Certificate #6613.01

FCC TEST REPORT

(PART 90)

Applicant:	HMD Global Oy
Address:	Bertel Jungin aukio 9 Espoo 02600 Finland

Manufacturer or Supplier	HMD Global Oy
Address	Bertel Jungin aukio 9 Espoo 02600 Finland
Product	Smart Phone
Brand Name	NOKIA
Model Name	TA-1584
FCC ID	2AJOTTA-1584
Date of tests	May. 04, 2023 ~ Jun. 01, 2023

The tests have been carried out according to the requirements of the following standard:

☒ **FCC Part 90, Subpart R, S** ☒ **ANSI/TIA/EIA-603- D**
☒ **FCC Part 2** ☒ **ANSI/TIA/EIA-603-E** ☒ **ANSI C63.26-2015**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Chao Wu Engineer / Mobile Department	Approved by Peibo Sun Manager / Mobile Department
Chao Wu Date: Jun. 01, 2023	Sun Peibo Date: Jun. 01, 2023

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSZ-NQN2303280110RF01	Original release	Jun. 01, 2023

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 90 & Part 2			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**TEST LAB***
§2.1046 §90.635(b)	Conducted Output Power	PASS	A
§2.1055 §90.213	Frequency Stability	PASS	A
§2.1049 §90.209	Occupied Bandwidth	PASS	A
§2.1051 §90.691	Emission Masks	PASS	A
§2.1051 §90.691	Conducted Spurious Emissions	PASS	A
§2.1053 §90.691	Radiated Spurious Emissions	PASS	A

***Test Lab Information Reference**

Lab A:
Huarui 7Layers High Technology (Suzhou) Co., Ltd.
Lab Address:
Tower N, Innovation Center, 88 Zhuyi Road, High-tech District, Suzhou City, Anhui Province
Accredited Test Lab Cert 6613.01
The FCC Site Registration No. is 434559; The Designation No. is CN1325.

1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.66dB
Radiated emissions	9KHz ~ 30MHz	2.68dB
	30MHz ~ 1GHz	3.26dB
	1GHz ~ 18GHz	4.48dB
	18GHz ~ 40GHz	4.12dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.30,22	Aug.29,24
Pre-Amplifier	R&S	SCU08F1	101028	Sep.16,22	Sep.15,24
Vector Signal Generator	R&S	SMBV100B	102176	Feb.16,22	Feb.15,24
Signal Generator	R&S	SMB100A	182185	Feb.16,22	Feb.15,24
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESR26	101734	Feb.25,22	Feb.24,24
EMI TEST Receiver	R&S	ESW44	101973	Feb.25,22	Feb.24,24
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Feb.28,22	Feb.27,24
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.22,22	Aug.21,24
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Feb.23,22	Feb.22,24
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.22,22	Aug.21,24
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.23,22	Feb.22,24
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.27,22	Jun.26,24
Test Software	EMC32	EMC32	N/A	N/A	N/A
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	Oct.01,22	Sep.30,24
DC Source	HYELEC	HY3010B	551016	Aug.31,22	Aug.30,24
Hygrothermograph	DELI	20210528	SZ014	Sep.06,22	Sep.05,24
PC	LENOVO	E14	HRSW0024	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-7.00M	N/A	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Apr.28,23	Oct.27,23
CABLE	R&S	W12.14	N/A	Apr.28,23	Oct.27,23
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.28,23	Oct.27,23
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.28,23	Oct.27,23
Temperature Chamber	votsch	VT4002	585660781000050	May.31,22	May.30,24

NOTE: 1. The calibration interval of the above test instruments is 6 months or 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.

3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 434559; The Designation No. is CN1325.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Smart Phone	
BRAND NAME	NOKIA	
MODEL NAME	TA-1584	
NOMINAL VOLTAGE	5.0Vdc(adapter) 3.85Vdc (Li-ion, battery)	
MODULATION TECHNOLOGY	**LTE**	QPSK, 16QAM, 64QAM
FREQUENCY RANGE	**LTE Band 26 (Channel Bandwidth: 1.4MHz)**	814.7MHz ~ 823.3MHz
	LTE Band 26 (Channel Bandwidth: 3MHz)	815.5MHz ~ 822.5MHz
	LTE Band 26 (Channel Bandwidth: 5MHz)	816.5MHz ~ 821.5MHz
	LTE Band 26 (Channel Bandwidth: 10MHz)	819MHz
EMISSION DESIGNATOR	**LTE Band 26 (Channel Bandwidth: 1.4MHz)**	QPSK: 1M09G7D
		16QAM: 1M09W7D
		64QAM: 1M09W7D
	LTE Band 26 (Channel Bandwidth: 3MHz)	QPSK: 2M74G7D
		16QAM: 2M72W7D
		64QAM: 2M72W7D
	LTE Band 26 (Channel Bandwidth: 5MHz)	QPSK: 4M50G7D
		16QAM: 4M49W7D
		64QAM: 4M49W7D
	LTE Band 26 (Channel Bandwidth: 10MHz)	QPSK: 9M00G7D
		16QAM: 8M97W7D
		64QAM: 9M00W7D
MAX. ERP POWER	**LTE Band 26 (Channel Bandwidth: 1.4MHz)**	181.97mW
	LTE Band 26 (Channel Bandwidth: 3MHz)	180.3mW
	LTE Band 26 (Channel Bandwidth: 5MHz)	180.72mW
	LTE Band 26 (Channel Bandwidth: 10MHz)	111.17mW
ANTENNA TYPE	Fixed Internal Antenna	
ANTENNA GAIN	-2.5dBi forLTE Band 26	
HW VERSION	V1.0	
SW VERSION	04US_0_023	

I/O PORTS	Refer to user's manual
DATA CABLE	USB cable: non-shielded cable, with w/o ferrite core, 1.0 meter
EXTREME TEMPERATURE	-20 ~ 60 ℃
EXTREME VOLTAGE	3.6V ~ 4.4V

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

   The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
LTE	1TX/1RX

2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

3. The product of TA-1584(FCC ID: 2AJOTTA-1584) only the following manufacturer of key parts is different between the first and second supply, other parameters are the same:

NO.	Change Description		specificatons	first supplier	specificatons	second supplier
1	PCBA	3GB LPDDR	3GB	Longsys	RAM;DDR4;3GB ;4266Mbps;FBG A-200;10*15*0.9	Samsung
2		32GB EMMC	32GB	Longsys	32GB	Biwin
3		PCB	105X131.6MM	Huashen	105X131.6MM	SUNTAK
4	LCM	LCD	6.3"HKC incell · 720X1560 FocalTech: FT8006S-AN ·GG3	TCL	6.3" HKC incell · 720X1560 Chipone: ICNL9911C	Icetron
5	Front camera	Camera	5M;FF	Holitech	5M;FF	TXD
6	Macro CAM	Camera	13M;PDAF;	Sunwin	13M;PDAF;	TXD
7		Camera	2M;FF	Imaging	2M;FF	Holitech
8	Acoustic	Vibrator	Φ8*3mm	ChaoYing	Φ8*3mm	HONGZHIF A
9		FPC	N/A	ZRXD	N/A	XINYE
10	LED		P2016F-W55WM0M2AB5C2-0002	RUNLITE	SJ-FT2016-DH Z1N5257-01	SUIJING

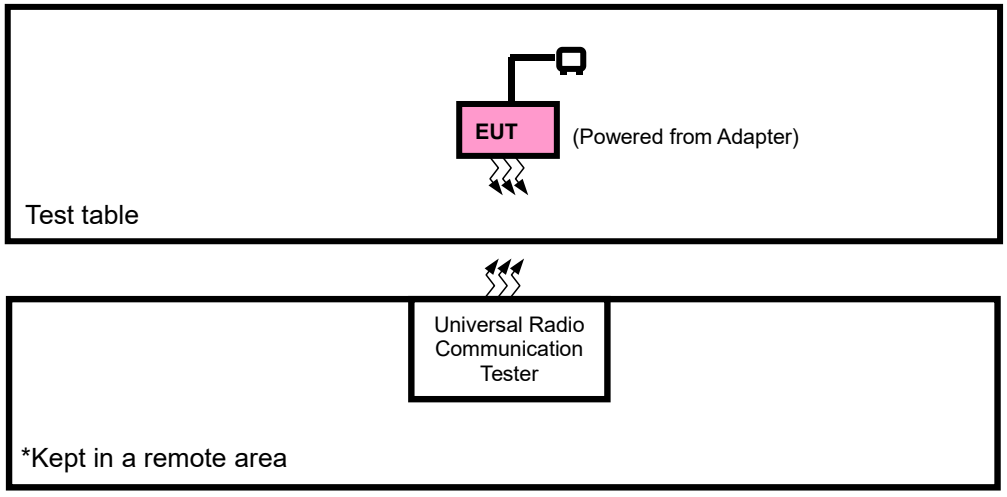
11	Battery	3000mAh	Highpower	3000mAh	GAOYUAN
12	Glass	30.09X12.02X0.50 mm	Dottone	30.09X12.02X0.50mm	Lesu

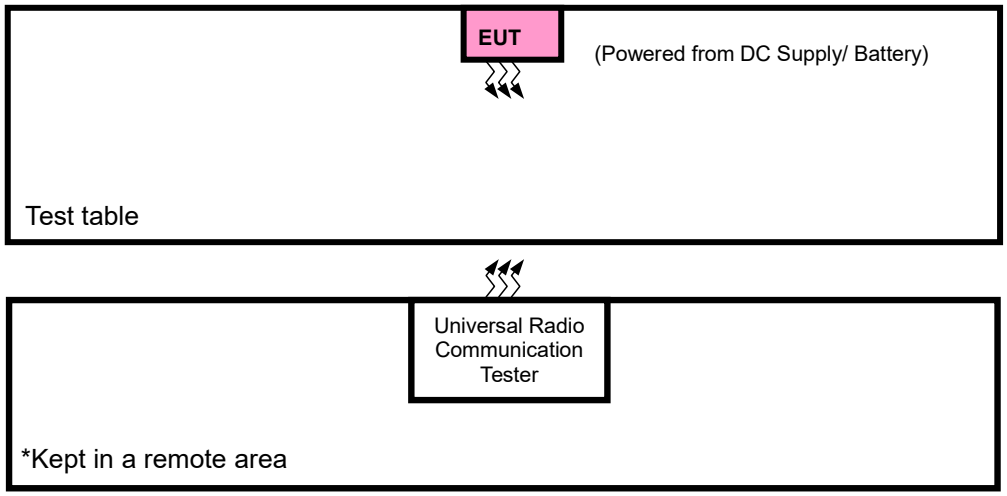
4. **List of Accessory:**

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
Battery 1	Highpower	Huizhou Highpower Technology Co., Ltd.	CH396078	Capacity：3.85 Vdc, 3000mAh
Battery 2	GaoYuan	HUNAN GAOYUAN BATTERY CO.,LTD	CH396078	Capacity：3.85 Vdc, 3000mAh
AC Adapter	Baijunda	Baijunda Group Co., Ltd	AD-010U	I/P: 100-240Vac, 0.35A, O/P: 5.0Vdc, 2.0A
USB Cable	Saibao	Saibao (Jiangxi) Industrial Co., Ltd	SZN-A018A	Signal Line, 1.0meter

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST





2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	DC source	LONG WEI	PS-6403D	010934269	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.8m

2.4 DESCRIPTION OF TEST MODES

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports The worst case in ERP/EIRP and radiated emission was found when positioned on X-plane for LTE. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter + USB Cable with LTE link
B	EUT + DC source with LTE link

LTE BAND 26 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		26740	26740	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	26740	26740	10MHz	QPSK	50 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM, 64QAM	6 RB / 0 RB Offset
		26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM, 64QAM	15 RB / 0 RB Offset
		26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		26740	26740	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
A	BAND EDGE	26697 to 26783	26697	1.4MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
						6 RB / 0 RB Offset
			26783	1.4MHz	QPSK,16QAM,64QAM	1 RB / 5 RB Offset
						6 RB / 0 RB Offset
		26705 to 26775	26705	3MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
						15 RB / 0 RB Offset
			26775	3MHz	QPSK,16QAM,64QAM	1 RB / 14 RB Offset
						15 RB / 0 RB Offset
		26715 to 26765	26715	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			26765	5MHz	QPSK,16QAM,64QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		26740	26740	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			26740	10MHz	QPSK,16QAM,64QAM	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	26740	26740	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset 50 RB / 0 RB Offset
A	CONDUCTED EMISSION	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK	1 RB / 0 RB Offset
		26705 to 26775	26705, 26740, 26775	3MHz	QPSK	1 RB / 0 RB Offset
		26715 to 26765	26715, 26740, 26765	5MHz	QPSK	1 RB / 0 RB Offset
		26740	26740	10MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	26697 to 26783	26740	1.4MHz	QPSK	1 RB / 0 RB Offset
		26705 to 26775	26740	3MHz	QPSK	1 RB / 0 RB Offset
		26715 to 26765	26740	5MHz	QPSK	1 RB / 0 RB Offset
		26740	26740	10MHz	QPSK	1 RB / 0 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
EIRP(ERP)	24deg. C, 60%RH	DC 5V By Adapter	Chao Wu
FREQUENCY STABILITY	24deg. C, 61%RH	DC 3.85V By DC Supply	Chao Wu
OCCUPIED BANDWIDTH	24deg. C, 61%RH	DC5V By Adapter	Chao Wu
BAND EDGE	24deg. C, 61%RH	DC 5V By Adapter	Chao Wu
CONDUCTED EMISSION	24deg. C, 61%RH	DC5V By Adapter	Chao Wu
RADIATED EMISSION	23deg. C, 70%RH	DC5V By Adapter	Chao Wu

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 90

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

NOTE: All test items have been performed and recorded as per the above standards.

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Per FCC Part 90.635(a)(b)

The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).

3.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determing the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

ERP or EIRP = $P_{Meas} + G_T – L_C$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as P_{Meas}, typically dBW or dBm);

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

G_T = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB

CONDUCTED POWER MEASUREMENT:

a. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.
b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

3.1.3 TEST SETUP

CONDUCTED POWER MEASUREMENT:

For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.1.4 TEST RESULTS

AVERAGE CONDUCTED OUTPUT POWER (dBm)

LTE Band 26

Band/BW	Modulation	RB Size	RB Offset	Low CHG 26697	Mid CH 26740	High CH 26783
				Frequency 814.7 MHz	Frequency 819 MHz	Frequency 823.3 MHz
26/ 1.4	QPSK	1	0	24.86	25.03	24.96
		1	2	24.75	25.02	24.80
		1	5	25.10	25.02	25.06
		3	0	25.11	25.01	24.91
		3	1	24.95	24.77	24.64
		3	3	24.69	24.53	24.58
		6	0	23.97	23.81	23.84
	16QAM	1	0	24.30	24.25	24.14
		1	2	24.01	24.11	24.07
		1	5	24.32	24.00	24.15
		3	0	24.09	24.02	23.93
		3	1	23.86	23.86	23.66
		3	3	23.77	23.54	23.53
		6	0	22.89	22.82	22.80
	64QAM	1	0	23.17	23.25	23.00
		1	2	22.71	22.65	22.41
		1	5	23.03	23.18	23.43
		3	0	22.98	23.04	22.79
		3	1	22.82	22.80	22.52
		3	3	22.65	22.57	22.69
		6	0	21.82	21.78	21.61

Band/BW	Modulation	RB Size	RB Offset	Low CHG 26705	Mid CH 26740	High CH 26775
				Frequency 815.5 MHz	Frequency 819 MHz	Frequency 822.5 MHz
26/ 3	QPSK	1	0	24.88	25.05	24.95
		1	7	24.71	25.03	24.80
		1	14	25.06	25.02	25.06
		8	0	24.10	24.04	23.91
		8	3	23.88	23.77	23.66
		8	7	23.66	23.60	23.62
		15	0	23.94	23.82	23.78
	16QAM	1	0	24.27	24.31	24.17
		1	7	23.98	24.14	24.05
		1	14	24.35	24.00	24.15
		8	0	23.05	23.03	22.93
		8	3	22.91	22.81	22.69
		8	7	22.79	22.52	22.49
		15	0	22.89	22.76	22.83
	64QAM	1	0	23.23	23.28	22.94
		1	7	22.74	22.59	22.40
		1	14	23.04	23.20	23.43
		8	0	22.01	22.08	21.80
		8	3	21.86	21.74	21.57
		8	7	21.62	21.61	21.65
		15	0	21.84	21.75	21.65

Band/BW	Modulation	RB Size	RB Offset	Low CHG 26715	Mid CH 26740	High CH 26765
				Frequency 816.5 MHz	Frequency 819 MHz	Frequency 821.5 MHz
26/ 5	QPSK	1	0	24.89	25.00	24.96
		1	12	24.76	25.00	24.80
		1	24	25.07	25.01	25.10
		12	0	24.13	24.04	23.88
		12	6	23.88	23.78	23.67
		12	13	23.70	23.56	23.63
		25	0	23.92	23.85	23.81
	16QAM	1	0	24.28	24.27	24.17
		1	12	23.95	24.17	24.04
		1	24	24.35	24.00	24.14
		12	0	23.05	23.01	22.90
		12	6	22.88	22.85	22.65
		12	13	22.74	22.54	22.52
		25	0	22.89	22.77	22.80
	64QAM	1	0	23.17	23.25	23.00
		1	12	22.71	22.65	22.40
		1	24	22.97	23.25	23.43
		12	0	22.02	22.05	21.79
		12	6	21.80	21.81	21.56
		12	13	21.66	21.60	21.62
		25	0	21.80	21.81	21.63

Band/BW	Modulation	RB Size	RB Offset	/	Mid CH 26740	/
				/	Frequency 819 MHz	/
26/ 10	QPSK	1	0	/	25.03	/
		1	24	/	25.00	/
		1	49	/	25.05	/
		25	0	/	24.03	/
		25	12	/	23.72	/
		25	25	/	23.53	/
		50	0	/	23.85	/
	16QAM	1	0	/	24.24	/
		1	24	/	24.13	/
		1	49	/	24.01	/
		25	0	/	22.99	/
		25	12	/	22.79	/
		25	25	/	22.55	/
		50	0	/	22.76	/
	64QAM	1	0	/	23.26	/
		1	24	/	22.61	/
		1	49	/	23.19	/
		25	0	/	22.02	/
		25	12	/	21.80	/
		25	25	/	21.57	/
		50	0	/	21.77	/

ERP

LTE BAND 26

CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26697	814.7	25.1	-2.5	22.6	181.97	7
26740	819	25.04	-2.5	22.54	179.47	7
26783	823.3	25.04	-2.5	22.54	179.47	7

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26697	814.7	24.32	-2.5	21.82	152.05	7
26740	819	24.32	-2.5	21.82	152.05	7
26783	823.3	24.35	-2.5	21.85	153.11	7

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

CHANNEL BANDWIDTH: 1.4MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26697	814.7	23.17	-2.5	20.67	116.68	7
26740	819	23.17	-2.5	20.67	116.68	7
26783	823.3	23.22	-2.5	20.72	118.03	7

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

LTE BAND 26

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26705	815.5	25.06	-2.5	22.56	180.3	7
26740	819	25.06	-2.5	22.56	180.3	7
26775	822.5	25	-2.5	22.5	177.83	7

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26705	815.5	24.35	-2.5	21.85	153.11	7
26740	819	24.35	-2.5	21.85	153.11	7
26775	822.5	24.32	-2.5	21.82	152.05	7

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

CHANNEL BANDWIDTH: 3MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26705	815.5	23.23	-2.5	20.73	118.3	7
26740	819	23.23	-2.5	20.73	118.3	7
26775	822.5	23.19	-2.5	20.69	117.22	7

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

LTE BAND 26

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26715	816.5	25.07	-2.5	22.57	180.72	7
26740	819	25.07	-2.5	22.57	180.72	7
26765	821.5	25.05	-2.5	22.55	179.89	7

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26715	816.5	24.35	-2.5	21.85	153.11	7
26740	819	24.35	-2.5	21.85	153.11	7
26765	821.5	24.37	-2.5	21.87	153.82	7

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26715	816.5	23.17	-2.5	18.52	71.12	7
26740	819	23.17	-2.5	18.52	71.12	7
26765	821.5	23.24	-2.5	18.59	72.28	7

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

LTE BAND 26

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
-	-	-	-	-	-	-
26740	819	25.11	-2.5	20.46	111.17	25.08
-	-	-	-	-	-	-

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
-	-	-	-	-	-	-
26740	819	24.35	-2.5	19.7	93.33	7
-	-	-	-	-	-	-

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
-	-	-	-	-	-	-
26740	819	23.16	-2.5	18.51	70.96	7
-	-	-	-	-	-	-

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

The frequency stability of mobile, portable and control transmitters operating in the wideband segment must be 1.25 parts per million or better when AFC is locked to a base station, and 5 parts per million or better when AFC is not locked

3.2.2 TEST PROCEDURE

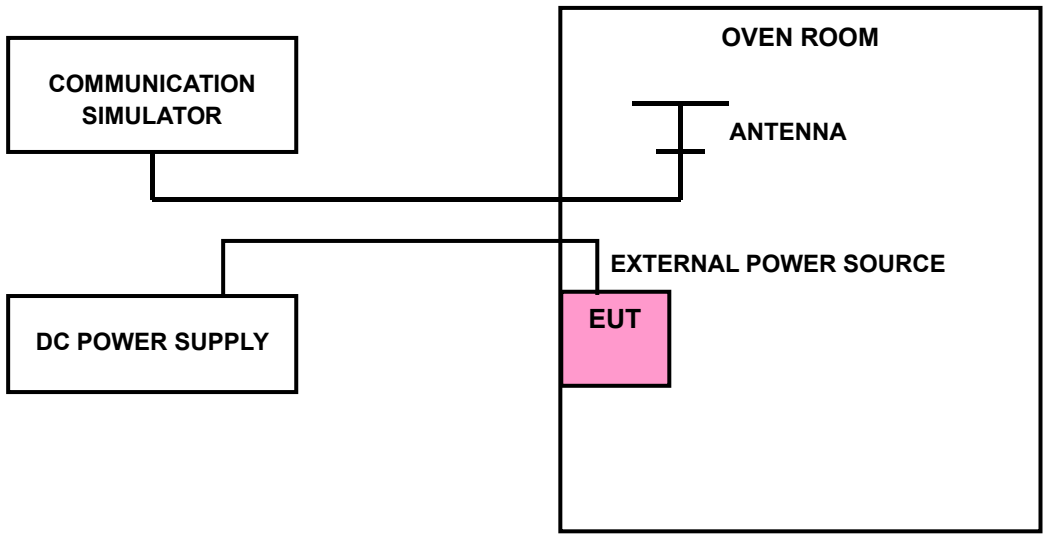
a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.

c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5℃ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

3.2.3 TEST SETUP



3.2.4 TEST RESULTS

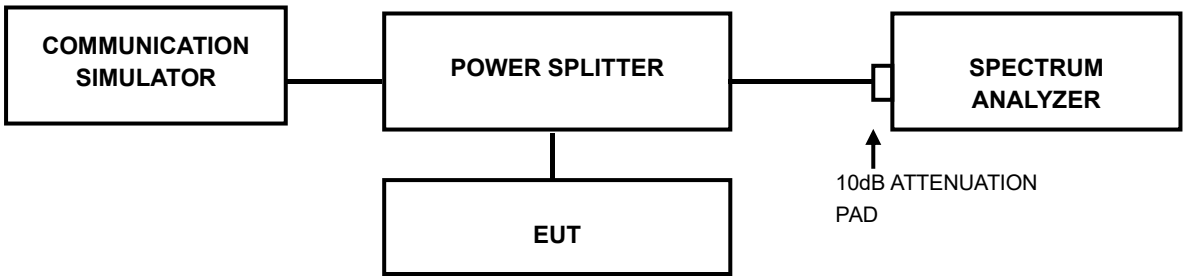
Please Refer to Appendix Of this test report.

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

3.3.2 TEST SETUP



3.3.3 TEST PROCEDURES

a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

3.3.4 TEST RESULTS

Please Refer to Appendix Of this test report.

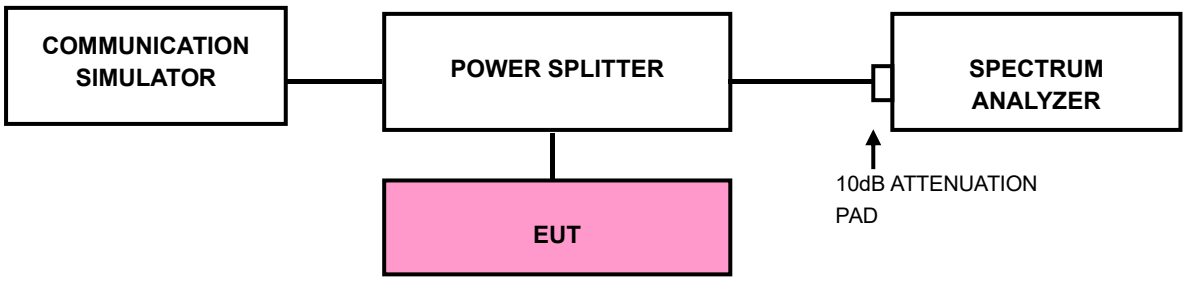
3.4 EMISSION MASK MEASUREMENT

3.4.1 LIMITS OF EMISSION MASK MEASUREMENT

According to FCC part 90.691 shall be tested the emission mask. For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

a) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.

b) Tune the analyzer to the nominal center frequency of the emission bandwidth (EBW).

c) Set the resolution bandwidth (RBW) ≧ 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.

d) Beyond the 1MHz band from the band edge, RBW=1MHz was used.

e) Set the video bandwidth (VBW) to ≧3 x RBW.

f) Select the average power (RMS) display detector.

g) Set the number of measurement points to ≧ 1001.

h) Use auto-coupled sweep time.

i) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.

j) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.

k) Record the max trace plot into the test report.

3.4.4 TEST RESULTS

Please Refer to Appendix Of this test report.

3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

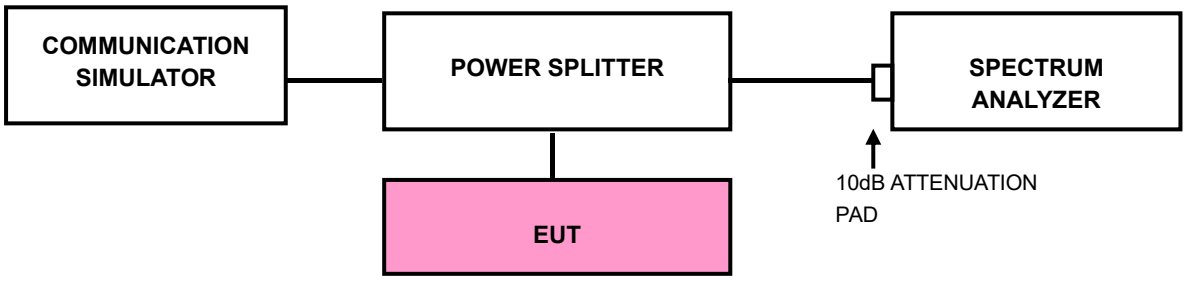
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm

3.5.2 TEST PROCEDURE

a. The EUT makes a phone call to the communication simulator. All measurements were done at middle operational frequency range.

b. Measuring frequency range is from 9kHz up to a frequency including its 10th harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.3 TEST SETUP



3.5.4 TEST RESULTS

NOTE ：The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

Please Refer to Appendix Of this test report.

3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

(1)The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm

(2) For operations in the 763–775 MHz and 793–805 MHz bands, all emissions including harmonics in the band 1559– 1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

3.6.2 TEST PROCEDURES

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G

c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.

d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power - 2.15dBi.

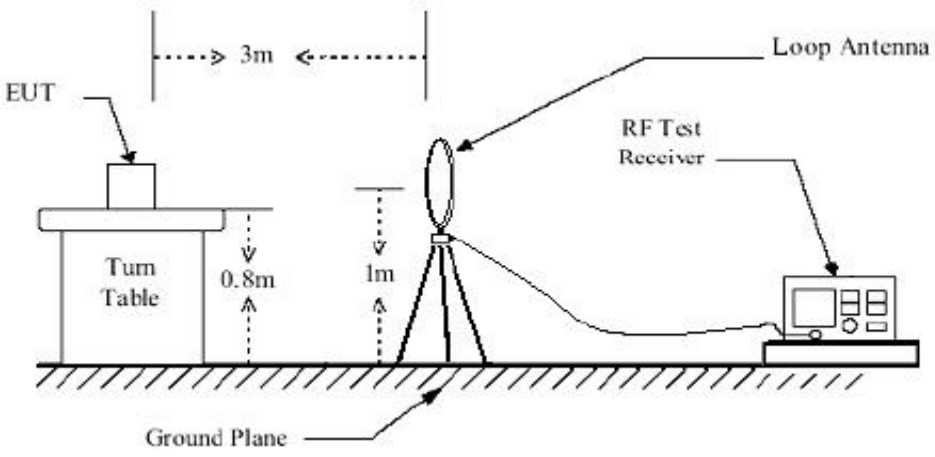
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

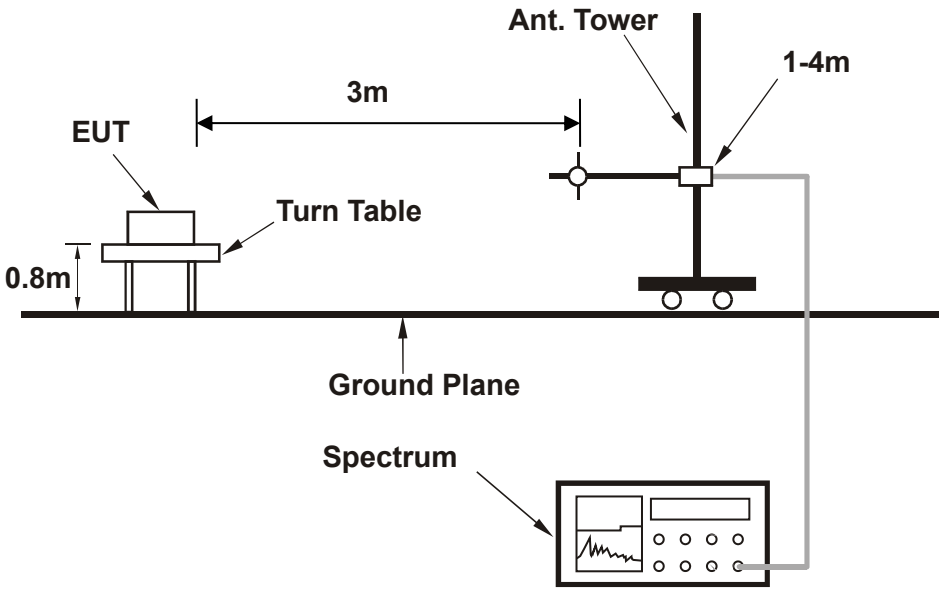
No deviation

3.6.4 TEST SETUP

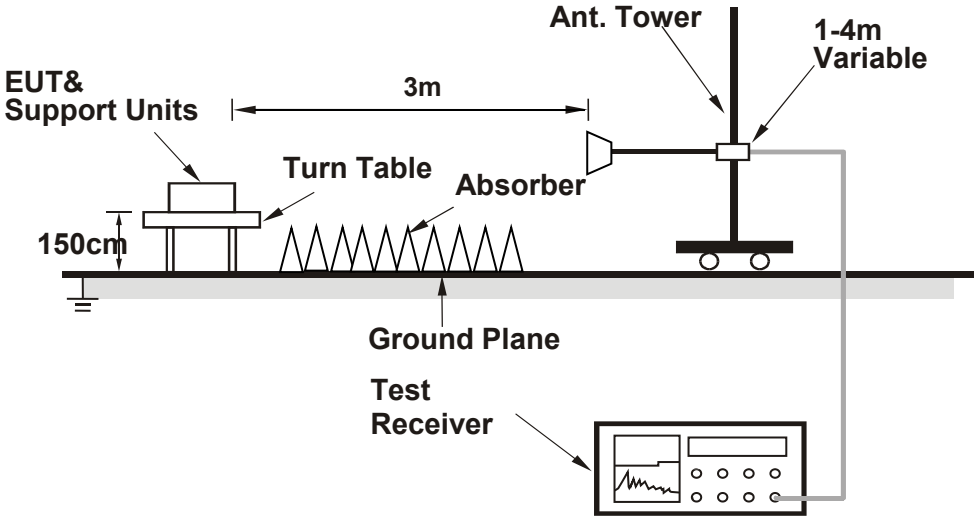
<Below 30MHz>



< Frequency Range 30MHz~1GHz >



< Frequency Range above 1GHz >



For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.6.5 TEST RESULTS

NOTE ：The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

BELOW 1GHz WORST-CASE DATA

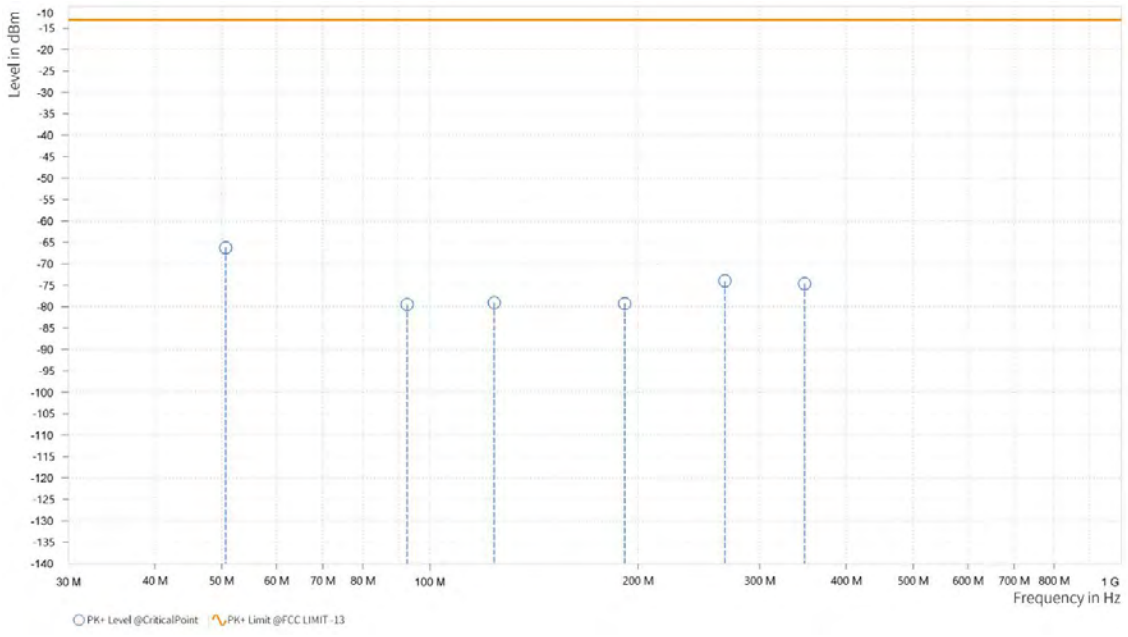
30 MHz – 1GHz data:

LTE Band 26:

CHANNEL BANDWIDTH: 10MHz / QPSK

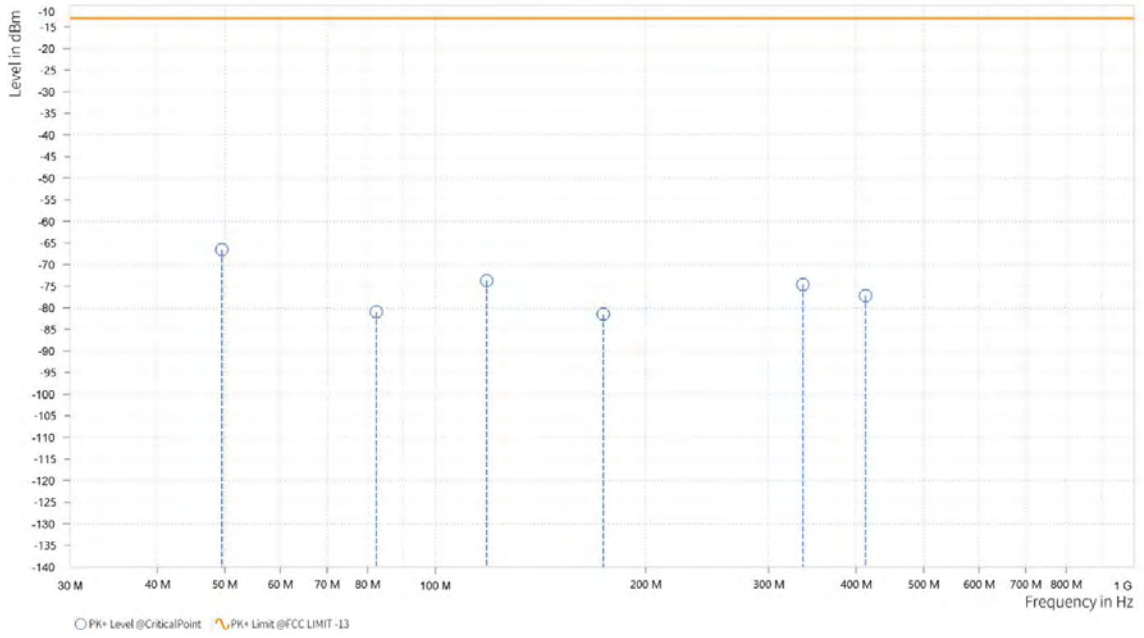
MODE	TX channel 26740	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	50.650	-66.26	-13.00	53.26	-5.15	H	1.3	2
1	92.700	-79.51	-13.00	66.51	-10.41	H	359	2
1	123.950	-79.09	-13.00	66.09	-9.86	H	359	2
1	191.400	-79.30	-13.00	66.30	-10.04	H	1	2
1	267.200	-73.98	-13.00	60.98	-7.56	H	4.5	1
1	348.400	-74.65	-13.00	61.65	-4.34	H	352	2



MODE	TX channel 26740	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	49.500	-66.50	-13.00	53.50	-6.72	V	244.6	1
1	82.350	-80.90	-13.00	67.90	-11.34	V	359	2
1	118.450	-73.74	-13.00	60.74	-8.98	V	355.5	2
1	174.000	-81.47	-13.00	68.47	-10.40	V	355.5	2
1	335.850	-74.61	-13.00	61.61	-3.66	V	114.3	2
1	412.800	-77.17	-13.00	64.17	-3.91	V	359	2



ABOVE 1GHz

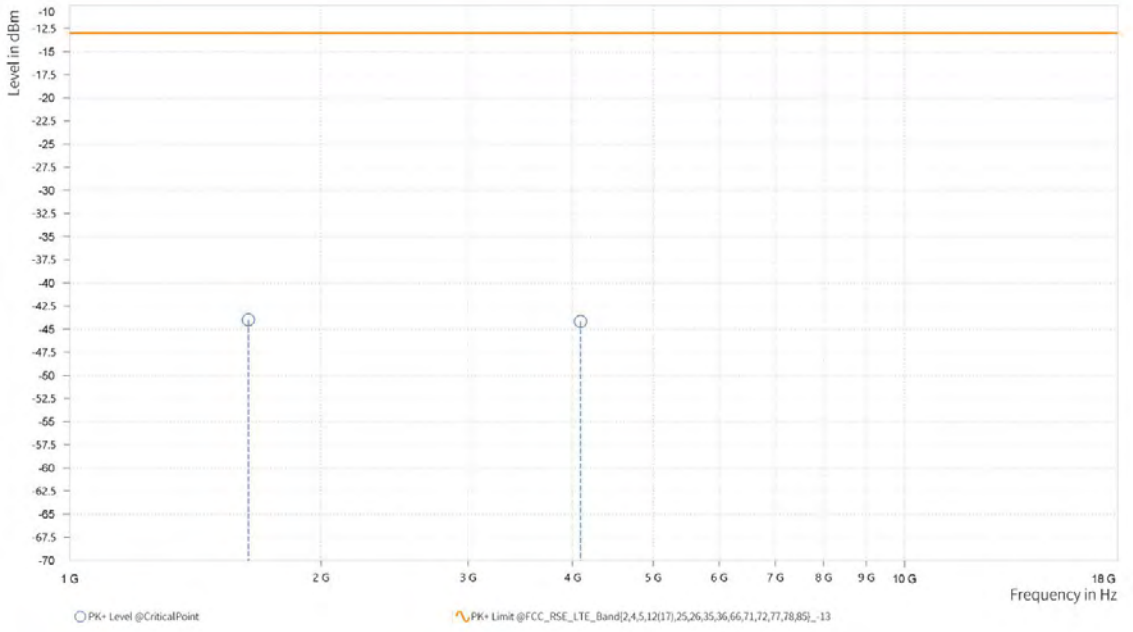
Note: For higher frequency, the emission is too low to be detected.

LTE BAND 26

CHANNEL BANDWIDTH: 1.4MHz / QPSK

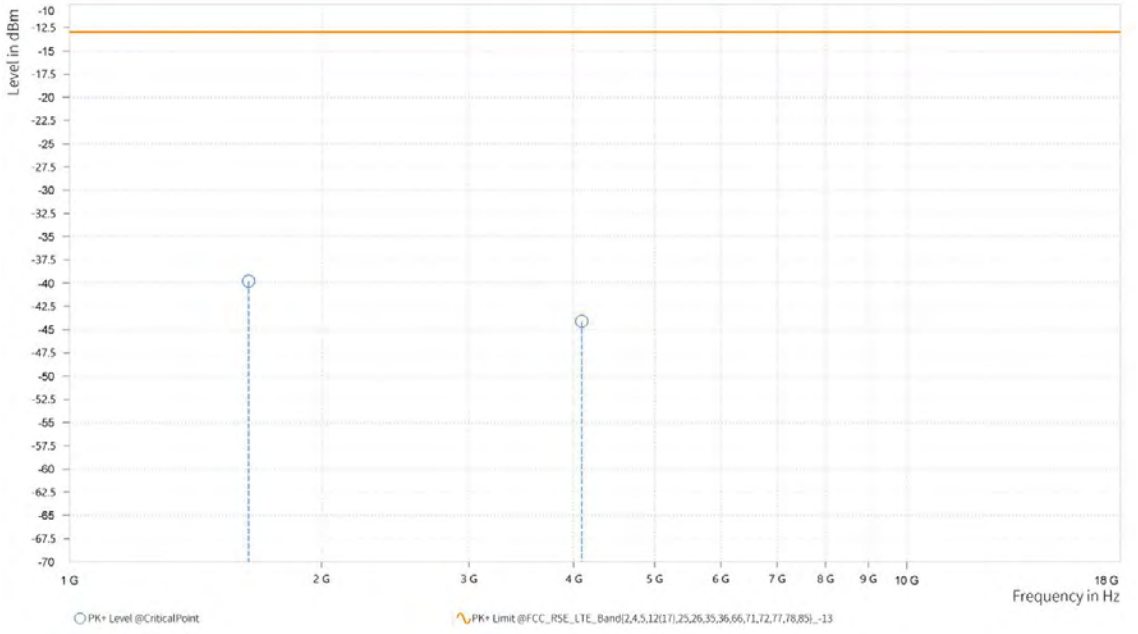
MODE	TX channel 26697	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,637.000	-44.00	-13.00	31.00	20.66	H	1	1
4	4,092.500	-44.17	-13.00	31.17	24.61	H	188.4	1



MODE	TX channel 26697	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

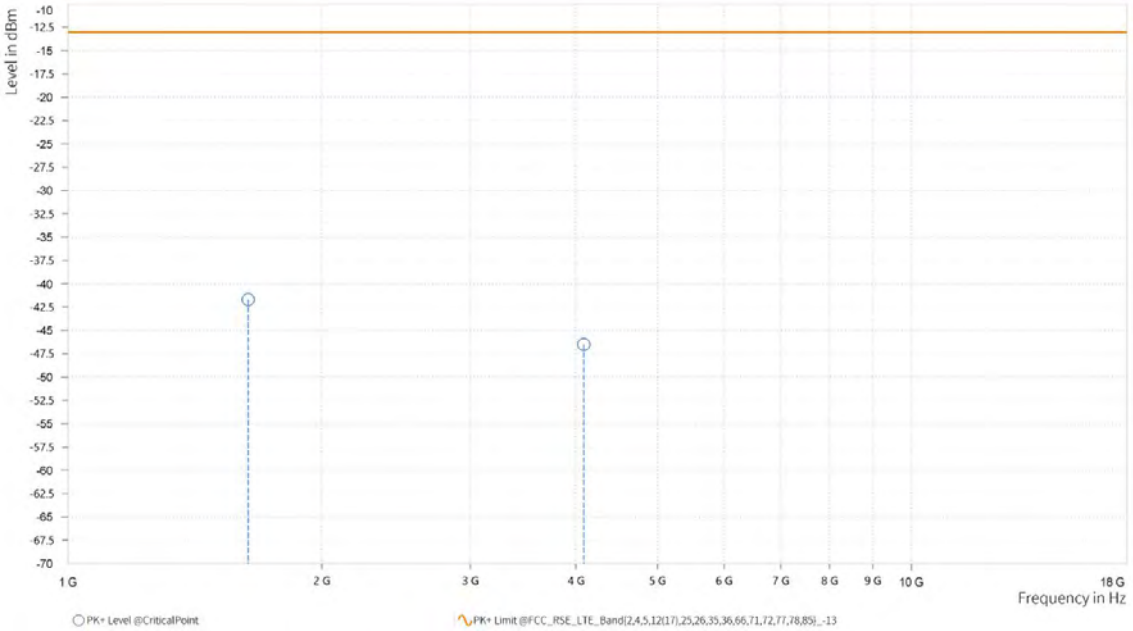
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,637.000	-39.79	-13.00	26.79	21.68	V	1	1
4	4,093.000	-44.12	-13.00	31.12	25.04	V	1	1



CHANNEL BANDWIDTH: 3MHz / QPSK

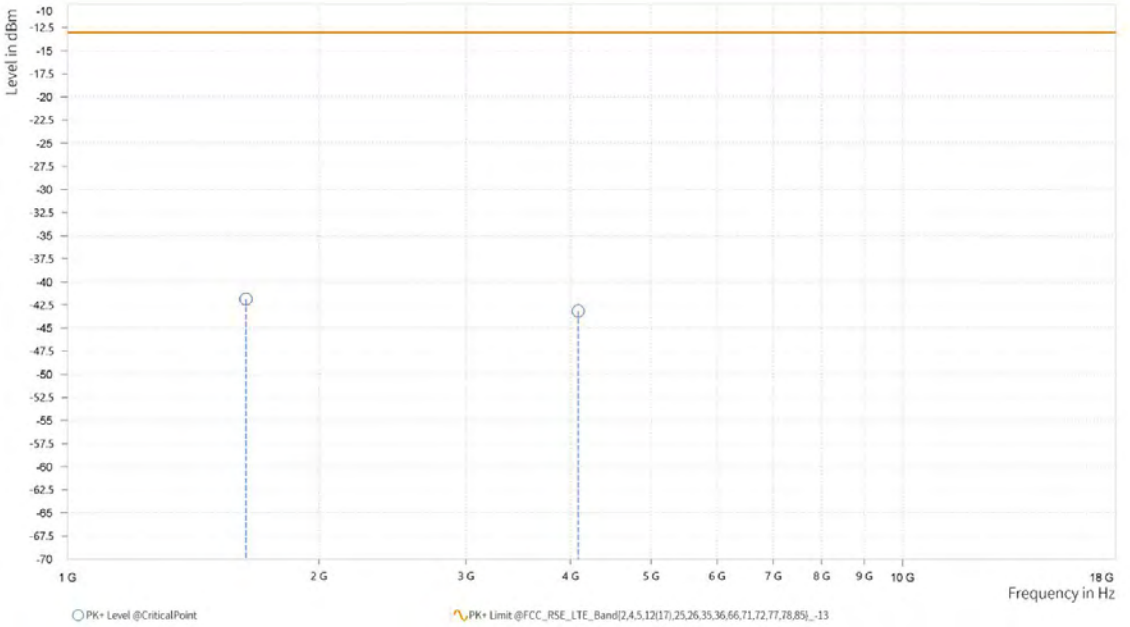
MODE	TX channel 26740	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,635.500	-41.71	-13.00	28.71	20.62	H	359.1	1
4	4,088.500	-46.52	-13.00	33.52	24.53	H	190.8	1



MODE	TX channel 26740	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

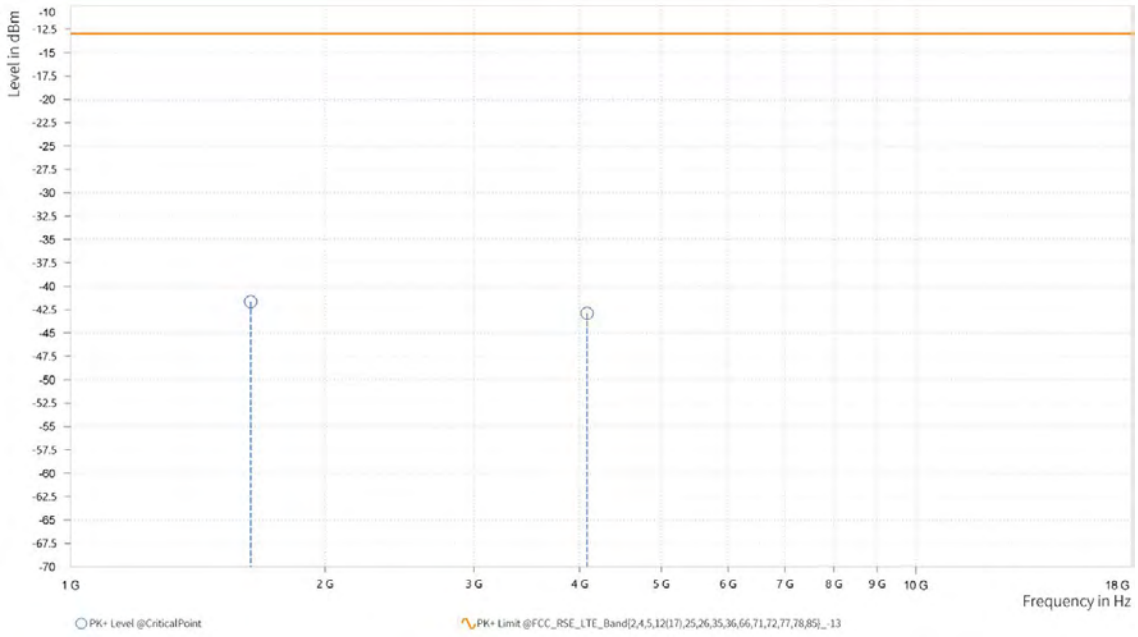
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,635.500	-41.88	-13.00	28.88	21.66	V	65.4	1
4	4,088.500	-43.17	-13.00	30.17	24.96	V	1	1



CHANNEL BANDWIDTH: 5MHz / QPSK

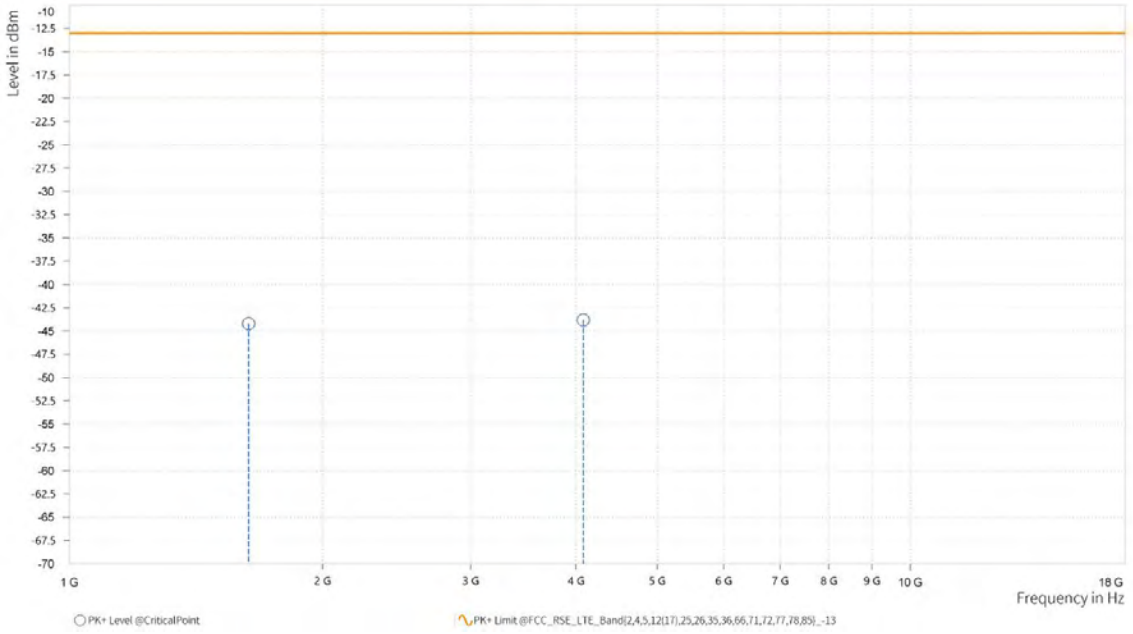
MODE	TX channel 26740	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,633.500	-41.64	-13.00	28.64	20.58	H	62.9	1
4	4,084.000	-42.89	-13.00	29.89	24.45	H	182.5	1



MODE	TX channel 26740	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

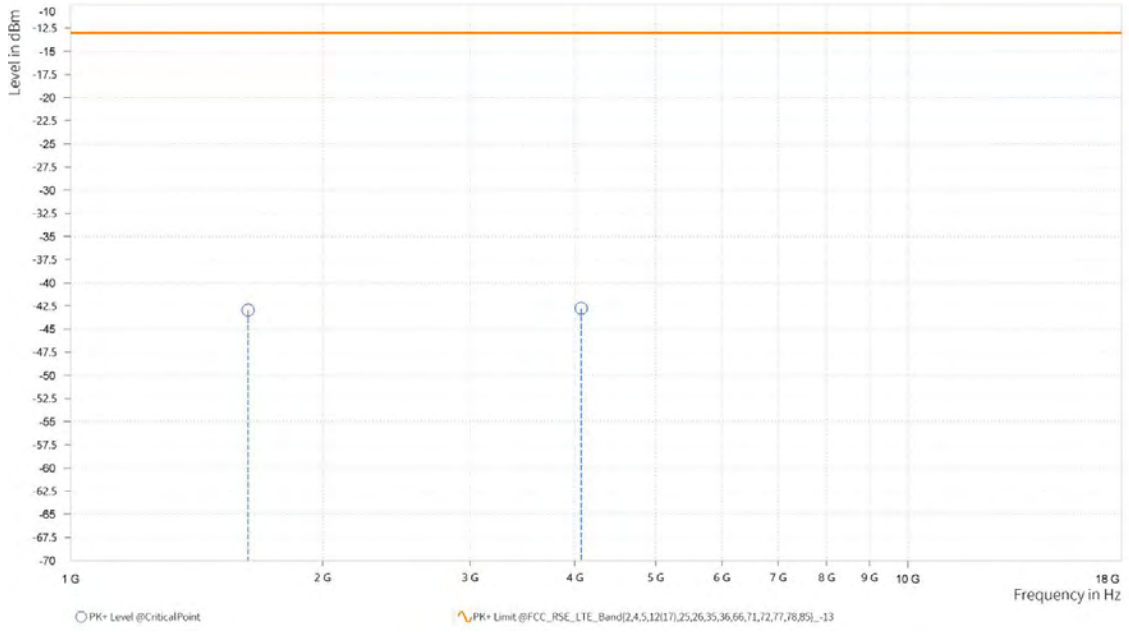
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,634.000	-44.23	-13.00	31.23	21.63	V	63	1
4	4,084.000	-43.80	-13.00	30.80	24.88	V	359	1



CHANNEL BANDWIDTH: 10MHz / QPSK

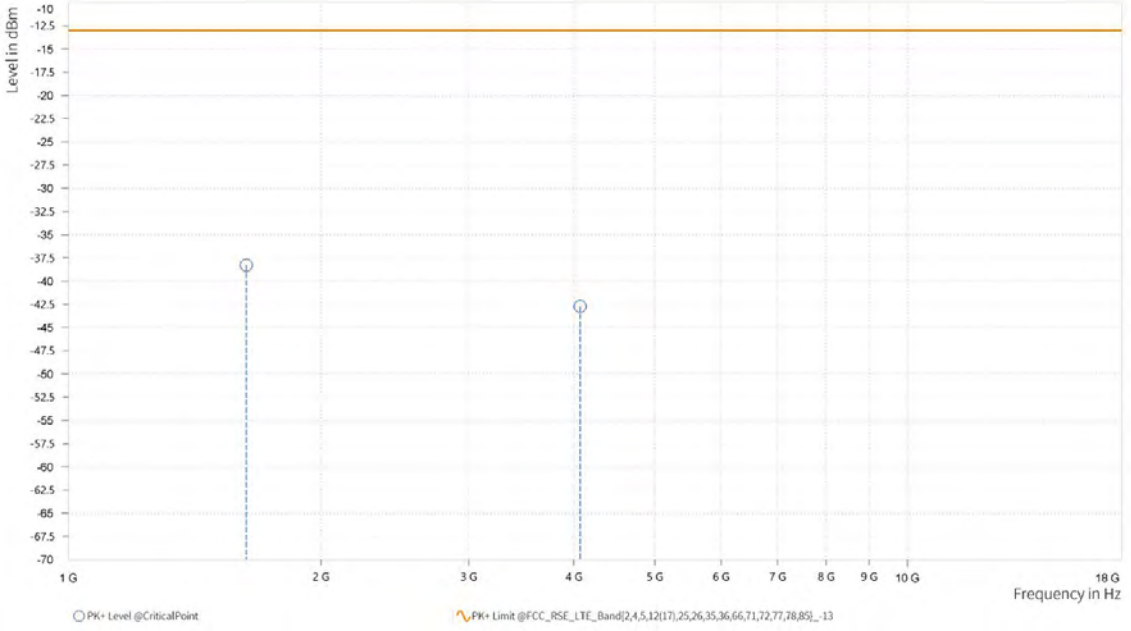
MODE	TX channel 26740	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,629.500	-42.95	-13.00	29.95	20.49	H	65.3	1
4	4,073.000	-42.75	-13.00	29.75	24.24	H	170.4	2



MODE	TX channel 26740	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,629.000	-38.27	-13.00	25.27	21.54	V	0.9	2
4	4,073.000	-42.74	-13.00	29.74	24.69	V	1	1

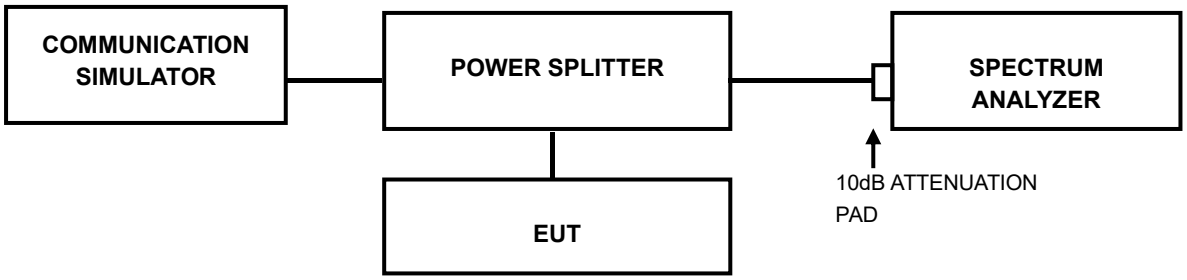


3.7 PEAK TO AVERAGE RATIO

3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

3.7.2 TEST SETUP



3.7.3 TEST PROCEDURES

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.7.4 TEST RESULTS

Please Refer to Appendix Of this test report.

