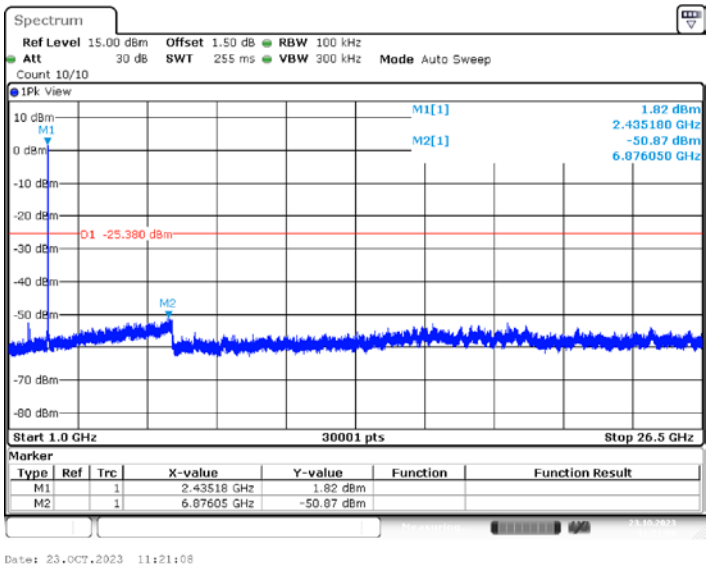
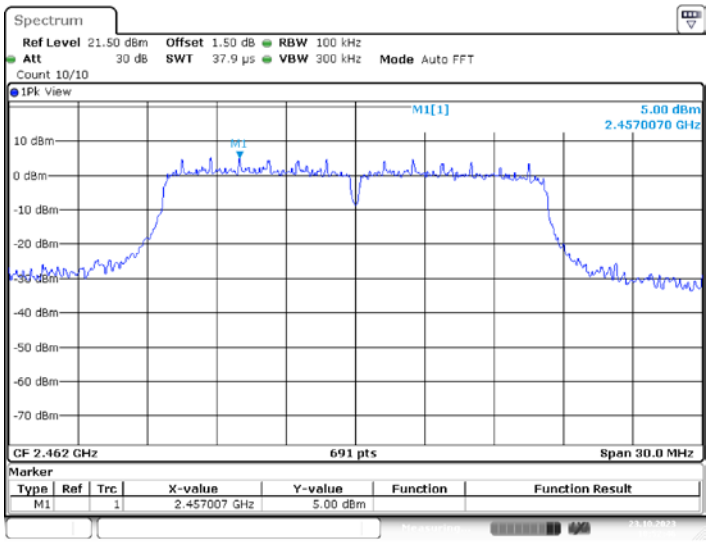
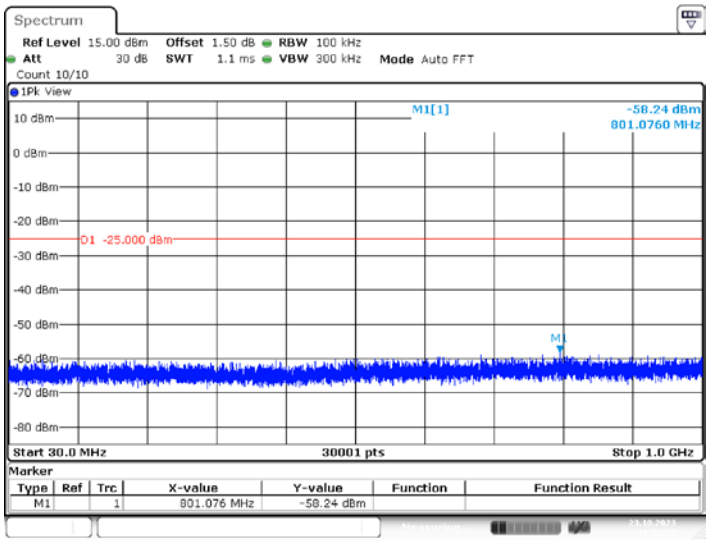


