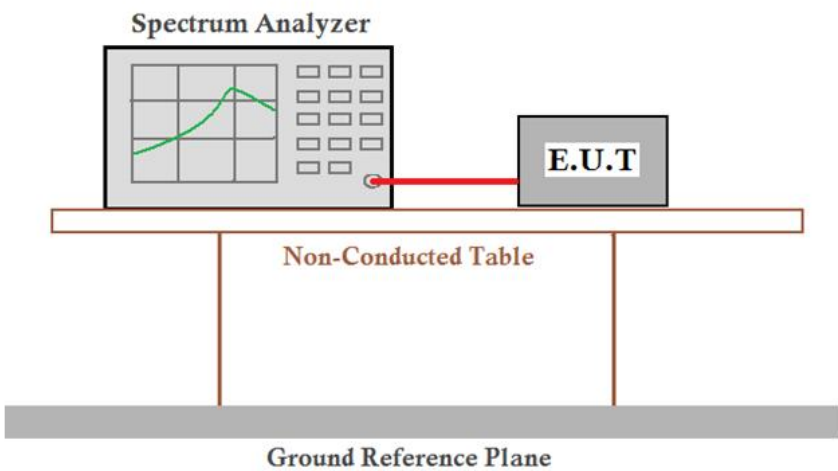


5.5 Carrier Frequencies Separation

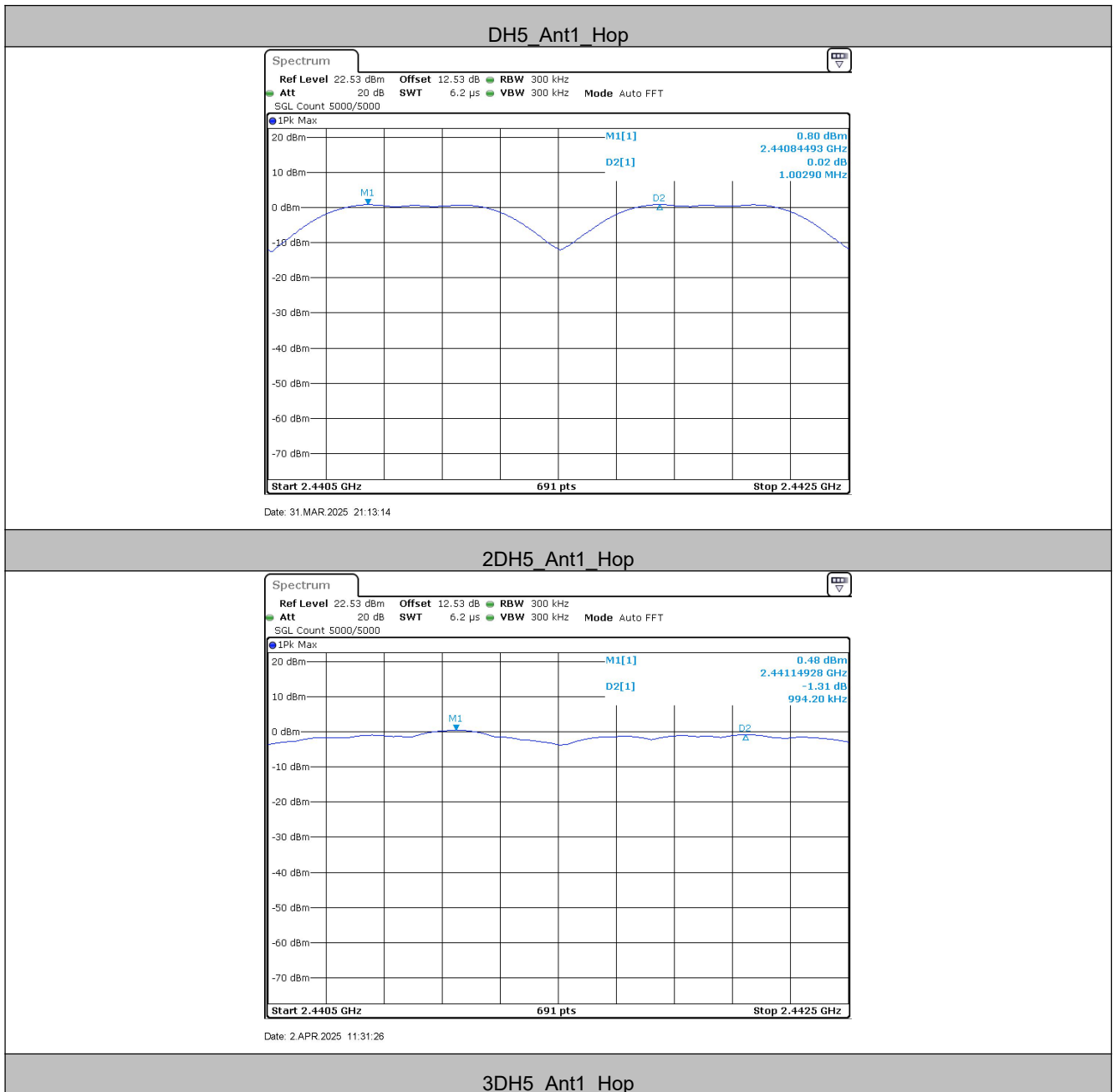
Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	 Remark: Offset=Cable loss+ attenuation factor.
Limit:	2/3 of the 20dB bandwidth
	Remark: the transmission power is less than 0.125W.
Exploratory Test Mode:	Hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	Only the worst case is recorded in the report.
Test Results:	Pass

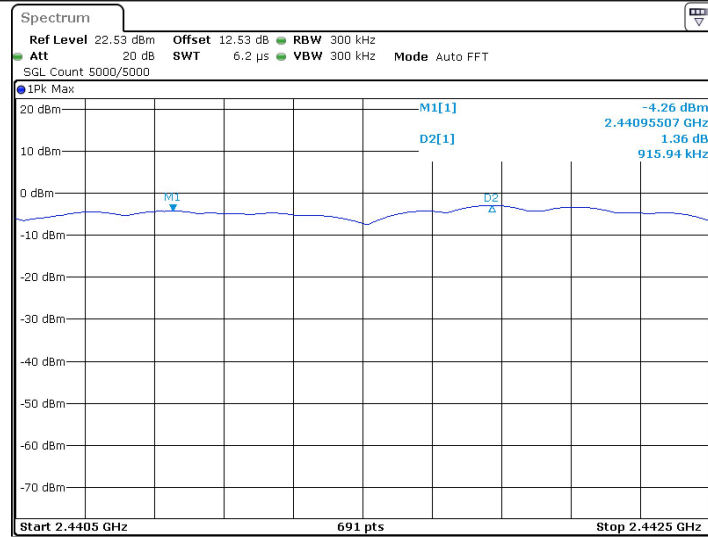
Measurement Data

TestMode	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Hop	1.003	≥ 0.633	PASS
2DH5	Hop	0.994	≥ 0.88	PASS
3DH5	Hop	0.916	≥ 0.853	PASS

