



5.2 Maximum conducted output power

5.2.1 Test Result

AV:

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B-CDD	Ant1	2412	12.04	<=30	PASS
	Ant2	2412	11.63	<=30	PASS
	total	2412	14.85	<=30	PASS
	Ant1	2437	12.09	<=30	PASS
	Ant2	2437	12.23	<=30	PASS
	total	2437	15.17	<=30	PASS
	Ant1	2462	11.60	<=30	PASS
	Ant2	2462	12.01	<=30	PASS
	total	2462	14.82	<=30	PASS
11G-CDD	Ant1	2412	10.76	<=30	PASS
	Ant2	2412	10.24	<=30	PASS
	total	2412	13.52	<=30	PASS
	Ant1	2437	11.77	<=30	PASS
	Ant2	2437	11.92	<=30	PASS
	total	2437	14.86	<=30	PASS
	Ant1	2462	11.35	<=30	PASS
	Ant2	2462	12.76	<=30	PASS
	total	2462	15.12	<=30	PASS
11N20MIMO	Ant1	2412	11.42	<=30	PASS
	Ant2	2412	11.17	<=30	PASS
	total	2412	14.31	<=30	PASS
	Ant1	2437	11.85	<=30	PASS
	Ant2	2437	11.81	<=30	PASS
	total	2437	14.84	<=30	PASS
	Ant1	2462	11.04	<=30	PASS
	Ant2	2462	12.62	<=30	PASS
	total	2462	14.91	<=30	PASS
11N40MIMO	Ant1	2422	8.56	<=30	PASS
	Ant2	2422	9.41	<=30	PASS
	total	2422	12.02	<=30	PASS
	Ant1	2437	10.49	<=30	PASS
	Ant2	2437	11.37	<=30	PASS
	total	2437	13.96	<=30	PASS
	Ant1	2452	8.46	<=30	PASS
	Ant2	2452	10.30	<=30	PASS
	total	2452	12.49	<=30	PASS

PK:

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B-CDD	Ant1	2412	14.9	<=30	PASS
	Ant2	2412	14.48	<=30	PASS
	total	2412	17.71	<=30	PASS
	Ant1	2437	15.02	<=30	PASS
	Ant2	2437	15.09	<=30	PASS
	total	2437	18.07	<=30	PASS
	Ant1	2462	14.47	<=30	PASS
	Ant2	2462	14.91	<=30	PASS
	total	2462	17.71	<=30	PASS
11G-CDD	Ant1	2412	18.16	<=30	PASS



	Ant2	2412	18.04	<=30	PASS
	total	2412	21.11	<=30	PASS
	Ant1	2437	19.59	<=30	PASS
	Ant2	2437	19.89	<=30	PASS
	total	2437	22.75	<=30	PASS
	Ant1	2462	19.54	<=30	PASS
	Ant2	2462	20.84	<=30	PASS
	total	2462	23.25	<=30	PASS
11N20MIMO	Ant1	2412	19.1	<=30	PASS
	Ant2	2412	19.07	<=30	PASS
	total	2412	22.10	<=30	PASS
	Ant1	2437	19.41	<=30	PASS
	Ant2	2437	19.82	<=30	PASS
	total	2437	22.63	<=30	PASS
	Ant1	2462	18.85	<=30	PASS
	Ant2	2462	20.24	<=30	PASS
11N40MIMO	total	2462	22.61	<=30	PASS
	Ant1	2422	16.12	<=30	PASS
	Ant2	2422	17.47	<=30	PASS
	total	2422	19.86	<=30	PASS
	Ant1	2437	19.28	<=30	PASS
	Ant2	2437	20.68	<=30	PASS
	total	2437	23.05	<=30	PASS
	Ant1	2452	15.97	<=30	PASS
	Ant2	2452	18.05	<=30	PASS
	total	2452	20.14	<=30	PASS



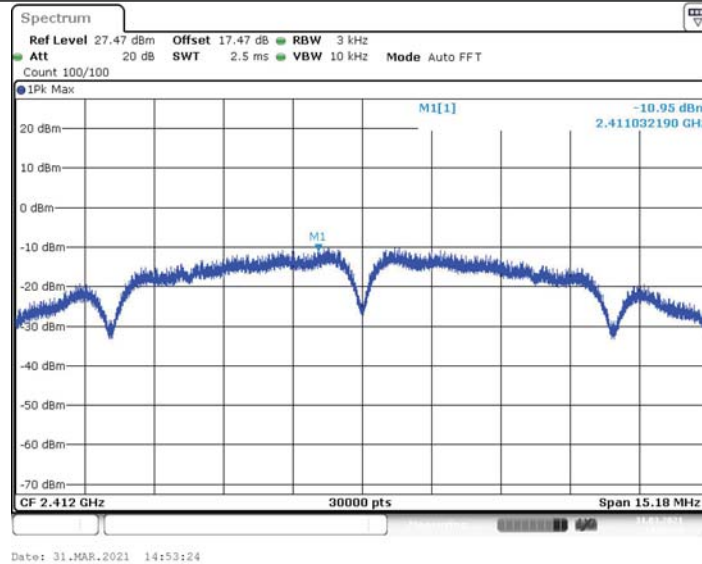
5.3 Maximum power spectral density

5.3.1 Test Result

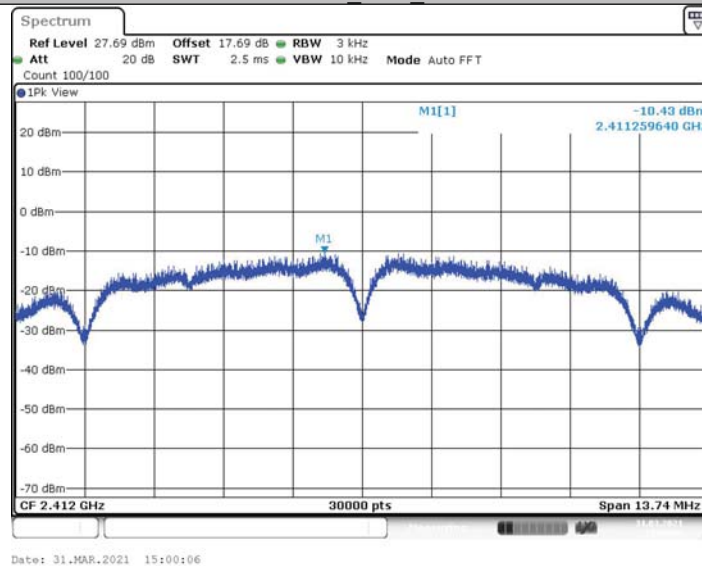
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B-CDD	Ant1	2412	-10.95	<=8	PASS
	Ant2	2412	-10.43	<=8	PASS
	total	2412	-7.67	<=8	PASS
	Ant1	2437	-9.88	<=8	PASS
	Ant2	2437	-9.79	<=8	PASS
	total	2437	-6.82	<=8	PASS
	Ant1	2462	-10.48	<=8	PASS
	Ant2	2462	-10.04	<=8	PASS
	total	2462	-7.24	<=8	PASS
11G-CDD	Ant1	2412	-13.12	<=8	PASS
	Ant2	2412	-14.26	<=8	PASS
	total	2412	-10.64	<=8	PASS
	Ant1	2437	-11.99	<=8	PASS
	Ant2	2437	-11.86	<=8	PASS
	total	2437	-8.91	<=8	PASS
	Ant1	2462	-12.18	<=8	PASS
	Ant2	2462	-10.96	<=8	PASS
	total	2462	-8.52	<=8	PASS
11N20MIMO	Ant1	2412	-12.92	<=8	PASS
	Ant2	2412	-14.76	<=8	PASS
	total	2412	-10.73	<=8	PASS
	Ant1	2437	-11.58	<=8	PASS
	Ant2	2437	-11.62	<=8	PASS
	total	2437	-8.59	<=8	PASS
	Ant1	2462	-12.86	<=8	PASS
	Ant2	2462	-11.78	<=8	PASS
	total	2462	-9.28	<=8	PASS
11N40MIMO	Ant1	2422	-17.85	<=8	PASS
	Ant2	2422	-16.62	<=8	PASS
	total	2422	-14.18	<=8	PASS
	Ant1	2437	-14.59	<=8	PASS
	Ant2	2437	-14.56	<=8	PASS
	total	2437	-11.56	<=8	PASS
	Ant1	2452	-17.53	<=8	PASS
	Ant2	2452	-16.46	<=8	PASS
	total	2452	-13.95	<=8	PASS

