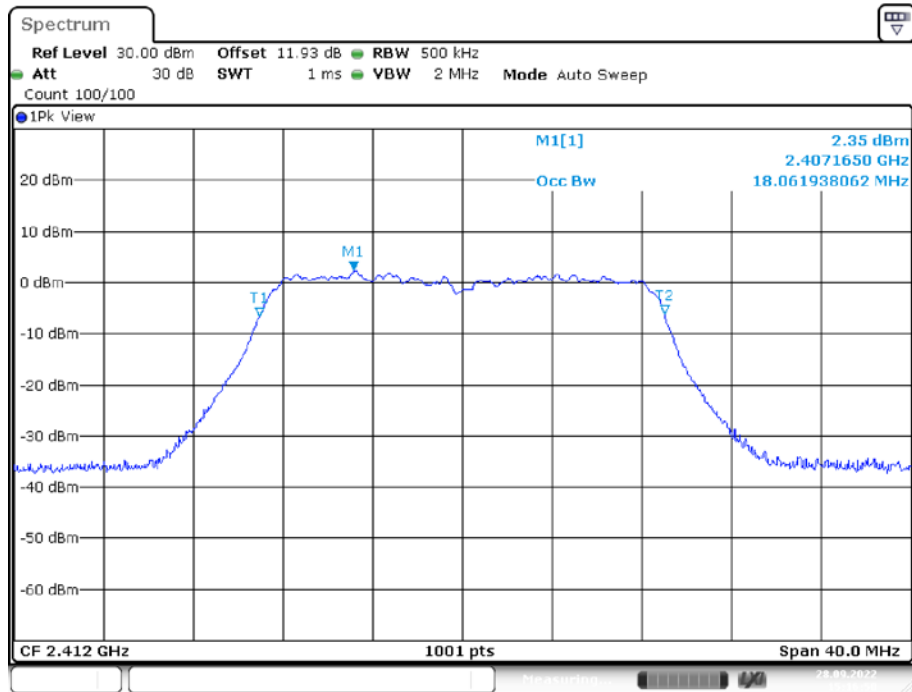
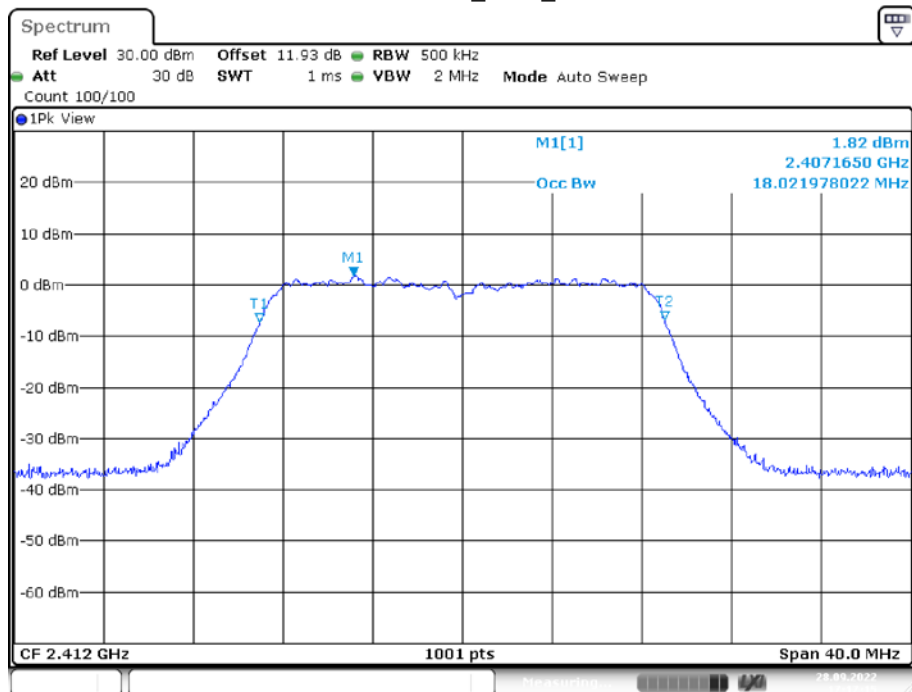