Mode	20dB bandwidth (MHz) (worse case)	Limit (MHz) (Carrier Frequencies Separation)
GFSK	0.94	≥ 0.633
$\pi/4$ DQPSK	1.32	≥ 0.88
8DPSK	1.28	≥ 0.853

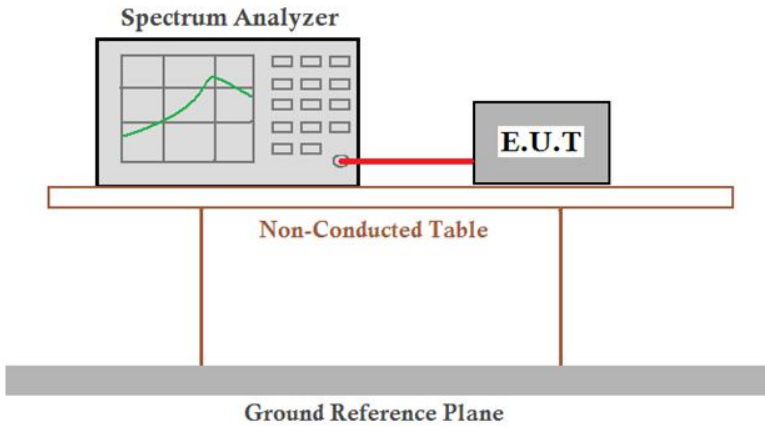
Test plot as follows:





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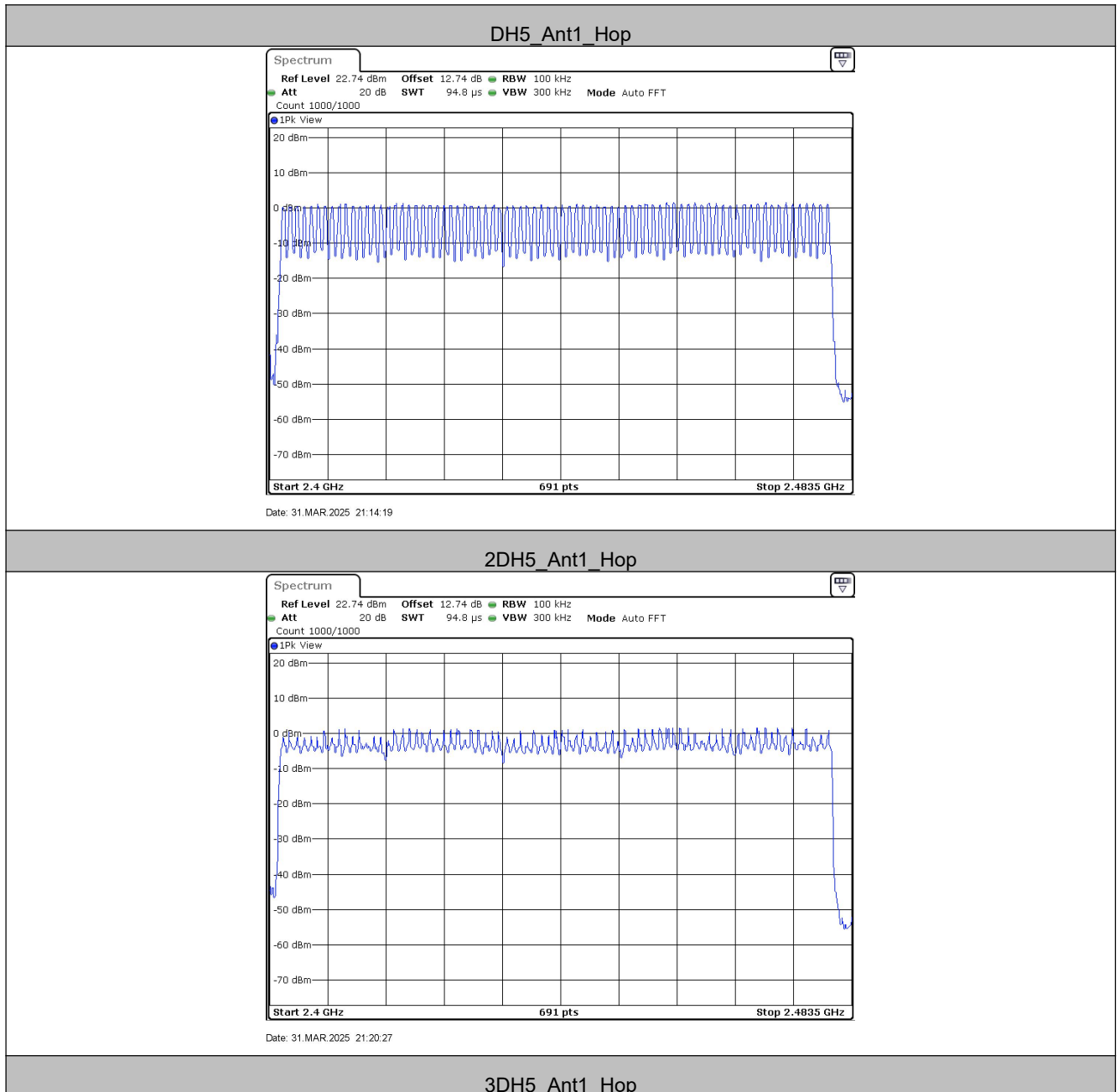
5.6 Hopping Channel Number

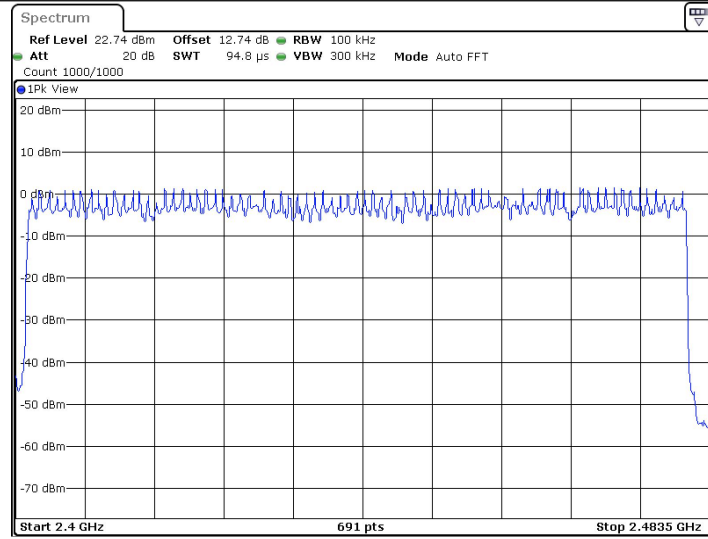
Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	 Remark: $Offset = \text{Cable loss} + \text{attenuation factor}$.
Limit:	At least 15 channels
Exploratory Test Mode:	hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	Only the worst case is recorded in the report.
Test Results:	Pass