4 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Shenzhen EMC/RF Lab:
Tel: +86-755-88696566
Fax: +86-755-88696577

Email: customerservice.sw@bureauveritas.com
Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.

5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

6 APPENDIX

LTE BAND26

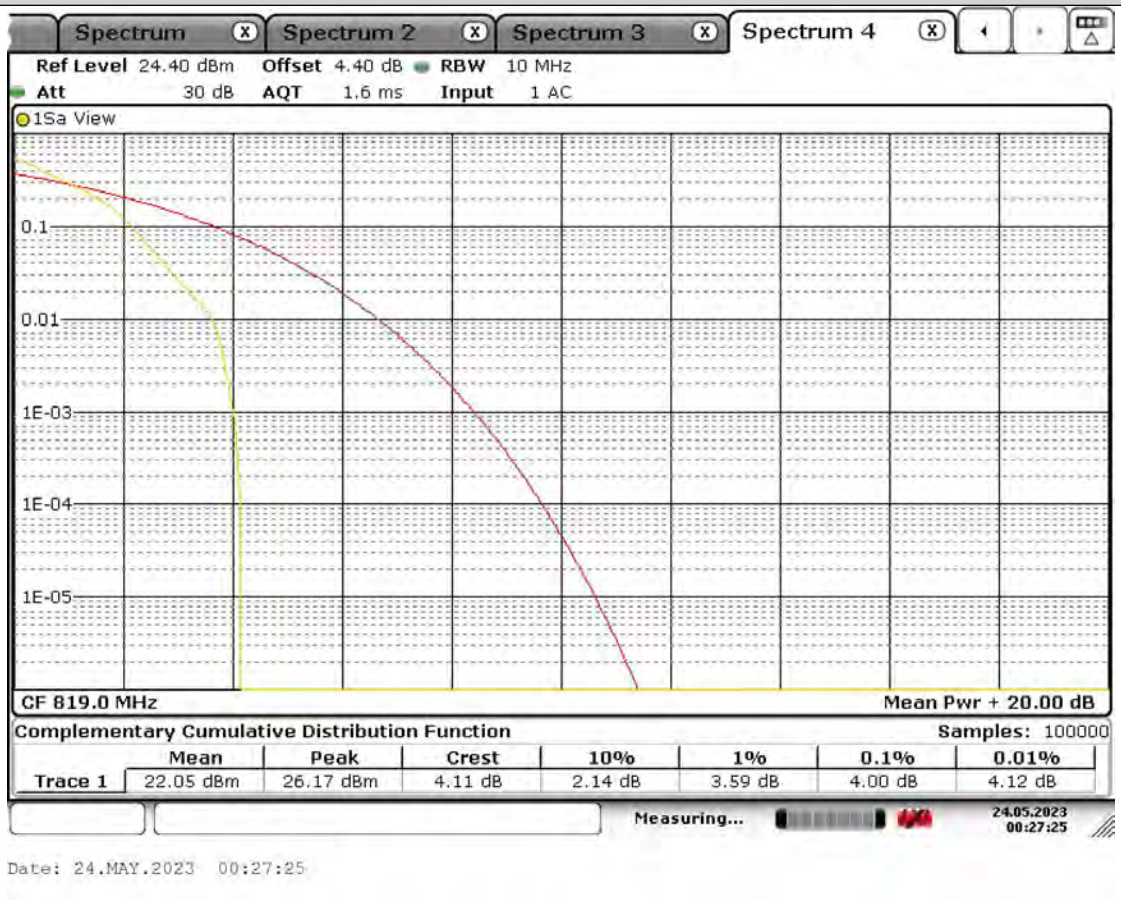
PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

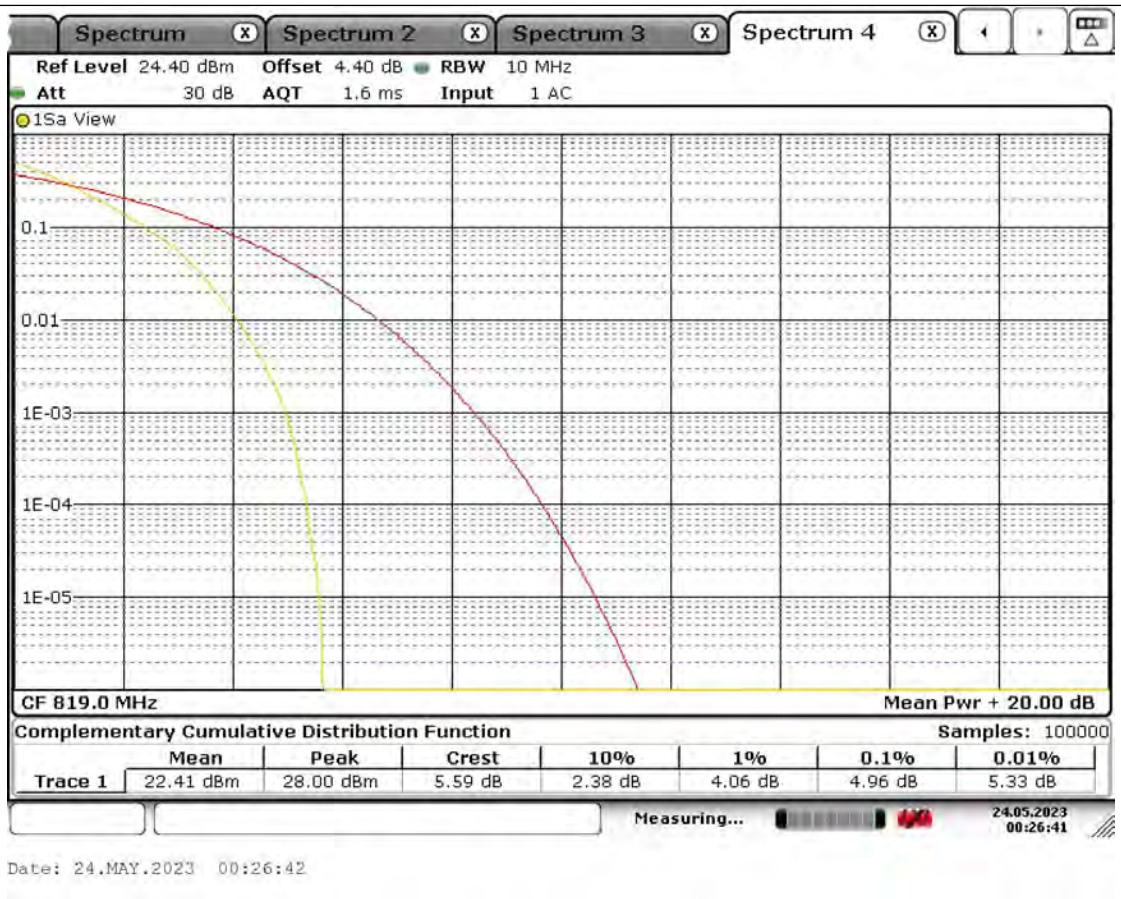
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band26	10MHz	QPSK	26740	1RB#0	4.00	13	PASS
Band26	10MHz	QPSK	26740	50RB#0	4.96	13	PASS
Band26	10MHz	16QAM	26740	1RB#0	4.78	13	PASS
Band26	10MHz	16QAM	26740	50RB#0	5.83	13	PASS
Band26	10MHz	64QAM	26740	1RB#0	4.72	13	PASS
Band26	10MHz	64QAM	26740	50RB#0	5.88	13	PASS

Test Graphs

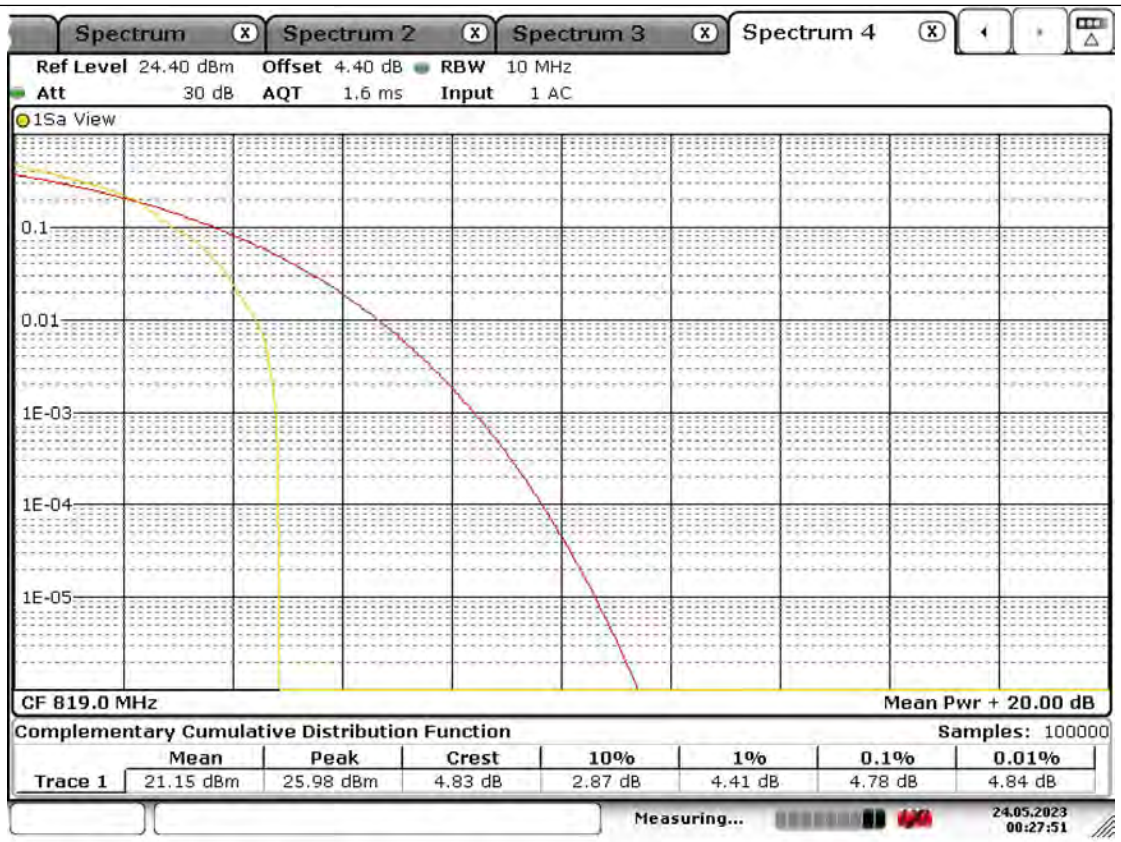
Band26-10MHz-QPSK-26740-1RB#0



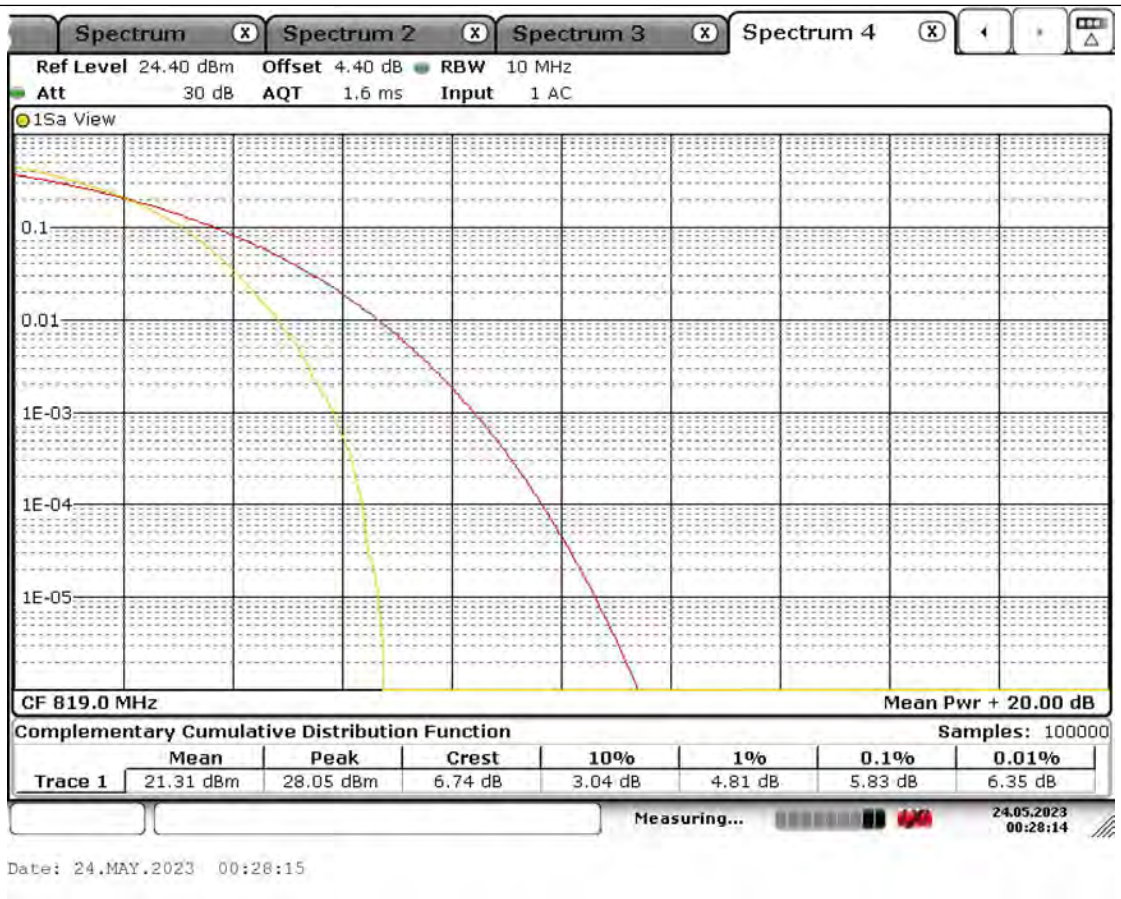
Band26-10MHz-QPSK-26740-50RB#0



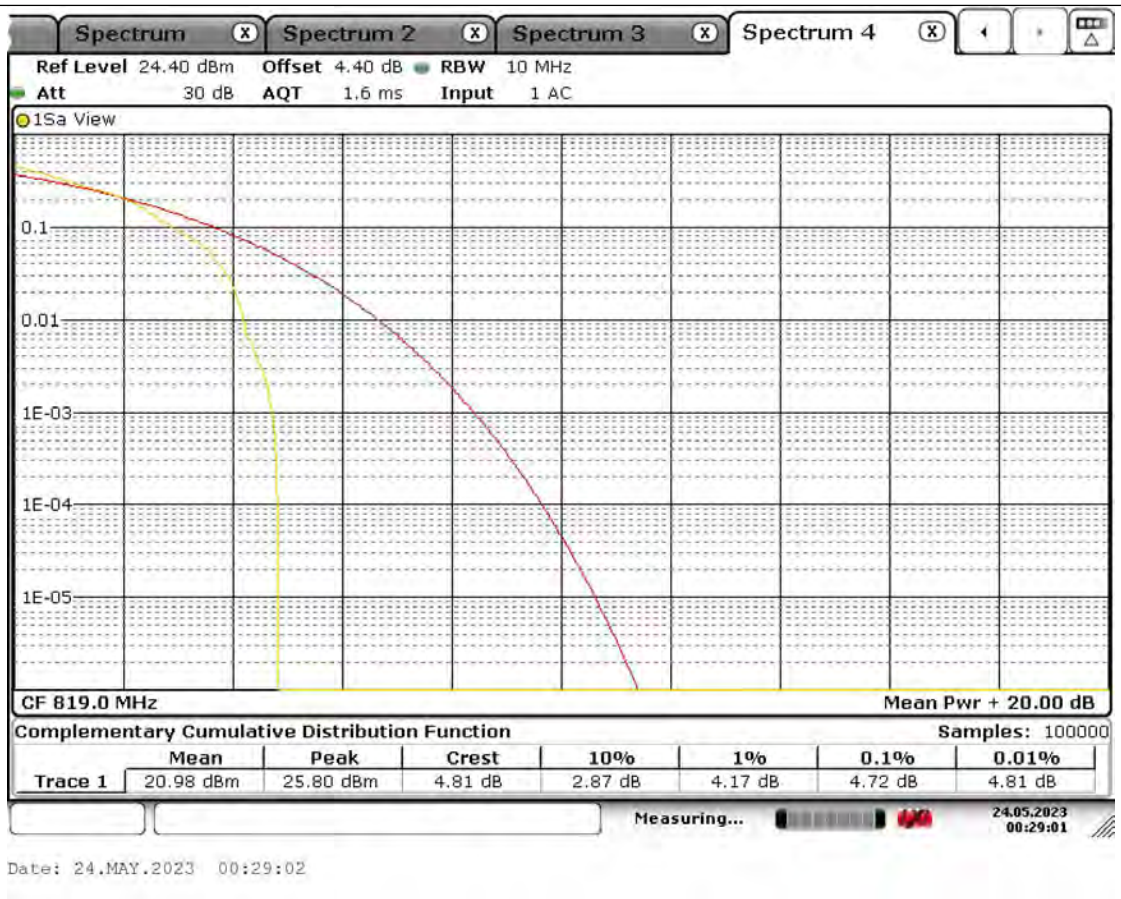
Band26-10MHz-16QAM-26740-1RB#0



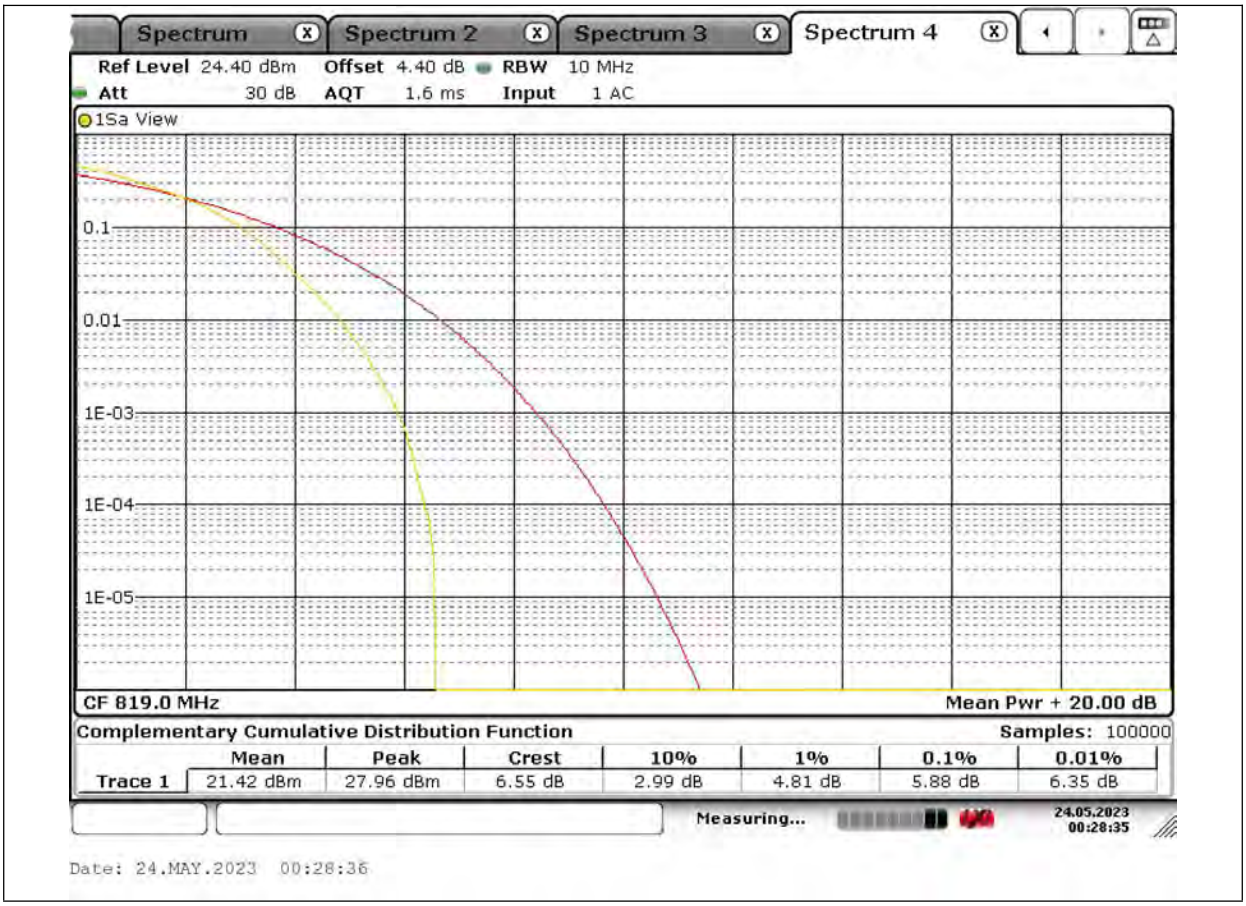
Band26-10MHz-16QAM-26740-50RB#0



Band26-10MHz-64QAM-26740-1RB#0



Band26-10MHz-64QAM-26740-50RB#0


Spectrum
Spectrum 2
Spectrum 3
Spectrum 4
Ref Level 24.40 dBm Offset 4.40 dB RBW 10 MHz
Att 30 dB AQT 1.6 ms Input 1 AC
1Sa View
0.1
0.01
1E-03
1E-04
1E-05
CF 819.0 MHz
Mean Pwr + 20.00 dB
Complementary Cumulative Distribution Function
Samples: 100000
Mean Peak Crest 10% 1% 0.1% 0.01%
Trace 1 21.42 dBm 27.96 dBm 6.55 dB 2.99 dB 4.81 dB 5.88 dB 6.35 dB
Measuring...
24.05.2023 00:28:35
Date: 24.MAY.2023 00:28:36

26DB BANDWIDTH AND OCCUPIED BANDWIDTH

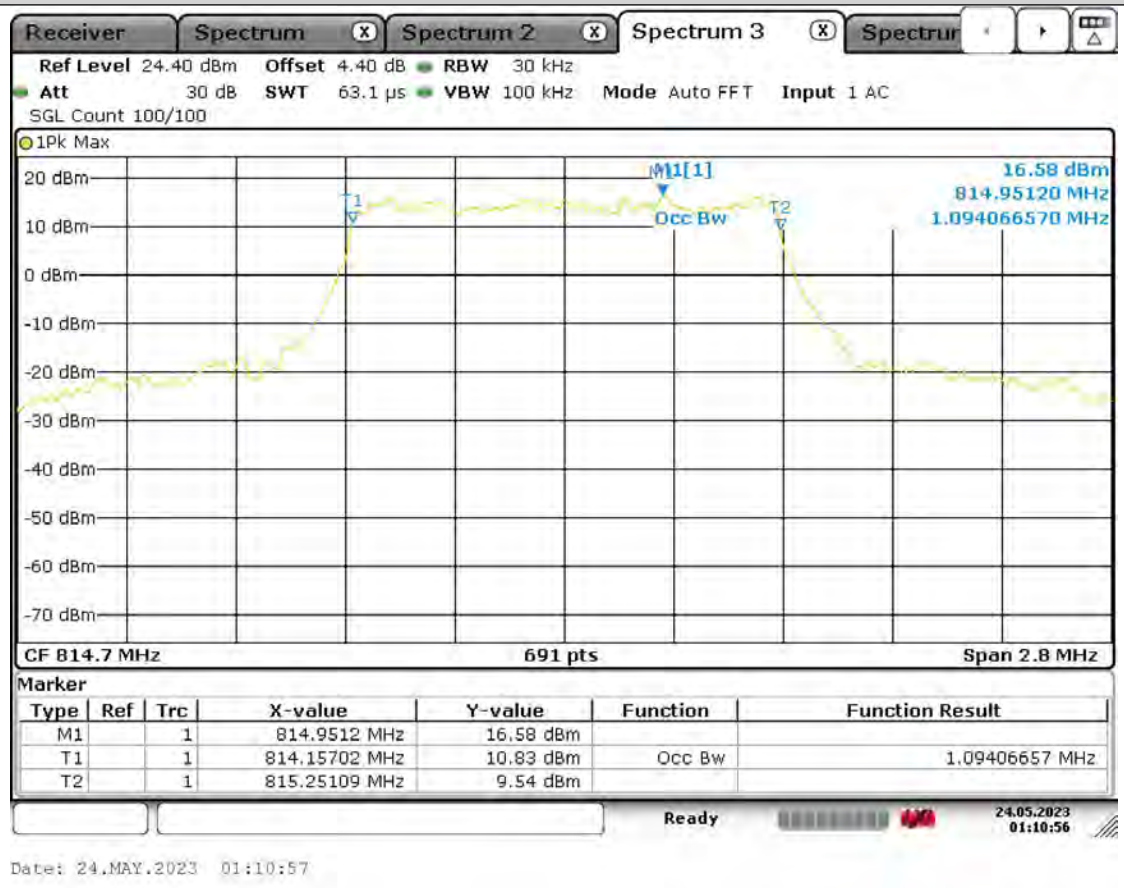
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band26	1.4MHz	QPSK	26697	6RB#0	1.0940	1.2602	PASS
Band26	1.4MHz	QPSK	26740	6RB#0	1.0900	1.2764	PASS
Band26	1.4MHz	QPSK	26783	6RB#0	1.0900	1.2805	PASS
Band26	1.4MHz	16QAM	26697	6RB#0	1.0900	1.2926	PASS
Band26	1.4MHz	16QAM	26740	6RB#0	1.0859	1.3007	PASS
Band26	1.4MHz	16QAM	26783	6RB#0	1.0900	1.2562	PASS
Band26	1.4MHz	64QAM	26697	6RB#0	1.0859	1.2764	PASS
Band26	1.4MHz	64QAM	26740	6RB#0	1.0900	1.2845	PASS
Band26	1.4MHz	64QAM	26783	6RB#0	1.0859	1.3048	PASS
Band26	3MHz	QPSK	26705	15RB#0	2.6917	3.0564	PASS
Band26	3MHz	QPSK	26740	15RB#0	2.7438	2.9957	PASS
Band26	3MHz	QPSK	26775	15RB#0	2.7351	3.0217	PASS
Band26	3MHz	16QAM	26705	15RB#0	2.7178	3.0130	PASS
Band26	3MHz	16QAM	26740	15RB#0	2.7178	3.0304	PASS
Band26	3MHz	16QAM	26775	15RB#0	2.7004	2.9696	PASS
Band26	3MHz	64QAM	26705	15RB#0	2.7178	2.9696	PASS
Band26	3MHz	64QAM	26740	15RB#0	2.7264	2.9783	PASS
Band26	3MHz	64QAM	26775	15RB#0	2.7178	3.0391	PASS
Band26	5MHz	QPSK	26715	25RB#0	4.4862	5.0510	PASS
Band26	5MHz	QPSK	26740	25RB#0	4.4862	4.9350	PASS
Band26	5MHz	QPSK	26765	25RB#0	4.5007	4.9350	PASS
Band26	5MHz	16QAM	26715	25RB#0	4.4862	4.8910	PASS
Band26	5MHz	16QAM	26740	25RB#0	4.4862	4.9060	PASS
Band26	5MHz	16QAM	26765	25RB#0	4.4862	5.0220	PASS
Band26	5MHz	64QAM	26715	25RB#0	4.4862	4.9060	PASS
Band26	5MHz	64QAM	26740	25RB#0	4.4862	4.8480	PASS
Band26	5MHz	64QAM	26765	25RB#0	4.4717	4.8910	PASS
Band26	10MHz	QPSK	26740	50RB#0	9.0014	9.7250	PASS
Band26	10MHz	16QAM	26740	50RB#0	8.9725	9.5800	PASS
Band26	10MHz	64QAM	26740	50RB#0	9.0014	9.8700	PASS

