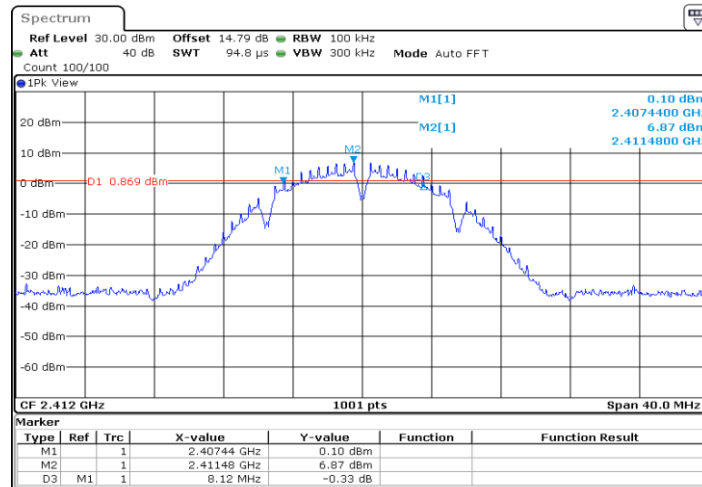


AppendixA: DTS Bandwidth**Test Result**

TestMode	Antenna	Channel	DTS BW [MHz]	Limit[MHz]	Verdict
11bMIMO	Ant1	2412	8.120	0.5	PASS
	Ant2	2412	7.160	0.5	PASS
	Ant1	2442	7.160	0.5	PASS
	Ant2	2442	7.640	0.5	PASS
	Ant1	2472	8.120	0.5	PASS
	Ant2	2472	7.160	0.5	PASS
11gMIMO	Ant1	2412	16.400	0.5	PASS
	Ant2	2412	16.400	0.5	PASS
	Ant1	2442	16.400	0.5	PASS
	Ant2	2442	16.400	0.5	PASS
	Ant1	2472	16.440	0.5	PASS
	Ant2	2472	16.440	0.5	PASS
11N20MIMO	Ant1	2412	16.400	0.5	PASS
	Ant2	2412	16.400	0.5	PASS
	Ant1	2442	16.400	0.5	PASS
	Ant2	2442	16.400	0.5	PASS
	Ant1	2472	16.440	0.5	PASS
	Ant2	2472	16.440	0.5	PASS
11N40MIMO	Ant1	2422	35.280	0.5	PASS
	Ant2	2422	35.280	0.5	PASS
	Ant1	2442	35.280	0.5	PASS
	Ant2	2442	35.440	0.5	PASS
	Ant1	2462	35.280	0.5	PASS
	Ant2	2462	35.280	0.5	PASS

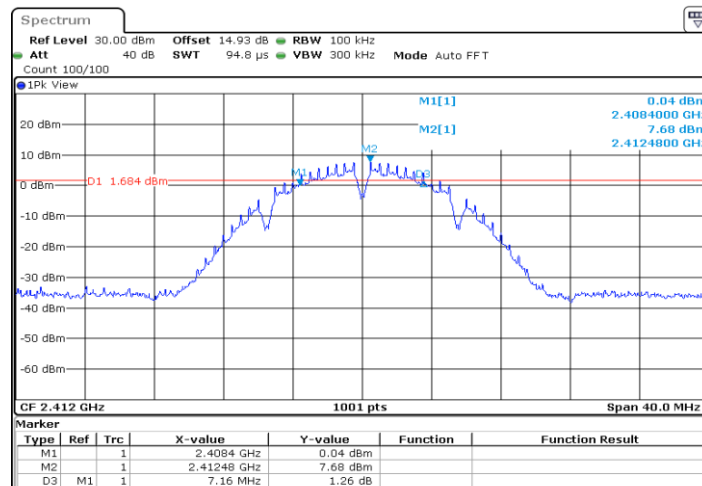
Test Graphs

11bMIMO_Ant1_2412



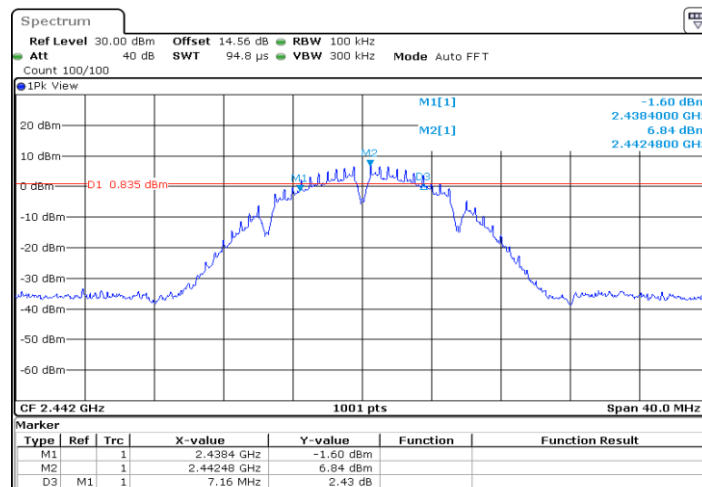
Date: 18.MAY.2020 12:01:47

11bMIMO_Ant2_2412



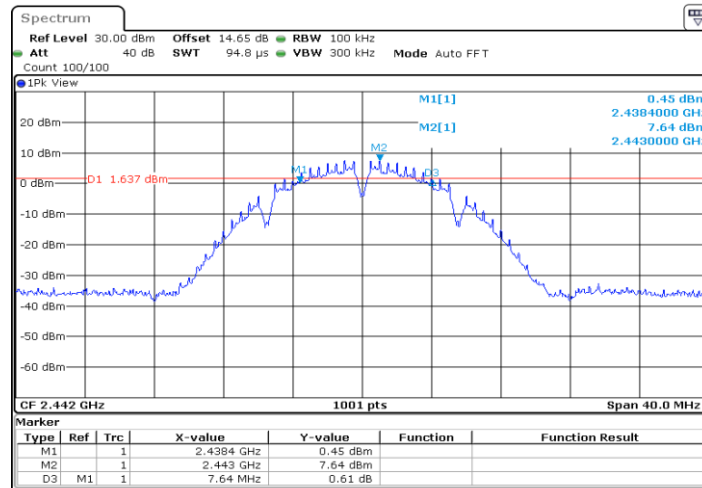
Date: 18.MAY.2020 12:16:00

11bMIMO_Ant1_2442



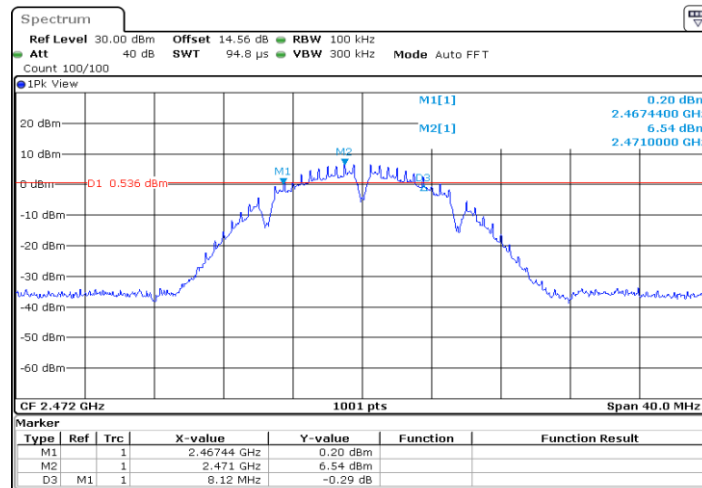
Date: 18.MAY.2020 12:28:28

11bMIMO_Ant2_2442



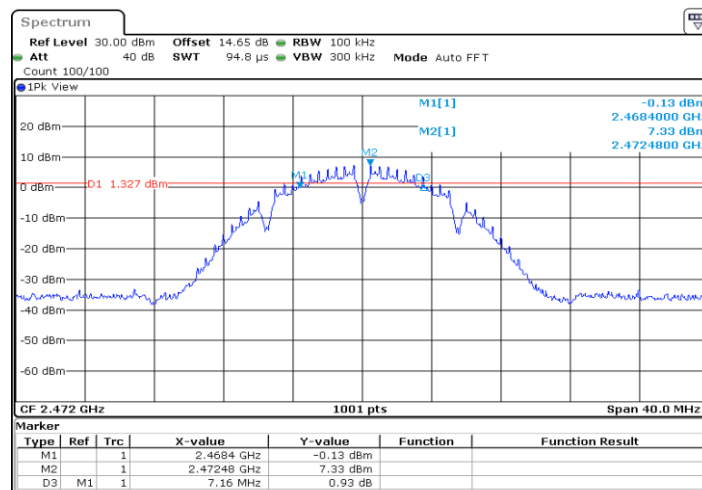
Date: 18.MAY.2020 12:29:31

11bMIMO_Ant1_2472



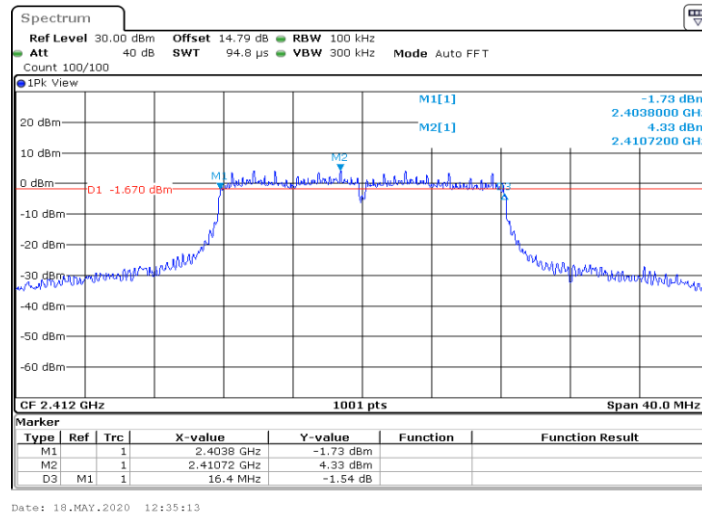
Date: 18.MAY.2020 12:31:32

11bMIMO_Ant2_2472

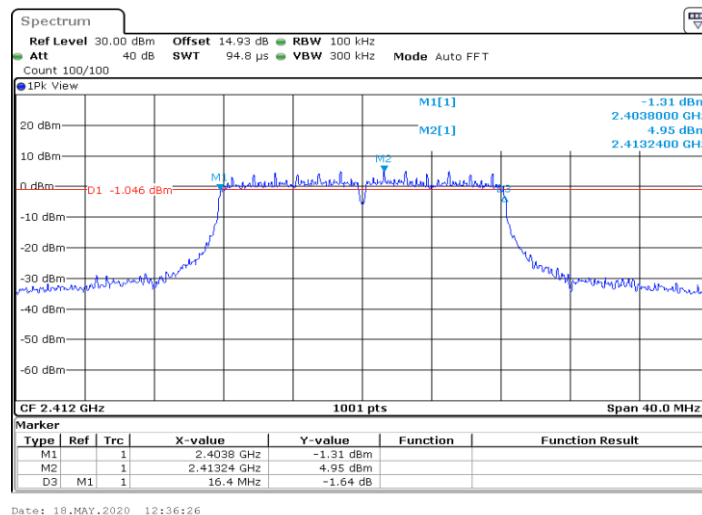


Date: 18.MAY.2020 12:33:03

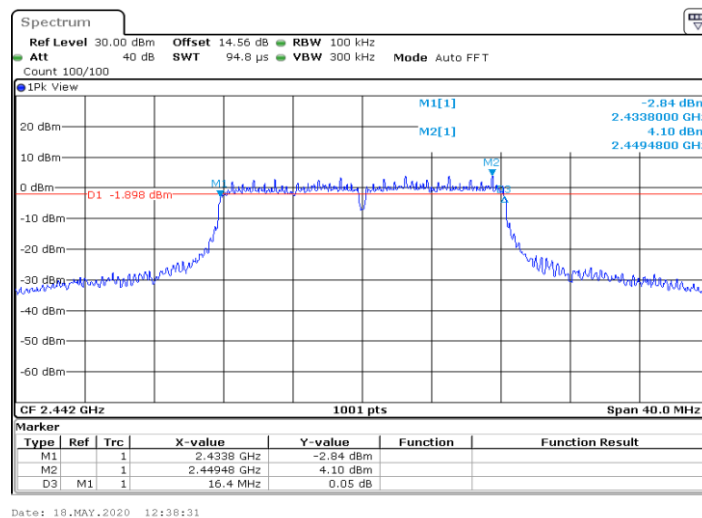
11gMIMO_Ant1_2412



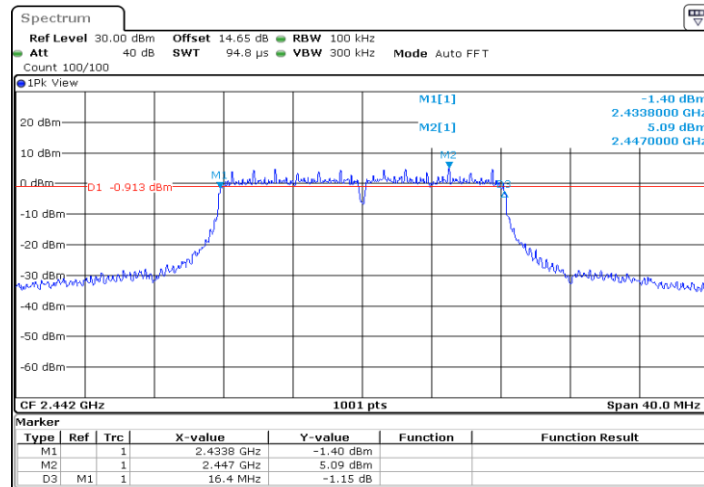
11gMIMO_Ant2_2412



11gMIMO_Ant1_2442

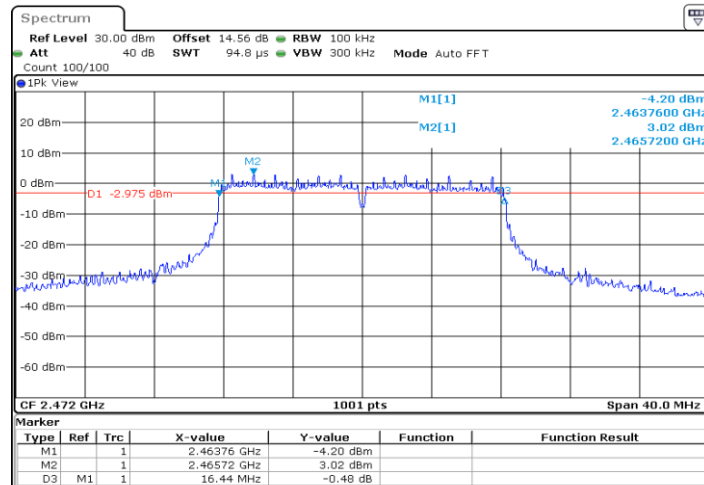


11gMIMO_Ant2_2442



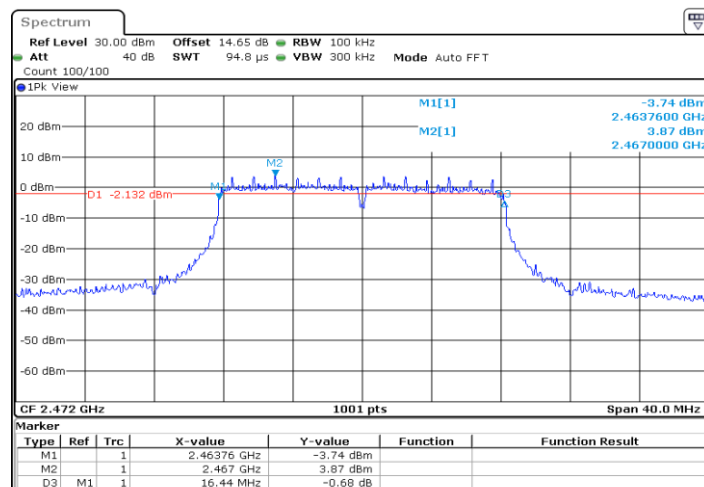
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11gMIMO_Ant1_2472



