

TEST REPORT

JNM Korea Testing Center Co. Ltd. 135-60 Gyeongchung-daero, Gonjam-eup, Gwangju-si, Gyeonggi-do, Korea 12813 Tel: +82-31-727-8300 Fax: +82-31-764-0800	Report No.: TR-W2609-015 Page (1) / (84) Pages	
Project Number : EA2608C-112 Test Report Number : TR-W2609-015 Type of Equipment : Smart Card Tag Model Name : IA70001-SCT01 Additional Model Name(s) : N/A Applicant : SAMJIN C&I CO.,LTD. Address : 2F, 87, Anyangcheonseo-ro, Manan-gu, Anyang-si, Gyeonggi-do, Republic of Korea Manufacturer : JAEMIN VIEW TECH Address : 76, Gunpocheomdansaneop 2-ro, Gunpo-si, Gyeonggi-do, Republic of Korea Product Standard : FCC Part 15 Subpart C 15.247 Date of Receipt : 2026-08-18 Date(s) of tests : 2026-09-02 ~ 2026-09-17 Date of Issue : 2026-09-18 Test Result : PASS This test report only contains the result of a single test of the sample supplied for the examination. It is not a generally valid assessment of the features of the respective products of the mass-production. It shall not be reproduced except in full, without the written approval of the JNM Korea Testing Center Co. Ltd.		
Prepared by  Choi, Yoon-seok / Engineer	Approved by  Shin, Jong-myung / Team Leader	

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CONTENTS

	Page
1. Test Summary	4
1.1 Test standards and results	4
1.4 Test Facility	5
2. General Product Description	6
2.1 Equipment Description	6
2.2 Equipment Information	6
2.3 Additional Model Name(s).....	6
3. Test Condition and Operating Modes.....	7
3.1 Modes of operation during the test	7
3.2 Equipment Used During Test.....	7
3.3 Cable Description	7
3.4 EUT Modifications	7
4. Measurement Uncertainty.....	8
5. Test Parameter.....	9
5.1 Antenna Requirement	9
5.2 6 dB Bandwidth & Occupied Bandwidth (99%).....	10
5.3 Maximum Peak Output Power	24
5.4 Peak Power Spectral Density	31
5.5 TX Radiated Spurious Emission and Conducted Spurious Emission.....	39
Appendix I. Test Setup	83
Appendix II. Test Instrumentation.....	84

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Revision History

Date	Report No.	Description	Revised By	Reviewed By
2026-09-18	TR-W2609-015	Initial report	Choi, Yoon-seok	Shin, Jong-myung

1. Test Summary

1.1 Test standards and results

The sample submitted for evaluation (Hereafter refer to as the EUT) has been tested in accordance with the following standards.

FCC Rule	Test Items	Test Condition	Results
15.203	Antenna Requirement	Conducted	C
15.247(a)	6 dB Bandwidth		C
-	Occupied Bandwidth		C
15.247(b)	Maximum Peak Output Power		C
15.247(e)	Peak Power Spectral Density		C
15.247(d)	Conducted Spurious Emission		C
15.247(d) 15.205 & 15.209	Radiated Spurious Emission	Radiated	C
15.207	Conducted Emission	AC Line Conducted	N/A ^{Note2}

Remark:

C means Comply **N/C** means Not Comply **N/A** means Not Applicable **N/T** means Not Tested

Note1: The sample was tested according to the following specification: ANSI C63.10:2020.

Note2: The EUT operates solely from its internal rechargeable battery during Bluetooth Low Energy (BLE) operation. The battery is charged using a separate wireless charger, and the EUT has no wired charging port. According to the manufacturer's declaration dated [YYYY-MM-DD], BLE operation is disabled during wireless charging. Therefore, AC power-line conducted emission testing is not applicable to the BLE operation evaluated in this report, pursuant to FCC §15.207(c).

Compliance was determined by specification limits of the applicable standard according to customer requirements.

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1.4 Test Facility

The measurement facilities are located at 135-60 Gyeongchung-daero, Gonjam-eup, Gwangju-si, Gyeonggi-do 12813, Korea. Our test facilities are accredited as a Conformity Assessment Body (CAB) by the FCC and ISED Canada, designated by the RRA (National Radio Research Agency), and accredited by KOLAS (Korea Laboratory Accreditation Scheme) in Korea and approved by TÜV SÜD and Korean Register of Shipping according to the requirement of ISO/IEC 17025.

Laboratory Qualification	Registration No.	Mark
FCC	KR0160	
ISED Canada	12721A	
RRA	KR0160	 National Radio Research Agency
TÜV SÜD	CARAT 094465 0004 Rev.00	
Korean Agency for Technology and Standards	KT733	
Korea Register of Shipping	PCT40841-TL001	
VCCI	Member No: 4297	

Remark. This report is not related to KOLAS accreditation and relevant regulation.

2. General Product Description

2.1 Equipment Description

Description
The EUT is an Smart Card Tag

2.2 Equipment Information

Product	Smart Card Tag
Test Model	IA70001-SCT01
FCC ID	2AXISIA70001-SCT01
Equipment Category	Short Range Device
Type of Modulation	GFSK
Type of Units	Combined equipment
Operating Frequency	Bluetooth LE 1M PHY: 2 402 MHz ~ 2 480 MHz / 40 Channel (2 MHz Step)
	Bluetooth LE 2M PHY: 2 404 MHz ~ 2 478 MHz / 38 Channel (2 MHz Step)
	Bluetooth LE Coded S=8: 2 402 MHz ~ 2 480 MHz / 40 Channel (2 MHz Step)
	Bluetooth LE Coded S=2: 2 402 MHz ~ 2 480 MHz / 40 Channel (2 MHz Step)
Antenna Type & Gain	PCB Pattern Antenna with Max.Gain 3.49 dBi
Rated Voltage	DC 3.7 V
Contained RF Module	N/A
Hardware Version	1.0
Software Version	1.0
Test software	Atmosic RF Tool (Version 1.6.16.9) / Power Setting: 10(8dBm)

2.3 Additional Model Name(s)

Model Name	Model Difference
-	-

3. Test Condition and Operating Modes

3.1 Modes of operation during the test

Test Mode	Description
-	For the purposes of measurement, the EUT was configured to a forced transmission mode via test software. During the test, the EUT was set to transmit at its maximum power level on a fixed frequency to ensure consistent and reproducible results. All measurements were conducted in a non-hopping and continuous TX state.
# 1	Based on the RF module's pre-scan results, the EUT was configured to the maximum power setting to investigate the worst-case scenario. The measurement was performed in a non-hopping mode at the following fixed channels: 2,402 MHz (Ch.0), 2,442 MHz (Ch.20), and 2,480 MHz (Ch.39). *For Bluetooth LE 2M PHY, the measurement was performed at the following fixed channels: 2,404 MHz (Ch.1), 2,442 MHz (Ch.20), and 2,478 MHz (Ch.38).
# 2	For the purpose of receiver spurious emissions and blocking measurements, the EUT was configured to a continuous receiving (RX) mode via test software. During the measurement, the EUT was set to a non-hopping state at the following fixed channels to ensure the worst-case investigation: 2,402 MHz (Ch.0), 2,442 MHz (Ch.20), and 2,480 MHz (Ch.39). *For Bluetooth LE 2M PHY, the EUT was configured to a non-hopping state at the following fixed channels: 2,404 MHz (Ch.1), 2,442 MHz (Ch.20), and 2,478 MHz (Ch.38).

3.2 Equipment Used During Test

The following peripheral devices and/or interface cables were connected during the measurement:

Description	Model No.	Serial No.	Manufacturer.
Smart Card Tag (EUT)	IA70001-SCT01	-	JAEMIN VIEW TECH
Test Jig	-	25070000675	JAEMIN VIEW TECH
Notebook PC	15s-du0069TU	CND9503W22	HP

3.3 Cable Description

Description	Ports Name	Shielded (Y/N)	Ferrite Core (Y/N)	Length (m)	Connected to
EUT	FFC	N	N	0.1	Test Jig
Test Jig	USB	N	N	1.2	Notebook PC

3.4 EUT Modifications

- No RF-related modifications were made to the EUT by this test laboratory.

4. Measurement Uncertainty

Measurement Item	Expanded Uncertainty $U = k \cdot U_c (k = 2)$	
Radiated Spurious Emissions	30 MHz ~ 1 GHz	4.93 dB
	1 GHz ~ 18 GHz	5.40 dB
	18 GHz ~ 26.5 GHz	4.83 dB
	26.5 GHz ~ 40 GHz	4.82 dB
Conducted Emissions	0.15 MHz ~ 30 MHz	2.30 dB

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5. Test Parameter

5.1 Antenna Requirement

5.1.1 Definition

According to §15.203 An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

According to §15.247(b)(4) e conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.1.2 Result

Complies

(The transmitter has a PCB Pattern Antenna. The directional peak gain of the antenna is 3.49 dBi.)

5.2 6 dB Bandwidth & Occupied Bandwidth (99%)

5.2.1 Test Setup

Refer to the APPENDIX I.

5.2.2 Limit

The minimum permissible 6 dB bandwidth is 500 kHz.

5.2.3 Test Procedure

The bandwidth at 6 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the EUT's antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

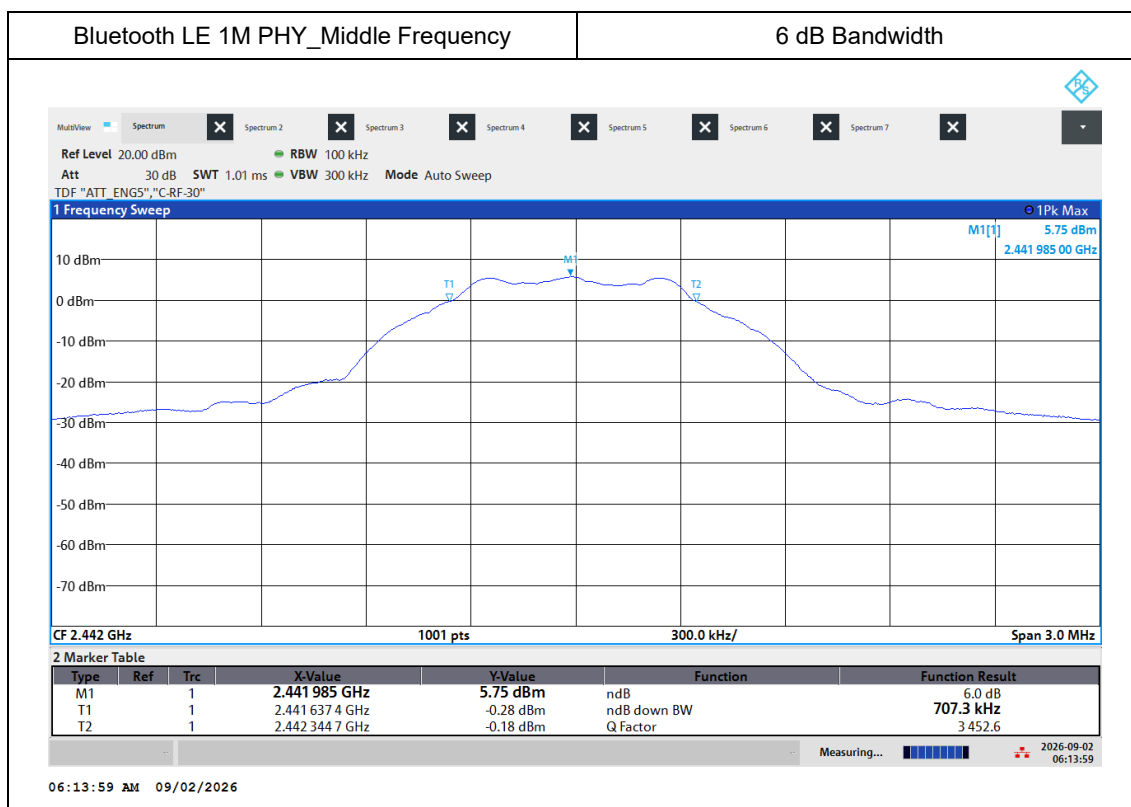
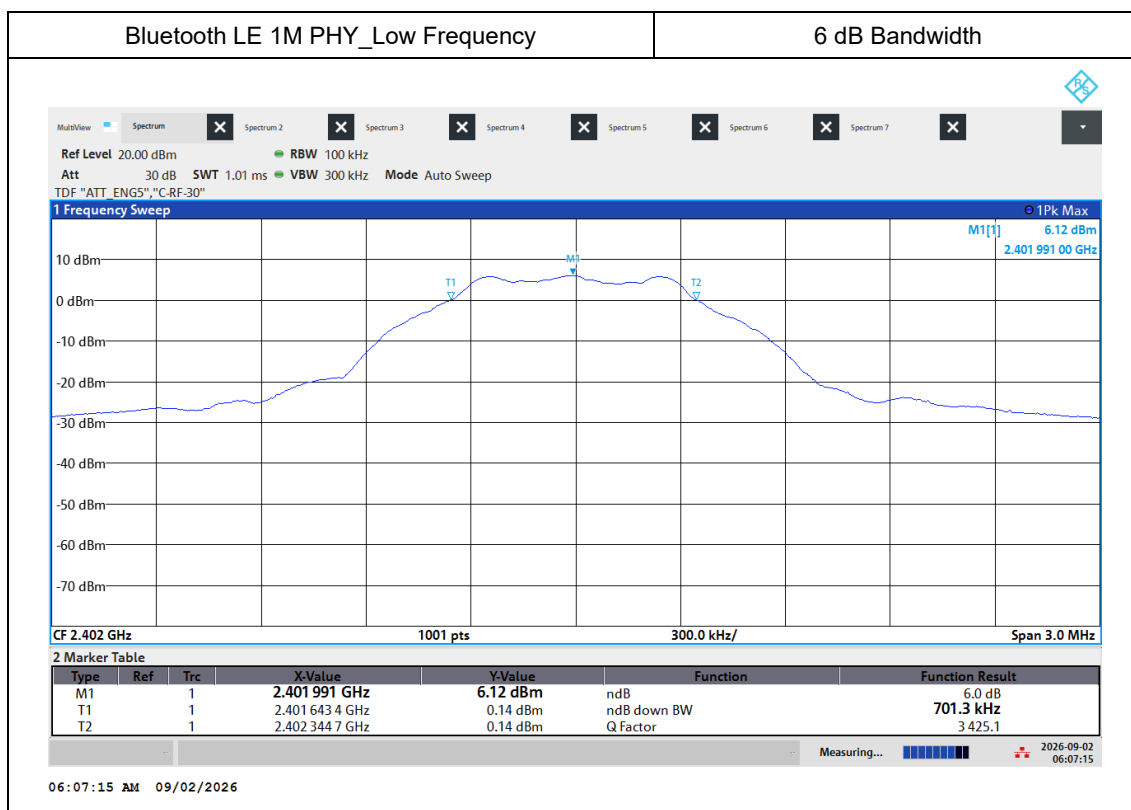
1. Set resolution bandwidth (RBW) = 100 kHz
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = Max Hold.
5. Sweep = Auto
6. Allow the trace to stabilize.
7. Option 1 - Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Option 2 - The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW $\geq 3 \times$ RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB.

5.2.4 Test Result

Test Mode	Test Frequency	6 dB Bandwidth (MHz)	Occupied Bandwidth (MHz)
Bluetooth LE 1M PHY	Low	0.701	1.027
	Middle	0.707	1.039
	High	0.710	1.041
Bluetooth LE 2M PHY	Low	1.202	2.029
	Middle	1.178	2.042
	High	1.172	2.047
Bluetooth LE Coded S=8	Low	0.632	1.063
	Middle	0.632	1.072
	High	0.635	1.082
Bluetooth LE Coded S=2	Low	0.677	1.028
	Middle	0.680	1.032
	High	0.686	1.040

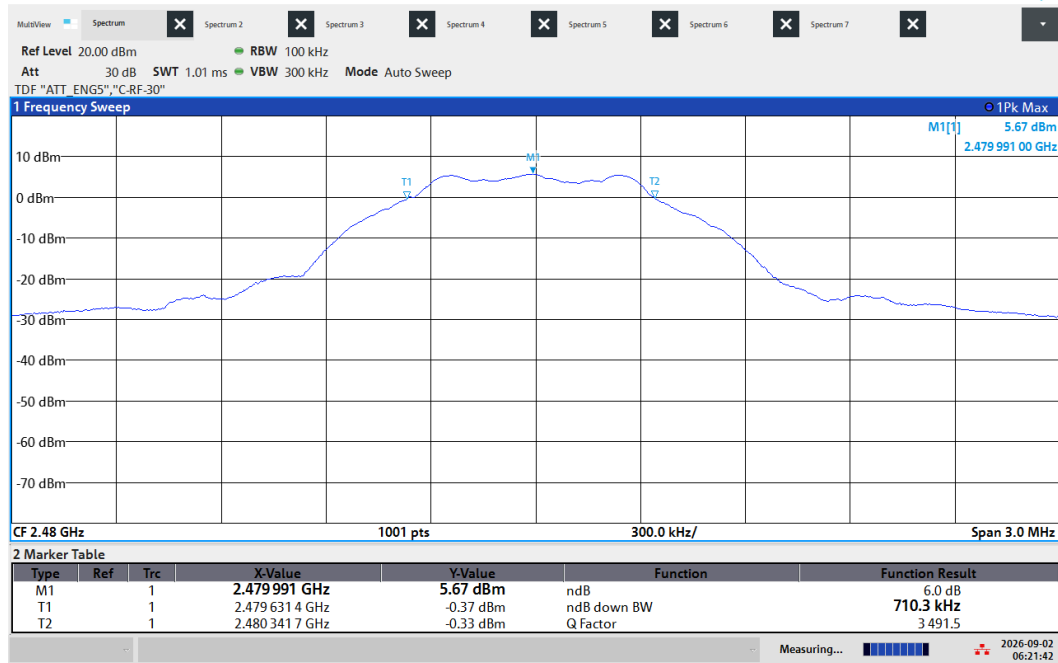
5.2.4 Test Plot





Bluetooth LE 1M PHY_High Frequency

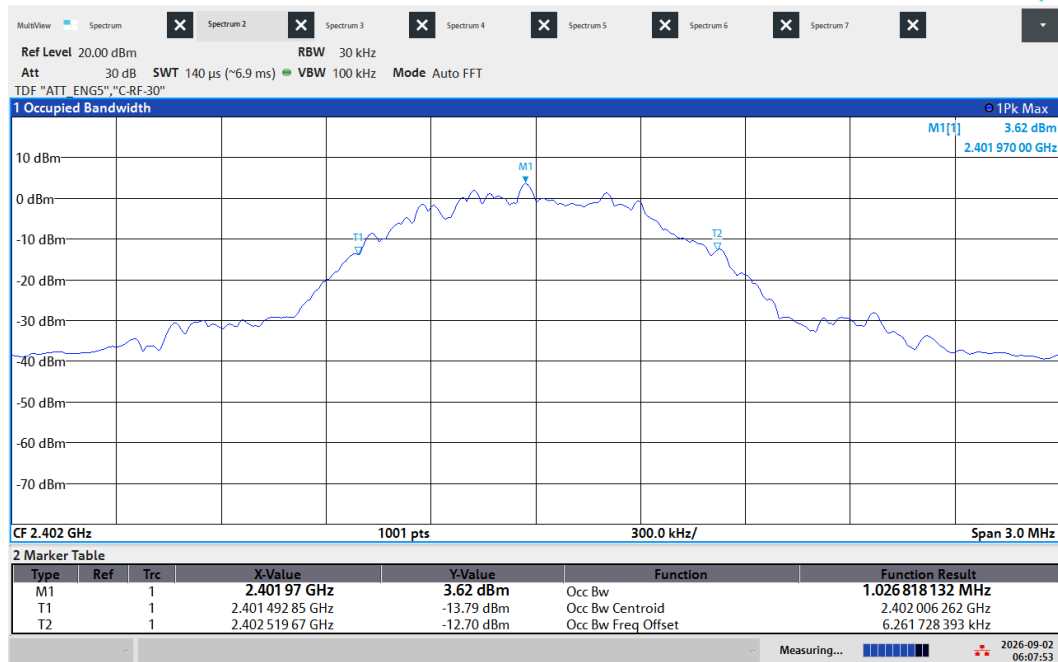
6 dB Bandwidth



06:21:43 AM 09/02/2026

Bluetooth LE 1M PHY_Low Frequency

Occupied Bandwidth

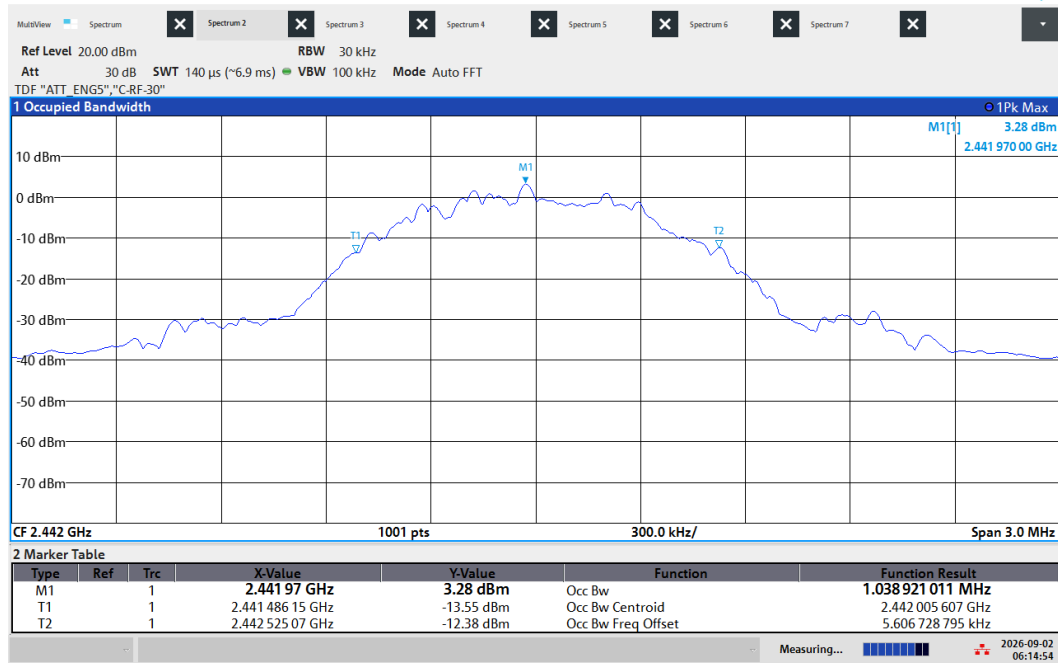


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Bluetooth LE 1M PHY_Middle Frequency

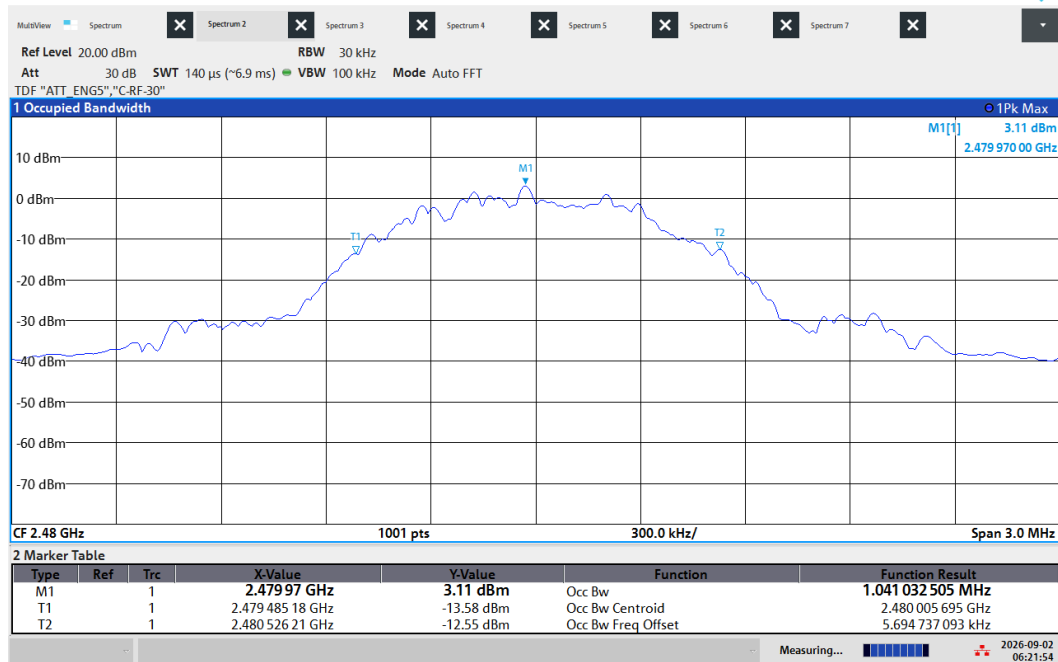
Occupied Bandwidth



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Bluetooth LE 1M PHY_High Frequency

Occupied Bandwidth

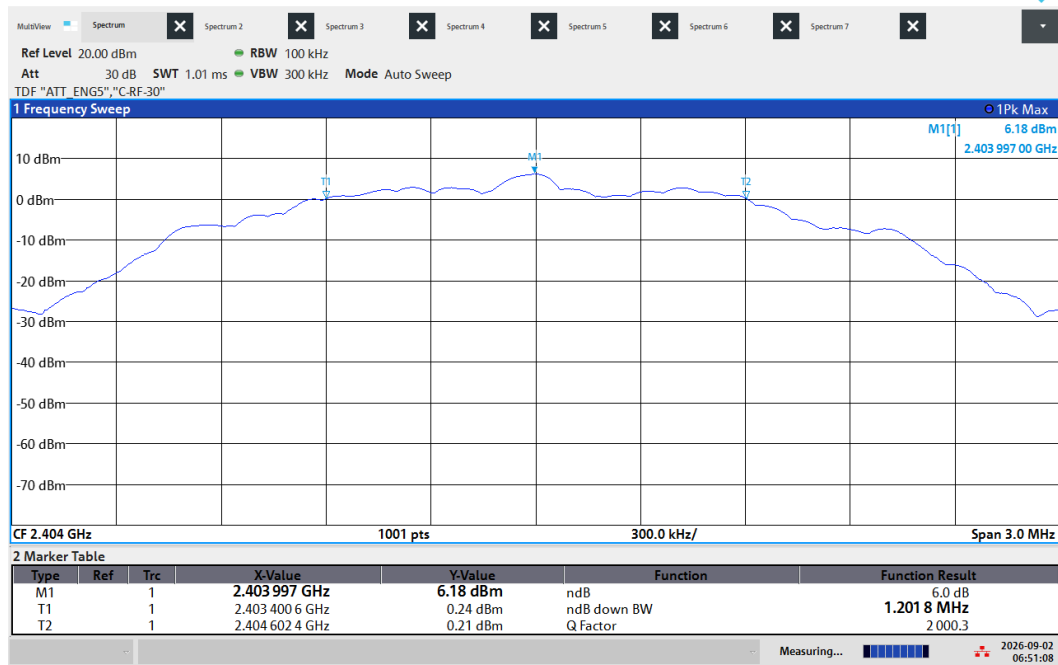


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Bluetooth LE 2M PHY_Low Frequency

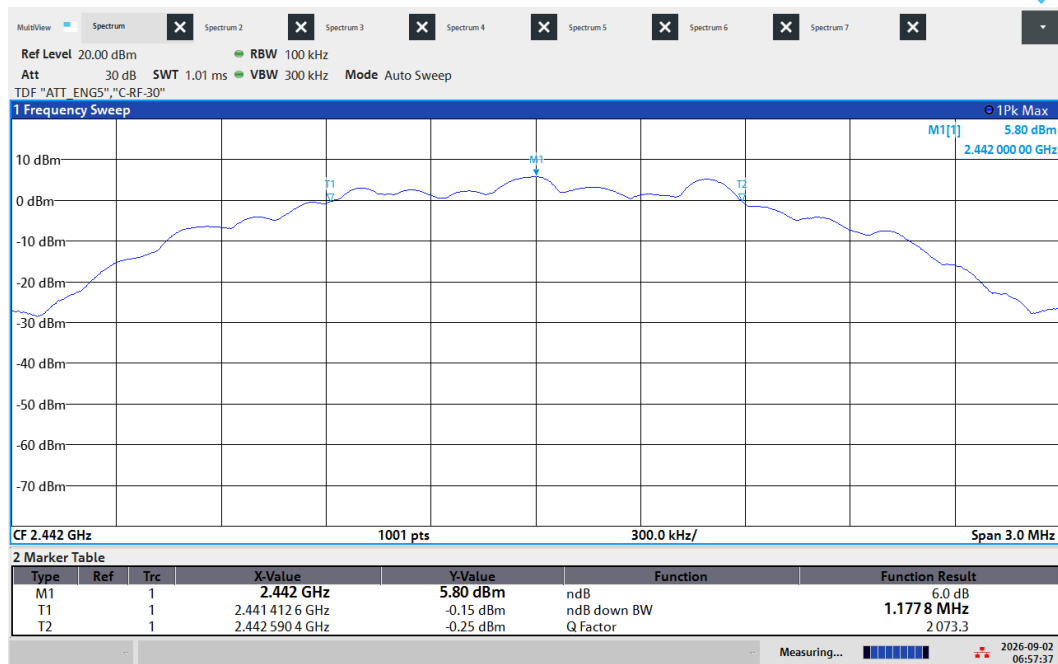
6 dB Bandwidth



06:51:09 AM 09/02/2026

Bluetooth LE 2M PHY_Middle Frequency

6 dB Bandwidth

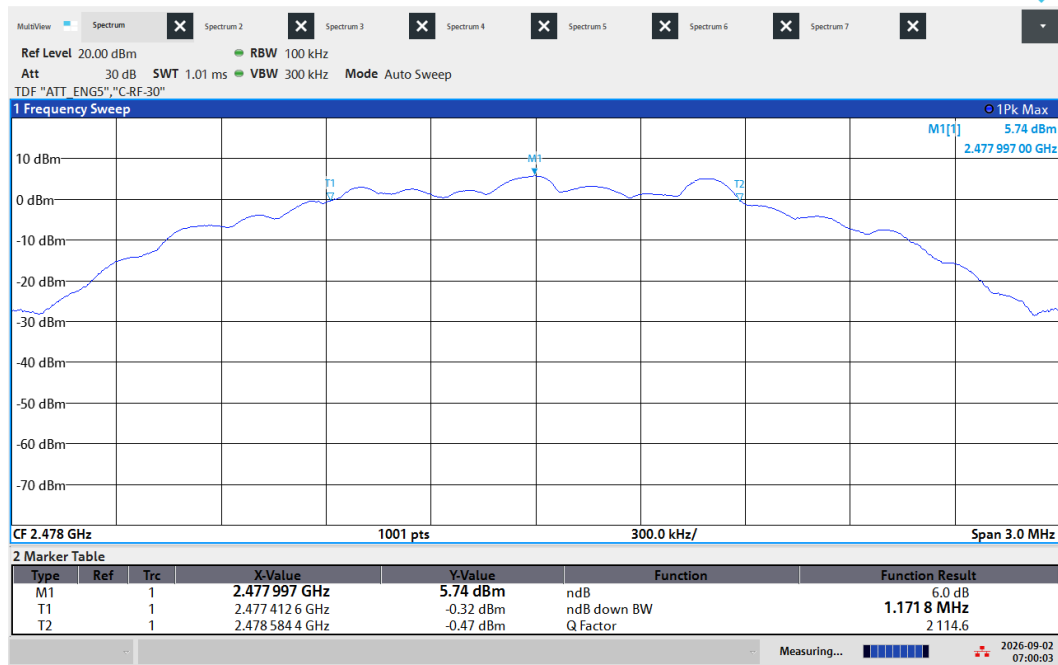


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Bluetooth LE 2M PHY_High Frequency

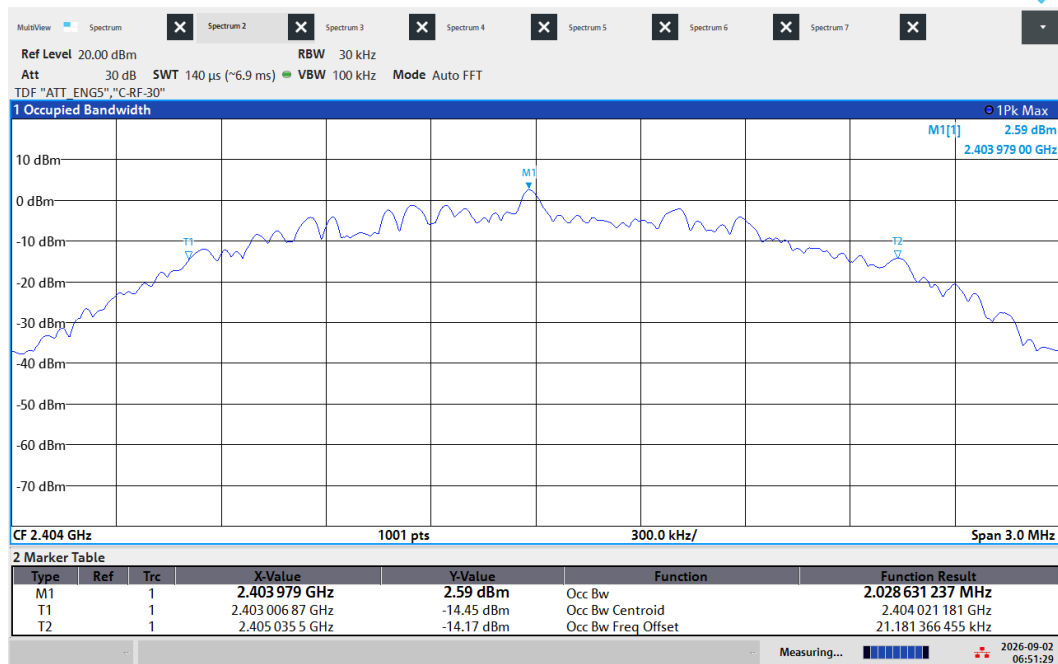
6 dB Bandwidth



07:00:03 AM 09/02/2026

Bluetooth LE 2M PHY_Low Frequency

Occupied Bandwidth

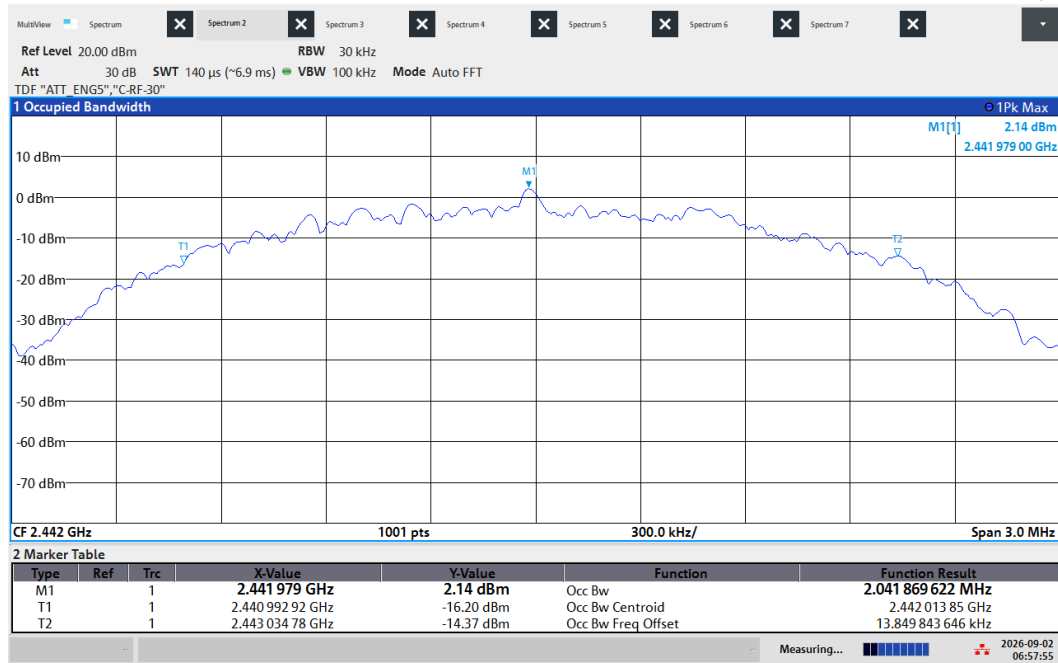


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Bluetooth LE 2M PHY_Middle Frequency

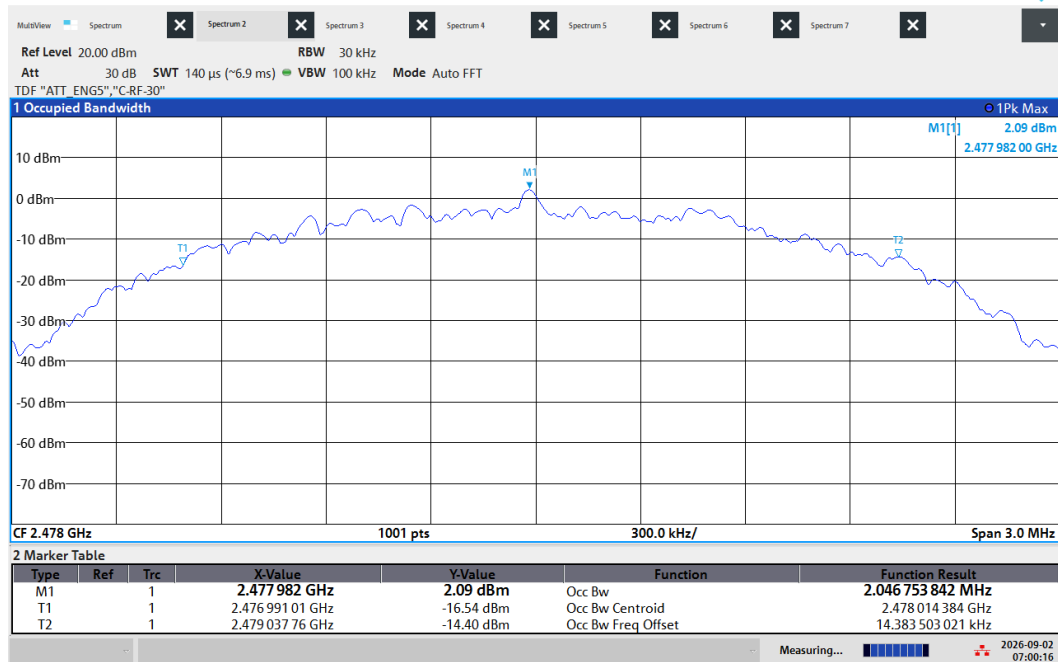
Occupied Bandwidth



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Bluetooth LE 2M PHY_High Frequency

Occupied Bandwidth

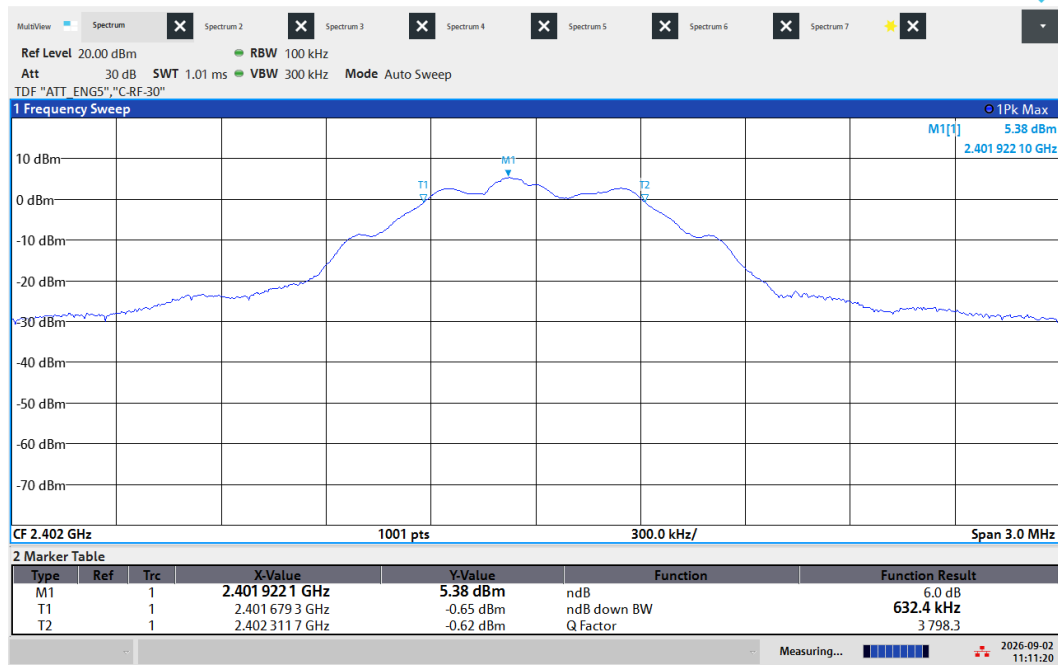


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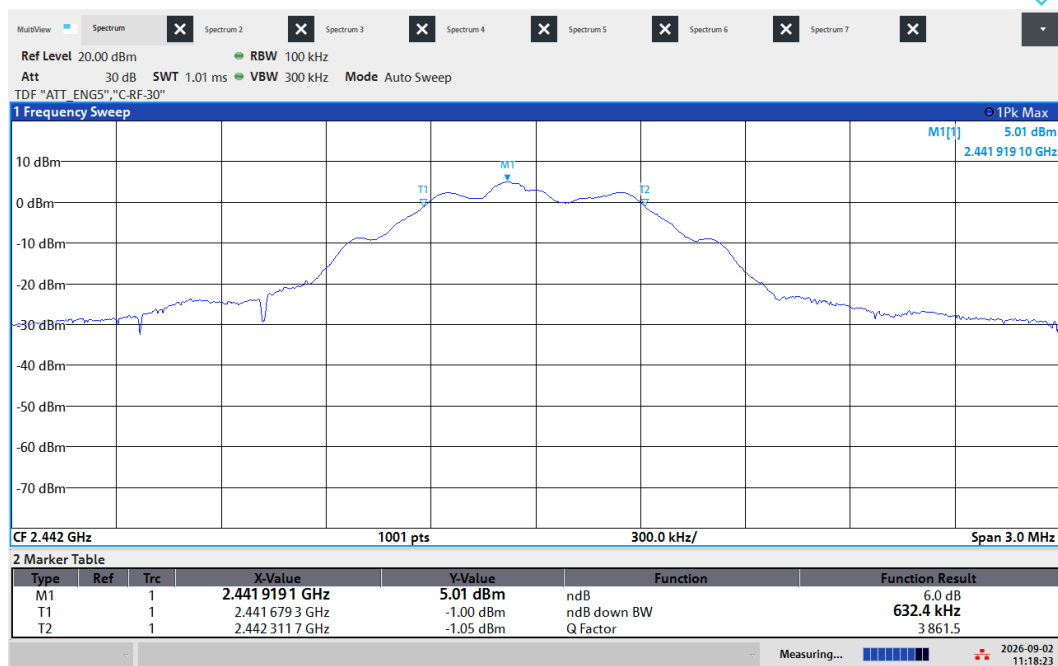
6 dB Bandwidth



11:11:21 AM 09/02/2026

Bluetooth LE Coded S=8_Middle Frequency

6 dB Bandwidth

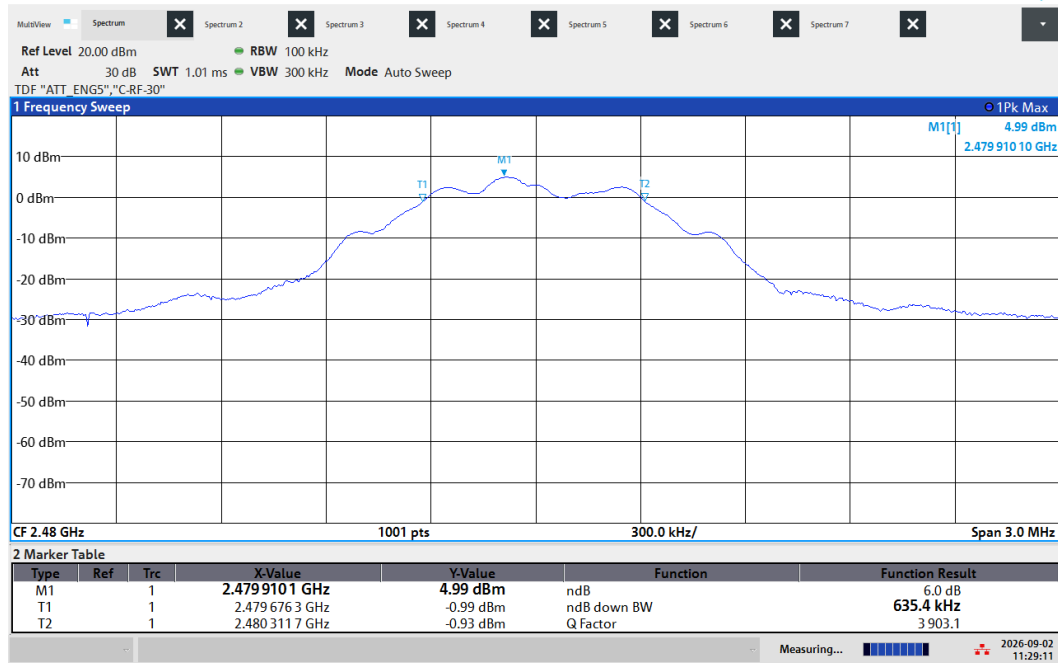


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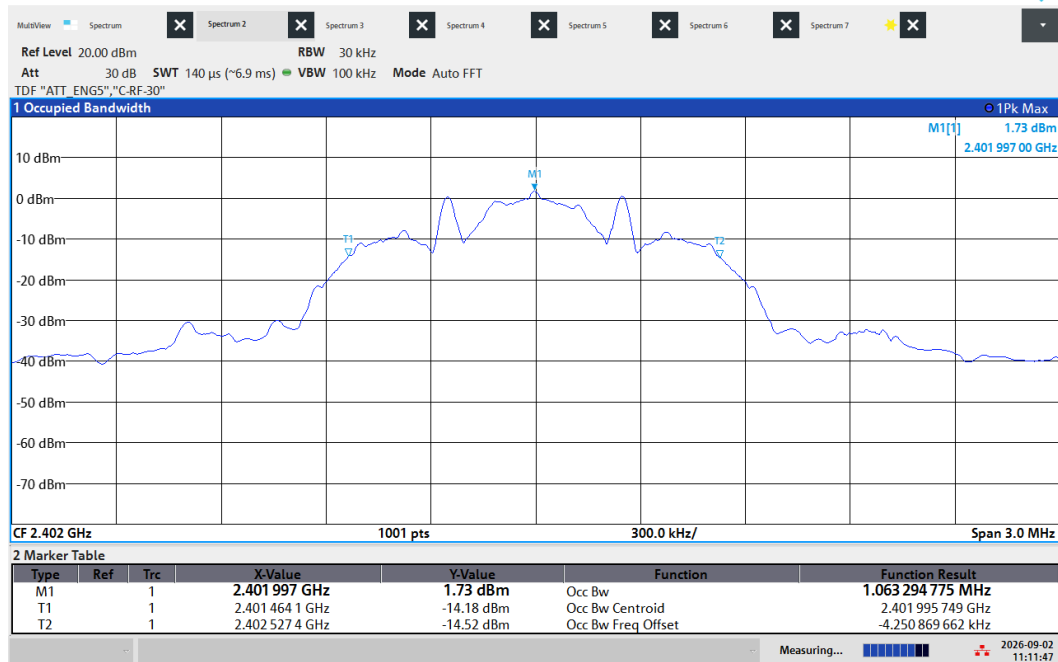
6 dB Bandwidth



