TEST REPORT

FCC BT LE Test for SM-F766B
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2505-FC011-R1

DATE OF ISSUE
May 27, 2025

Tested by
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Applicant	SAMSUNG Electronics Co., Ltd. 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
Product Name Model Name	Mobile Phone SM-F766B
FCC ID	A3LSMF766B
Date of Test	February 26, 2025 ~ April 22, 2025
FCC Classification	Digital Transmission System(DTS)
Test Standard Used	FCC Rule Part(s): Part 15.247
Test Results	PASS
Location of Test	■ Permanent Testing Lab ☐ On Site Testing Lab (Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

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REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	May 07, 2025	Initial Release
1	May 27, 2025	Revised the Power Supply Voltage. (DC 3.88 V → DC 3.90 V)

Notice

Content

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.

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.
The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked *.
Information provided by the applicant is marked **.
Test results provided by external providers are marked ***.

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

Data referencing : BT LE Report (FCC ID: A3LSMF766U, Report No. HCT-RF-2504-FC040)

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1. EUT DESCRIPTION

Model	SM-F766B			
Additional Model	-			
EUT Type	Mobile Phone			
Power Supply	DC 3.90 V			
Frequency Range	125k, 500k, 1M Bit/s : 2402 - 2480 MHz 2M Bit/s : 2404 - 2478 MHz (Except for 2426 MHz)			
Number of Channels	125k, 500k, 1M Bit/s : 40 Channels 2M Bit/s : 37 Channels			
Max. RF Output Power (Normal)	Ant.1	Peak (For information only)	1 M Bit/s: 2 M Bit/s: 125 k Bit/s : 500 k Bit/s :	16.282 dBm (42.48 mW) 16.715 dBm (46.94 mW) 10.104 dBm (10.24 mW) 10.060 dBm (10.14 mW)
		Average	1 M Bit/s: 2 M Bit/s: 125 k Bit/s : 500 k Bit/s :	16.11 dBm (40.79 mW) 16.38 dBm (43.42 mW) 9.82 dBm (9.60 mW) 9.79 dBm (9.53 mW)
	Ant.2	Peak (For information only)	1 M Bit/s: 2 M Bit/s: 125 k Bit/s : 500 k Bit/s :	17.618 dBm (57.78 mW) 17.120 dBm (51.52 mW) 10.089 dBm (10.21 mW) 10.171 dBm (10.40 mW)
		Average	1 M Bit/s: 2 M Bit/s: 125 k Bit/s : 500 k Bit/s :	17.22 dBm (52.68 mW) 16.69 dBm (46.68 mW) 9.94 dBm (9.87 mW) 9.91 dBm (9.80 mW)
	Dual Ant.1 + Ant.2	Peak (For information only)	1 M Bit/s: 2 M Bit/s:	16.485 dBm (44.51 mW) 16.964 dBm (49.71 mW)
		Average	1 M Bit/s: 2 M Bit/s:	16.36 dBm (43.21 mW) 16.70 dBm (46.80 mW)
Modulation Type	GFSK			
Bluetooth Version	5.4			
Antenna Specification	Type: Metal ANT.1 Peak Gain: -5.15 dBi, ANT.2 Peak Gain: -7.48 dBi			
Serial number	Conducted : R3CY10XNNAA Radiated : R3CY30S8XET			

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ANTENNA CONFIGURATIONS

1. Below Tables are the possible configurations.

Configurations	SISO		Dual BT
	Ant1(Core-0)	Ant2(Core-1)	Ant1 & Ant2
Bluetooth Low Energy	O	O	O

Note:

1) O = Support, X = Not Support
2) SISO = Single Input Single Output
3) BLE 1M/2Mbps Mode support Dual BT, But 125k/500kbps do not support Dual BT.

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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)

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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 11, 2024 (Registration Number: 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."

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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 (±kHz)
X dB, 99% Bandwidth	95 (Confidence level about 95 %, *k=2*)
Frequency stability	28 (Confidence level about 95 %, *k=2*)

Parameter	Expanded Uncertainty (±dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.54 (Confidence level about 95 %, *k=2*)
Conducted Output Power(Power Meter)	0.54 (Confidence level about 95 %, k=2)
Conducted Output Power(Signal Analyzer)	0.68 (Confidence level about 95 %, k=2)
Power Spectral Density	1.03 (Confidence level about 95 %, k=2)
Band Edge (Out of Band Emissions)	0.70 (Confidence level about 95 %, k=2)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.36 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.68 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.75 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.82 (Confidence level about 95 %, *k*=2)

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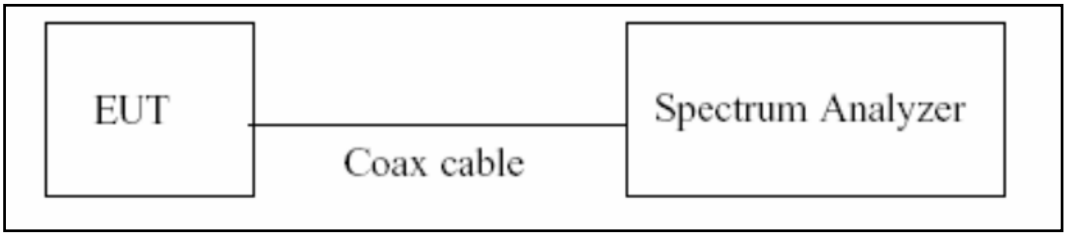
7. DESCRIPTION OF TESTS

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 50 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)

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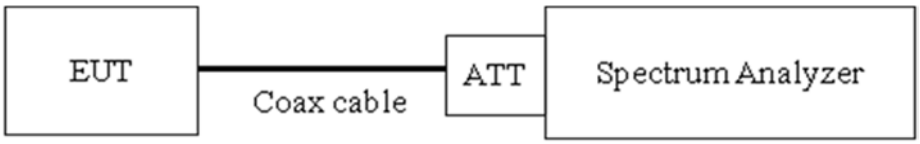
7.2. 6 dB Bandwidth

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.

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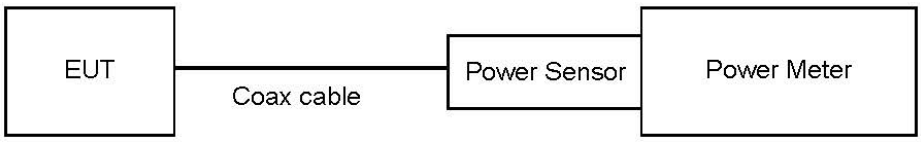
7.3. Output Power

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

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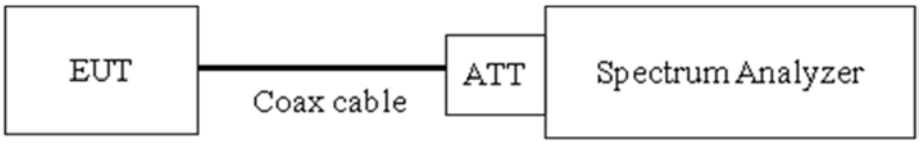
7.4. Power Spectral Density

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

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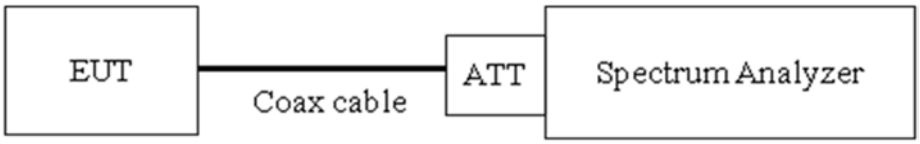
7.5. Conducted Band Edge(Out of Band Emissions) & Conducted Spurious Emissions

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 > 30 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) Allow trace to fully stabilize.
8) 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.

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Factors for frequency

Freq(MHz)	Factor(dB)
30	10.04
100	10.10
200	10.15
300	10.17
400	10.20
500	10.24
600	10.26
700	10.30
800	10.32
900	10.35
1000	10.36
2000	10.51
2400	10.58
2500	10.58
3000	10.62
4000	10.71
5000	10.78
5150	10.80
6000	10.93
7000	11.02
8000	11.05
9000	11.13
10000	11.14
11000	11.16
12000	11.21
13000	11.32
14000	11.32
15000	11.43
16000	11.51
17000	11.48
18000	11.50
19000	11.59
20000	11.65
21000	11.62
22000	11.61
23000	11.80
24000	11.73
25000	11.78

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

2. Factor = Attenuator loss + Cable loss

3. Total Port offset = Attenuator loss + Cable loss

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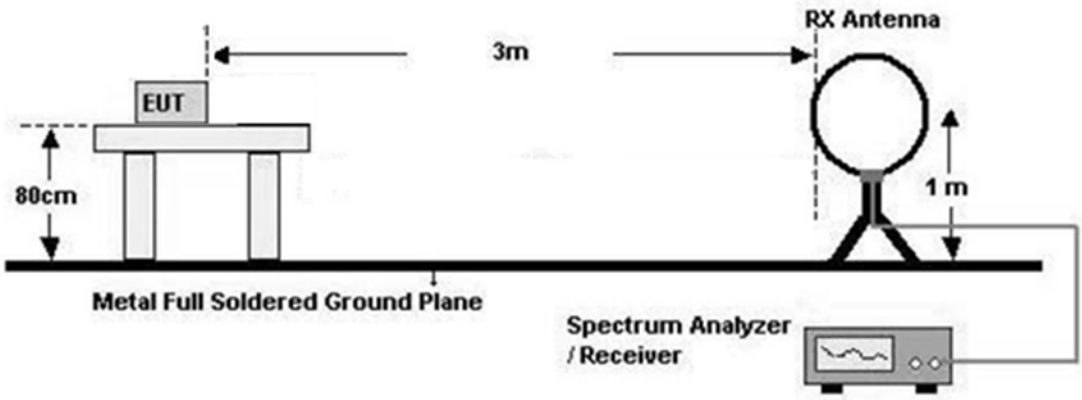
7.6. Radiated Test

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



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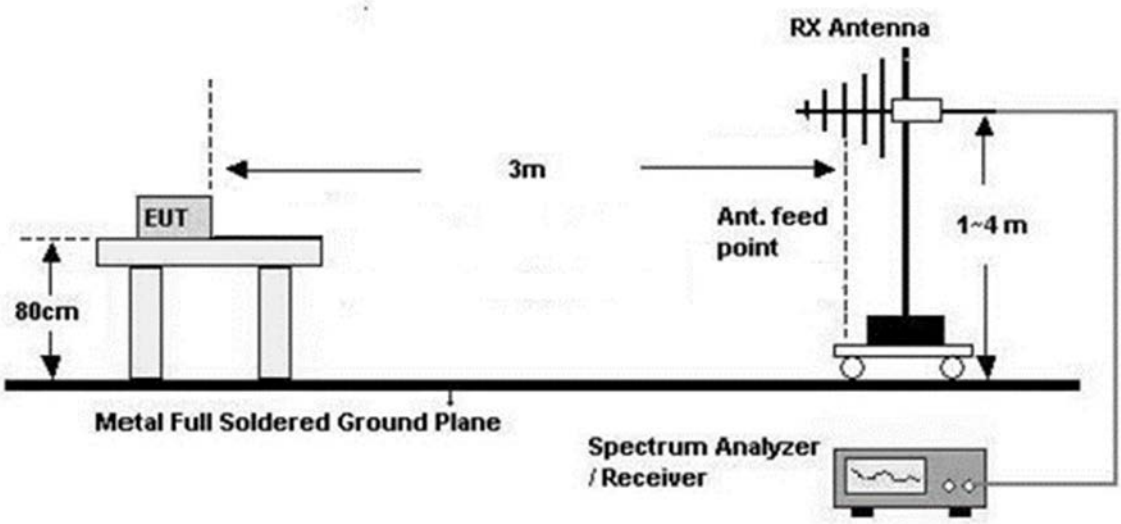
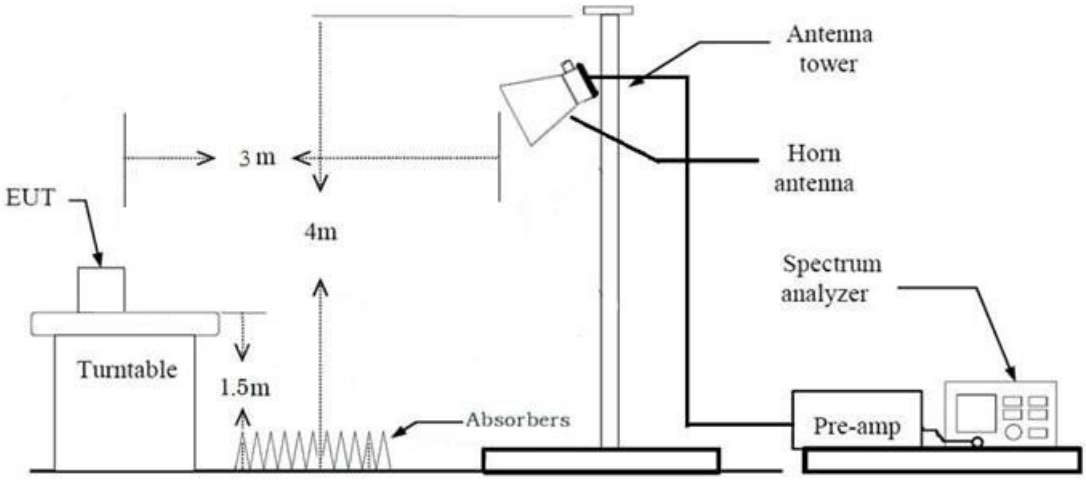
30 MHz - 1 GHz



Above 1 GHz



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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 = Max hold
   - 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.

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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 = Max hold
      - 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.

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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 (Measurement Type : Peak)
    = Peak Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G)
    Total (Measurement Type : Average)

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= Average Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) - 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

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(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)

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

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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

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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 : X
   (3) Dual Ant.1+ Ant.2
   - Radiated Spurious Emissions : X
   - Radiated Restricted Band Edge : X
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)
   (125k, 500k, 1M Bit/s all have the same 1 MHz 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. The EUT was tested in three modes(Open, Half-open, Closed), the worst case configuration results are reported.
   (1) Ant.1
   - Radiated Spurious Emissions : Open Mode
   - Radiated Restricted Band Edge : Open Mode
   (2) Ant.2
   - Radiated Spurious Emissions : Open Mode
   - Radiated Restricted Band Edge : Open Mode
   (3) Dual Ant.1+ Ant.2
   - Radiated Spurious Emissions : Open Mode
   - Radiated Restricted Band Edge : Open Mode

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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

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

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8. SUMMARY OF TEST RESULTS & DATA REFERENCING

8.1. Test result

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

Note. The decision rule applies 'simple acceptance'

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8.2. Data Referencing

Equipment Class	Rule Part	Test item	Data Referencing	Comments
DTS (BTLE)	15.247(a)(2)	6 dB Bandwidth	Y	-
	15.247(b)(3)	Conducted Maximum output power	Y	Spot-check
	15.247(e).	Power Spectral Density	Y	-
	15.247(d)	Band Edge (Out of Band Emissions)	Y	-
	15.207	AC Power line conducted Emissions	Y	Spot-check
	15.247(d) 15.205 15.209	Radiated Spurious Emissions	Y	Spot-check
	15.247(d) 15.205 15.209	Radiated Restricted Band Edge	Y	Spot-check

Spot-Check Result

1. Data was leveraged from model SM-F766U for the certification of SM-F766B.
2. Please refer to the [FCC Evaluation] Report.

