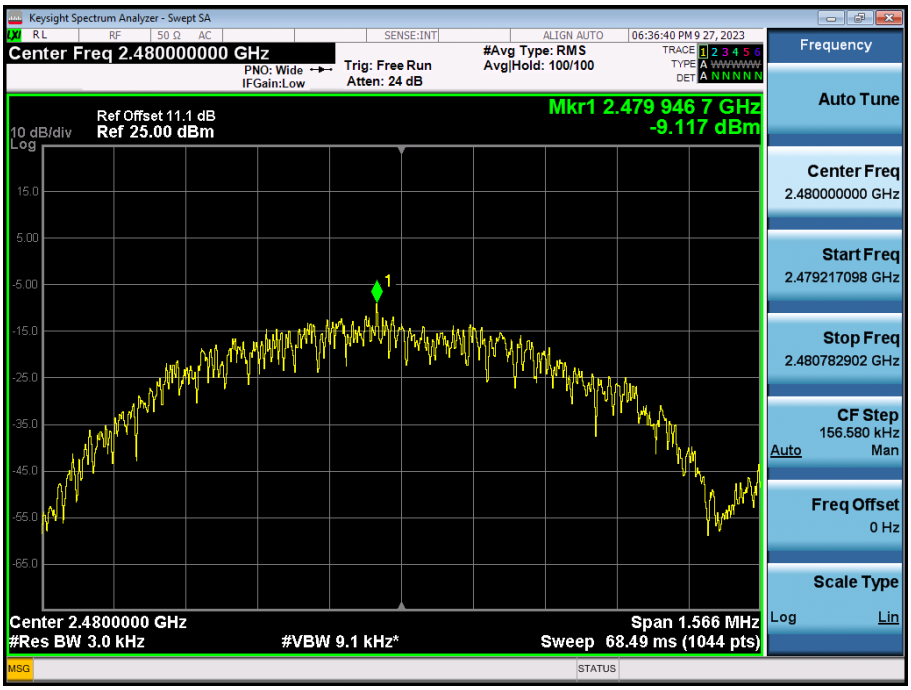
Power Spectral Density (Low-CH 0)



Power Spectral Density (Mid-CH 19)



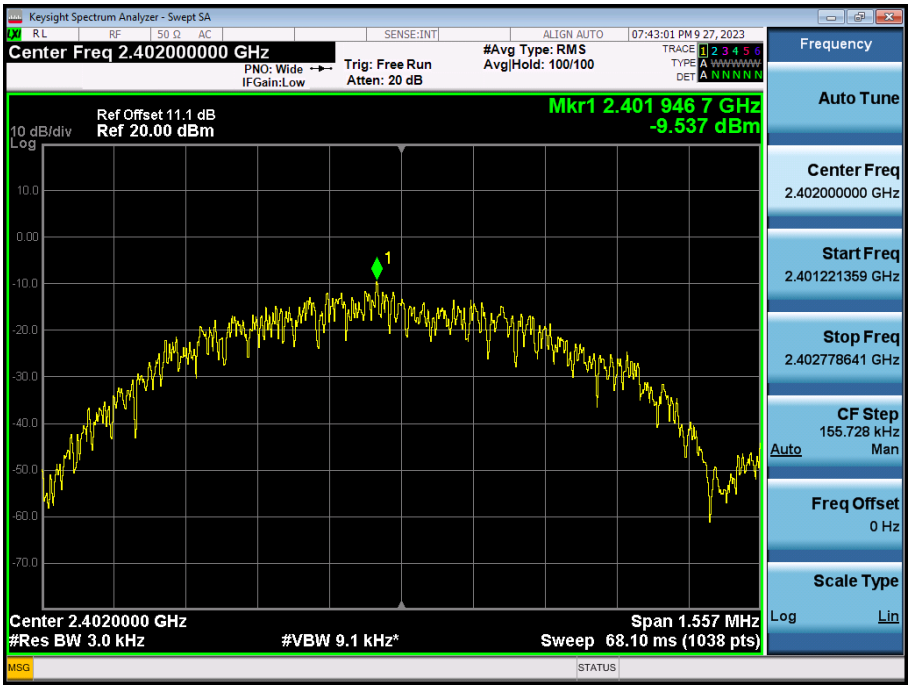
Power Spectral Density (High-CH 39)



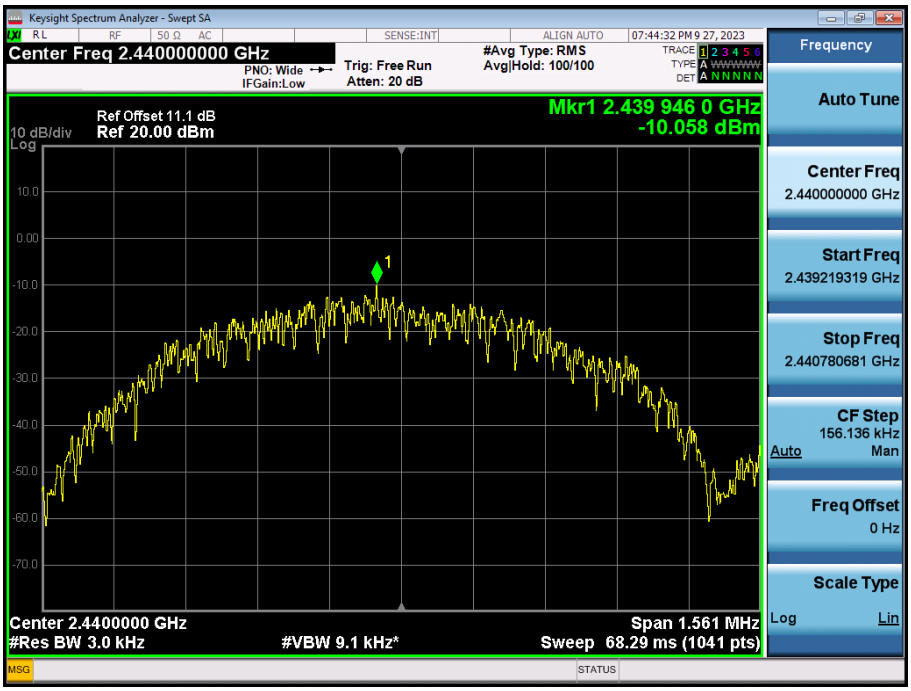
[Ant.2]

▣ 1M Bit/s (37 Byte) Test Plots

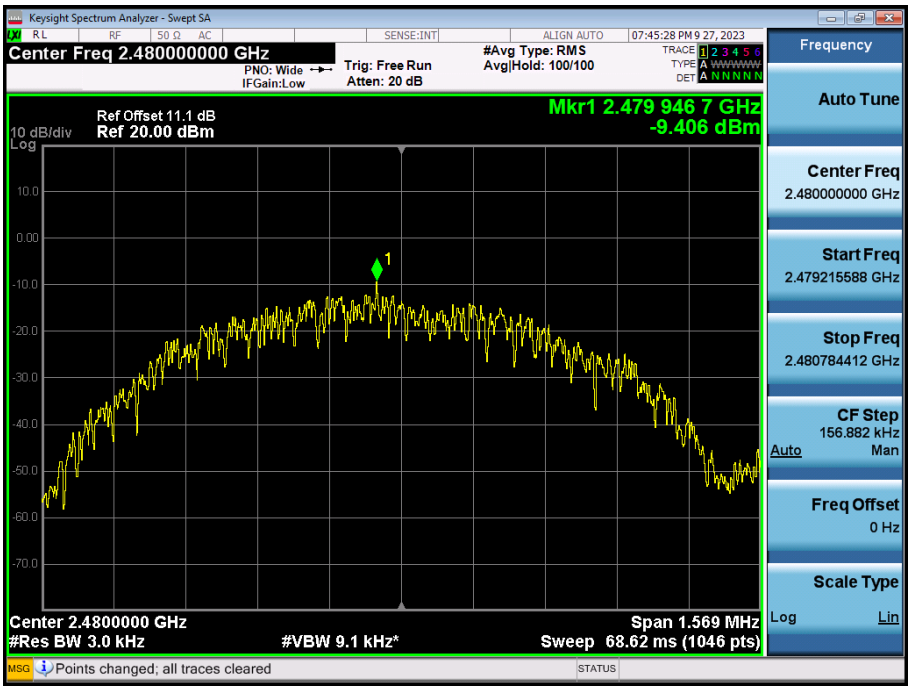
Power Spectral Density (Low-CH 0)



Power Spectral Density (Mid-CH 19)



Power Spectral Density (High-CH 39)



9.5 BAND EDGE/ CONDUCTED SPURIOUS EMISSIONS

[SISO]

[Ant.1]

[BAND EDGE]

Frequency (MHz)	Mode	Channel No.	Position	Test Result	
				Measured Level (dB)	Limit (dBc)
2402	1M Bit/s 37 Byte	0	Lower	54.935	30
2480		39	Upper	61.425	30
2402	1M Bit/s 255 Byte	0	Lower	56.058	30
2480		39	Upper	61.945	30
2402	2M Bit/s 37 Byte	0	Lower	32.833	30
2480		39	Upper	56.952	30
2402	2M Bit/s 255 Byte	0	Lower	33.032	30
2480		39	Upper	55.247	30
2402	125k Bit/s 37 Byte	0	Lower	55.832	30
2480		39	Upper	59.040	30
2402	125k Bit/s 255 Byte	0	Lower	56.238	30
2480		39	Upper	60.432	30
2402	500k Bit/s 37 Byte	0	Lower	55.969	30
2480		39	Upper	59.859	30
2402	500k Bit/s 255 Byte	0	Lower	57.223	30
2480		39	Upper	58.383	30