11:29:11 AM 09/02/2026

Bluetooth LE Coded S=8_Low Frequency

Occupied Bandwidth

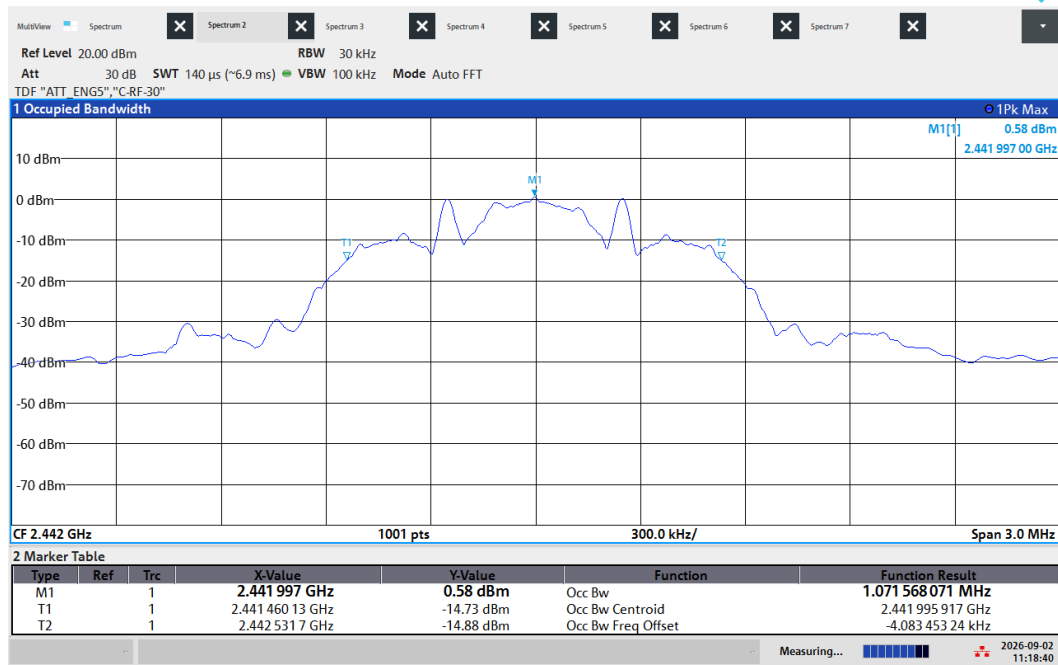


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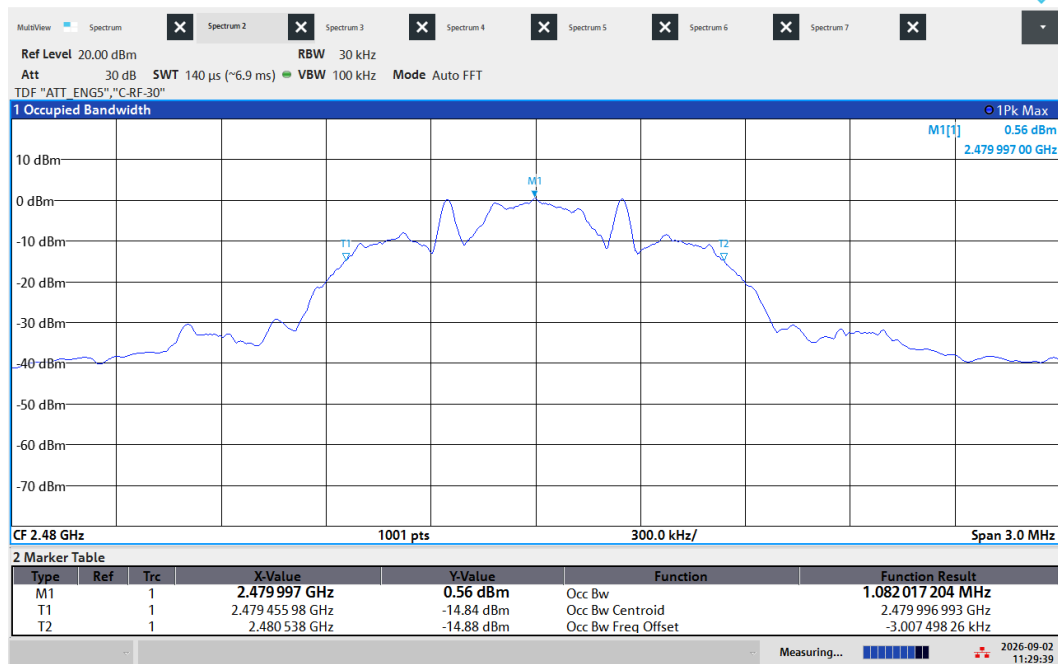
Occupied Bandwidth



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Occupied Bandwidth

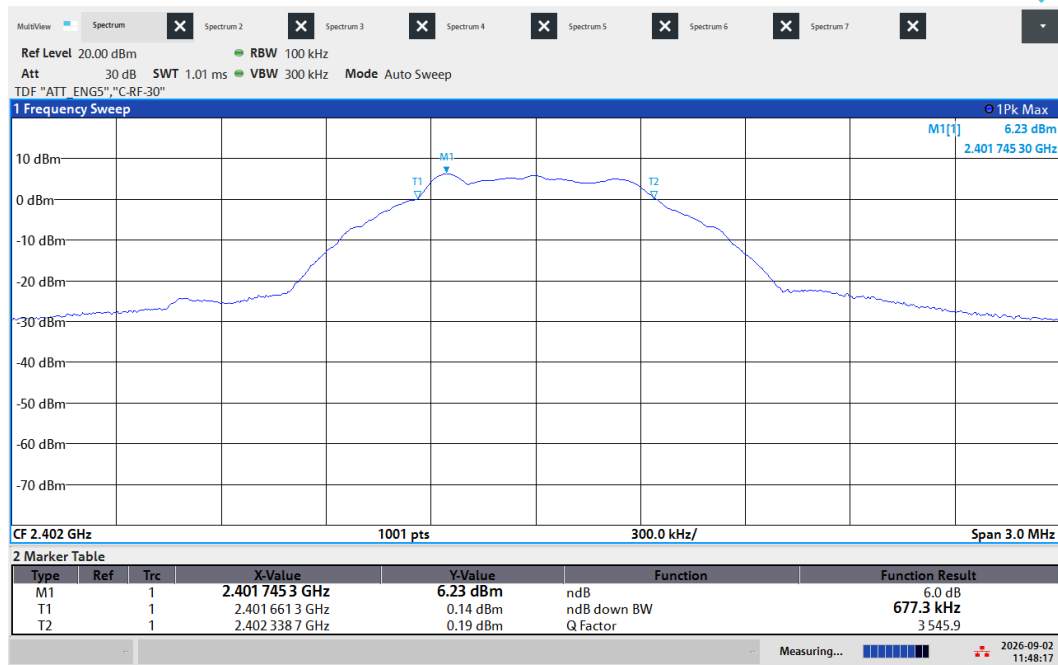


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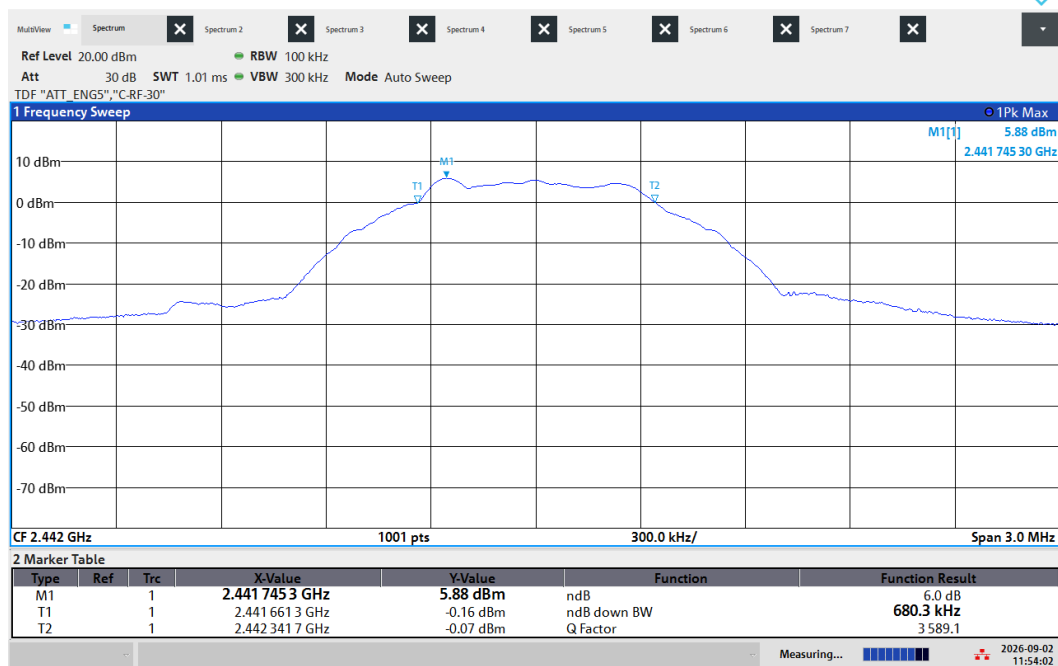
6 dB Bandwidth



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Bluetooth LE Coded S=2_Middle Frequency

6 dB Bandwidth

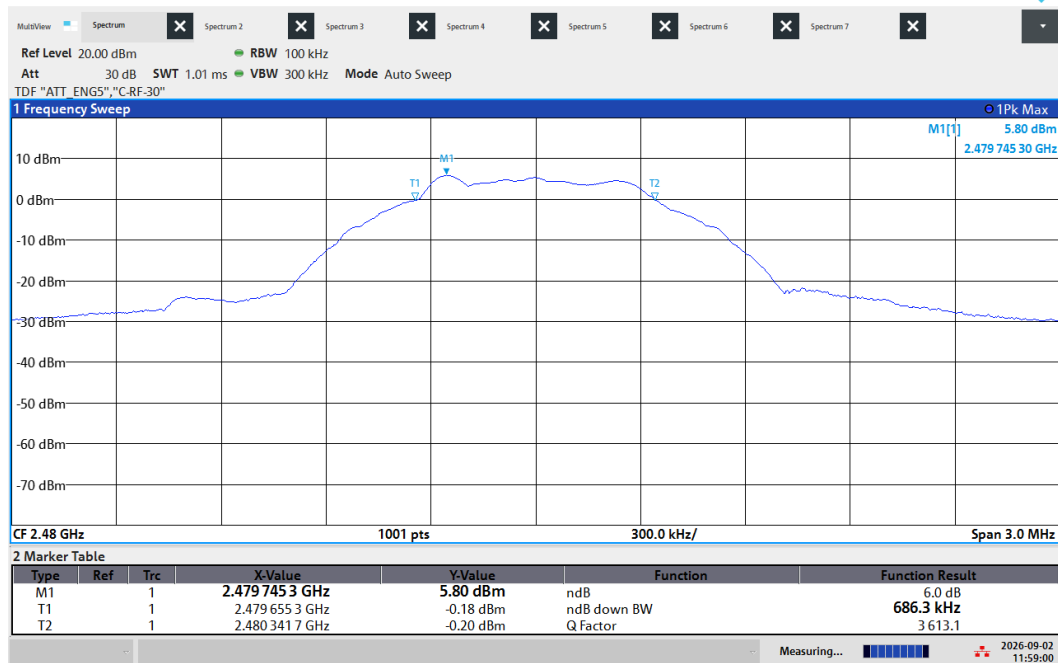


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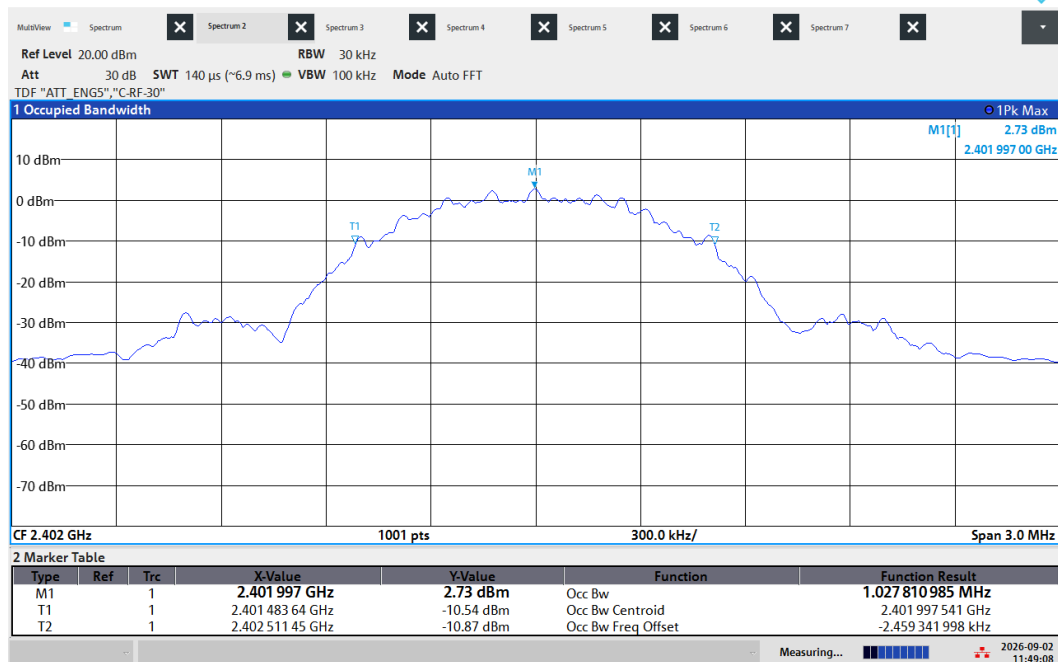
6 dB Bandwidth



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Bluetooth LE Coded S=2_Low Frequency

Occupied Bandwidth

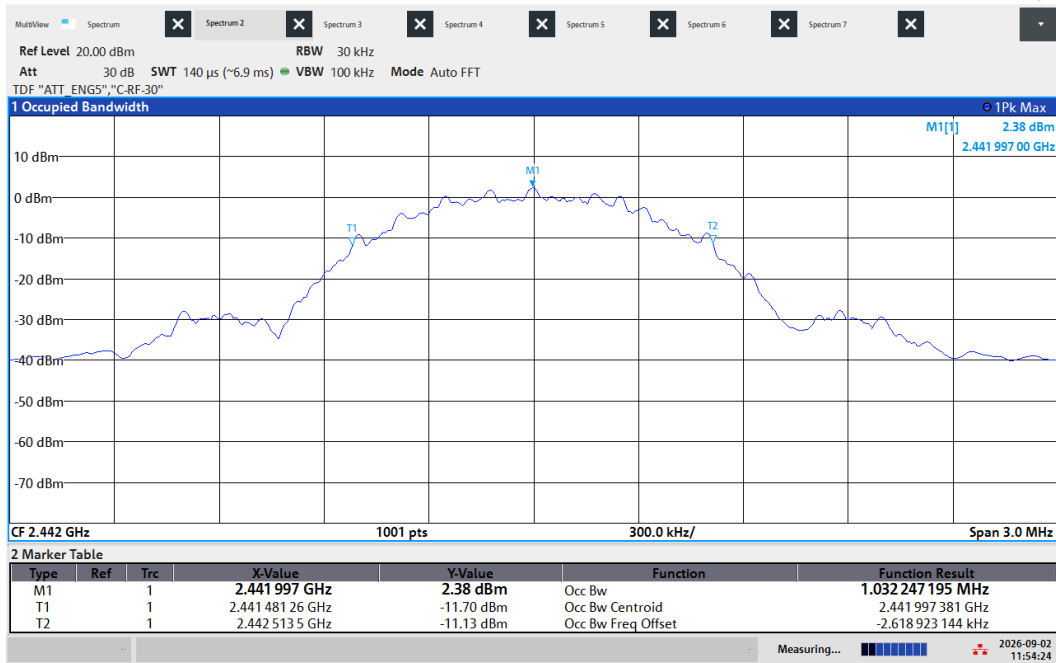


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Bluetooth LE Coded S=2_Middle Frequency

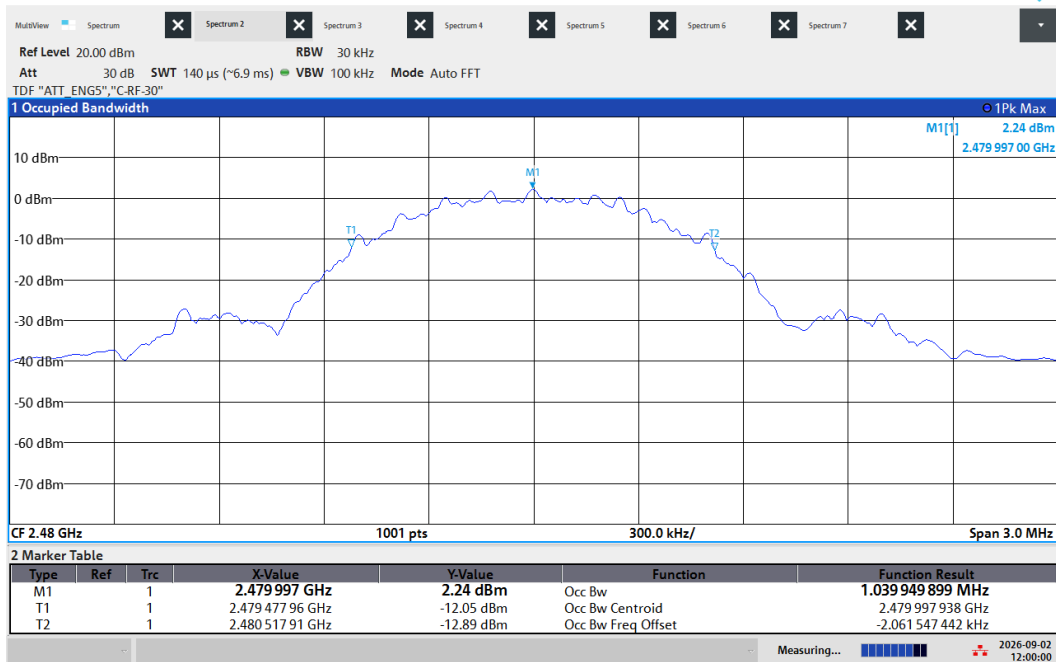
Occupied Bandwidth



11:54:25 AM 09/02/2026

Bluetooth LE Coded S=2_High Frequency

Occupied Bandwidth



12:00:00 PM 09/02/2026

5.3 Maximum Peak Output Power

5.3.1 Test Setup

Refer to the APPENDIX I.

5.3.2 Limit

The maximum permissible conducted output power is 1 Watt.

5.3.3 Test Procedure

A transmitter antenna terminal of EUT is connected to the input of a spectrum analyzer.

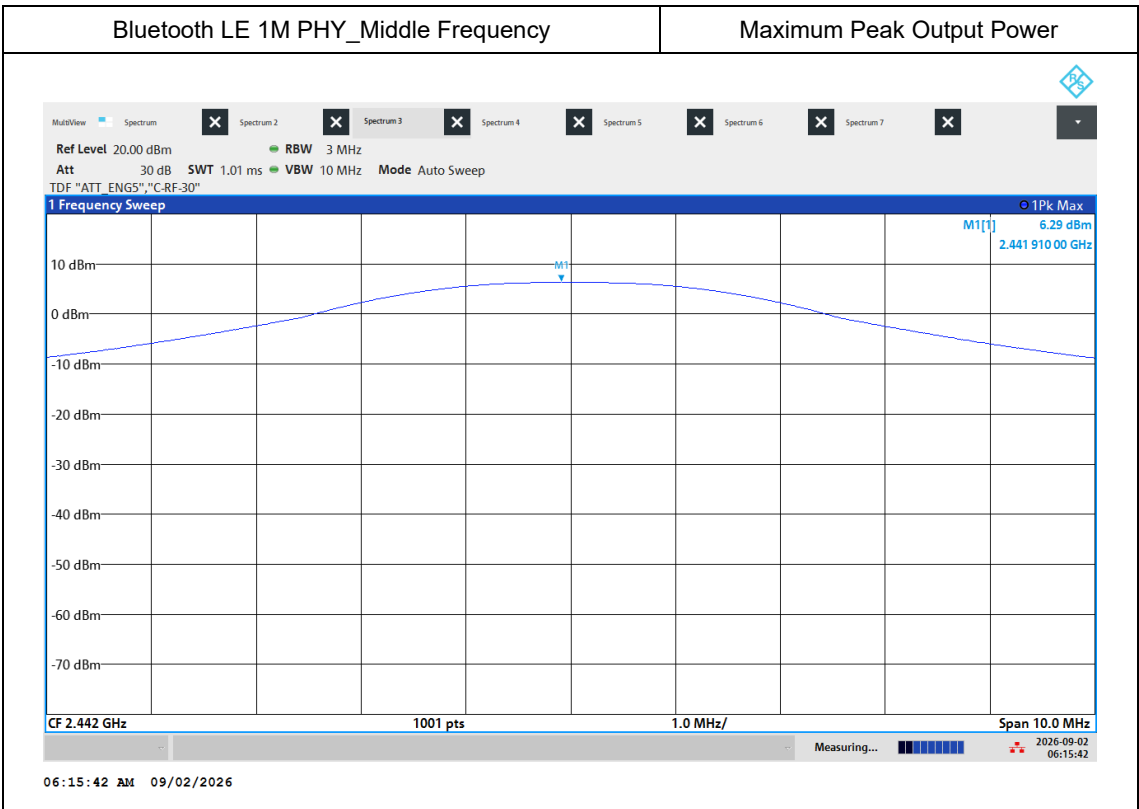
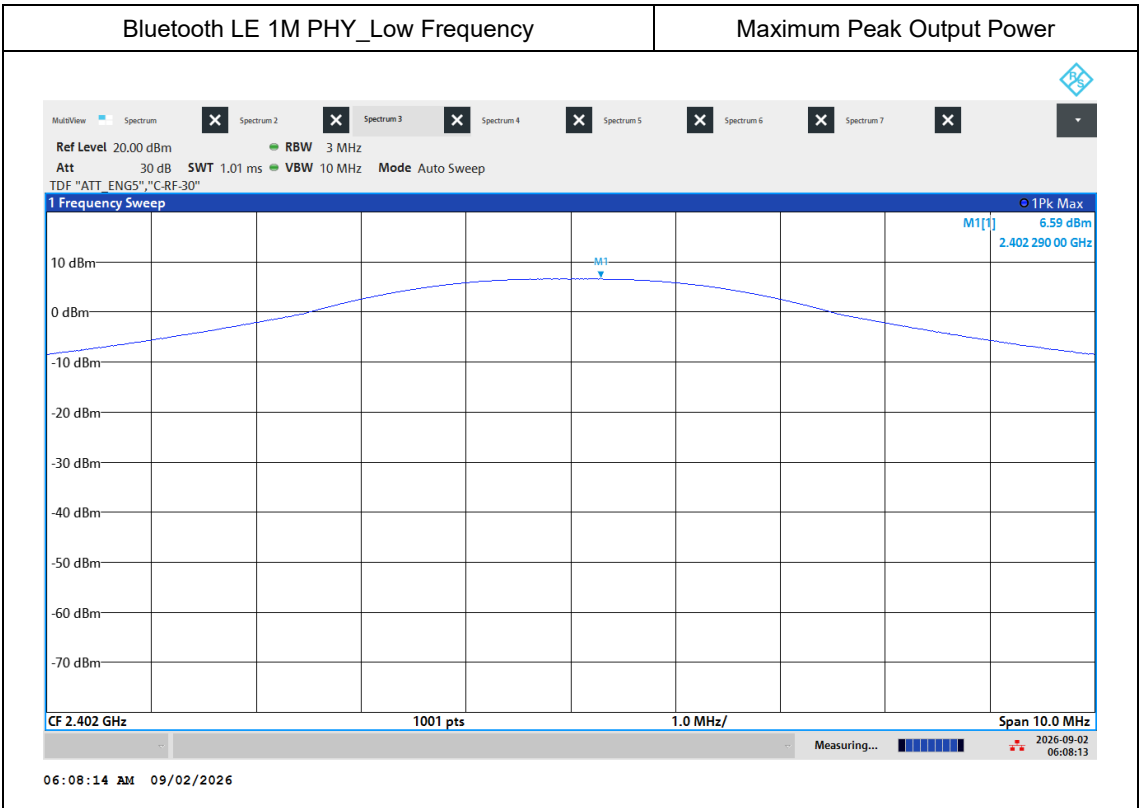
Measurement is made while the EUT is operating in transmission mode at the appropriate frequencies.

1. Set the RBW $\geq$ DTS bandwidth
2. Set VBW $\geq 3 \times$ RBW
3. Set span $\geq 3 \times$ RBW.
4. Sweep time = auto couple
5. Detector = peak
6. Trace mode = max hold
7. Allow trace to fully stabilize
8. Use peak search function to determine the peak amplitude level.

5.3.4 Test Result

Test Mode	Test Frequency	Peak Output Power	
		dBm	mW
Bluetooth LE 1M PHY	Low	6.59	4.56
	Middle	6.29	4.26
	High	6.24	4.21
Bluetooth LE 2M PHY	Low	6.67	4.65
	Middle	6.33	4.30
	High	6.27	4.24
Bluetooth LE Coded S=8	Low	6.46	4.43
	Middle	6.13	4.10
	High	6.12	4.09
Bluetooth LE Coded S=2	Low	6.38	4.35
	Middle	6.01	3.99
	High	5.95	3.94

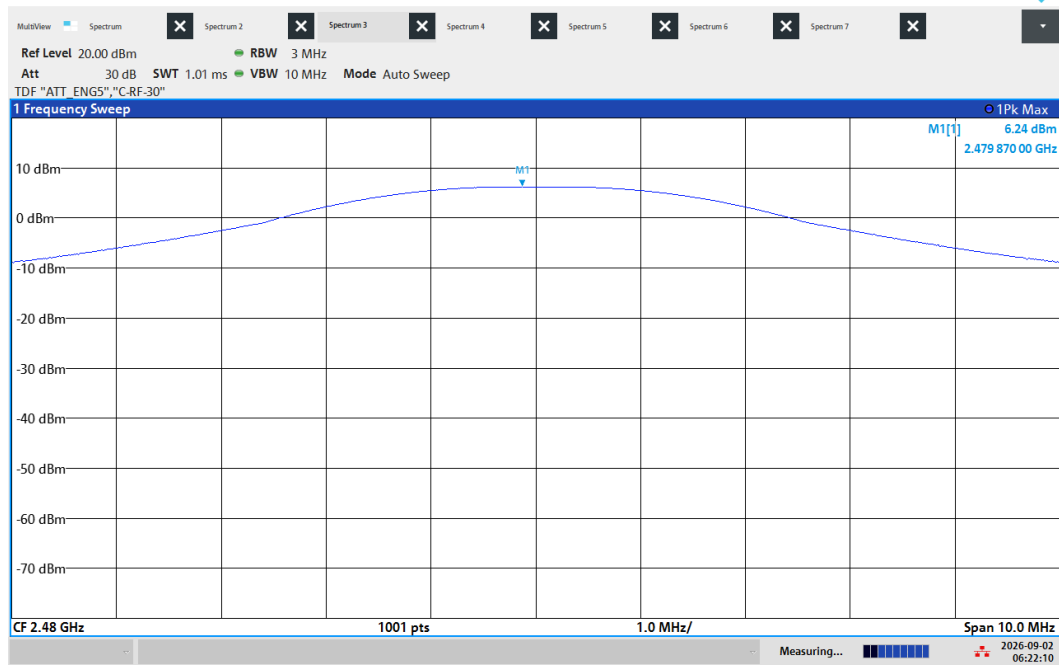
5.3.5 Test Plot





Bluetooth LE 1M PHY_High Frequency

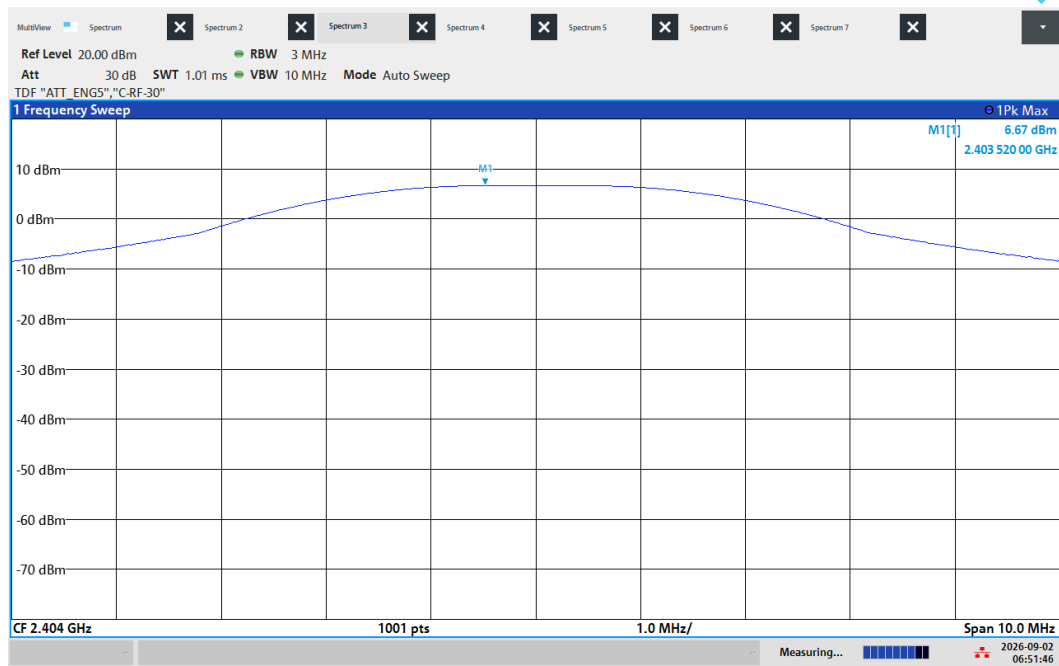
Maximum Peak Output Power



06:22:11 AM 09/02/2026

Bluetooth LE 2M PHY_Low Frequency

Maximum Peak Output Power

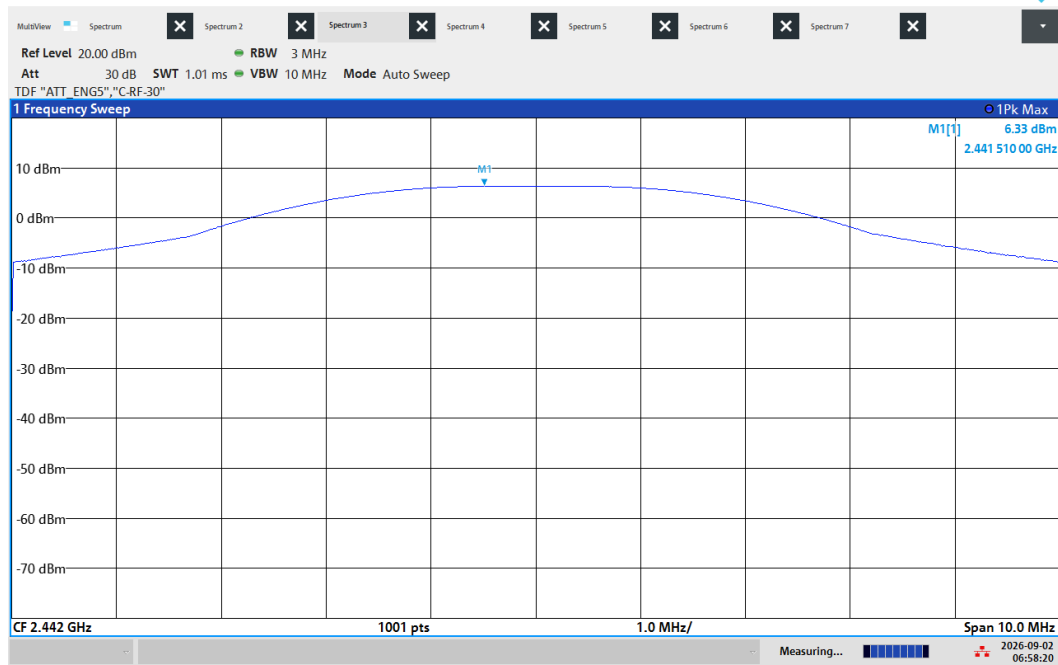


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Bluetooth LE 2M PHY_Middle Frequency

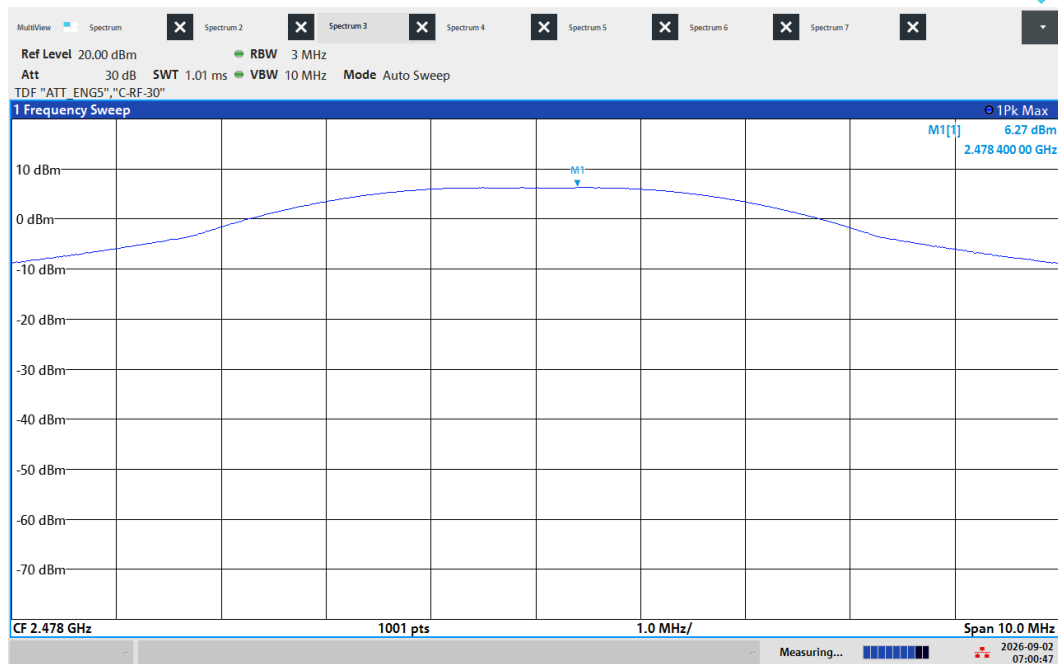
Maximum Peak Output Power



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Bluetooth LE 2M PHY_High Frequency

Maximum Peak Output Power

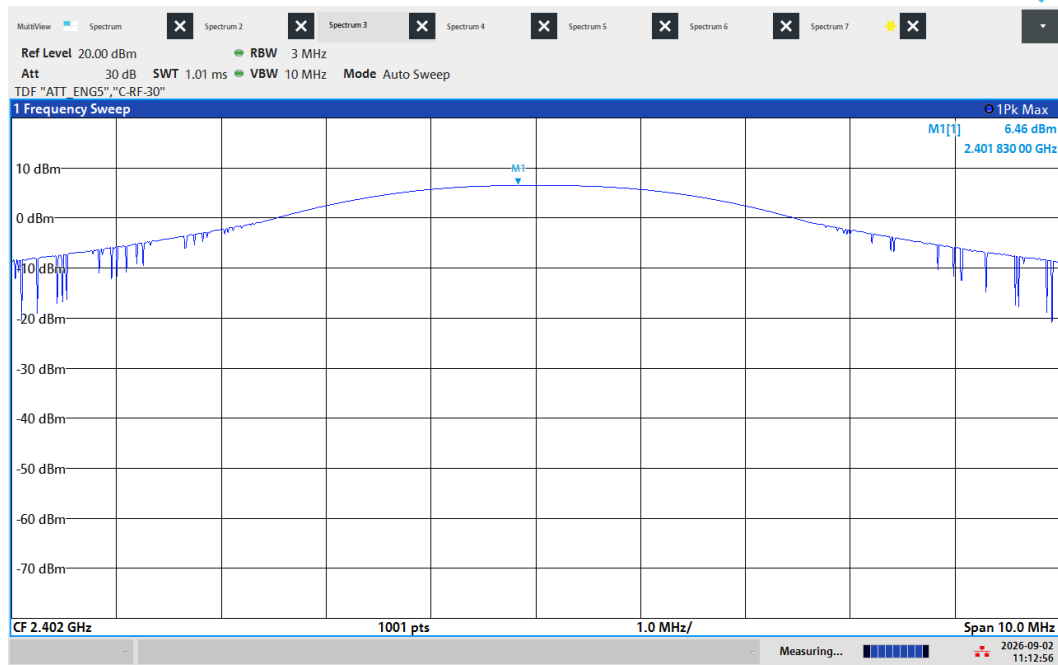


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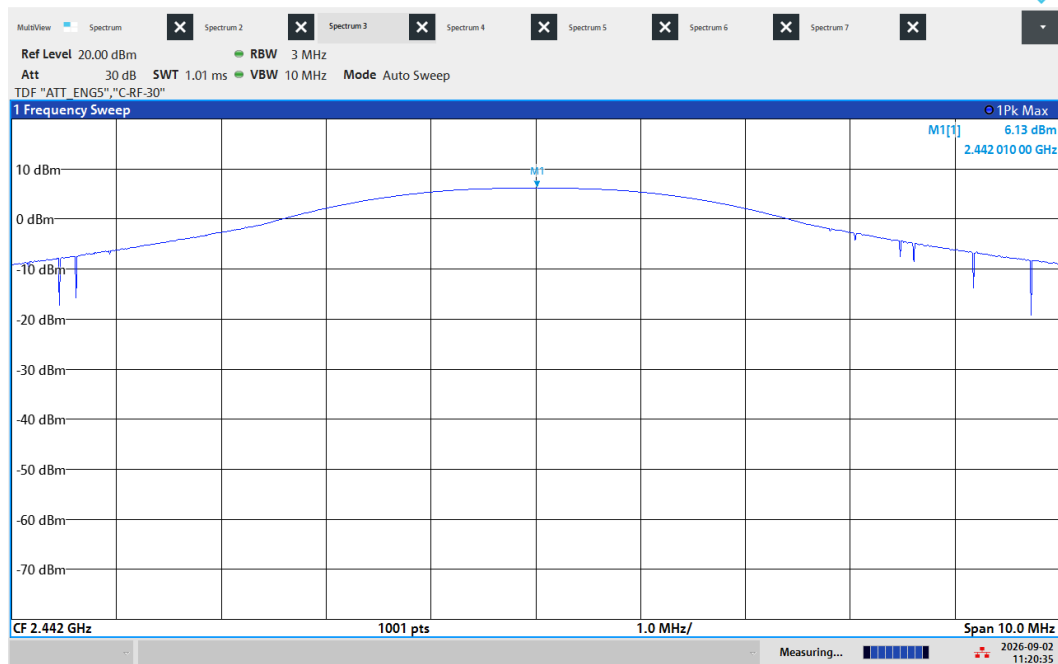
Maximum Peak Output Power



11:12:57 AM 09/02/2026

Bluetooth LE Coded S=8_Middle Frequency

Maximum Peak Output Power

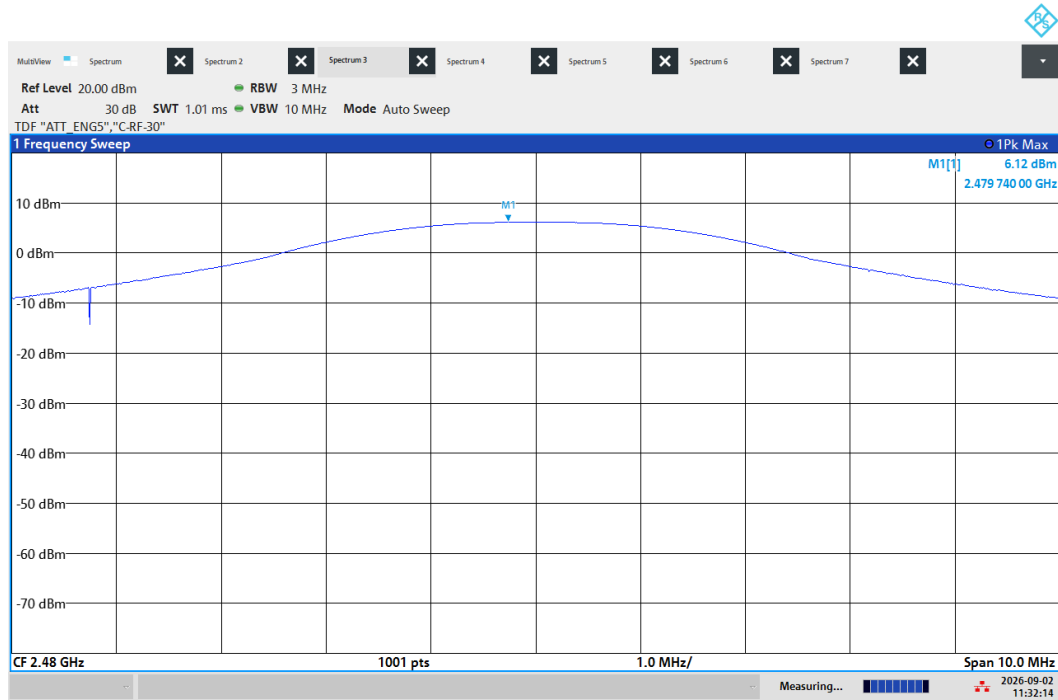


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Bluetooth LE Coded S=8_High Frequency

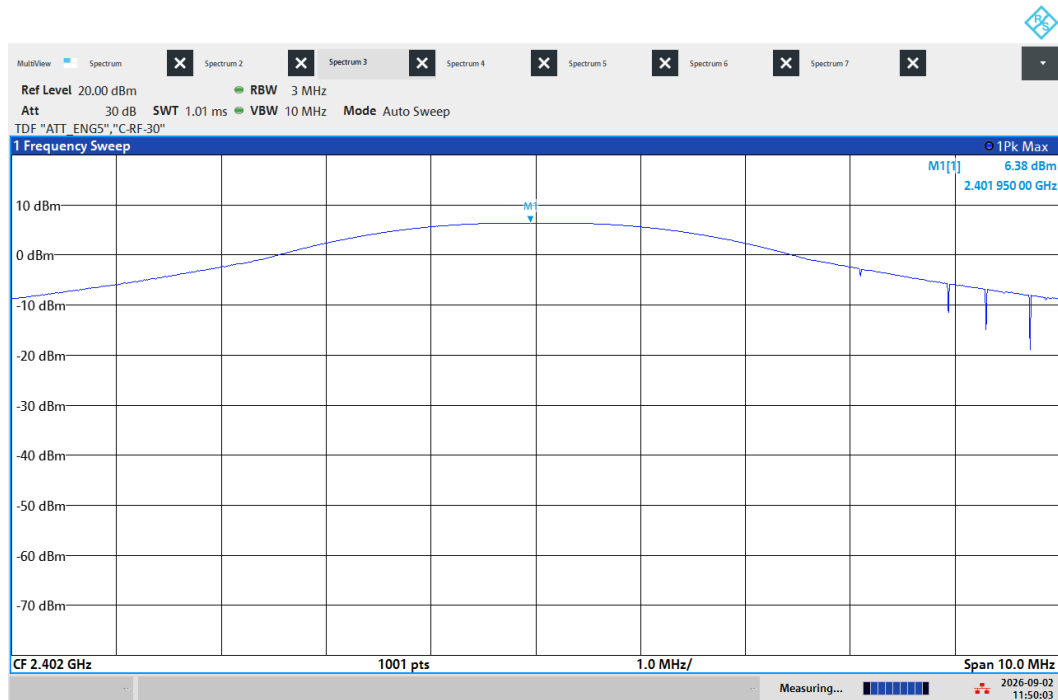
Maximum Peak Output Power



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Bluetooth LE Coded S=2_Low Frequency

Maximum Peak Output Power

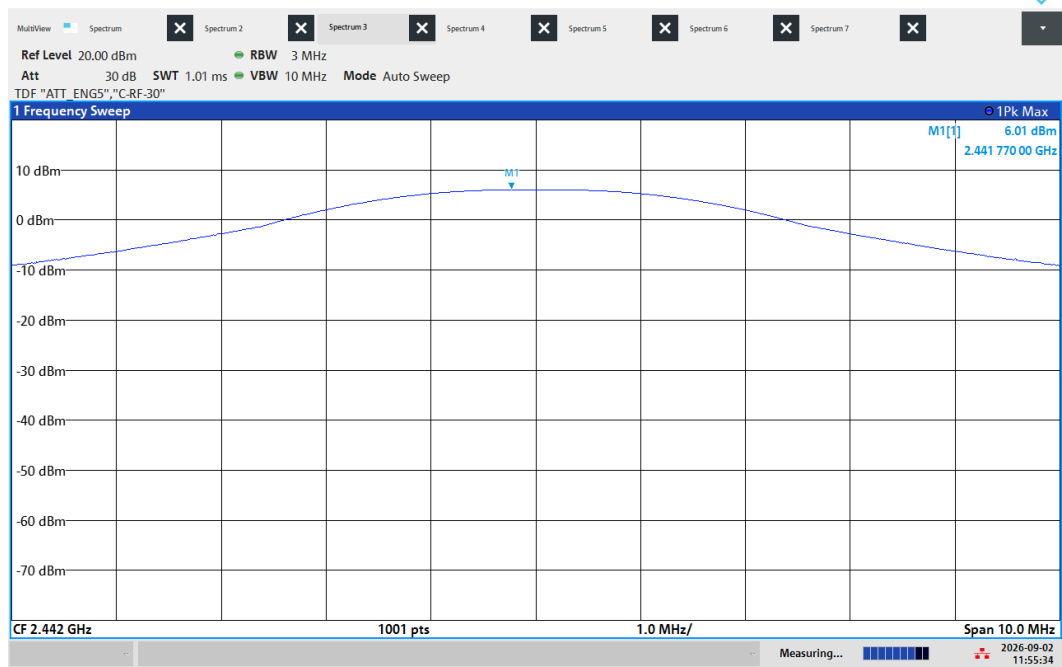


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Bluetooth LE Coded S=2_Middle Frequency

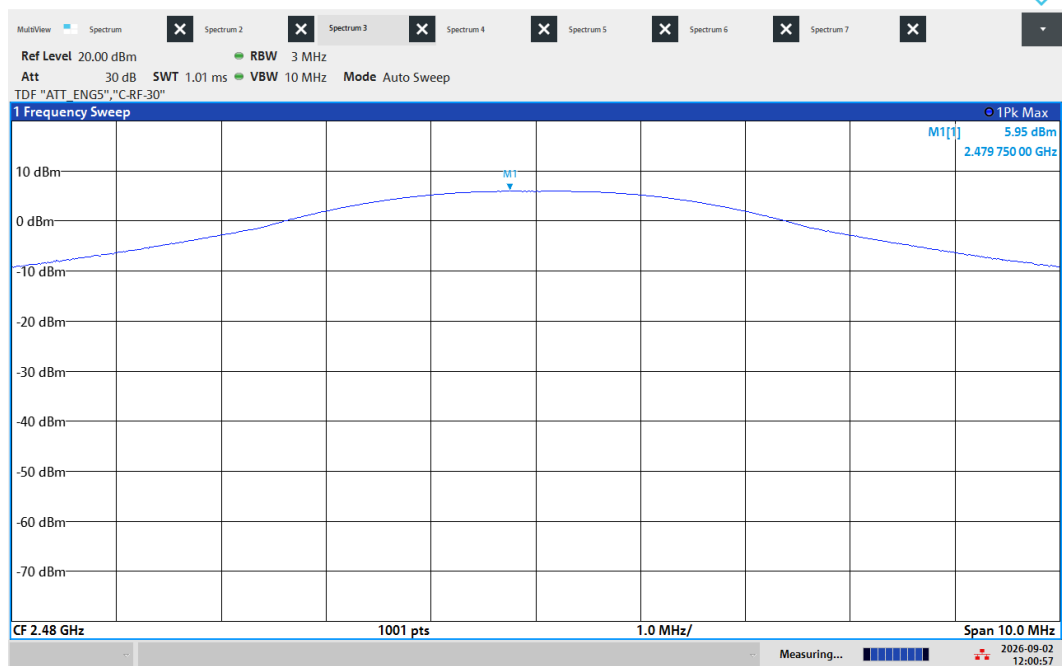
Maximum Peak Output Power



11:55:35 AM 09/02/2026

Bluetooth LE Coded S=2_High Frequency

Maximum Peak Output Power



12:00:57 PM 09/02/2026

5.4 Peak Power Spectral Density

5.4.1 Test Setup

Refer to the APPENDIX I.