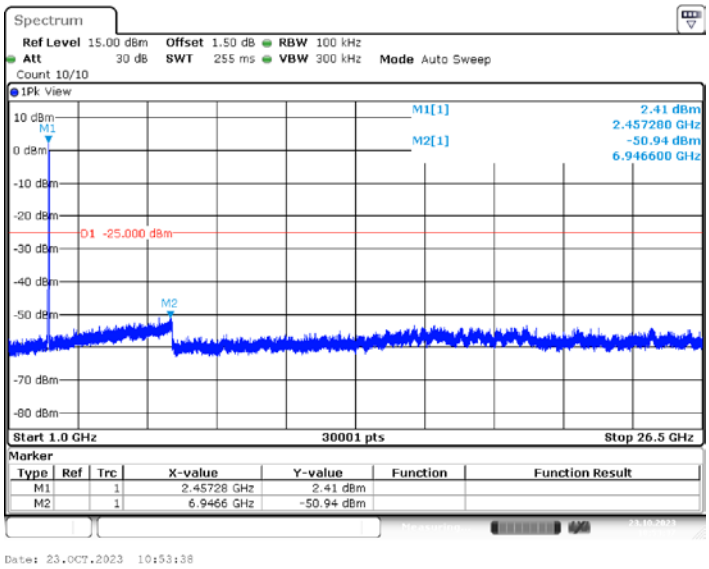
802.11g_Ant1_2462_0~Reference



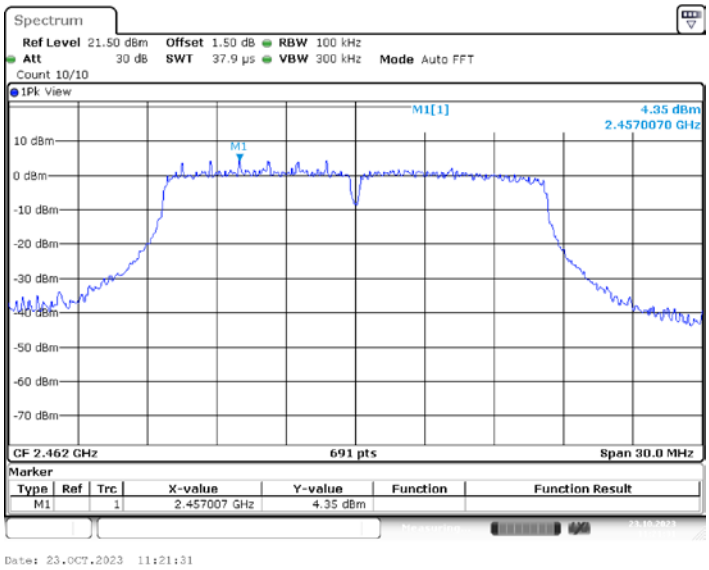
802.11g_Ant1_2462_30~1000



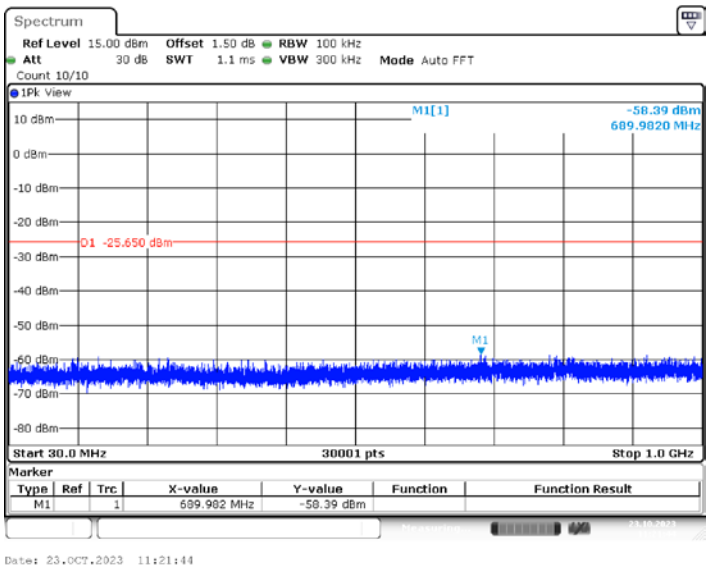
802.11g_Ant1_2462_1000~26500



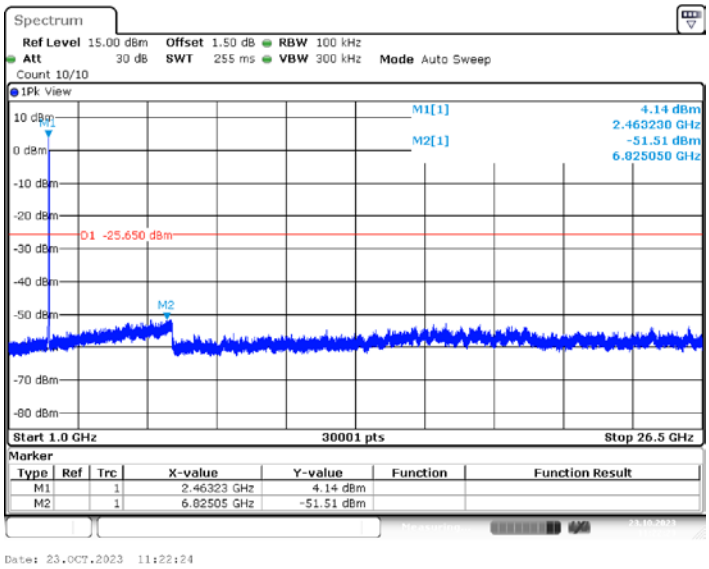
802.11g_Ant2_2462_0~Reference



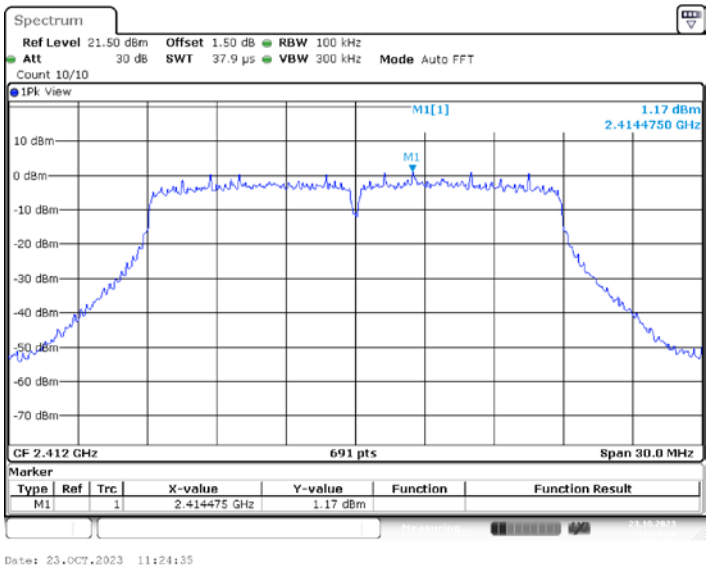
802.11g_Ant2_2462_30~1000



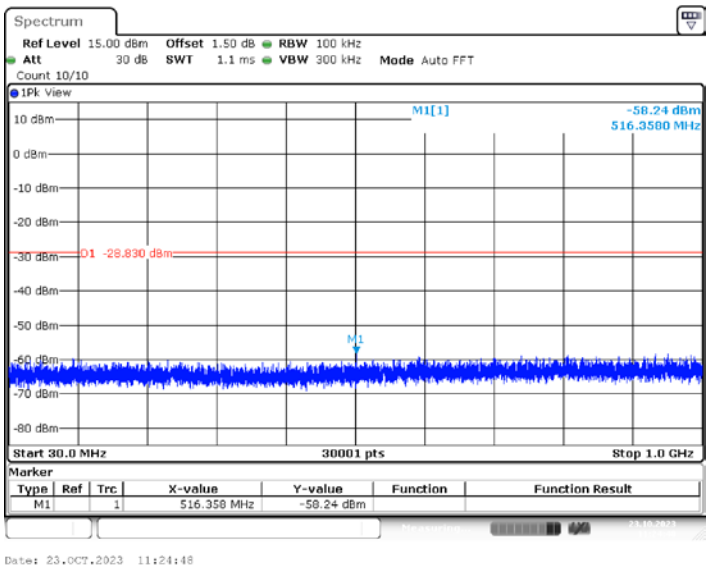
802.11g_Ant2_2462_1000~26500



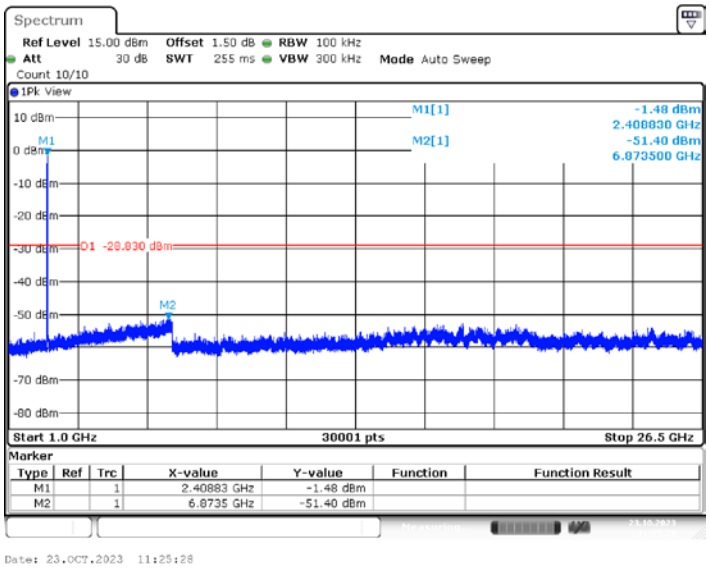
802.11n(HT20)_Ant1_2412_0~Reference



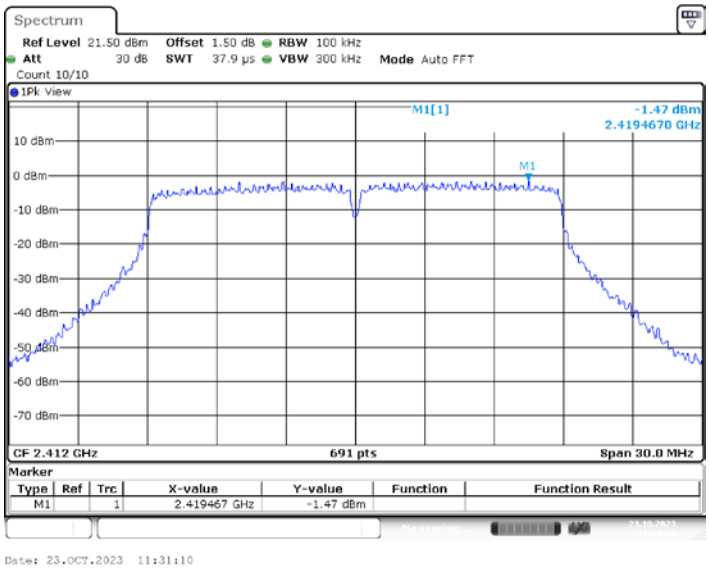
802.11n(HT20)_Ant1_2412_30~1000



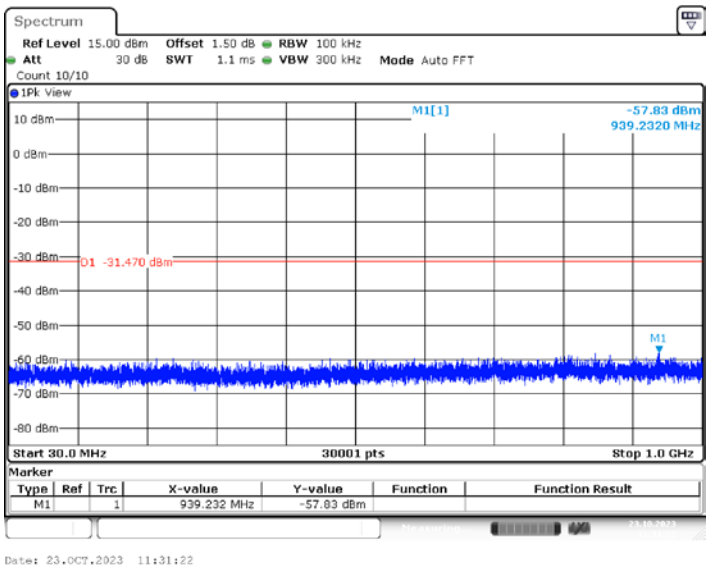
802.11n(HT20)_Ant1_2412_1000~26500



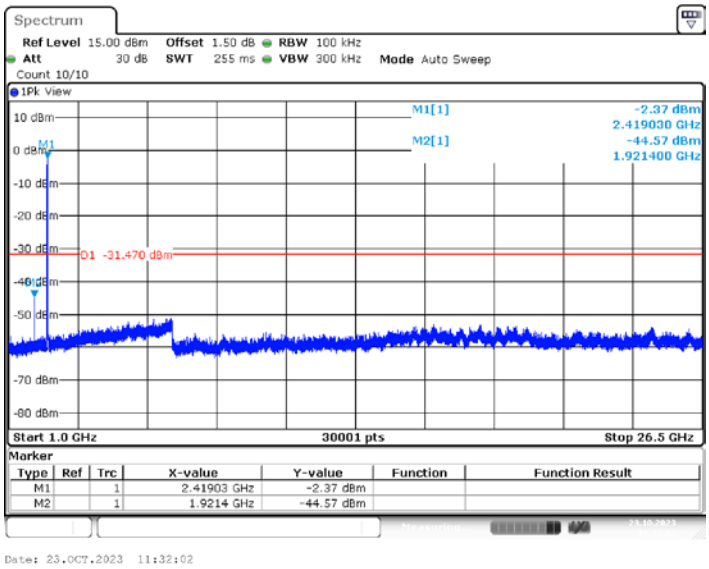
802.11n(HT20)_Ant2_2412_0~Reference



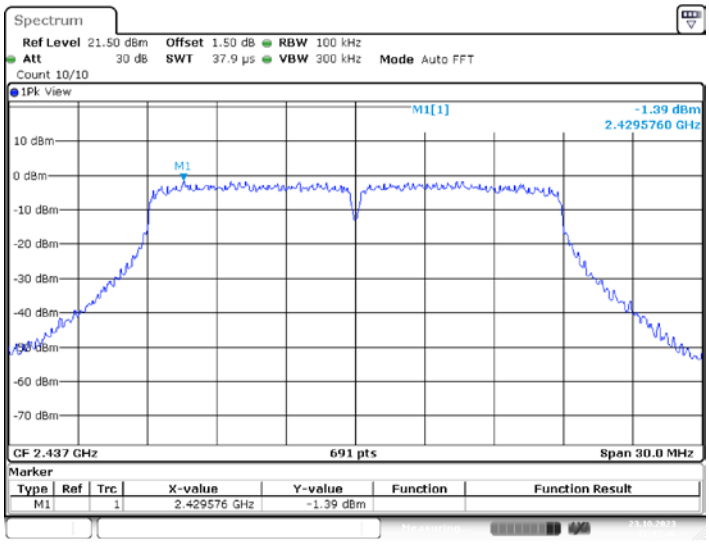
802.11n(HT20)_Ant2_2412_30~1000



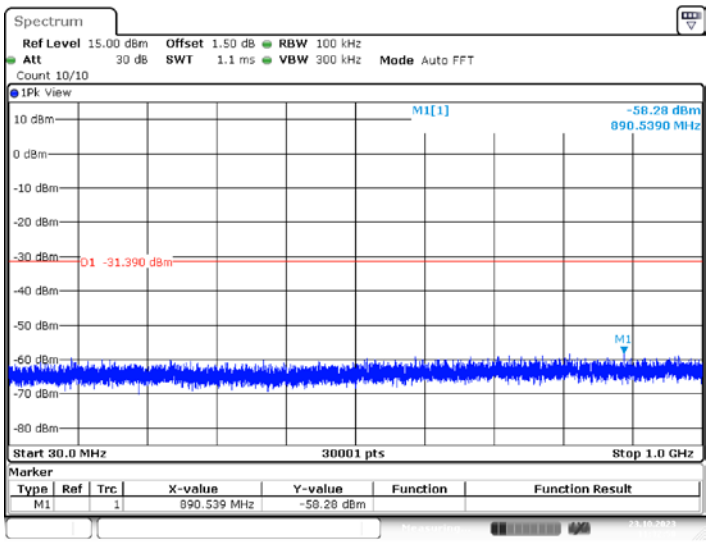
802.11n(HT20)_Ant2_2412_1000~26500



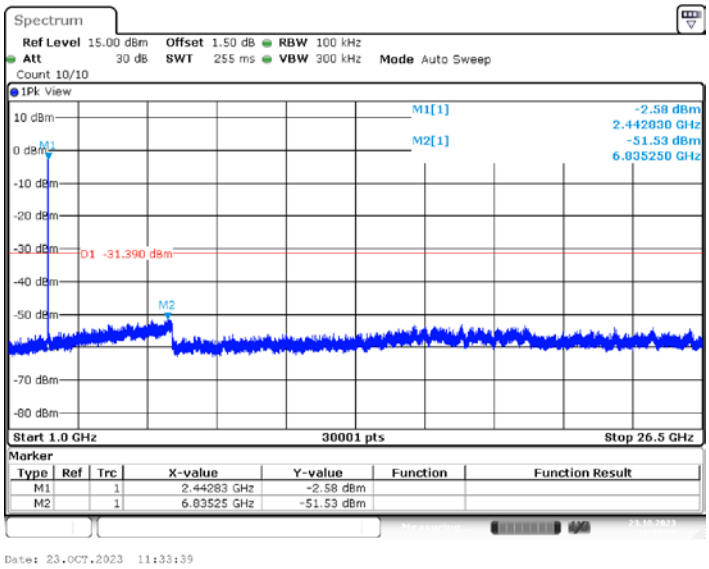
802.11n(HT20)_Ant1_2437_0~Reference



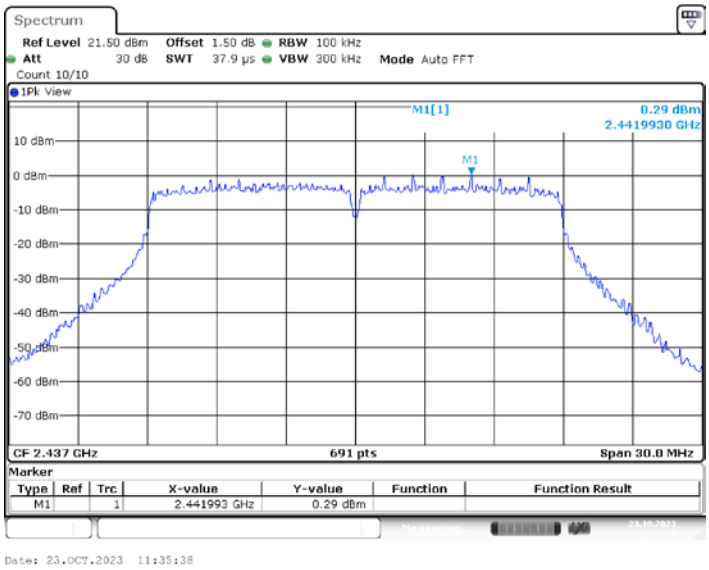
802.11n(HT20)_Ant1_2437_30~1000



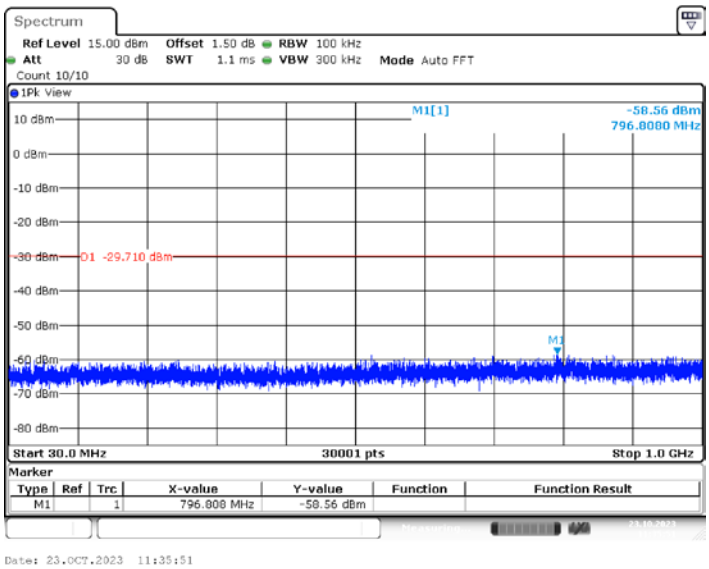
802.11n(HT20)_Ant1_2437_1000~26500



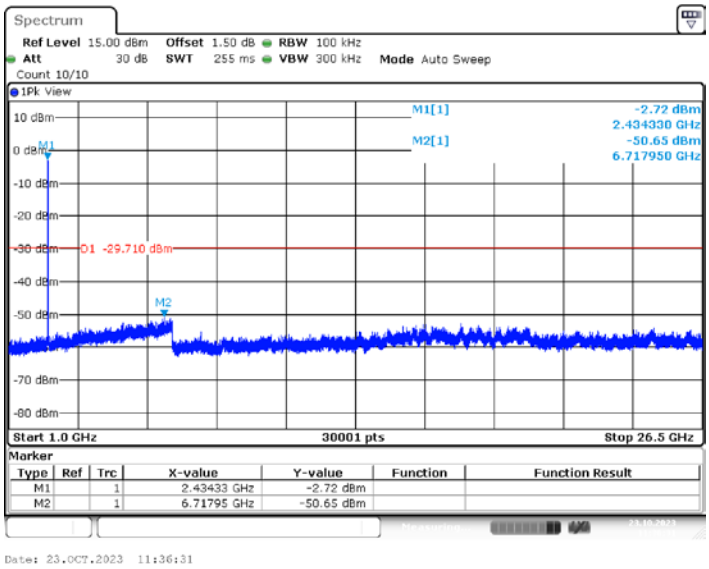
802.11n(HT20)_Ant2_2437_0~Reference



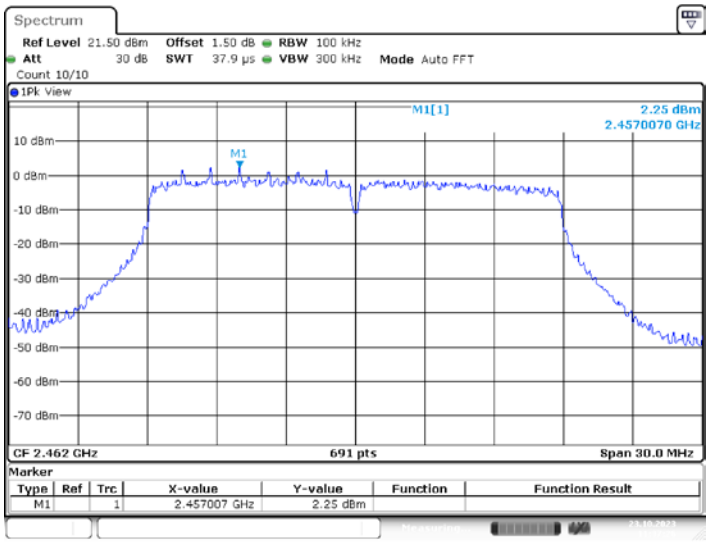
802.11n(HT20)_Ant2_2437_30~1000



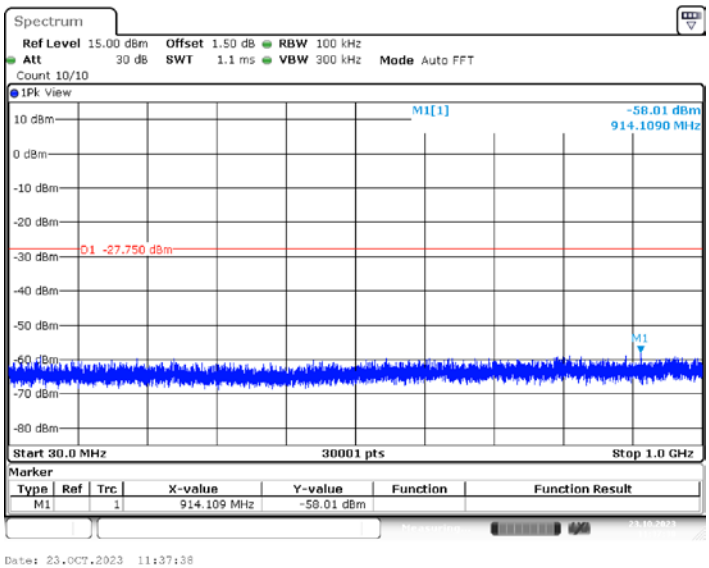
802.11n(HT20)_Ant2_2437_1000~26500



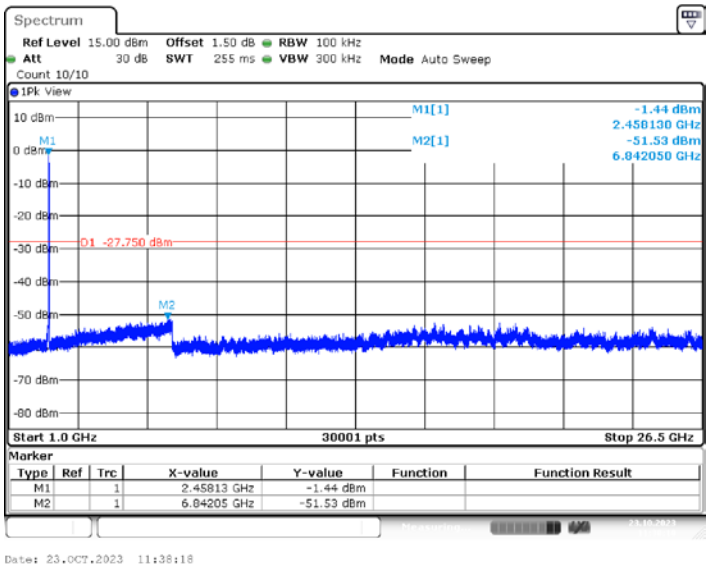
802.11n(HT20)_Ant1_2462_0~Reference



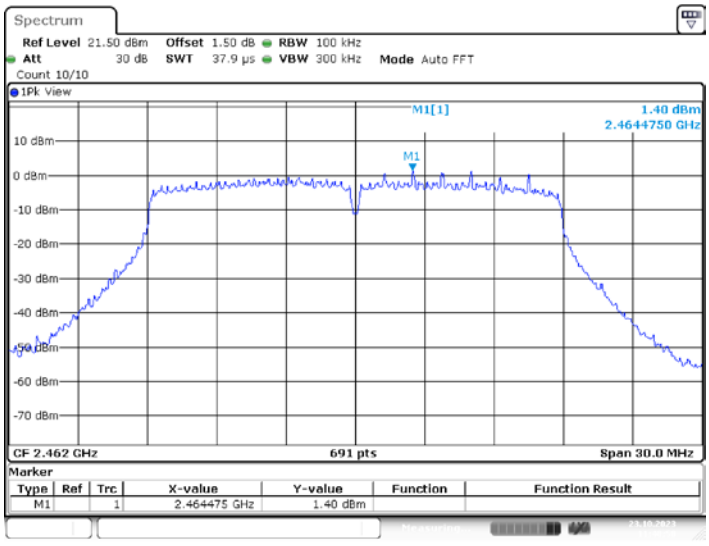
802.11n(HT20)_Ant1_2462_30~1000



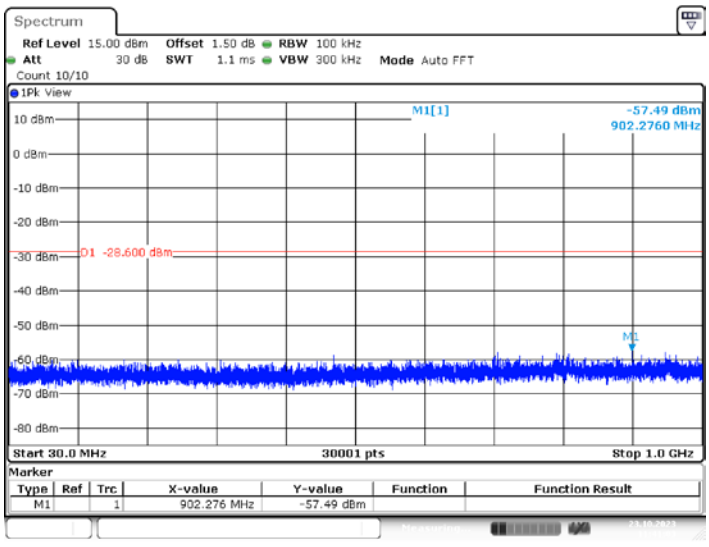
802.11n(HT20)_Ant1_2462_1000~26500



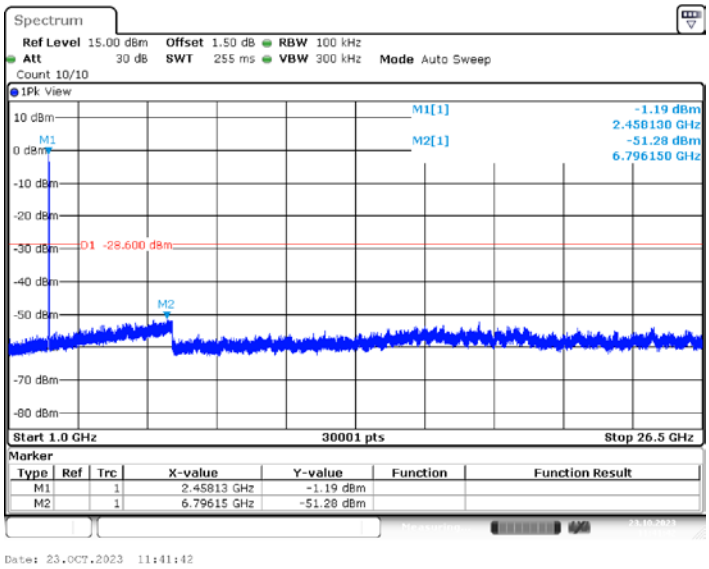
802.11n(HT20)_Ant2_2462_0~Reference



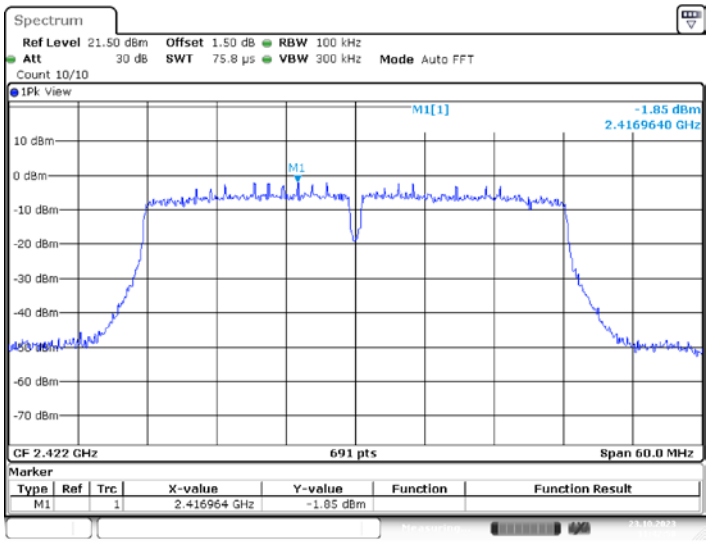
