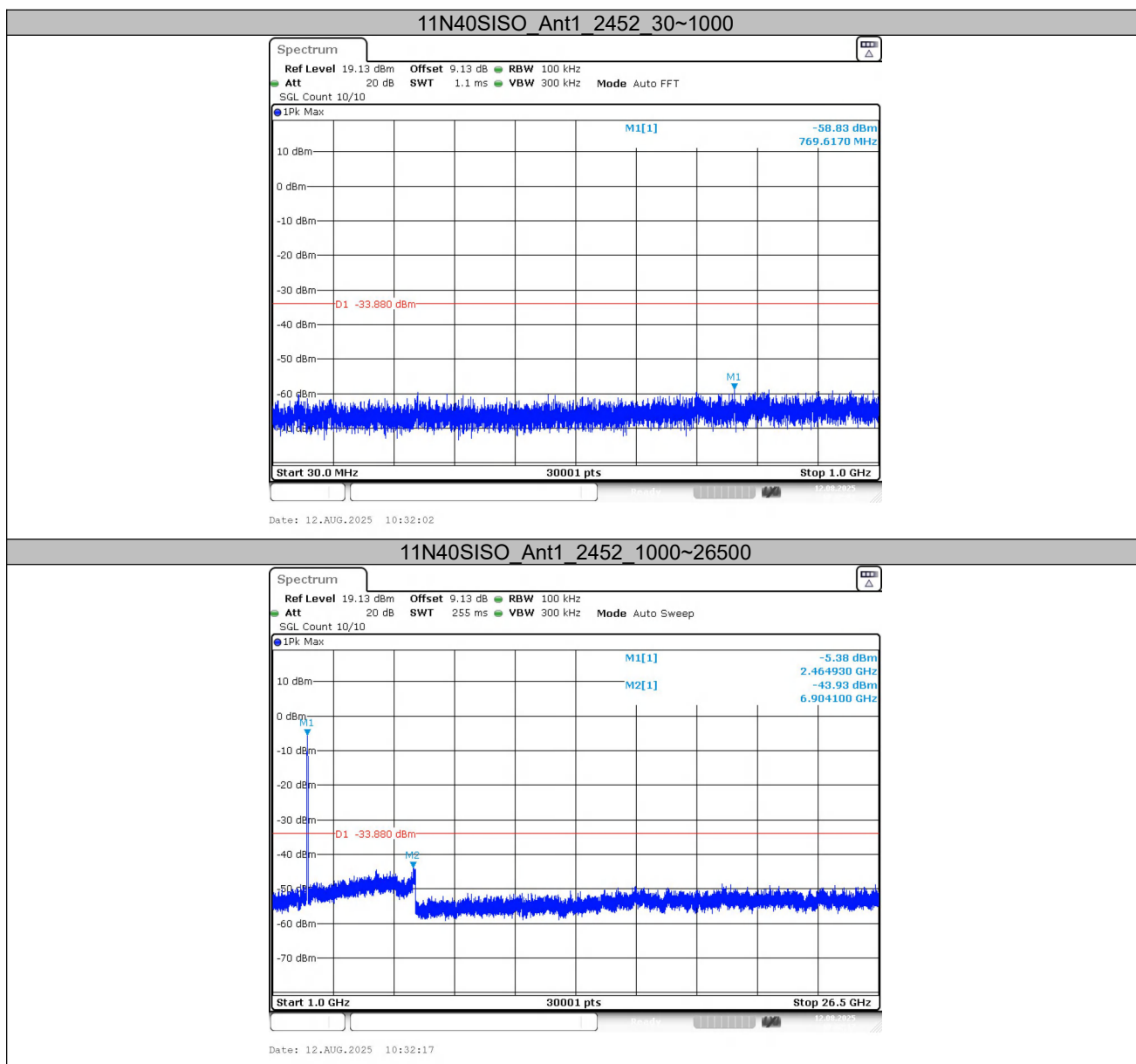




6. Conducted Maximum Output Power

6.1. Test limits

Please refer FCC PART 15.247.

Regulation 15.247(b) The limit of Maximum Peak Output Power Measurement is 1 W(30dBm)

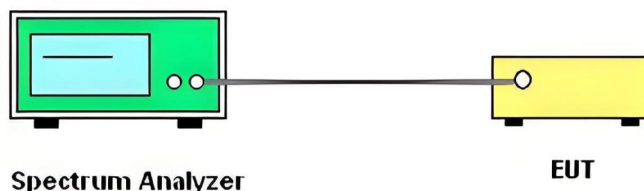
6.2. Test Procedure

Details see the KDB558074 D01 Meas Guidance v05r02

1. Place the EUT on the table and set it in transmitting mode.
2. The EUT was directly connected to the RTS test system and antenna output port as show in the block diagram below.

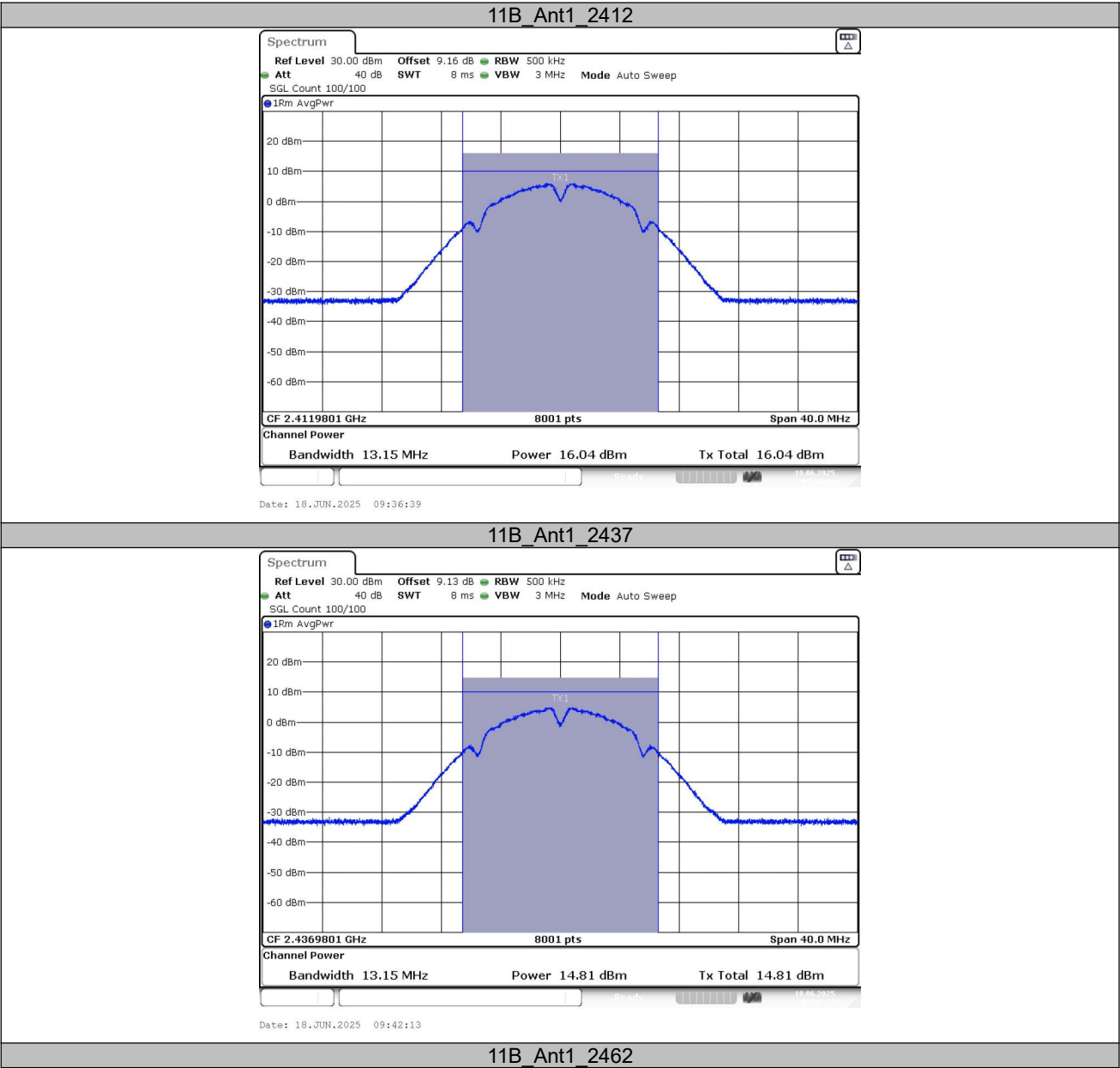
Note: The cable loss and attenuator loss were offset into measure device as amplitude offset.