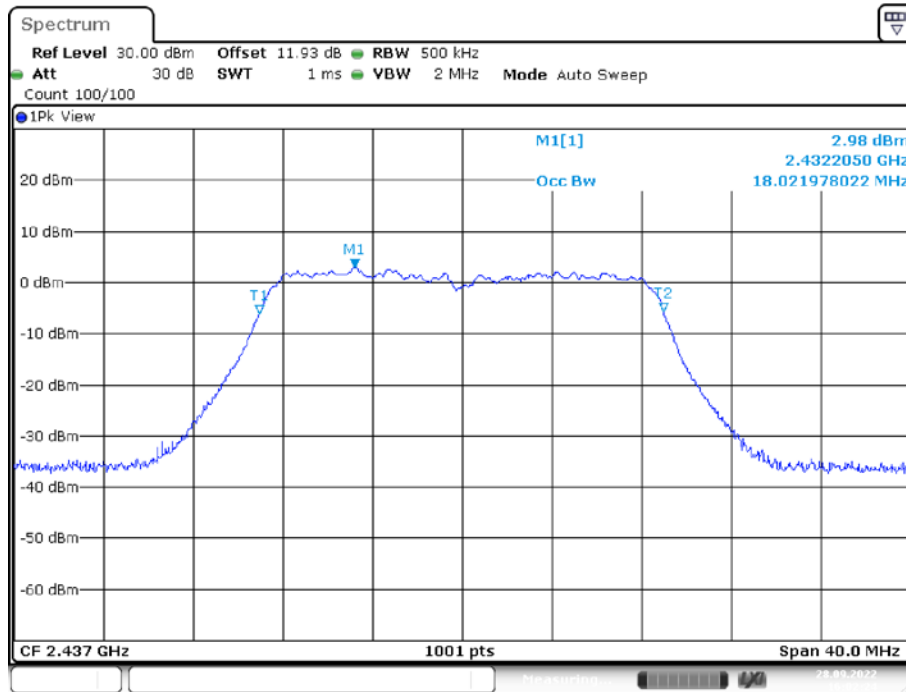
### 11N20 MIMO\_Ant1\_2412



### 11N20 MIMO\_Ant2\_2412

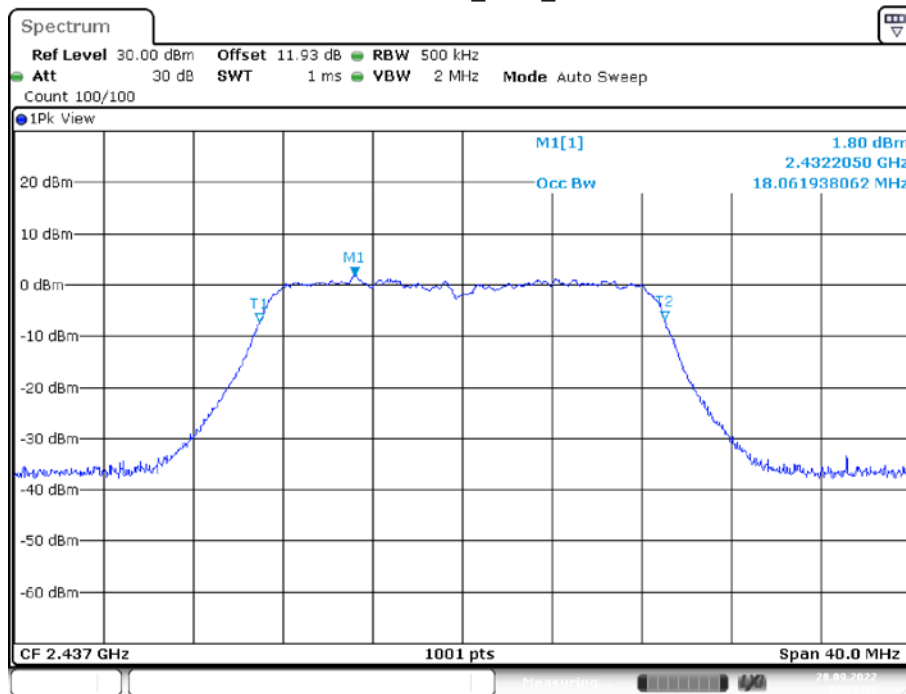


11N20 MIMO\_Ant1\_2437



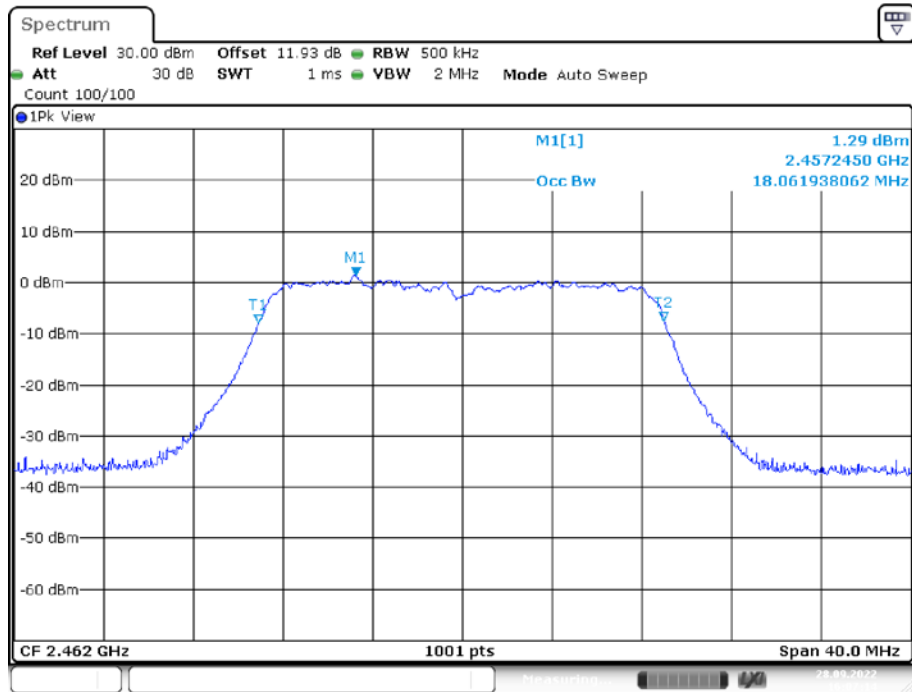
Date: 28. SEP. 2022 16:02:24

11N20 MIMO\_Ant2\_2437

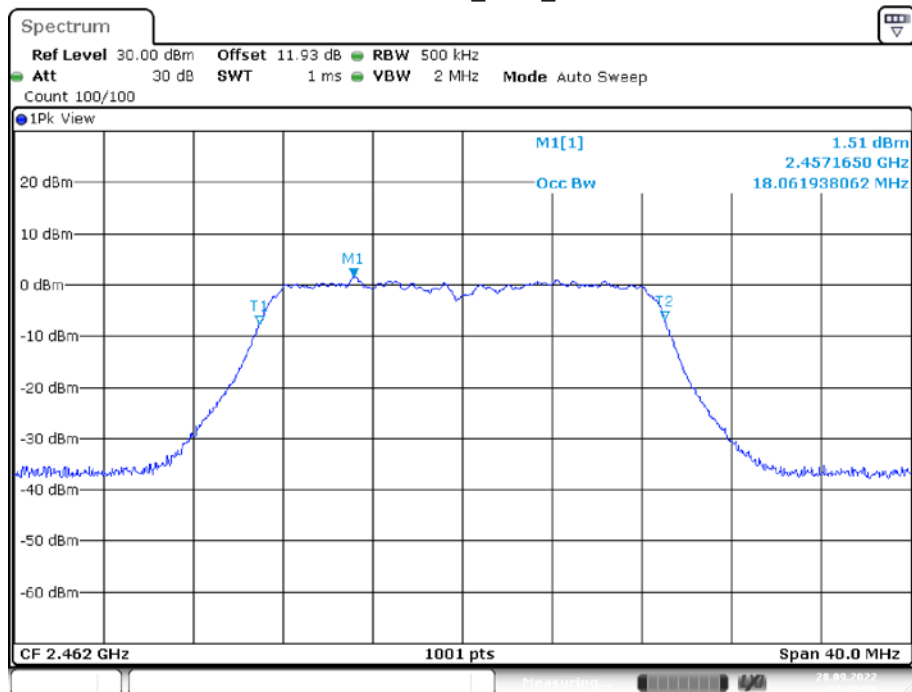


Date: 28. SEP. 2022 17:21:08

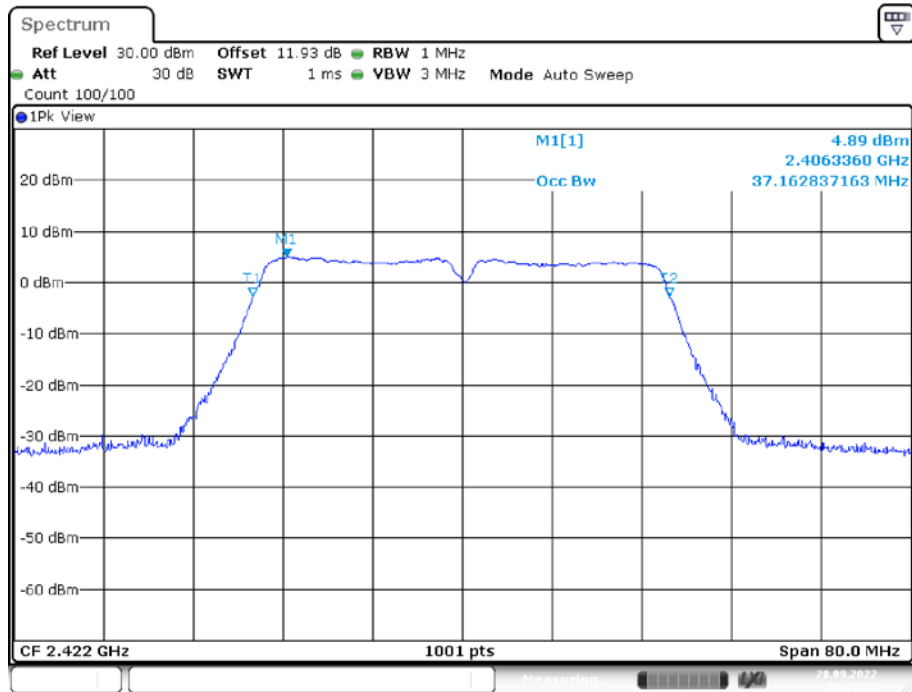
### 11N20 MIMO\_Ant1\_2462



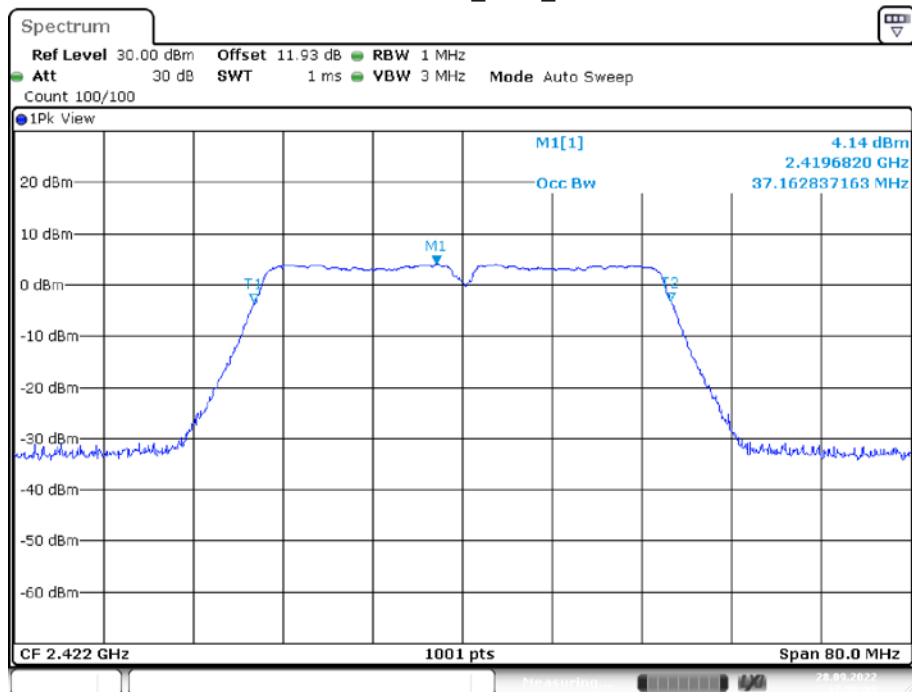
### 11N20 MIMO\_Ant2\_2462



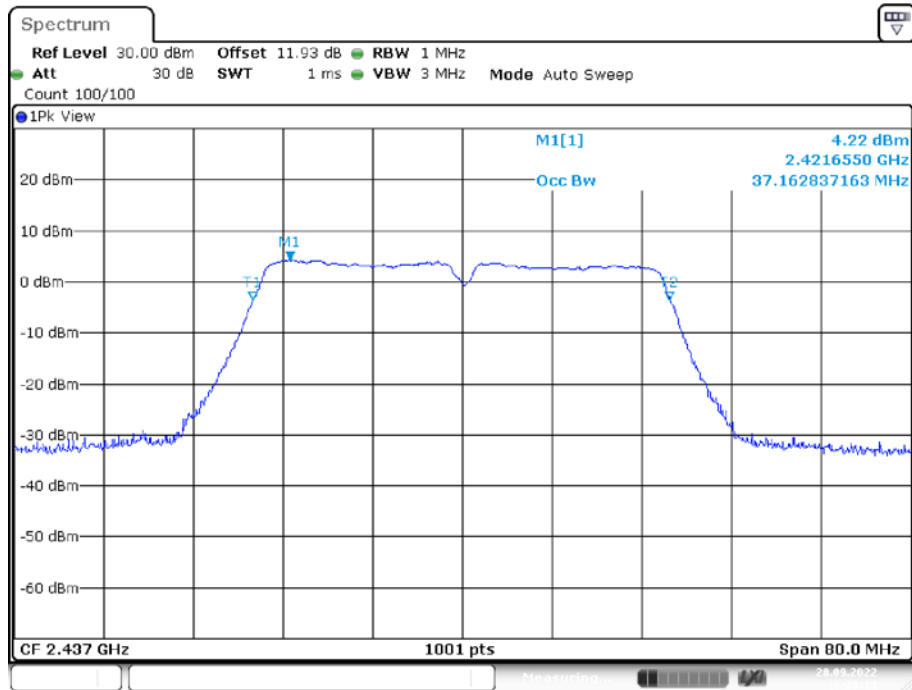
### 11N40 MIMO\_Ant1\_2422



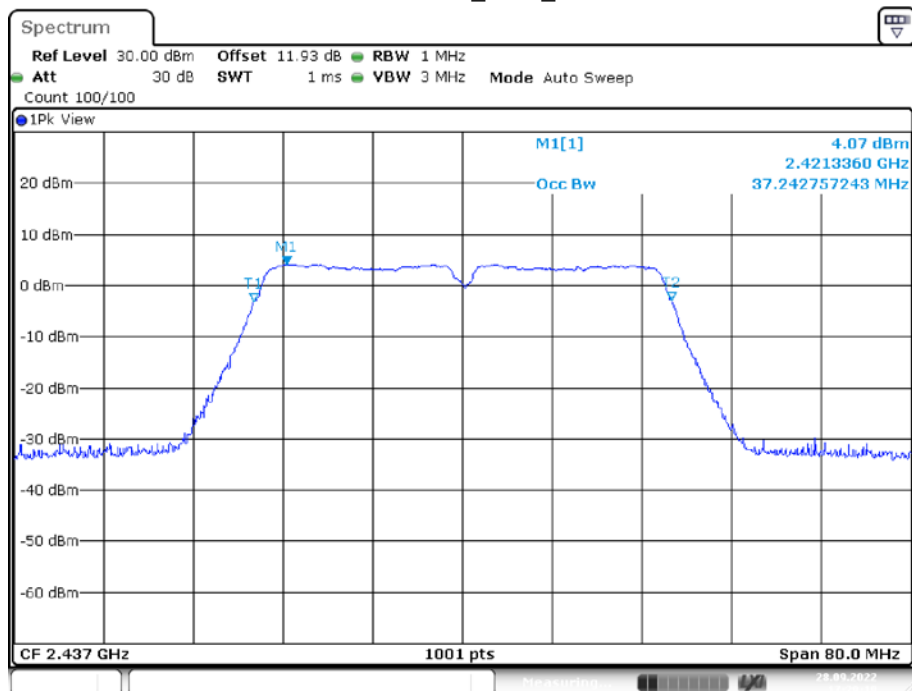
### 11N40 MIMO\_Ant2\_2422



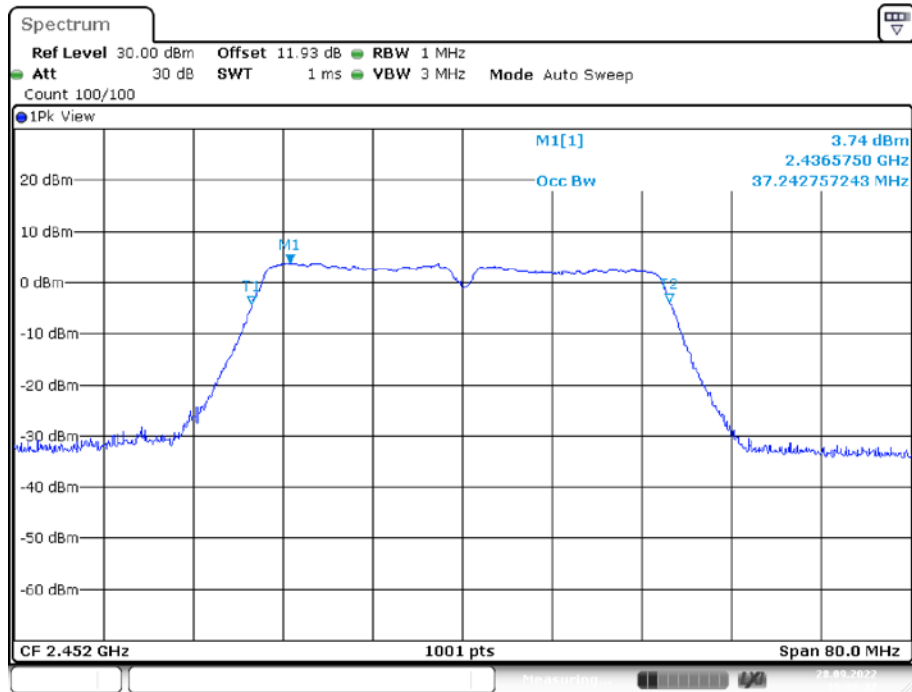
### 11N40 MIMO\_Ant1\_2437



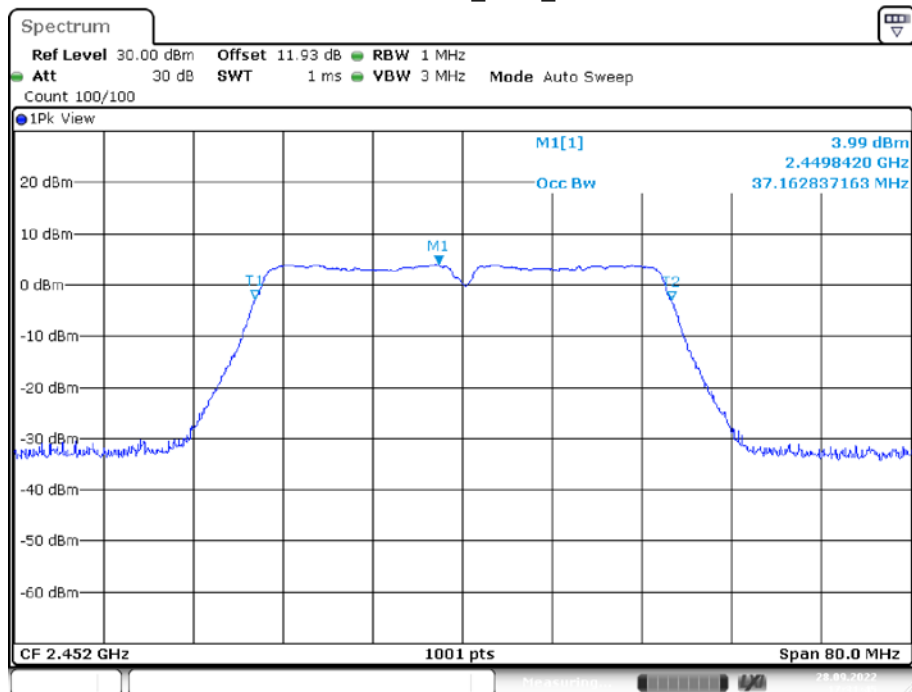
### 11N40 MIMO\_Ant2\_2437



### 11N40 MIMO\_Ant1\_2452



### 11N40 MIMO\_Ant2\_2452



**APPENDIX C: Maximum conducted output power****Test Result**

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B MIMO	Ant1	2412	12.86	<=30	PASS
	Ant2	2412	13.39	<=30	PASS
	total	2412	<b>16.14</b>	<=30	PASS
	Ant1	2437	13.12	<=30	PASS
	Ant2	2437	12.63	<=30	PASS
	total	2437	15.89	<=30	PASS
	Ant1	2462	11.83	<=30	PASS
	Ant2	2462	12.81	<=30	PASS
	total	2462	15.36	<=30	PASS
11G MIMO	Ant1	2412	15.08	<=30	PASS
	Ant2	2412	14.29	<=30	PASS
	total	2412	<b>17.71</b>	<=30	PASS
	Ant1	2437	14.23	<=30	PASS
	Ant2	2437	14.17	<=30	PASS
	total	2437	17.21	<=30	PASS
	Ant1	2462	13.28	<=30	PASS
	Ant2	2462	13.90	<=30	PASS
	total	2462	16.61	<=30	PASS
11N20 MIMO	Ant1	2412	14.37	<=30	PASS
	Ant2	2412	13.74	<=30	PASS
	total	2412	<b>17.08</b>	<=30	PASS
	Ant1	2437	13.87	<=30	PASS
	Ant2	2437	13.87	<=30	PASS
	total	2437	16.88	<=30	PASS
	Ant1	2462	12.35	<=30	PASS
	Ant2	2462	13.88	<=30	PASS
	total	2462	16.19	<=30	PASS