5.3.2 Test Graphs

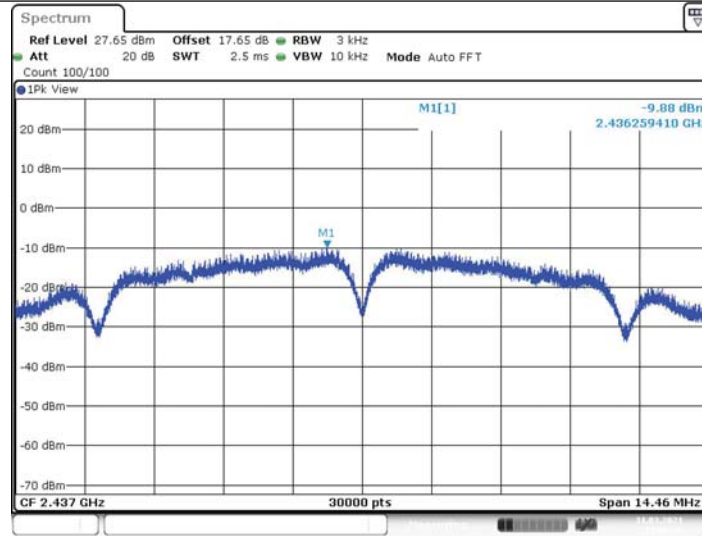
11B-CDD_Ant1_2412



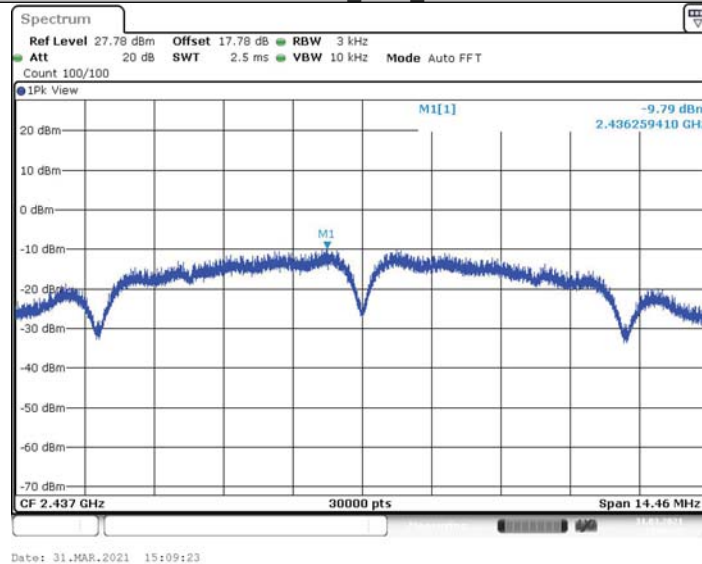
11B-CDD_Ant2_2412



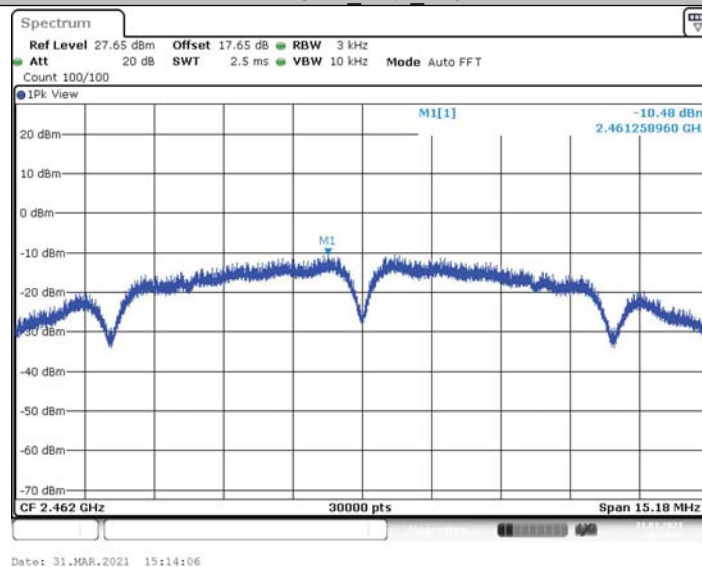
11B-CDD_Ant1_2437

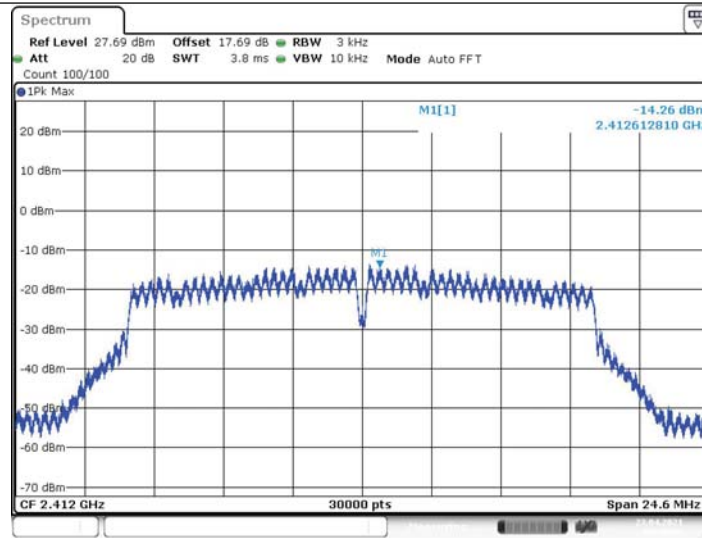


11B-CDD_Ant2_2437



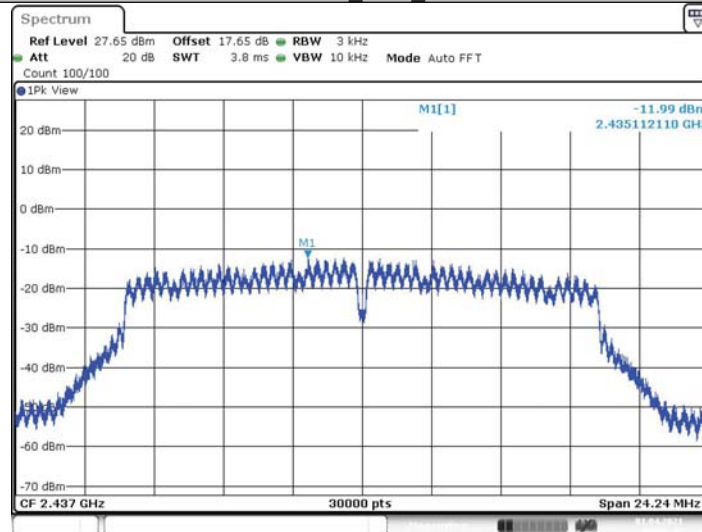
11B-CDD_Ant1_2462





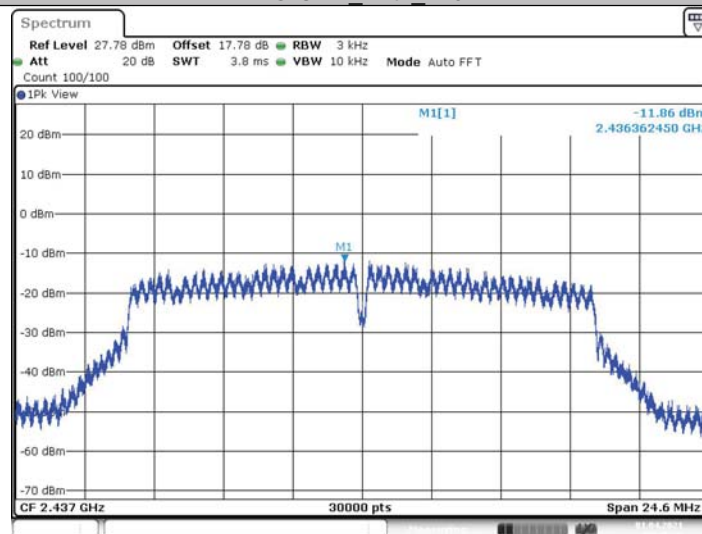
Date: 23.APR.2021 09:48:50

11G-CDD Ant1 2437



Date: 1.APR.2021 08:42:42

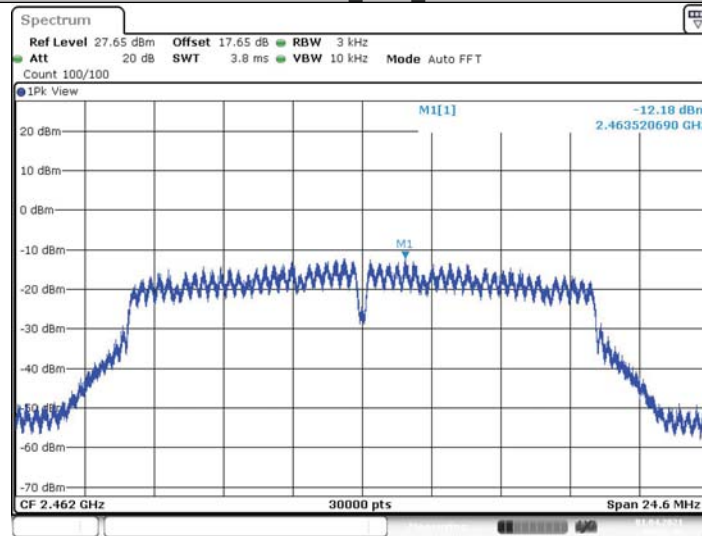
11G-CDD Ant2 2437



Date: 1.APR.2021 08:45:19

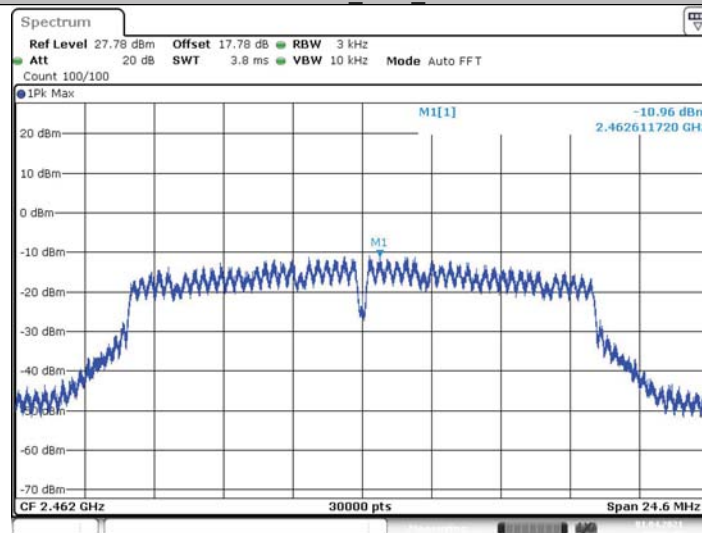


11G-CDD_Ant1_2462



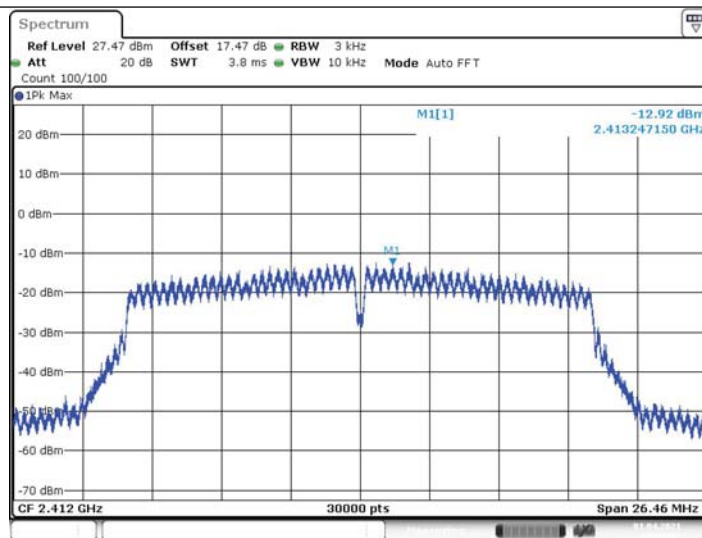
Date: 1.APR.2021 08:52:46

11G-CDD_Ant2_2462



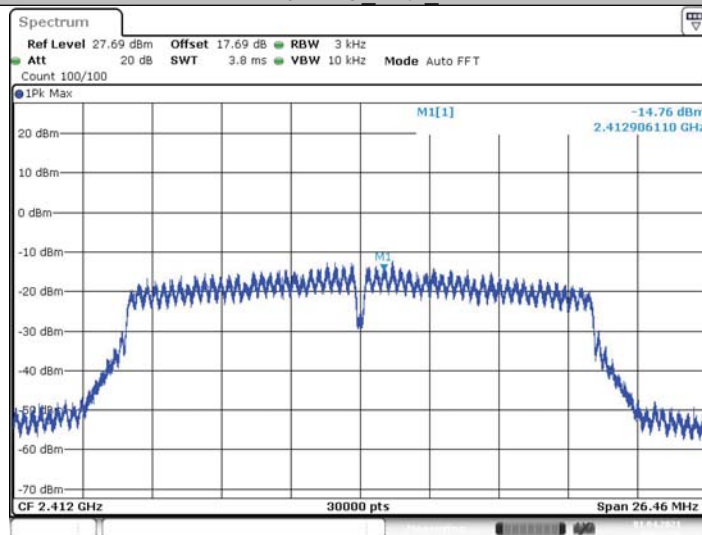
Date: 1.APR.2021 09:02:47

11N20MIMO_Ant1_2412



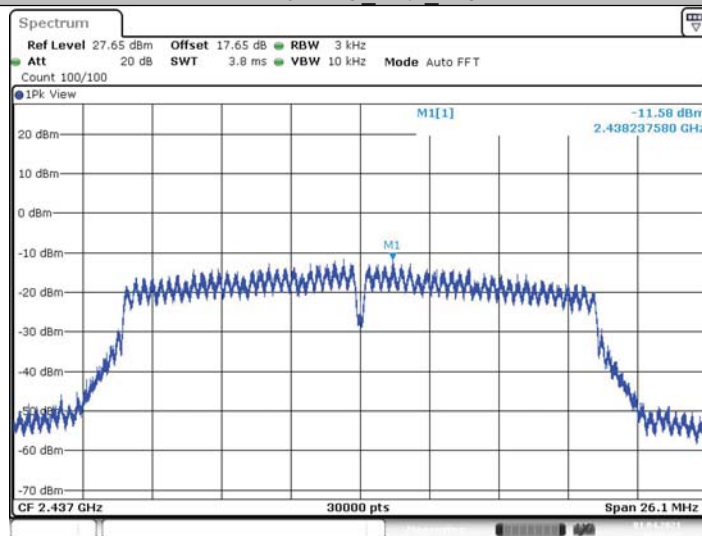
Date: 1.APR.2021 09:09:01

11N20MIMO_Ant2_2412



Date: 1.APR.2021 09:12:28

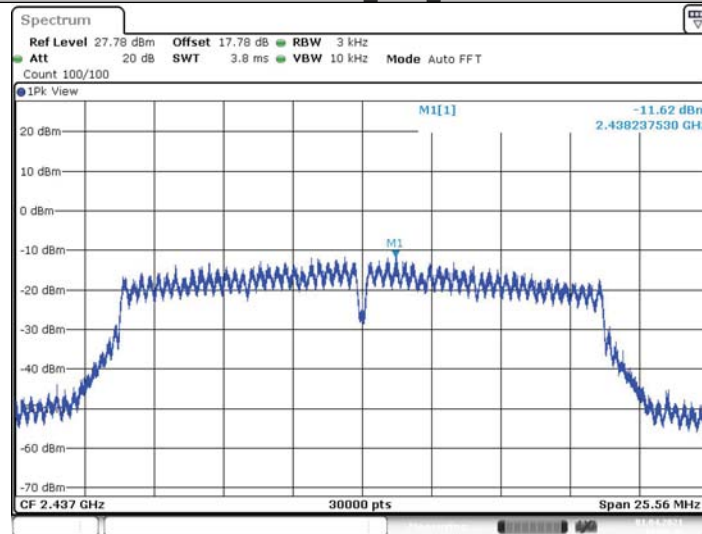
11N20MIMO_Ant1_2437



Date: 1.APR.2021 10:26:38

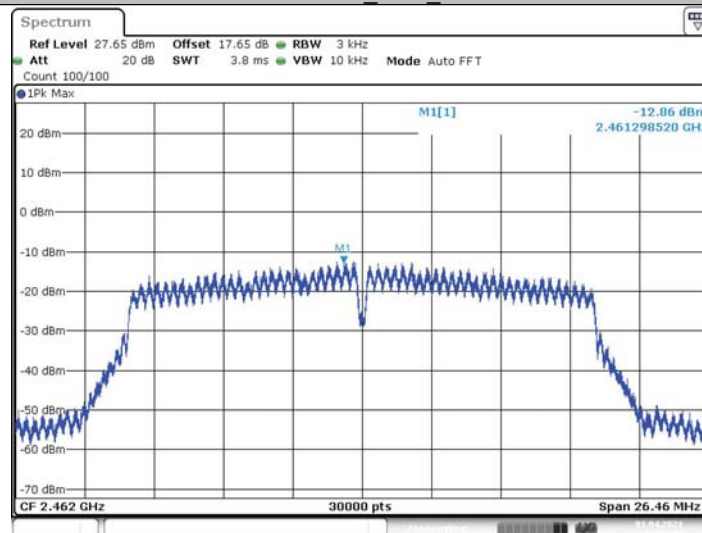


11N20MIMO_Ant2_2437



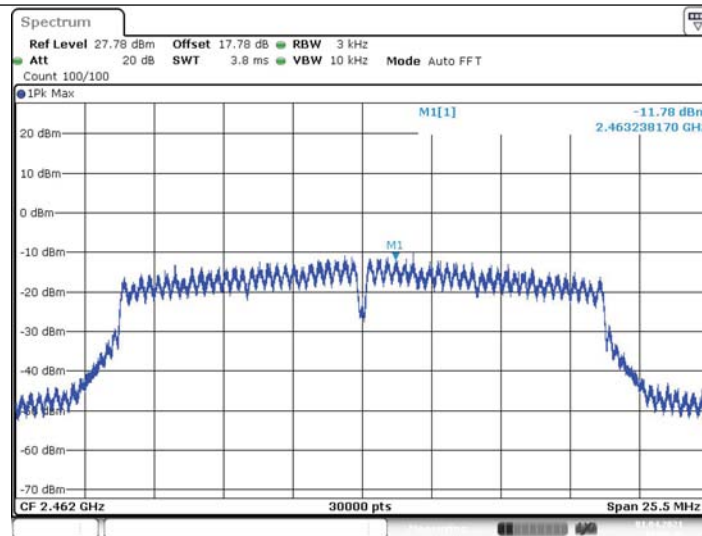
Date: 1.APR.2021 10:30:10

11N20MIMO_Ant1_2462



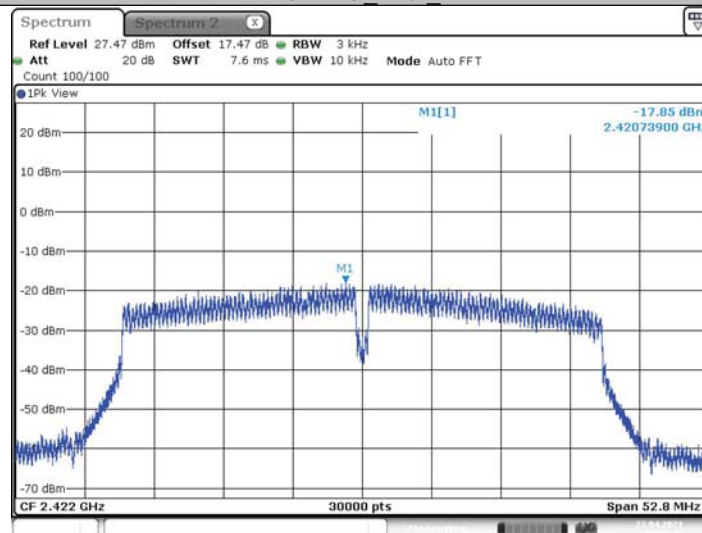
Date: 1.APR.2021 10:36:05

11N20MIMO_Ant2_2462



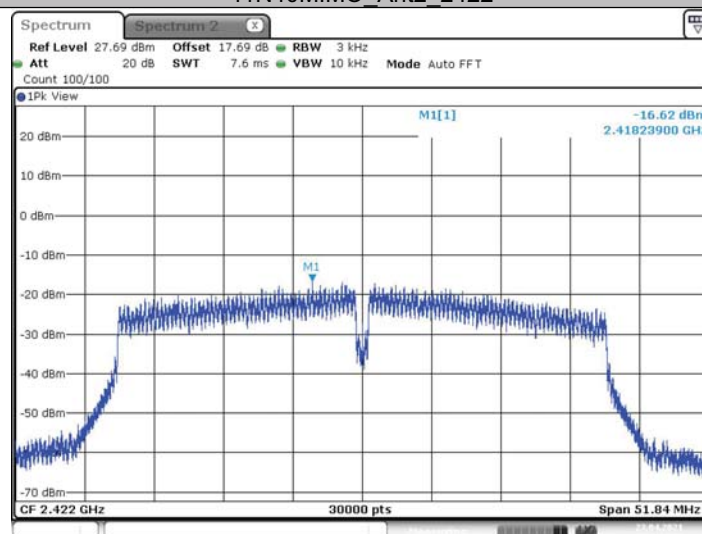
Date: 1.APR.2021 10:39:37