802.11n(HT20)_Ant2_2462_30~1000



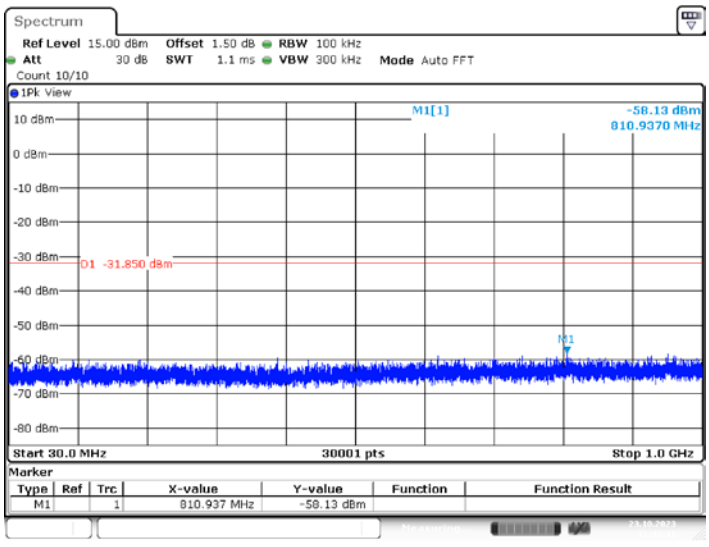
802.11n(HT20)_Ant2_2462_1000~26500



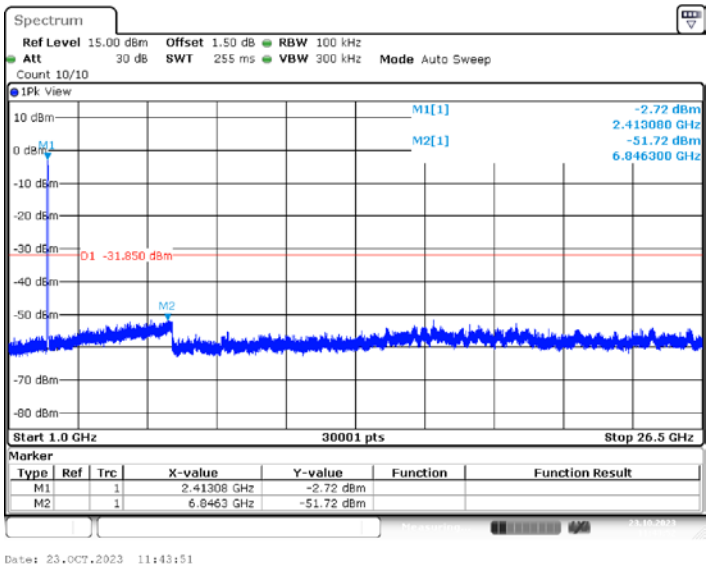
802.11n(HT40)_Ant1_2422_0~Reference



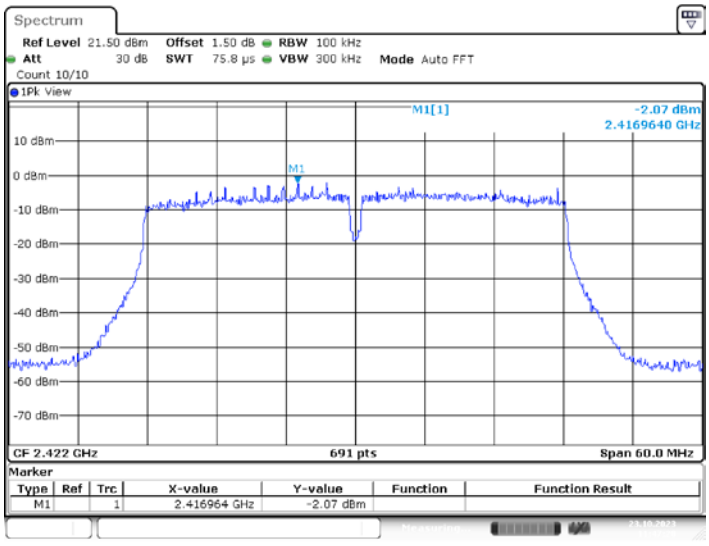
802.11n(HT40)_Ant1_2422_30~1000



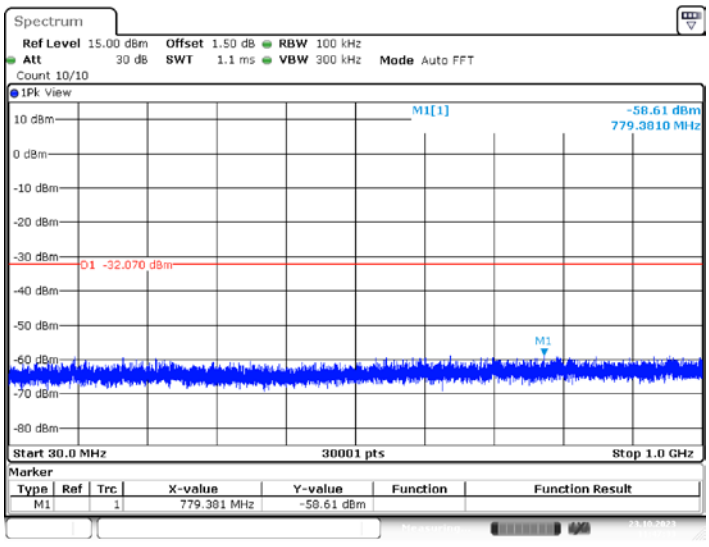
802.11n(HT40)_Ant1_2422_1000~26500



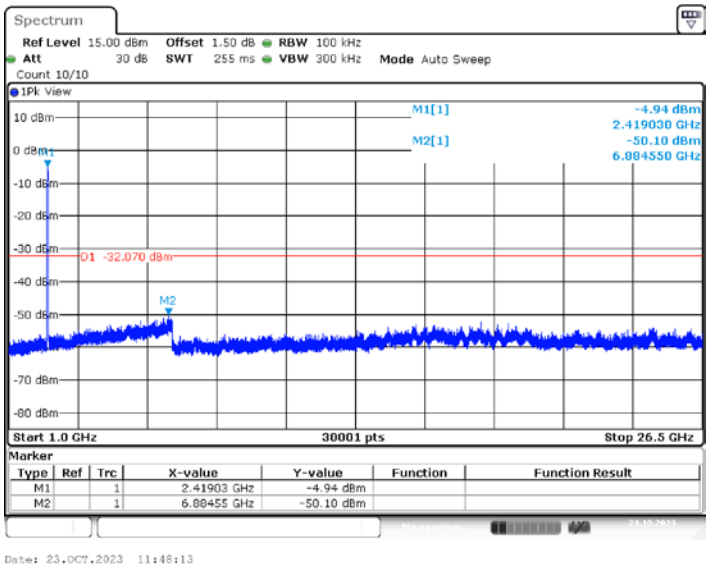
802.11n(HT40)_Ant2_2422_0~Reference



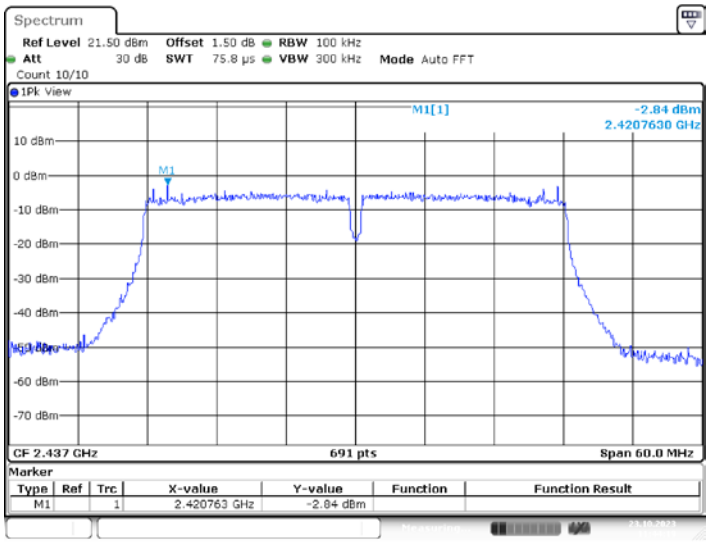
802.11n(HT40)_Ant2_2422_30~1000



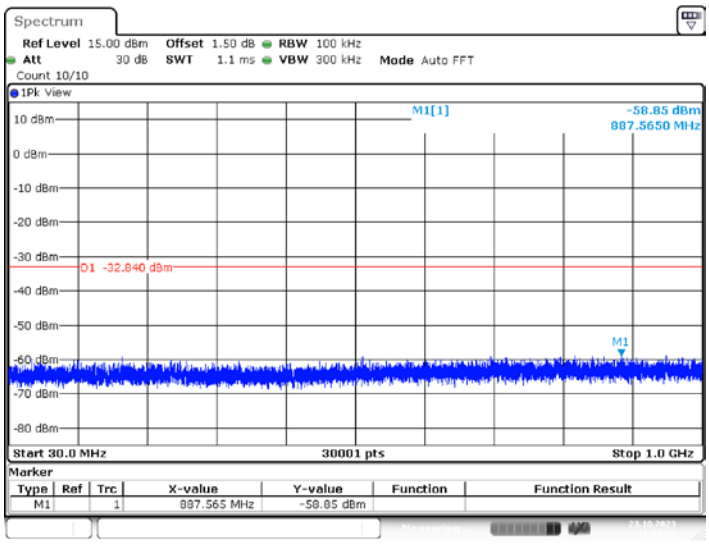
802.11n(HT40)_Ant2_2422_1000~26500



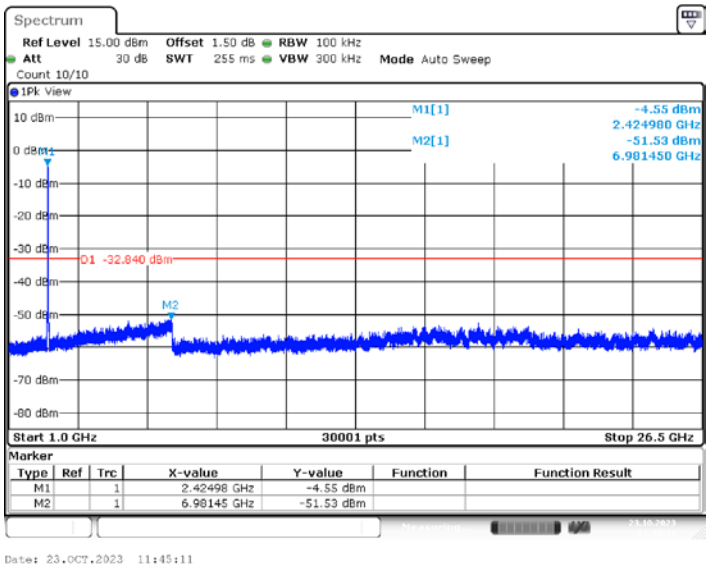
802.11n(HT40)_Ant1_2437_0~Reference



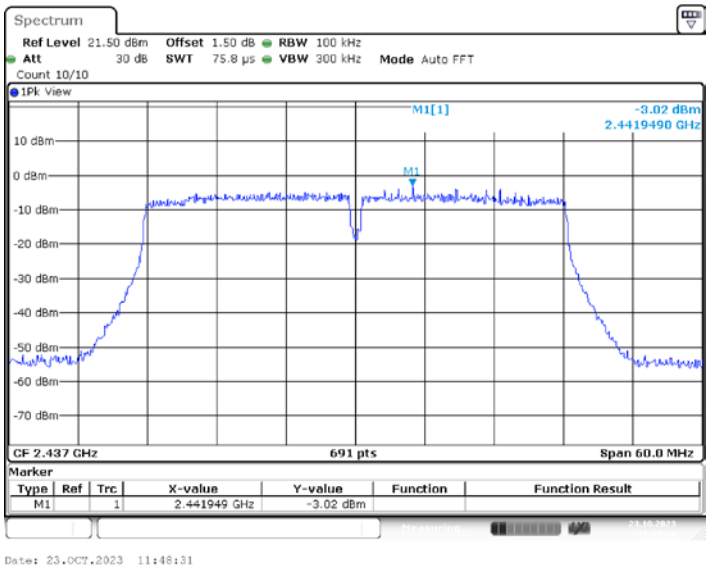
802.11n(HT40)_Ant1_2437_30~1000



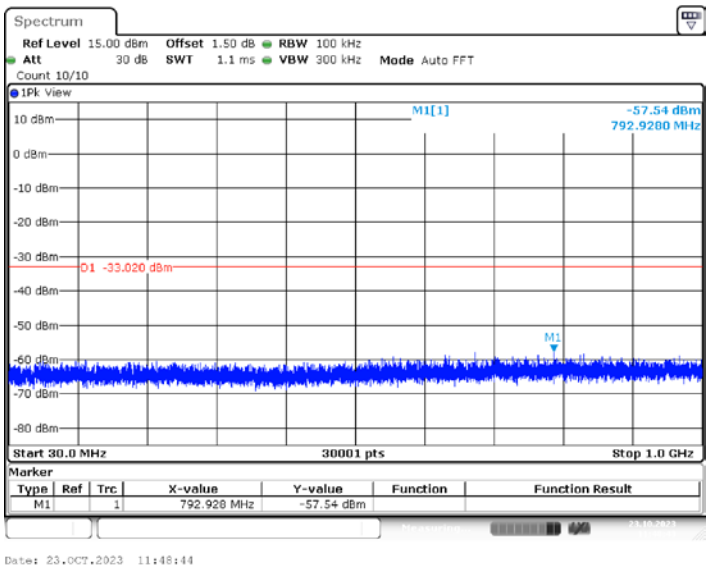
802.11n(HT40)_Ant1_2437_1000~26500



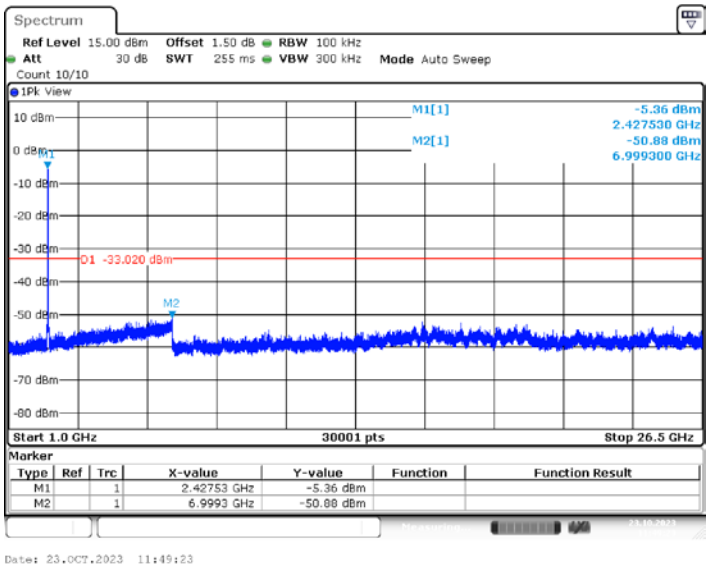
802.11n(HT40)_Ant2_2437_0~Reference



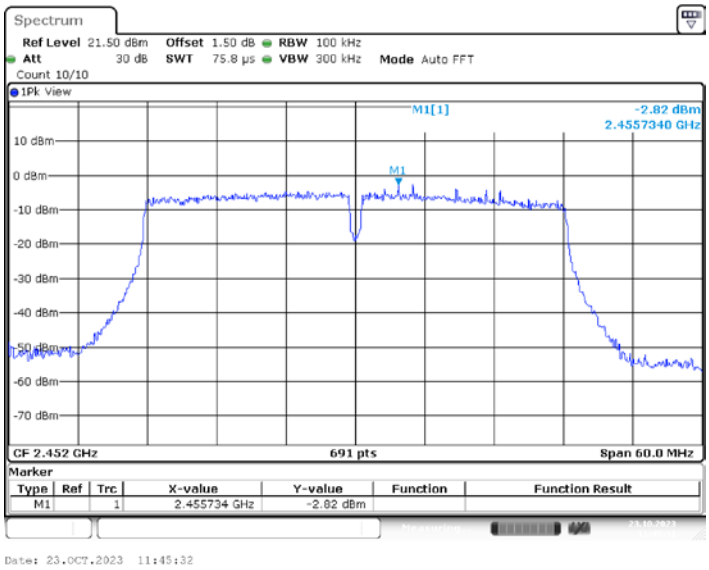
802.11n(HT40)_Ant2_2437_30~1000



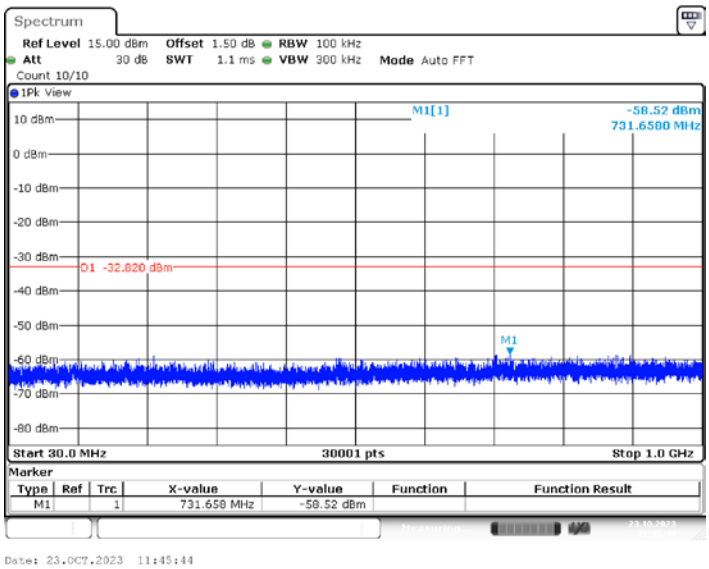
802.11n(HT40)_Ant2_2437_1000~26500



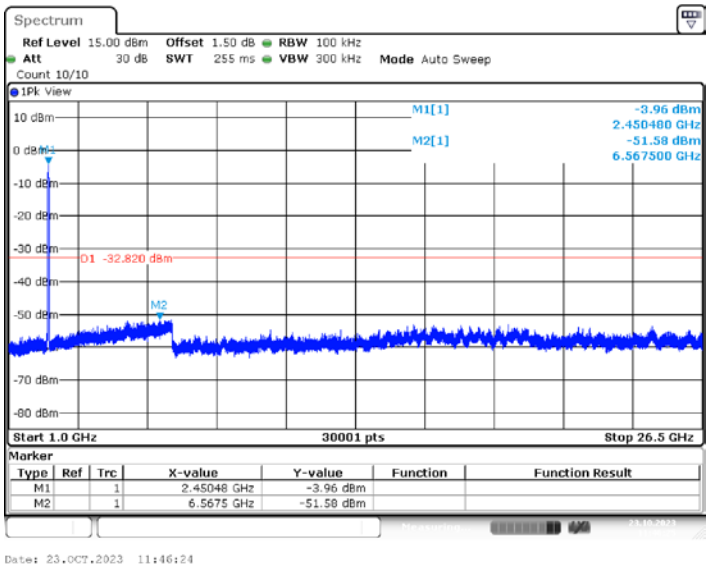
802.11n(HT40)_Ant1_2452_0~Reference



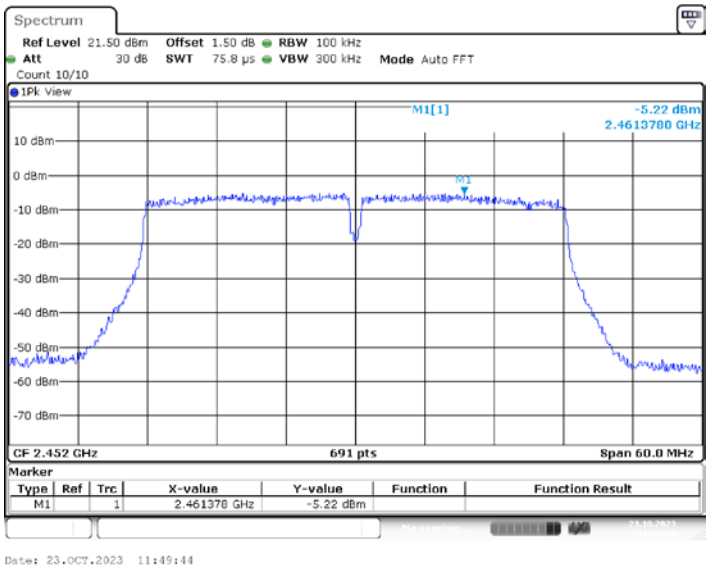
802.11n(HT40)_Ant1_2452_30~1000



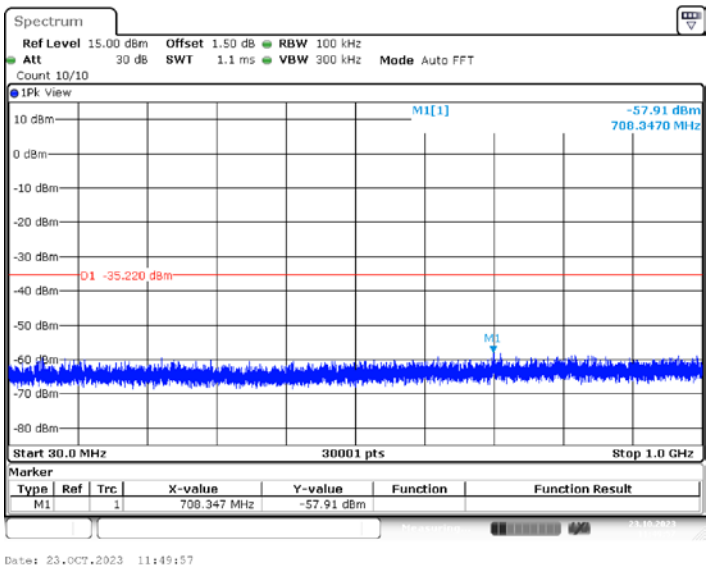
802.11n(HT40)_Ant1_2452_1000~26500



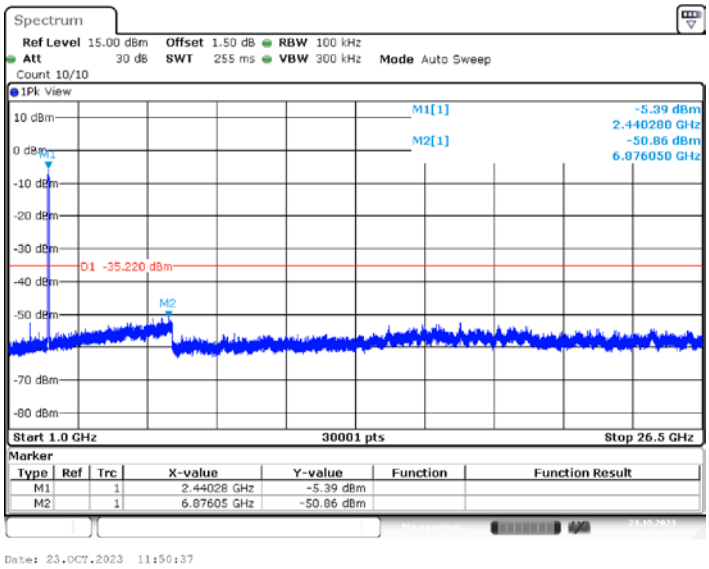
802.11n(HT40)_Ant2_2452_0~Reference



802.11n(HT40)_Ant2_2452_30~1000



802.11n(HT40)_Ant2_2452_1000~26500


Spectrum
Ref Level 15.00 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 255 ms VBW 300 kHz Mode Auto Sweep
Count 10/10
1Pk View
M1[1] -5.39 dBm
2.440280 GHz
M2[1] -50.86 dBm
6.076050 GHz
D1 -35.220 dBm
Start 1.0 GHz 30001 pts Stop 26.5 GHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.44028 GHz -5.39 dBm