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11N40 MIMO	Ant1	2422	16.39	<=30	PASS
	Ant2	2422	16.13	<=30	PASS
	total	2422	<b>19.27</b>	<=30	PASS
	Ant1	2437	16.27	<=30	PASS
	Ant2	2437	16.05	<=30	PASS
	total	2437	19.17	<=30	PASS
	Ant1	2452	15.96	<=30	PASS
	Ant2	2452	16.37	<=30	PASS
	total	2452	19.18	<=30	PASS

Note: The maximum antenna gain is 3.2 dBi. The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0dB (i.e., no array gain) For  $N_{ANT} \leq 4$ ;

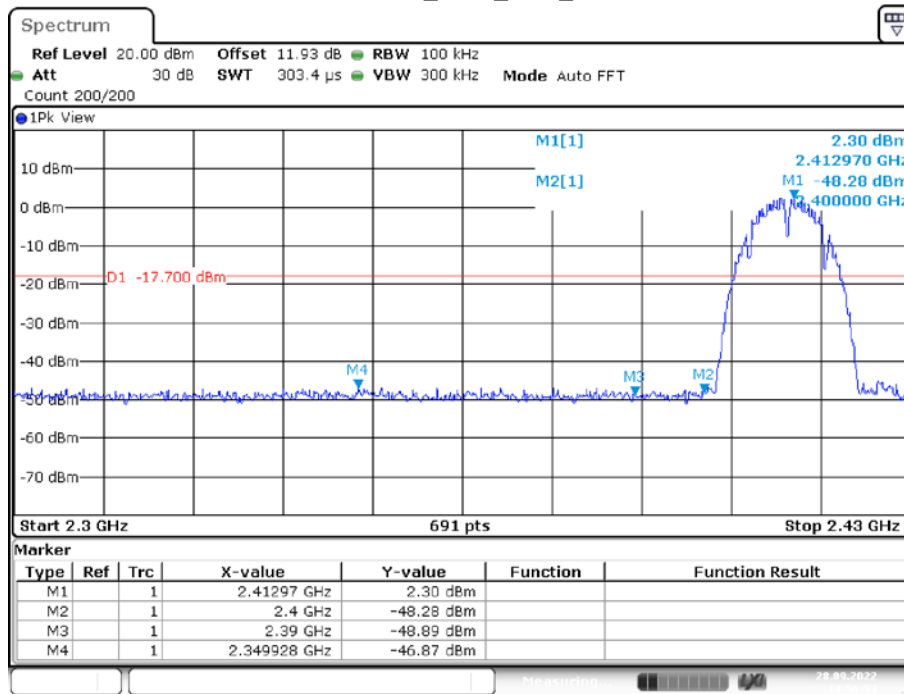
So: Directional gain=6dBi, the limit is not reduced.