5.4.2 Limit

The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission

5.4.3 Test Procedure

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

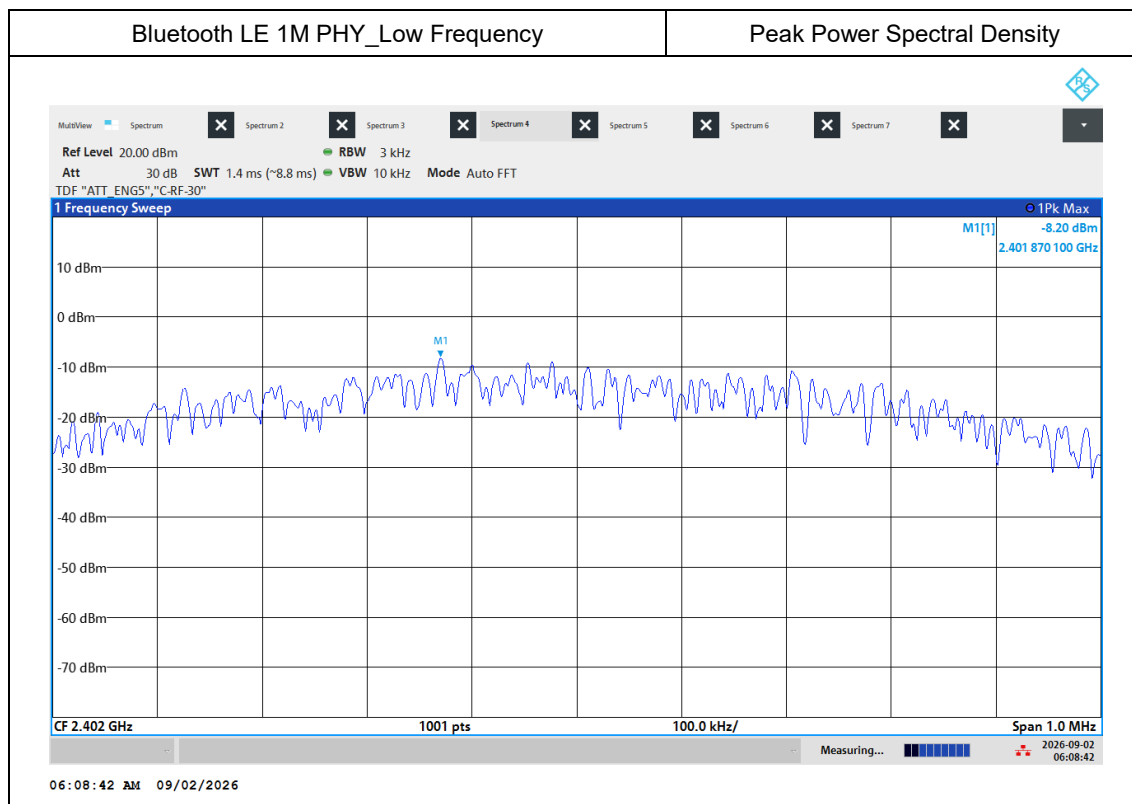
(ANSI C63.10-2020 _ Section 11.10.2 - Method PKPSD)

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW : $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = Peak.
6. Sweep time = Auto
7. Trace mode = Max Hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

5.4.4 Test Result

Test Mode	Test Frequency	Peak Power Spectral Density (dBm)
Bluetooth LE 1M PHY	Low	-8.20
	Middle	-8.34
	High	-8.51
Bluetooth LE 2M PHY	Low	-11.62
	Middle	-11.60
	High	-11.50
Bluetooth LE Coded S=8	Low	0.04
	Middle	-0.26
	High	-0.22
Bluetooth LE Coded S=2	Low	-3.16
	Middle	-3.53
	High	-3.43

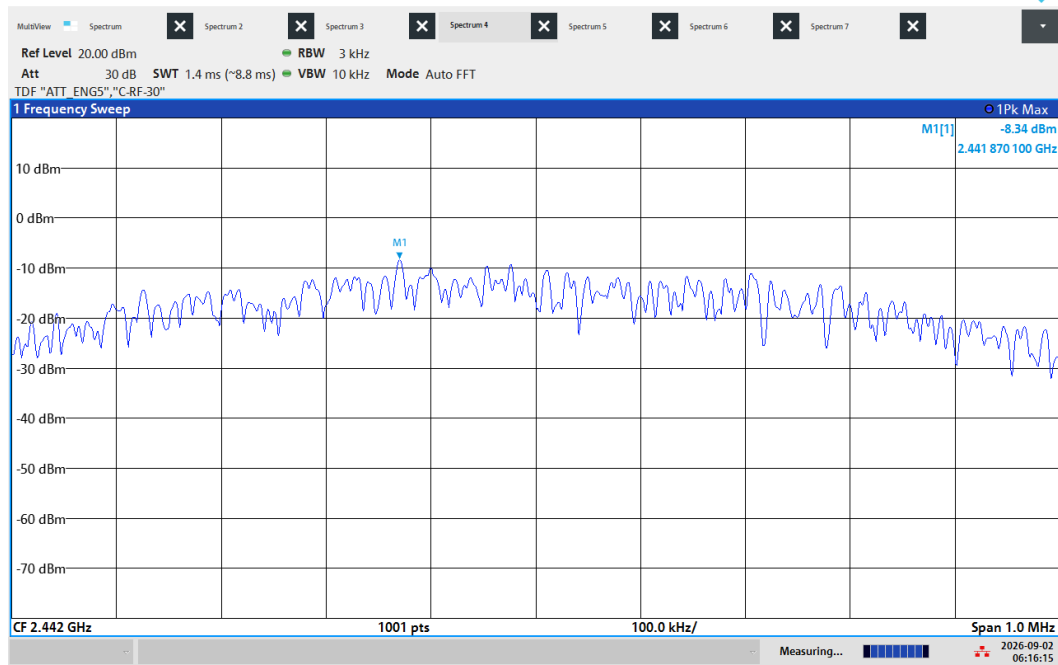
5.4.5 Test Plot





Bluetooth LE 1M PHY_Middle Frequency

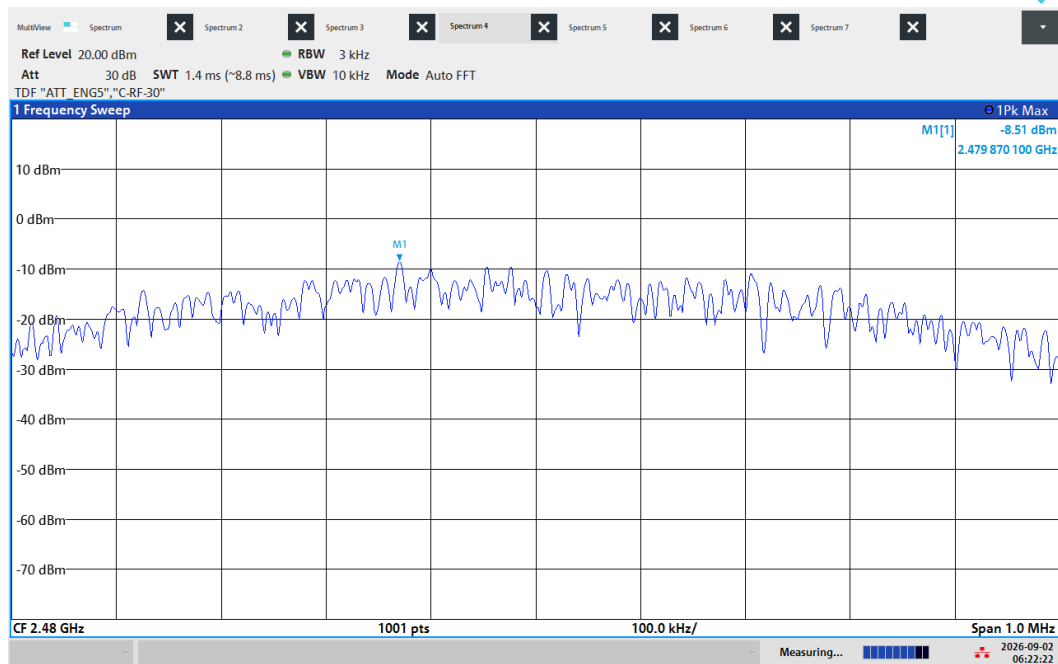
Peak Power Spectral Density



06:16:16 AM 09/02/2026

Bluetooth LE 1M PHY_High Frequency

Peak Power Spectral Density

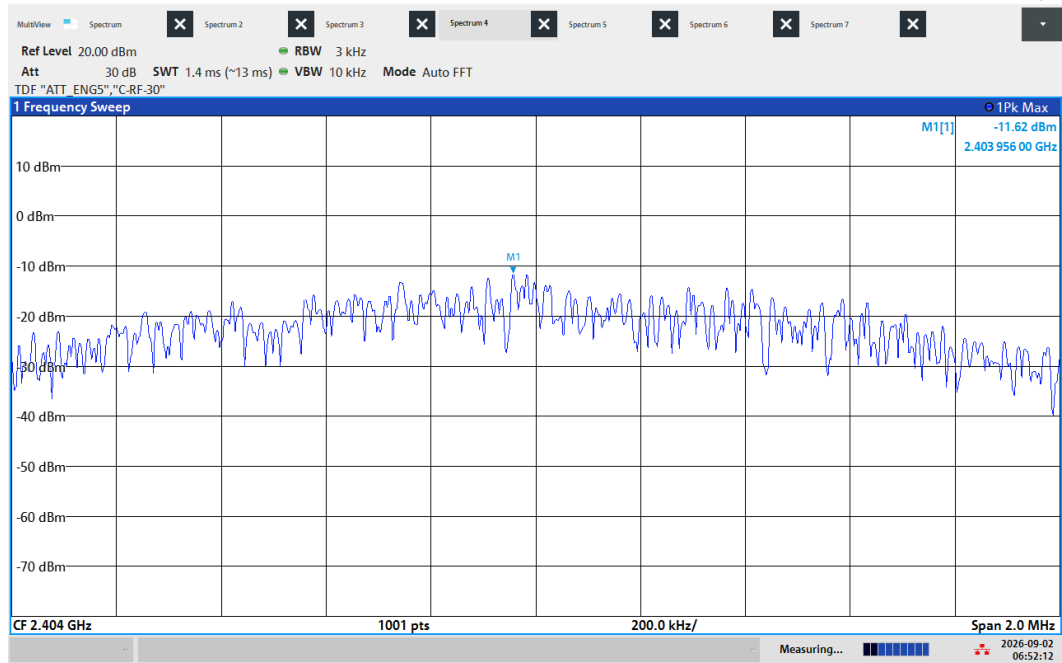


06:22:22 AM 09/02/2026



Bluetooth LE 2M PHY_Low Frequency

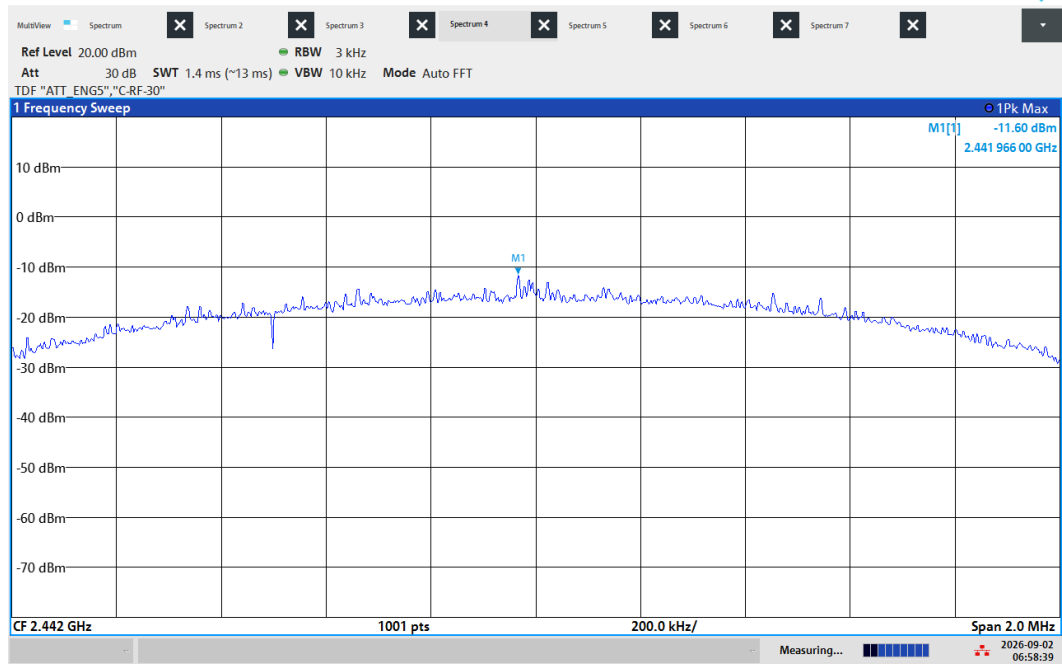
Peak Power Spectral Density



06:52:12 AM 09/02/2026

Bluetooth LE 2M PHY_Middle Frequency

Peak Power Spectral Density

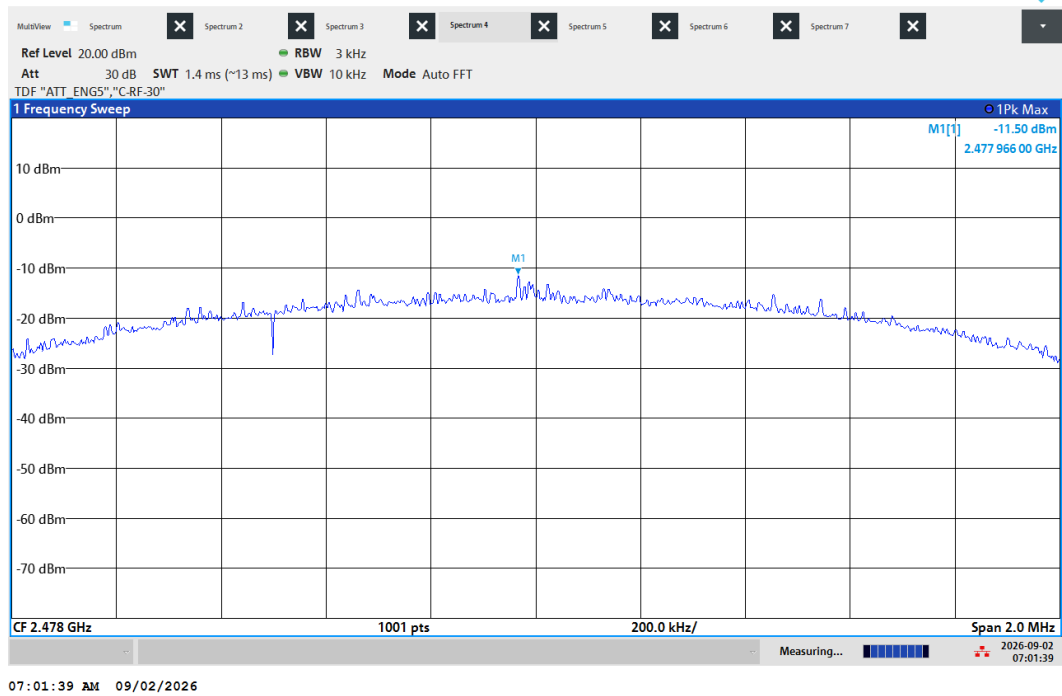


06:58:39 AM 09/02/2026



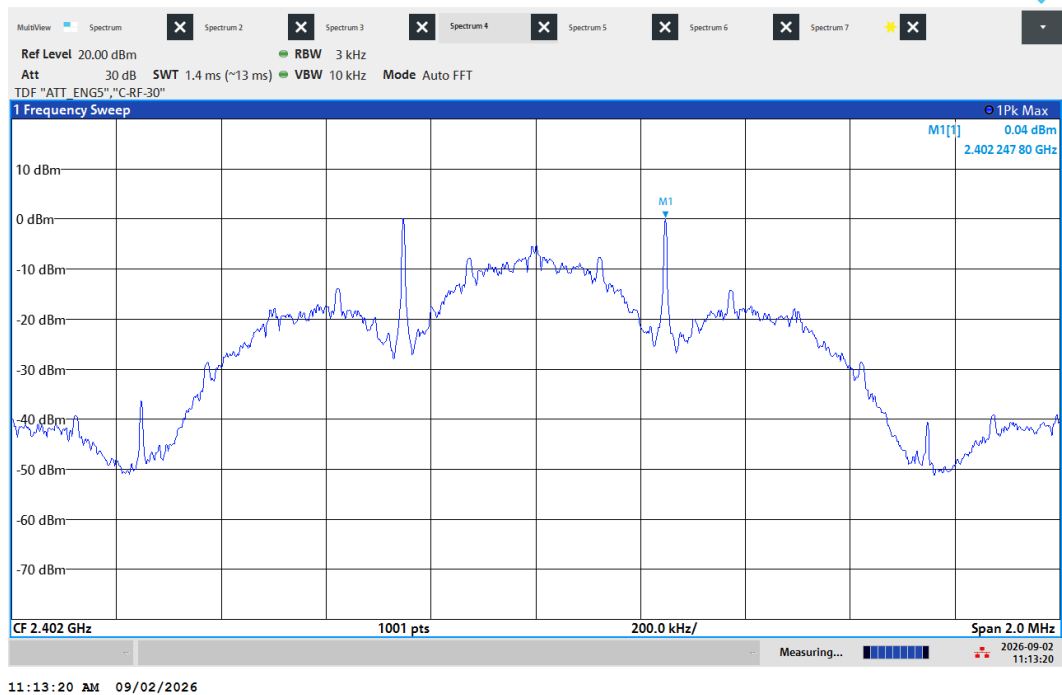
Bluetooth LE 2M PHY_High Frequency

Peak Power Spectral Density



Bluetooth LE Coded S=8_Low Frequency

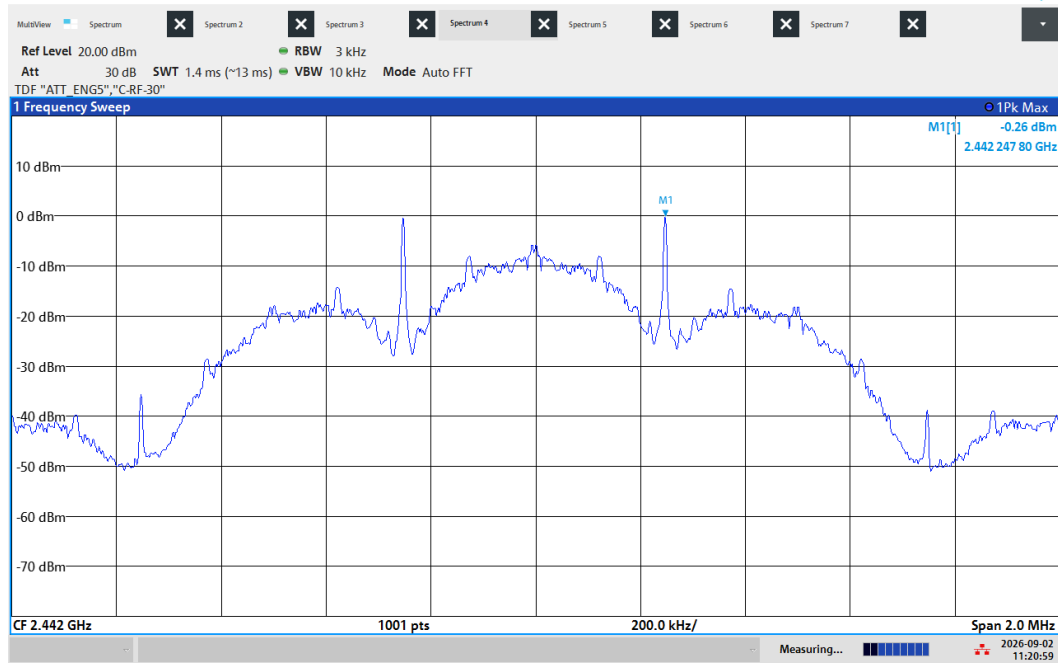
Peak Power Spectral Density





Bluetooth LE Coded S=8_Middle Frequency

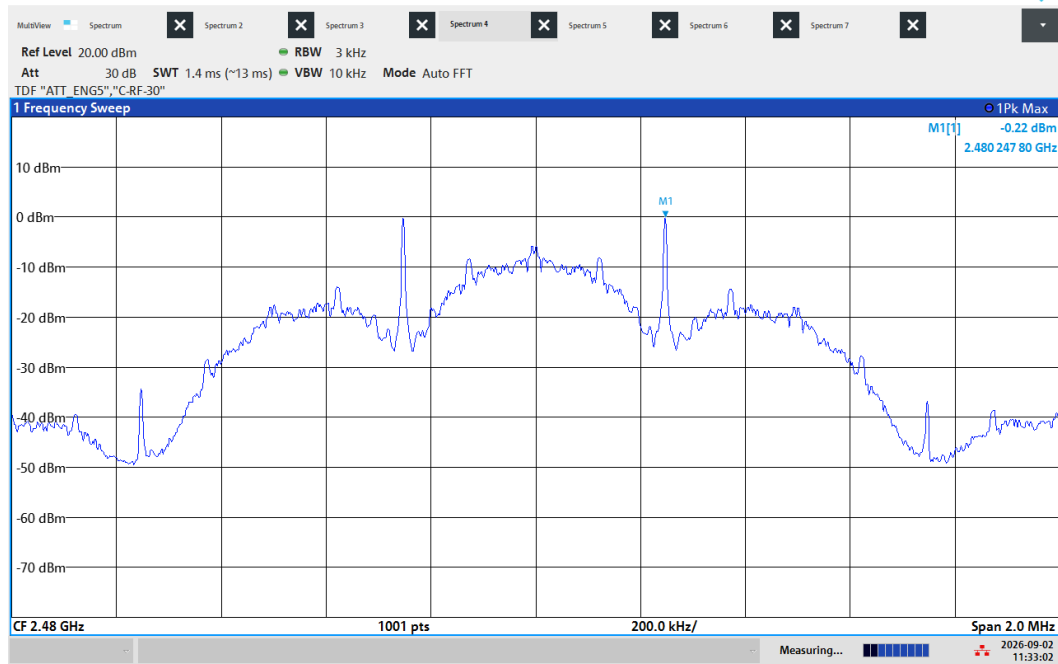
Peak Power Spectral Density



11:21:00 AM 09/02/2026

Bluetooth LE Coded S=8_High Frequency

Peak Power Spectral Density

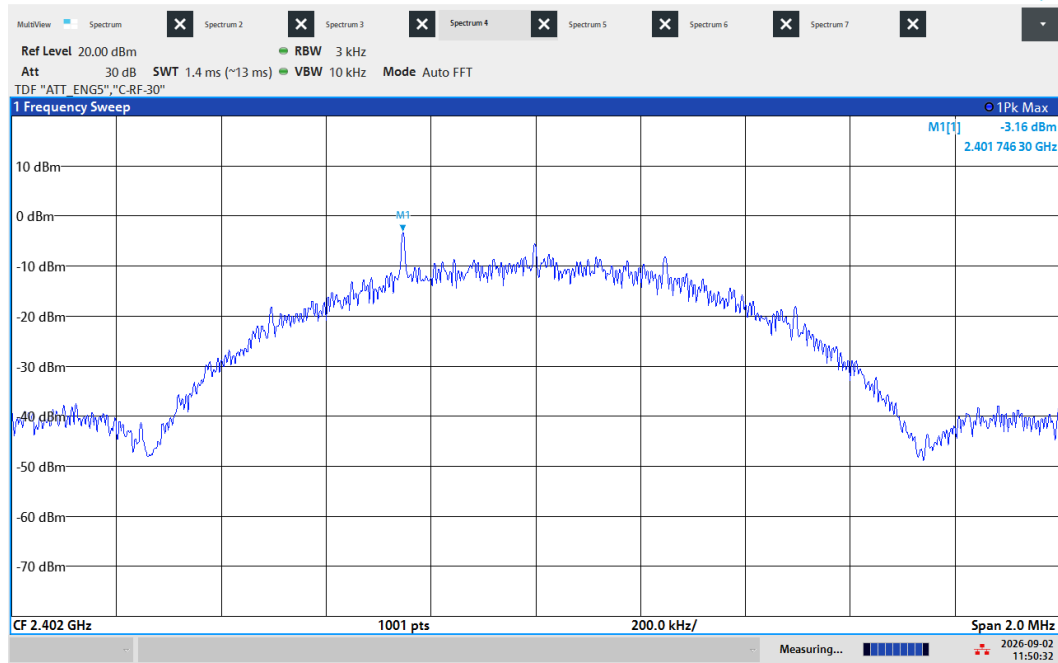


11:33:03 AM 09/02/2026



Bluetooth LE Coded S=2_Low Frequency

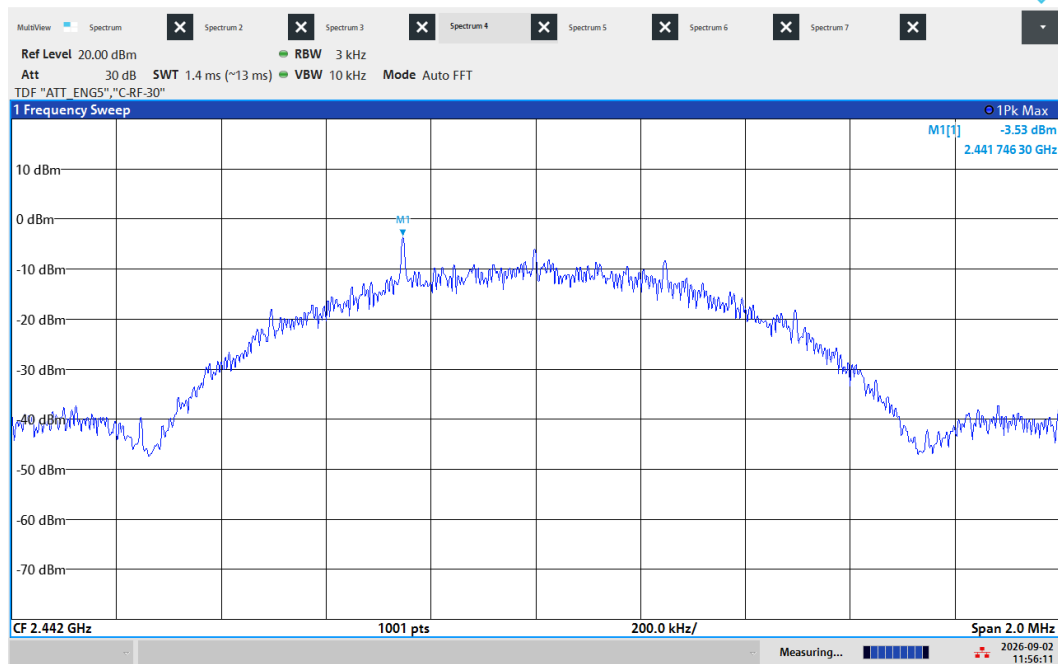
Peak Power Spectral Density



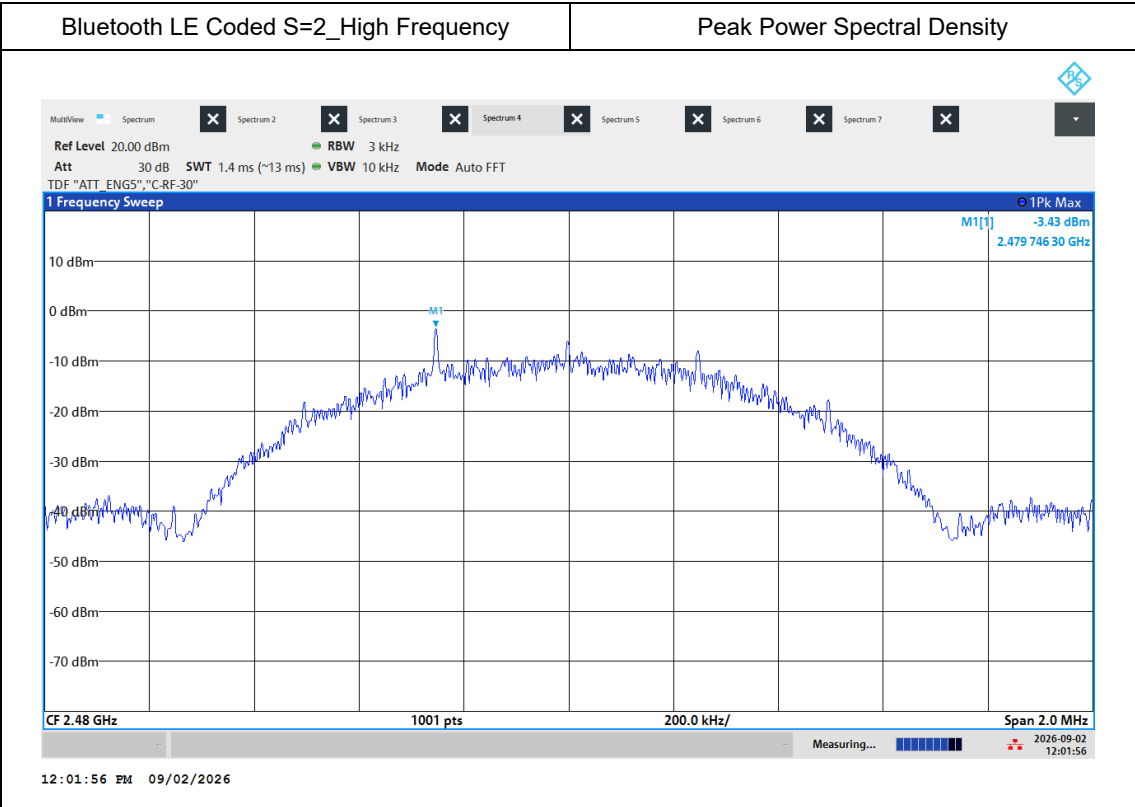
11:50:33 AM 09/02/2026

Bluetooth LE Coded S=2_Middle Frequency

Peak Power Spectral Density



11:56:12 AM 09/02/2026



5.5 TX Radiated Spurious Emission and Conducted Spurious Emission

5.5.1 Test Setup

Refer to the APPENDIX I.

5.5.2 Limit

According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in section §15.209(a) is not required. In addition, radiated emission which in the restricted band, as define in section §15.205(a), must also comply the radiated emission limits specified in section §15.209(a) (see section §15.205(c))

According to § 15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table

Frequency (MHz)	Limit (uV/m)	Measurement Distance (meter)
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100 **	3
88 ~ 216	150 **	3
216 ~ 960	200 **	3
Above 960	500	3

** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54 - 72 MHz, 76 - 88 MHz, 174 - 216 MHz or 470 – 806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

According to § 15.205(a) and (b), only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 ~ 0.110	16.42 ~ 16.423	399.90 ~ 410	4.5 ~ 5.15
0.495 ~ 0.505	16.69475 ~ 16.69525	608 ~ 614	5.35 ~ 5.46
2.1735 ~ 2.1905	16.80425 ~ 16.80475	960 ~ 1240	7.25 ~ 7.75
4.125 ~ 4.128	25.5 ~ 25.67	1300 ~ 1427	8.025 ~ 8.5
4.17725 ~ 4.17775	37.5 ~ 38.25	1435 ~ 1626.5	9.0 ~ 9.2
4.20725 ~ 4.20775	73 ~ 74.6	1645.5 ~ 1646.5	9.3 ~ 9.5
6.215 ~ 6.218	74.8 ~ 75.2	1660 ~ 1710	10.6 ~ 12.7
6.26775 ~ 6.26825	108 ~ 121.94	1718.8 ~ 1722.2	13.25 ~ 13.4
6.31175 ~ 6.31225	123 ~ 138	2200 ~ 2300	14.47 ~ 14.5
8.291 ~ 8.294	149.9 ~ 150.05	2310 ~ 2390	15.35 ~ 16.2
8.362 ~ 8.366	156.52475 ~ 156.52525	2483.5 ~ 2500	17.7 ~ 21.4
8.37625 ~ 8.38675	156.7 ~ 156.9	2690 ~ 2900	22.01 ~ 23.12
8.41425 ~ 8.41475	162.0125 ~ 167.17	3260 ~ 3267	23.6 ~ 24.0
12.29 ~ 12.293	167.72 ~ 173.2	3332 ~ 3339	31.2 ~ 31.8
12.51975 ~ 12.52025	240 ~ 285	3345.8 ~ 3358	36.43 ~ 36.5
12.57675 ~ 12.57725	322 ~ 335.4	3600 ~ 4400	Above 38.6
13.36 ~ 13.41			

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

5.5.3 Test Procedure (Radiated Spurious Emission)

1. The EUT is placed on a non-conductive table. For emission measurements at or below 1 GHz, the table height is 80 cm. For emission measurements above 1 GHz, the table height is 1.5 m. The table was rotated 360 degrees to determine the position of the highest radiation.
2. During performing radiated emission below 1 GHz, the EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable-height antenna tower. During performing radiated emission above 1 GHz, the EUT was set 3 meter away from the interference-receiving antenna.

JNM Korea Testing Center Co. Ltd. 135-60 Gyeongchung-daero, Gonjam-eup, Gwangju-si, Gyeonggi-do, Korea 12813 Tel: +82-31-727-8300 Fax: +82-31-764-0800	Report No.: TR-W2609-015 Page (41) / (84) Pages	
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3. For measurements above 1 GHz absorbers are placed on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.
4. The antenna is a Broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
5. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading. (The EUT was pre-tested with three axes (X, Y, Z) and the final test was performed at the worst case.)
6. Repeat above procedures until the measurements for all frequencies are complete.

Measurement Instrument Setting

1. Frequency Range: Below 1 GHz
 RBW = 100 or 120 kHz, VBW = 3 x RBW, Detector = Peak or Quasi Peak

2. Frequency Range: Above 1 GHz
 Peak Measurement
 RBW = 1 MHz, VBW = 3 MHz, Detector = Peak, Sweep time = Auto,
 Trace mode = Max Hold until the trace stabilizes

 Average Measurement
 RBW = 1 MHz, VBW = 3 MHz, Detector = RMS (Number of points $\geq 2 \times \text{Span} / \text{RBW}$),
 Trace Mode = Average (Averaging type = power(i.e. RMS)), Sweep Time = Auto,
 Sweep Count = at least 100 traces

A 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. The correction factor is computed as follows:

- 1) If power averaging (RMS) mode was used in step 4, then the applicable correction factor is $10 \log(1/x)$, where x is the duty cycle.
- 2) If linear voltage averaging mode was used in step 4, then the applicable correction factor is $20 \log(1/x)$, where x is the duty cycle.
- 3) If a specific emission is demonstrated to be continuous (≥ 98 percent duty cycle) rather than tuning on and off with the transmit cycle, then no duty cycle correction is required for that emission.

5.5.4 Test Procedure (Conducted Spurious Emission)

1. The transmitter output was connected to the spectrum analyzer.
2. The reference level of the fundamental frequency was measured with the spectrum analyzer using RBW = 100 kHz, VBW = 300 kHz.
3. The conducted spurious emission was tested each ranges were set as below.
 Frequency range: 30 MHz ~ 26.5 GHz
 RBW = 100 kHz, VBW = 300 kHz, Sweep Time = Auto, Detector = Peak,
 Trace = Max Hold

 LIMIT LINE = 20 dB below of the reference level of above measurement procedure Step 2.
 (RBW = 100 kHz, VBW = 300 kHz)

5.5.5 Test Result

9 kHz ~ 25 GHz Data for Bluetooth LE 1M PHY

Low frequency

Frequency (MHz)	Reading (dBuV/m)		Pol.	T.F (dB)	DCF (dB)	Limits (dBuV/m)		Result (dBuV/m)		Margin (dB)	
	AV	Peak				AV	Peak	AV	Peak	AV	Peak
2 390.00	30.01	58.45	V	-2.77	0.68	54.0	74.0	27.9	55.7	26.1	18.3
4 803.58	42.02	48.78	H	2.47	0.68	54.0	74.0	45.2	51.3	8.8	22.8
7 206.83	42.01	49.66	V	4.42	0.68	54.0	74.0	47.1	54.1	6.9	19.9

Middle frequency

Frequency (MHz)	Reading (dBuV/m)		Pol.	T.F (dB)	DCF (dB)	Limits (dBuV/m)		Result (dBuV/m)		Margin (dB)	
	AV	Peak				AV	Peak	AV	Peak	AV	Peak
4 883.79	41.13	48.27	H	2.57	0.68	54.0	74.0	44.4	50.8	9.6	23.2
7 325.38	41.01	48.45	V	4.32	0.68	54.0	74.0	46.0	52.8	8.0	21.2

High frequency

Frequency (MHz)	Reading (dBuV/m)		Pol.	T.F (dB)	DCF (dB)	Limits (dBuV/m)		Result (dBuV/m)		Margin (dB)	
	AV	Peak				AV	Peak	AV	Peak	AV	Peak
2 483.50	44.46	69.28	V	-2.07	0.68	54.0	74.0	43.1	67.2	10.9	6.8
4 959.61	40.72	47.64	H	2.77	0.68	54.0	74.0	44.2	50.4	9.8	23.6
7 439.12	37.06	45.74	V	4.32	0.68	54.0	74.0	42.1	50.1	11.9	23.9

Note 1: The radiated emissions were investigated 9 kHz to 25 GHz. And no other spurious and harmonic emissions were found above listed frequencies.

Note 2: DCF(Duty Cycle Factor)

- Ton = 2.140 ms / Toff = 0.360 ms
- Duty Cycle = Ton / (Ton+Toff) = 2.140 / (2.140+0.360) = 0.856
- DCF = 10 x log(1/Duty Cycle) dB = 10 x log(1/0.856) dB = 0.68 dB

Note 3: Sample Calculation.

Margin = Limit - Result / Peak Result = Peak Reading + TF / Average Result = Average Reading + TF + DCF

TF = Ant factor + Cable Loss + Filter Loss – Amp Gain

9 kHz ~ 25 GHz Data for Bluetooth LE 2M PHY

Low frequency

Frequency (MHz)	Reading (dBuV/m)		Pol.	T.F (dB)	DCF (dB)	Limits (dBuV/m)		Result (dBuV/m)		Margin (dB)	
	AV	Peak				AV	Peak	AV	Peak	AV	Peak
2 390.00	30.82	57.41	V	-2.77	2.40	54.0	74.0	30.4	54.6	23.6	19.4
4 807.12	38.53	48.47	H	2.47	2.40	54.0	74.0	43.4	50.9	10.6	23.1
7 210.45	37.08	49.98	V	4.42	2.40	54.0	74.0	43.9	54.4	10.1	19.6

Middle frequency

Frequency (MHz)	Reading (dBuV/m)		Pol.	T.F (dB)	DCF (dB)	Limits (dBuV/m)		Result (dBuV/m)		Margin (dB)	
	AV	Peak				AV	Peak	AV	Peak	AV	Peak
4 882.93	35.67	48.03	H	2.57	2.40	54.0	74.0	40.6	50.6	13.4	23.4
7 324.40	35.74	48.22	V	4.32	2.40	54.0	74.0	42.5	52.5	11.5	21.5

High frequency

Frequency (MHz)	Reading (dBuV/m)		Pol.	T.F (dB)	DCF (dB)	Limits (dBuV/m)		Result (dBuV/m)		Margin (dB)	
	AV	Peak				AV	Peak	AV	Peak	AV	Peak
2 483.50	33.88	66.33	V	-2.07	2.40	54.0	74.0	34.2	64.3	19.8	9.7
4 955.05	35.24	47.05	H	2.77	2.40	54.0	74.0	40.4	49.8	13.6	24.2
7 435.25	33.98	46.06	V	4.32	2.40	54.0	74.0	40.7	50.4	13.3	23.6

Note 1: The radiated emissions were investigated 9 kHz to 25 GHz. And no other spurious and harmonic emissions were found above listed frequencies.

Note 2: DCF(Duty Cycle Factor)

- Ton = 1.080 ms / Toff = 0.795 ms
- Duty Cycle = Ton / (Ton+Toff) = 1.080 / (1.080+0.795) = 0.576
- DCF = 10 x log(1/Duty Cycle) dB = 10 x log(1/0.576) dB = 2.40 dB

Note 3: Sample Calculation.

Margin = Limit - Result / Peak Result = Peak Reading + TF / Average Result = Average Reading + TF + DCF

TF = Ant factor + Cable Loss + Filter Loss – Amp Gain

9 kHz ~ 25 GHz Data for Bluetooth LE Coded S=8

Low frequency

Frequency (MHz)	Reading (dBuV/m)		Pol.	T.F (dB)	DCF (dB)	Limits (dBuV/m)		Result (dBuV/m)		Margin (dB)	
	AV	Peak				AV	Peak	AV	Peak	AV	Peak
2 390.00	30.05	58.18	V	-2.77	0.10	54.0	74.0	27.4	55.4	26.6	18.6
4 804.43	43.30	49.00	H	2.47	0.10	54.0	74.0	45.9	51.5	8.1	22.5
7 206.79	43.66	49.67	V	4.42	0.10	54.0	74.0	48.2	54.1	5.8	19.9

Middle frequency

Frequency (MHz)	Reading (dBuV/m)		Pol.	T.F (dB)	DCF (dB)	Limits (dBuV/m)		Result (dBuV/m)		Margin (dB)	
	AV	Peak				AV	Peak	AV	Peak	AV	Peak
4 883.60	42.16	48.10	H	2.57	0.10	54.0	74.0	44.8	50.7	9.2	23.3
7 325.34	41.89	48.39	V	4.32	0.10	54.0	74.0	46.3	52.7	7.7	21.3

High frequency

Frequency (MHz)	Reading (dBuV/m)		Pol.	T.F (dB)	DCF (dB)	Limits (dBuV/m)		Result (dBuV/m)		Margin (dB)	
	AV	Peak				AV	Peak	AV	Peak	AV	Peak
2 483.50	47.08	70.08	V	-2.07	0.10	54.0	74.0	45.1	68.0	8.9	6.0
4 960.43	41.64	47.44	H	2.77	0.10	54.0	74.0	44.5	50.2	9.5	23.8
7 440.08	38.07	45.95	V	4.32	0.10	54.0	74.0	42.5	50.3	11.5	23.7

Note 1: The radiated emissions were investigated 9 kHz to 25 GHz. And no other spurious and harmonic emissions were found above listed frequencies.

