



시험 성적서

TEST REPORT

페이지(page) : (1) / 총(Total) (100)

성적서 번호 Report No.		ICRT-TR-E253849-0A	
신청자 Client	기관명 Name	LG Electronics Inc.	
	주 소 Address	222 LG-ro, Jinwi-myeon, Pyeongtaek-si, gyeonggi-do	
시험대상품목 Sample description		ThinQ ON	
모델명 Type description		HMAM5W	
정 격 Ratings		DC 5.0 V	
시험장소 Place of test		☒ 고정시험실(Permanent Testing Lab) ☐ 현장시험(On Site Testing) 주소지(Address): 112, 113 Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea	
시험기간 Date of test		29. Sep. 2025 ~ 28. Nov. 2025	
시험방법/항목 Test Method/Item		FCC Part 15 Subpart C	
시험결과 Test Results		Refer to 3. Test Summary	
확 인 Affirmation	작성자 Tested by	기술책임자 Technical Manager	
	성명 Name Eun-Hye, Kwak (Signature)	성명 Name Min-Gi, Son (Signature)	

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☐ The above test report is certified that the above mentioned products have been tested for the sample.
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2025. 11. 28

주식회사 아이씨알 대표이사

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112, Hwanggeum3-ro 7beon-gil, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea / Tel: 02-6351-9001 ~ 6



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Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
ICRT-TR-E253849-0A	2025. 11. 28	Initial Issue	All



1. Applicant & Manufacturer & Test Laboratory Information

1.1 Applicant information

Applicant	LG Electronics Inc.
Address	222 LG-ro, Jinwi-myeon, Pyeongtaek-si, gyeonggi-do

1.2 Manufacturer Information

Applicant	EM-TECH
Address	No.12, Road 2, VSIP Nghe An Industrial Park, Hung Tay Commune, Hune Nguyen District, Nghe An Province, Vietnam

1.3 Test Laboratory Information

Laboratory	ICR Co., Ltd.
Address	112, Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea
Telephone No.	+82-2-6351-9002
Fax No.	+82-2-6351-9007
KOLAS No.	KT652
KC & FCC	KR0165

1.4 Measurement Uncertainty

Parameter	Uncertainty	Limit
Occupied Channel Bandwidth	0.14%	±5 %
RF output power, conducted	0.85 dB	±1.5 dB
Power Spectral Density, conducted	1.44 dB	±3 dB
Unwanted Emissions, conducted	1.35 dB	±3 dB
Supply voltages	0.02%	±3 %
Time	0.58%	±5 %
All emissions, radiated (Under the 30 MHz)	2.10 dB	±6 dB
All emissions, radiated (Range 30 MHz ~ 1 GHz)	1.95 dB	±6 dB
All emissions, radiated (Range 1 GHz ~ 18 GHz)	2.47 dB	±6 dB
All emissions, radiated (Range 18 GHz ~ 26.5 GHz)	2.61 dB	±6 dB



2. Equipment under Test(EUT) Information

2.1 General Information

Product Name	ThinQ ON
Model Name	HMAM5W
Additional Model Name	-
FCC ID	2BO3L-HMAM5W
Power Supply	DC 5.0 V

2.2 Additional Information

Equipment Class	DTS-Digital Transmission System	
Device Type	Stand-alone	
Operating Frequency	802.11b/g/n(20 MHz BW)	2 412 MHz ~ 2 462 MHz
	802.11n(40 MHz BW)	2 422 MHz ~ 2 452 MHz
	Bluetooth LE 1M/LE 2M	2 402 MHz ~ 2 480 MHz
	Zigbee	2 405 MHz ~ 2 480 MHz
RF Output Power	802.11b(20 MHz BW)	23.06 dBm
	802.11g(20 MHz BW)	21.95 dBm
	802.11n(20 MHz BW)	21.73 dBm
	802.11n(40 MHz BW)	20.06 dBm
	Bluetooth LE 1M	0.72 dBm
	Bluetooth LE 2M	0.74 dBm
	Zigbee	6.88 dBm
Number of Channel	802.11b/g/n(20 MHz BW)	11
	802.11n(40 MHz BW)	7
	Bluetooth LE 1M/LE 2M	40
	Zigbee	16
Modulation Type	802.11g/n	OFDM
	Bluetooth LE	GFSK
	802.11b/Zigbee	DSSS
Antenna Type	PCB Antenna	
Antenna Gain	3.3 dBi	

※The EUT is continuous transmission mode during the test with set to each of the Low Channel, Middle Channel, and High Channel at the worst case data rate.

※ For 802.11b mode, testing was performed at the highest transmission rate, and for the other than that modes, testing was performed at the lowest transmission rate

2.3 Modifications of EUT

- None



3. Test Summary

3.1 Test standards and results

FCC Part 15 Subpart C			
FCC Part Clause	Test items	Applied	Results
§15.247 (a) (2)	6 dB Bandwidth	■	PASS
§15.247 (b) (3)	Maximum Conducted Output Power	■	PASS
§15.247 (e)	Power Spectral Density	■	PASS
§15.247 (d)	Conducted Spurious Emission & Band edge	■	PASS
§15.247 (d) & §15.209 & §15.205	Radiated Spurious Emission	■	PASS
§15.207 (a)	AC Conducted Emissions	■	PASS

3.2 Purpose of the test

To determine whether the equipment under test fulfills the requirements of the standards stated in FCC Part 15 Subpart C Section 15.247

3.3 Test Methodology

- Both conducted and radiated testing was performed according to the procedures in ANSI C63.10-2020. Radiated testing was performed at a distance of 3 m from EUT to the antenna.

3.4 Configuration of Test System

- Both conducted and radiated testing was performed according to the procedures in ANSI C63.10-2020. Radiated testing was performed at a distance of 3 m from EUT to the antenna.

3.4.1 Radiated emission test

- Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10-2020 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 m Semi Anechoic Chamber.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.



3.5 Antenna requirement

- 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.

And according to §15.247(b)(4), the 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.

Result: Pass

The transmitter has a **PCB Antenna**. The directional gain of the antenna is **3.3 dBi**.



4. Test Result

4.1 6 dB Bandwidth

4.1.1 Test procedure

ANSI C63.10-2020 Clause 11.8

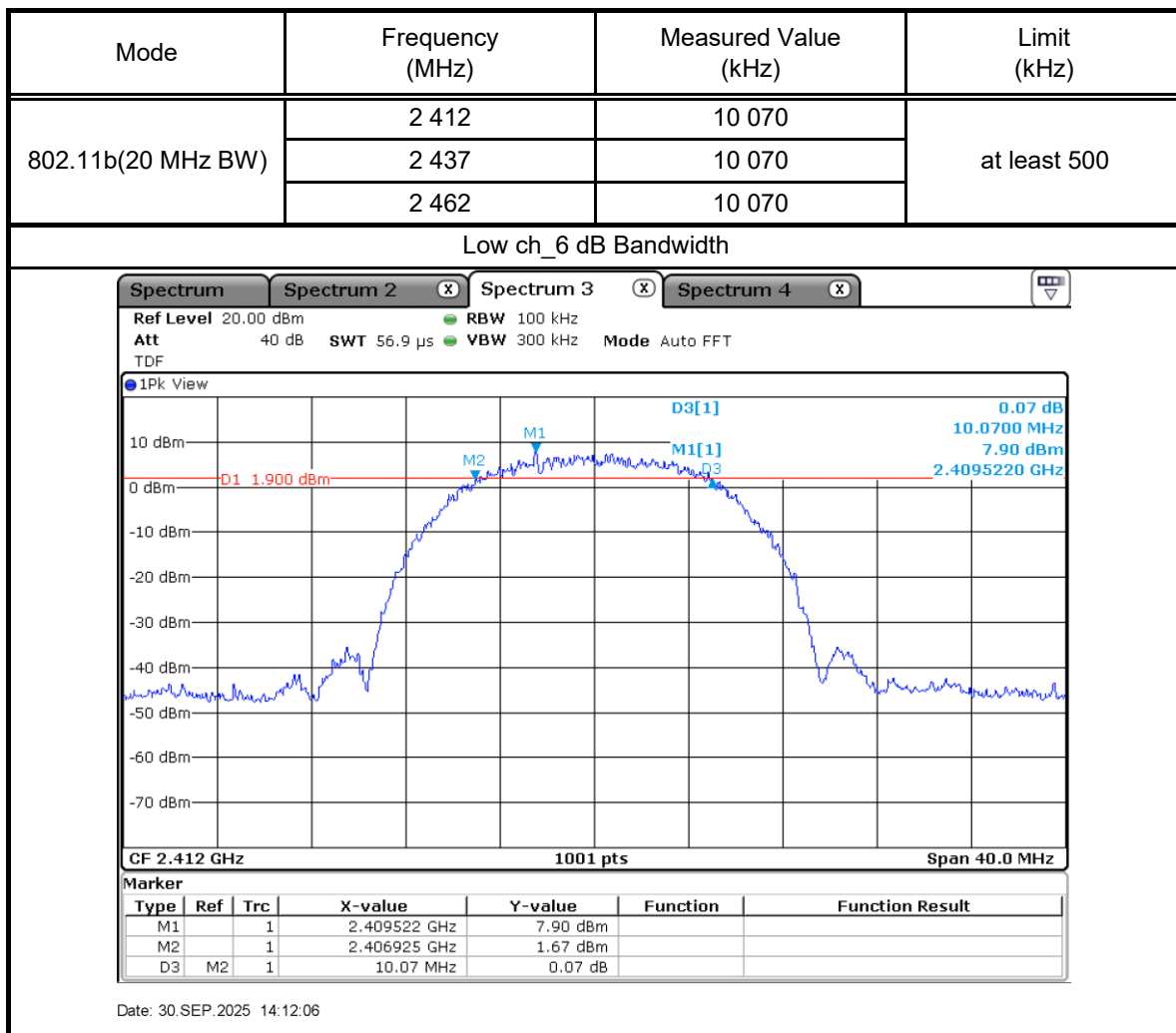
4.1.2 Limit

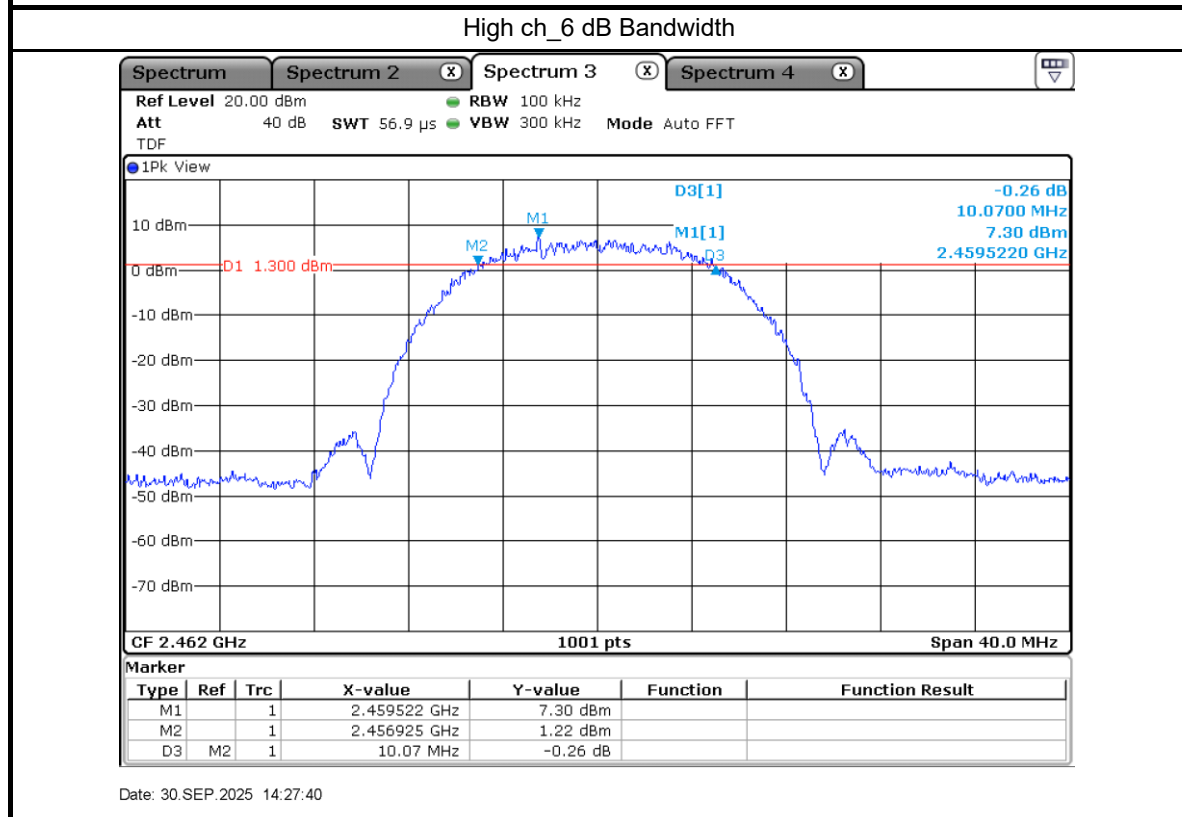
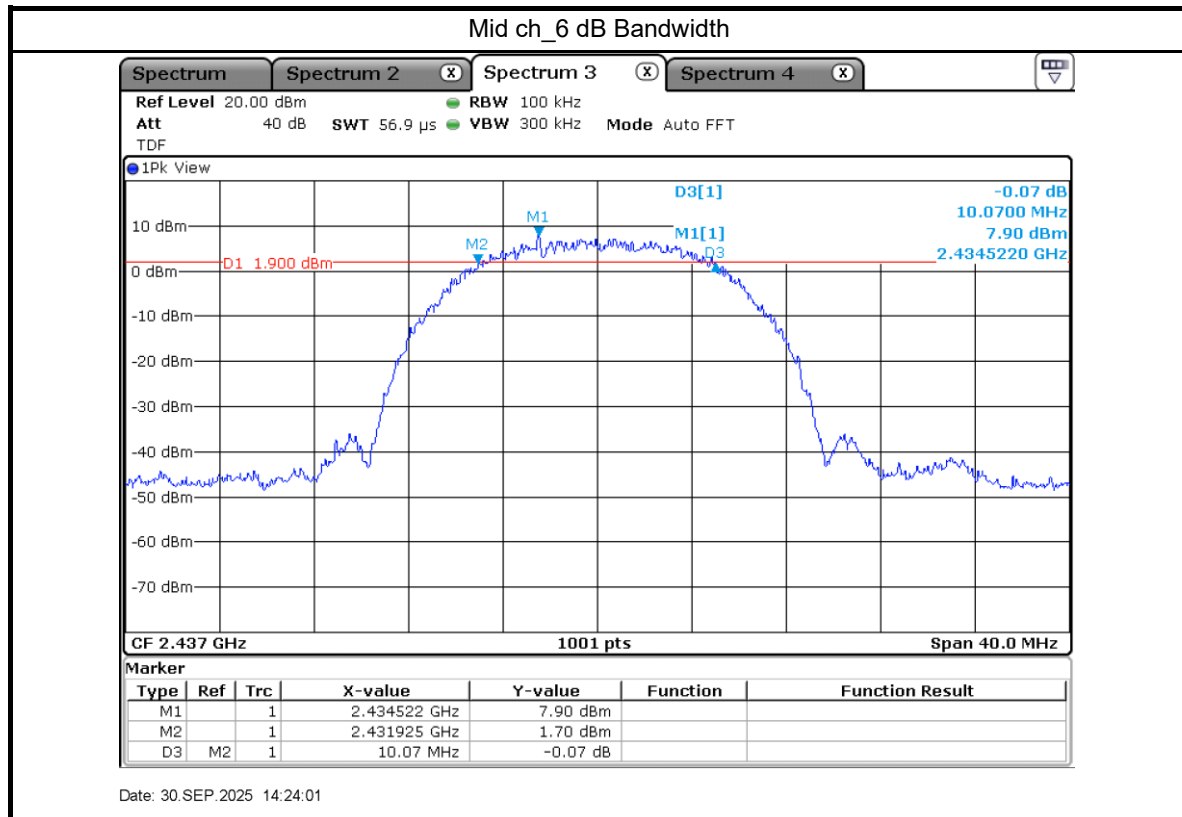
§15.247 (a) (2)