Note :

1. In order to simplify the report, attached plots were only the worst case channel and data rate.
   (1) Lower Band Edge 2M Bit/s (37 Byte)
   (2) Upper Band Edge 2M Bit/s (255 Byte)

[CONDUCTED SPURIOUS EMISSIONS]

Note :

1. In order to simplify the report, attached plots were only the worst case channel and data rate.
   Worst case 2M Bit/s (37 Byte)

[Ant.2]

[BAND EDGE]

Frequency (MHz)	Mode	Channel No.	Position	Test Result	
				Measured Level (dB)	Limit (dBc)
2402	1M Bit/s 37 Byte	0	Lower	55.184	30
2480		39	Upper	61.021	30
2402	1M Bit/s 255 Byte	0	Lower	55.141	30
2480		39	Upper	60.229	30
2402	2M Bit/s 37 Byte	0	Lower	33.160	30
2480		39	Upper	55.847	30
2402	2M Bit/s 255 Byte	0	Lower	33.306	30
2480		39	Upper	54.785	30

Note :

1. In order to simplify the report, attached plots were only the worst case channel and data rate.

(1) Lower 2M Bit/s (37 Byte)

(2) Upper 2M Bit/s (255 Byte)

[CONDUCTED SPURIOUS EMISSIONS]

Note :

1. In order to simplify the report, attached plots were only the worst case channel and data rate.
   Worst case 1M Bit/s (37 Byte)

[Dual BT]

[Ant.1]

[BAND EDGE]

Frequency (MHz)	Mode	Channel No.	Position	Test Result	
				Measured Level (dB)	Limit (dBc)
2402	1M Bit/s 37 Byte	0	Lower	54.878	30
2480		39	Upper	57.386	30
2402	1M Bit/s 255 Byte	0	Lower	57.227	30
2480		39	Upper	62.170	30
2402	2M Bit/s 37 Byte	0	Lower	32.486	30
2480		39	Upper	55.983	30
2402	2M Bit/s 255 Byte	0	Lower	32.680	30
2480		39	Upper	55.549	30

Note :

1. In order to simplify the report, attached plots were only the worst case channel and data rate.
   (1) Lower Band Edge 2M Bit/s (37 Byte)
   (2) Upper Band Edge 2M Bit/s (255 Byte)

[CONDUCTED SPURIOUS EMISSIONS]

Note :

1. In order to simplify the report, attached plots were only the worst case channel and data rate.
   Worst case 2M Bit/s (37 Byte)

[Ant.2]

[BAND EDGE]

Frequency (MHz)	Mode	Channel No.	Position	Test Result	
				Measured Level (dB)	Limit (dBc)
2402	1M Bit/s 37 Byte	0	Lower	55.303	30
2480		39	Upper	63.666	30
2402	1M Bit/s 255 Byte	0	Lower	55.120	30
2480		39	Upper	63.495	30
2402	2M Bit/s 37 Byte	0	Lower	33.453	30
2480		39	Upper	55.955	30
2402	2M Bit/s 255 Byte	0	Lower	33.550	30
2480		39	Upper	56.446	30

Note :

1. In order to simplify the report, attached plots were only the worst case channel and data rate.

(1) Lower 2M Bit/s (37 Byte)

(2) Upper 2M Bit/s (37 Byte)

[CONDUCTED SPURIOUS EMISSIONS]

Note :

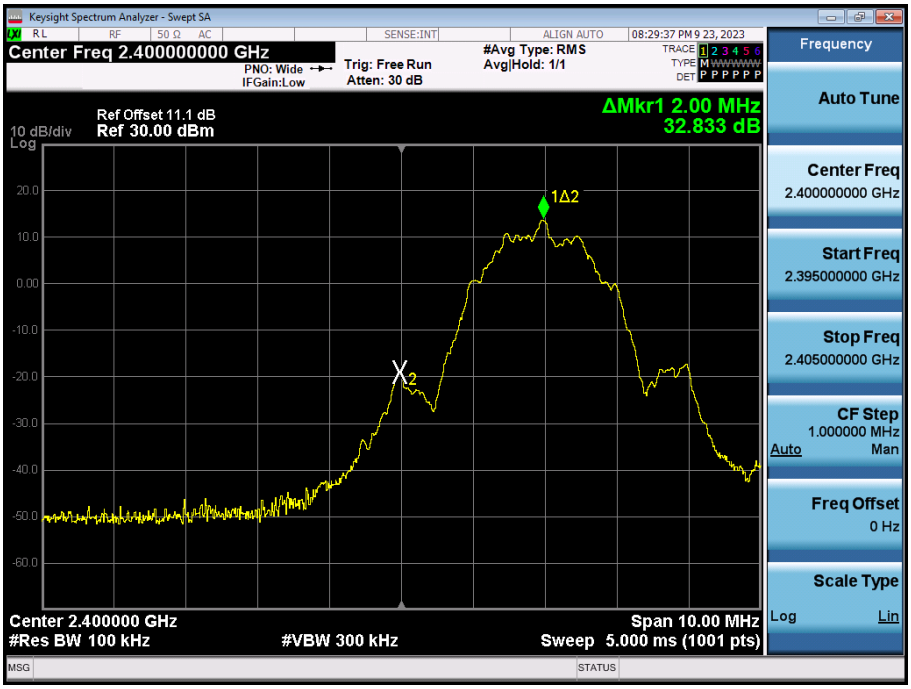
1. In order to simplify the report, attached plots were only the worst case channel and data rate.
   Worst case 2M Bit/s (37 Byte)

[SISO]

[Ant.1]

▣ Test Plots(Band Edge_Lower)

2M Bit/s (37 Byte) Low Channel(Ch. 0)

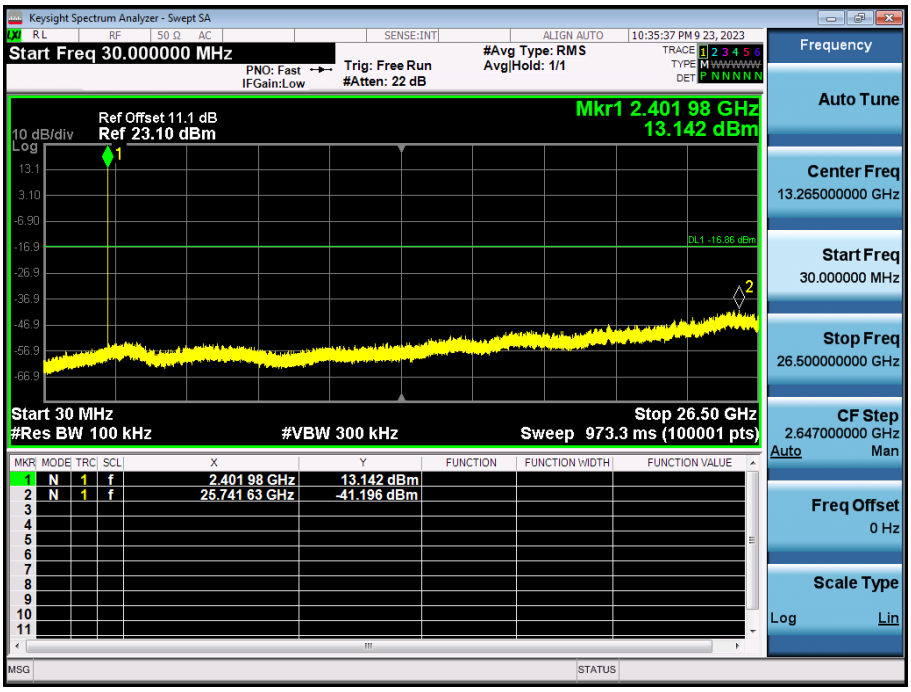


▣ Test Plots(Band Edge_Upper)

2M Bit/s (255 Byte) High Channel(Ch. 39)

▣ 2M Bit/s (37 Byte) Test Plots

[CONDUCTED SPURIOUS EMISSIONS]

Spurious Emission (30 MHz – 26.5 GHz)


Limit (dBm): -16.86

[Ant.2]

▣ Test Plots(Band Edge_Lower)

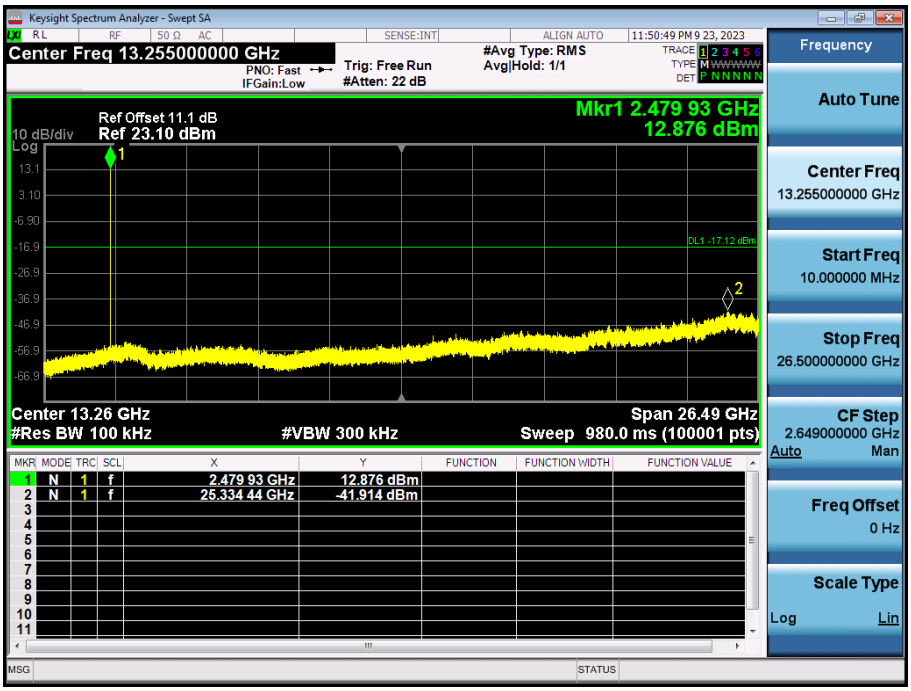
2M Bit/s (37 Byte) Low Channel(Ch. 0)