Note 2: DCF(Duty Cycle Factor)

- Ton = 17.100 ms / Toff = 0.400 ms
- Duty Cycle = Ton / (Ton+Toff) = 17.100 / (17.100+0.400) = 0.977
- DCF = 10 x log(1/Duty Cycle) dB = 10 x log(1/0.977) dB = 0.10 dB

Note 3: Sample Calculation.

Margin = Limit - Result / Peak Result = Peak Reading + TF / Average Result = Average Reading + TF + DCF

TF = Ant factor + Cable Loss + Filter Loss – Amp Gain

9 kHz ~ 25 GHz Data for Bluetooth LE Coded S=2

Low frequency

Frequency (MHz)	Reading (dBuV/m)		Pol.	T.F (dB)	DCF (dB)	Limits (dBuV/m)		Result (dBuV/m)		Margin (dB)	
	AV	Peak				AV	Peak	AV	Peak	AV	Peak
2 483.50	29.90	58.72	V	-2.07	0.40	54.0	74.0	28.2	56.7	25.8	17.4
4 803.52	42.56	48.63	H	2.47	0.40	54.0	74.0	45.4	51.1	8.6	22.9
7 205.28	43.50	49.65	V	4.42	0.40	54.0	74.0	48.3	54.1	5.7	19.9

Middle frequency

Frequency (MHz)	Reading (dBuV/m)		Pol.	T.F (dB)	DCF (dB)	Limits (dBuV/m)		Result (dBuV/m)		Margin (dB)	
	AV	Peak				AV	Peak	AV	Peak	AV	Peak
4 883.39	41.63	48.10	H	2.57	0.40	54.0	74.0	44.6	50.7	9.4	23.3
7 325.29	41.38	48.19	V	4.32	0.40	54.0	74.0	46.1	52.5	7.9	21.5

High frequency

Frequency (MHz)	Reading (dBuV/m)		Pol.	T.F (dB)	DCF (dB)	Limits (dBuV/m)		Result (dBuV/m)		Margin (dB)	
	AV	Peak				AV	Peak	AV	Peak	AV	Peak
2 483.50	46.22	70.25	V	-2.07	0.40	54.0	74.0	44.6	68.2	9.4	5.8
4 959.41	41.22	47.36	H	2.77	0.40	54.0	74.0	44.4	50.1	9.6	23.9
7 440.66	37.74	45.94	V	4.32	0.40	54.0	74.0	42.5	50.3	11.5	23.7

Note 1: The radiated emissions were investigated 9 kHz to 25 GHz. And no other spurious and harmonic emissions were found above listed frequencies.

Note 2: DCF(Duty Cycle Factor)

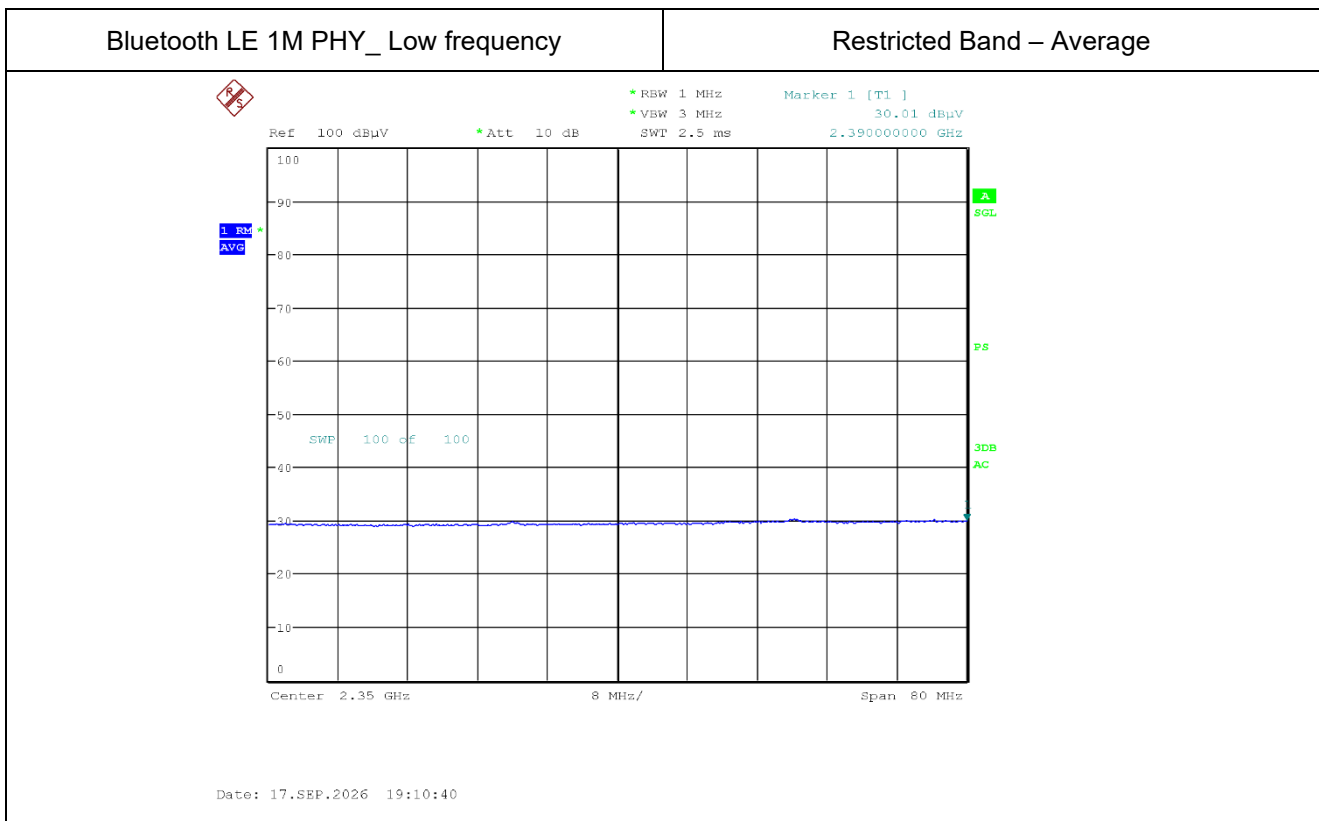
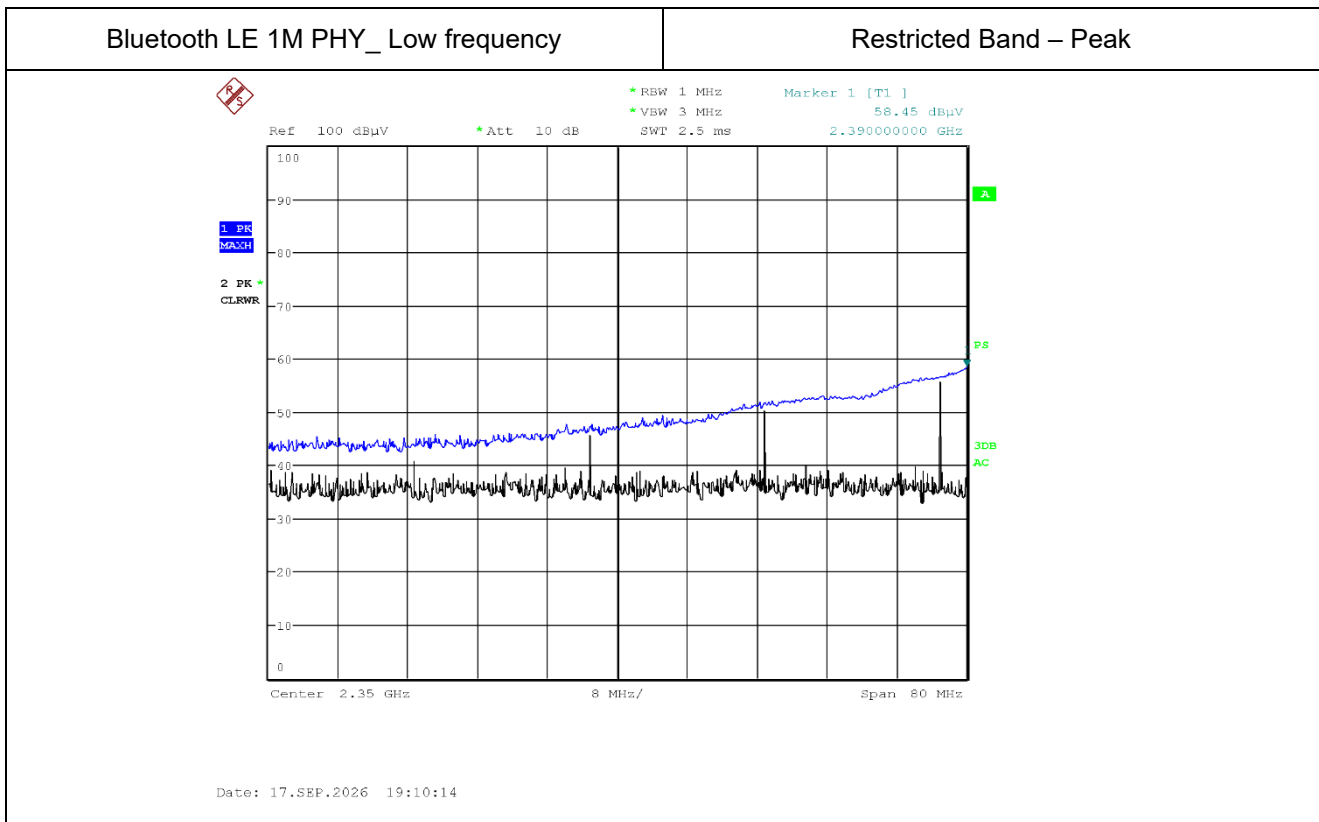
- Ton = 4.560 ms / Toff = 0.440 ms
- Duty Cycle = Ton / (Ton+Toff) = 4.560 / (4.560+0.440) = 0.912
- DCF = 10 x log(1/Duty Cycle) dB = 10 x log(1/0.912) dB = 0.40 dB

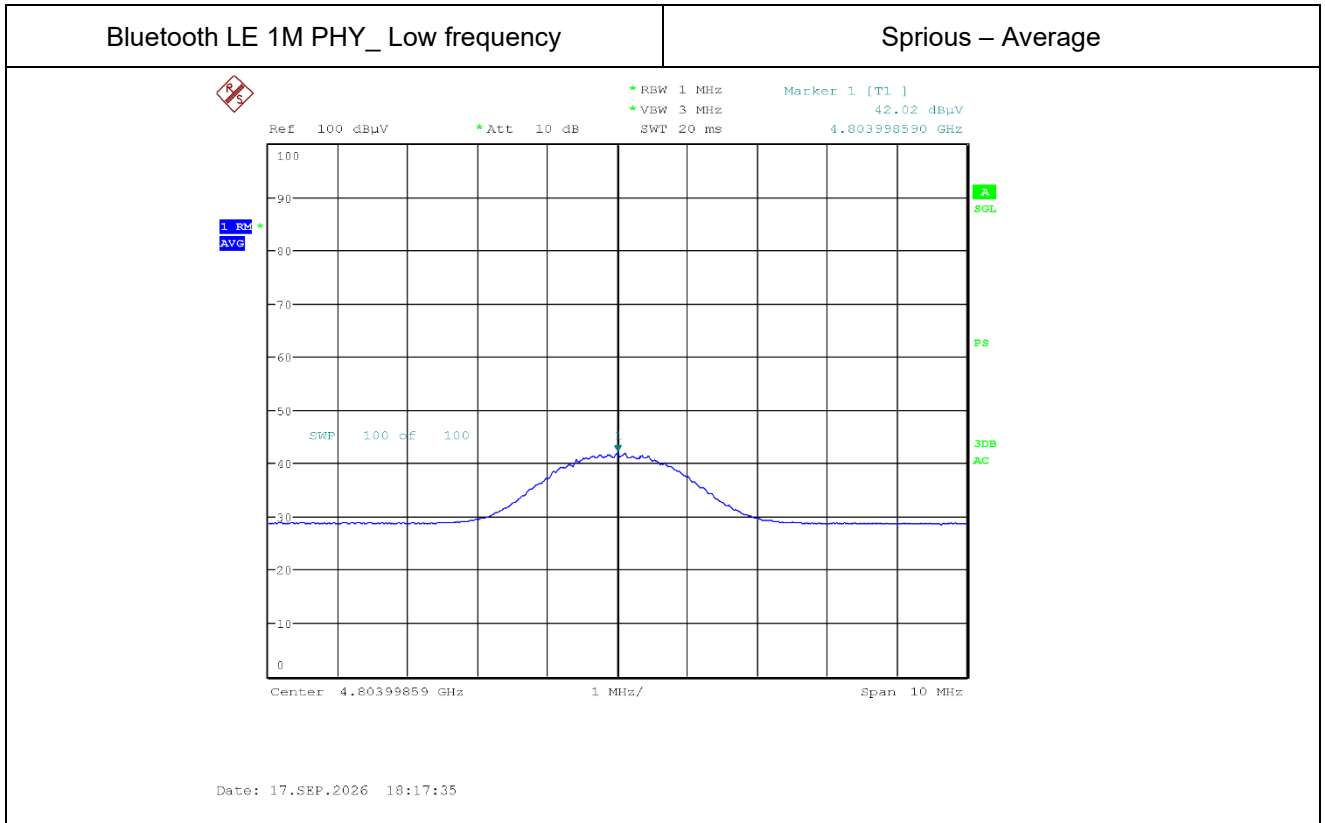
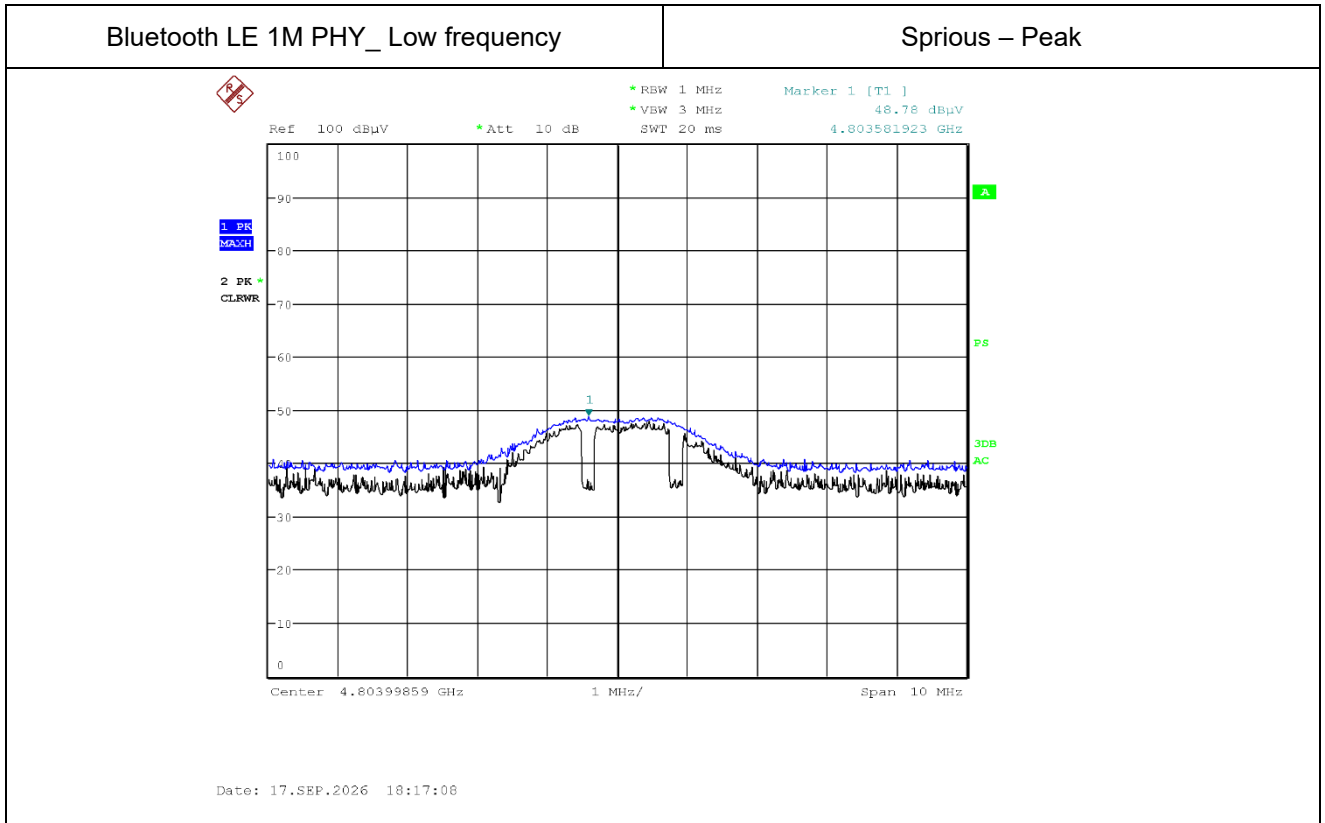
Note 3: Sample Calculation.

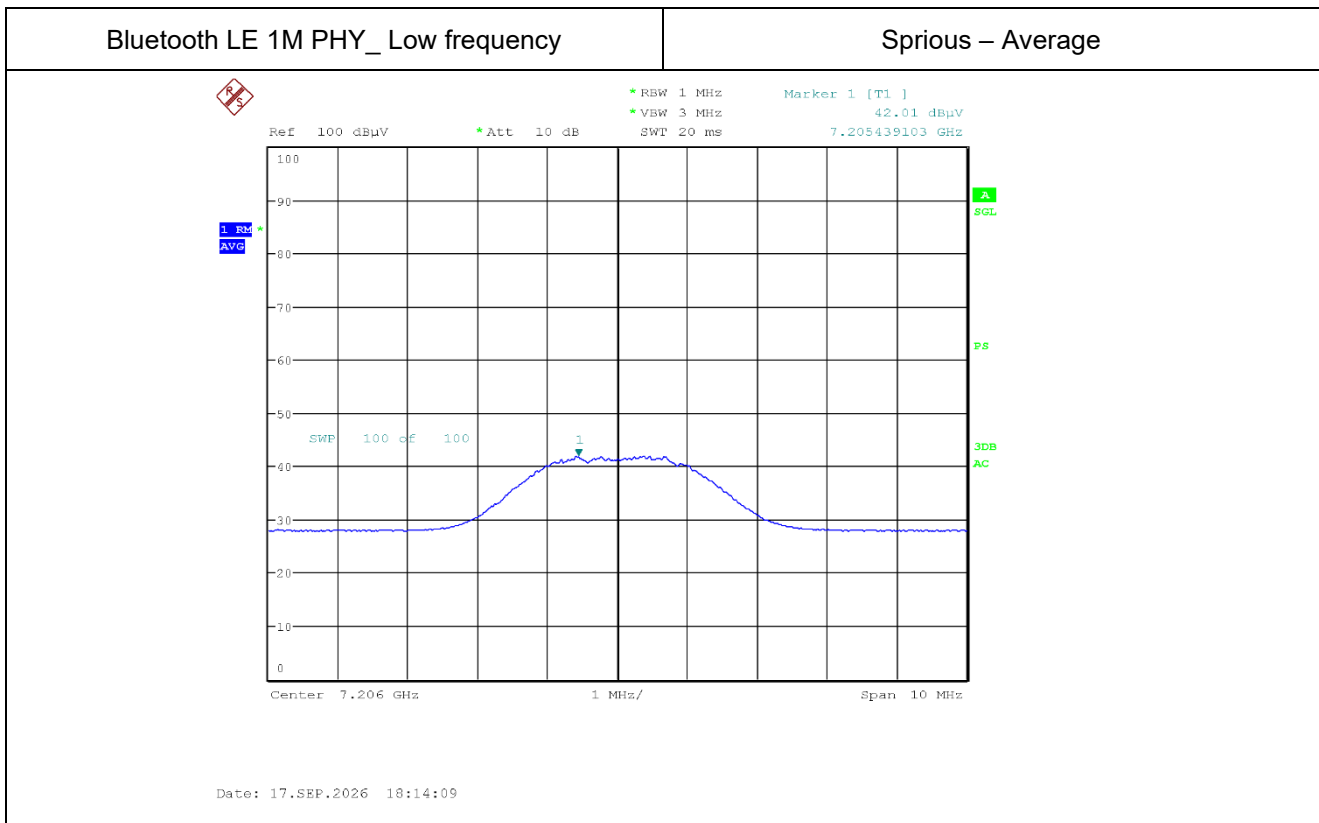
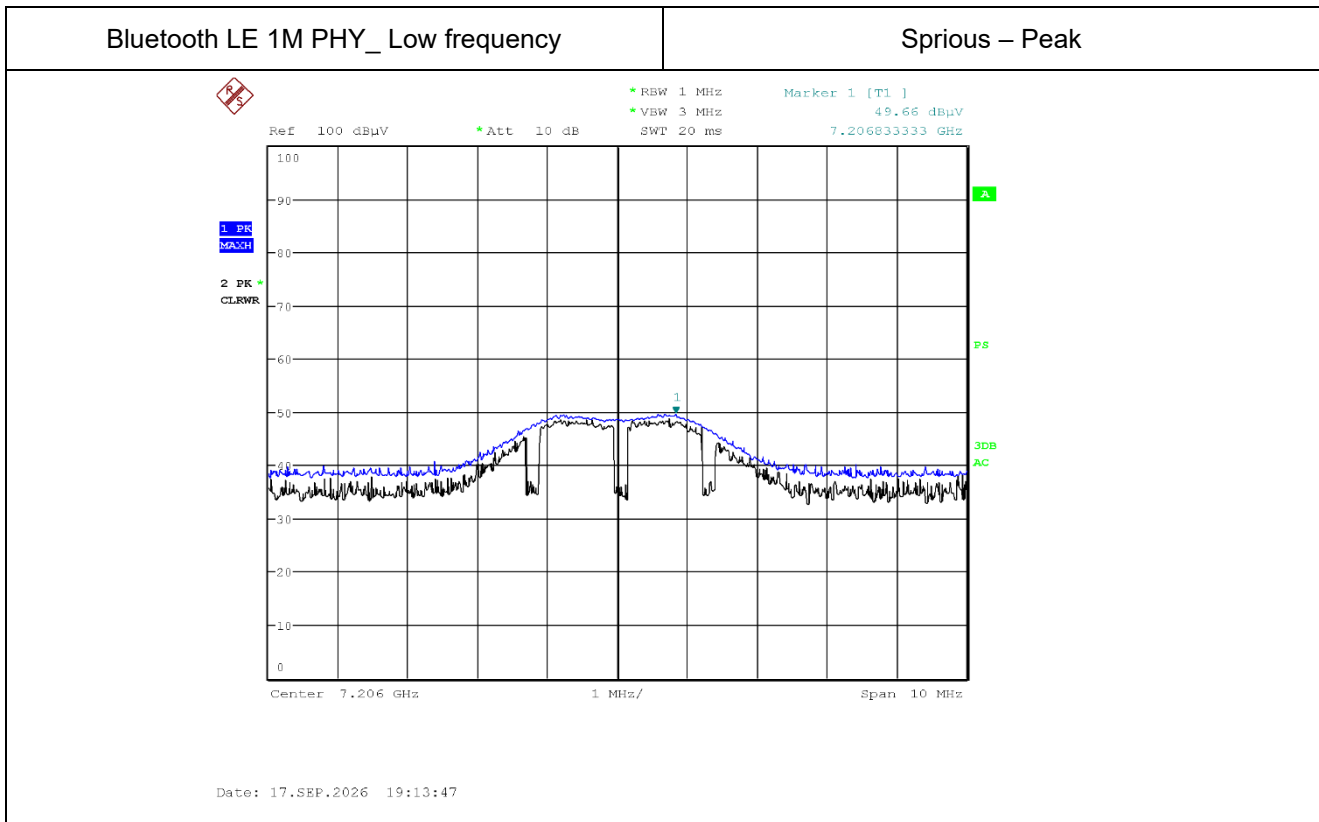
Margin = Limit - Result / Peak Result = Peak Reading + TF / Average Result = Average Reading + TF + DCF

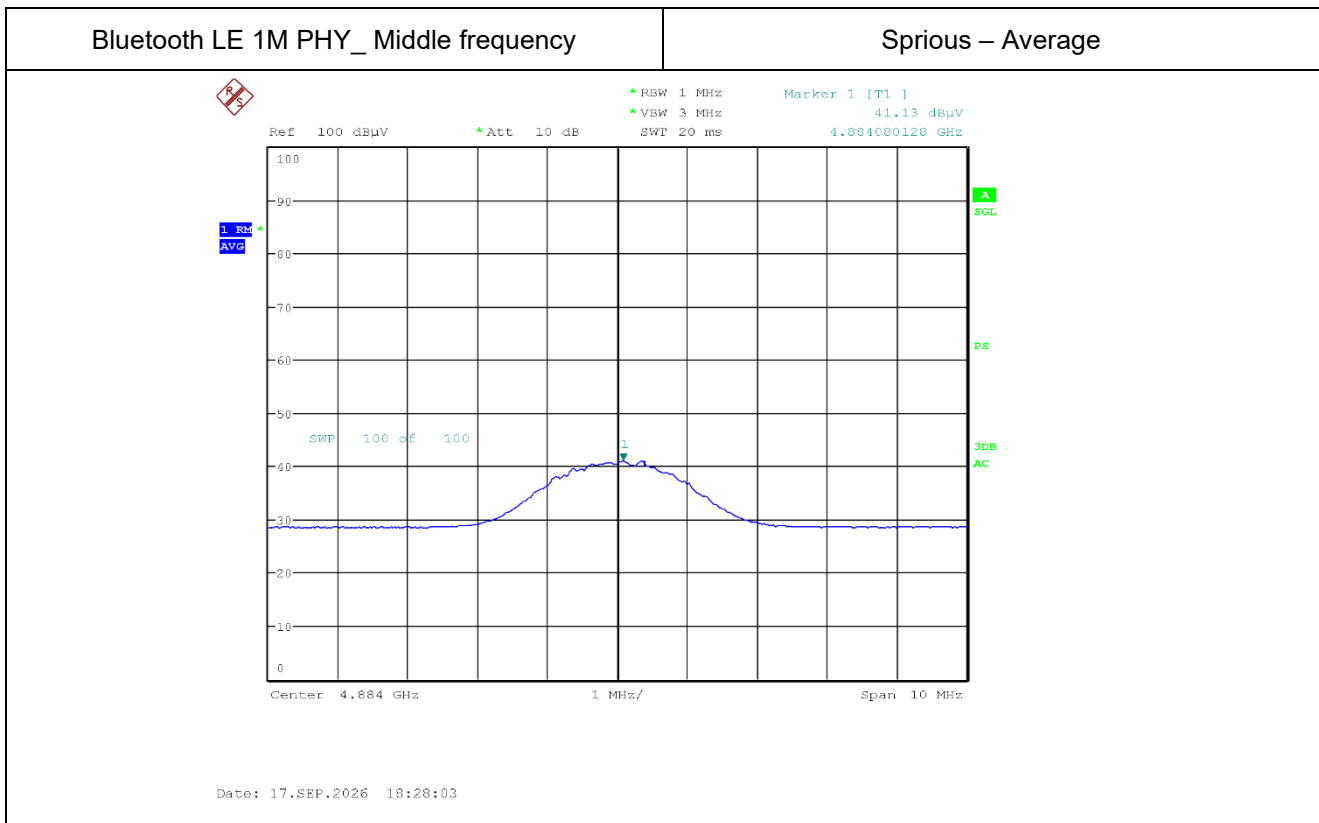
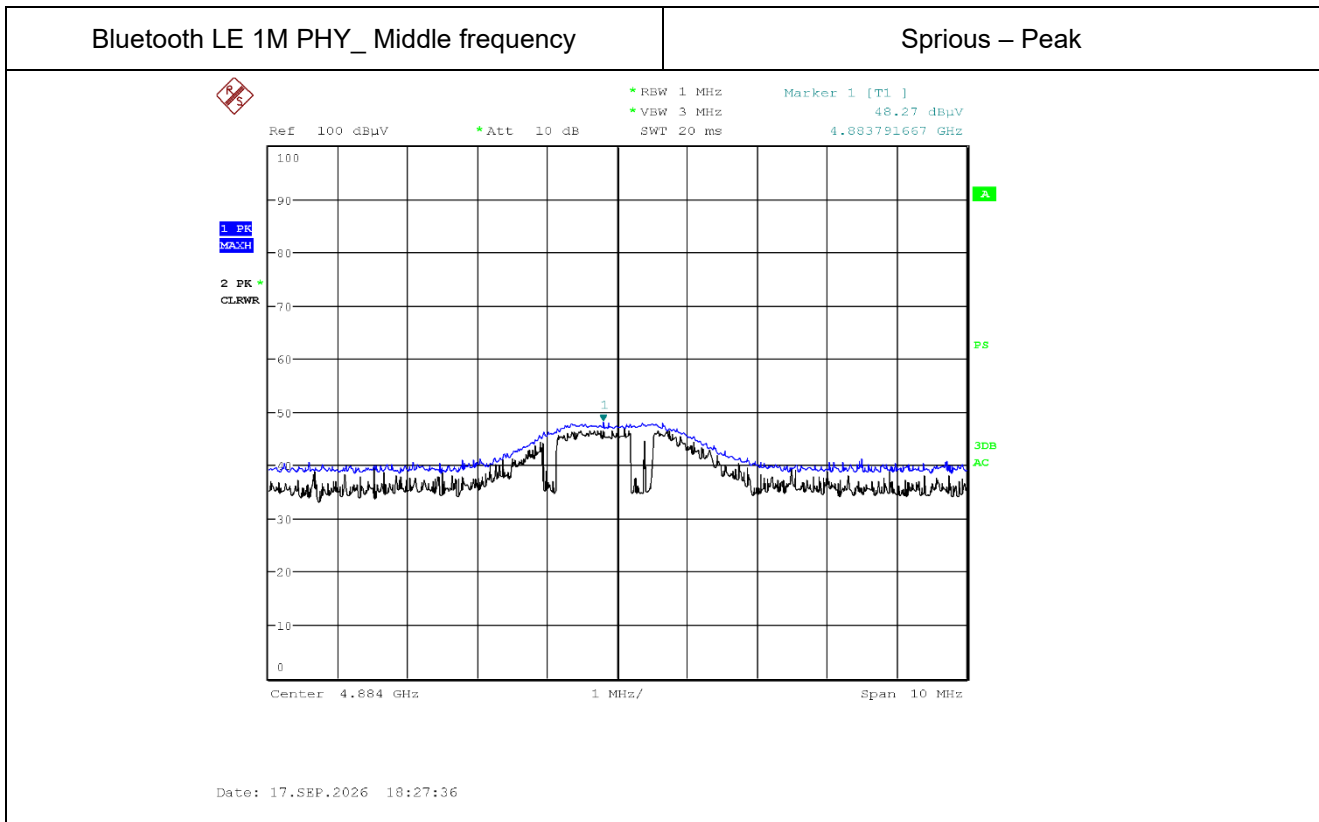
TF = Ant factor + Cable Loss + Filter Loss – Amp Gain

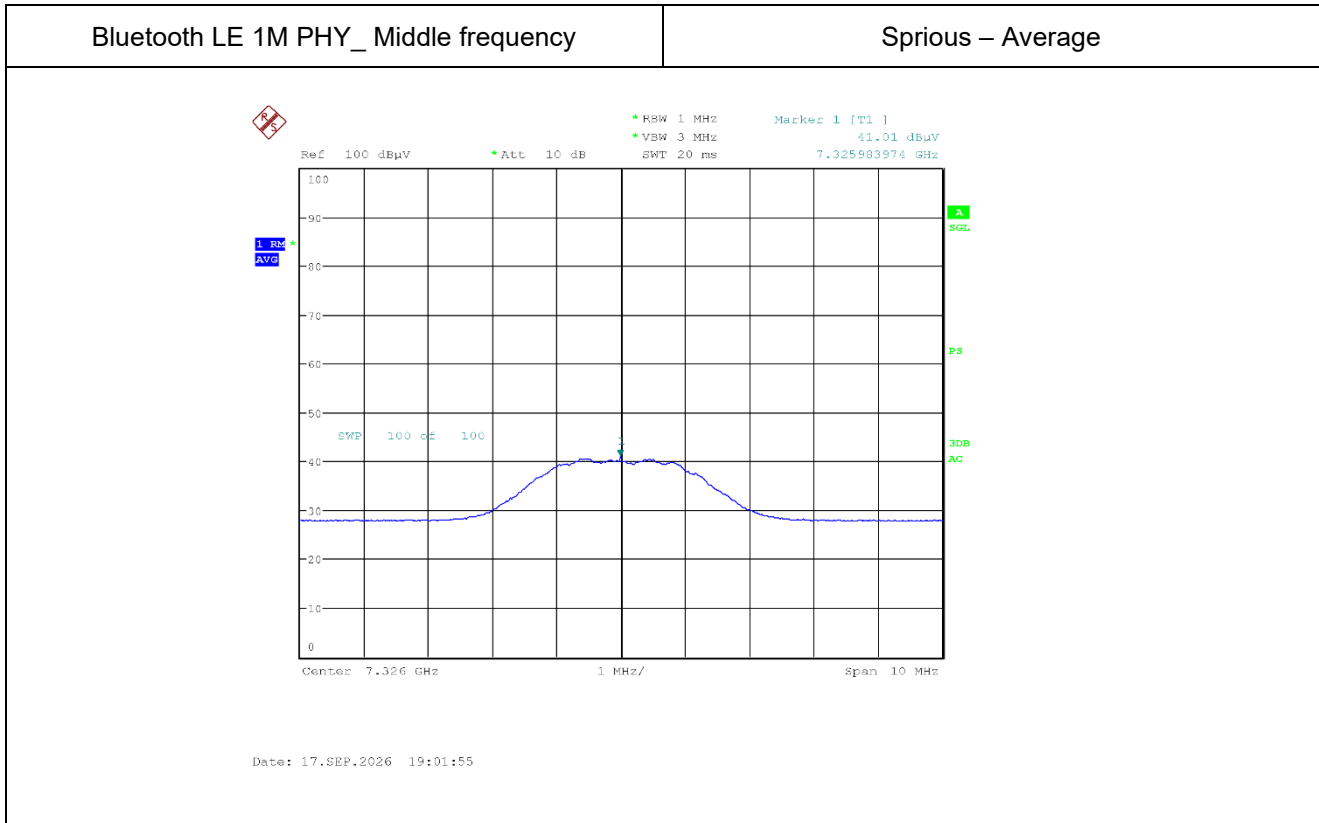
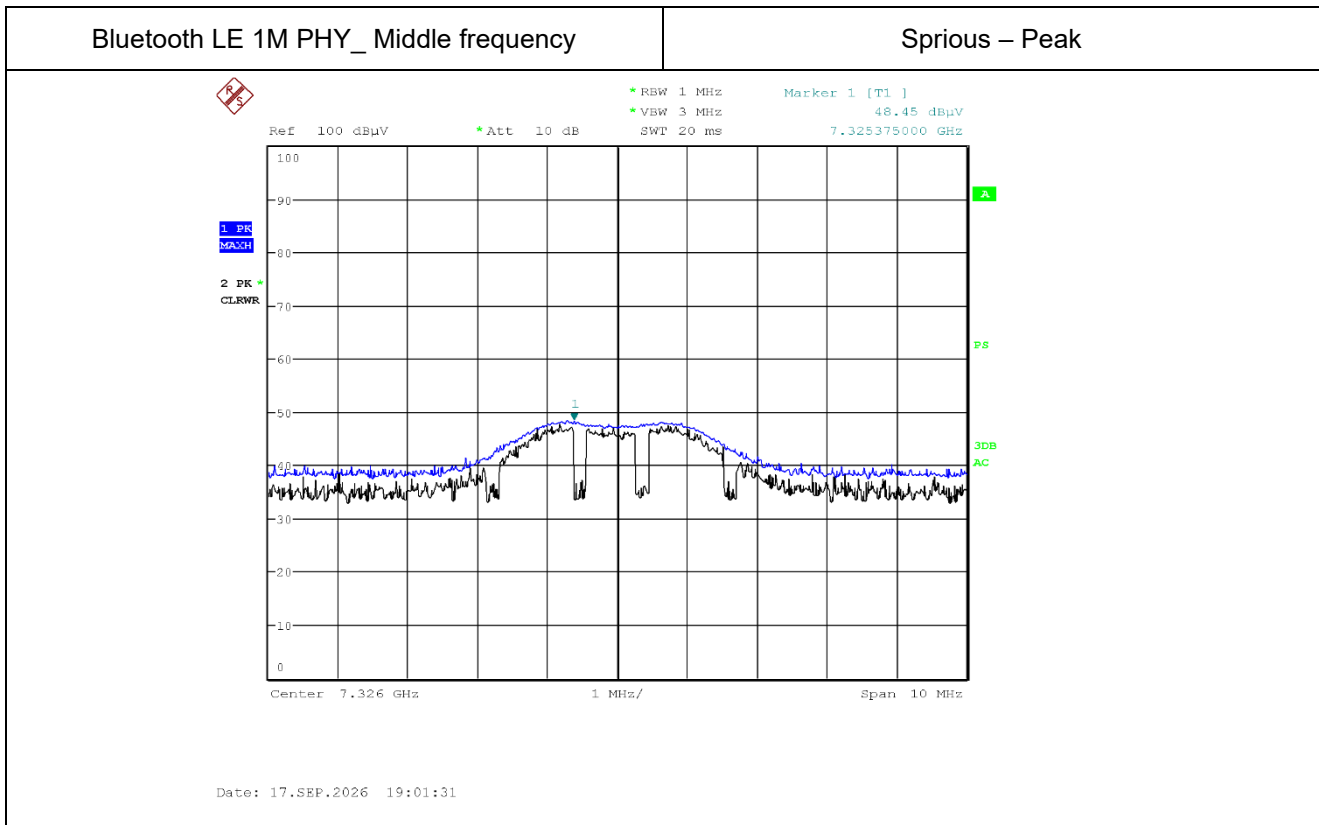
5.5.6 Test Plot for Radiated Spurious Emission

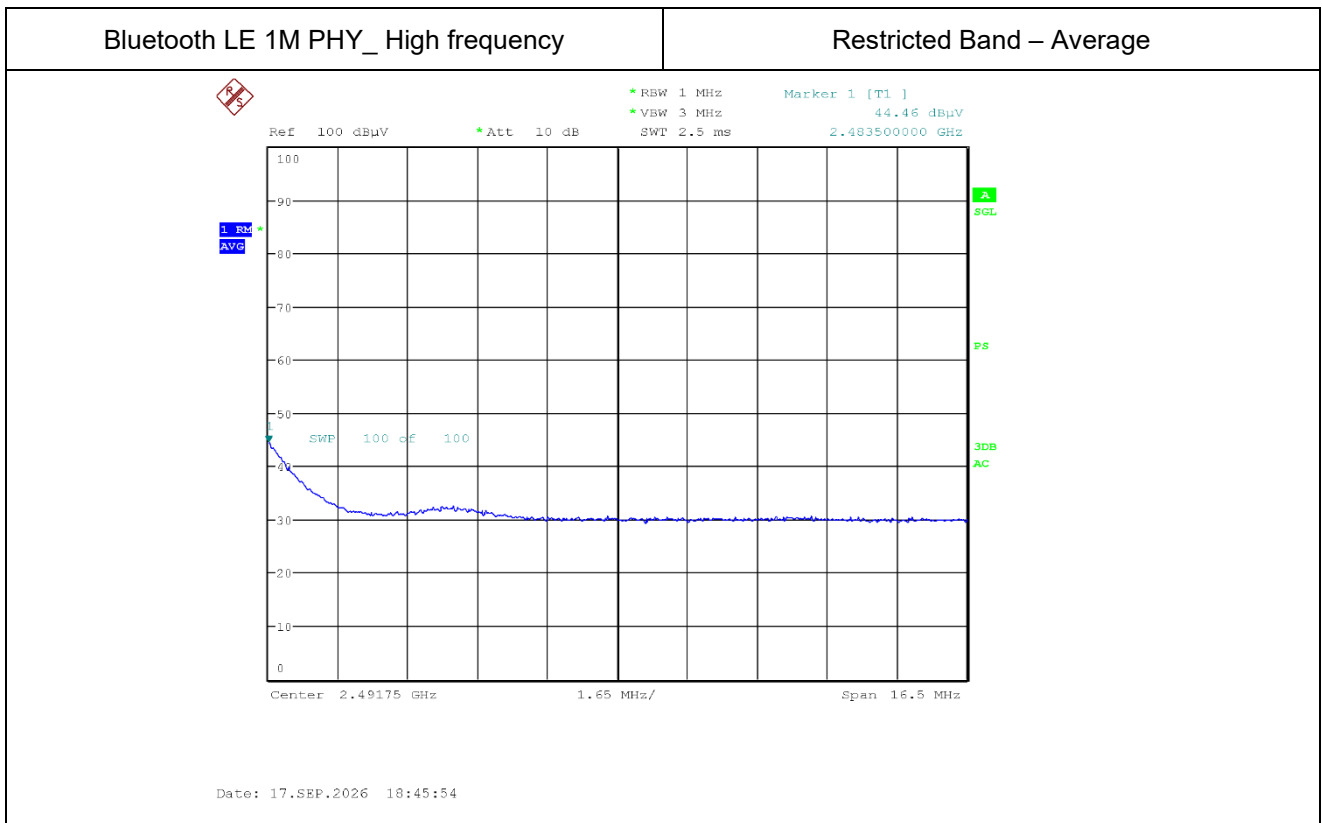
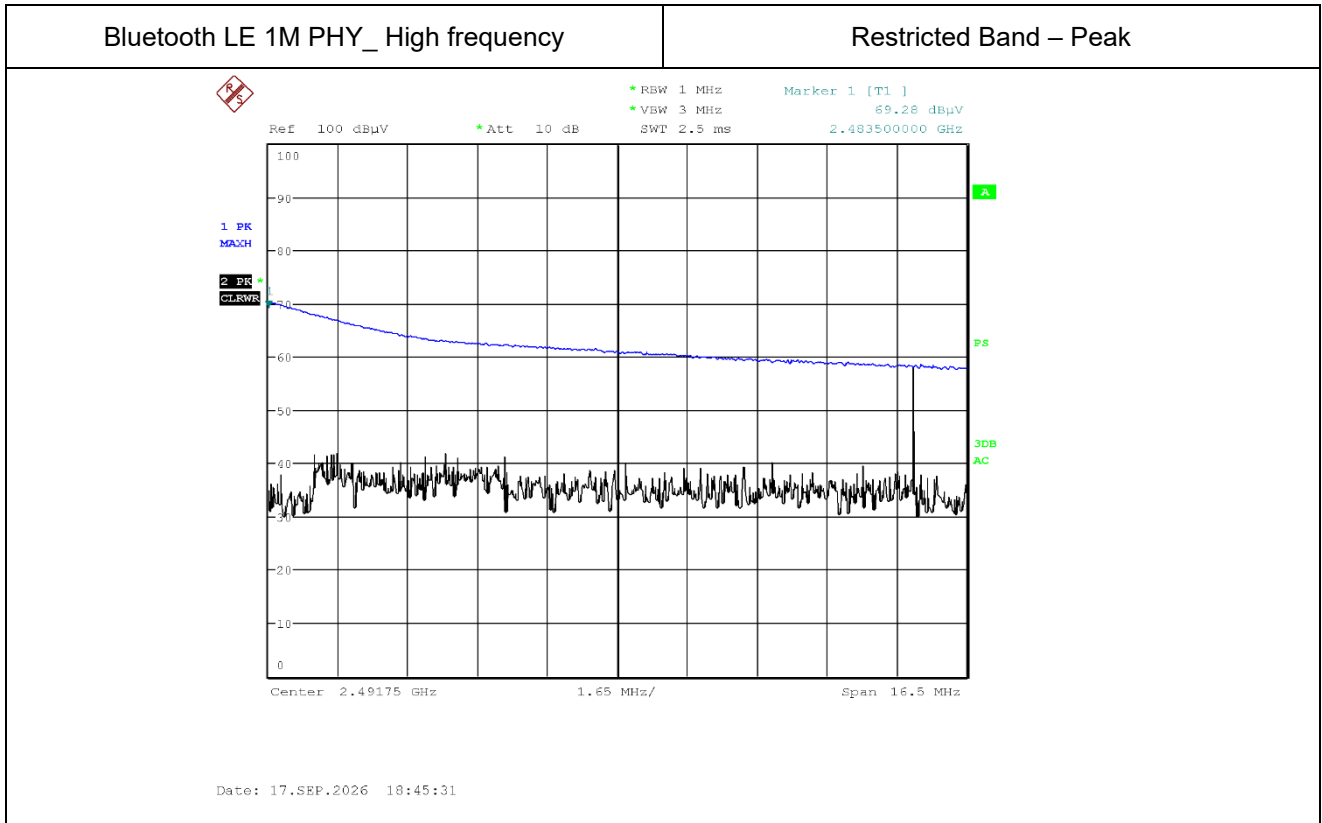