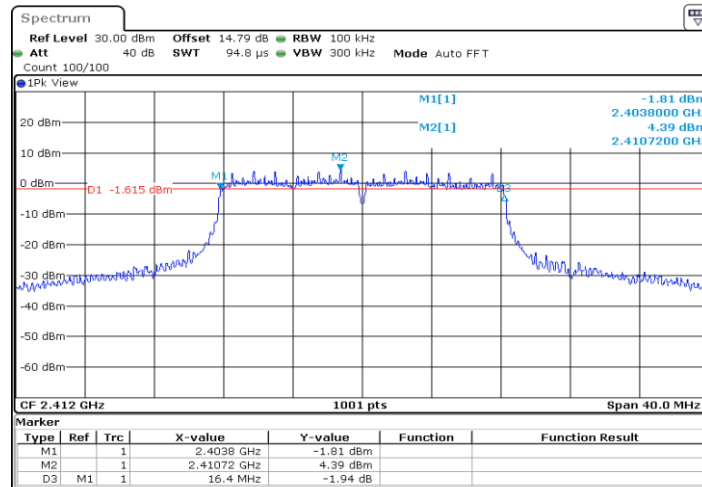
Date: 18.MAY.2020 12:41:29

11gMIMO_Ant2_2472



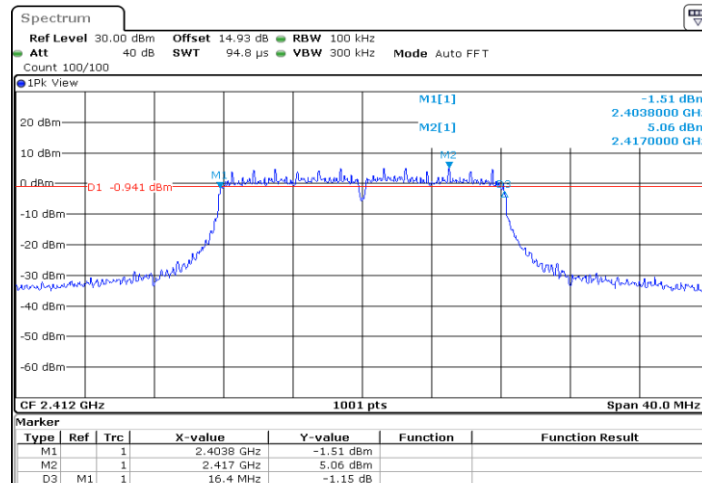
Date: 18.MAY.2020 12:42:47

11N20MIMO_Ant1_2412



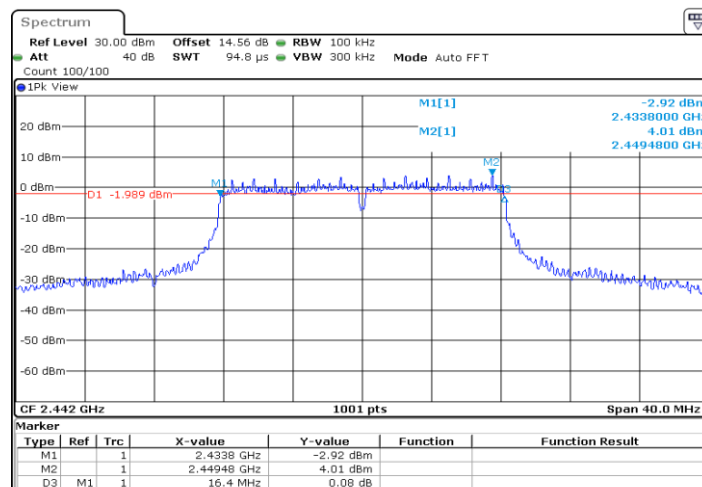
Date: 18.MAY.2020 12:44:52

11N20MIMO_Ant2_2412



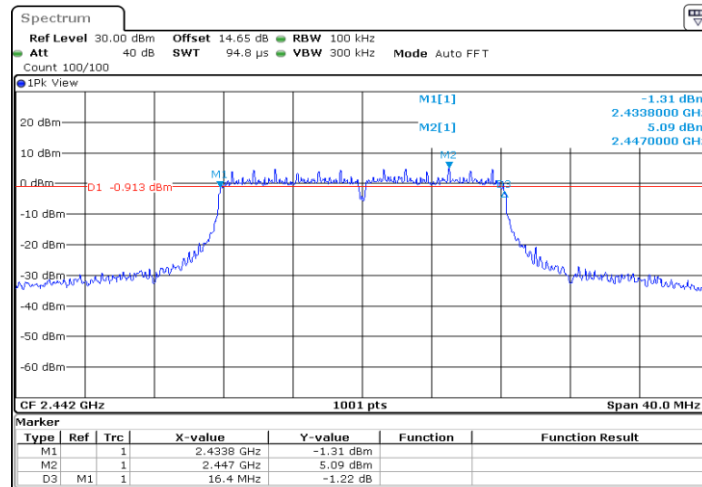
Date: 18.MAY.2020 12:46:05

11N20MIMO_Ant1_2442



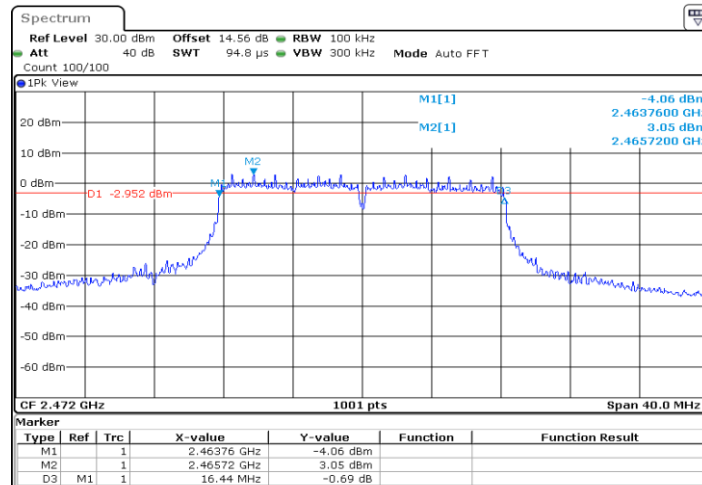
Date: 18.MAY.2020 12:48:17

11N20MIMO_Ant2_2442



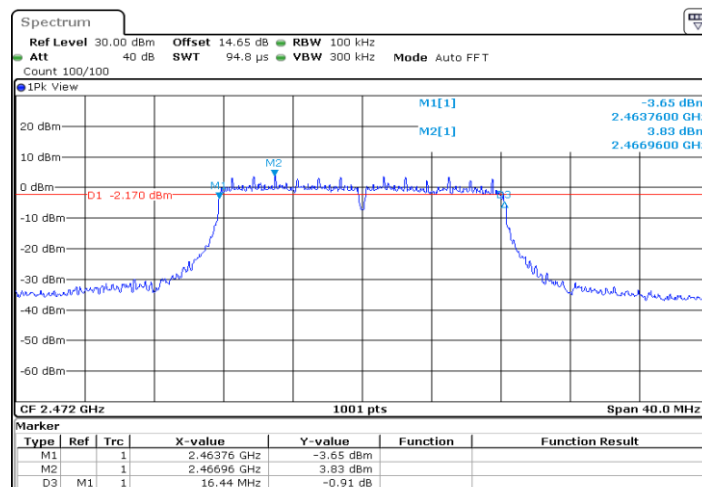
Date: 18.MAY.2020 12:49:21

11N20MIMO_Ant1_2472



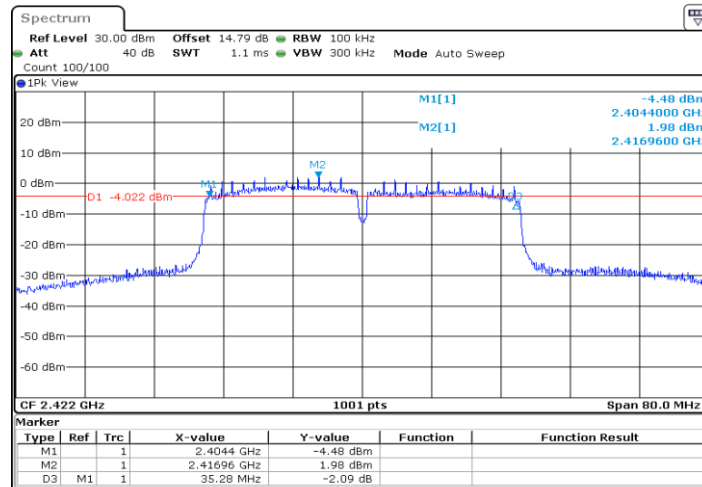
Date: 18.MAY.2020 12:51:11

11N20MIMO_Ant2_2472



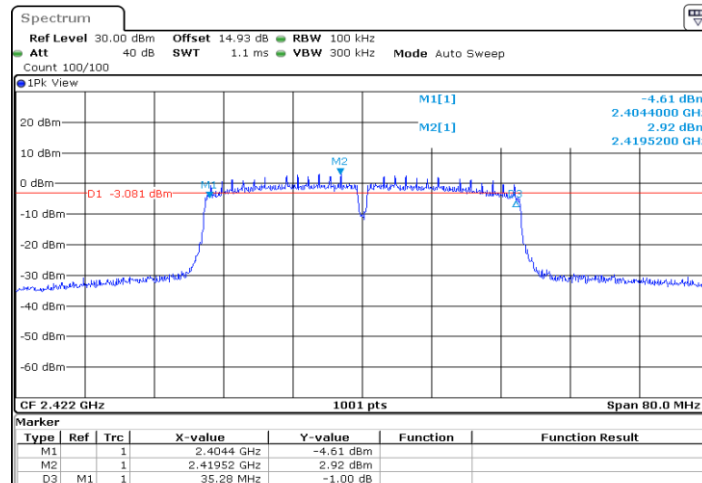
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11N40MIMO_Ant1_2422



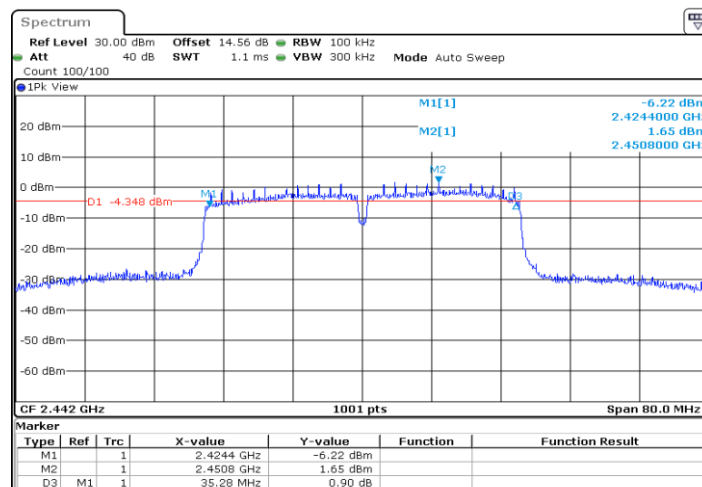
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11N40MIMO_Ant2_2422