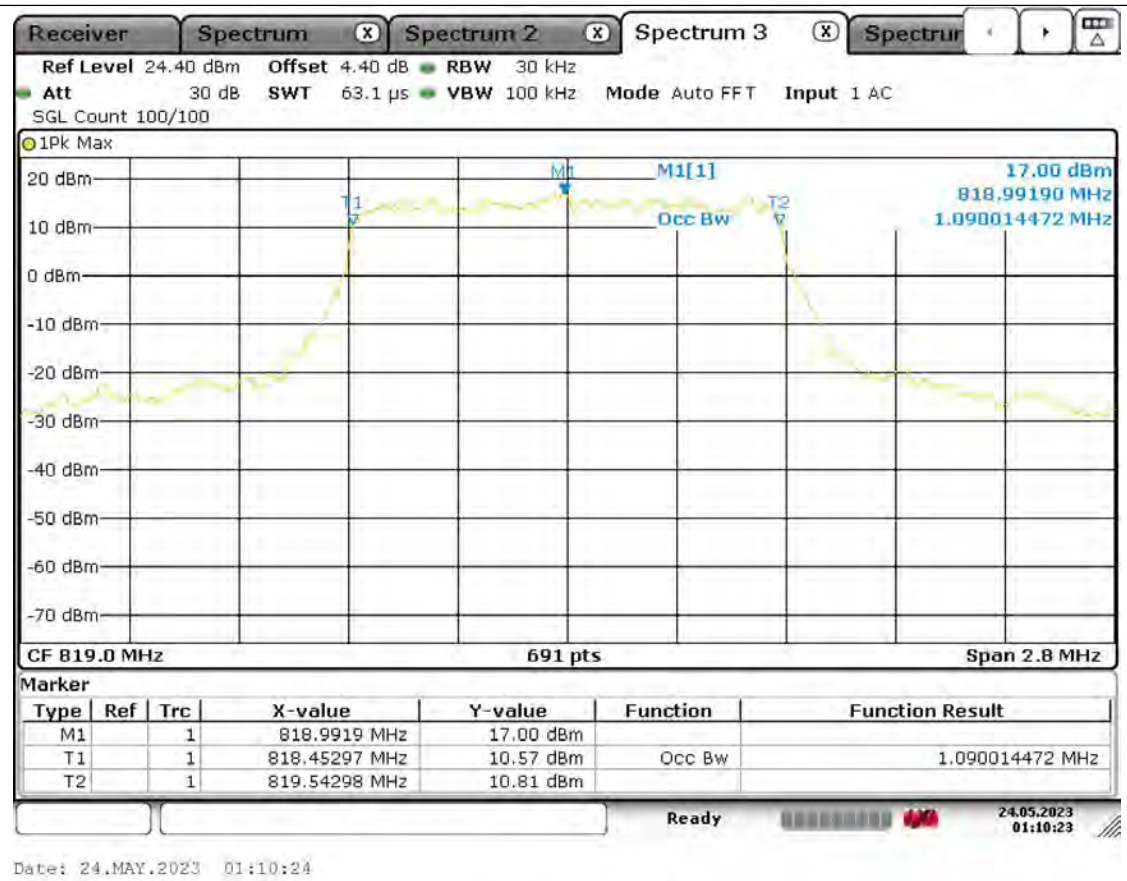
Test Graphs

Occupied Bandwidth

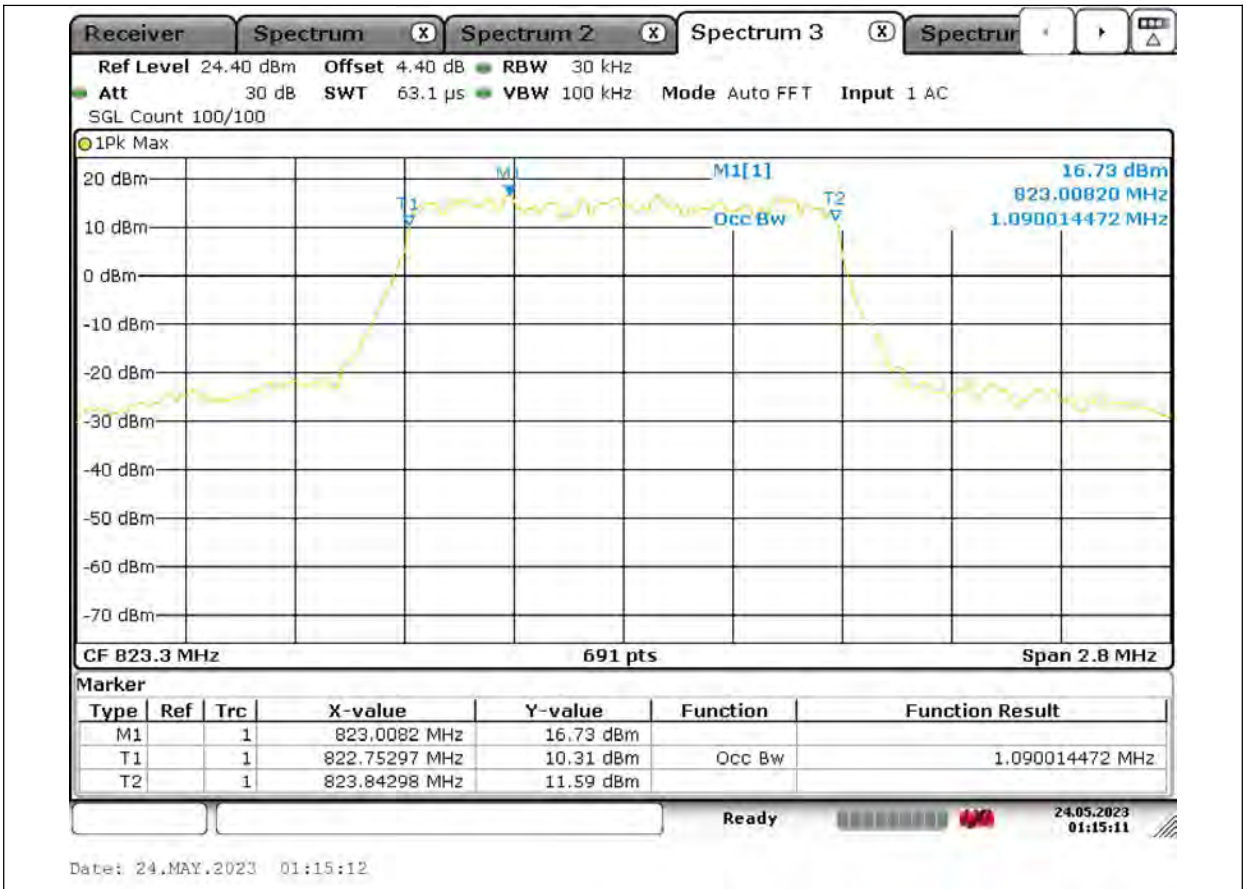
Band26-1.4MHz-QPSK-26697-6RB#0



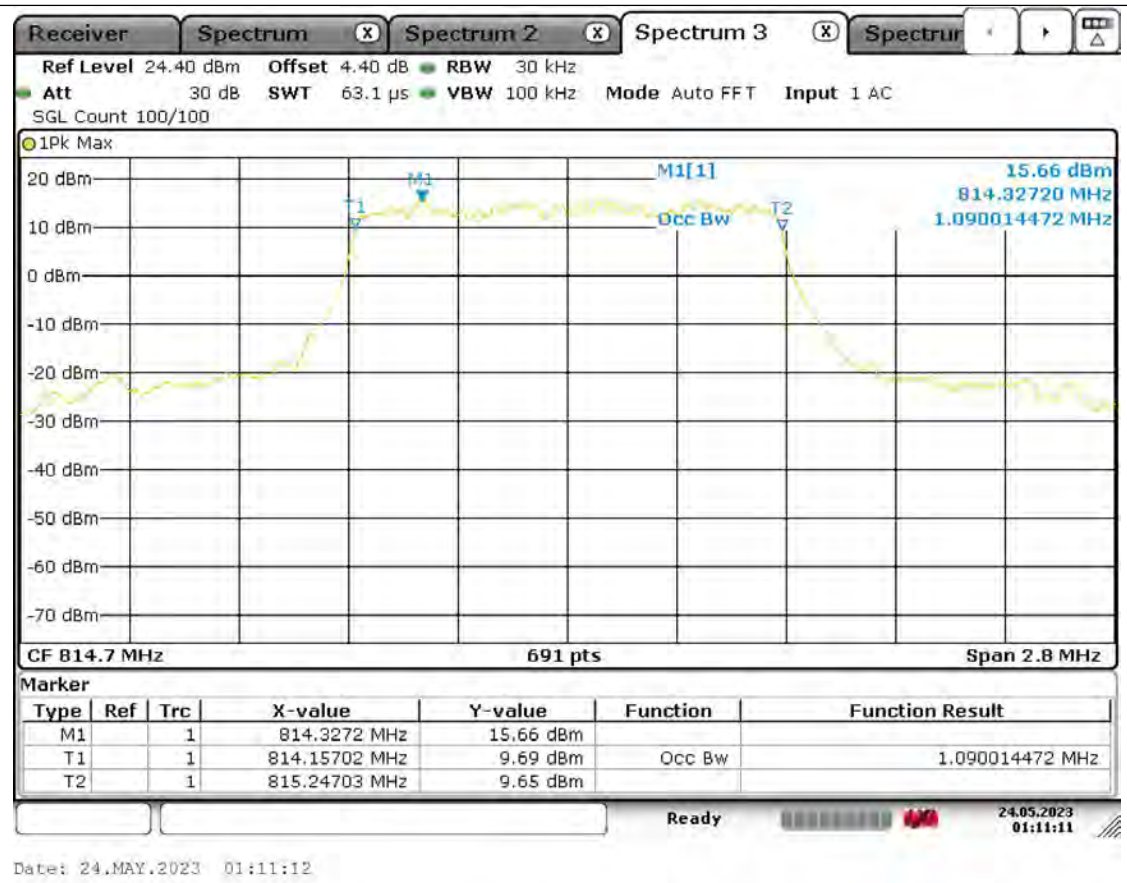
Band26-1.4MHz-QPSK-26740-6RB#0



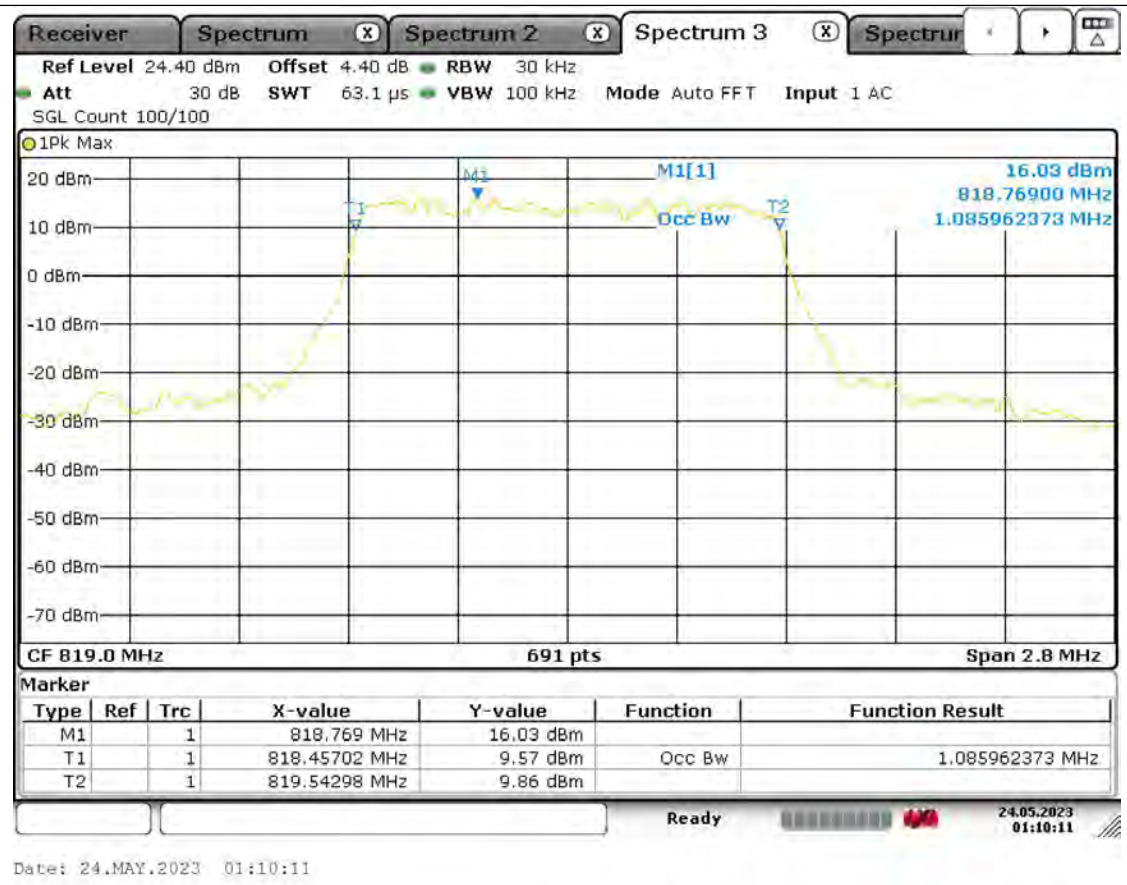
Band26-1.4MHz-QPSK-26783-6RB#0



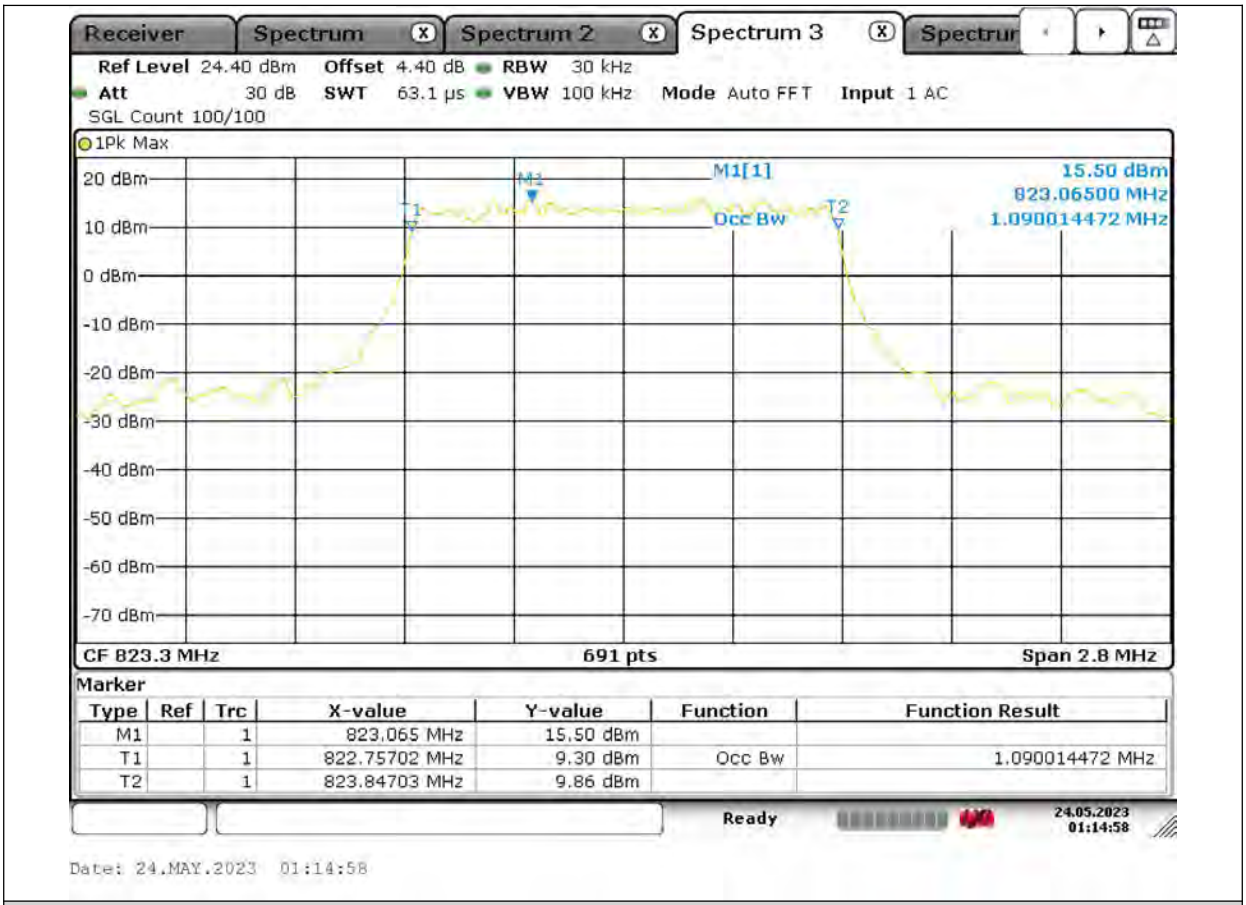
Band26-1.4MHz-16QAM-26697-6RB#0



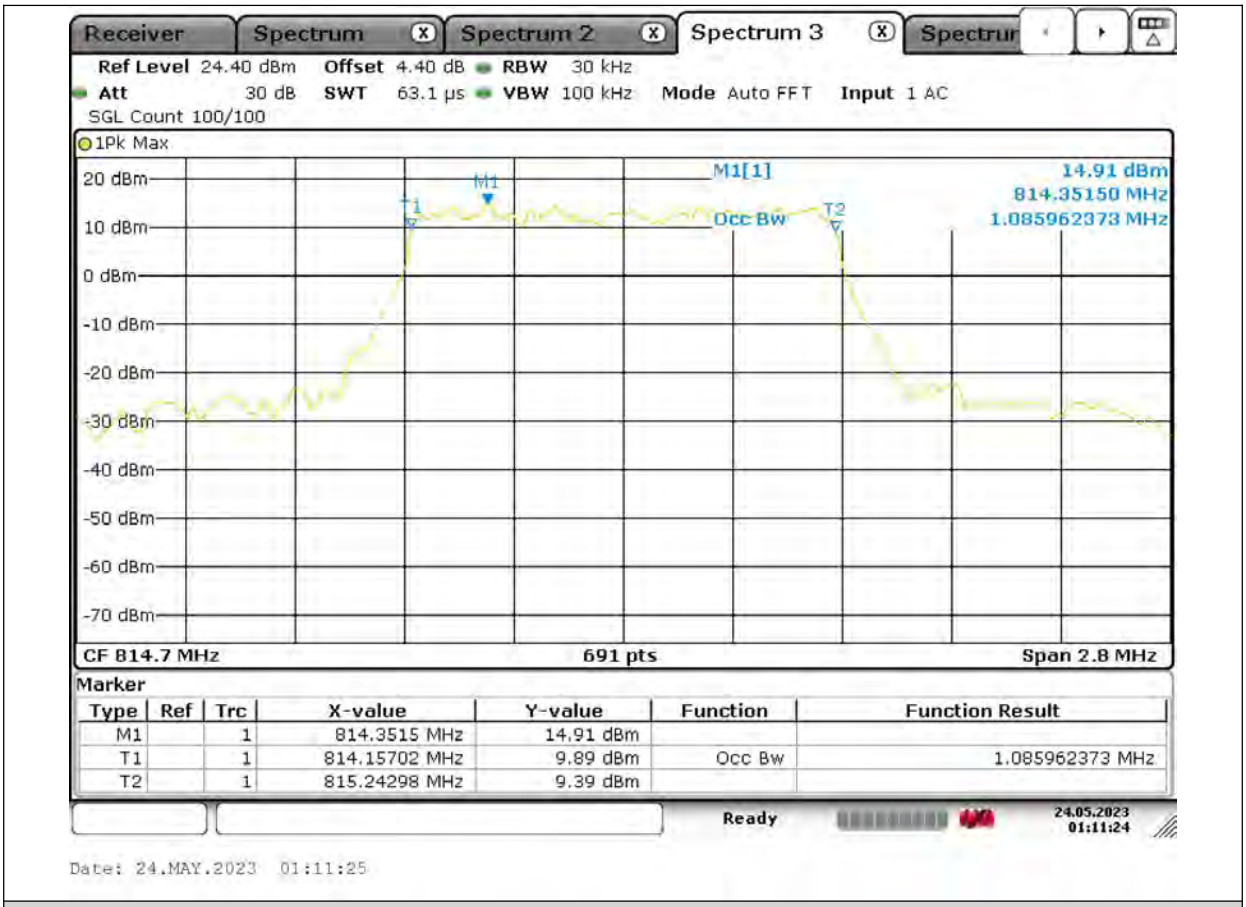
Band26-1.4MHz-16QAM-26740-6RB#0



Band26-1.4MHz-16QAM-26783-6RB#0



Band26-1.4MHz-64QAM-26697-6RB#0



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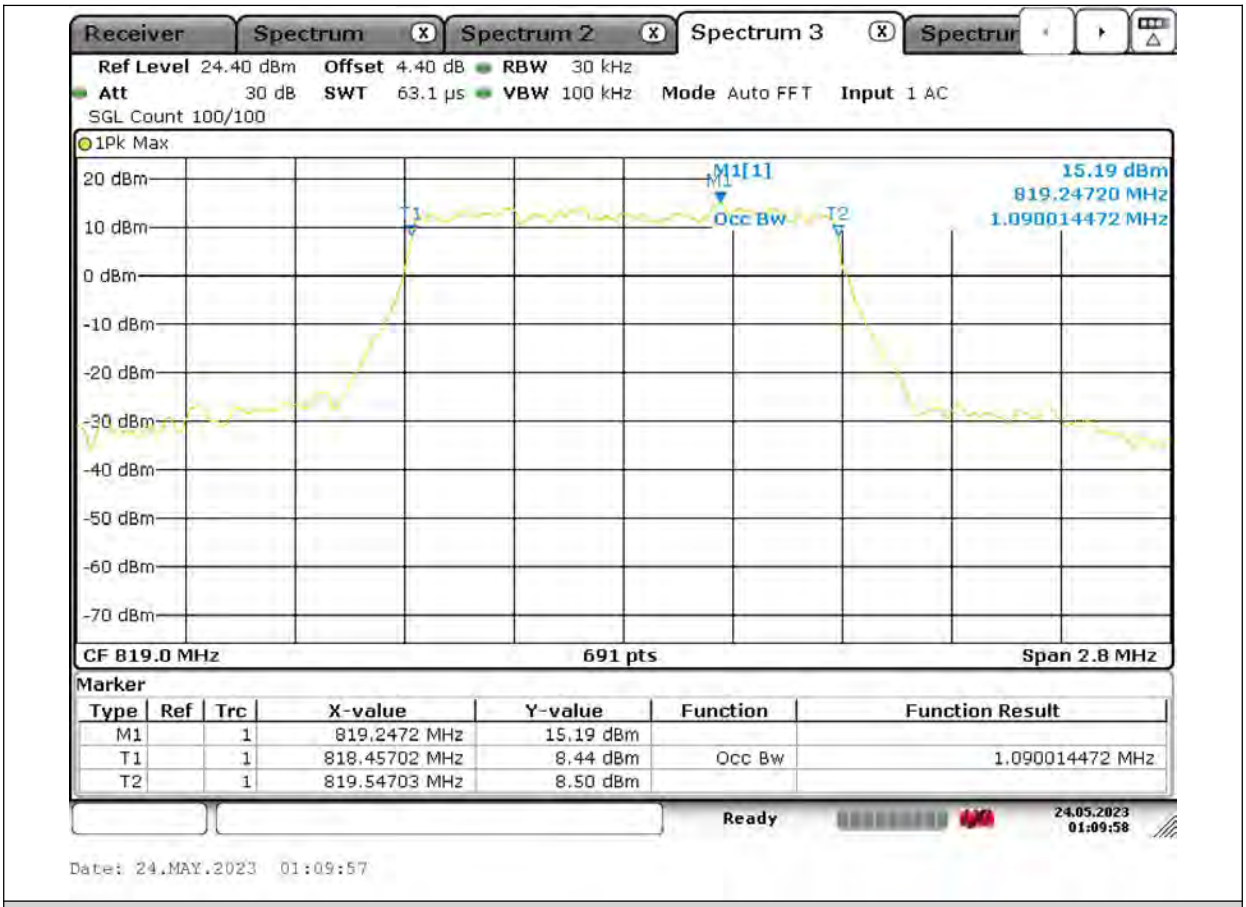
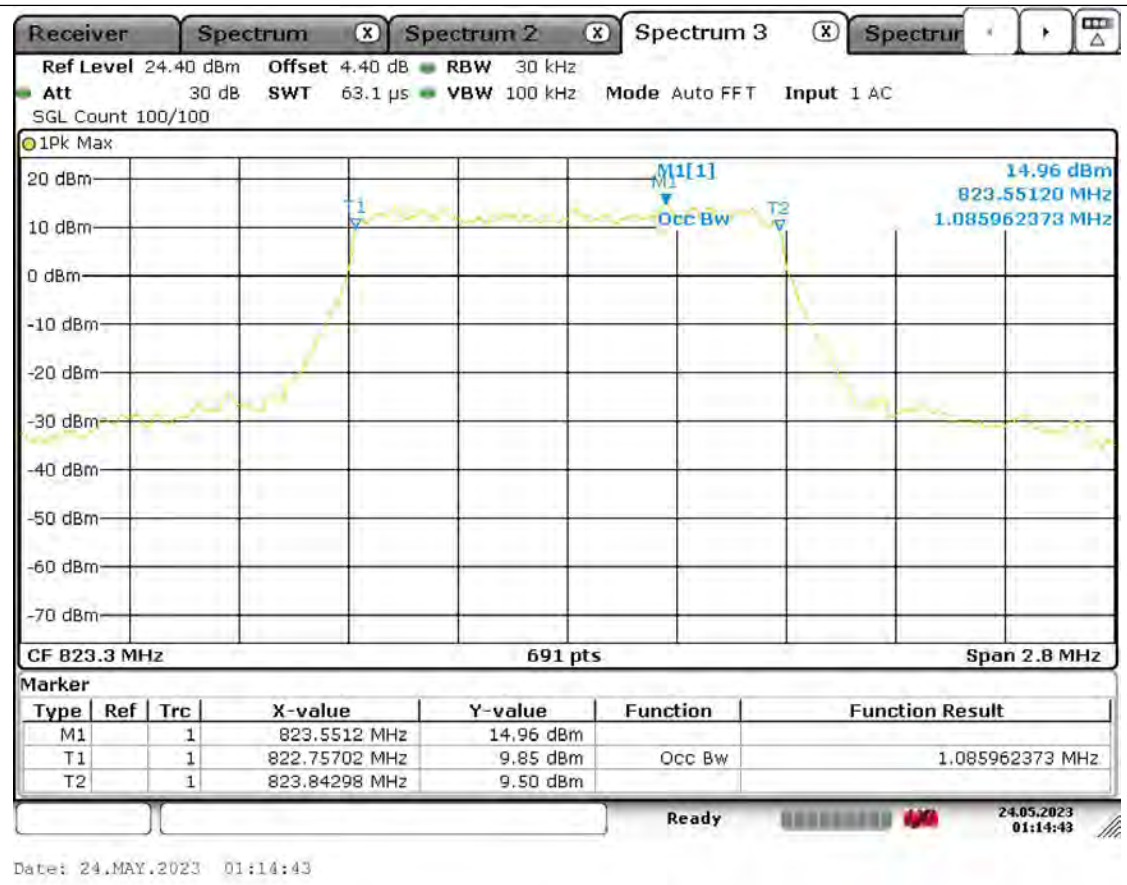
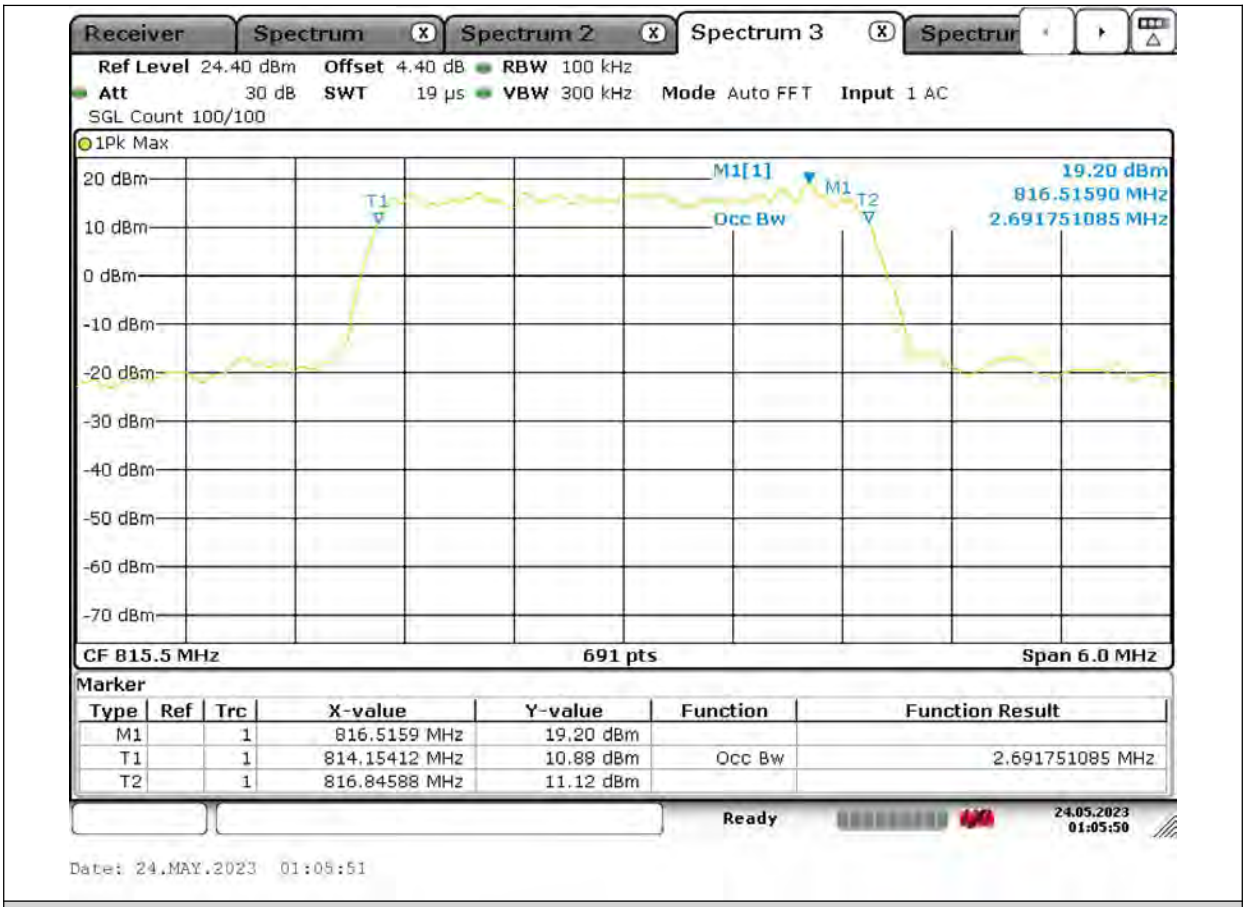


Band26-1.4MHz-64QAM-26783-6RB#0



Band26-3MHz-QPSK-26705-15RB#0



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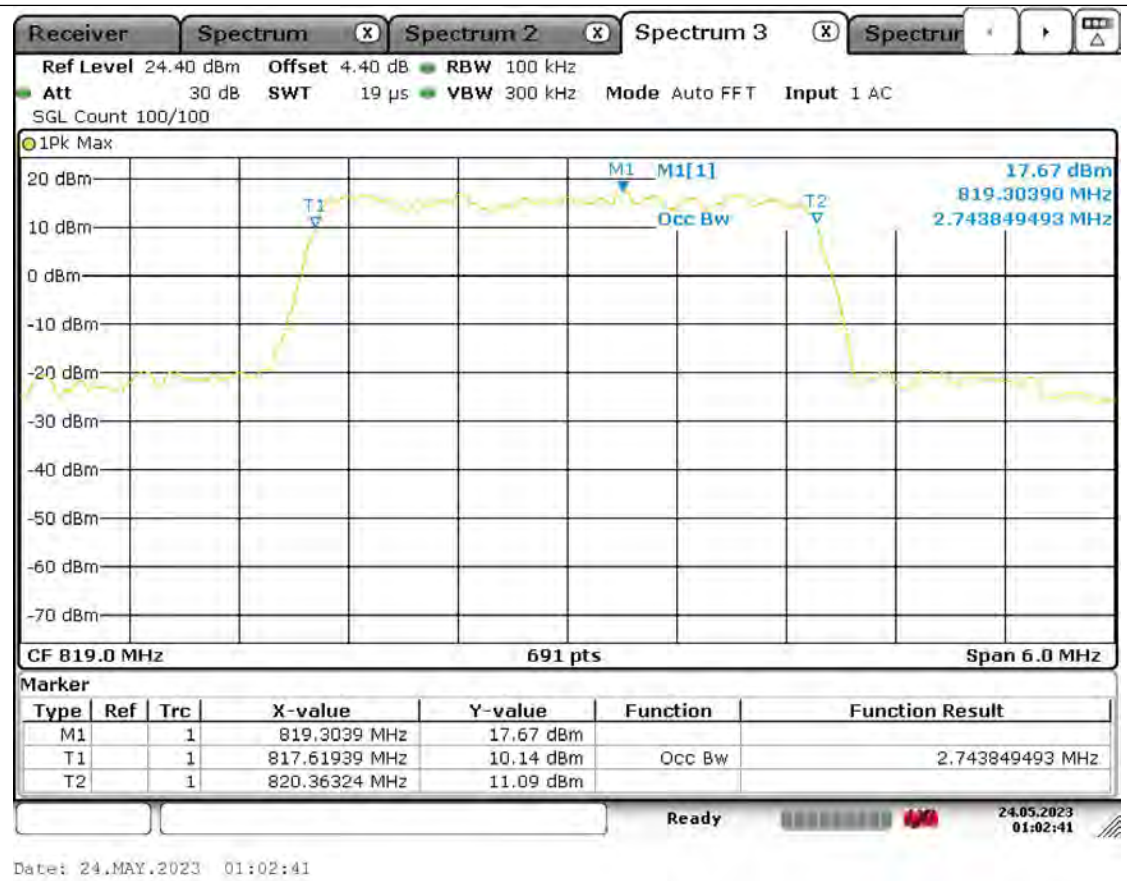

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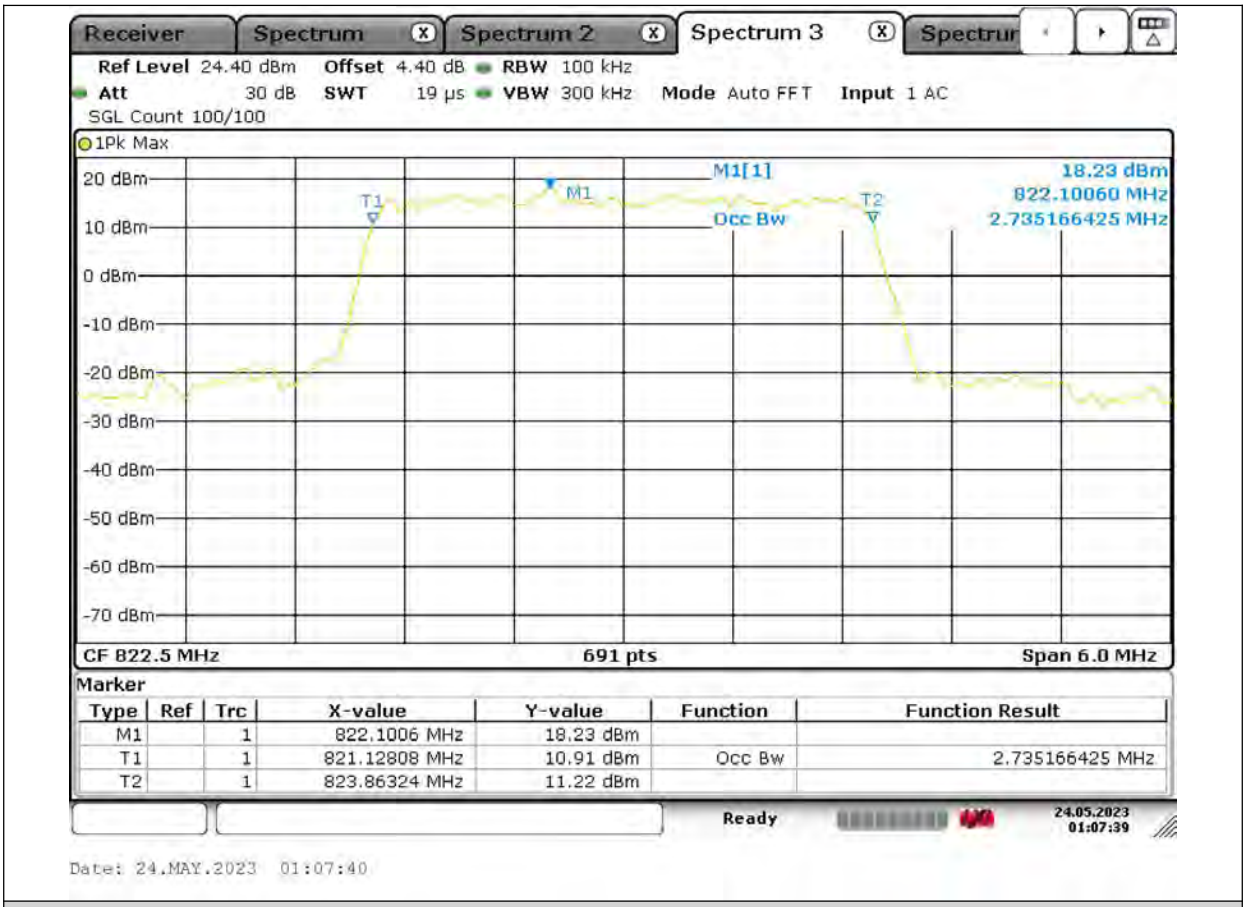

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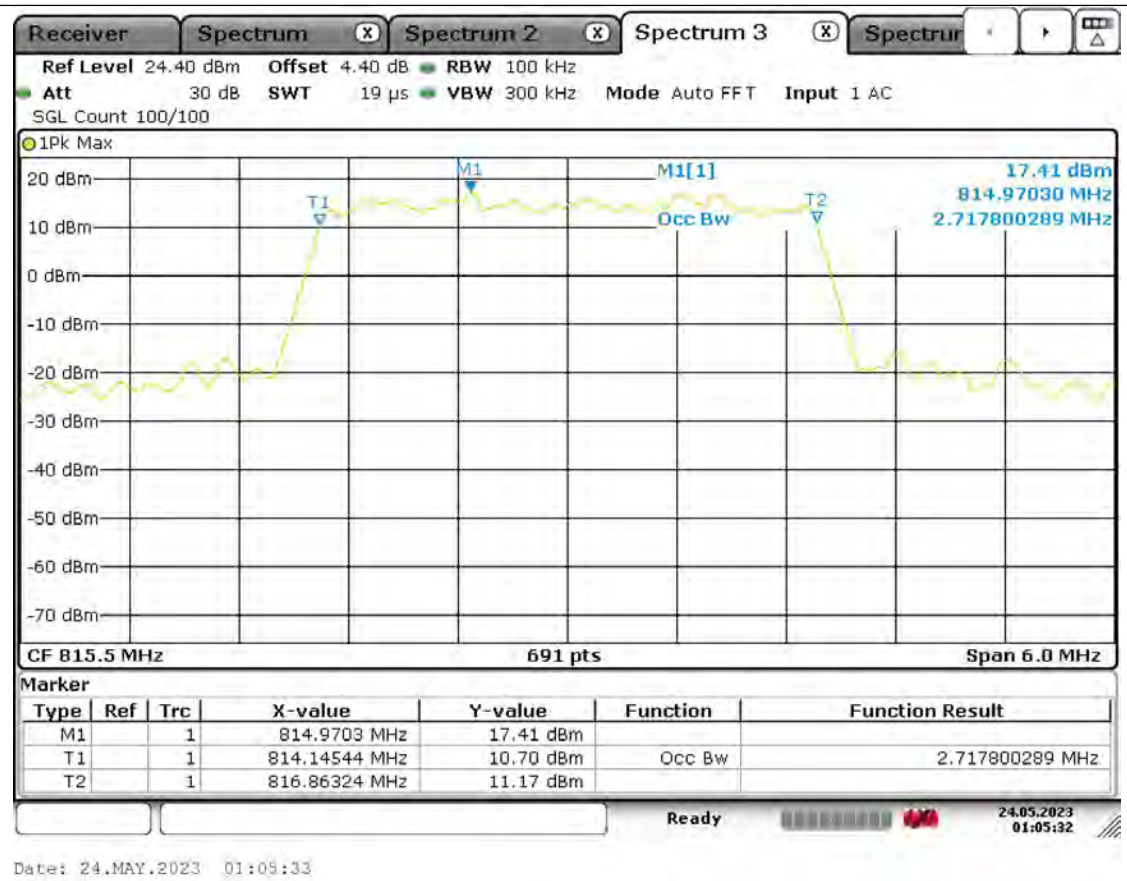

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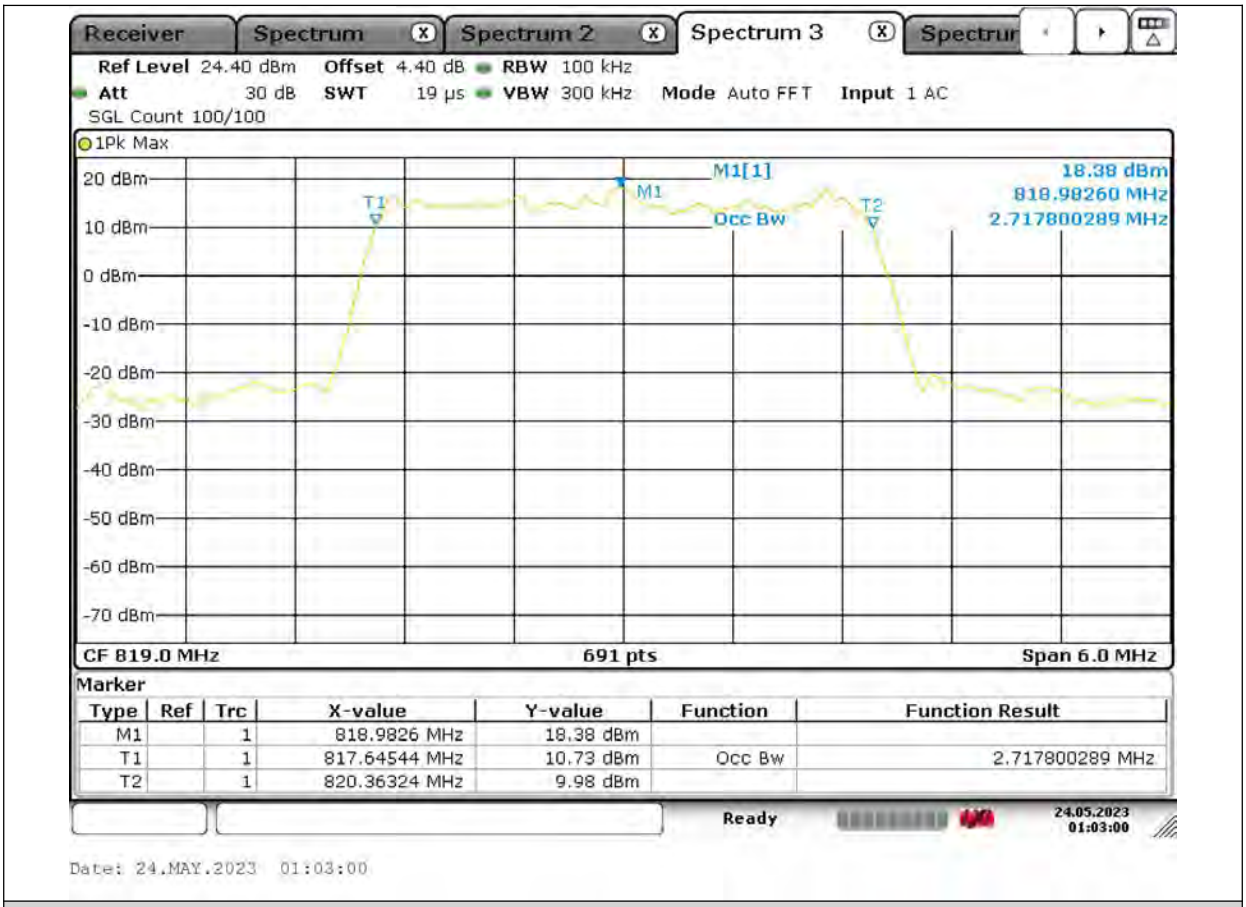

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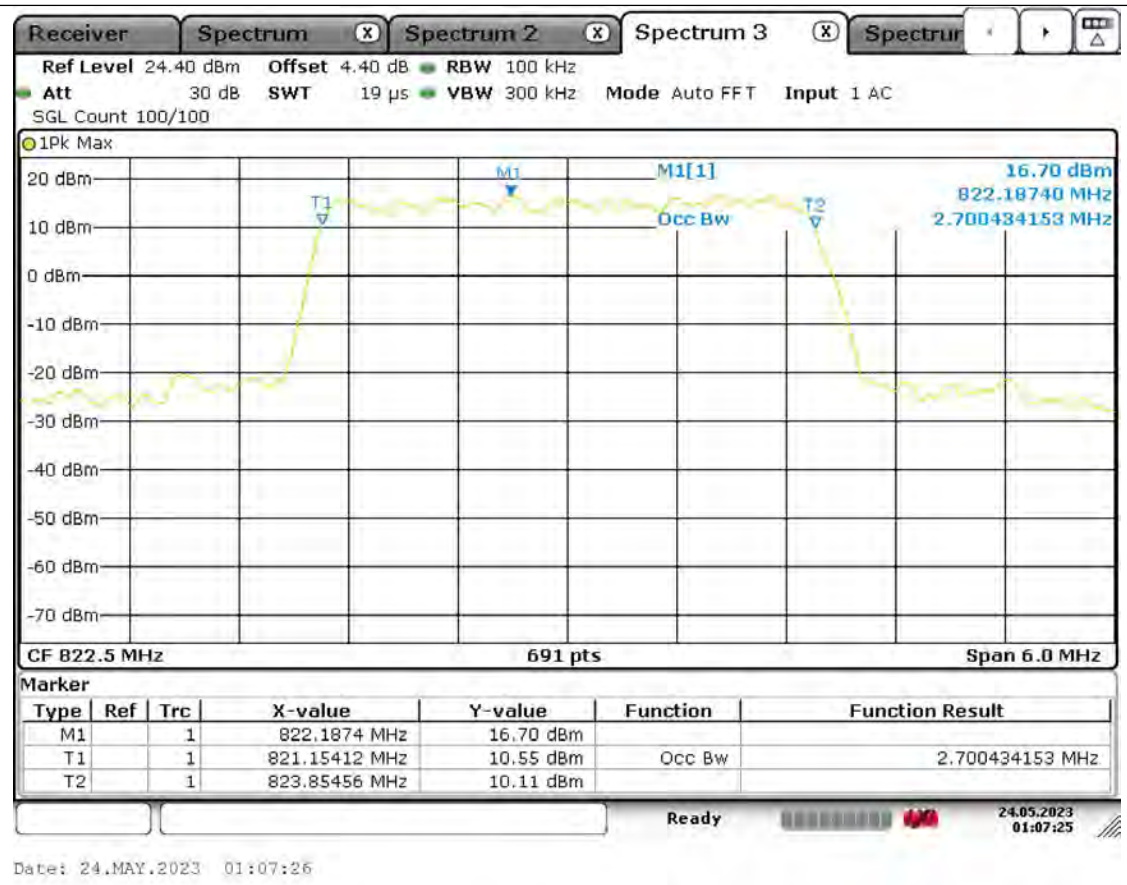

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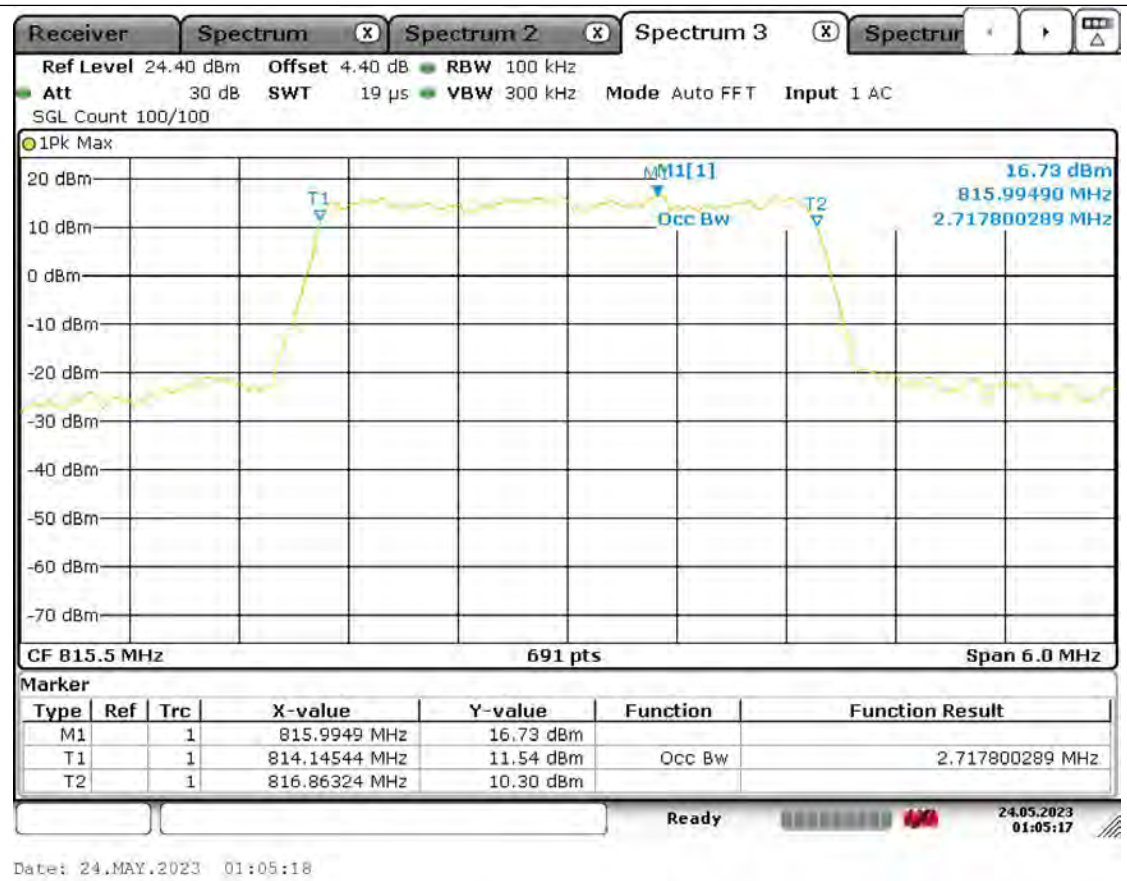
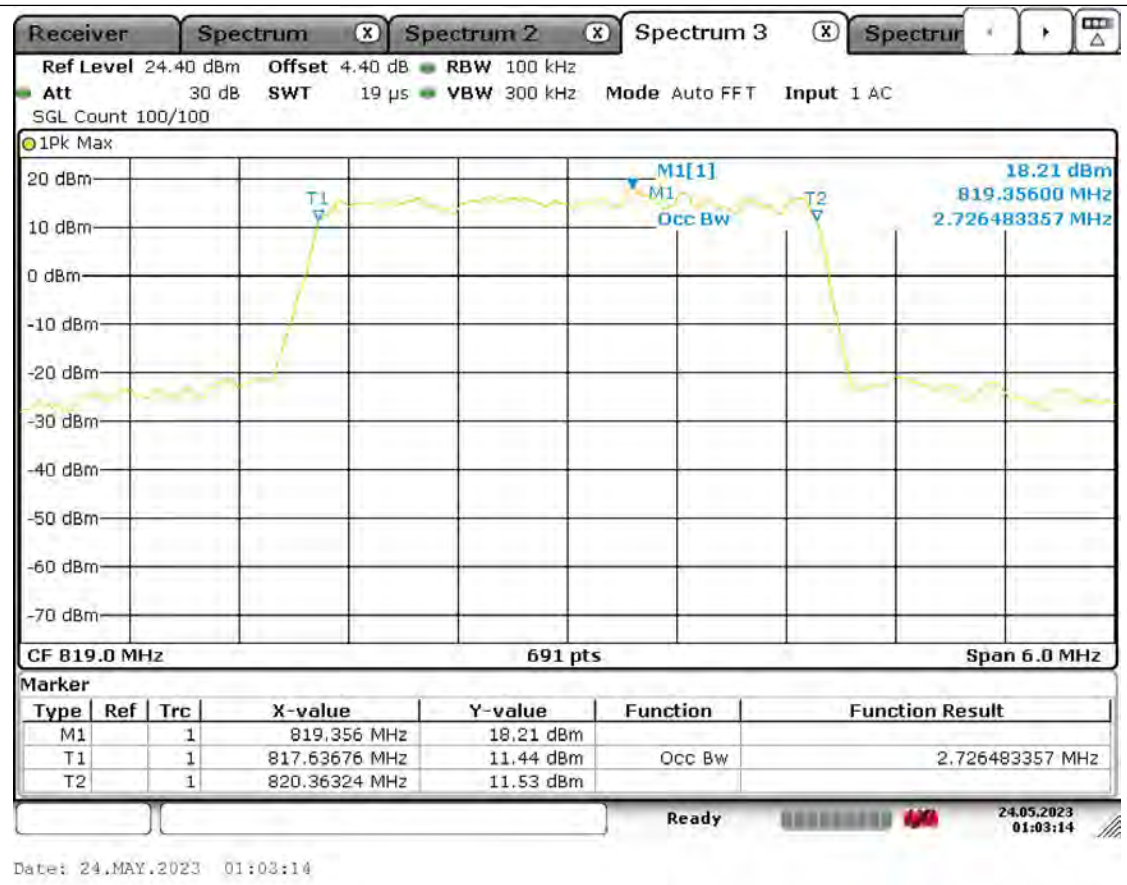


Band26-3MHz-64QAM-26740-15RB#0



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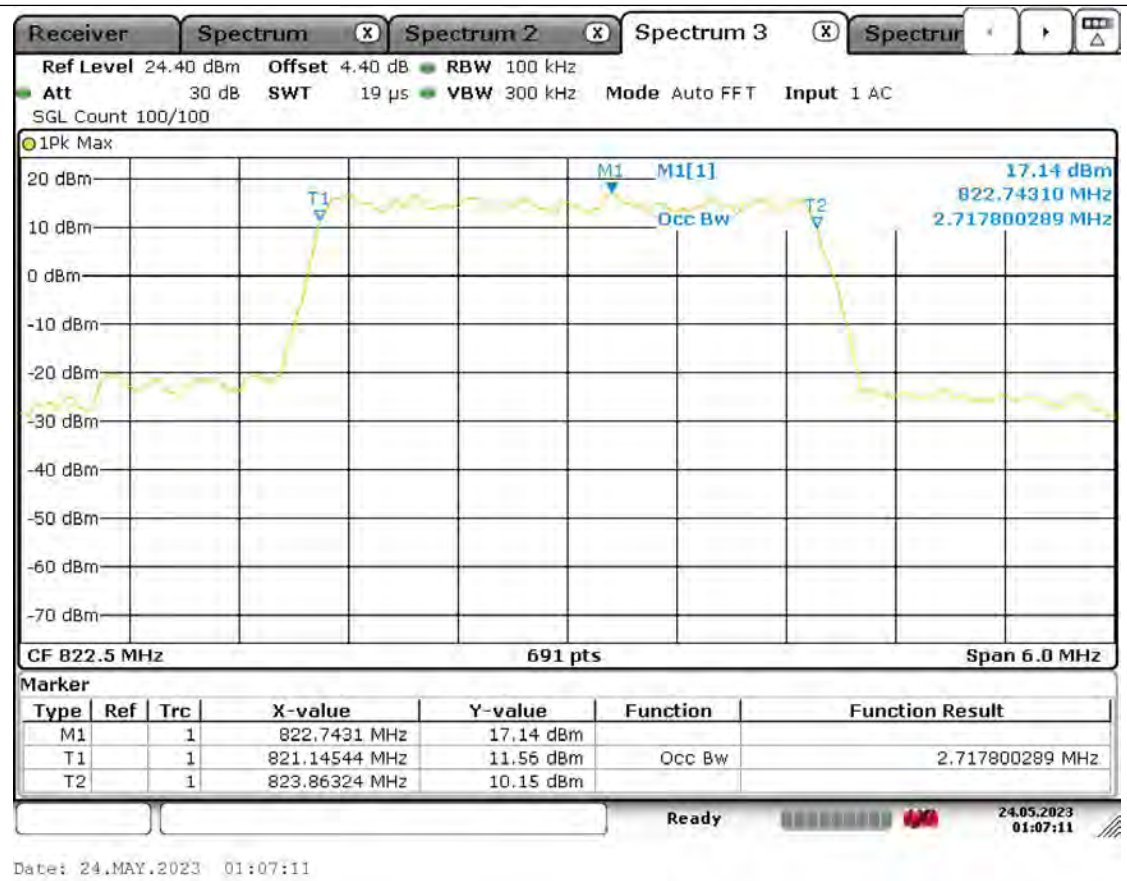
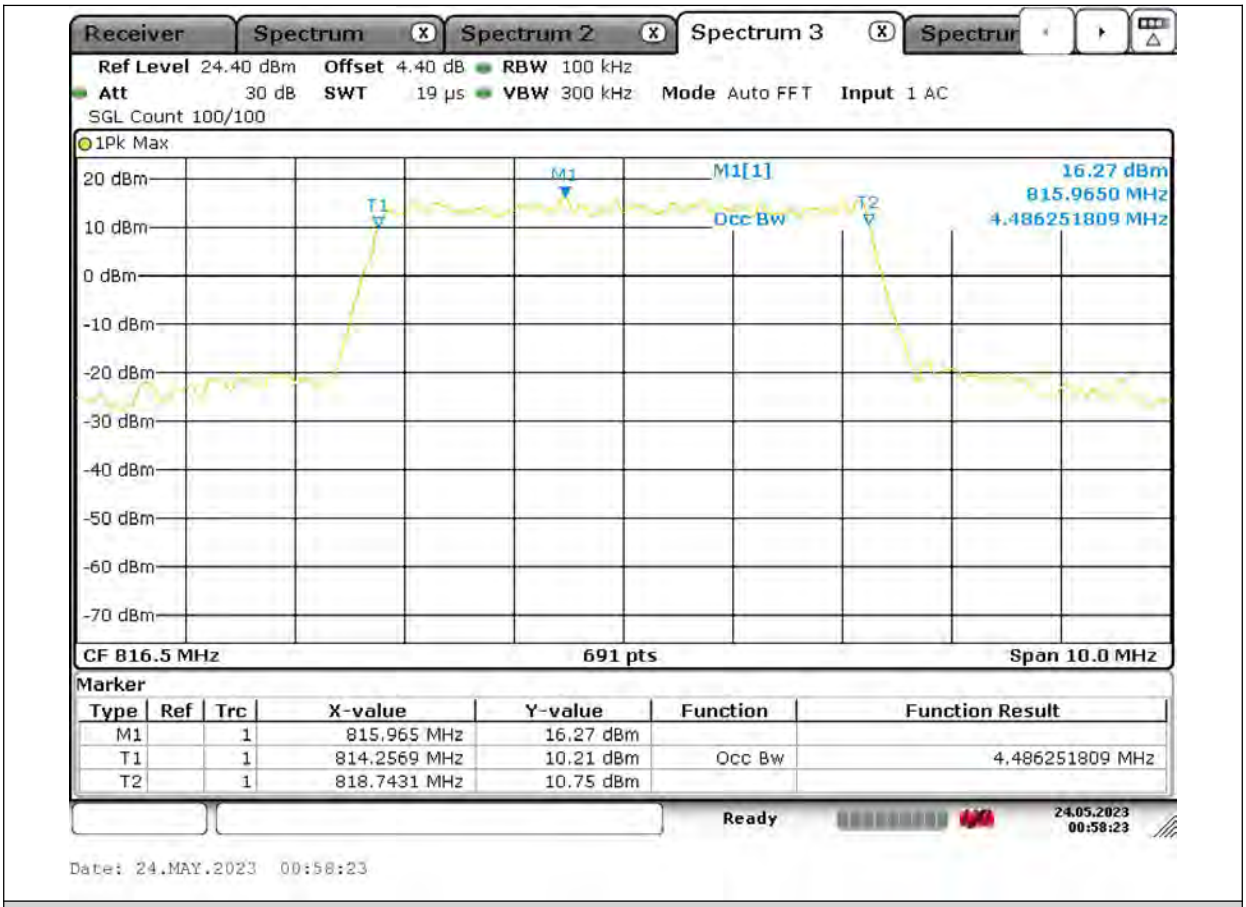
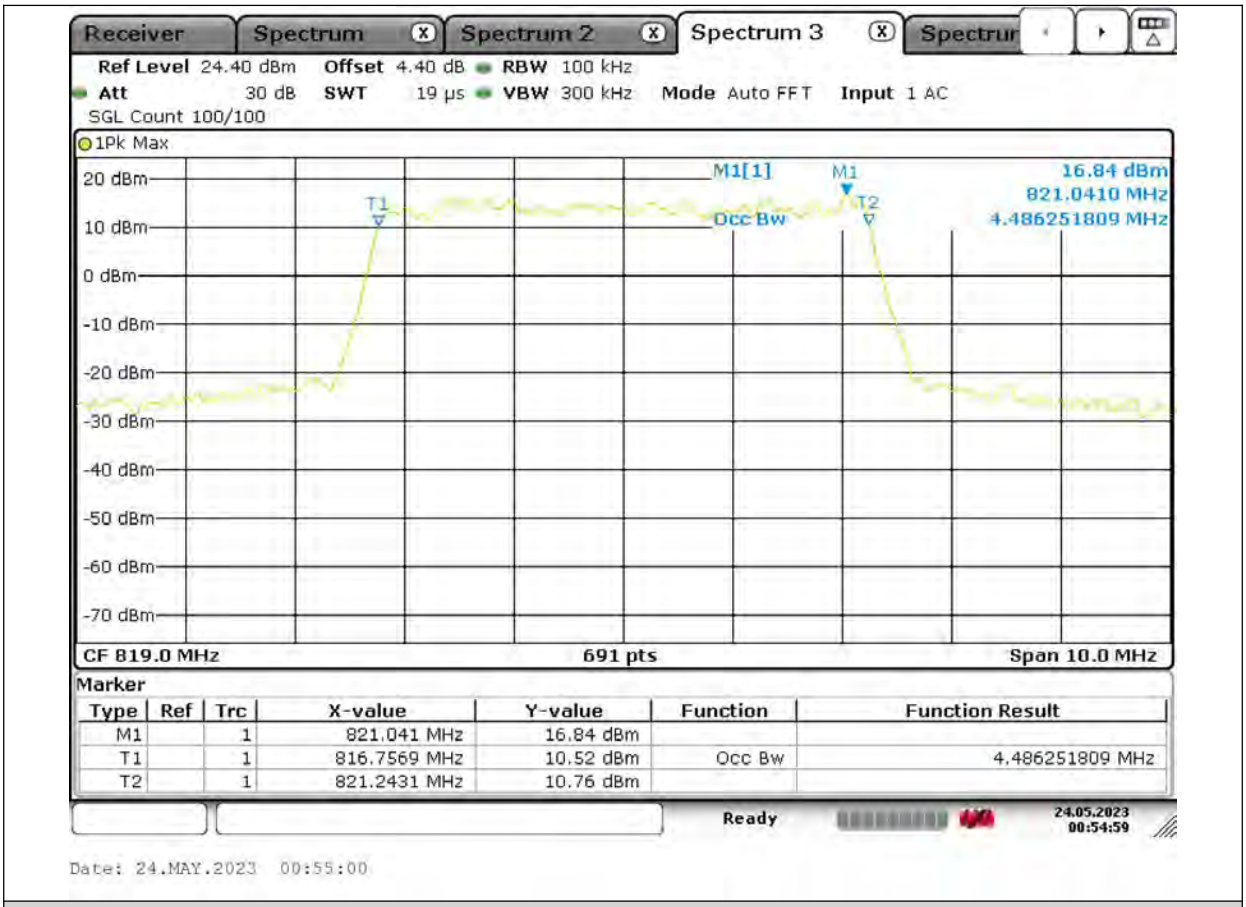


Band26-5MHz-QPSK-26715-25RB#0



Band26-5MHz-QPSK-26740-25RB#0



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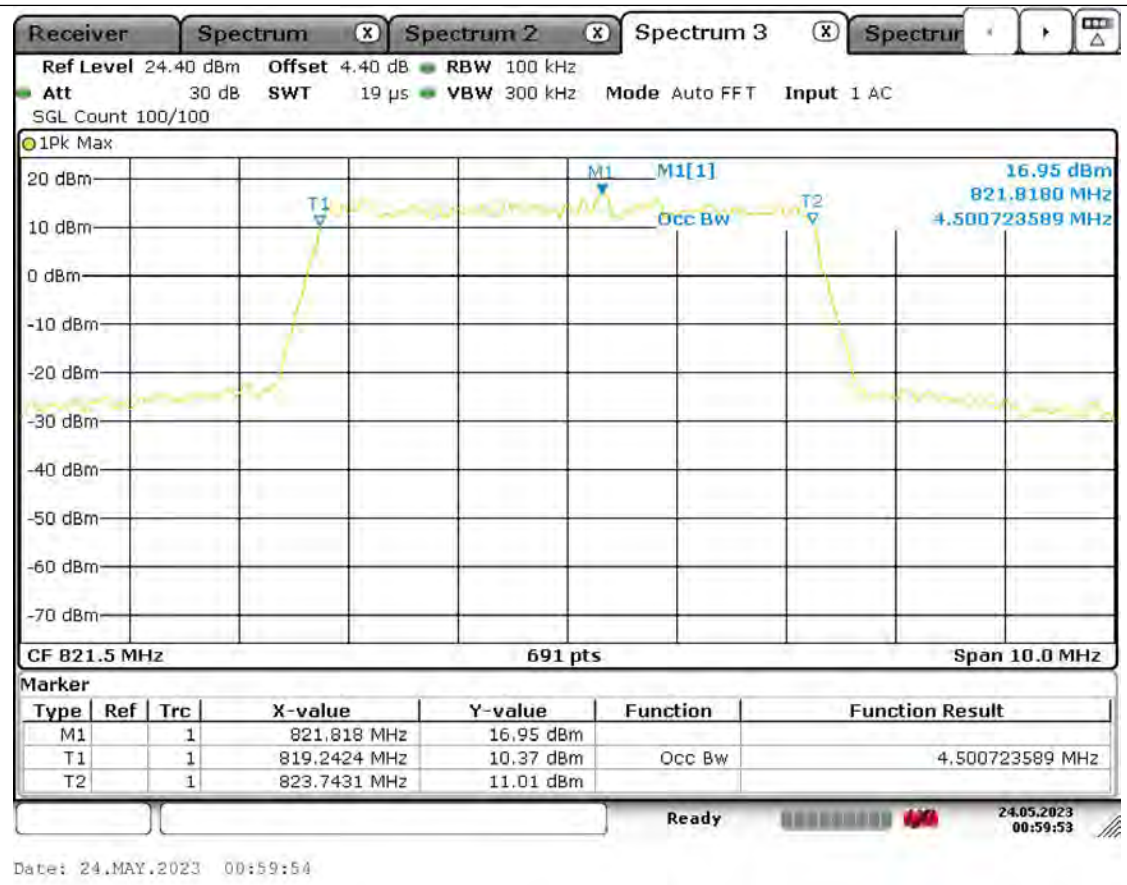
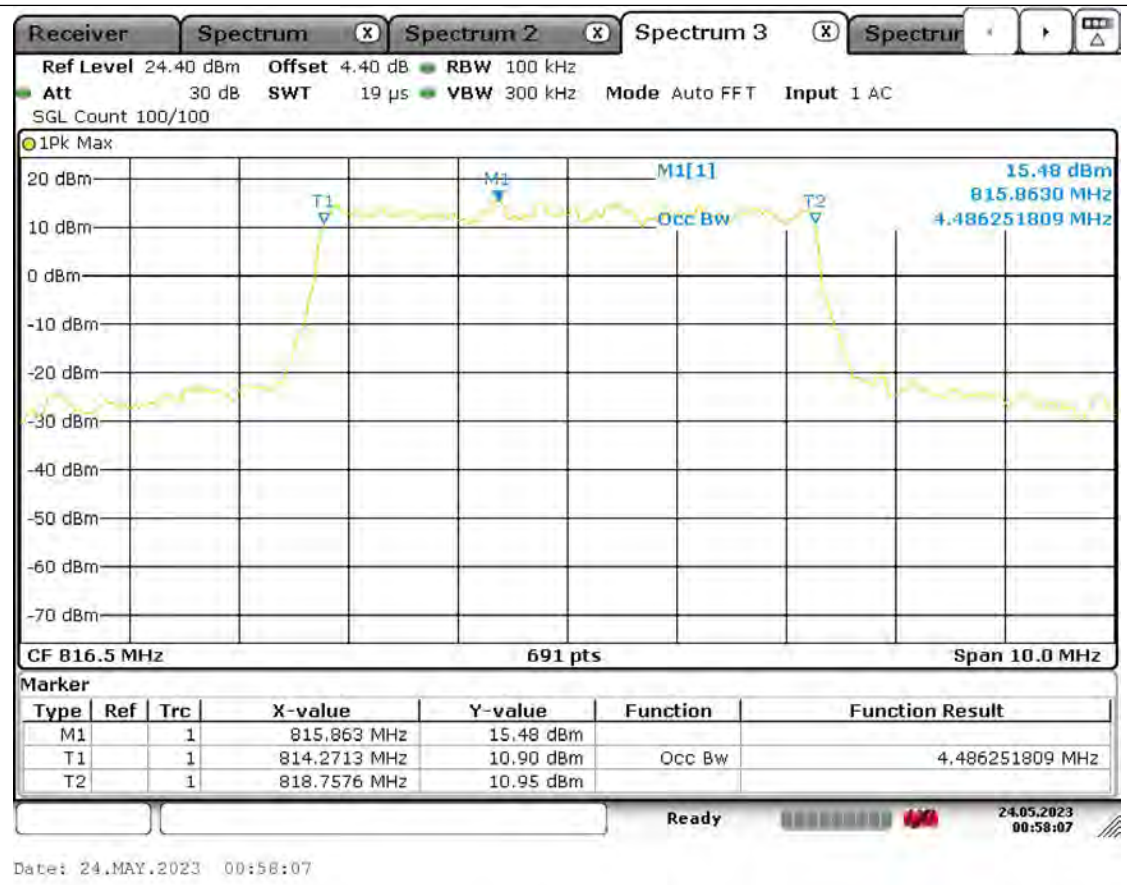
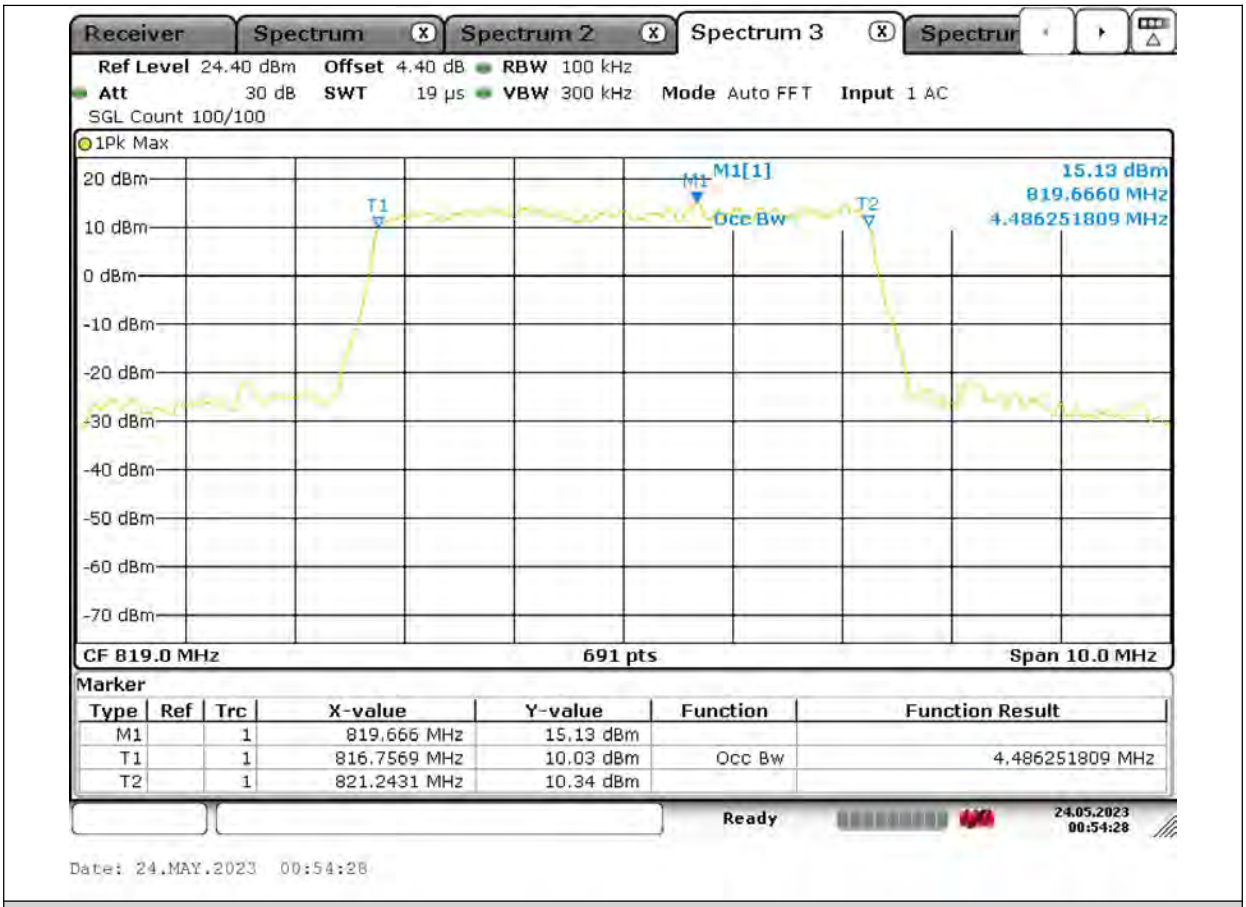