▣ Test Plots(Band Edge_Upper)

2M Bit/s (255 Byte) High Channel(Ch. 39)

▣ 1M Bit/s (37 Byte) Test Plots

[CONDUCTED SPURIOUS EMISSIONS]

Spurious Emission (30 MHz – 26.5 GHz)


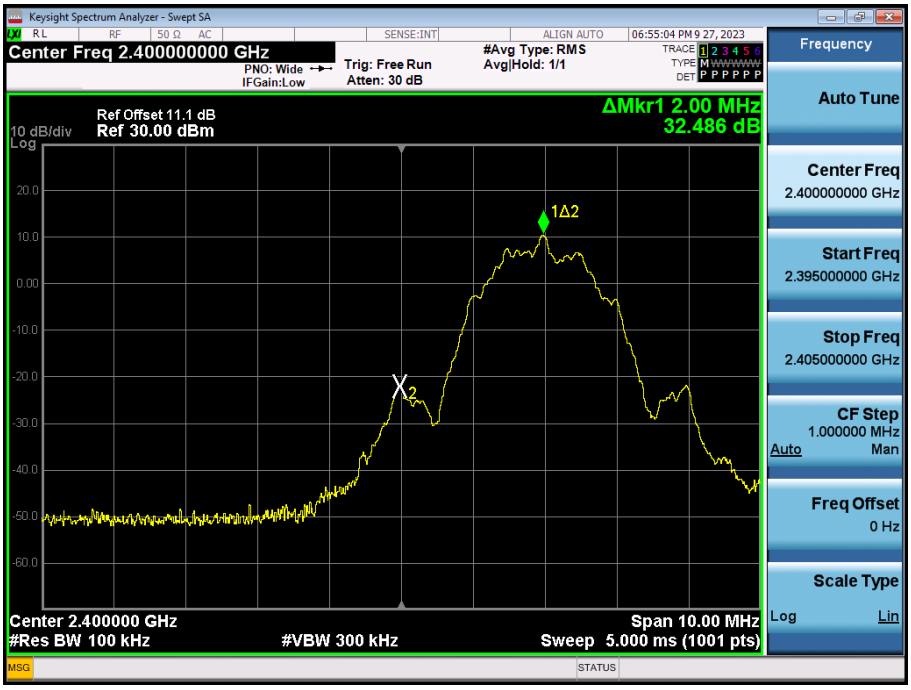
Limit (dBm): -17.12

[Dual BT]

[Ant.1]

▣ Test Plots(Band Edge_Lower)

2M Bit/s (37 Byte) Low Channel(Ch. 0)

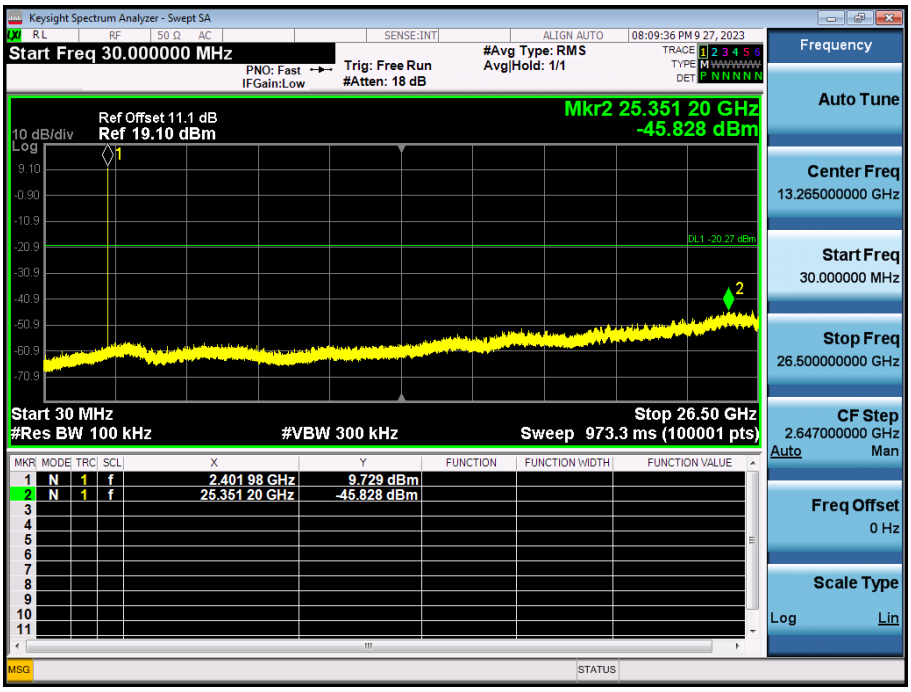


▣ Test Plots(Band Edge_Upper)

2M Bit/s (255 Byte) High Channel(Ch. 39)

▣ 2M Bit/s (37 Byte) Test Plots

[CONDUCTED SPURIOUS EMISSIONS]

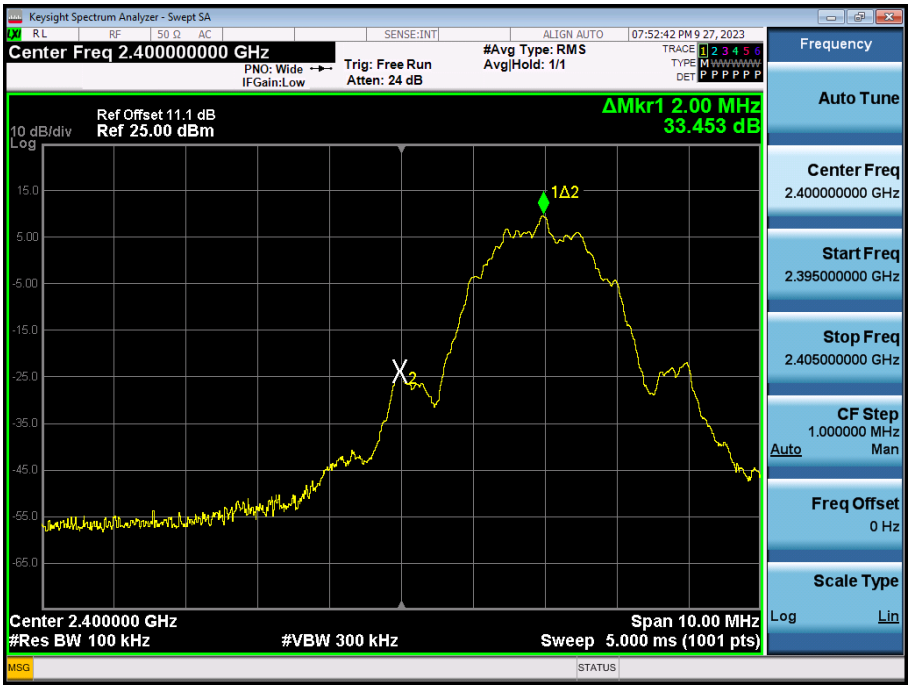
Spurious Emission (30 MHz – 26.5 GHz)


Limit (dBm): -20.27

[Ant.2]

▣ Test Plots(Band Edge_Lower)

2M Bit/s (37 Byte) Low Channel(Ch. 0)

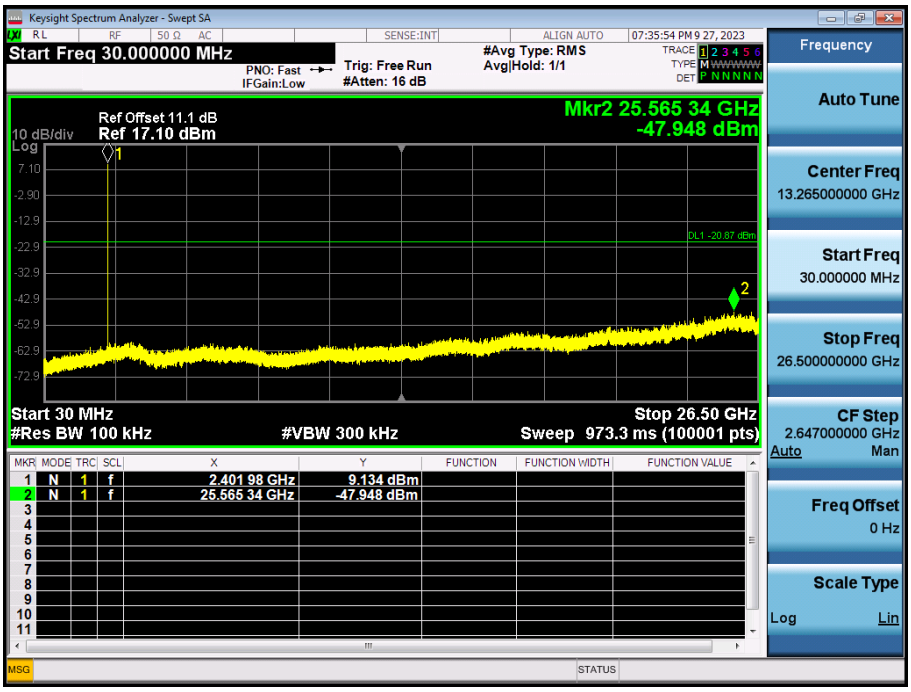


▣ Test Plots(Band Edge_Upper)