# APPENDIX D: Band edge measurements

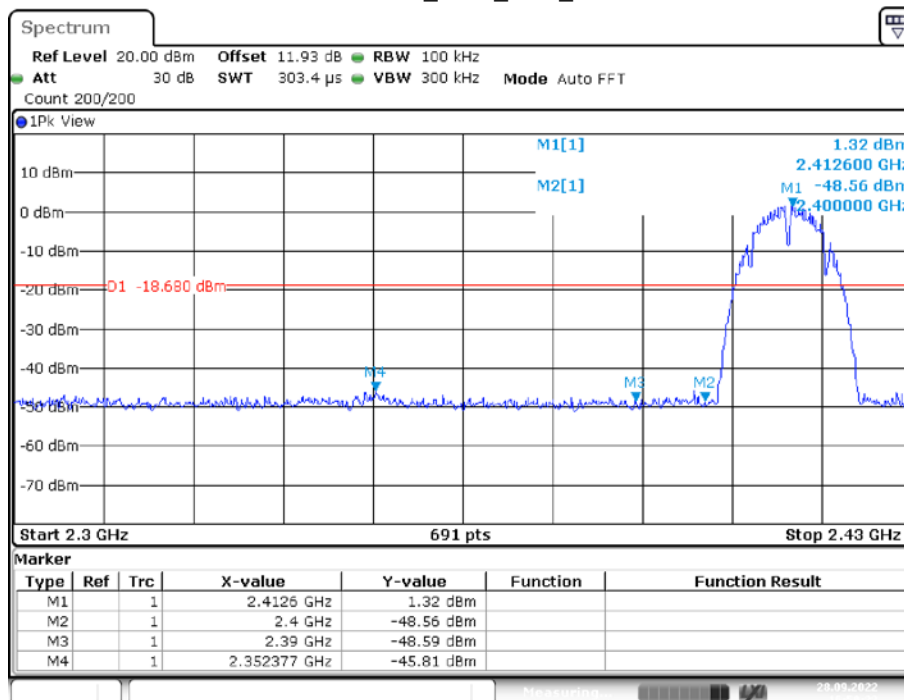
## Test Graphs

11B MIMO\_Ant1\_Low\_2412



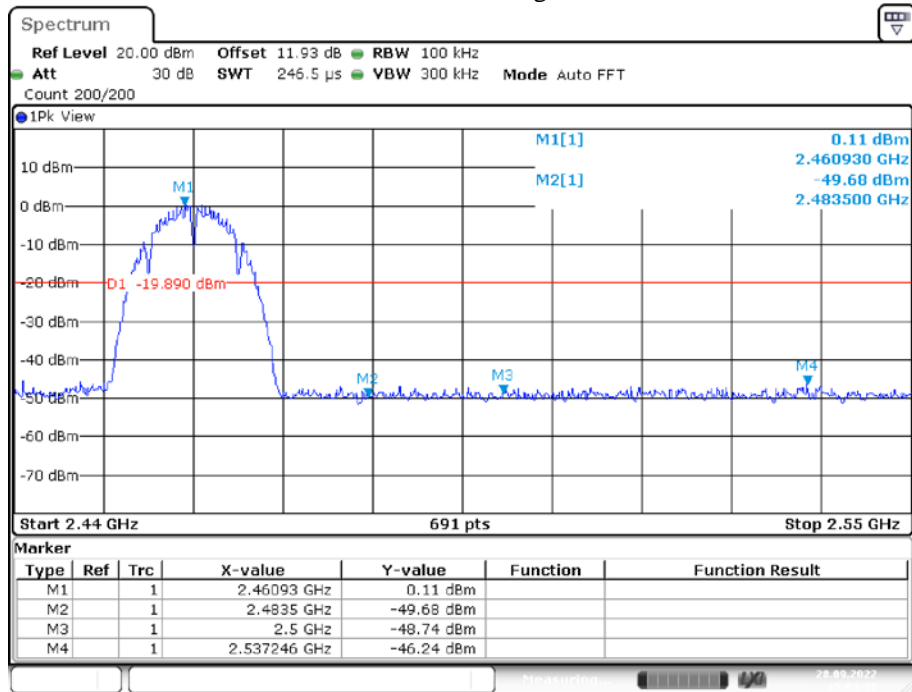
Date: 28.SEP.2022 14:56:53

11B MIMO\_Ant2\_Low\_2412

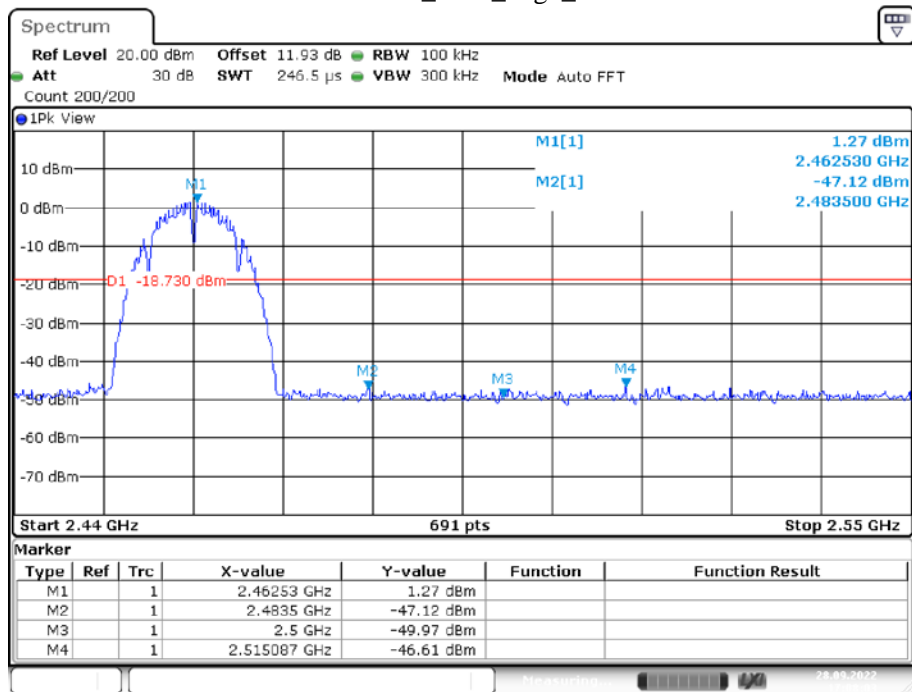


Date: 28.SEP.2022 16:59:23

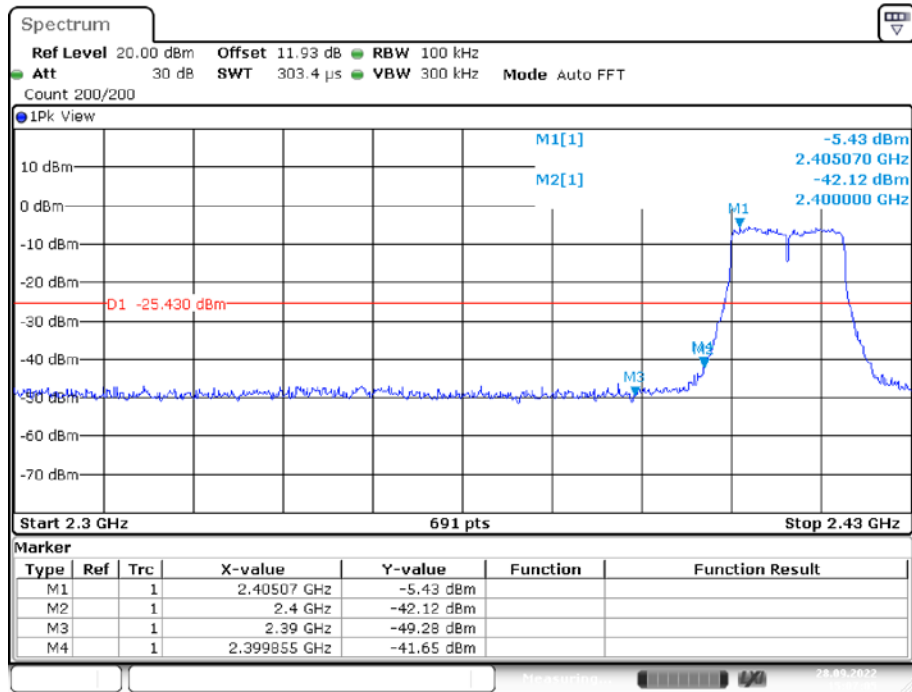
11B MIMO\_Ant1\_High\_2462



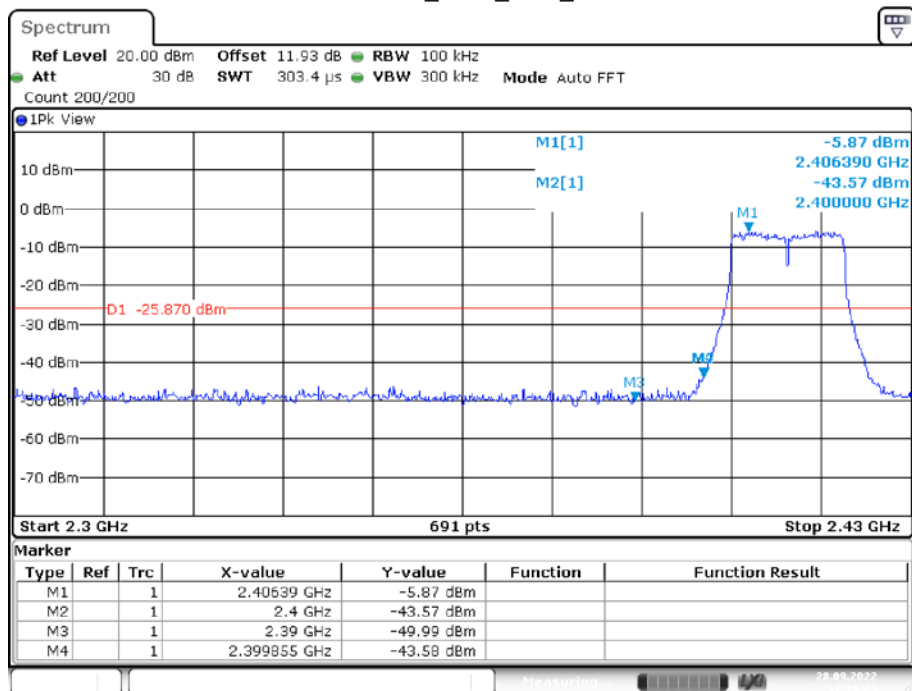
11B MIMO\_Ant2\_High\_2462



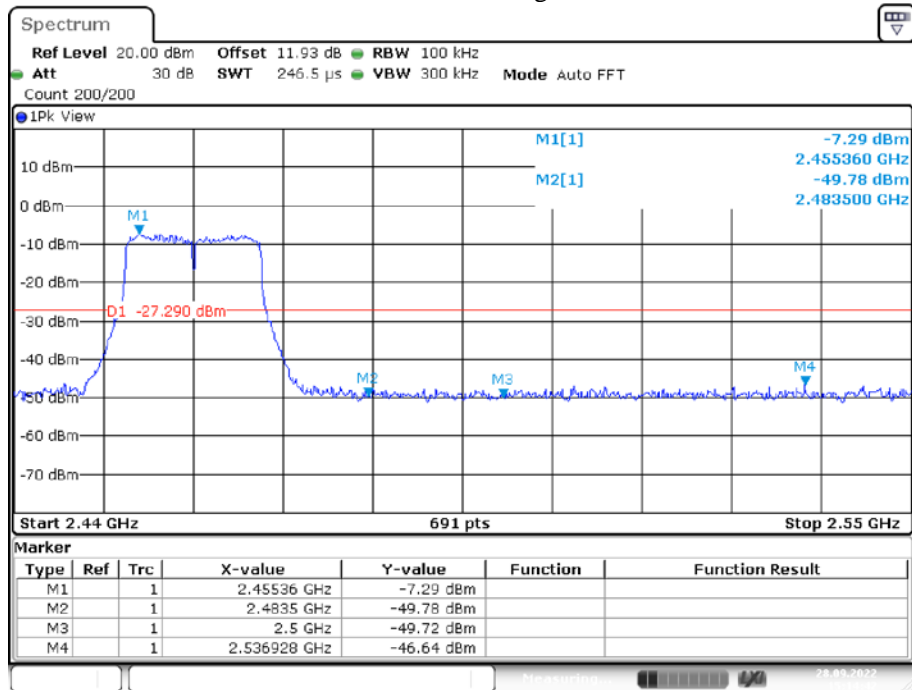
11G MIMO\_Ant1\_Low\_2412



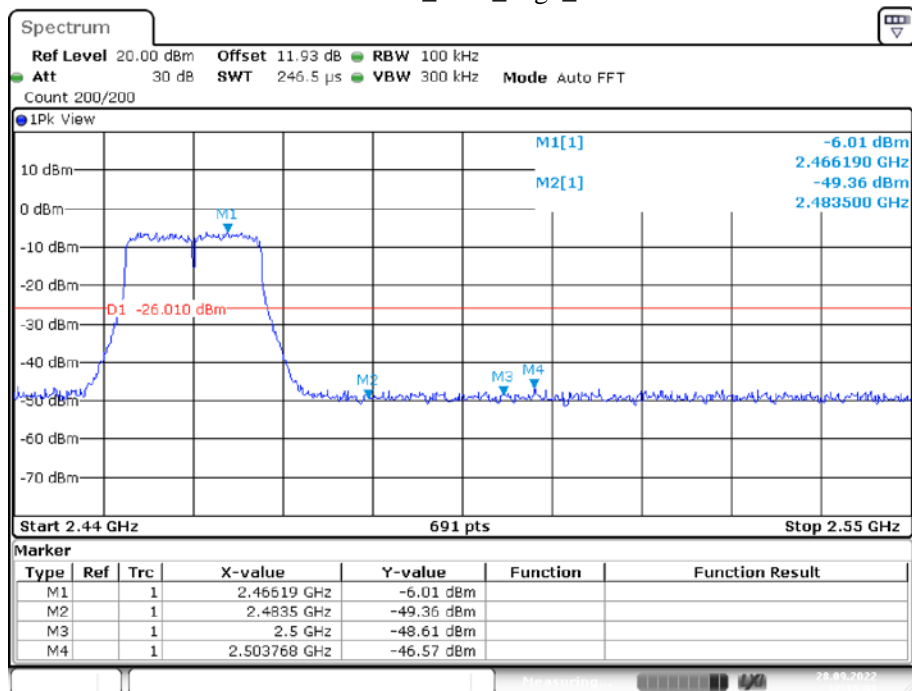
11G MIMO\_Ant2\_Low\_2412



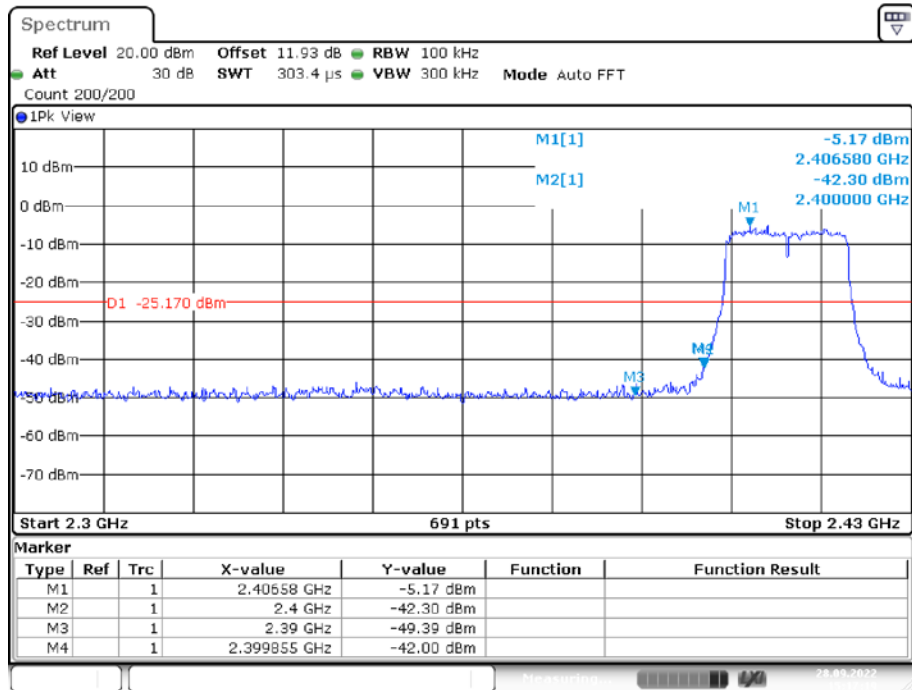
11G MIMO\_Ant1\_High\_2462



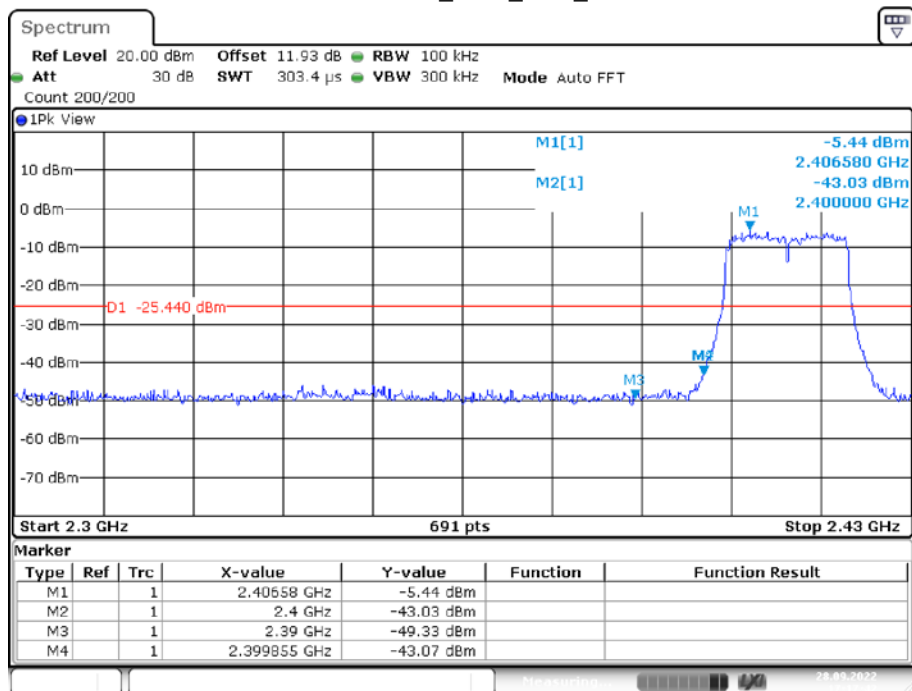
11G MIMO\_Ant2\_High\_2462



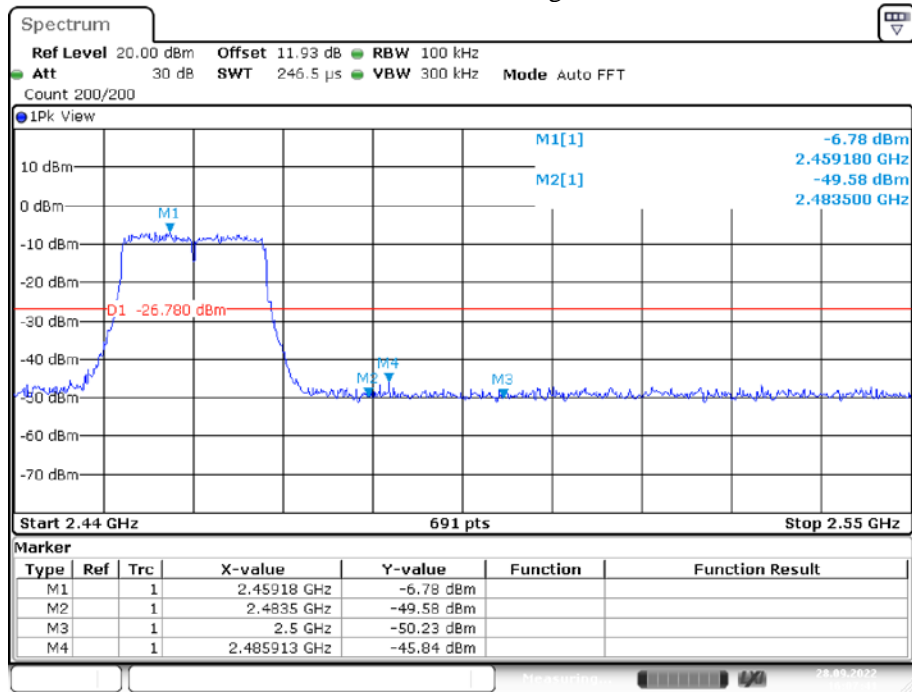
11N20 MIMO\_Ant1\_Low\_2412



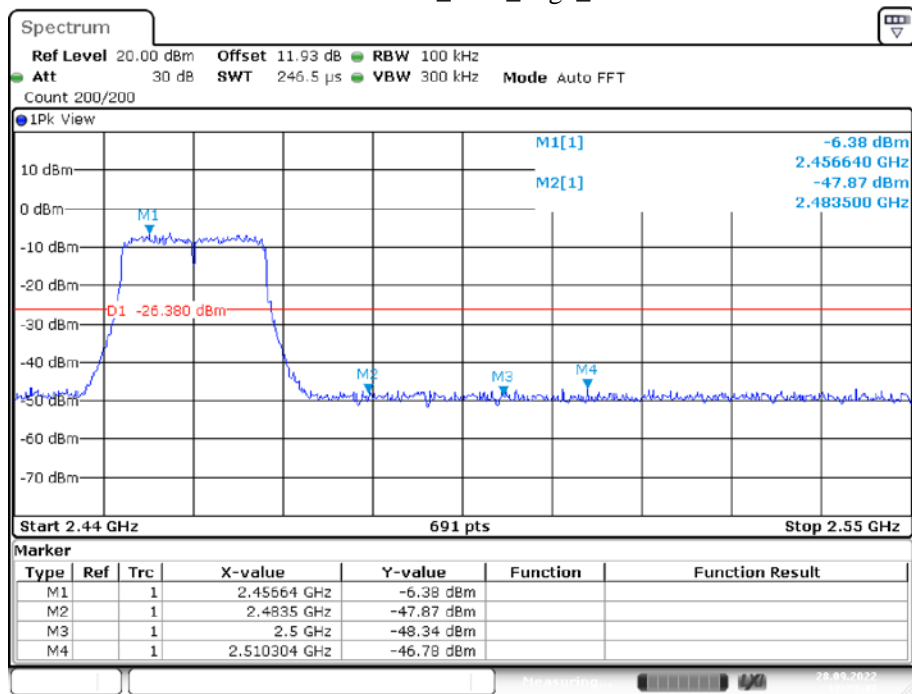
11N20 MIMO\_Ant2\_Low\_2412



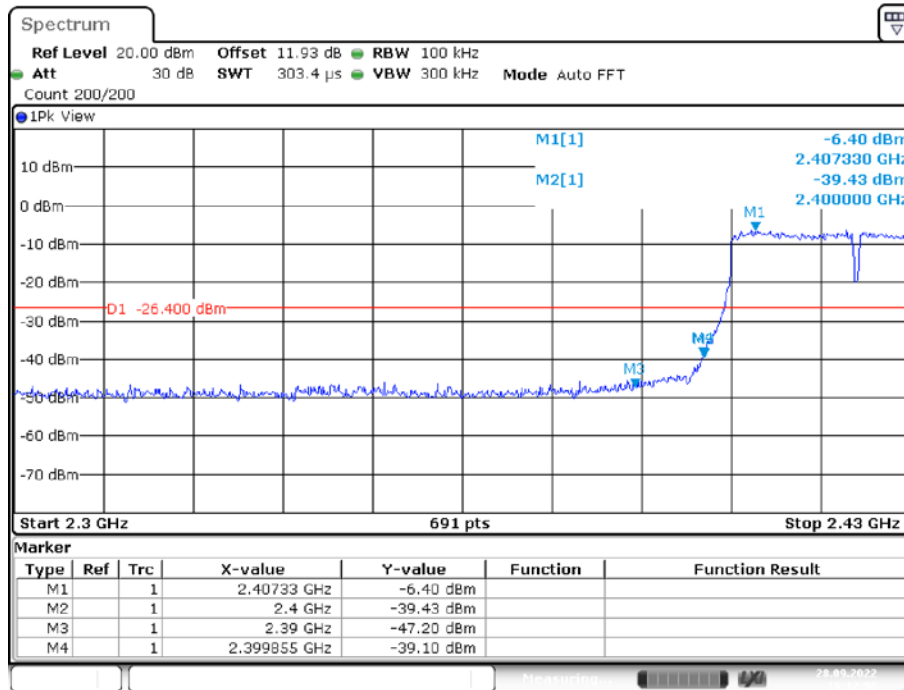
11N20 MIMO\_Ant1\_High\_2462



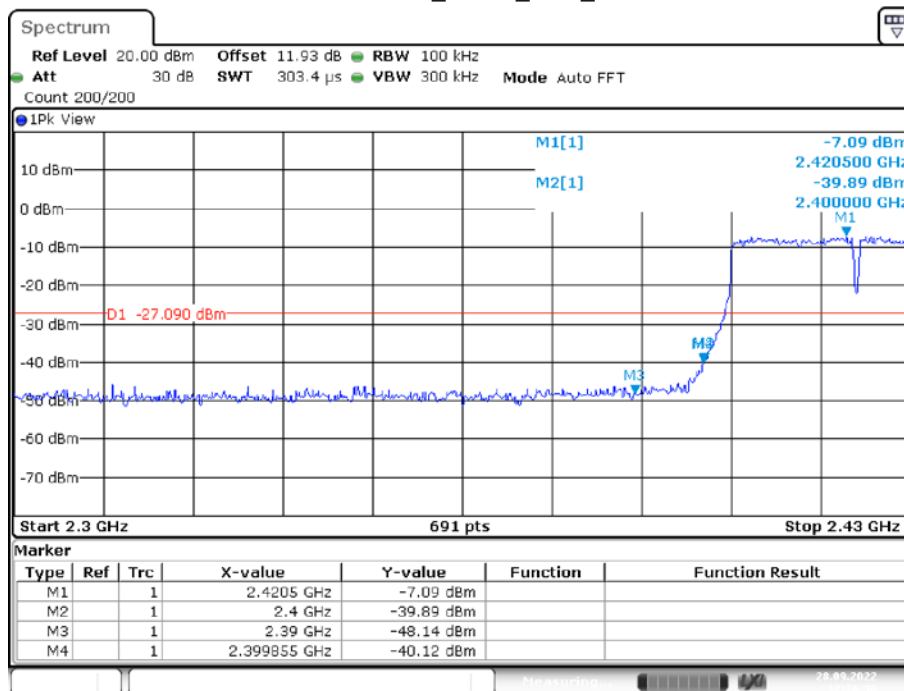