11N40MIMO Ant1 2422



Date: 23.APR.2021 10:54:20

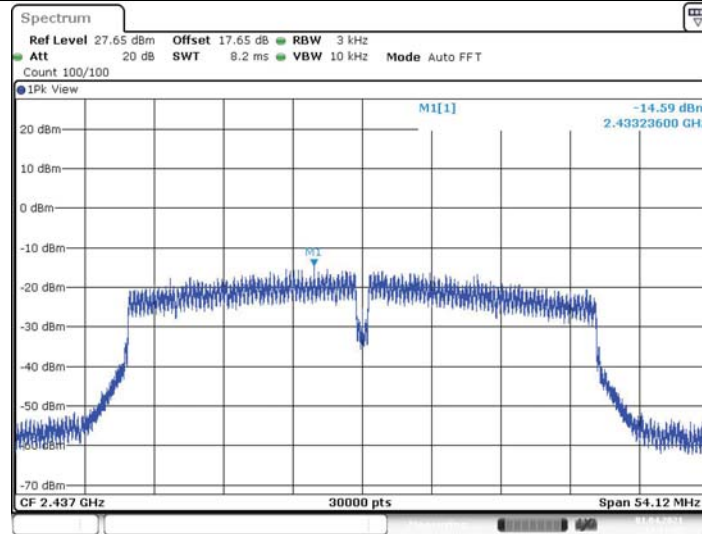
11N40MIMO Ant2 2422



Date: 23.APR.2021 11:13:48

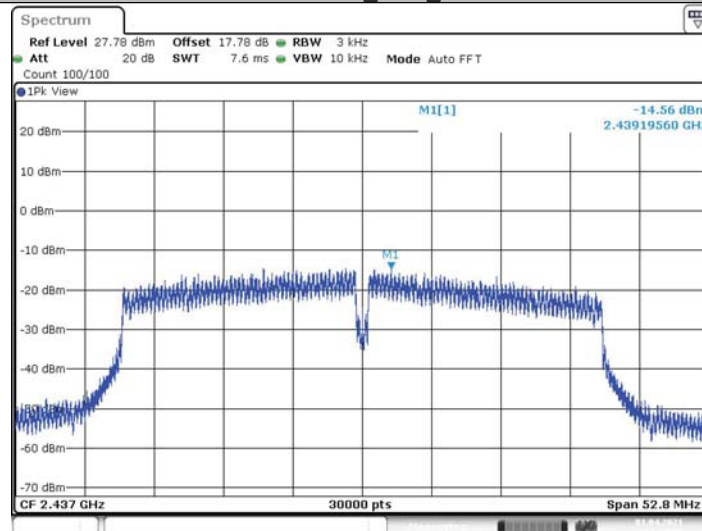


11N40MIMO_Ant1_2437



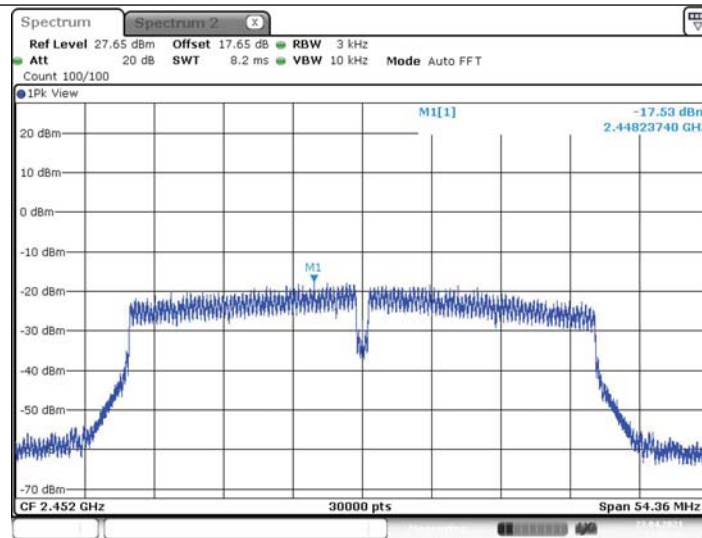
Date: 1.APR.2021 11:11:15

11N40MIMO_Ant2_2437



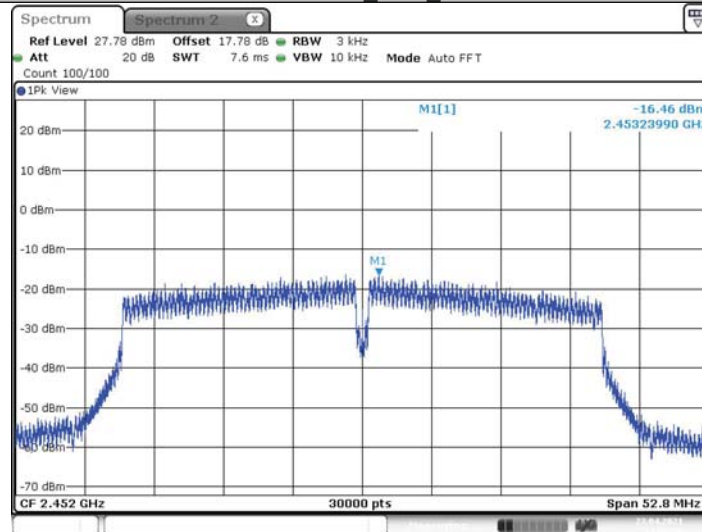
Date: 1.APR.2021 11:14:06

11N40MIMO_Ant1_2452



Date: 23.APR.2021 11:33:37

11N40MIMO Ant2 2452



Date: 23.APR.2021 11:37:21



5.4 Band edge measurements

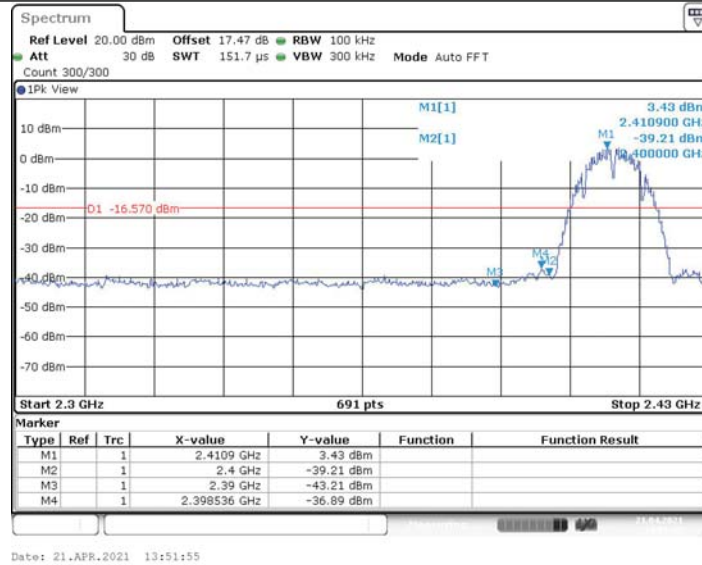
5.4.1 Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B-CDD	Ant1	Low	2412	3.43	-36.89	<=-16.57	PASS
	Ant2	Low	2412	2.64	-37.7	<=-17.36	PASS
	Ant1	High	2462	2.48	-36.33	<=-17.52	PASS
	Ant2	High	2462	3.21	-38.44	<=-16.79	PASS
11G-CDD	Ant1	Low	2412	-2.85	-31.13	<=-22.85	PASS
	Ant2	Low	2412	-2.74	-32.38	<=-22.74	PASS
	Ant1	High	2462	-1.15	-37.73	<=-21.15	PASS
	Ant2	High	2462	0.67	-37.58	<=-19.33	PASS
11N20MIMO	Ant1	Low	2412	-1.44	-27.94	<=-21.44	PASS
	Ant2	Low	2412	-1.78	-31.95	<=-21.78	PASS
	Ant1	High	2462	-2.36	-38.91	<=-22.36	PASS
	Ant2	High	2462	0.52	-37.37	<=-19.48	PASS
11N40MIMO	Ant1	Low	2422	-7.11	-37.57	<=-27.11	PASS
	Ant2	Low	2422	-4.96	-37.69	<=-24.96	PASS
	Ant1	High	2452	-7.51	-38.45	<=-27.51	PASS
	Ant2	High	2452	-4.82	-38.69	<=-24.82	PASS