2M Bit/s (37 Byte) High Channel(Ch. 39)

▣ 2M Bit/s (37 Byte) Test Plots

[CONDUCTED SPURIOUS EMISSIONS]

Spurious Emission (30 MHz – 26.5 GHz)


Limit (dBm): -20.87

9.6 RADIATED SPURIOUS EMISSIONS

Frequency Range : 9 kHz – 30 MHz

Frequency	Measured Value	A.F+C.L+D.F	POL	Total	Limit	Margin
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]
No Critical peaks found						

Note:

1. The Measured of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
2. Distance extrapolation factor = 40log (specific distance / test distance) (dB)
3. Limit line = specific Limits (dBµV) + Distance extrapolation factor

Frequency Range : Below 1 GHz

Frequency	Measured Value	A.F+C.L	POL	Total	Limit	Margin
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]
No Critical peaks found						

Note:

1. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.

Frequency Range : Above 1 GHz
[SISO]

[Ant.1]

Mode : 1 M Bit/s (37 Bytes)

Operation Frequency : 2402 MHz(Ch. 0)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4804	47.51	V	47.51	73.98	26.47	PK
4804	36.08	V	36.08	53.98	17.90	AV
7206	51.00	V	51.00	73.98	22.98	PK
7206	39.15	V	39.15	53.98	14.83	AV
4804	47.79	H	47.79	73.98	26.19	PK
4804	36.14	H	36.14	53.98	17.84	AV
7206	51.02	H	51.02	73.98	22.96	PK
7206	39.22	H	39.22	53.98	14.76	AV

Operation Frequency : 2440 MHz(Ch. 19)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4880	46.66	V	46.66	73.98	27.32	PK
4880	35.04	V	35.04	53.98	18.94	AV
7320	51.84	V	51.84	73.98	22.14	PK
7320	39.89	V	39.89	53.98	14.09	AV
4880	46.59	H	46.59	73.98	27.39	PK
4880	35.81	H	35.81	53.98	18.17	AV
7320	51.68	H	51.68	73.98	22.30	PK
7320	39.84	H	39.84	53.98	14.14	AV

Operation Frequency : 2480 MHz(Ch. 39)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4960	47.46	V	47.46	73.98	26.52	PK
4960	35.66	V	35.66	53.98	18.32	AV
7440	52.03	V	52.03	73.98	21.95	PK
7440	39.81	V	39.81	53.98	14.17	AV
4960	47.29	H	47.29	73.98	26.69	PK
4960	35.42	H	35.42	53.98	18.56	AV
7440	51.94	H	51.94	73.98	22.04	PK
7440	39.72	H	39.72	53.98	14.26	AV

Mode : 2 M Bit/s (37 Bytes)

Operation Frequency : 2402 MHz(Ch. 0)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4804	47.39	V	47.39	73.98	26.59	PK
4804	35.64	V	35.64	53.98	18.34	AV
7206	51.36	V	51.36	73.98	22.62	PK
7206	39.17	V	39.17	53.98	14.81	AV
4804	47.45	H	47.45	73.98	26.53	PK
4804	35.69	H	35.69	53.98	18.29	AV
7206	51.40	H	51.40	73.98	22.58	PK
7206	39.22	H	39.22	53.98	14.76	AV

Operation Frequency : 2440 MHz(Ch. 19)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4880	46.44	V	46.44	73.98	27.54	PK
4880	35.05	V	35.05	53.98	18.93	AV
7320	51.91	V	51.91	73.98	22.07	PK
7320	38.85	V	38.85	53.98	15.13	AV
4880	46.32	H	46.32	73.98	27.66	PK
4880	34.78	H	34.78	53.98	19.20	AV
7320	51.68	H	51.68	73.98	22.30	PK
7320	38.49	H	38.49	53.98	15.49	AV

Operation Frequency : 2480 MHz(Ch. 39)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4960	46.20	V	46.20	73.98	27.78	PK
4960	34.59	V	34.59	53.98	19.39	AV
7440	52.09	V	52.09	73.98	21.89	PK
7440	39.76	V	39.76	53.98	14.22	AV
4960	46.16	H	46.16	73.98	27.82	PK
4960	34.45	H	34.45	53.98	19.53	AV
7440	51.89	H	51.89	73.98	22.09	PK
7440	39.58	H	39.58	53.98	14.40	AV

[Ant.2]

Mode : 1 M Bit/s (37 Bytes)

Operation Frequency : 2402 MHz(Ch. 0)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4804	47.28	V	47.28	73.98	26.70	PK
4804	35.49	V	35.49	53.98	18.49	AV
7206	51.33	V	51.33	73.98	22.65	PK
7206	39.17	V	39.17	53.98	14.81	AV
4804	47.58	H	47.58	73.98	26.40	PK
4804	35.66	H	35.66	53.98	18.32	AV
7206	51.58	H	51.58	73.98	22.40	PK
7206	39.42	H	39.42	53.98	14.56	AV

Operation Frequency : 2440 MHz(Ch. 19)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4880	46.72	V	46.72	73.98	27.26	PK
4880	34.97	V	34.97	53.98	19.01	AV
7320	51.67	V	51.67	73.98	22.31	PK
7320	39.75	V	39.75	53.98	14.23	AV
4880	46.97	H	46.97	73.98	27.01	PK
4880	35.23	H	35.23	53.98	18.75	AV
7320	52.00	H	52.00	73.98	21.98	PK
7320	40.03	H	40.03	53.98	13.95	AV

Operation Frequency : 2480 MHz(Ch. 39)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4960	47.37	V	47.37	73.98	26.61	PK
4960	37.51	V	37.51	53.98	16.47	AV
7440	52.11	V	52.11	73.98	21.87	PK
7440	39.62	V	39.62	53.98	14.36	AV
4960	47.45	H	47.45	73.98	26.53	PK
4960	37.59	H	37.59	53.98	16.39	AV
7440	52.31	H	52.31	73.98	21.67	PK
7440	39.90	H	39.90	53.98	14.08	AV

Mode : 2 M Bit/s (37 Bytes)

Operation Frequency : 2402 MHz(Ch. 0)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4804	46.76	V	46.76	73.98	27.22	PK
4804	35.42	V	35.42	53.98	18.56	AV
7206	52.11	V	52.11	73.98	21.87	PK
7206	39.38	V	39.38	53.98	14.60	AV
4804	46.89	H	46.89	73.98	27.09	PK
4804	35.48	H	35.48	53.98	18.50	AV
7206	52.23	H	52.23	73.98	21.75	PK
7206	39.44	H	39.44	53.98	14.54	AV

Operation Frequency : 2440 MHz(Ch. 19)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4880	46.83	V	46.83	73.98	27.15	PK
4880	35.17	V	35.17	53.98	18.81	AV
7320	52.14	V	52.14	73.98	21.84	PK
7320	39.71	V	39.71	53.98	14.27	AV
4880	47.02	H	47.02	73.98	26.96	PK
4880	35.30	H	35.30	53.98	18.68	AV
7320	52.20	H	52.20	73.98	21.78	PK
7320	40.04	H	40.04	53.98	13.94	AV

Operation Frequency : 2480 MHz(Ch. 39)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4960	47.22	V	47.22	73.98	26.76	PK
4960	36.17	V	36.17	53.98	17.81	AV
7440	51.39	V	51.39	73.98	22.59	PK
7440	39.48	V	39.48	53.98	14.50	AV
4960	47.23	H	47.23	73.98	26.75	PK
4960	36.20	H	36.20	53.98	17.78	AV
7440	51.56	H	51.56	73.98	22.42	PK
7440	39.94	H	39.94	53.98	14.04	AV

[Dual Ant.1+ Ant.2]

Mode : 1 M Bit/s (37 Bytes)

Operation Frequency : 2402 MHz(Ch. 0)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4804	47.28	V	47.28	73.98	26.70	PK
4804	35.89	V	35.89	53.98	18.09	AV
7206	47.56	V	47.56	73.98	26.42	PK
7206	39.87	V	39.87	53.98	14.11	AV
4804	47.33	H	47.33	73.98	26.65	PK
4804	35.98	H	35.98	53.98	18.00	AV
7206	47.59	H	47.59	73.98	26.39	PK
7206	39.89	H	39.89	53.98	14.09	AV

Operation Frequency : 2440 MHz(Ch. 19)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4880	46.69	V	46.69	73.98	27.29	PK
4880	34.86	V	34.86	53.98	19.12	AV
7320	53.42	V	53.42	73.98	20.56	PK
7320	40.69	V	40.69	53.98	13.29	AV
4880	46.72	H	46.72	73.98	27.26	PK
4880	34.98	H	34.98	53.98	19.00	AV
7320	53.48	H	53.48	73.98	20.50	PK
7320	40.79	H	40.79	53.98	13.19	AV