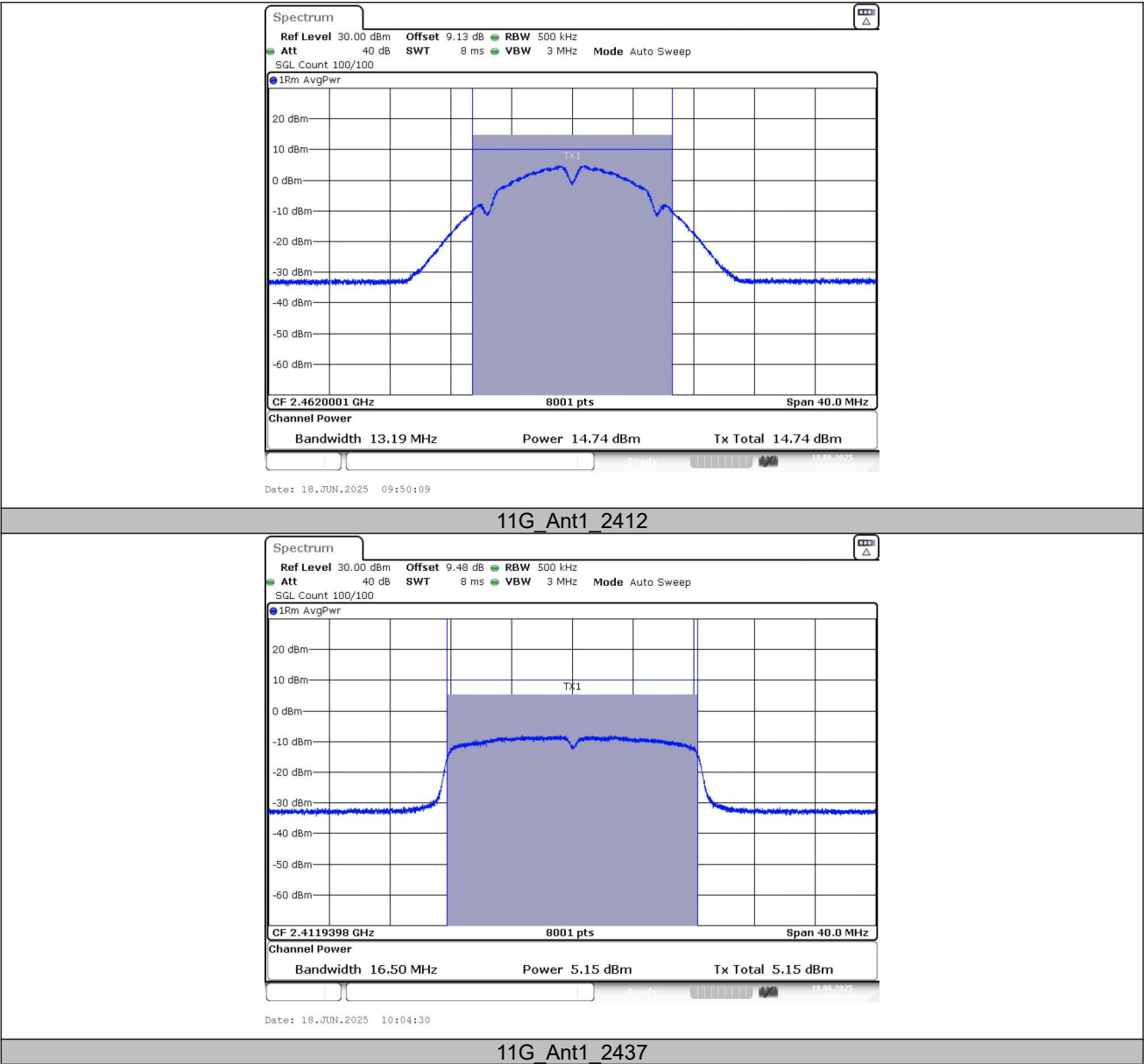
6.3. Test Setup

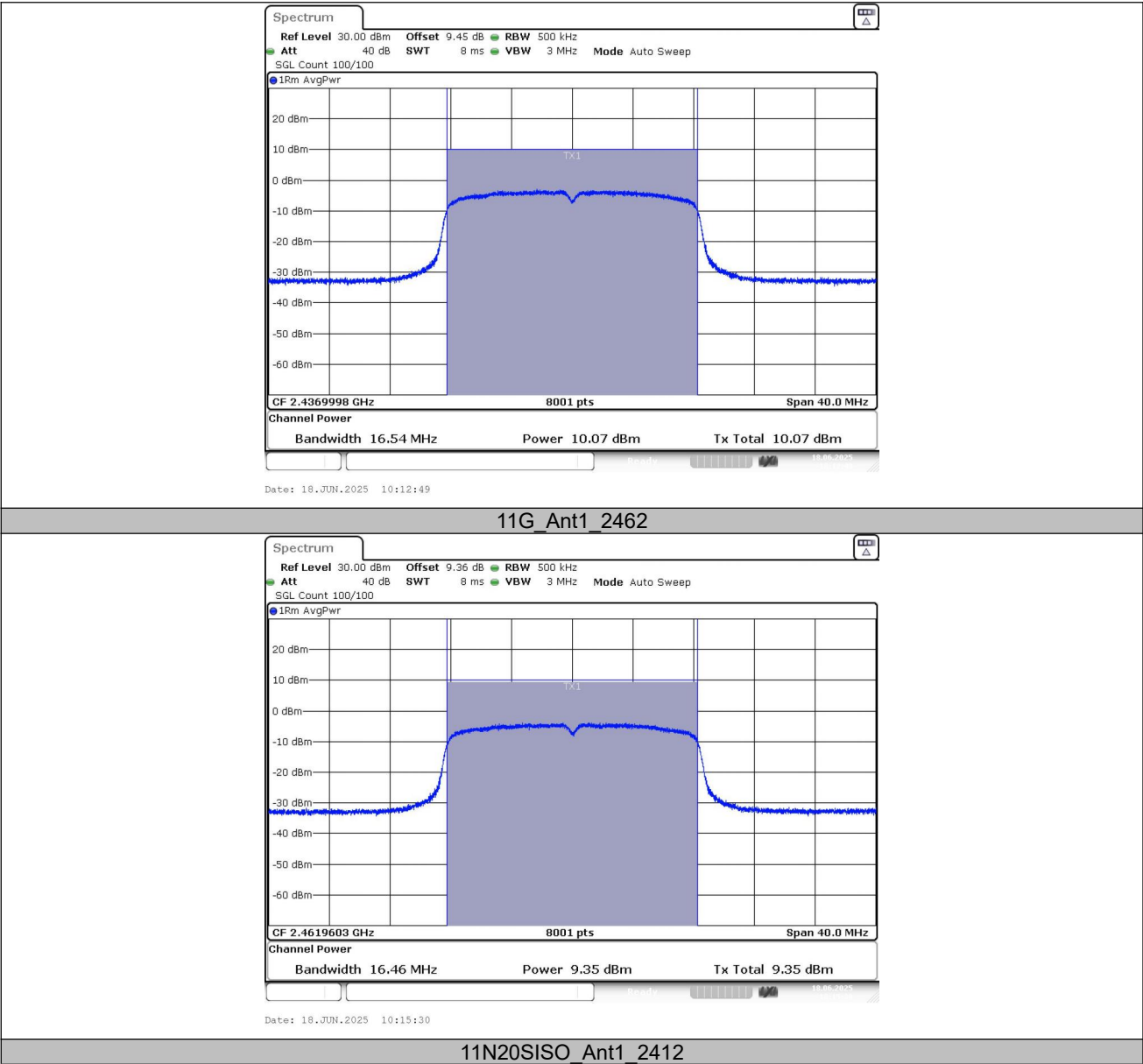


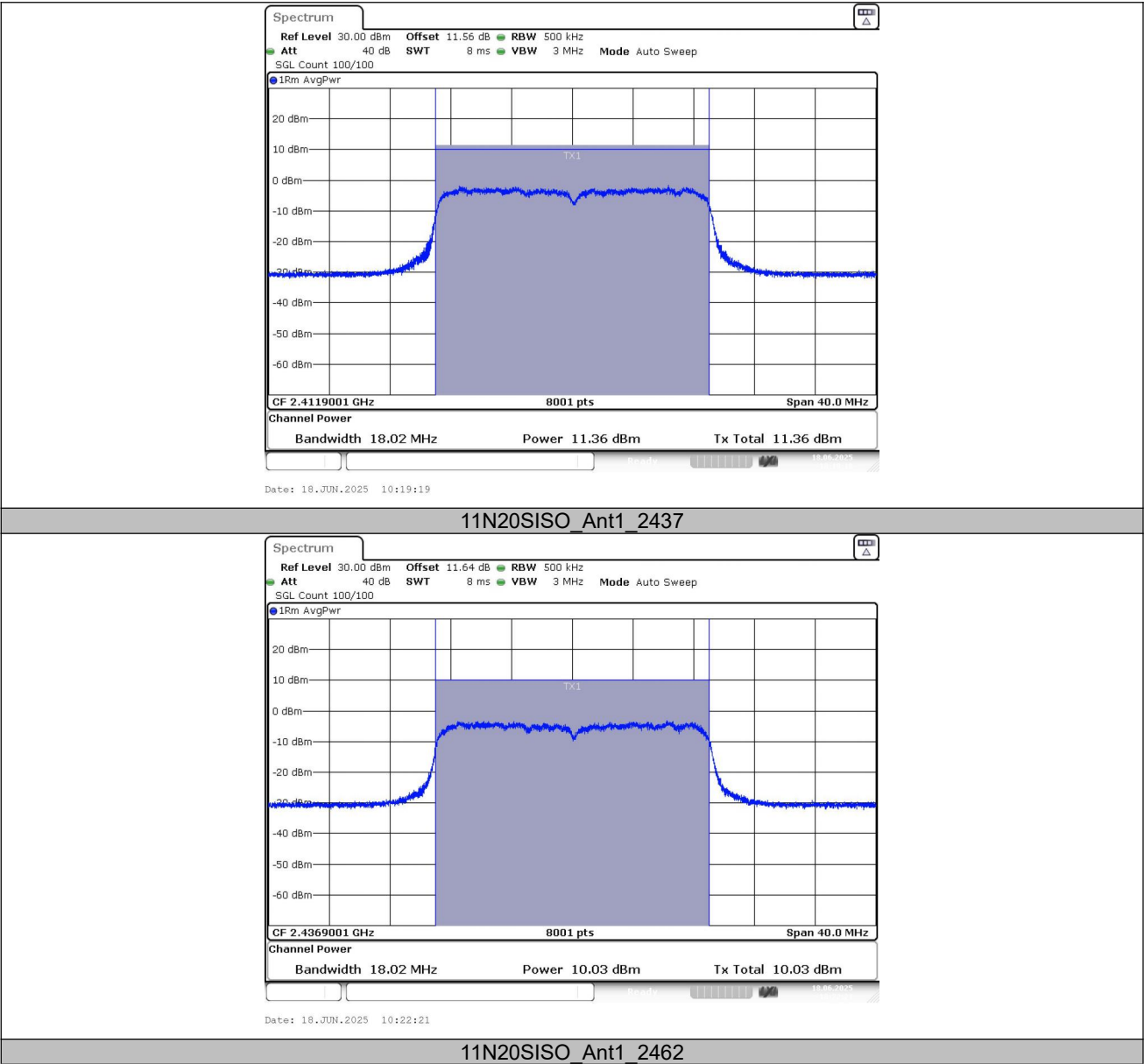
6.4. Test Results

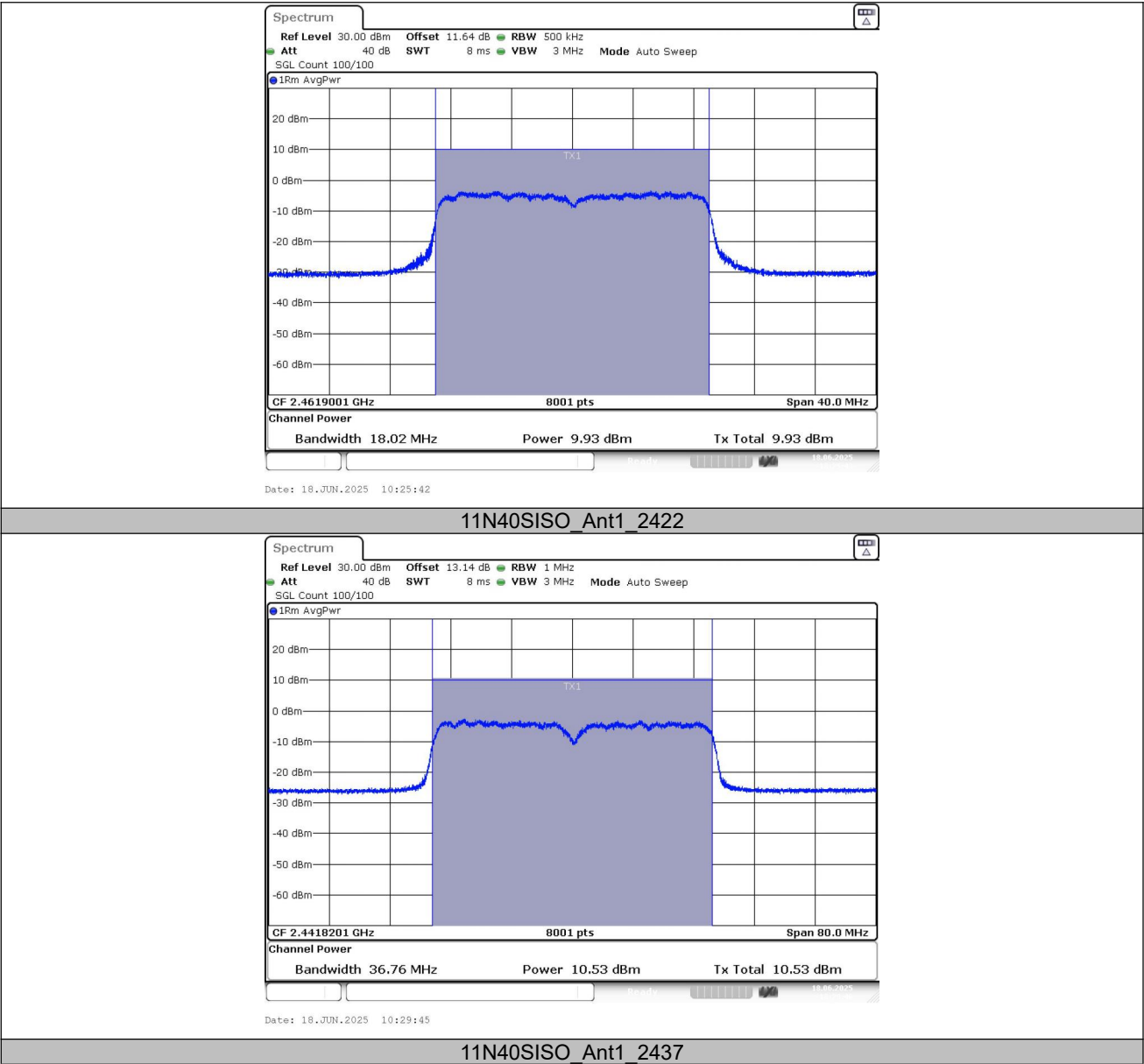
Test Mode	Antenna	Frequency [MHz]	Average power [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	16.04	100.00	0.00	16.04	≤30.00	PASS
		2437	14.81	100.00	0.00	14.81	≤30.00	PASS
		2462	14.74	100.00	0.00	14.74	≤30.00	PASS
11G	Ant1	2412	4.83	92.83	0.32	5.15	≤30.00	PASS
		2437	9.75	92.79	0.32	10.07	≤30.00	PASS
		2462	9.12	94.93	0.23	9.35	≤30.00	PASS
11N20SISO	Ant1	2412	8.96	57.50	2.40	11.36	≤30.00	PASS
		2437	7.52	56.10	2.51	10.03	≤30.00	PASS
		2462	7.42	56.10	2.51	9.93	≤30.00	PASS
11N40SISO	Ant1	2422	6.55	97.01	0.13	6.68	≤30.00	PASS
		2437	7.02	40.00	3.98	11.00	≤30.00	PASS
		2452	6.61	40.00	3.98	10.59	≤30.00	PASS