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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	0.393	0.756	0.519	2.846
	255	2.135	2.500	0.854	0.685
2M	37	0.210	0.536	0.391	4.077
	255	1.083	1.408	0.769	1.141
125k	37	3.107	4.107	0.756	1.212
	255	17.033	18.033	0.945	0.248
500k	37	1.071	1.815	0.590	2.292
	255	4.560	5.300	0.860	0.653

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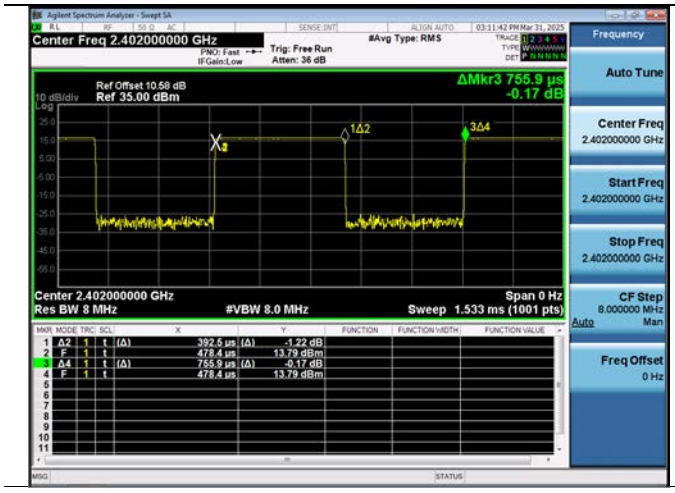
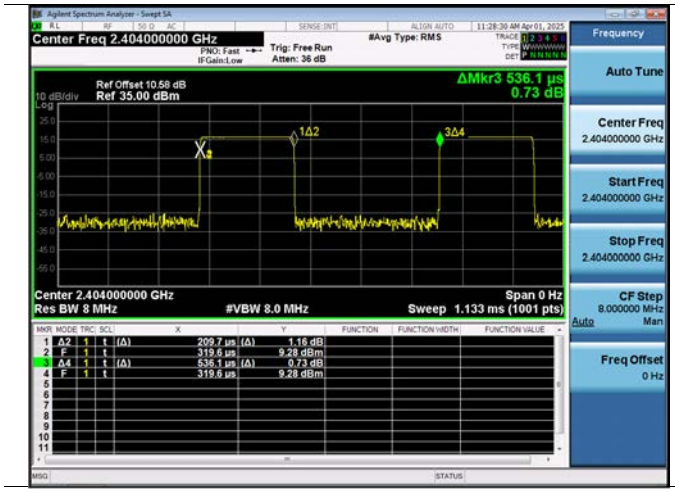
1 M Bit/s (37 Byte)



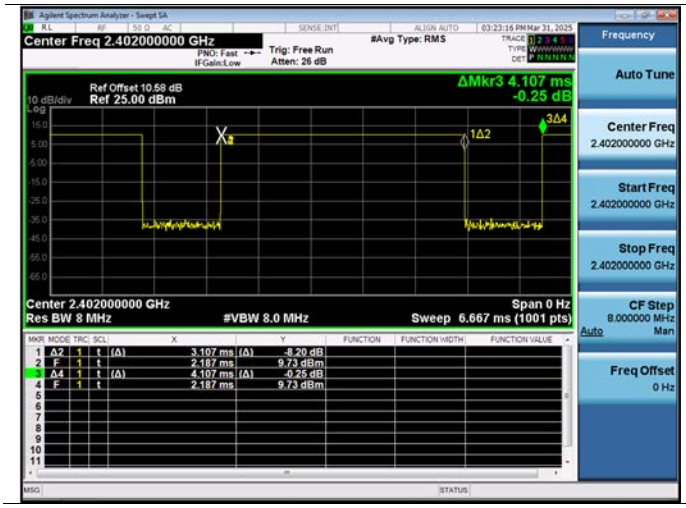
1 M Bit/s (255 Byte)

2 M Bit/s (37 Byte)

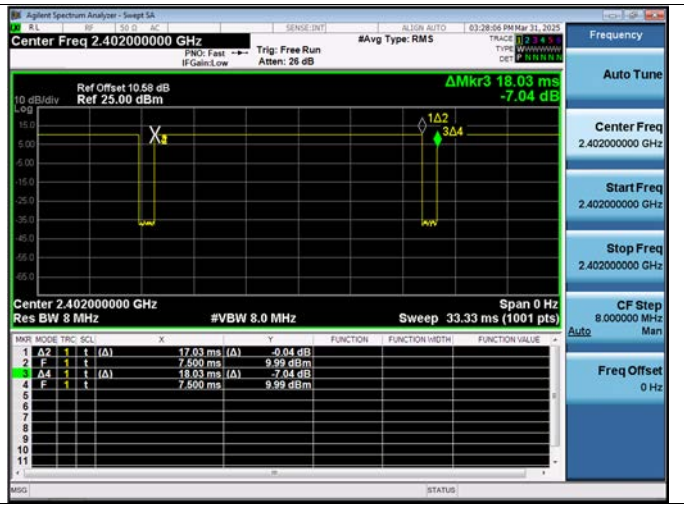


2 M Bit/s (255 Byte)

125 k Bit/s(37 Byte)



125 k Bit/s(255 Byte)



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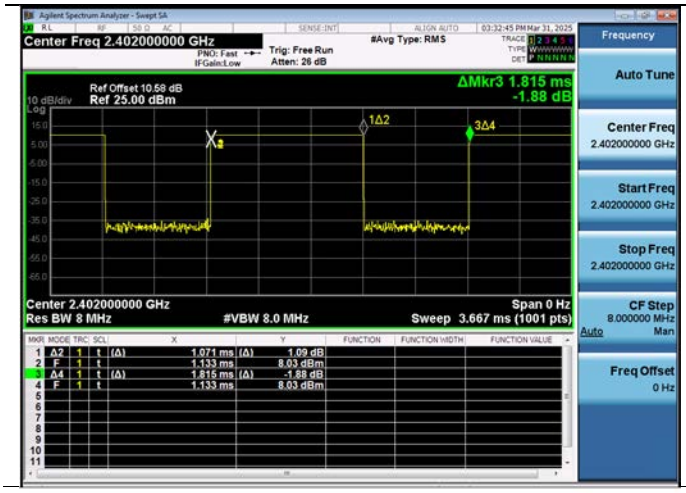
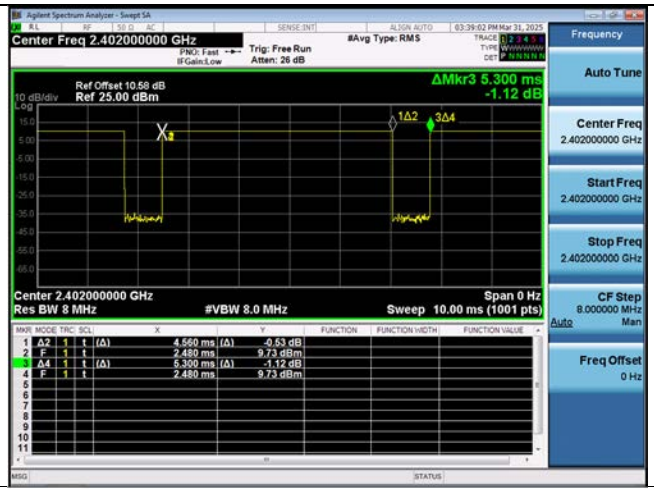
500 k Bit/s(37 Byte)	500 k Bit/s(255 Byte)
	

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9.2 6 dB BANDWIDTH

[Ant. 1]

Mode (Bit/s)	Channel	6 dB Bandwidth (kHz)	Limit (kHz)
1M(37)	37	694.1	> 500
	17	689.1	
	39	695.8	
1M(255)	37	676.6	> 500
	17	679.1	
	39	679.6	
2M(37)	0	1175	> 500
	17	1168	
	36	1175	
2M(255)	0	1179	> 500
	17	1179	
	36	1171	
125k(37)	37	620.0	> 500
	17	622.2	
	39	617.6	
125k(255)	37	682.2	> 500
	17	686.0	
	39	627.9	
500k(37)	37	674.2	> 500
	17	666.1	
	39	673.3	
500k(255)	37	677.9	> 500
	17	670.1	
	39	674.2	

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: 37 Byte

125k Bit/s: 37 Byte

500k Bit/s: 37 Byte

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[Ant. 2]

Mode (Bit/s)	Channel	6 dB Bandwidth (kHz)	Limit (kHz)
1M(37)	37	695.3	> 500
	17	693.2	
	39	691.1	
1M(255)	37	676.8	> 500
	17	676.1	
	39	676.4	
2M(37)	0	1168	> 500
	17	1169	
	36	1164	
2M(255)	0	1172	> 500
	17	1173	
	36	1171	
125k(37)	37	615.0	> 500
	17	617.3	
	39	615.0	
125k(255)	37	684.4	> 500
	17	614.1	
	39	678.4	
500k(37)	37	671.6	> 500
	17	675.7	
	39	673.5	
500k(255)	37	688.0	> 500
	17	676.8	
	39	673.8	

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

125k Bit/s: 255 Byte

500k Bit/s: 37 Byte

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[Dual Ant. 1]

Mode (Bit/s)	Channel	6 dB Bandwidth (kHz)	Limit (kHz)
1M(37)	37	685.6	> 500
	17	698.3	
	39	698.8	
1M(255)	37	670.7	> 500
	17	678.5	
	39	684.2	
2M(37)	0	1161	> 500
	17	1169	
	36	1166	
2M(255)	0	1170	> 500
	17	1166	
	36	1169	

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

[Dual Ant. 2]

Mode (Bit/s)	Channel	6 dB Bandwidth (kHz)	Limit (kHz)
1M(37)	37	682.2	> 500
	17	685.4	
	39	692.1	
1M(255)	37	670.8	> 500
	17	677.5	
	39	684.4	
2M(37)	0	1157	> 500
	17	1156	
	36	1159	
2M(255)	0	1160	> 500
	17	1168	
	36	1162	

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

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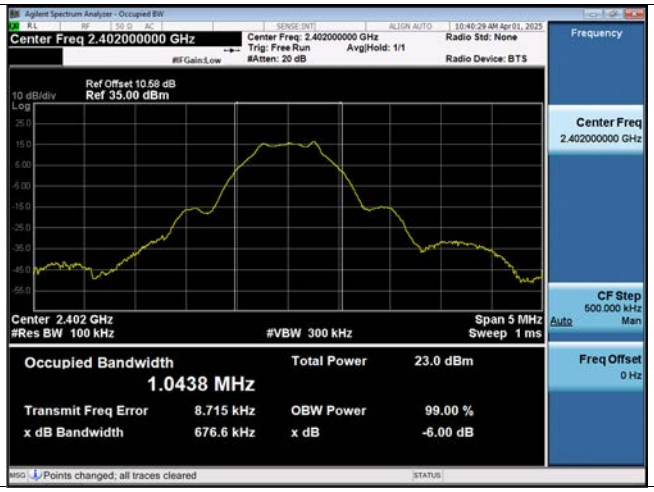
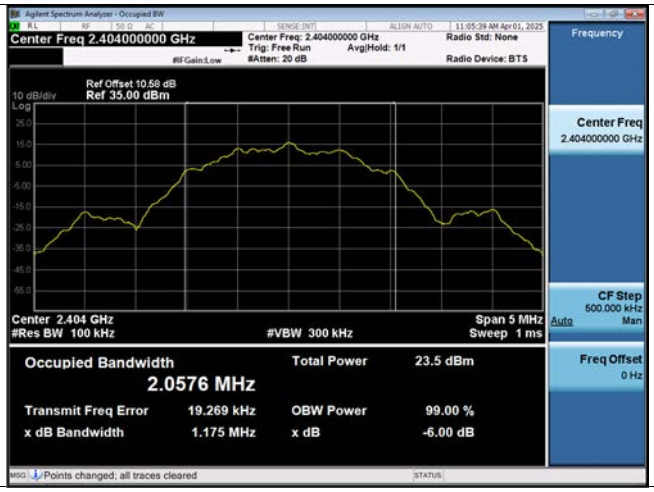
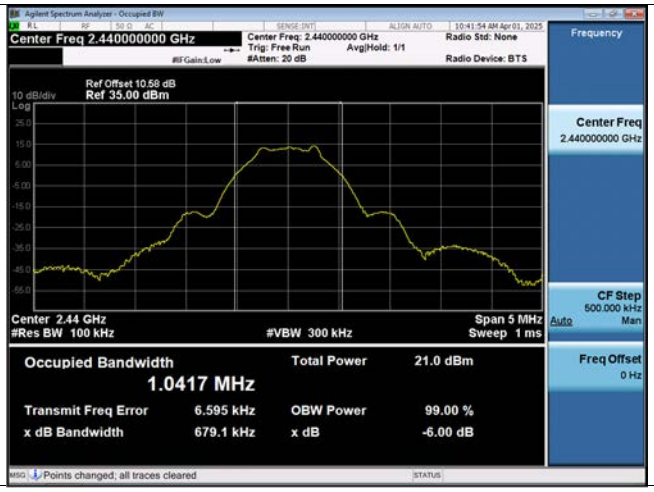
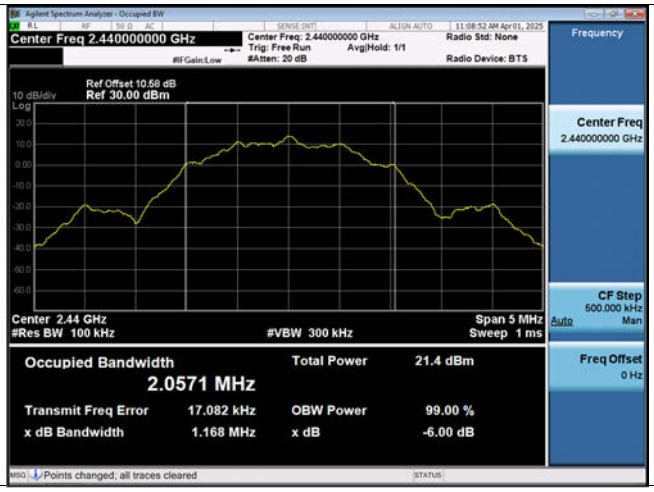
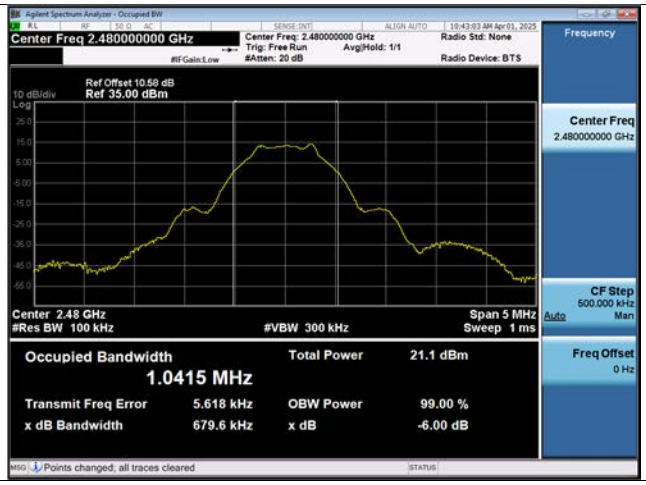
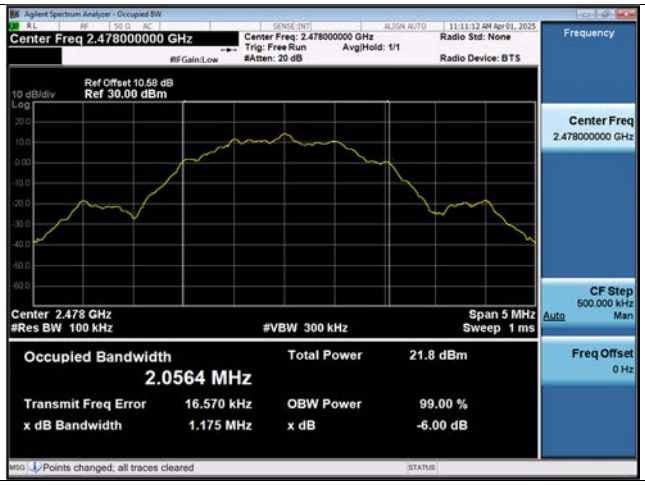
[Ant.1]

1 MBit/s (255 Byte) Test Plots	2 MBit/s (37 Byte) Test Plots
6 dB Bandwidth plot (Low-CH 37)	6 dB Bandwidth plot (Low-CH 0)
	
6 dB Bandwidth plot (Mid-CH 17)	6 dB Bandwidth plot (Mid-CH 17)
	
6 dB Bandwidth plot (High-CH 39)	6 dB Bandwidth plot (High-CH 36)
	