Operation Frequency : 2480 MHz(Ch. 39)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4960	45.67	V	45.67	73.98	28.31	PK
4960	33.90	V	33.90	53.98	20.08	AV
7440	52.07	V	52.07	73.98	21.91	PK
7440	40.36	V	40.36	53.98	13.62	AV
4960	45.81	H	45.81	73.98	28.17	PK
4960	33.93	H	33.93	53.98	20.05	AV
7440	52.26	H	52.26	73.98	21.72	PK
7440	40.48	H	40.48	53.98	13.50	AV

Mode : 2 M Bit/s (37 Bytes)

Operation Frequency : 2402 MHz(Ch. 0)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4804	47.28	V	47.28	73.98	26.70	PK
4804	35.68	V	35.68	53.98	18.30	AV
7206	47.59	V	47.59	73.98	26.39	PK
7206	39.55	V	39.55	53.98	14.43	AV
4804	47.40	H	47.40	73.98	26.58	PK
4804	35.86	H	35.86	53.98	18.12	AV
7206	47.65	H	47.65	73.98	26.33	PK
7206	39.60	H	39.60	53.98	14.38	AV

Operation Frequency : 2440 MHz(Ch. 19)

Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4880	46.29	V	46.29	73.98	27.69	PK
4880	34.69	V	34.69	53.98	19.29	AV
7320	52.83	V	52.83	73.98	21.15	PK
7320	40.21	V	40.21	53.98	13.77	AV
4880	46.40	H	46.40	73.98	27.58	PK
4880	34.88	H	34.88	53.98	19.10	AV
7320	53.14	H	53.14	73.98	20.84	PK
7320	40.38	H	40.38	53.98	13.60	AV

Operation Frequency : 2480 MHz(Ch. 39)

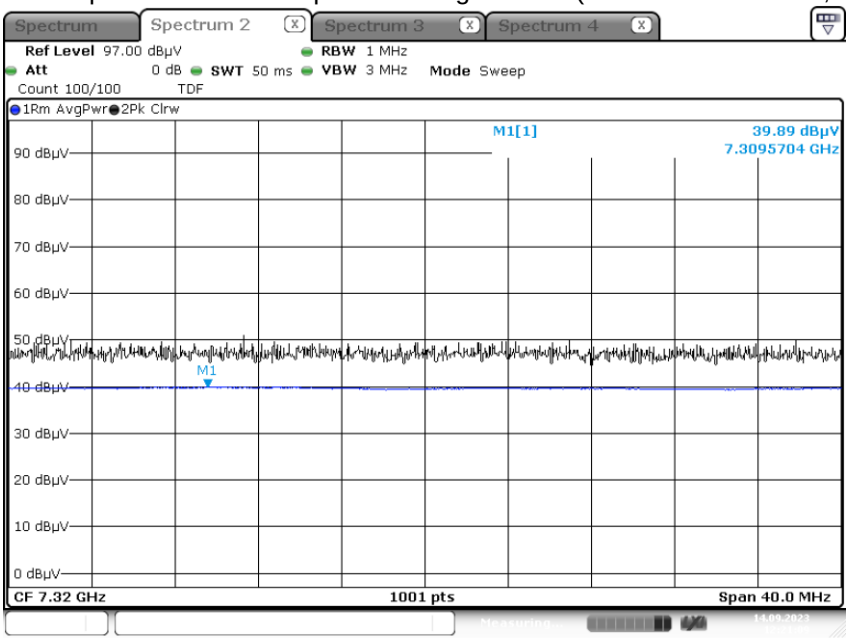
Frequency [MHz]	Measured Value [dBµV]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4960	45.36	V	45.36	73.98	28.62	PK
4960	33.94	V	33.94	53.98	20.04	AV
7440	52.08	V	52.08	73.98	21.90	PK
7440	40.11	V	40.11	53.98	13.87	AV
4960	45.49	H	45.49	73.98	28.49	PK
4960	34.09	H	34.09	53.98	19.89	AV
7440	52.12	H	52.12	73.98	21.86	PK
7440	40.20	H	40.20	53.98	13.78	AV

[SISO]

[Ant.1]

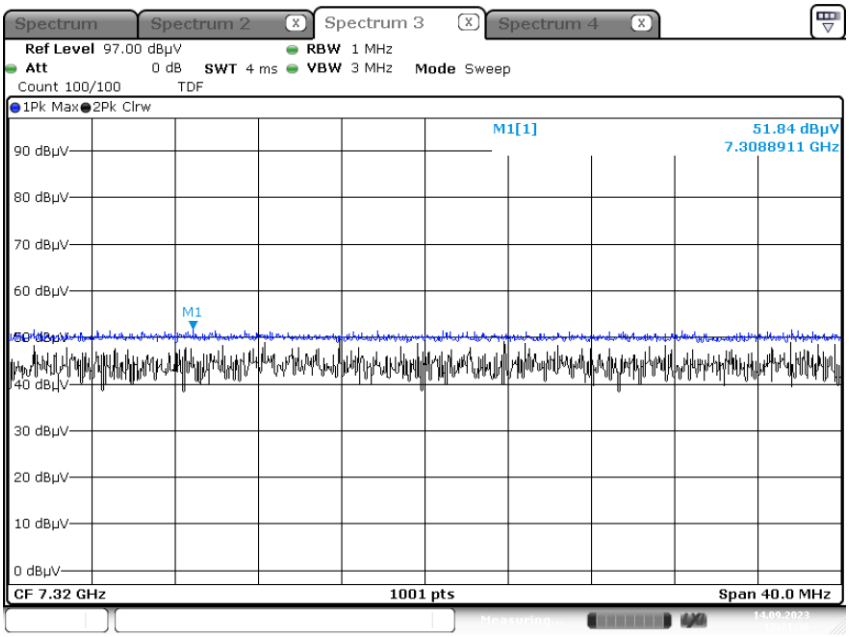
Mode : 1M Bit/s (37 Bytes) Test Plots

Radiated Spurious Emissions plot – Average Result (Ch.19 3rd Harmonic, Y-V)



Date: 14.SEP.2023 12:21:10

Radiated Spurious Emissions plot – Peak Result (Ch.19 3rd Harmonic, Y-V)

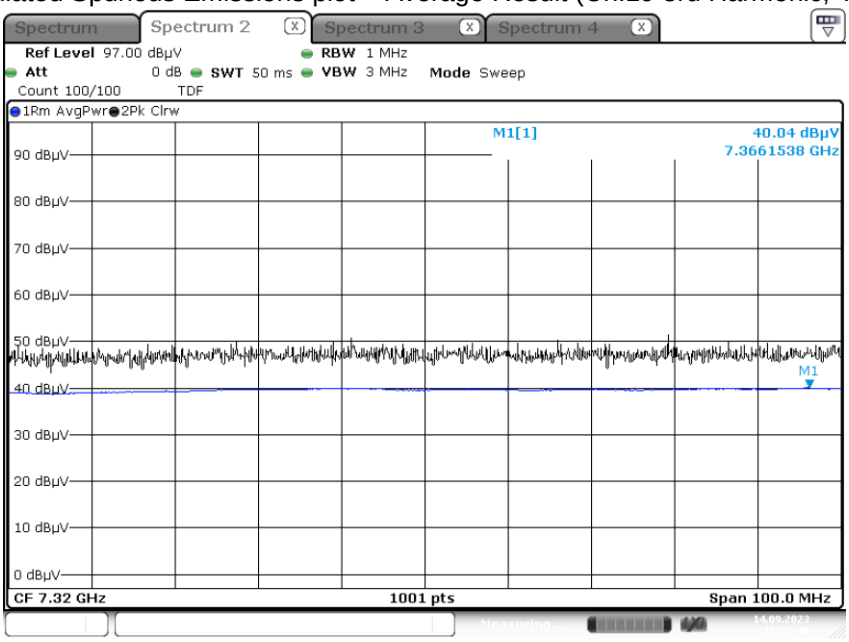


Date: 14.SEP.2023 12:21:36

[Ant.2]

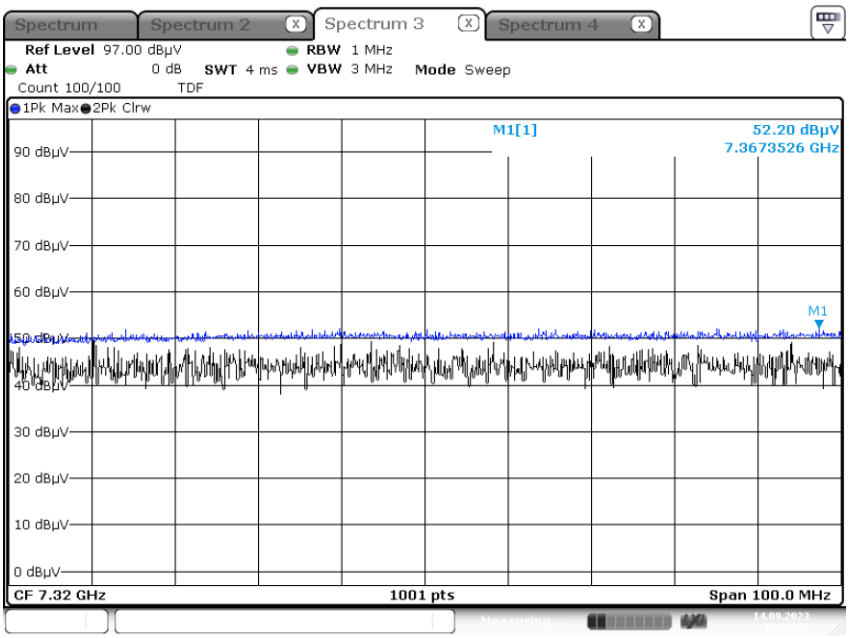
Mode : 2M Bit/s (37 Bytes) Test Plots

Radiated Spurious Emissions plot – Average Result (Ch.19 3rd Harmonic, Y-H)