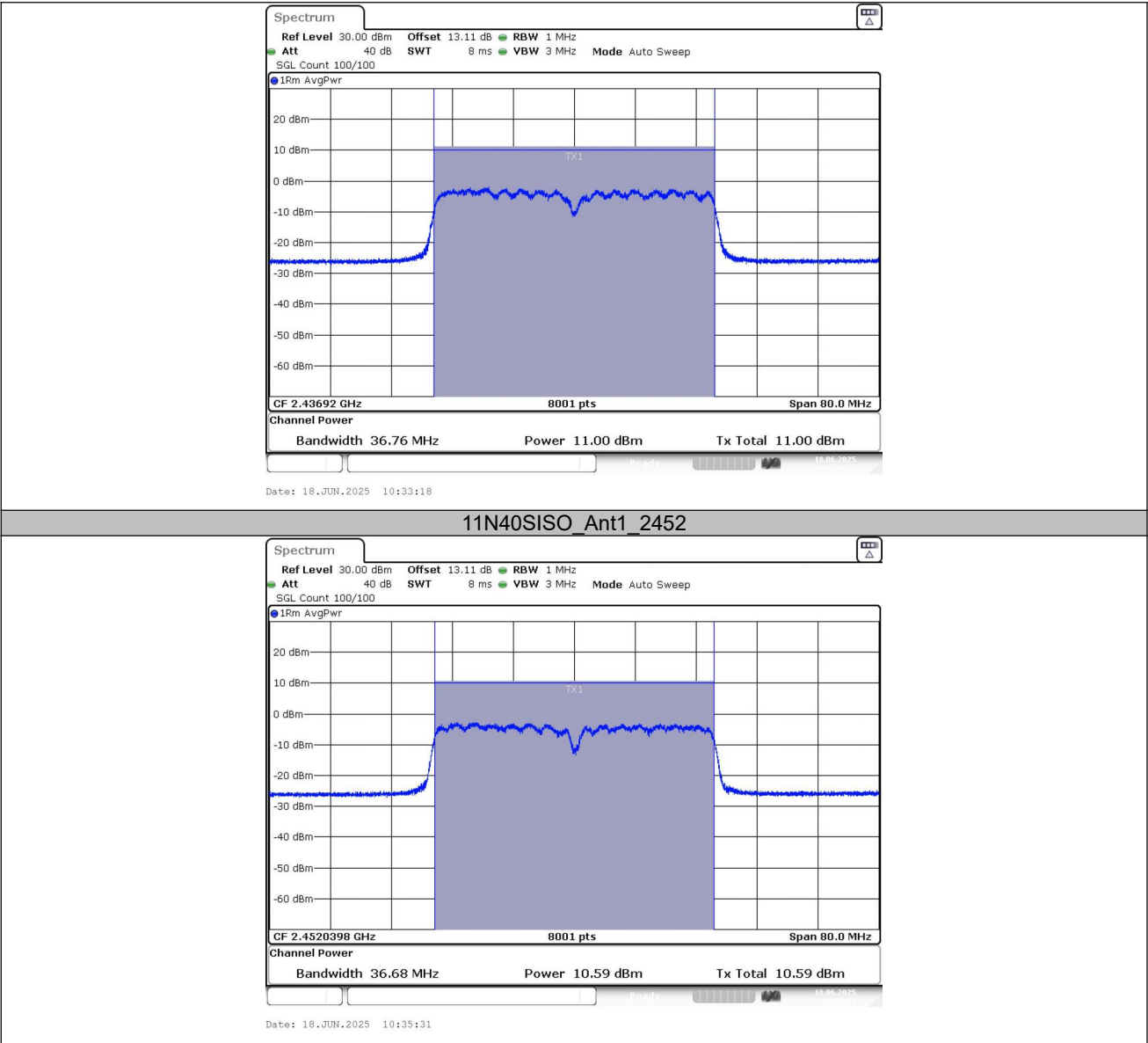












7. Peak Power Spectral Density

7.1. Test limits

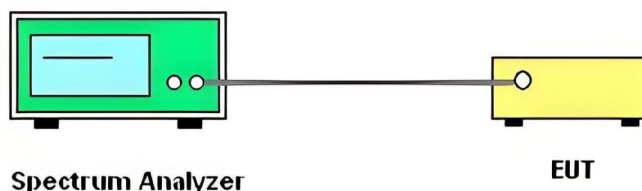
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of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

7.2. Test Procedure

Details see the KDB558074 D01 Meas Guidance v05r02

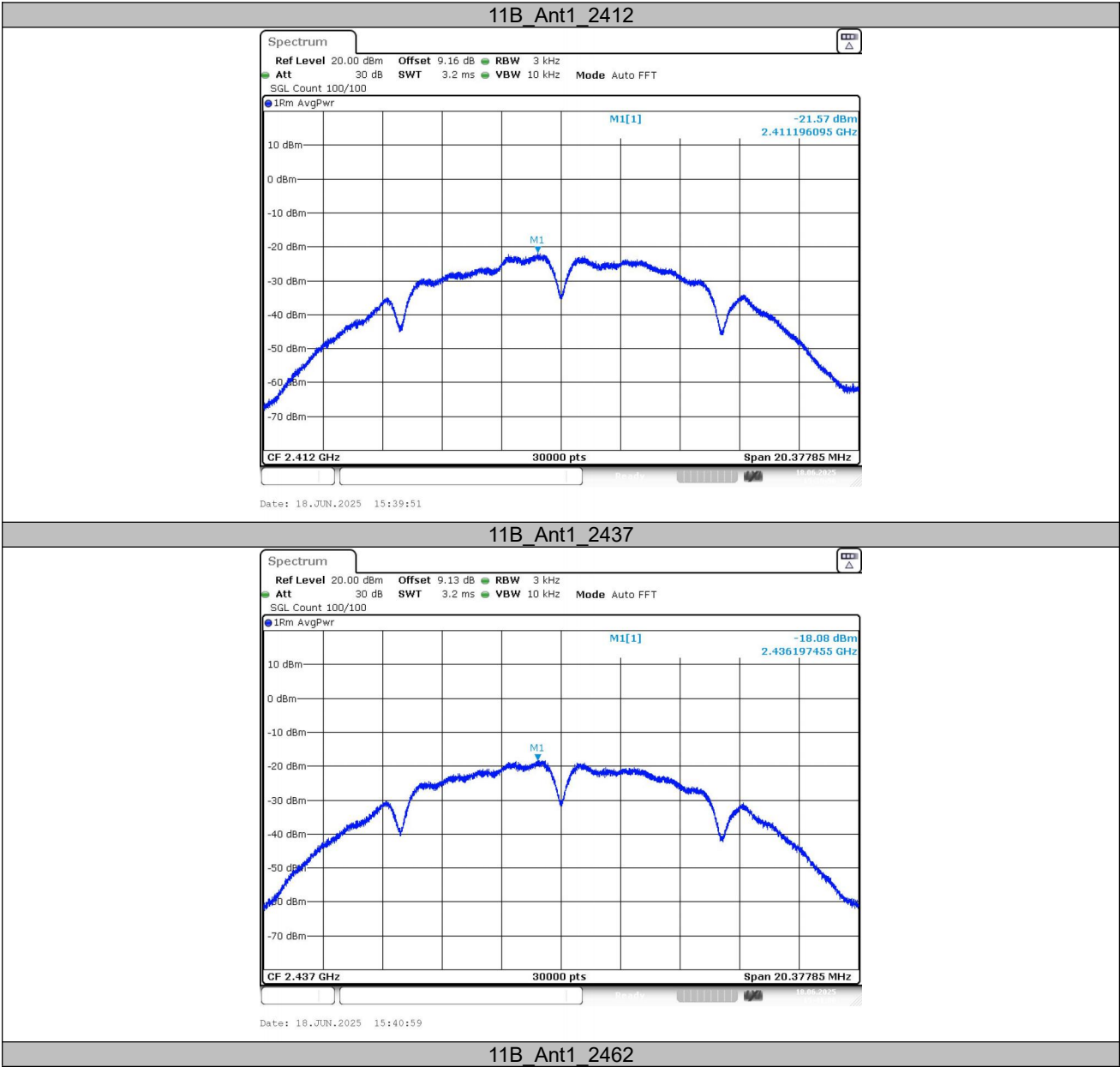
1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW = 3kHz, VBW = 10kHz, span $\geq$ 1.5×DTS bandwidth., detail see the test plot.
4. Record the max reading.
5. Repeat the above procedure until the measurements for all frequencies are completed.

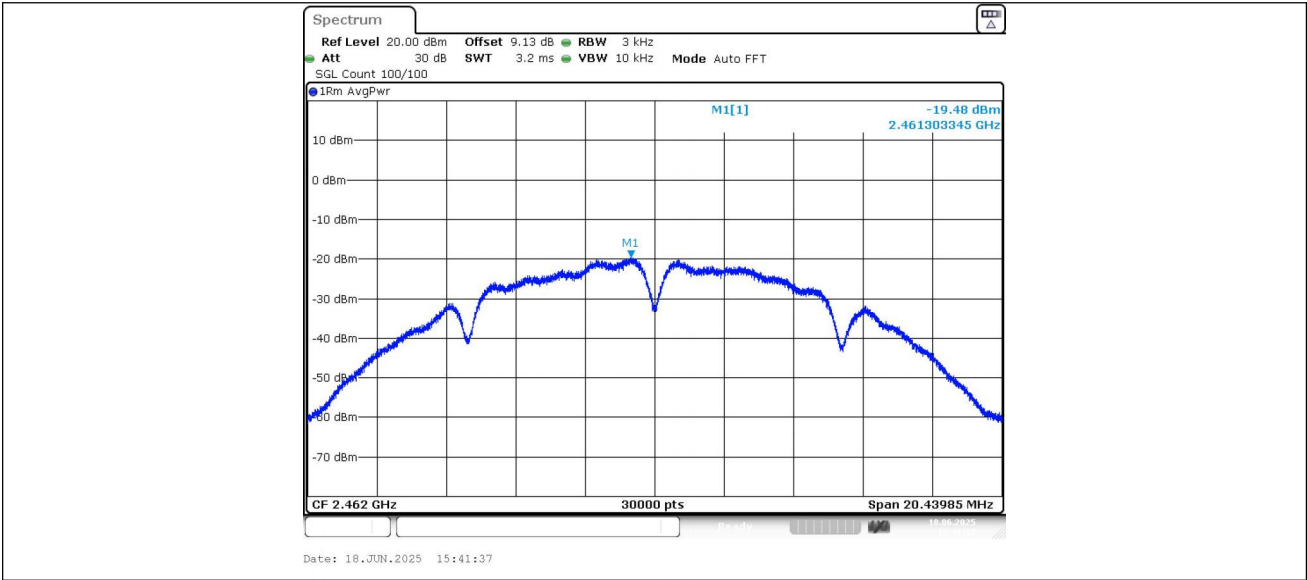
7.3. Test Setup



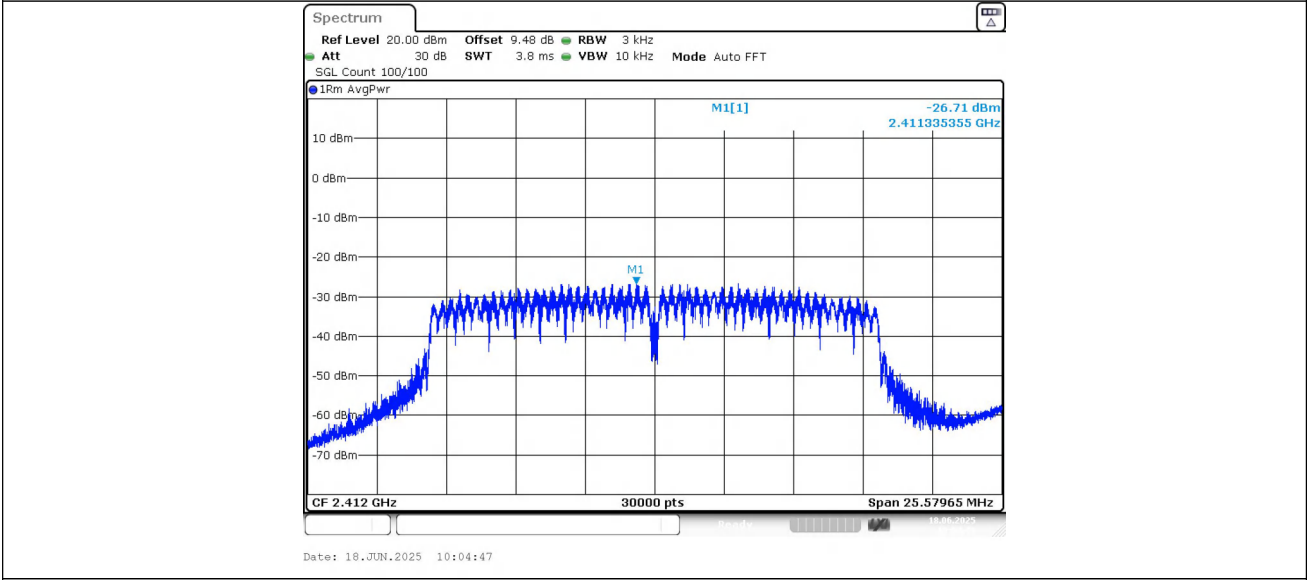
7.4. Test Results

TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-21.57	≤ 8.00	PASS
		2437	-18.08	≤ 8.00	PASS
		2462	-19.48	≤ 8.00	PASS
11G	Ant1	2412	-26.71	≤ 8.00	PASS
		2437	-21.93	≤ 8.00	PASS
		2462	-22.35	≤ 8.00	PASS
11N20SISO	Ant1	2412	-17.37	≤ 8.00	PASS
		2437	-19.60	≤ 8.00	PASS
		2462	-19.84	≤ 8.00	PASS
11N40SISO	Ant1	2422	-23.55	≤ 8.00	PASS
		2437	-20.11	≤ 8.00	PASS
		2452	-20.69	≤ 8.00	PASS