Measurement Data

Mode	Hopping channel numbers	Limit
GFSK	79	≥ 15
$\pi/4$ DQPSK	79	≥ 15
8DPSK	79	≥ 15

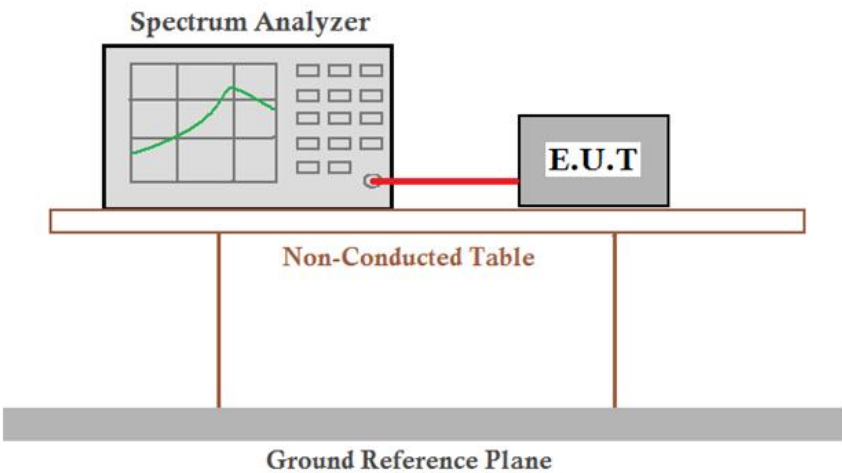
Test plot as follows:





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5.7 Dwell Time

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	 Spectrum Analyzer E.U.T. Non-Conducted Table Ground Reference Plane <i>Remark: Offset=Cable loss+ attenuation factor.</i>
Test Mode:	Hopping transmitting with all kind of modulation and all kind of data type.
Limit:	0.4 Second
Test Results:	Pass