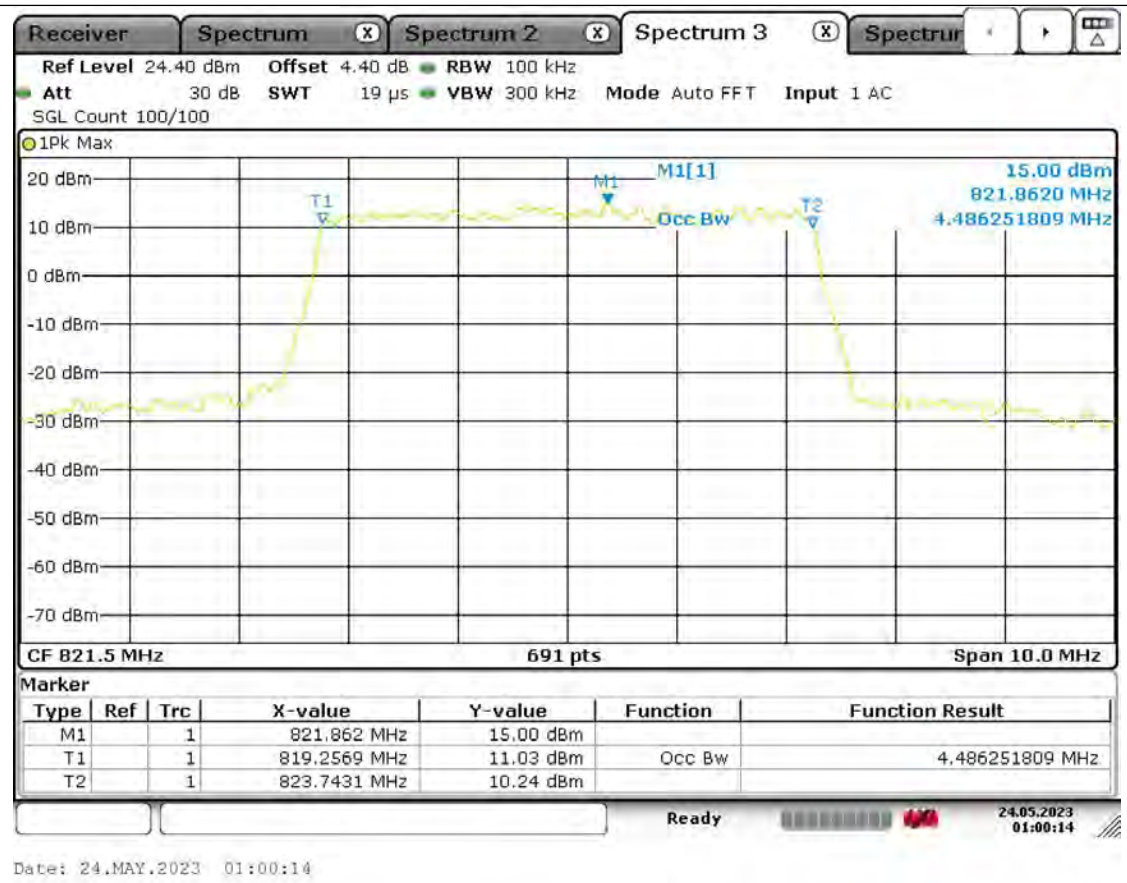
Band26-5MHz-16QAM-26715-25RB#0



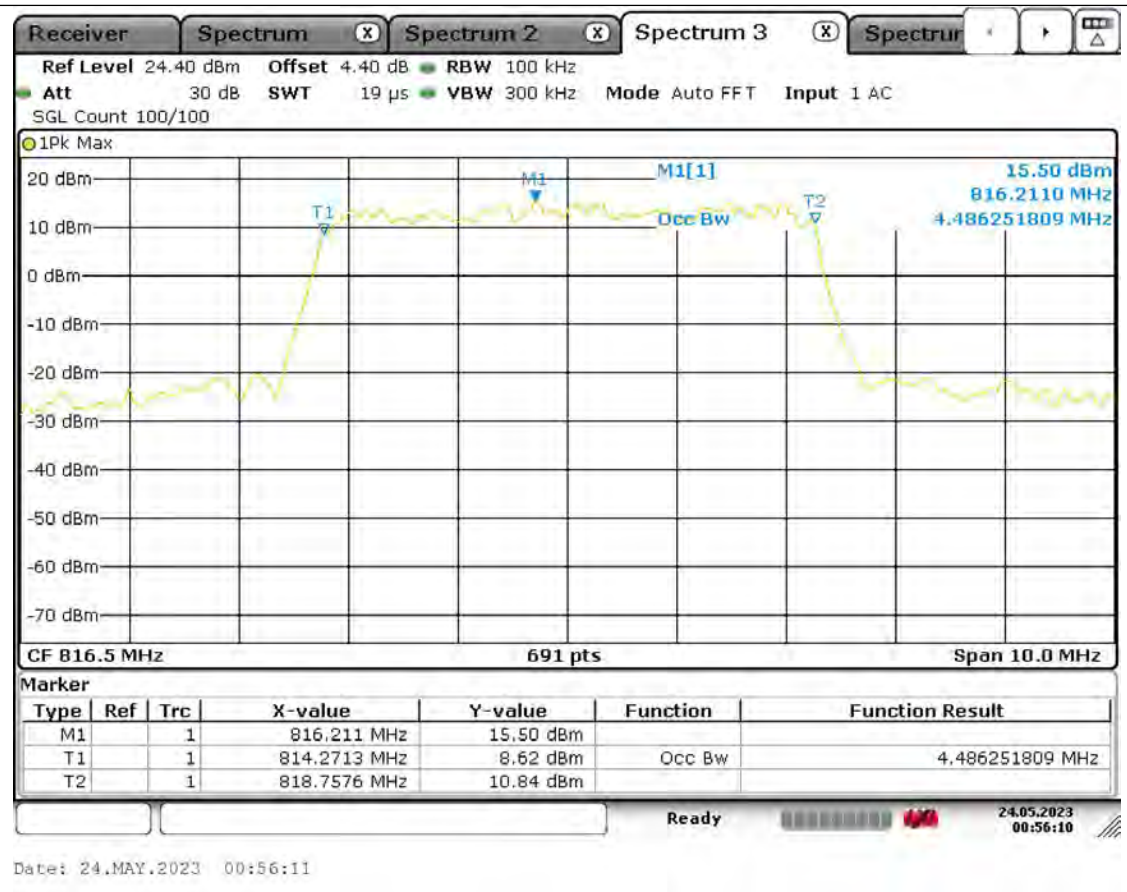
Band26-5MHz-16QAM-26740-25RB#0



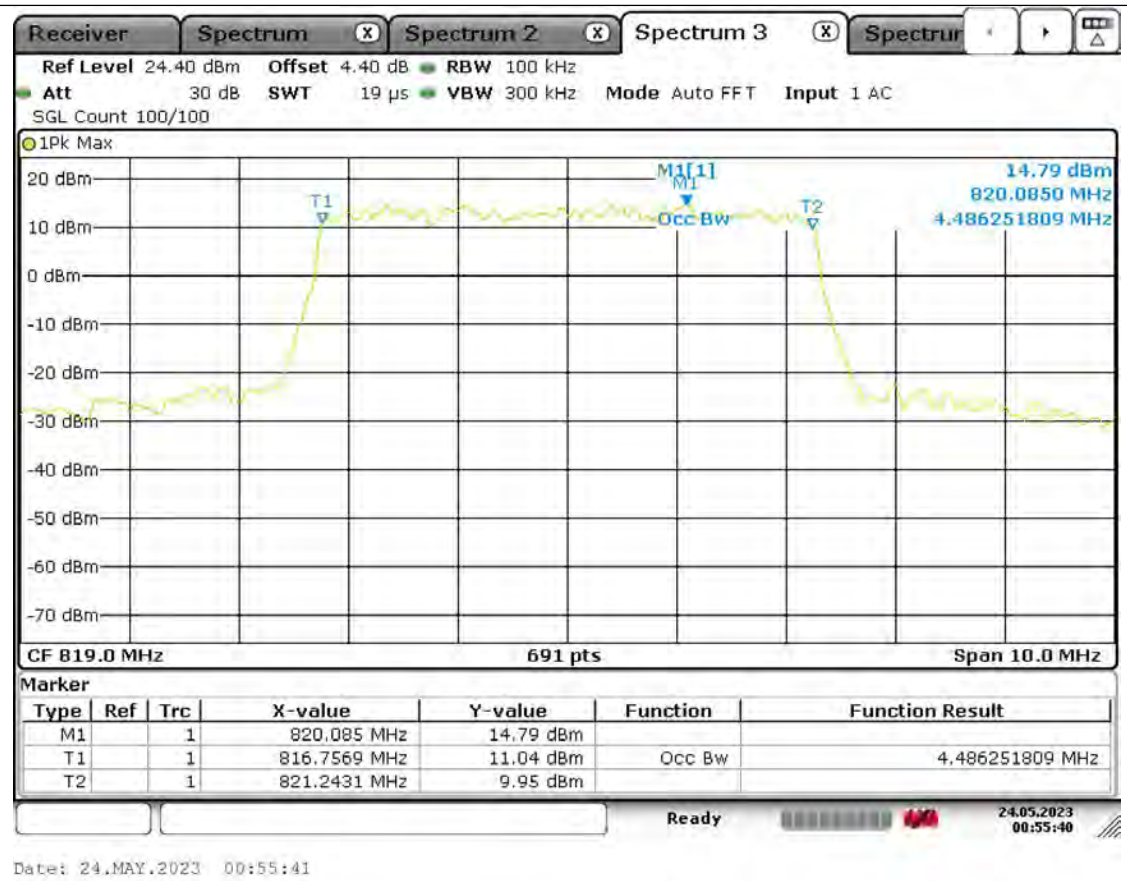
Band26-5MHz-16QAM-26765-25RB#0



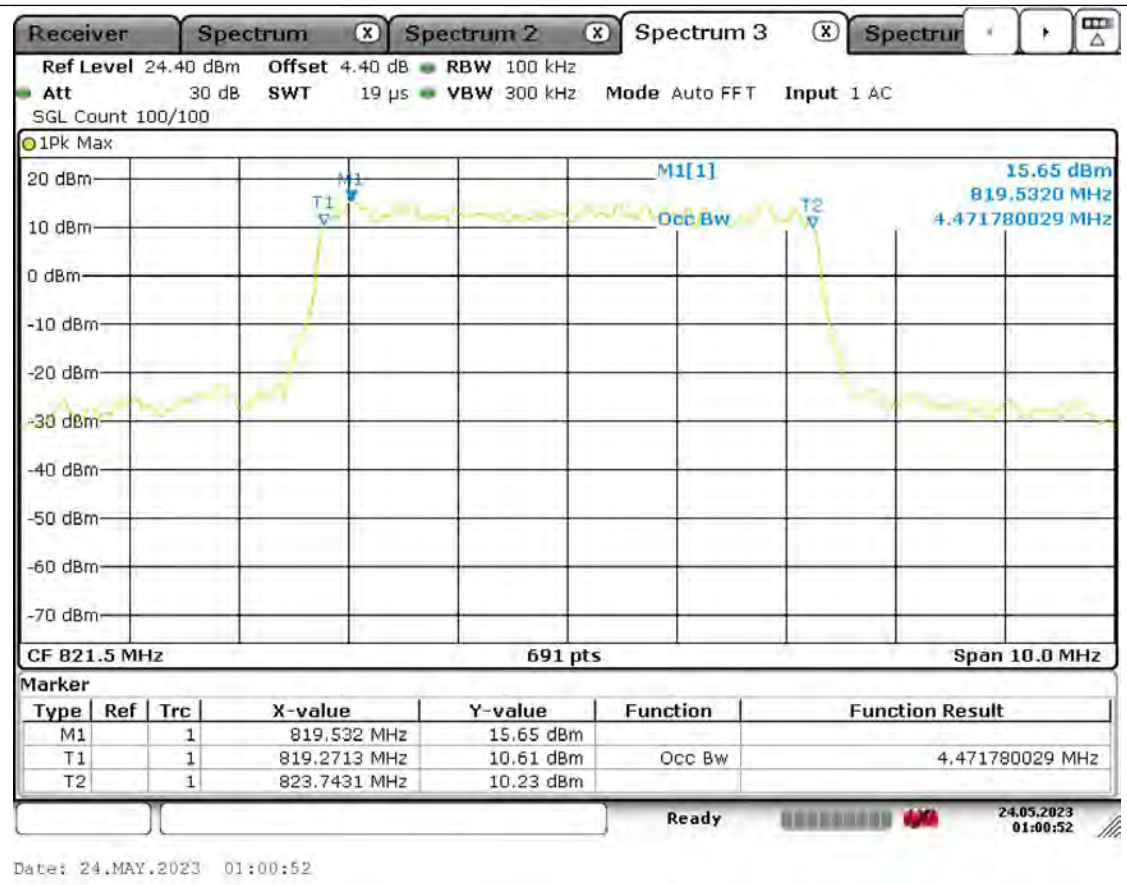
Band26-5MHz-64QAM-26715-25RB#0



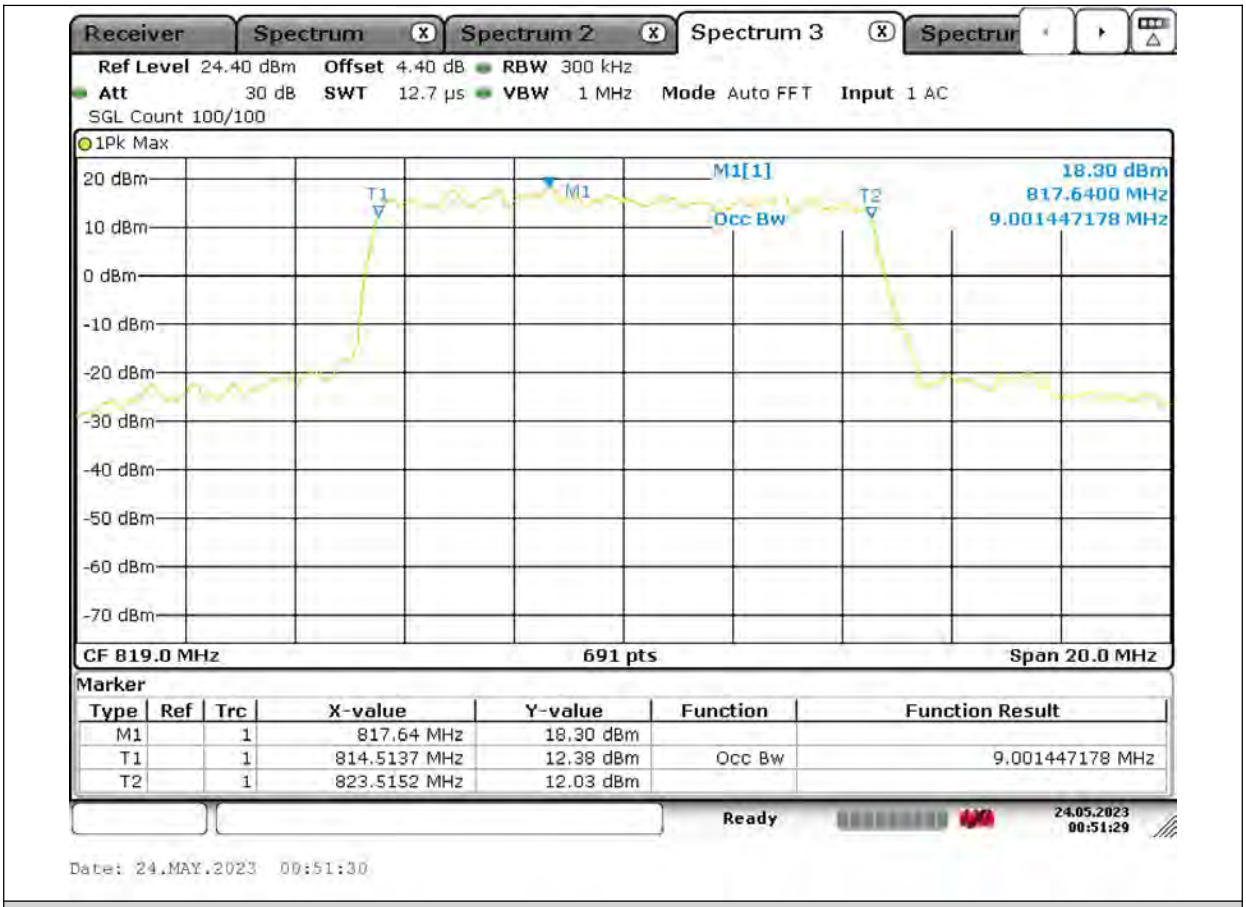
Band26-5MHz-64QAM-26740-25RB#0



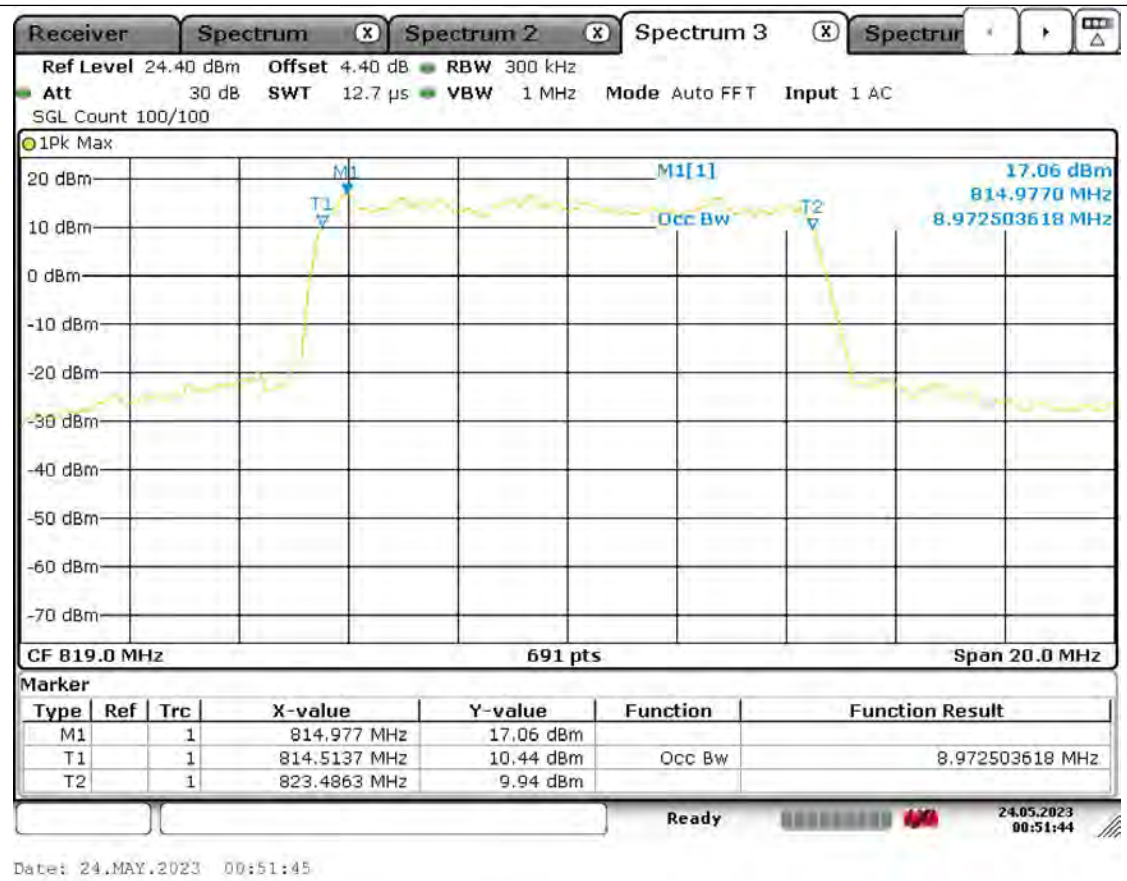
Band26-5MHz-64QAM-26765-25RB#0



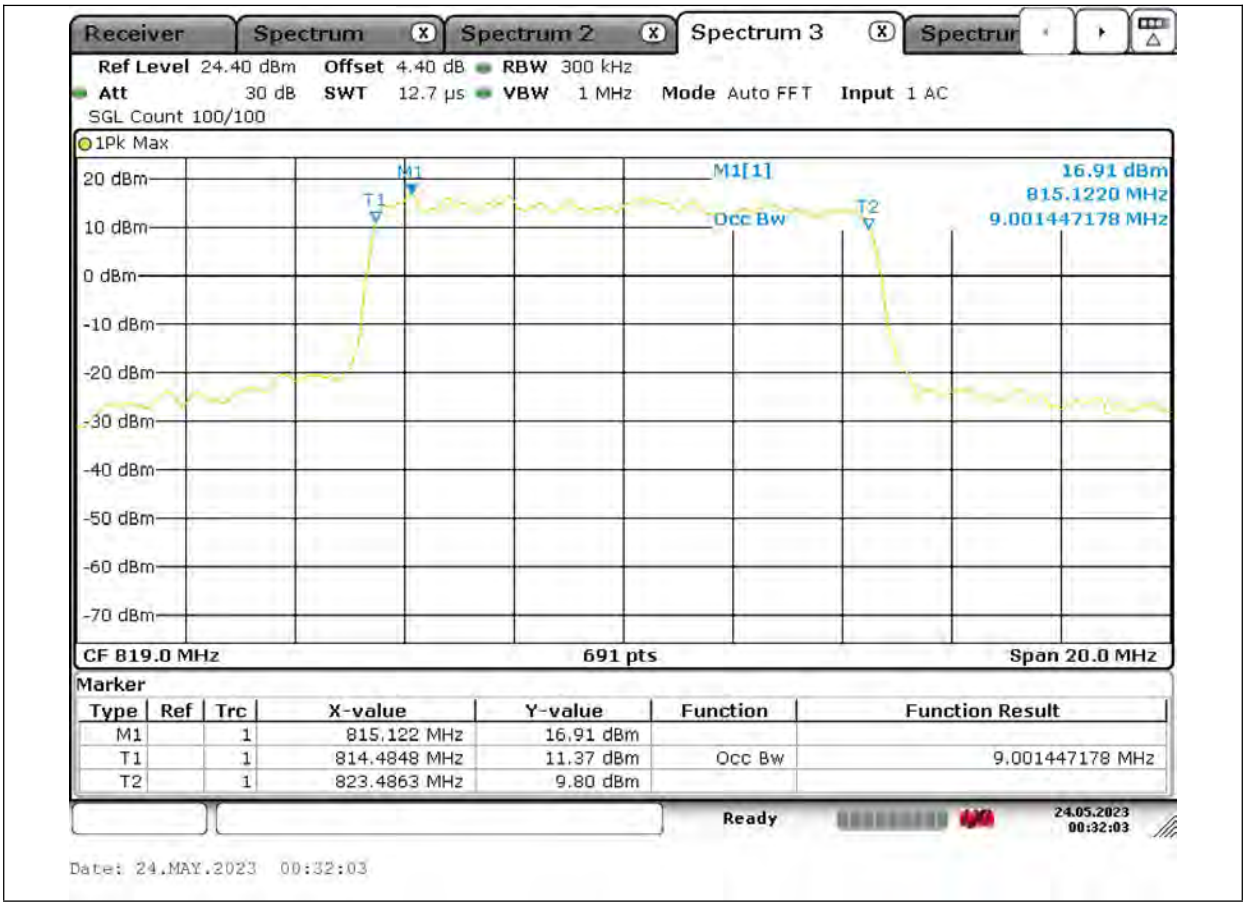
Band26-10MHz-QPSK-26740-50RB#0



Band26-10MHz-16QAM-26740-50RB#0

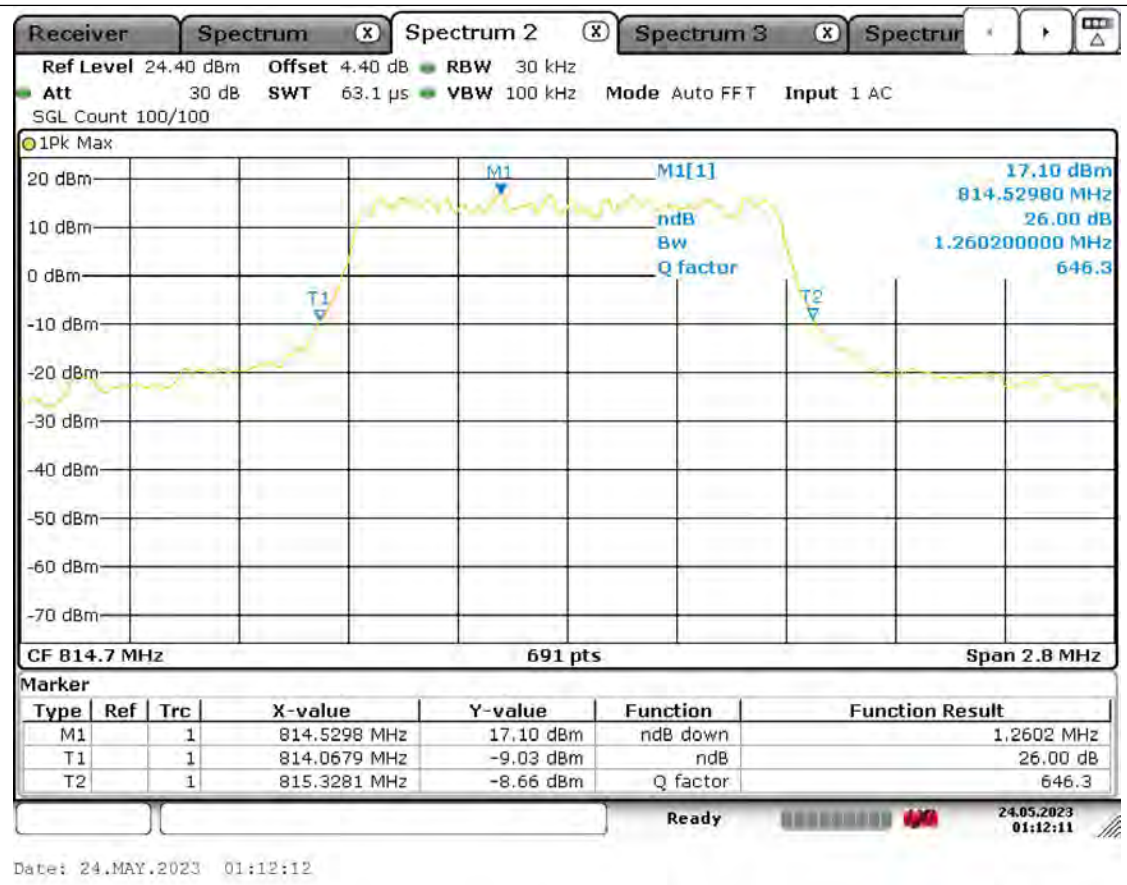


Band26-10MHz-64QAM-26740-50RB#0

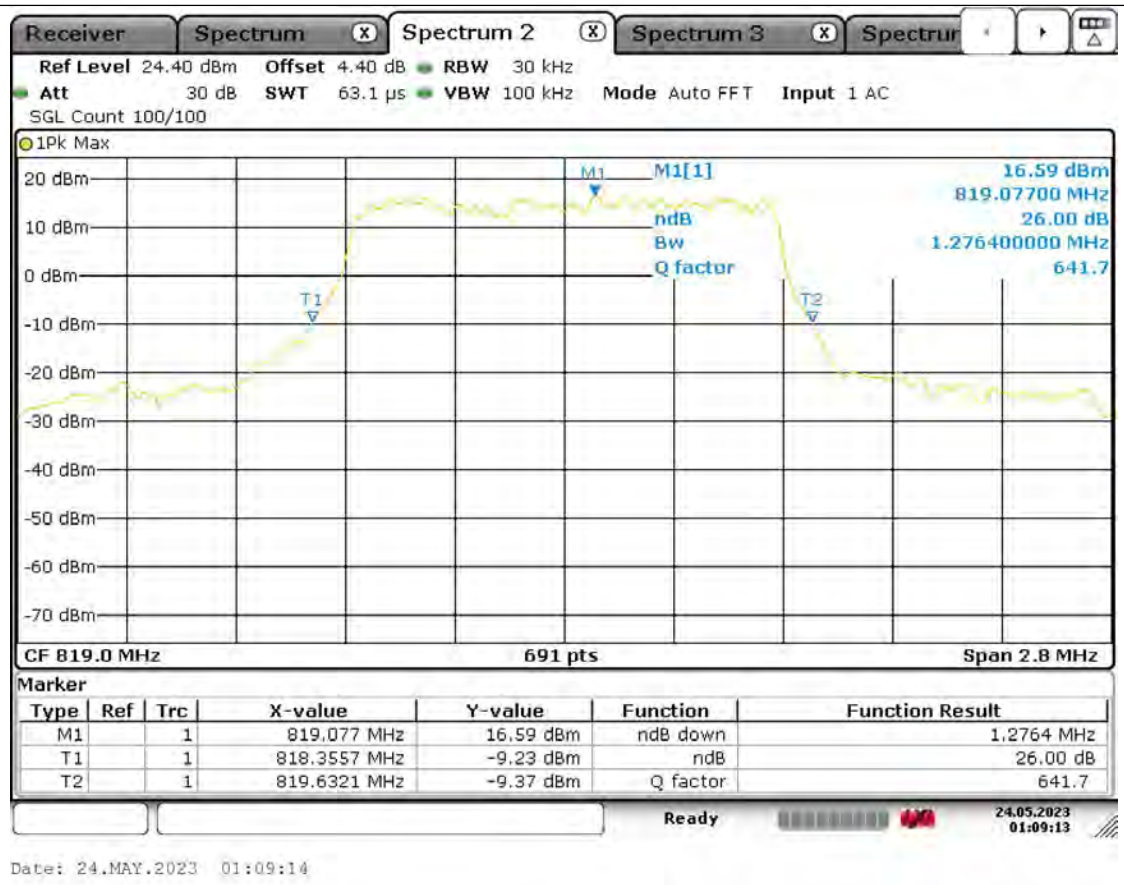


26dB Bandwidth

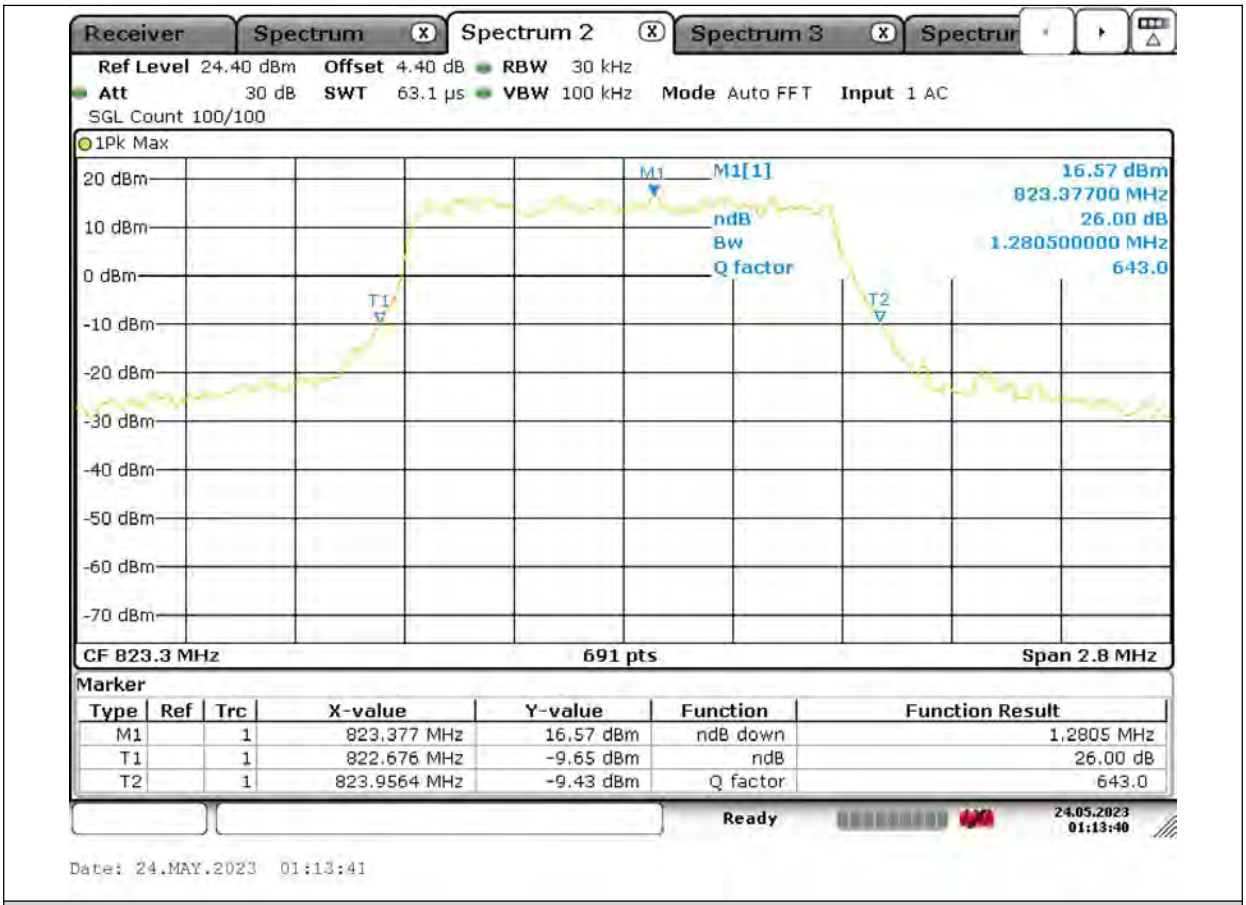
Band26-1.4MHz-QPSK-26697-6RB#0



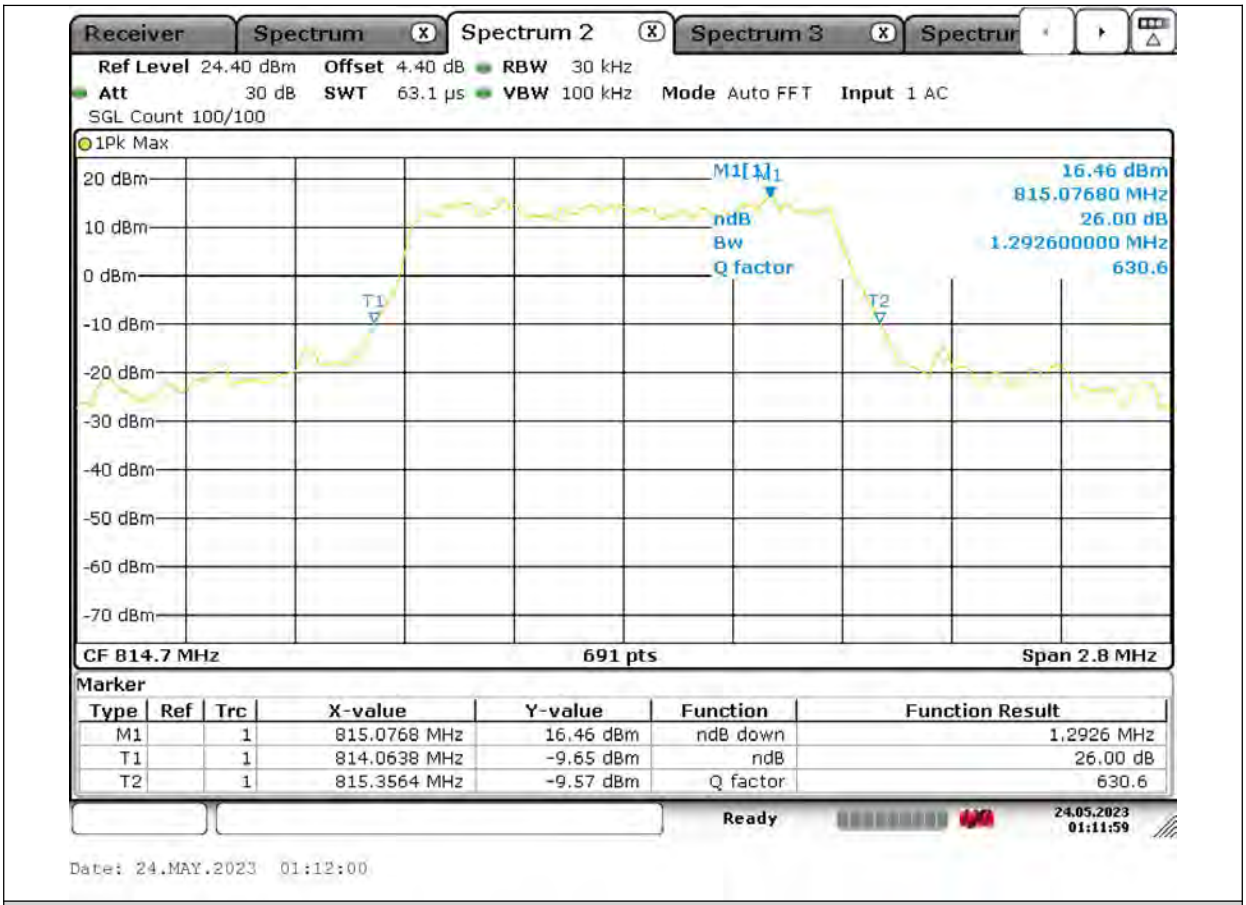
Band26-1.4MHz-QPSK-26740-6RB#0



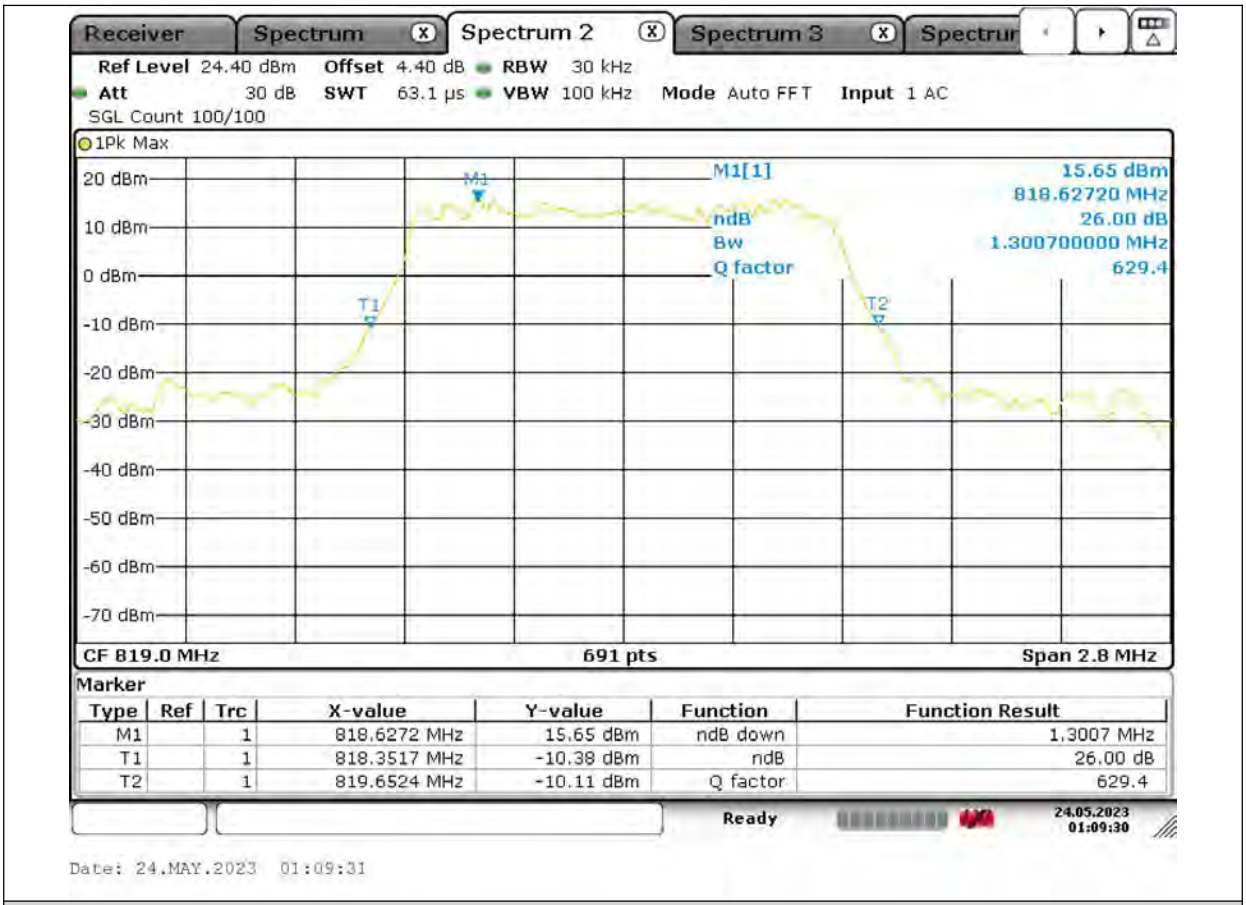
Band26-1.4MHz-QPSK-26783-6RB#0



Band26-1.4MHz-16QAM-26697-6RB#0



Band26-1.4MHz-16QAM-26740-6RB#0



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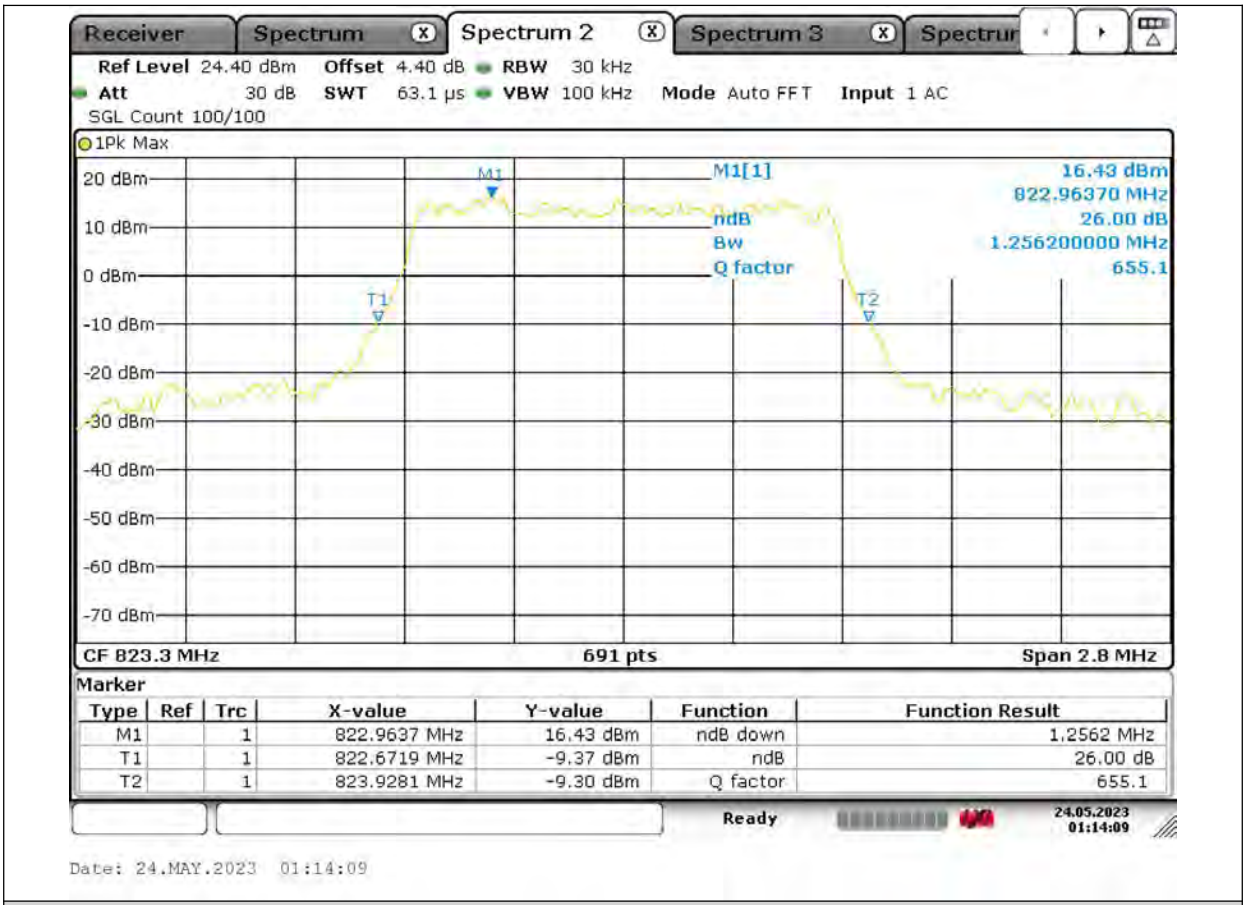
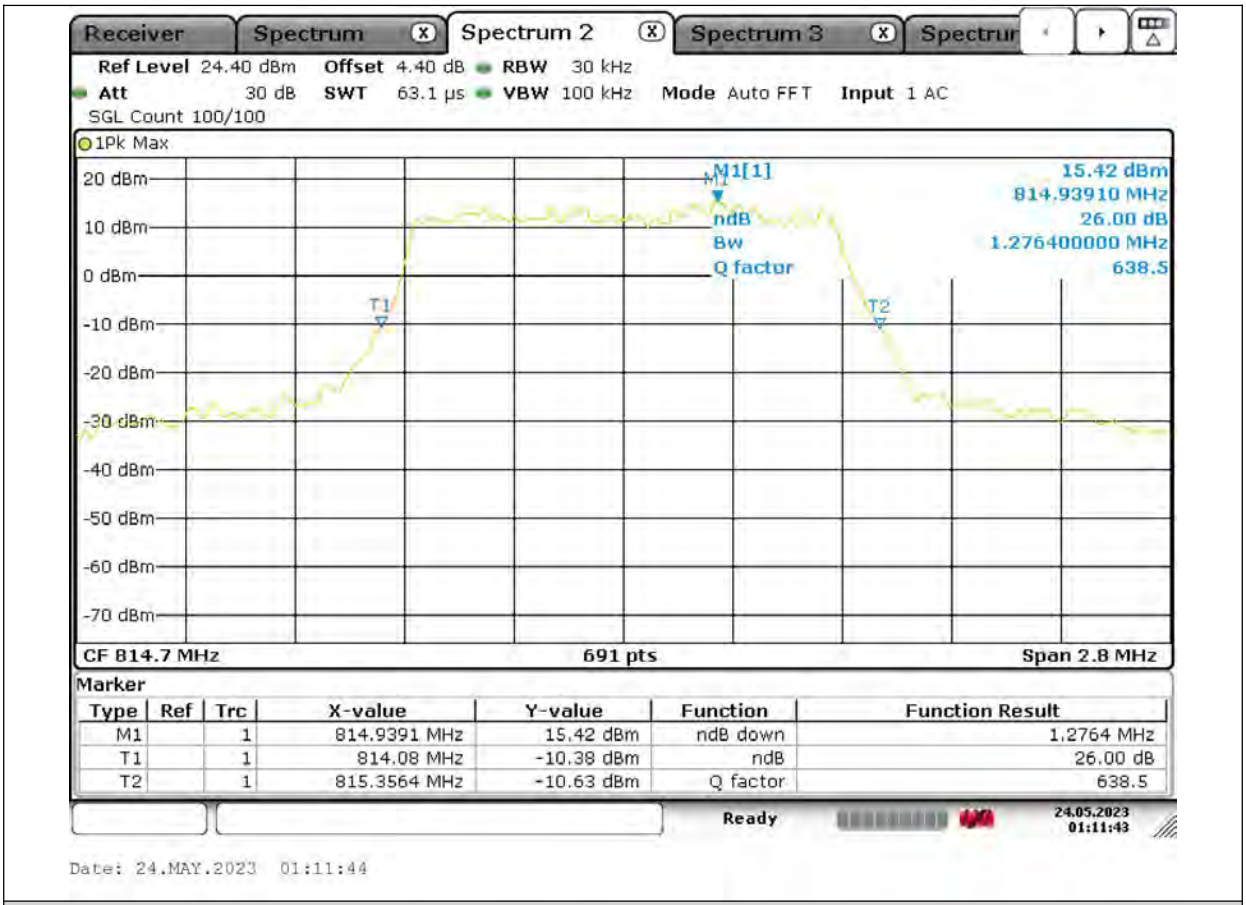
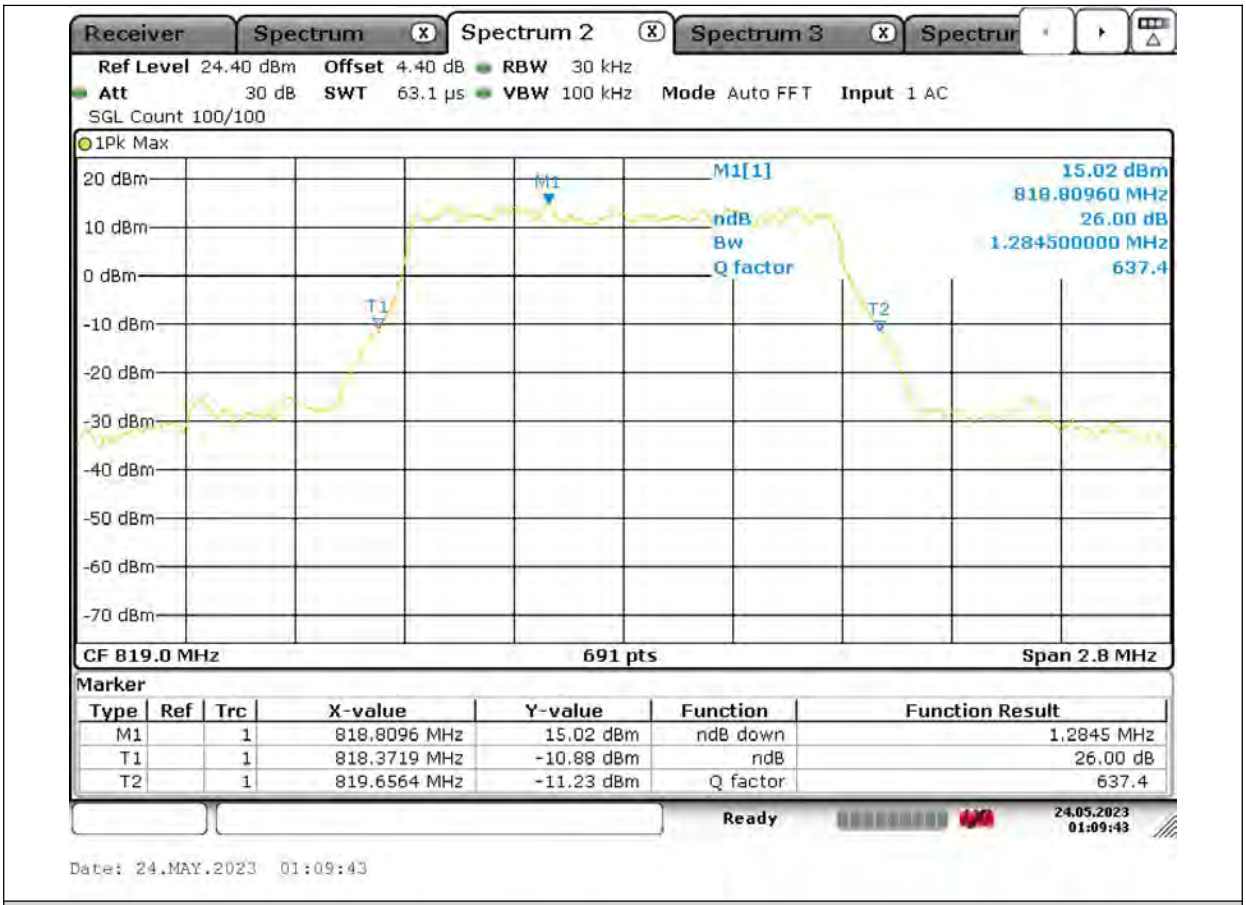