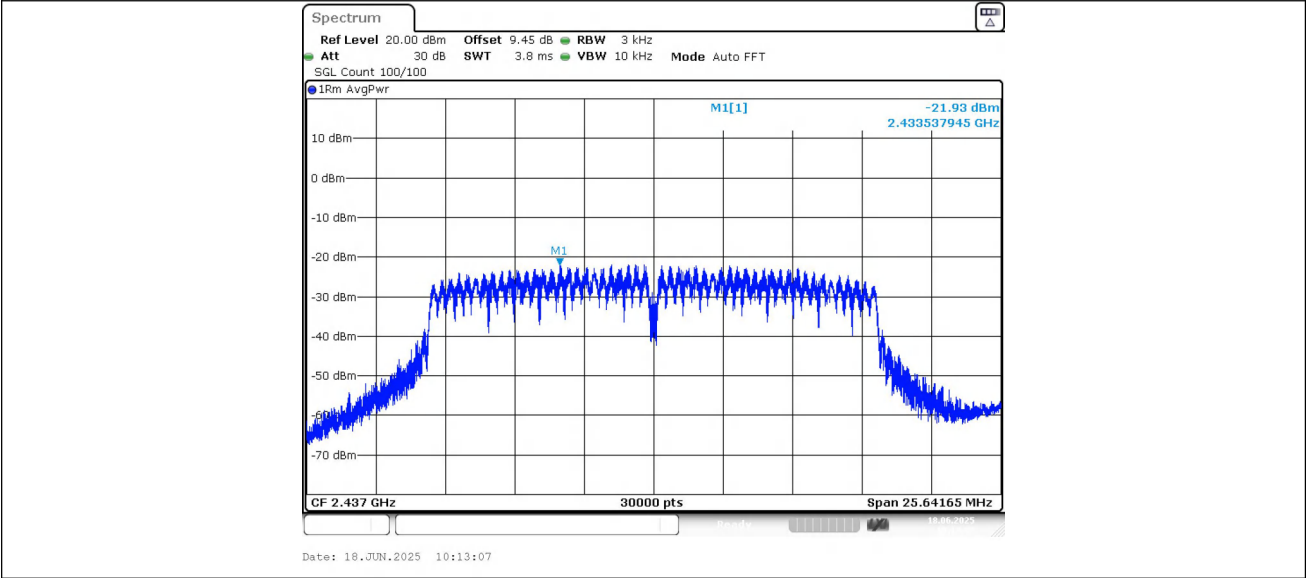




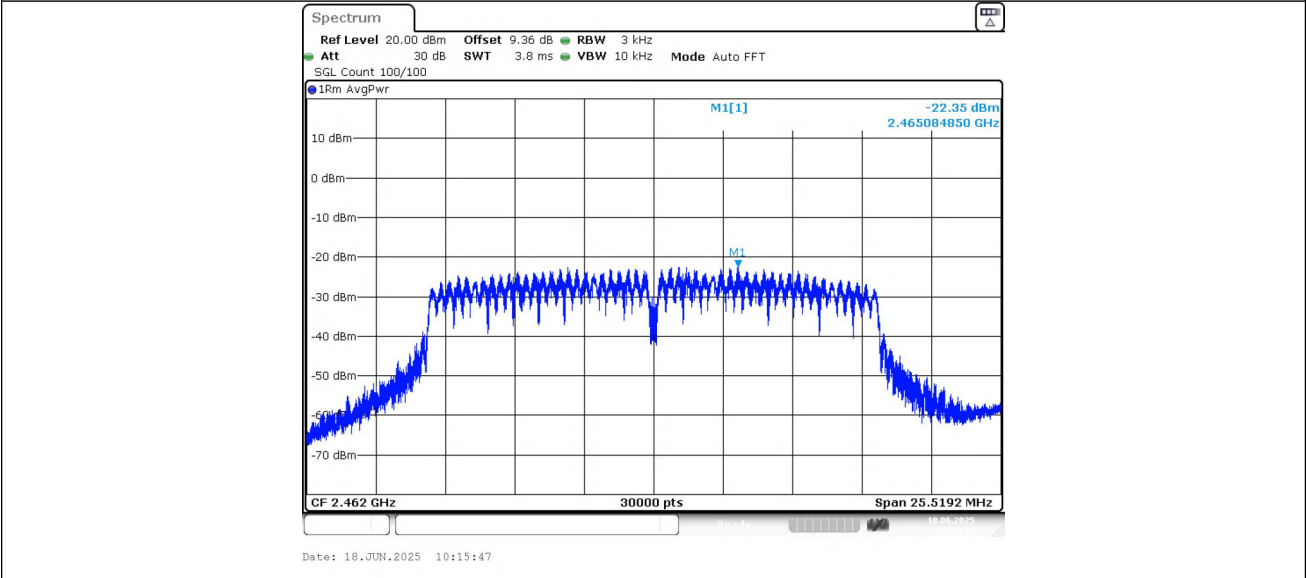
11G Ant1_2412



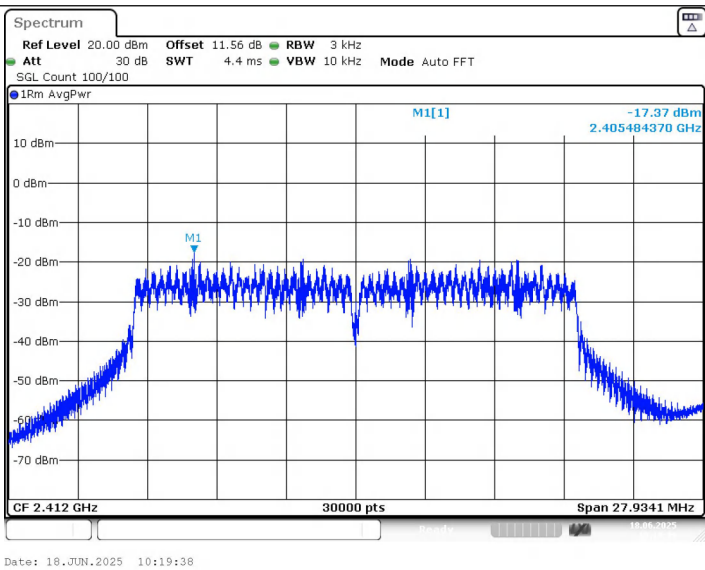
11G Ant1_2437



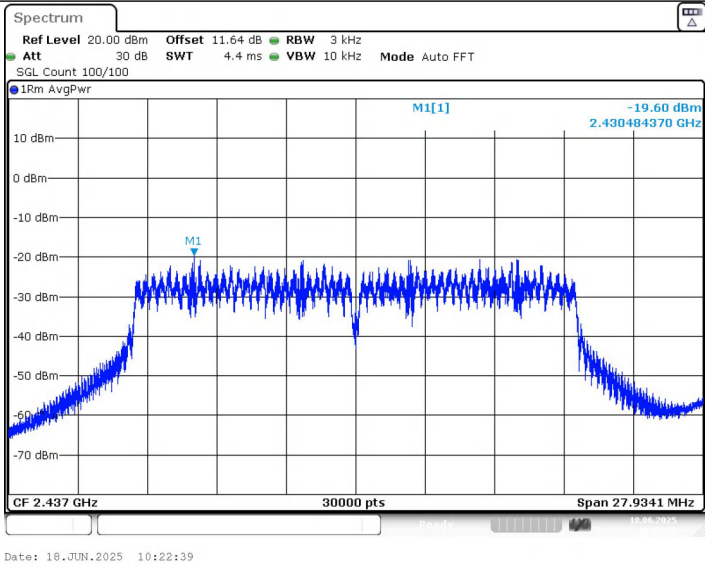
11G_Ant1_2462



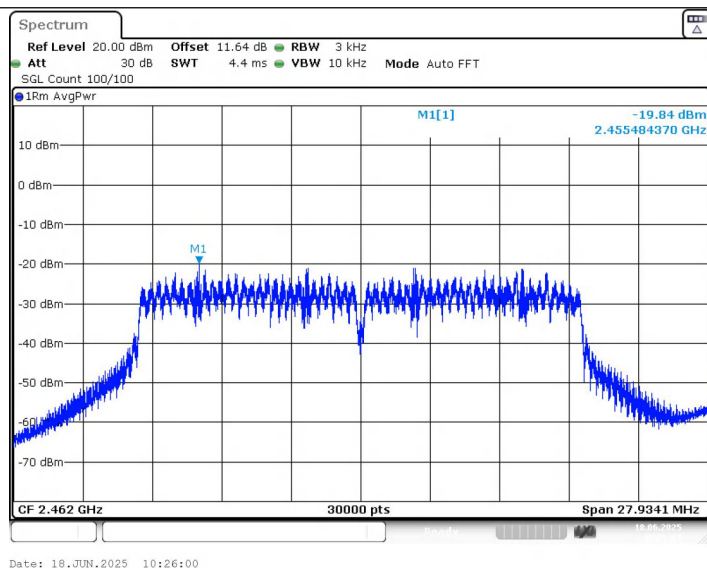
11N20SISO_Ant1_2412



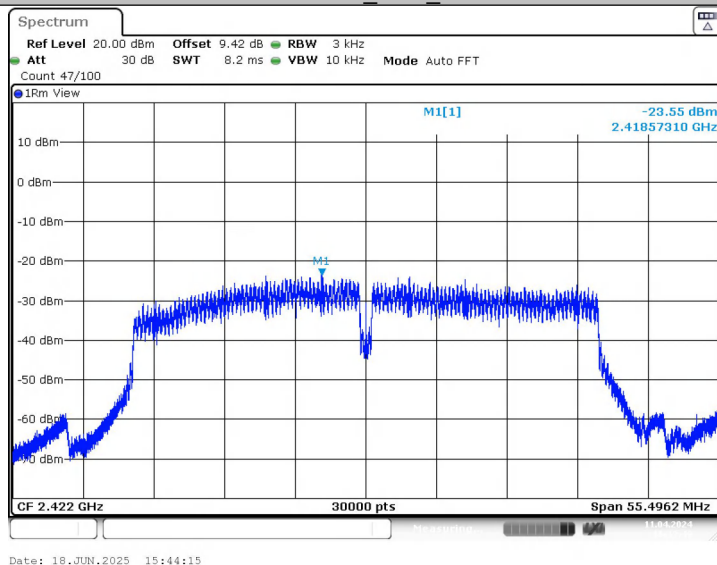
11N20SISO_Ant1_2437



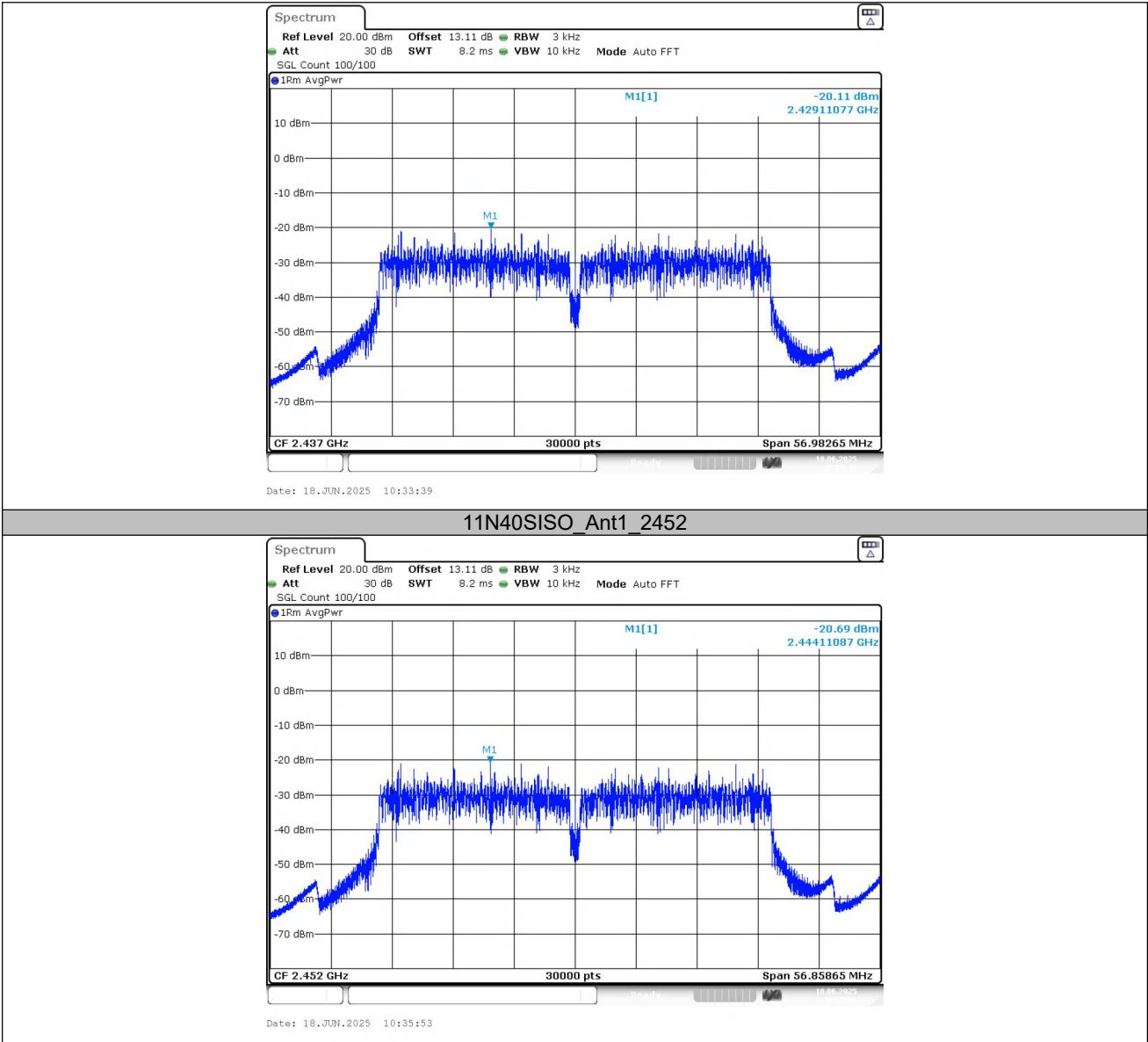
11N20SISO_Ant1_2462



11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



8. Occupied Bandwidth

8.1. Test limits

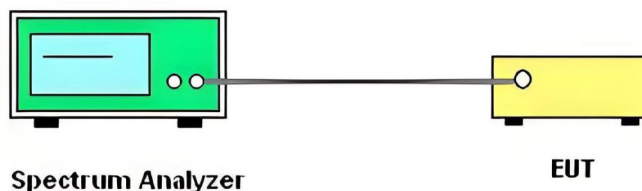
Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz

8.2. Test Procedure

Details see the KDB558074 D01 Meas Guidance v05r02

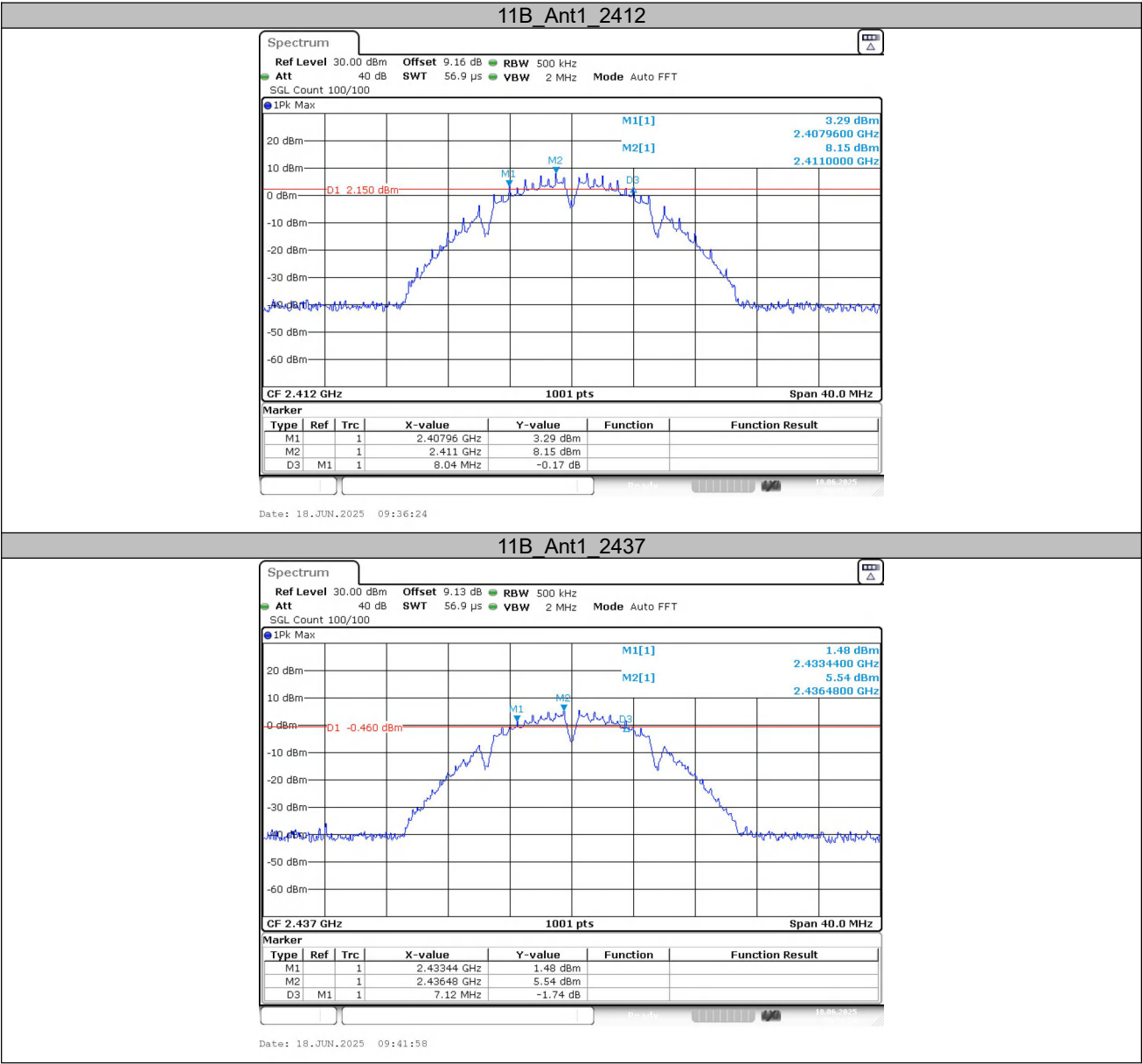
- a) The bandwidth is measured at an amplitude level reduced 6dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.
- b) The test receiver set RBW = 500kHz, VBW $\geq$ 3*RBW, Peak Detector, Sweep time set auto, detail see the test plot.