11N20 MIMO\_Ant2\_High\_2462



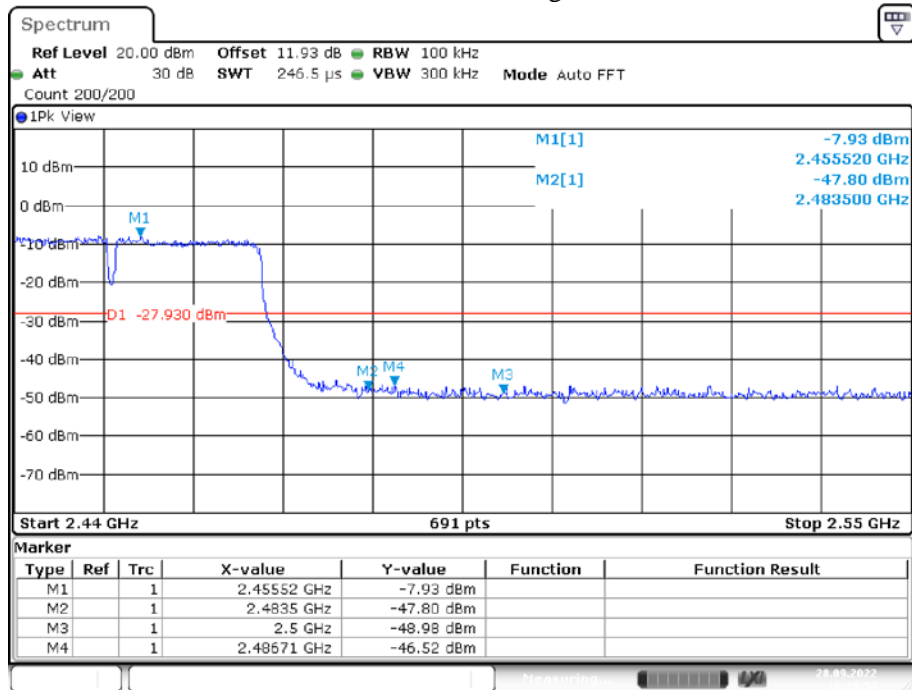
11N40 MIMO\_Ant1\_Low\_2422



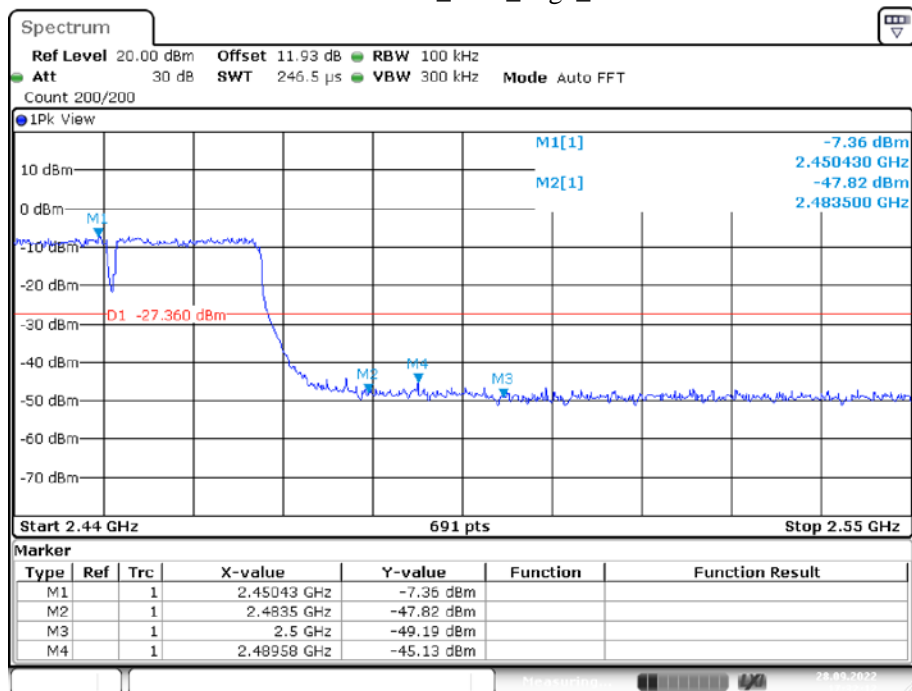
11N40 MIMO\_Ant12\_Low\_2422



11N40 MIMO\_Ant1\_High\_2452



11N40 MIMO\_Ant2\_High\_2452





**APPENDIX E: Maximum power spectral density****Test Result**

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B MIMO	Ant1	2412	-18.05	<=7.8	PASS
	Ant2	2412	-18.97	<=7.8	PASS
	total	2412	<b>-15.48</b>	<=7.8	PASS
	Ant1	2437	-19.28	<=7.8	PASS
	Ant2	2437	-19.17	<=7.8	PASS
	total	2437	-16.21	<=7.8	PASS
	Ant1	2462	-20.32	<=7.8	PASS
	Ant2	2462	-19.23	<=7.8	PASS
	total	2462	-16.73	<=7.8	PASS
11G MIMO	Ant1	2412	-20.32	<=7.8	PASS
	Ant2	2412	-20.25	<=7.8	PASS
	total	2412	<b>-17.27</b>	<=7.8	PASS
	Ant1	2437	-20.99	<=7.8	PASS
	Ant2	2437	-20.71	<=7.8	PASS
	total	2437	-17.84	<=7.8	PASS
	Ant1	2462	-21.82	<=7.8	PASS
	Ant2	2462	-20.38	<=7.8	PASS
	total	2462	-18.03	<=7.8	PASS
11N20 MIMO	Ant1	2412	-19.06	<=7.8	PASS
	Ant2	2412	-19.45	<=7.8	PASS