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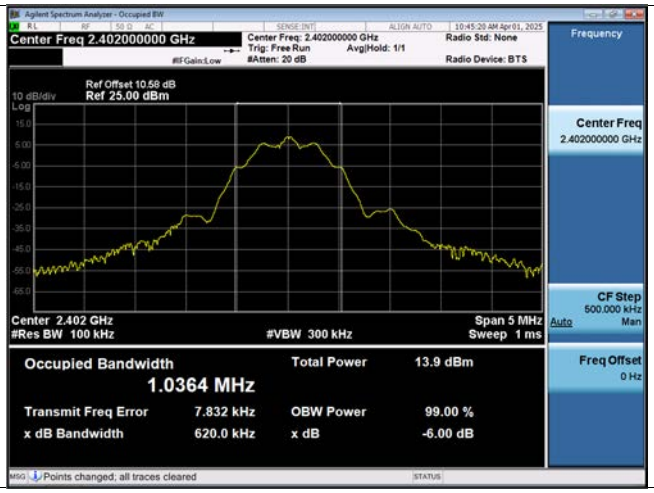
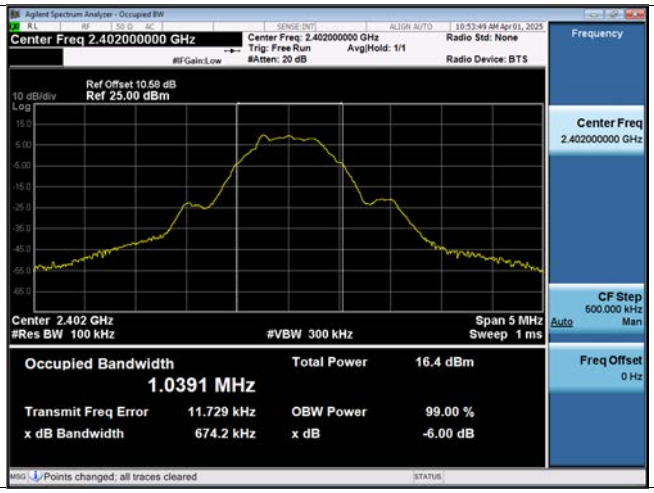
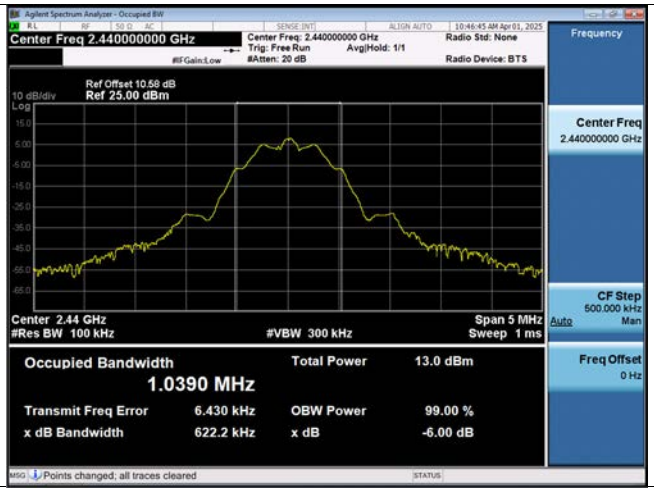
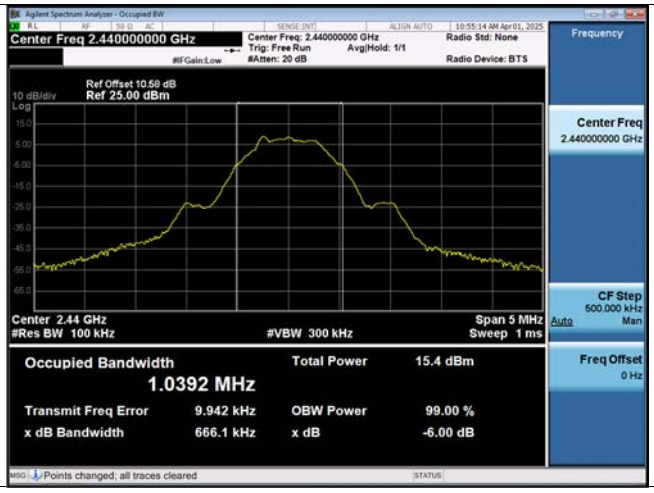
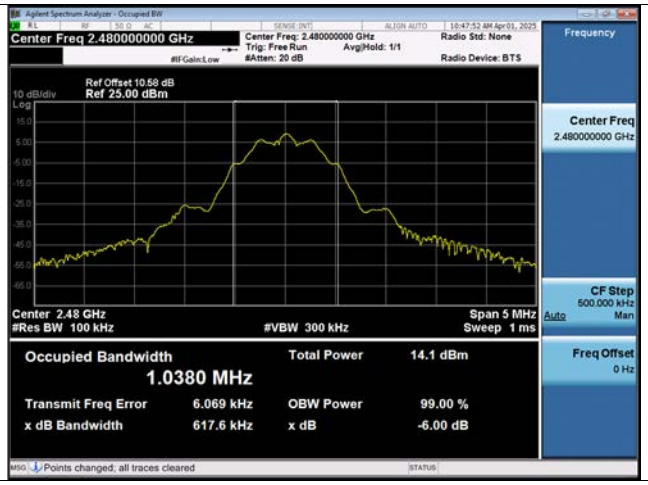
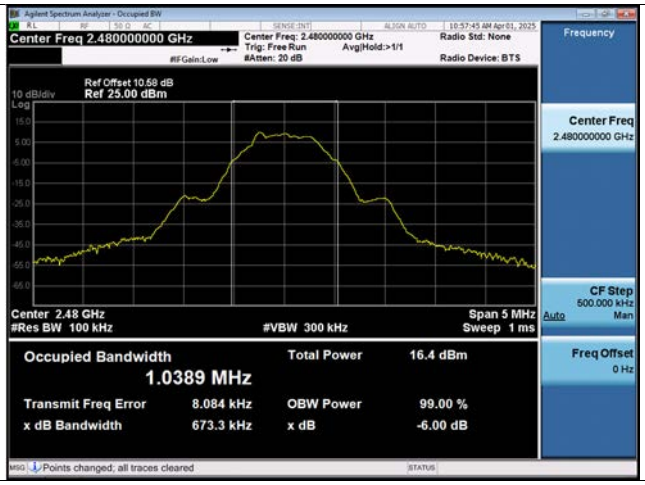
125k Bit/s(37 Byte) Test Plots	500k Bit/s(37 Byte) Test Plots
6 dB Bandwidth plot (Low-CH 37)	6 dB Bandwidth plot (Low-CH 37)
	
6 dB Bandwidth plot (Mid-CH 17)	6 dB Bandwidth plot (Mid-CH 17)
	
6 dB Bandwidth plot (High-CH 39)	6 dB Bandwidth plot (High-CH 39)
	

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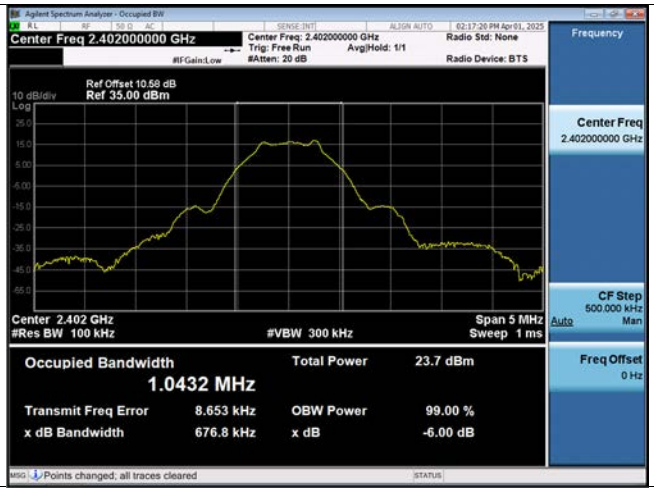
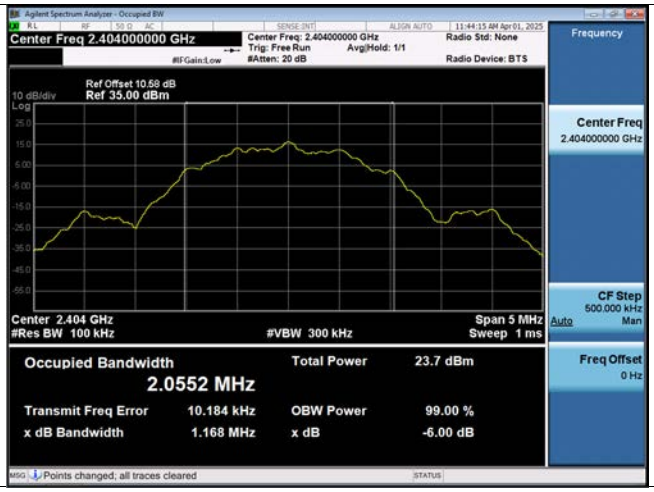
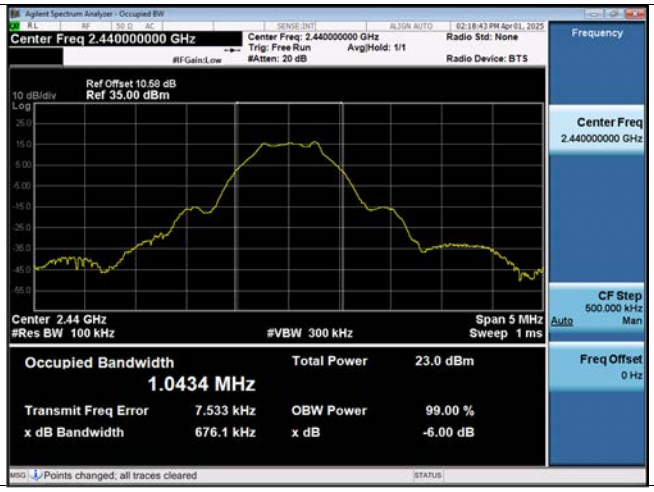
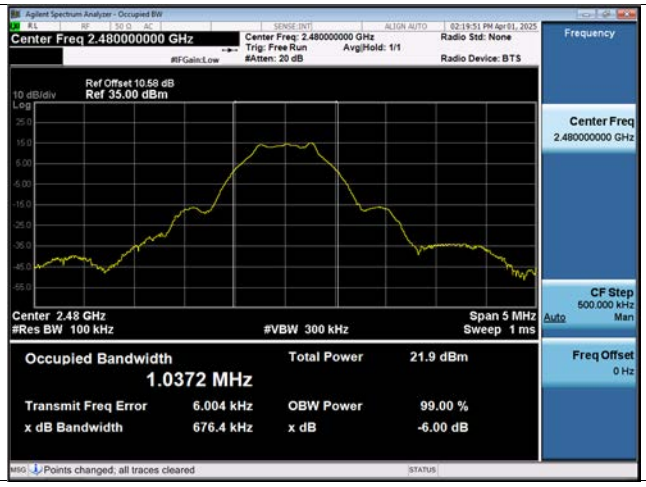
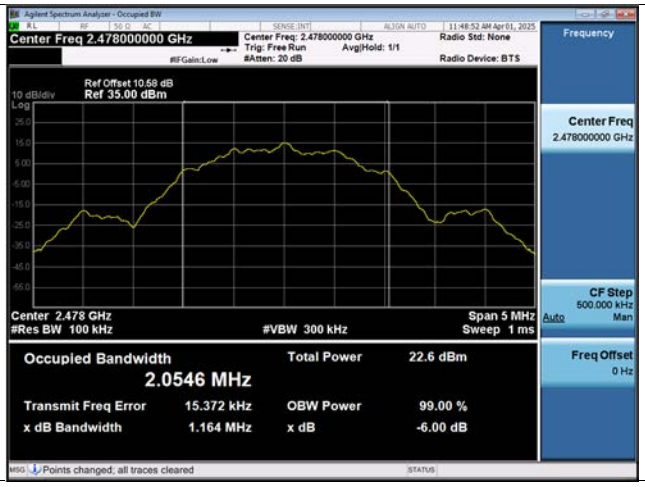
[Ant.2]

1 MBit/s (255 Byte) Test Plots	2 MBit/s (37 Byte) Test Plots
6 dB Bandwidth plot (Low-CH 37)	6 dB Bandwidth plot (Low-CH 0)
	
6 dB Bandwidth plot (Mid-CH 17)	6 dB Bandwidth plot (Mid-CH 17)
	
6 dB Bandwidth plot (High-CH 39)	6 dB Bandwidth plot (High-CH 36)
	

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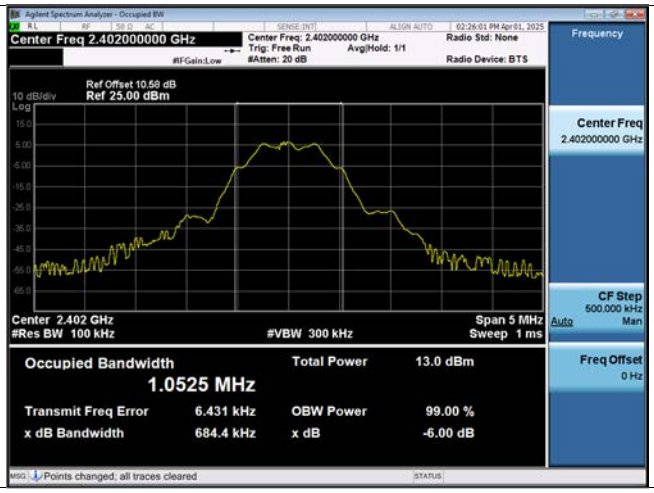
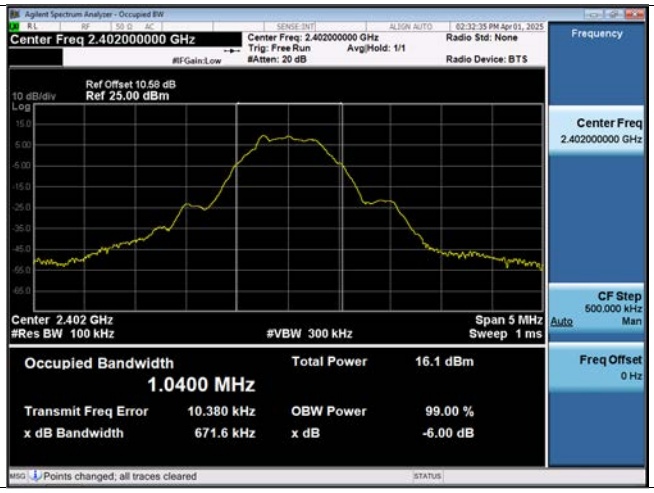
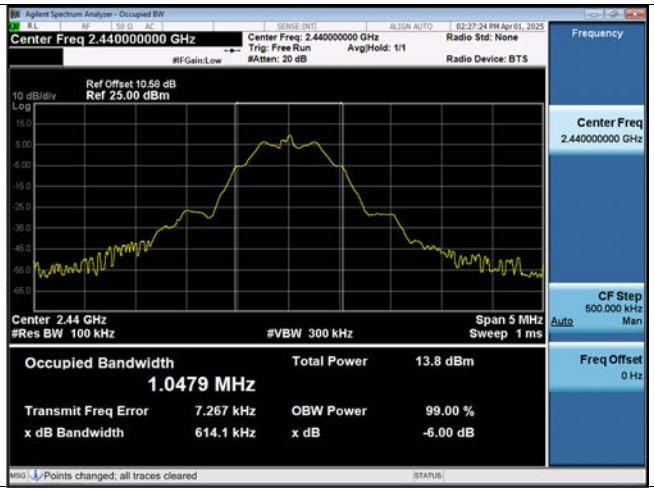
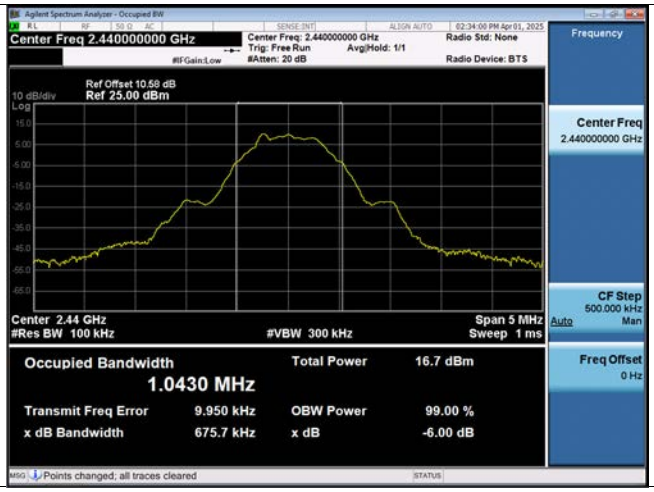
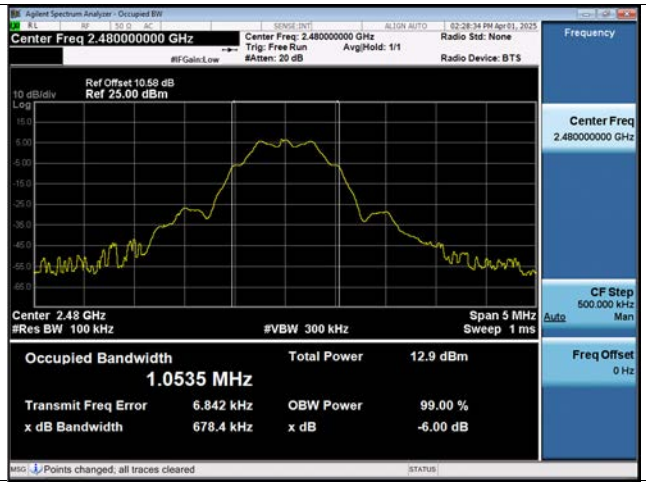
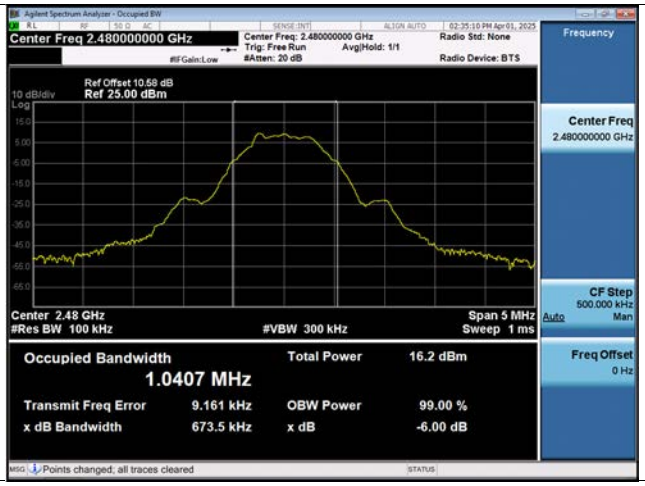
125k Bit/s(255 Byte) Test Plots	500k Bit/s(37 Byte) Test Plots
6 dB Bandwidth plot (Low-CH 37)	6 dB Bandwidth plot (Low-CH 37)
	