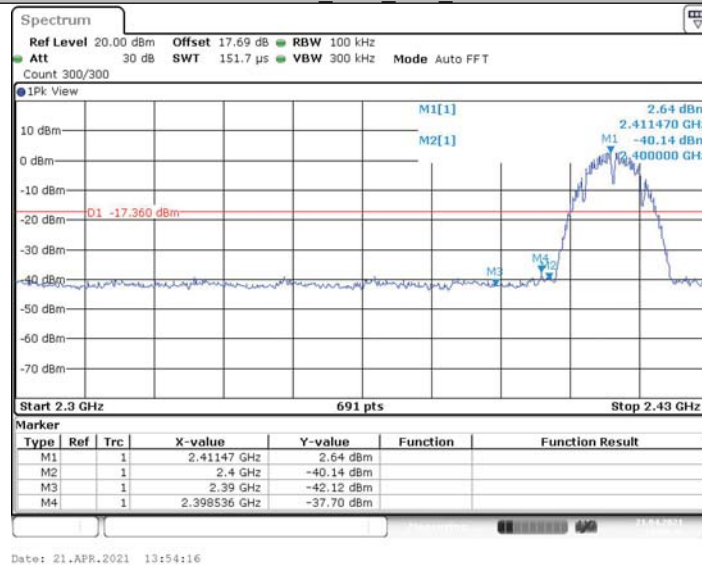


5.4.2 Test Graphs

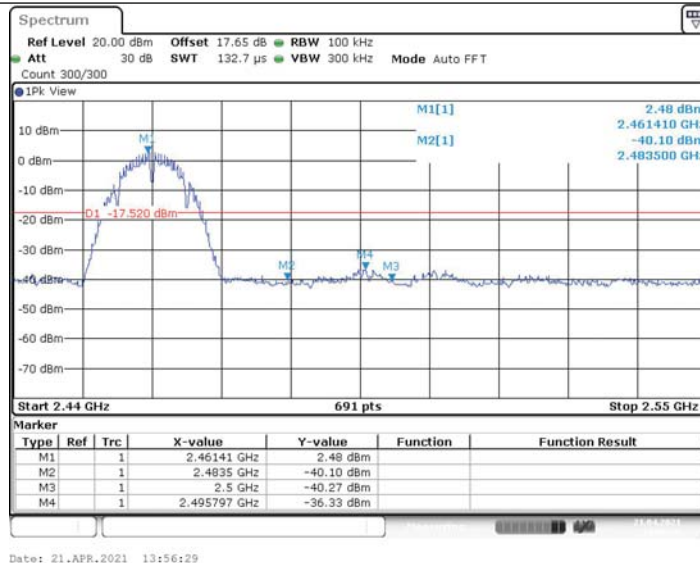
11B-CDD_Ant1_Low_2412



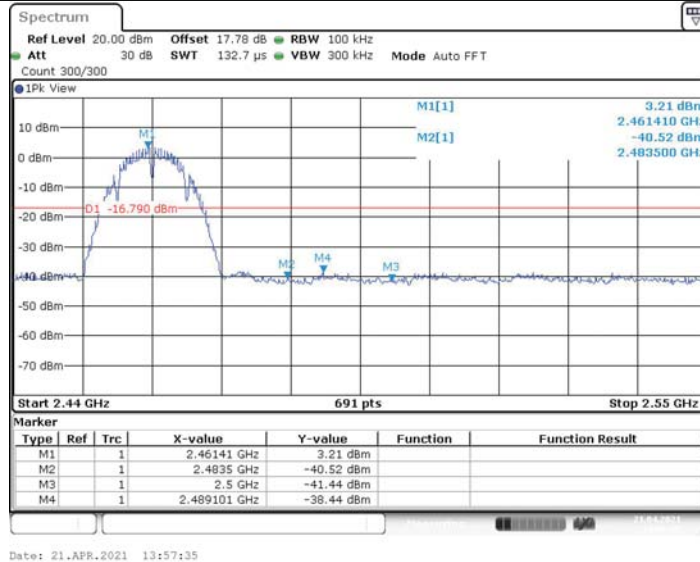
11B-CDD_Ant2_Low_2412



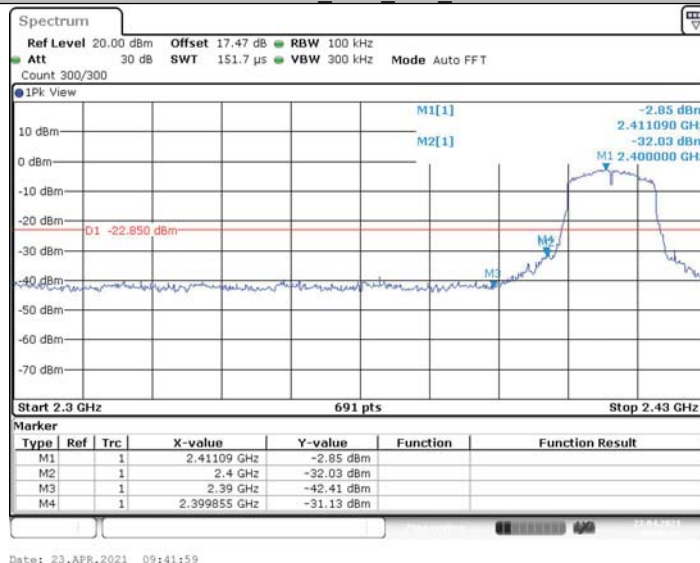
11B-CDD_Ant1_High_2462



11B-CDD Ant2 High 2462

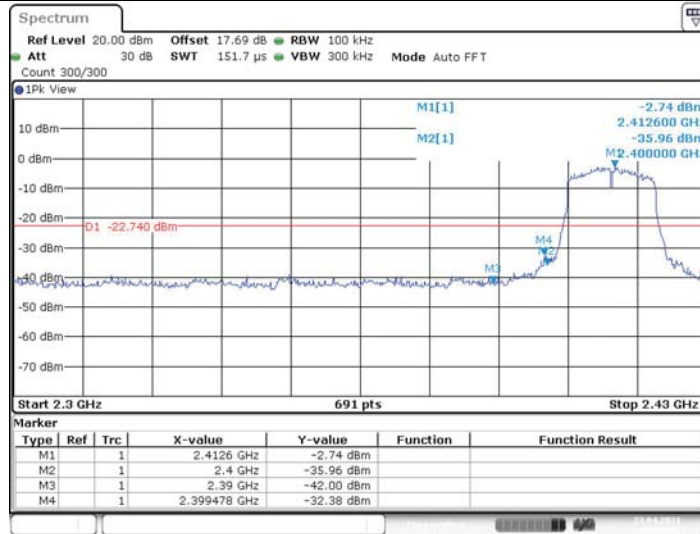


11G-CDD Ant1 Low 2412

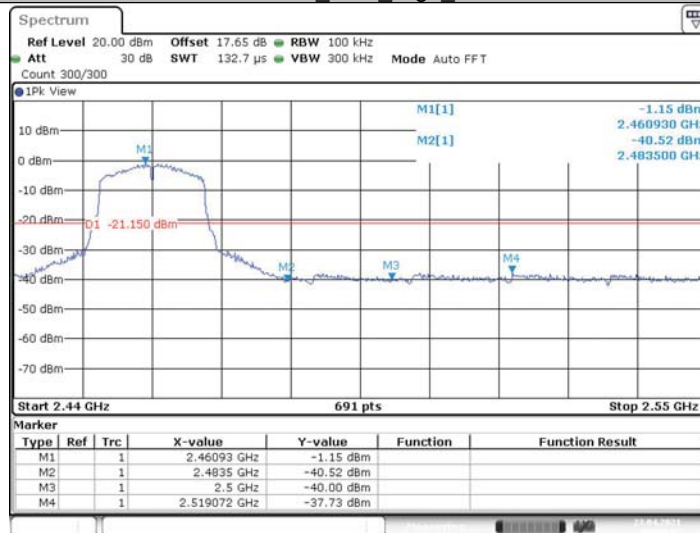




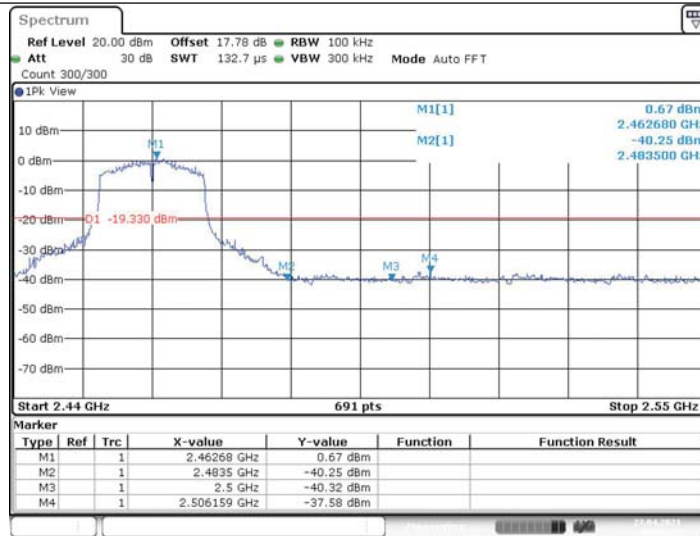
11G-CDD_Ant2_Low_2412



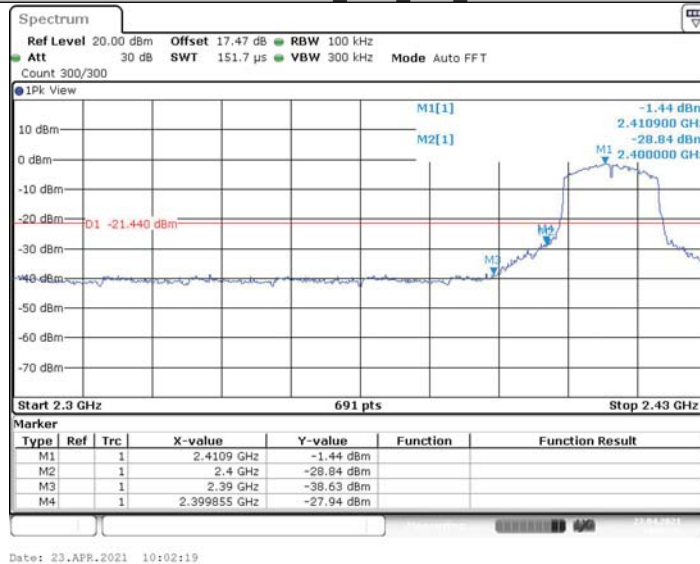
11G-CDD_Ant1_High_2462



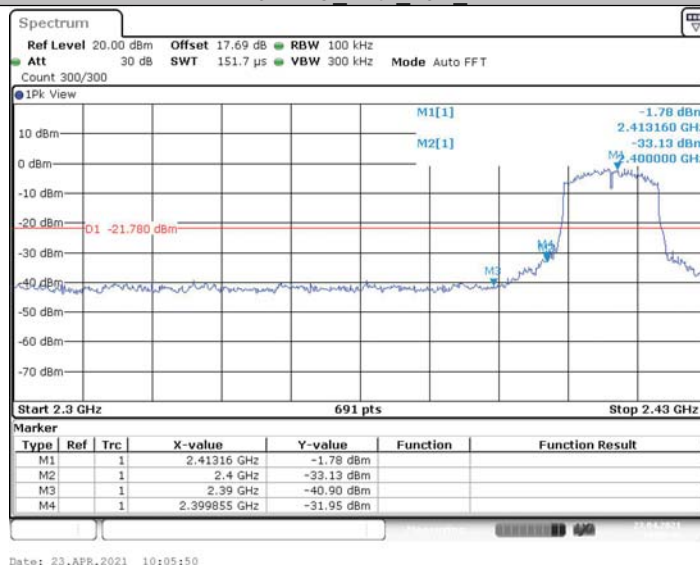
11G-CDD_Ant2_High_2462



11N20MIMO_Ant1_Low_2412

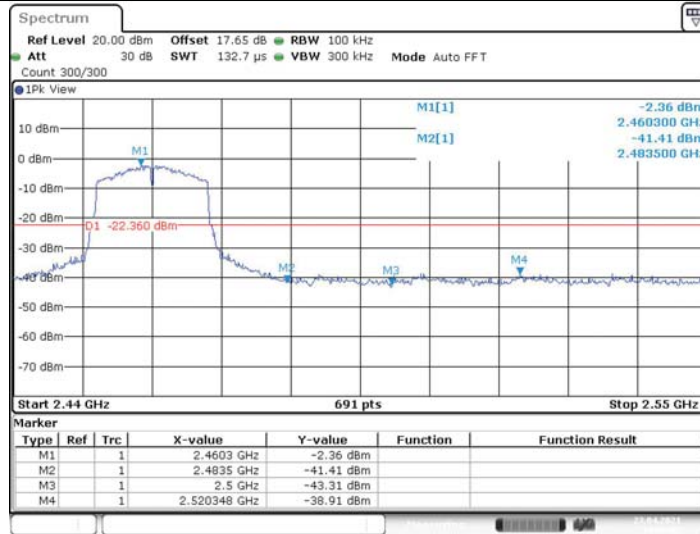


11N20MIMO_Ant2_Low_2412

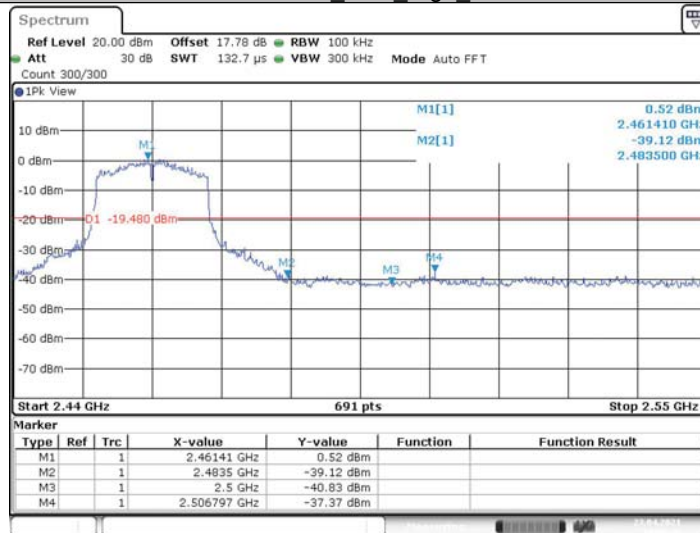




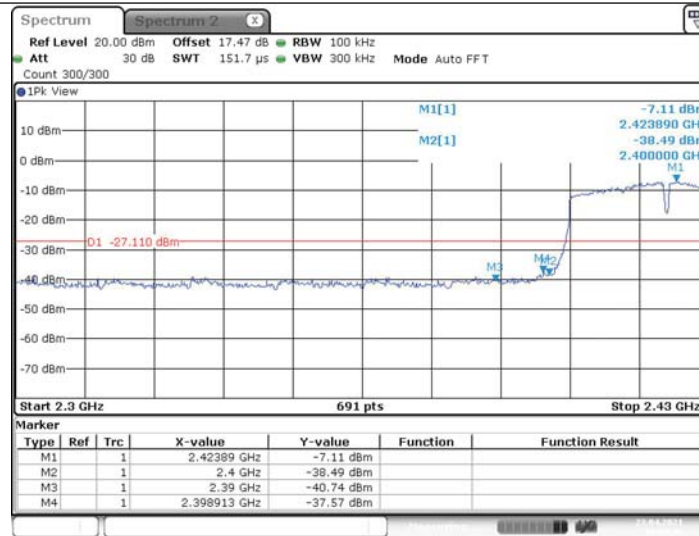
11N20MIMO_Ant1_High_2462



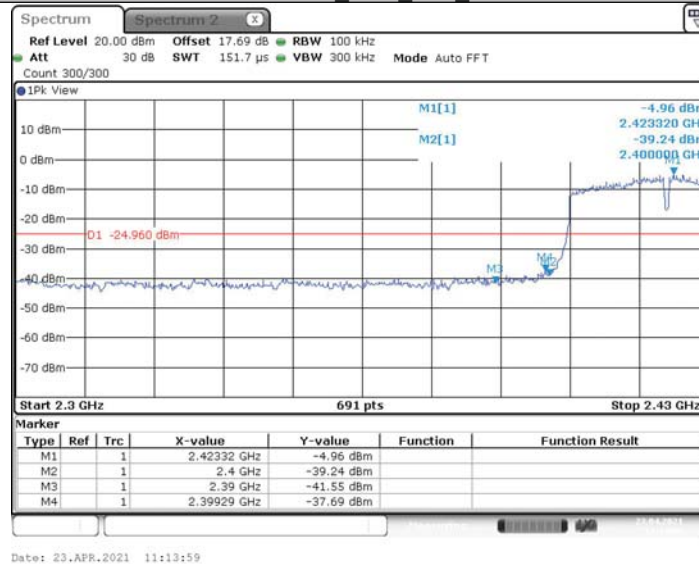
11N20MIMO_Ant2_High_2462



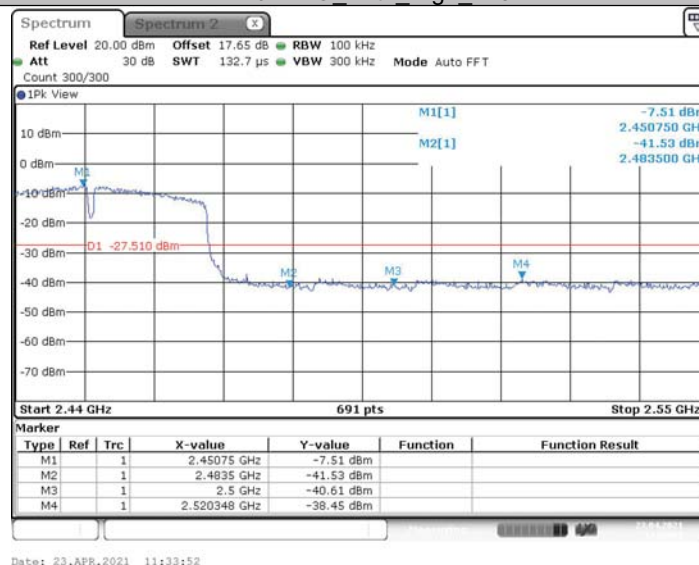
11N40MIMO_Ant1_Low_2422



11N40MIMO Ant2 Low 2422

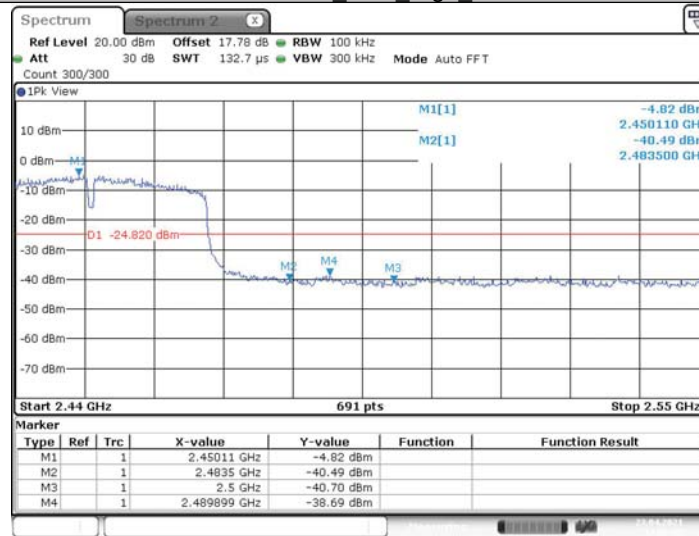


11N40MIMO Ant1 High 2452





11N40MIMO_Ant2_High_2452



Date: 23.APR.2021 11:37:32



5.5 Conducted Spurious Emission

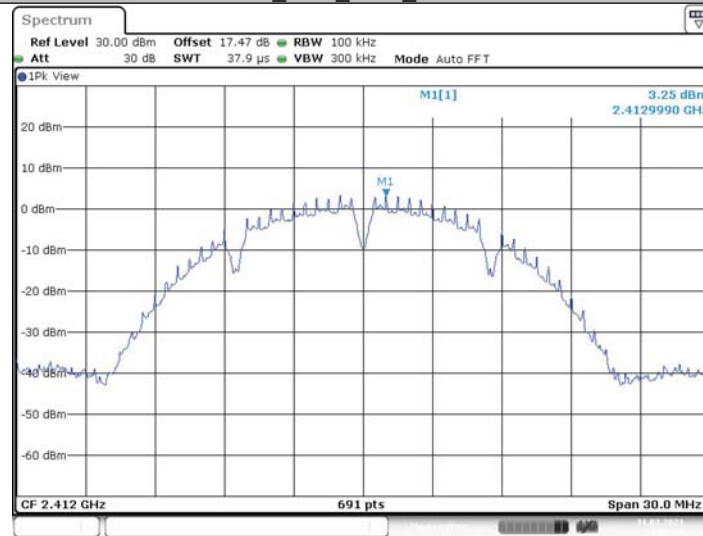
5.5.1 Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B-CDD	Ant1	2412	Reference	3.25	3.25	---	PASS
			30~25000	3.25	-38.19	<=-16.75	PASS
	Ant2	2412	Reference	2.66	2.66	---	PASS
			30~25000	2.66	-39.69	<=-17.34	PASS
	Ant1	2437	Reference	3.27	3.27	---	PASS
			30~25000	3.27	-40.11	<=-16.73	PASS
	Ant2	2437	Reference	3.16	3.16	---	PASS
			30~25000	3.16	-39.39	<=-16.84	PASS
	Ant1	2462	Reference	2.65	2.65	---	PASS
			30~25000	2.65	-38.87	<=-17.35	PASS
	Ant2	2462	Reference	3.23	3.23	---	PASS
			30~25000	3.23	-39.58	<=-16.77	PASS
11G-CDD	Ant1	2412	Reference	-0.29	-0.29	---	PASS
			30~25000	-0.29	-40.08	<=-20.29	PASS
	Ant2	2412	Reference	-0.95	-0.95	---	PASS
			30~25000	-0.95	-39.35	<=-20.95	PASS
	Ant1	2437	Reference	-1.29	-1.29	---	PASS
			30~25000	-1.29	-39.85	<=-21.29	PASS
	Ant2	2437	Reference	-0.81	-0.81	---	PASS
			30~25000	-0.81	-39.24	<=-20.81	PASS
	Ant1	2462	Reference	-0.79	-0.79	---	PASS
			30~25000	-0.79	-36.24	<=-20.79	PASS
	Ant2	2462	Reference	0.38	0.38	---	PASS
			30~25000	0.38	-39.98	<=-19.62	PASS
11N20MIMO	Ant1	2412	Reference	-1.90	-1.90	---	PASS
			30~25000	-1.90	-39.63	<=-21.9	PASS
	Ant2	2412	Reference	-0.98	-0.98	---	PASS
			30~25000	-0.98	-40.13	<=-20.98	PASS
	Ant1	2437	Reference	-1.33	-1.33	---	PASS
			30~25000	-1.33	-39.95	<=-21.33	PASS
	Ant2	2437	Reference	-0.44	-0.44	---	PASS
			30~25000	-0.44	-40.62	<=-20.44	PASS
	Ant1	2462	Reference	-1.75	-1.75	---	PASS
			30~25000	-1.75	-39.78	<=-21.75	PASS
	Ant2	2462	Reference	0.51	0.51	---	PASS
			30~25000	0.51	-39.08	<=-19.49	PASS
11N40MIMO	Ant1	2422	Reference	-6.90	-6.90	---	PASS
			30~25000	-6.90	-40.22	<=-26.9	PASS
	Ant2	2422	Reference	-5.12	-5.12	---	PASS
			30~25000	-5.12	-39.95	<=-25.12	PASS
	Ant1	2437	Reference	-4.65	-4.65	---	PASS
			30~25000	-4.65	-39.66	<=-24.65	PASS
	Ant2	2437	Reference	-2.74	-2.74	---	PASS
			30~25000	-2.74	-39.15	<=-22.74	PASS
	Ant1	2452	Reference	-7.44	-7.44	---	PASS
			30~25000	-7.44	-40.13	<=-27.44	PASS
	Ant2	2452	Reference	-4.56	-4.56	---	PASS
			30~25000	-4.56	-40.54	<=-24.56	PASS