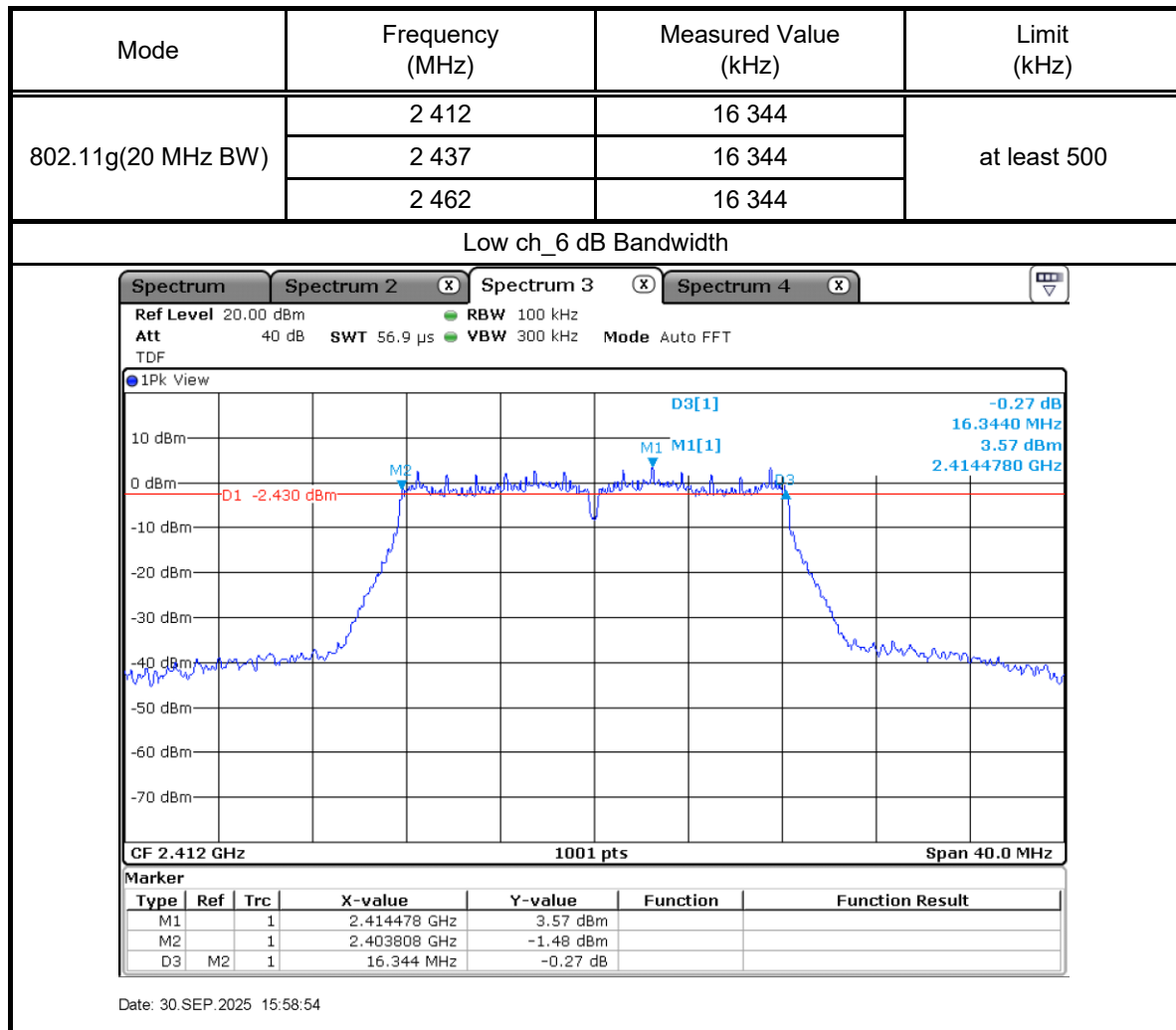
Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

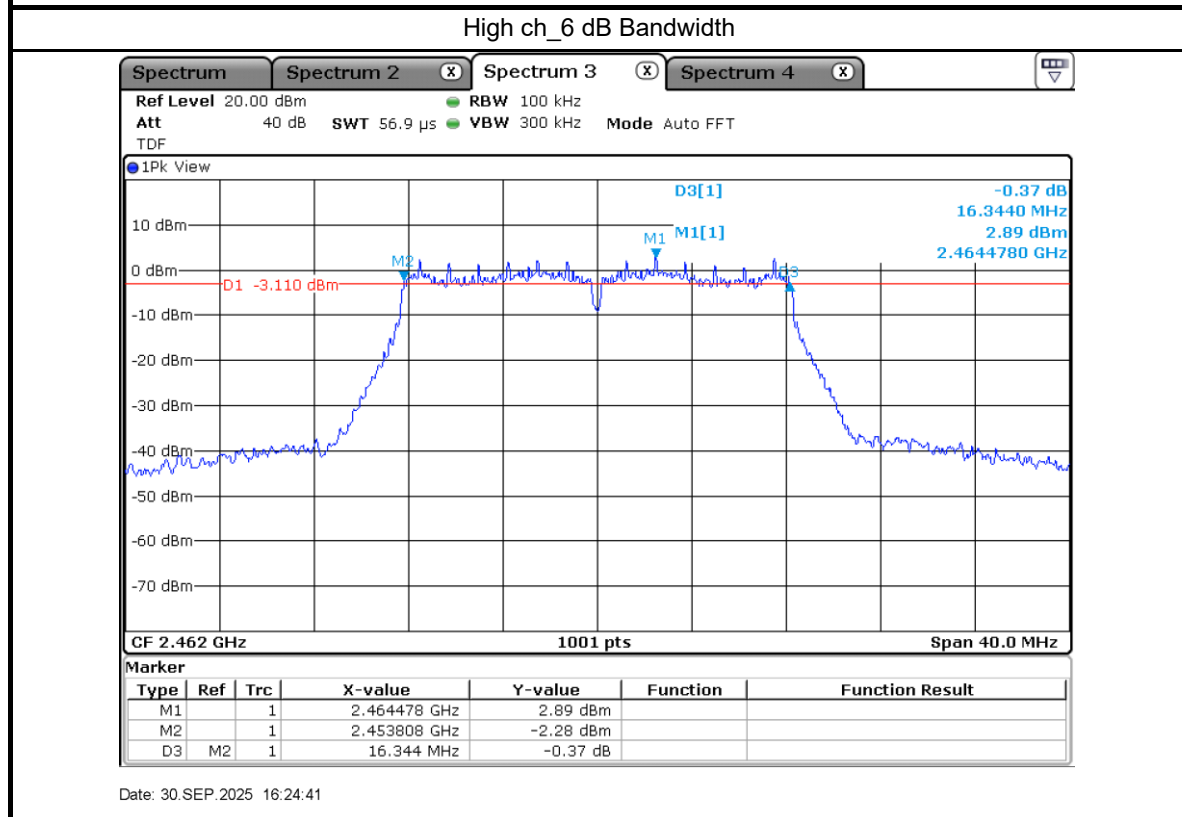
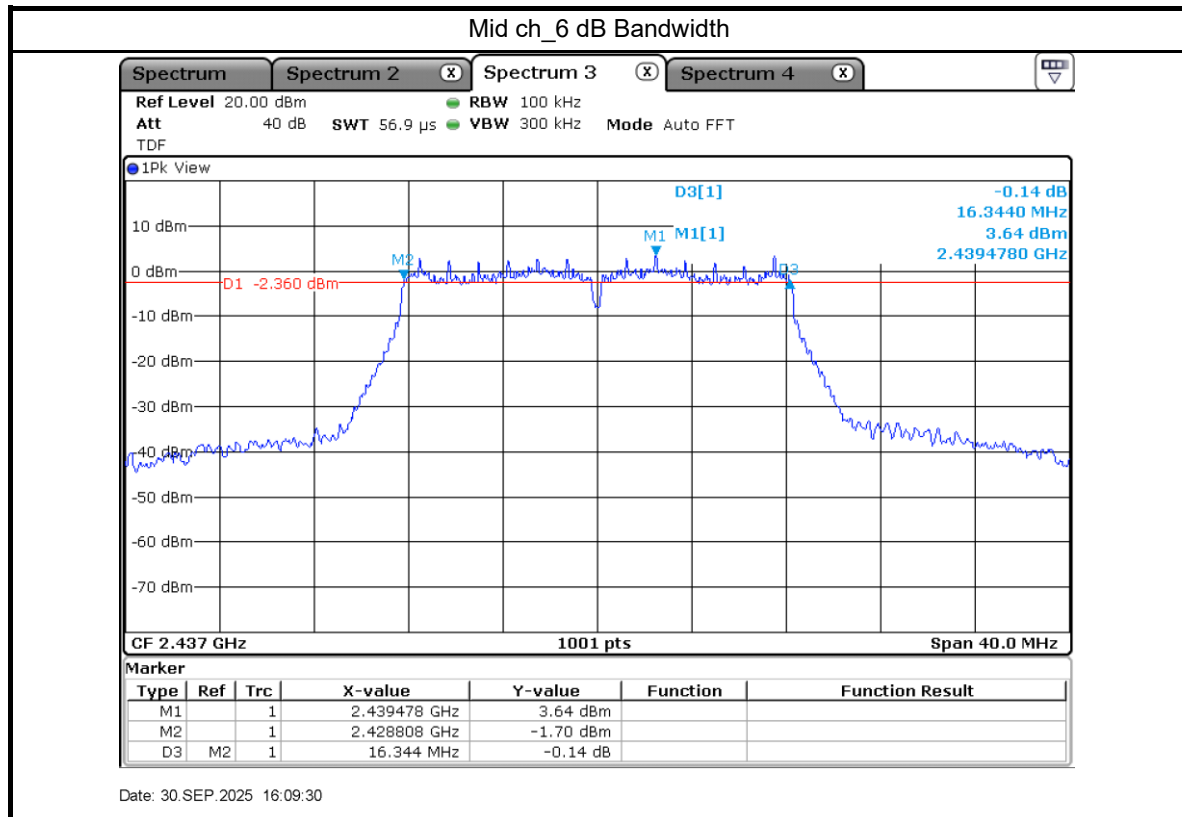
4.1.3 Test data

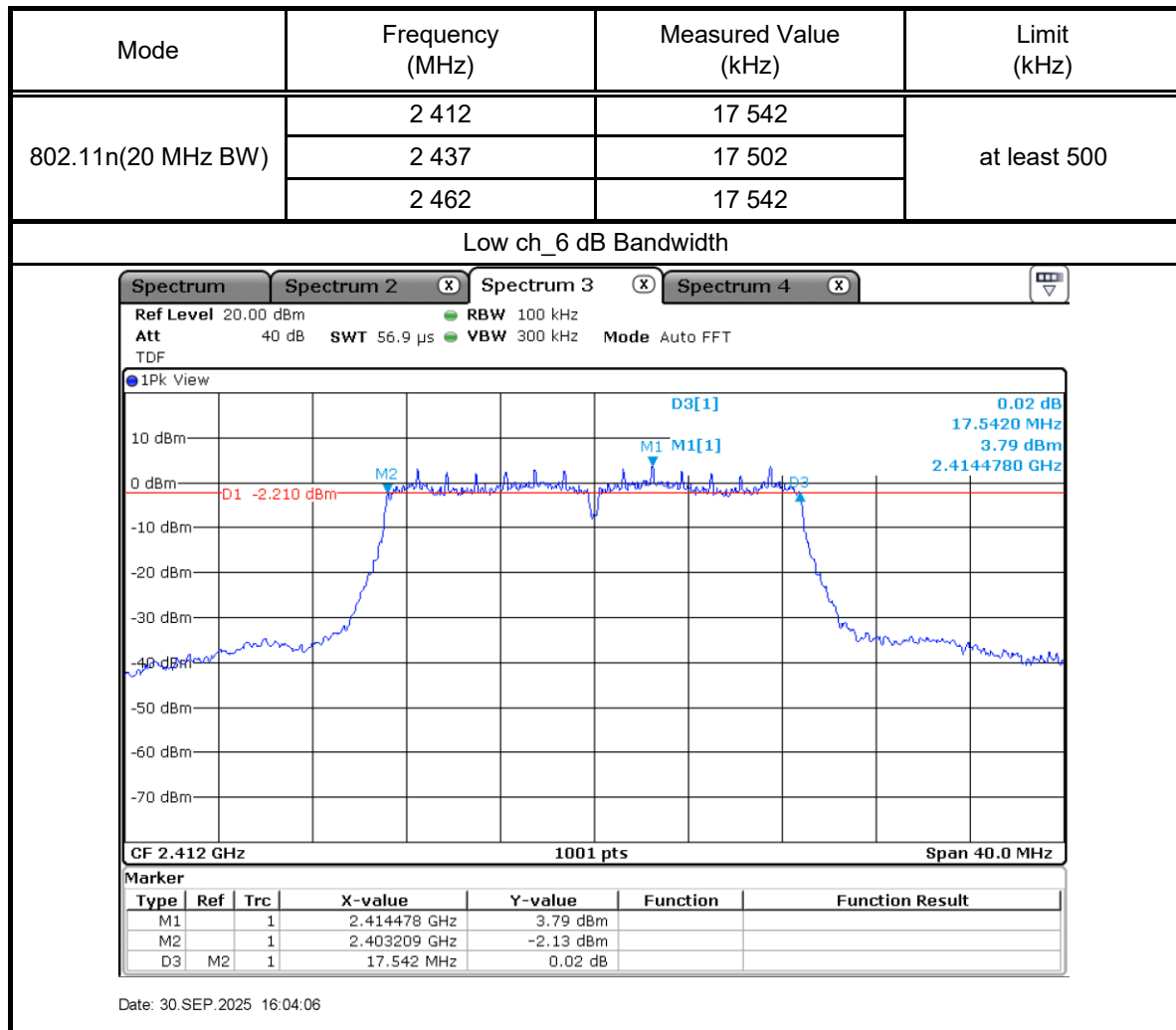
Result : Pass

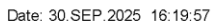
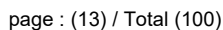


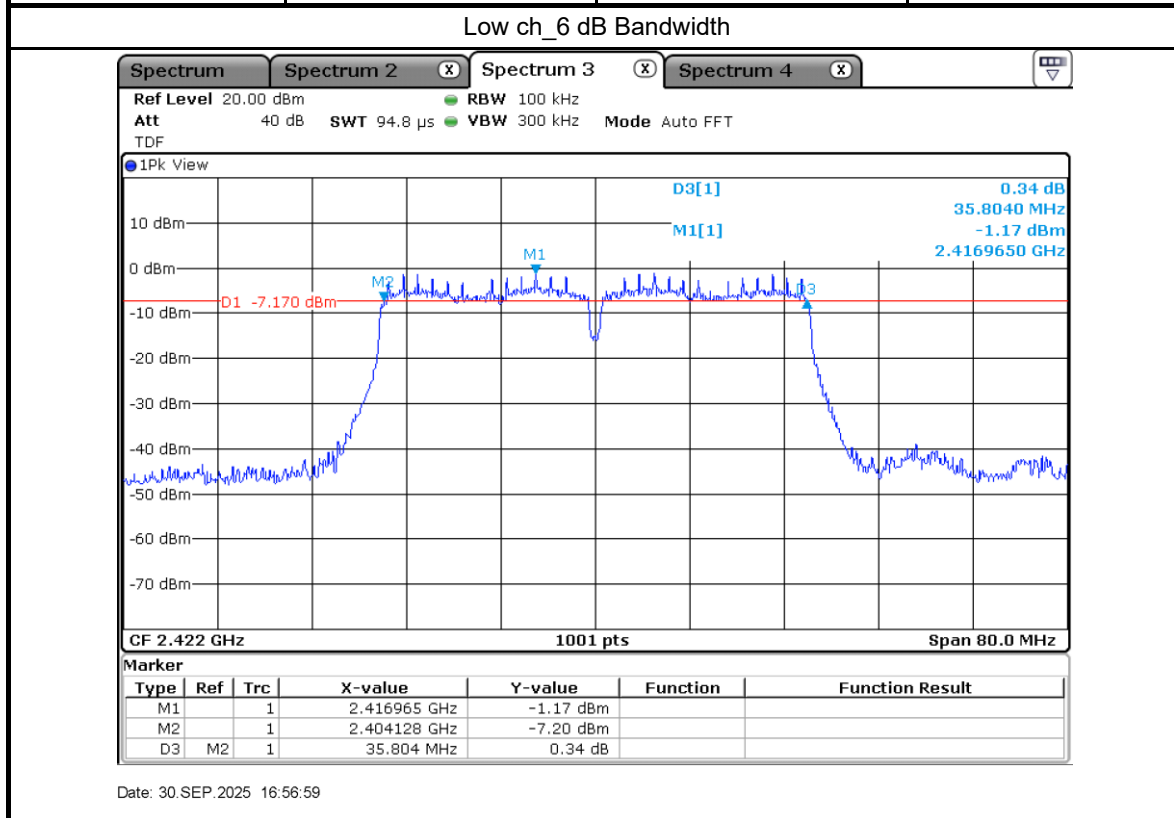
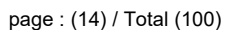