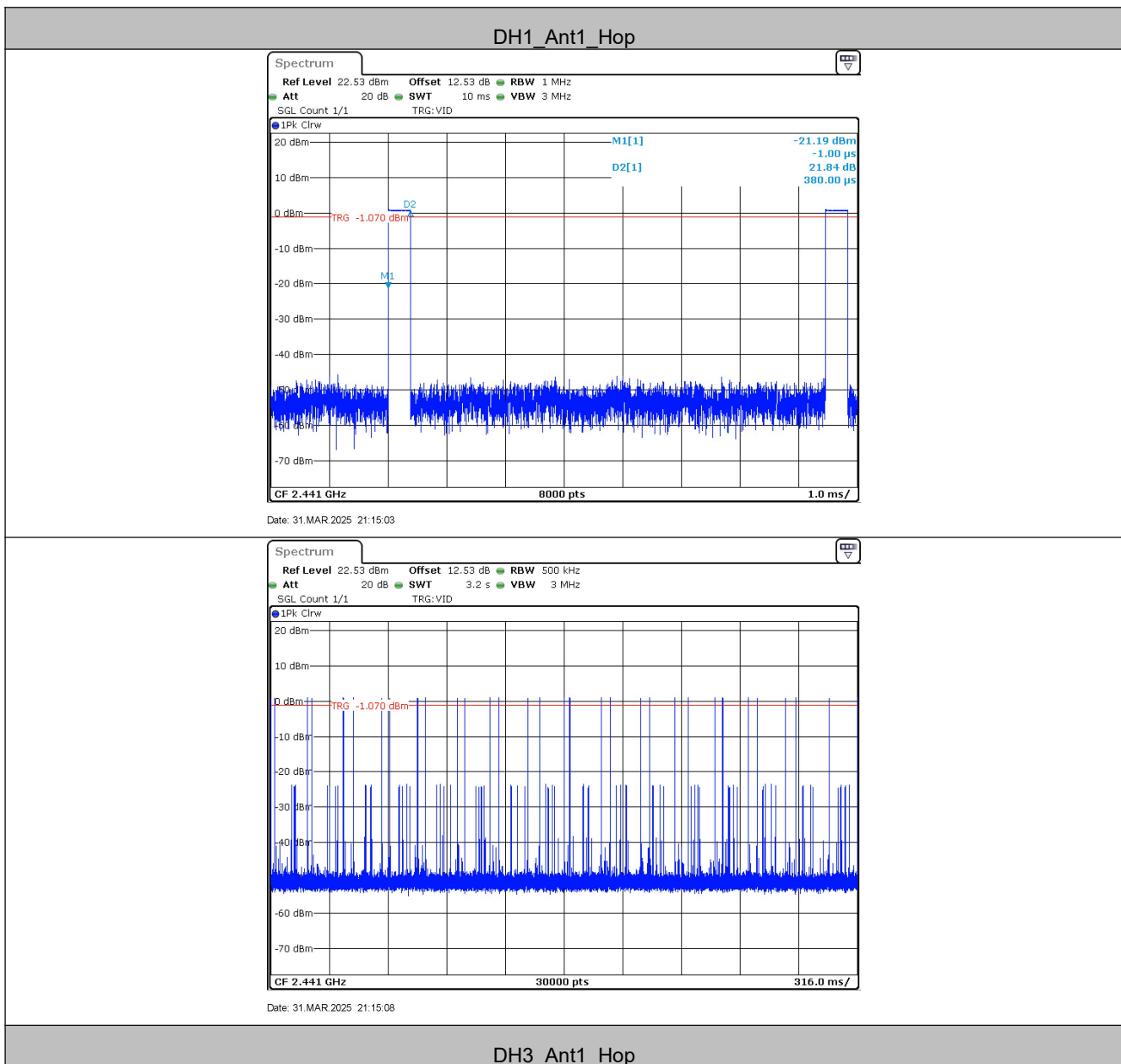
Measurement Data

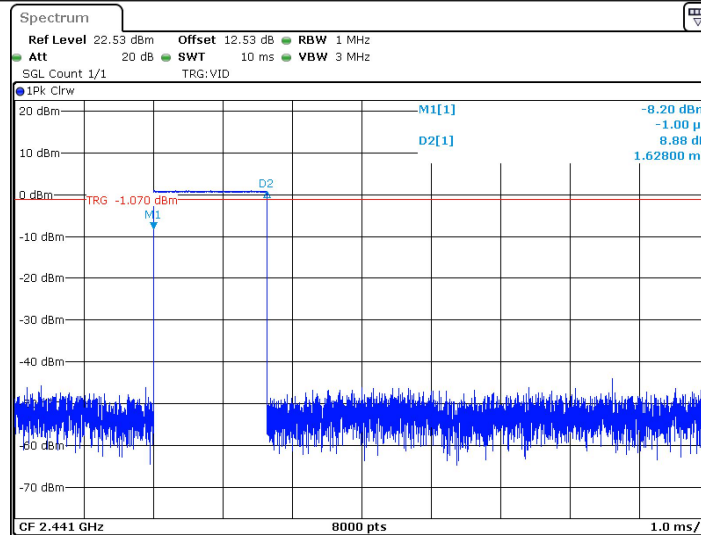
TestMode	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Hop	0.380	320	0.122	≤0.4	PASS
DH3	Hop	1.628	160	0.26	≤0.4	PASS
DH5	Hop	2.868	90	0.258	≤0.4	PASS
2DH1	Hop	0.389	330	0.128	≤0.4	PASS
2DH3	Hop	1.633	190	0.31	≤0.4	PASS
2DH5	Hop	2.875	100	0.288	≤0.4	PASS
3DH1	Hop	0.389	320	0.124	≤0.4	PASS
3DH3	Hop	1.631	150	0.245	≤0.4	PASS
3DH5	Hop	2.874	70	0.201	≤0.4	PASS

Remark:

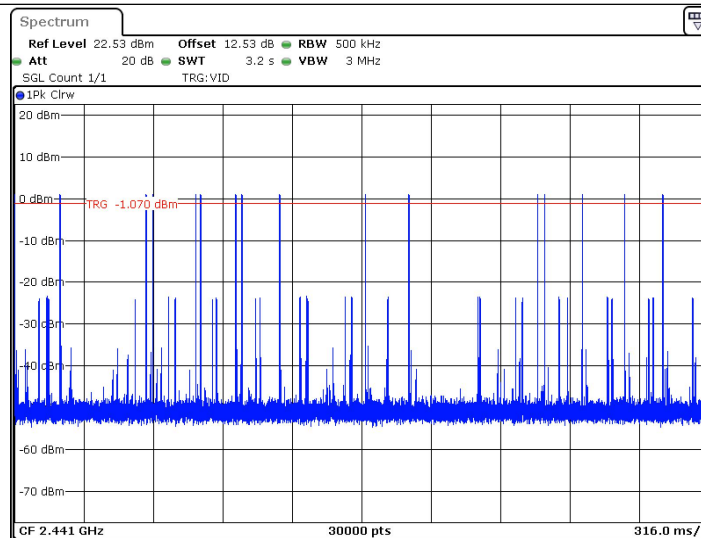
The test period: $T = 0.4 \text{ Second/Channel} \times 79 \text{ Channel} = 31.6 \text{ s}$

Test plot as follows:



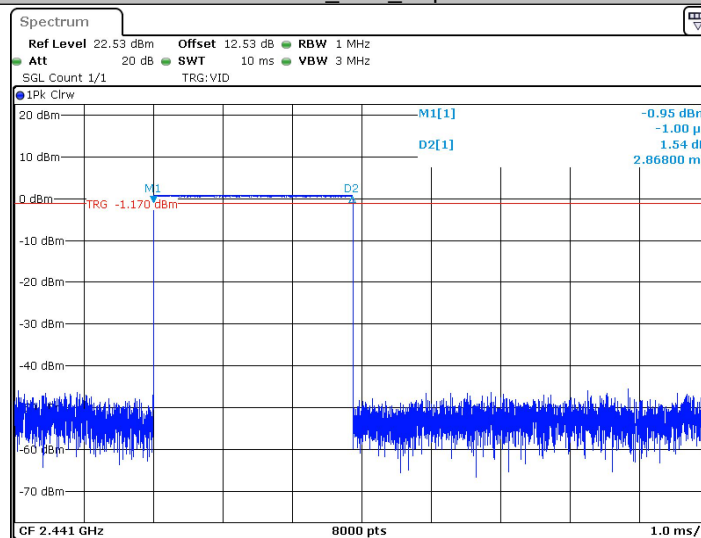


Date: 31.MAR.2025 21:16:29

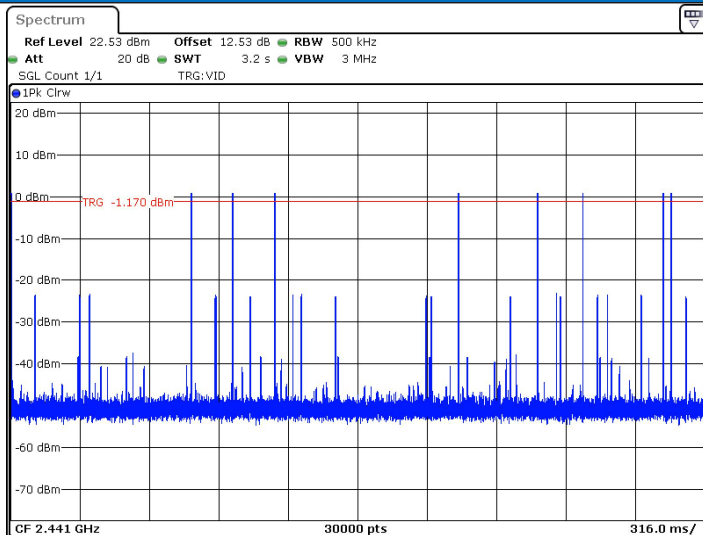


Date: 31.MAR.2025 21:16:34

DH5_Ant1_Hop

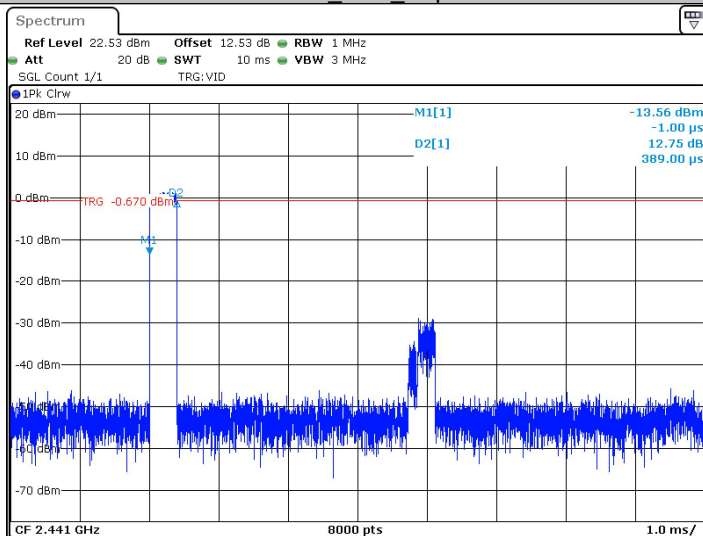


Date: 31.MAR.2025 21:14:35

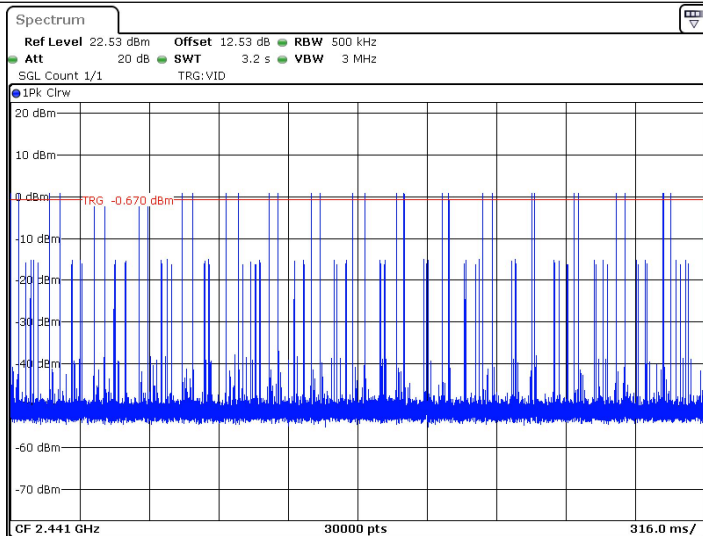


Date: 31.MAR.2025 21:14:40

2DH1_Ant1_Hop

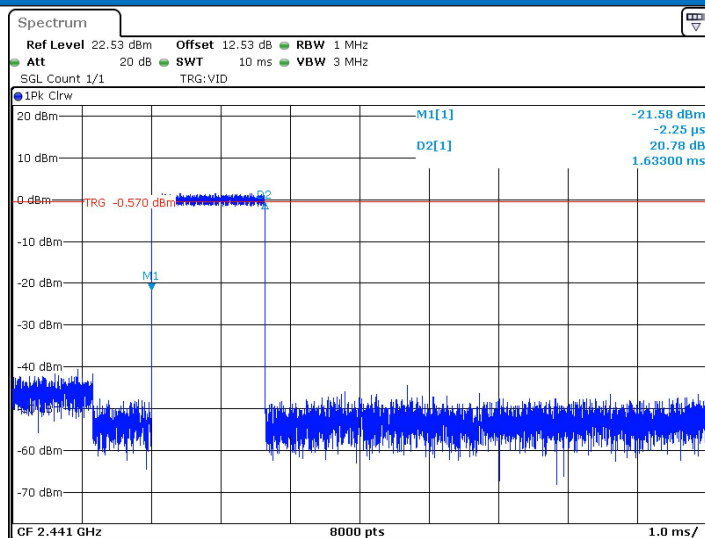


Date: 31.MAR.2025 21:23:24

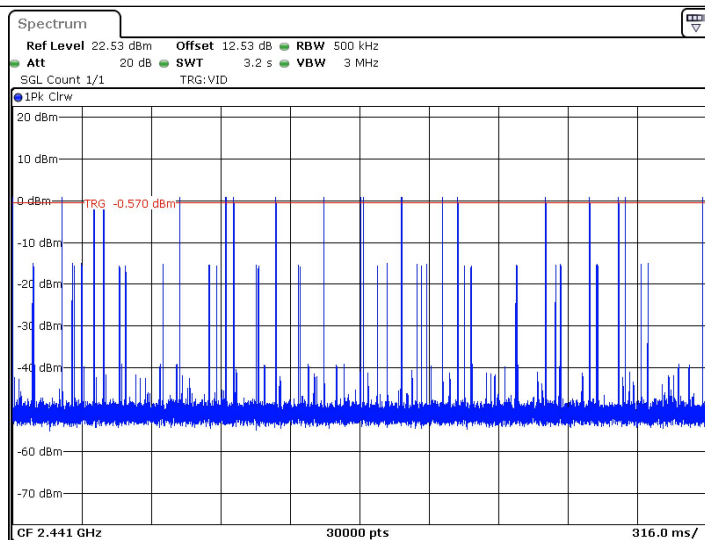