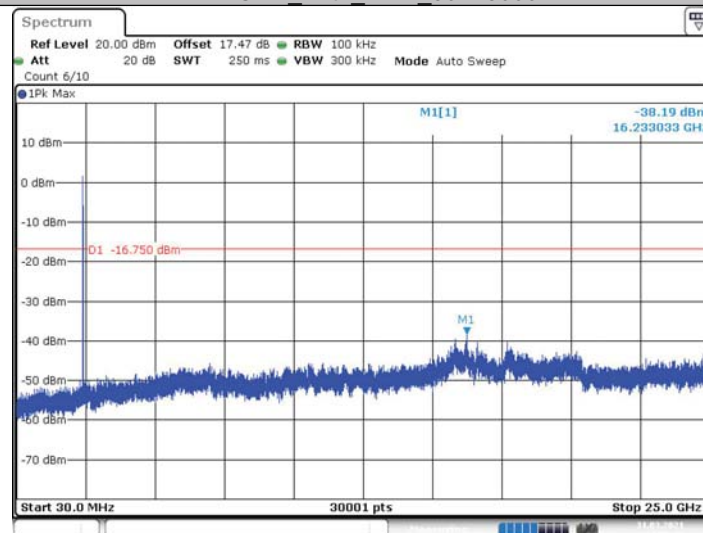
Test Graphs

11B-CDD_Ant1_2412_0~Reference



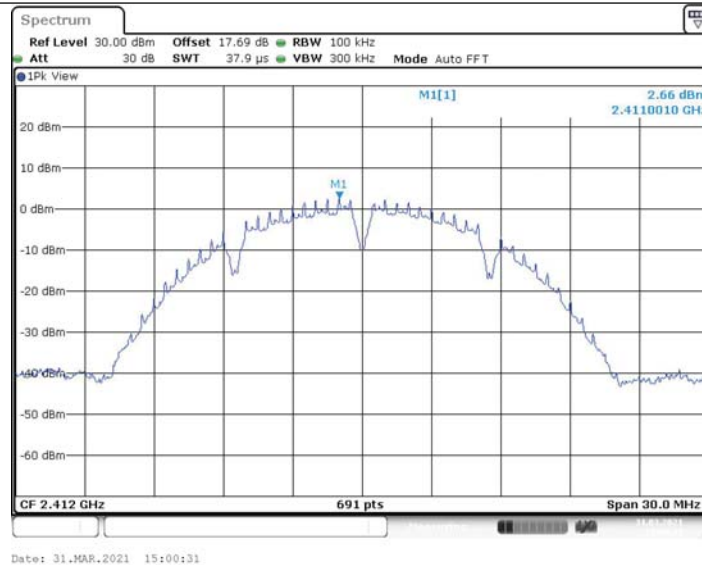
Date: 31.MAR.2021 14:55:38

11B-CDD_Ant1_2412_30~25000

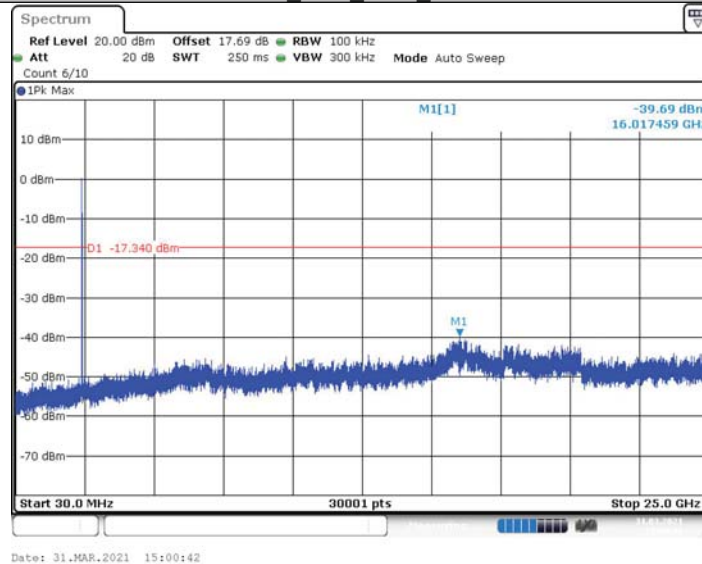


Date: 31.MAR.2021 14:55:49

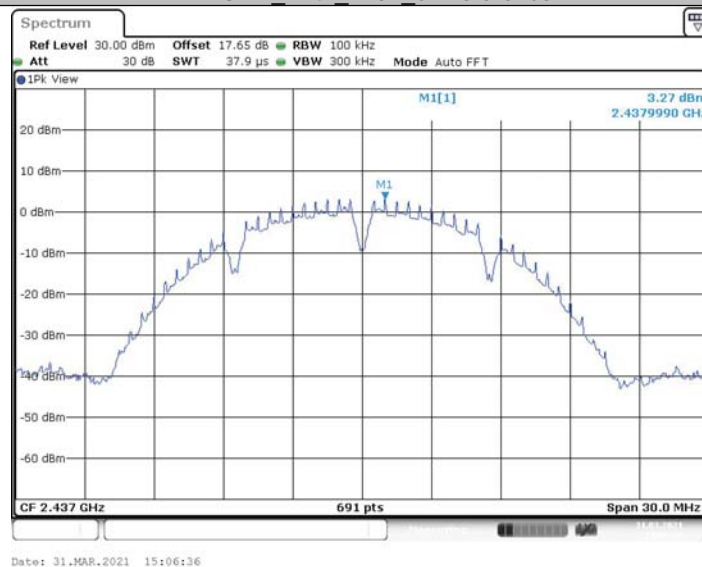
11B-CDD_Ant2_2412_0~Reference



11B-CDD Ant2 2412_30~25000

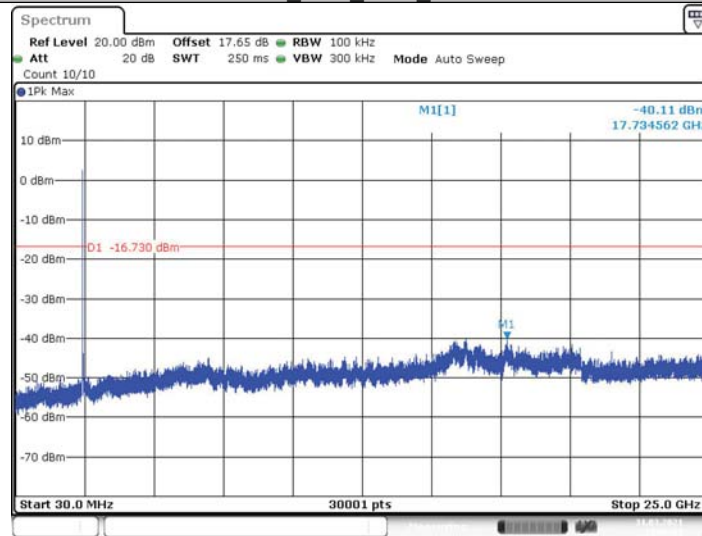


11B-CDD Ant1 2437_0~Reference





11B-CDD_Ant1_2437_30~25000



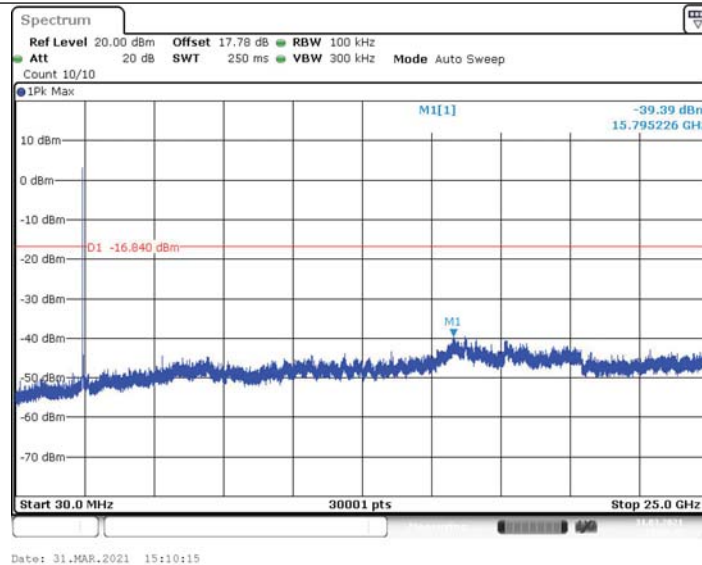
Date: 31.MAR.2021 15:06:52

11B-CDD_Ant2_2437_0~Reference

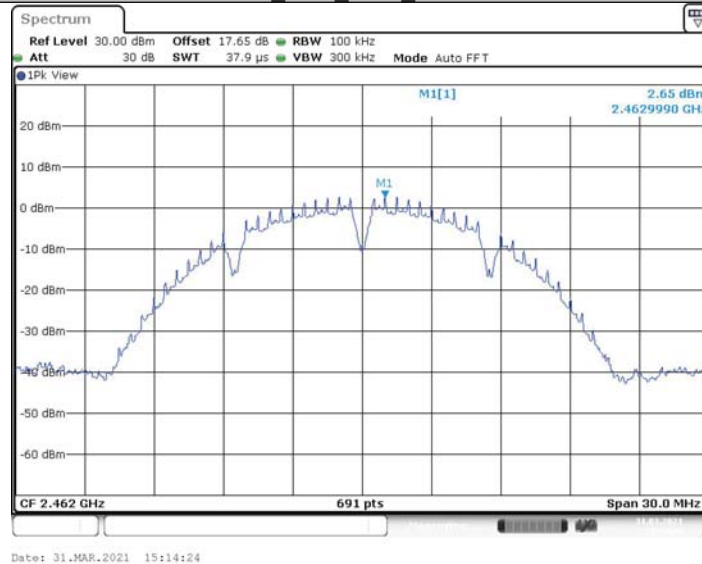


Date: 31.MAR.2021 15:09:30

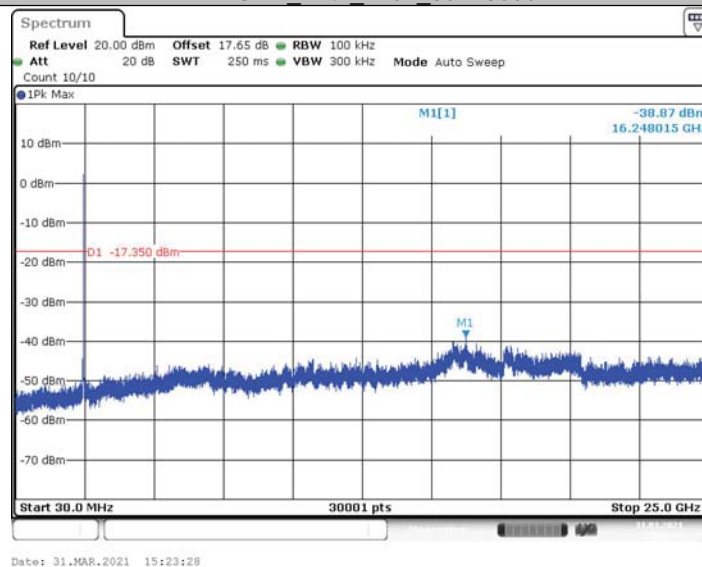
11B-CDD_Ant2_2437_30~25000



11B-CDD_Ant1_2462_0~Reference



11B-CDD_Ant1_2462_30~25000



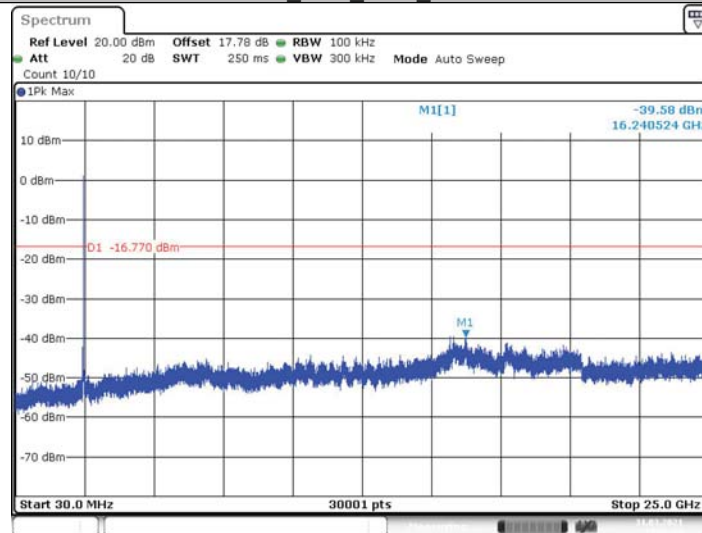


11B-CDD_Ant2_2462_0~Reference



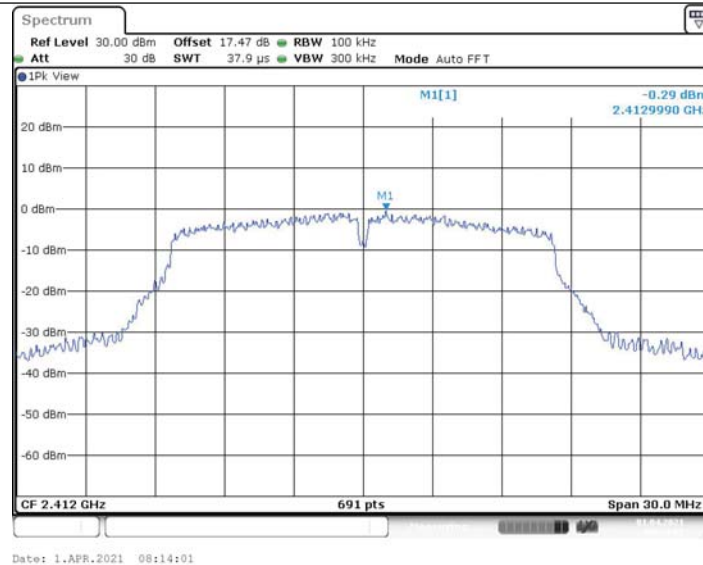
Date: 31.MAR.2021 15:27:18

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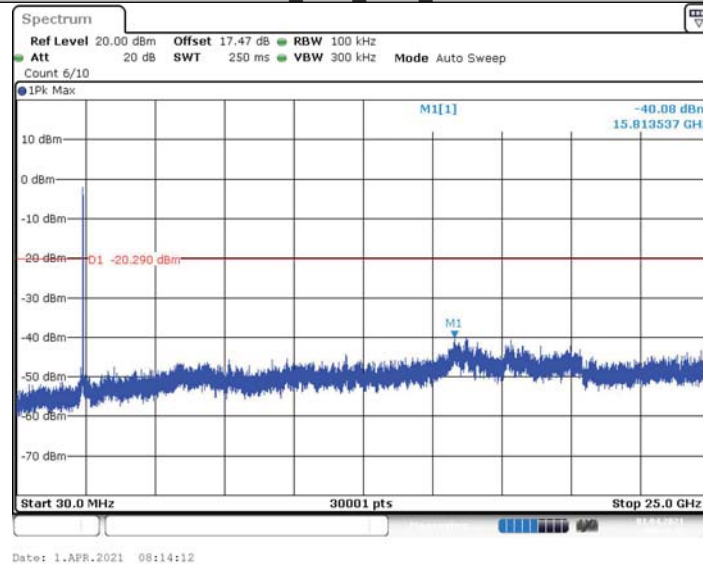


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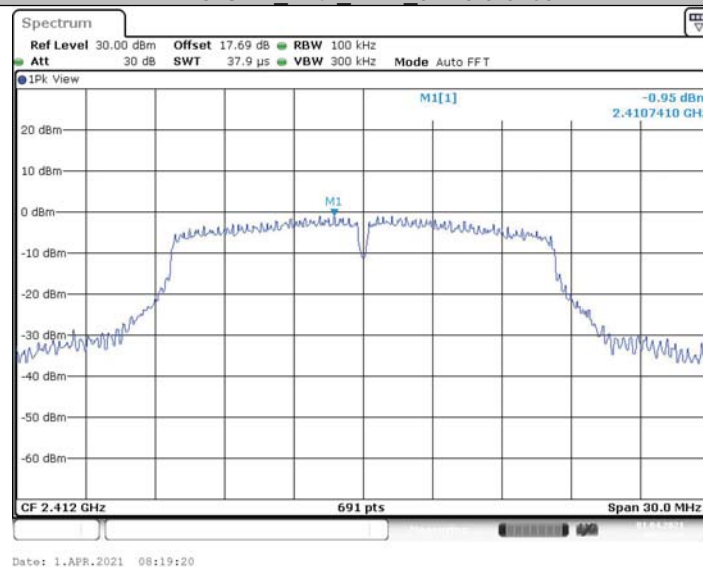
11G-CDD_Ant1_2412_0~Reference