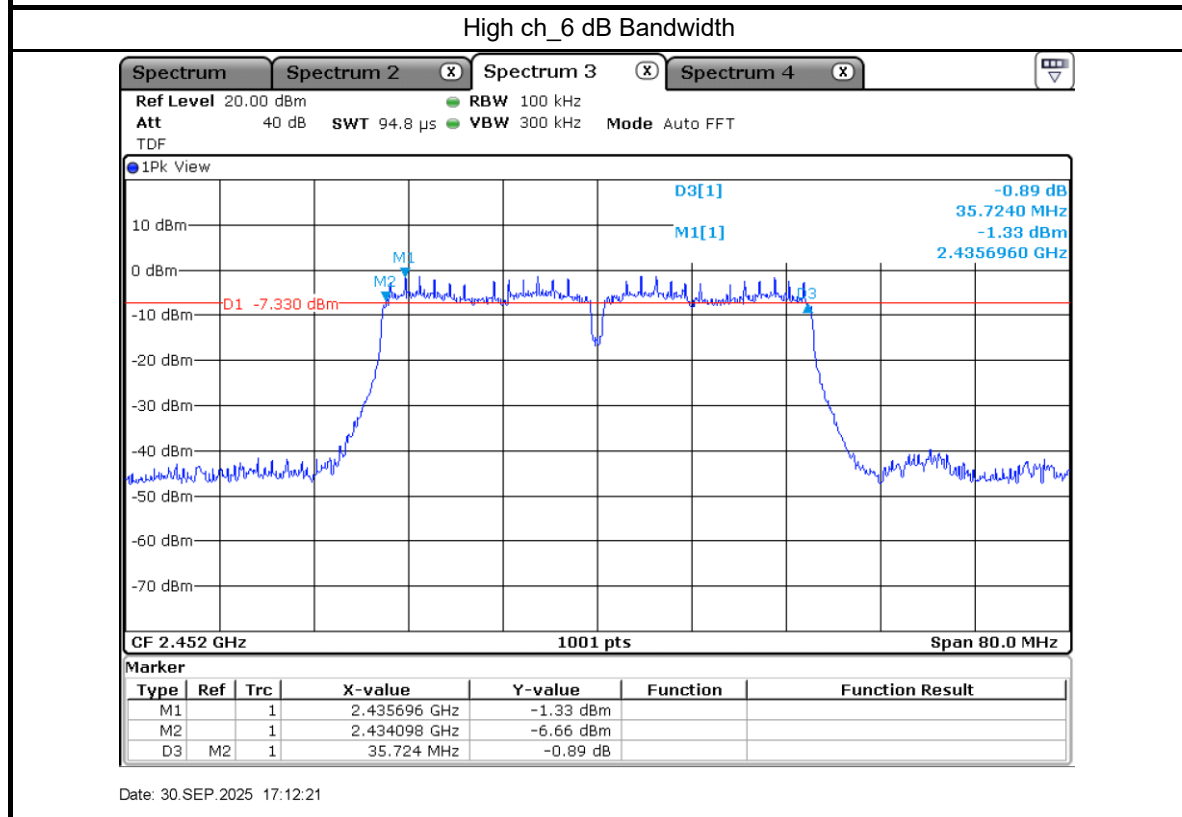
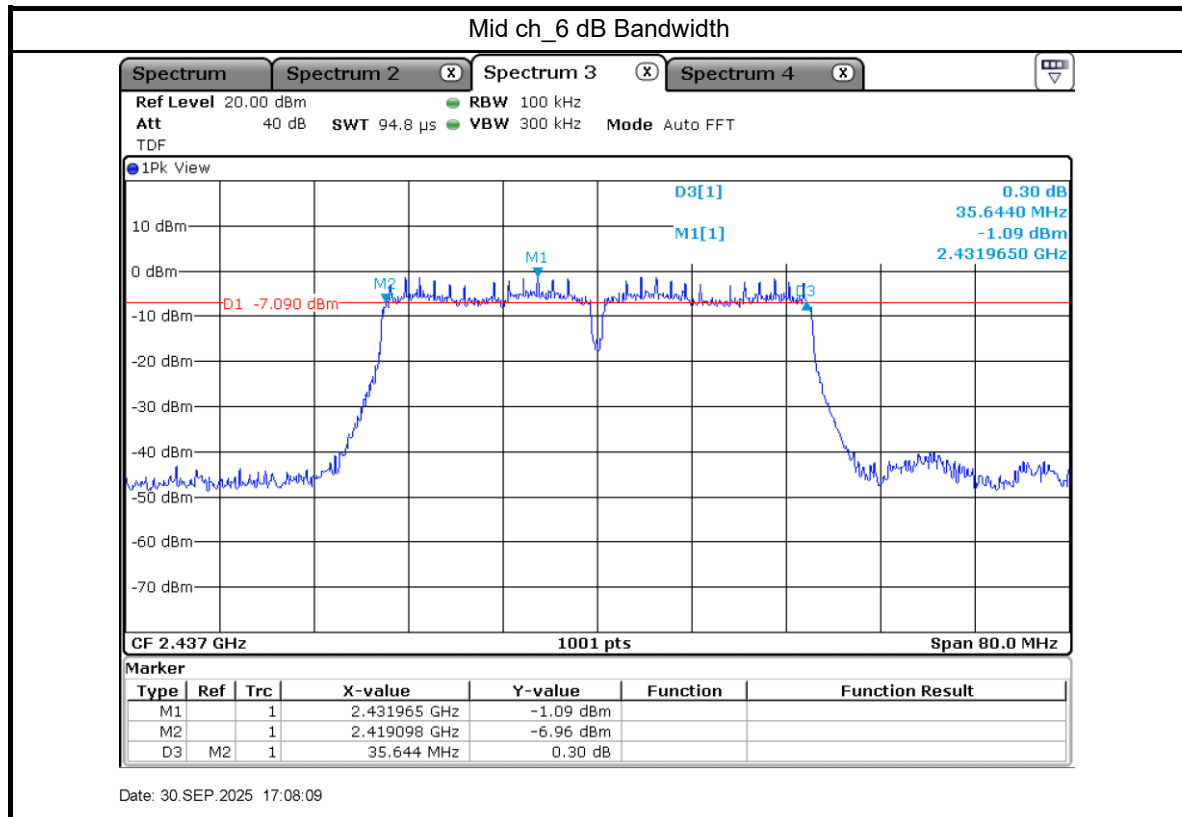


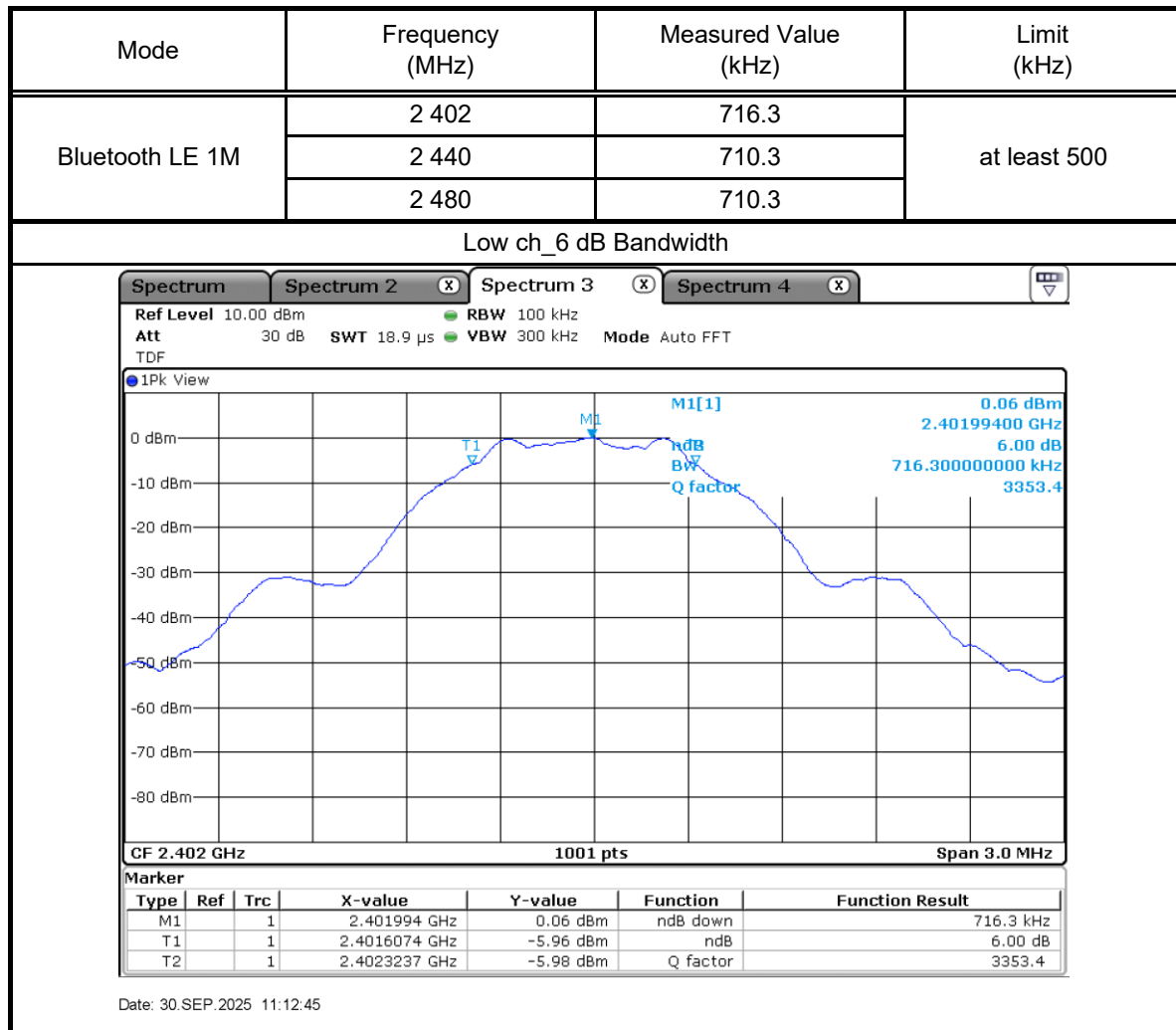


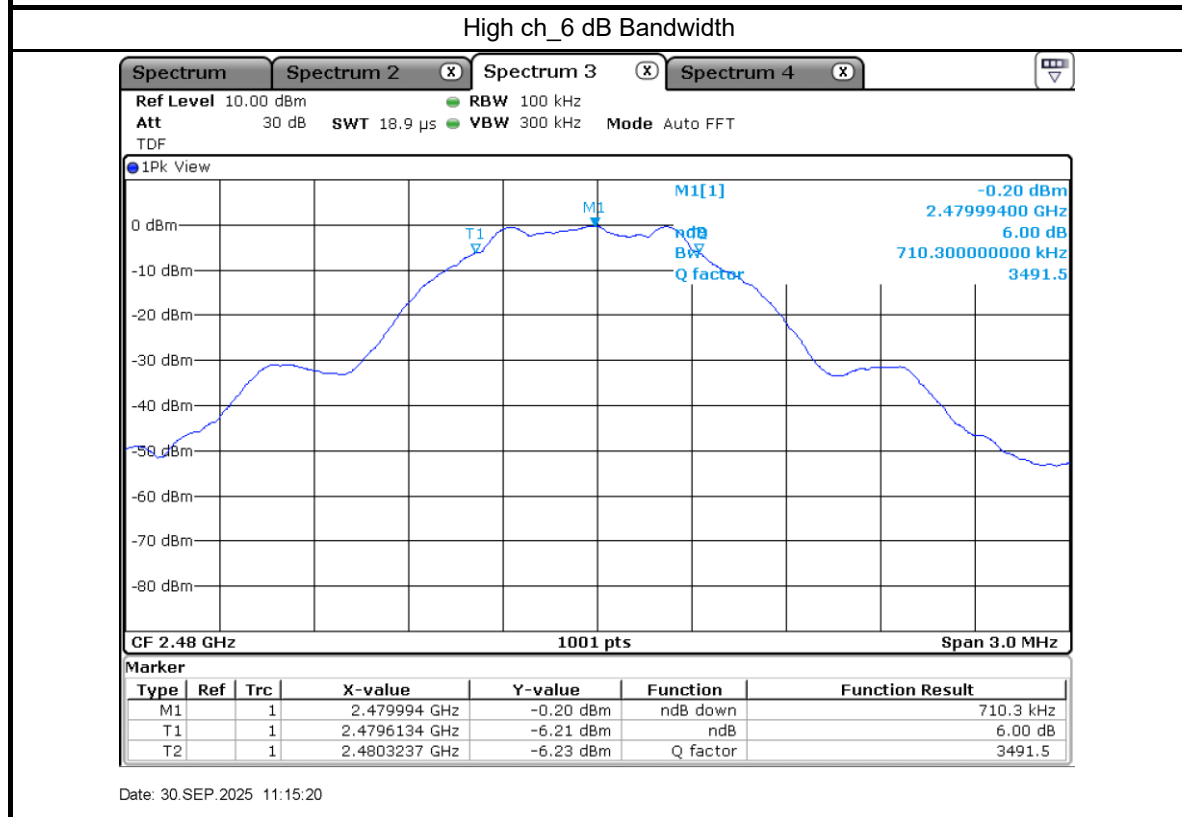
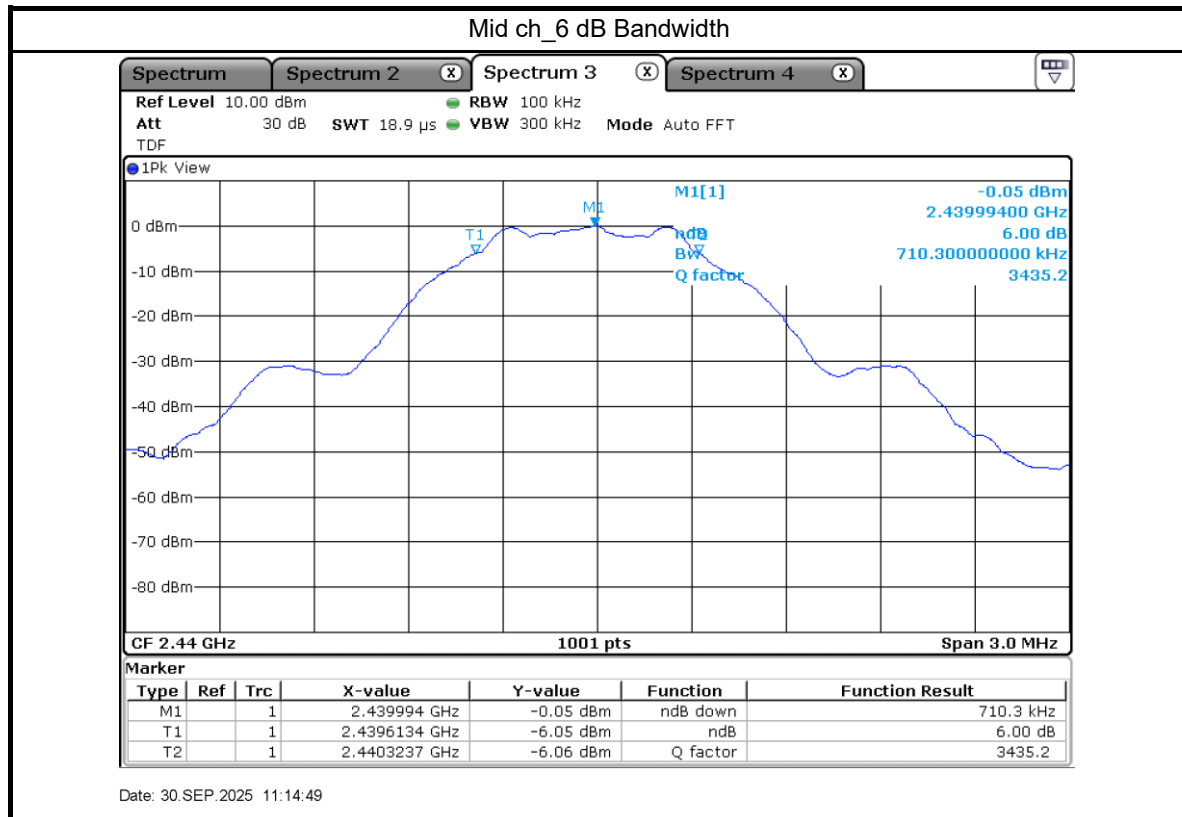