Date: 31.MAR.2025 21:23:29

2DH3_Ant1_Hop

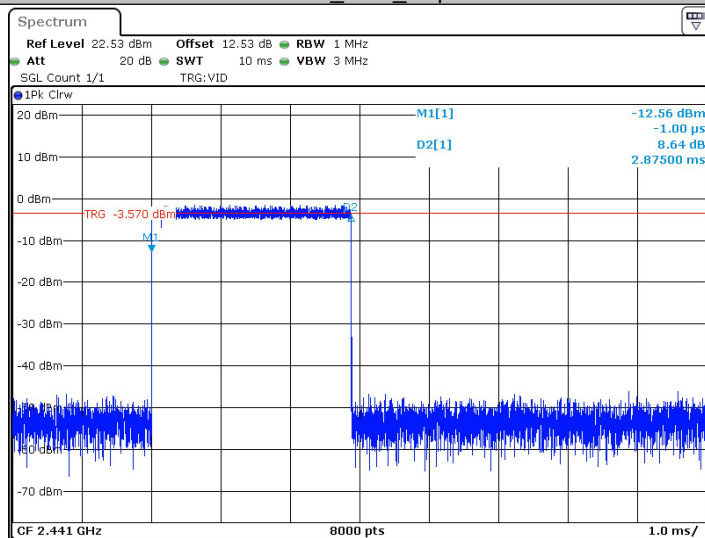


Date: 31.MAR.2025 21:24:16

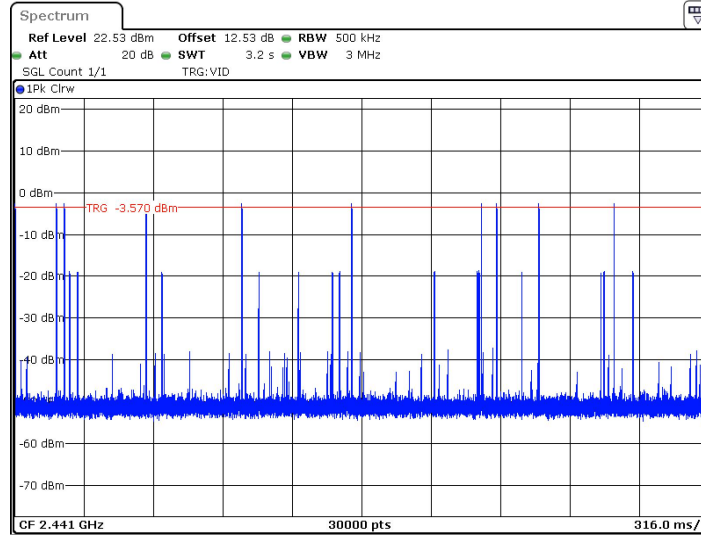


Date: 31.MAR.2025 21:24:21

2DH5_Ant1_Hop

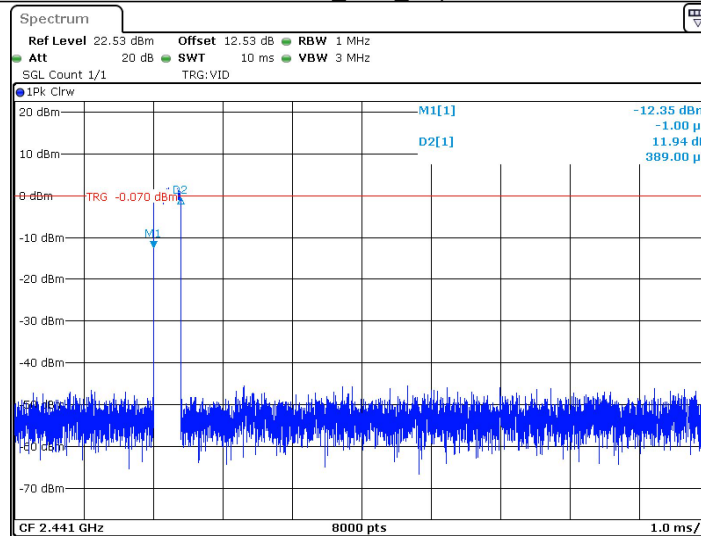


Date: 2.APR.2025 18:51:58

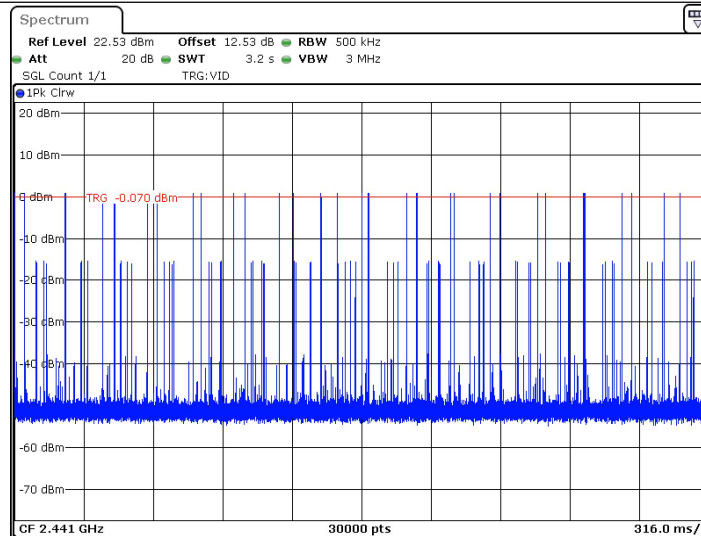


Date: 2.APR.2025 18:52:05

3DH1_Ant1_Hop

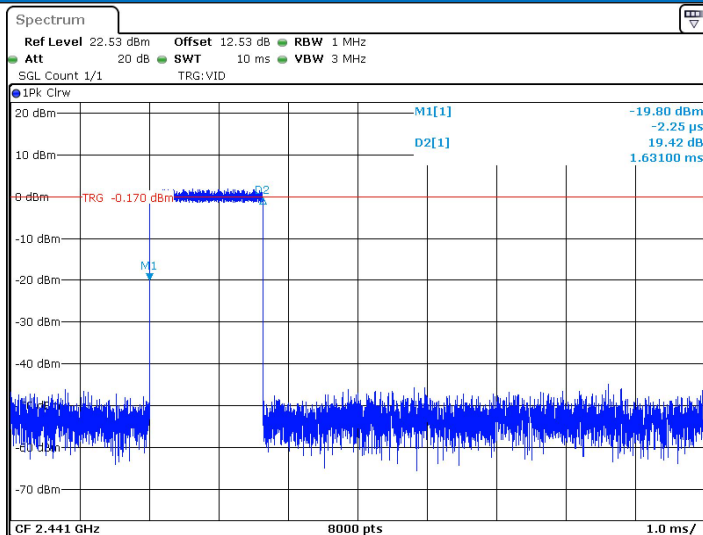


Date: 31.MAR.2025 21:28:27