11G-CDD Ant1 2412 30~25000

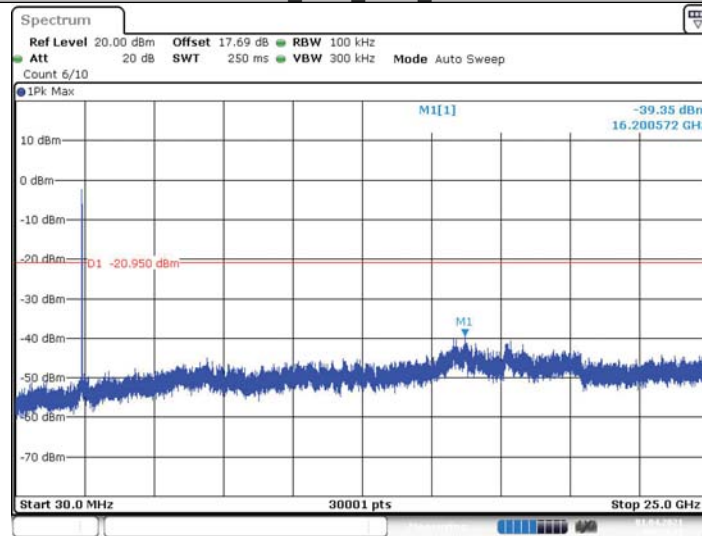


11G-CDD_Ant2_2412_0~Reference



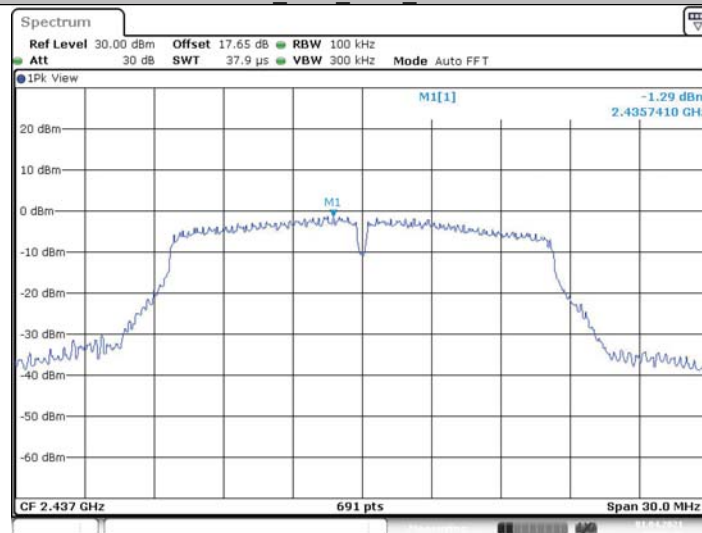


11G-CDD_Ant2_2412_30~25000



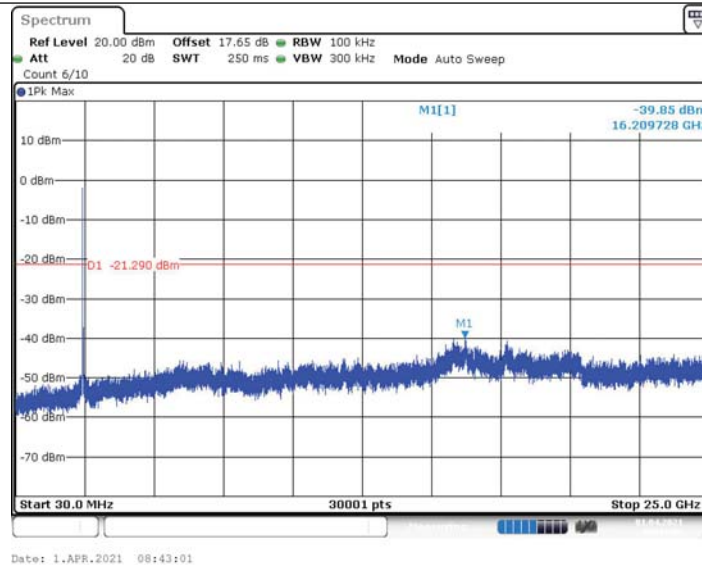
Date: 1.APR.2021 08:19:31

11G-CDD_Ant1_2437_0~Reference

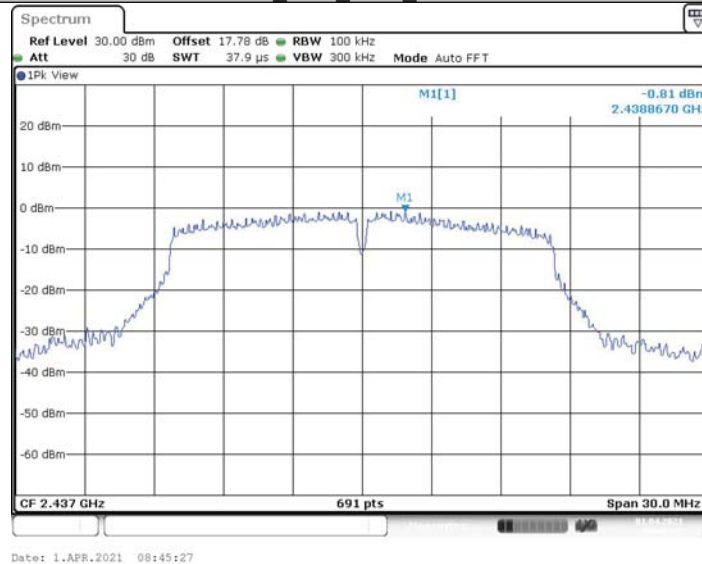


Date: 1.APR.2021 08:42:50

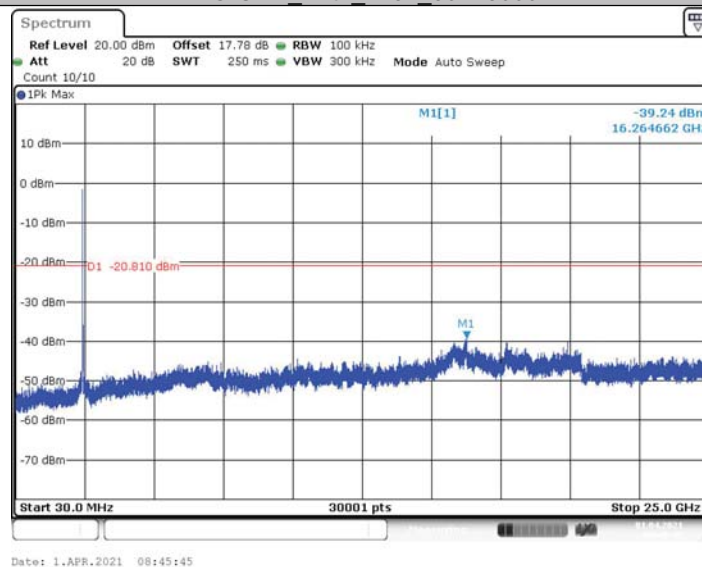
11G-CDD_Ant1_2437_30~25000



11G-CDD_Ant2_2437_0~Reference

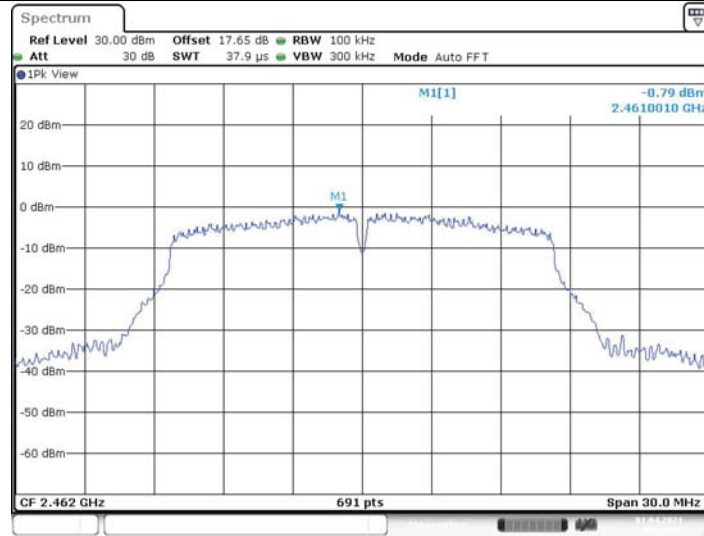


11G-CDD_Ant2_2437_30~25000



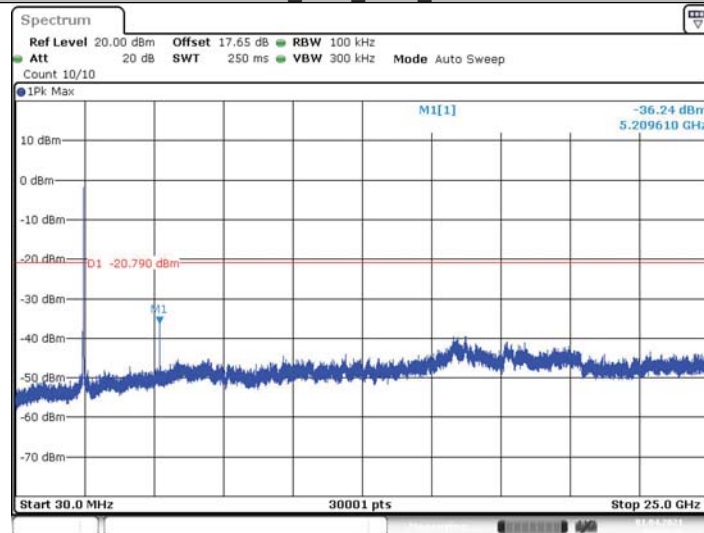


11G-CDD_Ant1_2462_0~Reference



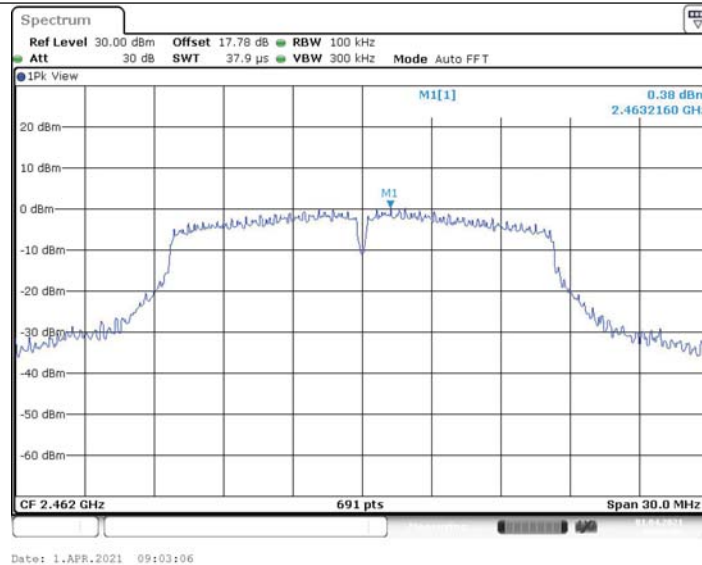
Date: 1.APR.2021 08:53:05

11G-CDD_Ant1_2462_30~25000

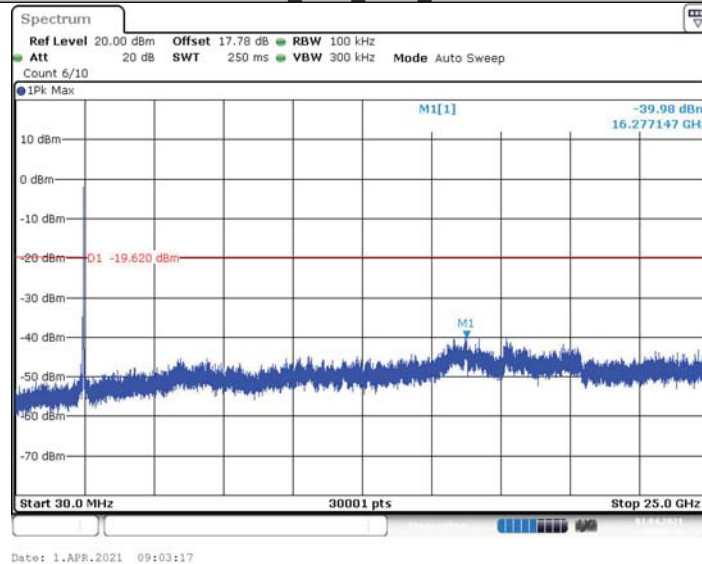


Date: 1.APR.2021 08:53:36

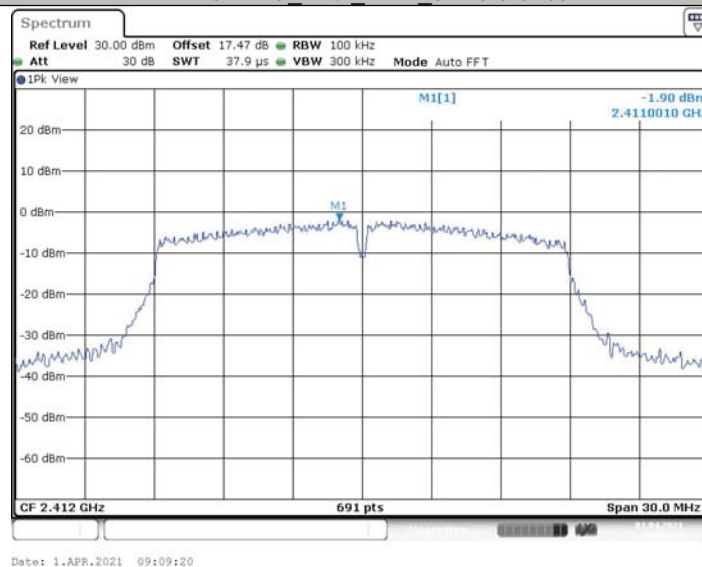
11G-CDD_Ant2_2462_0~Reference



11G-CDD_Ant2_2462_30~25000

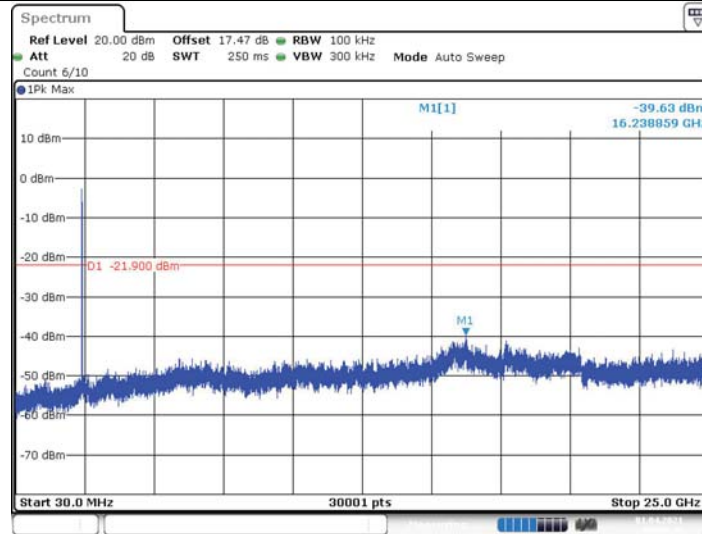


11N20MIMO_Ant1_2412_0~Reference



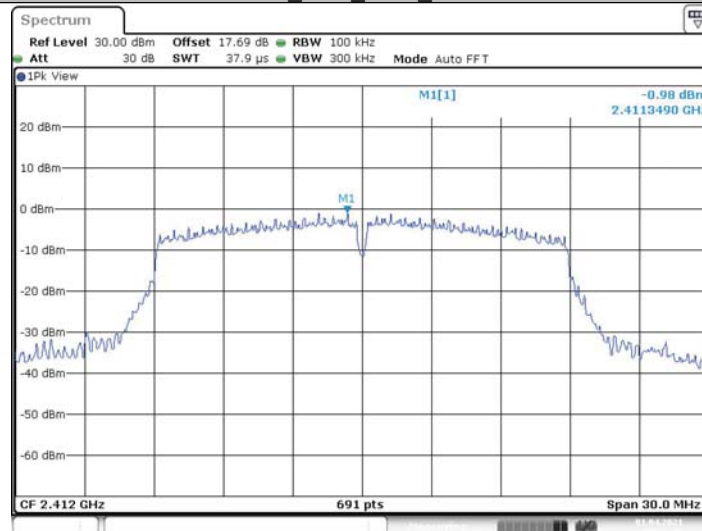


11N20MIMO_Ant1_2412_30~25000



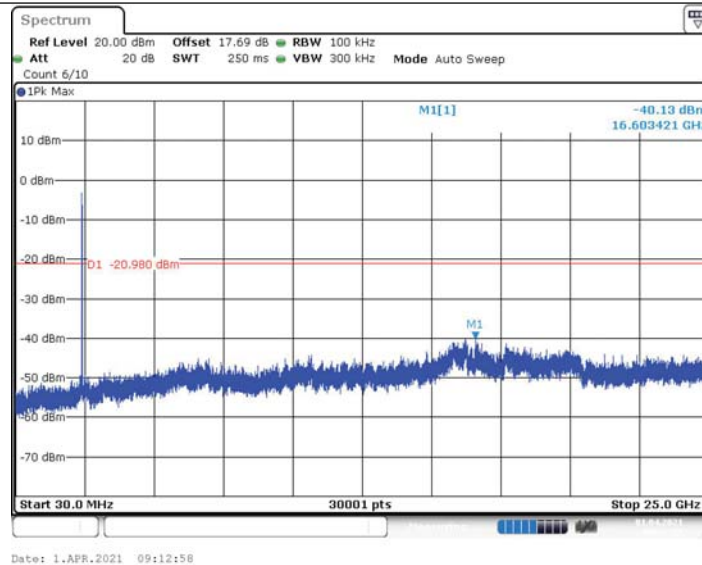
Date: 1.APR.2021 09:09:31

11N20MIMO_Ant2_2412_0~Reference

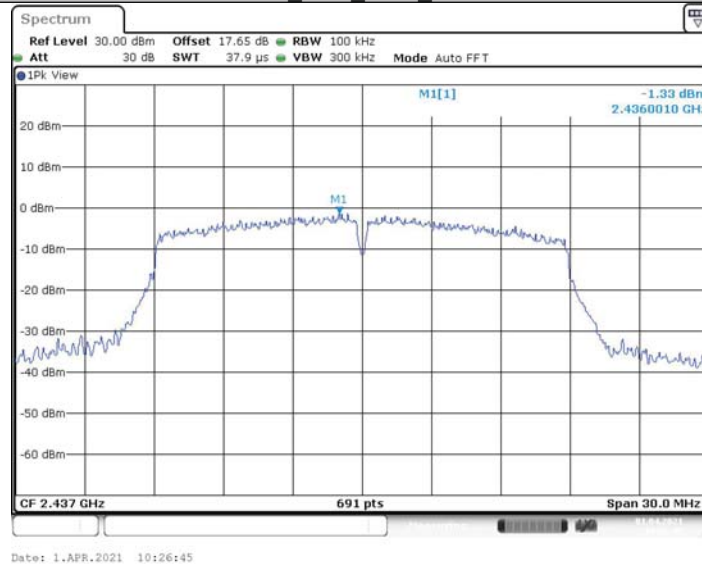


Date: 1.APR.2021 09:12:47

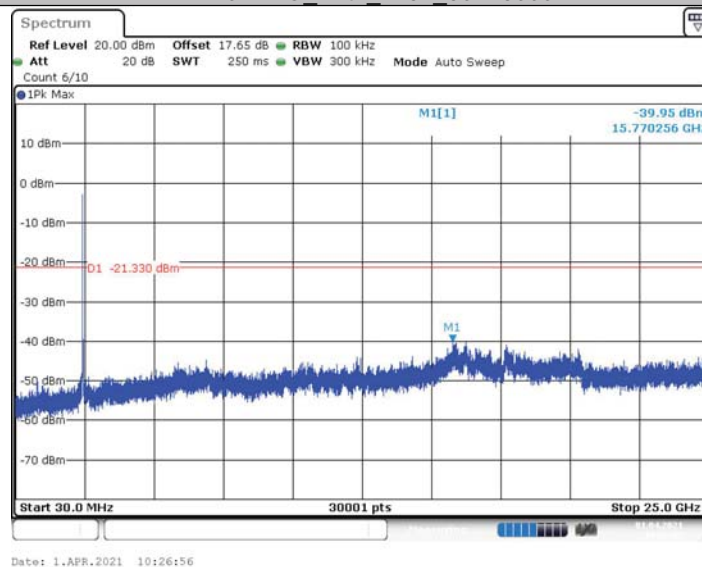
11N20MIMO_Ant2_2412_30~25000



11N20MIMO_Ant1_2437_0~Reference

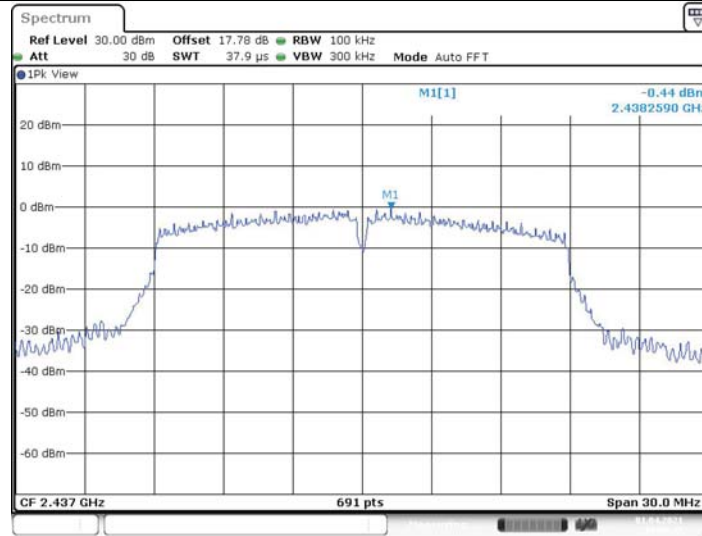


11N20MIMO_Ant1_2437_30~25000



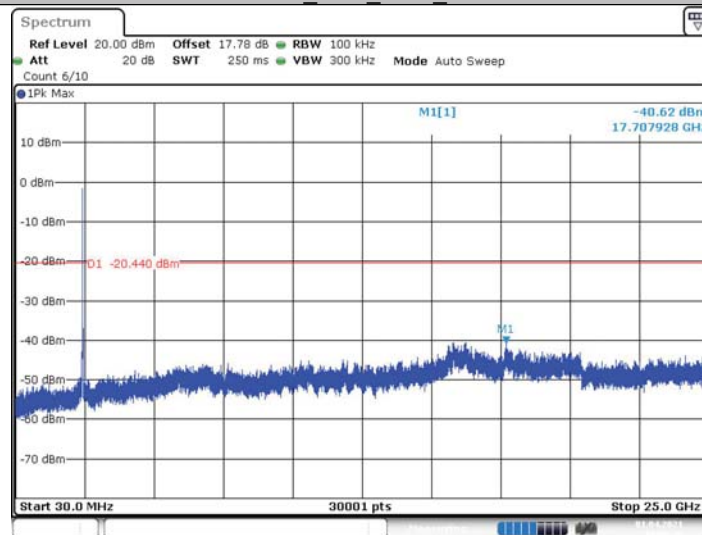


11N20MIMO_Ant2_2437_0~Reference



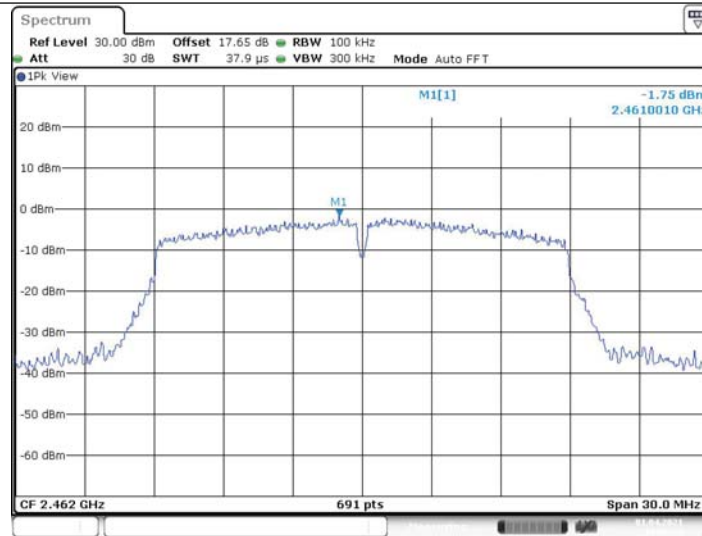
Date: 1.APR.2021 10:30:18

11N20MIMO_Ant2_2437_30~25000



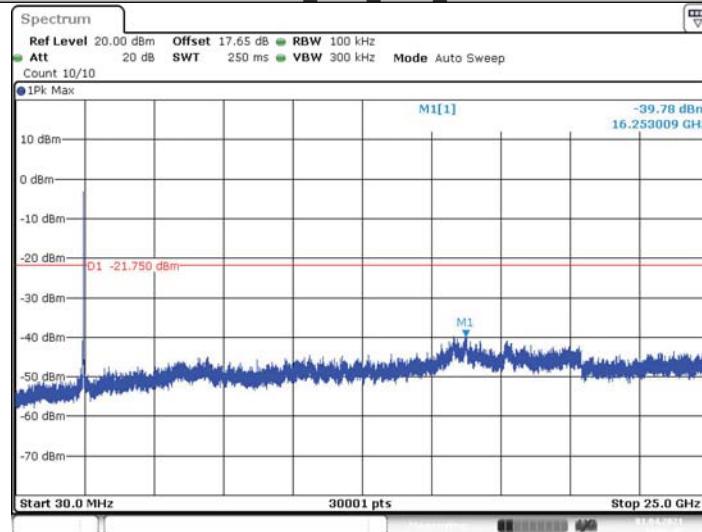
Date: 1.APR.2021 10:30:28

11N20MIMO_Ant1_2462_0~Reference



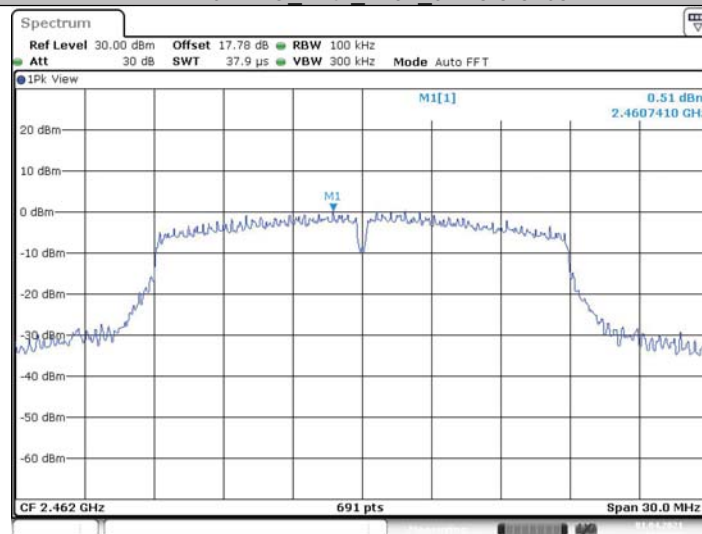
Date: 1.APR.2021 10:36:24

11N20MIMO_Ant1_2462_30~25000



Date: 1.APR.2021 10:36:45

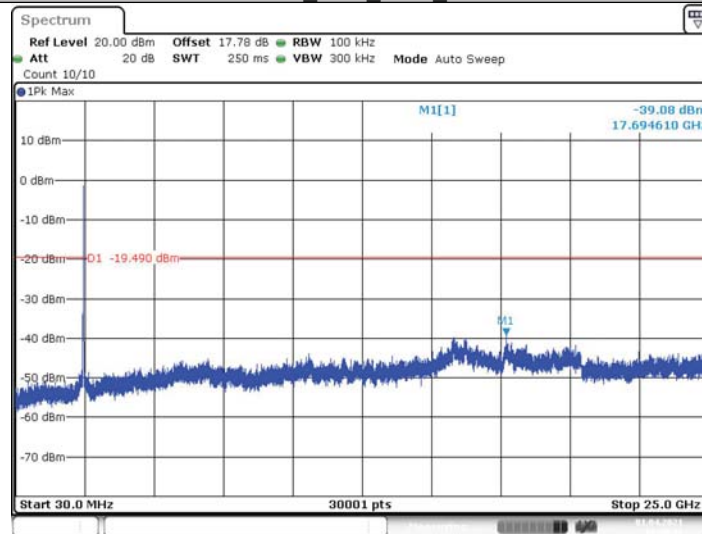
11N20MIMO_Ant2_2462_0~Reference



Date: 1.APR.2021 10:39:56



11N20MIMO_Ant2_2462_30~25000



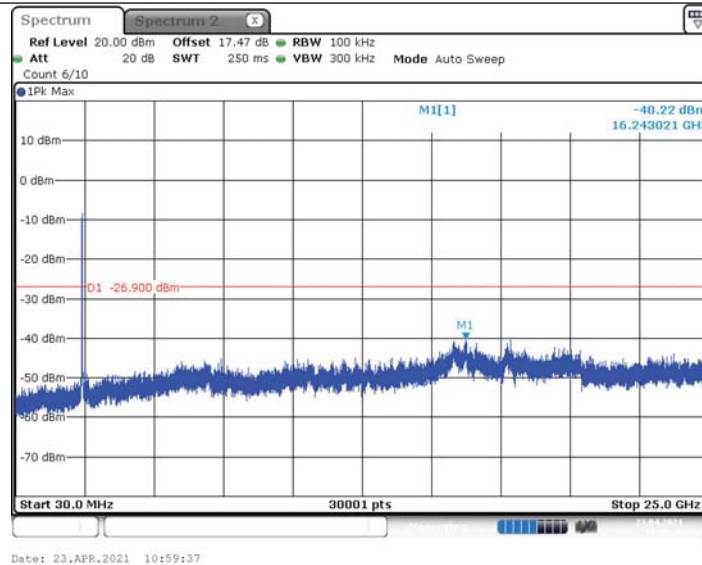
Date: 1.APR.2021 10:40:41

11N40MIMO_Ant1_2422_0~Reference

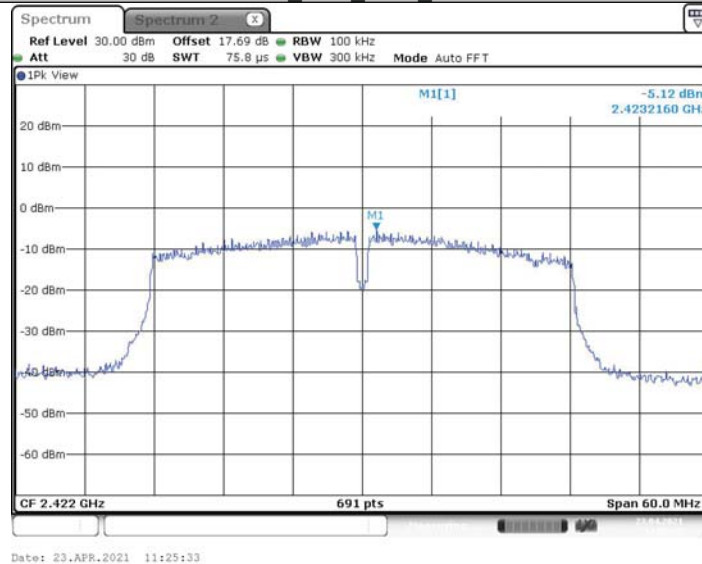