	total	2412	-16.24	<=7.8	PASS
	Ant1	2437	-18.22	<=7.8	PASS
	Ant2	2437	-19.64	<=7.8	PASS
	total	2437	<b>-15.86</b>	<=7.8	PASS
	Ant1	2462	-20.05	<=7.8	PASS
	Ant2	2462	-19.59	<=7.8	PASS
	total	2462	-16.80	<=7.8	PASS

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11N40 MIMO	Ant1	2422	-18.32	<=7.8	PASS
	Ant2	2422	-19.89	<=7.8	PASS
	total	2462	<b>-16.02</b>	<=7.8	PASS
	Ant1	2437	-19.88	<=7.8	PASS
	Ant2	2437	-18.38	<=7.8	PASS
	total	2437	-16.06	<=7.8	PASS
	Ant1	2452	-20.17	<=7.8	PASS
	Ant2	2452	-19.41	<=7.8	PASS
	total	2452	-16.76	<=7.8	PASS

**Note:**

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

Array Gain =  $10 \log(N_{ANT}/N_{SS})$ dB

Directional gain= $G_{ANT} +$  Array Gain

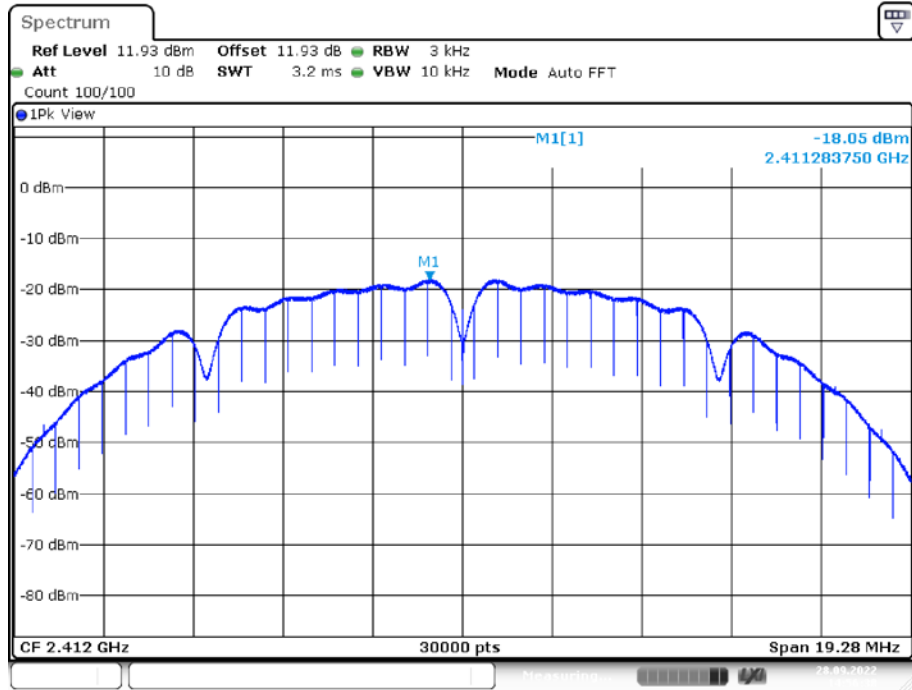
The  $G_{ANT1}=3.2$ dB,  $G_{ANT2}=2.73$ dB, use the higher antenna gain 3.2dB to calculate the worst case

Directional gain= $3.2$ dB+ $10*\log(2/1)=6.2$ dB>6dB

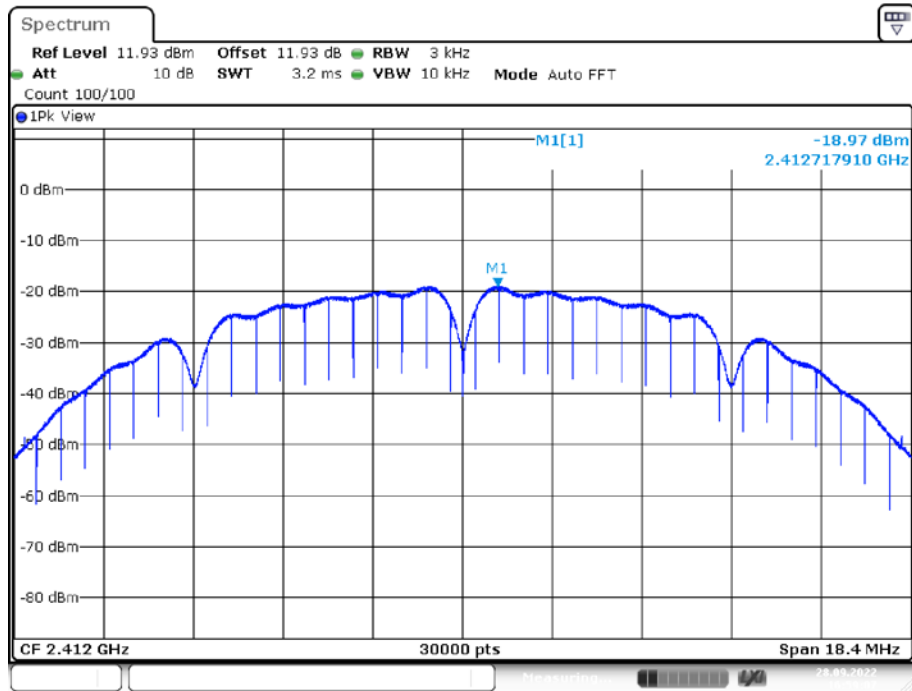
So the limit should be reduce  $(6.2-6)$ dB=0.2dB.