6 dB Bandwidth plot (Mid-CH 17)	6 dB Bandwidth plot (Mid-CH 17)
	
6 dB Bandwidth plot (High-CH 39)	6 dB Bandwidth plot (High-CH 39)
	

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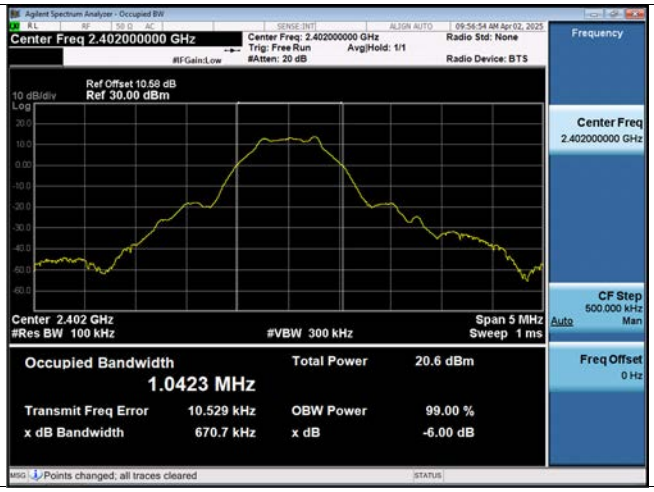
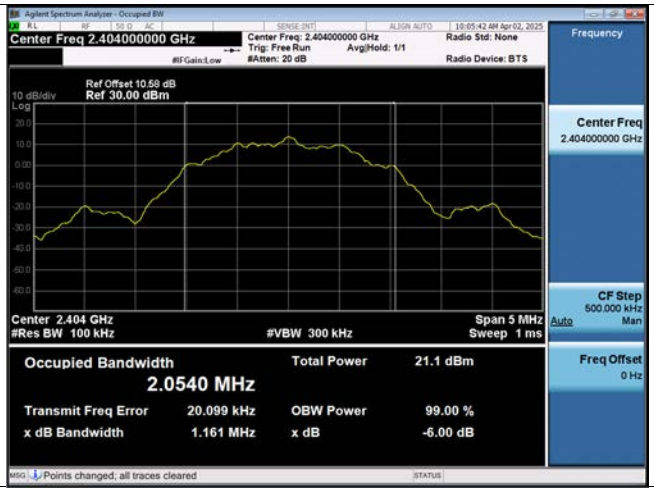
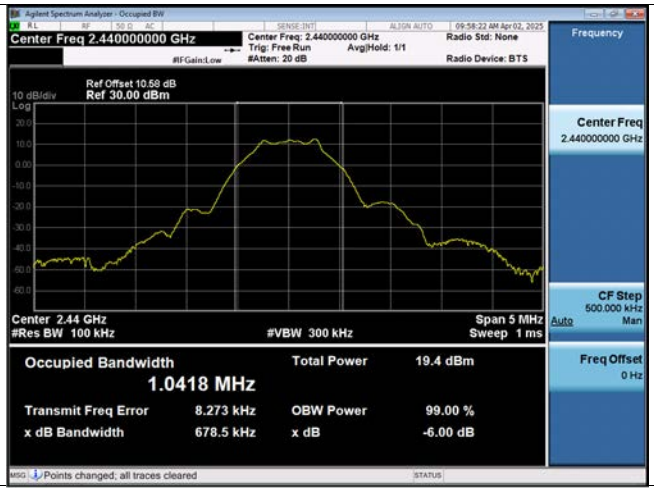
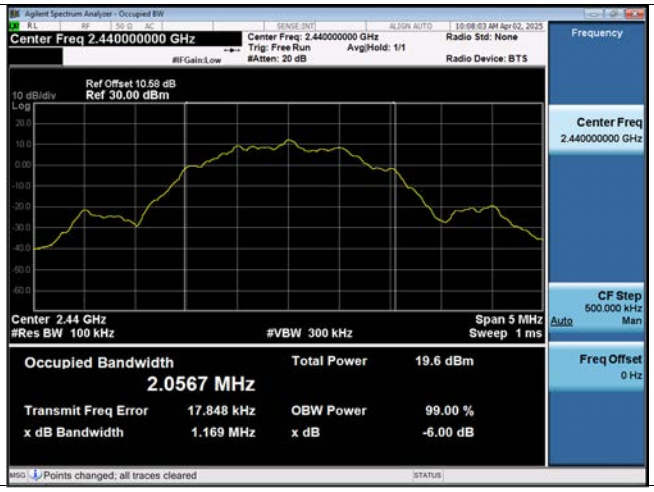
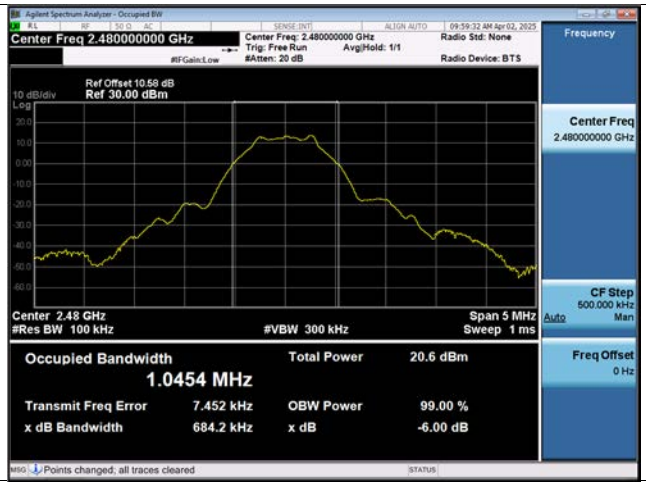
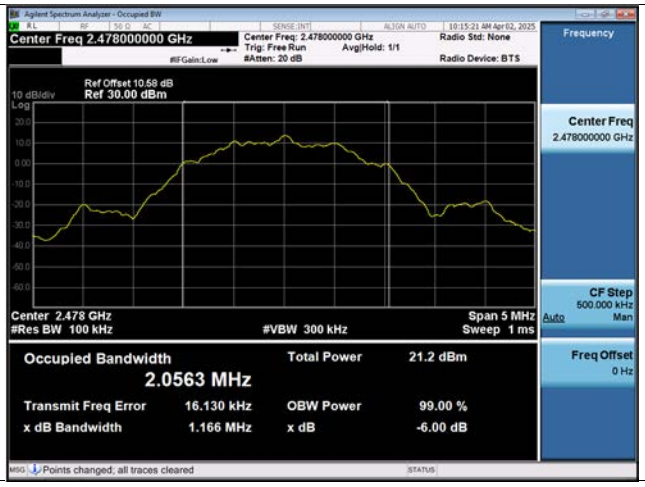
[Dual Ant.1]

1 MBit/s (255 Byte) Test Plots	2 MBit/s (37 Byte) Test Plots
6 dB Bandwidth plot (Low-CH 37)	6 dB Bandwidth plot (Low-CH 0)
	
6 dB Bandwidth plot (Mid-CH 17)	6 dB Bandwidth plot (Mid-CH 17)
	
6 dB Bandwidth plot (High-CH 39)	6 dB Bandwidth plot (High-CH 36)
	

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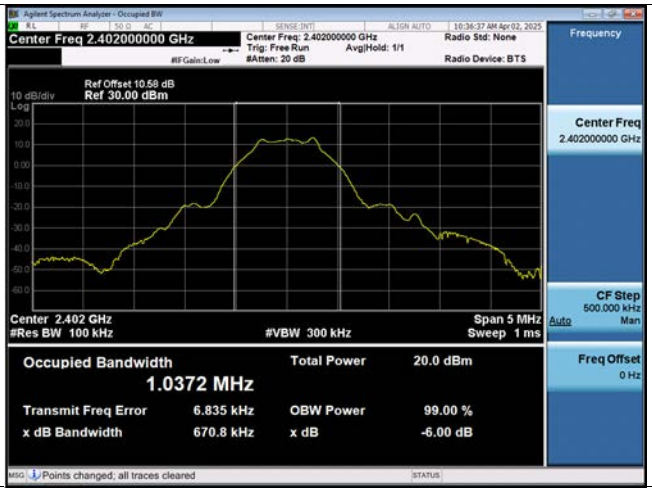
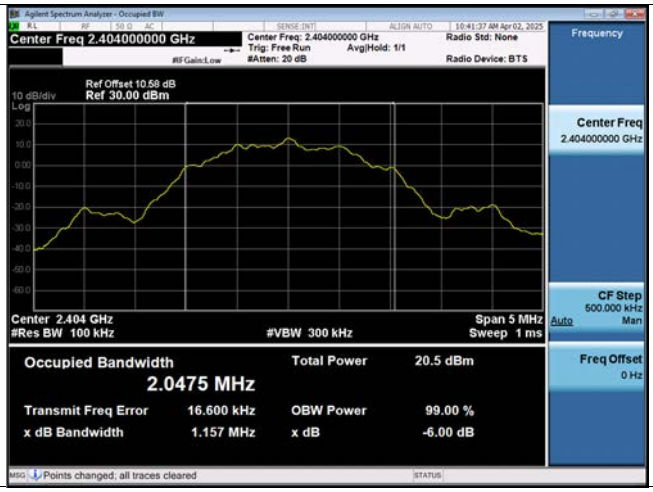
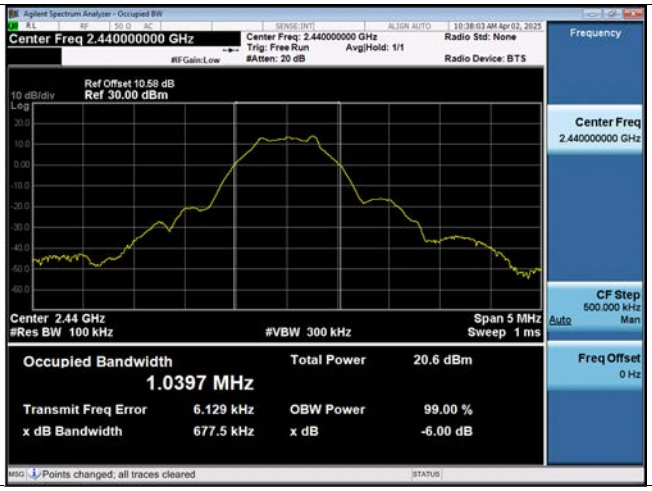
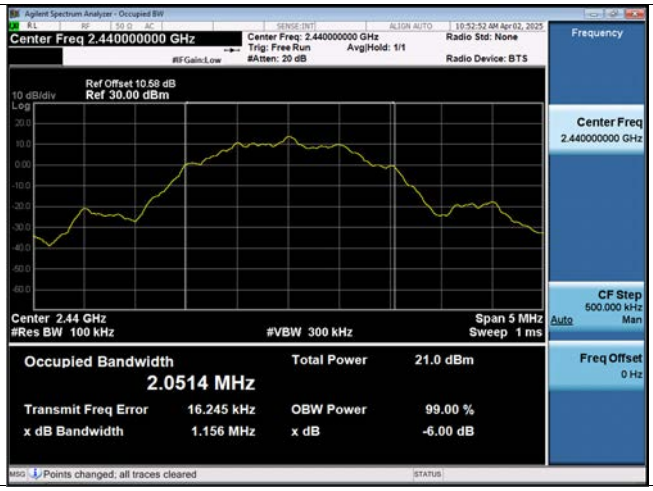
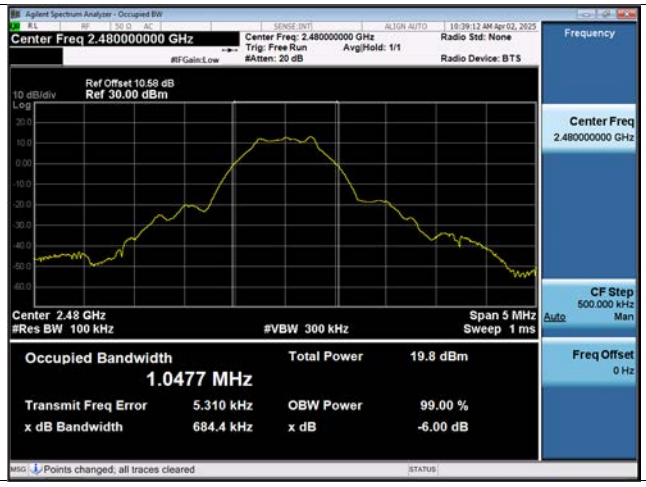
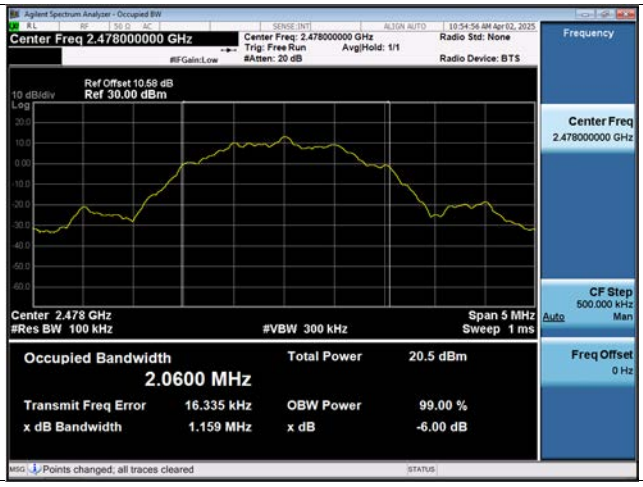
[Dual Ant.2]

1 MBit/s (255 Byte) Test Plots	2 MBit/s (37 Byte) Test Plots
6 dB Bandwidth plot (Low-CH 37)	6 dB Bandwidth plot (Low-CH 0)
	
6 dB Bandwidth plot (Mid-CH 17)	6 dB Bandwidth plot (Mid-CH 17)
	
6 dB Bandwidth plot (High-CH 39)	6 dB Bandwidth plot (High-CH 36)
	

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9.3 OUTPUT POWER

Peak Power

[Ant.1]

Data rate	Packet length	LE Mode		Peak Power (dBm)	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel		
1M	37	2402	37	16.253	30
		2440	17	14.345	
		2480	39	14.677	
	255	2402	37	16.282	
		2440	17	14.318	
		2480	39	14.377	
2M	37	2404	0	16.715	
		2440	17	14.489	
		2478	36	14.720	
	255	2404	0	16.709	
		2440	17	14.777	
		2478	36	14.869	
125k	37	2402	37	9.850	
		2440	17	8.921	
		2480	39	10.104	
	255	2402	37	9.810	
		2440	17	8.827	
		2480	39	10.008	
500k	37	2402	37	9.950	
		2440	17	8.685	
		2480	39	9.910	
	255	2402	37	9.847	
		2440	17	8.866	
		2480	39	10.060	

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[Ant.2]

Data rate	Packet length	LE Mode		Peak Power (dBm)	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel		
1M	37	2402	37	17.618	30
		2440	17	16.945	
		2480	39	15.824	
	255	2402	37	16.989	
		2440	17	16.327	
		2480	39	15.178	
2M	37	2404	0	17.120	
		2440	17	16.954	
		2478	36	15.926	
	255	2404	0	17.109	
		2440	17	16.531	
		2478	36	15.442	
125k	37	2402	37	9.498	
		2440	17	10.088	
		2480	39	9.556	
	255	2402	37	9.506	
		2440	17	10.089	
		2480	39	9.529	
500k	37	2402	37	9.579	
		2440	17	10.171	
		2480	39	9.646	
	255	2402	37	9.551	
		2440	17	10.122	
		2480	39	9.606	

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

Data rate	Packet length	LE Mode		Dual Ant.1 Power(dBm)	Dual Ant.2 Power(dBm)	Dual (Ant. 1 + Ant. 2) Power(dBm)	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel				
1M	37	2402	37	13.758	13.107	16.455	30
		2440	17	12.669	13.812	16.288	
		2480	39	13.810	13.111	16.485	
	255	2402	37	13.740	13.177	16.478	
		2440	17	12.525	13.773	16.204	
		2480	39	13.787	13.025	16.433	
2M	37	2404	0	14.100	13.414	16.781	
		2440	17	12.653	14.000	16.389	
		2478	36	14.386	13.474	16.964	
	255	2404	0	14.119	13.387	16.779	
		2440	17	12.638	13.898	16.324	
		2478	36	14.341	13.327	16.874	