Date: 14.SEP.2023 15:11:41

Radiated Spurious Emissions plot – Peak Result (Ch.19 3rd Harmonic, Y-H)

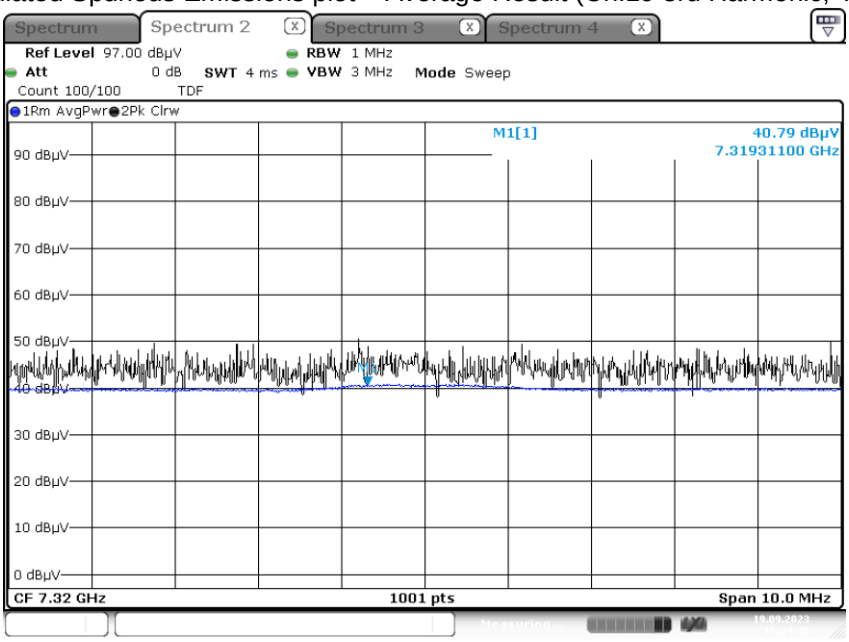


Date: 14.SEP.2023 15:12:39

[Dual Ant.1+ Ant.2]

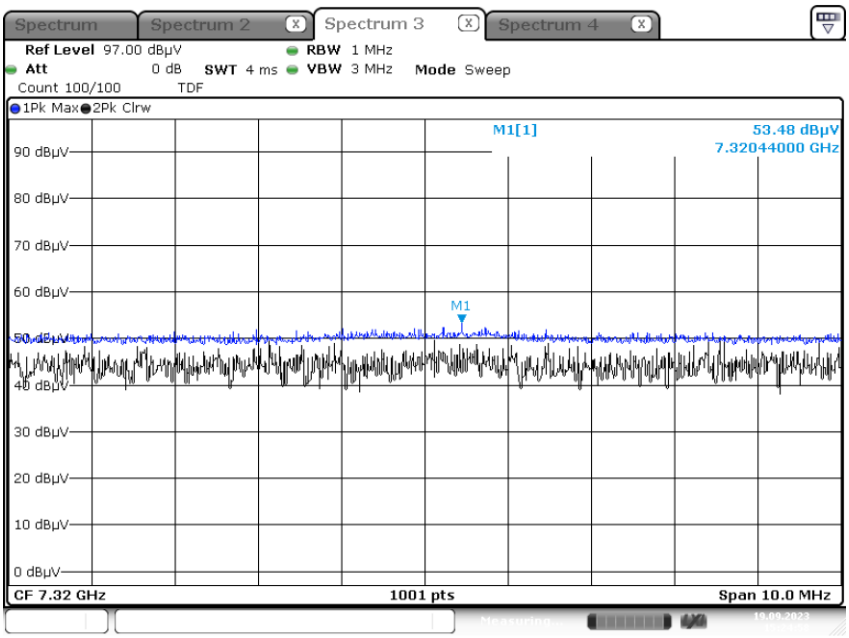
Mode : 1M Bit/s (37 Bytes) Test Plots

Radiated Spurious Emissions plot – Average Result (Ch.19 3rd Harmonic, Y-H)



Date: 19.SEP.2023 15:24:35

Radiated Spurious Emissions plot – Peak Result (Ch.19 3rd Harmonic, Y-H)



Date: 19.SEP.2023 15:24:59

Note:

In order to simplify the report, Plots of worst case are only reported.

9.7 RADIATED RESTRICTED BAND EDGES

[SISO]

[Ant.1]

Mode : 1M Bit/s (37 Bytes)

Operating Frequency	2402 MHz, 2480 MHz
Channel No.	0 CH, 39 CH

Frequency [MHz]	Measured Value [dBµV]	Ant. Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
2390.0	54.40	H	54.40	73.98	19.58	PK
2390.0	41.90	H	41.90	53.98	12.08	AV
2390.0	54.33	V	54.33	73.98	19.65	PK
2390.0	41.67	V	41.67	53.98	12.31	AV
2483.5	62.32	H	62.32	73.98	11.66	PK
2483.5	43.40	H	43.40	53.98	10.58	AV
2483.5	61.64	V	61.64	73.98	12.34	PK
2483.5	42.69	V	42.69	53.98	11.29	AV

Mode : 2M Bit/s (37 Bytes)

Operating Frequency	2402 MHz, 2480 MHz
Channel No.	0 CH, 39 CH

Frequency [MHz]	Measured Value [dBµV]	Ant. Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
2390.0	53.81	H	53.81	73.98	20.17	PK
2390.0	41.91	H	41.91	53.98	12.07	AV
2390.0	53.48	V	53.48	73.98	20.50	PK
2390.0	41.65	V	41.65	53.98	12.33	AV
2483.5	71.22	H	71.22	73.98	2.76	PK
2483.5	49.18	H	49.18	53.98	4.80	AV
2483.5	70.98	V	70.98	73.98	3.00	PK
2483.5	49.08	V	49.08	53.98	4.90	AV

[Ant.2]

Mode : 1M Bit/s (37 Bytes)

Operating Frequency	2402 MHz, 2480 MHz
Channel No.	0 CH, 39 CH

Frequency [MHz]	Measured Value [dBµV]	Ant. Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
2390.0	54.07	H	54.07	73.98	19.91	PK
2390.0	41.94	H	41.94	53.98	12.04	AV
2390.0	53.89	V	53.89	73.98	20.09	PK
2390.0	41.69	V	41.69	53.98	12.29	AV
2483.5	61.59	H	61.59	73.98	12.39	PK
2483.5	43.24	H	43.24	53.98	10.74	AV
2483.5	61.48	V	61.48	73.98	12.50	PK
2483.5	43.19	V	43.19	53.98	10.79	AV

Mode : 2M Bit/s (37 Bytes)

Operating Frequency	2402 MHz, 2480 MHz
Channel No.	0 CH, 39 CH

Frequency [MHz]	Measured Value [dBµV]	Ant. Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
2390.0	53.91	H	53.91	73.98	20.07	PK
2390.0	41.85	H	41.85	53.98	12.13	AV
2390.0	53.63	V	53.63	73.98	20.35	PK
2390.0	41.61	V	41.61	53.98	12.37	AV
2483.5	71.13	H	71.13	73.98	2.85	PK
2483.5	49.19	H	49.19	53.98	4.79	AV
2483.5	71.02	V	71.02	73.98	2.96	PK
2483.5	49.11	V	49.11	53.98	4.87	AV

[Dual Ant.1+ Ant.2]

Mode : 1M Bit/s (37 Bytes)

Operating Frequency	2402 MHz, 2480 MHz
Channel No.	0 CH, 39 CH

Frequency [MHz]	Measured Value [dBµV]	Ant. Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
2390.0	53.95	H	53.95	73.98	20.03	PK
2390.0	42.01	H	42.01	53.98	11.97	AV
2390.0	53.89	V	53.89	73.98	20.09	PK
2390.0	42.00	V	42.00	53.98	11.98	AV
2483.5	59.46	H	59.46	73.98	14.52	PK
2483.5	42.58	H	42.58	53.98	11.40	AV
2483.5	58.91	V	58.91	73.98	15.07	PK
2483.5	42.39	V	42.39	53.98	11.59	AV

Mode : 2M Bit/s (37 Bytes)