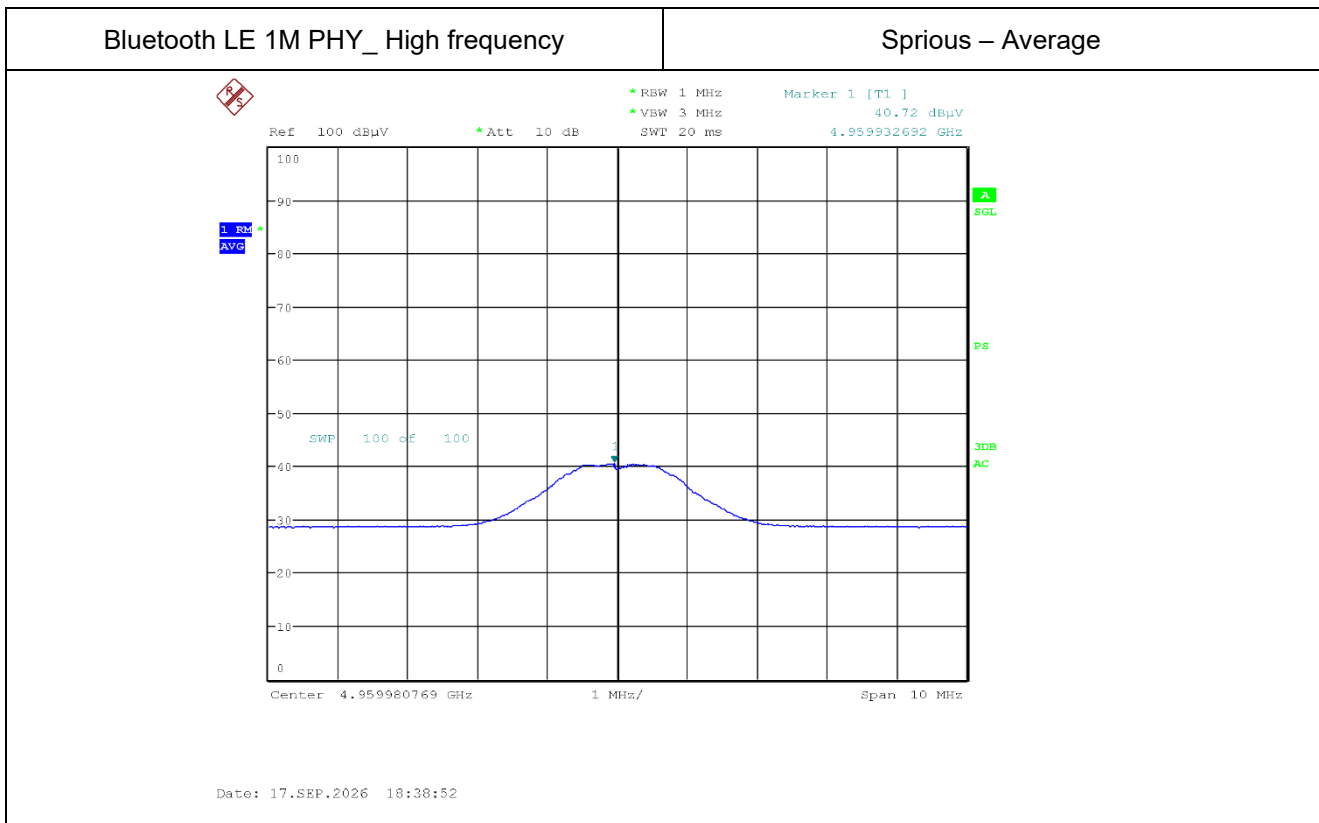
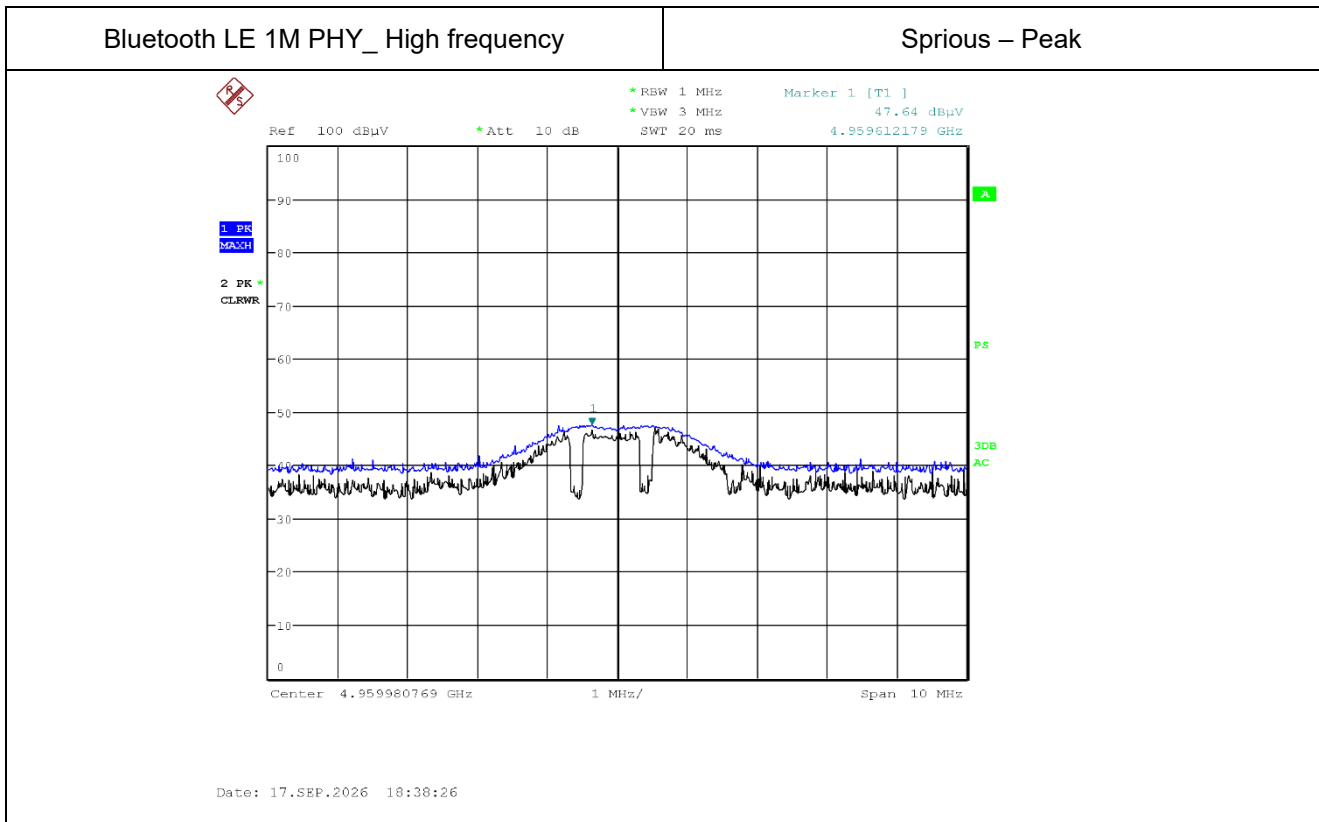


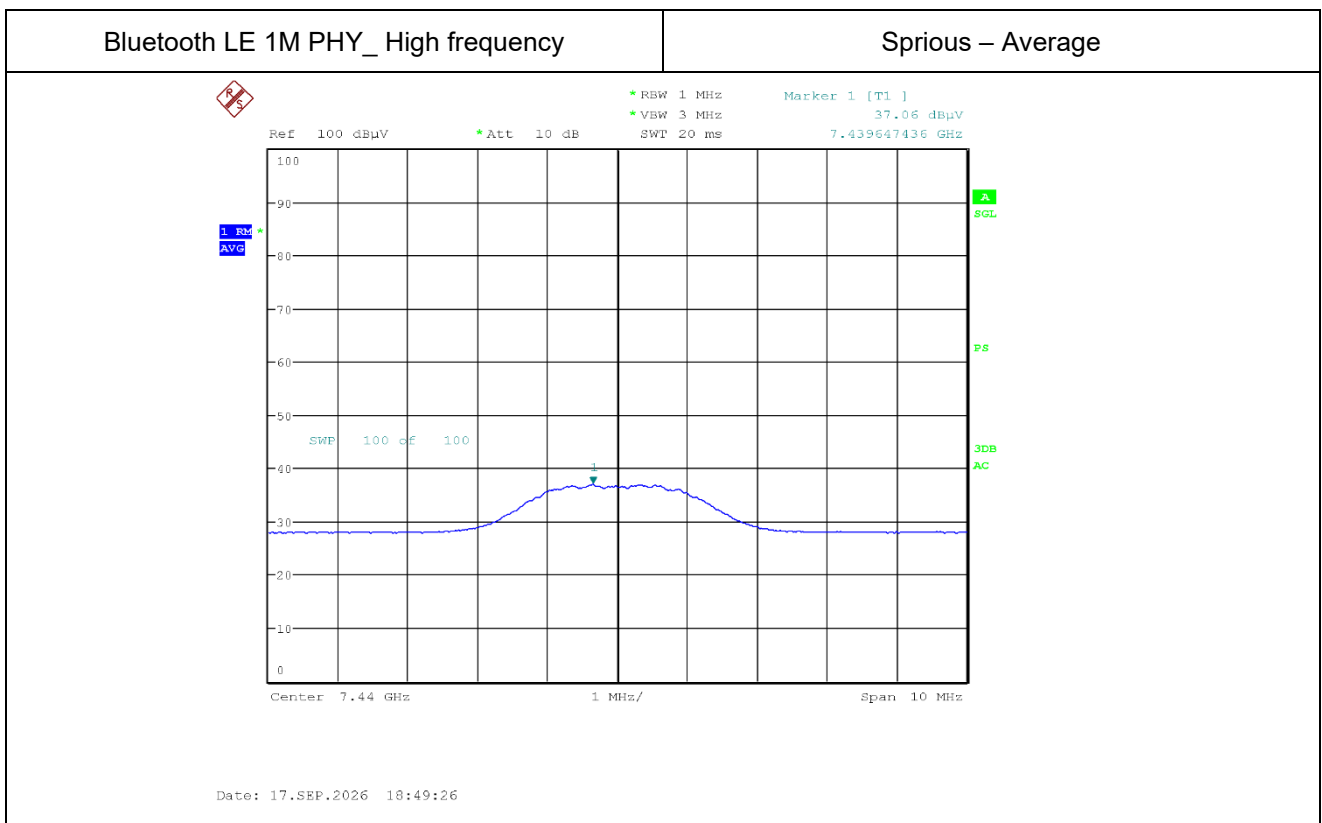
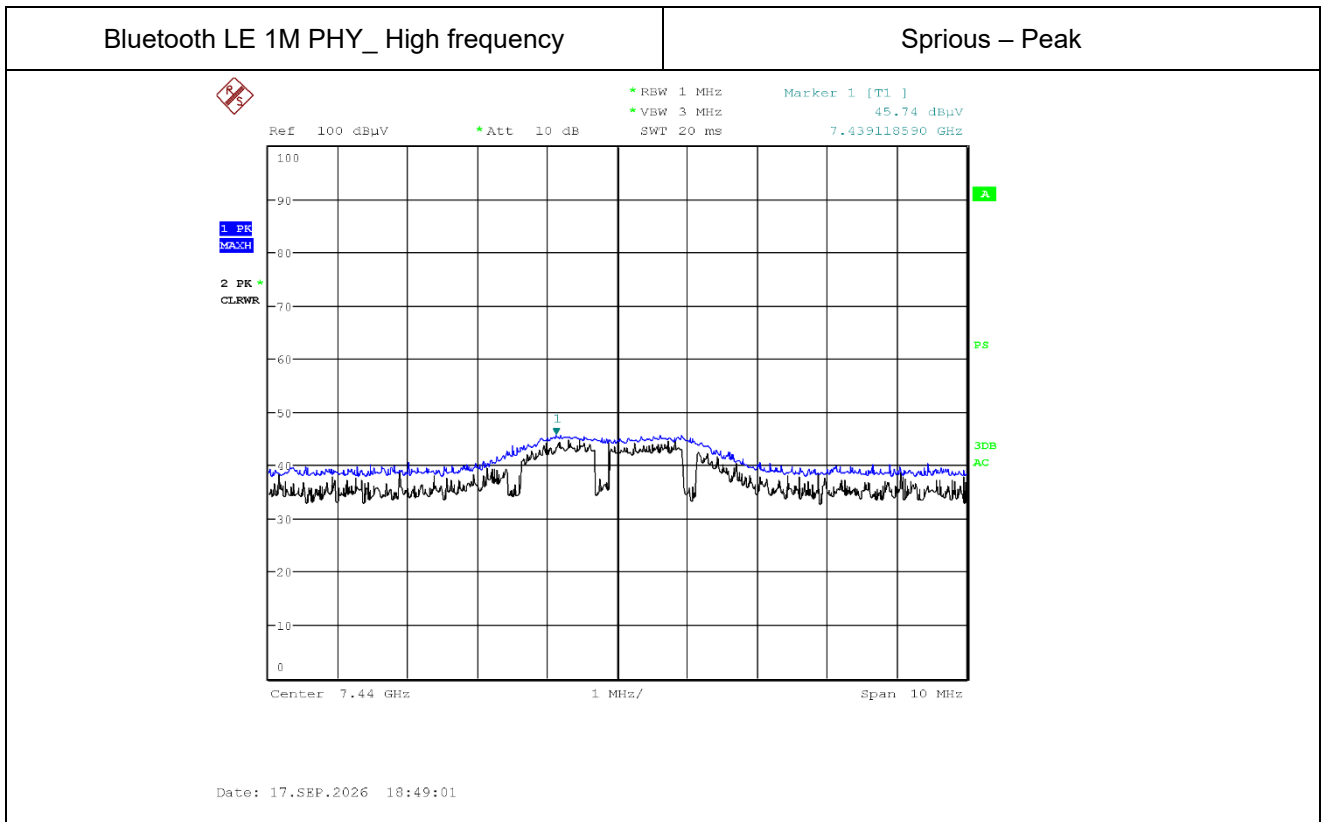


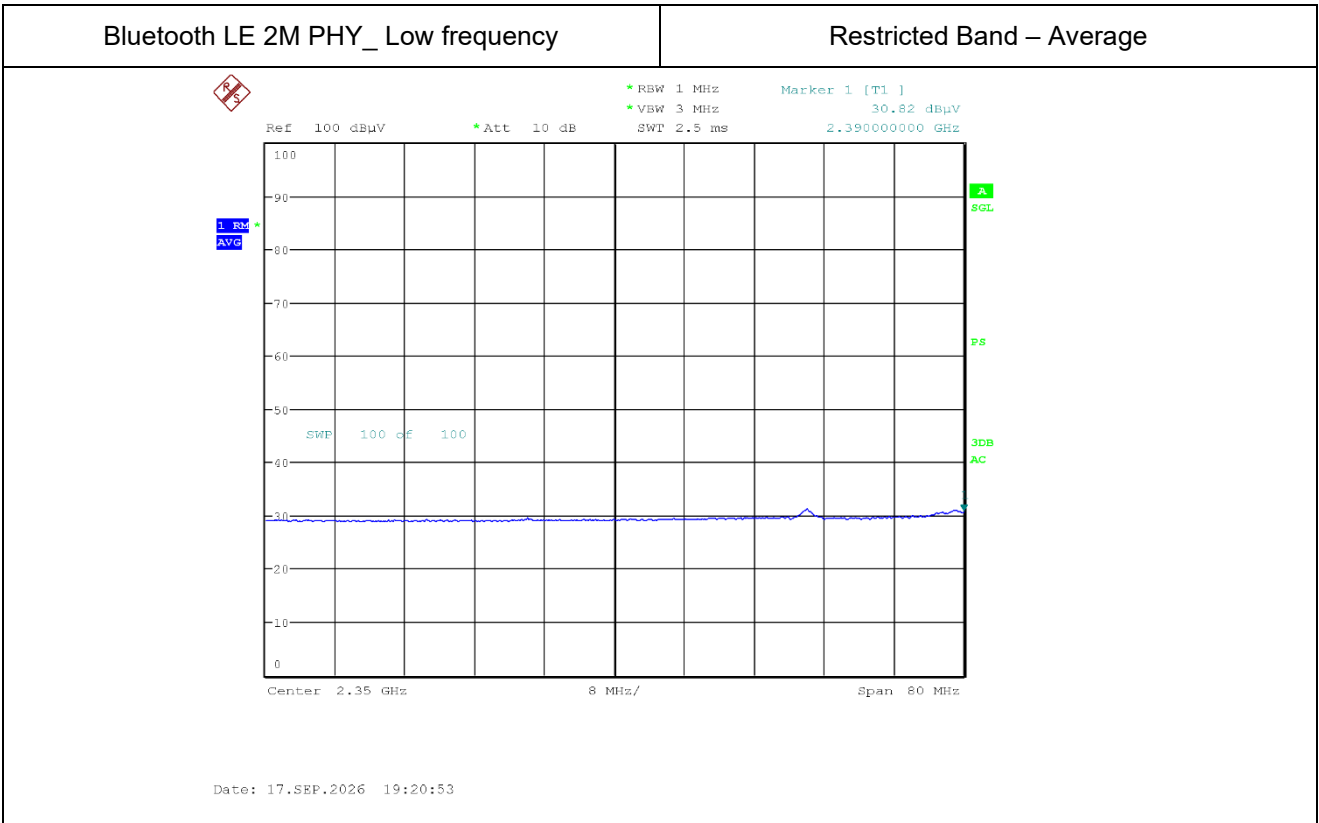
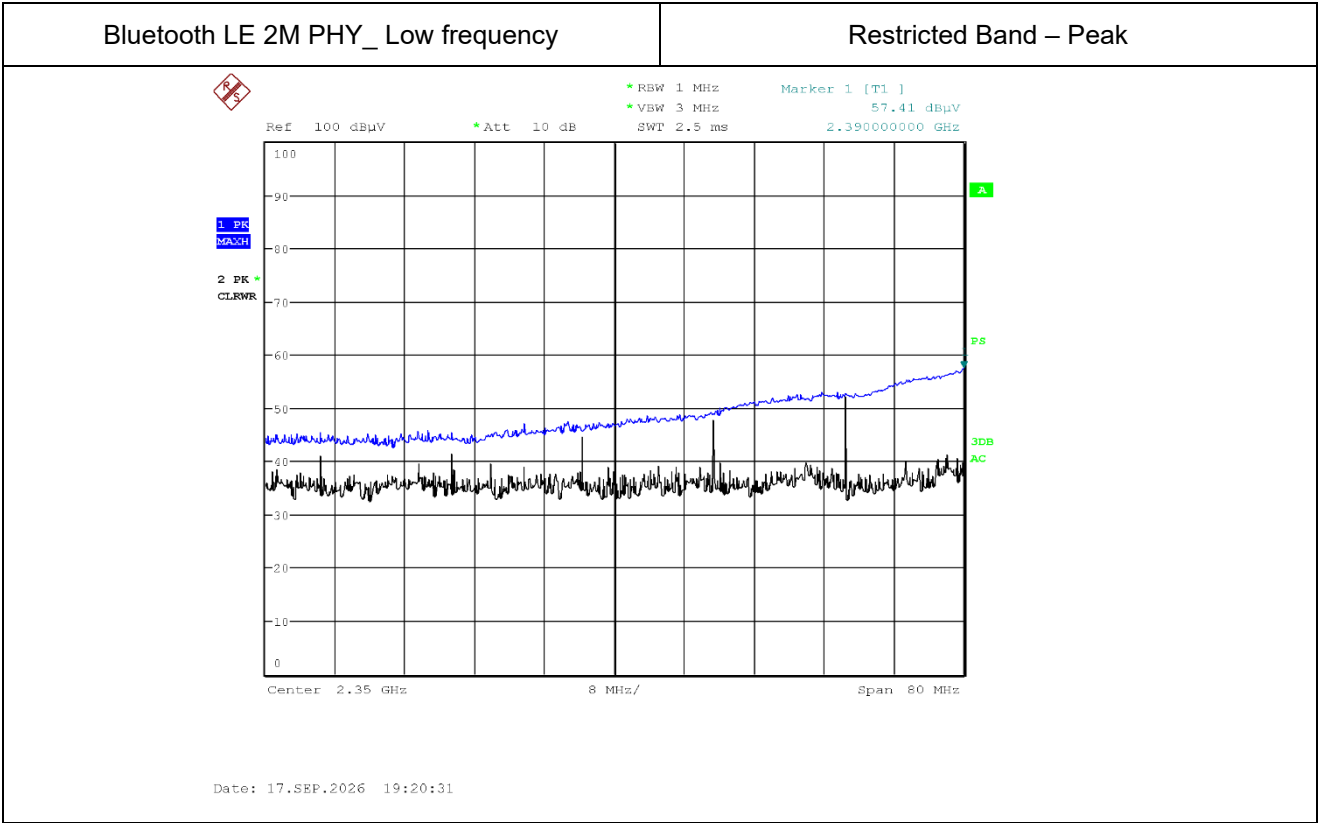


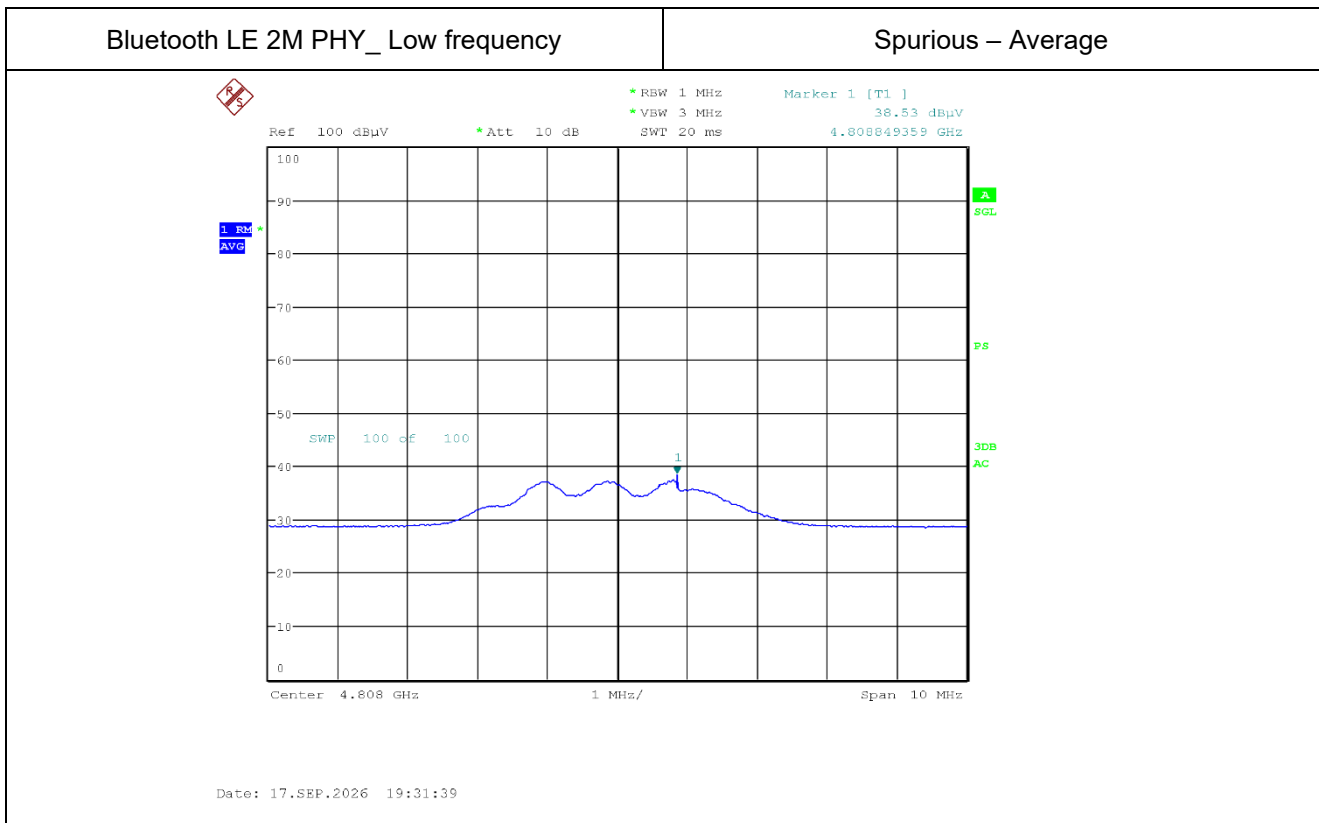
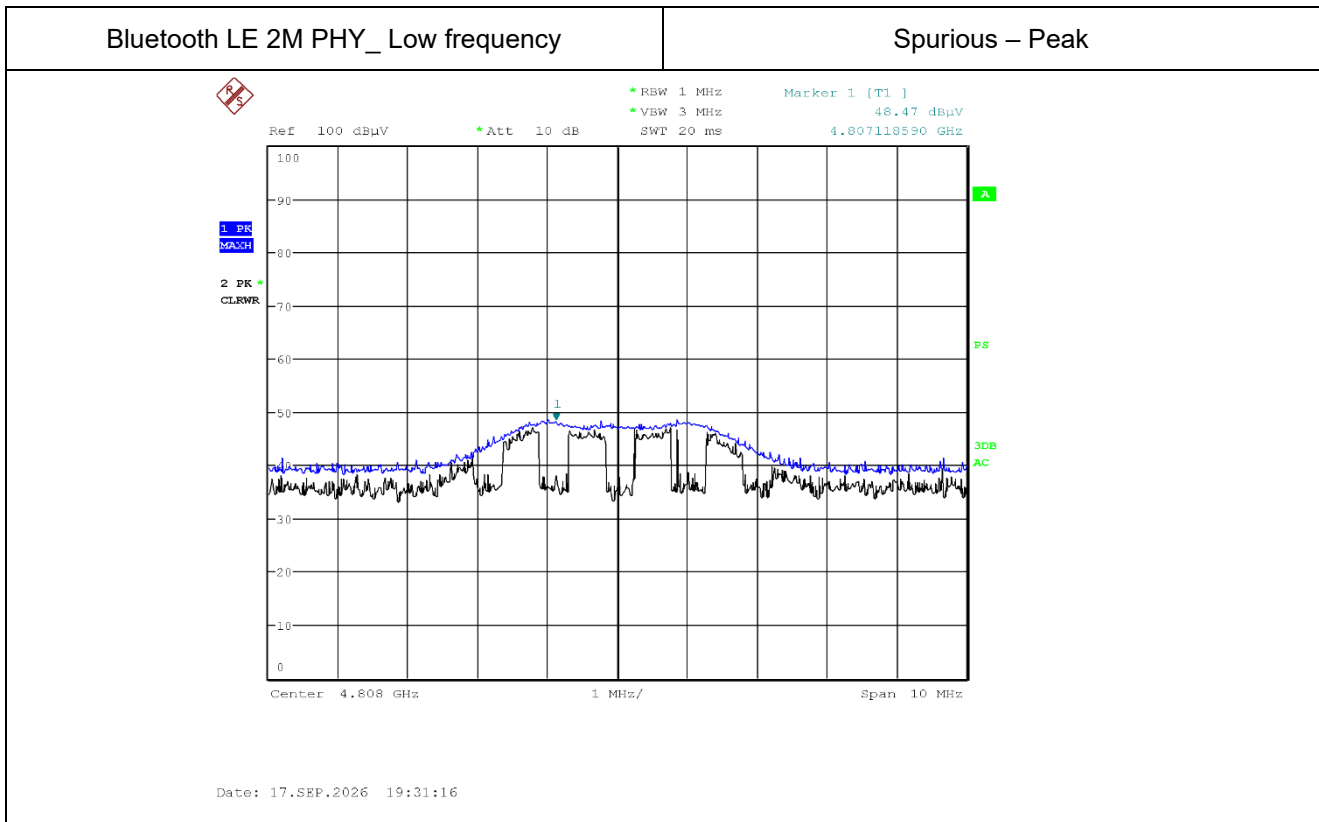


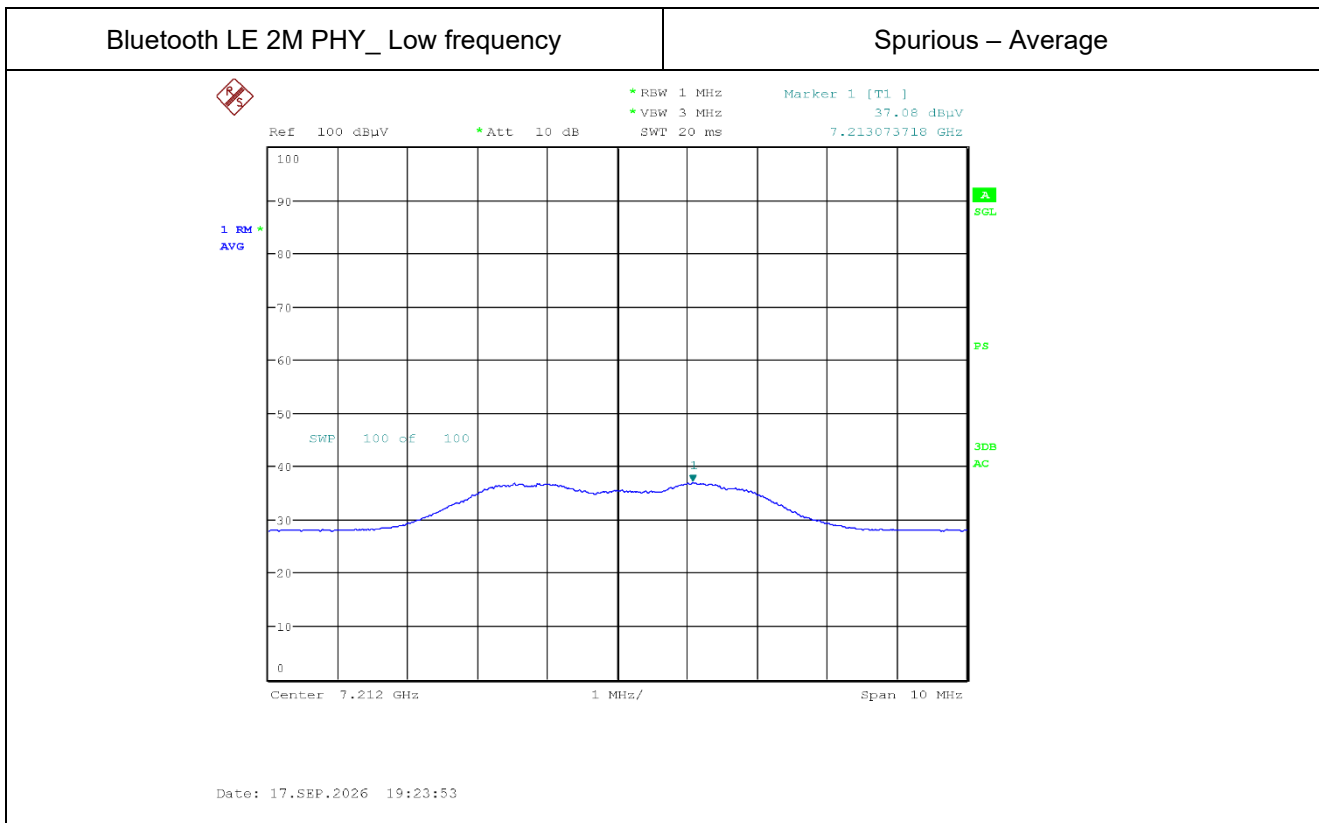
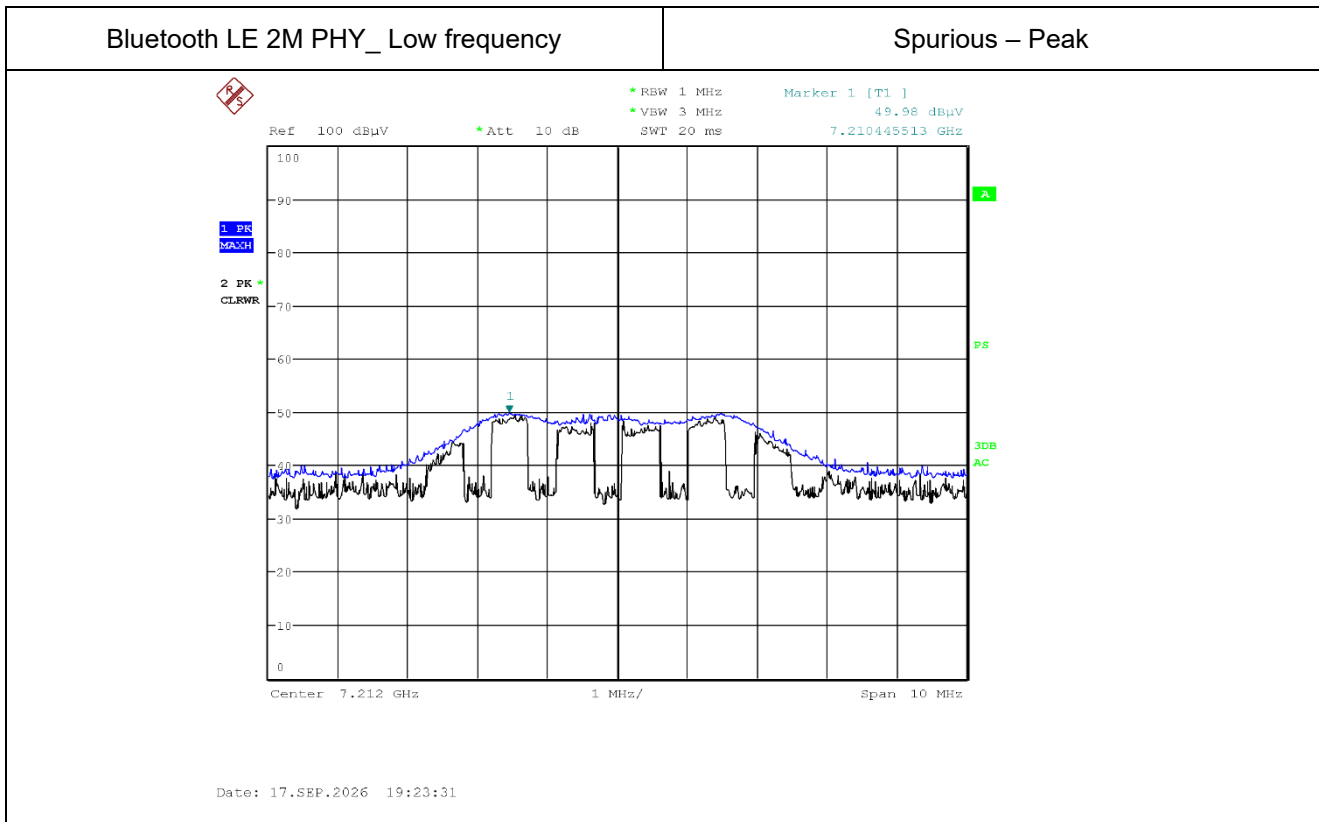


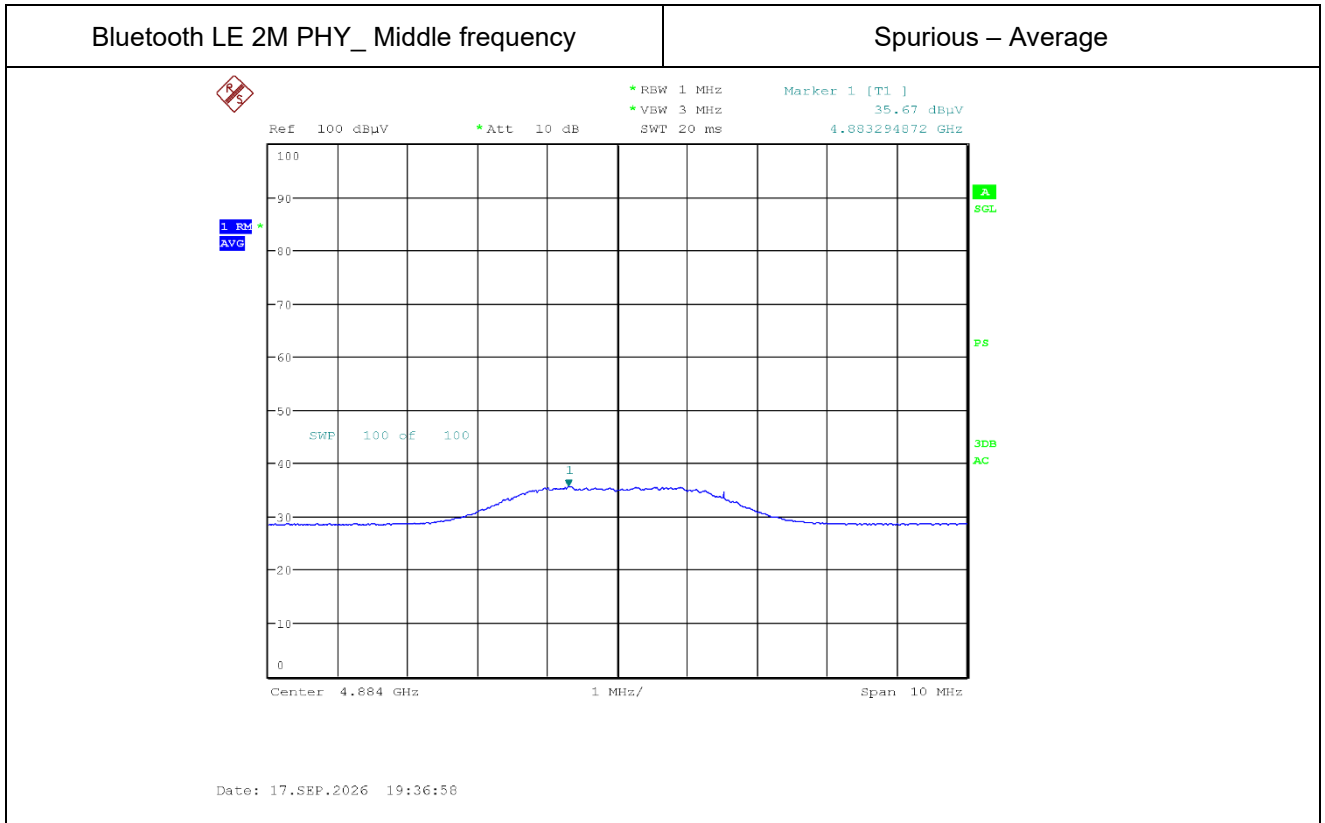
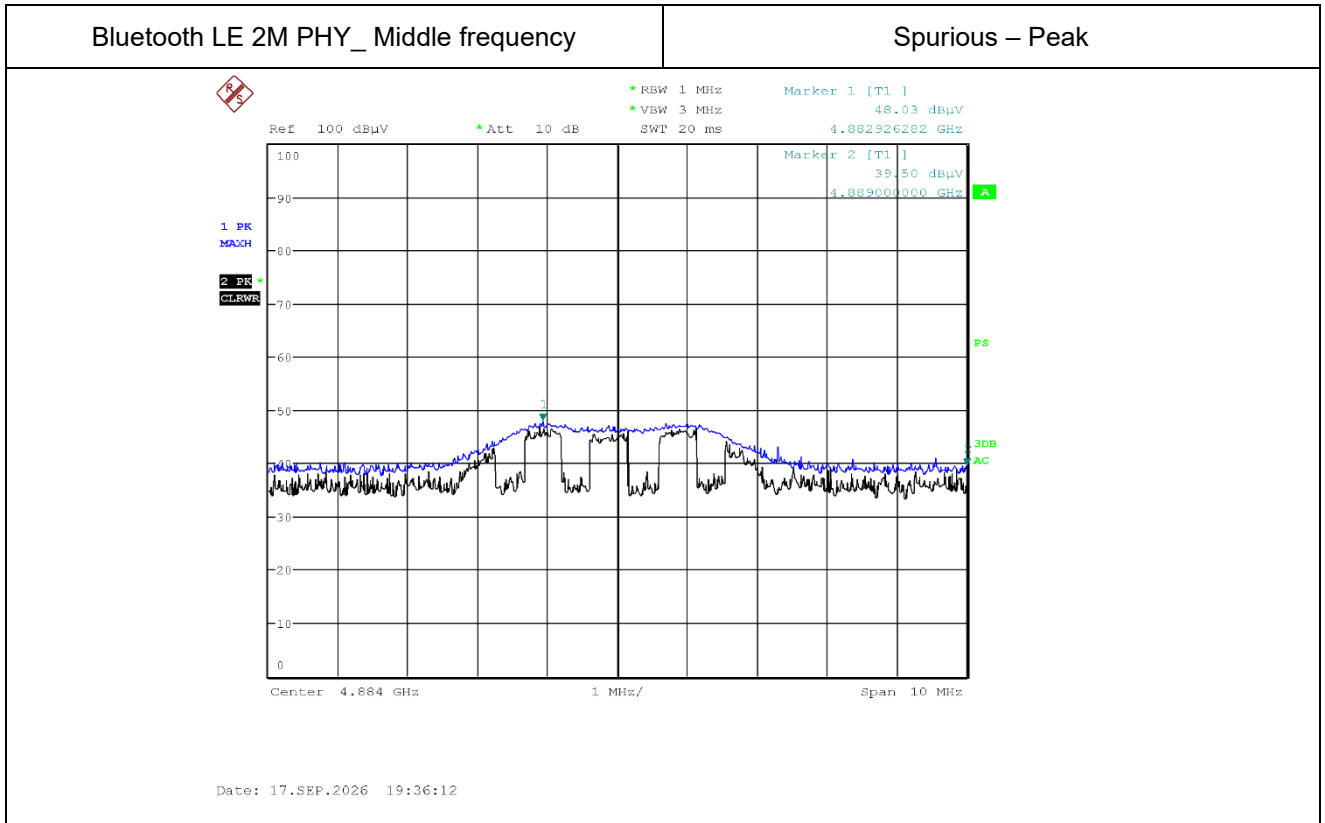








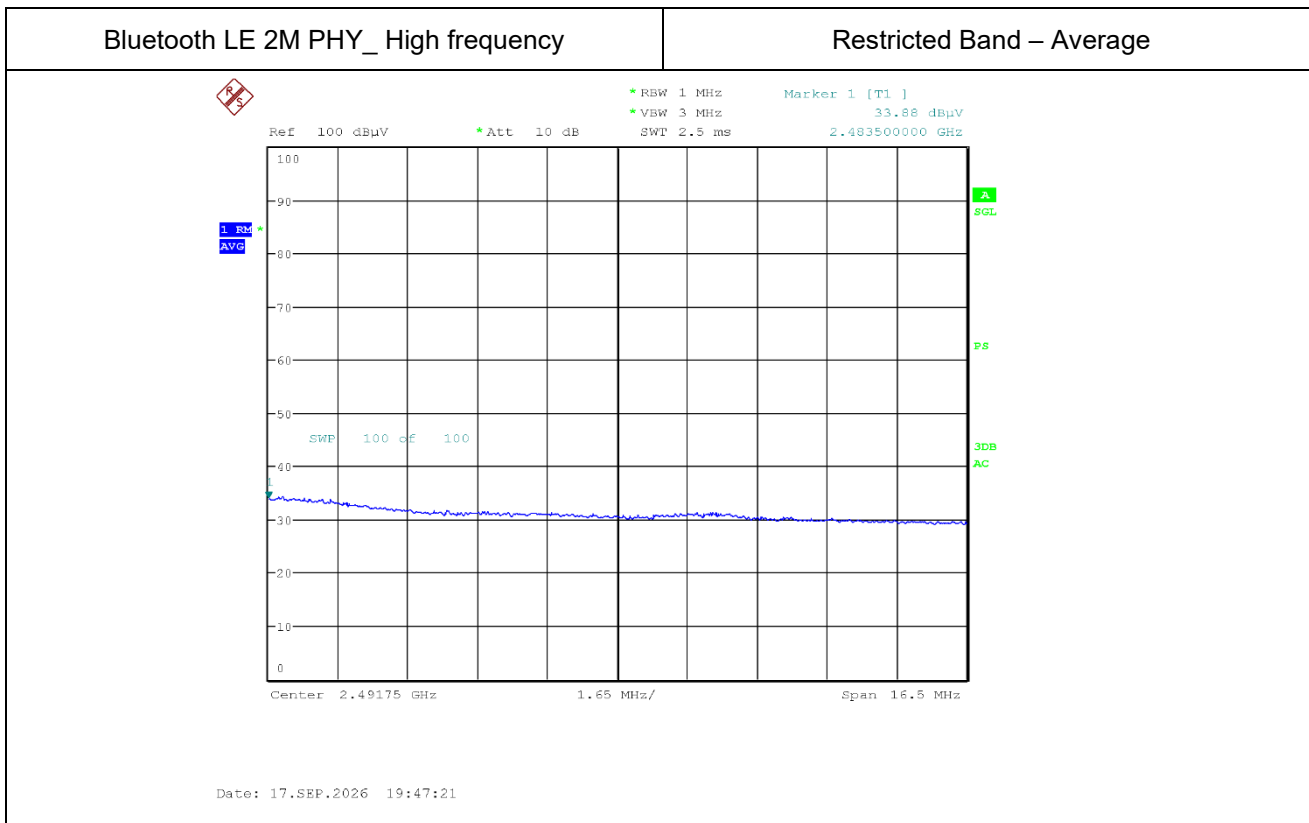
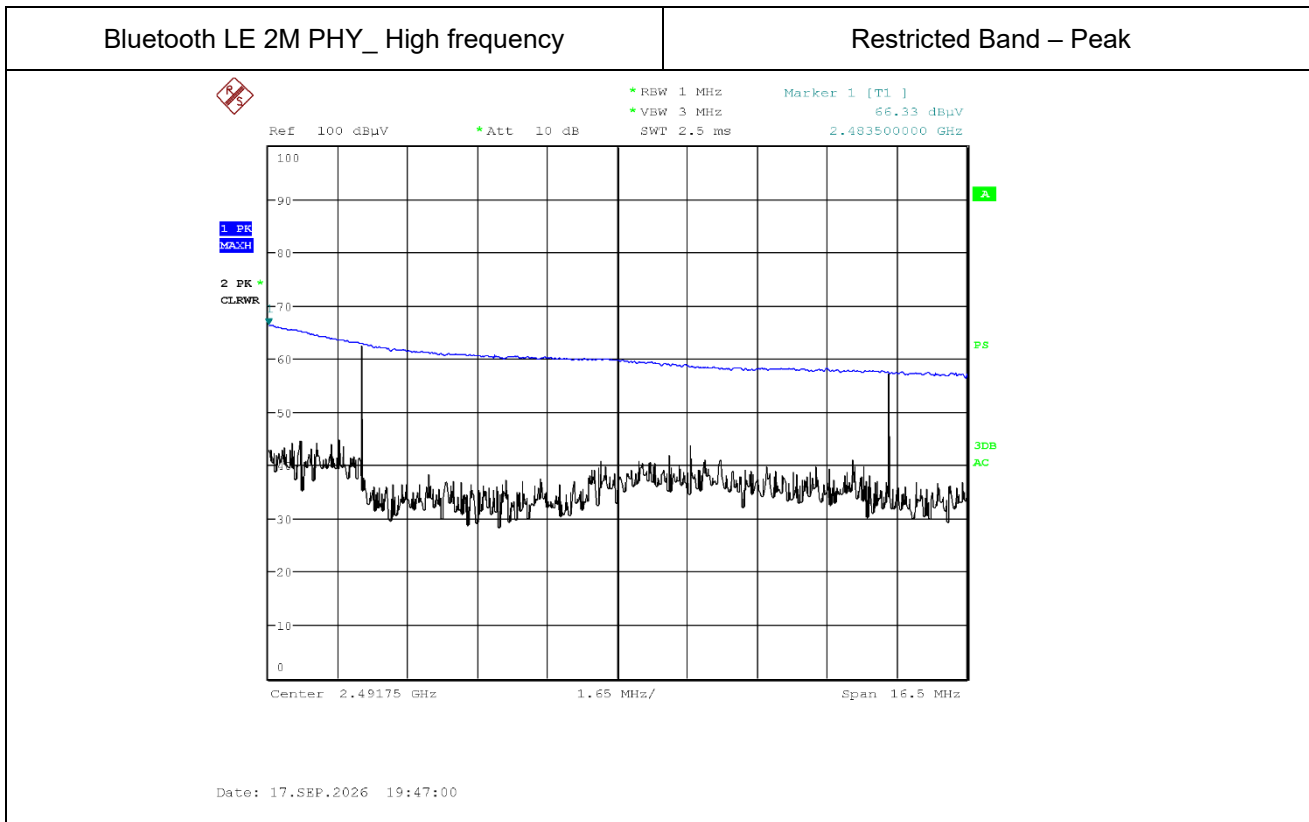