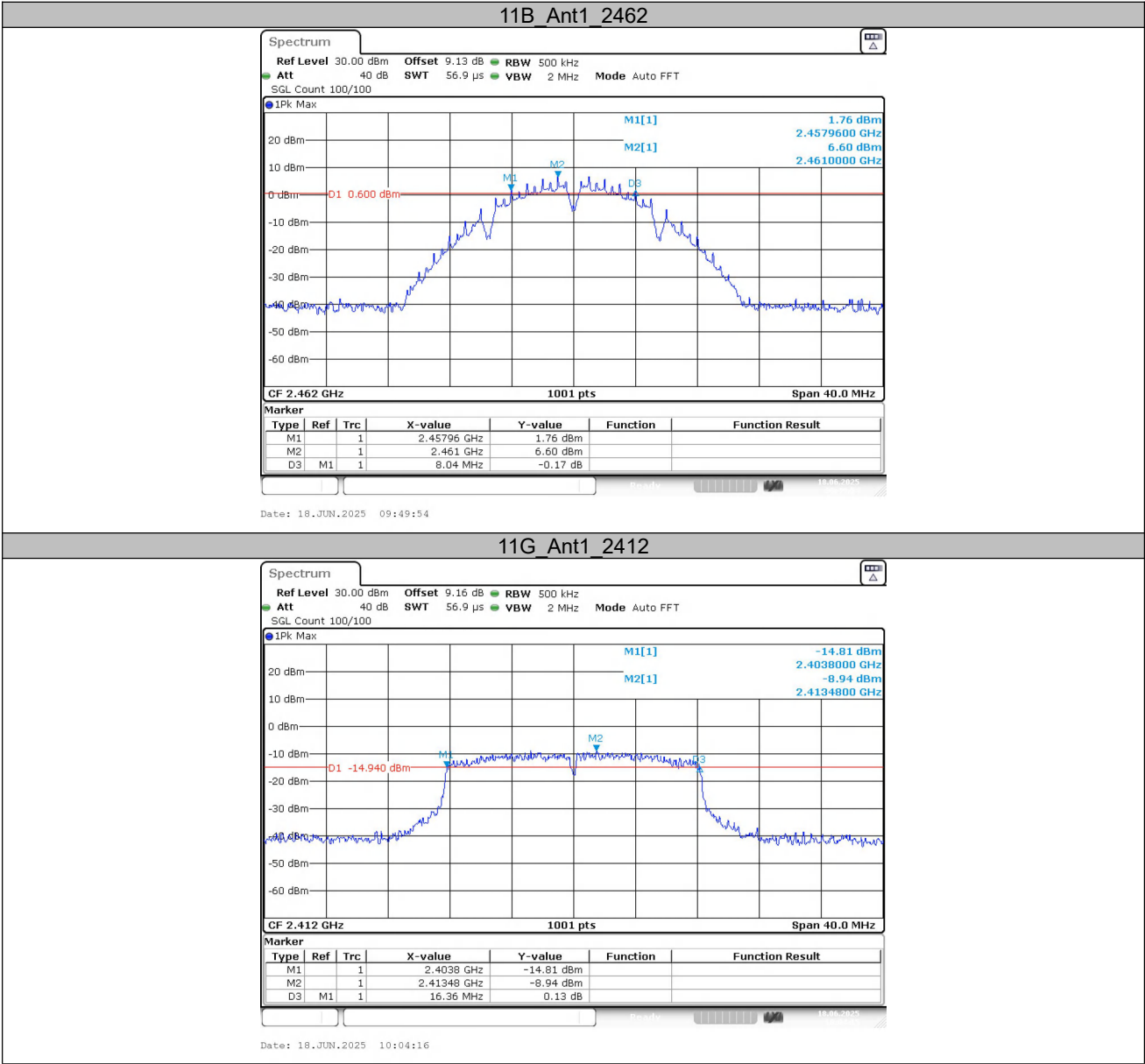
8.3. Test Setup

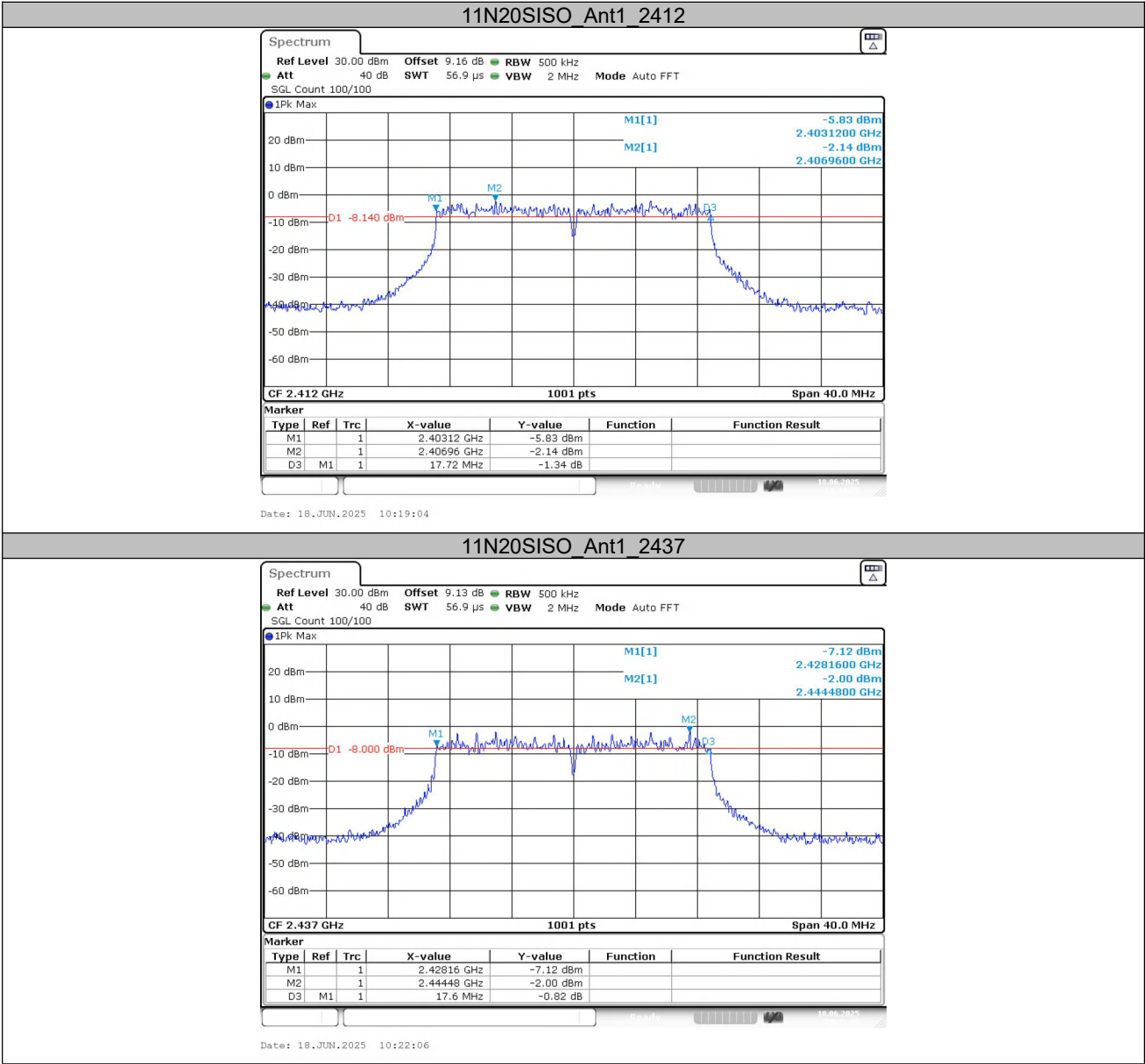


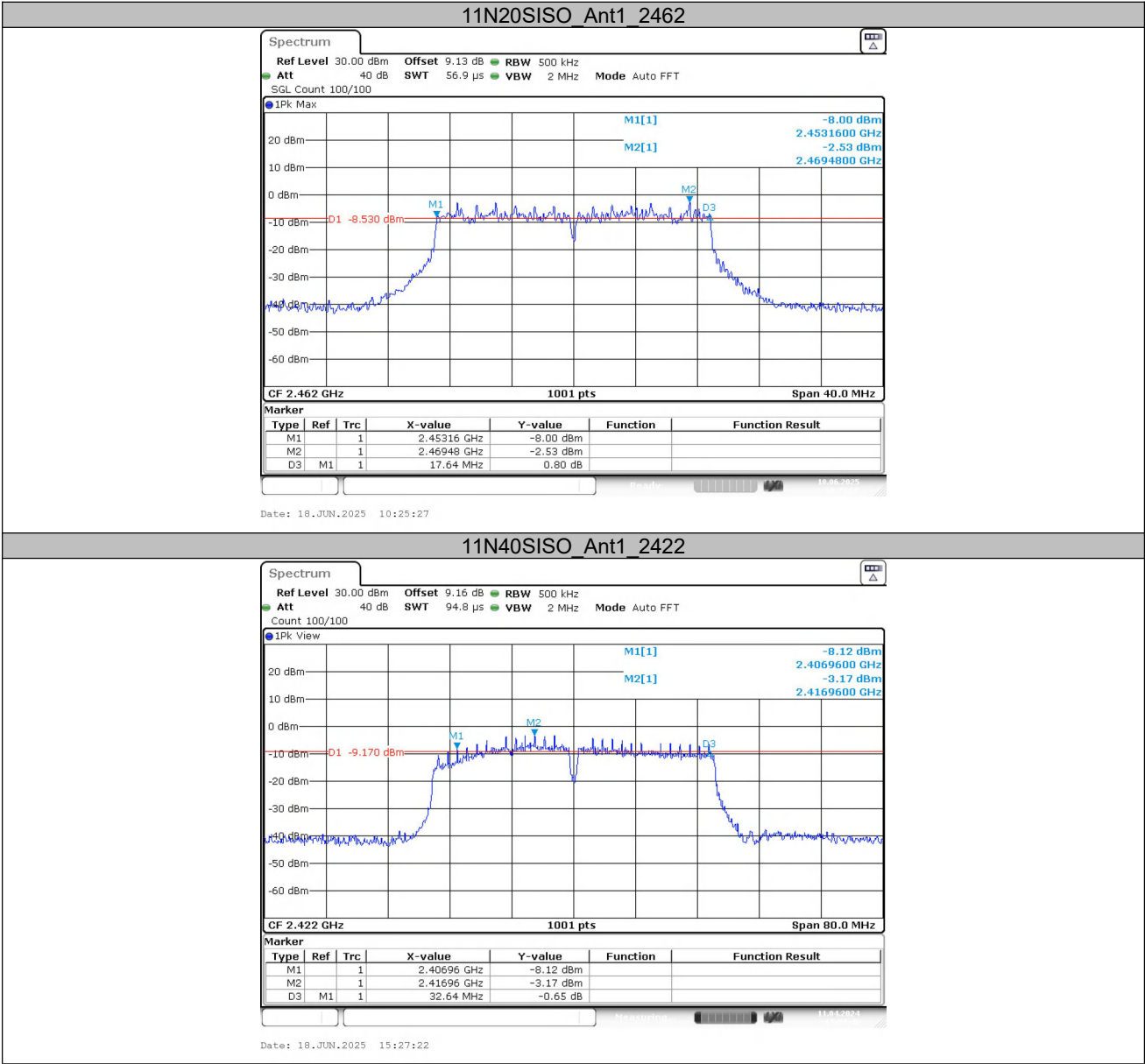
8.4. Test Results

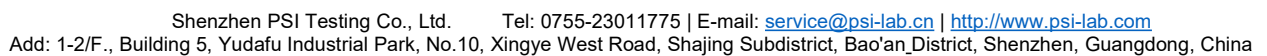
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.04	2407.96	2416.00	0.5	PASS
		2437	7.12	2433.44	2440.56	0.5	PASS
		2462	8.04	2457.96	2466.00	0.5	PASS
11G	Ant1	2412	16.36	2403.80	2420.16	0.5	PASS
		2437	16.28	2428.84	2445.12	0.5	PASS
		2462	16.32	2453.84	2470.16	0.5	PASS
11N20SISO	Ant1	2412	17.72	2403.12	2420.84	0.5	PASS
		2437	17.60	2428.16	2445.76	0.5	PASS
		2462	17.64	2453.16	2470.80	0.5	PASS
11N40SISO	Ant1	2422	32.64	2406.96	2439.60	0.5	PASS
		2437	36.40	2418.76	2455.16	0.5	PASS
		2452	36.40	2433.76	2470.16	0.5	PASS