M2 1 6.07605 GHz -50.86 dBm
Date: 23.OCT.2023 11:50:37

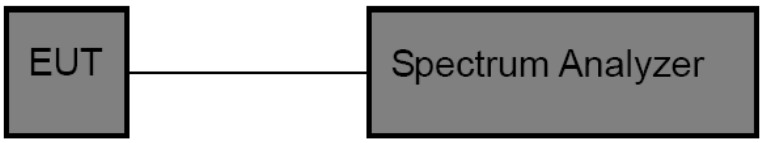
3.5. DTS Bandwidth

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(2)/ RSS-247 5.2 a:

Test Item	Limit	Frequency Range(MHz)
DTS Bandwidth	>=500 KHz (6dB bandwidth)	2400~2483.5

Test Configuration



Test Procedure

5. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
6. DTS Spectrum Setting:
   (1) Set RBW = 100 kHz.
   (2) Set the video bandwidth (VBW) ≥ 3 RBW.
   (3) Detector = Peak.
   (4) Trace mode = Max hold.
   (5) Sweep = Auto couple.
   OCB Spectrum Setting:
   (1) Set RBW = 1% ~ 5% occupied bandwidth.
   (2) Set the video bandwidth (VBW) ≥ 3 RBW.
   (3) Detector = Peak.
   (4) Trace mode = Max hold.
   (5) Sweep = Auto couple.

NOTE: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

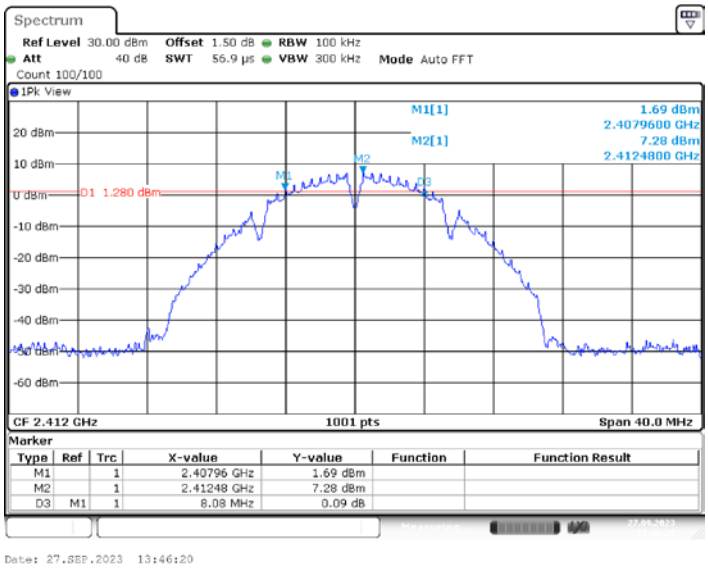
Test Mode

Please refer to the clause 2.4.

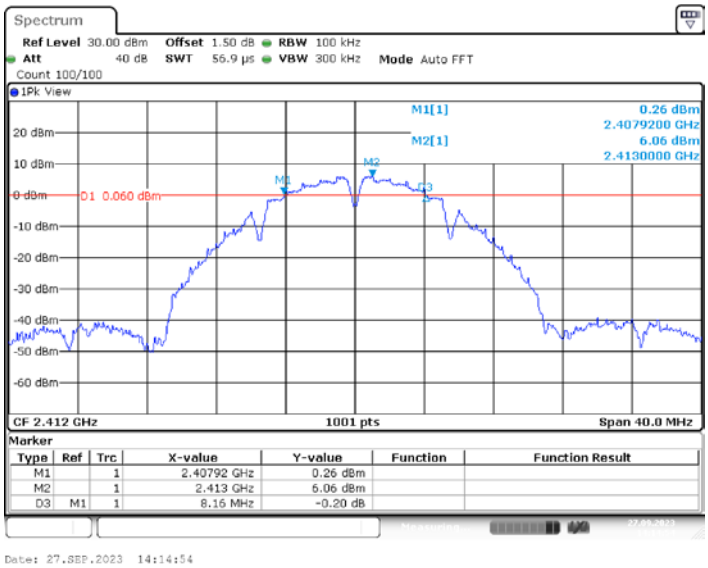
Test Results

Test Mode	Antenna	Channel	DTS BW [MHz]	Limit[MHz]	Verdict
802.11b	Ant1	2412	8.08	>=0.5	PASS
	Ant2	2412	8.16	>=0.5	PASS
	Ant1	2437	8.08	>=0.5	PASS
	Ant2	2437	8.08	>=0.5	PASS
	Ant1	2462	8.08	>=0.5	PASS
	Ant2	2462	8.04	>=0.5	PASS
802.11g	Ant1	2412	16.36	>=0.5	PASS
	Ant2	2412	16.40	>=0.5	PASS
	Ant1	2437	16.32	>=0.5	PASS
	Ant2	2437	16.32	>=0.5	PASS
	Ant1	2462	16.36	>=0.5	PASS
	Ant2	2462	16.36	>=0.5	PASS
802.11n(HT20)	Ant1	2412	17.60	>=0.5	PASS
	Ant2	2412	17.64	>=0.5	PASS
	Ant1	2437	17.56	>=0.5	PASS
	Ant2	2437	17.60	>=0.5	PASS
	Ant1	2462	17.68	>=0.5	PASS
	Ant2	2462	17.60	>=0.5	PASS
802.11n(HT40)	Ant1	2422	36.40	>=0.5	PASS
	Ant2	2422	36.40	>=0.5	PASS
	Ant1	2437	36.08	>=0.5	PASS
	Ant2	2437	36.40	>=0.5	PASS
	Ant1	2452	36.40	>=0.5	PASS
	Ant2	2452	36.40	>=0.5	PASS