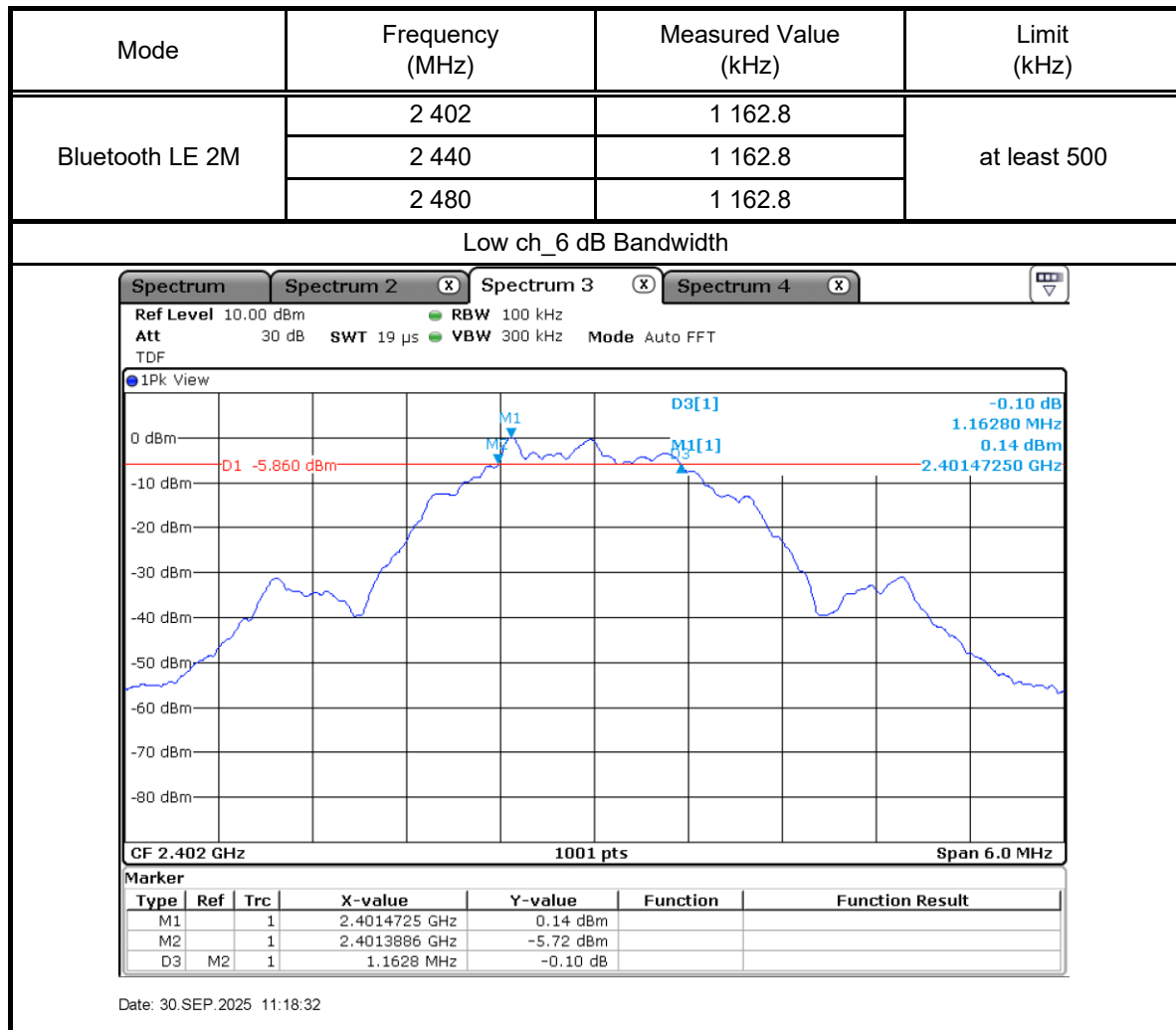


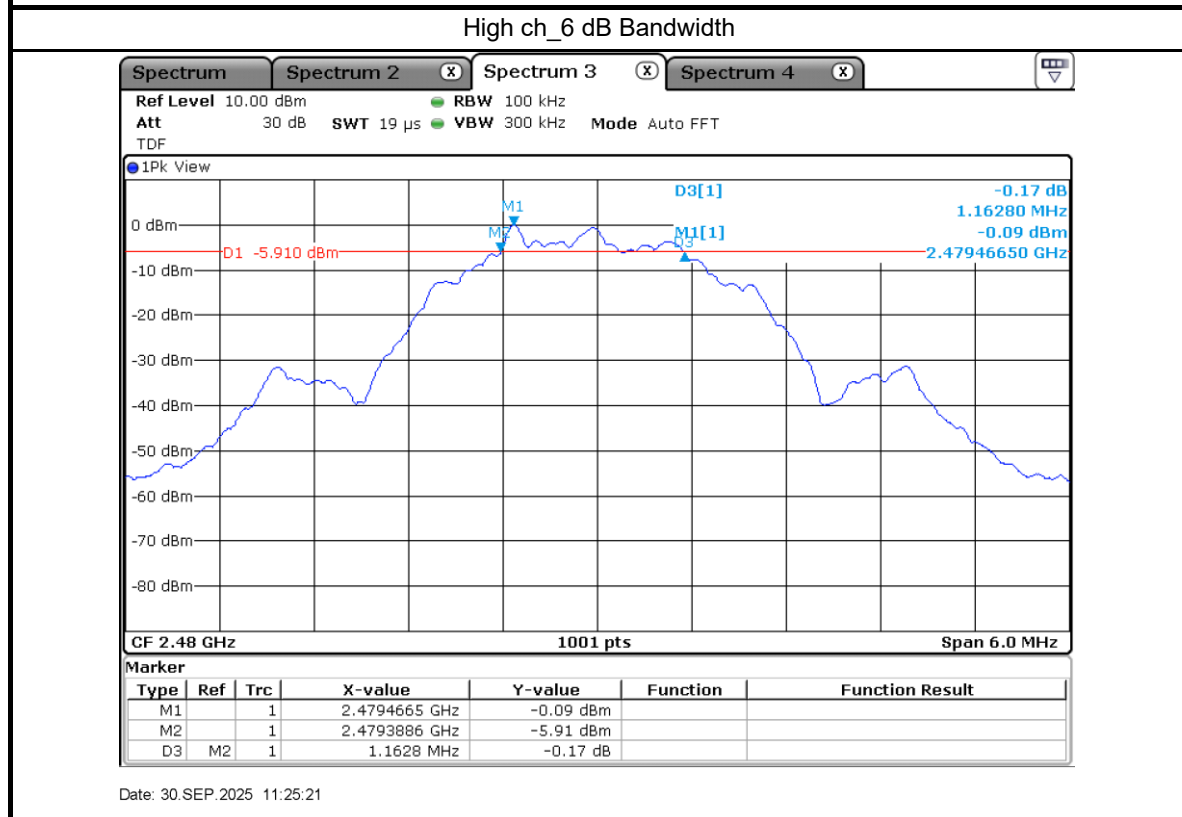
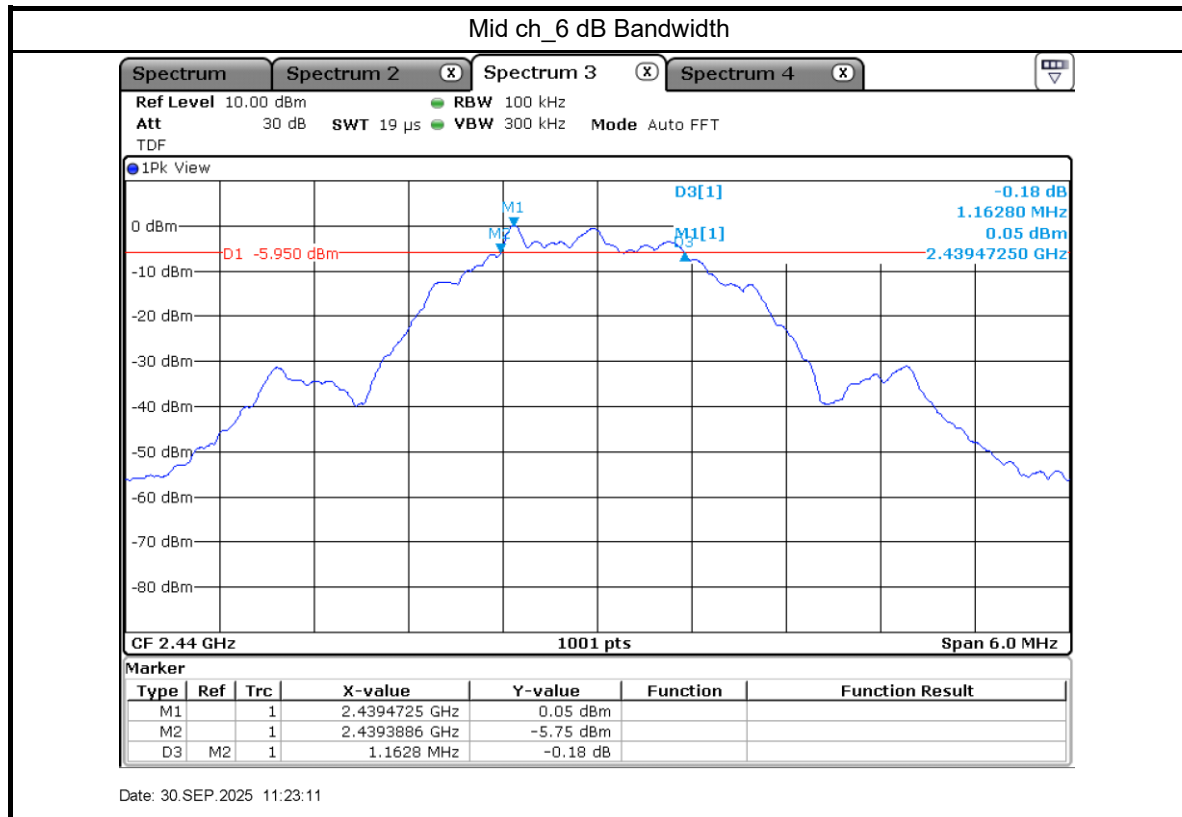


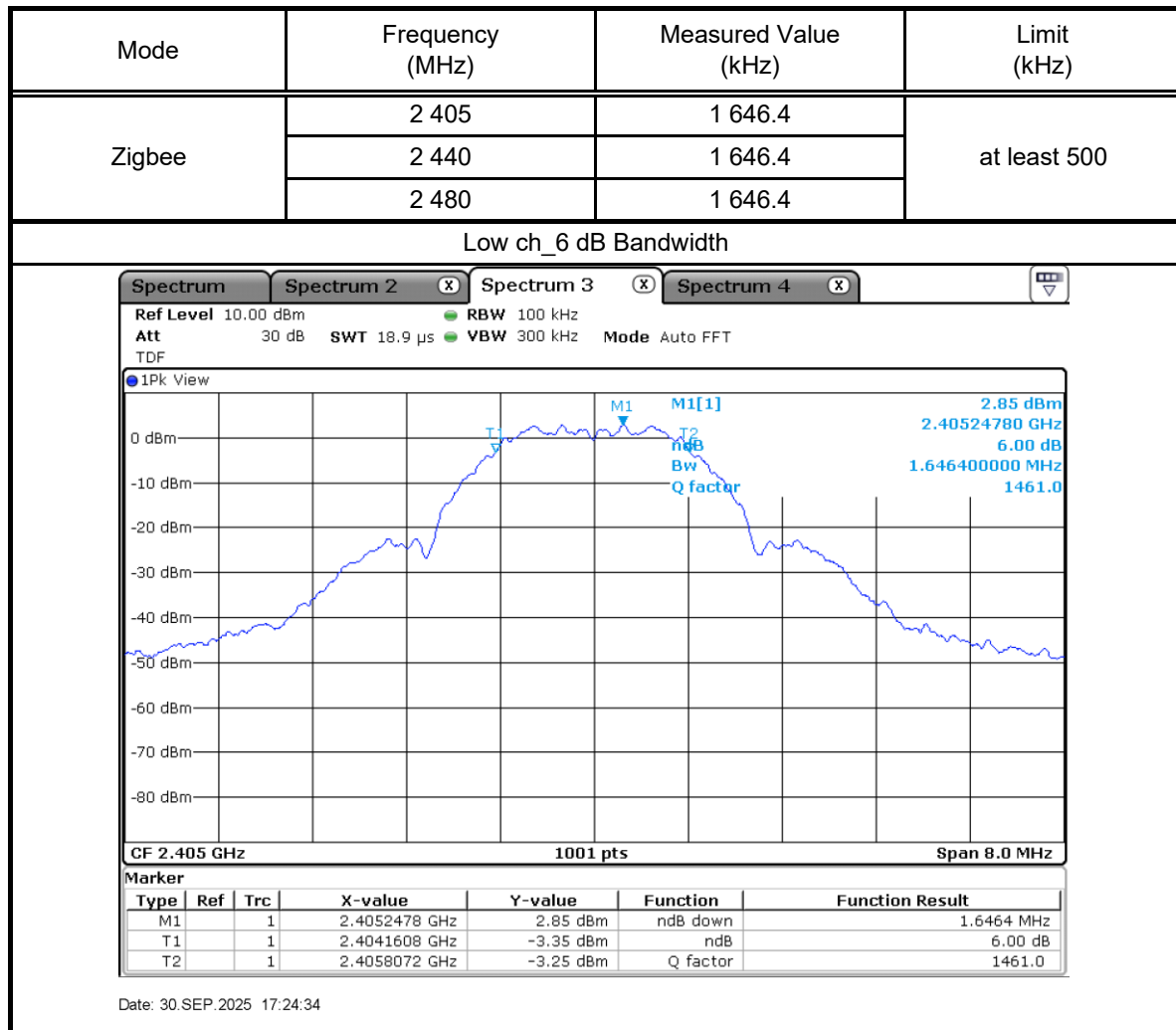


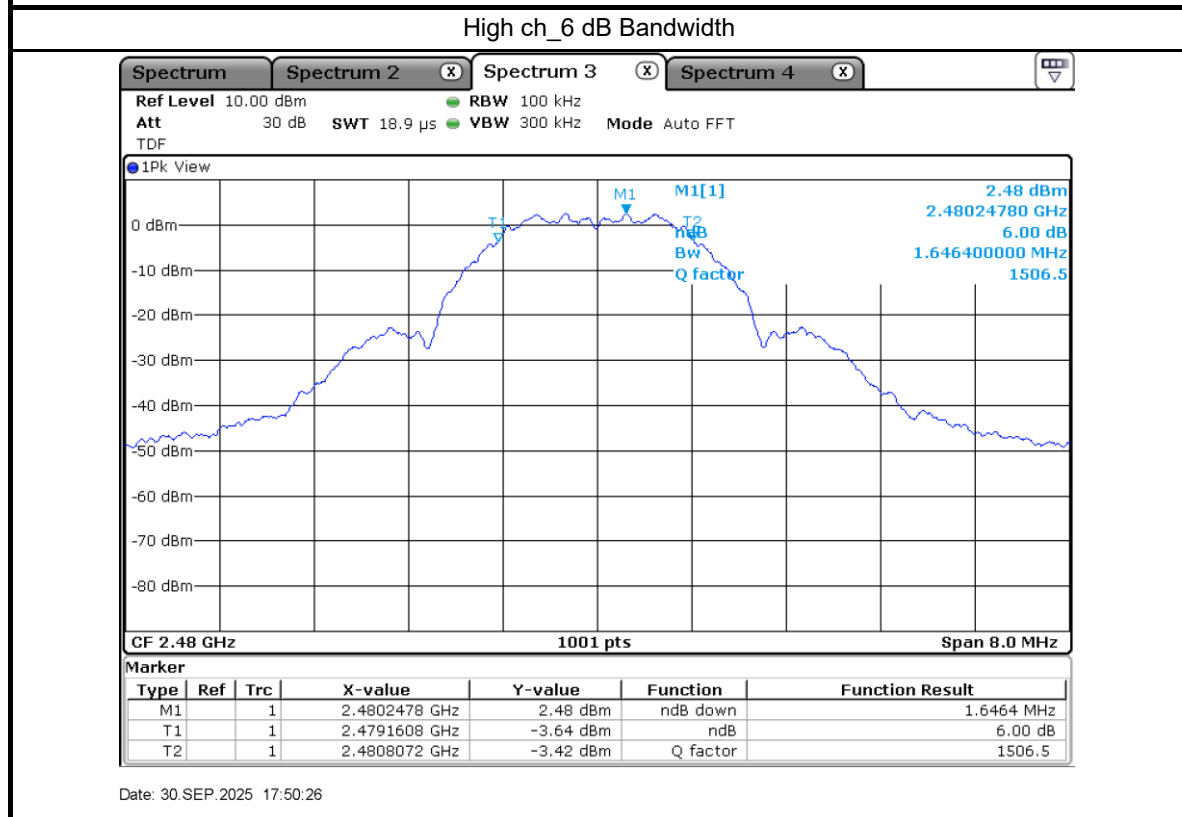
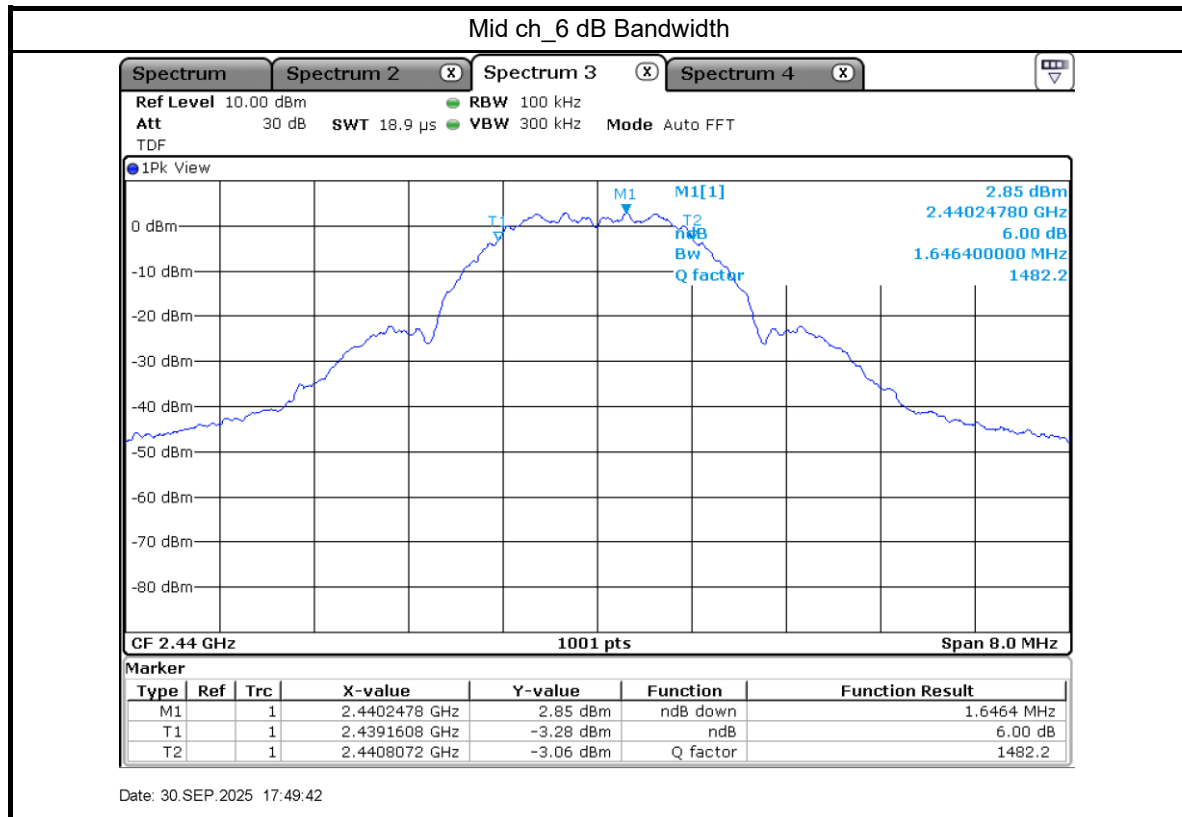