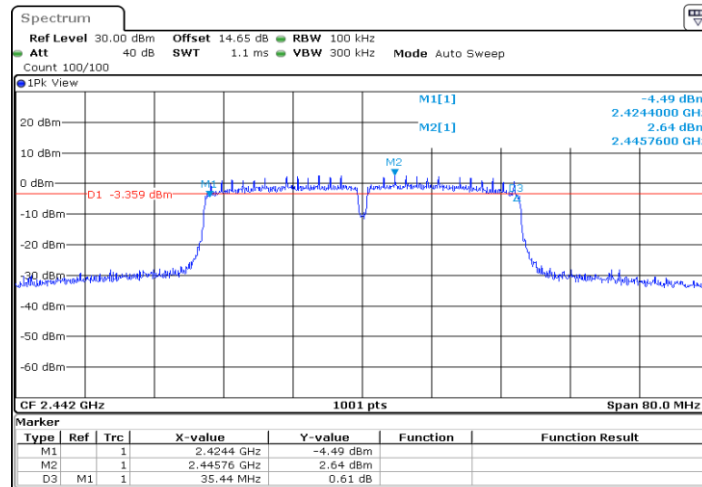
Date: 18.MAY.2020 12:56:22

11N40MIMO_Ant1_2442



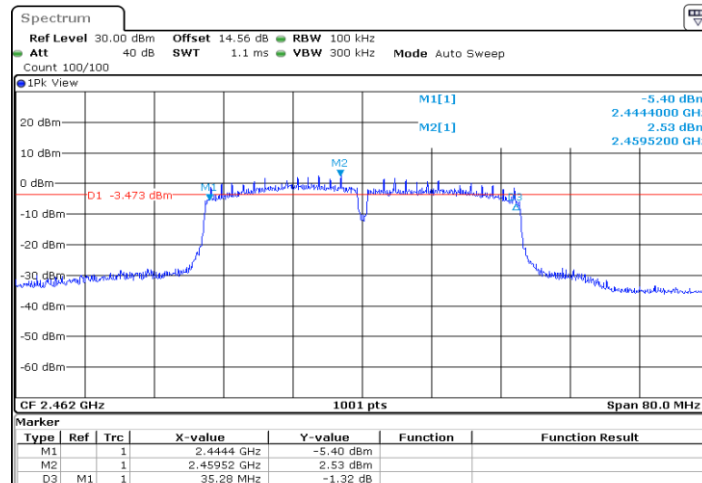
Date: 18.MAY.2020 14:03:18

11N40MIMO_Ant2_2442



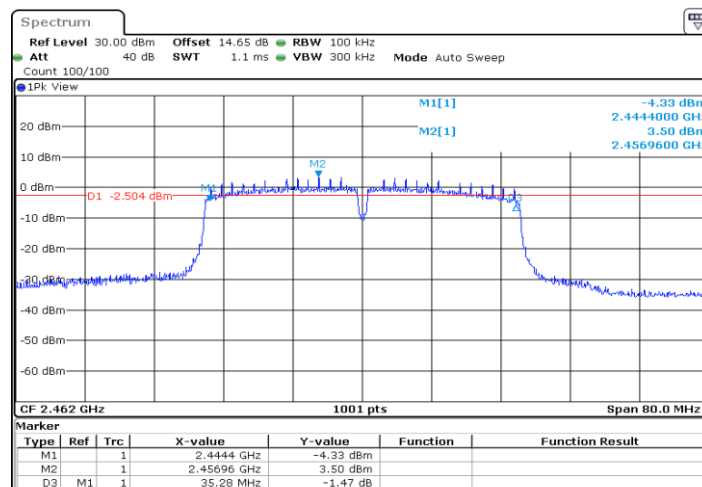
Date: 18.MAY.2020 14:04:49

11N40MIMO_Ant1_2462



Date: 18.MAY.2020 14:09:50

11N40MIMO_Ant2_2462



Date: 18.MAY.2020 14:11:08

AppendixC: Maximum conducted Average output power

TestMode	Antenna	Channel	Result [dBm]	Limit_Non BF [dBm]	Limit_BF [dBm]	Verdict
11bMIMO	Ant1	2412	15.03	<=30	<=29.07	PASS
	Ant2	2412	17.47			PASS
	total	2412	19.4			PASS
	Ant1	2442	15.08			PASS
	Ant2	2442	18.13			PASS
	total	2442	19.9			PASS
	Ant1	2472	15.16			PASS
	Ant2	2472	17.44			PASS
	total	2472	19.5			PASS
11gMIMO	Ant1	2412	15.31			PASS
	Ant2	2412	18.14			PASS
	total	2412	20.0			PASS
	Ant1	2442	15.30			PASS
	Ant2	2442	18.39			PASS
	total	2442	20.1			PASS
	Ant1	2472	14.54			PASS
	Ant2	2472	17.19			PASS
	total	2472	19.1			PASS
11N20MIMO	Ant1	2412	15.33			PASS
	Ant2	2412	18.12			PASS
	total	2412	20.0			PASS
	Ant1	2442	15.33			PASS
	Ant2	2442	18.41			PASS
	total	2442	20.1			PASS
	Ant1	2472	14.48			PASS
	Ant2	2472	17.23			PASS
	total	2472	19.1			PASS
11N40MIMO	Ant1	2422	15.56			PASS
	Ant2	2422	18.37			PASS
	total	2422	20.2			PASS
	Ant1	2442	15.58			PASS
	Ant2	2442	18.74			PASS
	total	2442	20.5			PASS
	Ant1	2462	15.73			PASS
	Ant2	2462	18.91			PASS
	total	2462	20.6			PASS

1. Directional gain = array gain+Ant gain= $10 \cdot \lg(N_{ant}/N_{ss}) + 3.92\text{dBi} = 6.93\text{dBi} > 6\text{dBi}$,

So $Limit_{BF} = 30 - (6.93 - 6) = 29.07\text{dBm}$

2. Non-Beam Forming mode shares the same power with the Beam Forming mode.

AppendixD: Maximum power spectral density

Test Result

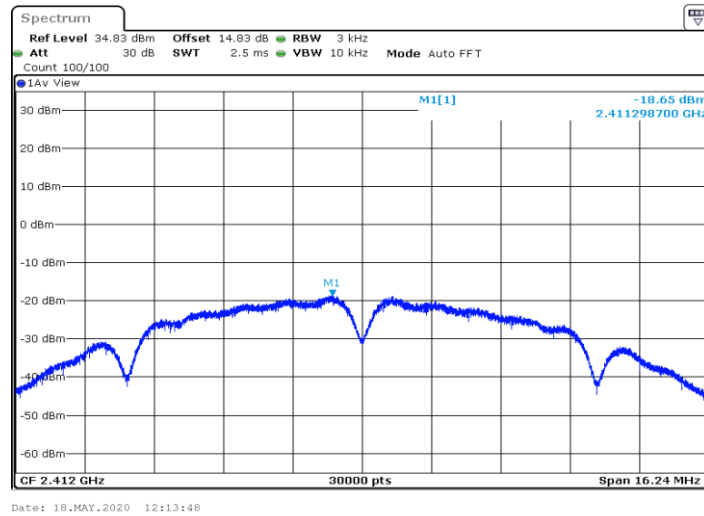
TestMode	Antenna	Channel	Result [dBm/3kHz]	Limit_Non BF [dBm/3kHz]	Limit_BF [dBm/3kHz]	Verdict
11bMIMO	Ant1	2412	-18.65	<=8	<=7.07	PASS
	Ant2	2412	-17.78			PASS
	total	2412	-15.18			PASS
	Ant1	2442	-18.85			PASS
	Ant2	2442	-17.58			PASS
	total	2442	-15.16			PASS
	Ant1	2472	-18.82			PASS
	Ant2	2472	-18.49			PASS
	total	2472	-15.64			PASS
11gMIMO	Ant1	2412	-19.44			PASS
	Ant2	2412	-19.38			PASS
	total	2412	-16.40			PASS
	Ant1	2442	-20.37			PASS
	Ant2	2442	-19.39			PASS
	total	2442	-16.84			PASS
	Ant1	2472	-20.94			PASS
	Ant2	2472	-20.51			PASS
	total	2472	-17.71			PASS
11N20MIMO	Ant1	2412	-19.49			PASS
	Ant2	2412	-19.39			PASS
	total	2412	-16.43			PASS
	Ant1	2442	-20.44			PASS
	Ant2	2442	-19.4			PASS
	total	2442	-16.88			PASS
	Ant1	2472	-20.96			PASS
	Ant2	2472	-20.49			PASS
	total	2472	-17.71			PASS
11N40MIMO	Ant1	2422	-22.38			PASS
	Ant2	2422	-21.97			PASS
	total	2422	-19.16			PASS
	Ant1	2442	-23.17			PASS
	Ant2	2442	-22.43			PASS
	total	2442	-19.77			PASS
	Ant1	2462	-22.00			PASS
	Ant2	2462	-21.53			PASS
	total	2462	-18.75			PASS

1. Directional gain = array gain+Ant gain= $10*\log(Nant/Nss)+3.92dBi=6.93dBi>6dBi$,
So $Limit_{BF}=8-(6.93-6)dBm/MHz=7.07dBm/MHz$

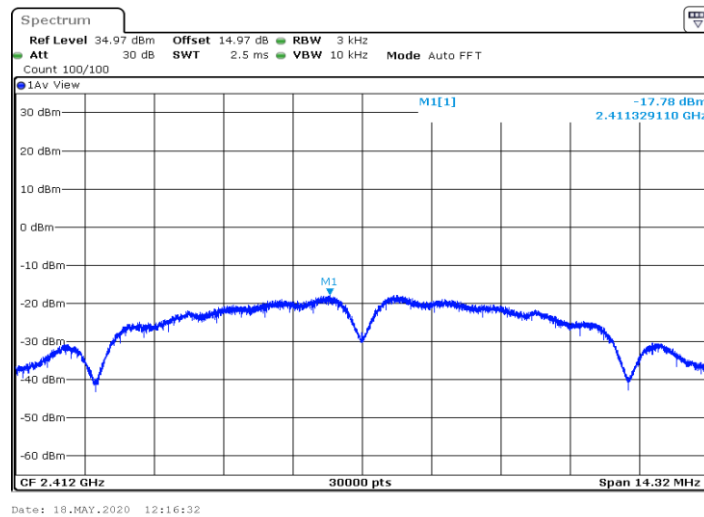
*2. Non-Beam Forming mode shares the same power with the Beam Forming mode.