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Average Power

Note :

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

[Ant.1]

Data rate	Packet length	LE Mode		Measured Power (dBm)	Duty Cycle Factor	Result	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel		(dB)	(dBm)	
1M	37	2402	37	13.12	2.85	15.97	30
		2440	17	11.24	2.85	14.09	
		2480	39	11.13	2.85	13.98	
	255	2402	37	15.42	0.69	16.11	
		2440	17	13.44	0.69	14.13	
		2480	39	13.30	0.69	13.99	
2M	37	2404	0	12.30	4.08	16.38	
		2440	17	10.15	4.08	14.23	
		2478	36	10.02	4.08	14.10	
	255	2404	0	15.23	1.14	16.37	
		2440	17	12.98	1.14	14.12	
		2478	36	13.22	1.14	14.36	
125k	37	2402	37	8.33	1.21	9.54	
		2440	17	7.33	1.21	8.54	
		2480	39	8.61	1.21	9.82	
	255	2402	37	9.31	0.25	9.56	
		2440	17	8.32	0.25	8.57	
		2480	39	9.54	0.25	9.79	
500k	37	2402	37	7.50	2.29	9.79	
		2440	17	5.98	2.29	8.27	
		2480	39	7.08	2.29	9.37	
	255	2402	37	8.99	0.65	9.64	
		2440	17	7.97	0.65	8.62	
		2480	39	9.12	0.65	9.77	

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[Ant.2]

Data rate	Packet length	LE Mode		Measured Power (dBm)	Duty Cycle Factor	Result	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel		(dB)	(dBm)	
1M	37	2402	37	14.37	2.85	17.22	30
		2440	17	13.75	2.85	16.60	
		2480	39	12.66	2.85	15.51	
	255	2402	37	16.07	0.69	16.76	
		2440	17	15.42	0.69	16.11	
		2480	39	14.25	0.69	14.94	
2M	37	2404	0	12.45	4.08	16.53	
		2440	17	12.25	4.08	16.33	
		2478	36	11.25	4.08	15.33	
	255	2404	0	15.55	1.14	16.69	
		2440	17	14.93	1.14	16.07	
		2478	36	13.91	1.14	15.05	
125k	37	2402	37	8.12	1.21	9.33	
		2440	17	8.73	1.21	9.94	
		2480	39	8.20	1.21	9.41	
	255	2402	37	9.08	0.25	9.33	
		2440	17	9.68	0.25	9.93	
		2480	39	9.11	0.25	9.36	
500k	37	2402	37	7.34	2.29	9.63	
		2440	17	7.42	2.29	9.71	
		2480	39	7.05	2.29	9.34	
	255	2402	37	8.69	0.65	9.34	
		2440	17	9.26	0.65	9.91	
		2480	39	8.76	0.65	9.41	

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[Dual 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	37	10.74	2.85	13.59	30
		2440	17	9.72	2.85	12.57	
		2480	39	10.80	2.85	13.65	
	255	2402	37	12.94	0.69	13.63	
		2440	17	11.71	0.69	12.40	
		2480	39	12.93	0.69	13.62	
2M	37	2404	0	9.79	4.08	13.87	
		2440	17	8.46	4.08	12.54	
		2478	36	9.91	4.08	13.99	
	255	2404	0	12.80	1.14	13.94	
		2440	17	11.30	1.14	12.44	
		2478	36	12.90	1.14	14.04	

[Dual 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	37	10.17	2.85	13.02	30
		2440	17	10.87	2.85	13.72	
		2480	39	10.17	2.85	13.02	
	255	2402	37	12.36	0.69	13.05	
		2440	17	13.02	0.69	13.71	
		2480	39	12.18	0.69	12.87	
2M	37	2404	0	9.17	4.08	13.25	
		2440	17	9.84	4.08	13.92	
		2478	36	9.30	4.08	13.38	
	255	2404	0	12.13	1.14	13.27	
		2440	17	12.59	1.14	13.73	
		2478	36	11.99	1.14	13.13	

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

Data rate	Packet length	LE Mode		Dual Ant.1 Power	Dual Ant.2 Power	Dual (Ant. 1 + Ant. 2) Power (dBm)	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel	(dBm)	(dBm)		
1M	37	2402	37	13.59	13.02	16.32	30
		2440	17	12.57	13.72	16.19	
		2480	39	13.65	13.02	16.35	
	255	2402	37	13.63	13.05	16.36	
		2440	17	12.40	13.71	16.11	
		2480	39	13.62	12.87	16.27	
2M	37	2404	0	13.87	13.25	16.58	
		2440	17	12.54	13.92	16.29	
		2478	36	13.99	13.38	16.70	
	255	2404	0	13.94	13.27	16.63	
		2440	17	12.44	13.73	16.14	
		2478	36	14.04	13.13	16.62	

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9.4 POWER SPECTRAL DENSITY

[Ant.1]

Frequency (MHz)	Channel No.	Mode	Test Result			
			Measured PSD (dBm)	Duty Cycle Factor(dB)	Total PSD (dBm)	Limit
2402	37	1 MBit/s 37 Byte	-0.777	2.85	2.069	8 dBm / 3 kHz
2440	17		-2.950	2.85	-0.104	
2480	39		-3.005	2.85	-0.159	
2402	37	1 MBit/s 255 Byte	-0.847	0.69	-0.162	
2440	17		-2.989	0.69	-2.304	
2480	39		-2.996	0.69	-2.311	
2404	0	2 MBit/s 37 Byte	-2.896	4.08	1.181	
2440	17		-5.388	4.08	-1.311	
2478	36		-4.402	4.08	-0.325	
2404	0	2 MBit/s 255 Byte	-3.179	1.14	-2.038	
2440	17		-5.518	1.14	-4.377	
2478	36		-5.128	1.14	-3.987	
2402	37	125k 37 Byte	2.068	1.21	3.280	
2440	17		0.931	1.21	2.143	
2480	39		2.446	1.21	3.658	
2402	37	125k 255 Byte	2.831	0.25	3.079	
2440	17		1.887	0.25	2.135	
2480	39		3.163	0.25	3.411	
2402	37	500k 37 Byte	-2.814	2.29	-0.522	
2440	17		-4.151	2.29	-1.859	
2480	39		-2.499	2.29	-0.207	
2402	37	500k 255 Byte	-5.899	0.65	-5.246	
2440	17		-7.097	0.65	-6.444	
2480	39		-6.843	0.65	-6.190	

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 (37 Byte)

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[Ant.2]

Frequency (MHz)	Channel No.	Mode	Test Result			
			Measured PSD (dBm)	Duty Cycle Factor(dB)	Total PSD (dBm)	Limit
2402	37	1 MBit/s 37 Byte	-0.001	2.85	2.845	8 dBm / 3 kHz
2440	17		-0.263	2.85	2.583	
2480	39		-1.464	2.85	1.382	
2402	37	1 MBit/s 255 Byte	-0.196	0.69	0.489	
2440	17		-0.878	0.69	-0.193	
2480	39		-2.286	0.69	-1.601	
2404	0	2 MBit/s 37 Byte	-2.459	4.08	1.618	
2440	17		-3.273	4.08	0.804	
2478	36		-4.023	4.08	0.054	
2404	0	2 MBit/s 255 Byte	-3.032	1.14	-1.891	
2440	17		-3.755	1.14	-2.614	
2478	36		-4.379	1.14	-3.238	
2402	37	125k 37 Byte	1.935	1.21	3.147	
2440	17		2.512	1.21	3.724	
2480	39		1.978	1.21	3.190	
2402	37	125k 255 Byte	2.564	0.25	2.812	
2440	17		3.248	0.25	3.496	
2480	39		2.733	0.25	2.981	
2402	37	500k 37 Byte	-3.262	2.29	-0.970	
2440	17		-3.277	2.29	-0.985	
2480	39		-3.087	2.29	-0.795	
2402	37	500k 255 Byte	-6.720	0.65	-6.067	
2440	17		-5.294	0.65	-4.641	
2480	39		-6.629	0.65	-5.976	

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 (37 Byte)

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[Dual Ant.1]

Frequency (MHz)	Channel No.	Mode	Test Result			
			Measured PSD (dBm)	Duty Cycle Factor(dB)	Total PSD (dBm)	Limit
2402	37	1M Bit/s 37 Byte	-3.763	2.85	-0.917	8dBm/3kHz
2440	17		-4.855	2.85	-2.009	
2480	39		-3.481	2.85	-0.635	
2402	37	1M Bit/s 255 Byte	-2.941	0.69	-2.256	
2440	17		-4.645	0.69	-3.960	
2480	39		-3.563	0.69	-2.878	
2404	0	2M Bit/s 37 Byte	-5.588	4.08	-1.511	
2440	17		-7.210	4.08	-3.133	
2478	36		-6.026	4.08	-1.949	
2404	0	2M Bit/s 255 Byte	-5.628	1.14	-4.487	
2440	17		-6.844	1.14	-5.703	
2478	36		-5.302	1.14	-4.161	

[Dual Ant.2]

Frequency (MHz)	Channel No.	Mode	Test Result			
			Measured PSD (dBm)	Duty Cycle Factor(dB)	Total PSD (dBm)	Limit
2402	37	1M Bit/s 37 Byte	-4.312	2.85	-1.466	8dBm/3kHz
2440	17		-3.248	2.85	-0.402	
2480	39		-4.281	2.85	-1.435	
2402	37	1M Bit/s 255 Byte	-3.724	0.69	-3.039	
2440	17		-3.170	0.69	-2.485	
2480	39		-4.048	0.69	-3.363	
2404	0	2M Bit/s 37 Byte	-6.634	4.08	-2.557	
2440	17		-6.025	4.08	-1.948	
2478	36		-5.844	4.08	-1.767	
2404	0	2M Bit/s 255 Byte	-6.078	1.14	-4.937	
2440	17		-5.944	1.14	-4.803	
2478	36		-6.282	1.14	-5.141	

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

Frequency (MHz)	Channel No.	Mode	Test Result			
			Dual Ant. 1 PSD (dBm)	Dual Ant. 2 PSD (dBm)	Dual (Ant.1 + Ant.2) PSD (dBm)	Limit
2402	37	1 MBit/s 37 Byte	-0.917	-1.466	1.828	8 dBm / 3 kHz
2440	17		-2.009	-0.402	1.879	
2480	39		-0.635	-1.435	1.994	
2402	37	1 MBit/s 255 Byte	-2.256	-3.039	0.381	
2440	17		-3.960	-2.485	-0.149	
2480	39		-2.878	-3.363	-0.103	
2404	0	2 MBit/s 37 Byte	-1.511	-2.557	1.008	
2440	17		-3.133	-1.948	0.510	
2478	36		-1.949	-1.767	1.153	
2404	0	2 MBit/s 255 Byte	-4.487	-4.937	-1.696	
2440	17		-5.703	-4.803	-2.219	
2478	36		-4.161	-5.141	-1.613	

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 : 1M Bit/s (37 Byte)

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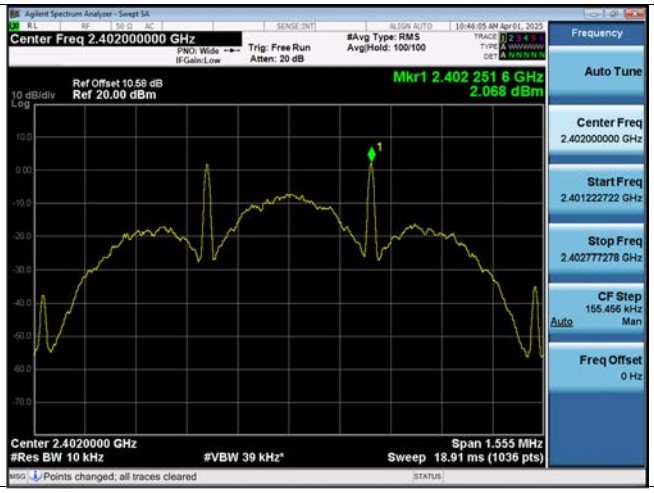
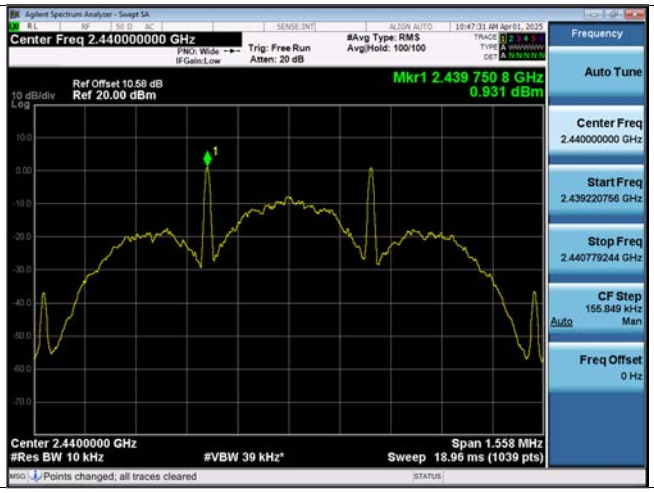
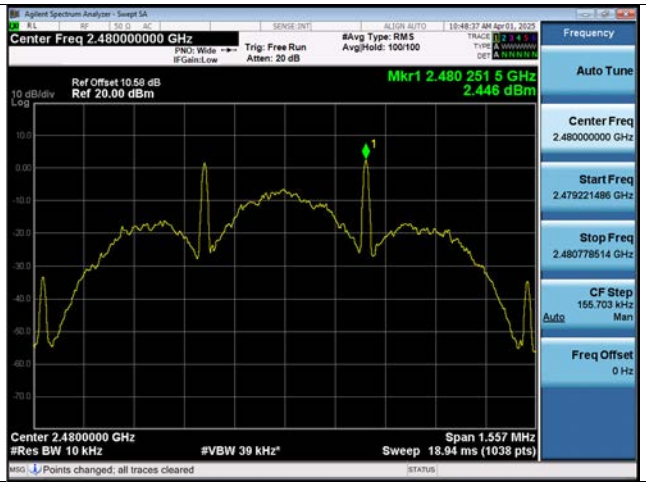
▣ Test Plots

Ant.1 (125k Bit/s (37 Byte))	Ant.2 (125k Bit/s (37 Byte))
Power Spectral Density (Low-CH 37)	Power Spectral Density (Low-CH 37)
	
Power Spectral Density (Mid-CH 17)	Power Spectral Density (Mid-CH 17)
	
Power Spectral Density (High-CH 39)	Power Specral Density (High-CH 39)
	

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Dual Ant.1 (1 MBit/s (37 Byte))	Dual Ant.2 (1 MBit/s (37 Byte))
Power Spectral Density (Low-CH 37)	Power Spectral Density (Low-CH 37)
Power Spectral Density (Mid-CH 17)	Power Spectral Density (Mid-CH 17)
Power Spectral Density (High-CH 39)	Power Spectral Density (High-CH 39)

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9.5 BAND EDGE/ CONDUCTED SPURIOUS EMISSIONS

[BAND EDGE]

[Ant. 1]

Frequency (MHz)	Mode	Channel No.	Position	Test Result	
				Measured Level (dB)	Limit (dBc)
2402	1M Bit/s 37 Byte	37	Lower	54.575	30
2480		39	Upper	55.238	30
2402	1M Bit/s 255 Byte	37	Lower	55.943	30
2480		39	Upper	56.357	30
2404	2M Bit/s 37 Byte	0	Lower	57.994	30
2478		36	Upper	62.410	30
2404	2M Bit/s 255 Byte	0	Lower	57.878	30
2478		36	Upper	55.444	30
2402	125k Bit/s 37 Byte	37	Lower	57.886	30
2480		39	Upper	61.335	30
2402	125k Bit/s 255 Byte	37	Lower	57.753	30
2480		39	Upper	60.337	30
2402	500k Bit/s 37 Byte	37	Lower	57.108	30
2480		39	Upper	61.593	30
2402	500k Bit/s 255 Byte	37	Lower	59.355	30
2480		39	Upper	61.405	30

Note :

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

- Lower Band Edge: 1M Bit/s (37 Byte)
- Upper Band Edge: 1M Bit/s (37 Byte)

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[Ant. 2]

Frequency (MHz)	Mode	Channel No.	Position	Test Result	
				Measured Level (dB)	Limit (dBc)
2402	1M Bit/s 37 Byte	37	Lower	53.723	30
2480		39	Upper	57.392	30
2402	1M Bit/s 255 Byte	37	Lower	54.080	30
2480		39	Upper	56.205	30
2404	2M Bit/s 37 Byte	0	Lower	58.484	30
2478		36	Upper	57.126	30
2404	2M Bit/s 255 Byte	0	Lower	57.387	30
2478		36	Upper	56.577	30
2402	125k Bit/s 37 Byte	37	Lower	56.141	30
2480		39	Upper	60.387	30
2402	125k Bit/s 255 Byte	37	Lower	57.845	30
2480		39	Upper	60.987	30
2402	500k Bit/s 37 Byte	37	Lower	57.076	30
2480		39	Upper	61.181	30
2402	500k Bit/s 255 Byte	37	Lower	56.967	30
2480		39	Upper	60.488	30