4.2 Maximum Conducted Output Power

4.2.1 Test procedure

ANSI C63.10-2020 Clause 11.9

4.2.2 Limit

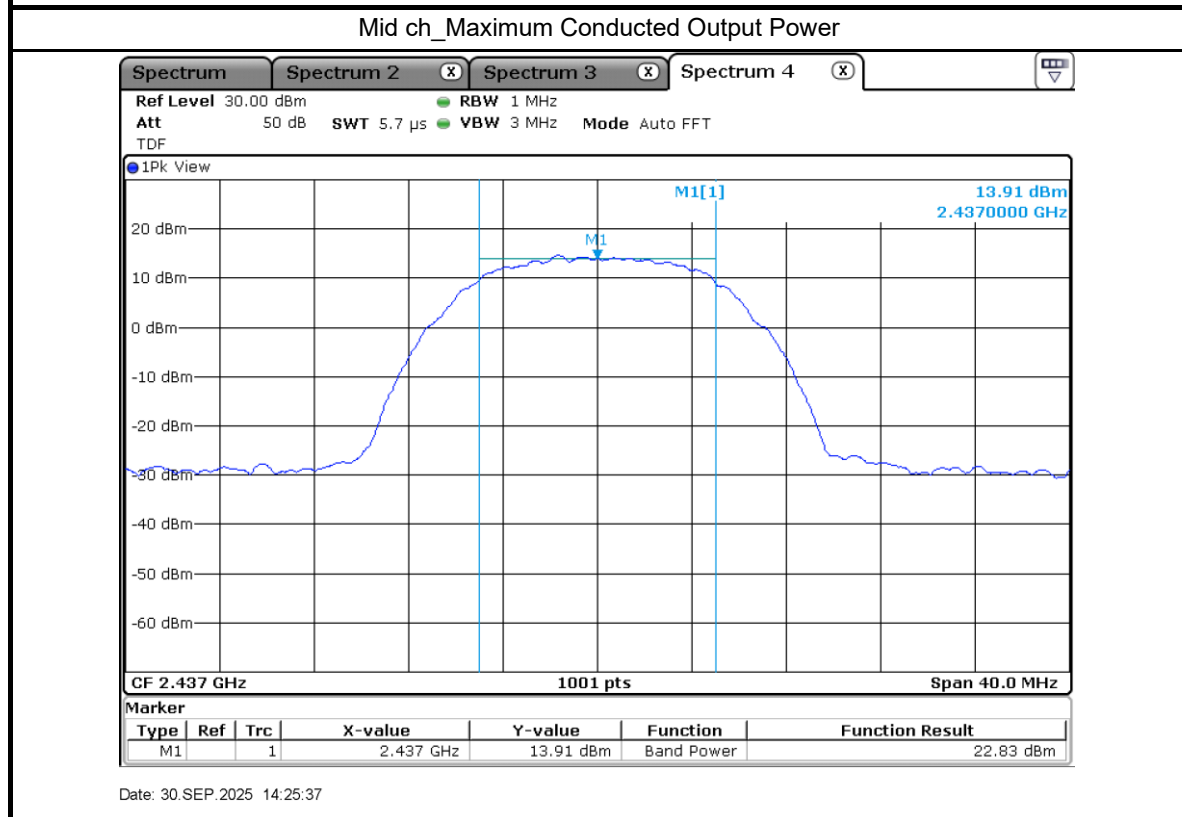
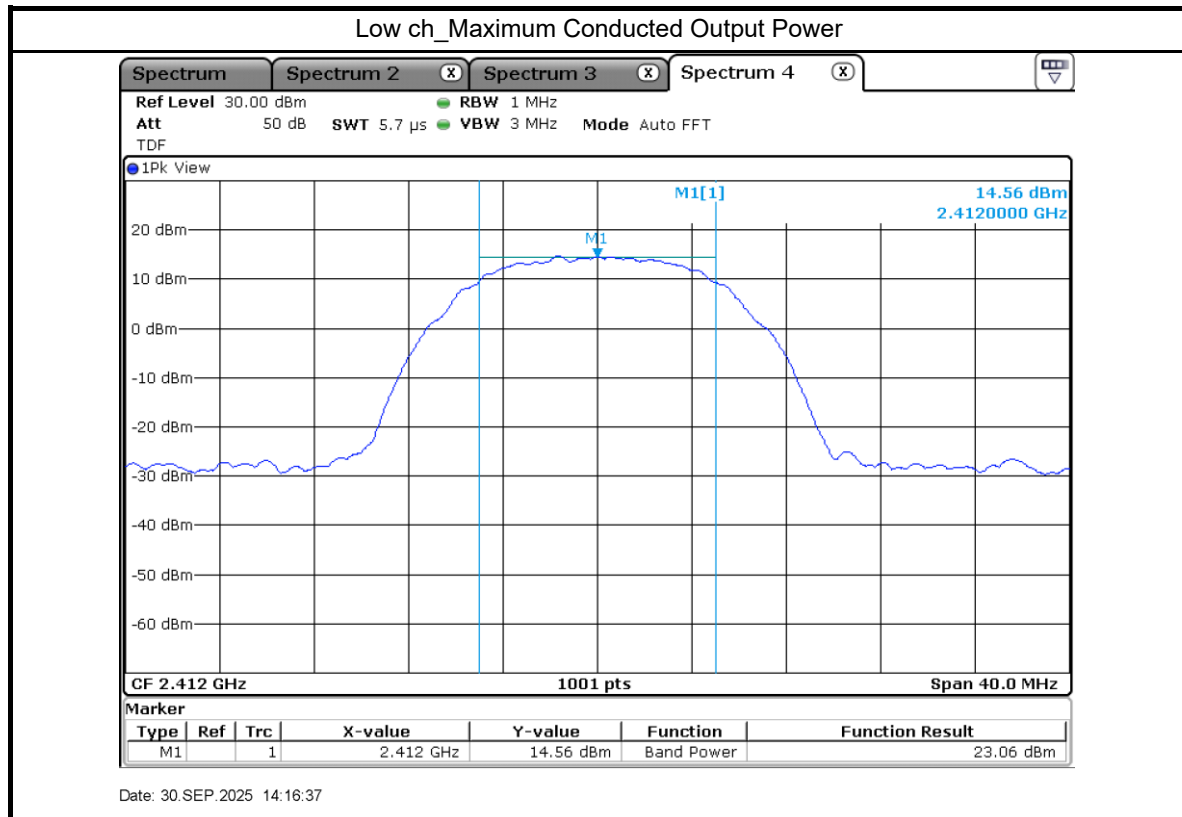
§15.247 (b) (3)

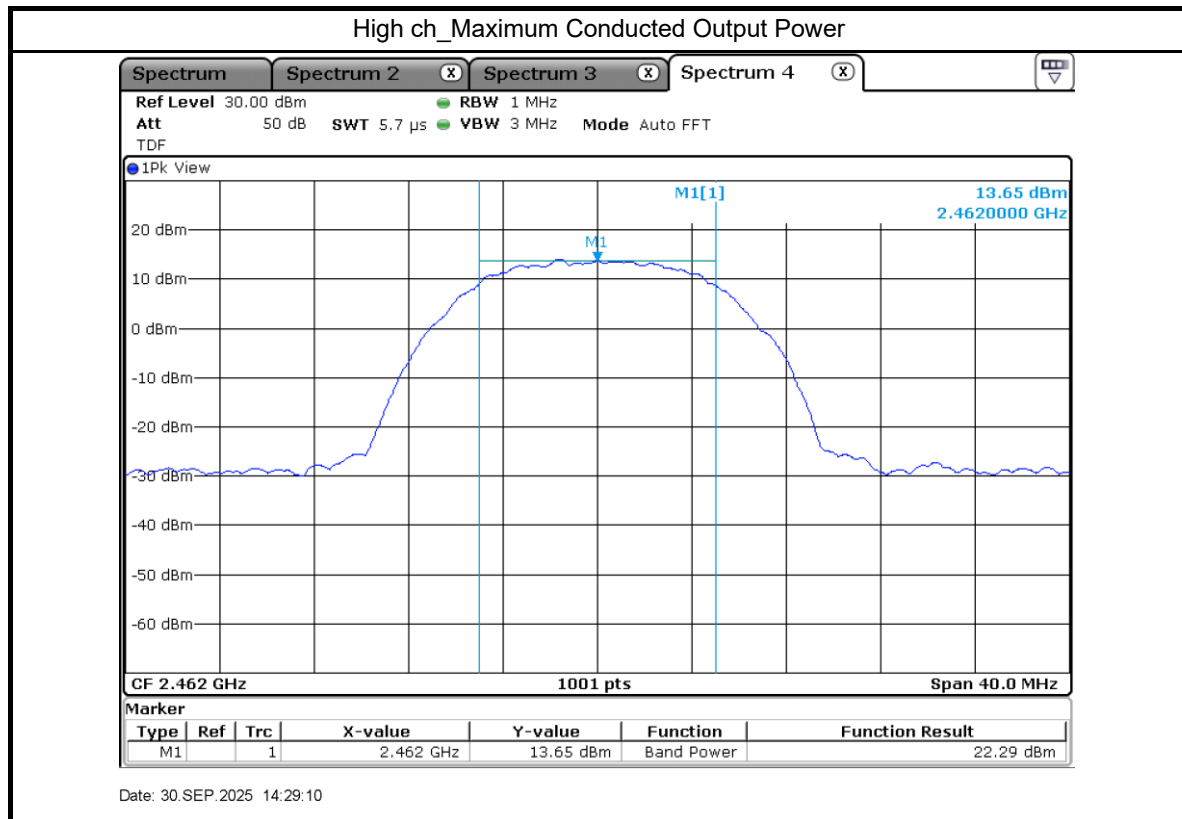
For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