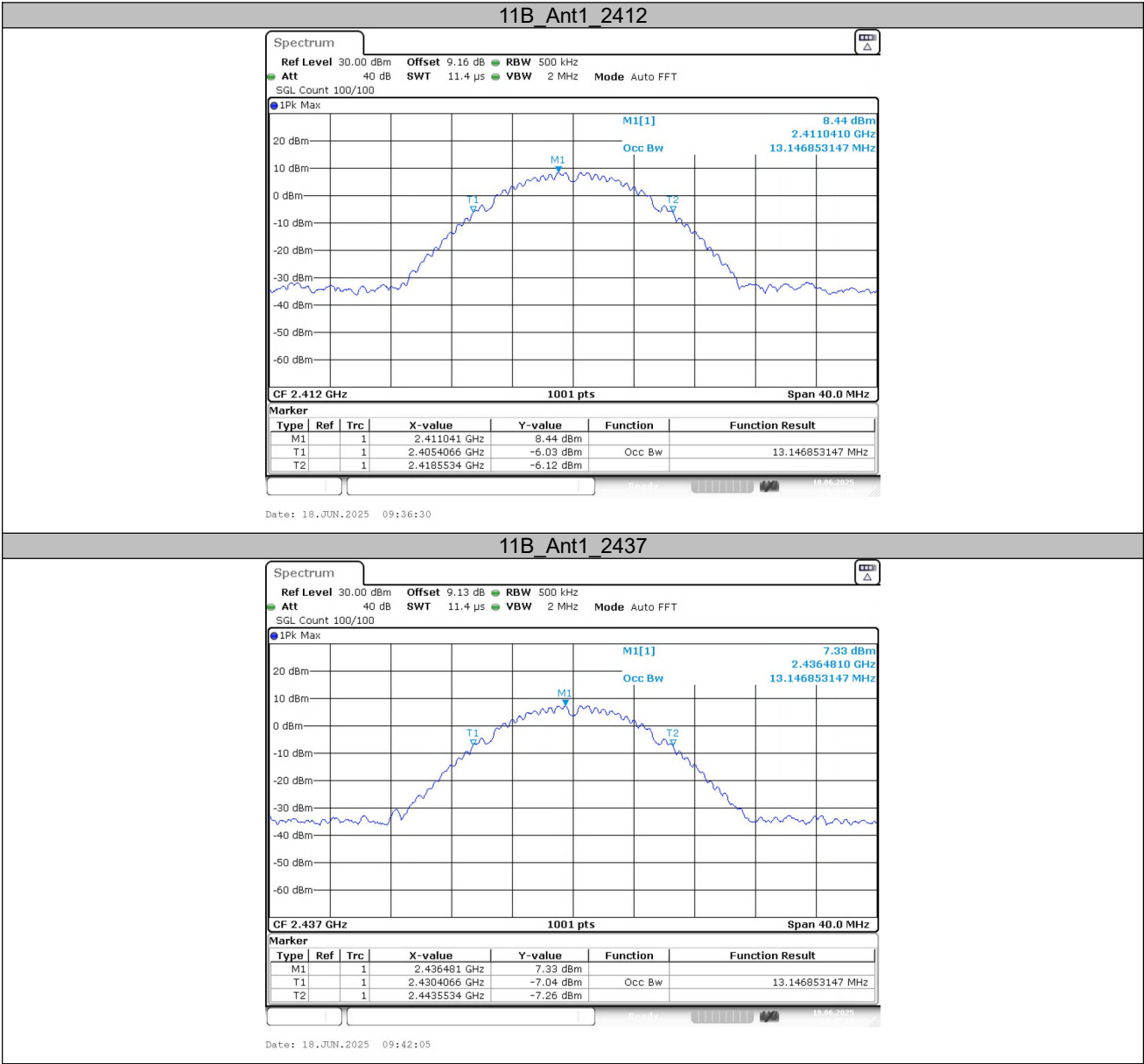


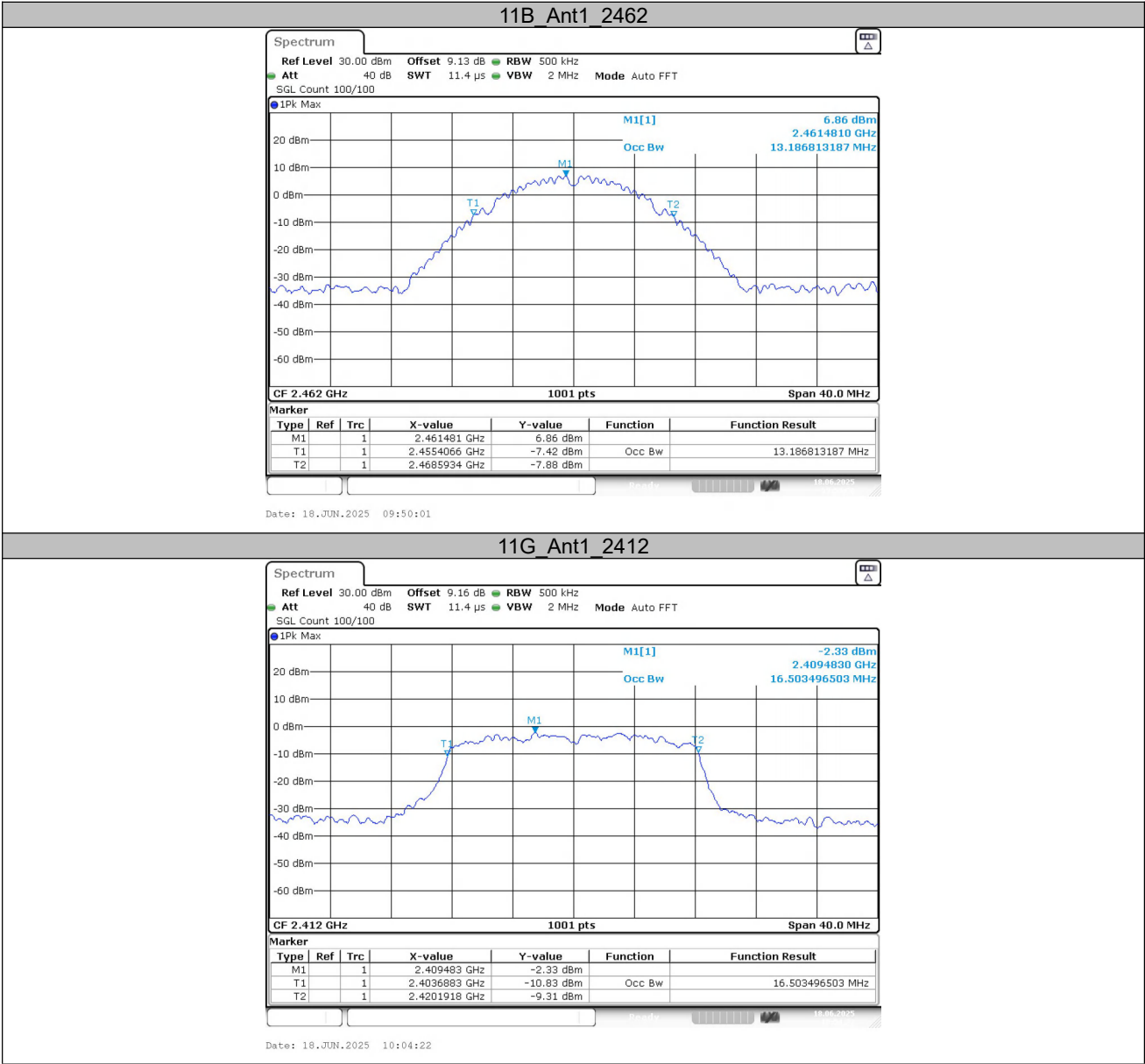


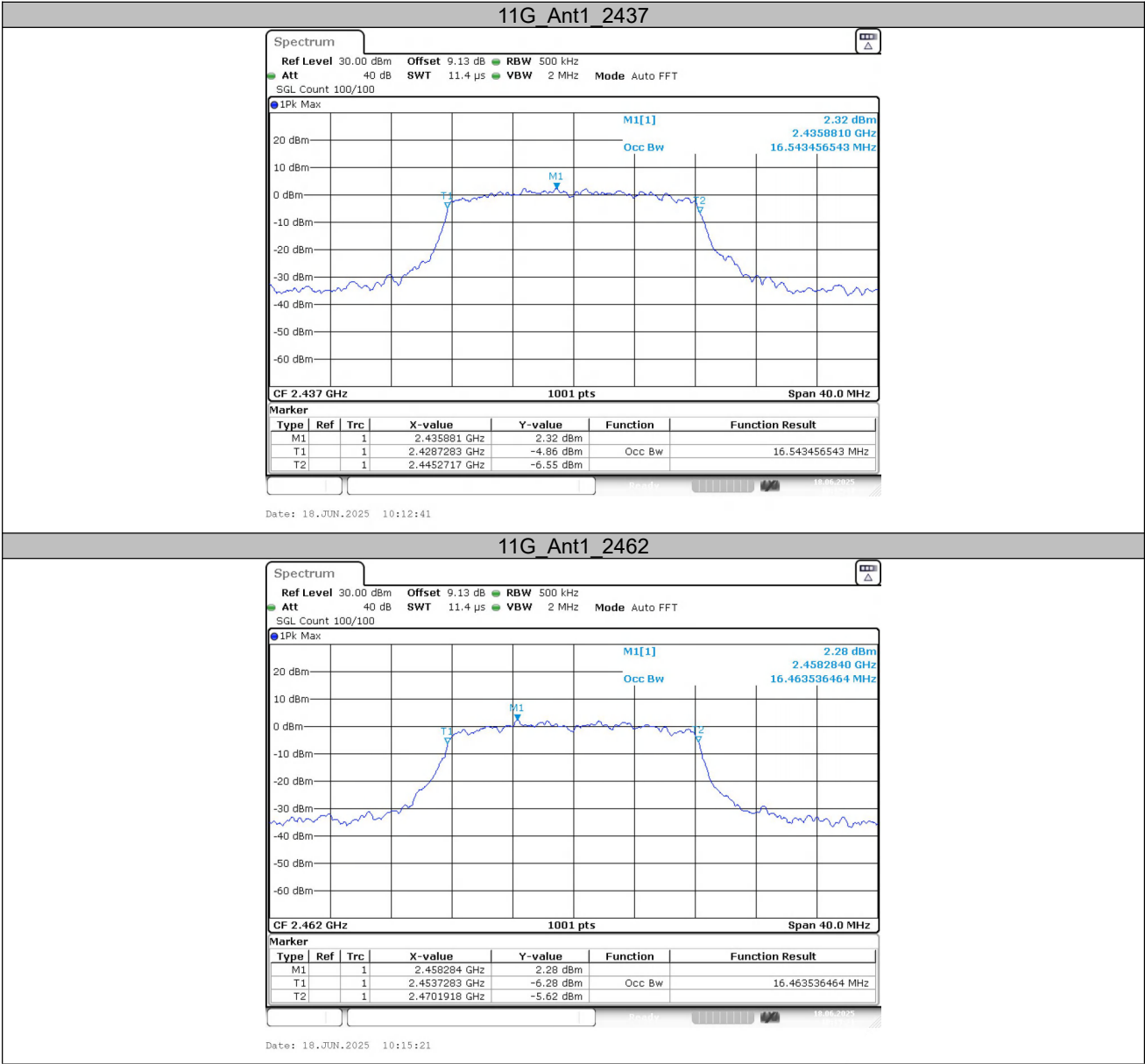


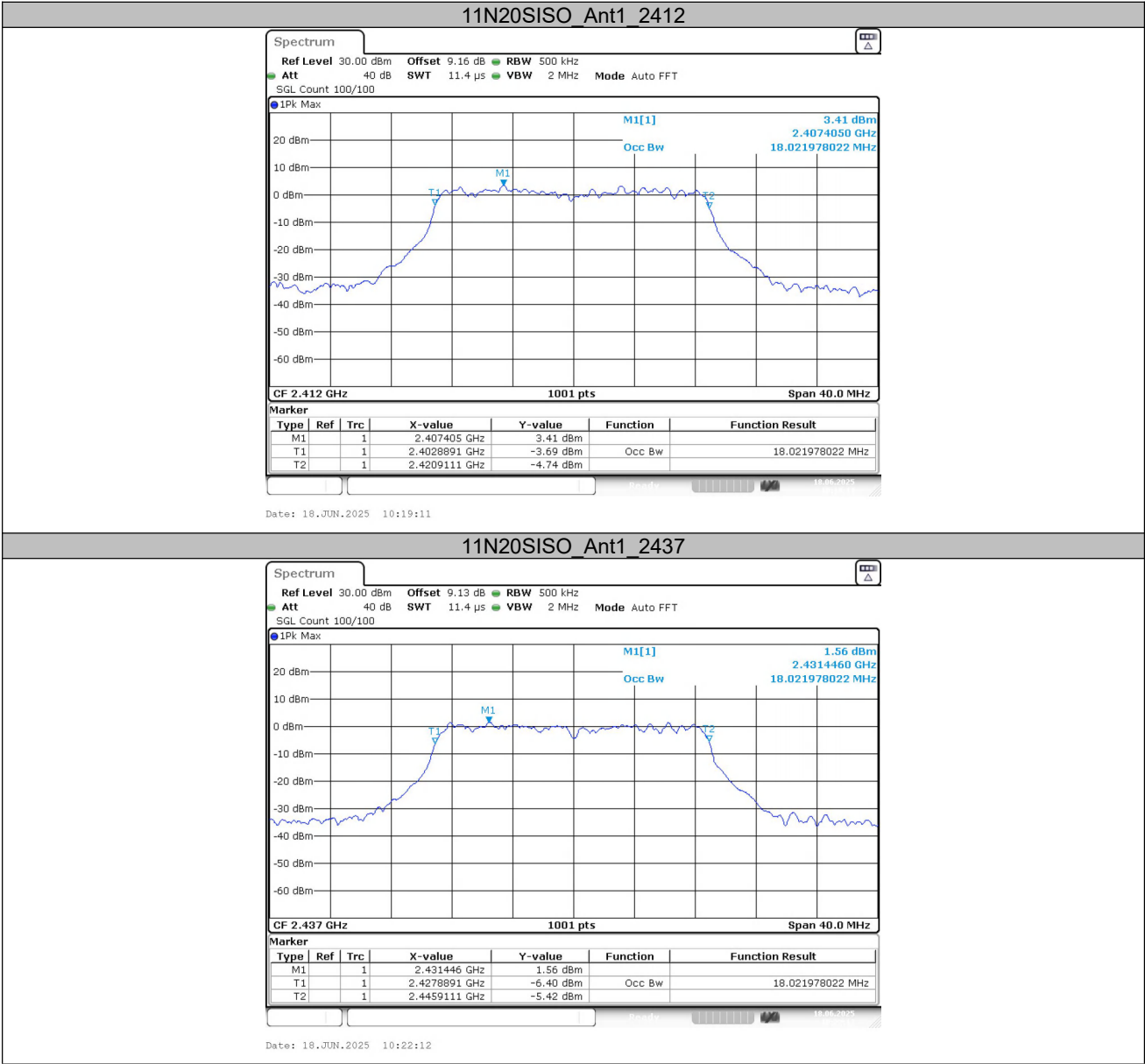


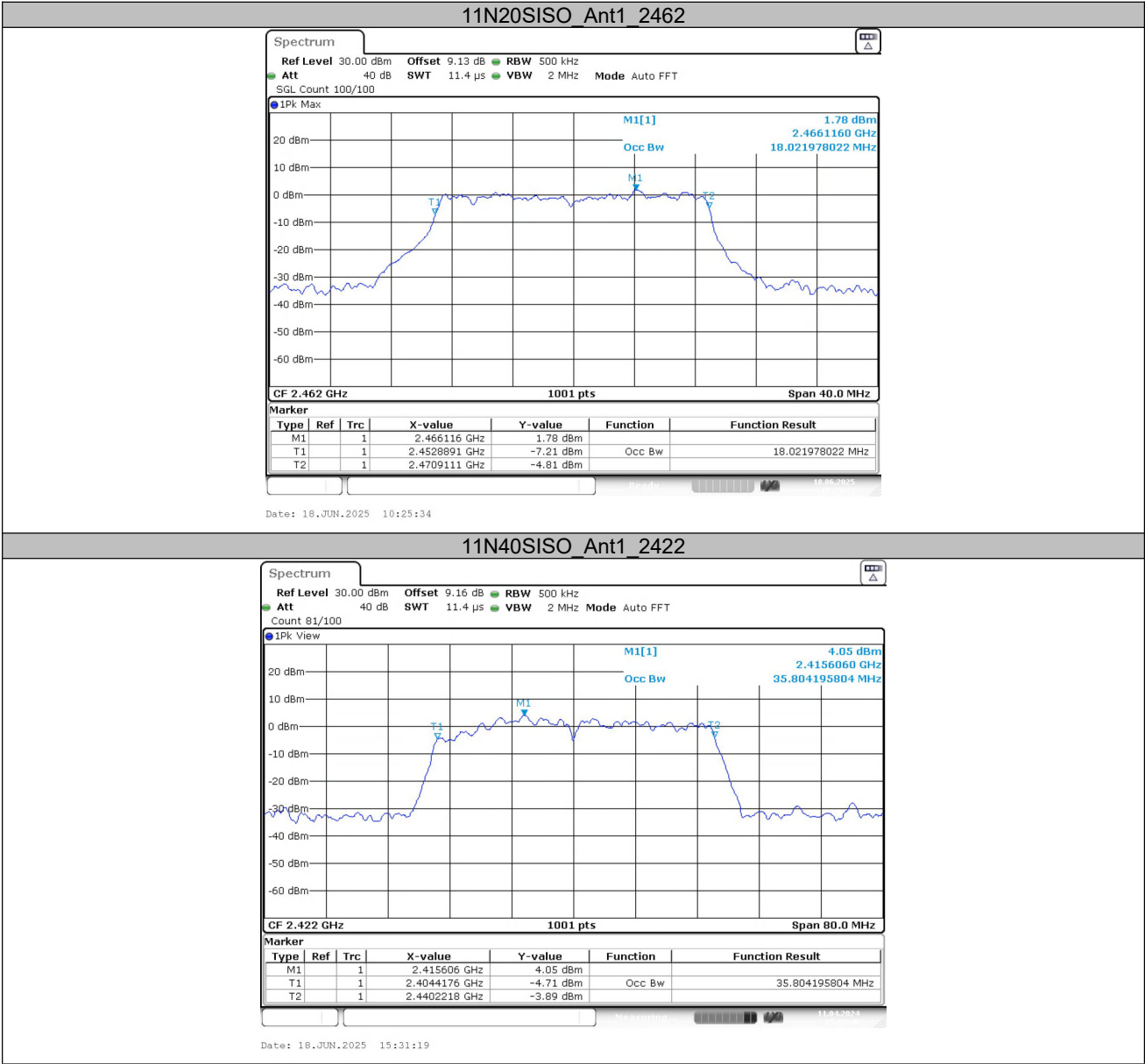
TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	13.147	2405.4066	2418.5534	---	---
		2437	13.147	2430.4066	2443.5534	---	---
		2462	13.187	2455.4066	2468.5934	---	---
11G	Ant1	2412	16.503	2403.6883	2420.1918	---	---
		2437	16.543	2428.7283	2445.2717	---	---
		2462	16.464	2453.7283	2470.1918	---	---
11N20SISO	Ant1	2412	18.022	2402.8891	2420.9111	---	---
		2437	18.022	2427.8891	2445.9111	---	---
		2462	18.022	2452.8891	2470.9111	---	---
11N40SISO	Ant1	2422	35.804	2404.4176	2440.2218	---	---
		2437	36.763	2418.5385	2455.3017	---	---
		2452	36.683	2433.6983	2470.3816	---	---