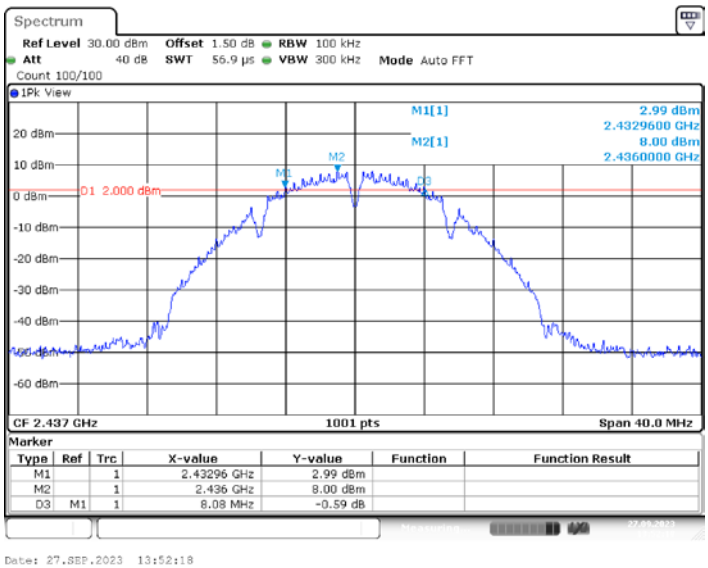
802.11b_Ant1_2412



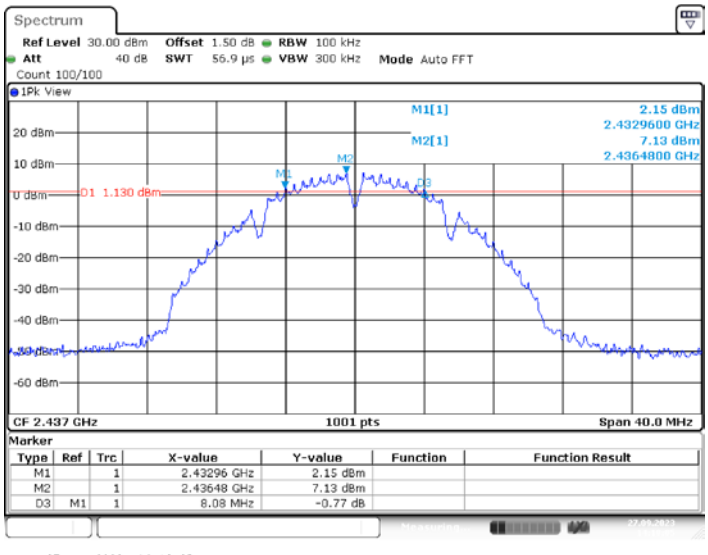
802.11b_Ant2_2412



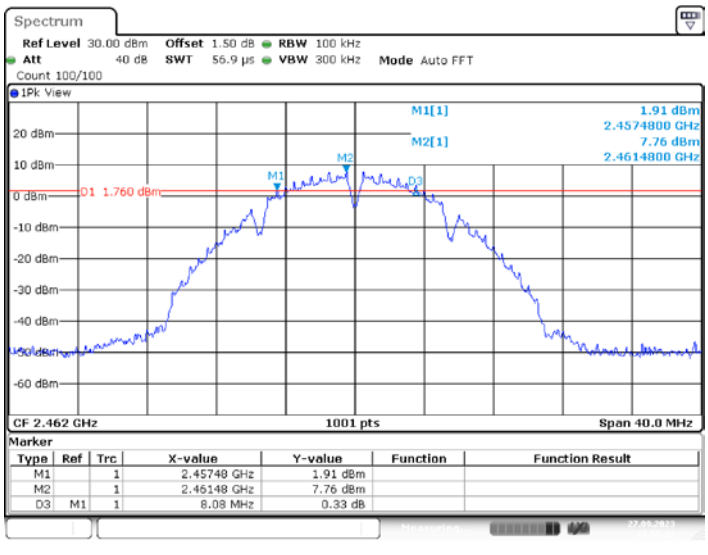
802.11b_Ant1_2437



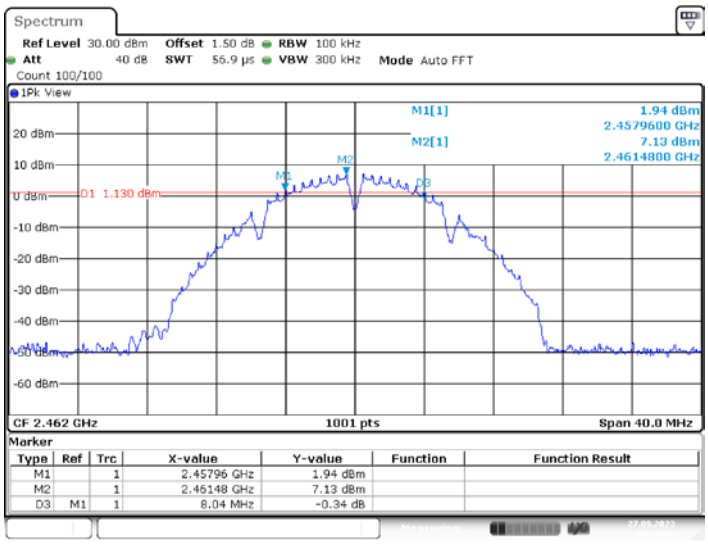
802.11b_Ant2_2437



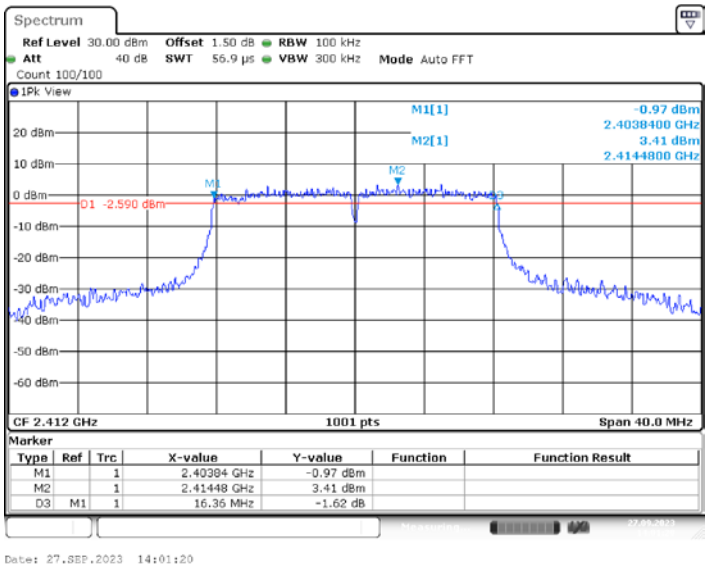
802.11b_Ant1_2462



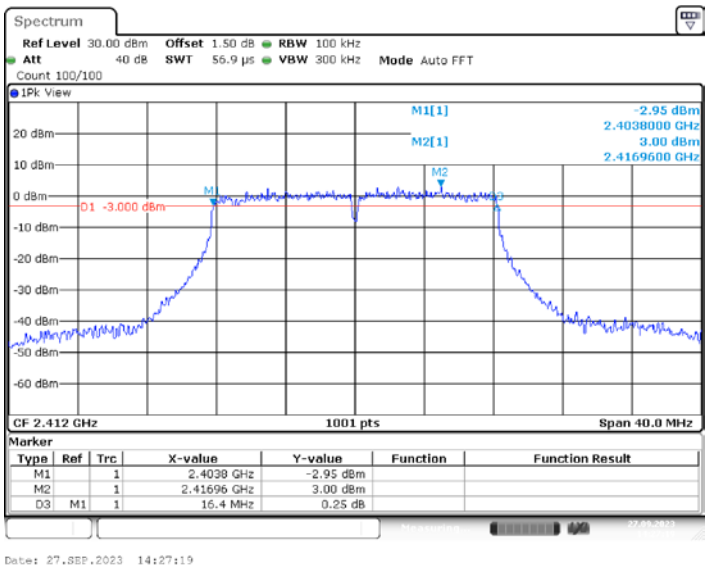
802.11b_Ant2_2462



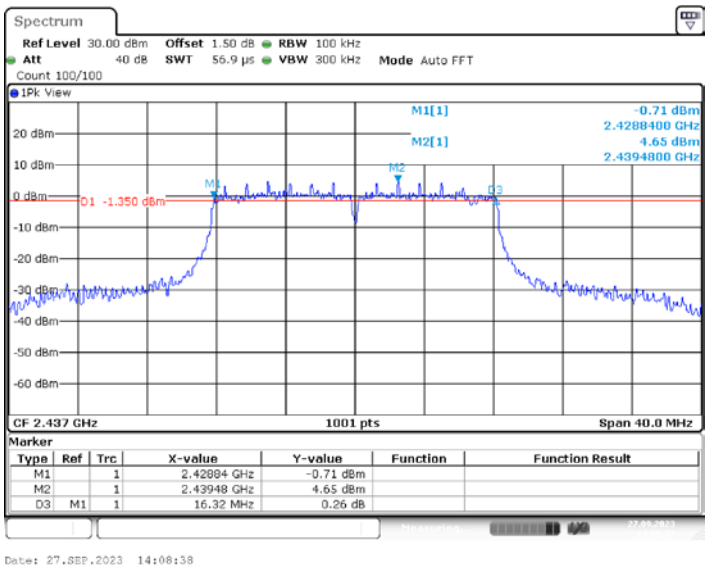
802.11g_Ant1_2412



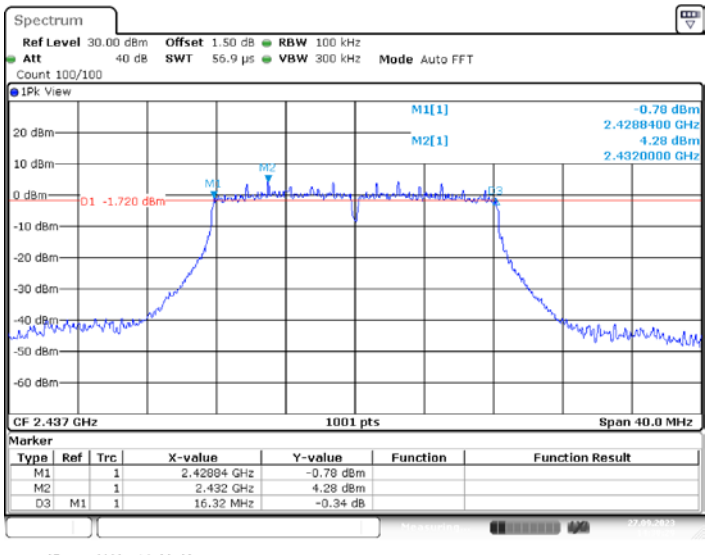
802.11g_Ant2_2412



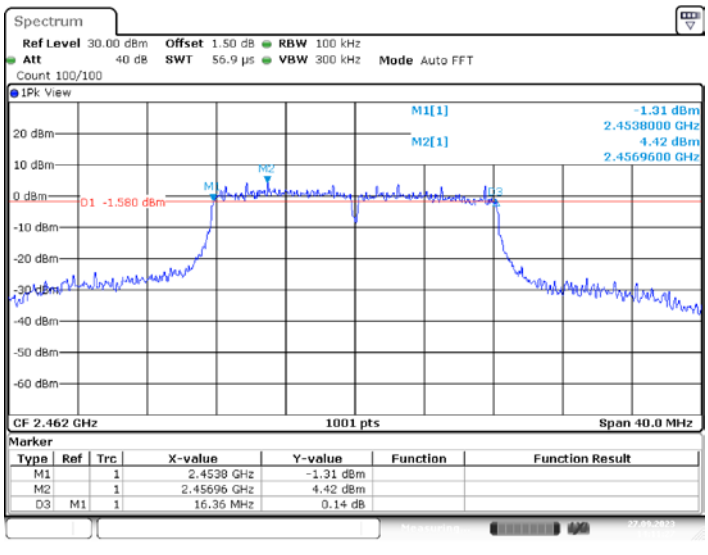
802.11g_Ant1_2437



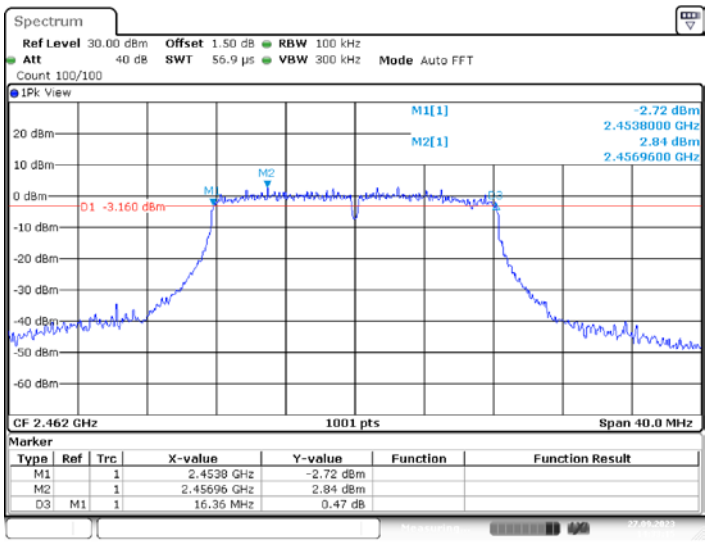
802.11g_Ant2_2437



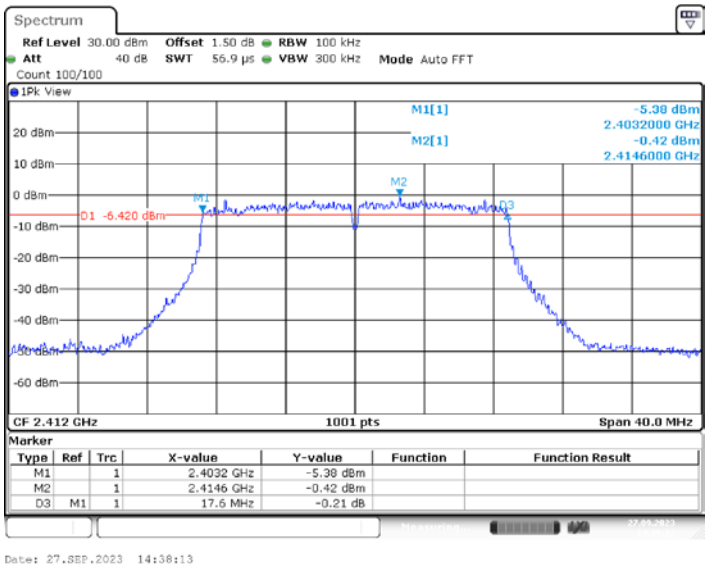
802.11g_Ant1_2462



802.11g_Ant2_2462

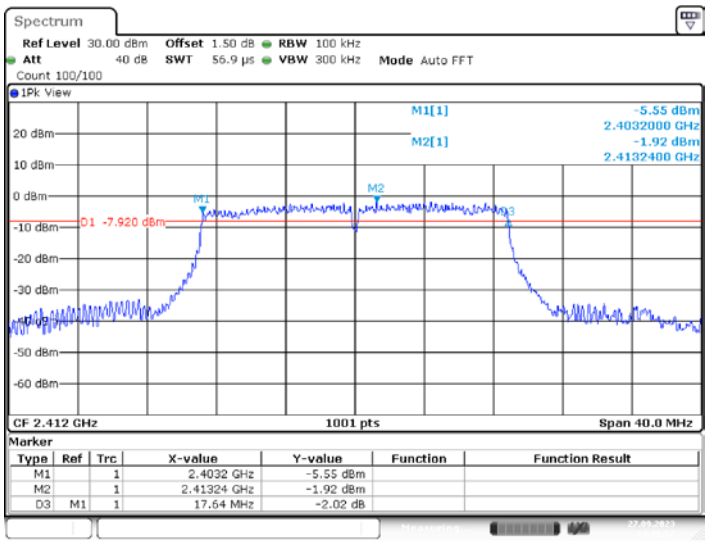


802.11n(HT20)_Ant1_2412



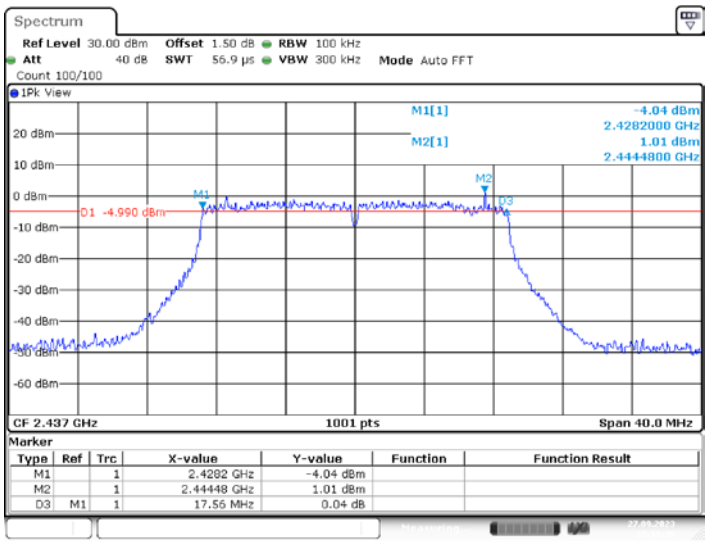
Date: 27.SEP.2023 14:38:13

802.11n(HT20)_Ant2_2412



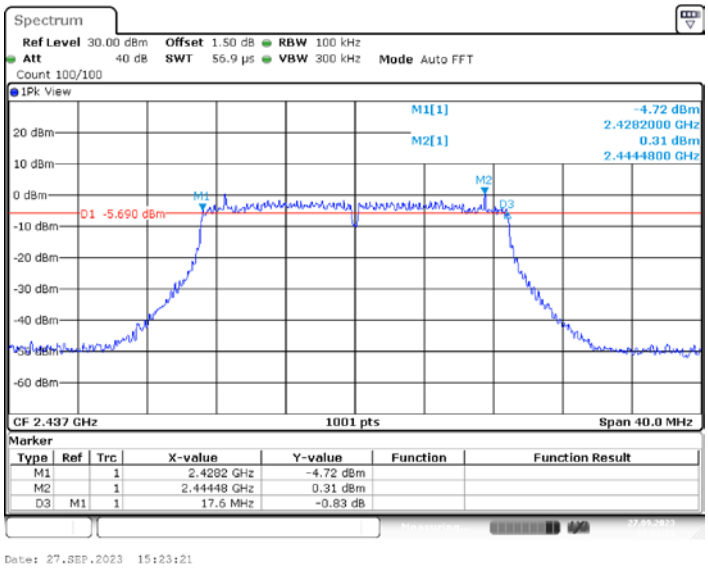
Date: 27.SEP.2023 14:41:58

802.11n(HT20)_Ant1_2437

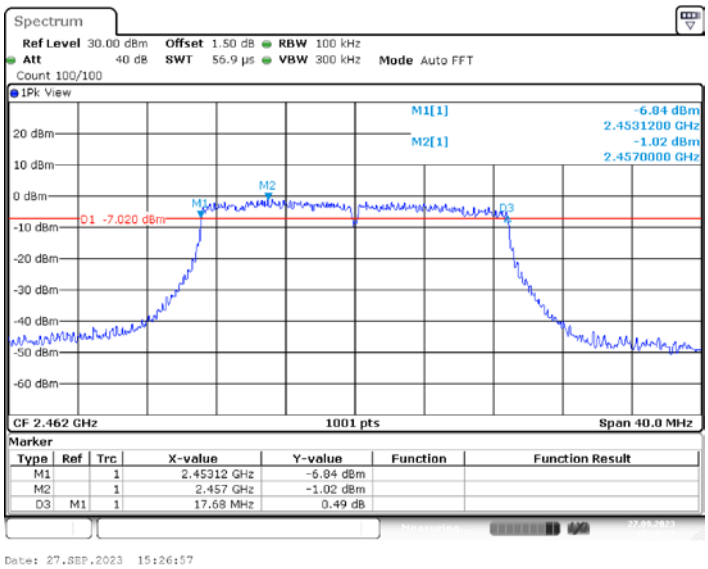


Date: 27.SEP.2023 15:19:46

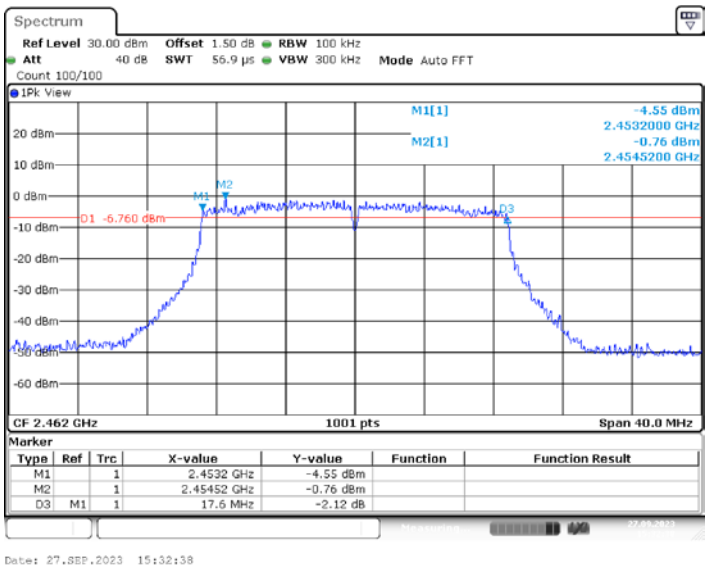
802.11n(HT20)_Ant2_2437



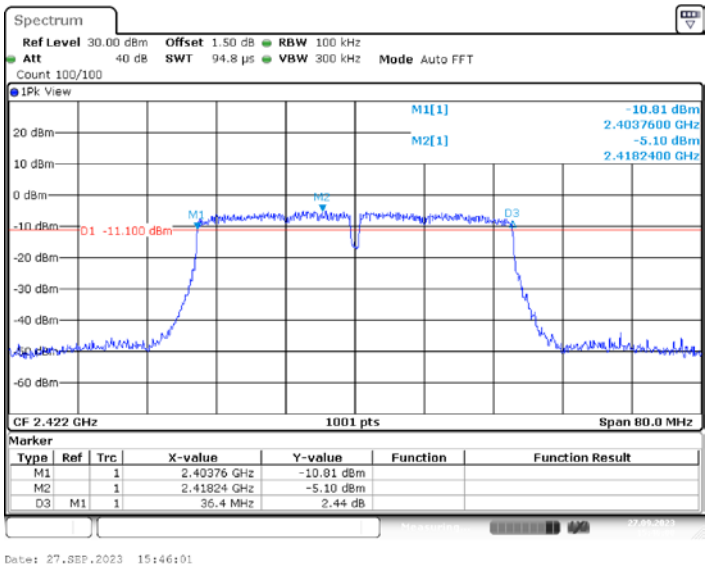
802.11n(HT20)_Ant1_2462



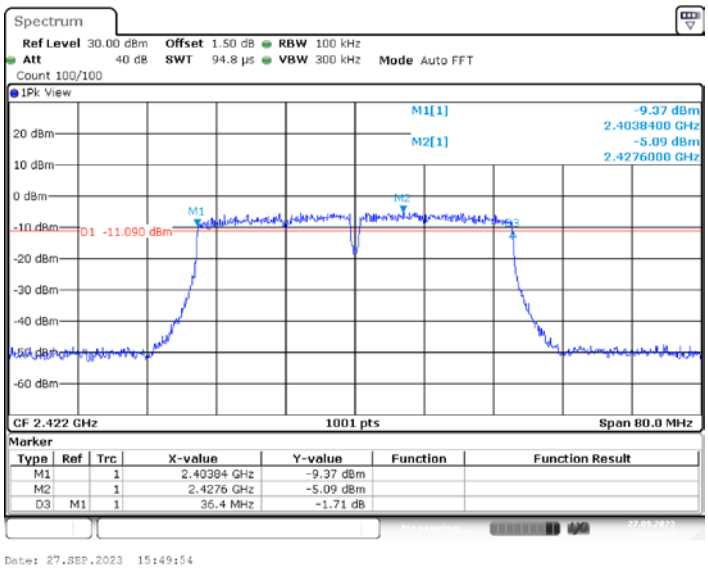
802.11n(HT20)_Ant2_2462



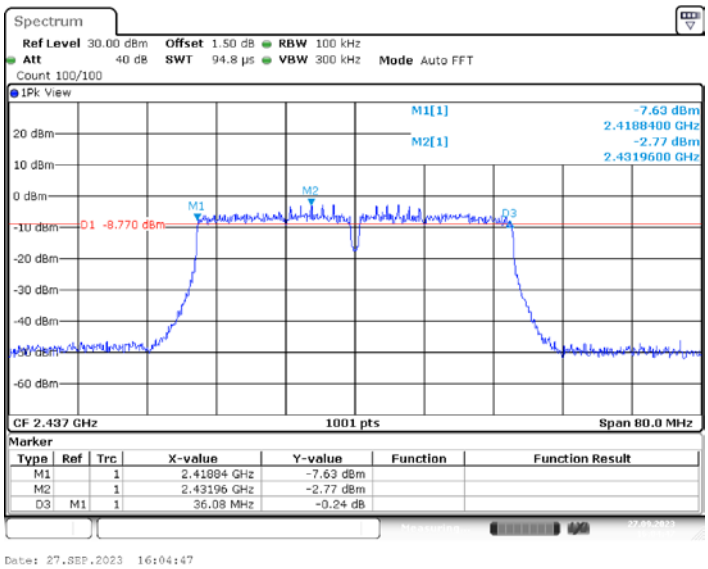
802.11n(HT40)_Ant1_2422



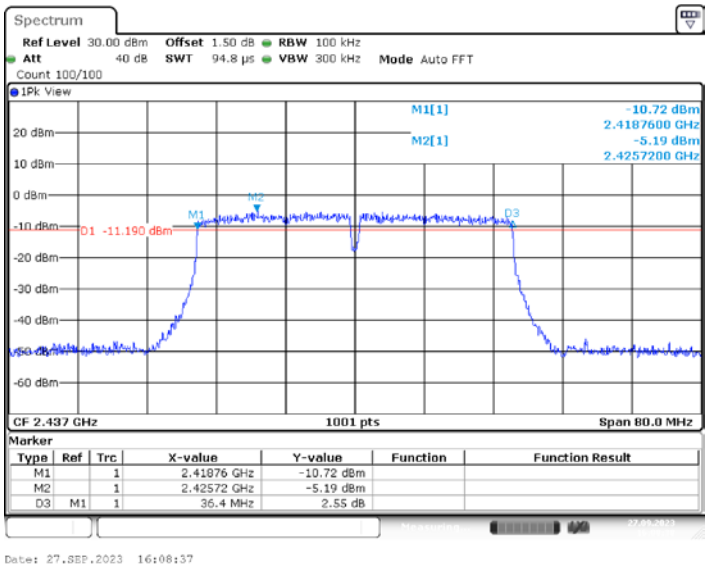
802.11n(HT40)_Ant2_2422



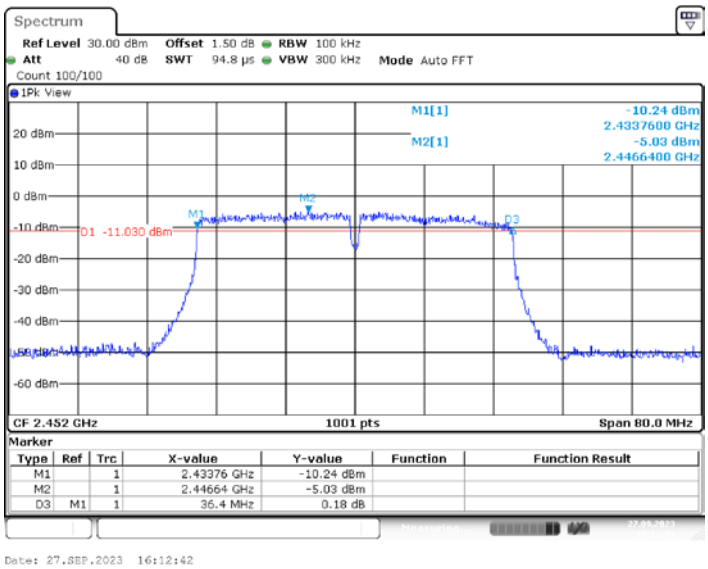
802.11n(HT40)_Ant1_2437



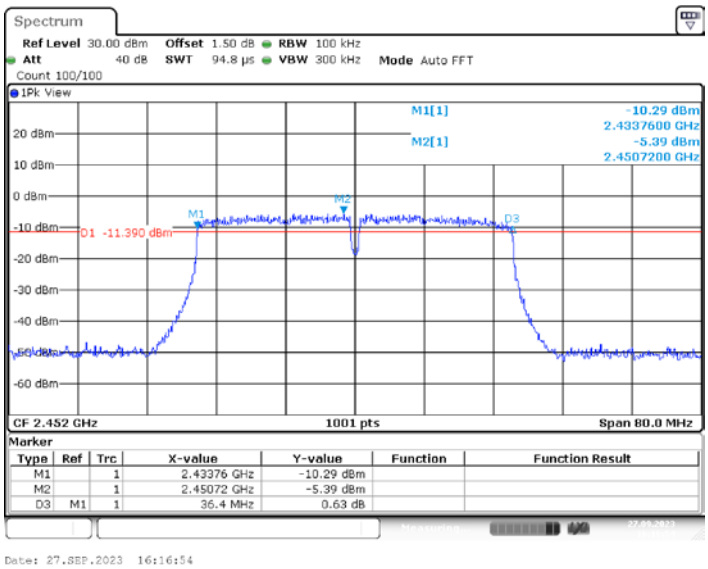
802.11n(HT40)_Ant2_2437



802.11n(HT40)_Ant1_2452



802.11n(HT40)_Ant2_2452



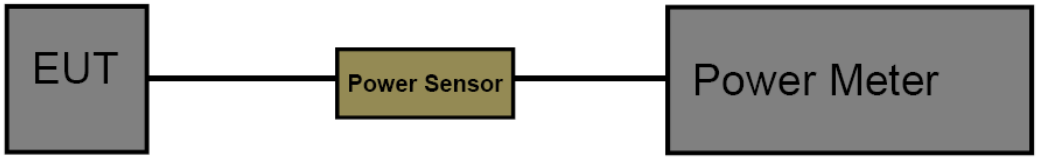
3.6. Maximum Conducted Output Power

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(3)/ RSS-247 5.4:

Section	Test Item	Limit	Frequency Range(MHz)
CFR 47 FCC 15.247(b)(3)	Maximum conducted output power	1 Watt or 30dBm	2400~2483.5
ISED RSS-247 5.4 d	EIRP	4 Watt or 36dBm	2400~2483.5

Test Configuration



Test Procedure

1. The maximum conducted output power may be measured using a broadband Peak RF power meter.
2. Peak power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor.
3. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.
4. Record the measurement data.

Test Mode

Please refer to the clause 2.4.

Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
802.11b	Ant1	2412	16.63	<=30	PASS
	Ant2	2412	16.82	<=30	PASS
	Ant1	2437	17.14	<=30	PASS
	Ant2	2437	16.56	<=30	PASS