Note :

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

- Lower Band Edge: 1M Bit/s (37 Byte)
- Upper Band Edge: 1M Bit/s (255 Byte)

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[Dual Ant. 1]

Frequency (MHz)	Mode	Channel No.	Position	Test Result	
				Measured Level (dB)	Limit (dBc)
2402	1M Bit/s 37 Byte	37	Lower	55.845	30
2480		39	Upper	61.068	30
2402	1M Bit/s 255 Byte	37	Lower	56.527	30
2480		39	Upper	61.462	30
2404	2M Bit/s 37 Byte	0	Lower	61.022	30
2478		36	Upper	62.442	30
2404	2M Bit/s 255 Byte	0	Lower	61.553	30
2478		36	Upper	61.388	30

Note :

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

- Lower Band Edge: 1M Bit/s (37 Byte)
- Upper Band Edge: 1M Bit/s (37 Byte)

[Dual Ant. 2]

Frequency (MHz)	Mode	Channel No.	Position	Test Result	
				Measured Level (dB)	Limit (dBc)
2402	1M Bit/s 37 Byte	37	Lower	54.874	30
2480		39	Upper	59.772	30
2402	1M Bit/s 255 Byte	37	Lower	55.718	30
2480		39	Upper	60.262	30
2404	2M Bit/s 37 Byte	0	Lower	59.550	30
2478		36	Upper	60.841	30
2404	2M Bit/s 255 Byte	0	Lower	61.188	30
2478		36	Upper	60.911	30

Note :

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

- Lower Band Edge: 1M Bit/s (37 Byte)
- Upper Band Edge: 1M Bit/s (37 Byte)

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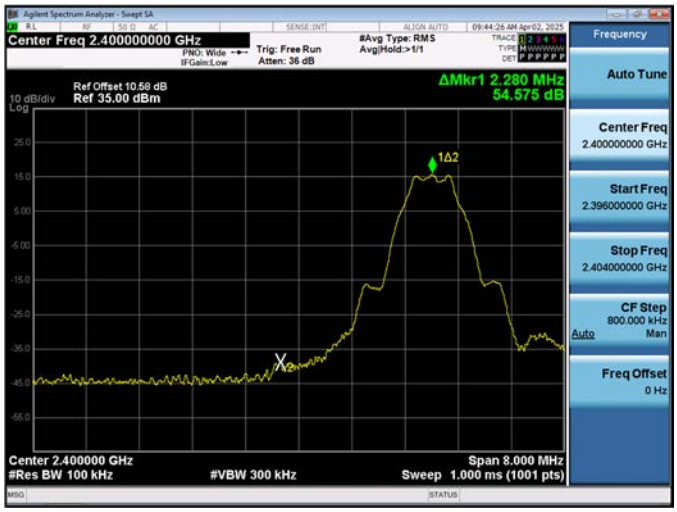
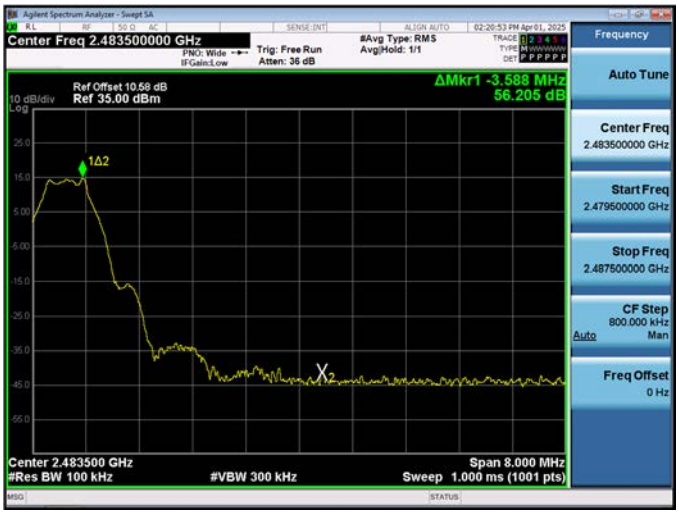
▣ Test Plot(Band Edge)

Ant. 1	Ant. 2
1M Bit/s (37 Byte) Low-CH 37	1M Bit/s (37 Byte) Low-CH 37
	
1M Bit/s (37 Byte) High-CH 36	1M Bit/s (255 Byte) High-CH 39
	

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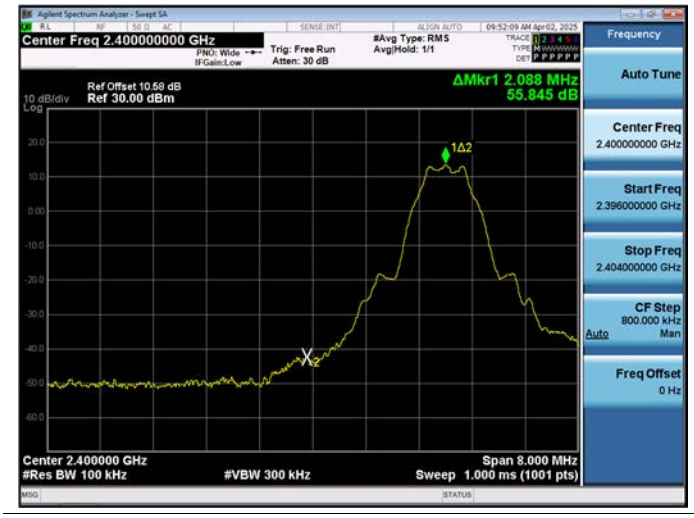
Dual Ant.1	Dual Ant.2
1M Bit/s (37 Byte) Low-CH 37	1M Bit/s (37 Byte) Low-CH 37
	
1M Bit/s (37 Byte) High-CH 39	1M Bit/s (37 Byte) High-CH 39

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[CONDUCTED SPURIOUS EMISSIONS]

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

- Worst case

Ant. 1 : 2M Bit/s 37 Byte Ch. 0(2 404 MHz)

Ant. 2 : 1M Bit/s 37 Byte Ch. 37(2 402 MHz)

Dual Ant. 1 : 2M Bit/s 255 Byte Ch. 36(2 478 MHz)

Dual Ant. 2 : 2M Bit/s 37 Byte Ch. 17(2 440 MHz)

▣ Test Plots(Conducted Spurious Emission (30 MHz – 26.5 GHz))

Ant. 1 Conducted Spurious Emission	Ant. 2 Conducted Spurious Emission
Dual BT Ant. 1 Conducted Spurious Emission	Dual BT Ant. 2 Conducted Spurious Emission

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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.

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Frequency Range : Above 1 GHz

[Ant.1]

CH 37	2402	MHz	Mode :		1 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4804	53.10	-9.84	V	43.26	73.98	30.72	PK
4804	42.51	-9.84	V	32.67	53.98	21.31	AV
7206	51.28	-3.15	V	48.13	73.98	25.85	PK
7206	39.66	-3.15	V	36.51	53.98	17.47	AV
4804	53.53	-9.84	H	43.69	73.98	30.29	PK
4804	42.53	-9.84	H	32.69	53.98	21.29	AV
7206	51.46	-3.15	H	48.31	73.98	25.67	PK
7206	39.79	-3.15	H	36.64	53.98	17.34	AV

CH 17	2440	MHz	Mode :		1 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4880	54.47	-9.58	V	44.89	73.98	29.09	PK
4880	42.68	-9.58	V	33.10	53.98	20.88	AV
7320	51.36	-3.11	V	48.25	73.98	25.73	PK
7320	39.84	-3.11	V	36.73	53.98	17.25	AV
4880	54.55	-9.58	H	44.97	73.98	29.01	PK
4880	42.90	-9.58	H	33.32	53.98	20.66	AV
7320	51.88	-3.11	H	48.77	73.98	25.21	PK
7320	39.86	-3.11	H	36.75	53.98	17.23	AV

CH 39	2480	MHz	Mode :		1 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4960	55.71	-9.25	V	46.46	73.98	27.52	PK
4960	43.59	-9.25	V	34.34	53.98	19.64	AV
7440	51.97	-2.84	V	49.13	73.98	24.85	PK
7440	39.48	-2.84	V	36.64	53.98	17.34	AV
4960	55.62	-9.25	H	46.37	73.98	27.61	PK
4960	43.54	-9.25	H	34.29	53.98	19.69	AV
7440	51.67	-2.84	H	48.83	73.98	25.15	PK
7440	39.42	-2.84	H	36.58	53.98	17.40	AV

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CH 0	2404	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4808	54.36	-9.84	V	44.52	73.98	29.46	PK
4808	42.36	-9.84	V	32.52	53.98	21.46	AV
7212	51.18	-3.11	V	48.07	73.98	25.91	PK
7212	39.65	-3.11	V	36.54	53.98	17.44	AV
4808	54.43	-9.84	H	44.59	73.98	29.39	PK
4808	42.63	-9.84	H	32.79	53.98	21.19	AV
7212	51.26	-3.11	H	48.15	73.98	25.83	PK
7212	39.75	-3.11	H	36.64	53.98	17.34	AV

CH 17	2440	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4880	54.38	-9.58	V	44.80	73.98	29.18	PK
4880	42.65	-9.58	V	33.07	53.98	20.91	AV
7320	51.62	-3.11	V	48.51	73.98	25.47	PK
7320	39.69	-3.11	V	36.58	53.98	17.40	AV
4880	54.53	-9.58	H	44.95	73.98	29.03	PK
4880	42.89	-9.58	H	33.31	53.98	20.67	AV
7320	51.66	-3.11	H	48.55	73.98	25.43	PK
7320	39.84	-3.11	H	36.73	53.98	17.25	AV

CH 36	2478	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4956	55.49	-9.31	V	46.18	73.98	27.80	PK
4956	43.73	-9.31	V	34.42	53.98	19.56	AV
7434	51.52	-2.85	V	48.67	73.98	25.31	PK
7434	39.57	-2.85	V	36.72	53.98	17.26	AV
4956	54.93	-9.31	H	45.62	73.98	28.36	PK
4956	43.29	-9.31	H	33.98	53.98	20.00	AV
7434	51.25	-2.85	H	48.40	73.98	25.58	PK
7434	39.45	-2.85	H	36.60	53.98	17.38	AV

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[Ant.2]

CH 37	2402	MHz	Mode :		1 M Bit/s (37 Bytes)		
Frequency [MHz]	Measured value [dBμV]	AF+CL-AG [dB/m]	Pol. [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4804	54.28	-9.84	V	44.44	73.98	29.54	PK
4804	41.69	-9.84	V	31.85	53.98	22.13	AV
7206	51.52	-3.15	V	48.37	73.98	25.61	PK
7206	39.76	-3.15	V	36.61	53.98	17.37	AV
4804	54.41	-9.84	H	44.57	73.98	29.41	PK
4804	42.47	-9.84	H	32.63	53.98	21.35	AV
7206	51.20	-3.15	H	48.05	73.98	25.93	PK
7206	39.54	-3.15	H	36.39	53.98	17.59	AV

CH 17	2440	MHz	Mode :		1 M Bit/s (37 Bytes)		
Frequency [MHz]	Measured value [dBμV]	AF+CL-AG [dB/m]	Pol. [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4880	55.15	-9.58	V	45.57	73.98	28.41	PK
4880	43.30	-9.58	V	33.72	53.98	20.26	AV
7320	52.07	-3.11	V	48.96	73.98	25.02	PK
7320	39.87	-3.11	V	36.76	53.98	17.22	AV
4880	55.28	-9.58	H	45.70	73.98	28.28	PK
4880	43.35	-9.58	H	33.77	53.98	20.21	AV
7320	52.07	-3.11	H	48.96	73.98	25.02	PK
7320	39.82	-3.11	H	36.71	53.98	17.27	AV

CH 39	2480	MHz	Mode :		1 M Bit/s (37 Bytes)		
Frequency [MHz]	Measured value [dBμV]	AF+CL-AG [dB/m]	Pol. [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4960	54.62	-9.25	V	45.37	73.98	28.61	PK
4960	42.33	-9.25	V	33.08	53.98	20.90	AV
7440	51.40	-2.84	V	48.56	73.98	25.42	PK
7440	39.66	-2.84	V	36.82	53.98	17.16	AV
4960	54.81	-9.25	H	45.56	73.98	28.42	PK
4960	42.97	-9.25	H	33.72	53.98	20.26	AV
7440	51.33	-2.84	H	48.49	73.98	25.49	PK
7440	39.51	-2.84	H	36.67	53.98	17.31	AV

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CH 0	2404	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4808	54.28	-9.84	V	44.44	73.98	29.54	PK
4808	42.38	-9.84	V	32.54	53.98	21.44	AV
7212	51.02	-3.11	V	47.91	73.98	26.07	PK
7212	39.87	-3.11	V	36.76	53.98	17.22	AV
4808	54.33	-9.84	H	44.49	73.98	29.49	PK
4808	42.57	-9.84	H	32.73	53.98	21.25	AV
7212	50.73	-3.11	H	47.62	73.98	26.36	PK
7212	39.55	-3.11	H	36.44	53.98	17.54	AV

CH 17	2440	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4880	54.93	-9.58	V	45.35	73.98	28.63	PK
4880	42.64	-9.58	V	33.06	53.98	20.92	AV
7320	51.59	-3.11	V	48.48	73.98	25.50	PK
7320	39.88	-3.11	V	36.77	53.98	17.21	AV
4880	55.30	-9.58	H	45.72	73.98	28.26	PK
4880	42.93	-9.58	H	33.35	53.98	20.63	AV
7320	51.11	-3.11	H	48.00	73.98	25.98	PK
7320	39.72	-3.11	H	36.61	53.98	17.37	AV

CH 36	2478	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4956	55.16	-9.31	V	45.85	73.98	28.13	PK
4956	43.26	-9.31	V	33.95	53.98	20.03	AV
7434	51.10	-2.85	V	48.25	73.98	25.73	PK
7434	39.49	-2.85	V	36.64	53.98	17.34	AV
4956	55.35	-9.31	H	46.04	73.98	27.94	PK
4956	43.51	-9.31	H	34.20	53.98	19.78	AV
7434	51.02	-2.85	H	48.17	73.98	25.81	PK
7434	39.28	-2.85	H	36.43	53.98	17.55	AV

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[Dual Ant.1+ Ant.2]

CH 37	2402	MHz	Mode :		1 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4804	54.39	-9.84	V	44.55	73.98	29.43	PK
4804	42.51	-9.84	V	32.67	53.98	21.31	AV
7206	51.05	-3.15	V	47.90	73.98	26.08	PK
7206	39.80	-3.15	V	36.65	53.98	17.33	AV
4804	54.55	-9.84	H	44.71	73.98	29.27	PK
4804	42.56	-9.84	H	32.72	53.98	21.26	AV
7206	51.19	-3.15	H	48.04	73.98	25.94	PK
7206	39.82	-3.15	H	36.67	53.98	17.31	AV

CH 17	2440	MHz	Mode :		1 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4880	55.40	-9.58	V	45.82	73.98	28.16	PK
4880	42.96	-9.58	V	33.38	53.98	20.60	AV
7320	51.48	-3.11	V	48.37	73.98	25.61	PK
7320	39.84	-3.11	V	36.73	53.98	17.25	AV
4880	55.36	-9.58	H	45.78	73.98	28.20	PK
4880	42.61	-9.58	H	33.03	53.98	20.95	AV
7320	51.33	-3.11	H	48.22	73.98	25.76	PK
7320	39.56	-3.11	H	36.45	53.98	17.53	AV

CH 39	2480	MHz	Mode :		1 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4960	55.37	-9.25	V	46.12	73.98	27.86	PK
4960	43.68	-9.25	V	34.43	53.98	19.55	AV
7440	51.89	-2.84	V	49.05	73.98	24.93	PK
7440	39.45	-2.84	V	36.61	53.98	17.37	AV
4960	55.30	-9.25	H	46.05	73.98	27.93	PK
4960	43.25	-9.25	H	34.00	53.98	19.98	AV
7440	51.64	-2.84	H	48.80	73.98	25.18	PK
7440	39.41	-2.84	H	36.57	53.98	17.41	AV

The report shall not be (partly) reproduced except in full without approval of the laboratory.