Operating Frequency	2402 MHz, 2480 MHz
Channel No.	0 CH, 39 CH

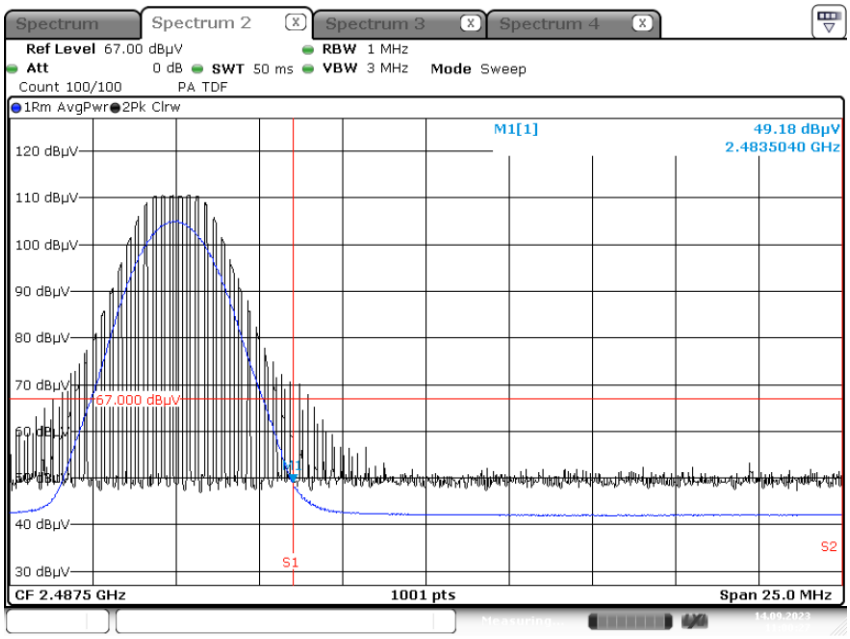
Frequency [MHz]	Measured Value [dBµV]	Ant. Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
2390.0	53.91	H	53.91	73.98	20.07	PK
2390.0	42.03	H	42.03	53.98	11.95	AV
2390.0	53.88	V	53.88	73.98	20.10	PK
2390.0	41.95	V	41.95	53.98	12.03	AV
2483.5	67.63	H	67.63	73.98	6.35	PK
2483.5	47.49	H	47.49	53.98	6.49	AV
2483.5	66.82	V	66.82	73.98	7.16	PK
2483.5	46.97	V	46.97	53.98	7.01	AV

[SISO]

[Ant.1]

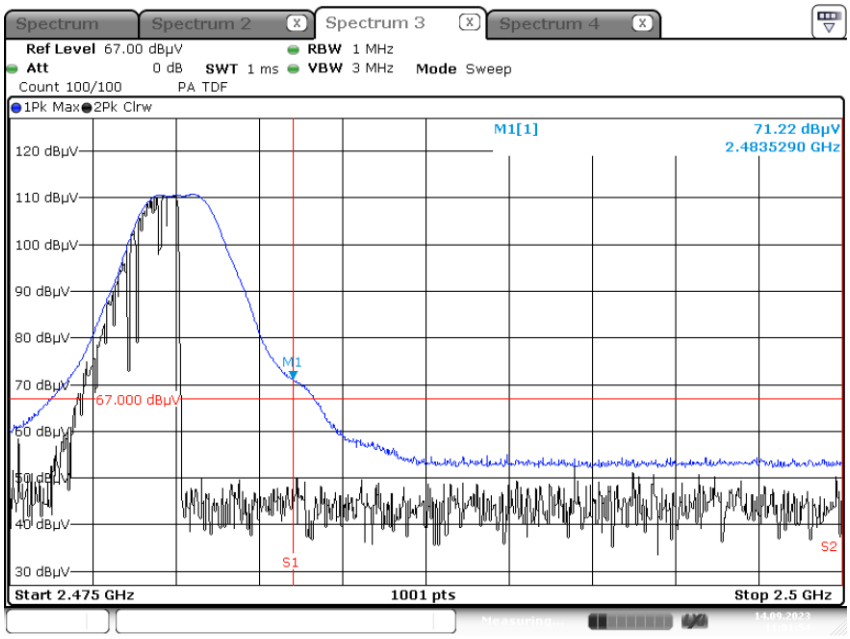
▣ Mode : 2M Bit/s (37 Bytes) Test Plots

Radiated Restricted Band Edges plot – Average Result (Ch.39, H)



Date: 14.SEP.2023 11:00:28

Radiated Restricted Band Edges plot – Peak Result (Ch.39, H)

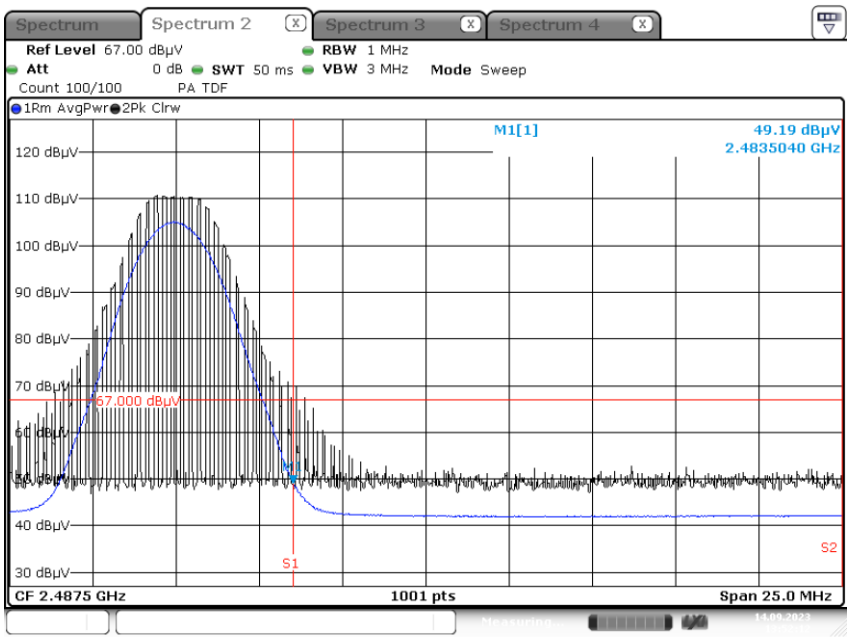


Date: 14.SEP.2023 11:01:55

[Ant.2]

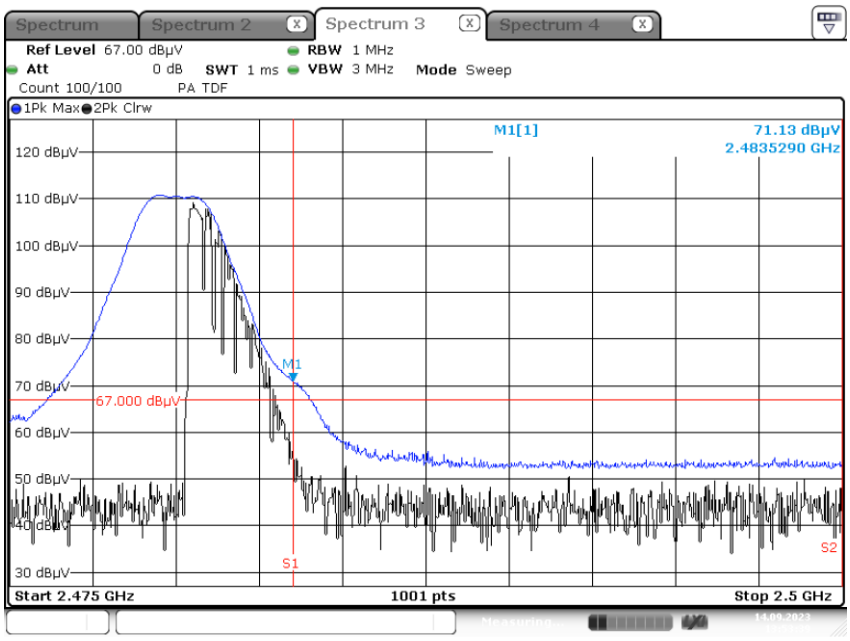
▣ Mode : 2 M Bit/s (37 Bytes) Test Plots

Radiated Restricted Band Edges plot – Average Result (Ch.39, H)



Date: 14.SEP.2023 13:52:12

Radiated Restricted Band Edges plot – Peak Result (Ch.39, H)

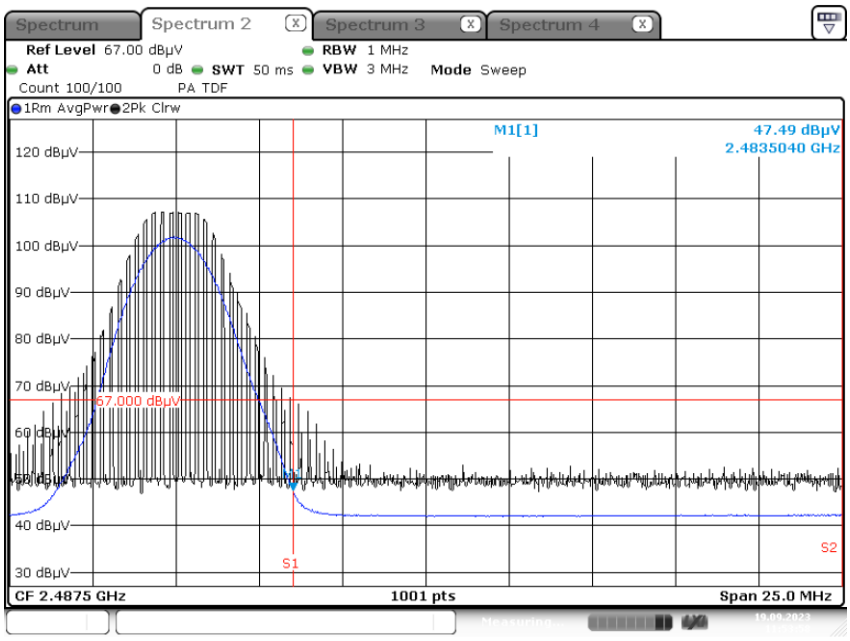


Date: 14.SEP.2023 13:53:39

[Dual Ant.1+ Ant.2]