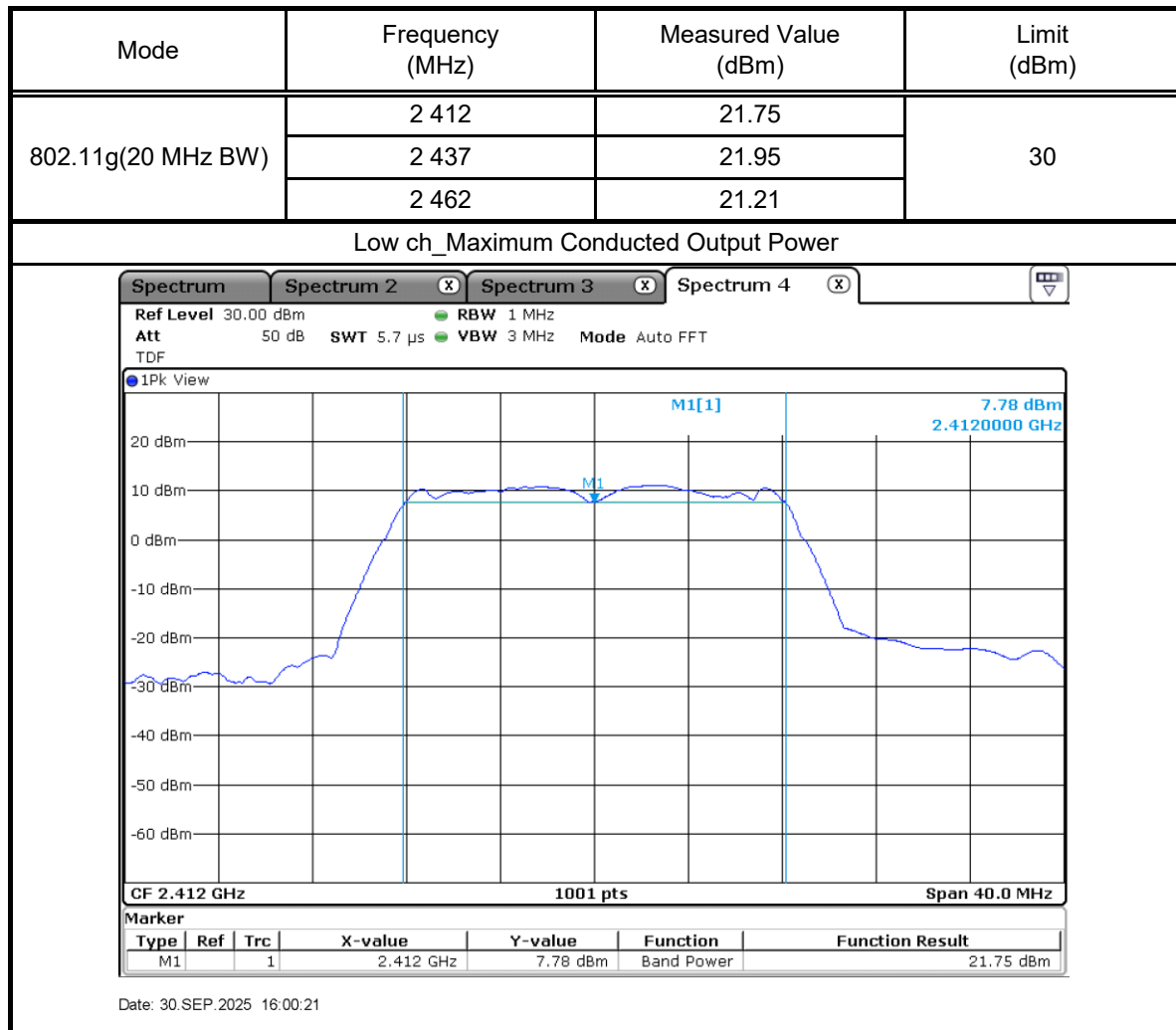
4.2.3 Test data

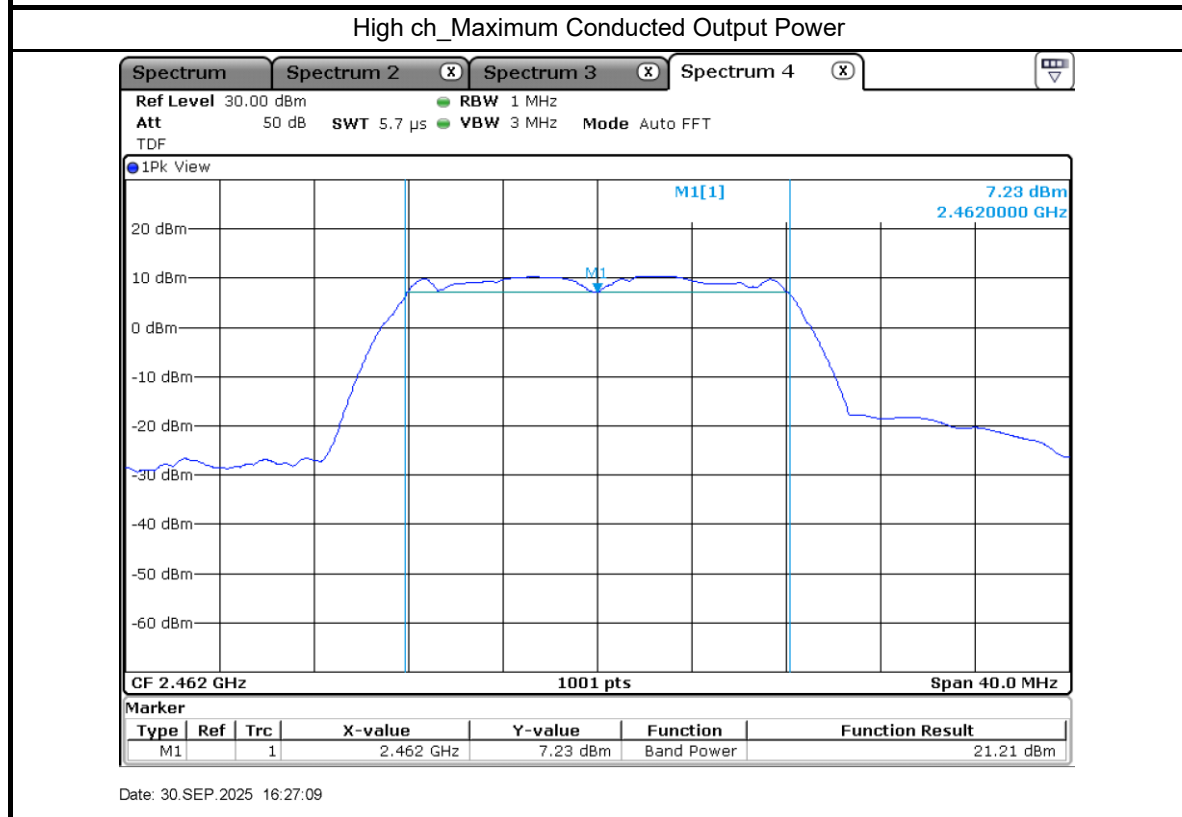
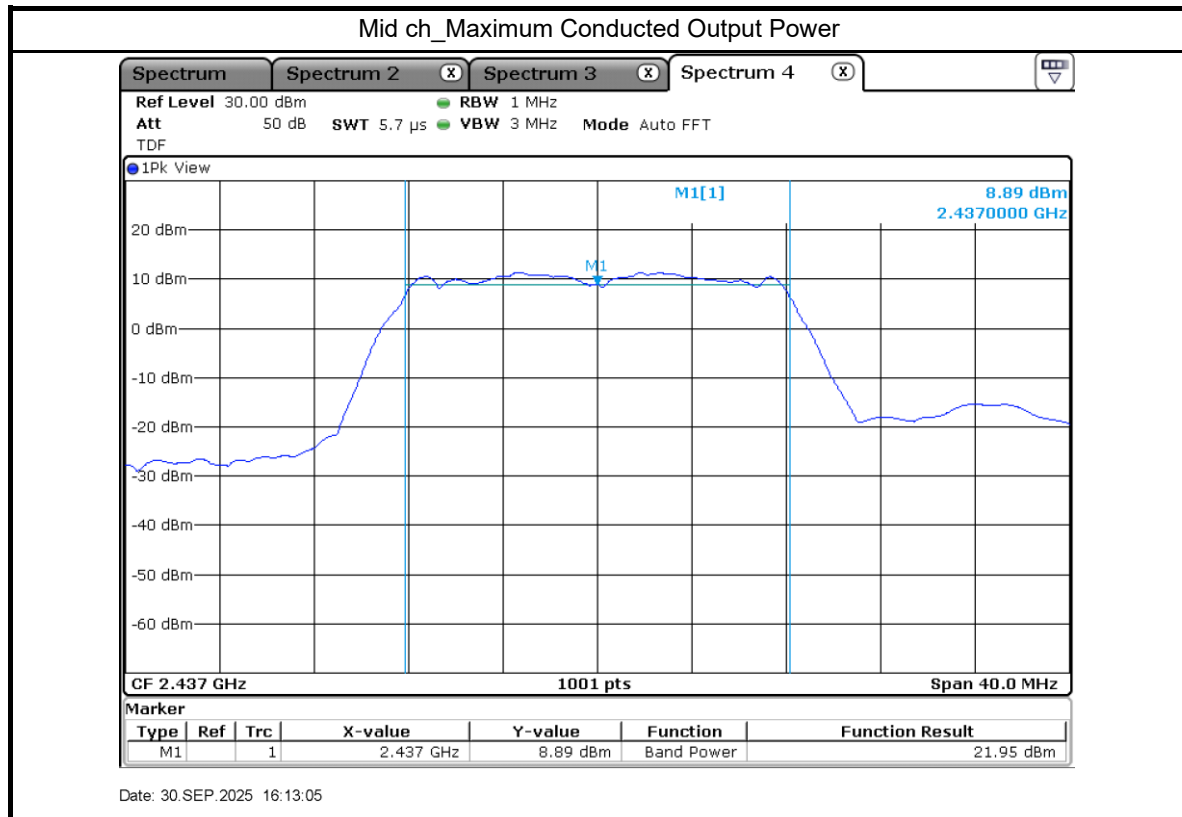
Result : Pass

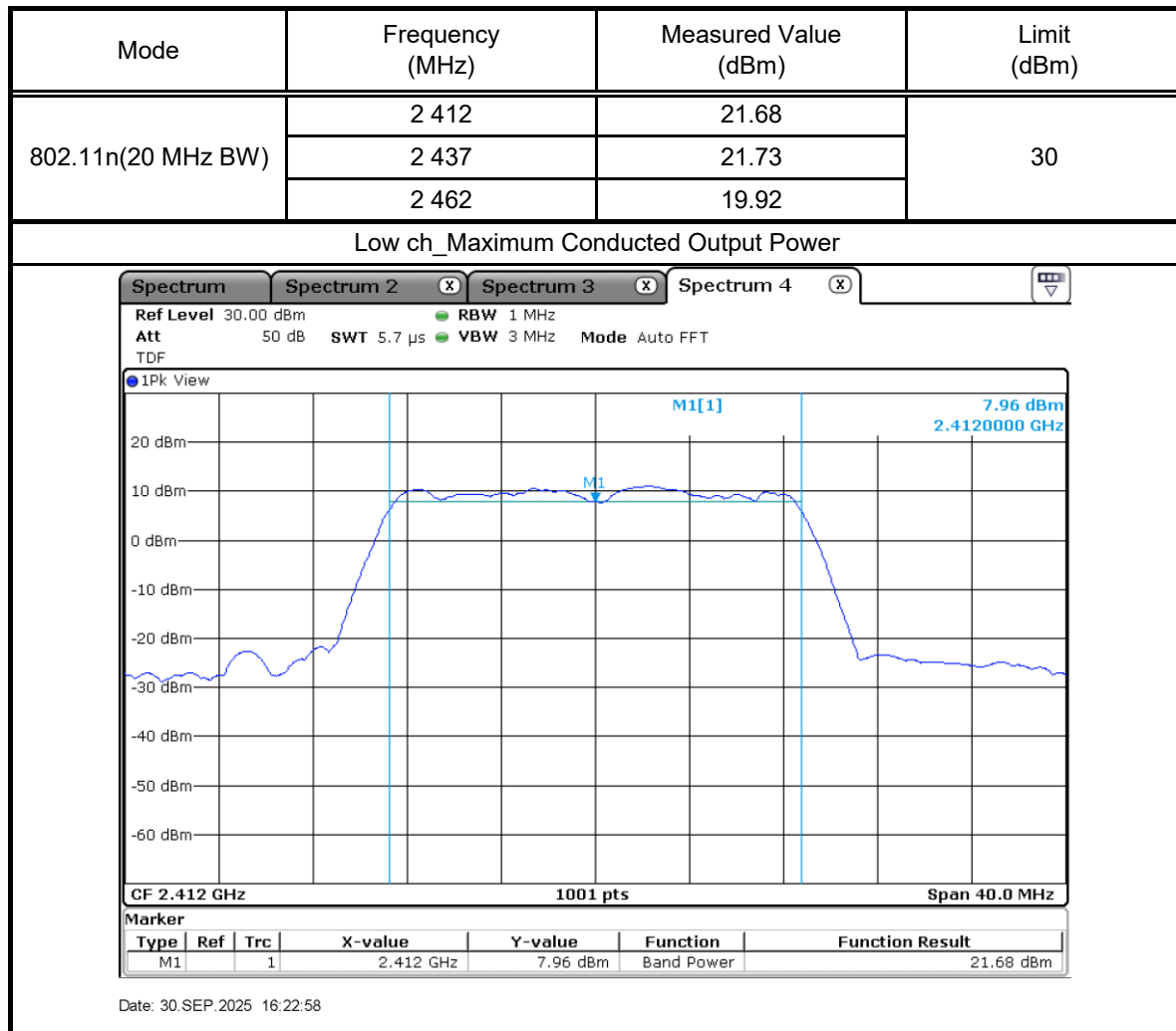
Mode	Frequency (MHz)	Measured Value (dBm)	Limit (dBm)
802.11b(20 MHz BW)	2 412	23.06	30
	2 437	22.83	
	2 462	22.29	

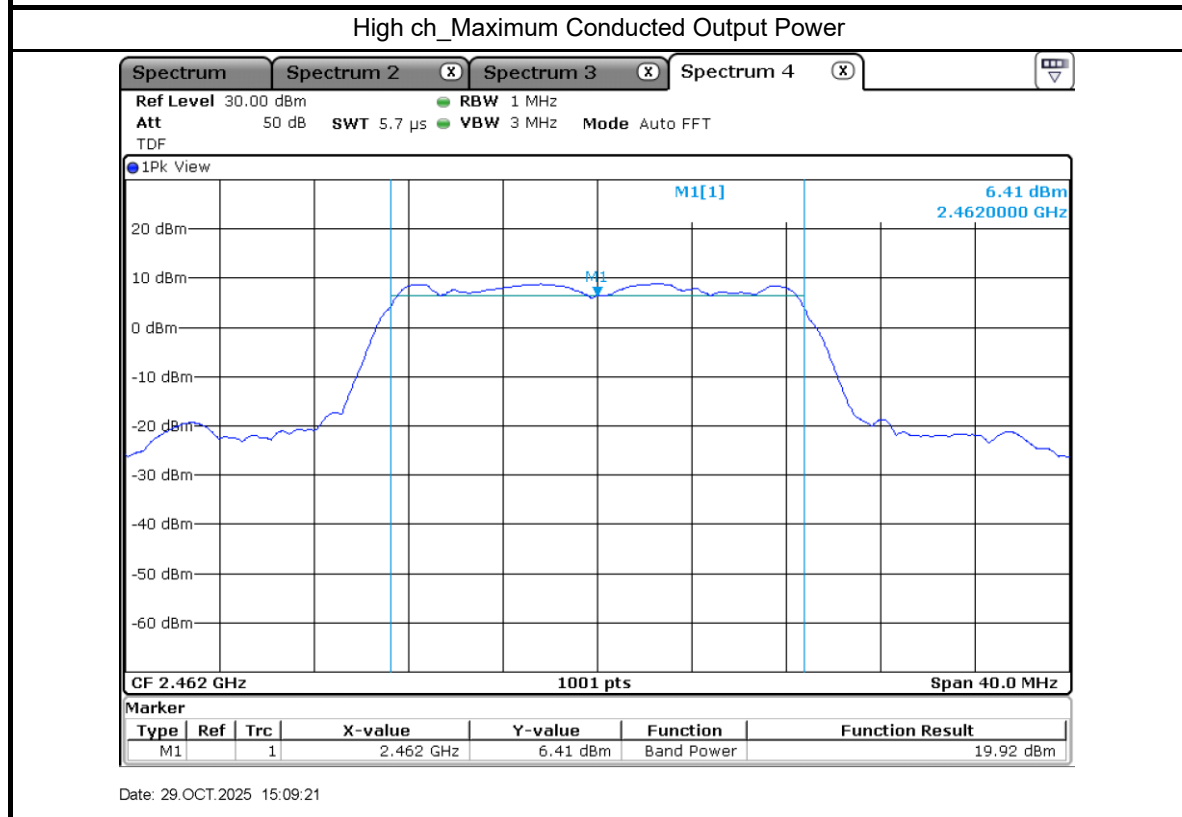
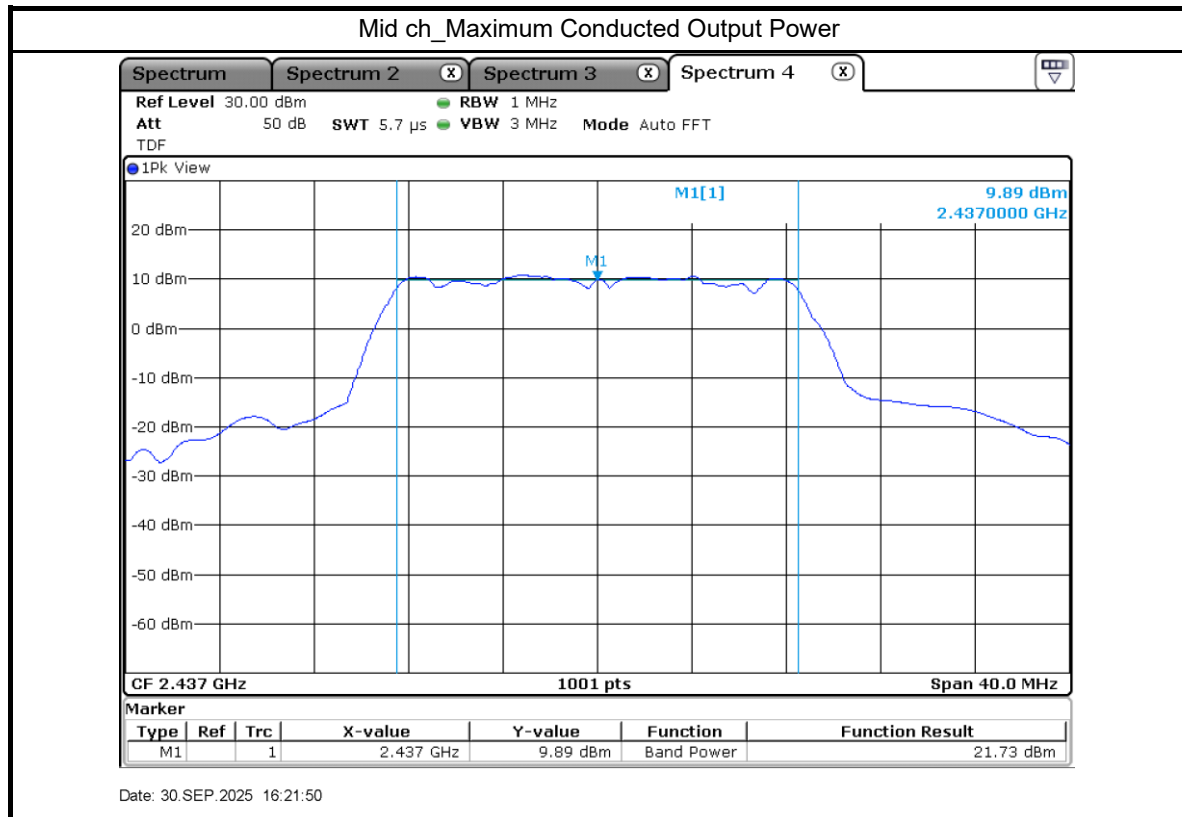