Date: 23.APR.2021 10:59:26

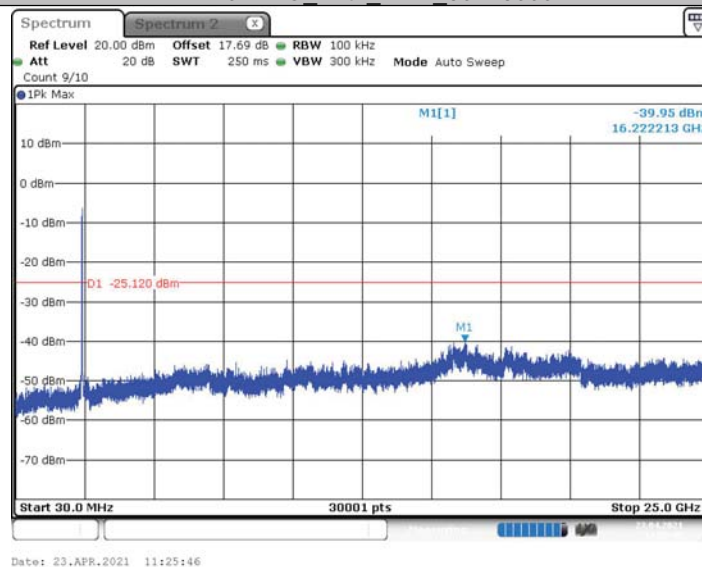
11N40MIMO_Ant1_2422_30~25000



11N40MIMO_Ant2_2422_0~Reference

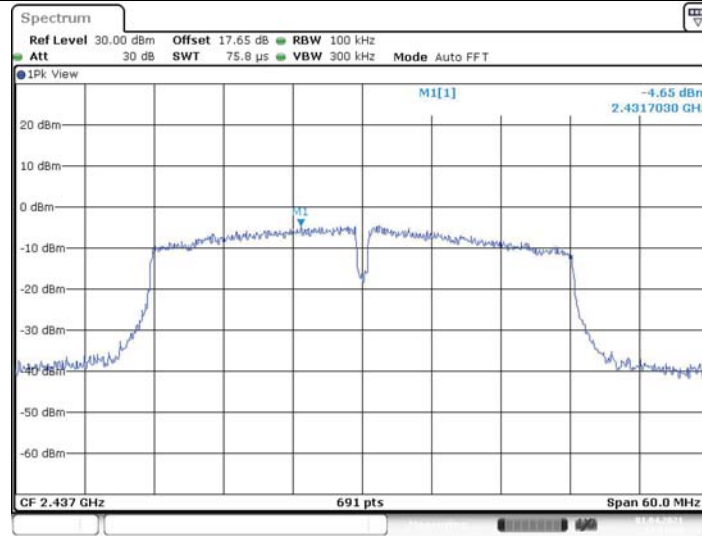


11N40MIMO_Ant2_2422_30~25000



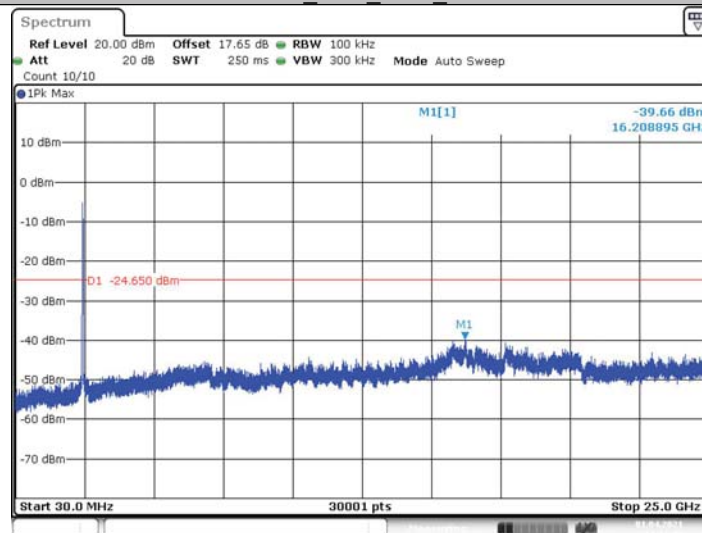


11N40MIMO_Ant1_2437_0~Reference



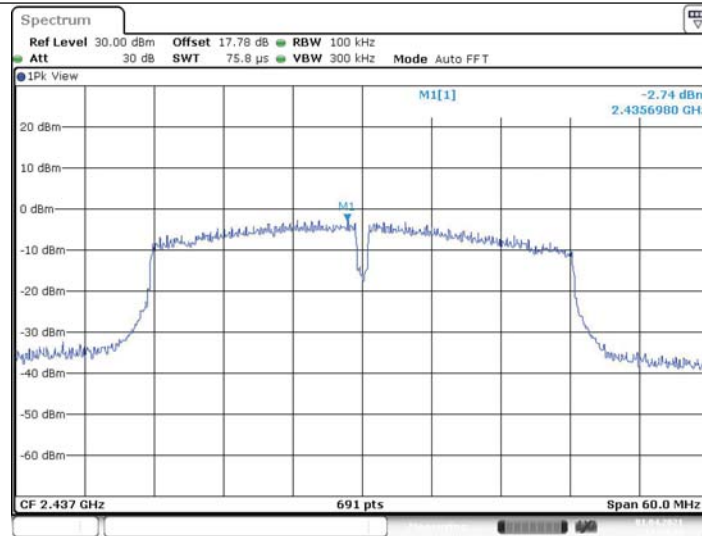
Date: 1.APR.2021 11:11:23

11N40MIMO_Ant1_2437_30~25000



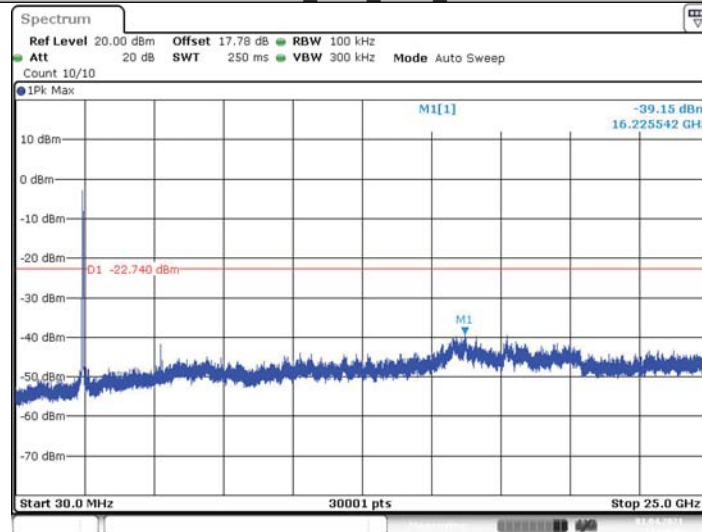
Date: 1.APR.2021 11:11:43

11N40MIMO_Ant2_2437_0~Reference



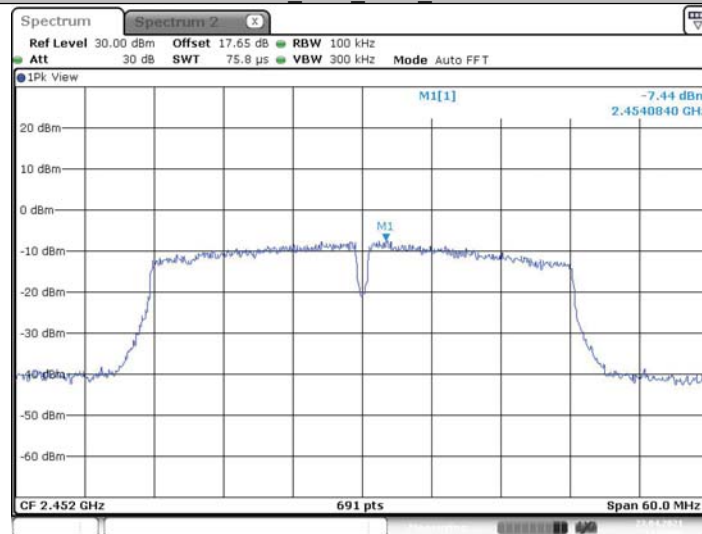
Date: 1.APR.2021 11:14:13

11N40MIMO Ant2 2437_30~25000



Date: 1.APR.2021 11:14:43

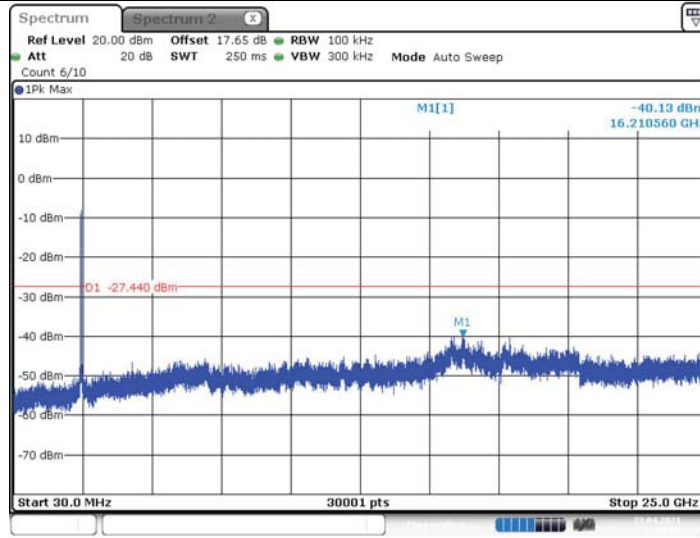
11N40MIMO Ant1 2452_0~Reference



Date: 23.APR.2021 11:33:59

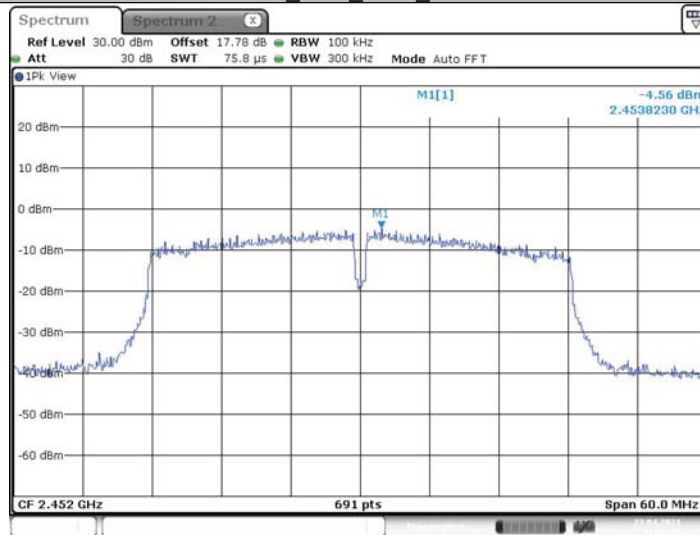


11N40MIMO_Ant1_2452_30~25000



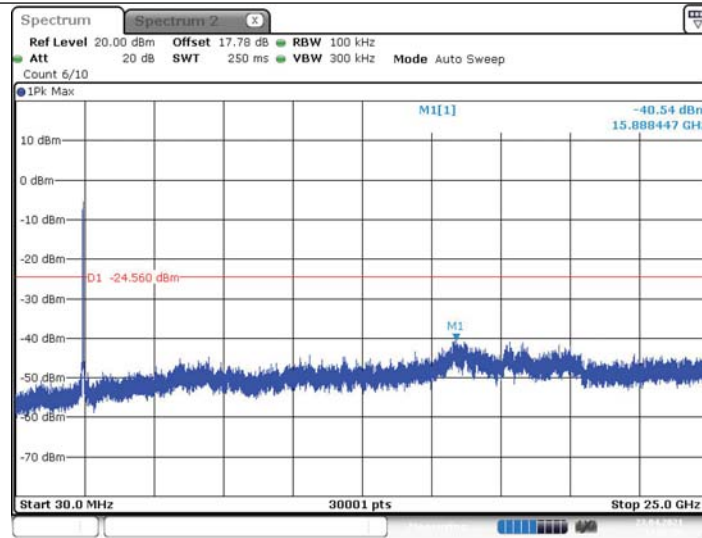
Date: 23.APR.2021 11:34:10

11N40MIMO_Ant2_2452_0~Reference



Date: 23.APR.2021 11:37:40

11N40MIMO_Ant2_2452_30~25000



Date: 23.APR.2021 11:37:50



5.6 Duty Cycle

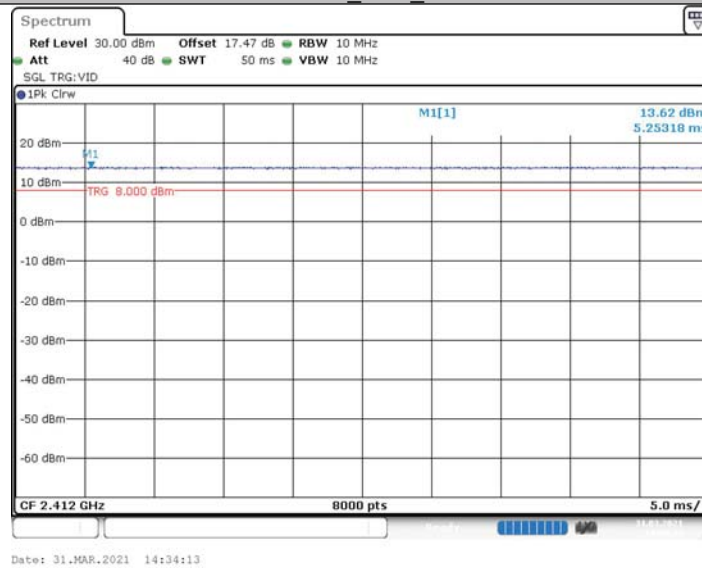
5.6.1 Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11B-CDD	Ant1	2412	50.00	50.00	100.00
11G-CDD	Ant1	2412	50.00	50.00	100.00
11N20MIMO	Ant1	2412	50.00	50.00	100.00
11N40MIMO	Ant1	2422	50.00	50.00	100.00

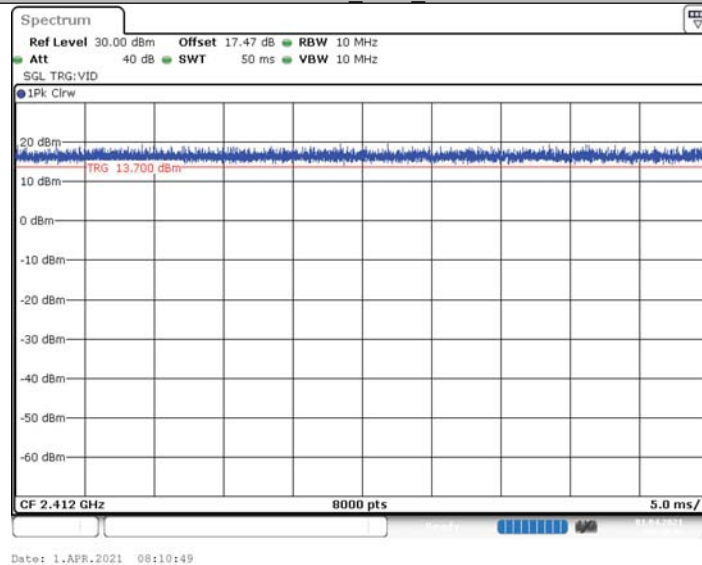


5.6.2 Test Graphs

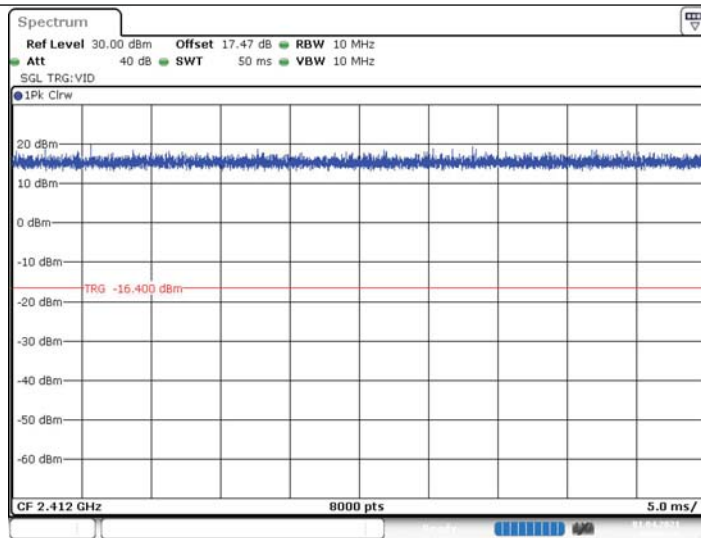
11B-CDD_Ant1_2412



11G-CDD_Ant1_2412

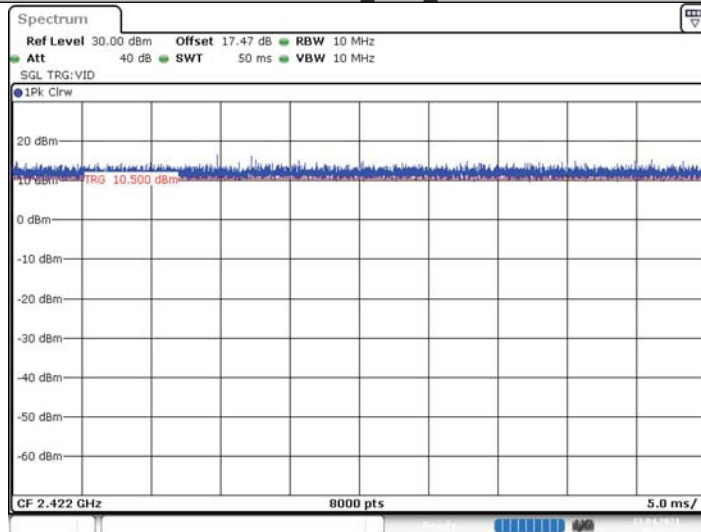


11N20MIMO_Ant1_2412



Date: 1.APR.2021 09:06:28

11N40MIMO Ant1 2422



Date: 23.APR.2021 10:12:21



Appendix B

Test Equipment	Type/Mode	SERIAL NO.	Manufacturer	Cal. Due
EMI Test Receiver	ESCI	100857	R&S	2021-12-08
EMI Test Receiver	ESR3	102394	R&S	2022-03-05
LISN	NSLK 8127	8127644	SCHWARZBEC K	2021-09-04
LISN	NSLK 8128	8128-316	SCHWARZBEC K	2021-09-04
LISN	NSLK 8129	8129-268	SCHWARZBEC K	2022-03-05
Plus Limiter (#1)	VTSD 9561 F-N	00515	SCHWARZBEC K	2022-03-05
Plus Limiter (#2)	VTSD 9561	9561-F017	SCHWARZBEC K	2021-10-09
Impedance Stabilization Network	ISN T800	27095	TESEQ	2021-09-04