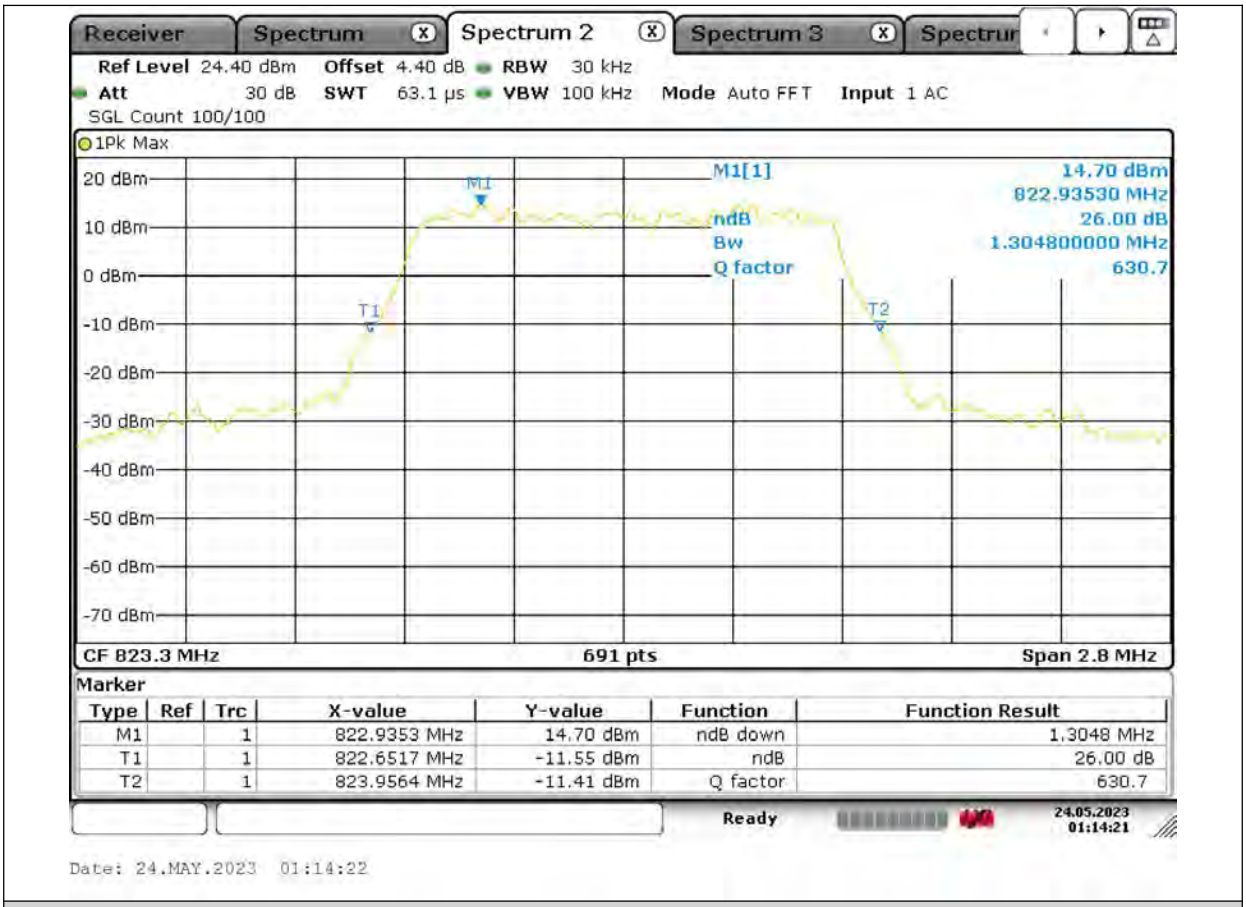
Band26-1.4MHz-64QAM-26697-6RB#0



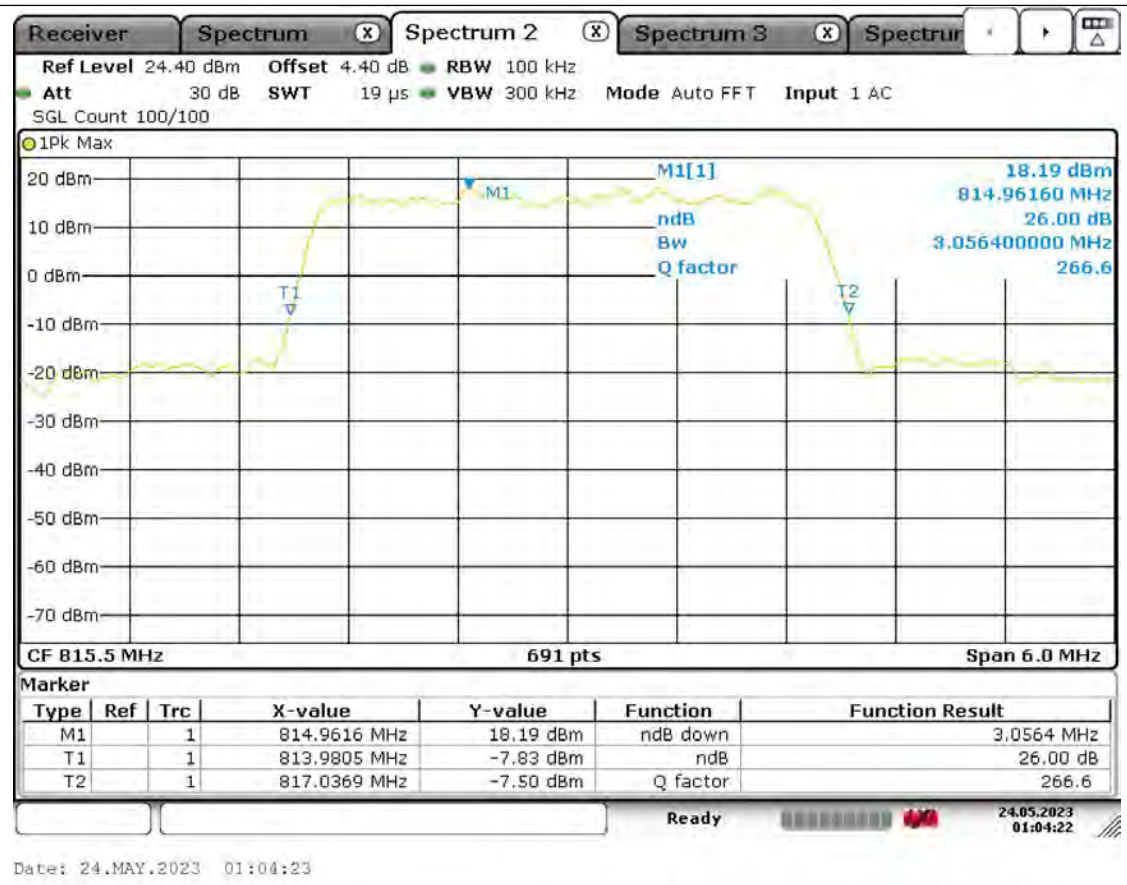
Band26-1.4MHz-64QAM-26740-6RB#0



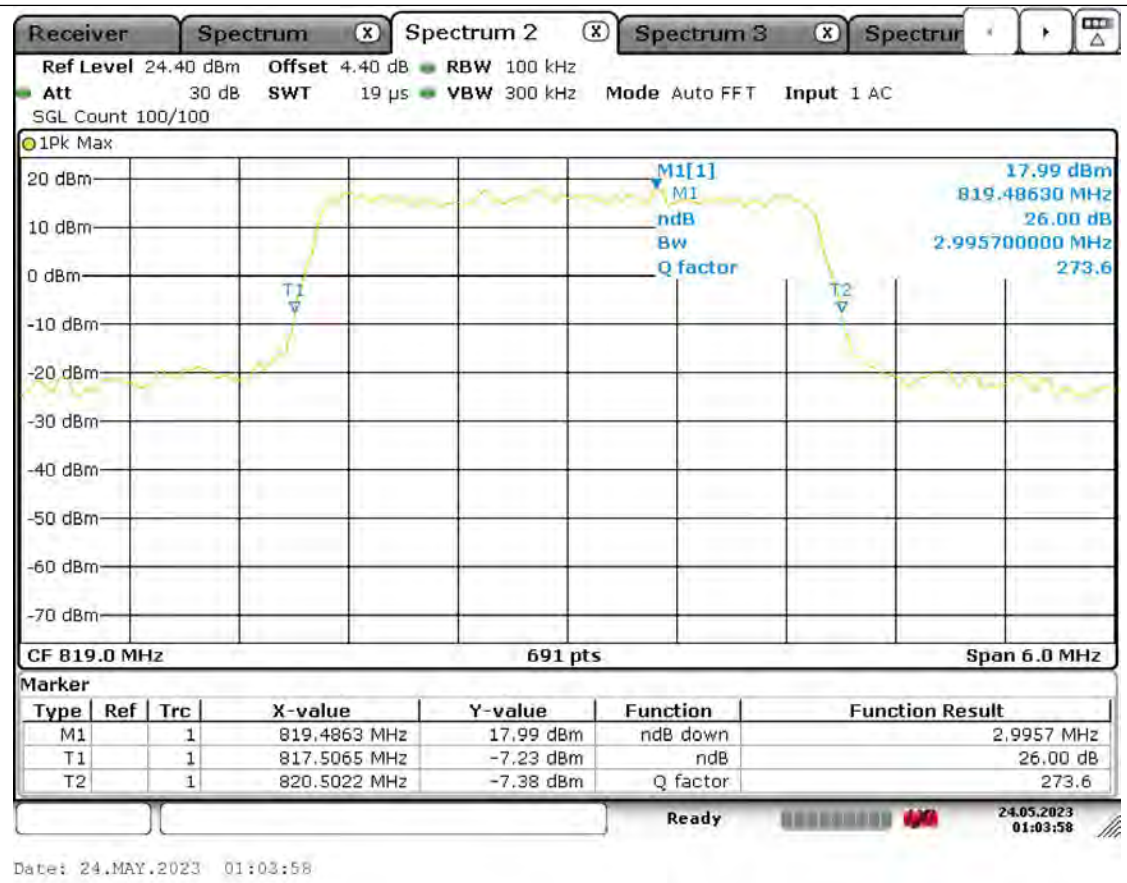
Band26-1.4MHz-64QAM-26783-6RB#0



Band26-3MHz-QPSK-26705-15RB#0



Band26-3MHz-QPSK-26740-15RB#0



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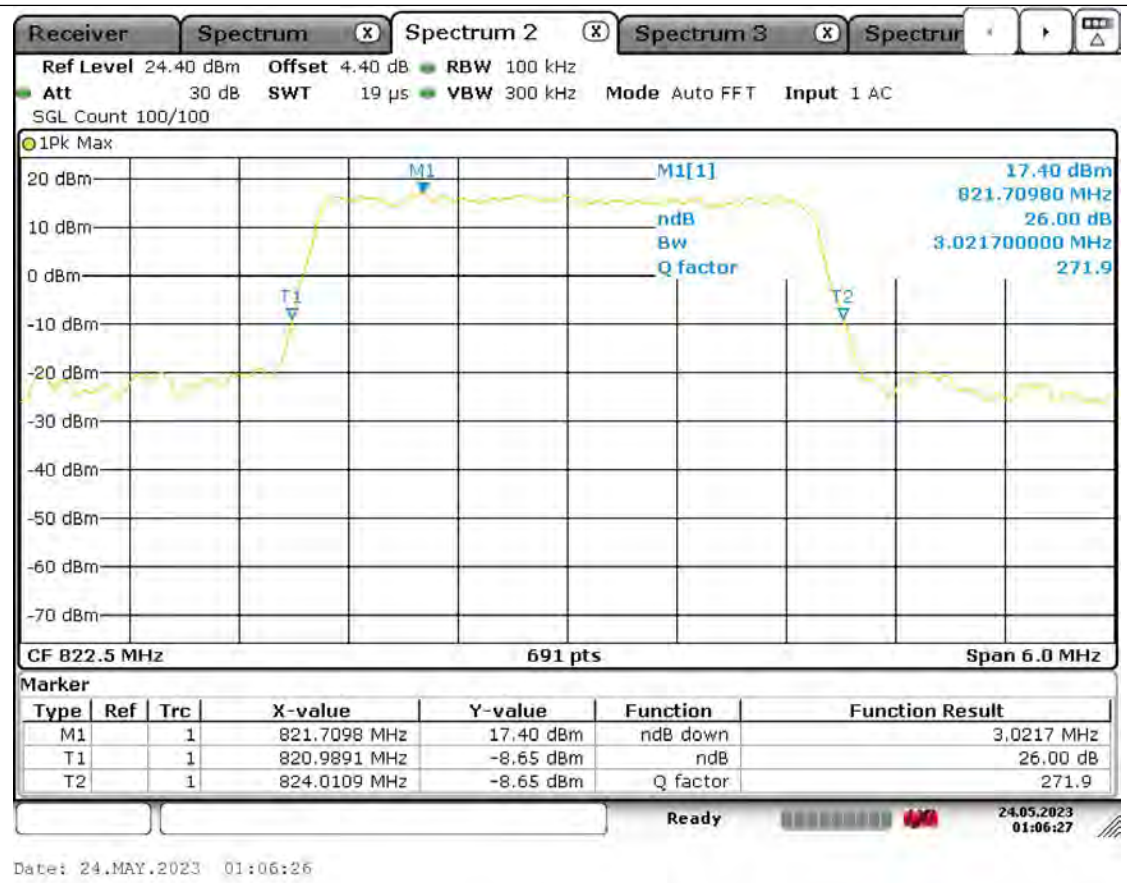
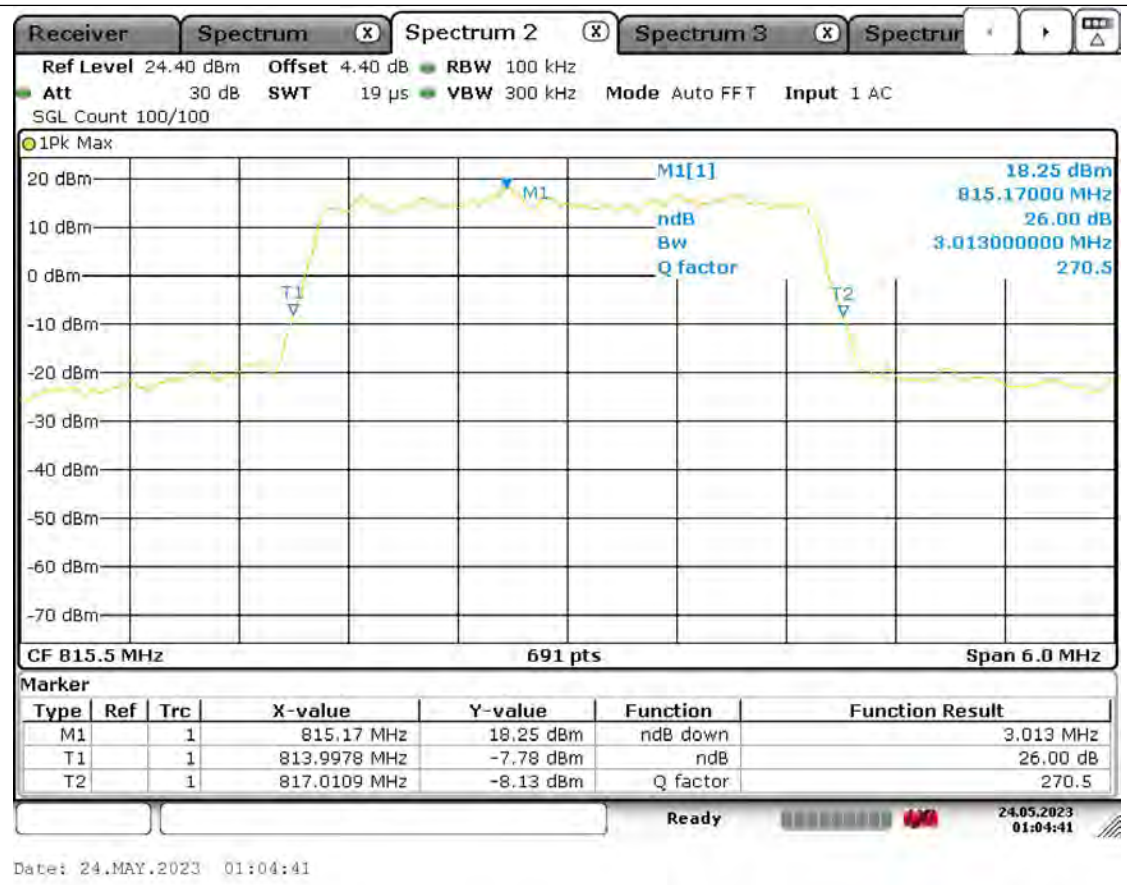


Band26-3MHz-16QAM-26705-15RB#0



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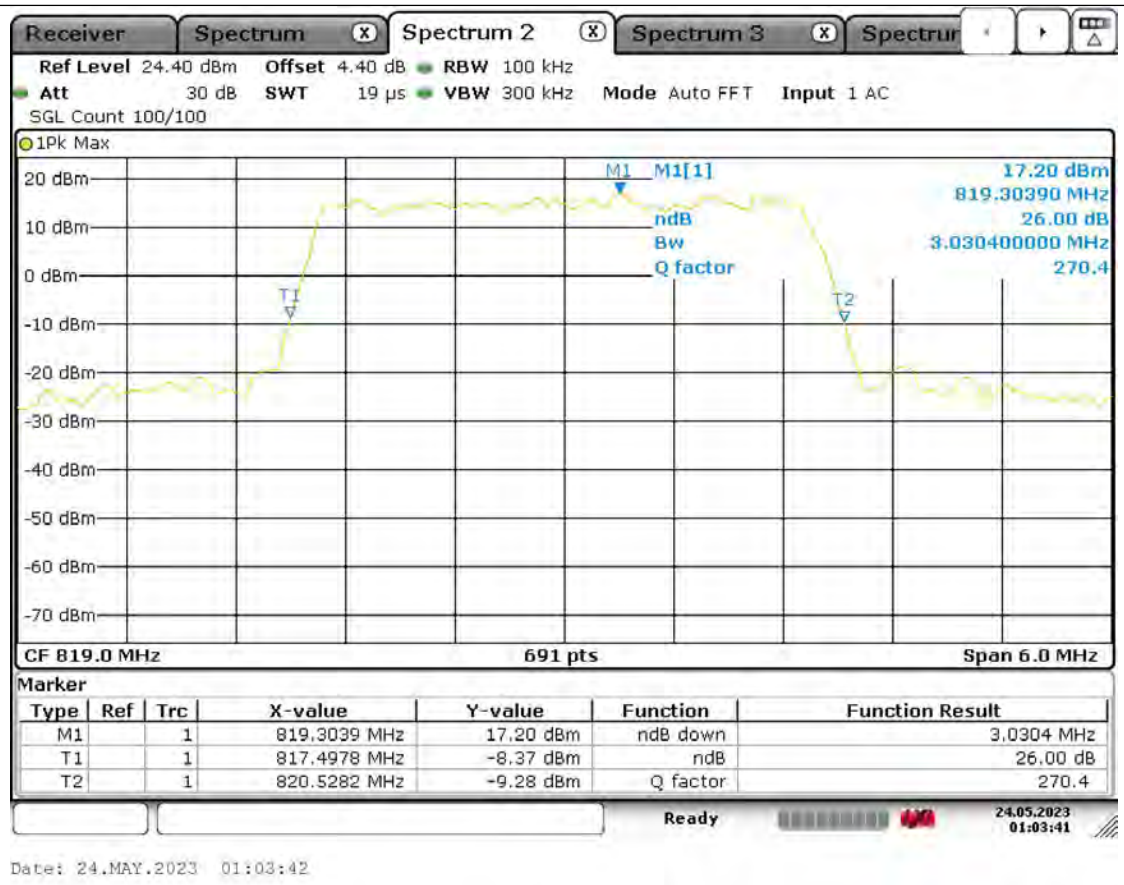

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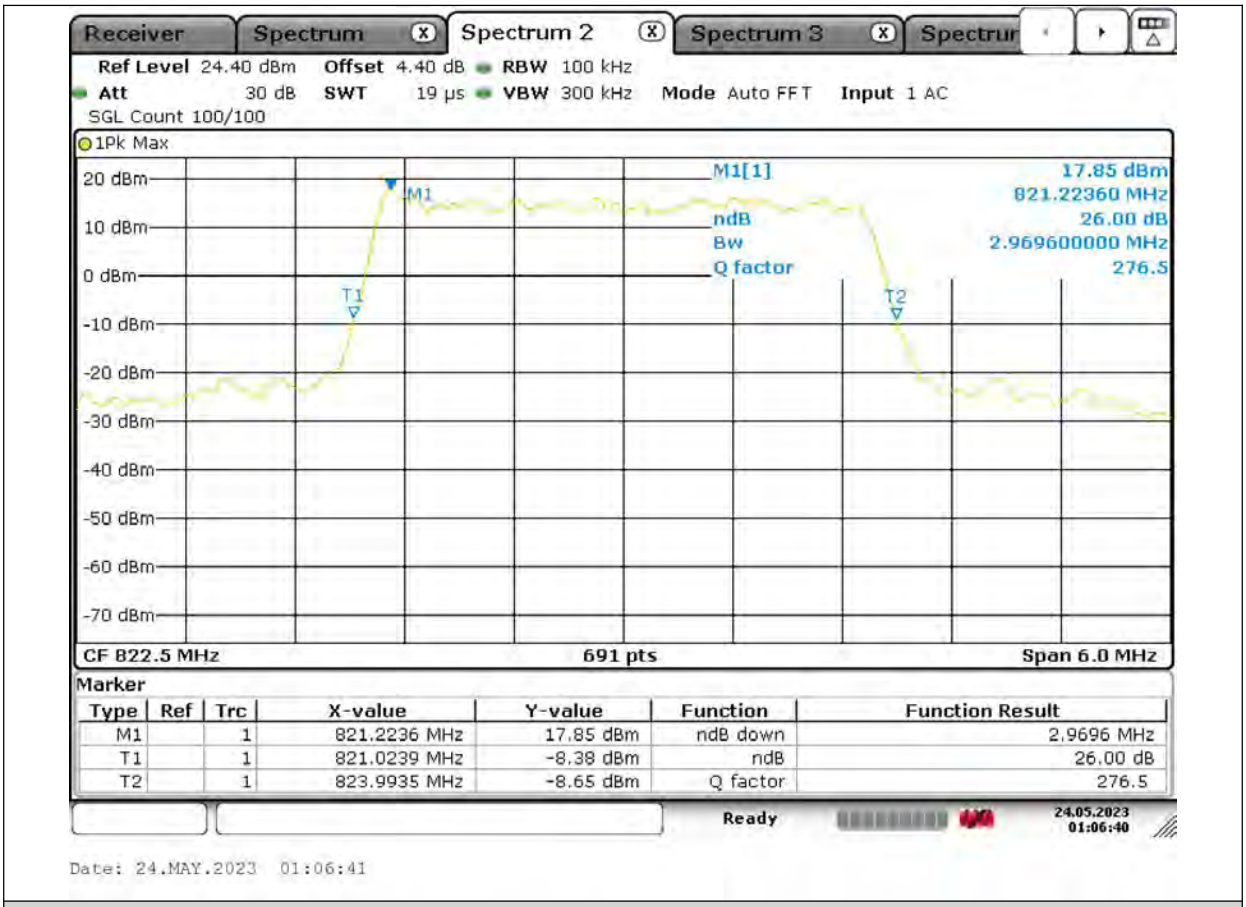

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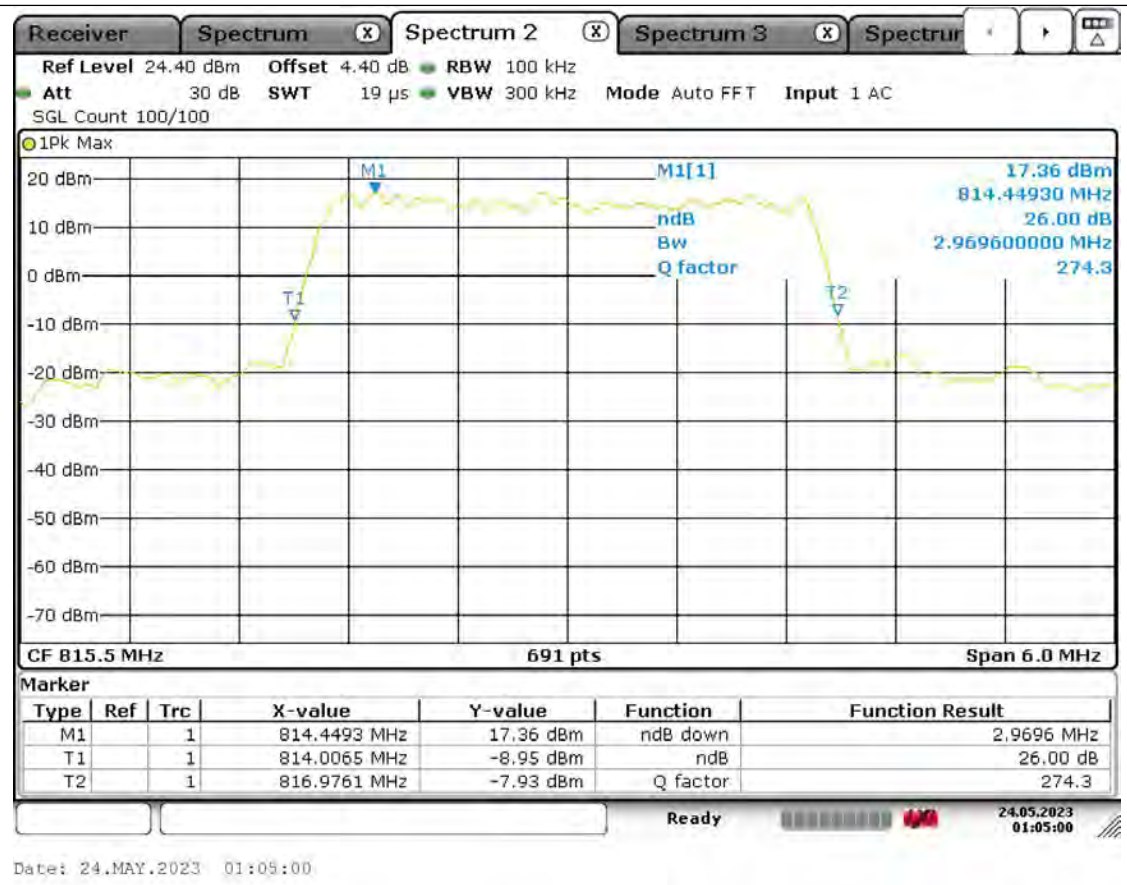

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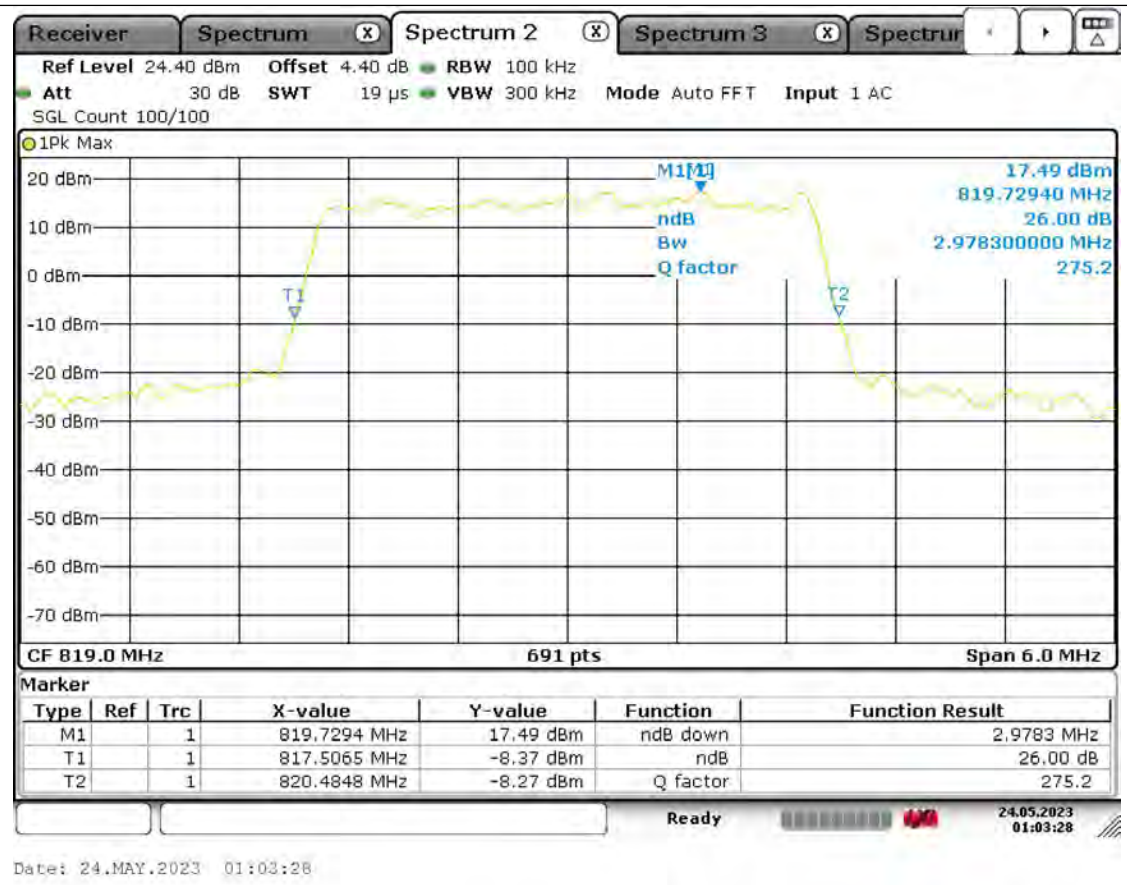

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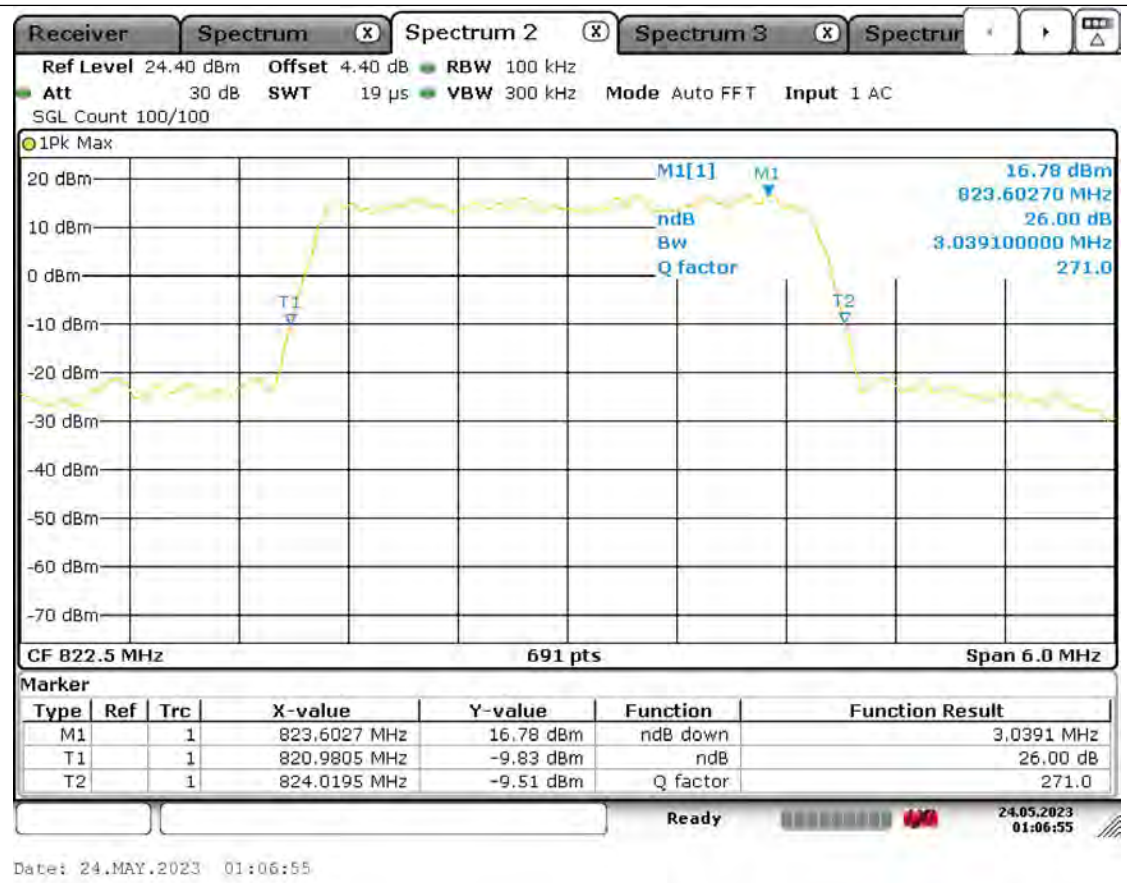
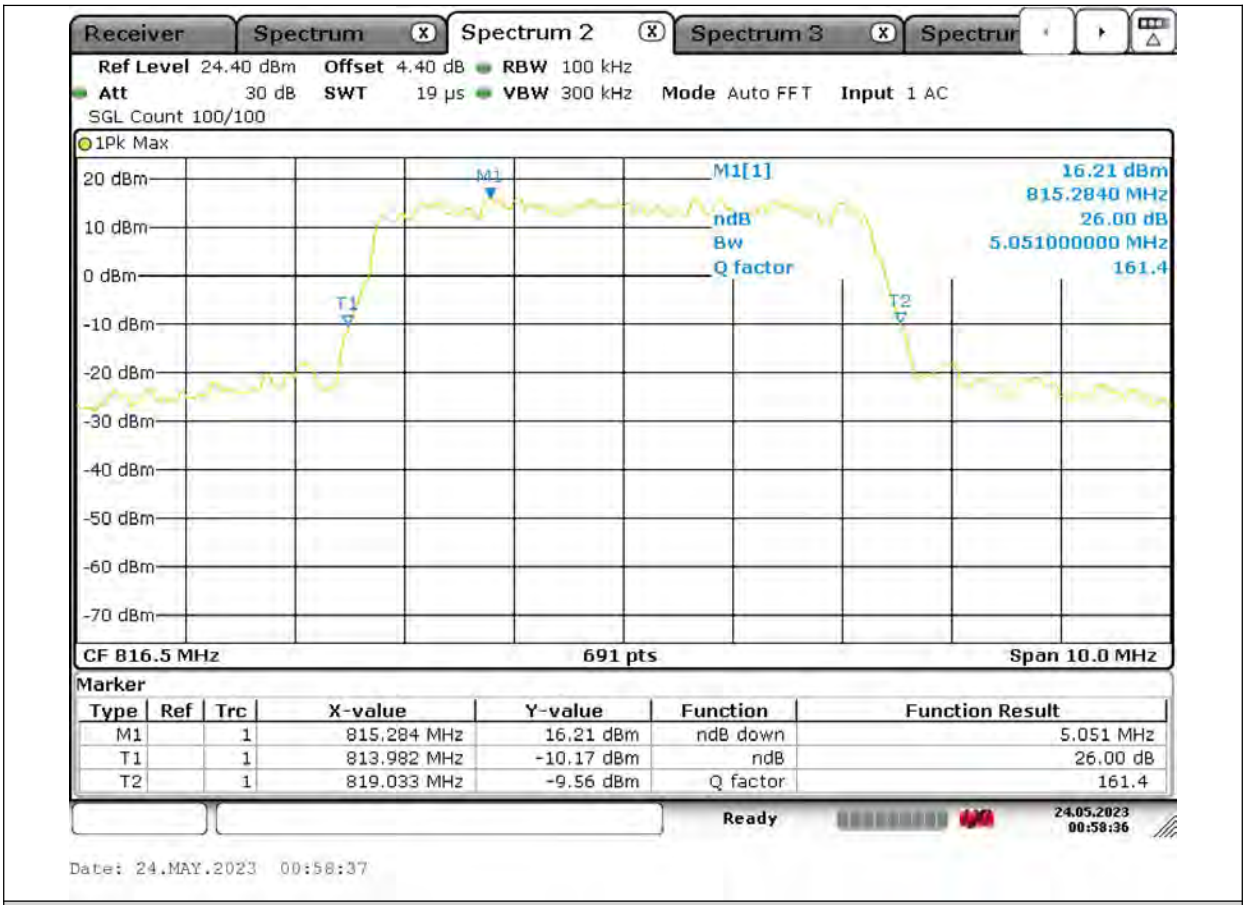
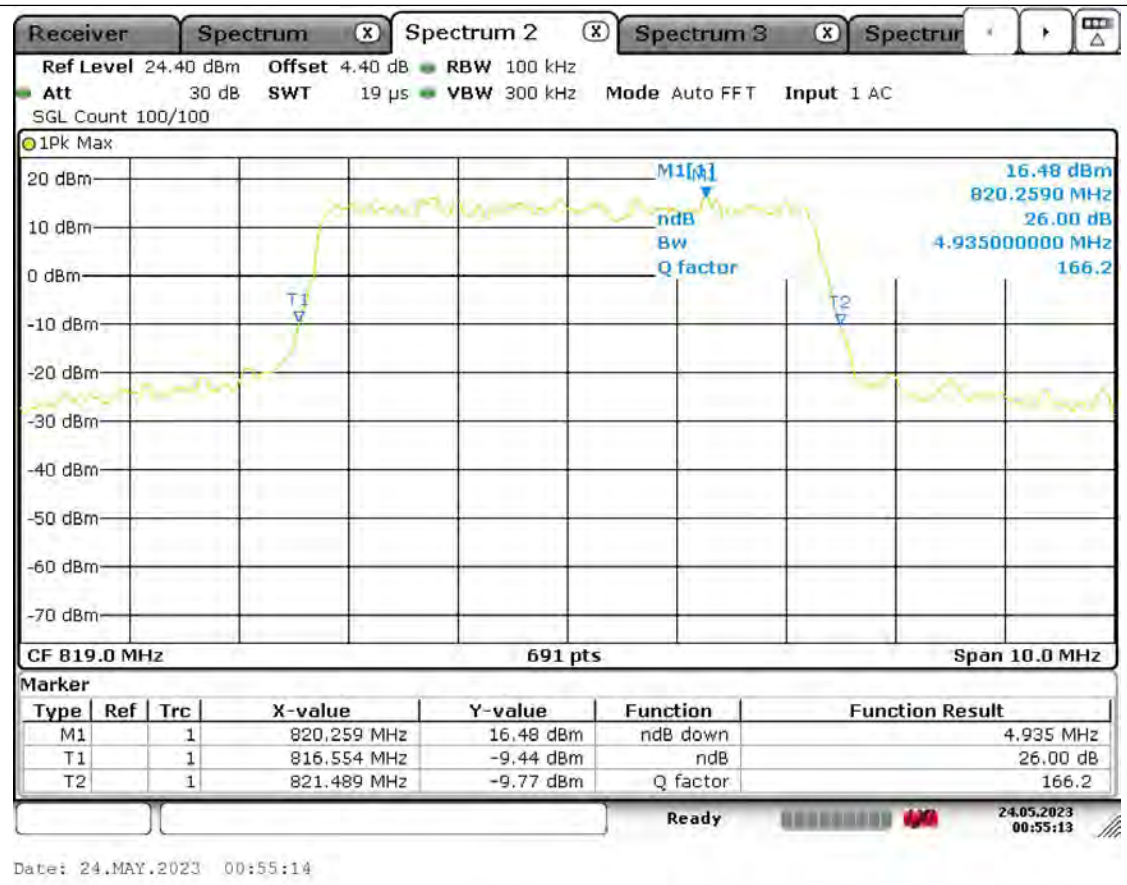


Band26-5MHz-QPSK-26715-25RB#0



Band26-5MHz-QPSK-26740-25RB#0



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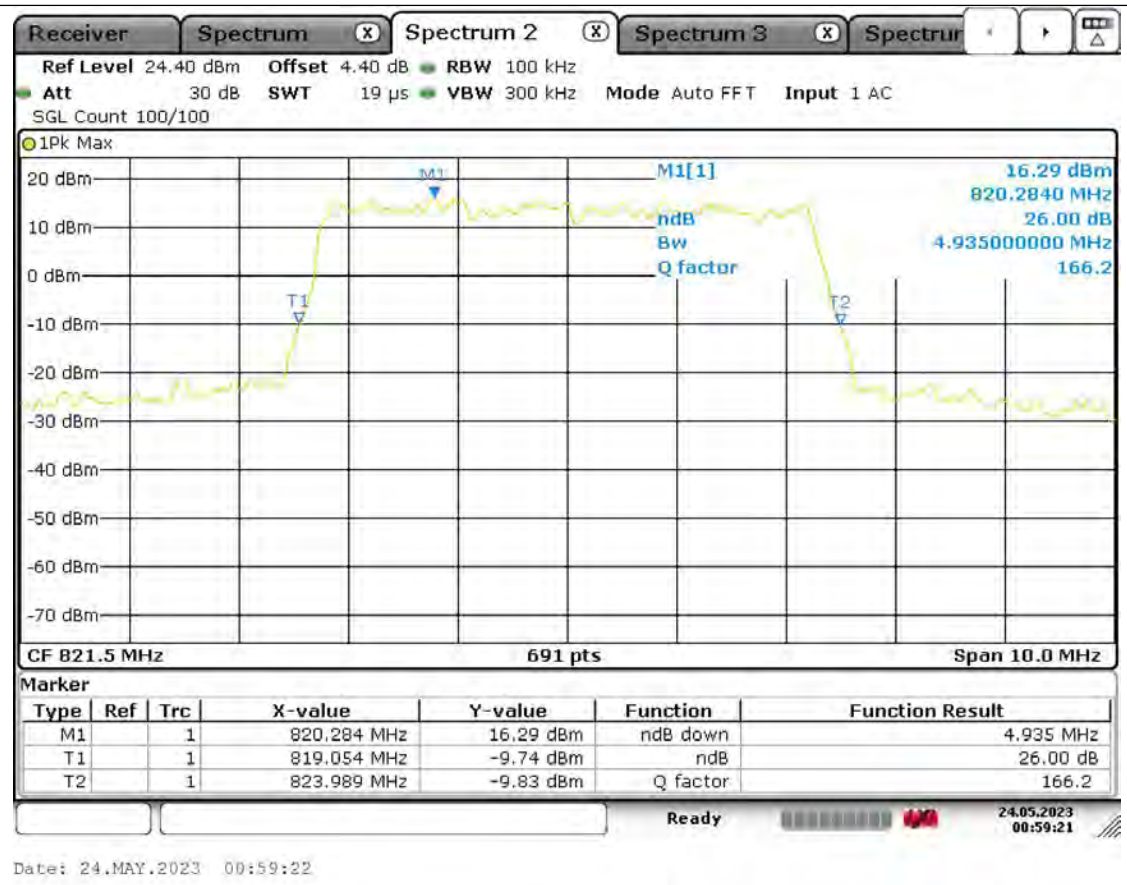
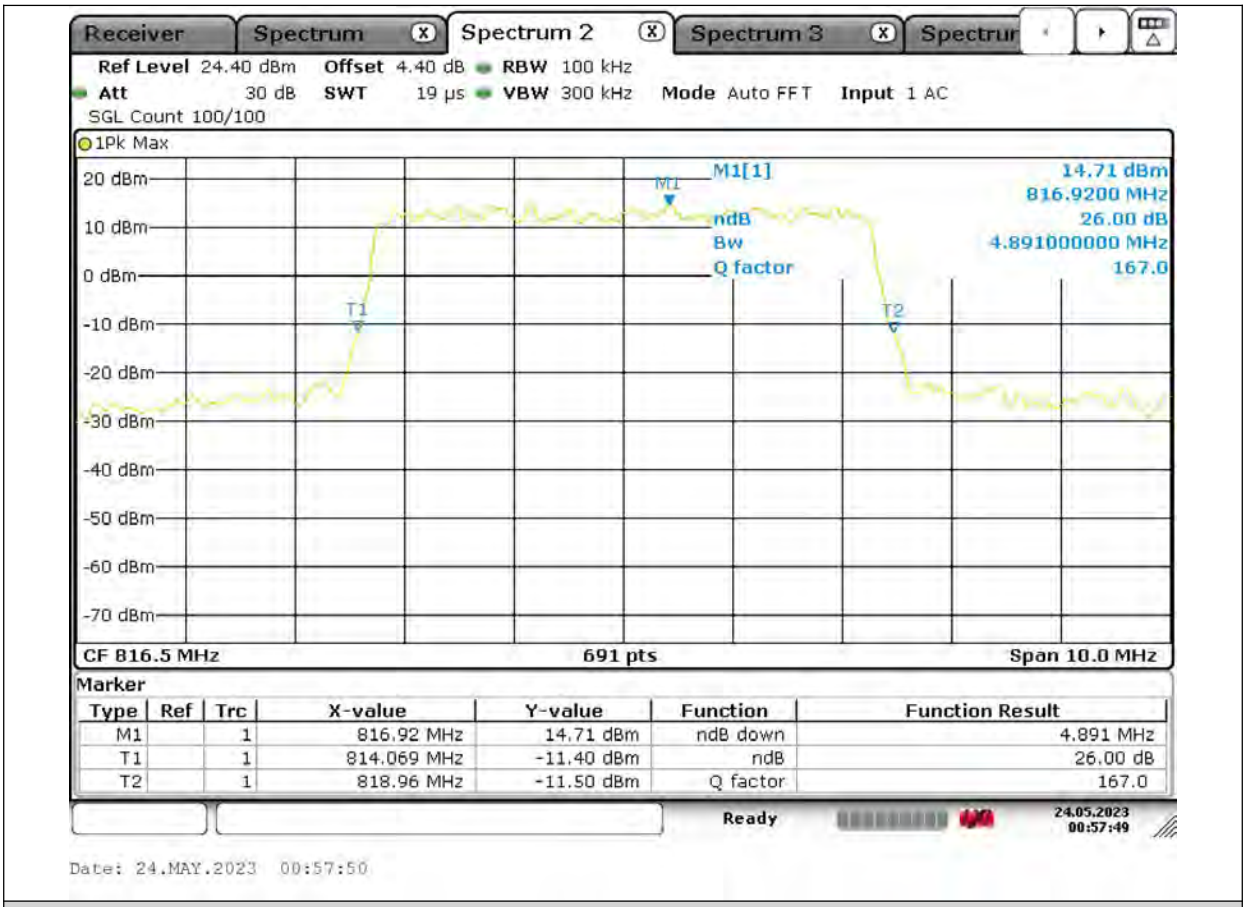


Band26-5MHz-16QAM-26715-25RB#0



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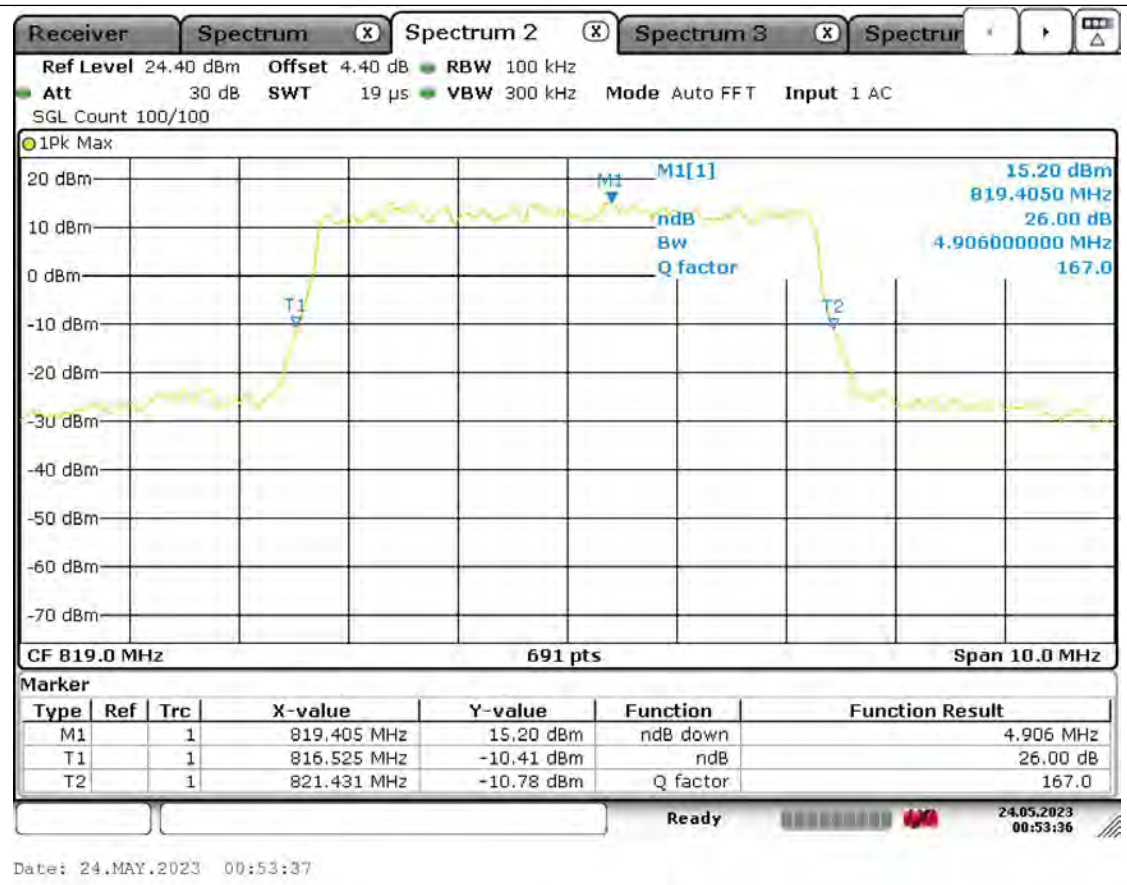

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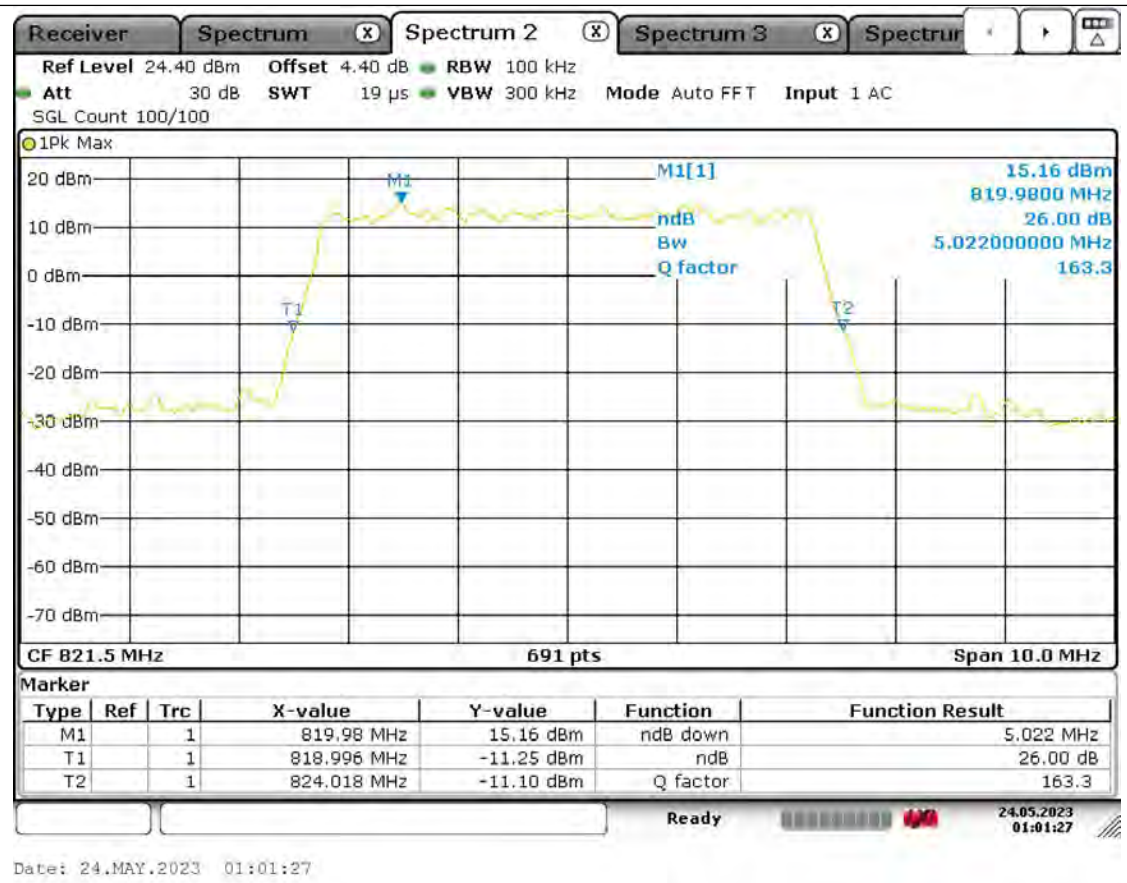