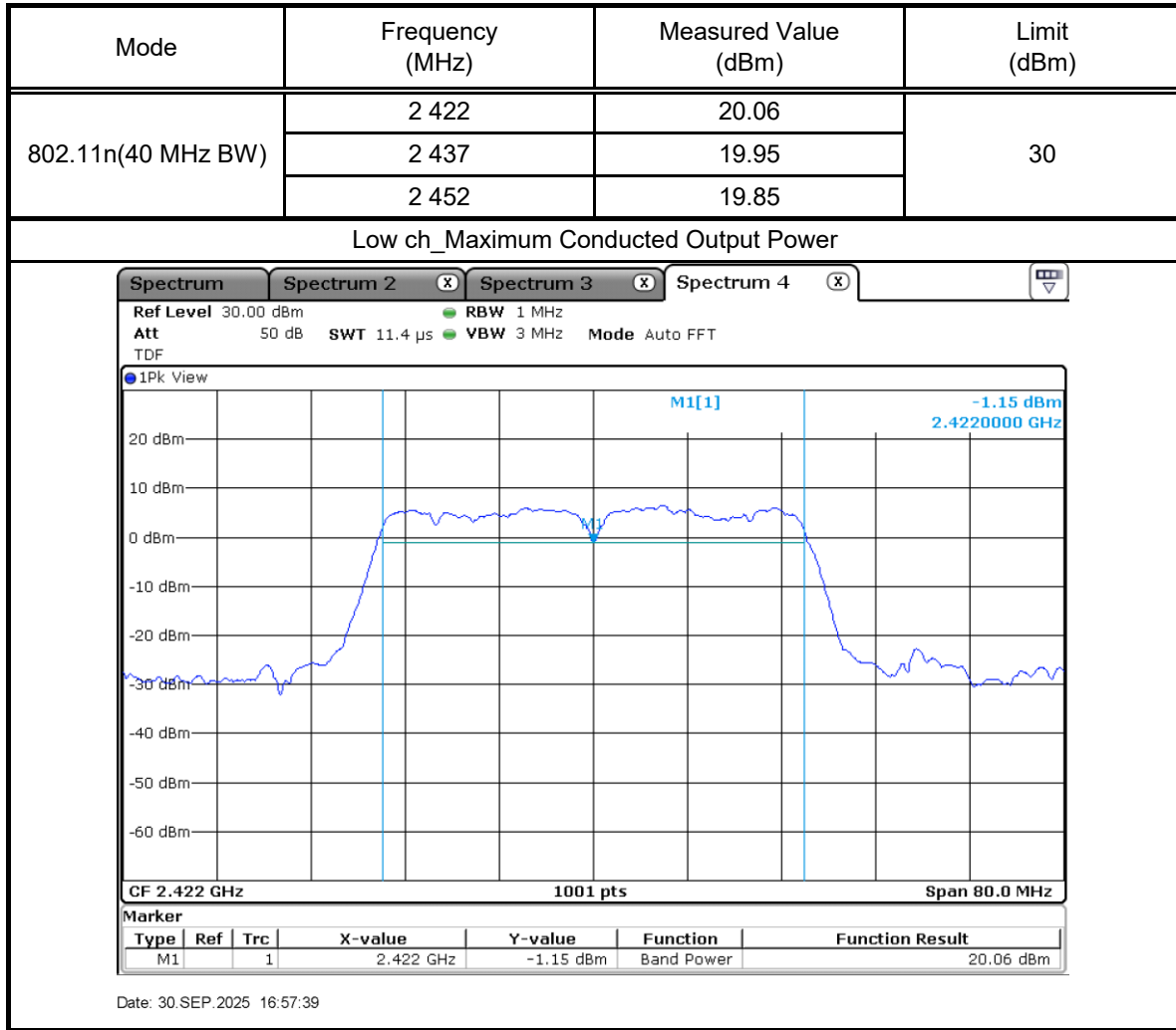


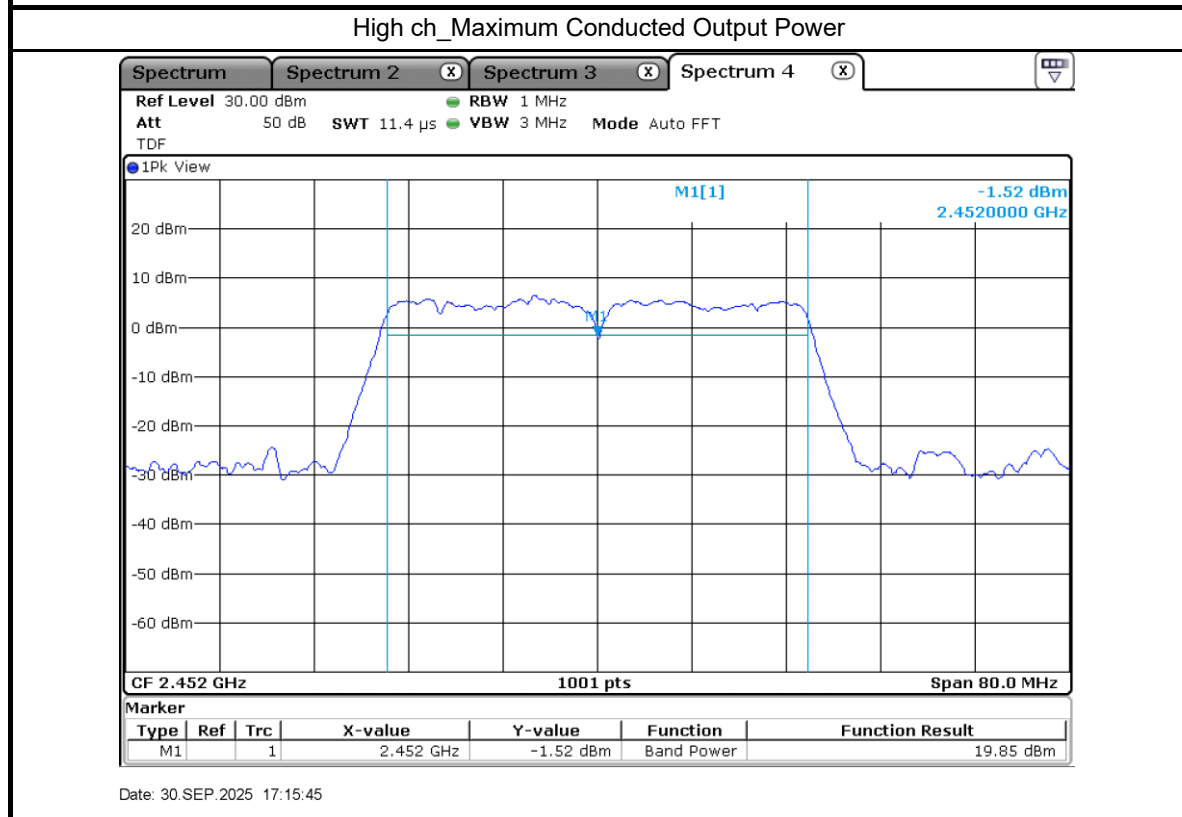
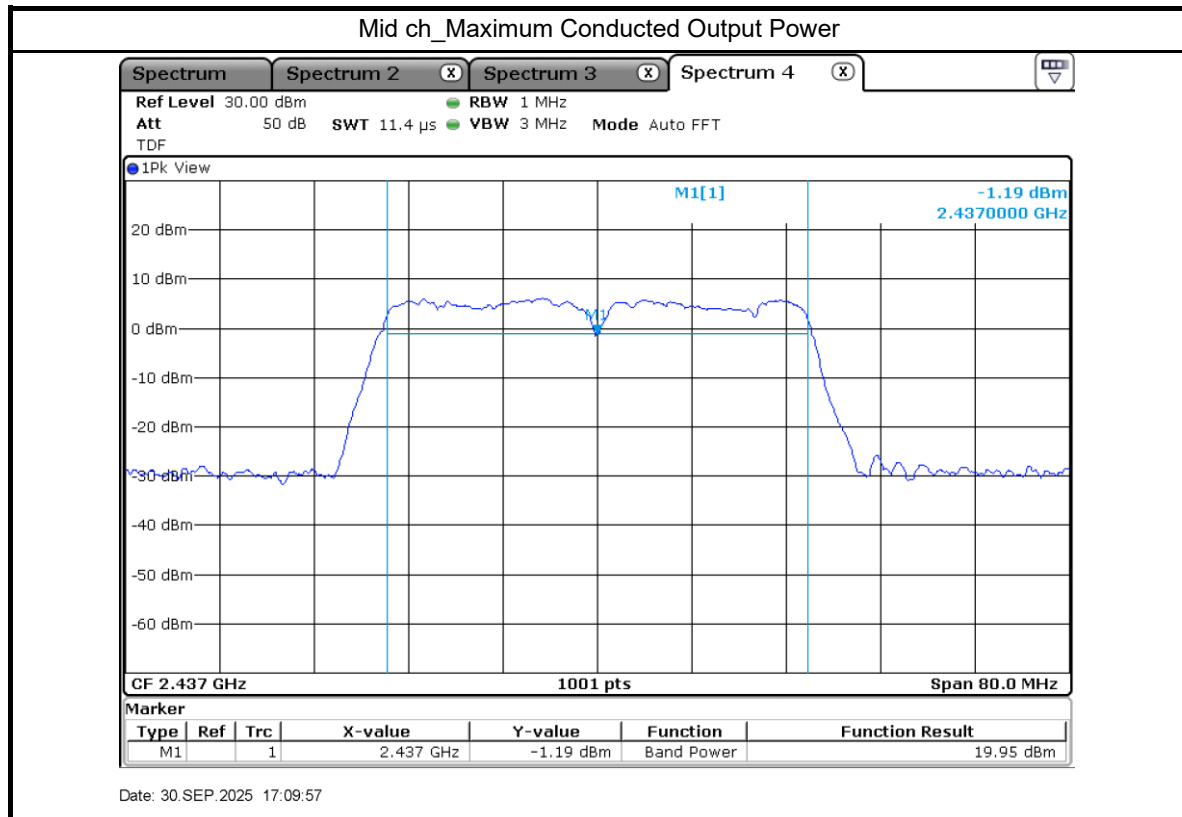


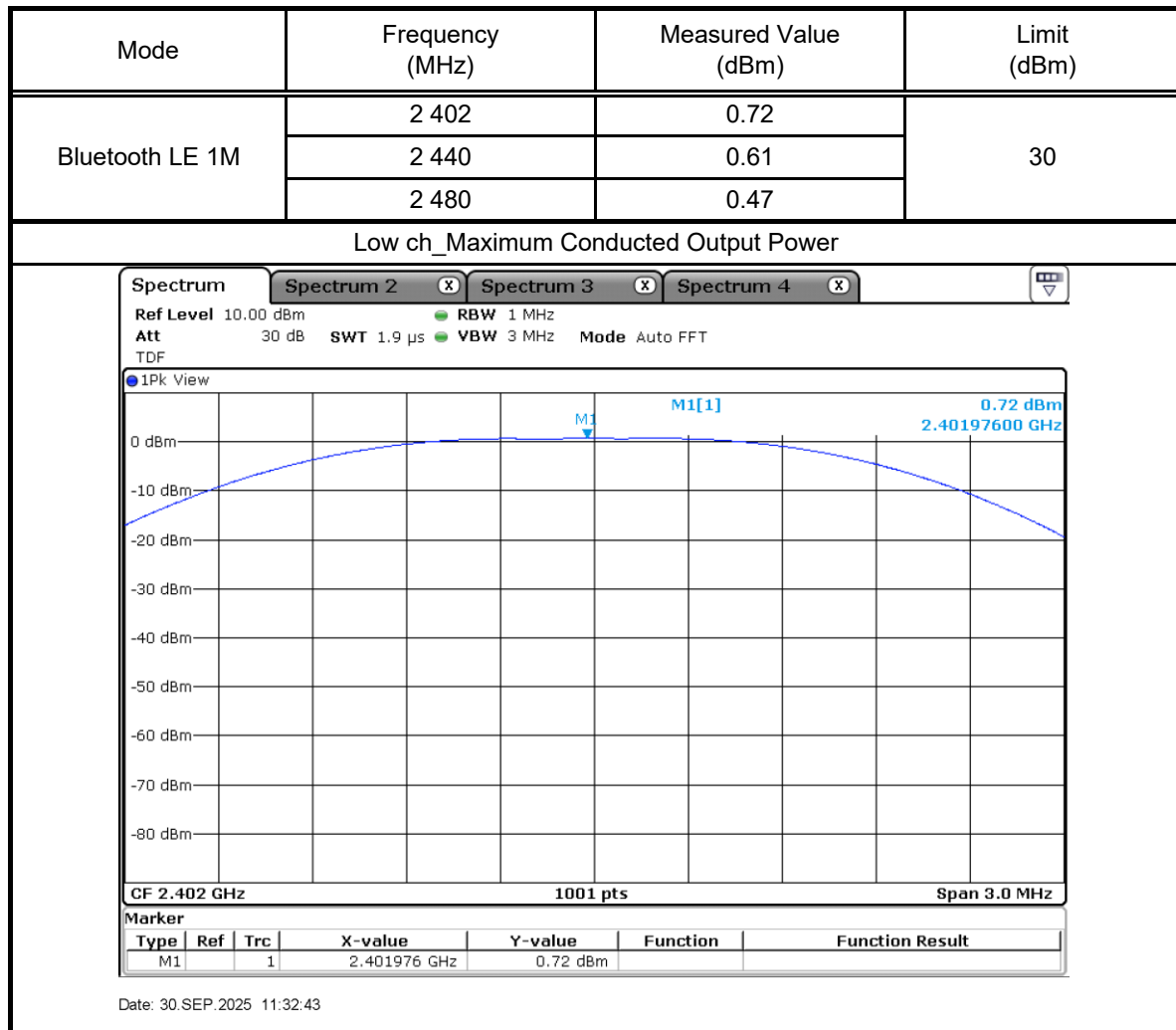


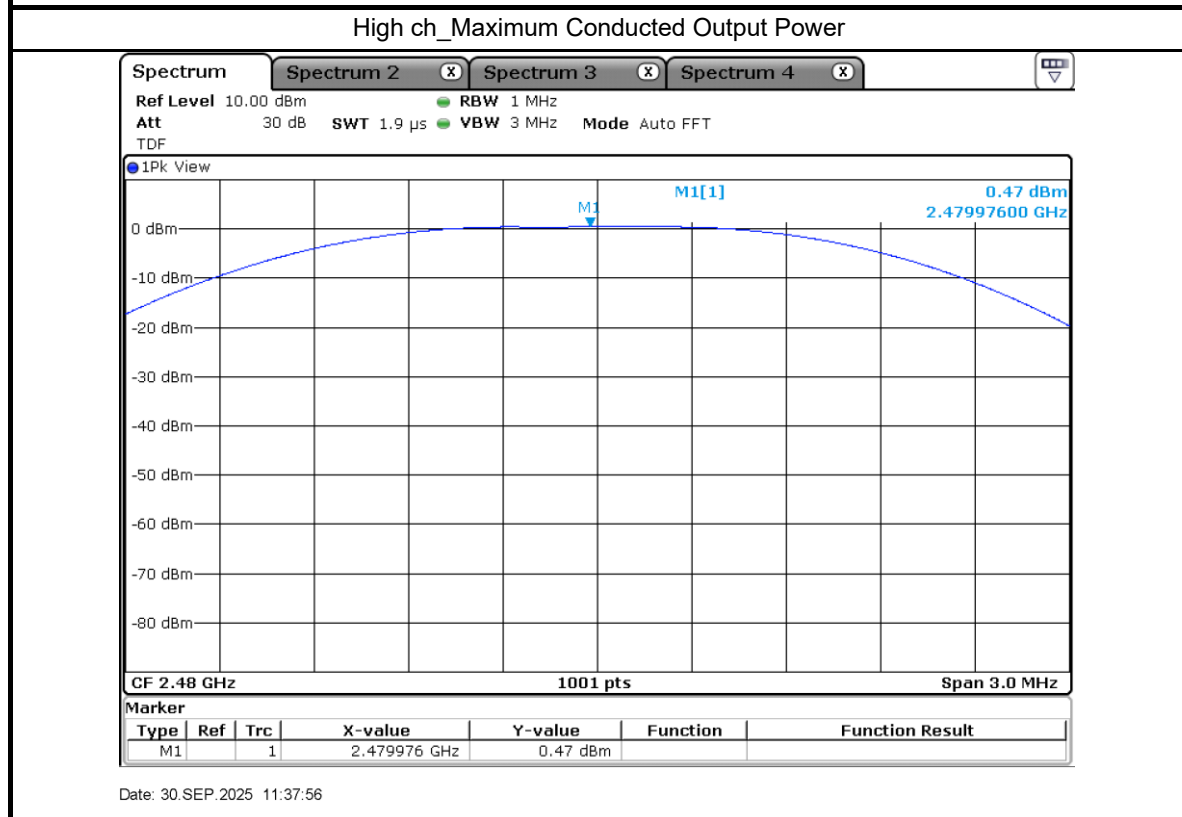
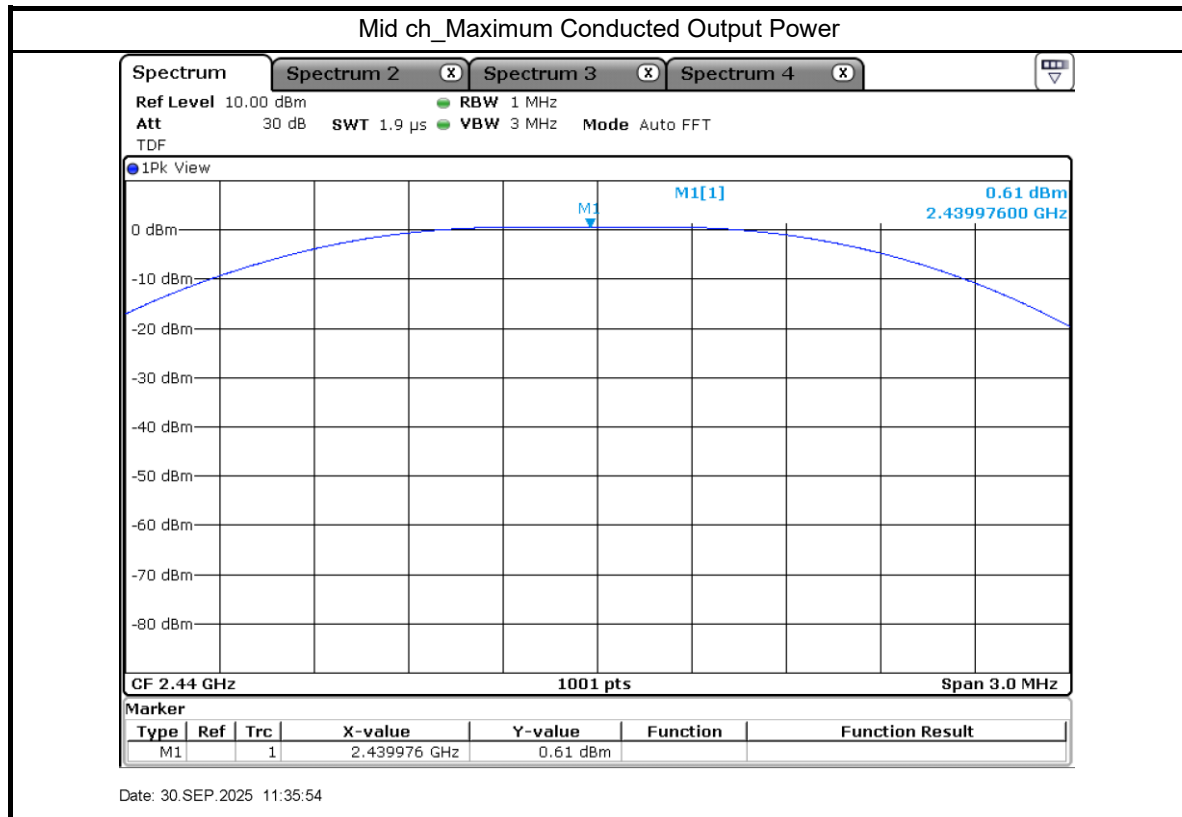