Impedance Stabilization Network	NTFM8158	8158-0092	SCHWARZBEC K	2021-06-09
ImpedanceStabilizationNetw ork	NTFM8131	#184	SCHWARZBEC K	2021-06-09
Voltage Probe	TK9420	9420-499	SCHWARZBEC K	2022-03-05
Power Divider	4901.17.B	22643830	HUBER+SUHNE R	2021-11-08
Video Signal Generator	GV-798+	151064920001	PROMAX	2021-07-21
AudioSignalGenerator	GAG-810	EK871591	GW	2021-12-11
Shielding Room(#1)	GP1A	002	LEINING	2024-08-08
Shielding Room(#2)	GP1A	/	LEINING	2024-08-08
EMI Test Receiver	N9038A-508	MY532290079	Agilent	2022-03-05
EMI Test Receiver	ESR7	102235	R&S	2022-03-05
EMI Test Receiver	N9038A-508	MY53290078	Agilent	2022-03-05
Spectrum Analyzer	N9010B	MY57470323	KEYSIGHT	2022-03-05
Radio Communication Test	CMW500	156686	R&S	2021-12-25
Broadband Antenna(3m)	VULB 9163	9163-530	SCHWARZBEC K	2021-07-11
Loop Antenna	HLA 6121	540046	TESEQ	2021-06-28
Loop Antenna	FMZB1513	1513-170	SCHWARZBEC K	2022-03-05
Monopole antenna	HFH2-Z6E	101317	R&S	2021-12-11
Waveguide Horn Antenna	BBHA9120B	602	SCHWARZBEC K	2022-03-05
Waveguide Horn Antenna	HF906	360306/008	R&S	2022-03-05
Semi-Anechoic Chamber(3m)	FACT-4	ST08035	ETS	2024-12-12
Preamplifier	SCU-01F	100298	Rohde&Schwarz	2021.5.19
Preamplifier	SCU-18F	100799	Rohde&Schwarz	2021.5.19
Signal&Spectrum Analyzer	FSV 40	101898	Rohde&Schwarz	2021.5.19
Signal&Spectrum Analyzer	FSVA 3044	101013	Rohde&Schwarz	2021.5.19



Important

- (1) The test report is valid with the official seal of the laboratory and the signatures of Test engineer, Author and Reviewer simultaneously.
- (2) The test report is invalid if altered.
- (3) Any photocopies or part photocopies in the test report are forbidden without the written permission from the laboratory.
- (4) Objections to the test report must be submitted to the laboratory within 15 days.
- (5) Generally, commission test is responsible for the tested samples only.

Address of the laboratory:

Vkan Certification & Testing Co., Ltd.

Address: No.3, Tiantaiyi Road, Kaitai Avenue, Science City, Guangzhou, China

Post Code: 510663

Tel: 020-32293888

FAX: 020-32293889

E-mail: office@cvc.org.cn