	Ant1	2462	17.07	<=30	PASS
	Ant2	2462	16.27	<=30	PASS
802.11g	Ant1	2412	16.46	<=30	PASS
	Ant2	2412	16.05	<=30	PASS
	Ant1	2437	16.01	<=30	PASS
	Ant2	2437	15.77	<=30	PASS
	Ant1	2462	16.20	<=30	PASS
	Ant2	2462	15.59	<=30	PASS
802.11n(HT20)	Ant1	2412	12.32	<=30	PASS
	Ant2	2412	11.98	<=30	PASS
	Total	2412	15.16	<=30	PASS
	Ant1	2437	12.85	<=30	PASS
	Ant2	2437	12.46	<=30	PASS
	Total	2437	15.67	<=30	PASS
	Ant1	2462	12.70	<=30	PASS
	Ant2	2462	12.39	<=30	PASS
	Total	2462	15.56	<=30	PASS
802.11n(HT40)	Ant1	2422	12.20	<=30	PASS
	Ant2	2422	11.83	<=30	PASS
	Total	2422	15.03	<=30	PASS
	Ant1	2437	12.20	<=30	PASS
	Ant2	2437	11.79	<=30	PASS
	Total	2437	15.01	<=30	PASS
	Ant1	2452	11.94	<=30	PASS
	Ant2	2452	11.60	<=30	PASS
	Total	2452	14.78	<=30	PASS

Note: Test results increased RF cable loss by 1.5dB and Duty Cycle Factor.

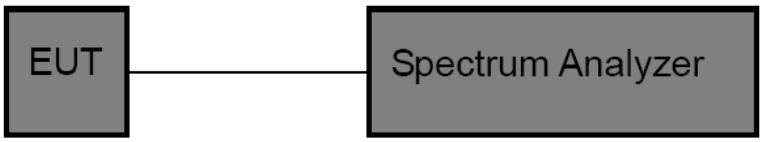
3.7. Power Spectral Density

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (e)/ RSS-247 5.2 b:

Test Item	Limit	Frequency Range(MHz)
Power Spectral Density	8dBm(in any 3 kHz)	2400~2483.5

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:

Set analyzer center frequency to DTS channel center frequency.
Set the span to 1.5 times the DTS bandwidth.
Set the RBW to: 3 kHz
Set the VBW to: 10 kHz
Detector: PK
Sweep time: Auto

Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

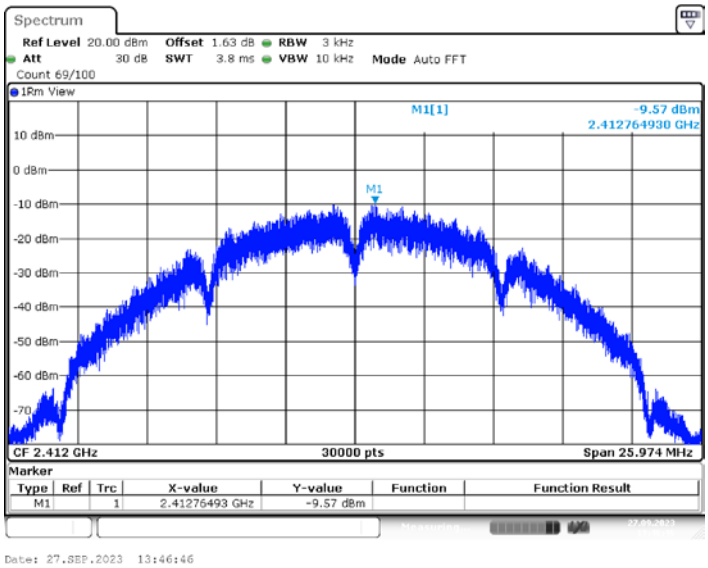
Test Mode

Please refer to the clause 2.4.

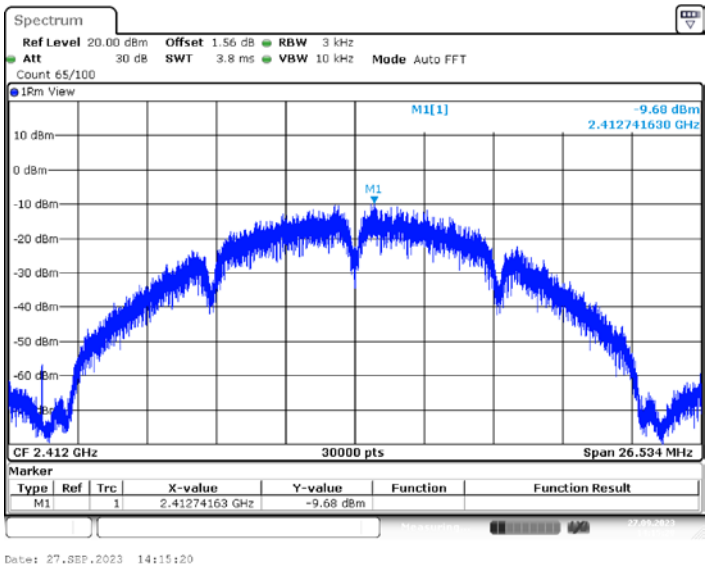
Test Result

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
802.11b	Ant1	2412	-9.57	<=8	PASS
	Ant2	2412	-9.68	<=8	PASS
	Ant1	2437	-10.40	<=8	PASS
	Ant2	2437	-11.23	<=8	PASS
	Ant1	2462	-9.72	<=8	PASS
	Ant2	2462	-11.01	<=8	PASS
802.11g	Ant1	2412	-15.77	<=8	PASS
	Ant2	2412	-15.90	<=8	PASS
	Ant1	2437	-16.37	<=8	PASS
	Ant2	2437	-16.27	<=8	PASS
	Ant1	2462	-15.77	<=8	PASS
	Ant2	2462	-16.39	<=8	PASS
802.11n(HT20)	Ant1	2412	-20.74	<=8	PASS
	Ant2	2412	-20.99	<=8	PASS
	Total	2412	-17.85	<=8	PASS
	Ant1	2437	-20.68	<=8	PASS
	Ant2	2437	-20.72	<=8	PASS
	Total	2437	-17.69	<=8	PASS
	Ant1	2462	-20.43	<=8	PASS
	Ant2	2462	-20.37	<=8	PASS
	Total	2462	-17.39	<=8	PASS
802.11n(HT40)	Ant1	2422	-23.36	<=8	PASS
	Ant2	2422	-23.75	<=8	PASS
	Total	2422	-20.54	<=8	PASS
	Ant1	2437	-23.70	<=8	PASS
	Ant2	2437	-23.51	<=8	PASS
	Total	2437	-20.59	<=8	PASS
	Ant1	2452	-23.47	<=8	PASS
	Ant2	2452	-23.27	<=8	PASS
	Total	2452	-20.36	<=8	PASS