### Test Graphs

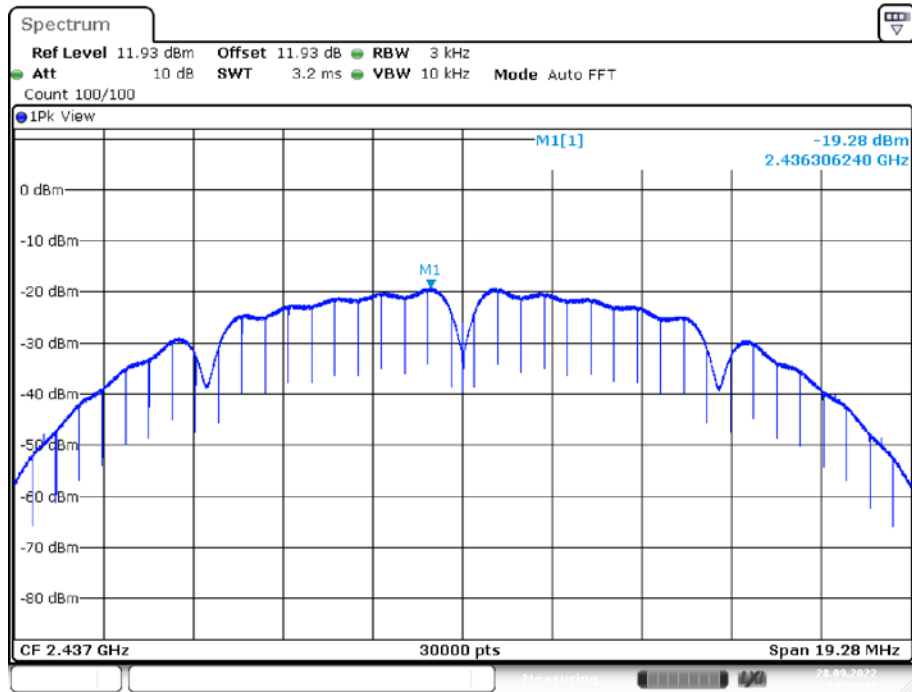
11B MIMO\_Ant1\_2412



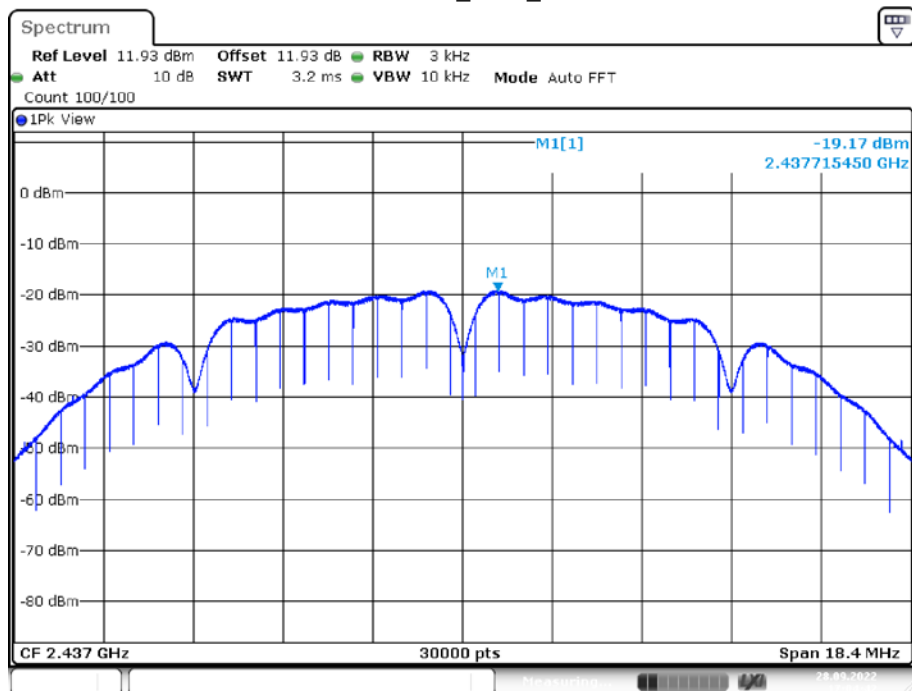
11B MIMO\_Ant2\_2412



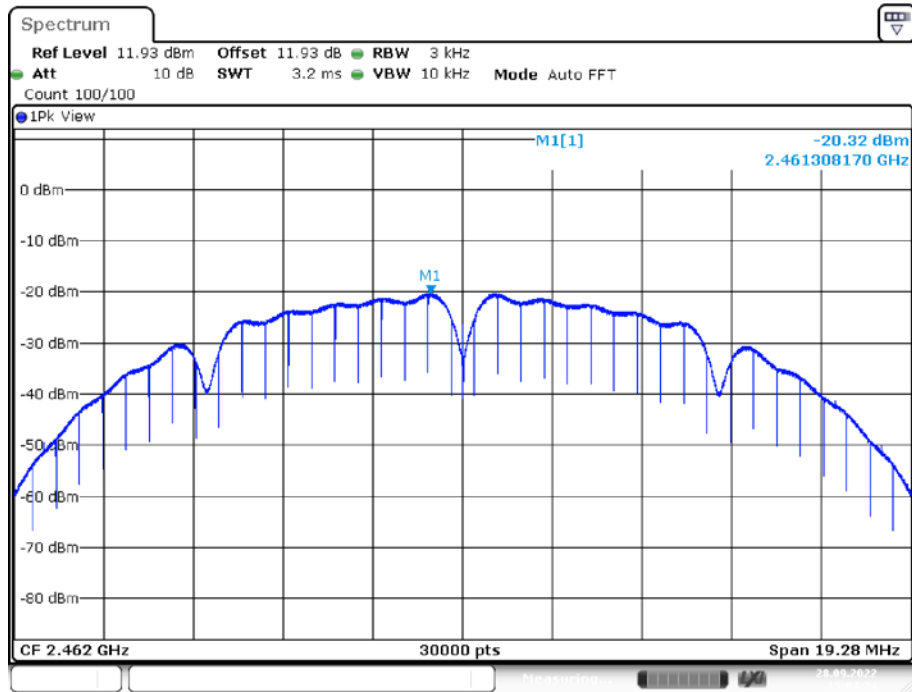
### 11B MIMO\_Ant1\_2437



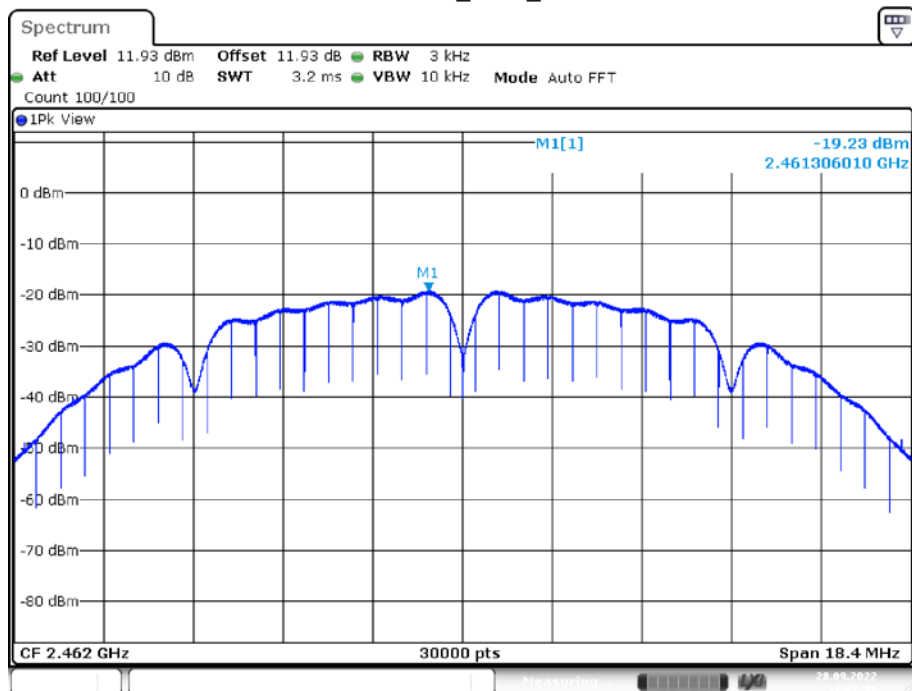
### 11B MIMO\_Ant2\_2437



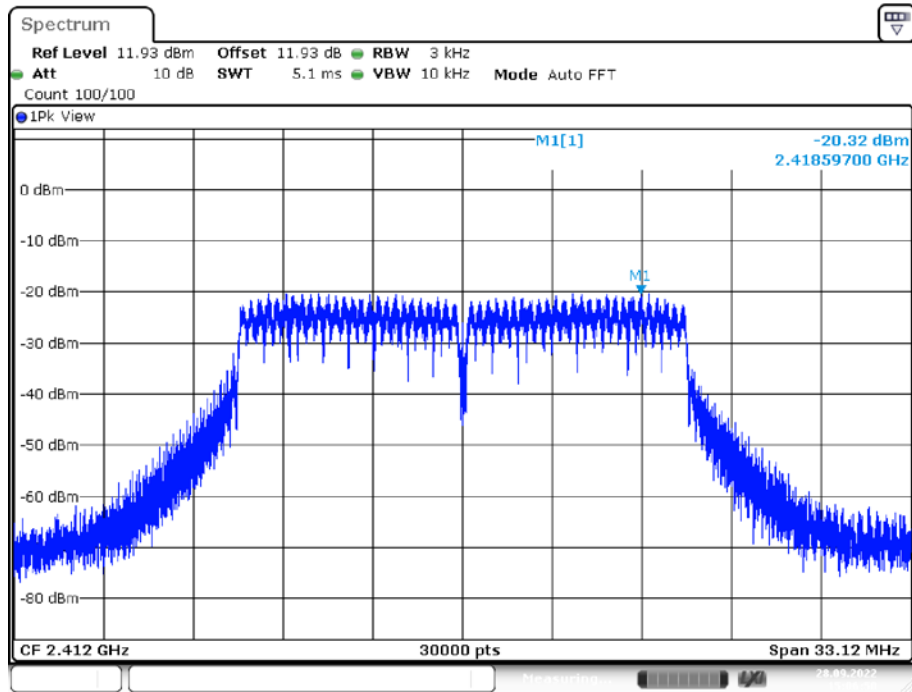
### 11B MIMO\_Ant1\_2462



### 11B MIMO\_Ant2\_2462

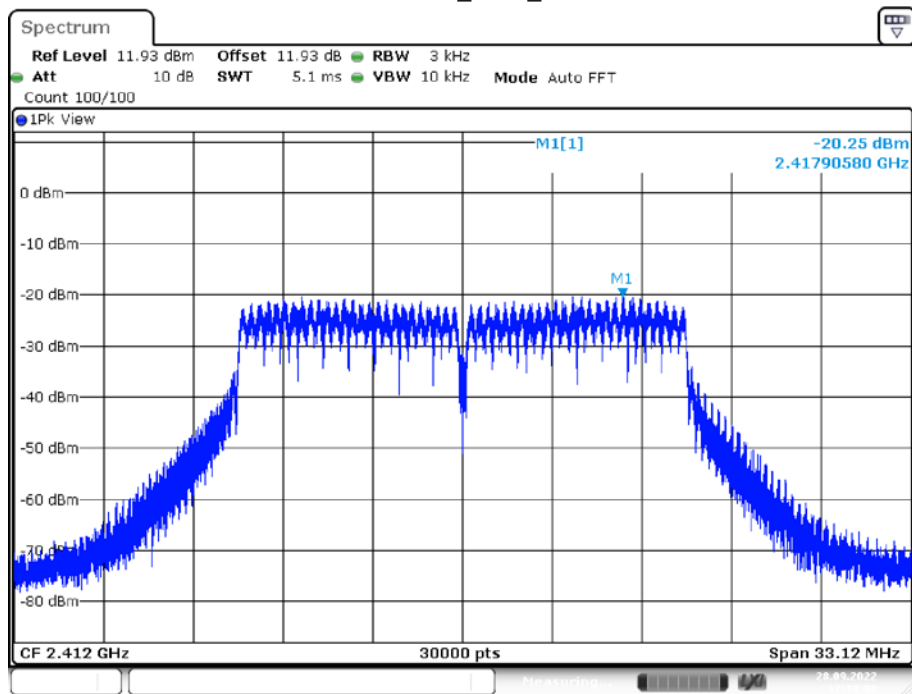


### 11G MIMO\_Ant1\_2412



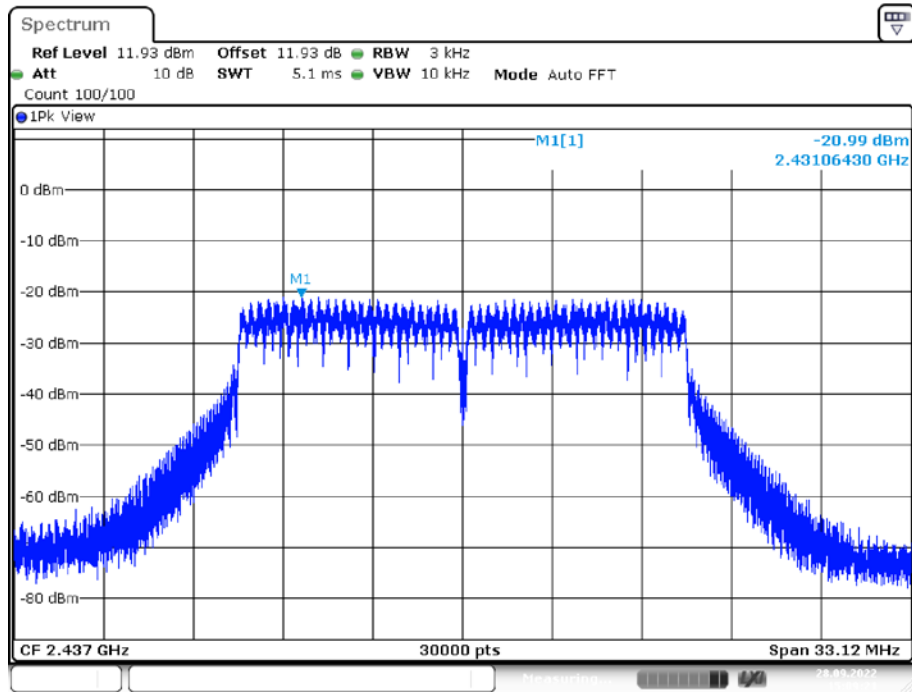
Date: 28.SEP.2022 15:06:51

### 11G MIMO\_Ant2\_2412



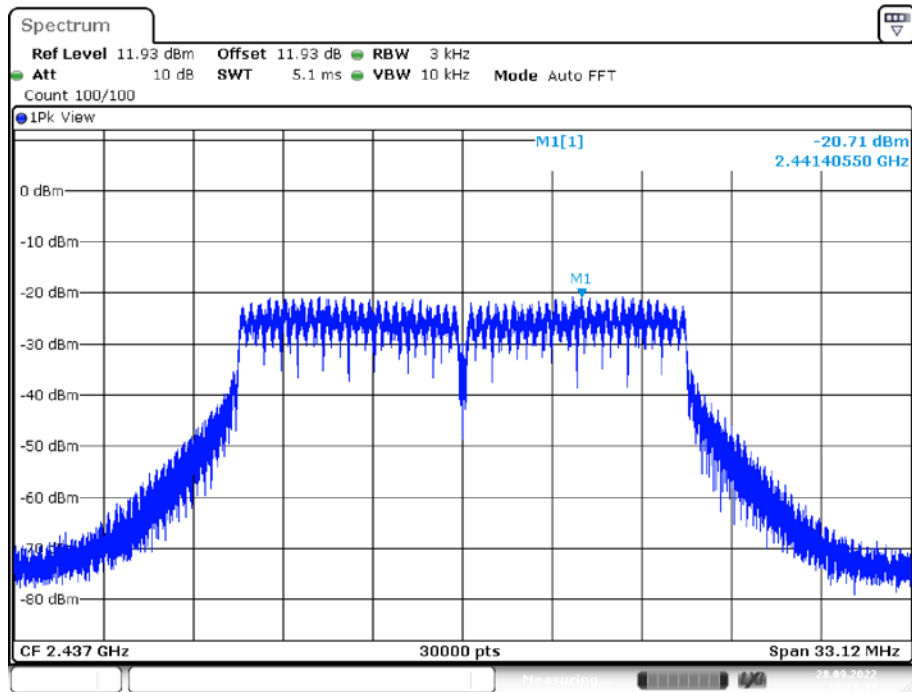
Date: 28.SEP.2022 17:10:09

### 11G MIMO\_Ant1\_2437



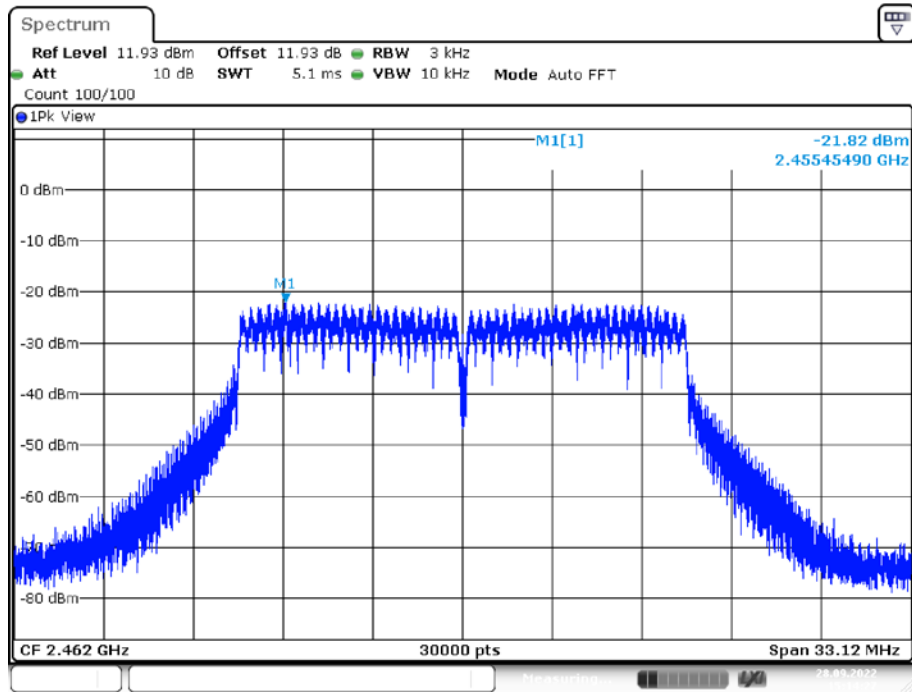
Date: 28.SEP.2022 15:09:22

### 11G MIMO\_Ant2\_2437



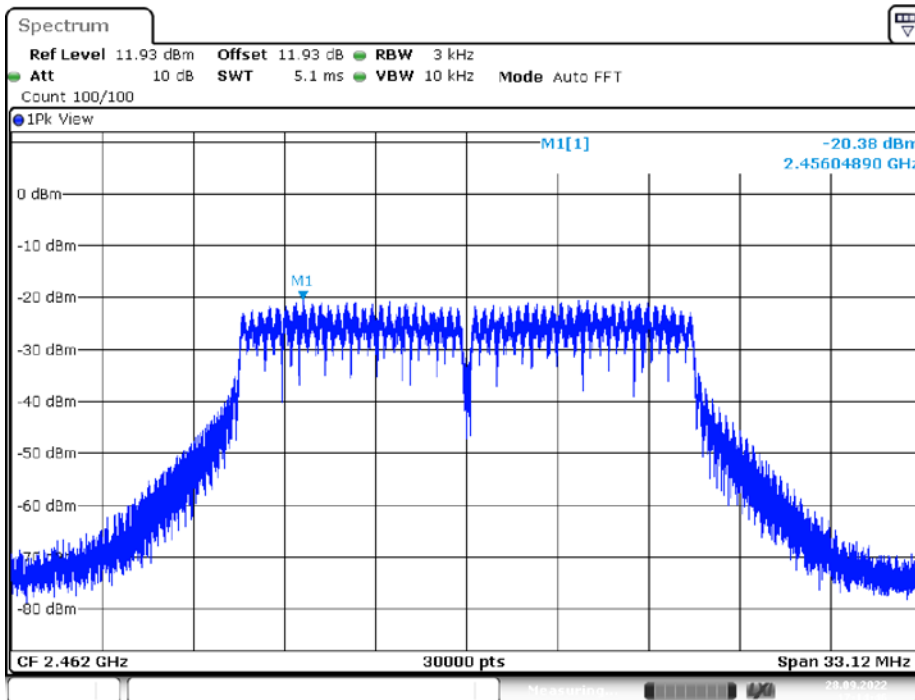