CH 0	2404	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4808	53.93	-9.84	V	44.09	73.98	29.89	PK
4808	42.52	-9.84	V	32.68	53.98	21.30	AV
7212	51.54	-3.11	V	48.43	73.98	25.55	PK
7212	39.72	-3.11	V	36.61	53.98	17.37	AV
4808	54.09	-9.84	H	44.25	73.98	29.73	PK
4808	42.61	-9.84	H	32.77	53.98	21.21	AV
7212	51.66	-3.11	H	48.55	73.98	25.43	PK
7212	39.78	-3.11	H	36.67	53.98	17.31	AV

CH 17	2440	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4880	55.15	-9.58	V	45.57	73.98	28.41	PK
4880	42.90	-9.58	V	33.32	53.98	20.66	AV
7320	51.40	-3.11	V	48.29	73.98	25.69	PK
7320	39.84	-3.11	V	36.73	53.98	17.25	AV
4880	55.04	-9.58	H	45.46	73.98	28.52	PK
4880	42.25	-9.58	H	32.67	53.98	21.31	AV
7320	51.31	-3.11	H	48.20	73.98	25.78	PK
7320	39.72	-3.11	H	36.61	53.98	17.37	AV

CH 36	2478	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	AF+CL-AG	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4956	55.59	-9.31	V	46.28	73.98	27.70	PK
4956	43.68	-9.31	V	34.37	53.98	19.61	AV
7434	51.18	-2.85	V	48.33	73.98	25.65	PK
7434	39.44	-2.85	V	36.59	53.98	17.39	AV
4956	55.14	-9.31	H	45.83	73.98	28.15	PK
4956	43.21	-9.31	H	33.90	53.98	20.08	AV
7434	51.10	-2.85	H	48.25	73.98	25.73	PK
7434	39.36	-2.85	H	36.51	53.98	17.47	AV

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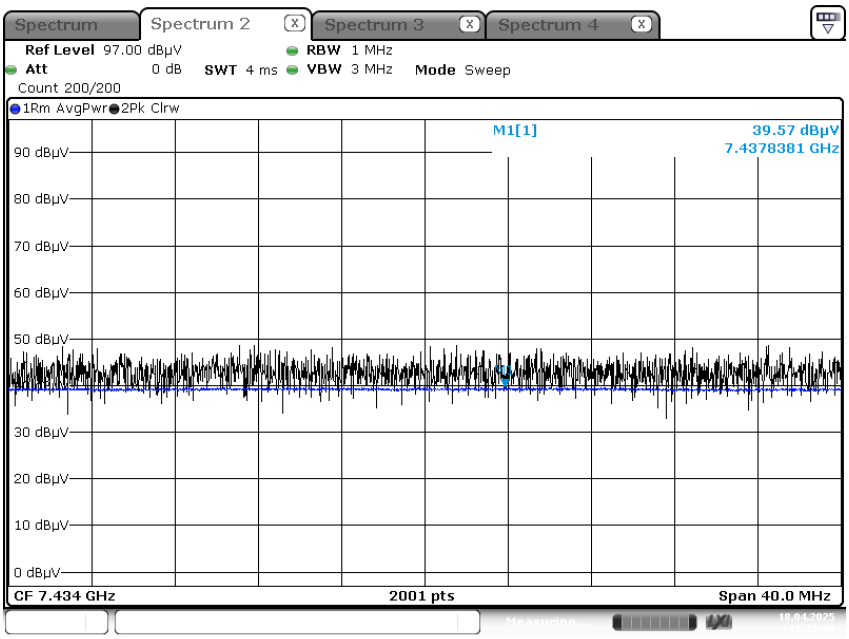
[Ant.1]

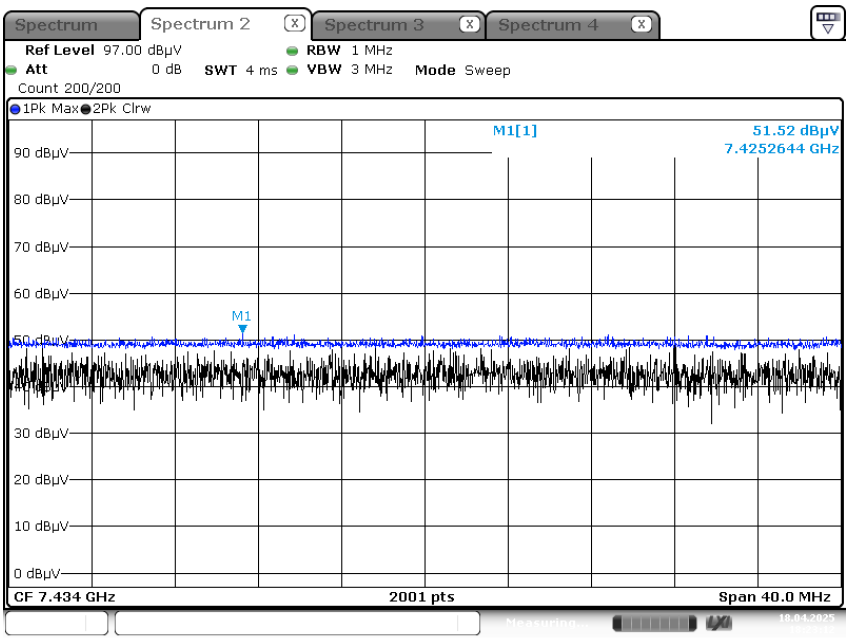
▣ 2 M Bit/s 37 Bytes Test Plots (Worst case : Y-V)

Radiated Spurious Emissions plot – Average Result (Ch.36 3rd Harmonic)



Date: 18.APR.2025 18:22:40

Radiated Spurious Emissions plot – Peak Result (Ch.36 3rd Harmonic)



Date: 18.APR.2025 18:23:13

Note:

Plots of worst case are only reported.

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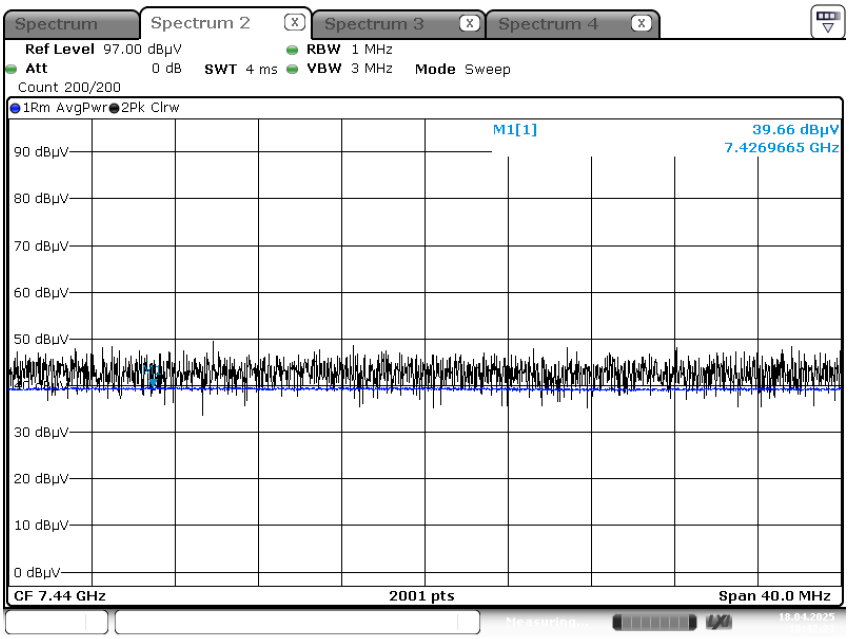
[Ant.2]

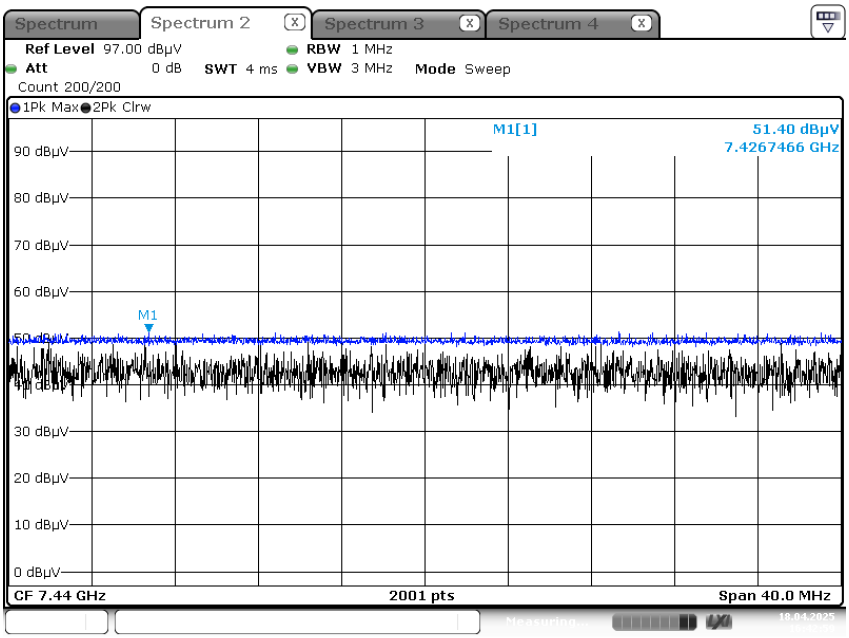
▣ 1 M Bit/s 37 Bytes Test Plots (Worst case : Y-V)

Radiated Spurious Emissions plot – Average Result (Ch.39 3rd Harmonic)



Date: 18.APR.2025 16:42:21

Radiated Spurious Emissions plot – Peak Result (Ch.39 3rd Harmonic)



Date: 18.APR.2025 16:43:00

Note:

Plots of worst case are only reported.

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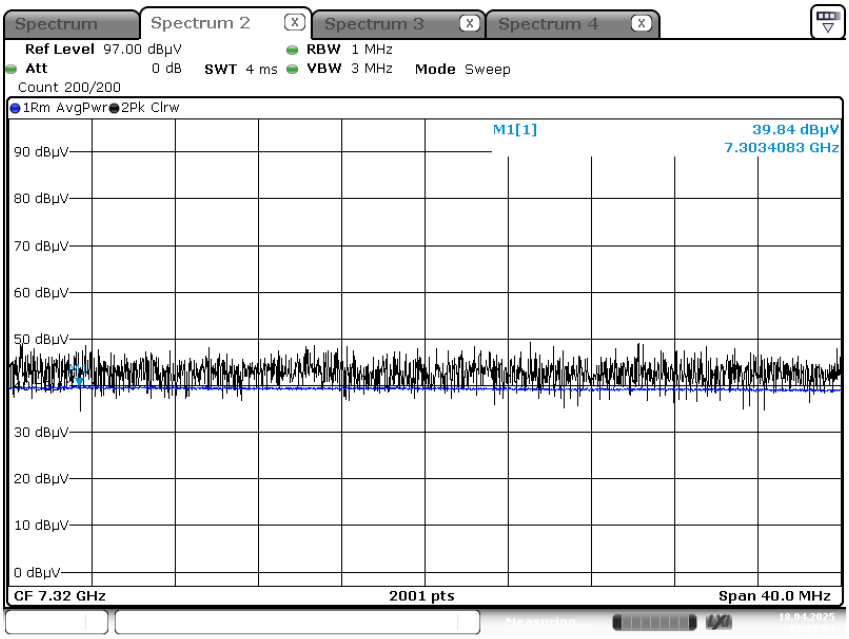
[Dual Ant.1+ Ant.2]

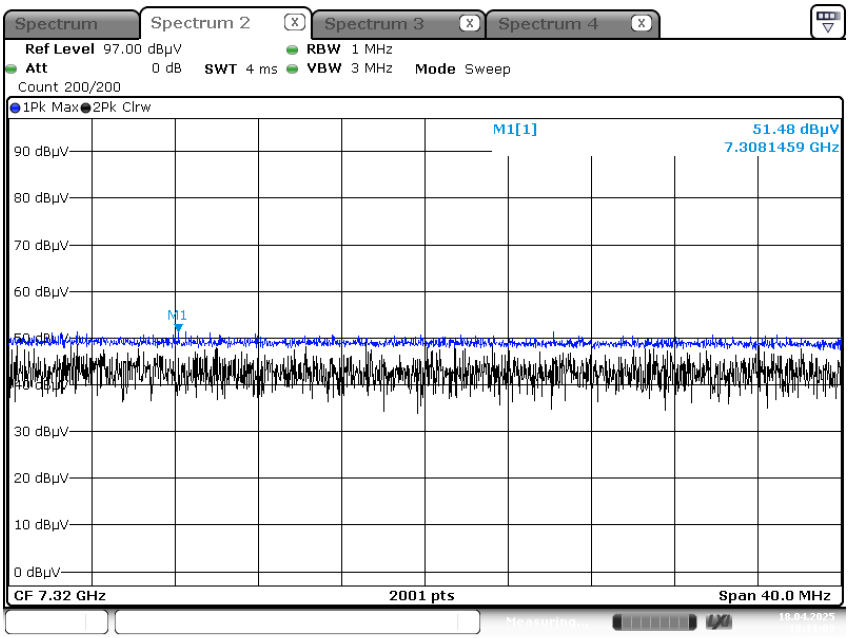
▣ 1 M Bit/s 37 Bytes Test Plots (Worst case : X-V)

Radiated Spurious Emissions plot – Average Result (Ch.17 3rd Harmonic)



Date: 18.APR.2025 19:10:55

Radiated Spurious Emissions plot – Peak Result (Ch.17 3rd Harmonic)



Date: 18.APR.2025 19:11:10

Note:

Plots of worst case are only reported.

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9.7 RADIATED RESTRICTED BAND EDGES

[Ant.1]

1 M Bit/s (37 Bytes)							
Channel	37 CH, 39 CH	Channel Frequency	2402 MHz, 2480 MHz				
Frequency [MHz]	Measured Value [dBμV]	AF+CL [dB/m]	Ant. Pol. [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2390.0	54.04	-	H	54.04	73.98	19.94	PK
2390.0	41.33	-	H	41.33	53.98	12.65	AV
2483.5	60.10	-	H	60.10	73.98	13.88	PK
2483.5	42.50	-	H	42.50	53.98	11.48	AV

2 M Bit/s (37 Bytes)							
Channel	0 CH, 36 CH	Channel Frequency	2404 MHz, 2478 MHz				
Frequency [MHz]	Measured Value [dBμV]	AF+CL [dB/m]	Ant. Pol. [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2390.0	53.73	-	H	53.73	73.98	20.25	PK
2390.0	41.33	-	H	41.33	53.98	12.65	AV
2483.5	56.75	-	H	56.75	73.98	17.23	PK
2483.5	41.91	-	H	41.91	53.98	12.07	AV

[Ant.2]

1 M Bit/s (37 Bytes)							
Channel	37 CH, 39 CH	Channel Frequency	2402 MHz, 2480 MHz				
Frequency [MHz]	Measured Value [dBμV]	AF+CL [dB/m]	Ant. Pol. [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2390.0	54.32	-	V	54.32	73.98	19.66	PK
2390.0	41.32	-	V	41.32	53.98	12.66	AV
2483.5	57.41	-	V	57.41	73.98	16.57	PK
2483.5	41.81	-	V	41.81	53.98	12.17	AV

2 M Bit/s (37 Bytes)							
Channel	0 CH, 36 CH	Channel Frequency	2404 MHz, 2478 MHz				
Frequency [MHz]	Measured Value [dBμV]	AF+CL [dB/m]	Ant. Pol. [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2390.0	53.93	-	V	53.93	73.98	20.05	PK
2390.0	41.33	-	V	41.33	53.98	12.65	AV
2483.5	54.28	-	V	54.28	73.98	19.70	PK
2483.5	41.64	-	V	41.64	53.98	12.34	AV

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[Dual Ant.1+ Ant.2]

1 M Bit/s (37 Bytes)							
Channel	37 CH, 39 CH	Channel Frequency	2402 MHz, 2480 MHz				
Frequency [MHz]	Measured Value [dBμV]	AF+CL [dB/m]	Ant. Pol. [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2390.0	53.24	-	H	53.24	73.98	20.74	PK
2390.0	41.25	-	H	41.25	53.98	12.73	AV
2483.5	58.68	-	H	58.68	73.98	15.30	PK
2483.5	42.18	-	H	42.18	53.98	11.80	AV

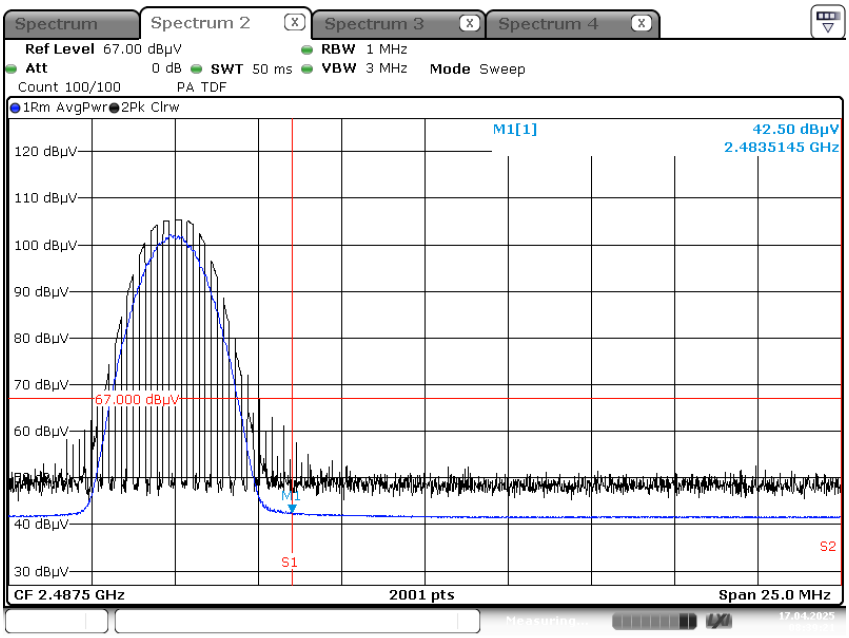
2 M Bit/s (37 Bytes)							
Channel	0 CH, 36 CH	Channel Frequency	2404 MHz, 2478 MHz				
Frequency [MHz]	Measured Value [dBμV]	AF+CL [dB/m]	Ant. Pol. [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2390.0	53.29	-	H	53.29	73.98	20.69	PK
2390.0	41.27	-	H	41.27	53.98	12.71	AV
2483.5	55.86	-	H	55.86	73.98	18.12	PK
2483.5	41.64	-	H	41.64	53.98	12.34	AV

The report shall not be (partly) reproduced except in full without approval of the laboratory.