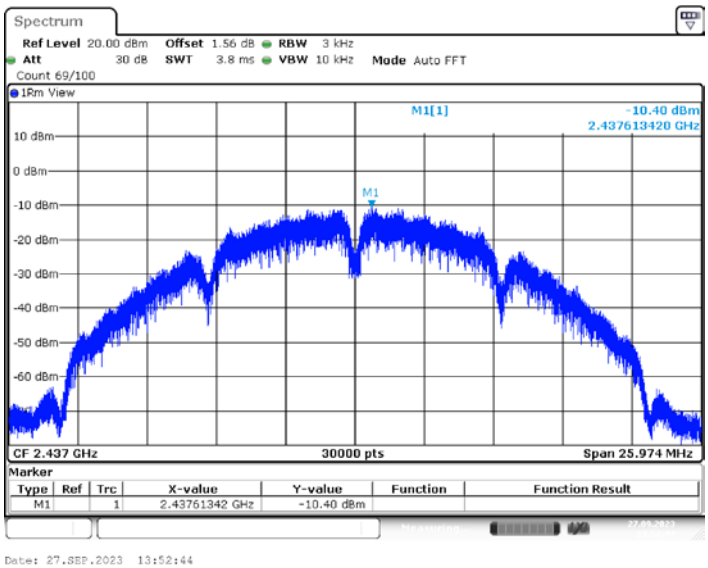
802.11b_Ant1_2412



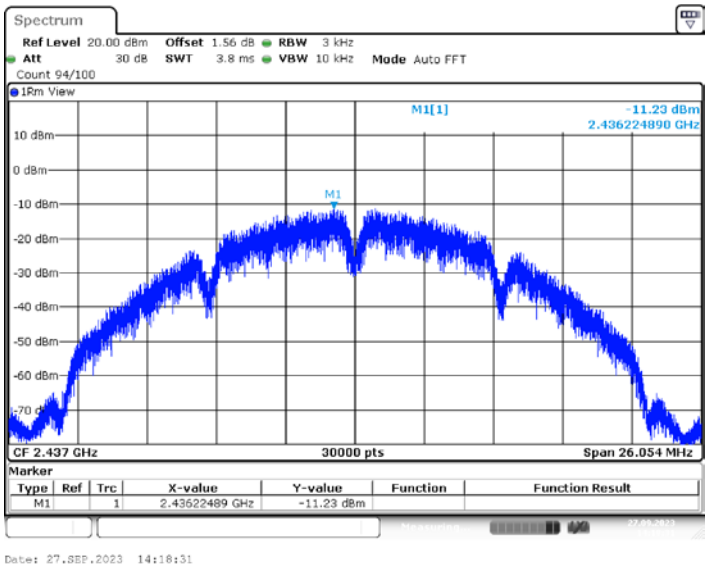
802.11b_Ant2_2412



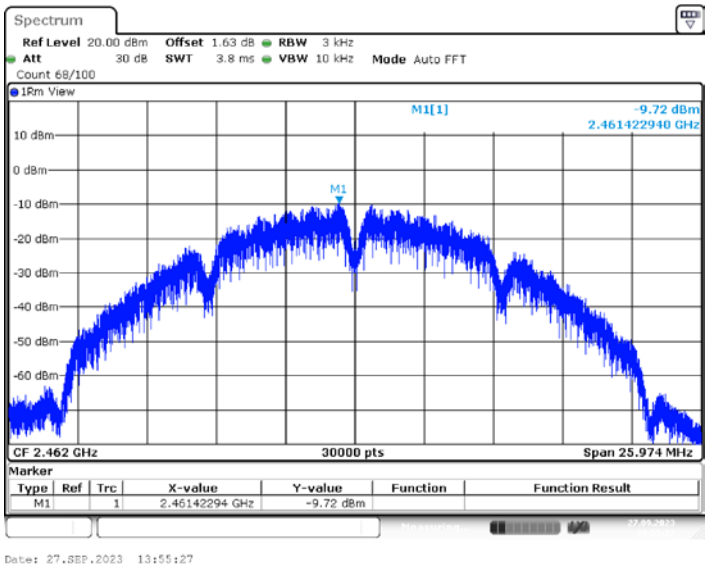
802.11b_Ant1_2437



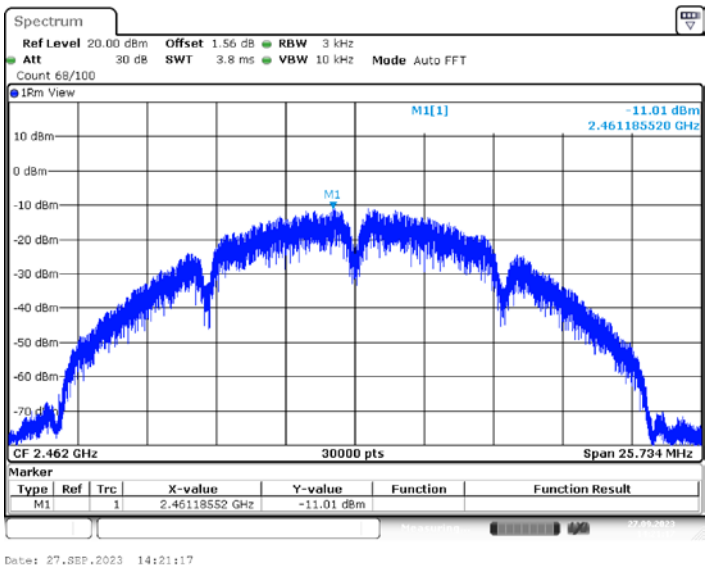
802.11b_Ant2_2437



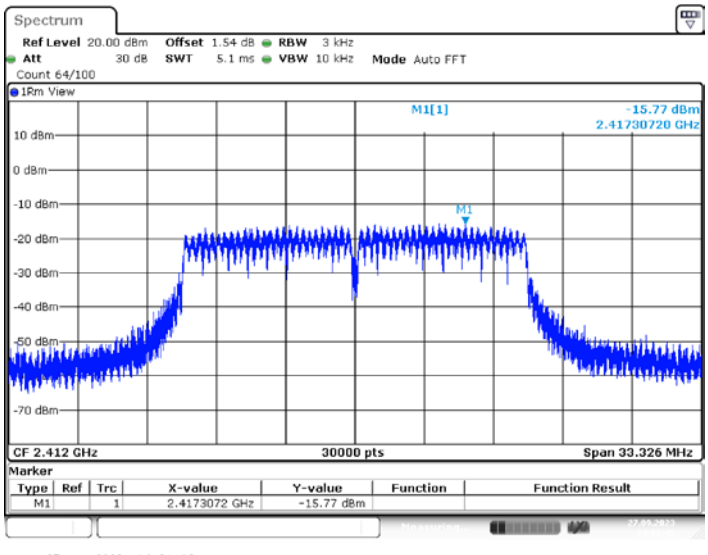
802.11b_Ant1_2462



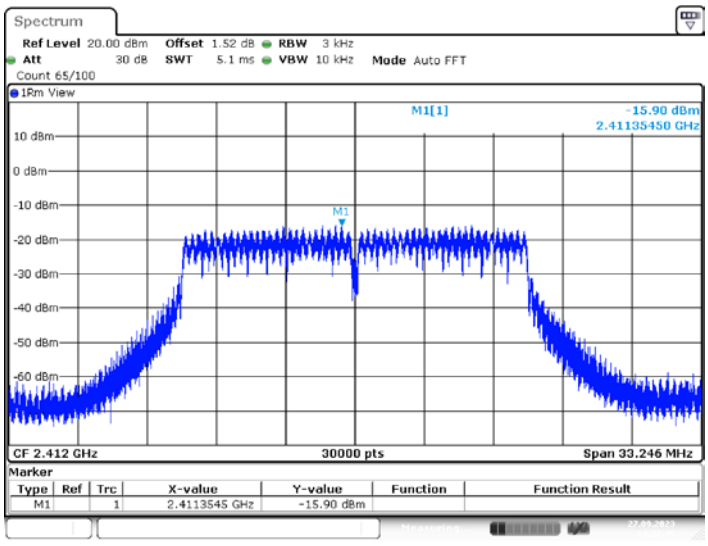
802.11b_Ant2_2462



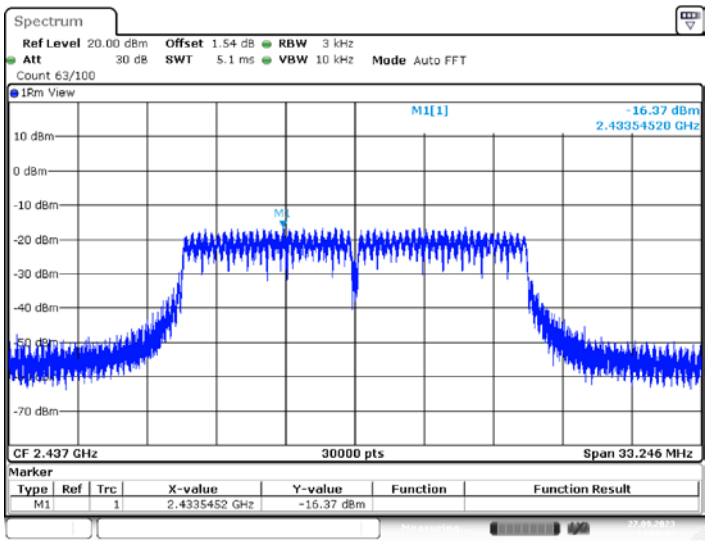
802.11g_Ant1_2412



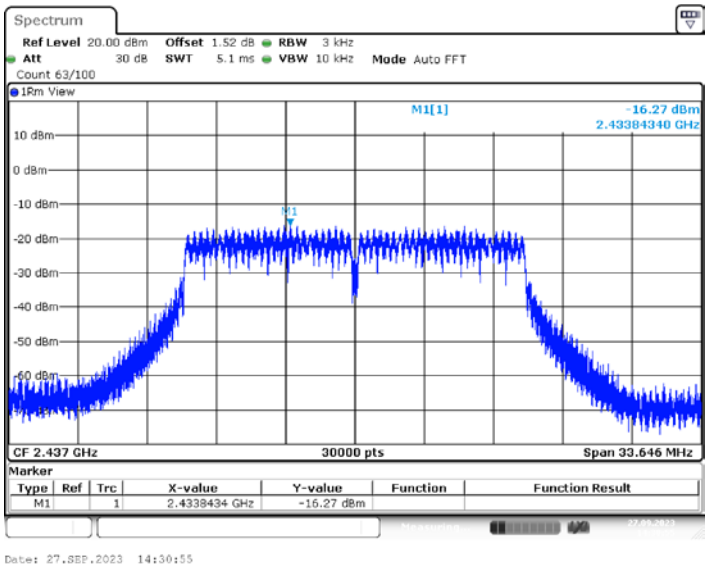
802.11g_Ant2_2412



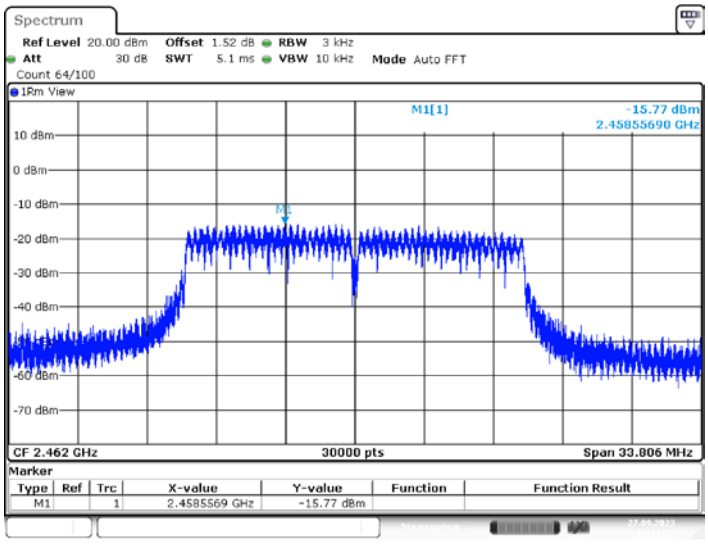
802.11g_Ant1_2437



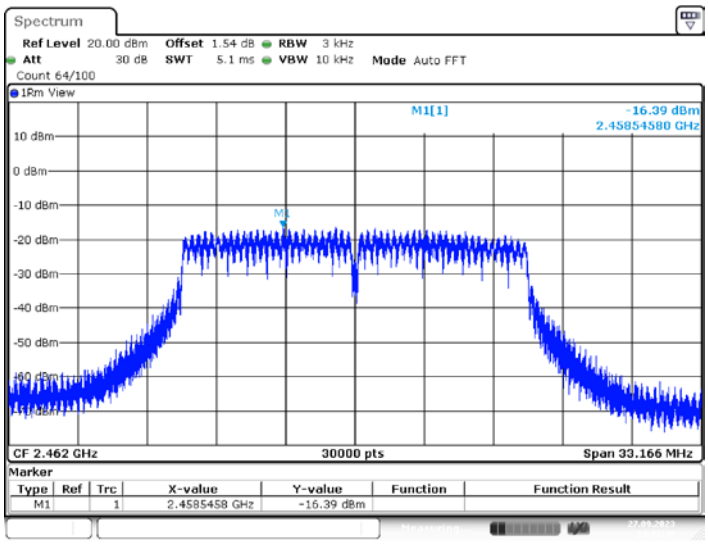
802.11g_Ant2_2437



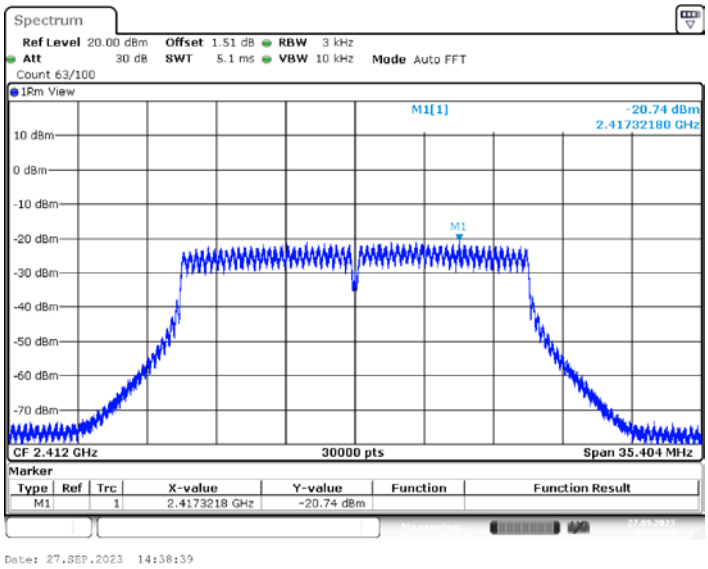
802.11g_Ant1_2462



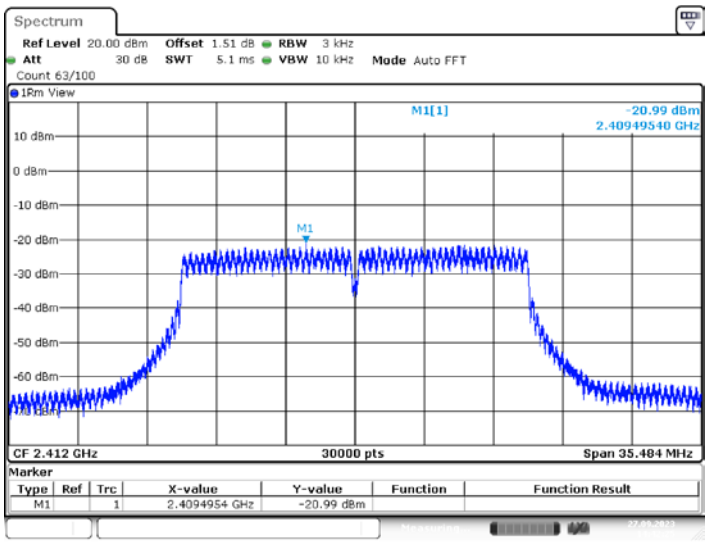
802.11g_Ant2_2462



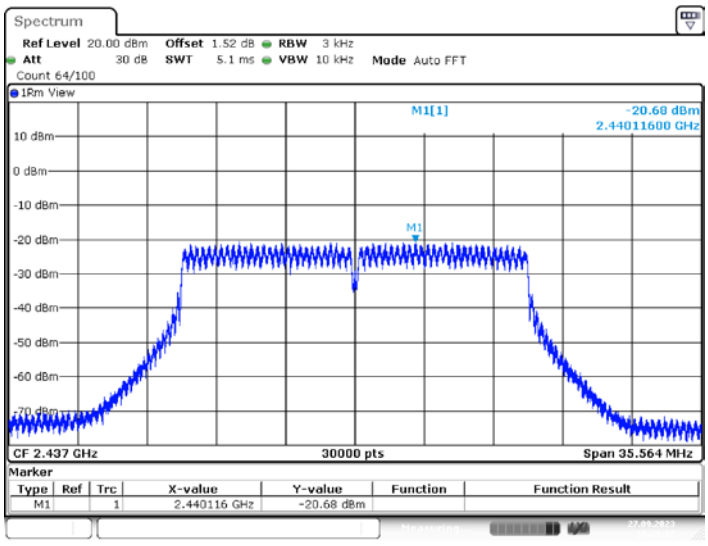
802.11n(HT20)_Ant1_2412



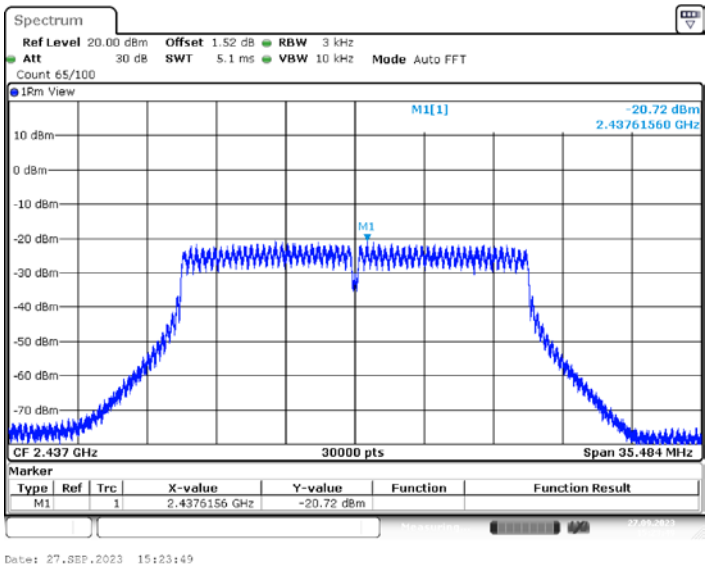
802.11n(HT20)_Ant2_2412



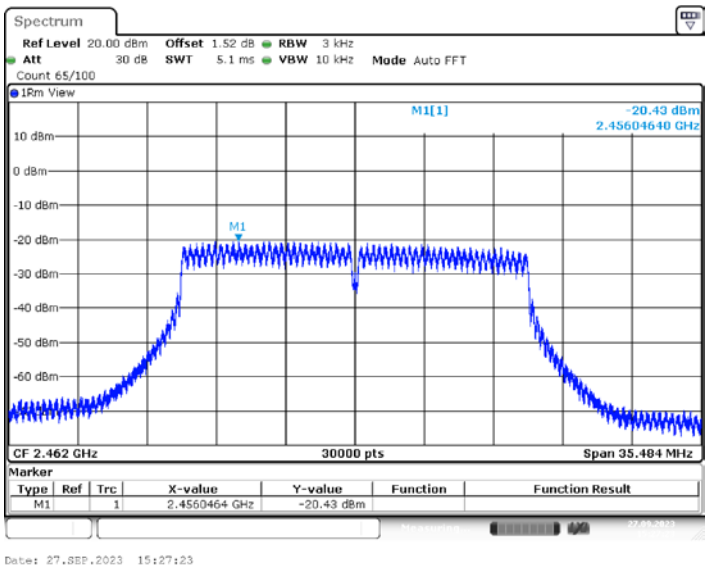
802.11n(HT20)_Ant1_2437



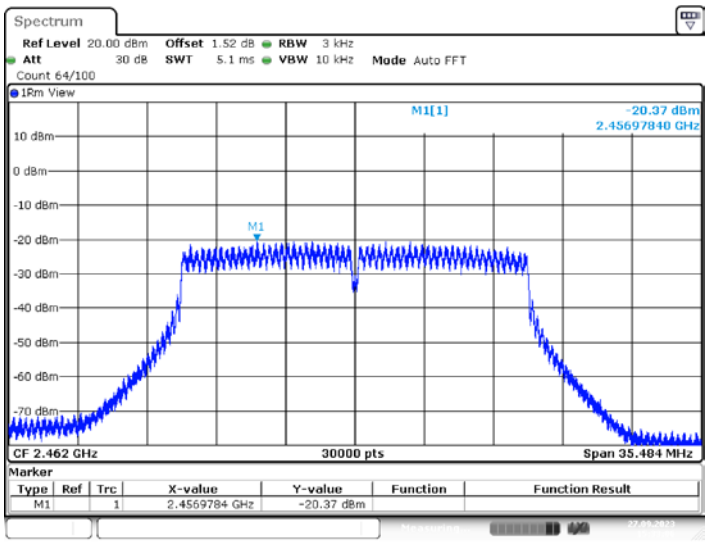
802.11n(HT20)_Ant2_2437



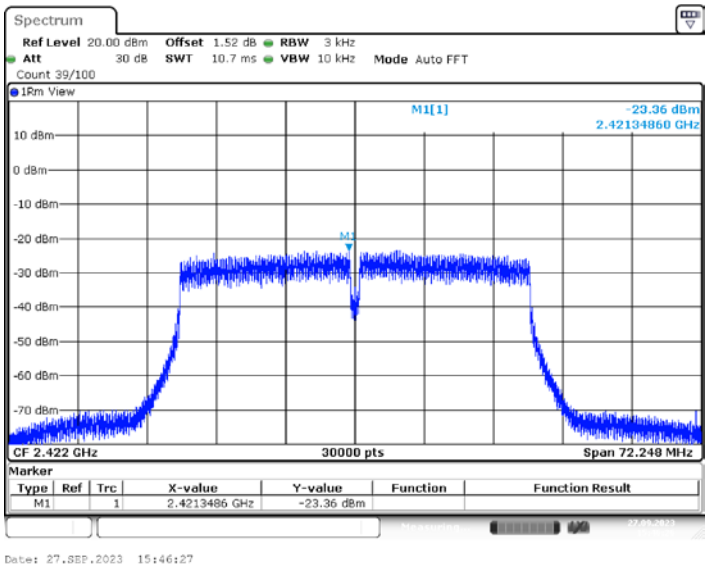
802.11n(HT20)_Ant1_2462



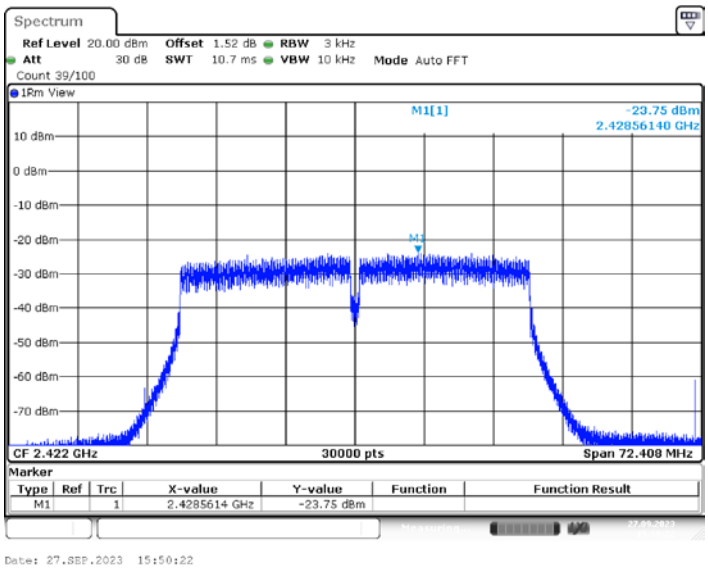
802.11n(HT20)_Ant2_2462



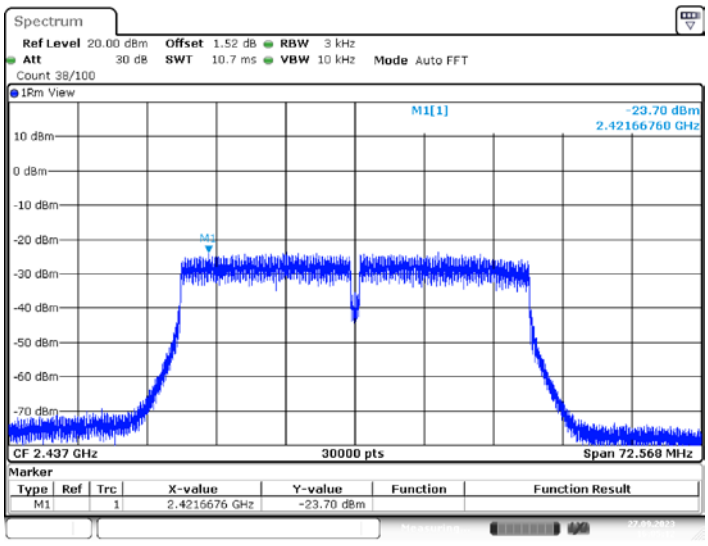
802.11n(HT40)_Ant1_2422



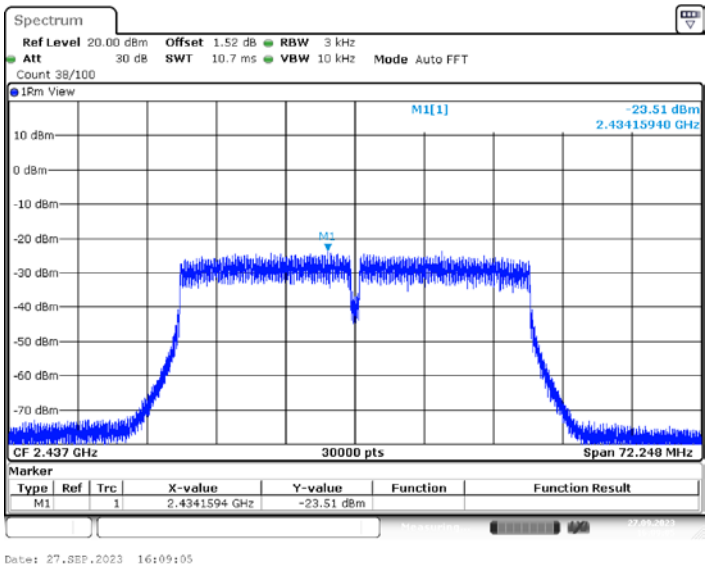
802.11n(HT40)_Ant2_2422



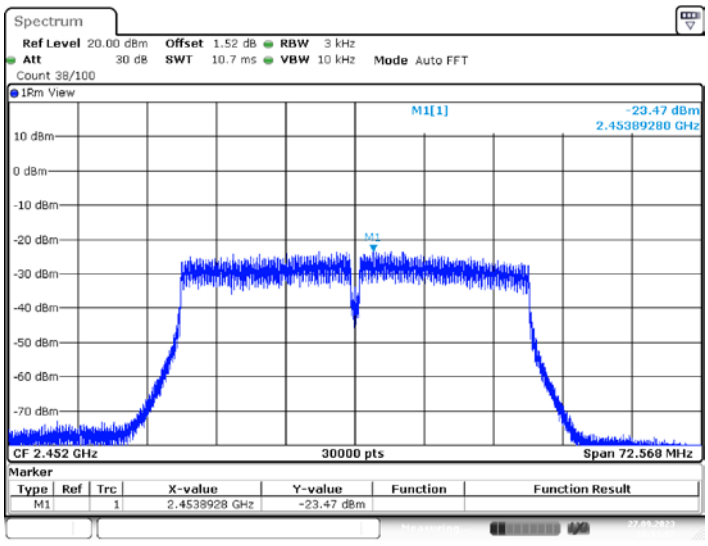
802.11n(HT40)_Ant1_2437



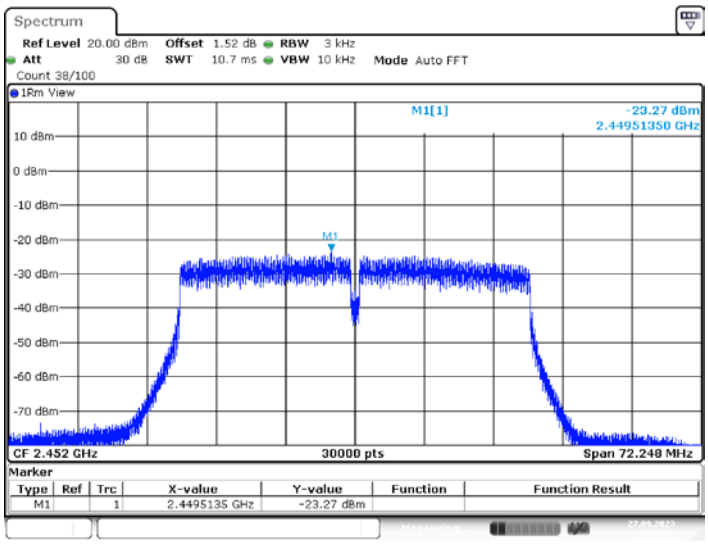
802.11n(HT40)_Ant2_2437



802.11n(HT40)_Ant1_2452



802.11n(HT40)_Ant2_2452

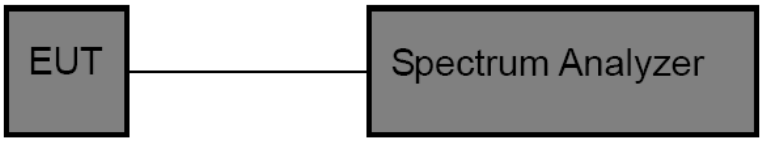


3.8. Duty Cycle

Limit

None, for report purposes only.

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:

Set analyzer center frequency to DTS channel center frequency.