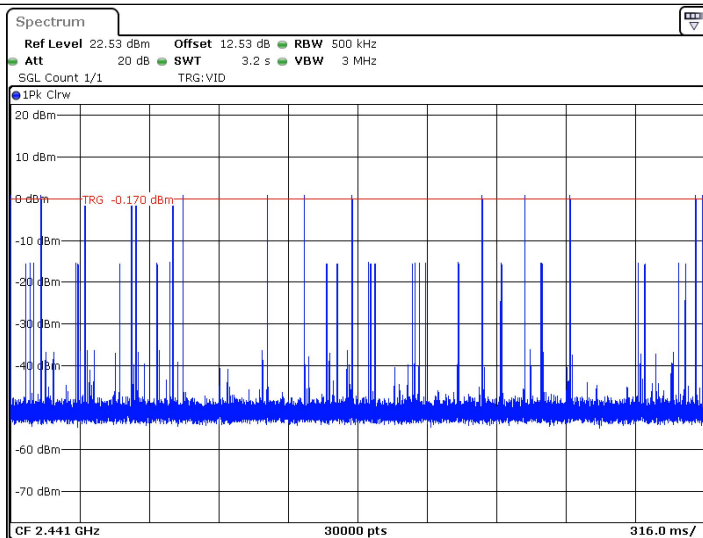


Date: 31.MAR.2025 21:28:33

3DH3_Ant1_Hop

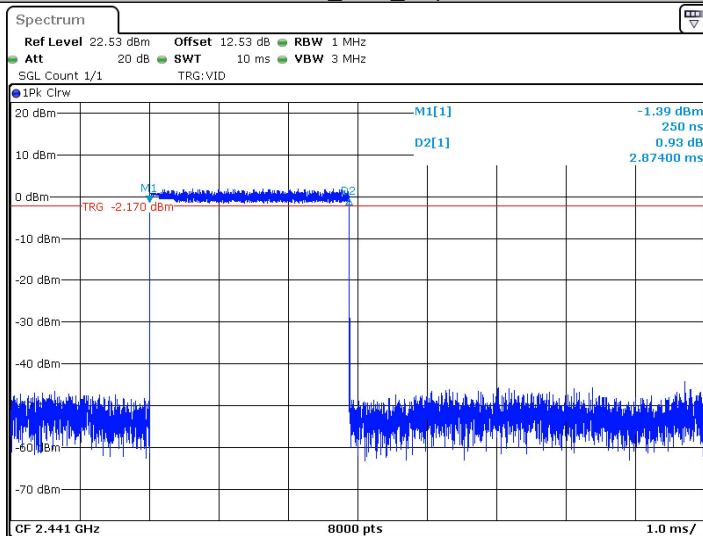


Date: 31.MAR.2025 21:29:57

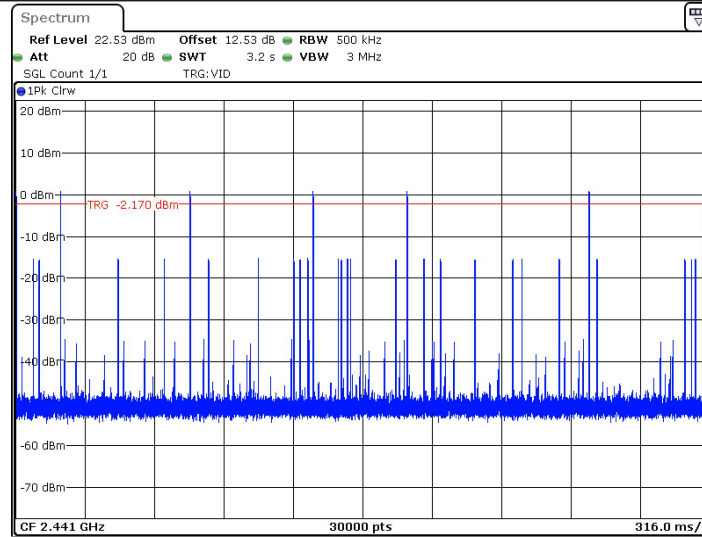


Date: 31.MAR.2025 21:30:03

3DH5_Ant1_Hop

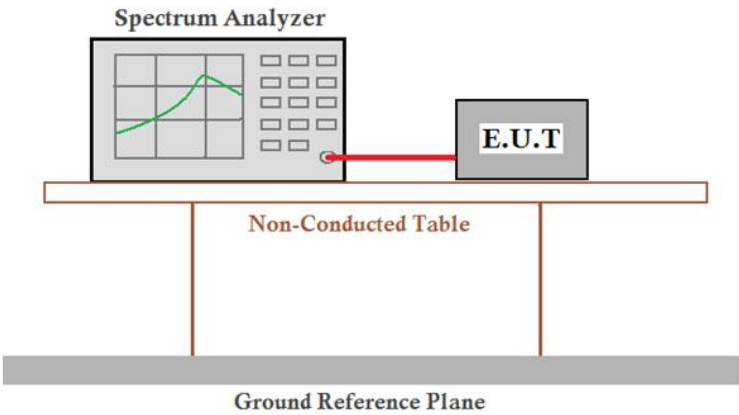


Date: 31.MAR.2025 21:27:34



Date: 31.MAR.2025 21:27:39

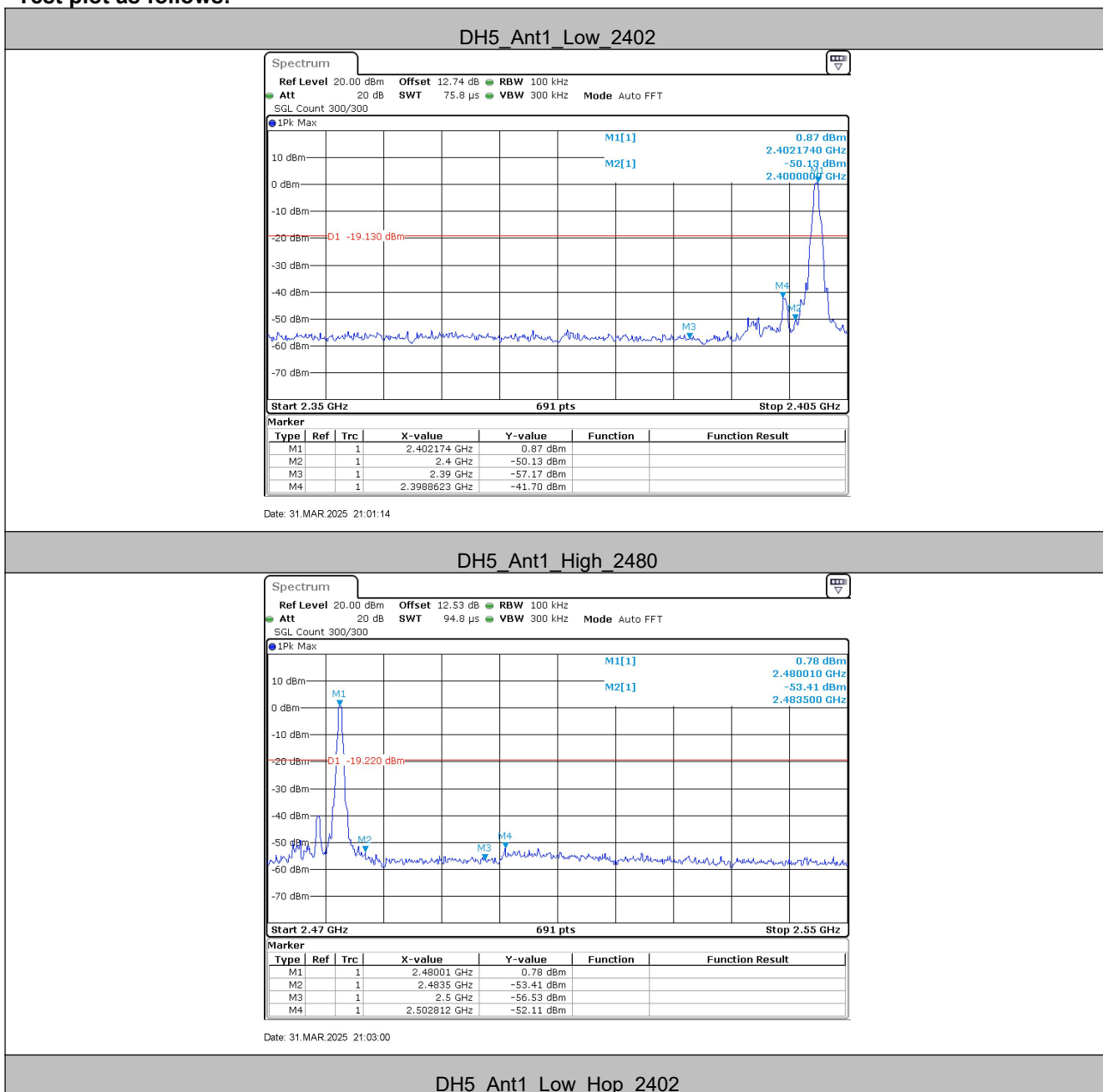
5.8 Band-edge for RF Conducted Emissions