Test Graphs

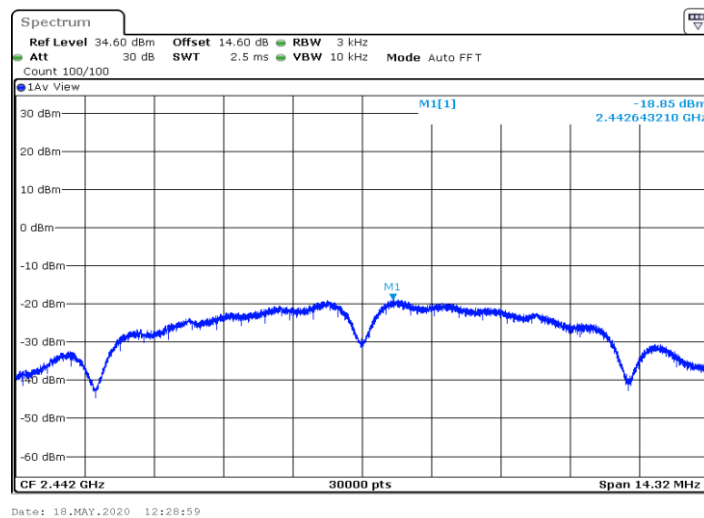
11bMIMO_Ant1_2412



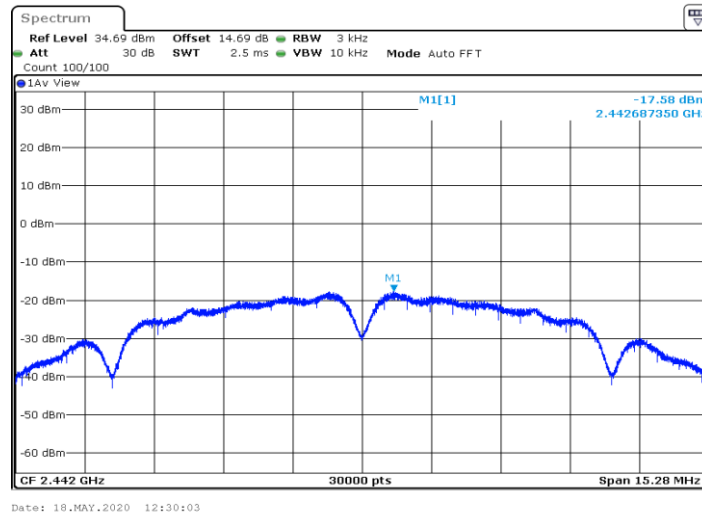
11bMIMO_Ant2_2412



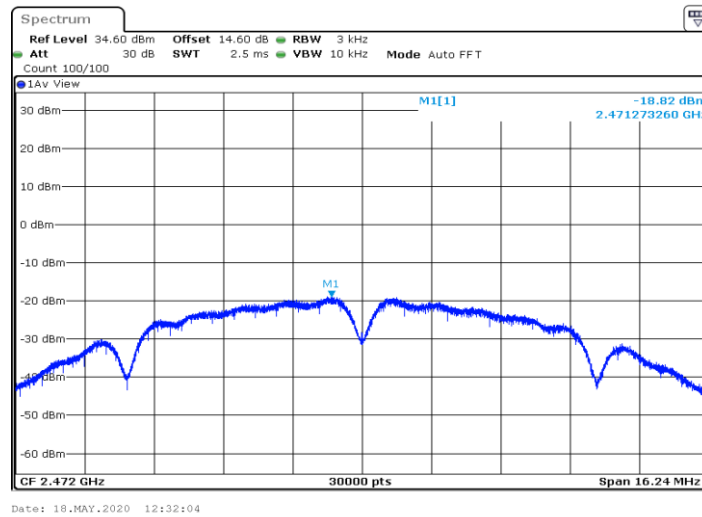
11bMIMO_Ant1_2442



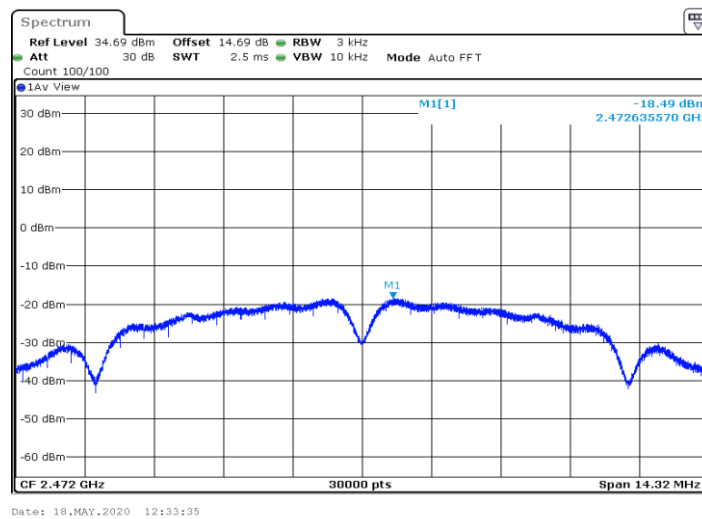
11bMIMO_Ant2_2442



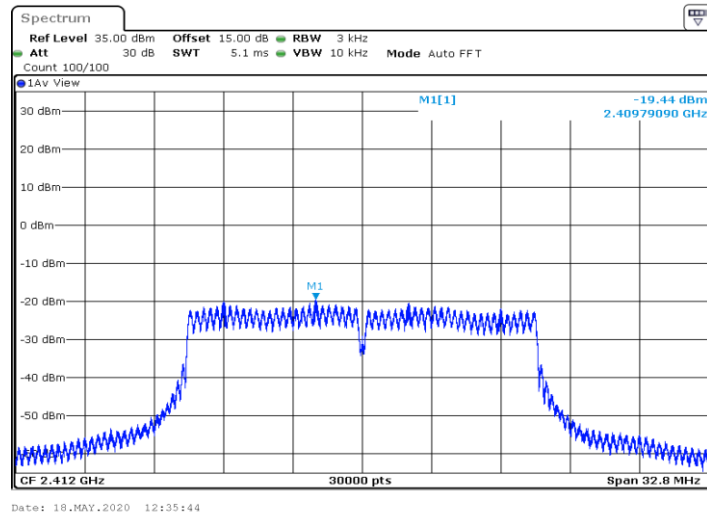
11bMIMO_Ant1_2472



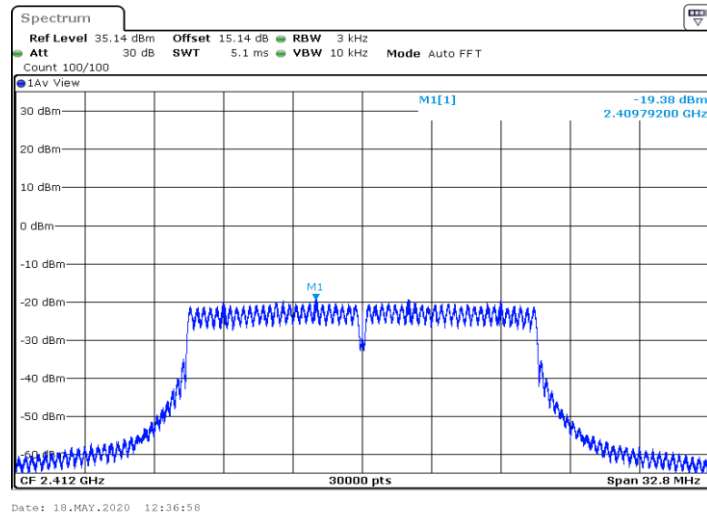
11bMIMO_Ant2_2472



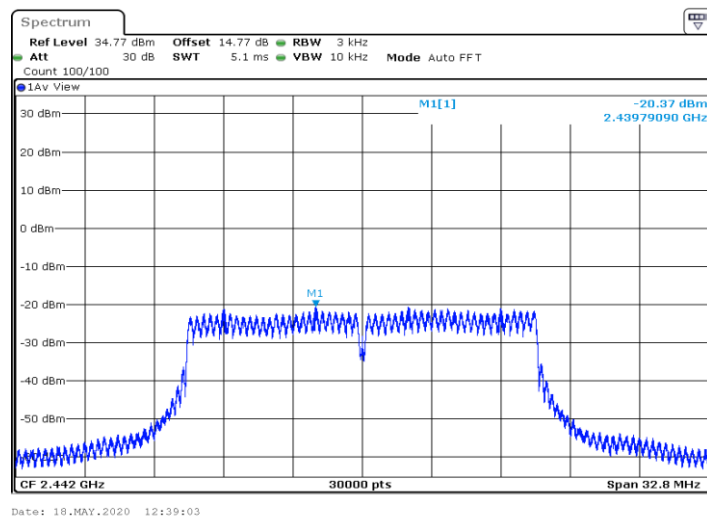
11gMIMO_Ant1_2412



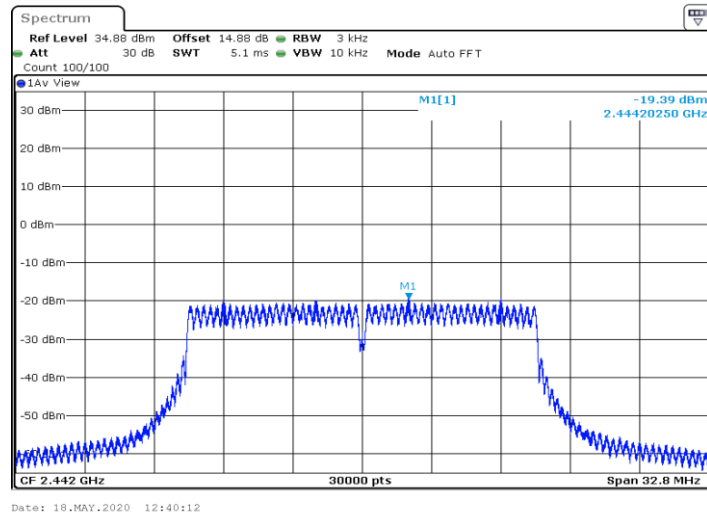
11gMIMO_Ant2_2412



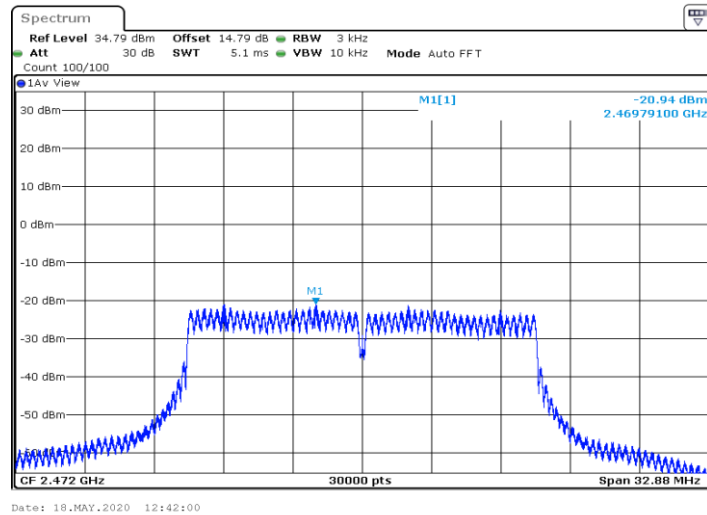
11gMIMO_Ant1_2442



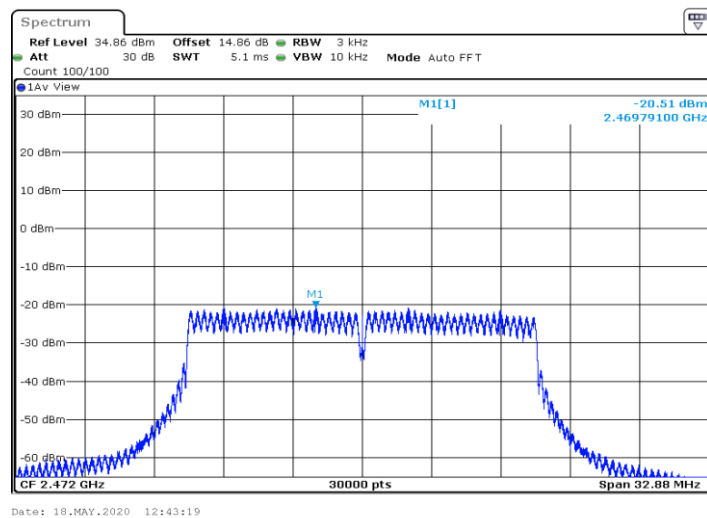
11gMIMO_Ant2_2442



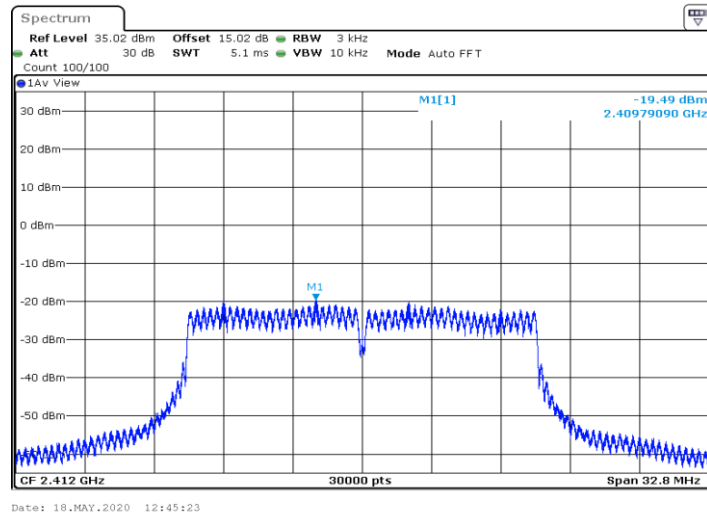
11gMIMO_Ant1_2472



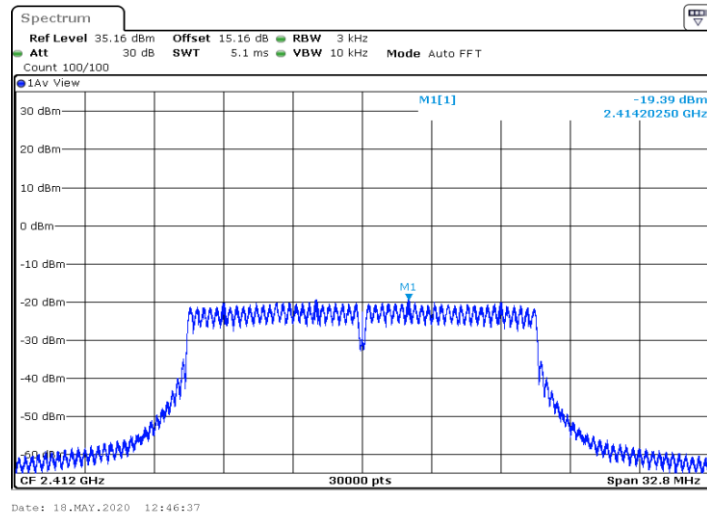
11gMIMO_Ant2_2472



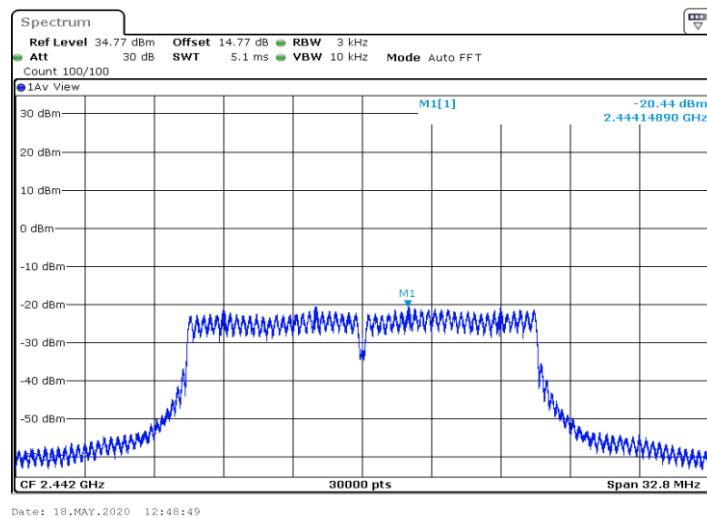
11N20MIMO_Ant1_2412



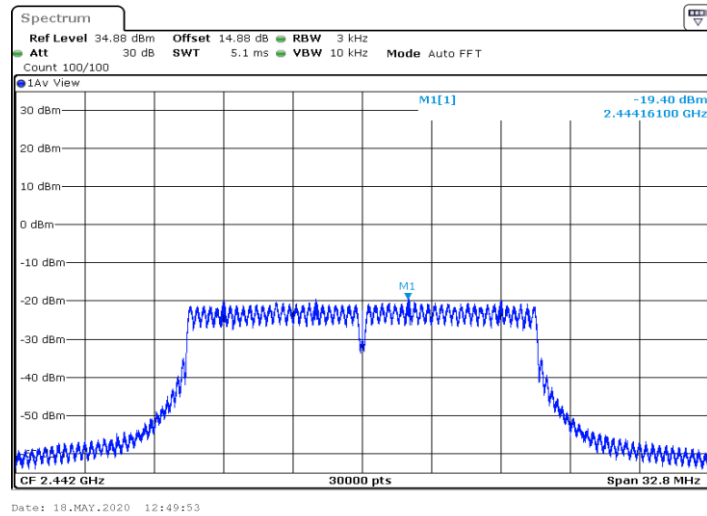
11N20MIMO_Ant2_2412



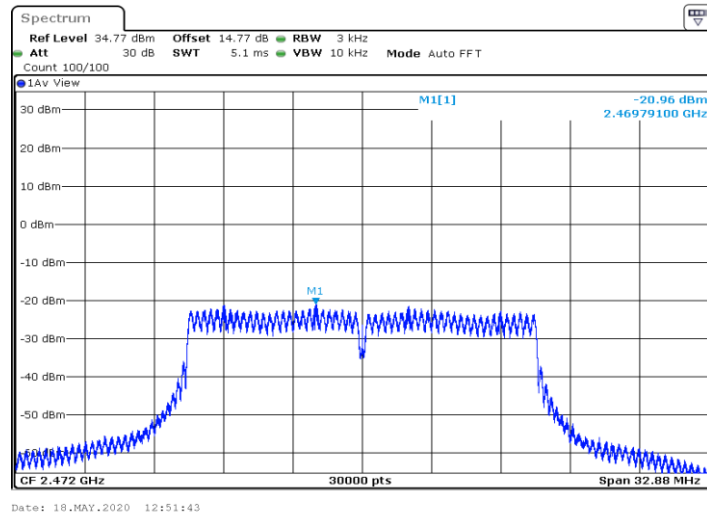
11N20MIMO_Ant1_2442



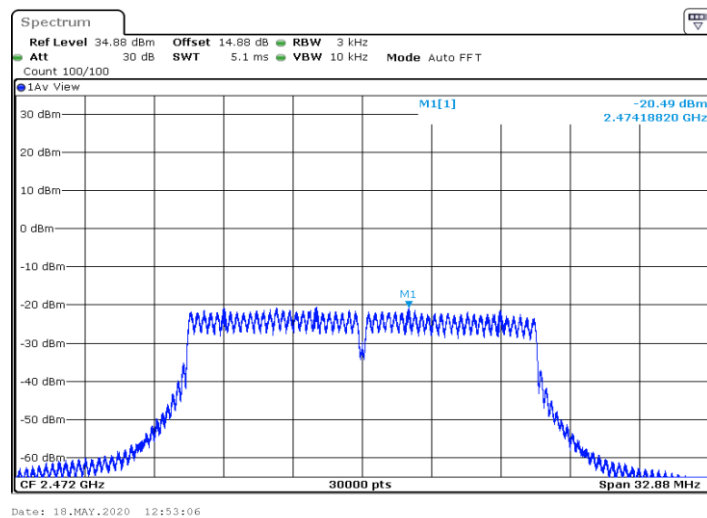
11N20MIMO_Ant2_2442



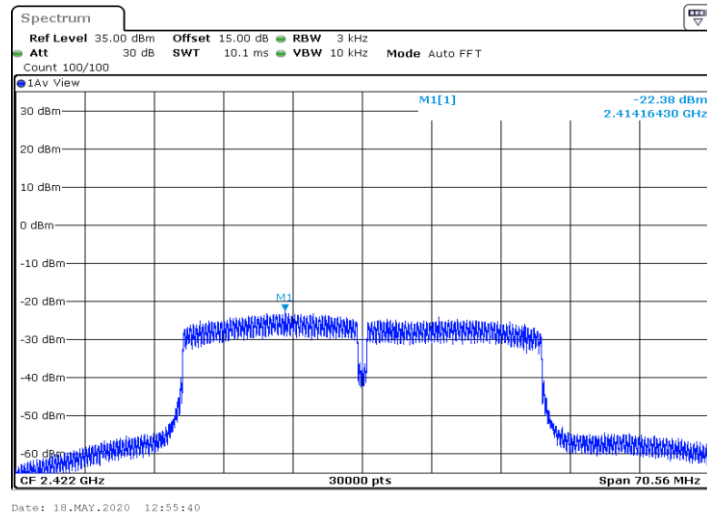
11N20MIMO_Ant1_2472



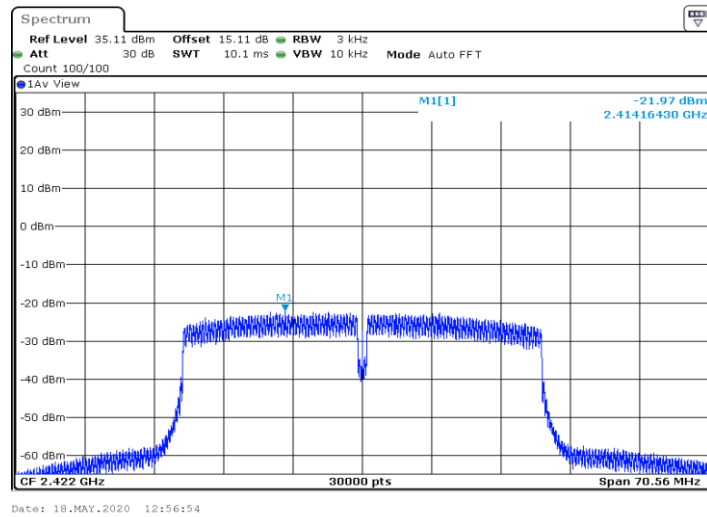
11N20MIMO_Ant2_2472



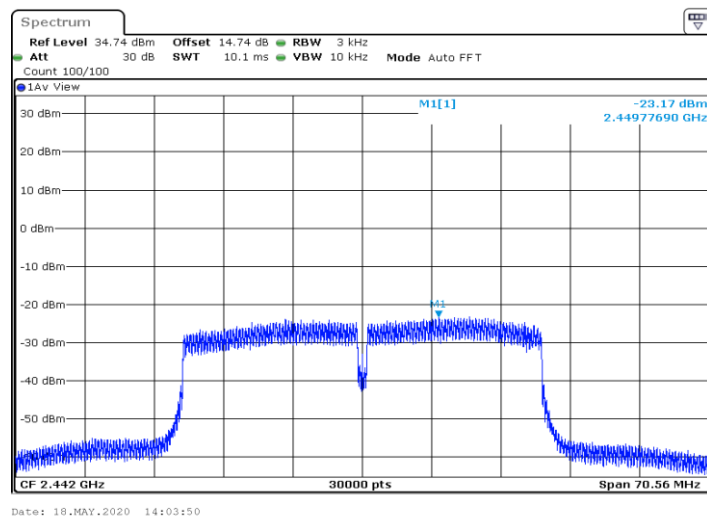