Set the span to 0Hz
Set the RBW to 10MHz
Set the VBW to 10MHz
Detector: peak
Sweep time: auto

Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

Test Mode

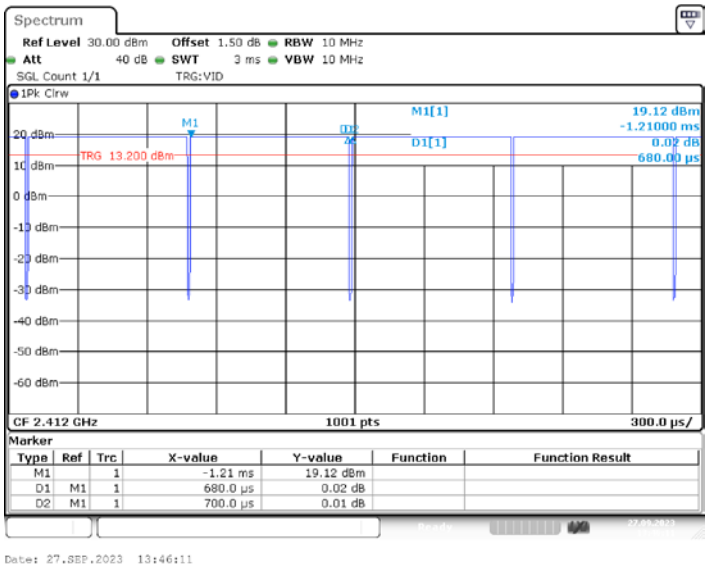
Please refer to the clause 2.4.

Test Result

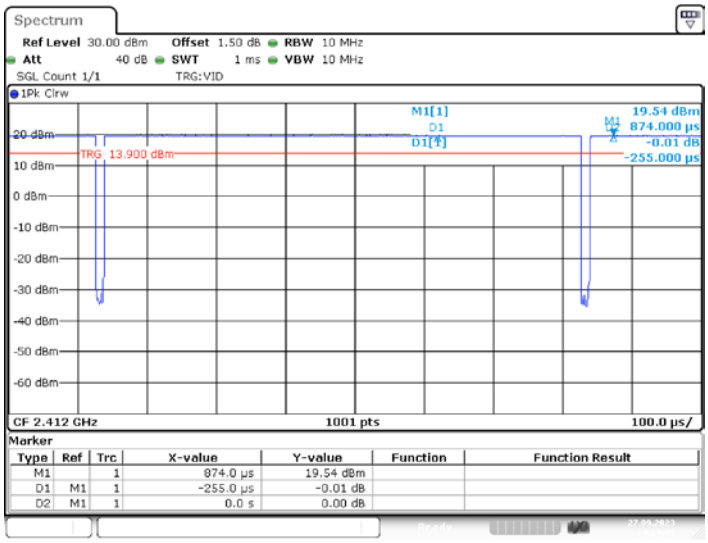
Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Duty Cycle Factor	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
802.11b	Ant1	2412	0.68	0.70	97.14	0.13	1.471	2
	Ant2	2412	0.69	0.70	98.57	0.06	1.449	2
	Ant1	2437	0.69	0.70	98.57	0.06	1.449	2
	Ant2	2437	0.69	0.70	98.57	0.06	1.449	2
	Ant1	2462	0.68	0.70	97.14	0.13	1.471	2
	Ant2	2462	0.69	0.70	98.57	0.06	1.449	2
802.11g	Ant1	2412	1.98	2.00	99.00	0.04	0.505	1
	Ant2	2412	1.98	1.99	99.50	0.02	0.505	1
	Ant1	2437	1.98	2.00	99.00	0.04	0.505	1
	Ant2	2437	1.98	1.99	99.50	0.02	0.505	1
	Ant1	2462	1.98	1.99	99.50	0.02	0.505	1
	Ant2	2462	1.97	1.99	98.99	0.04	0.508	1
802.11n(HT20)	Ant1	2412	5.38	5.39	99.81	0.01	0.186	1
	Ant2	2412	5.38	5.39	99.81	0.01	0.186	1
	Ant1	2437	5.37	5.39	99.63	0.02	0.186	1
	Ant2	2437	5.37	5.39	99.63	0.02	0.186	1
	Ant1	2462	5.37	5.39	99.63	0.02	0.186	1
	Ant2	2462	5.37	5.39	99.63	0.02	0.186	1
802.11n(HT40)	Ant1	2422	5.39	5.41	99.63	0.02	0.186	1
	Ant2	2422	5.39	5.41	99.63	0.02	0.186	1
	Ant1	2437	5.39	5.41	99.63	0.02	0.186	1
	Ant2	2437	5.40	5.42	99.63	0.02	0.185	1
	Ant1	2452	5.40	5.42	99.63	0.02	0.185	1
	Ant2	2452	5.39	5.41	99.63	0.02	0.186	1

Note: Duty Cycle Factor = 10*Log10(1/ Duty Cycle)

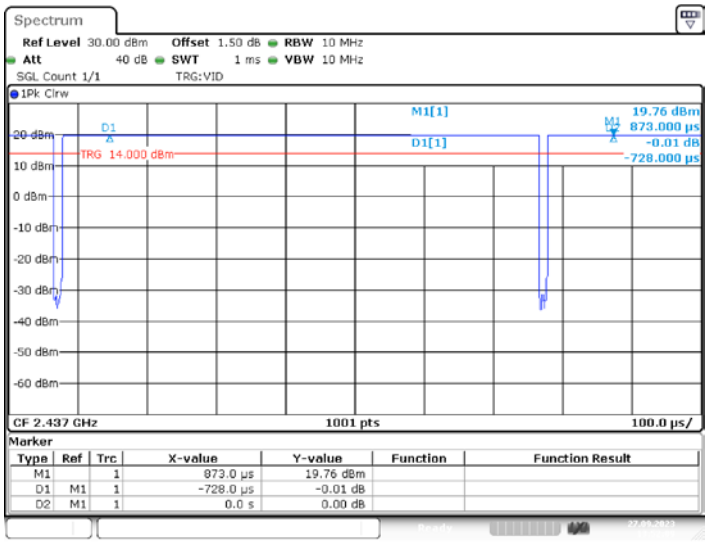
802.11b_Ant1_2412



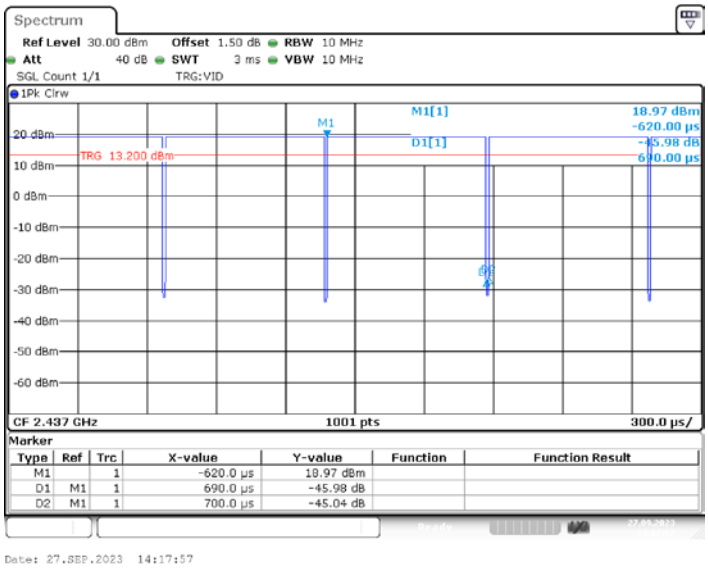
802.11b_Ant2_2412



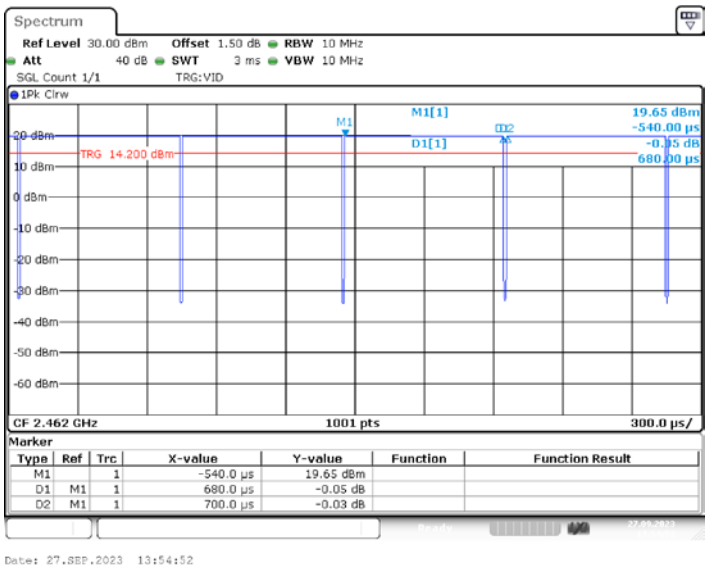
802.11b_Ant1_2437



802.11b_Ant2_2437



802.11b_Ant1_2462



802.11b_Ant2_2462