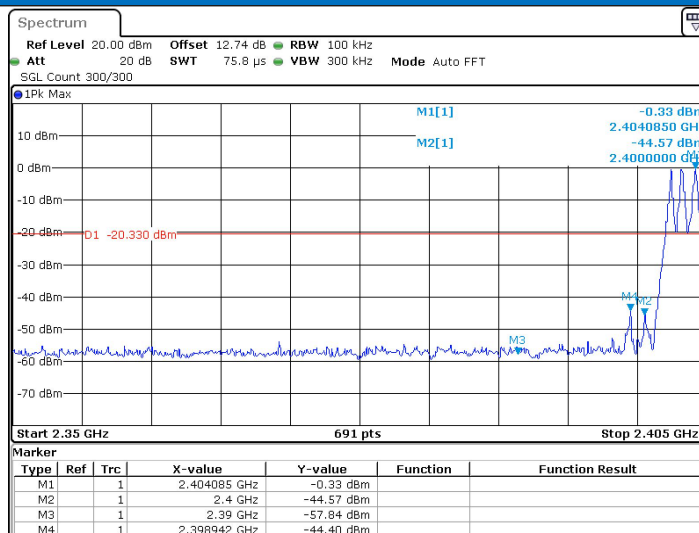
Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10:2013
Test Setup:	 <i>Remark: Offset=cable loss+ attenuation factor.</i>
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Exploratory Test Mode:	Hopping and Non-hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	Only the worst case is recorded in the report.
Test Results:	Pass

Measurement Data

TestMode	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Low	2402	0.87	-41.7	≤ -19.13	PASS
	High	2480	0.78	-52.11	≤ -19.22	PASS
	Low	Hop_2402	-0.33	-44.4	≤ -20.33	PASS
	High	Hop_2480	1.23	-53.36	≤ -18.77	PASS
2DH5	Low	2402	0.91	-42.65	≤ -19.09	PASS
	High	2480	1.40	-51.72	≤ -18.6	PASS
	Low	Hop_2402	-0.16	-44.01	≤ -20.16	PASS
	High	Hop_2480	-1.80	-52.47	≤ -21.8	PASS
3DH5	Low	2402	0.75	-41.72	≤ -19.25	PASS
	High	2480	0.96	-52.38	≤ -19.04	PASS
	Low	Hop_2402	-2.31	-41.94	≤ -22.31	PASS
	High	Hop_2480	1.27	-52.08	≤ -18.73	PASS

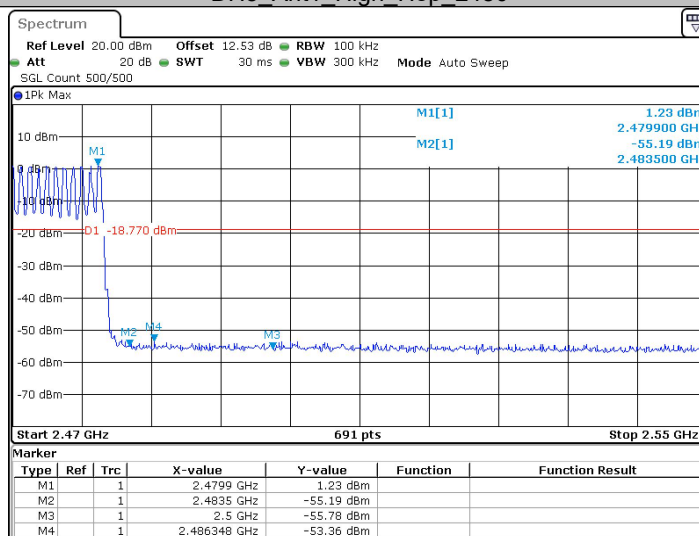
Test plot as follows:





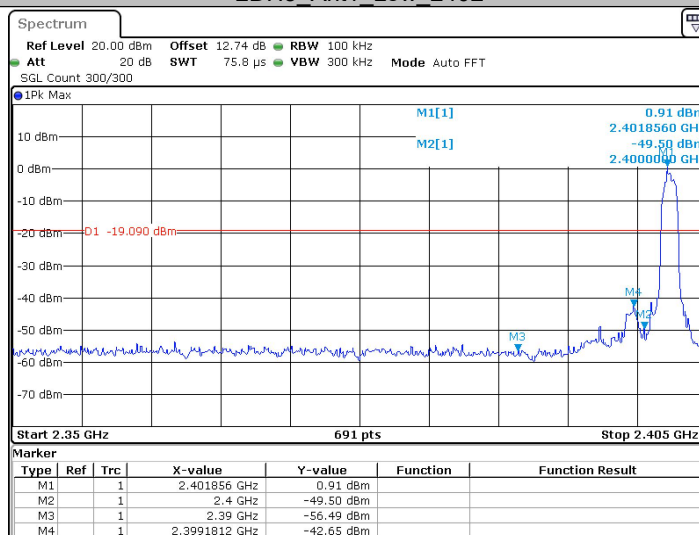
Date: 31.MAR.2025 21:12:29

DH5_Ant1_High_Hop_2480



Date: 31.MAR.2025 21:18:03

2DH5_Ant1_Low_2402



Date: 31.MAR.2025 21:04:12

2DH5_Ant1_High_2480