11N40MIMO_Ant1_2422



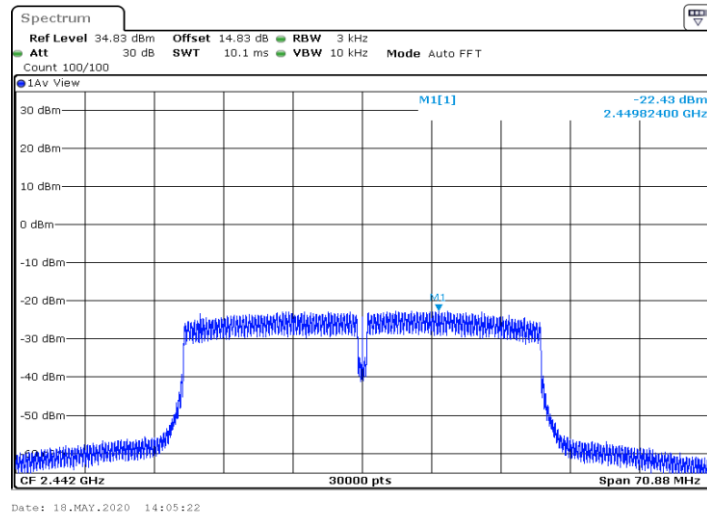
11N40MIMO_Ant2_2422



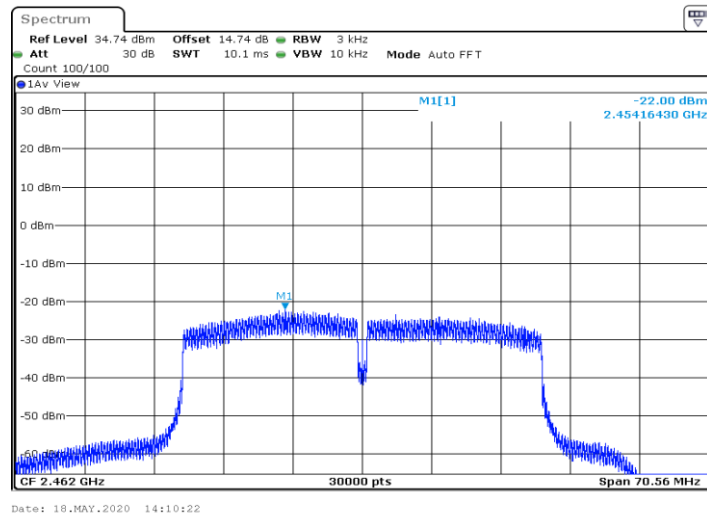
11N40MIMO_Ant1_2442



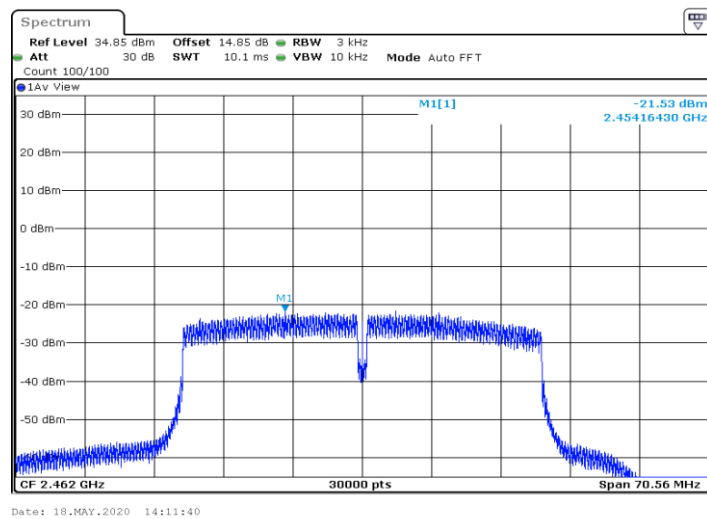
11N40MIMO_Ant2_2442



11N40MIMO_Ant1_2462



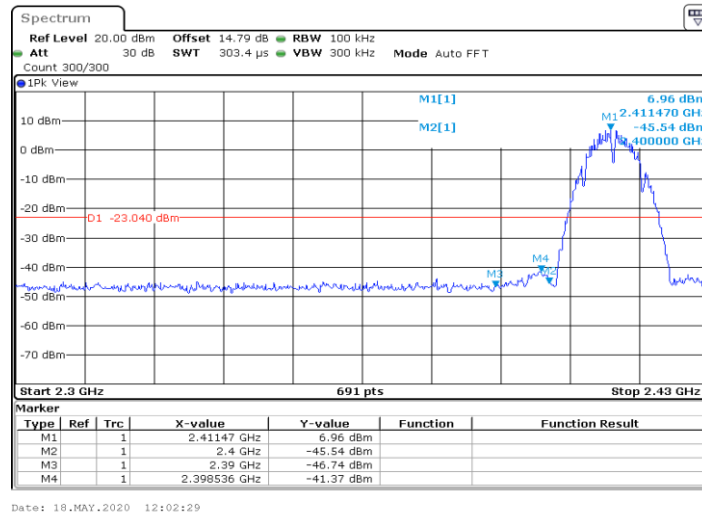
11N40MIMO_Ant2_2462



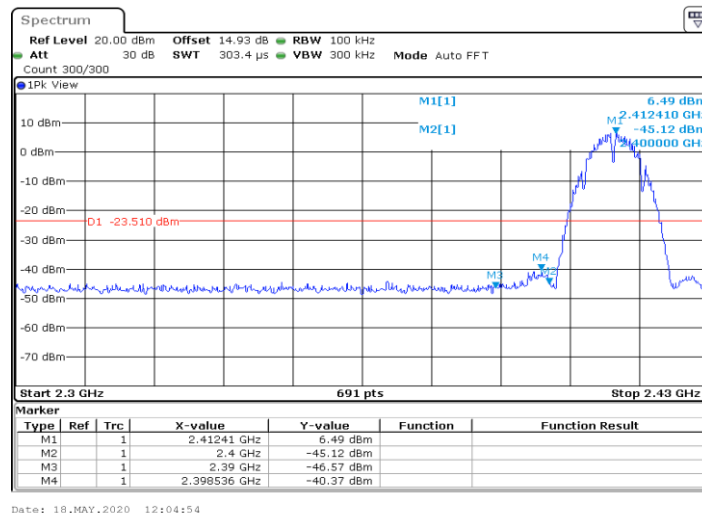
Appendix E: Band edge measurements

Test Graphs

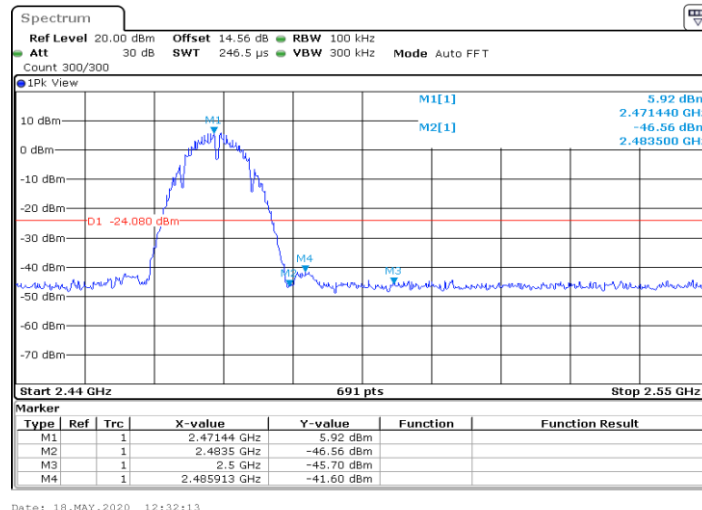
11bMIMO_Ant1_Low_2412



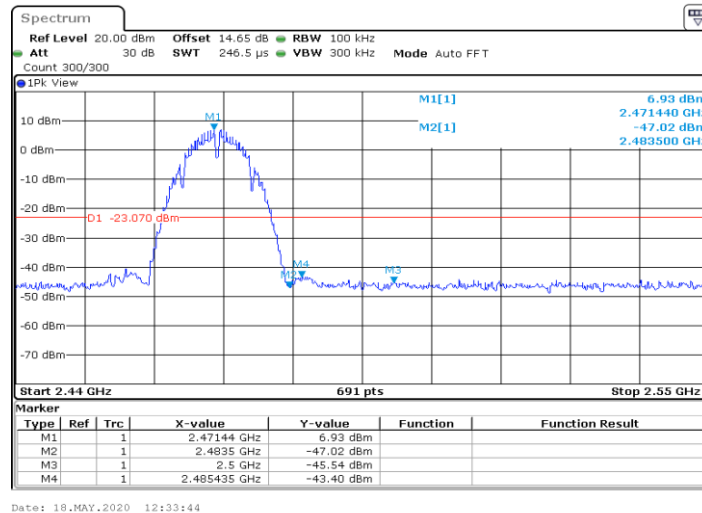
11bMIMO_Ant2_Low_2412



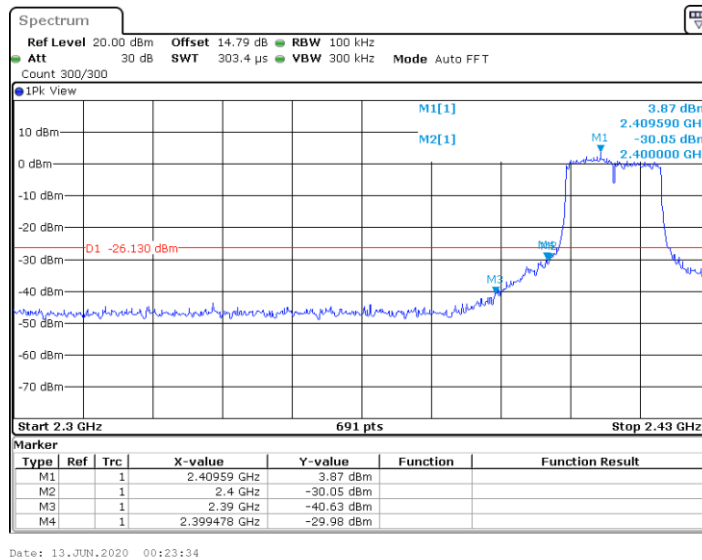
11bMIMO_Ant1_High_2472



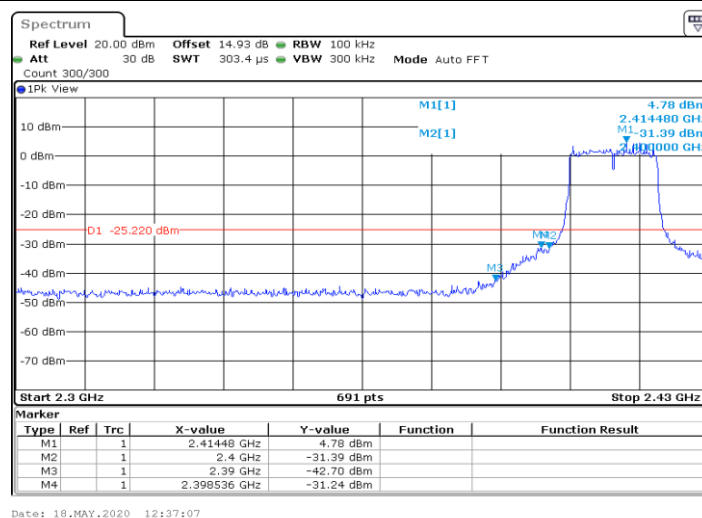
11bMIMO_Ant2_High_2472



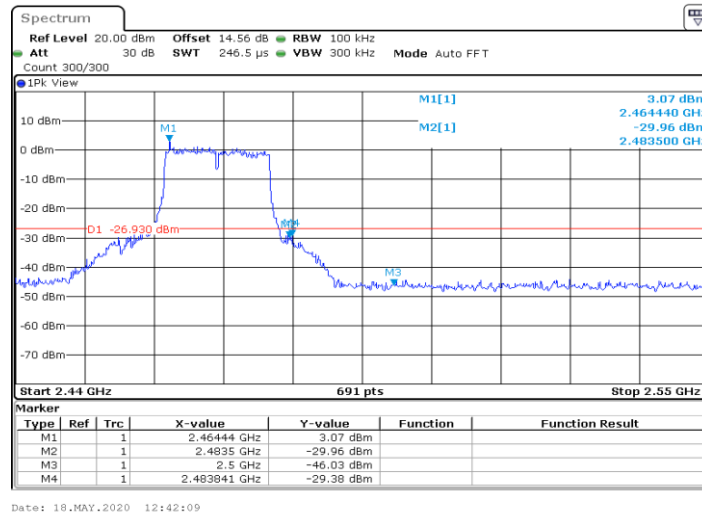
11gMIMO_Ant1_Low_2412



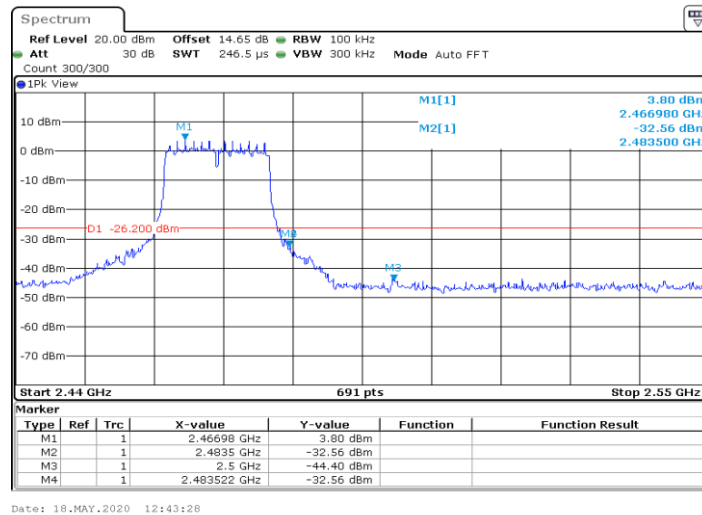
11gMIMO_Ant2_Low_2412



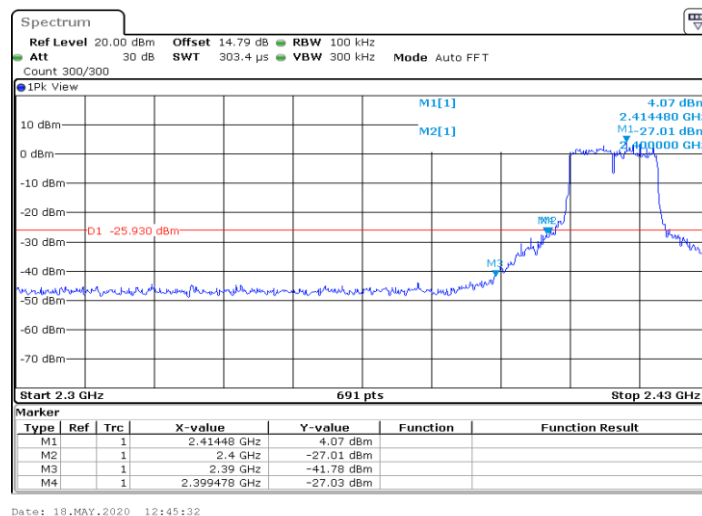
11gMIMO_Ant1_High_2472



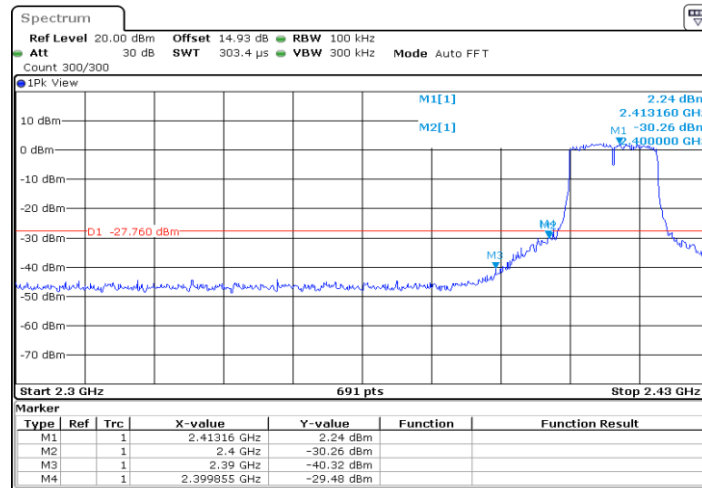
11gMIMO_Ant2_High_2472



11N20MIMO_Ant1_Low_2412

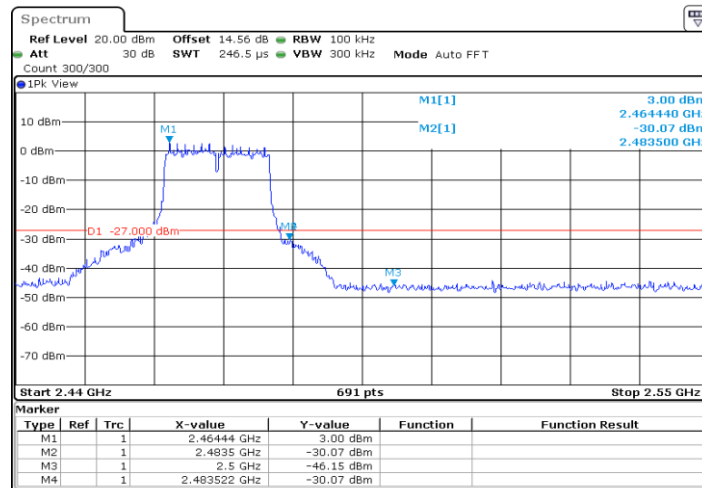


11N20MIMO_Ant2_Low_2412



Date: 18.MAY.2020 12:46:46

11N20MIMO_Ant1_High_2472



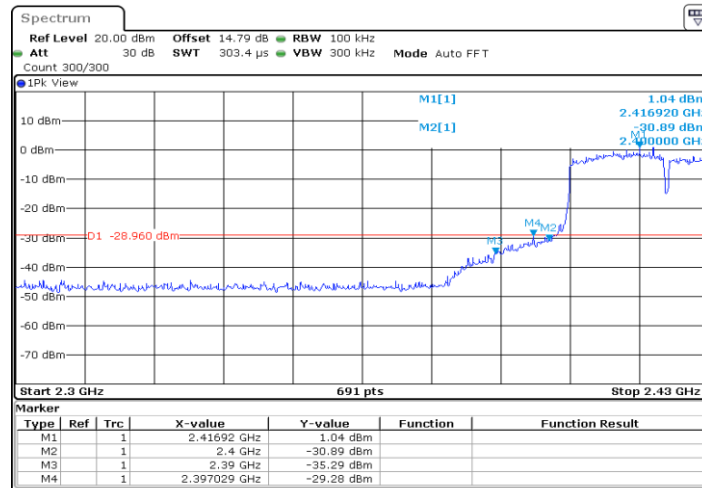
Date: 18.MAY.2020 12:51:52

11N20MIMO_Ant2_High_2472