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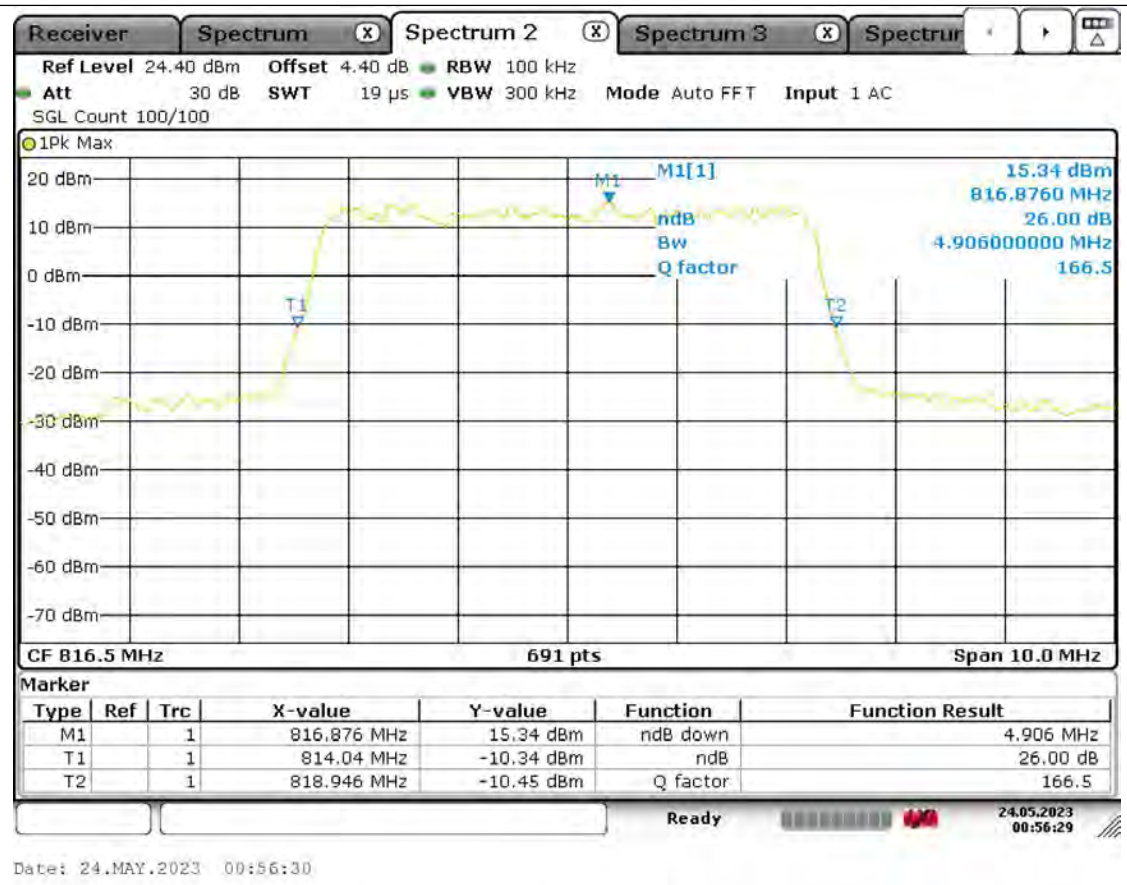
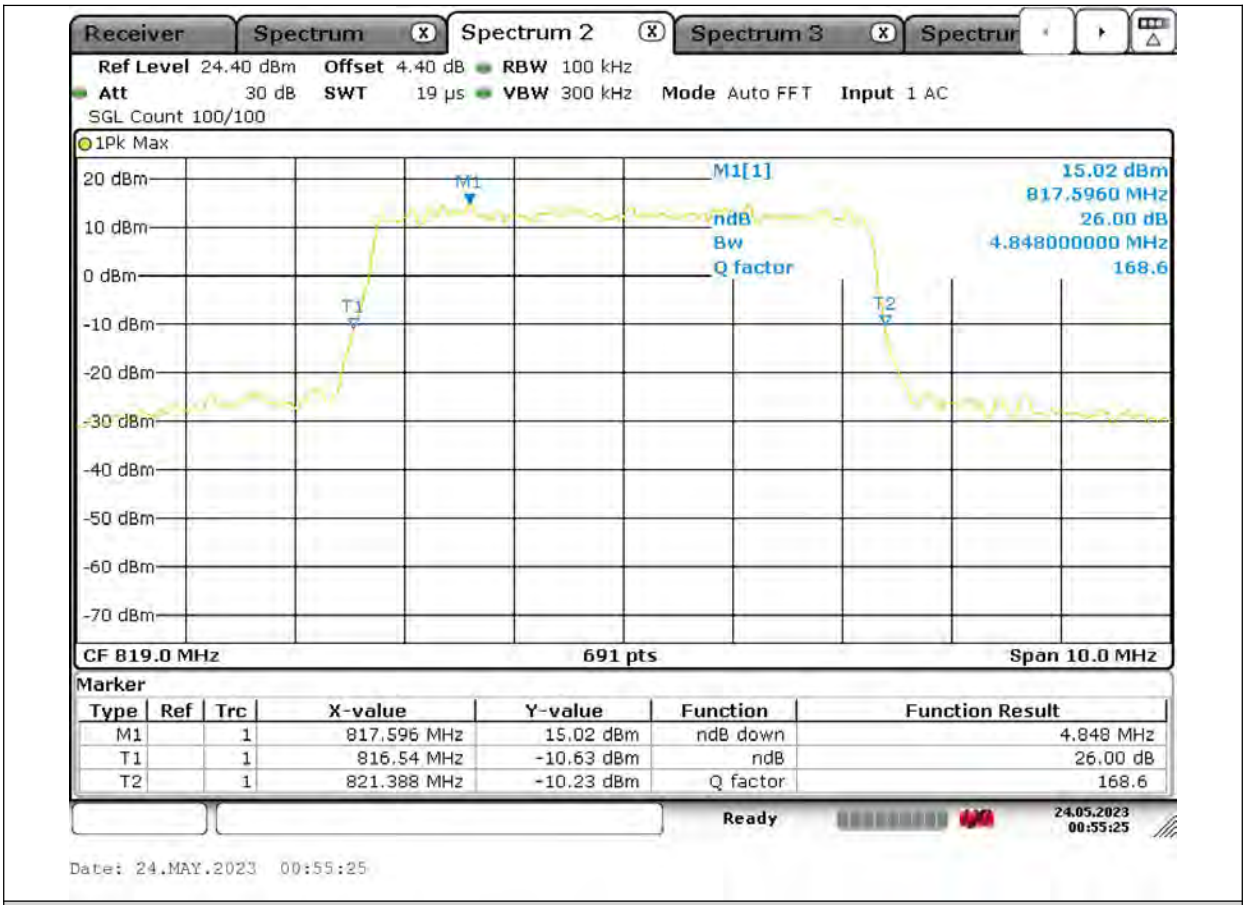
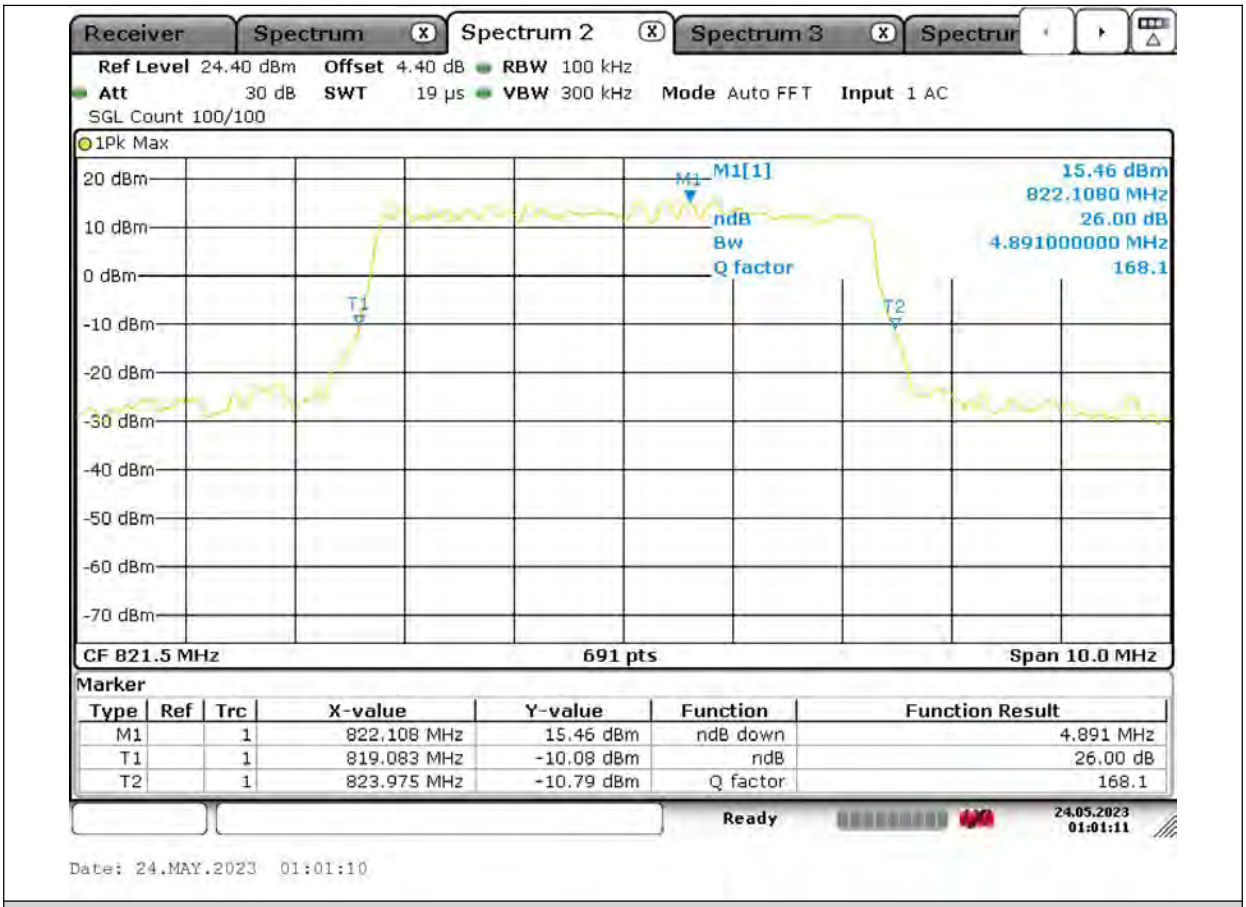


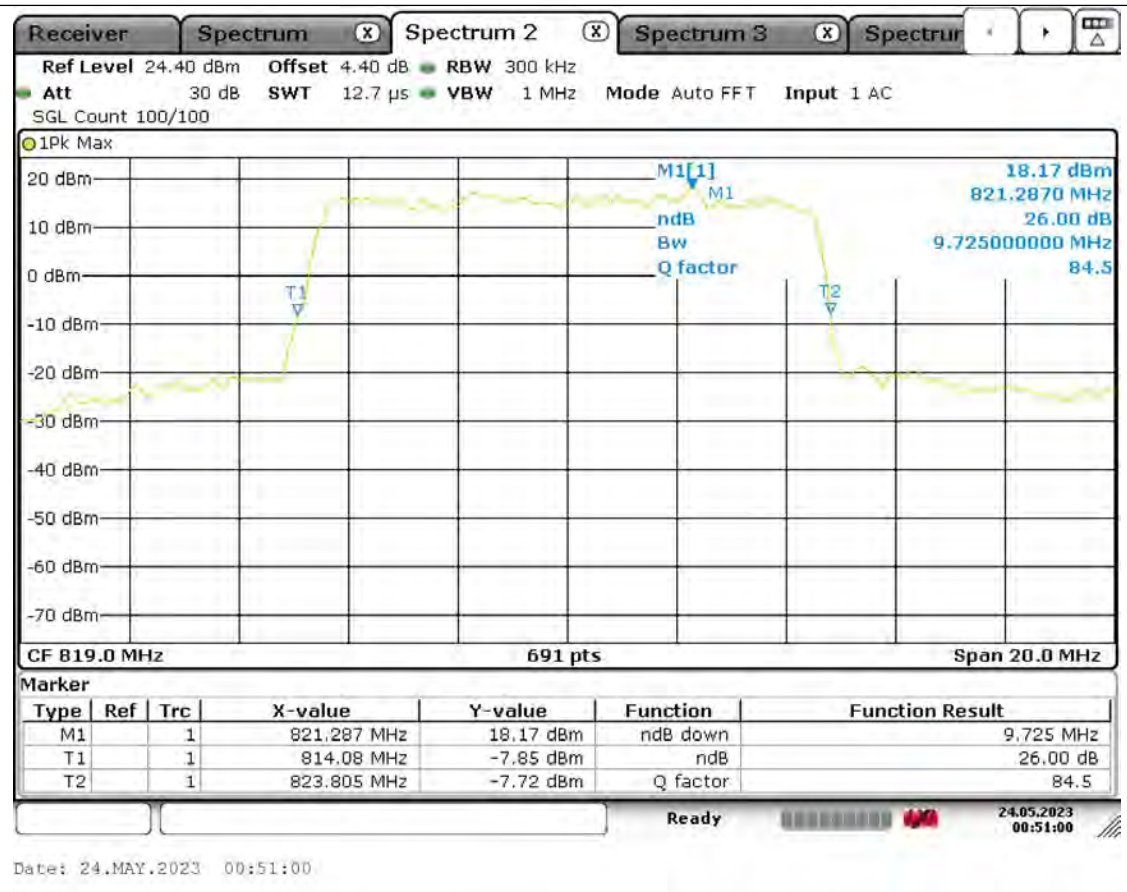
Band26-5MHz-64QAM-26740-25RB#0



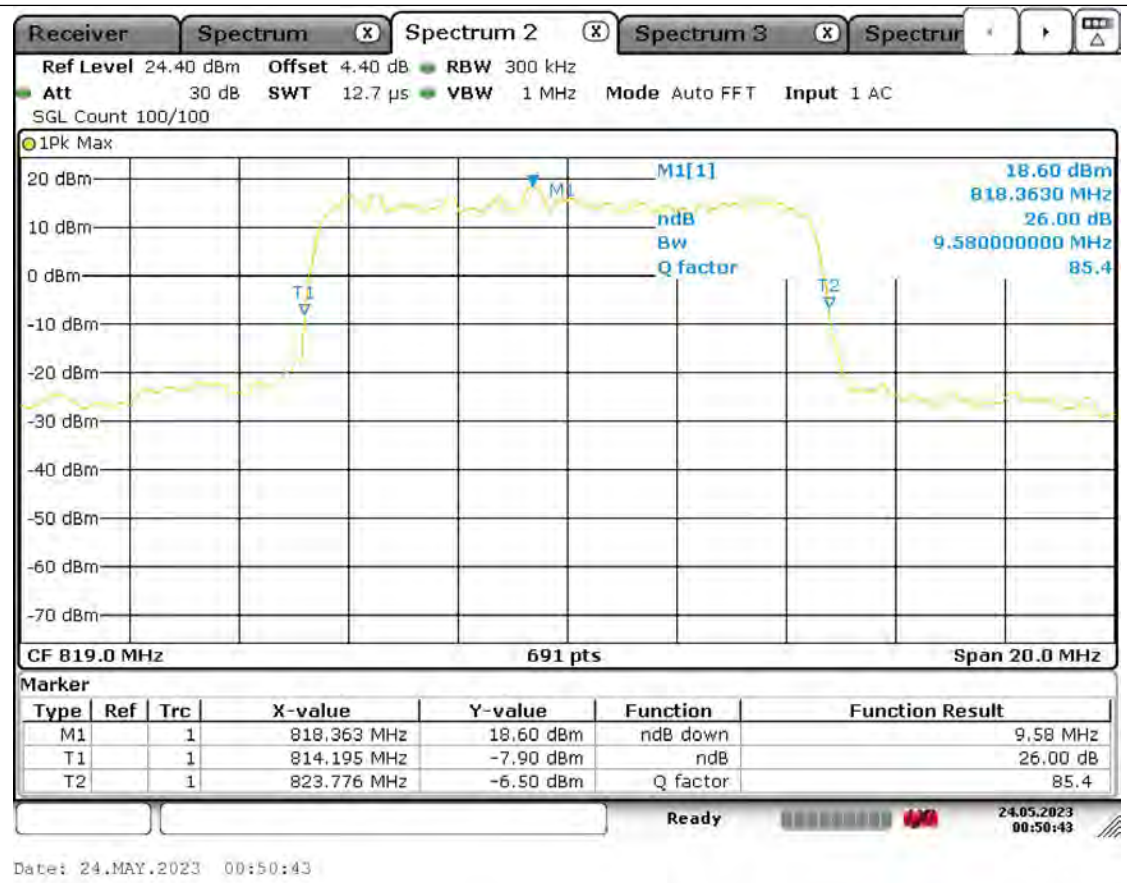
Band26-5MHz-64QAM-26765-25RB#0



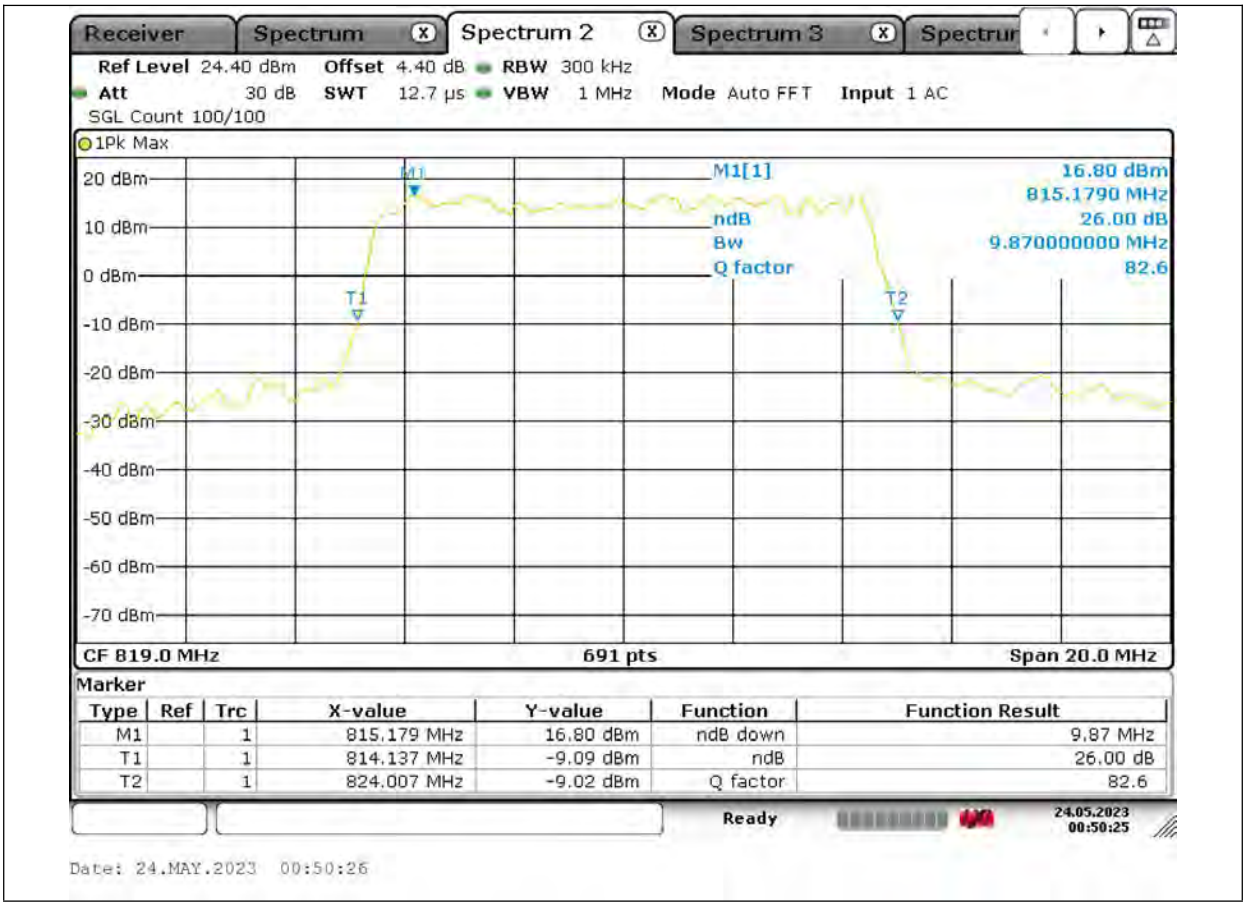
Band26-10MHz-QPSK-26740-50RB#0



Band26-10MHz-16QAM-26740-50RB#0



Band26-10MHz-64QAM-26740-50RB#0


Receiver
Spectrum
Spectrum 2
Spectrum 3
Ref Level 24.40 dBm Offset 4.40 dB RBW 300 kHz
Att 30 dB SWT 12.7 µs VBW 1 MHz Mode Auto FFT Input 1 AC
SGL Count 100/100
1Pk Max
M1[1] 16.80 dBm
815.1790 MHz
ndB 26.00 dB
Bw 9.870000000 MHz
Q factor 82.6
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 819.0 MHz
691 pts
Span 20.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 815.179 MHz 16.80 dBm ndB down 9.87 MHz
T1 1 814.137 MHz -9.09 dBm ndB 26.00 dB
T2 1 824.007 MHz -9.02 dBm Q factor 82.6
Ready
24.05.2023
00:50:25
Date: 24.MAY.2023 00:50:26

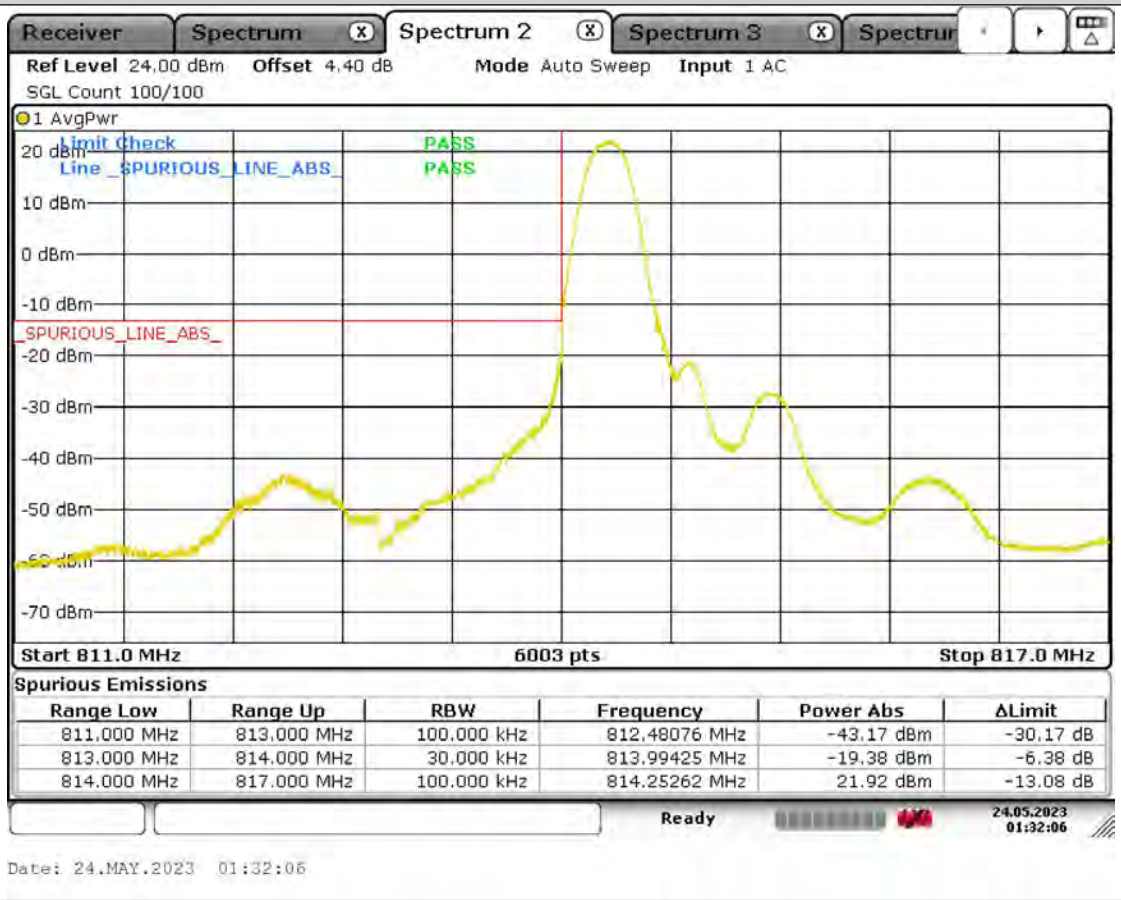
BAND EDGE

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band26	1.4MHz	QPSK	26697	1RB#0	-19.38	PASS
Band26	1.4MHz	QPSK	26697	6RB#0	-24.85	PASS
Band26	1.4MHz	QPSK	26783	1RB#5	-21.68	PASS
Band26	1.4MHz	QPSK	26783	6RB#0	-26.03	PASS
Band26	1.4MHz	16QAM	26697	1RB#0	-20.99	PASS
Band26	1.4MHz	16QAM	26697	6RB#0	-26.31	PASS
Band26	1.4MHz	16QAM	26783	1RB#5	-19.37	PASS
Band26	1.4MHz	16QAM	26783	6RB#0	-27.30	PASS
Band26	1.4MHz	64QAM	26697	1RB#0	-22.31	PASS
Band26	1.4MHz	64QAM	26697	6RB#0	-29.86	PASS
Band26	1.4MHz	64QAM	26783	1RB#5	-22.89	PASS
Band26	1.4MHz	64QAM	26783	6RB#0	-29.65	PASS
Band26	3MHz	QPSK	26705	1RB#0	-19.89	PASS
Band26	3MHz	QPSK	26705	15RB#0	-27.31	PASS
Band26	3MHz	QPSK	26775	1RB#14	-21.56	PASS
Band26	3MHz	QPSK	26775	15RB#0	-28.66	PASS
Band26	3MHz	16QAM	26705	1RB#0	-19.60	PASS
Band26	3MHz	16QAM	26705	15RB#0	-29.23	PASS
Band26	3MHz	16QAM	26775	1RB#14	-21.61	PASS
Band26	3MHz	16QAM	26775	15RB#0	-29.03	PASS
Band26	3MHz	64QAM	26705	1RB#0	-24.14	PASS
Band26	3MHz	64QAM	26705	15RB#0	-27.31	PASS
Band26	3MHz	64QAM	26775	1RB#14	-24.09	PASS
Band26	3MHz	64QAM	26775	15RB#0	-31.36	PASS
Band26	5MHz	QPSK	26715	1RB#0	-22.18	PASS
Band26	5MHz	QPSK	26715	25RB#0	-27.92	PASS
Band26	5MHz	QPSK	26765	1RB#24	-22.17	PASS
Band26	5MHz	QPSK	26765	25RB#0	-28.93	PASS
Band26	5MHz	16QAM	26715	1RB#0	-21.83	PASS
Band26	5MHz	16QAM	26715	25RB#0	-29.73	PASS
Band26	5MHz	16QAM	26765	1RB#24	-22.74	PASS
Band26	5MHz	16QAM	26765	25RB#0	-30.29	PASS
Band26	5MHz	64QAM	26715	1RB#0	-24.54	PASS
Band26	5MHz	64QAM	26715	25RB#0	-31.29	PASS
Band26	5MHz	64QAM	26765	1RB#24	-23.83	PASS
Band26	5MHz	64QAM	26765	25RB#0	-31.62	PASS
Band26	10MHz	QPSK	26740	1RB#0	-30.70	PASS
Band26	10MHz	QPSK	26740	1RB#49	-27.31	PASS
Band26	10MHz	QPSK	26740	50RB#0	-28.73	PASS
Band26	10MHz	16QAM	26740	1RB#0	-31.36	PASS
Band26	10MHz	16QAM	26740	1RB#49	-30.20	PASS
Band26	10MHz	16QAM	26740	50RB#0	-31.08	PASS
Band26	10MHz	64QAM	26740	1RB#0	-33.16	PASS
Band26	10MHz	64QAM	26740	1RB#49	-31.48	PASS
Band26	10MHz	64QAM	26740	50RB#0	-32.46	PASS