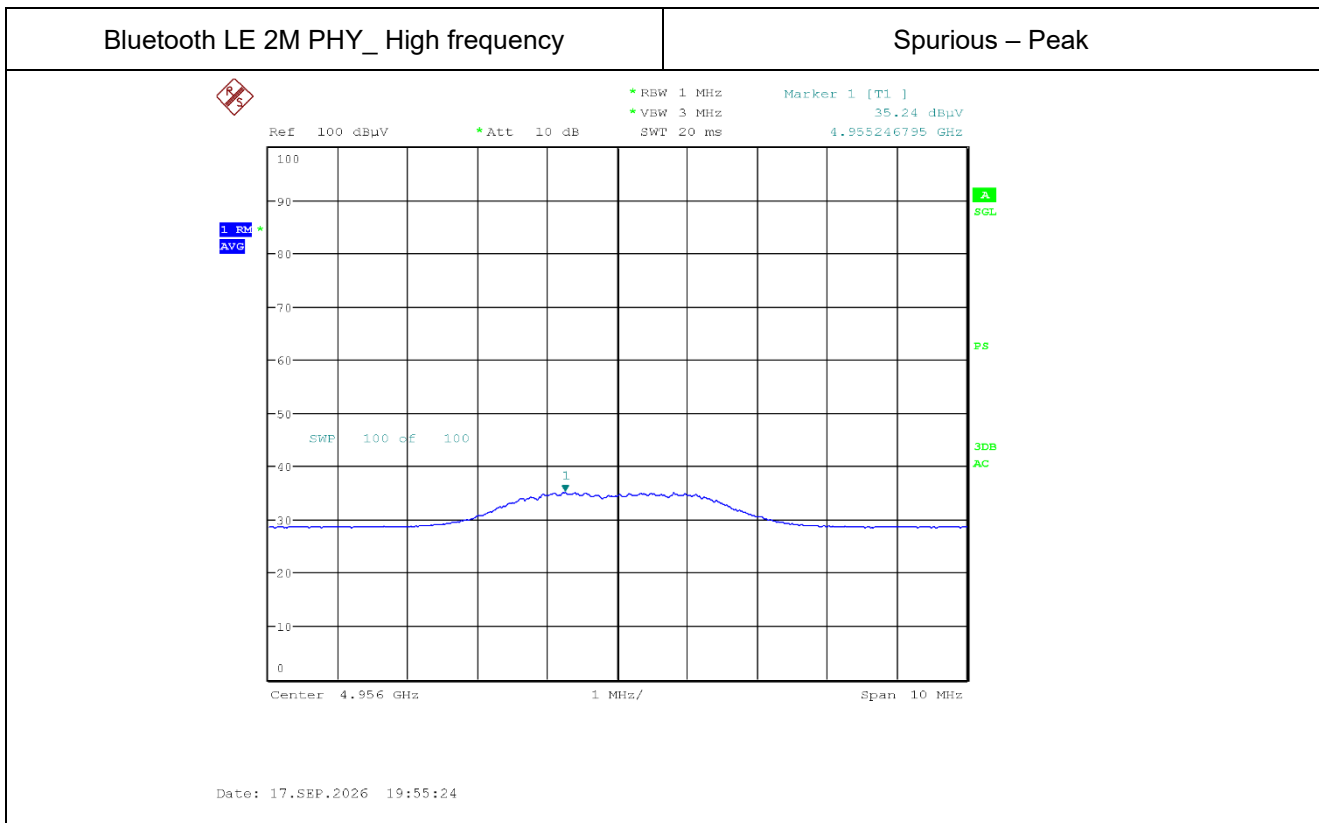
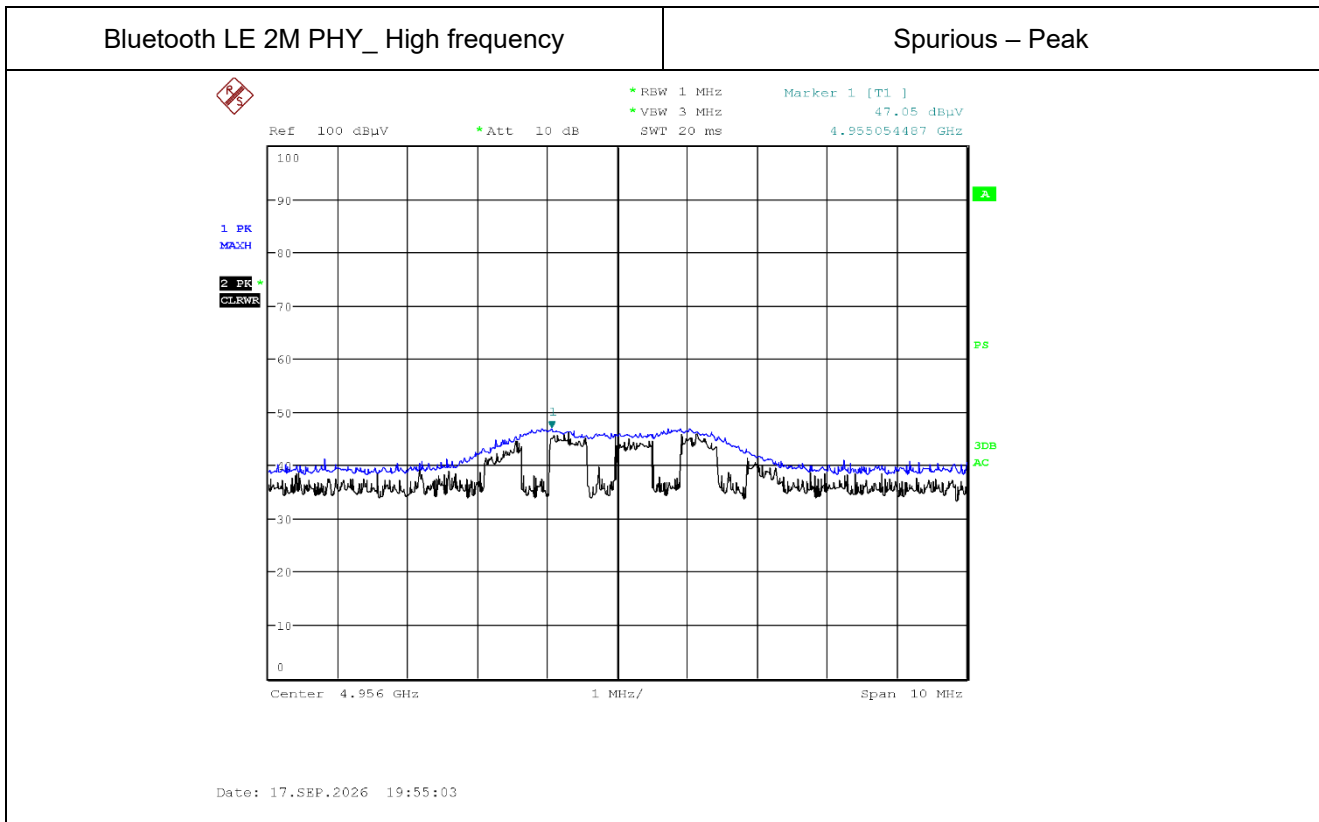


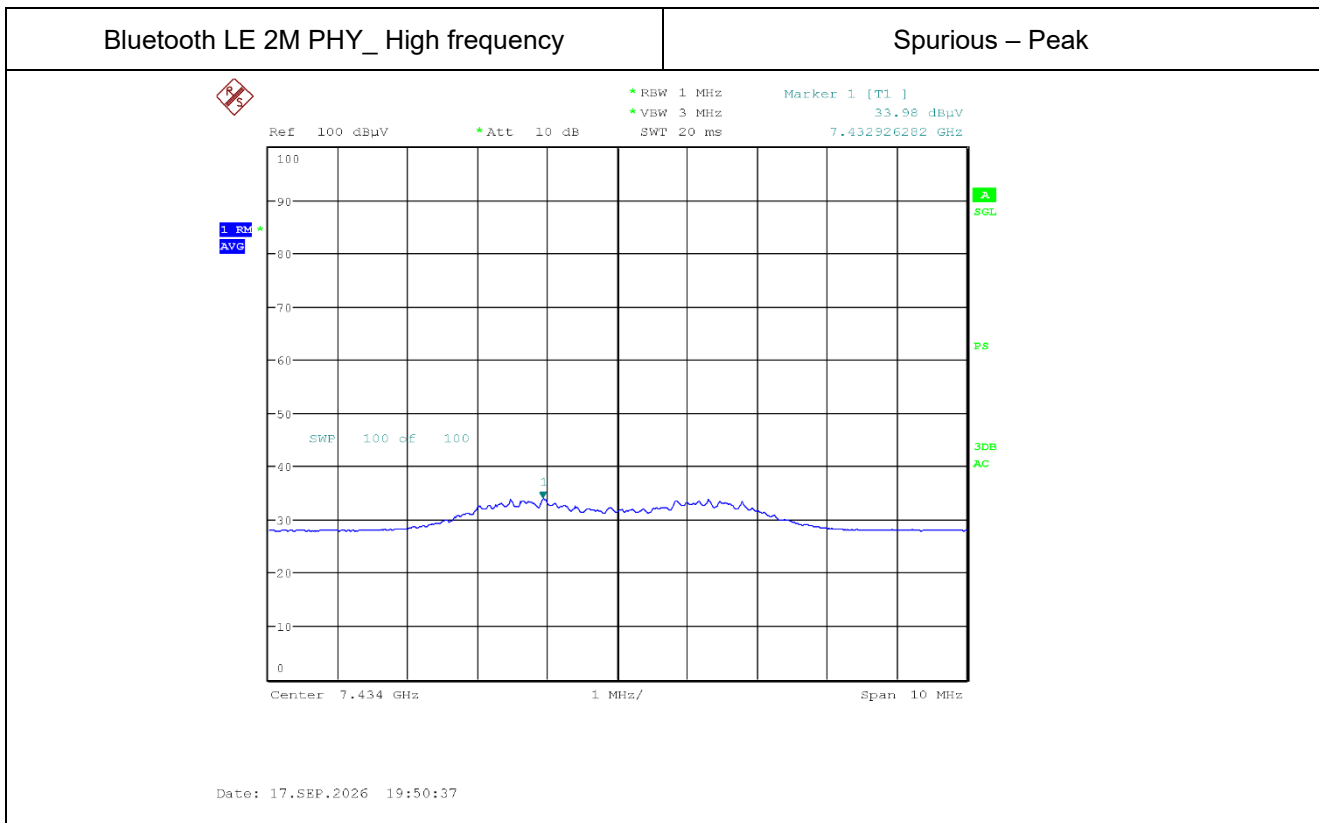
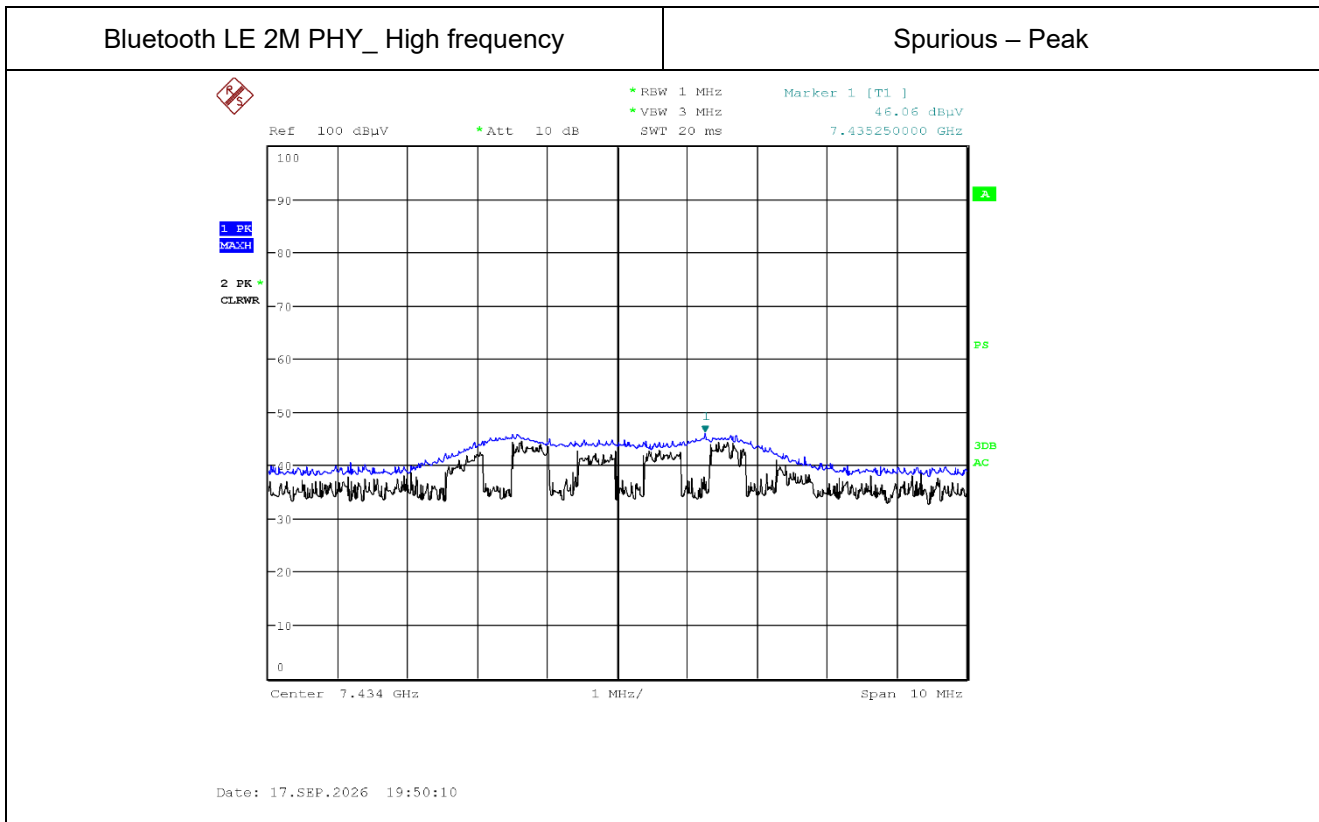


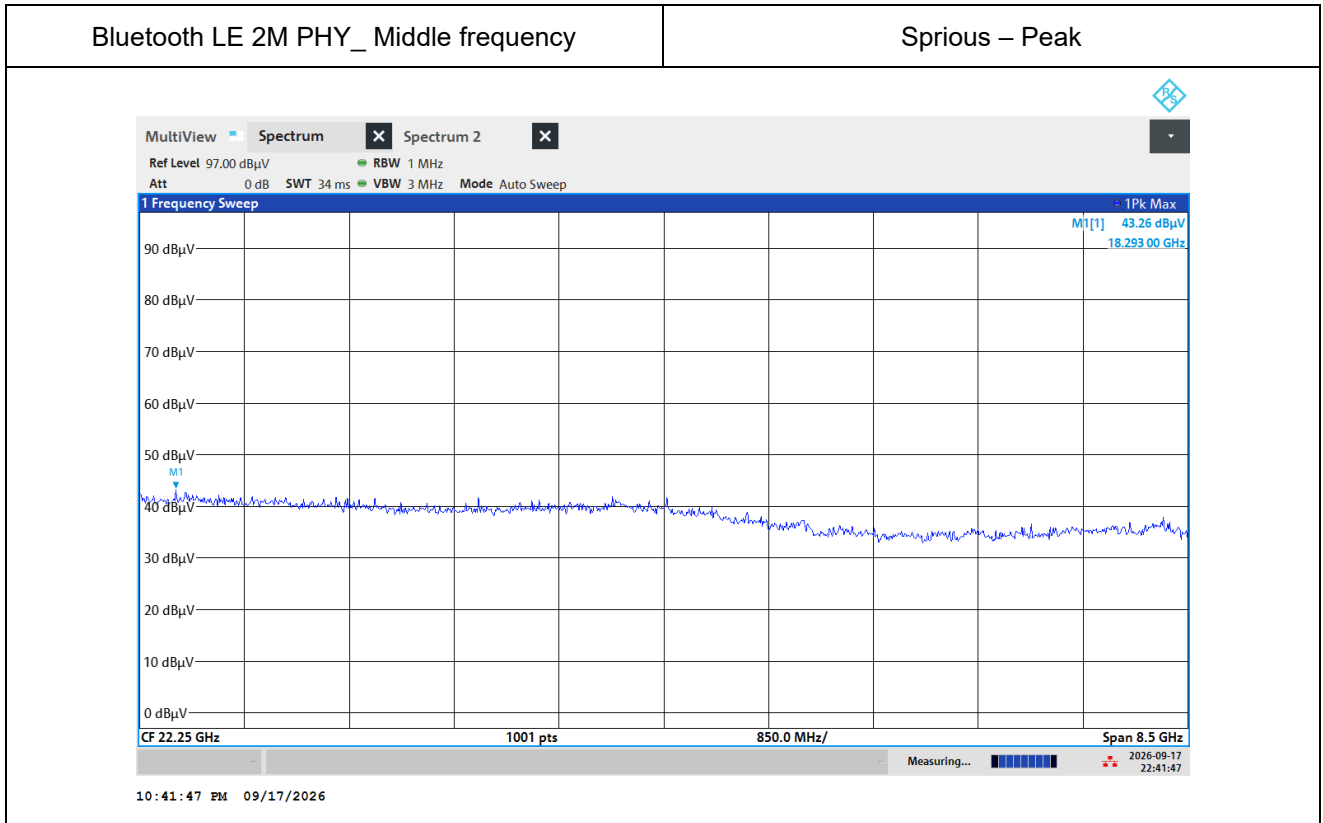
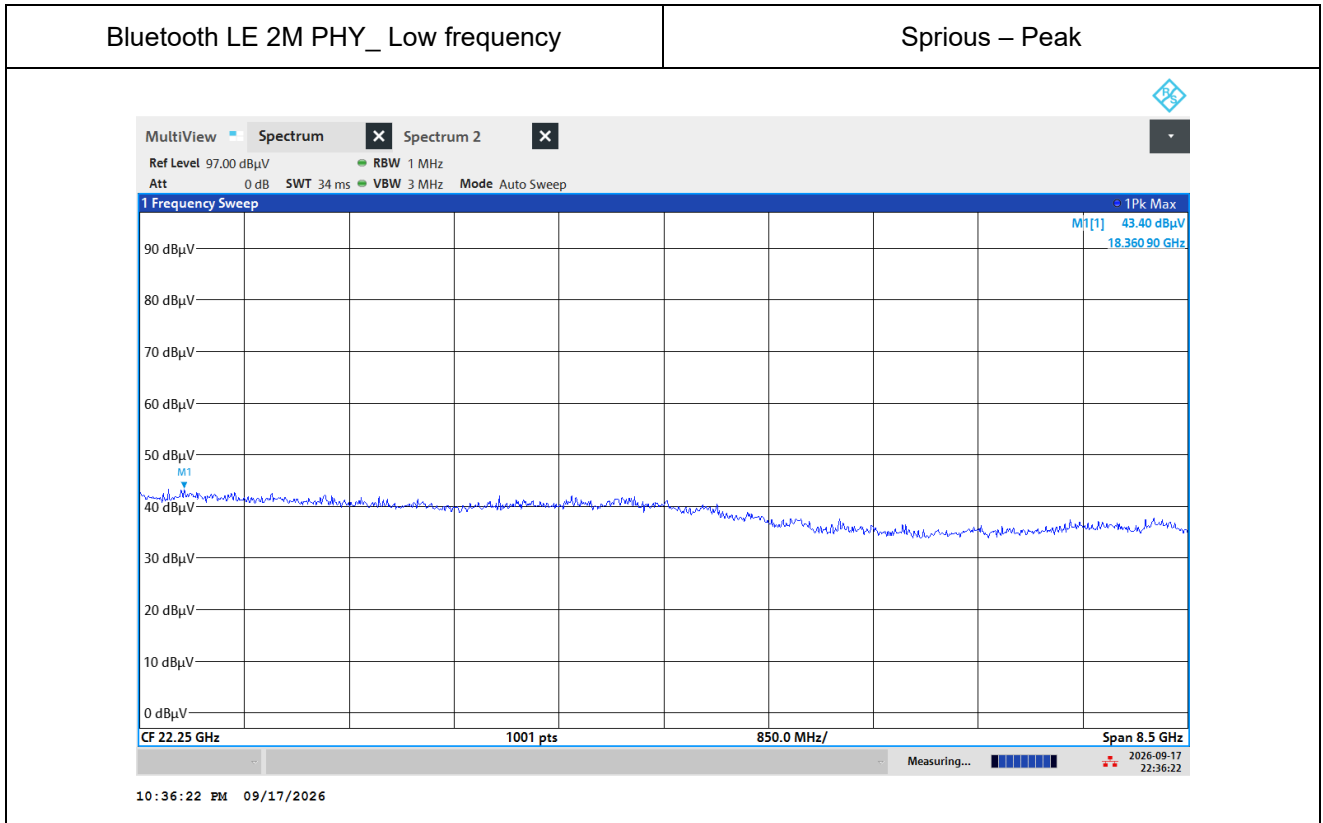
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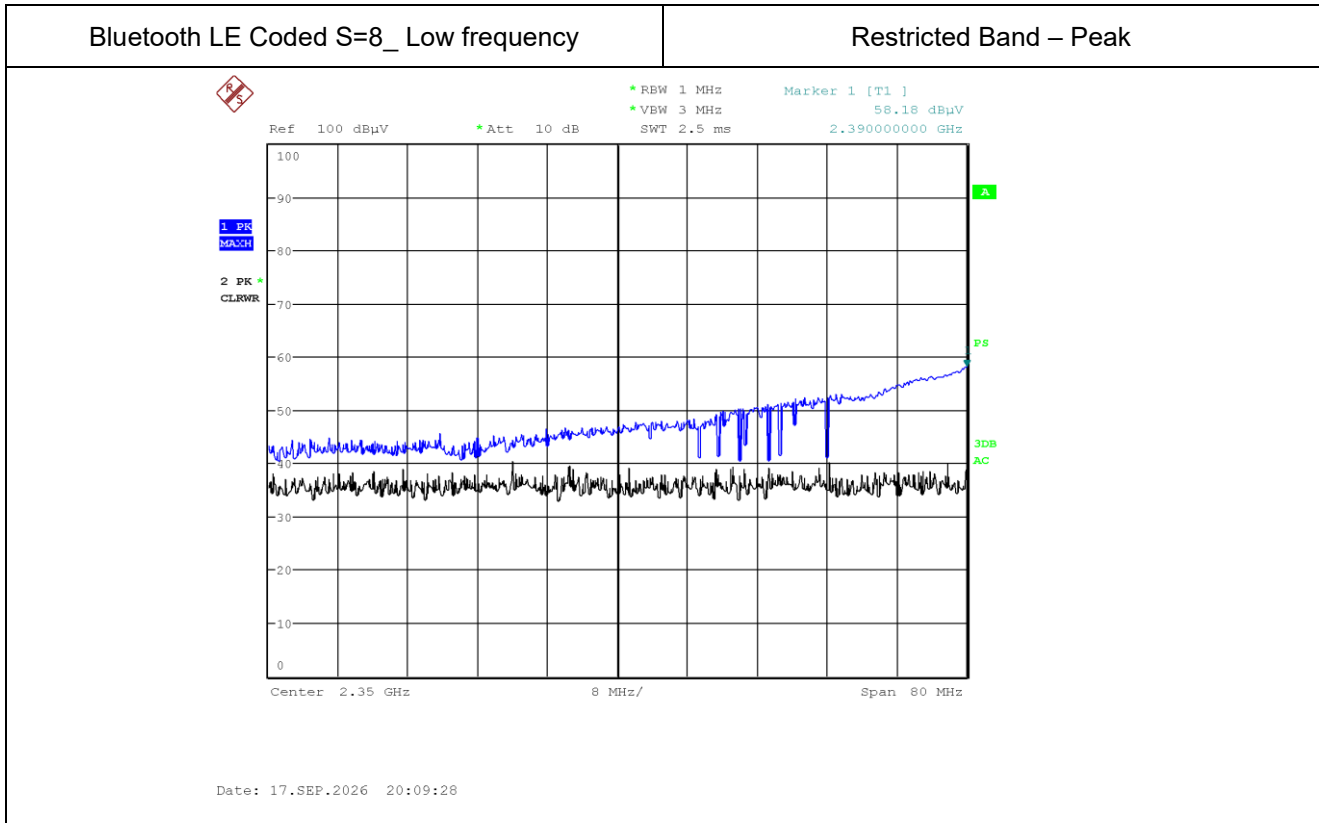
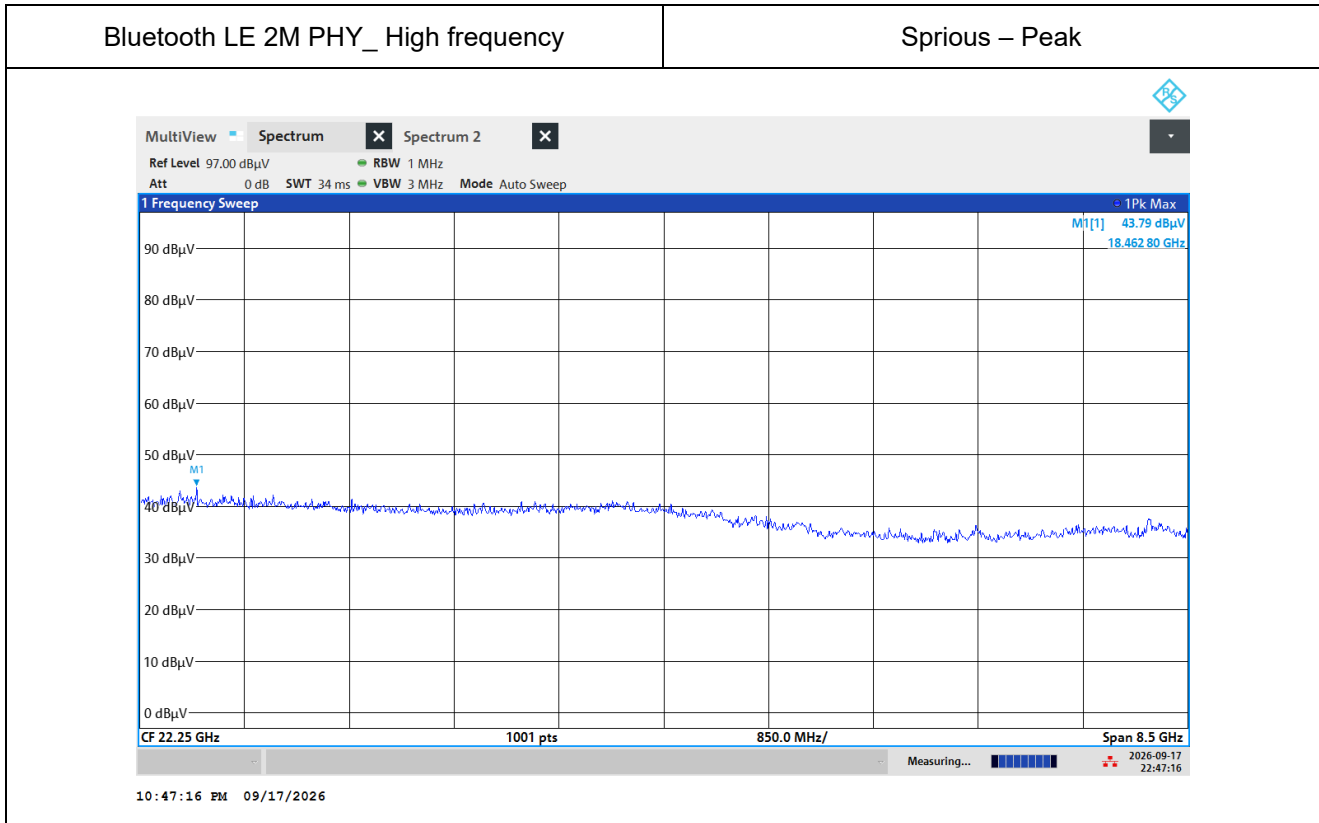
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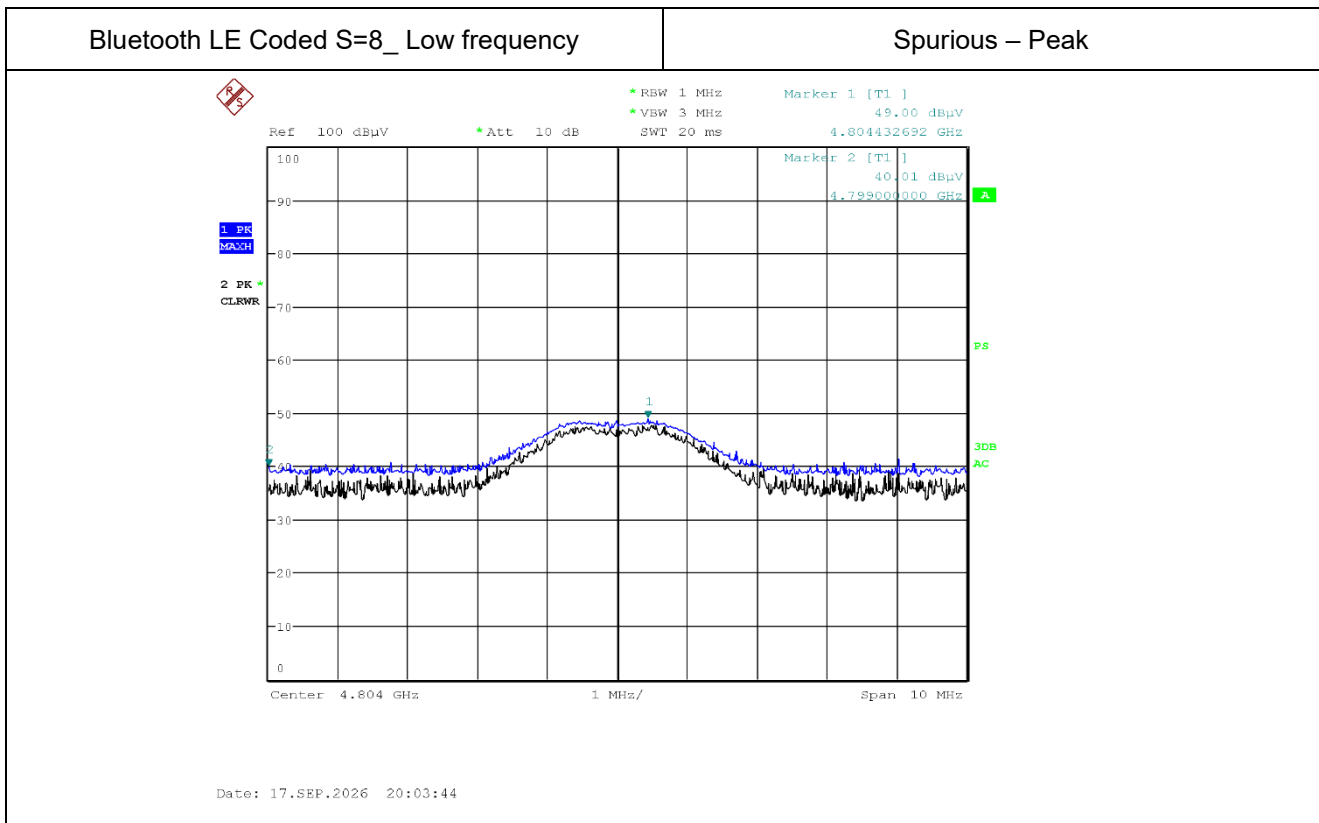
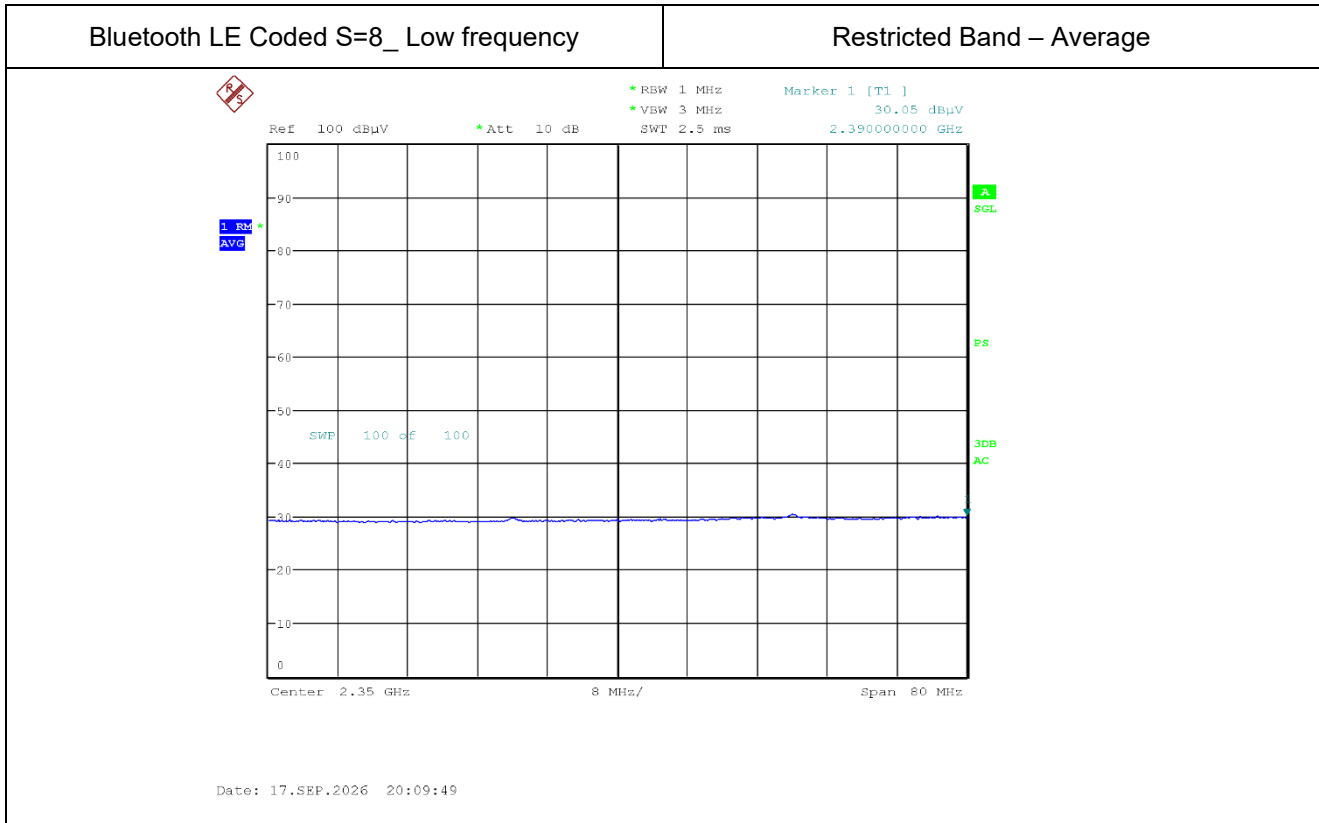


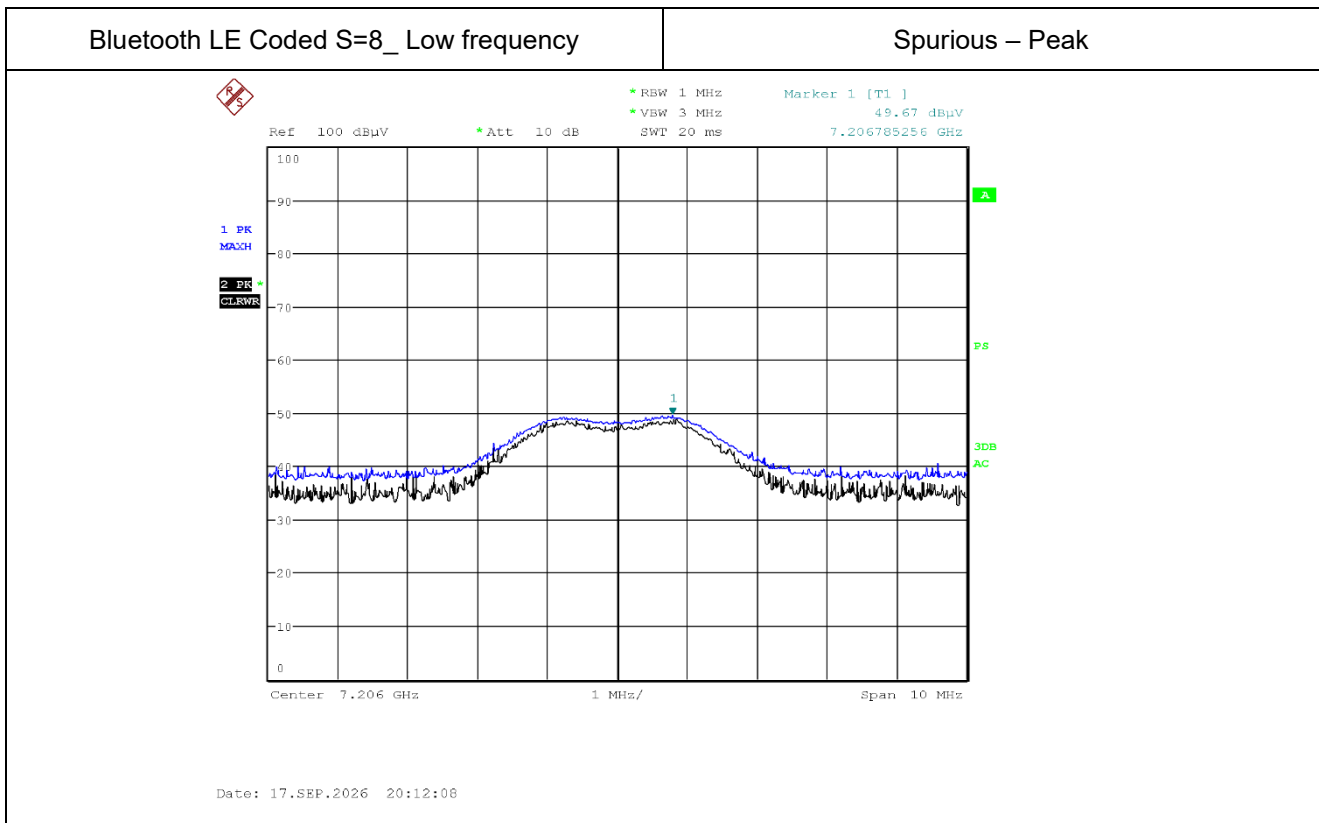
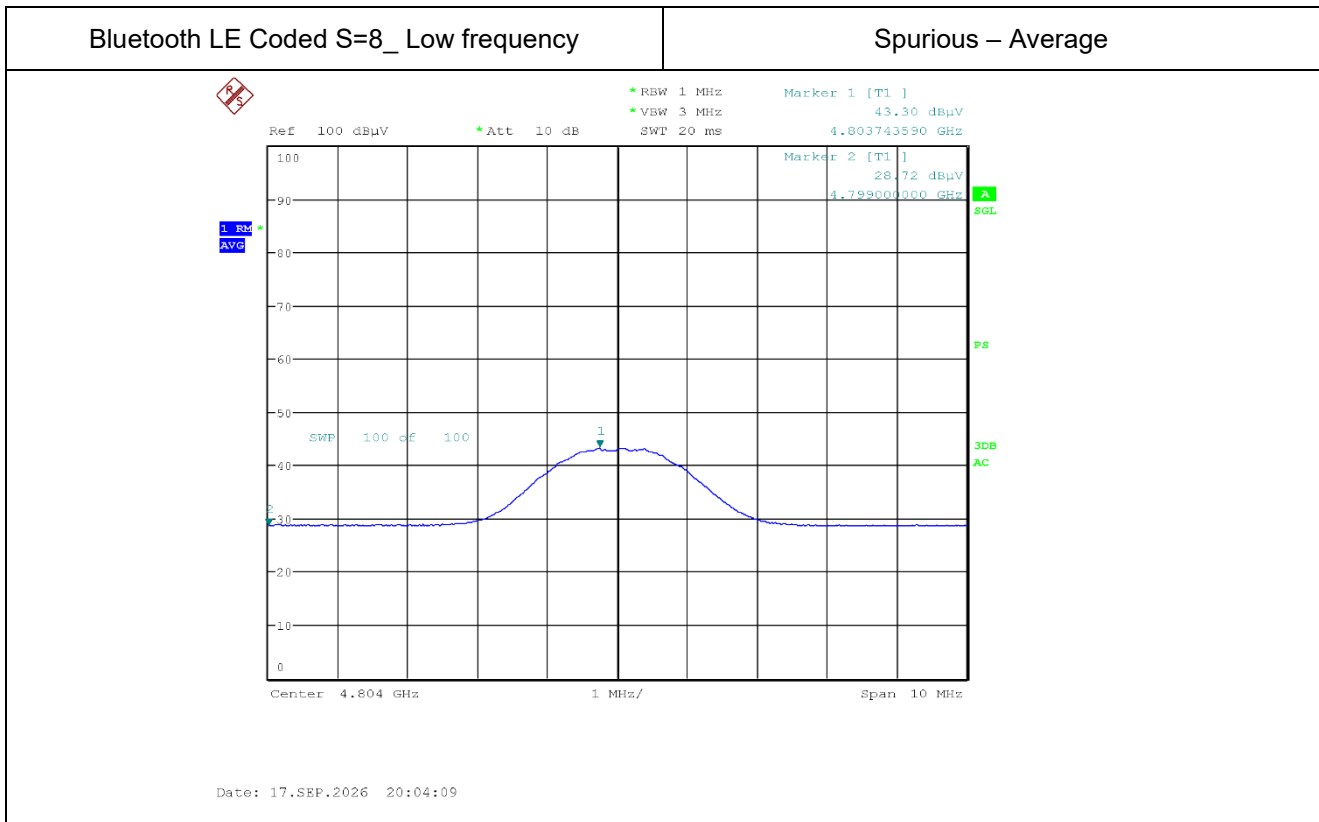