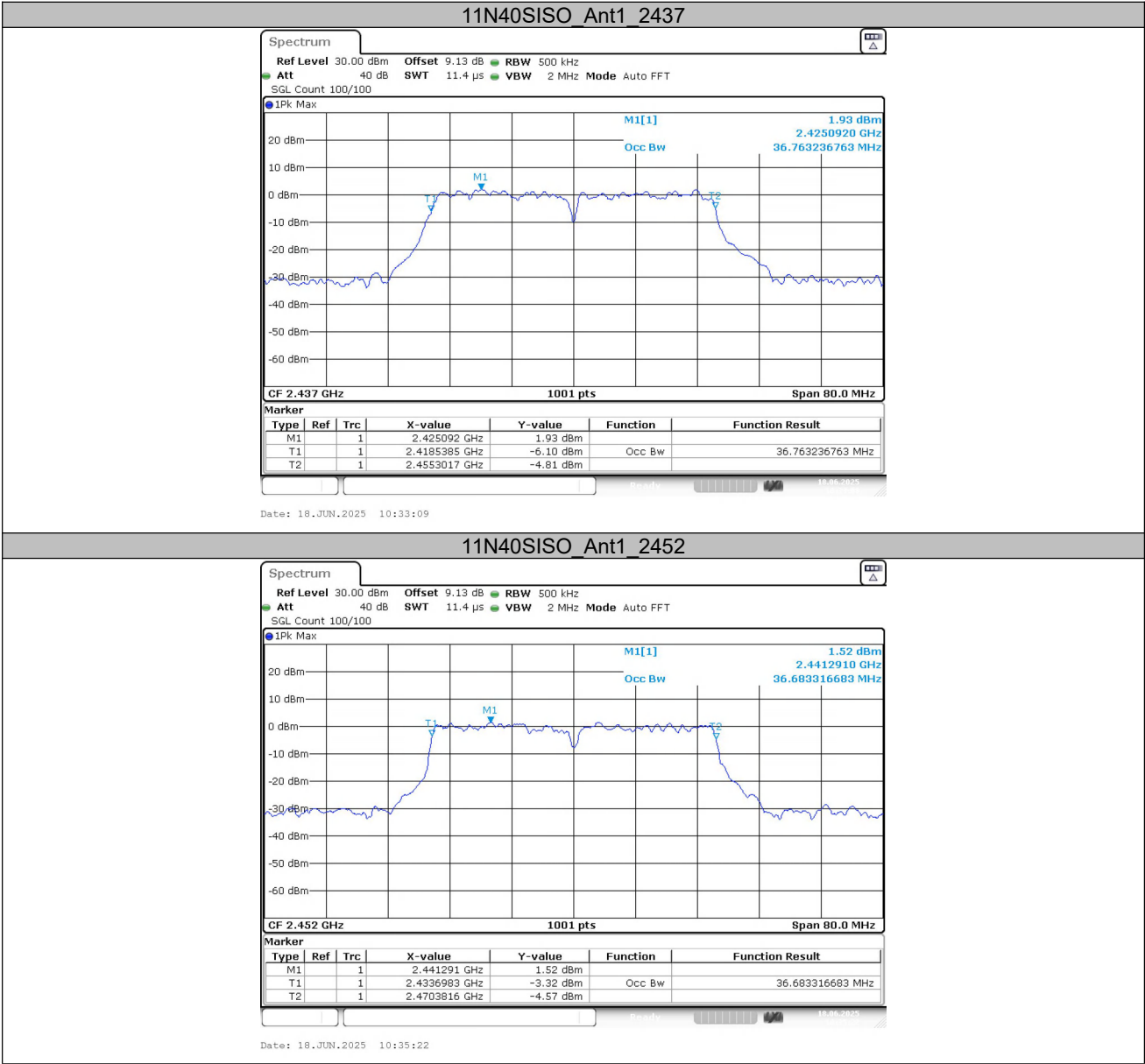












9. Band Edge Test

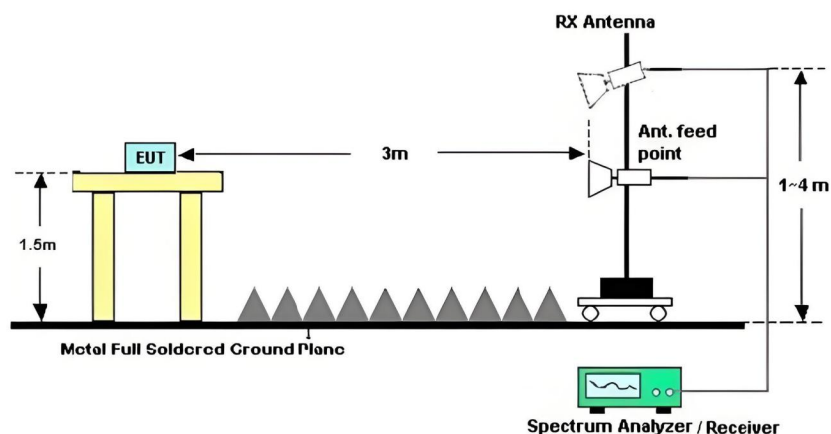
9.1. Test Limit

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

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

9.2. Block Diagram of Test Setup



9.3. Test Procedure

ANSIC63.10-2020+Cor. 1-2023+C63.10a-2024 +Errata to C63.10a-2024 section 6.10.5.2
 All restriction band and non- restriction band have been tested, only worse case is reported.
 Details see the KDB558074 D01 Meas Guidance v05r02

1. Put the EUT on a 1.5m high table, power on the EUT. Emissions were scanned and measured rotating the EUT to 360 degrees, Find the maximum Emission
2. Check the spurious emissions out of band.
3. RBW 1MHz, VBW 3MHz, peak detector for peak value, RBW 1MHz, VBW > [1 / (minimum transmitter on time)] and no less than 1Hz, RMS detector for AV value

9.4. Test Results

Test Date : 2025.06.13					Temperature : 26℃			
Test Engineer : Felix Pang					Humidity : 54%			
Test Results : PASS								
Frequency Range : 2310MHz~2410MHz								
Test Mode : IEEE 802.11b TX 2412MHz								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	75.22	-21.45	53.77	74.00	-20.23	Peak
2	2390	H	--	-21.45	--	54.00	--	Avg
3	2400	H	79.47	-26.20	53.27	74.00	-20.73	Peak
4	2400	H	--	-26.20	--	54.00	--	Avg
1	2390	V	74.32	-21.45	52.87	74.00	-21.13	Peak
2	2390	V	--	-21.45	--	54.00	--	Avg
3	2400	V	78.64	-26.20	52.44	74.00	-21.56	Peak
4	2400	V	--	-26.20	--	54.00	--	Avg
Frequency Range : 2450MHz~2550MHz								
Test Mode : IEEE 802.11b TX 2462MHz								
1	2483.5	H	79.24	-25.35	53.89	74.00	-20.11	Peak
2	2483.5	H	--	-25.35	--	54.00	--	Avg
1	2483.5	V	78.90	-25.35	53.55	74.00	-20.45	Peak
2	2483.5	V	--	-25.35	--	54.00	--	Avg
Note:	1. Means other frequency and mode comply with standard requirements and at least have 20dB margin. 2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain. Result=Reading + Correct Factor. Margin= Result-Limit. 3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.							

Frequency Range : 2310MHz~2410MHz								
Test Mode : IEEE 802.11g TX 2412MHz								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	75.10	-21.45	53.65	74.00	-20.35	Peak
2	2390	H	--	-21.45	--	54.00	--	Avg
3	2400	H	78.85	-26.20	52.65	74.00	-21.35	Peak
4	2400	H	--	-26.20	--	54.00	--	Avg
1	2390	V	75.09	-21.45	53.64	74.00	-20.36	Peak
2	2390	V	--	-21.45	--	54.00	--	Avg
3	2400	V	79.41	-26.20	53.21	74.00	-20.79	Peak
4	2400	V	--	-26.20	--	54.00	--	Avg
Frequency Range : 2450MHz~2550MHz								
Test Mode : IEEE 802.11g TX 2462MHz								
1	2483.5	H	79.03	-25.35	53.68	74.00	-20.32	Peak
2	2483.5	H	--	-25.35	--	54.00	--	Avg
1	2483.5	V	78.55	-25.35	53.20	74.00	-20.80	Peak
2	2483.5	V	--	-25.35	--	54.00	--	Avg
Note: 1. Means other frequency and mode comply with standard requirements and at least have 20dB margin. 2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain. Result=Reading + Correct Factor. Margin= Result-Limit. 3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.								

Frequency Range : 2310MHz~2410MHz								
Test Mode : IEEE 802.11n/HT20 TX 2412MHz								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	74.83	-21.45	53.38	74.00	-20.62	Peak
2	2390	H	--	-21.45	--	54.00	--	Avg
3	2400	H	79.24	-26.20	53.04	74.00	-20.96	Peak
4	2400	H	--	-26.20	--	54.00	--	Avg
1	2390	V	74.65	-21.45	53.20	74.00	-20.80	Peak
2	2390	V	--	-21.45	--	54.00	--	Avg
3	2400	V	78.82	-26.20	52.62	74.00	-21.38	Peak
4	2400	V	--	-26.20	--	54.00	--	Avg
Frequency Range : 2450MHz~2550MHz								
Test Mode : IEEE 802.11n/HT20 TX 2462MHz								
1	2483.5	H	78.52	-25.35	53.17	74.00	-20.83	Peak
2	2483.5	H	--	-25.35	--	54.00	--	Avg
1	2483.5	V	78.55	-25.35	53.20	74.00	-20.80	Peak
2	2483.5	V	--	-25.35	--	54.00	--	Avg
Note: 1. Means other frequency and mode comply with standard requirements and at least have 20dB margin. 2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain. Result=Reading + Correct Factor. Margin= Result-Limit. 3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.								

Frequency Range : 2310MHz~2410MHz								
Test Mode : IEEE 802.11n/HT40 TX 2422MHz								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	2390	H	74.94	-21.45	53.49	74.00	-20.51	Peak
2	2390	H	--	-21.45	--	54.00	--	Avg
3	2400	H	79.40	-26.20	53.20	74.00	-20.80	Peak
4	2400	H	--	-26.20	--	54.00	--	Avg
1	2390	V	74.63	-21.45	53.18	74.00	-20.82	Peak
2	2390	V	--	-21.45	--	54.00	--	Avg
3	2400	V	79.08	-26.20	52.88	74.00	-21.12	Peak
4	2400	V	--	-26.20	--	54.00	--	Avg
Frequency Range : 2450MHz~2550MHz								
Test Mode : IEEE 802.11n/HT40 TX 2452MHz								
1	2483.5	H	79.11	-25.35	53.76	74.00	-20.24	Peak
2	2483.5	H	--	-25.35	--	54.00	--	Avg
1	2483.5	V	78.39	-25.35	53.04	74.00	-20.96	Peak
2	2483.5	V	--	-25.35	--	54.00	--	Avg
Note: 1. Means other frequency and mode comply with standard requirements and at least have 20dB margin. 2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain. Result=Reading + Correct Factor, Margin= Result-Limit. 3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.								

10. Antenna Requirement

10.1. Standard Requirement

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.

10.2. Test Results

The EUT antenna is interna PCB antenna. It complies with the standard requirement.

11. Photos of test setup

Reference to the **appendix I Test Setup Photo** for details.

12. Photos of EUT

Reference to the **appendix II external photos** and **appendix III internal photos** for details.

----- END OF REPORT-----