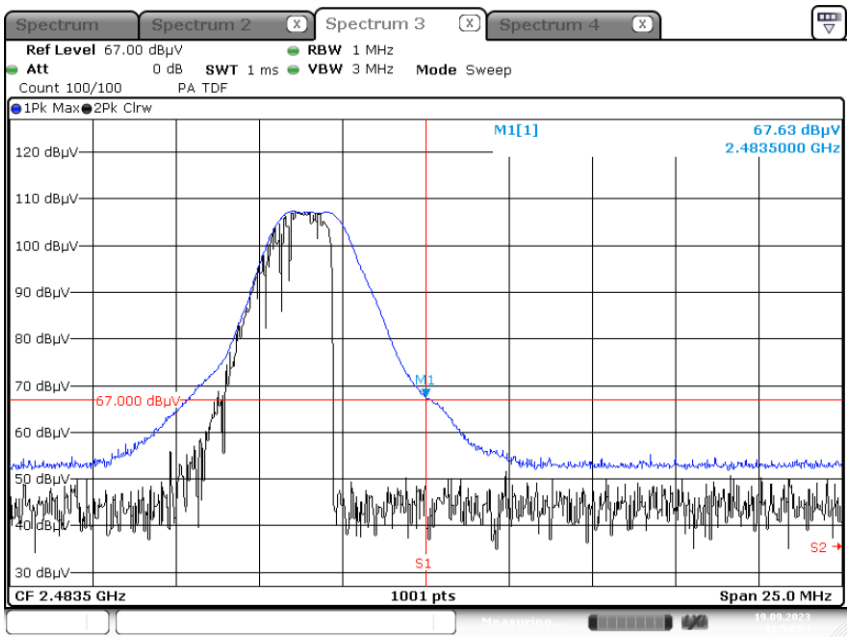
▣ Mode : 2 M Bit/s (37 Bytes) Test Plots

Radiated Restricted Band Edges plot – Average Result (Ch.39, H)



Date: 19.SEP.2023 11:53:59

Radiated Restricted Band Edges plot – Peak Result (Ch.39, H)



Date: 19.SEP.2023 11:54:55

Note:

In order to simplify the report, Plot of worst case are only reported.

9.8 POWERLINE CONDUCTED EMISSIONS

Conducted Emissions

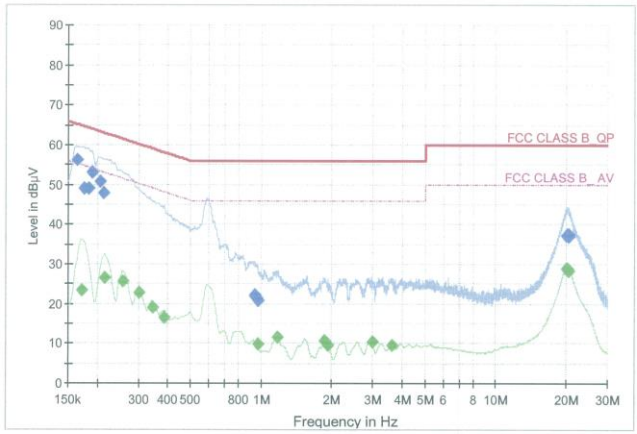
Test 1 / 2

Test Report

Common Information

EUT : SM-S926B/DS
Operating Conditions : BLE Mode
Comment :

Full Spectrum



Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1635	56.29	65.28	9.00	9.000	L1	9.6
0.1748	49.13	64.73	15.60	9.000	N	9.6
0.1838	49.00	64.31	15.31	9.000	N	9.6
0.1905	53.06	64.02	10.96	9.000	N	9.6
0.2063	50.85	63.36	12.51	9.000	N	9.6
0.2130	48.01	63.09	15.08	9.000	N	9.6
0.9343	22.13	56.00	33.87	9.000	N	9.7
0.9433	22.00	56.00	34.00	9.000	N	9.7
0.9500	21.66	56.00	34.34	9.000	N	9.7
0.9590	21.34	56.00	34.66	9.000	N	9.7
0.9658	20.78	56.00	35.23	9.000	N	9.7
0.9703	20.72	56.00	35.28	9.000	N	9.7
19.9310	37.27	60.00	22.73	9.000	L1	10.3
20.1650	37.48	60.00	22.52	9.000	L1	10.3
20.1965	37.62	60.00	22.38	9.000	L1	10.3
20.2393	37.51	60.00	22.49	9.000	L1	10.3
20.4823	37.46	60.00	22.54	9.000	L1	10.3
20.5273	37.04	60.00	22.96	9.000	L1	10.3

2023-10-10 오전 10:50:22

Test 2 / 2

Final_Result_CAV

Frequency (MHz)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1725	23.34	54.84	31.50	9.000	L1	9.6
0.2153	26.44	53.00	26.56	9.000	L1	9.6
0.2580	25.53	51.50	25.97	9.000	L1	9.6
0.3008	22.72	50.22	27.50	9.000	L1	9.6
0.3435	19.00	49.12	30.12	9.000	L1	9.6
0.3863	16.54	48.14	31.60	9.000	L1	9.6
0.9658	9.92	46.00	36.08	9.000	L1	9.6
1.1795	11.43	46.00	34.57	9.000	L1	9.7
1.8680	10.70	46.00	35.30	9.000	L1	9.7
1.9288	9.54	46.00	36.46	9.000	L1	9.7
2.9773	10.28	46.00	35.72	9.000	L1	9.8
3.6028	9.59	46.00	36.41	9.000	L1	9.8
20.0998	28.77	50.00	21.23	9.000	L1	10.3
20.1560	28.84	50.00	21.16	9.000	L1	10.3
20.1875	28.78	50.00	21.22	9.000	L1	10.3
20.2303	28.93	50.00	21.07	9.000	L1	10.3
20.2483	28.73	50.00	21.27	9.000	L1	10.3
20.5745	28.30	50.00	21.70	9.000	L1	10.3

2023-10-10 오전 10:50:22

10. LIST OF TEST EQUIPMENT

Conducted Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
LISN	ENV216	Rohde & Schwarz	102245	08/02/2024	Annual
EMI Test Receiver	ESR	Rohde & Schwarz	101910	05/26/2024	Annual
Temperature Chamber	SU-642	ESPEC	93008124	02/22/2024	Annual
Signal Analyzer	N9030A	Keysight	MY55410508	09/04/2024	Annual
Power Meter	N1911A	Agilent	MY45100523	03/06/2024	Annual
Power Sensor	N1921A	Agilent	MY57820067	03/06/2024	Annual
Directional Coupler	87300B	Agilent	3116A03621	11/02/2023	Annual
Power Splitter	11667B	Hewlett Packard	10545	02/06/2024	Annual
DC Power Supply	E3632A	Agilent	KR75305528	01/03/2024	Annual
Attenuator(10 dB)(DC-26.5 GHz)	8493C-010	Agilent	08285	06/02/2024	Annual
Attenuator(20 dB)	18N-20dB	Rohde & Schwarz	8	03/08/2024	Annual
Software	EMC32	Rohde & Schwarz	N/A	N/A	N/A
FCC WLAN&BT&BLE Conducted Test Software v3.0	N/A	HCT CO., LTD.	N/A	N/A	N/A
Bluetooth Tester	CBT	Rohde & Schwarz	100808	02/16/2024	Annual

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

Radiated Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Controller(Antenna mast)	CO3000	Innco system	CO3000-4p	N/A	N/A
Antenna Position Tower	MA4640/800-XP-EP	Innco system	S3AM	08/03/2025	Biennial
Controller	EM2090	Emco	060520	N/A	N/A
Turn Table	N/A	Ets	N/A	N/A	N/A
Loop Antenna	FMZB 1513	Rohde & Schwarz	1513-333	03/17/2024	Biennial
Hybrid Antenna	VULB 9168	Schwarzbeck	9168-0895	08/16/2024	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	9120D-1191	11/18/2023	Biennial
Horn Antenna(15 GHz ~ 40 GHz)	BBHA9170	Schwarzbeck	BBHA9170124	03/28/2025	Biennial
Amp & Filter Bank Switch Controller	FBSM-01A	TNM system	0	N/A	N/A
Band Reject Filter	WRCJV2400/2483.5-2370/2520-60/12SS	Wainwright Instruments	2	01/05/2024	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	5	06/12/2024	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	6	06/12/2024	Annual
Band Reject Filter	WRCJV5100/5850-40/50-8EEK	Wainwright Instruments	1	02/09/2024	Annual
RF Switching System	FBSR-03A (3G HPF+LNA)	T&M SYSTEM	S3L1	12/05/2023	Annual
RF Switching System	FBSR-03A (10dB ATT+LNA)	T&M SYSTEM	S3L2	12/05/2023	Annual
RF Switching System	FBSR-03A (7G HPF+LNA)	T&M SYSTEM	S3L3	12/05/2023	Annual
RF Switching System	FBSR-03A (3dB ATT+LNA)	T&M SYSTEM	S3L4	12/05/2023	Annual
Power Amplifier	CBL18265035	CERNEX	22966	12/01/2023	Annual
Power Amplifier	CBL26405040	CERNEX	25956	03/02/2024	Annual
Bluetooth Tester	TC-3000C	TESCOM	3000C000175	03/28/2024	Annual
Spectrum Analyzer	FSVA40 (10 Hz ~ 40 GHz)	Rohde & Schwarz	101502	03/17/2024	Annual

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.

2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

3. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5(Version : 2017).

11. ANNEX A_ TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

No.	Description
1	HCT-RF-2310-FC058-P