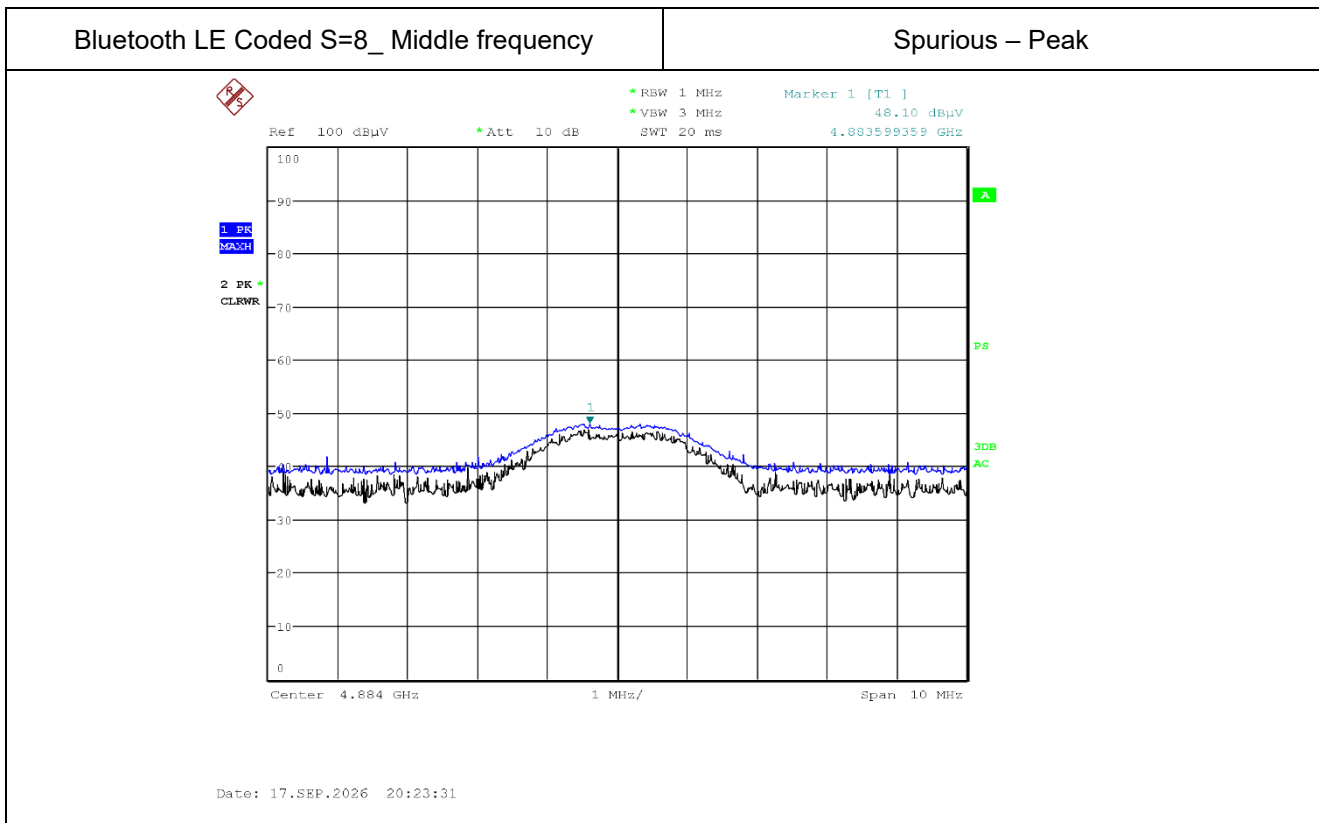
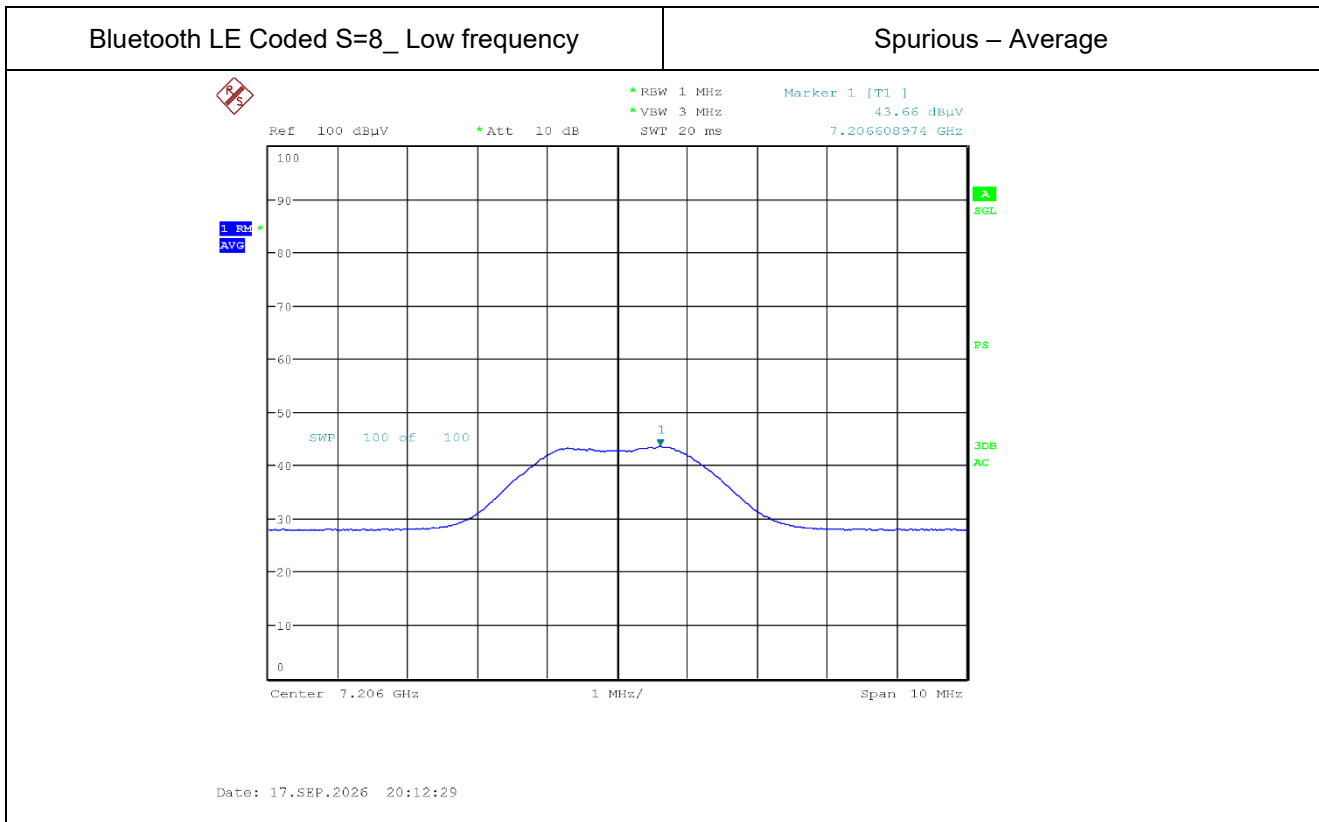






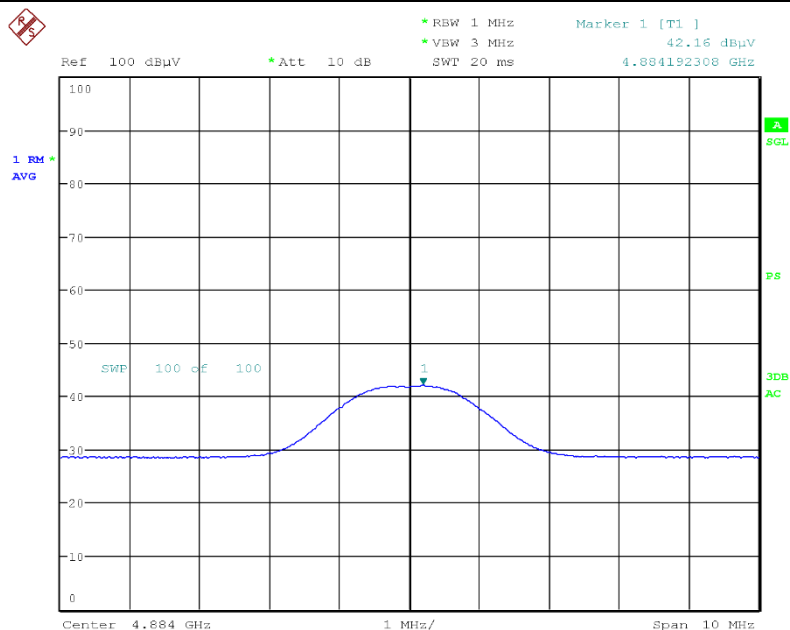






Bluetooth LE Coded S=8_ Middle frequency

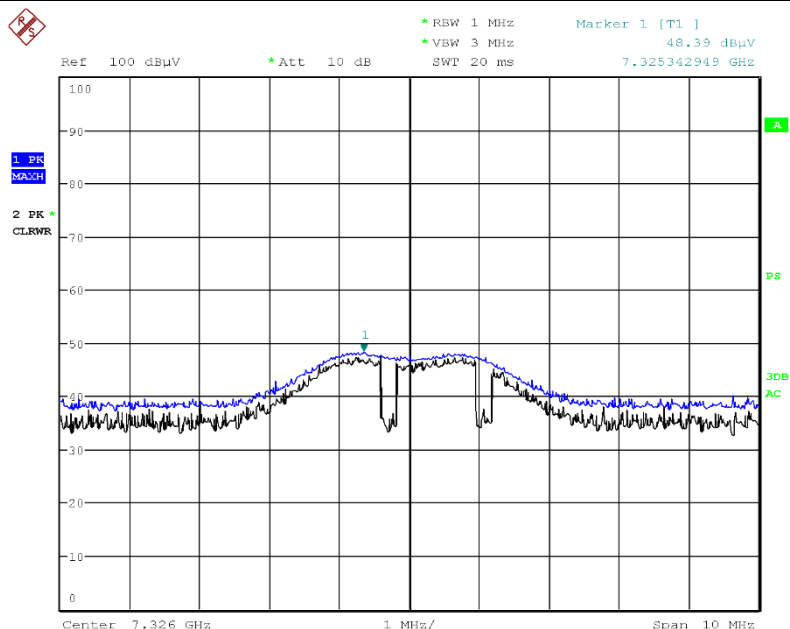
Spurious – Average



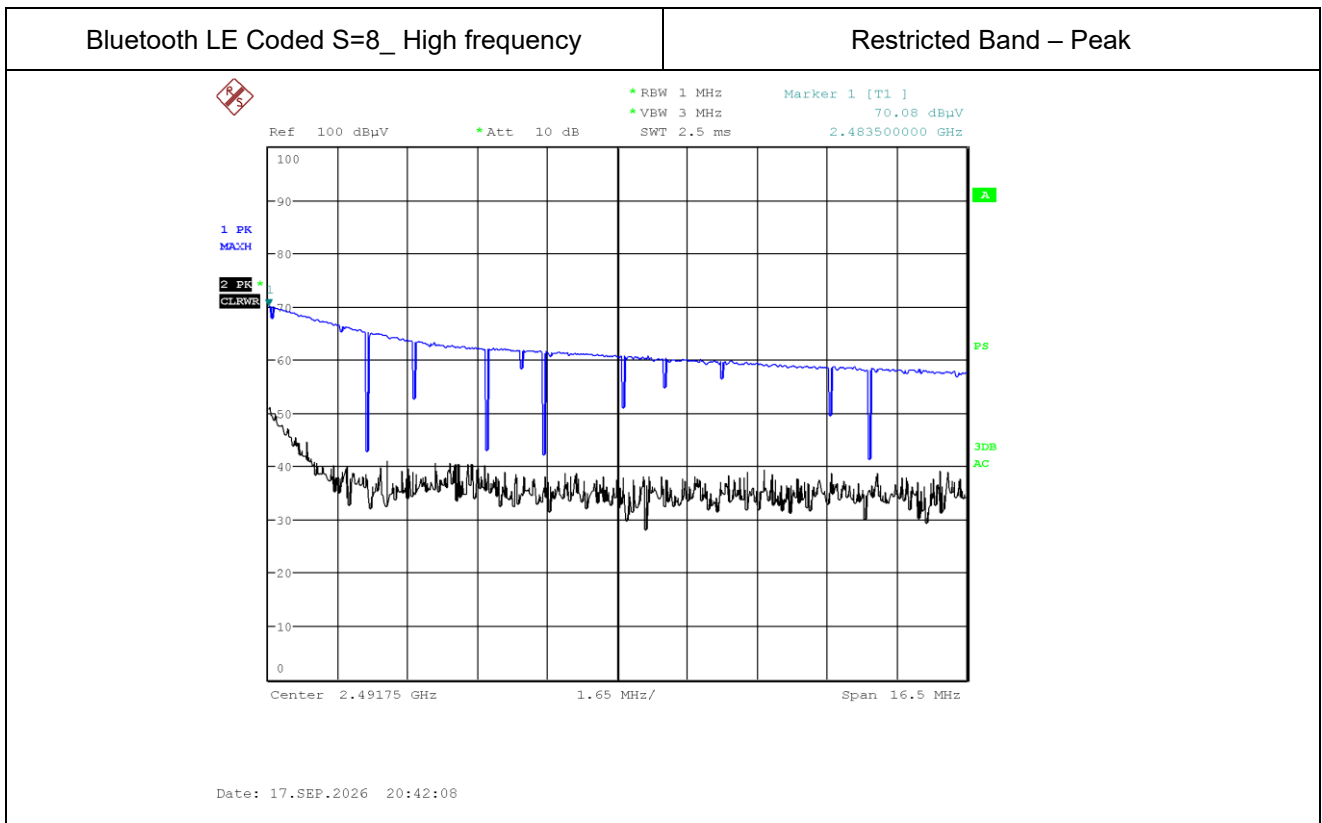
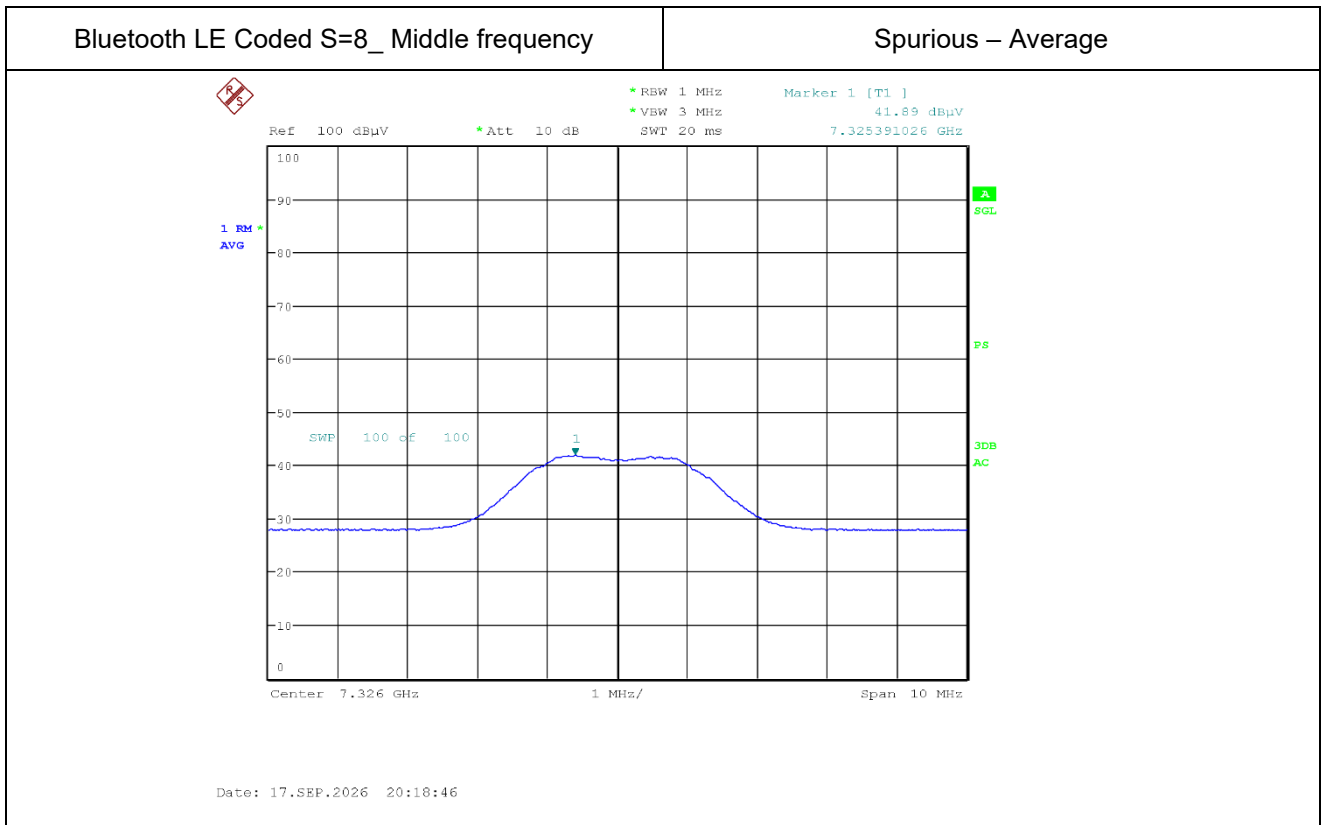
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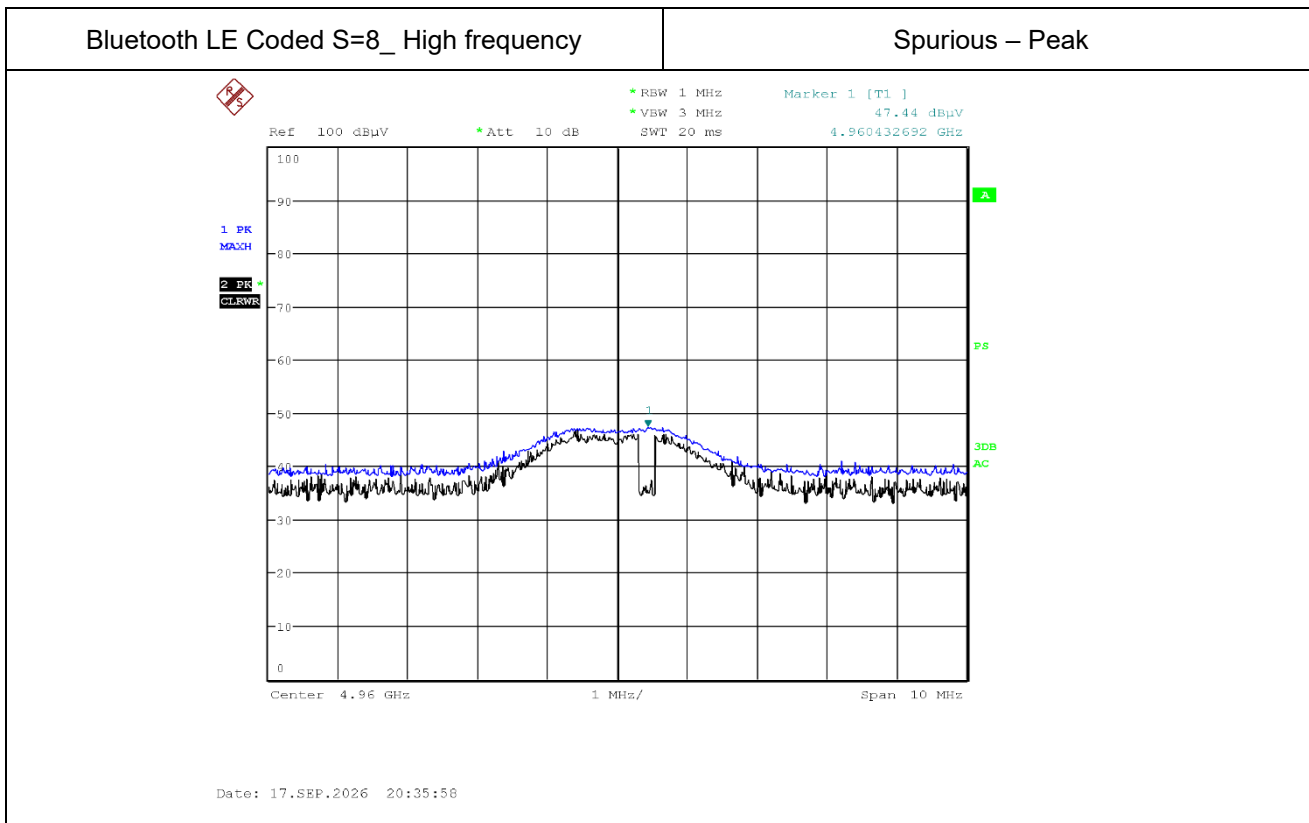
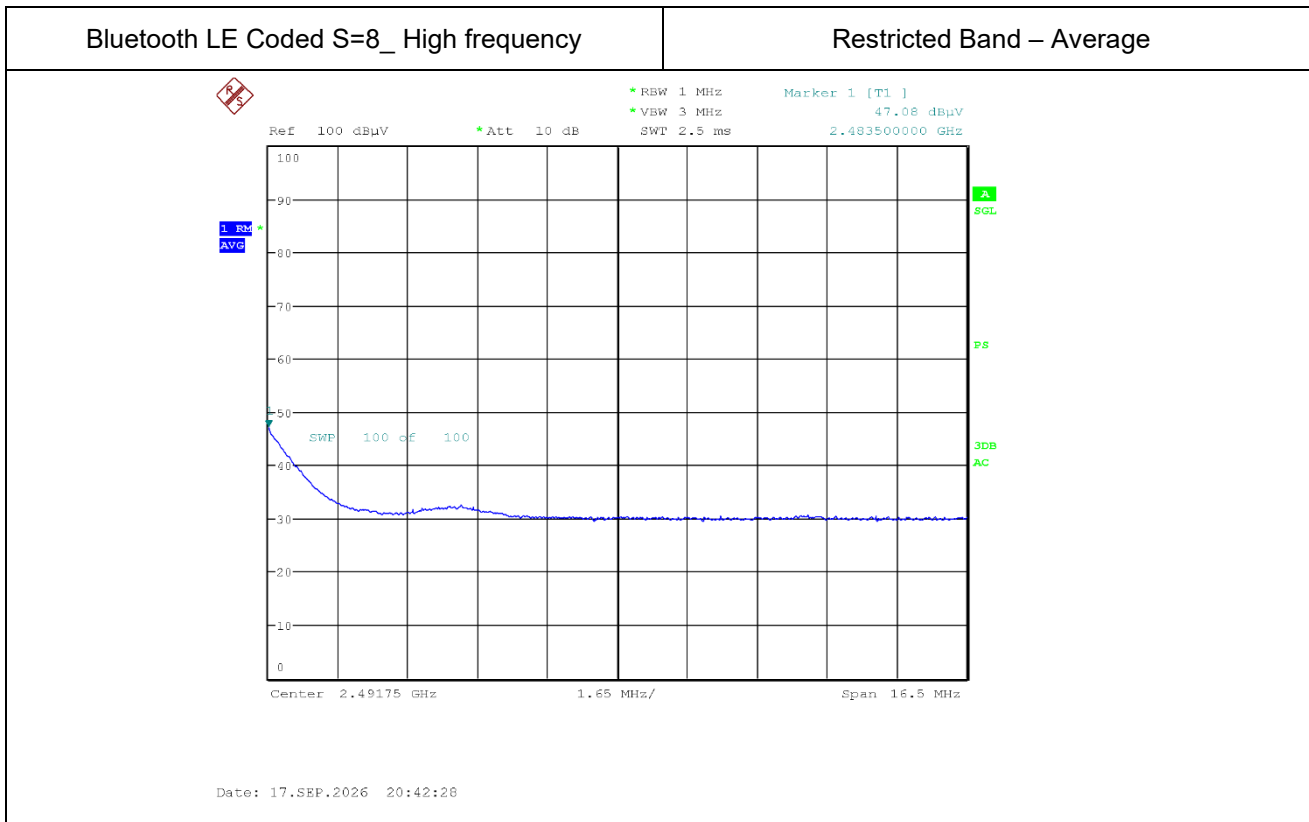
Bluetooth LE Coded S=8 Middle frequency

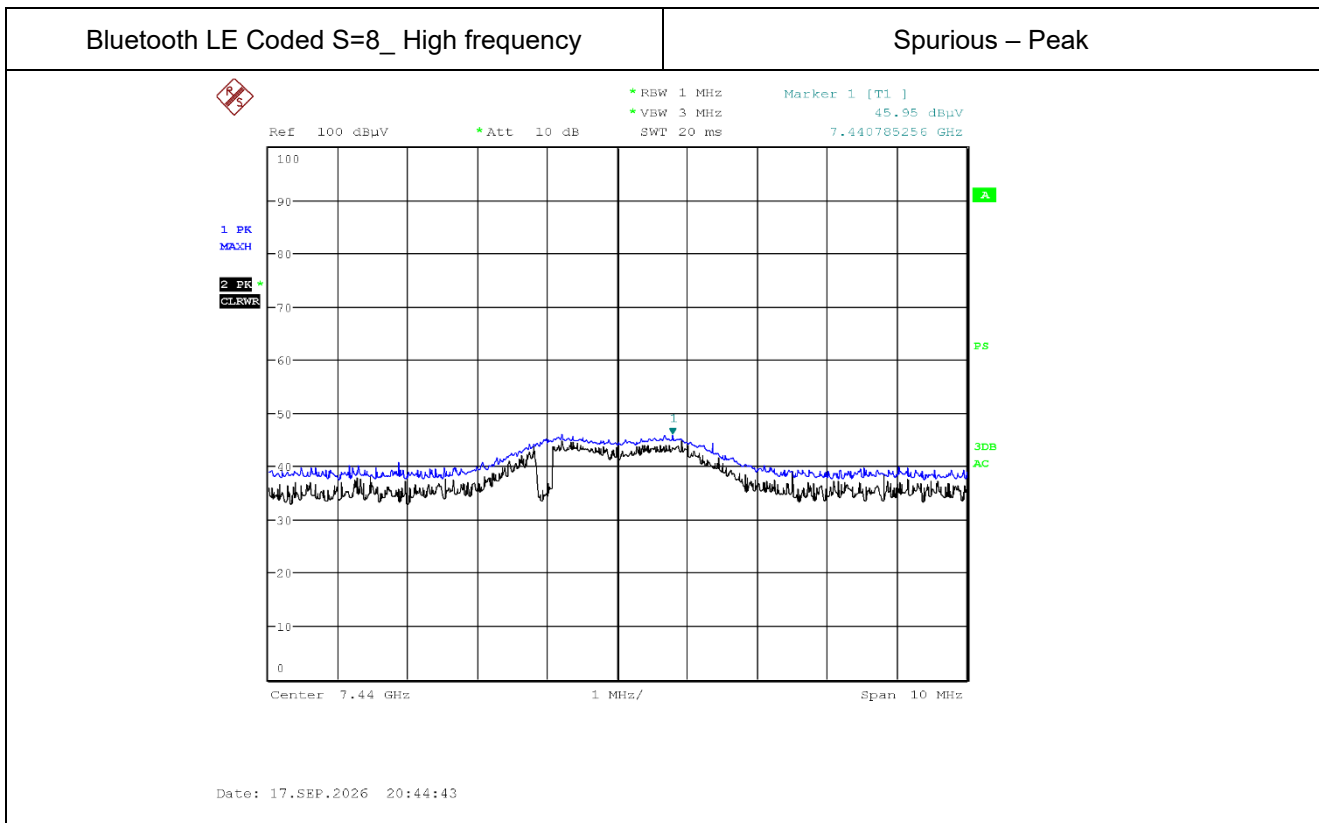
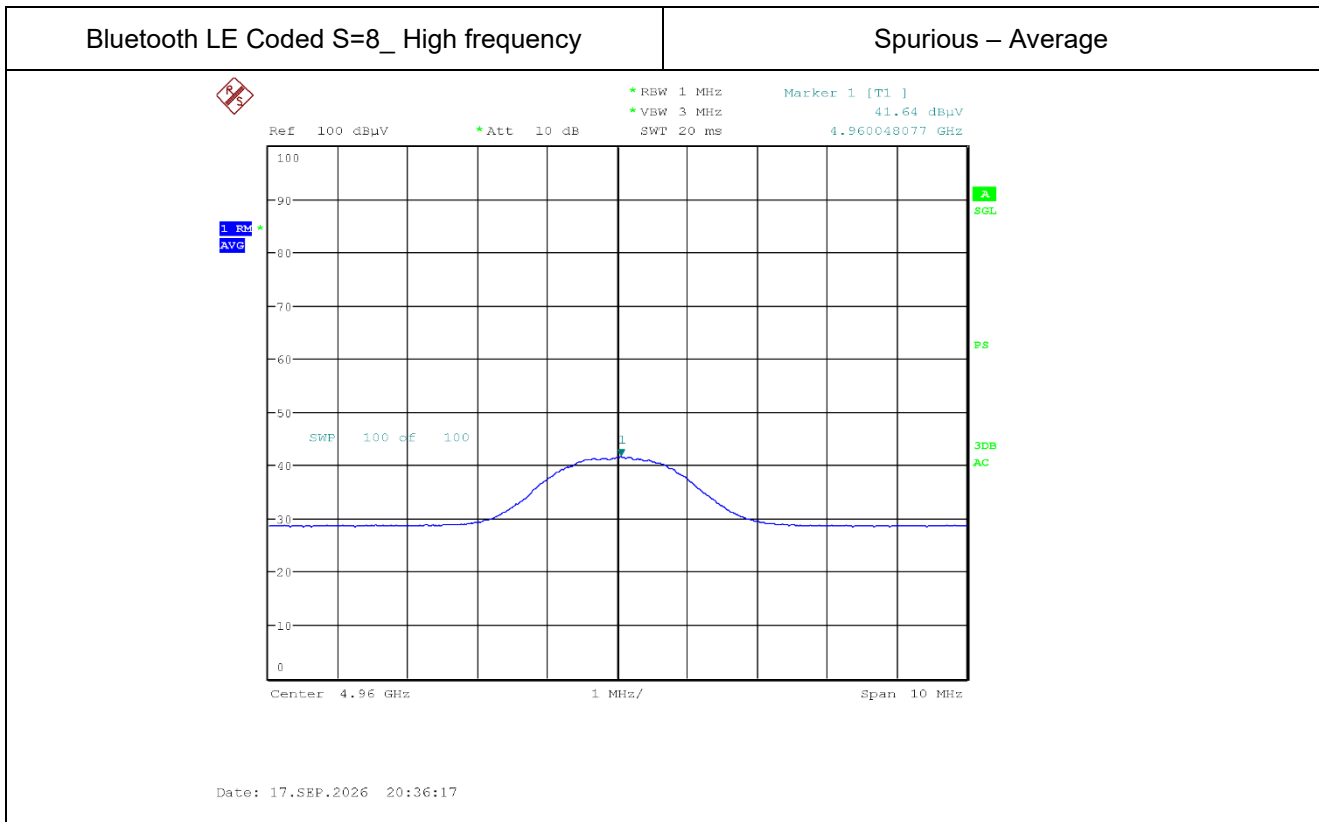
Spurious – Peak

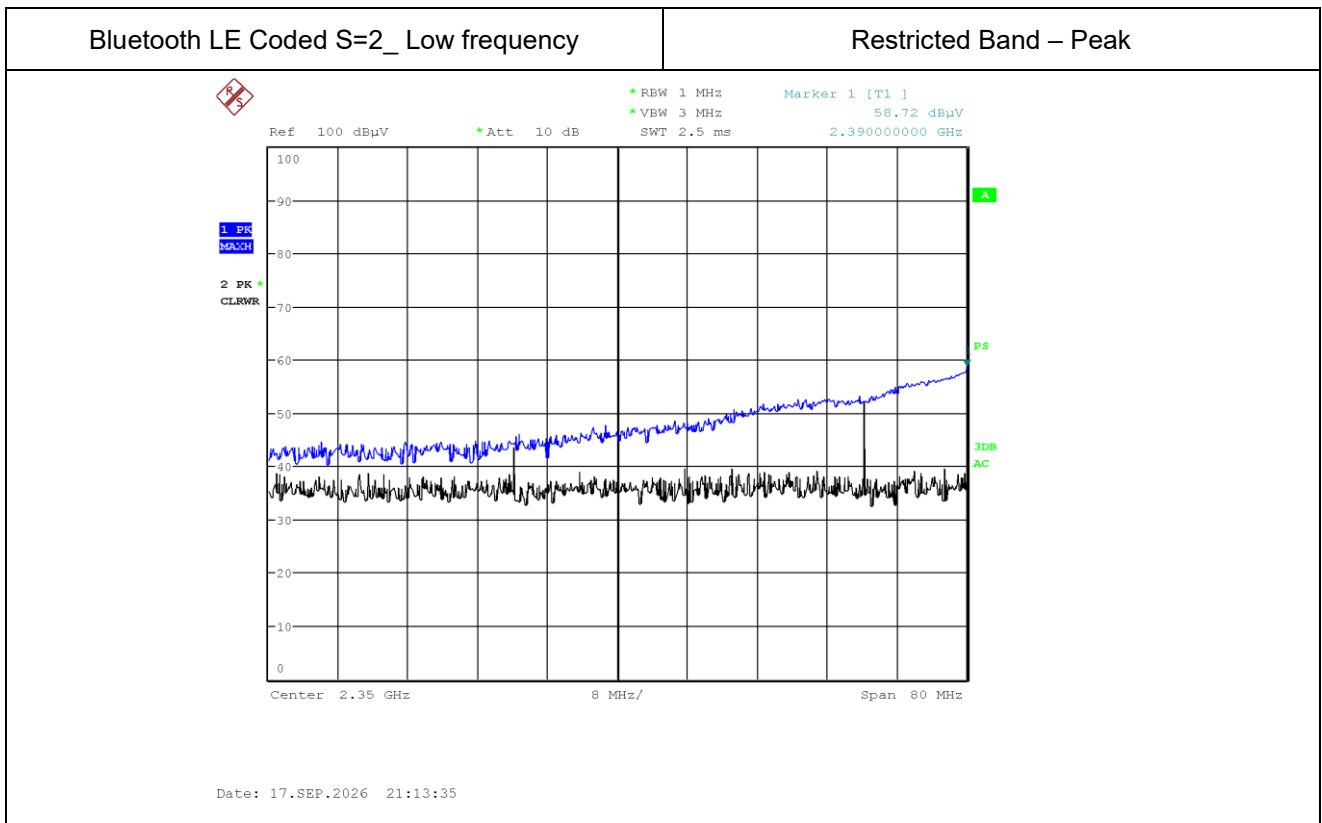
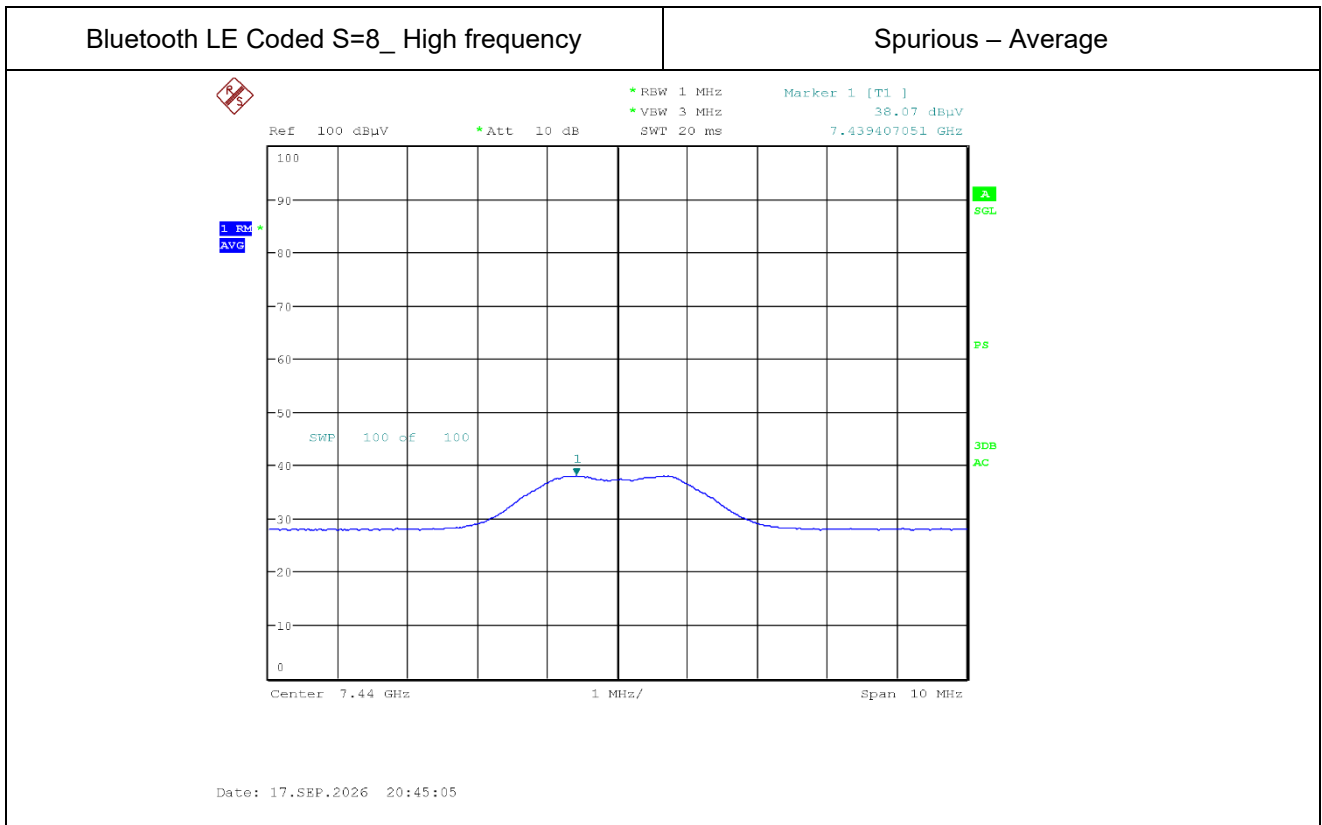


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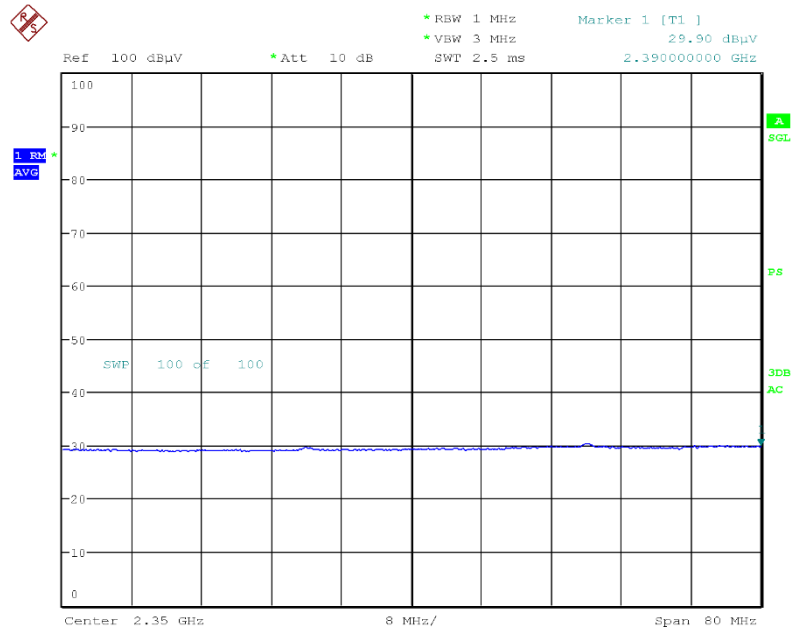






Bluetooth LE Coded S=2_ Low frequency

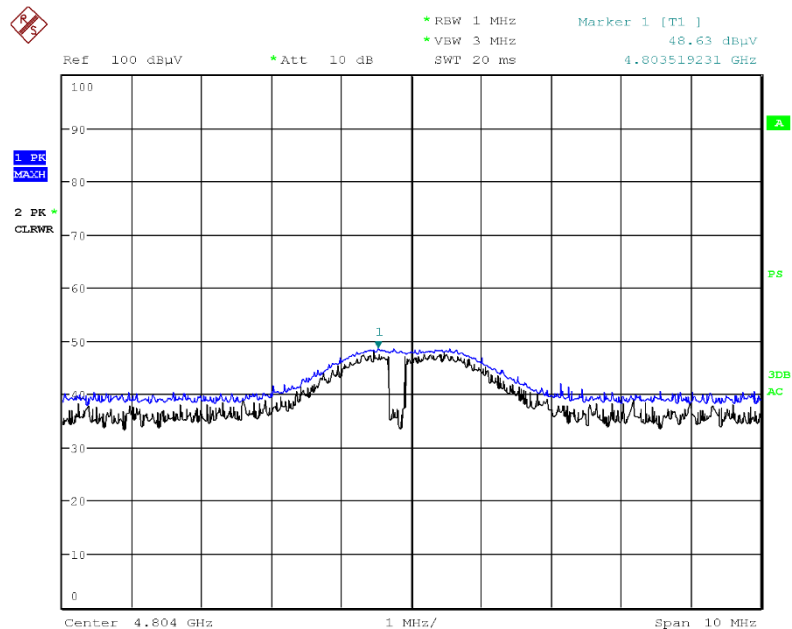
Restricted Band – Average



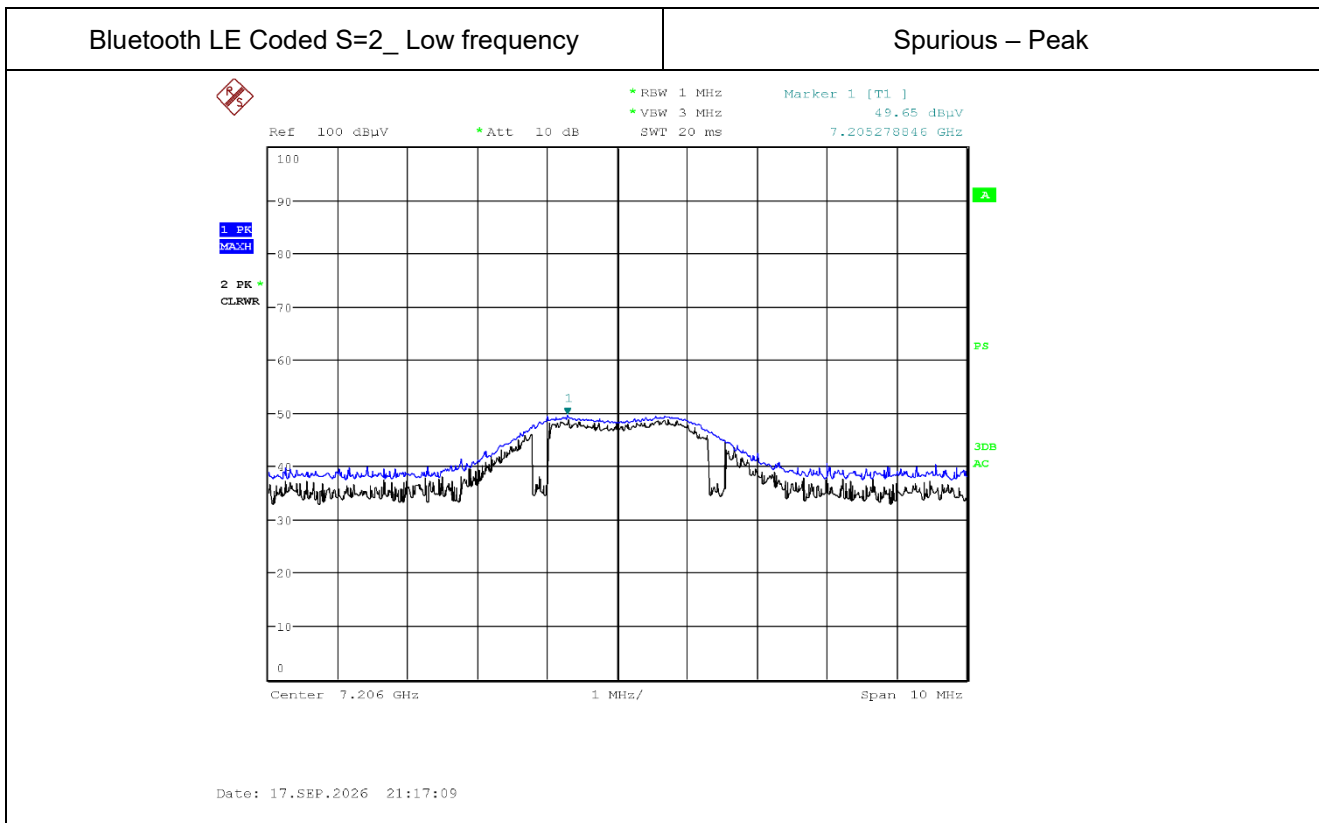
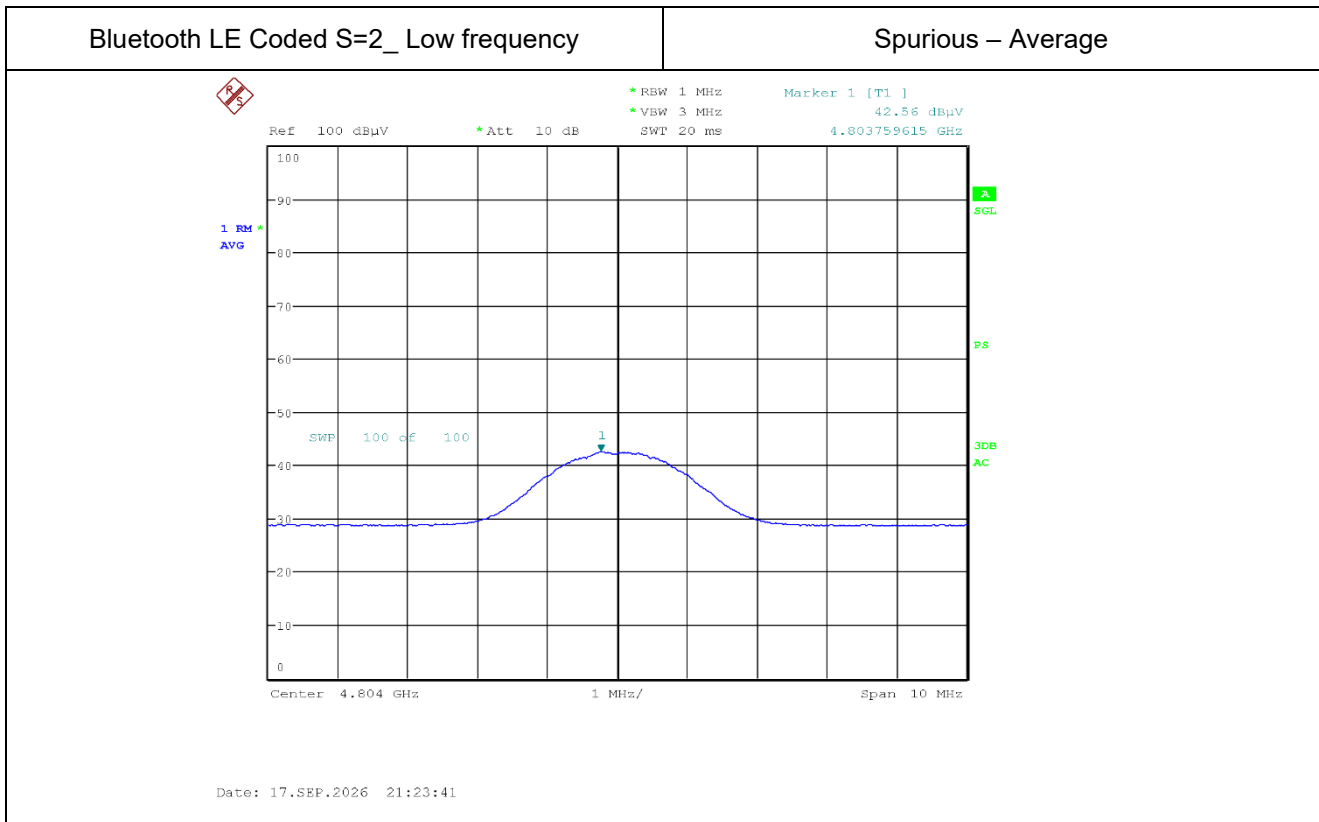
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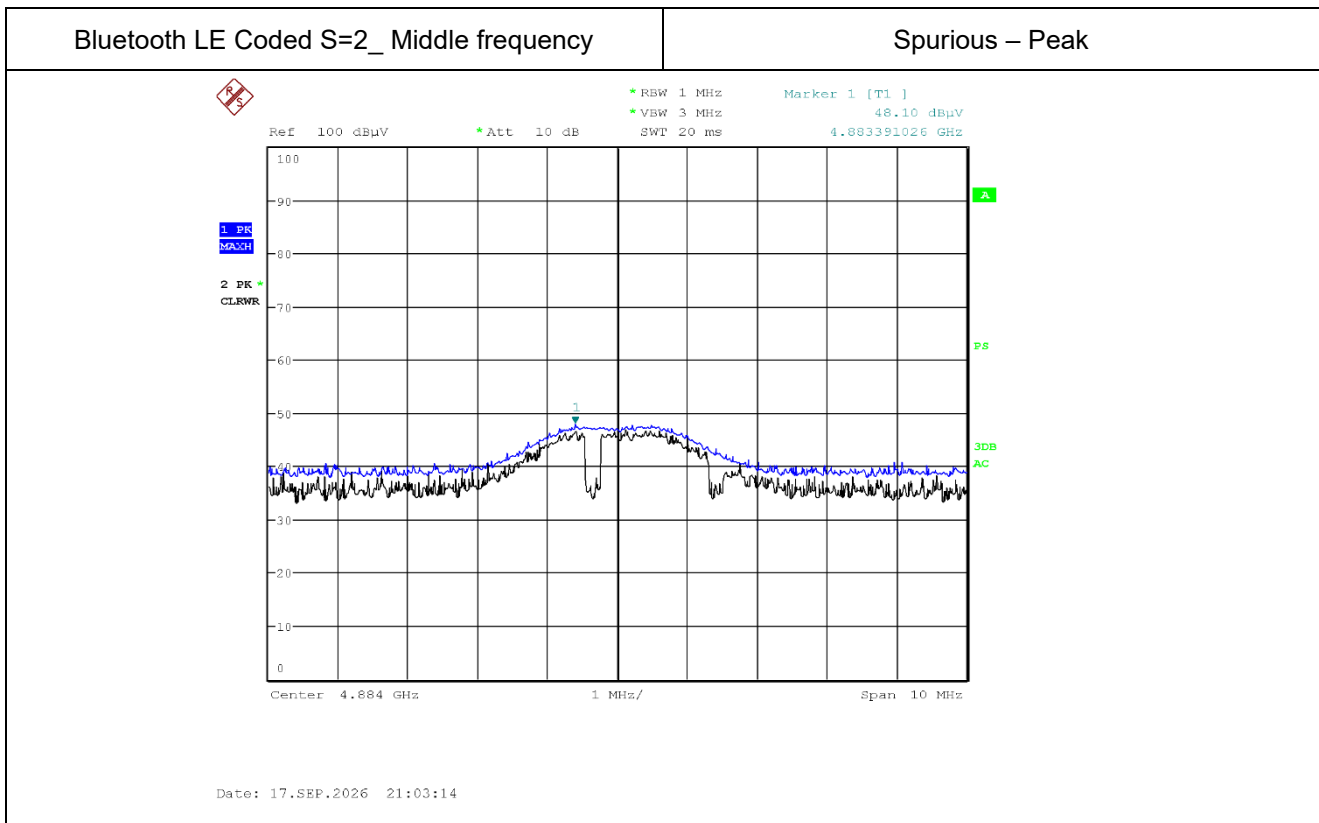
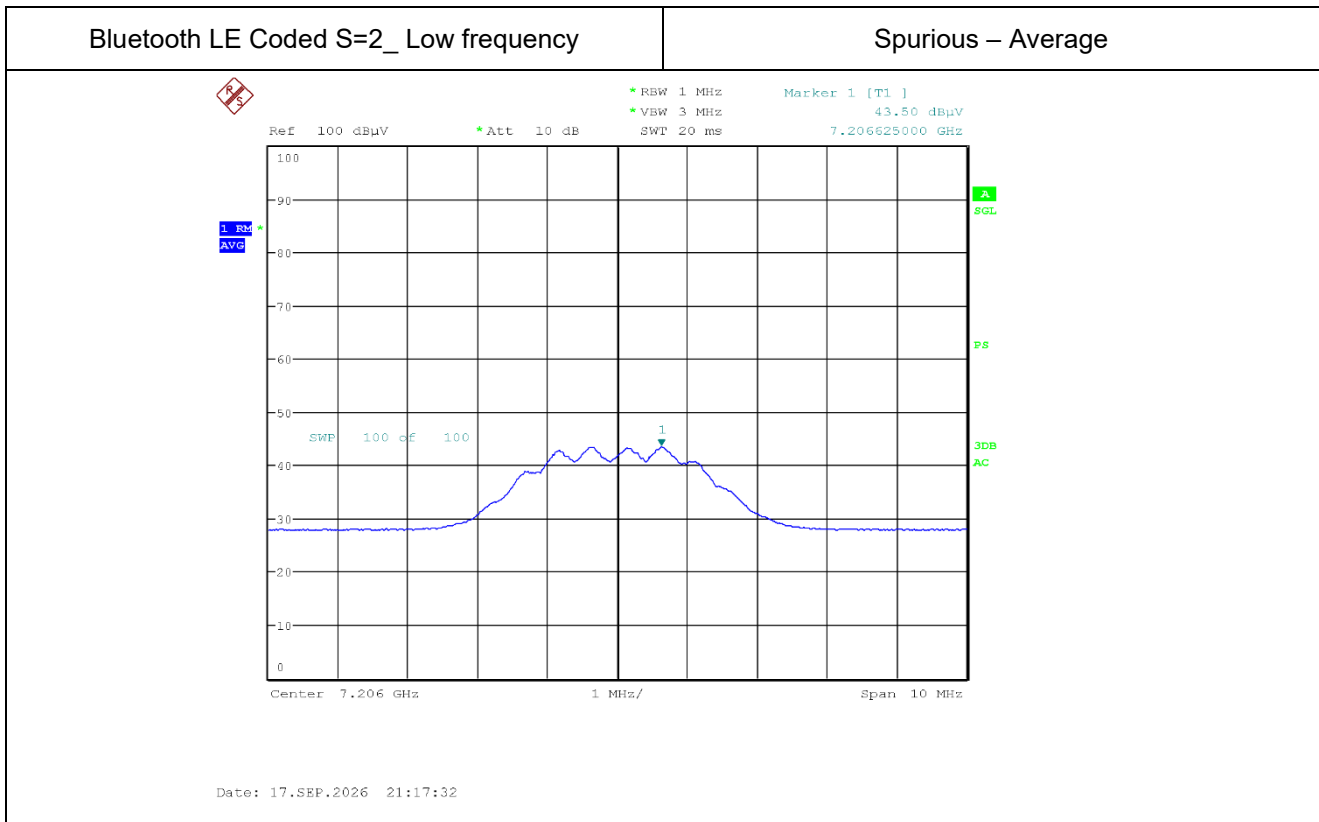
Bluetooth LE Coded S=2_ Low frequency