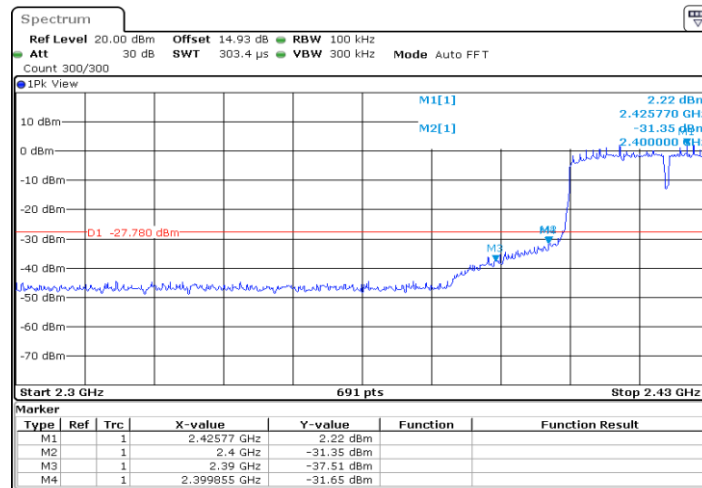
Date: 18.MAY.2020 12:53:15

11N40MIMO_Ant1_Low_2422



Date: 18.MAY.2020 12:55:49

11N40MIMO_Ant2_Low_2422



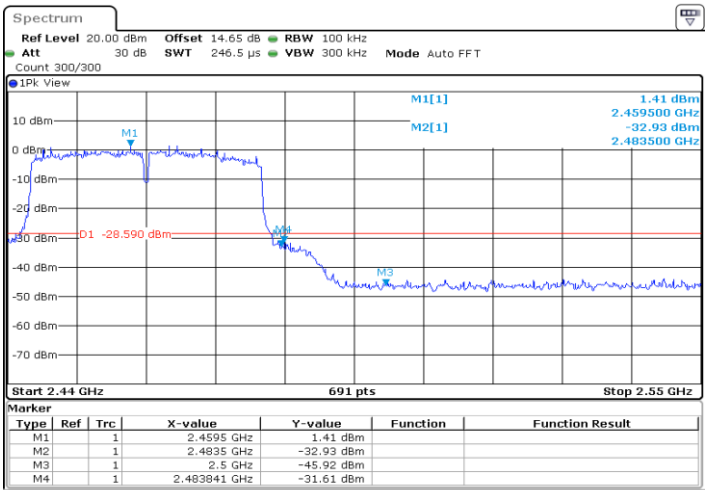
Date: 18.MAY.2020 12:57:03

11N40MIMO_Ant1_High_2462



Date: 18.MAY.2020 14:10:31

11N40MIMO_Ant2_High_2462



Date: 18.MAY.2020 14:11:50

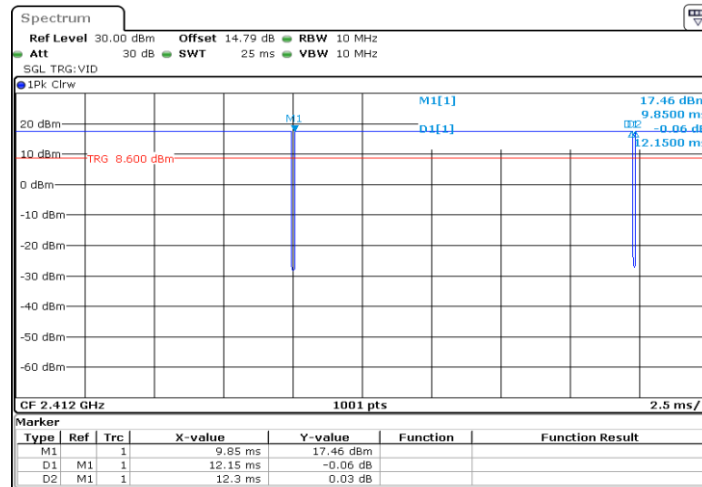
AppendixG: DutyCycle

Test Result

TestMode	Antenna	Channel	TransmissionDuration [ms]	Transmission Period [ms]	Duty Cycle [%]
11bMIMO	Ant1	2412	12.15	12.30	98.78
	Ant2	2412	12.18	12.30	99.02
	Ant1	2442	12.18	12.30	98.98
	Ant2	2442	12.18	12.30	99.02
	Ant1	2472	12.18	12.30	99.02
	Ant2	2472	12.18	12.30	99.02
11gMIMO	Ant1	2412	2.00	2.11	94.79
	Ant2	2412	2.01	2.12	94.81
	Ant1	2442	2.01	2.12	94.81
	Ant2	2442	2.01	2.11	95.26
	Ant1	2472	2.01	2.12	94.81
	Ant2	2472	2.01	2.11	95.26
11N20MIMO	Ant1	2412	4.94	5.04	98.02
	Ant2	2412	4.95	5.05	98.02
	Ant1	2442	4.95	5.05	98.02
	Ant2	2442	4.94	5.05	97.82
	Ant1	2472	4.95	5.05	98.02
	Ant2	2472	4.95	5.05	98.02
11N40MIMO	Ant1	2422	2.39	2.49	95.98
	Ant2	2422	2.39	2.50	95.60
	Ant1	2442	2.39	2.49	95.98
	Ant2	2442	2.39	2.50	95.60
	Ant1	2462	2.39	2.49	95.98
	Ant2	2462	2.39	2.50	95.60