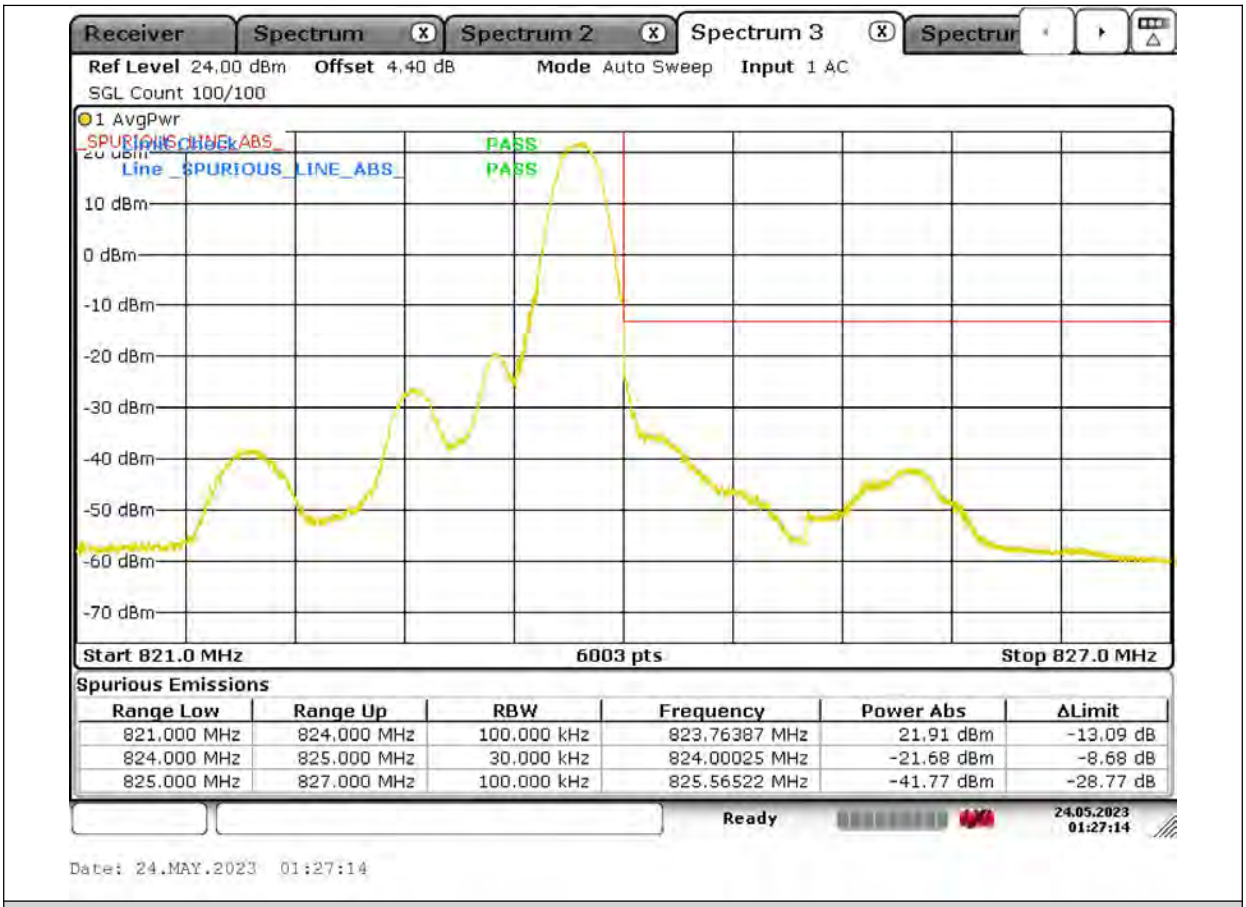
Test Graphs

Band26-1.4MHz-QPSK-26697-1RB#0



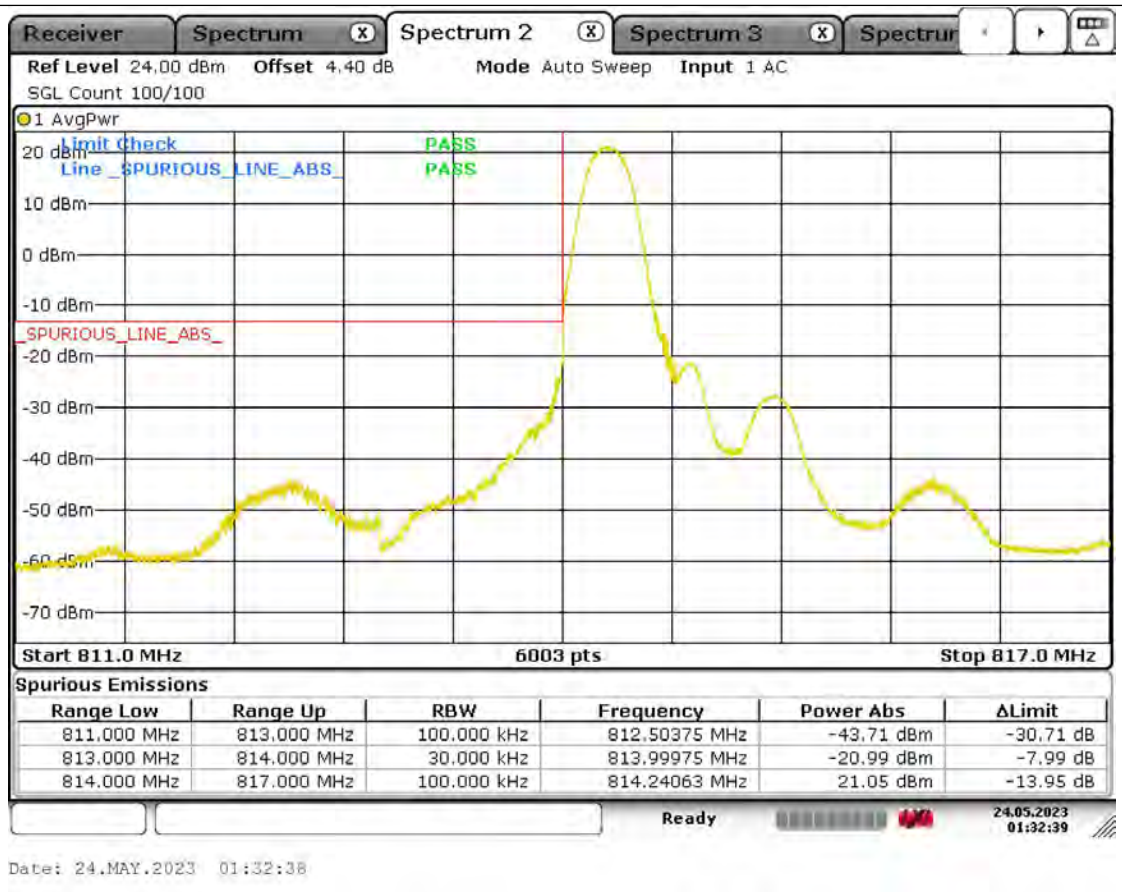
Band26-1.4MHz-QPSK-26697-6RB#0

Band26-1.4MHz-QPSK-26783-1RB#5

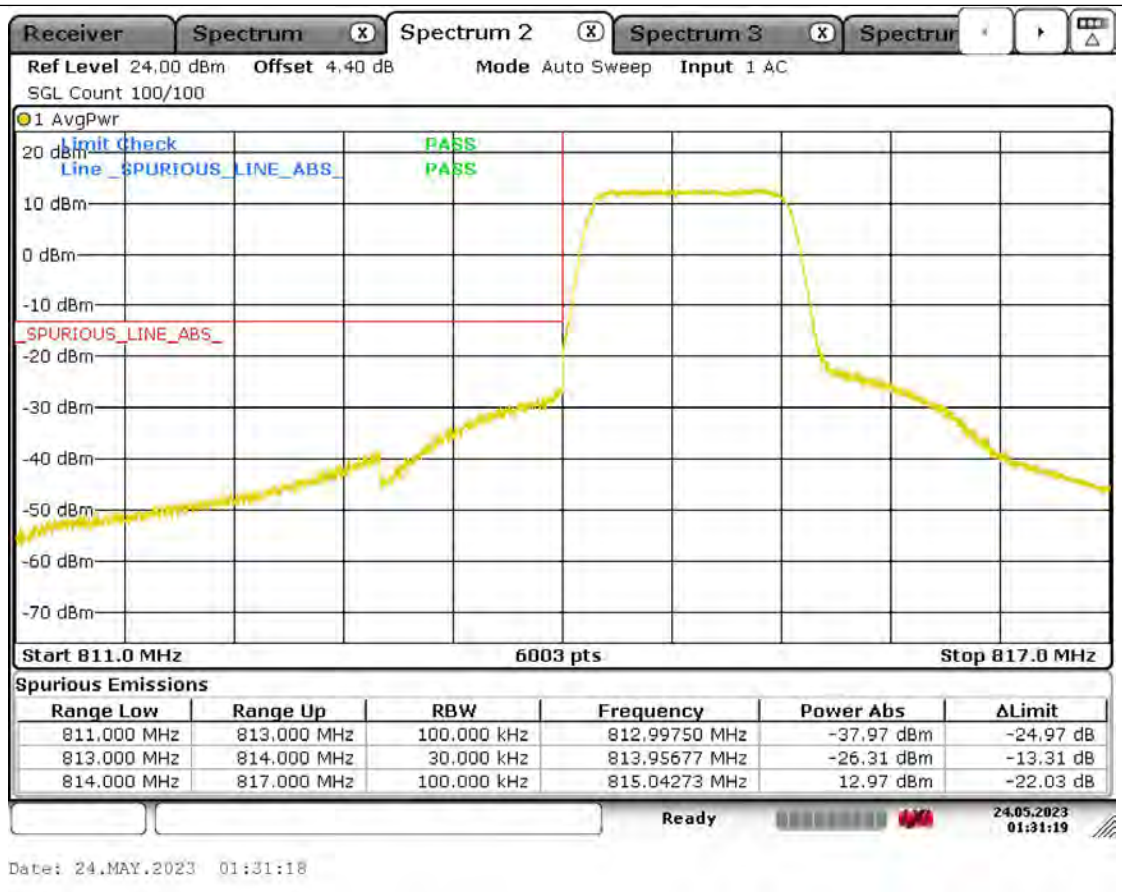


Band26-1.4MHz-QPSK-26783-6RB#0

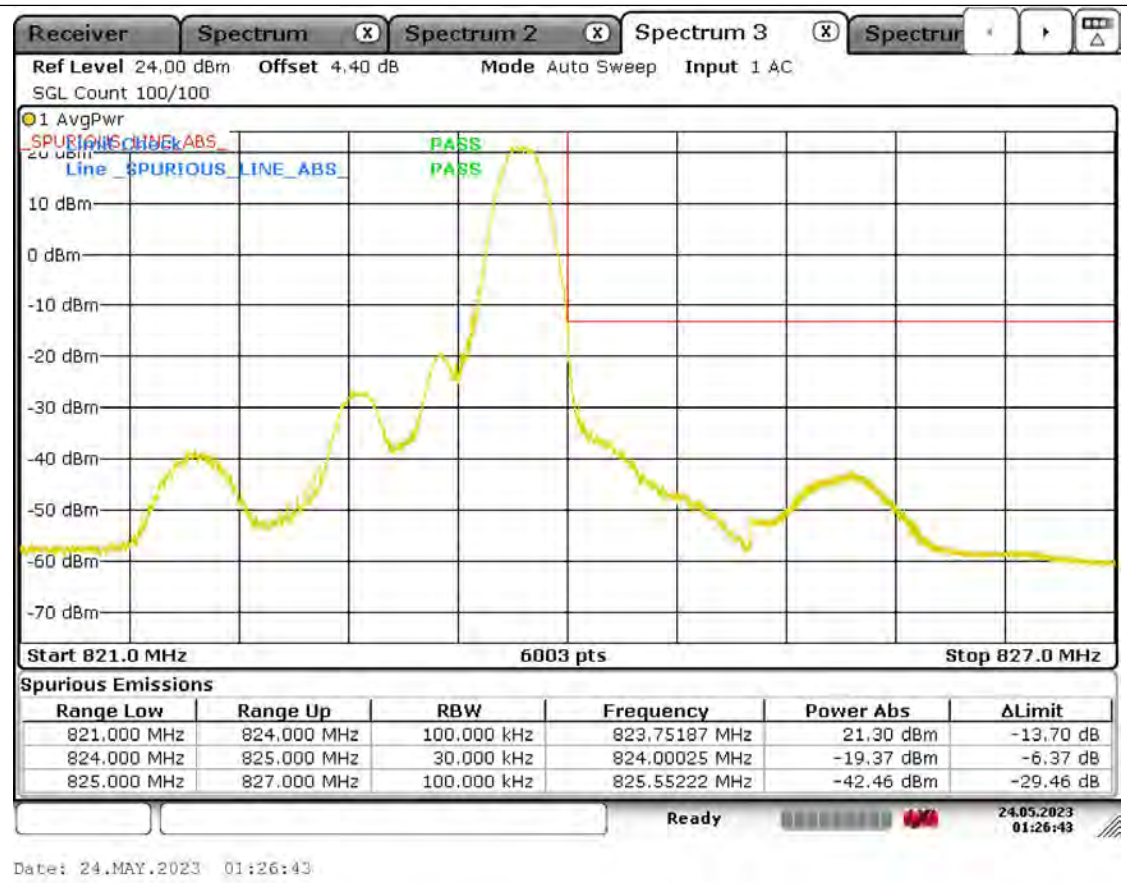
Band26-1.4MHz-16QAM-26697-1RB#0



Band26-1.4MHz-16QAM-26697-6RB#0

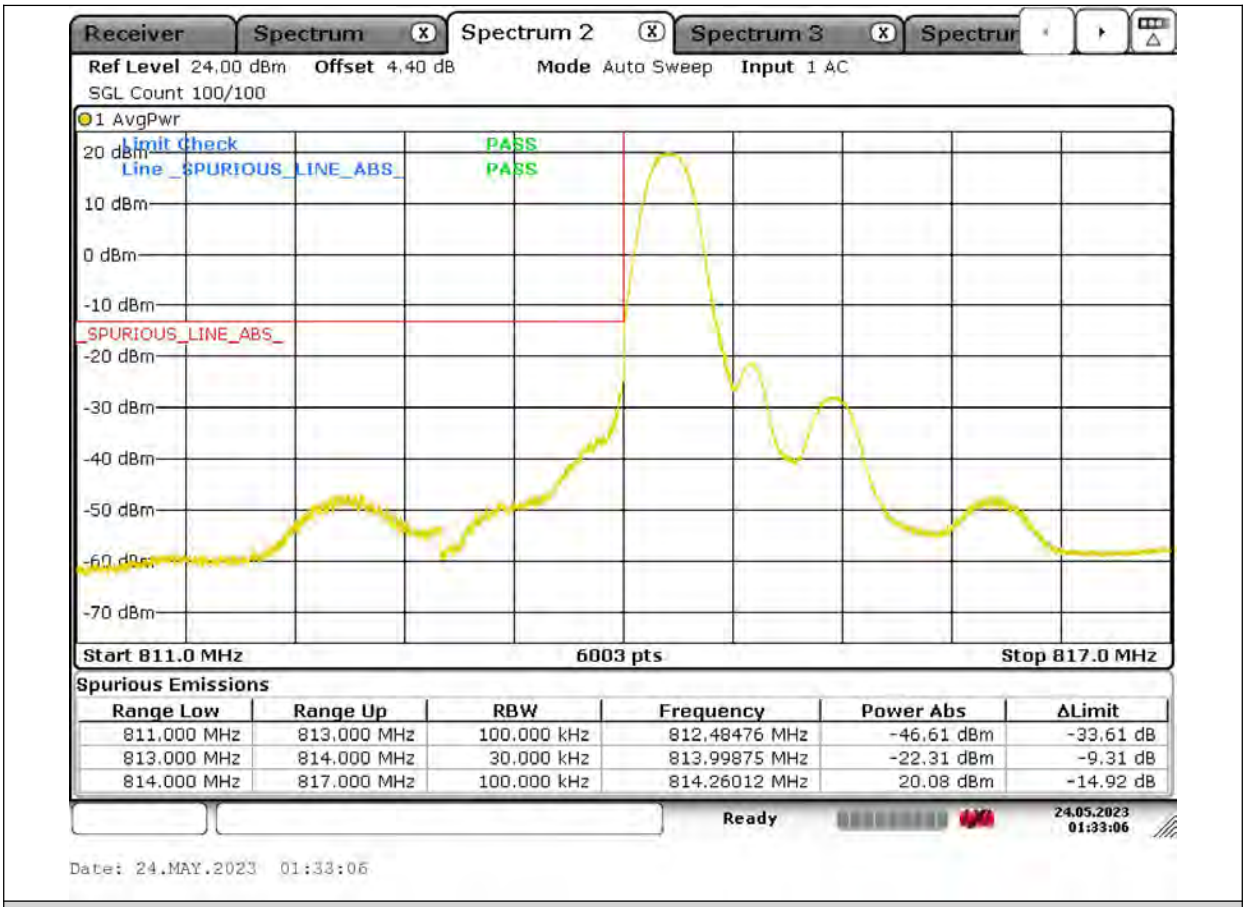


Band26-1.4MHz-16QAM-26783-1RB#5



Band26-1.4MHz-16QAM-26783-6RB#0

Band26-1.4MHz-64QAM-26697-1RB#0

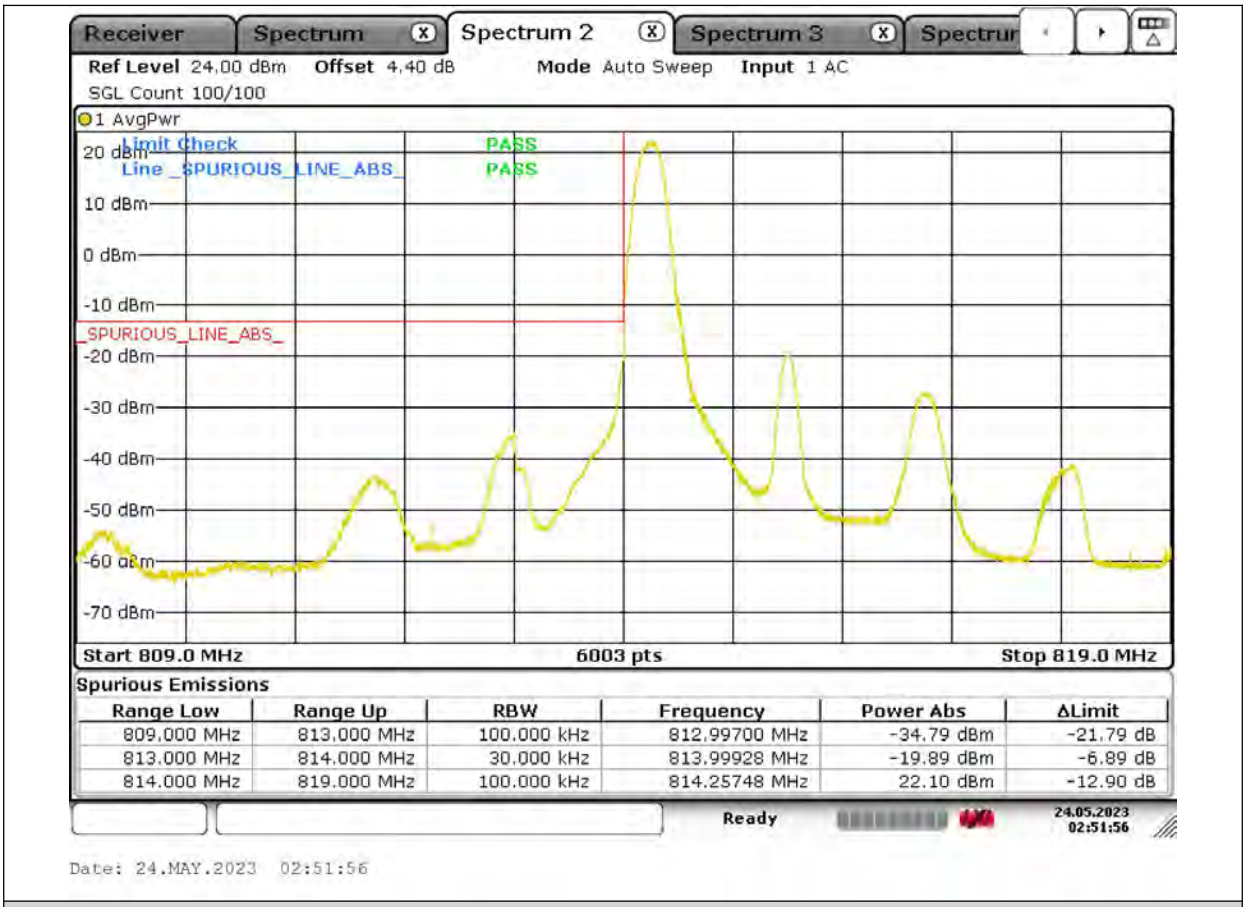


Band26-1.4MHz-64QAM-26697-6RB#0

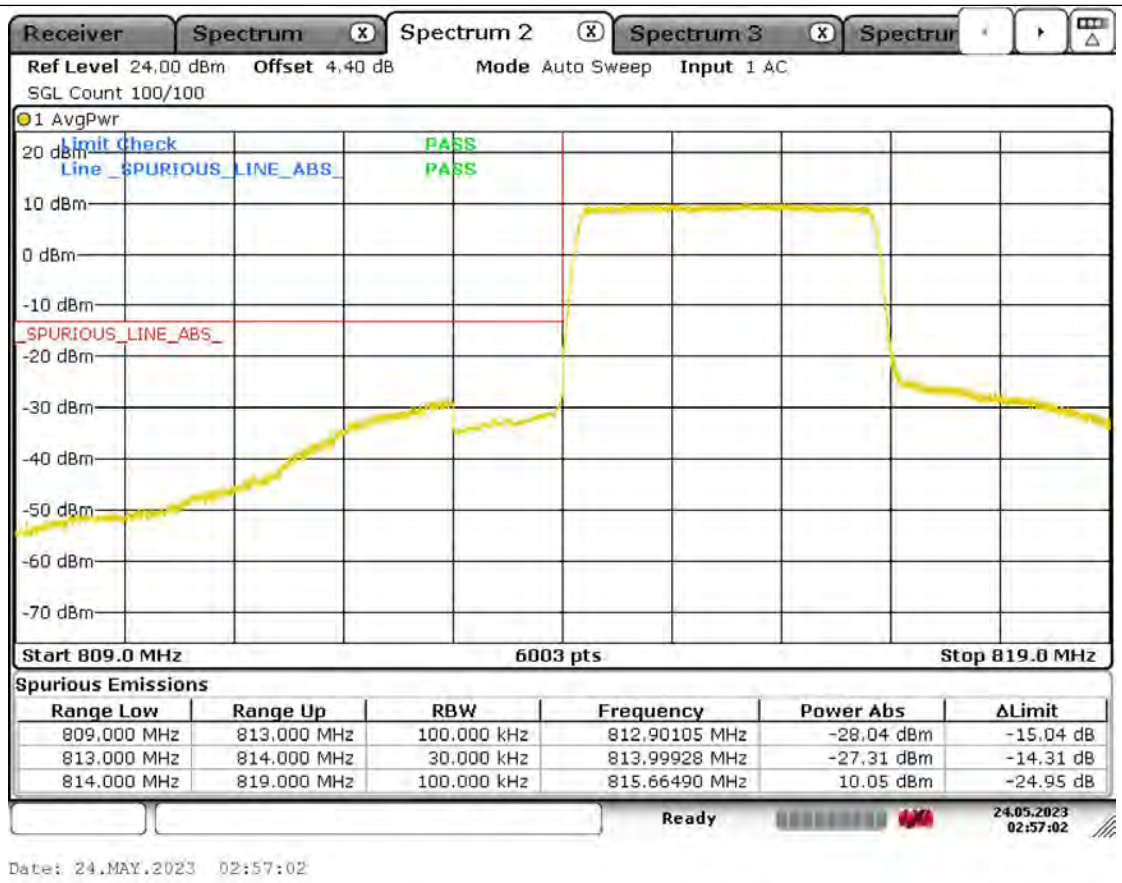
Band26-1.4MHz-64QAM-26783-1RB#5

Band26-1.4MHz-64QAM-26783-6RB#0

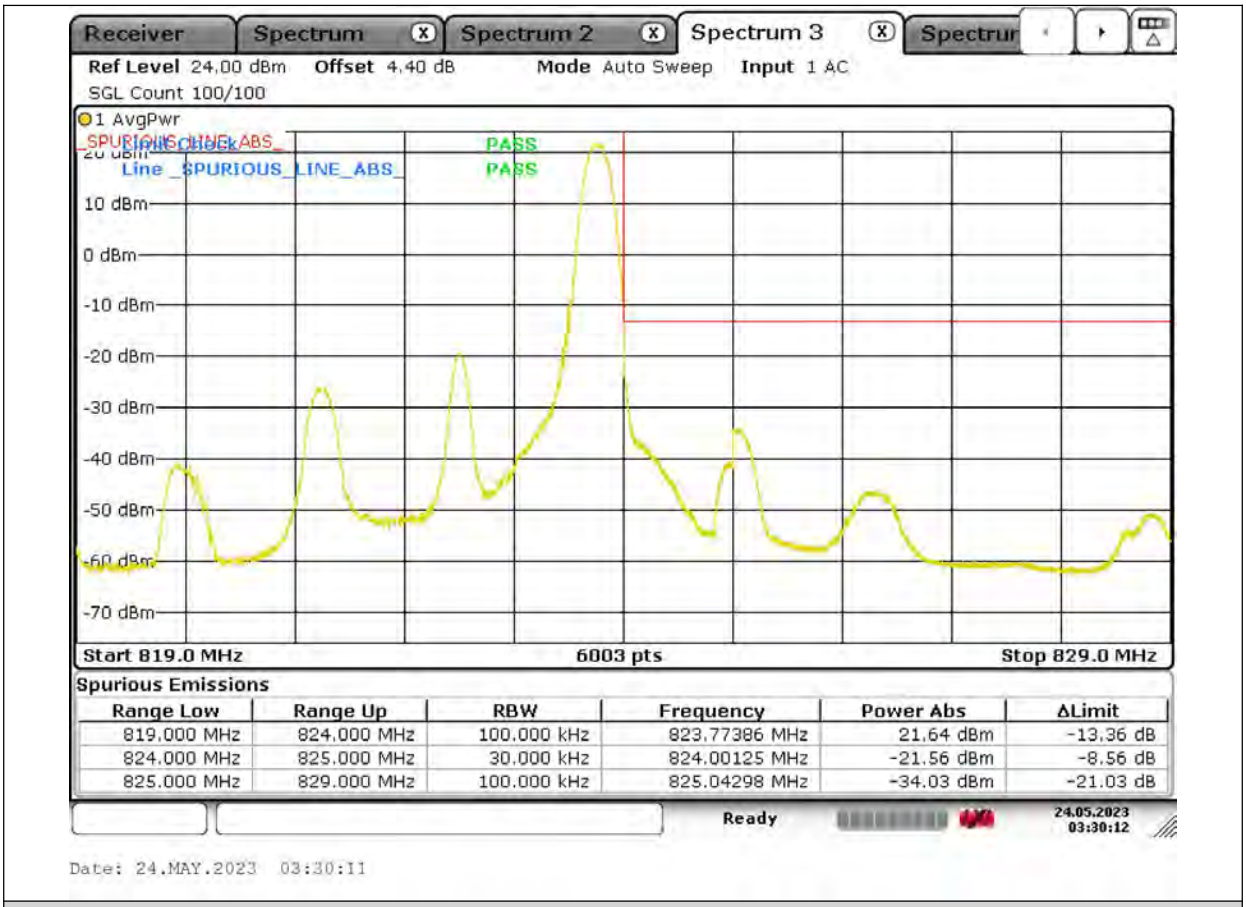
Band26-3MHz-QPSK-26705-1RB#0



Band26-3MHz-QPSK-26705-15RB#0

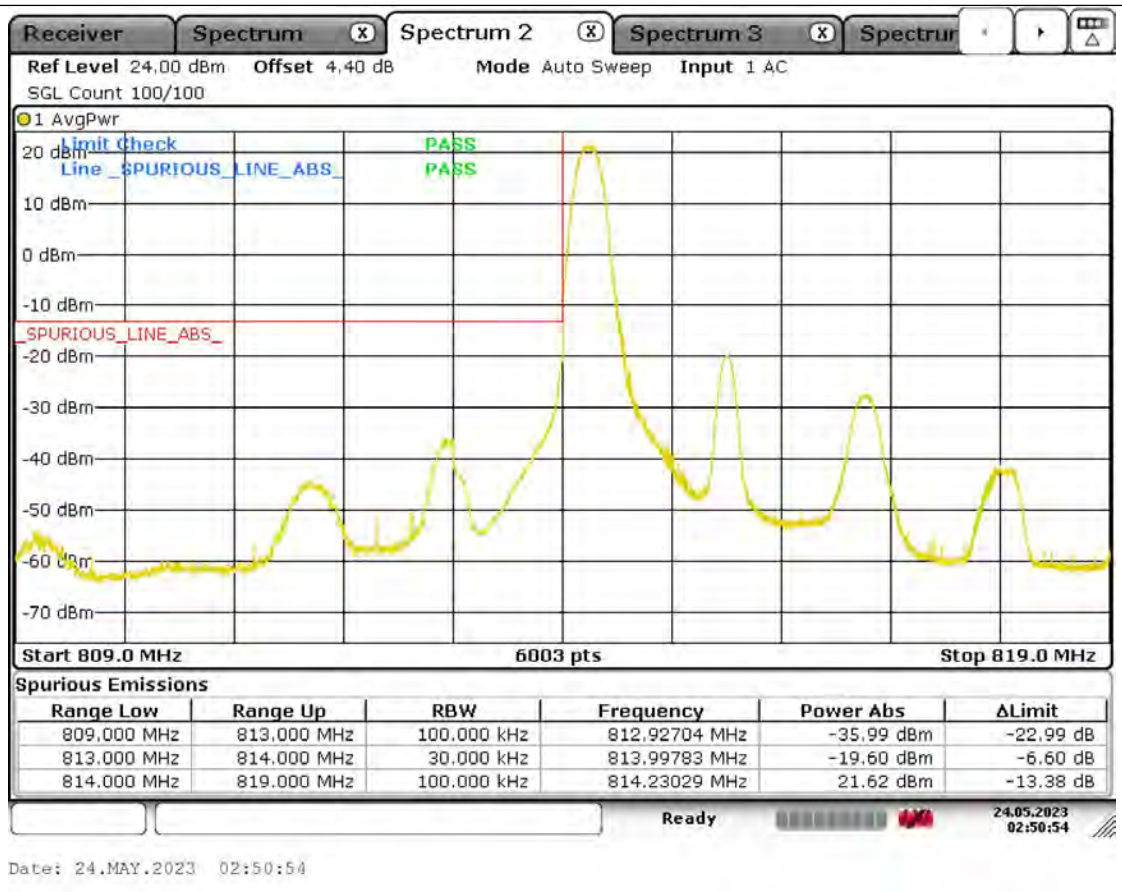


Band26-3MHz-QPSK-26775-1RB#14

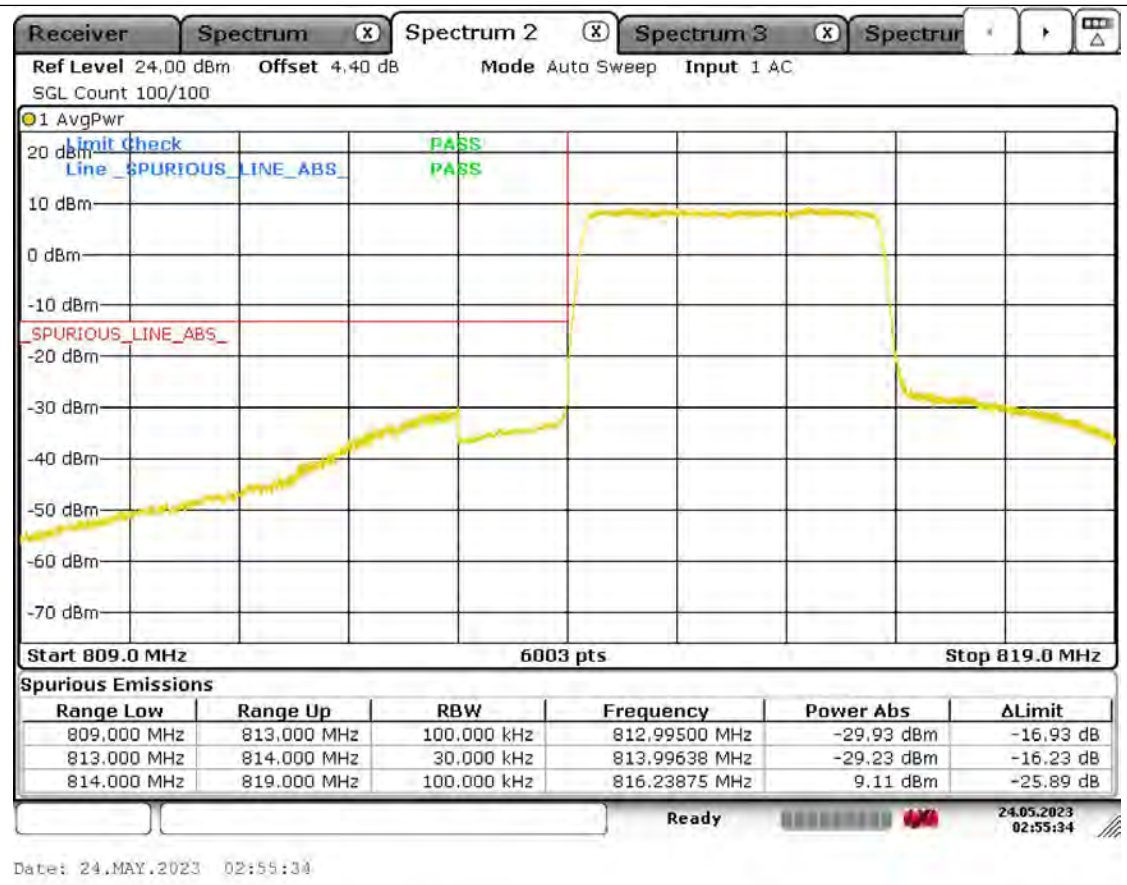


Band26-3MHz-QPSK-26775-15RB#0

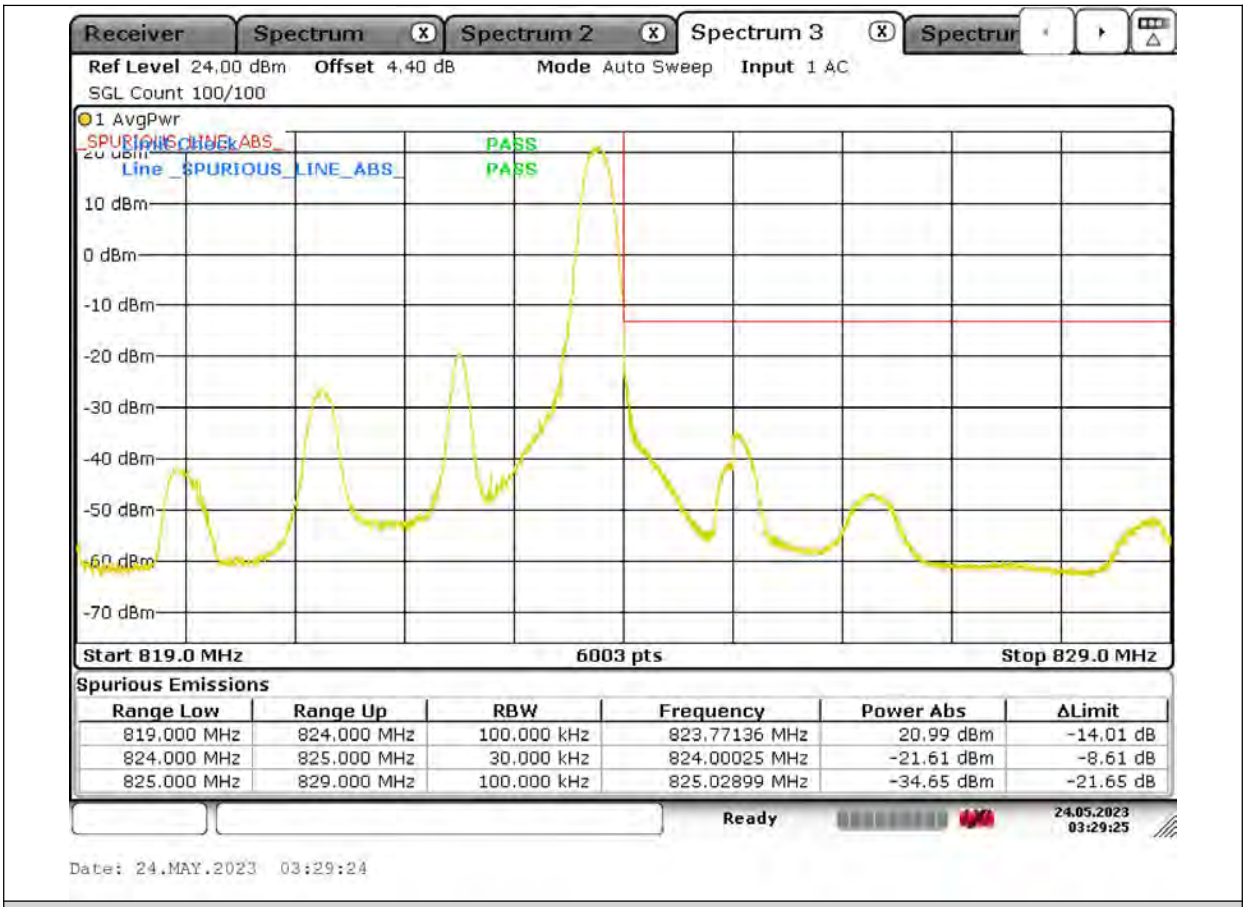
Band26-3MHz-16QAM-26705-1RB#0



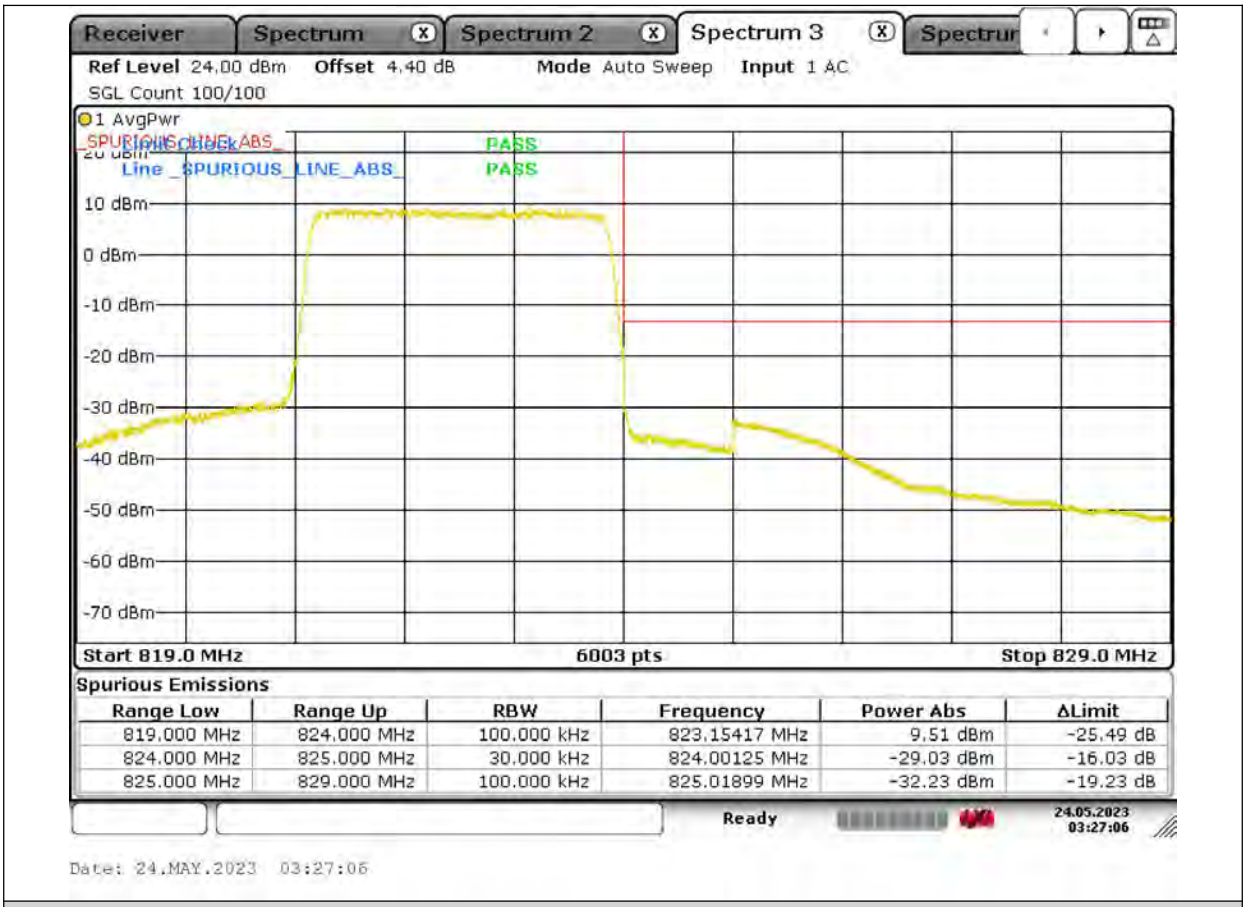
Band26-3MHz-16QAM-26705-15RB#0



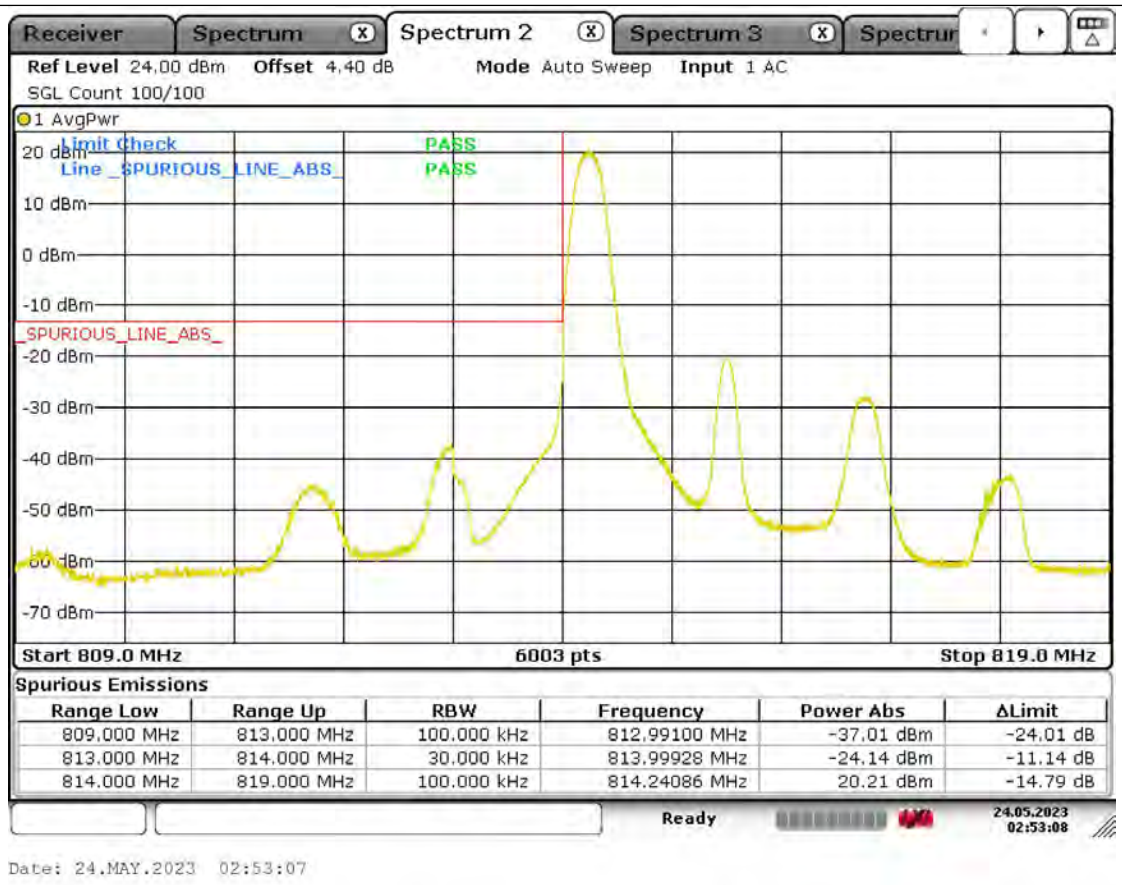
Band26-3MHz-16QAM-26775-1RB#14



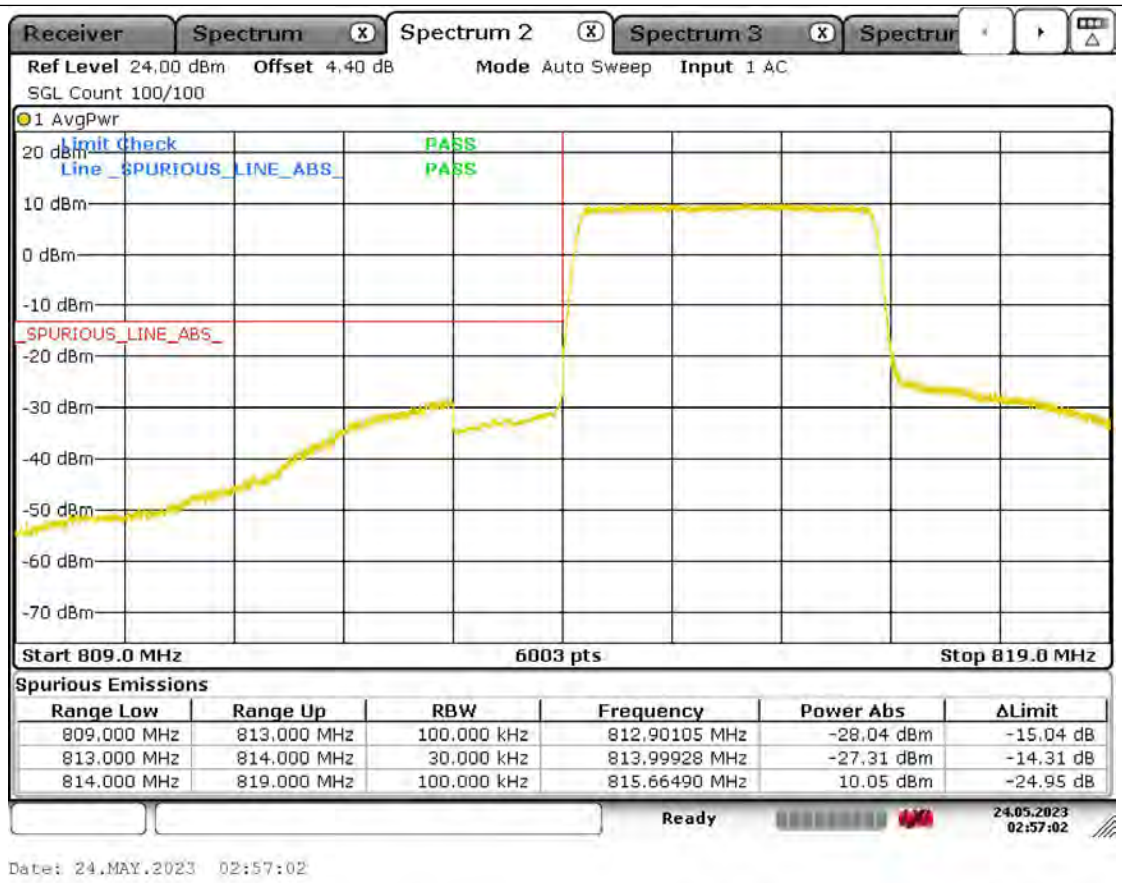
Band26-3MHz-16QAM-26775-15RB#0



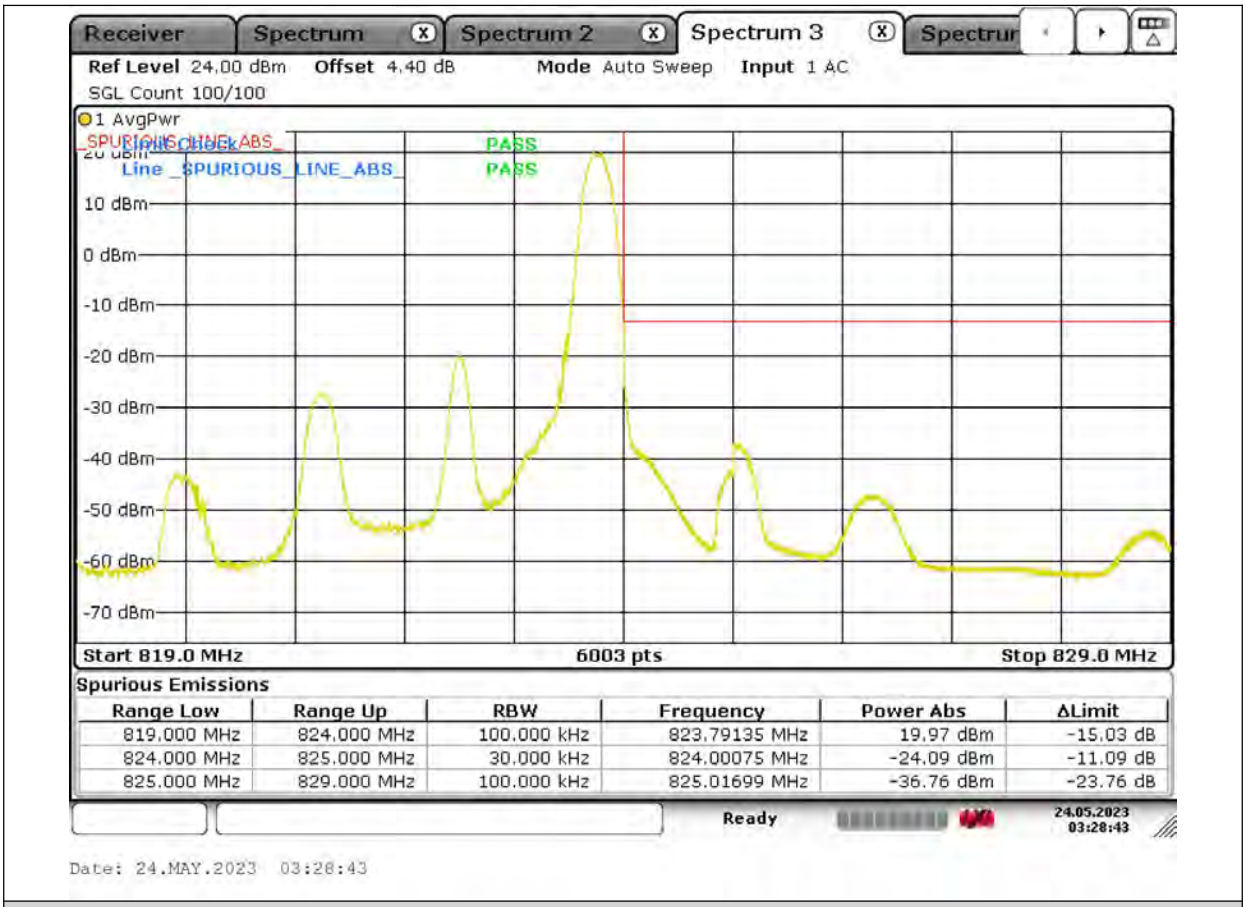
Band26-3MHz-64QAM-26705-1RB#0



Band26-3MHz-64QAM-26705-15RB#0

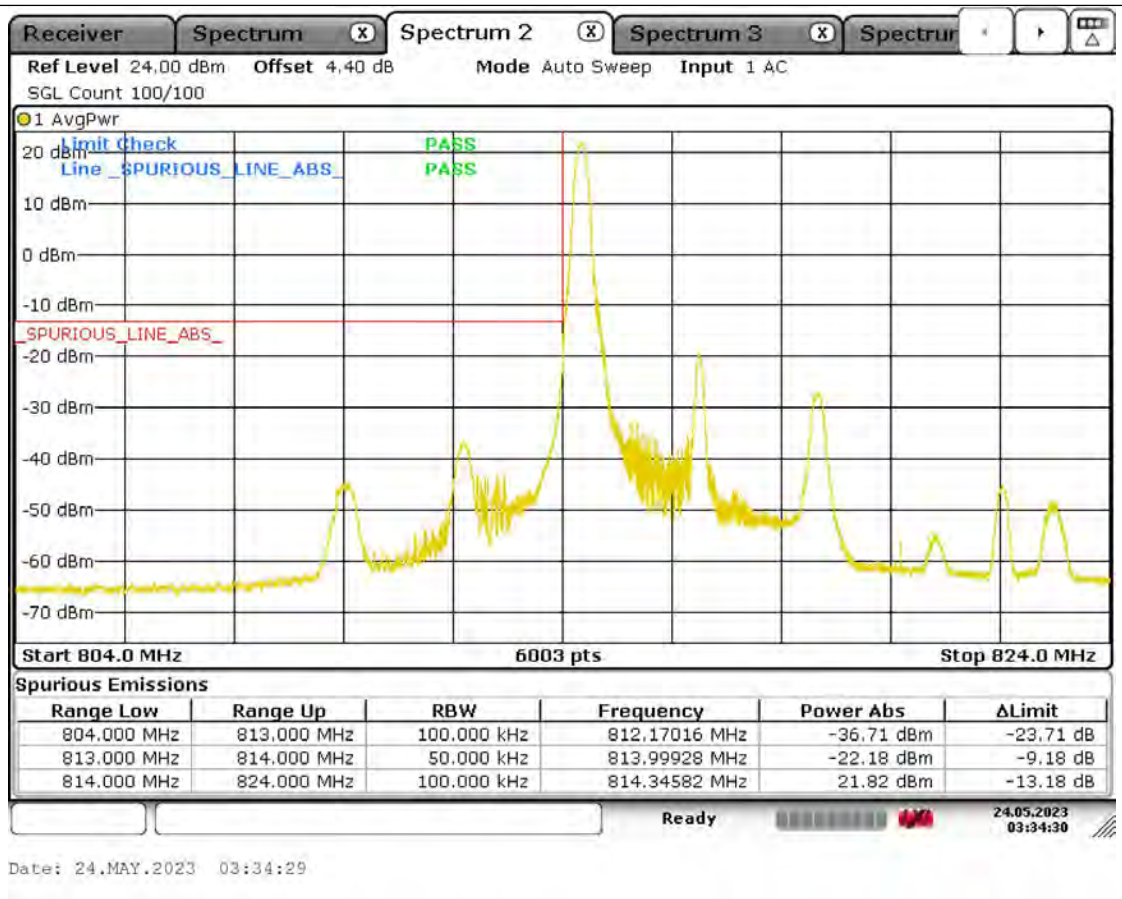


Band26-3MHz-64QAM-26775-1RB#14



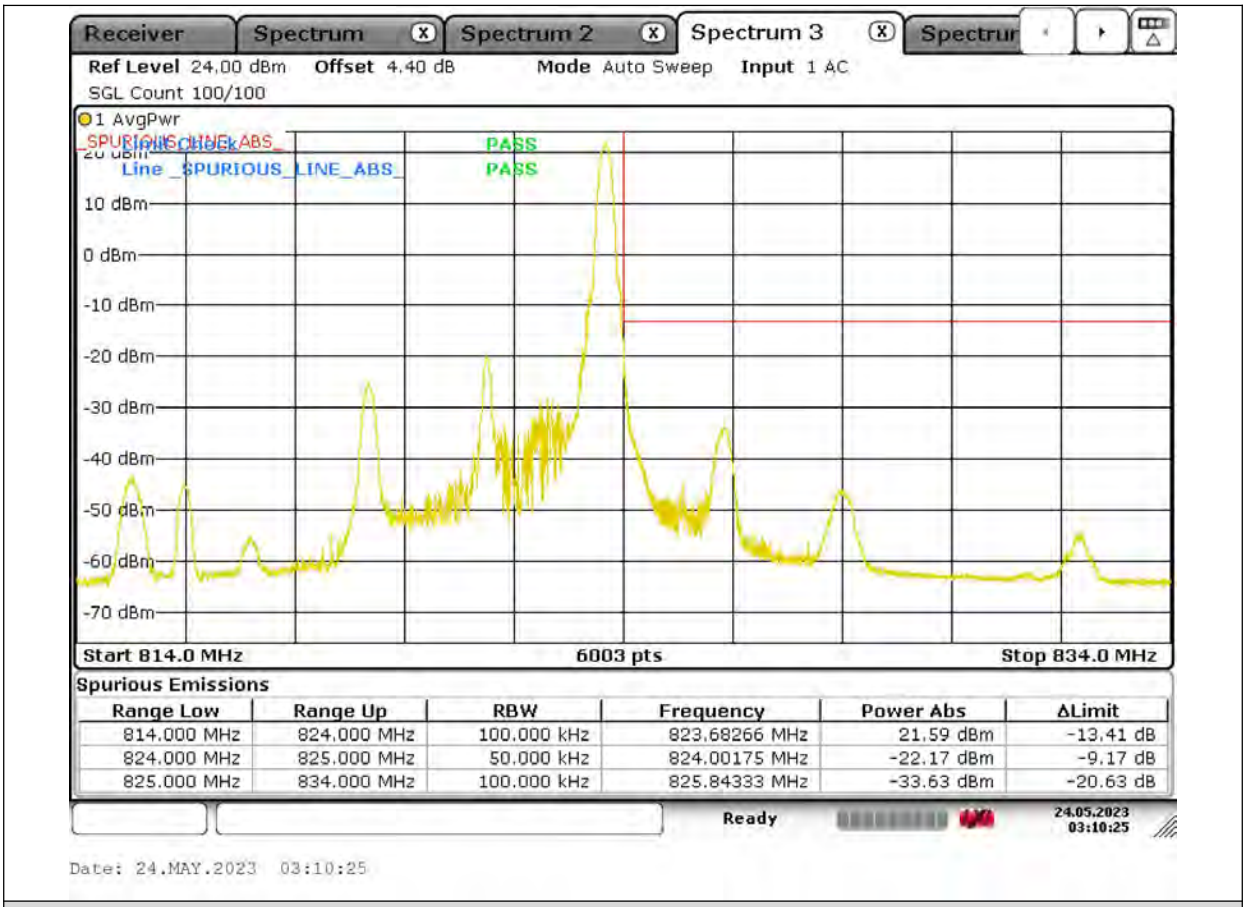
Band26-3MHz-64QAM-26775-15RB#0

Band26-5MHz-QPSK-26715-1RB#0

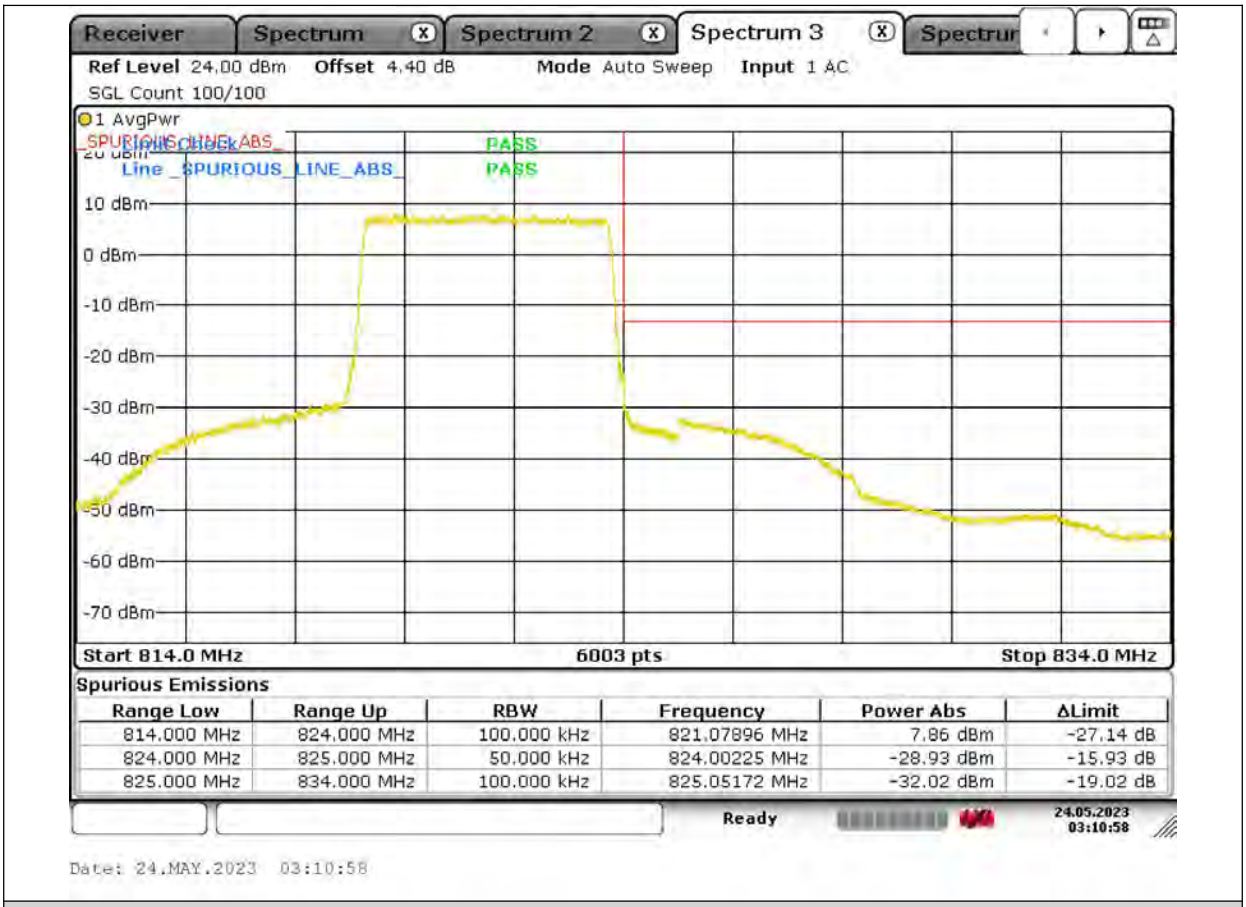


Band26-5MHz-QPSK-26715-25RB#0

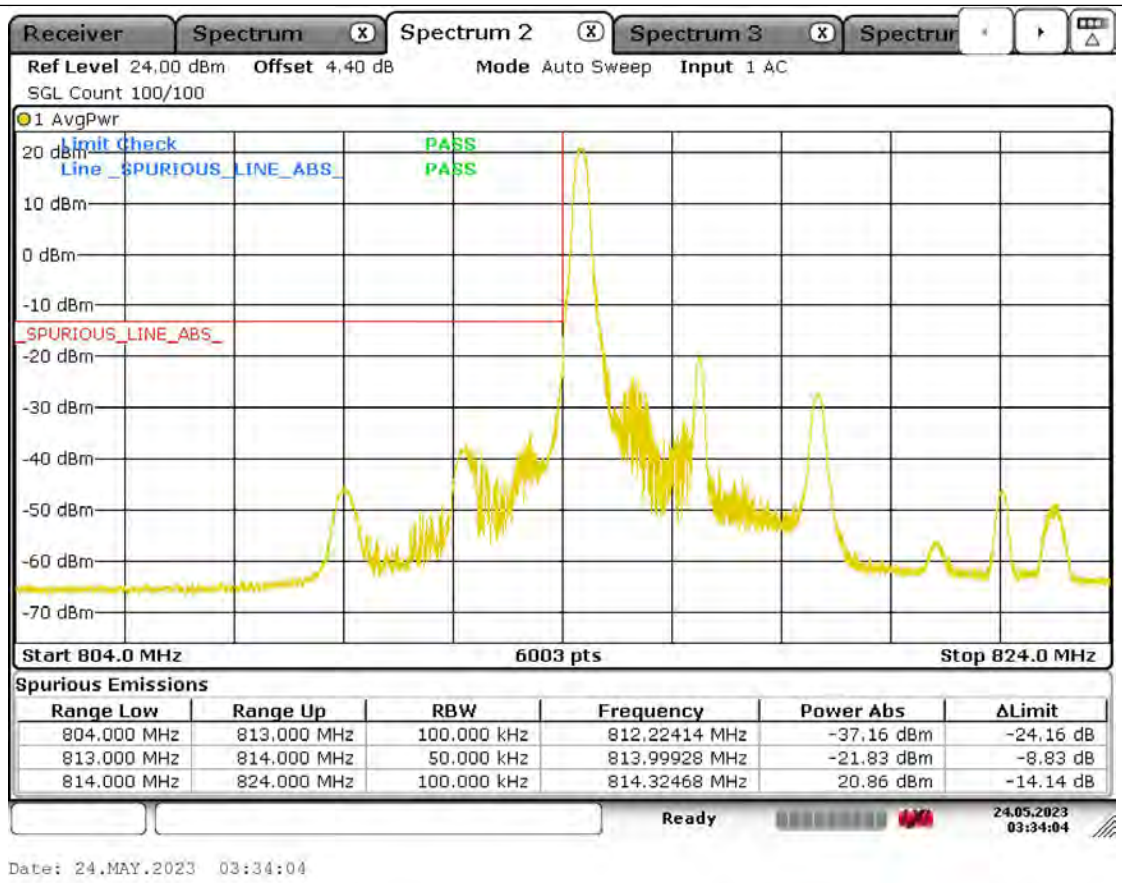
Band26-5MHz-QPSK-26765-1RB#24



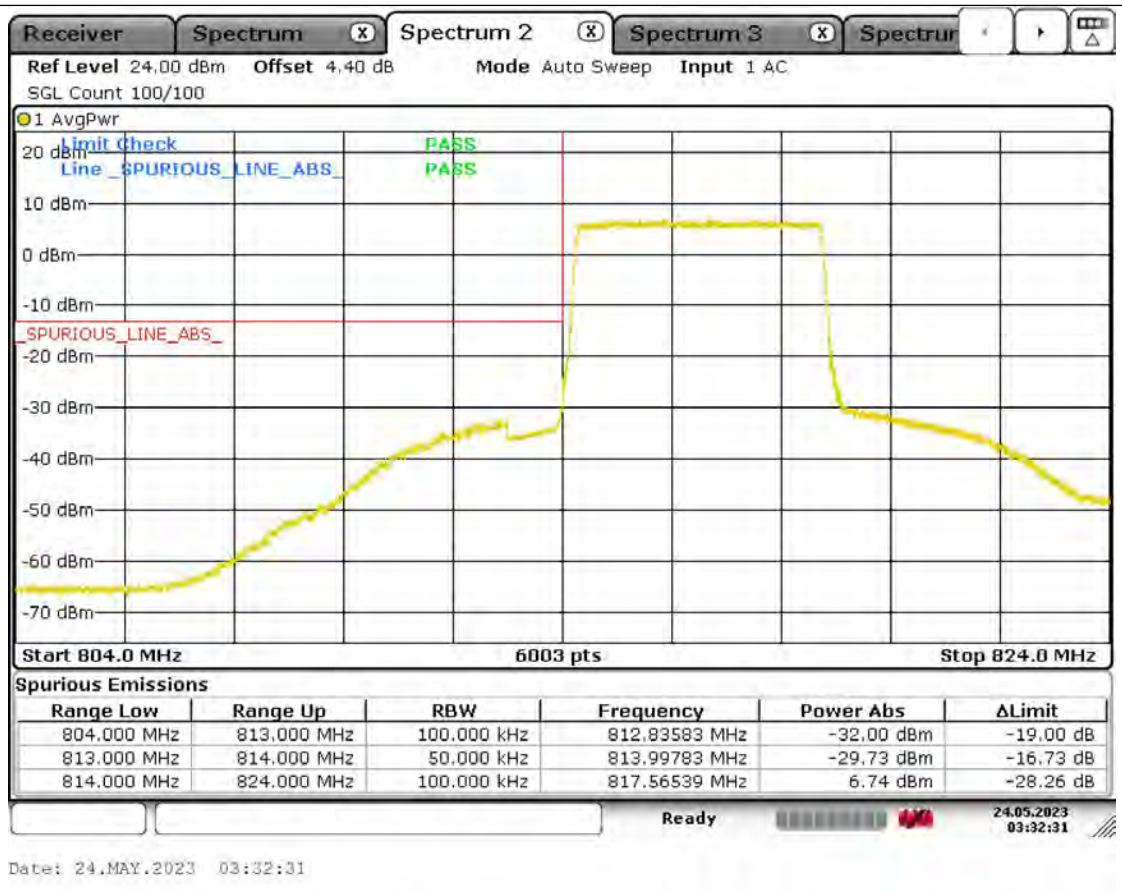
Band26-5MHz-QPSK-26765-25RB#0



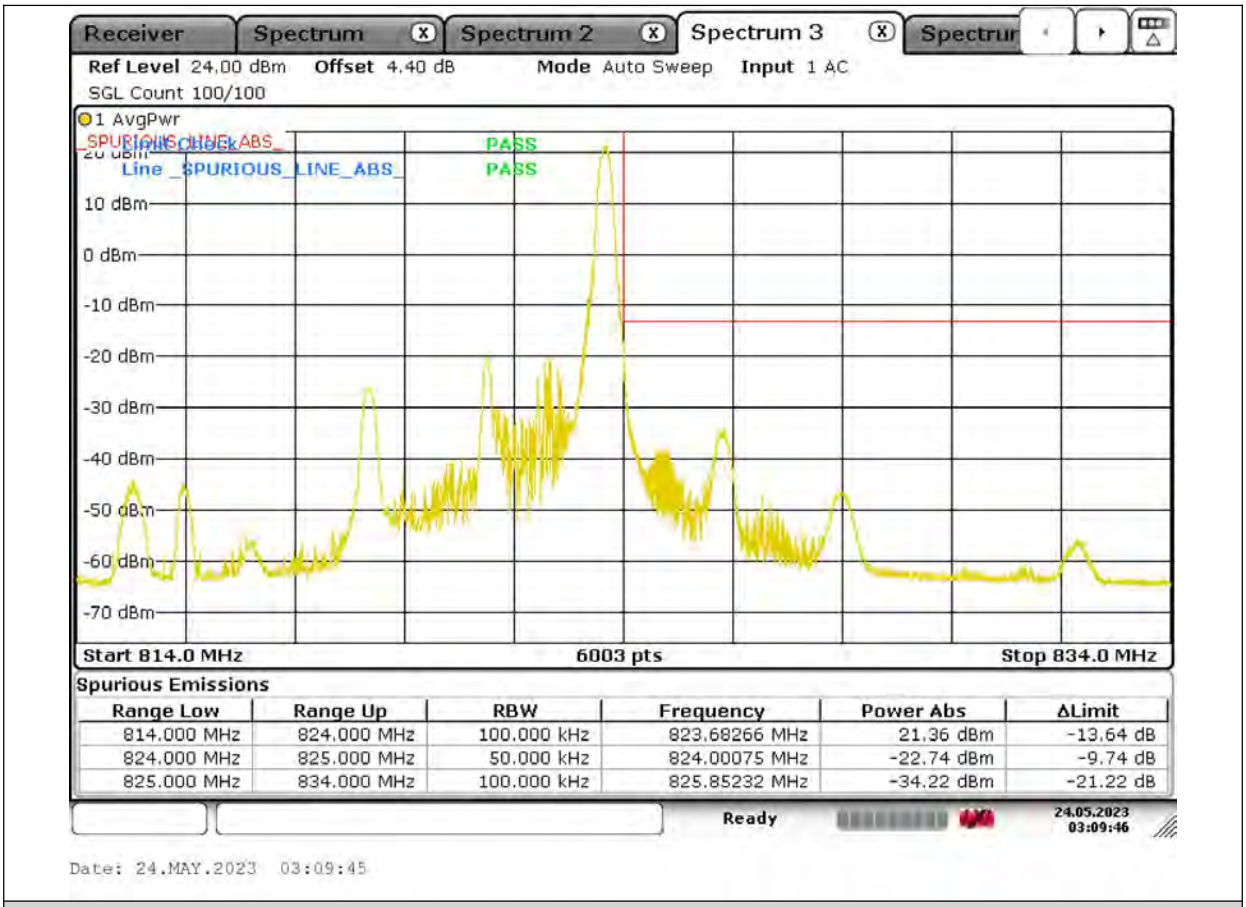
Band26-5MHz-16QAM-26715-1RB#0



Band26-5MHz-16QAM-26715-25RB#0

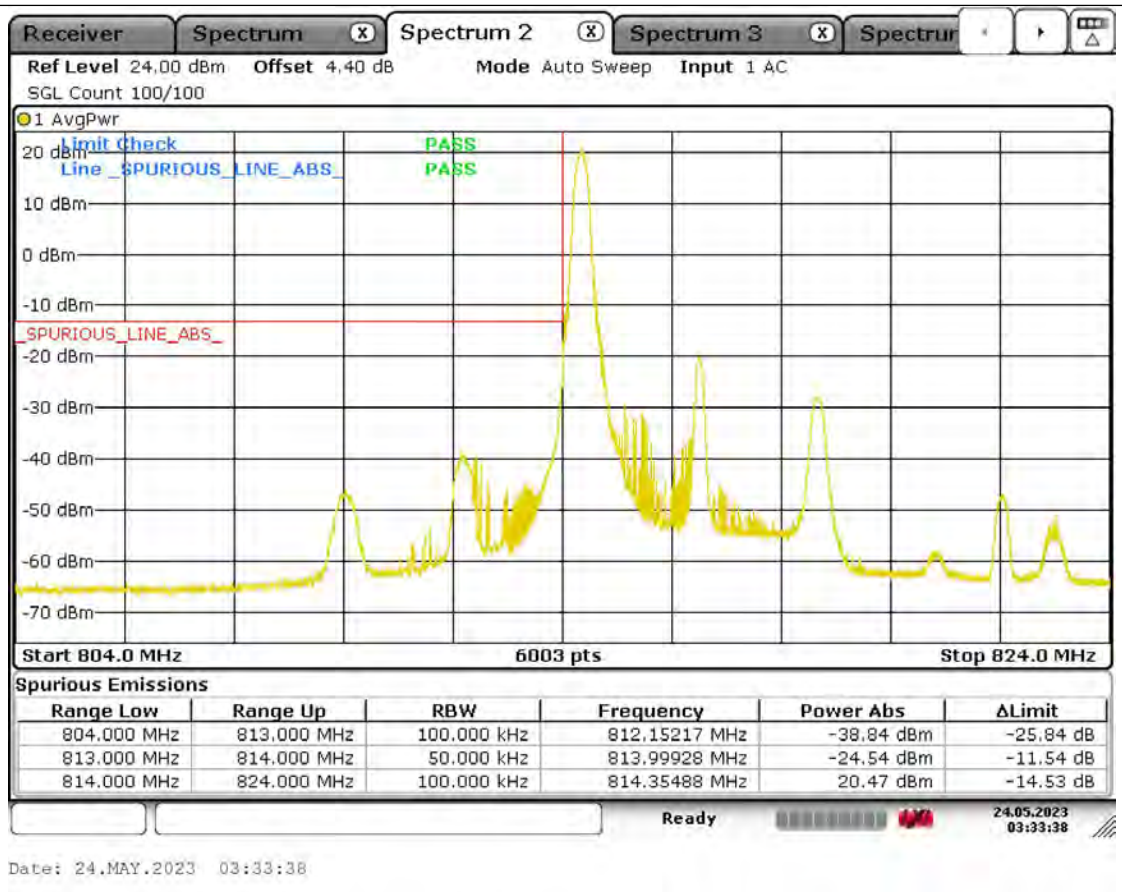


Band26-5MHz-16QAM-26765-1RB#24



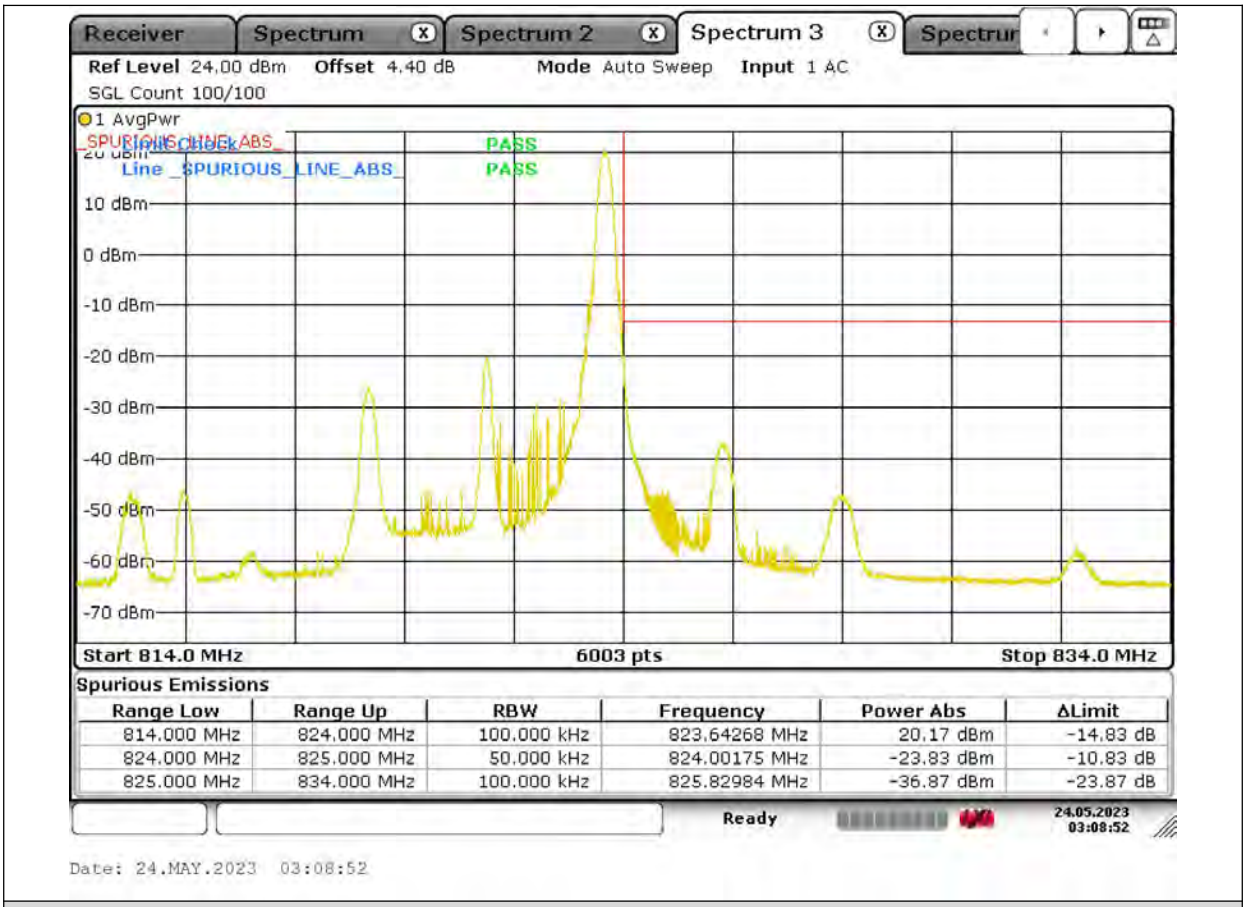
Band26-5MHz-16QAM-26765-25RB#0

Band26-5MHz-64QAM-26715-1RB#0



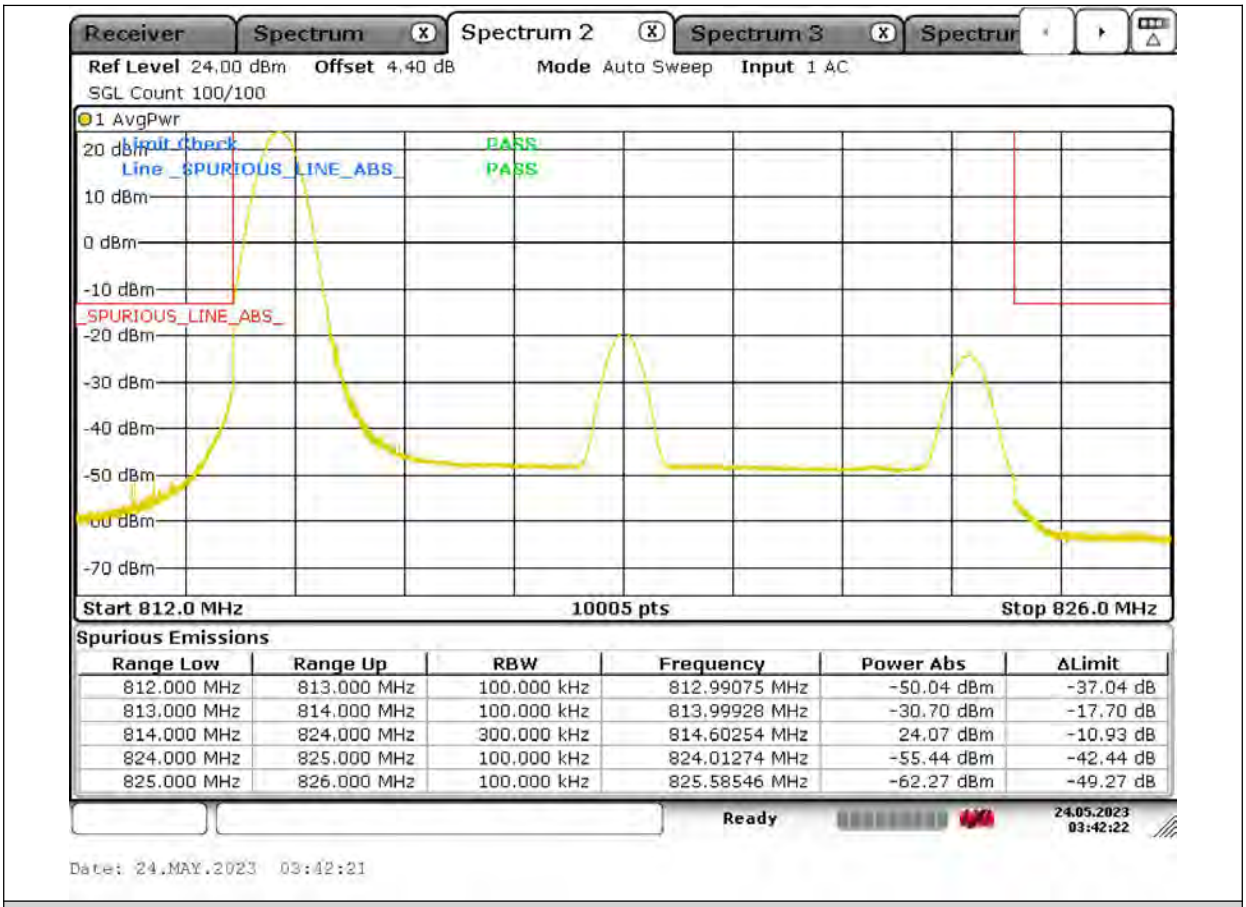
Band26-5MHz-64QAM-26715-25RB#0

Band26-5MHz-64QAM-26765-1RB#24

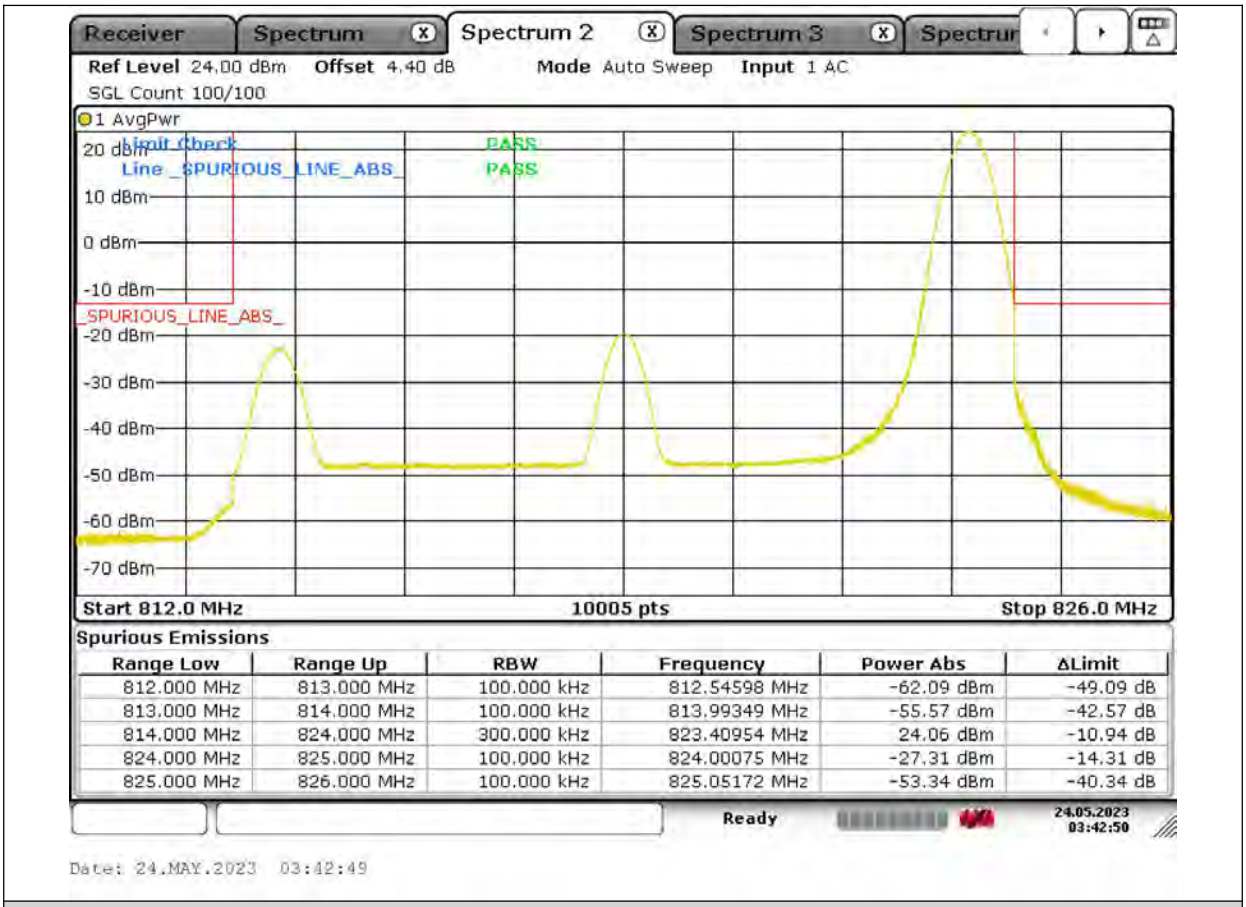


Band26-5MHz-64QAM-26765-25RB#0

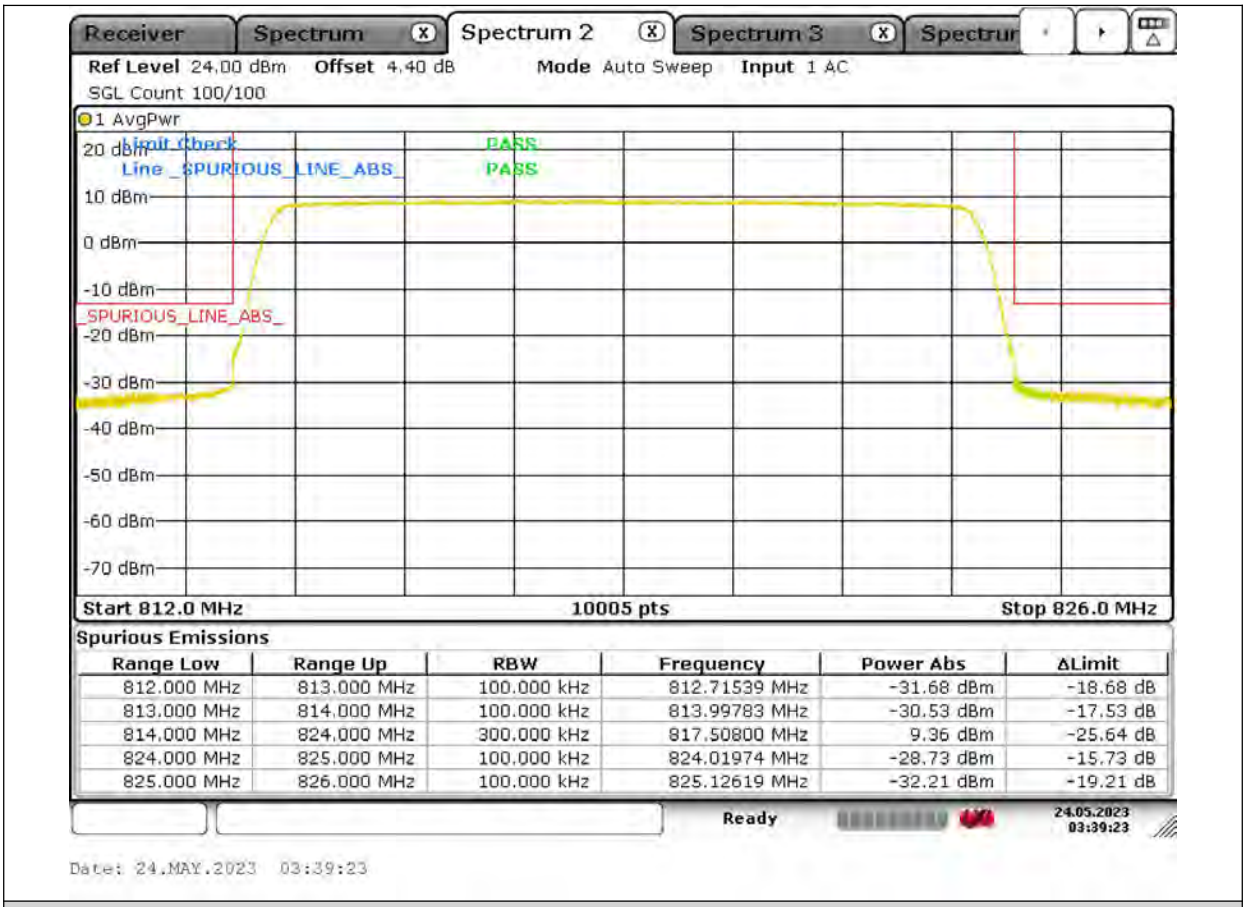
Band26-10MHz-QPSK-26740-1RB#0



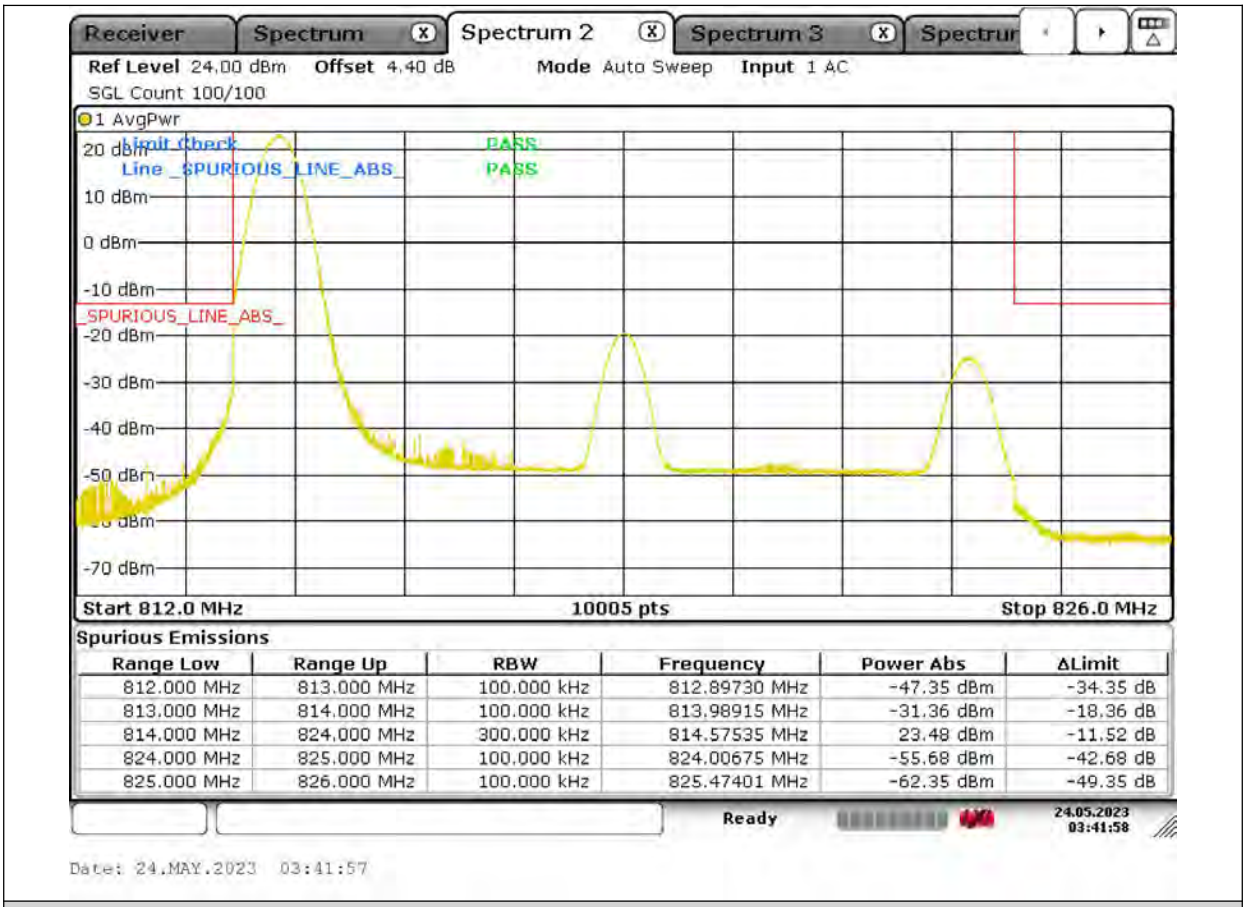
Band26-10MHz-QPSK-26740-1RB#49



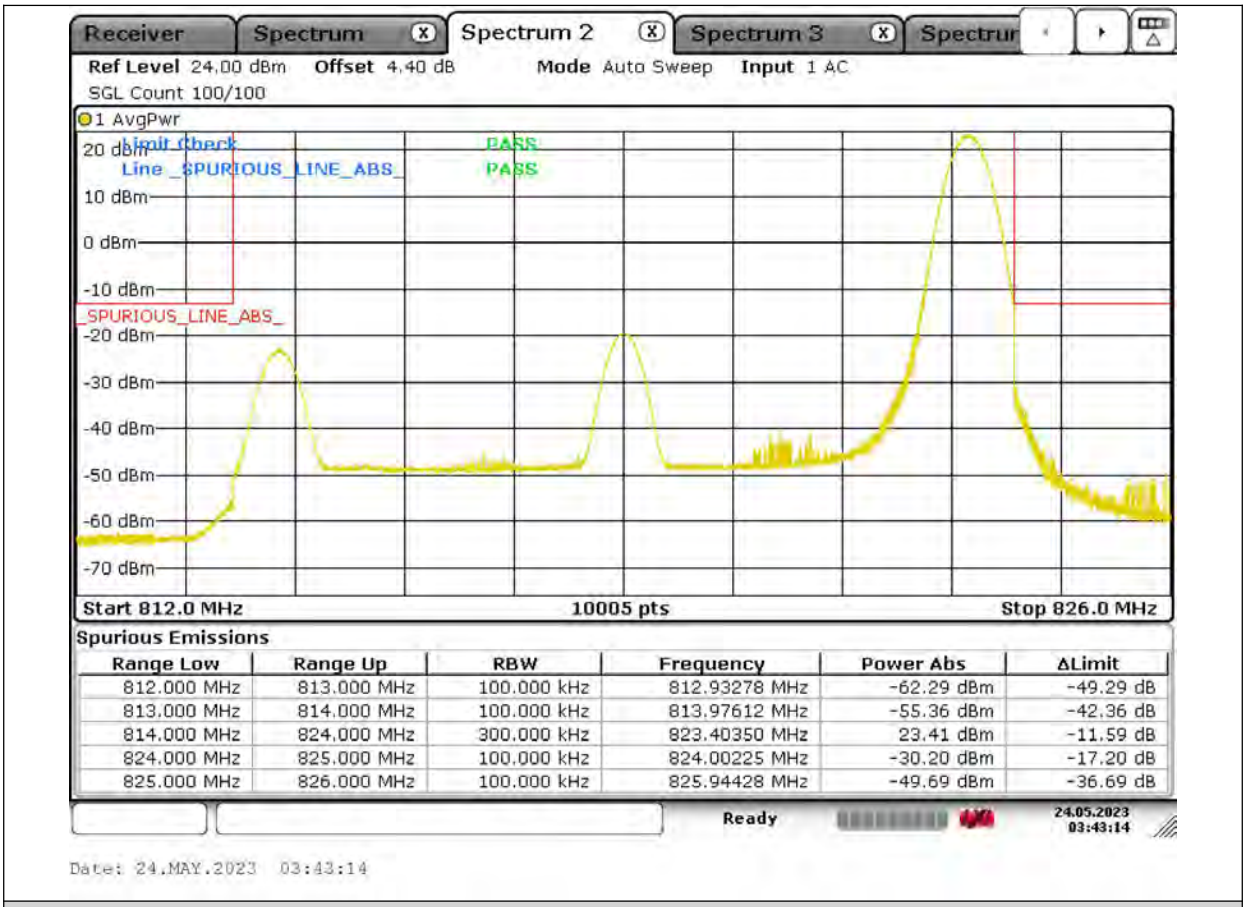
Band26-10MHz-QPSK-26740-50RB#0



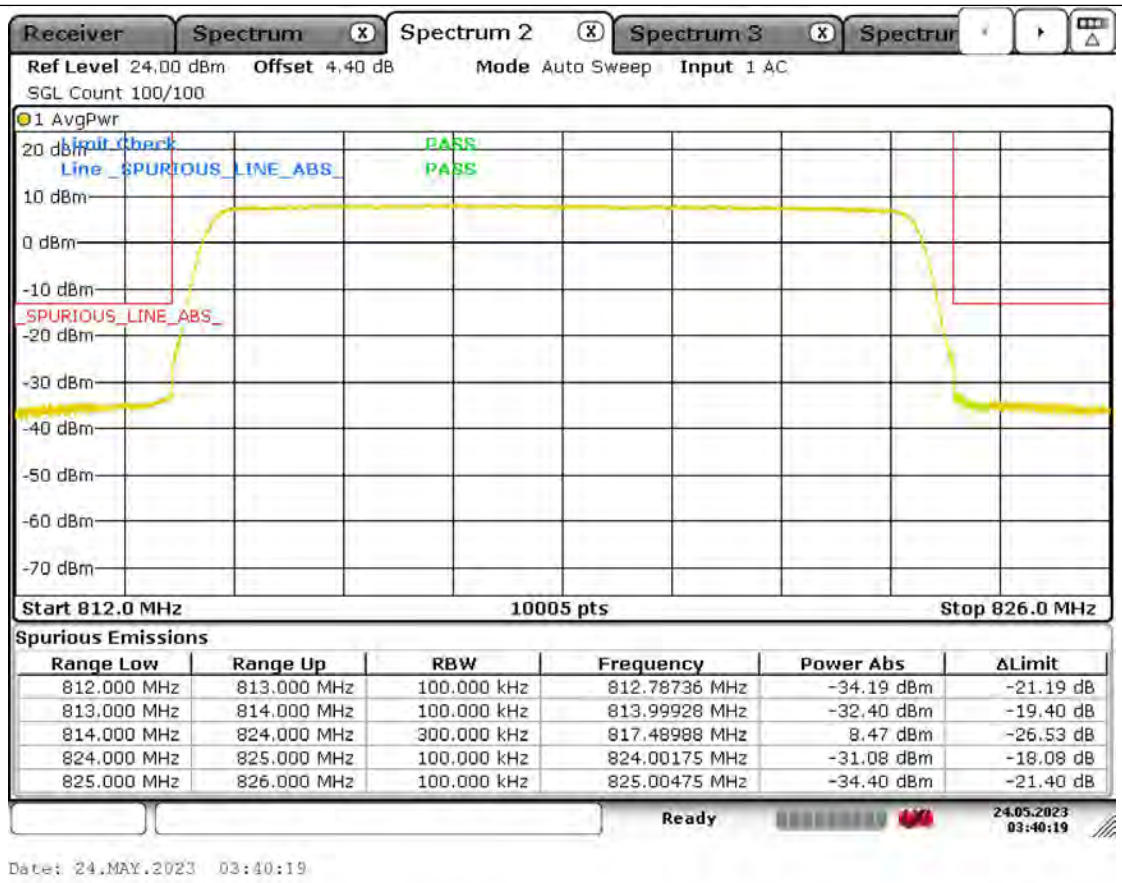
Band26-10MHz-16QAM-26740-1RB#0



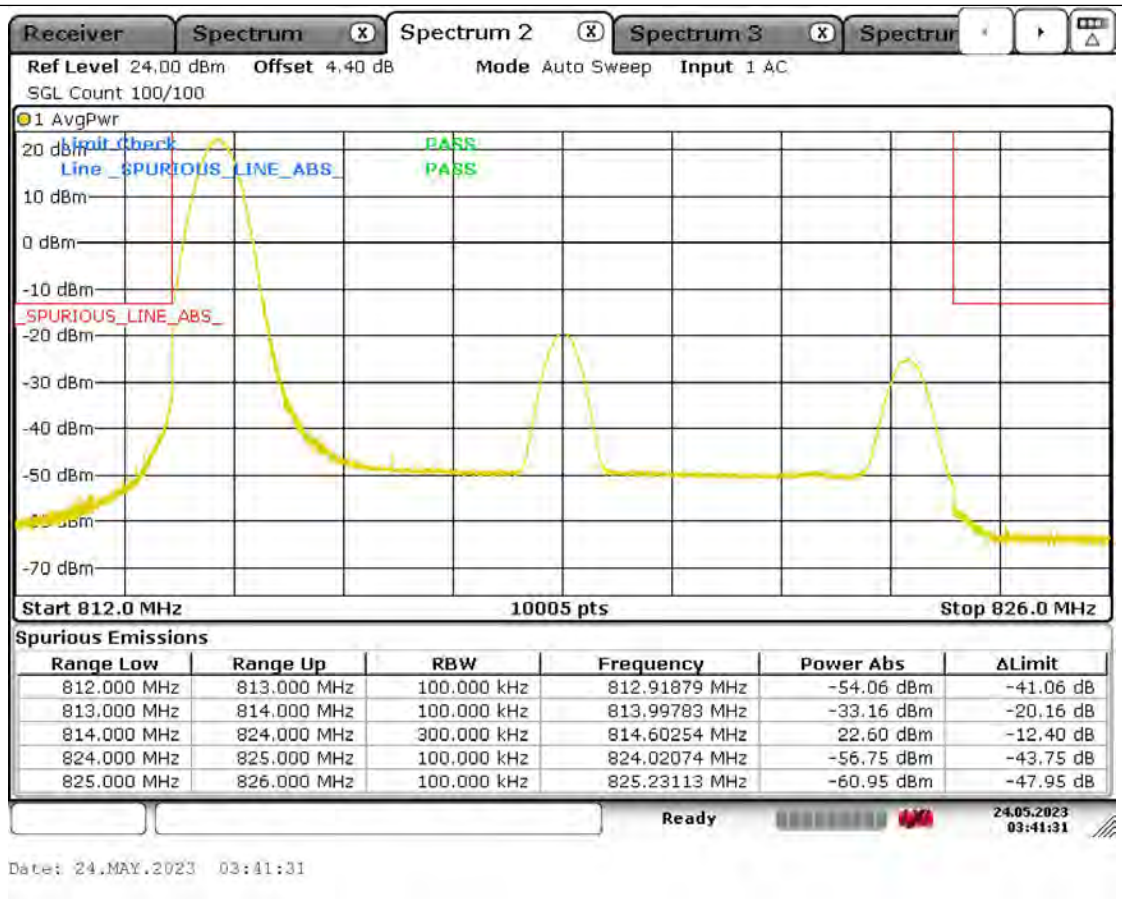
Band26-10MHz-16QAM-26740-1RB#49



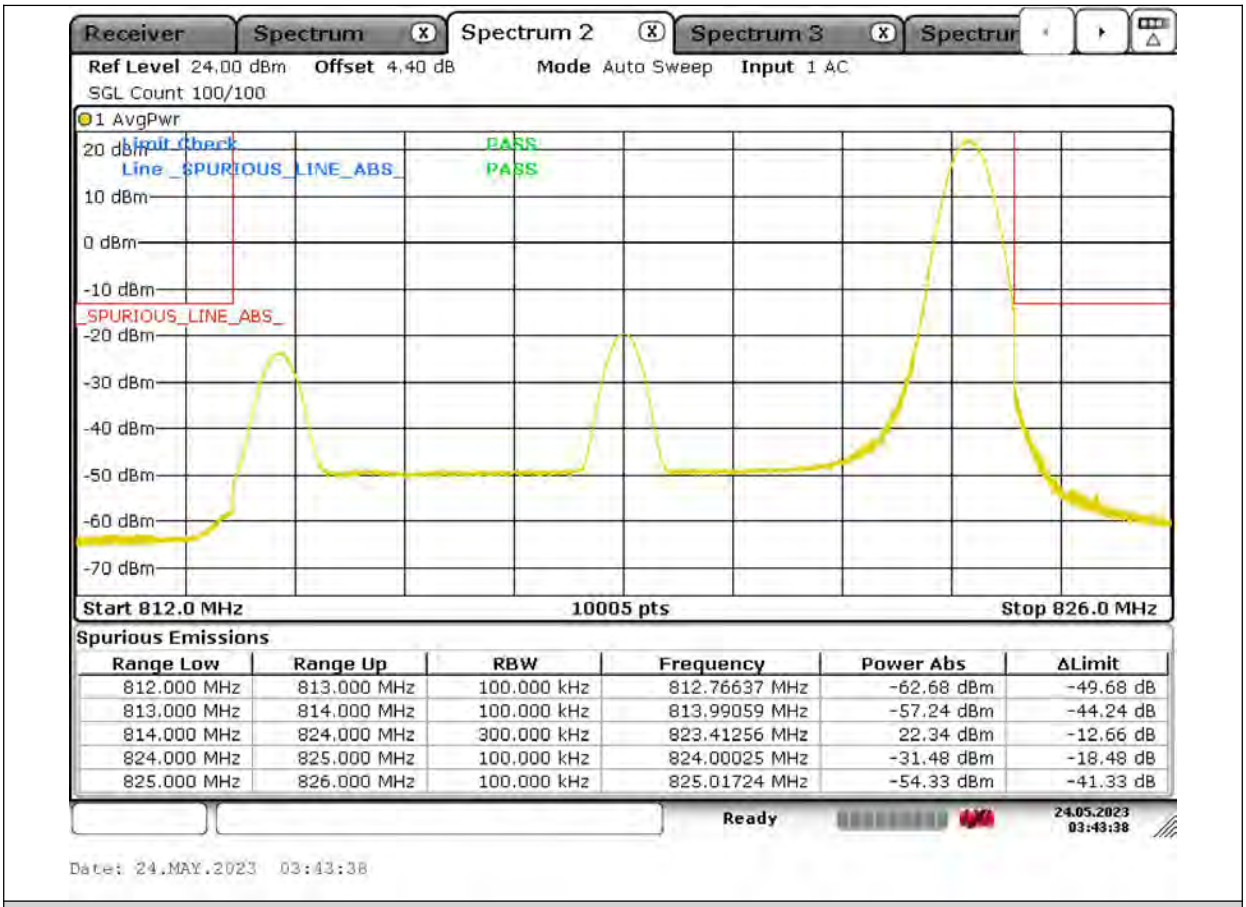
Band26-10MHz-16QAM-26740-50RB#0



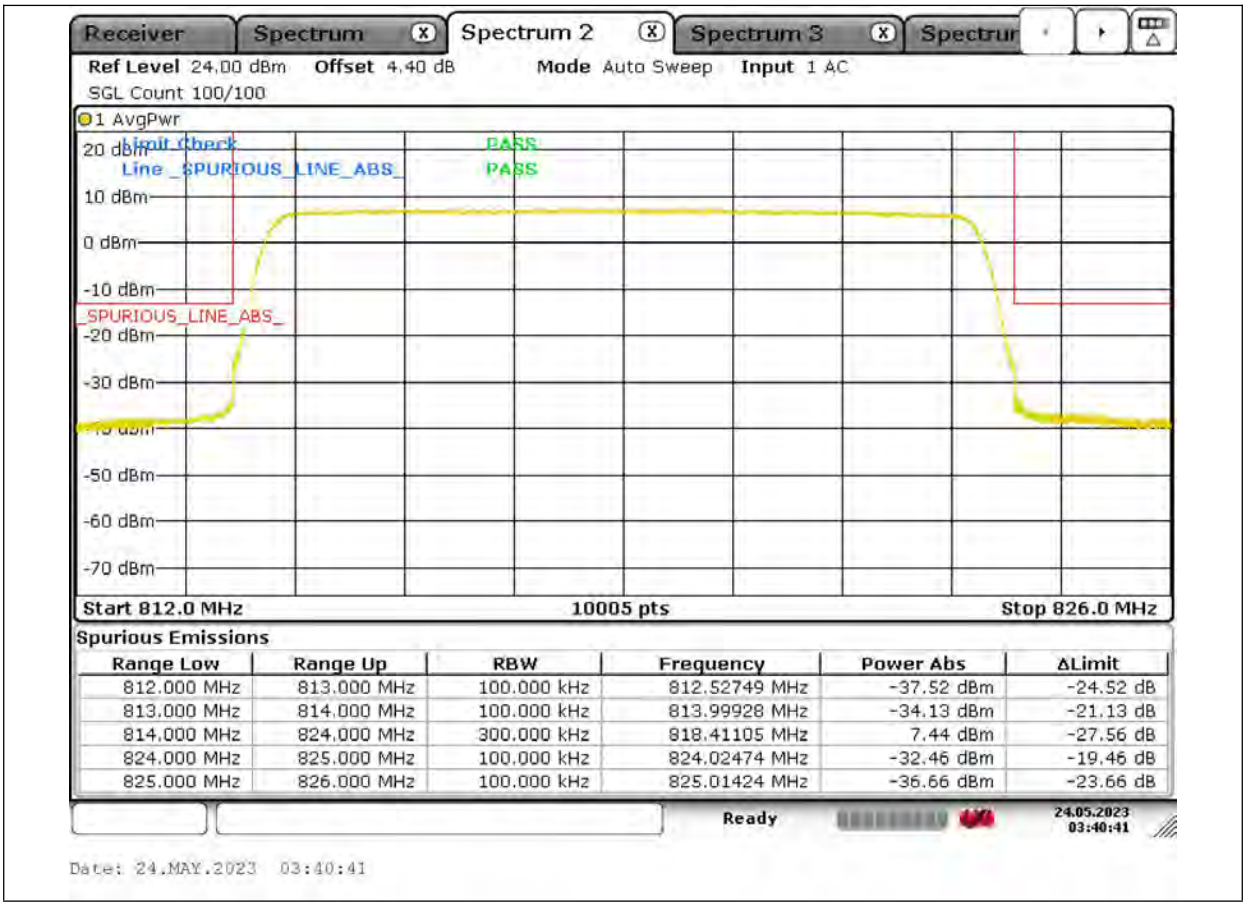
Band26-10MHz-64QAM-26740-1RB#0



Band26-10MHz-64QAM-26740-1RB#49



Band26-10MHz-64QAM-26740-50RB#0


Receiver
Spectrum
Spectrum 2
Spectrum 3
Ref Level 24.00 dBm Offset 4.40 dB Mode Auto Sweep Input 1 AC
SGL Count 100/100
1 AvgPwr
Limit Check PASS
Line _SPURIOUS_LINE_ABS_ PASS
20 dBm
10 dBm
0 dBm
-10 dBm
_SPURIOUS_LINE_ABS_
-20 dBm
-30 dBm
-50 dBm
-60 dBm
-70 dBm
Start 812.0 MHz
10005 pts
Stop 826.0 MHz
Spurious Emissions
Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit
812.000 MHz | 813.000 MHz | 100.000 kHz | 812.52749 MHz | -37.52 dBm | -24.52 dB
813.000 MHz | 814.000 MHz | 100.000 kHz | 813.99928 MHz | -34.13 dBm | -21.13 dB
814.000 MHz | 824.000 MHz | 300.000 kHz | 818.41105 MHz | 7.44 dBm | -27.56 dB
824.000 MHz | 825.000 MHz | 100.000 kHz | 824.02474 MHz | -32.46 dBm | -19.46 dB
825.000 MHz | 826.000 MHz | 100.000 kHz | 825.01424 MHz | -36.66 dBm | -23.66 dB
Ready
24.05.2023
03:40:41
Date: 24.MAY.2023 03:40:41

CONDUCTED SPURIOUS EMISSION

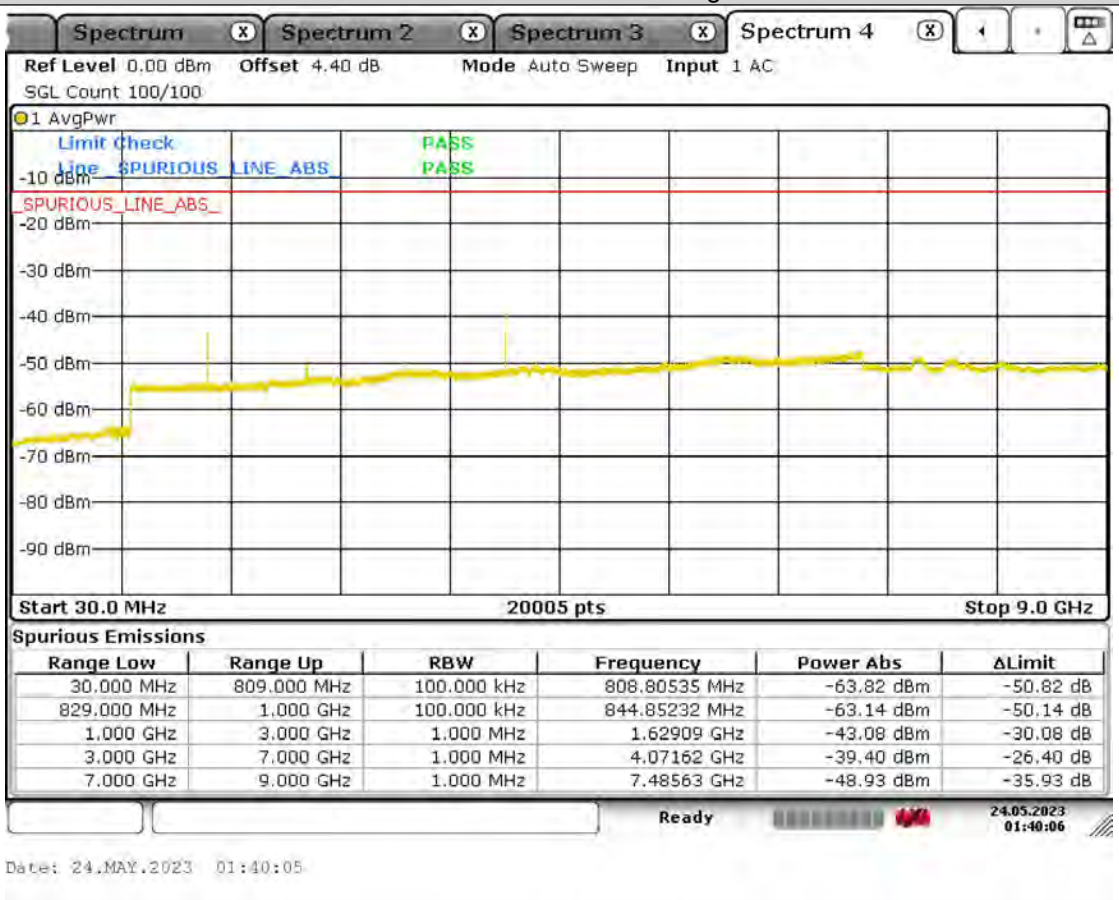
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Frequency Range	Result (dBm)	Verdict
Band26	1.4MHz	QPSK	26697	1RB#0	Range1:30~1000MHz	-63.14	PASS
Band26	1.4MHz	QPSK	26697	1RB#0	Range2:1000~9000MHz	-39.40	PASS
Band26	1.4MHz	QPSK	26740	1RB#0	Range1:30~1000MHz	-58.01	PASS
Band26	1.4MHz	QPSK	26740	1RB#0	Range2:1000~9000MHz	-39.92	PASS
Band26	1.4MHz	QPSK	26783	1RB#0	Range1:30~1000MHz	-62.26	PASS