[Ant.1]

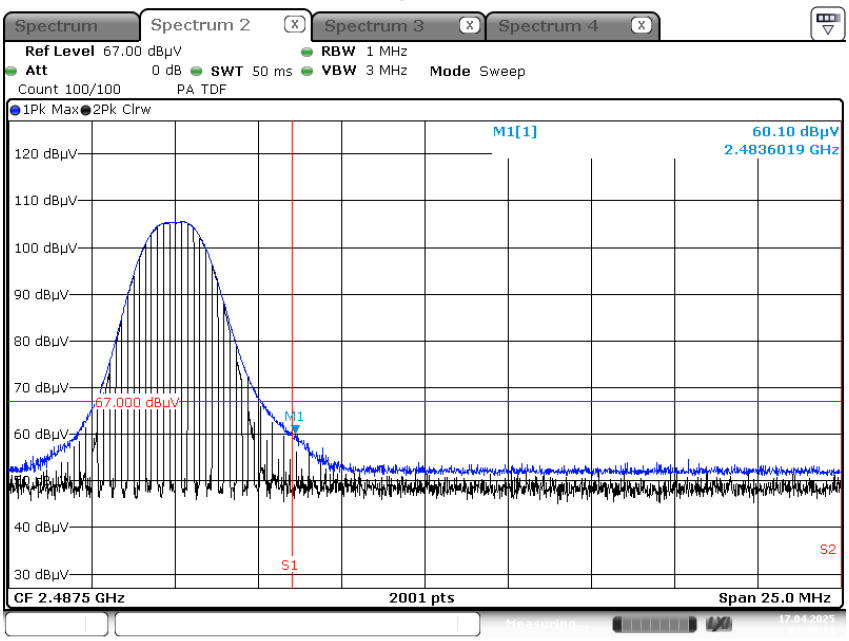
▣ Mode : 1 M Bit/s (37 Bytes) Test Plots

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



Date: 17.APR.2025 08:39:22

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



Date: 17.APR.2025 08:40:12

Note:

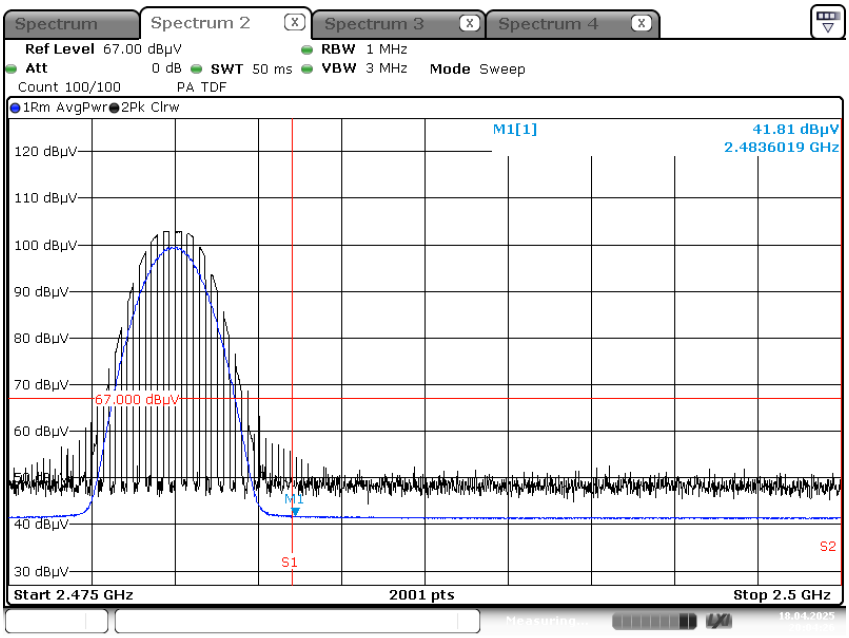
In order to simplify the report, Plot of worst case are only reported.

The report shall not be (partly) reproduced except in full without approval of the laboratory.

[Ant.2]

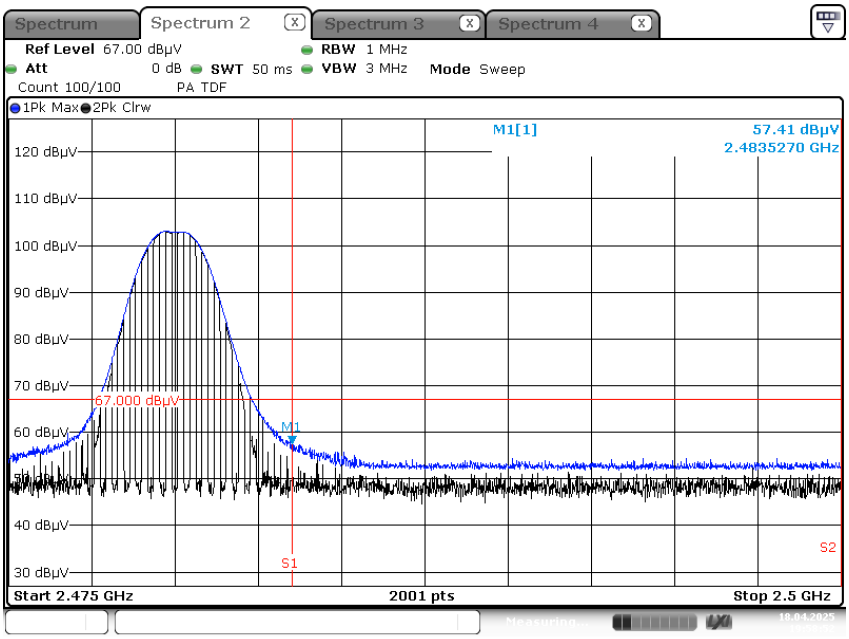
▣ Mode : 1 M Bit/s (37 Bytes) Test Plots

Radiated Restricted Band Edges plot – Average Result (Ch.39, X-V)



Date: 18.APR.2025 20:04:26

Radiated Restricted Band Edges plot – Peak Result (Ch.39, X-V)



Date: 18.APR.2025 19:58:53

Note:

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

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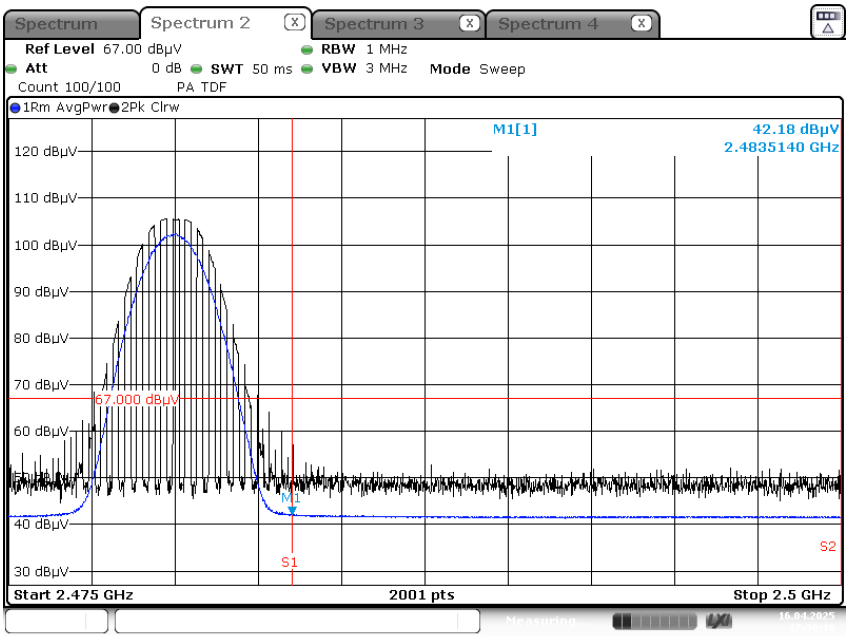
[Dual Ant.1+ Ant.2]

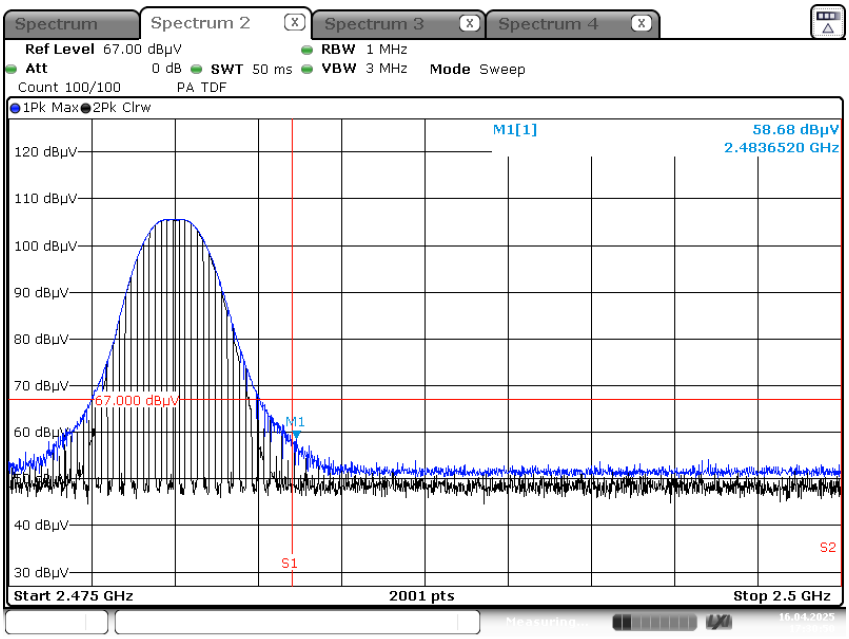
▣ Mode : 1 M Bit/s (37 Bytes) Test Plots

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



Date: 16.APR.2025 17:30:18

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



Date: 16.APR.2025 17:30:51

Note:

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

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9.8 POWERLINE CONDUCTED EMISSIONS

Conducted Emissions

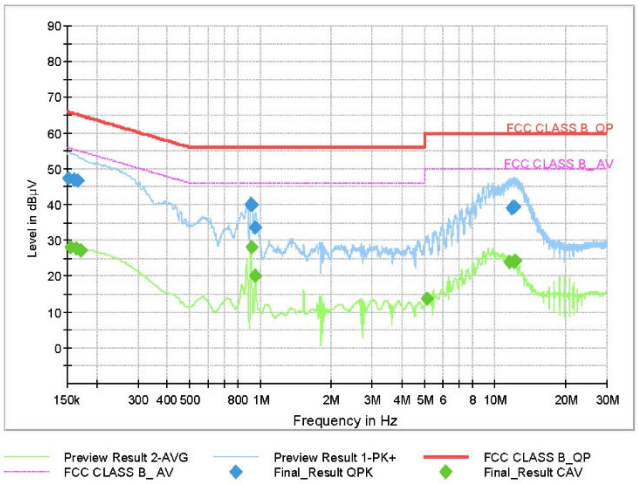
Test 1 / 1

Test Report

Common Information

EUT : SM-F766U
Operating Conditions : BTLE Mode
Comment :

Full Spectrum



Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1523	47.35	65.88	18.53	9.000	N	9.6
0.1613	46.97	65.40	18.43	9.000	L1	9.6
0.1658	46.64	65.17	18.53	9.000	N	9.6
0.9118	39.84	56.00	16.16	9.000	L1	9.7
0.9163	39.85	56.00	16.15	9.000	L1	9.7
0.9523	33.68	56.00	22.32	9.000	L1	9.7
11.7995	38.99	60.00	21.01	9.000	N	10.2
11.9683	39.24	60.00	20.76	9.000	N	10.2
12.0718	39.26	60.00	20.74	9.000	N	10.2

Final_Result_CAV

Frequency (MHz)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1545	28.29	55.75	27.47	9.000	N	9.6
0.1635	27.88	55.28	27.41	9.000	N	9.6
0.1725	27.22	54.84	27.62	9.000	N	9.6
0.9140	27.99	46.00	18.01	9.000	N	9.7
0.9500	20.05	46.00	25.95	9.000	L1	9.7
5.1170	13.62	50.00	36.38	9.000	L1	9.9
11.5565	23.86	50.00	26.14	9.000	N	10.2
12.0718	23.98	50.00	26.02	9.000	N	10.2
12.1978	24.28	50.00	25.72	9.000	N	10.2

2025-04-07 오전 10:51:48

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10. LIST OF TEST EQUIPMENT

Conducted Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
LISN	ENV216	Rohde & Schwarz	102245	07/17/2025	Annual
EMI Test Receiver	ESR	Rohde & Schwarz	101910	07/02/2025	Annual
Temperature Chamber	SU-642	ESPEC	93008124	02/11/2026	Annual
Signal Analyzer	N9030A	Keysight	MY55410508	08/23/2025	Annual
Signal Analyzer	N9030B	Keysight	MY56320554	02/03/2026	Annual
Power Meter	N1911A	Agilent	MY45100523	02/21/2026	Annual
Power Sensor	N1921A	Agilent	MY57820067	02/04/2026	Annual
Directional Coupler	87300B	Agilent	3116A03621	10/21/2025	Annual
Power Splitter	11667B	Hewlett Packard	10545	01/23/2026	Annual
DC Power Supply	E3632A	Agilent	MY50360067	02/11/2026	Annual
Attenuator(10 dB)(DC-26.5 GHz)	8493C-010	Agilent	08285	05/28/2025	Annual
Attenuator(20 dB)	18N-20dB	Rohde & Schwarz	8	02/18/2026	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	02/27/2026	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.

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Radiated Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Controller (Antenna mast & Turn Table)	CO3000	Innco system	CO3000/ 15421/57580623/G	N/A	N/A
Antenna Position Tower	MA4640	Innco system	9320422	04/03/2026	Biennial
Turn Table	N/A	Innco system	5930623	N/A	N/A
Loop Antenna	FMZB 1513	Schwarzbeck	1513-175	01/06/2027	Biennial
Hybrid Antenna	VULB 9168	Schwarzbeck	9168-1135	08/19/2026	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	9120D-1151	07/14/2025	Biennial
Horn Antenna (15 GHz ~ 40 GHz)	BBHA9170	Schwarzbeck	BBHA9170124	03/23/2027	Biennial
Amp & Filter Bank Switch Controller	FBSM-01B	T&M system	TM2009001	N/A	N/A
Band Reject Filter	WRCJV2400/2483.5-2370/2520-60/12SS	Wainwright Instruments	2	12/26/2025	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	5	06/04/2025	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	6	06/04/2025	Annual
Band Reject Filter	WRCJV5100/5850-40/50-8EEK	Wainwright Instruments	1	01/09/2026	Annual
RF Switching System	FMSR-05B (HPF(3~18GHz) + LNA1(1~18GHz))	T&M system	S5L1	03/11/2026	Annual
RF Switching System	FMSR -05B (ATT(10dB) + LNA1(1~18GHz))	T&M system	S5L2	03/11/2026	Annual
RF Switching System	FMSR -05B (ATT(3dB) + LNA1(1~18GHz))	T&M system	S5L3	03/11/2026	Annual
RF Switching System	FMSR -05B (LNA1(1~18GHz))	T&M system	S5L4	03/11/2026	Annual
RF Switching System	FMSR -05B (HPF(7~18GHz) + LNA2(6~18GHz))	T&M system	S5L5	03/11/2026	Annual
RF Switching System	FMSR -05B (Thru(30MHz ~ 18GHz))	T&M system	S5L6	03/11/2026	Annual
Power Amplifier	CBL18265035	CERNEX	22966	11/07/2025	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/19/2026	Annual
Bluetooth Tester	TC-3000C	TESCOM	3000C000175	03/12/2026	Annual
Spectrum Analyzer	FSV40 (9 kHz ~ 40 GHz)	Rohde & Schwarz	101510	09/24/2025	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).

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11. ANNEX A_ TEST SETUP PHOTO

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

No.	Description
1	HCT-RF-2505-FC011-P

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