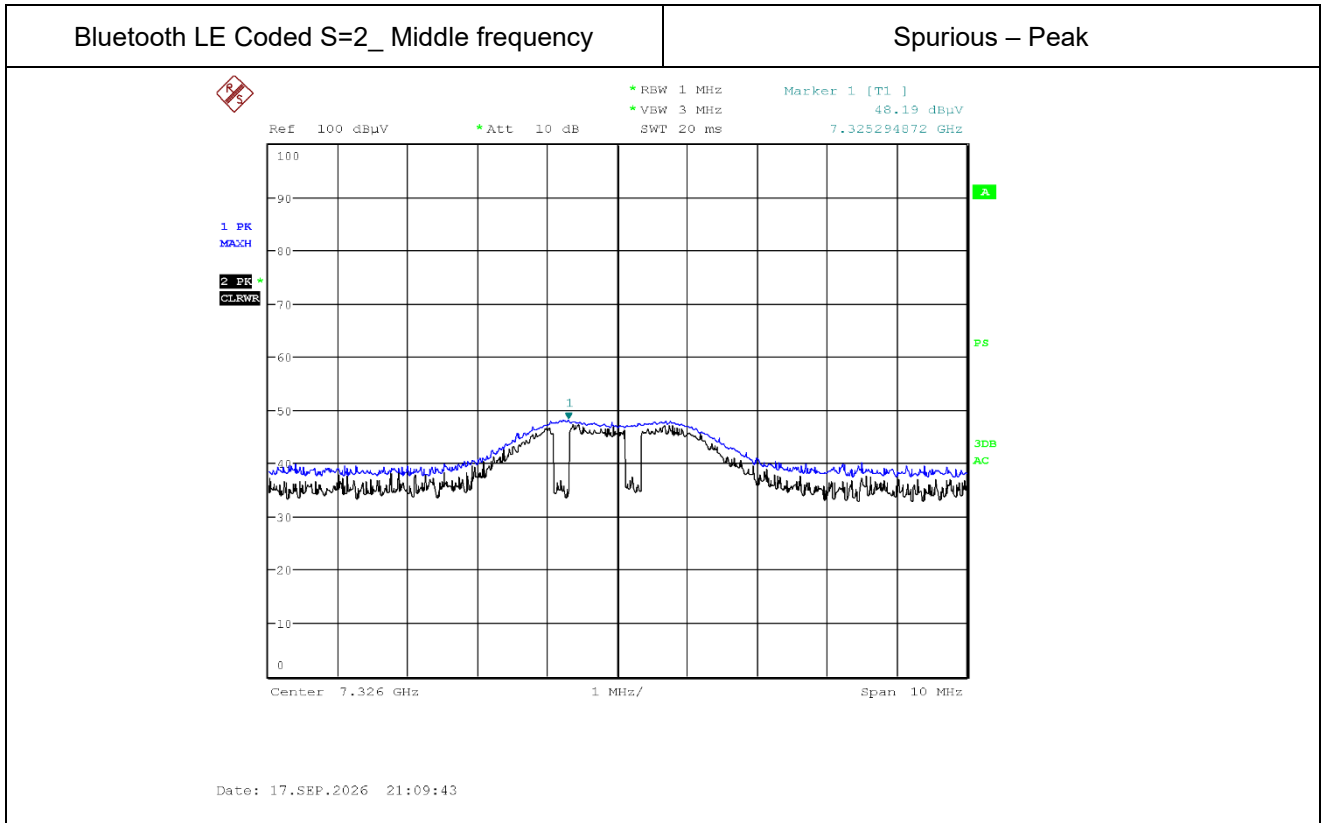
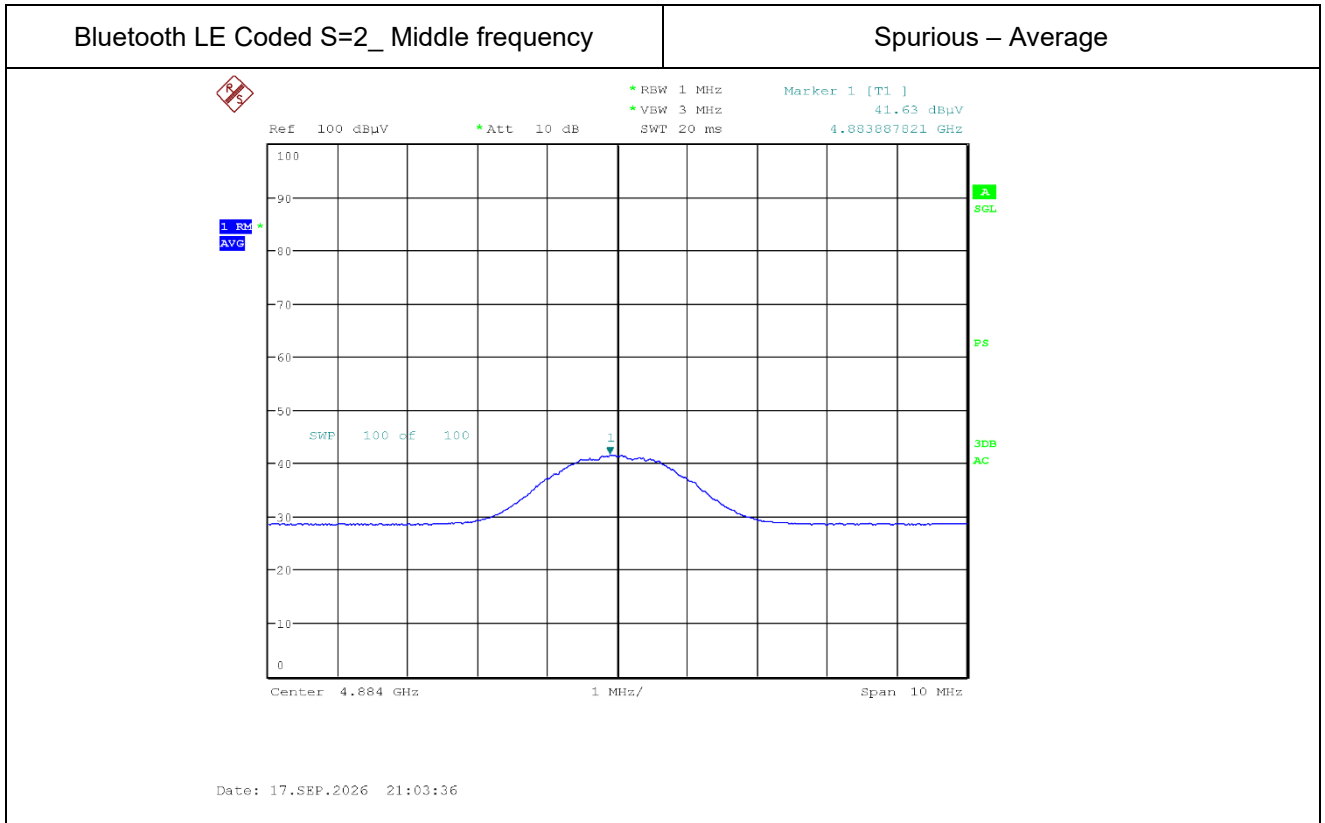
Spurious – Peak

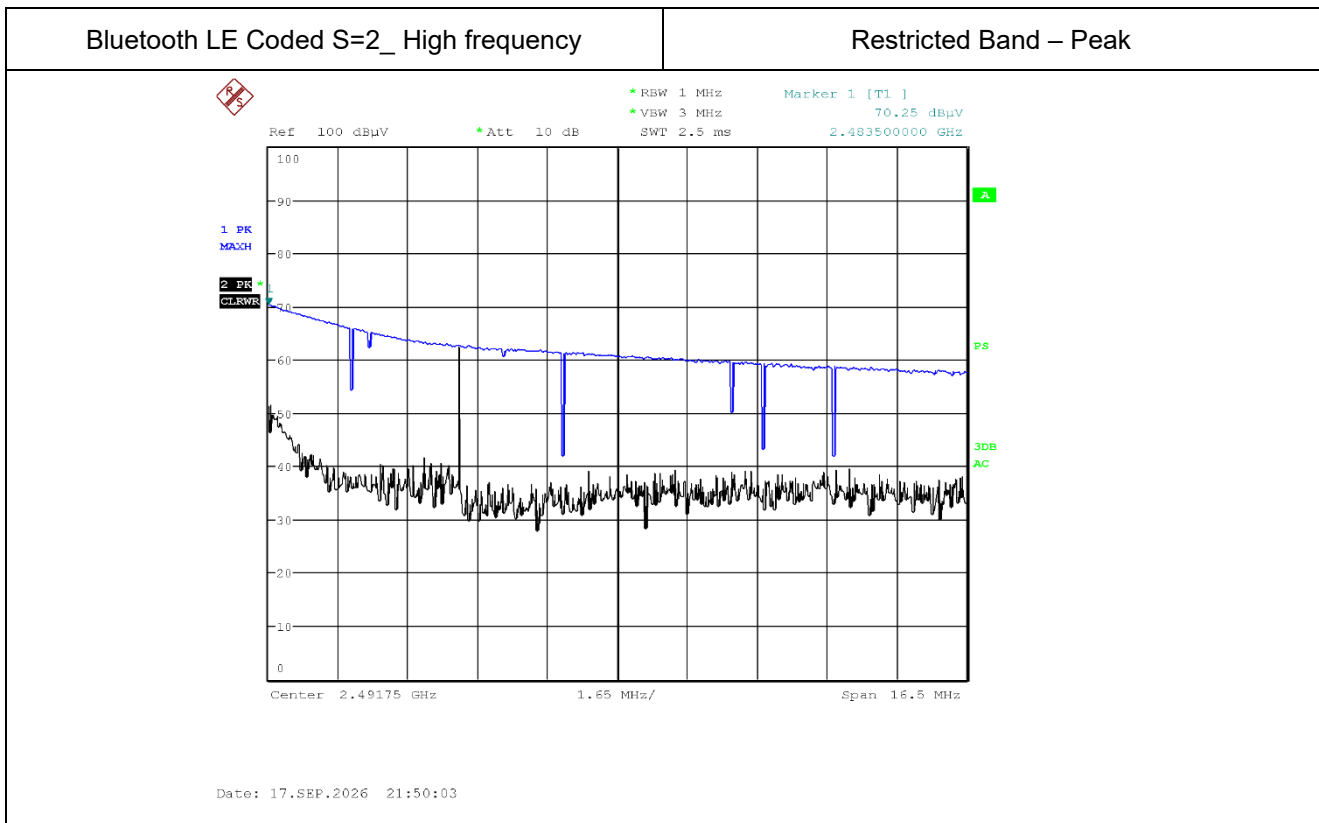
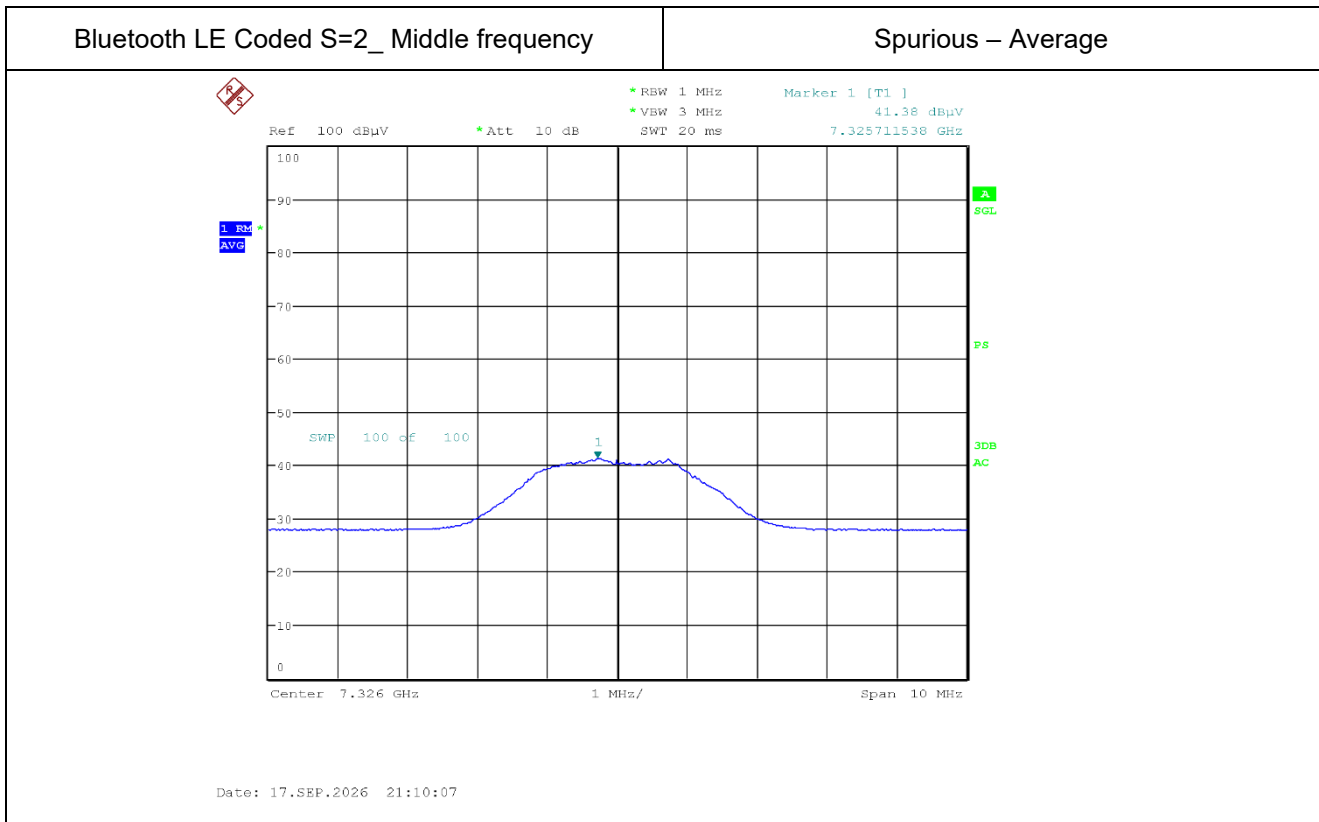


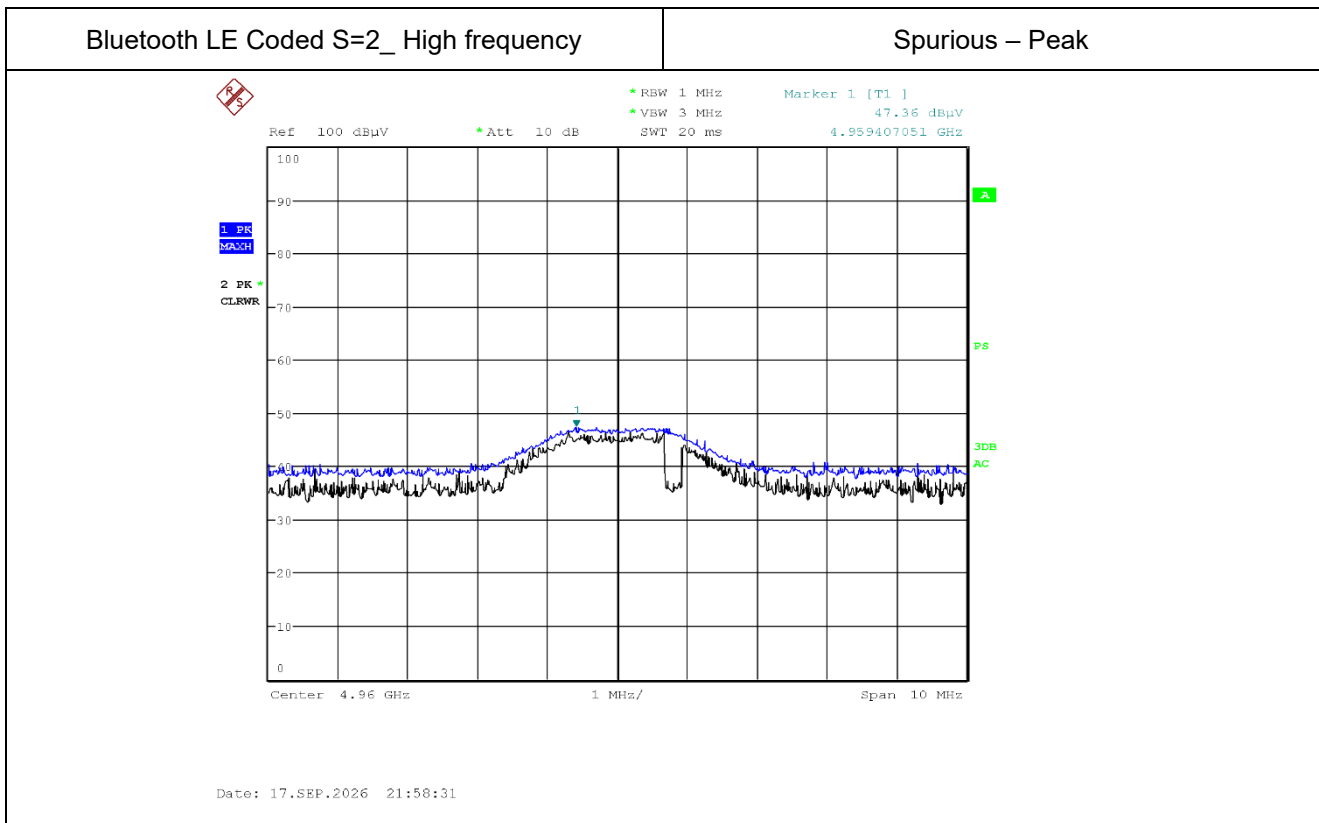
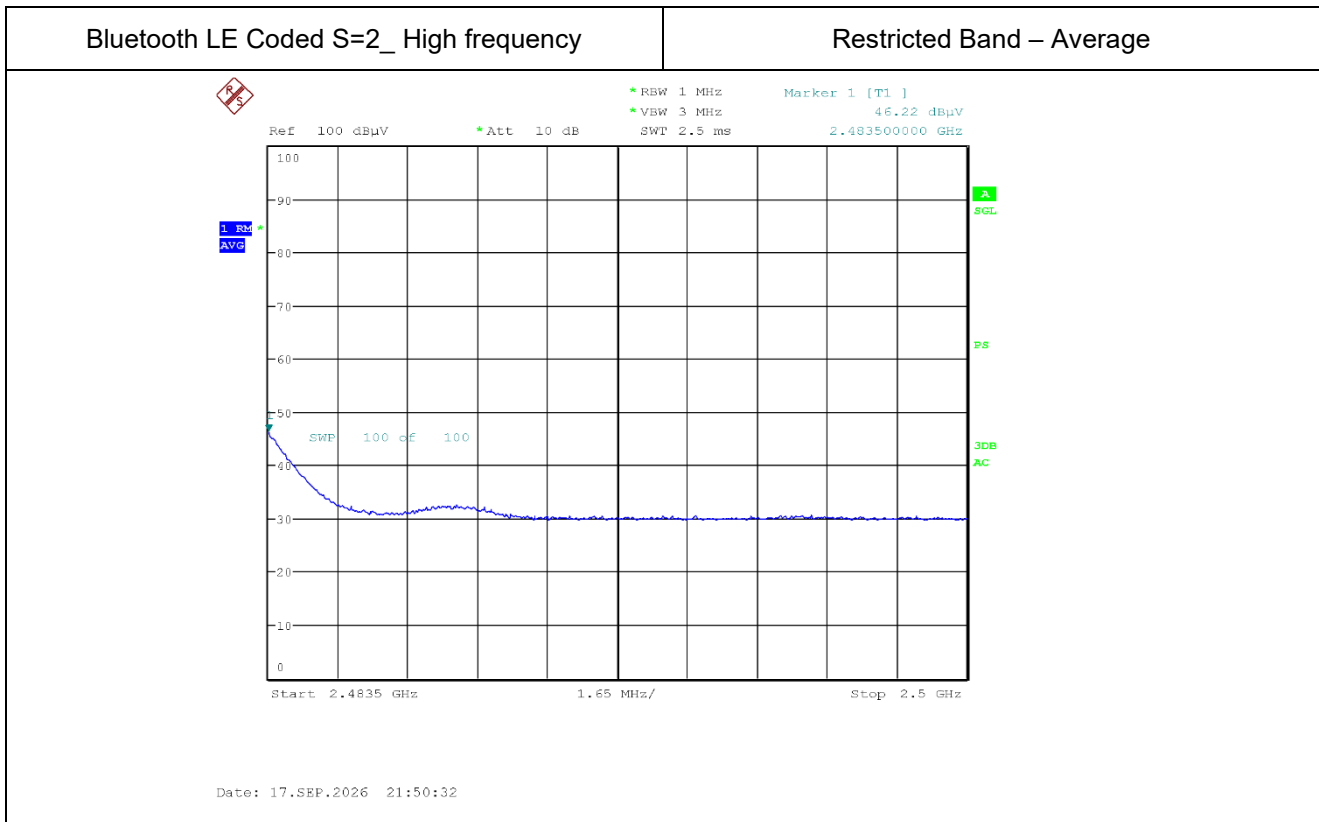
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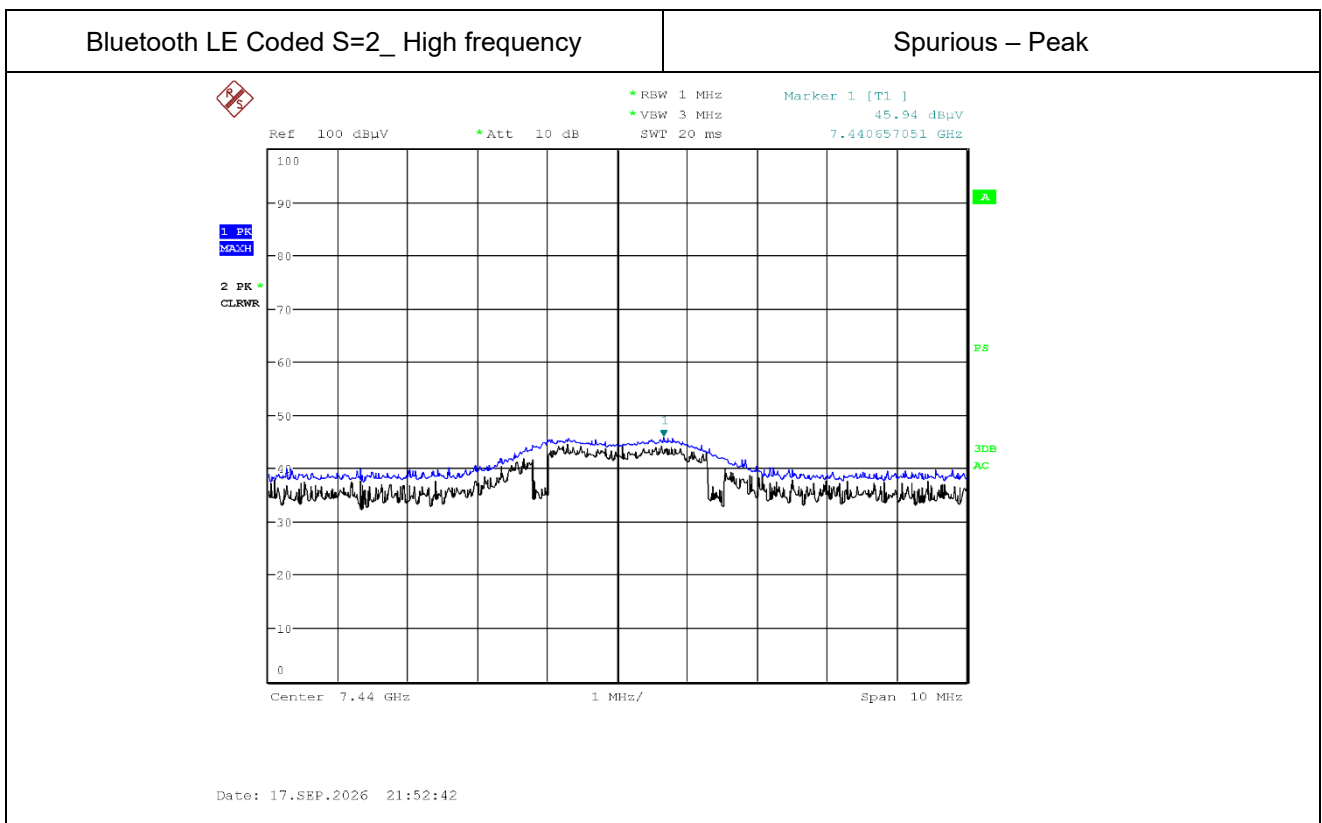
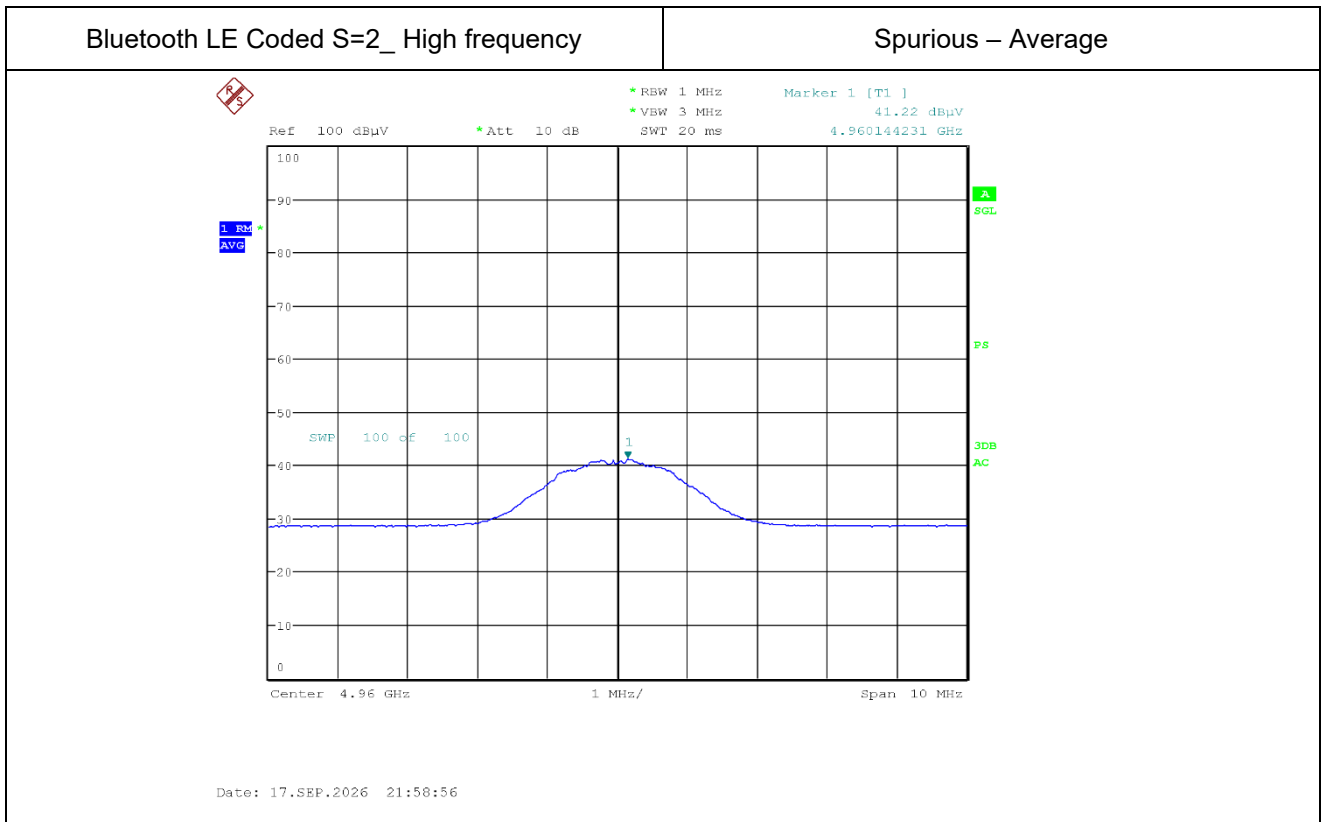


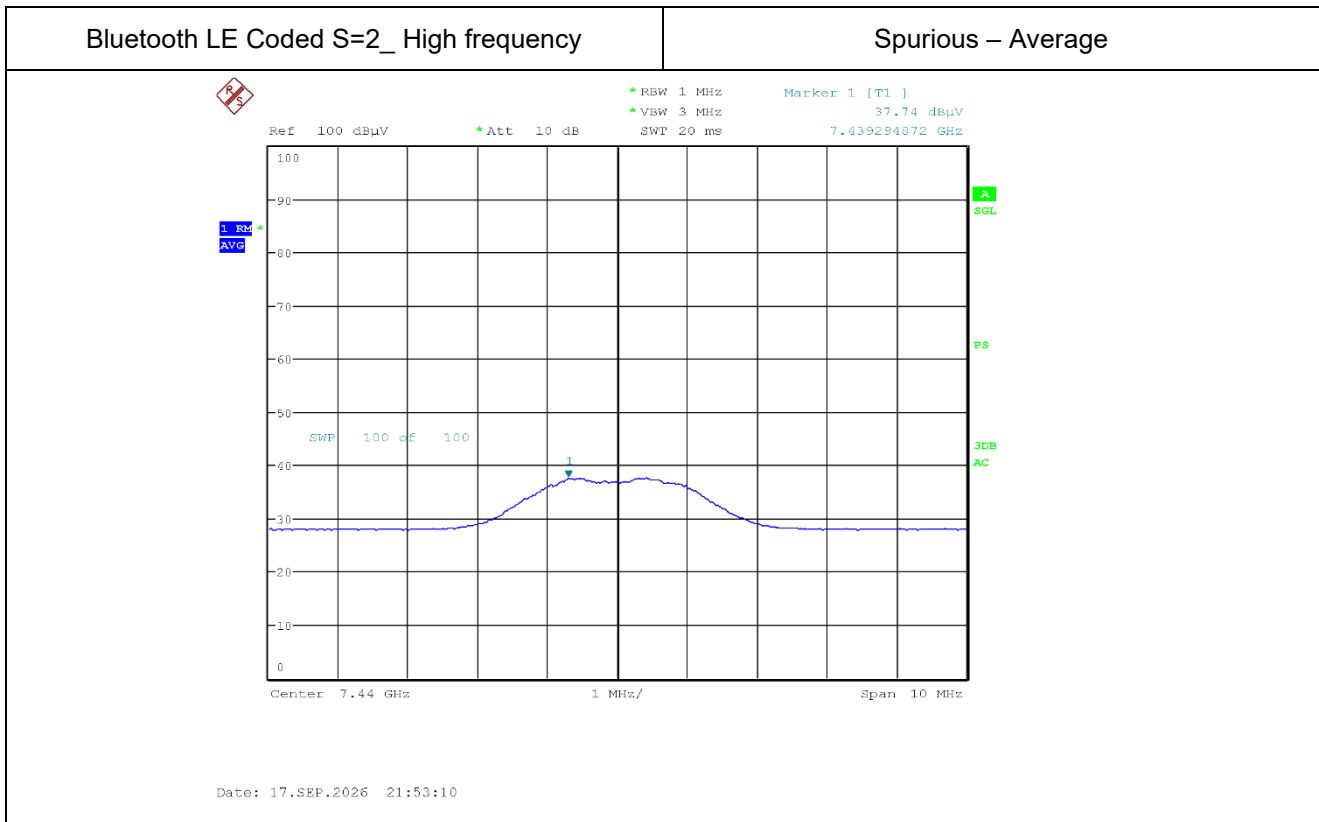




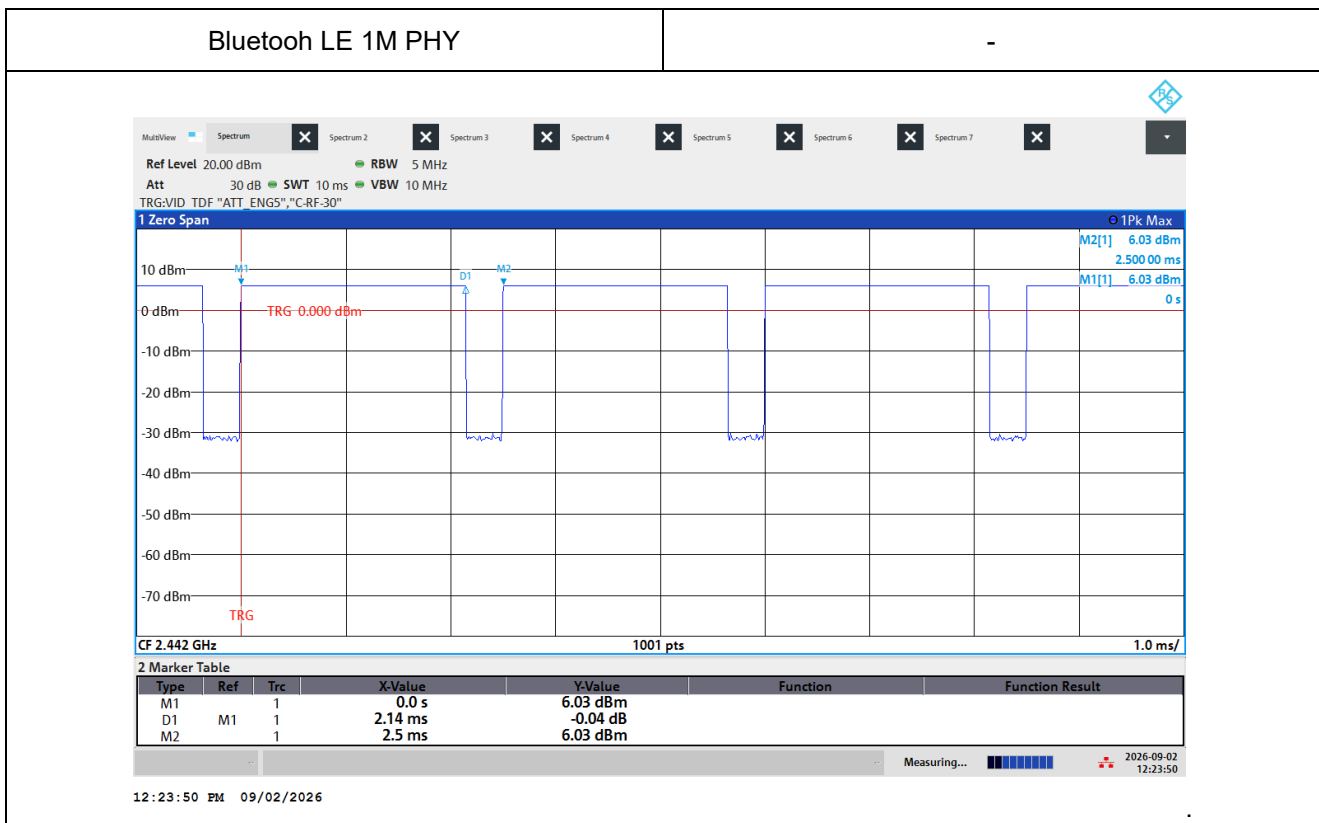








5.5.7 Test Plot for Duty Cycle





Bluetooth LE Coded S=2

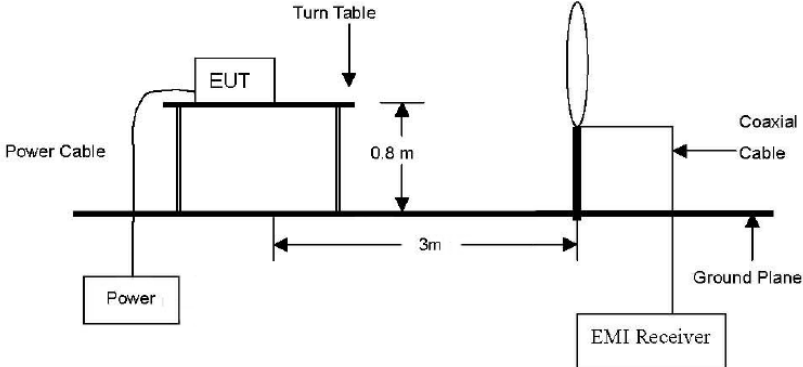
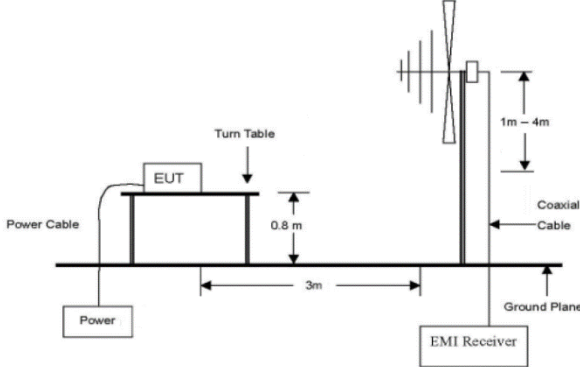
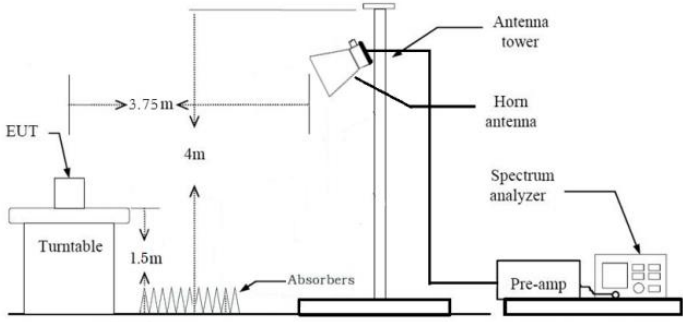
-



12:26:28 PM 09/02/2026

Appendix I. Test Setup

Radiated Measurement

below 30 MHz	
below 1 GHz	
above 1 GHz	Above 1 GHz 

Appendix II. Test Instrumentation

Description	Model No.	Serial No.	Manufacturer.	Due for Cal. Date
Signal Analyzer	FSVA3044	101698	Rohde & Schwarz	2026-12-18
Test Receiver	ESU 26	100303	Rohde & Schwarz	2026-12-12
Signal Generator	SMF100A	101441	Rohde & Schwarz	2026-12-17
Temperature & Humidity Chamber	CL09	J0000062	YUASA	2026-12-08
DC Power Supply	E3610A	MY40005644	Agilent	2026-12-08
Dipole Antenna	3121C	9001-509	EMCO	2028-07-02
Dipole Antenna	3121C	9001-530	EMCO	2028-07-02
Dipole Antenna	UHA9105	N/A	Schwarzbeck	2028-07-02
TRILOG Broadband Antenna	VULB9163	9163-770	Schwarzbeck	2027-08-05
Attenuator	PE7390-6	1818	Pasternack	2027-08-05
Horn Antenna	HF 907	102426	Rohde & Schwarz	2027-07-02
Horn Antenna	BBHA 9170	783	Schwarzbeck	2027-06-24
Pre-Amplifier	310N	344015	Sonoma Instrument	2026-12-09
Pre-Amplifier	SCU 18D	19006450	Rohde & Schwarz	2026-12-09
Pre-Amplifier	CBL18265035	28706	CERNEX	2026-12-10
Pre-Amplifier	CBL26405040	28707	CERNEX	2026-12-10
Pre-Amplifier	310N	344015	Sonoma Instrument	2026-12-09
Pre-Amplifier	SCU 18D	19006450	Rohde & Schwarz	2026-12-09
Pre-Amplifier	CBL18265035	28706	CERNEX	2026-12-10
Pre-Amplifier	CBL26405040	28707	CERNEX	2026-12-10
Turn Table	DT3000-3t	1310814	INNCO SYSTEM	N/A
Antenna Master	MA4000-EP	4600814	INNCO SYSTEM	N/A
Antenna Master	MA4000-XP-ET	-	INNCO SYSTEM	N/A
Camera Controller	HDCon4102	6531445048	PONTIS	N/A
CO3000 Controller	Co3000-4Port	CO3000/806/ 34130814/L	INNCO SYSTEM	N/A
CO3000 Controller	Co3000-4Port	CO3000/807/ 34130814/L	INNCO SYSTEM	N/A

The measuring equipment utilized to perform the tests documented in this test report has been calibrated in accordance with manufacturer's recommendations, and is traceable to recognized national standards.

(End of report)