Band26	1.4MHz	QPSK	26783	1RB#0	Range2:1000~9000MHz	-40.07	PASS
Band26	3MHz	QPSK	26705	1RB#0	Range1:30~1000MHz	-62.98	PASS
Band26	3MHz	QPSK	26705	1RB#0	Range2:1000~9000MHz	-39.27	PASS
Band26	3MHz	QPSK	26740	1RB#0	Range1:30~1000MHz	-62.83	PASS
Band26	3MHz	QPSK	26740	1RB#0	Range2:1000~9000MHz	-39.56	PASS
Band26	3MHz	QPSK	26775	1RB#0	Range1:30~1000MHz	-61.17	PASS
Band26	3MHz	QPSK	26775	1RB#0	Range2:1000~9000MHz	-40.35	PASS
Band26	5MHz	QPSK	26715	1RB#0	Range1:30~1000MHz	-63.28	PASS
Band26	5MHz	QPSK	26715	1RB#0	Range2:1000~9000MHz	-38.99	PASS
Band26	5MHz	QPSK	26740	1RB#0	Range1:30~1000MHz	-62.32	PASS
Band26	5MHz	QPSK	26740	1RB#0	Range2:1000~9000MHz	-39.83	PASS
Band26	5MHz	QPSK	26765	1RB#0	Range1:30~1000MHz	-62.88	PASS
Band26	5MHz	QPSK	26765	1RB#0	Range2:1000~9000MHz	-39.21	PASS
Band26	10MHz	QPSK	26740	1RB#0	Range1:30~1000MHz	-49.80	PASS
Band26	10MHz	QPSK	26740	1RB#0	Range2:1000~9000MHz	-39.98	PASS
Band26	1.4MHz	16QAM	26697	1RB#0	Range1:30~1000MHz	-62.58	PASS
Band26	1.4MHz	16QAM	26697	1RB#0	Range2:1000~9000MHz	-41.14	PASS
Band26	1.4MHz	16QAM	26740	1RB#0	Range1:30~1000MHz	-63.29	PASS
Band26	1.4MHz	16QAM	26740	1RB#0	Range2:1000~9000MHz	-40.35	PASS
Band26	1.4MHz	16QAM	26783	1RB#0	Range1:30~1000MHz	-61.96	PASS
Band26	1.4MHz	16QAM	26783	1RB#0	Range2:1000~9000MHz	-41.26	PASS
Band26	3MHz	16QAM	26705	1RB#0	Range1:30~1000MHz	-62.76	PASS
Band26	3MHz	16QAM	26705	1RB#0	Range2:1000~9000MHz	-40.43	PASS
Band26	3MHz	16QAM	26740	1RB#0	Range1:30~1000MHz	-62.79	PASS
Band26	3MHz	16QAM	26740	1RB#0	Range2:1000~9000MHz	-41.52	PASS
Band26	3MHz	16QAM	26775	1RB#0	Range1:30~1000MHz	-62.57	PASS
Band26	3MHz	16QAM	26775	1RB#0	Range2:1000~9000MHz	-39.22	PASS
Band26	5MHz	16QAM	26715	1RB#0	Range1:30~1000MHz	-63.42	PASS
Band26	5MHz	16QAM	26715	1RB#0	Range2:1000~9000MHz	-40.16	PASS
Band26	5MHz	16QAM	26740	1RB#0	Range1:30~1000MHz	-63.07	PASS
Band26	5MHz	16QAM	26740	1RB#0	Range2:1000~9000MHz	-40.59	PASS
Band26	5MHz	16QAM	26765	1RB#0	Range1:30~1000MHz	-62.92	PASS
Band26	5MHz	16QAM	26765	1RB#0	Range2:1000~9000MHz	-40.06	PASS
Band26	10MHz	16QAM	26740	1RB#0	Range1:30~1000MHz	-50.48	PASS
Band26	10MHz	16QAM	26740	1RB#0	Range2:1000~9000MHz	-40.38	PASS
Band26	1.4MHz	64QAM	26697	1RB#0	Range1:30~1000MHz	-63.68	PASS
Band26	1.4MHz	64QAM	26697	1RB#0	Range2:1000~9000MHz	-42.01	PASS
Band26	1.4MHz	64QAM	26740	1RB#0	Range1:30~1000MHz	-62.90	PASS
Band26	1.4MHz	64QAM	26740	1RB#0	Range2:1000~9000MHz	-42.86	PASS
Band26	1.4MHz	64QAM	26783	1RB#0	Range1:30~1000MHz	-62.61	PASS

Band26	1.4MHz	64QAM	26783	1RB#0	Range2:1000~9000MHz	-42.87	PASS
Band26	3MHz	64QAM	26705	1RB#0	Range1:30~1000MHz	-63.31	PASS
Band26	3MHz	64QAM	26705	1RB#0	Range2:1000~9000MHz	-39.56	PASS
Band26	3MHz	64QAM	26740	1RB#0	Range1:30~1000MHz	-63.24	PASS
Band26	3MHz	64QAM	26740	1RB#0	Range2:1000~9000MHz	-43.27	PASS
Band26	3MHz	64QAM	26775	1RB#0	Range1:30~1000MHz	-61.80	PASS
Band26	3MHz	64QAM	26775	1RB#0	Range2:1000~9000MHz	-40.09	PASS
Band26	5MHz	64QAM	26715	1RB#0	Range1:30~1000MHz	-63.52	PASS
Band26	5MHz	64QAM	26715	1RB#0	Range2:1000~9000MHz	-41.11	PASS
Band26	5MHz	64QAM	26740	1RB#0	Range1:30~1000MHz	-62.58	PASS
Band26	5MHz	64QAM	26740	1RB#0	Range2:1000~9000MHz	-41.89	PASS
Band26	5MHz	64QAM	26765	1RB#0	Range1:30~1000MHz	-62.43	PASS
Band26	5MHz	64QAM	26765	1RB#0	Range2:1000~9000MHz	-42.23	PASS
Band26	10MHz	64QAM	26740	1RB#0	Range1:30~1000MHz	-53.46	PASS
Band26	10MHz	64QAM	26740	1RB#0	Range2:1000~9000MHz	-42.09	PASS

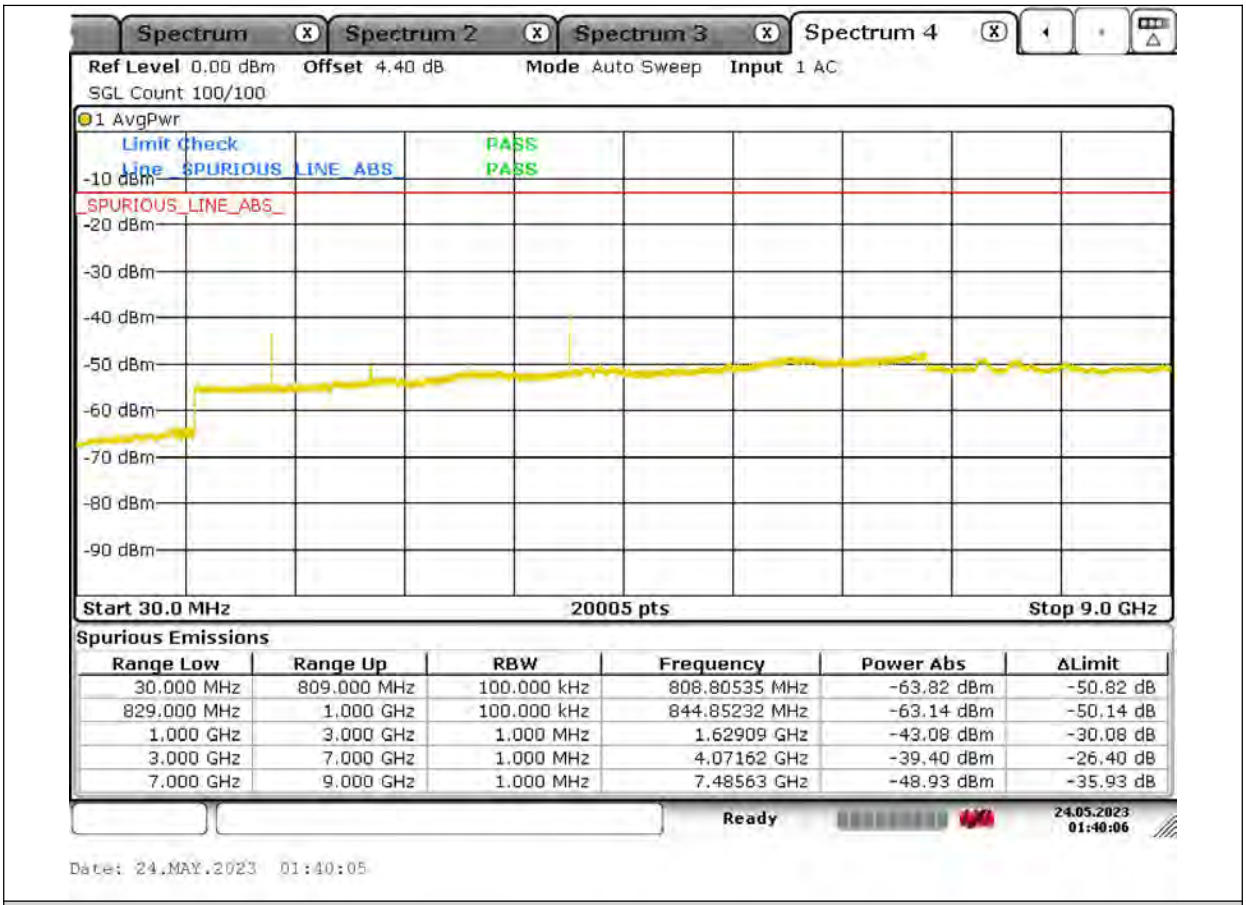
Test Graphs

Band26-1.4MHz-QPSK-26697-1RB#0-Range1:30~1000MHz

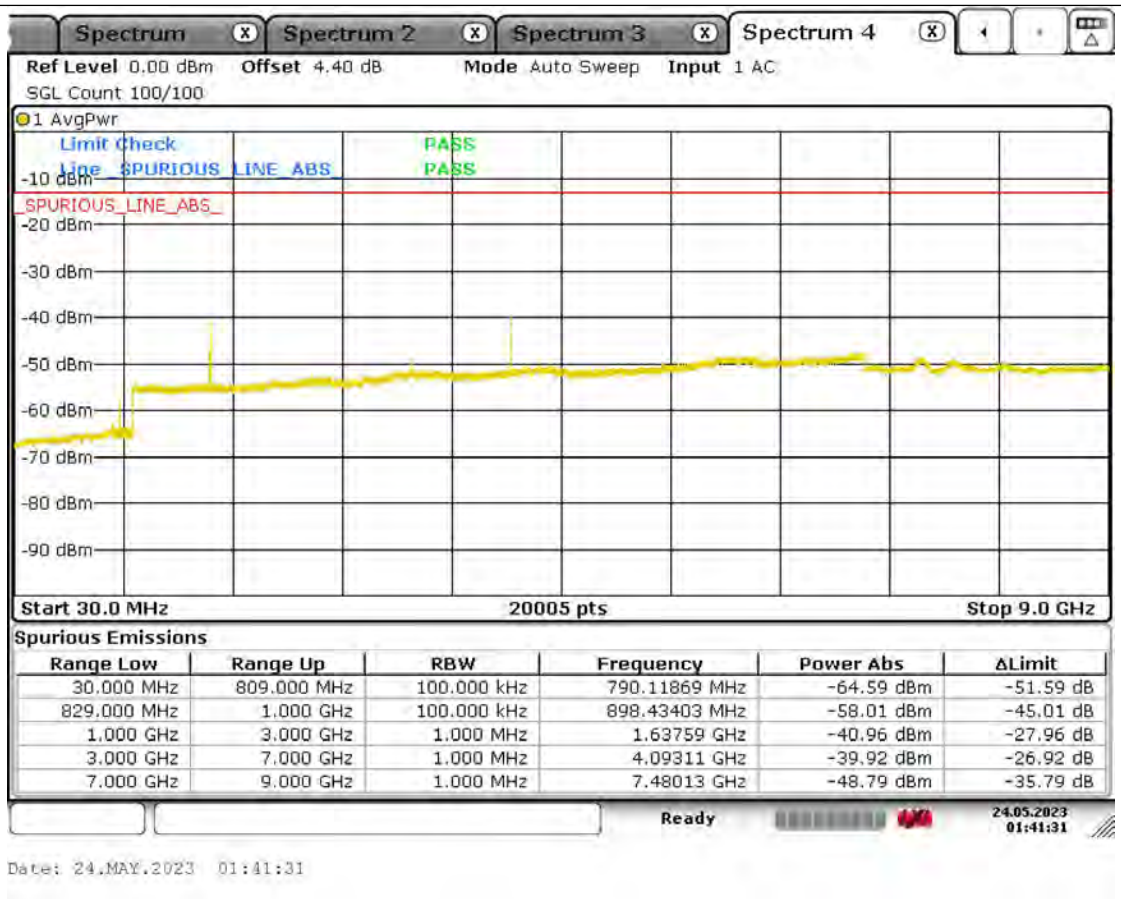


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	809.000 MHz	100.000 kHz	808.80535 MHz	-63.82 dBm	-50.82 dB
829.000 MHz	1.000 GHz	100.000 kHz	844.85232 MHz	-63.14 dBm	-50.14 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.62909 GHz	-43.08 dBm	-30.08 dB
3.000 GHz	7.000 GHz	1.000 MHz	4.07162 GHz	-39.40 dBm	-26.40 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.48563 GHz	-48.93 dBm	-35.93 dB

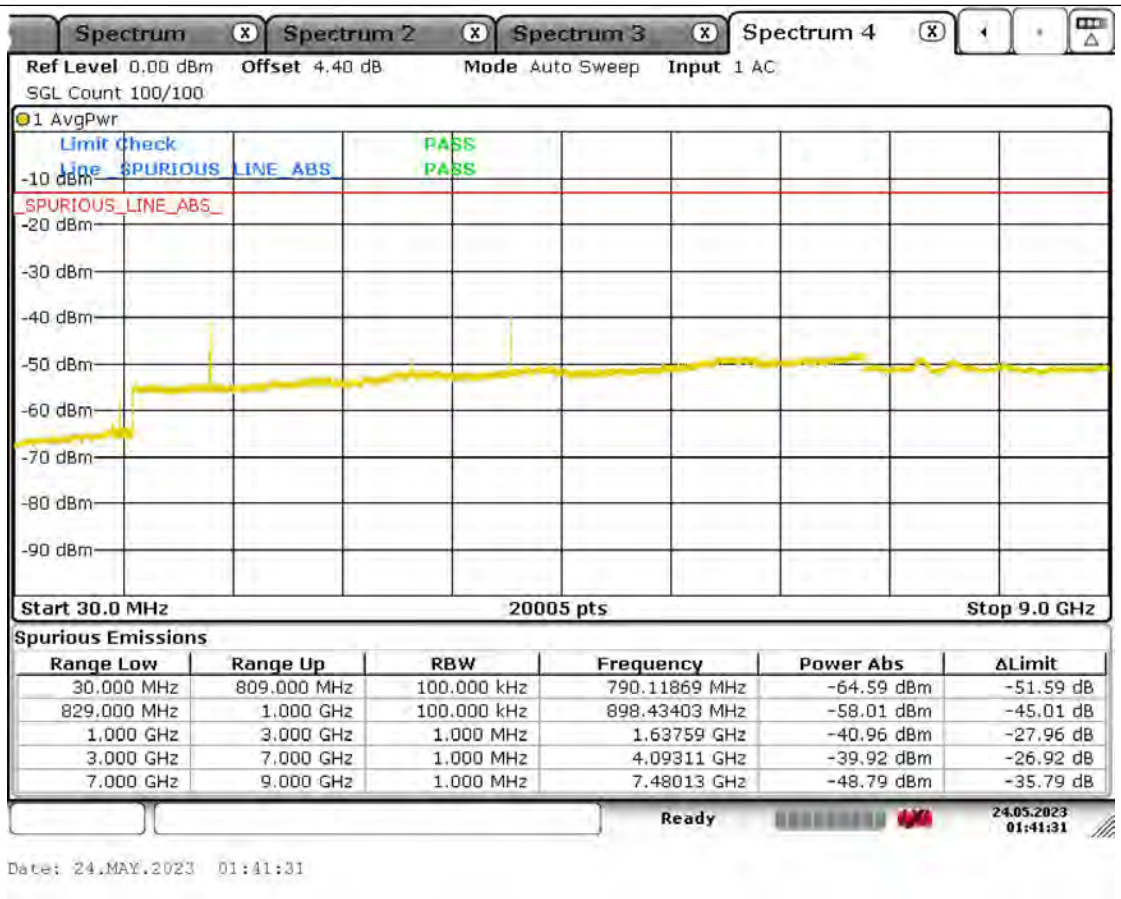
Band26-1.4MHz-QPSK-26697-1RB#0-Range2:1000~9000MHz



Band26-1.4MHz-QPSK-26740-1RB#0-Range1:30~1000MHz



Band26-1.4MHz-QPSK-26740-1RB#0-Range2:1000~9000MHz



Band26-1.4MHz-QPSK-26783-1RB#0-Range1:30~1000MHz