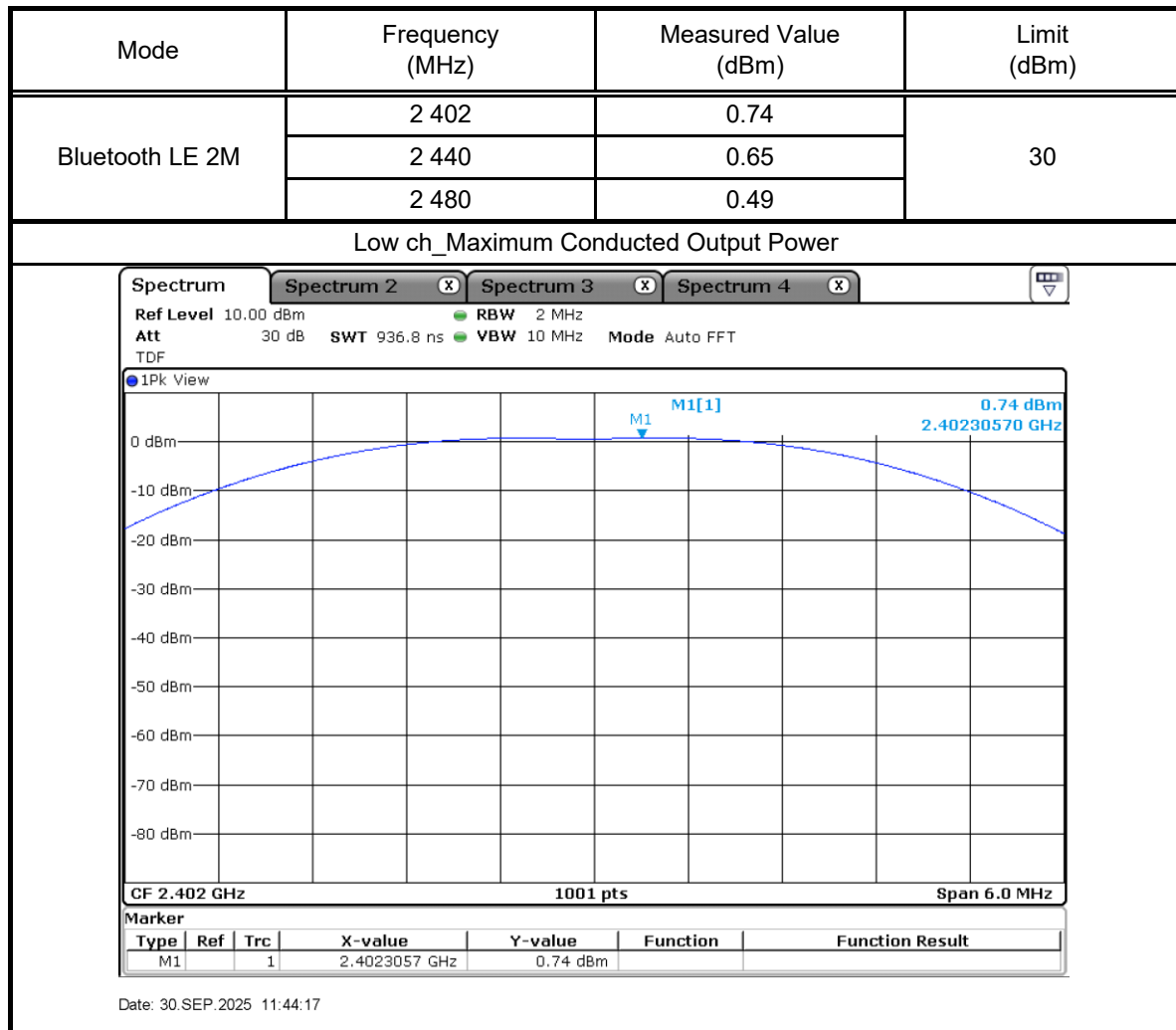


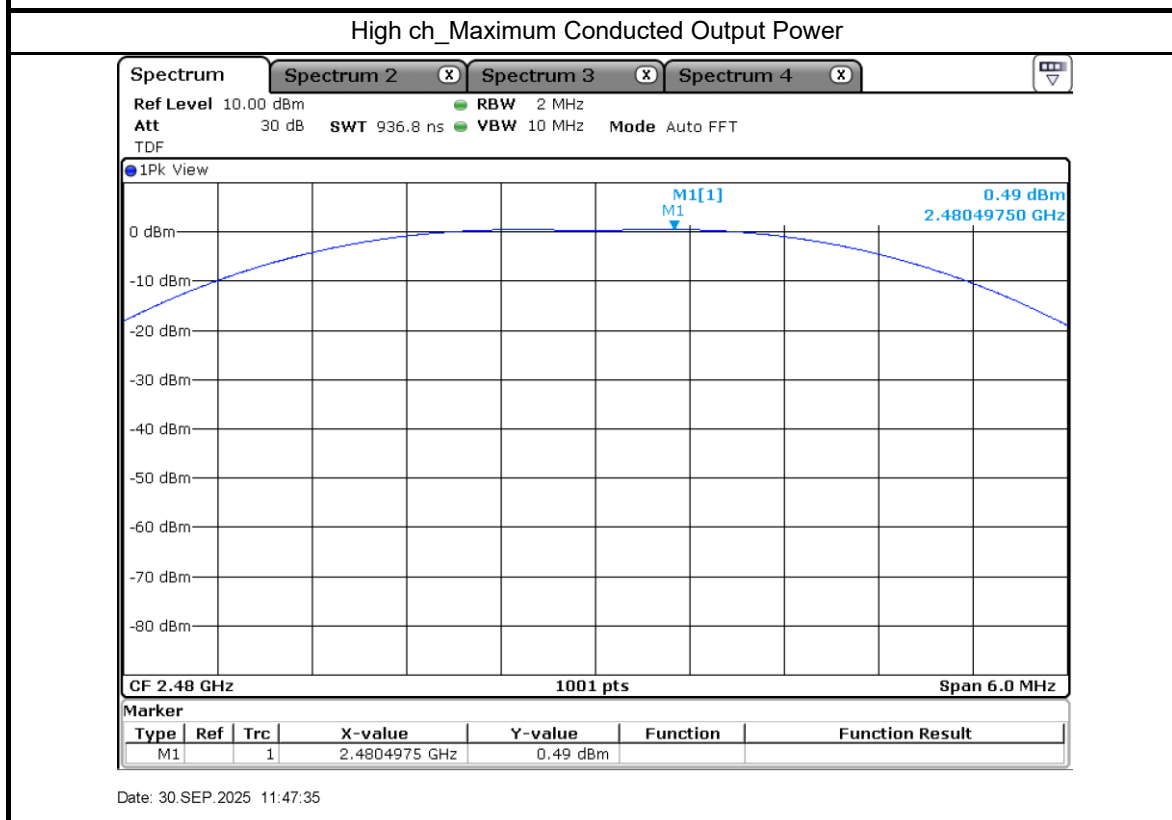
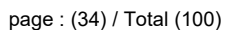


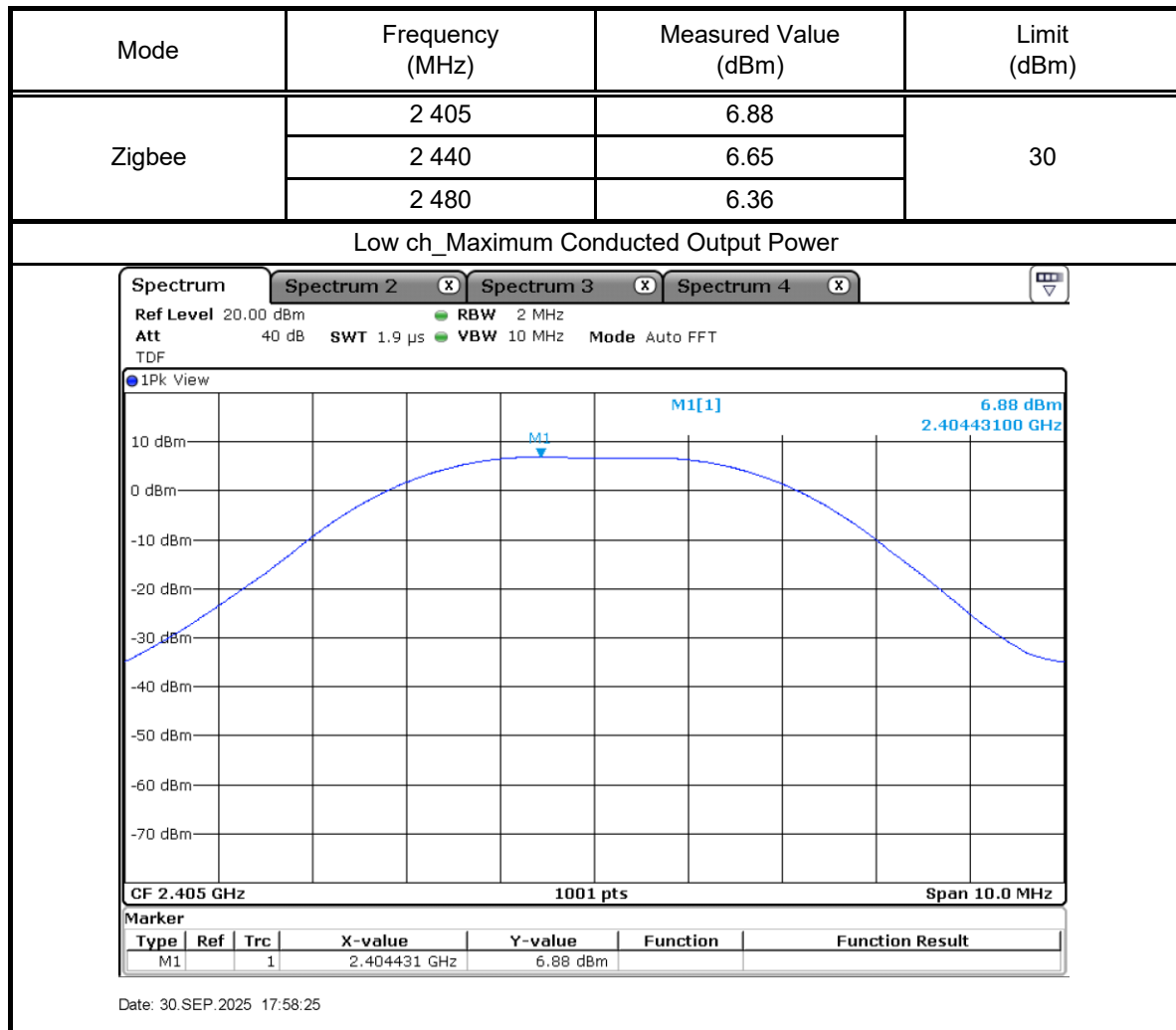


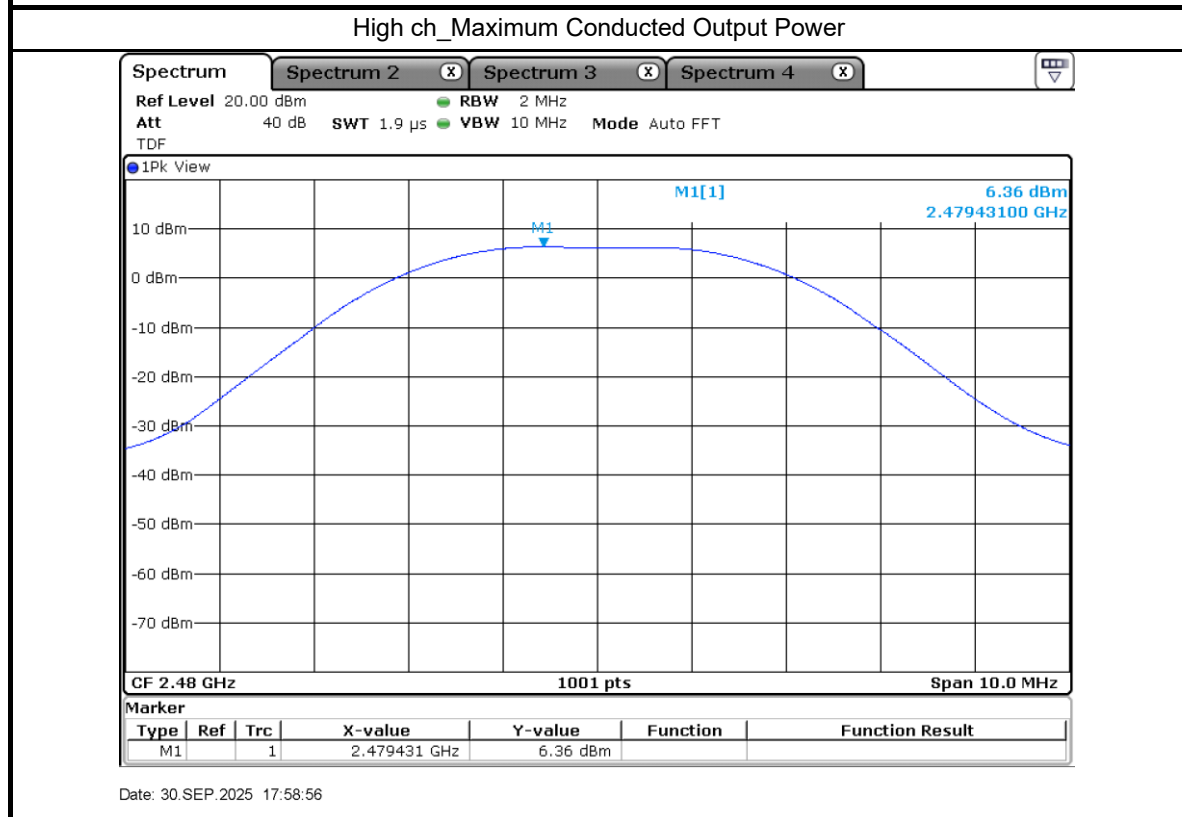
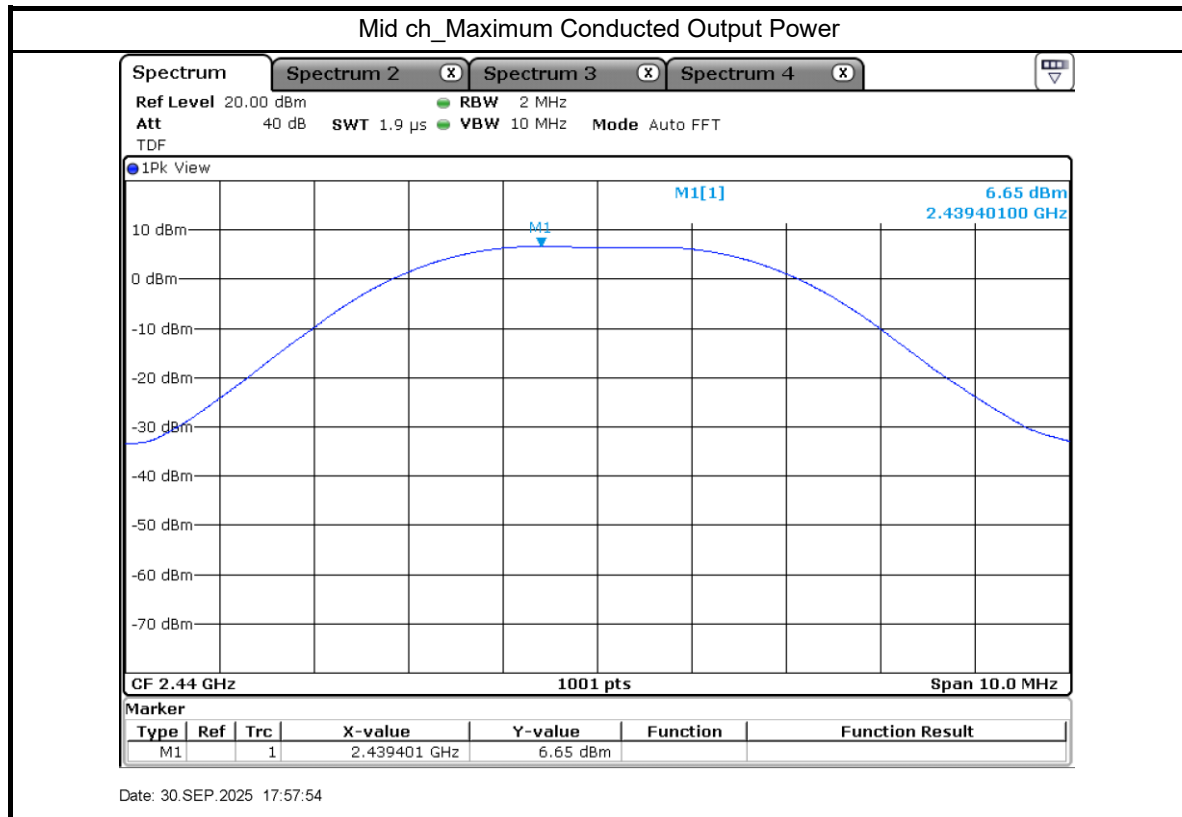














4.3 Power Spectral Density

4.3.1 Test procedure

ANSI C63.10-2020 Clause 11.10

4.3.2 Limit

§15.247 (e)

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

4.3.3 Test data

Result : Pass