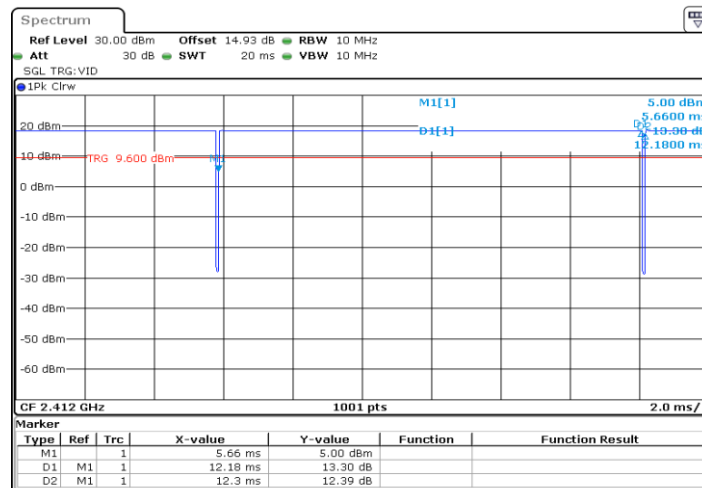
Test Graphs

11bMIMO_Ant1_2412



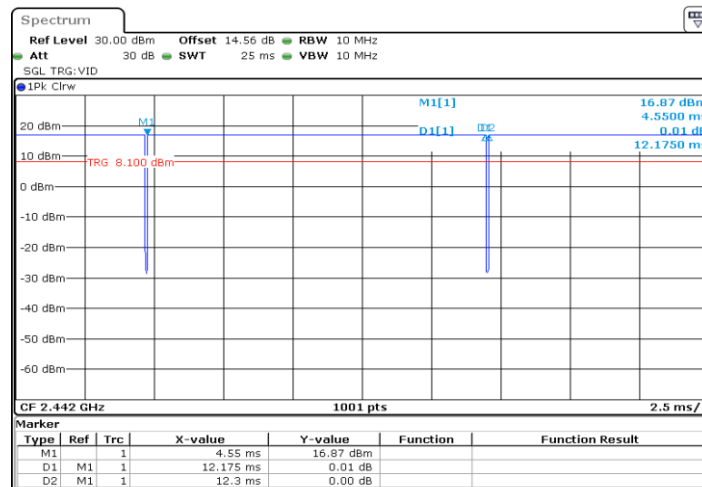
Date: 18.MAY.2020 14:32:00

11bMIMO_Ant2_2412



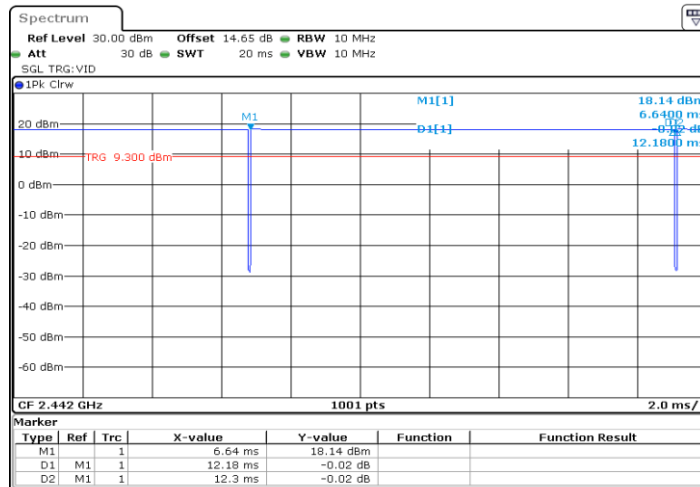
Date: 18.MAY.2020 14:32:14

11bMIMO_Ant1_2442



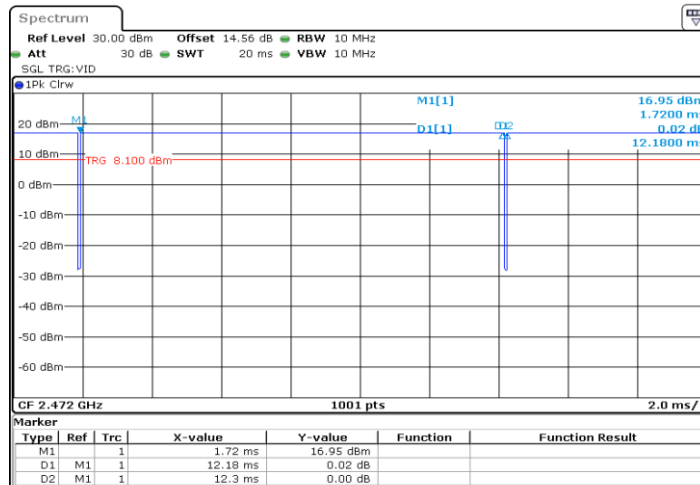
Date: 18.MAY.2020 14:30:54

11bMIMO_Ant2_2442



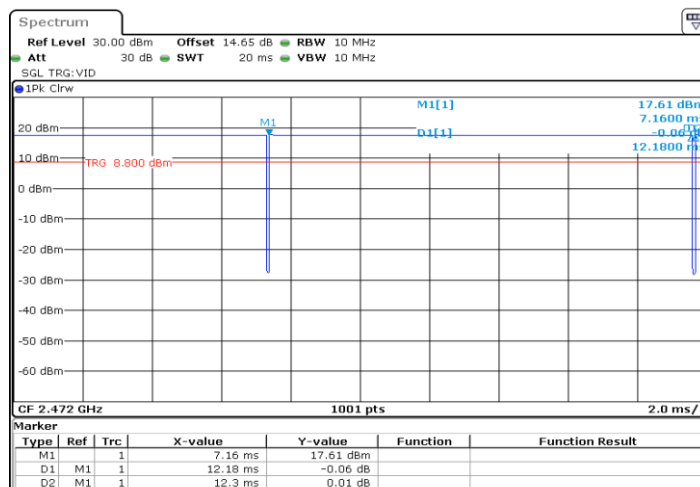
Date: 18.MAY.2020 14:31:10

11bMIMO_Ant1_2472



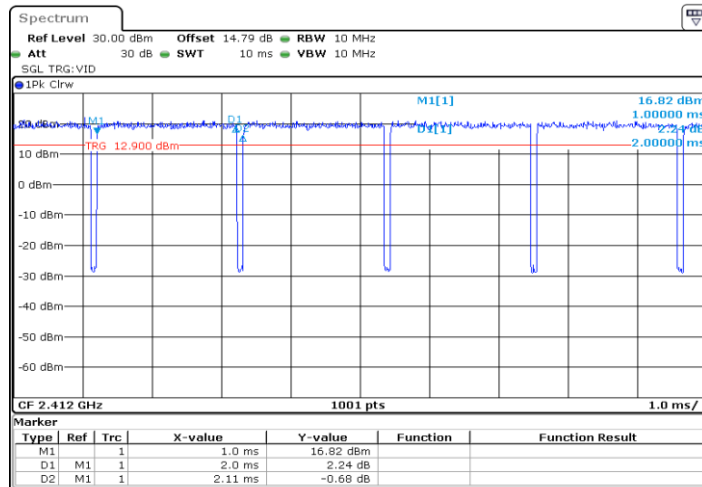
Date: 18.MAY.2020 14:29:37

11bMIMO_Ant2_2472



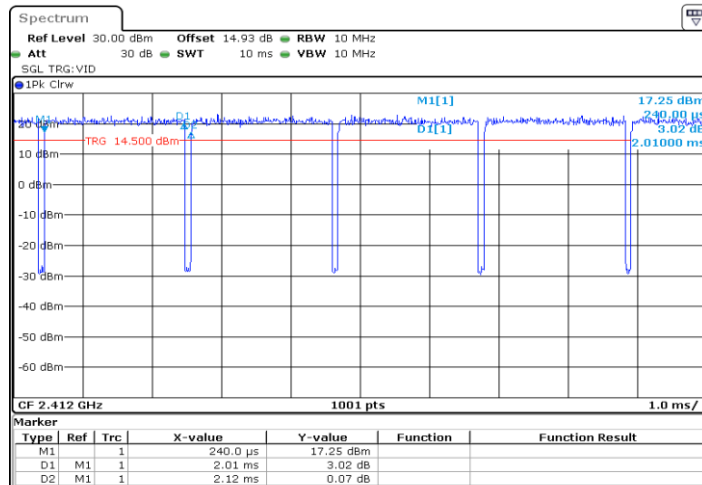
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11gMIMO_Ant1_2412



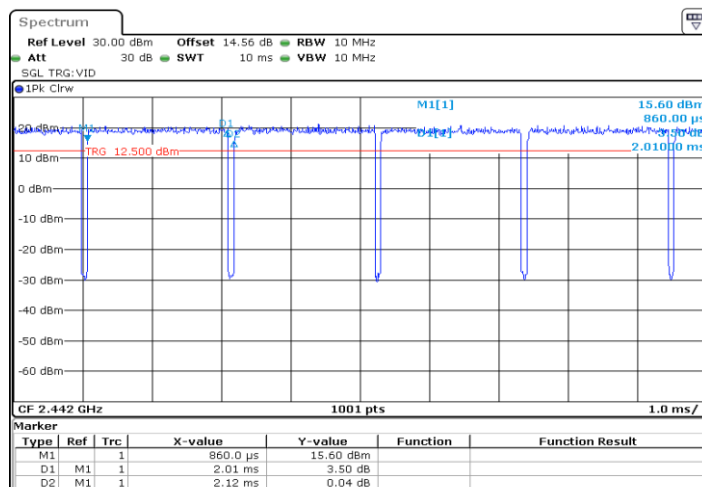
Date: 18.MAY.2020 14:26:10

11gMIMO_Ant2_2412



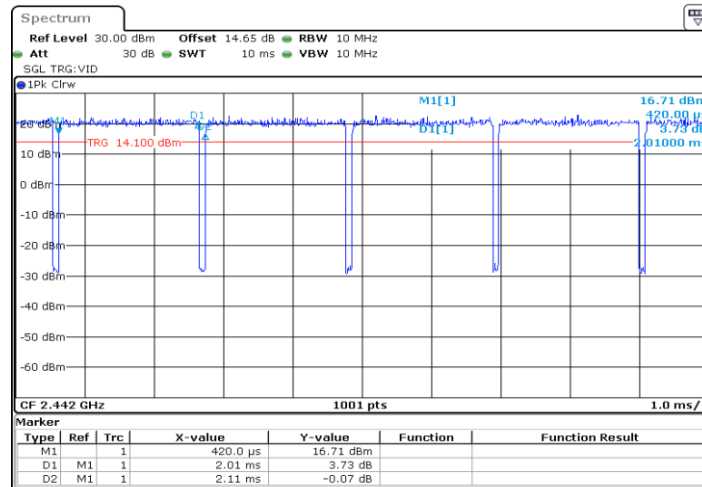
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11gMIMO_Ant1_2442



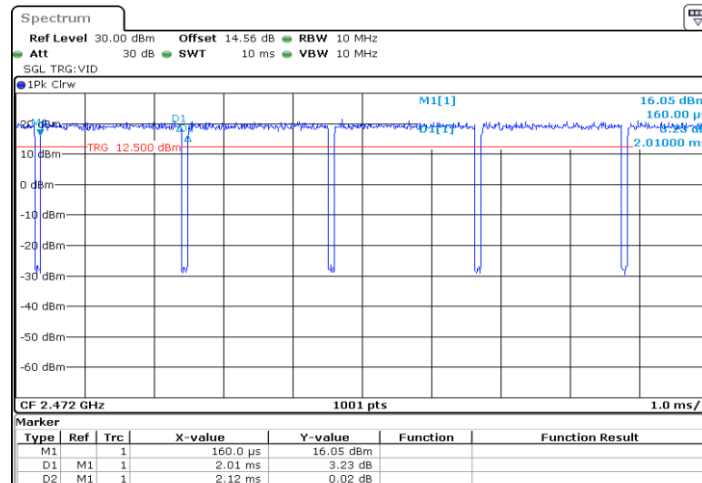
Date: 18.MAY.2020 14:24:31

11gMIMO_Ant2_2442



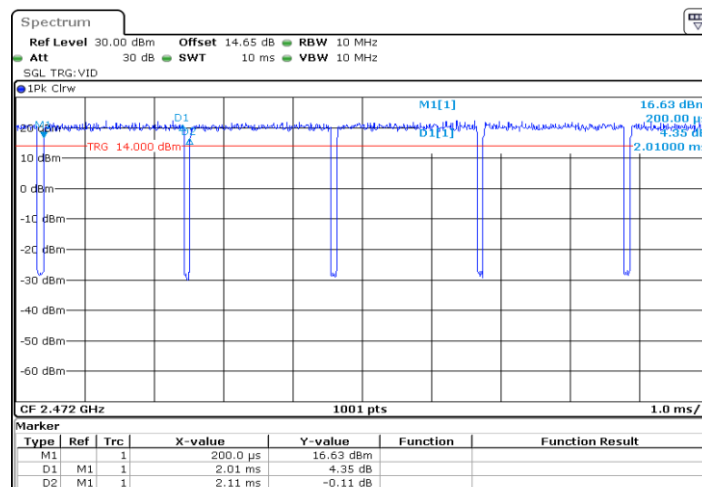
Date: 18.MAY.2020 14:24:48

11gMIMO_Ant1_2472



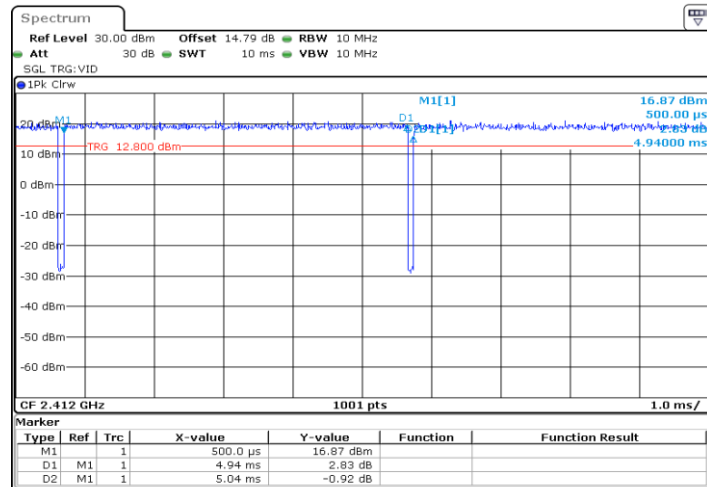
Date: 18.MAY.2020 14:23:30

11gMIMO_Ant2_2472



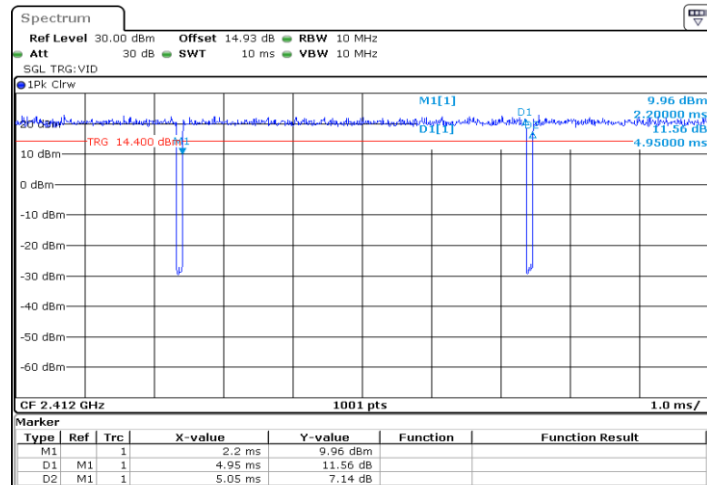
Date: 18.MAY.2020 14:28:36

11N20MIMO_Ant1_2412



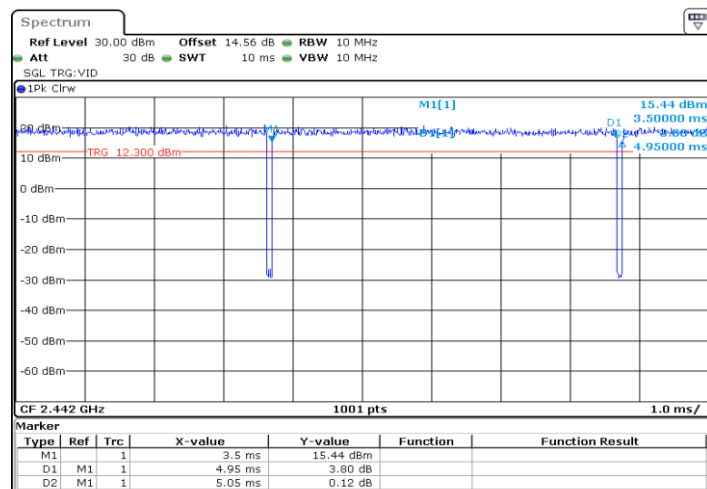
Date: 18.MAY.2020 14:22:03

11N20MIMO_Ant2_2412



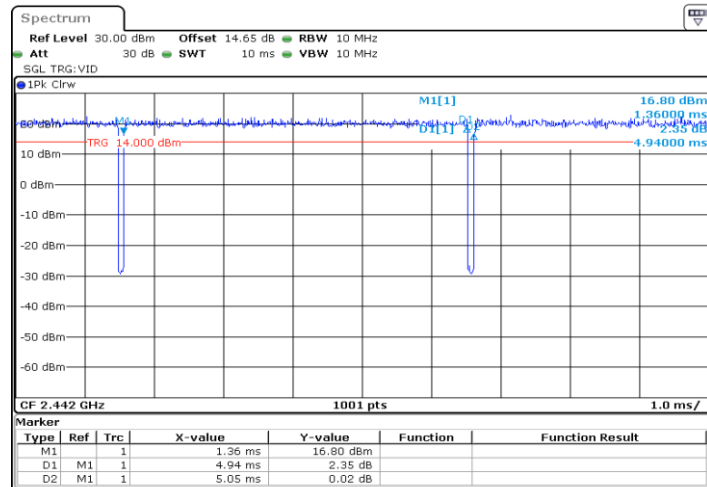
Date: 18.MAY.2020 14:22:18

11N20MIMO_Ant1_2442



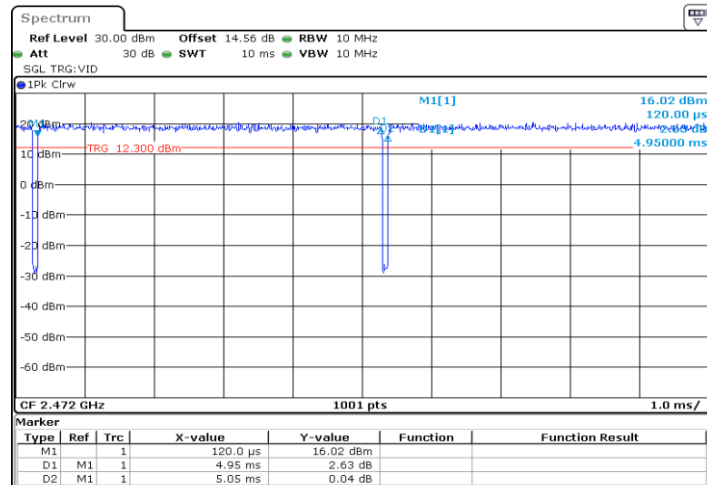
Date: 18.MAY.2020 14:20:49

11N20MIMO_Ant2_2442



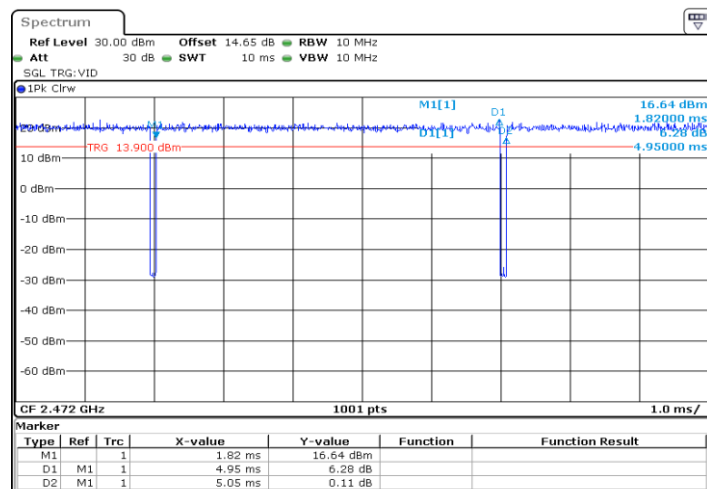
Date: 18.MAY.2020 14:21:05

11N20MIMO_Ant1_2472



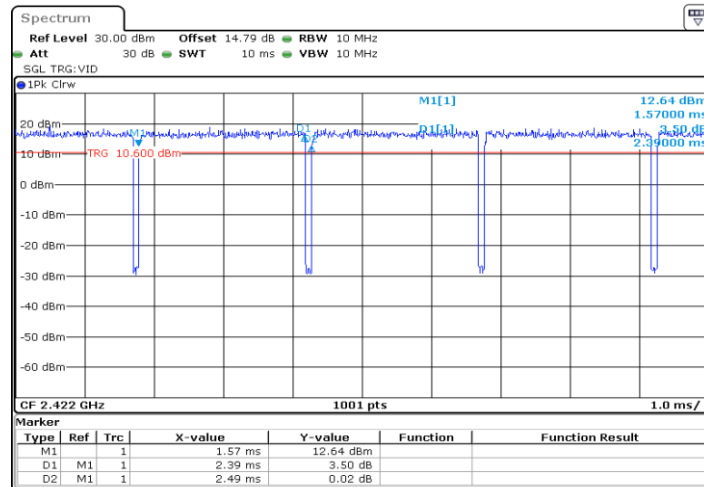
Date: 18.MAY.2020 14:19:30

11N20MIMO_Ant2_2472



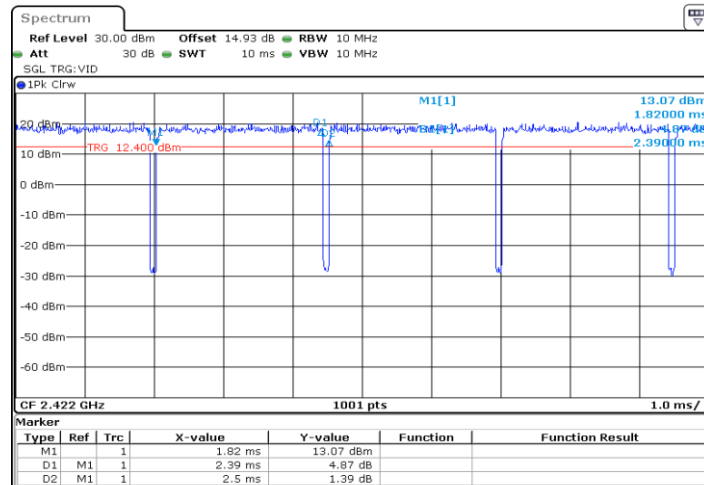
Date: 18.MAY.2020 14:19:47

11N40MIMO_Ant1_2422



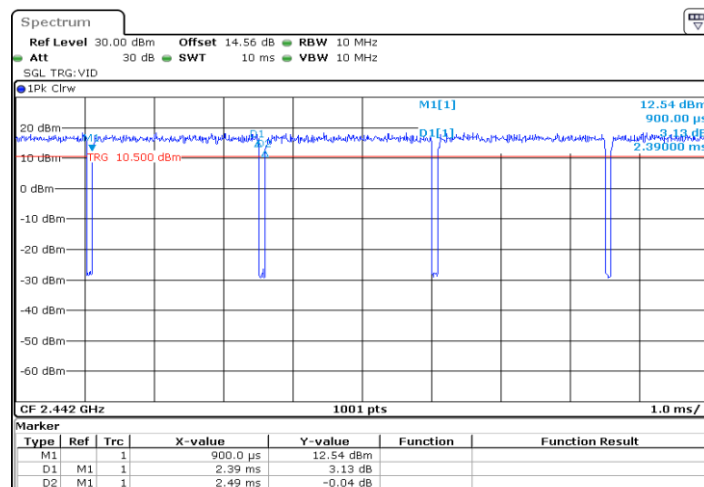
Date: 18.MAY.2020 14:17:44

11N40MIMO_Ant2_2422



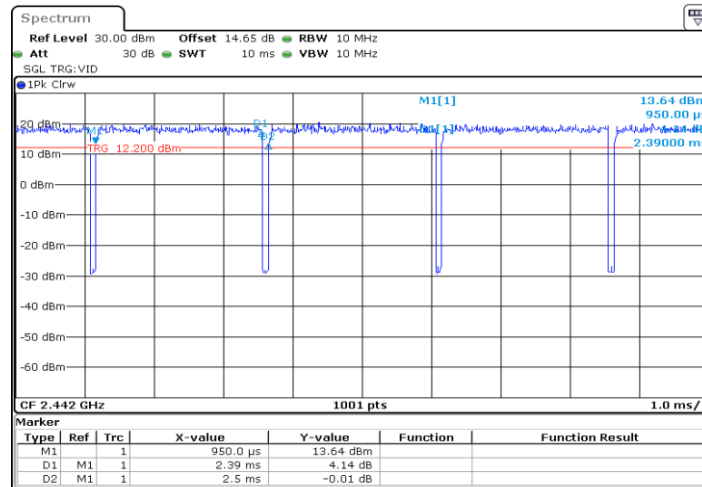
Date: 18.MAY.2020 14:18:00

11N40MIMO_Ant1_2442



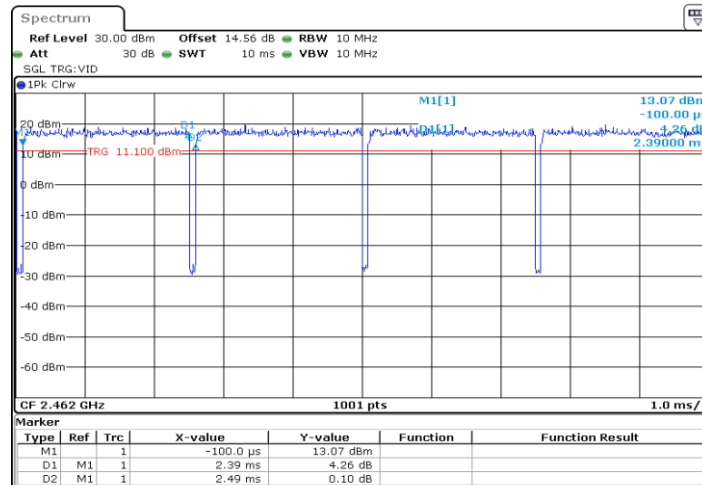
Date: 18.MAY.2020 14:16:31

11N40MIMO_Ant2_2442



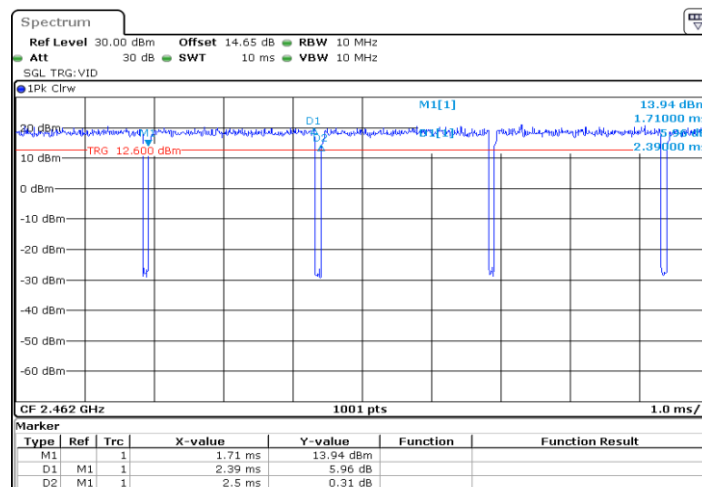
Date: 18.MAY.2020 14:16:49

11N40MIMO_Ant1_2462



Date: 18.MAY.2020 14:09:30

11N40MIMO_Ant2_2462



Date: 18.MAY.2020 14:10:48