Date: 28.SEP.2022 17:12:32

### 11G MIMO\_Ant1\_2462



Date: 28.SEP.2022 15:14:27

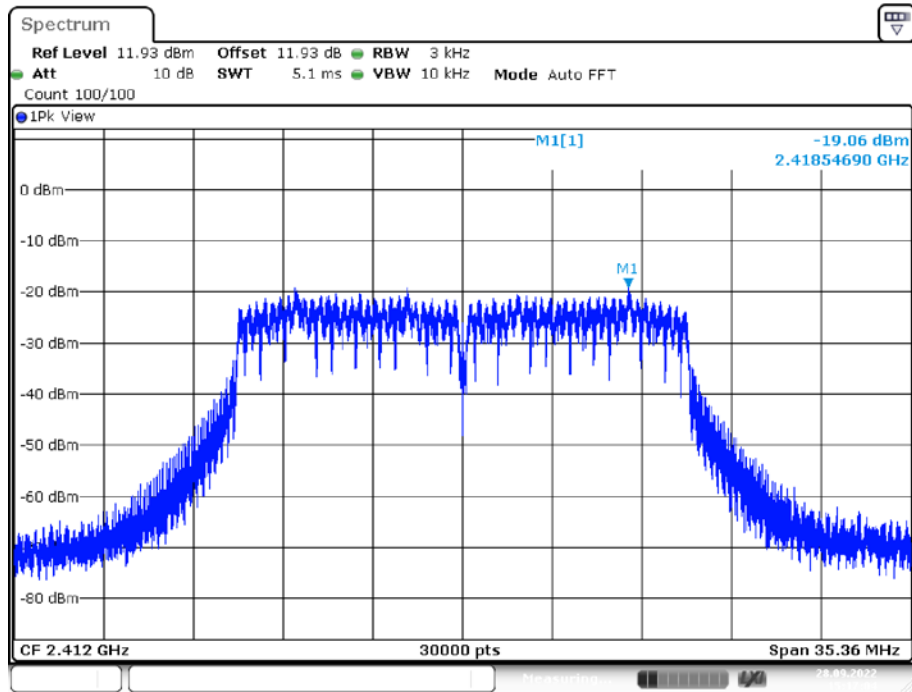
### 11G MIMO\_Ant2\_2462



Date: 28.SEP.2022 17:14:46

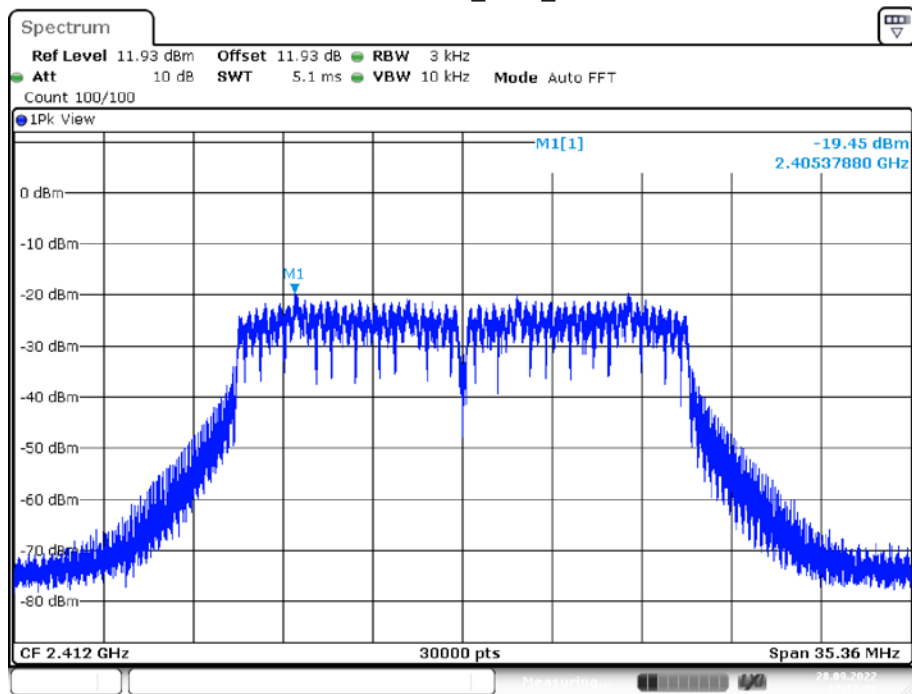


11N20 MIMO\_Ant1\_2412



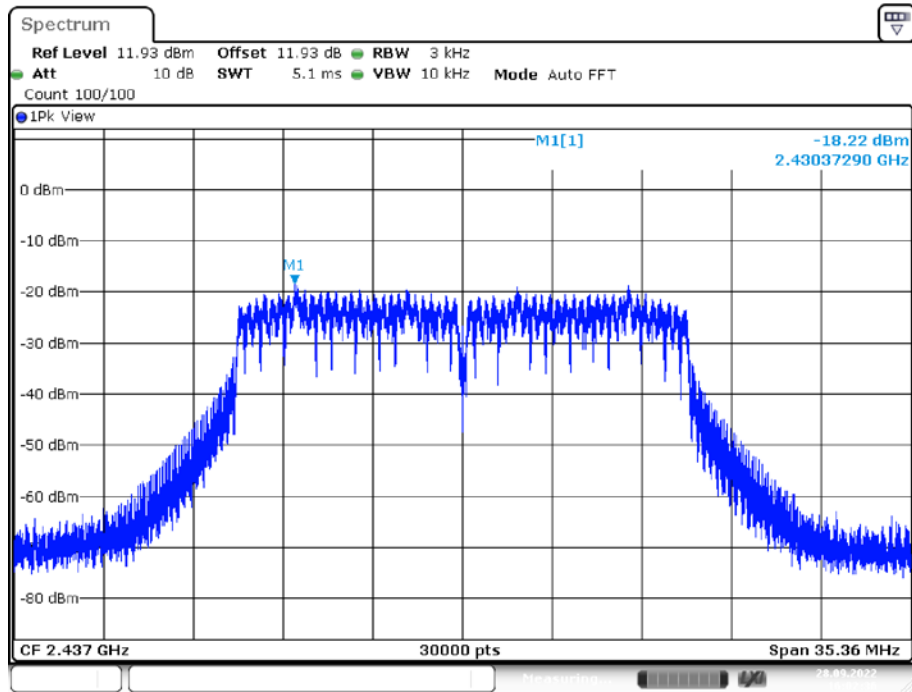
Date: 28.SEP.2022 15:17:04

11N20 MIMO\_Ant2\_2412



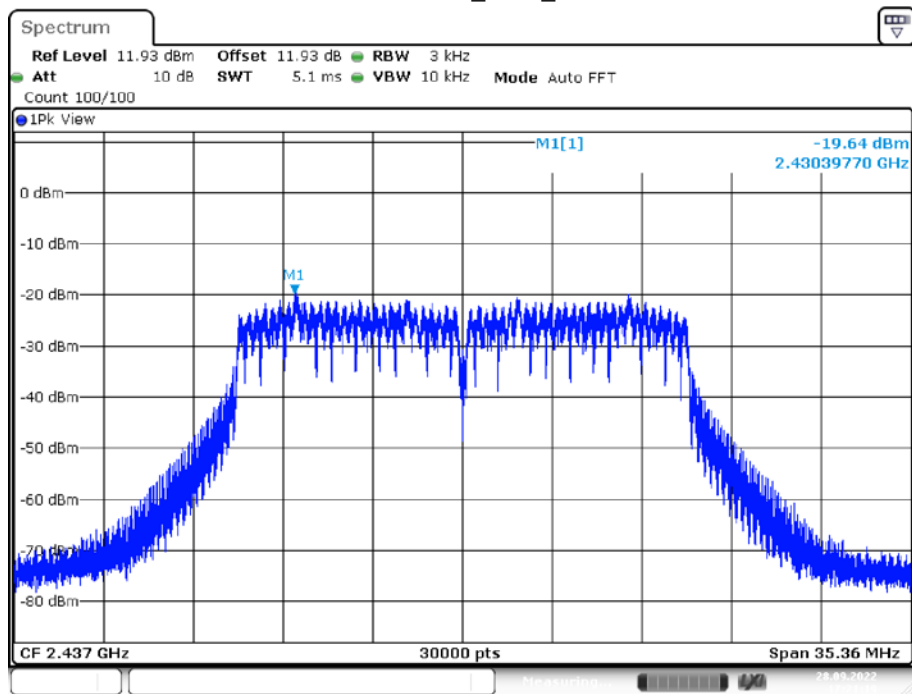
Date: 28.SEP.2022 17:17:27

11N20 MIMO\_Ant1\_2437



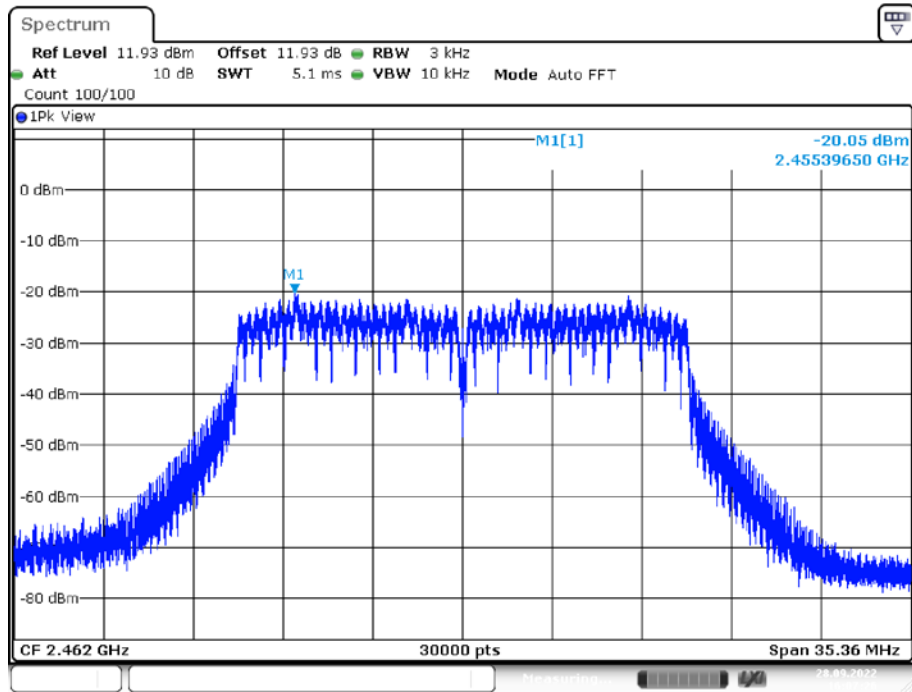
Date: 28.SEP.2022 16:02:36

11N20 MIMO\_Ant2\_2437



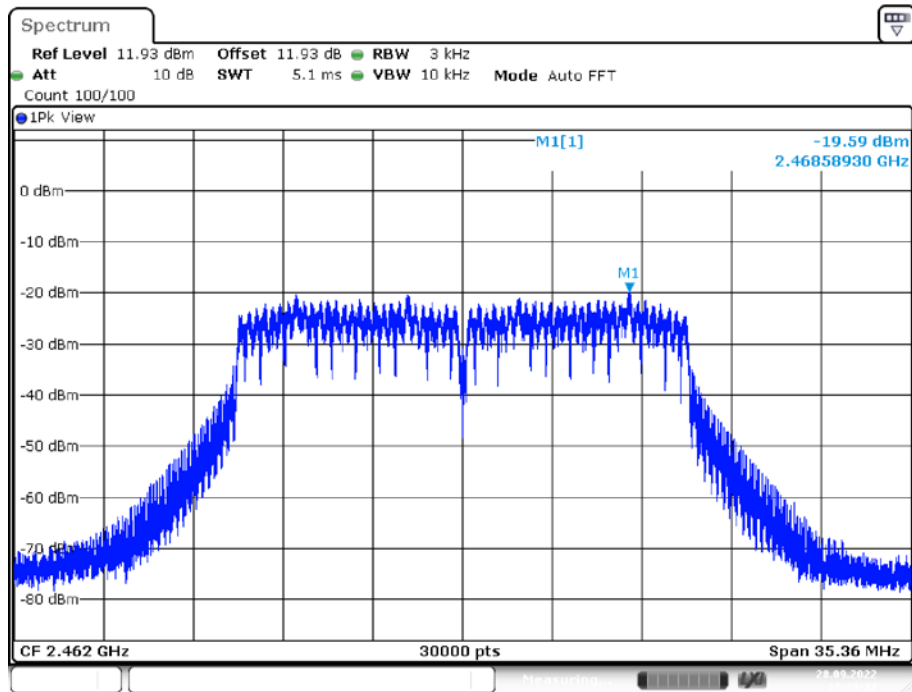
Date: 28.SEP.2022 17:21:20

11N20 MIMO\_Ant1\_2462



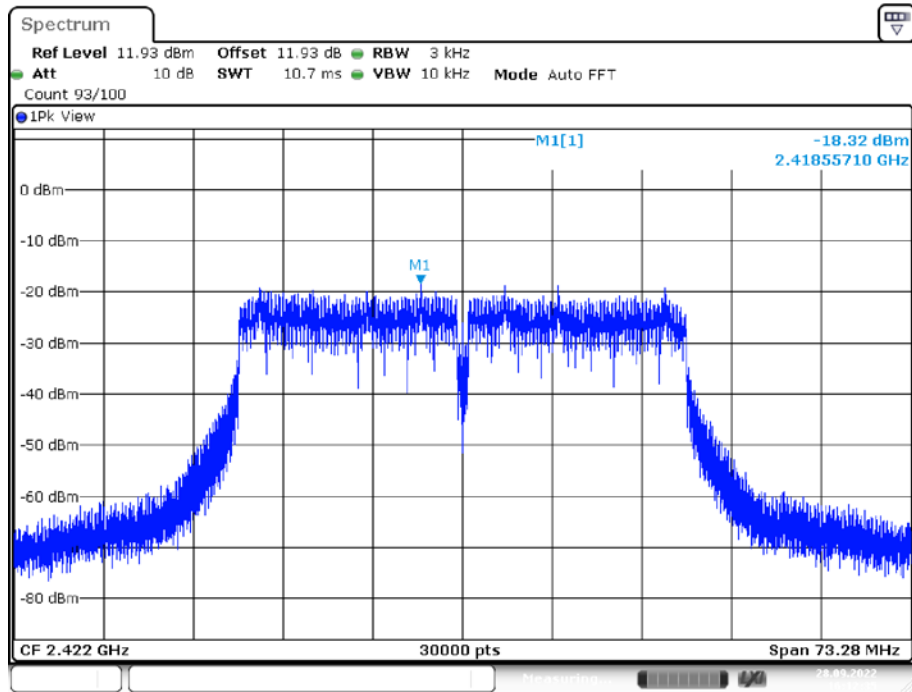
Date: 28.SEP.2022 16:07:27

11N20 MIMO\_Ant2\_2462

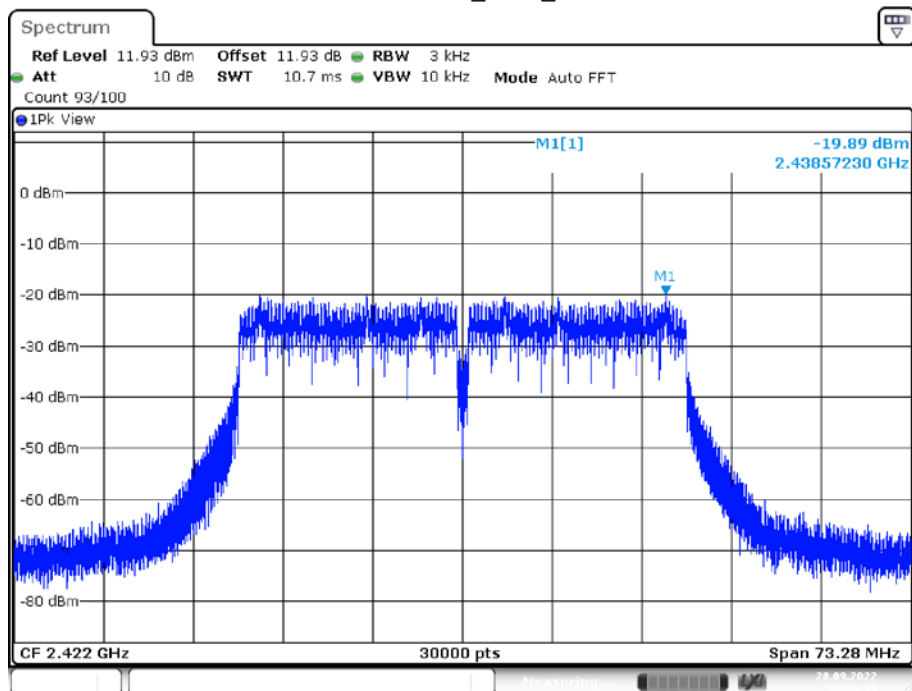


Date: 28.SEP.2022 17:23:32

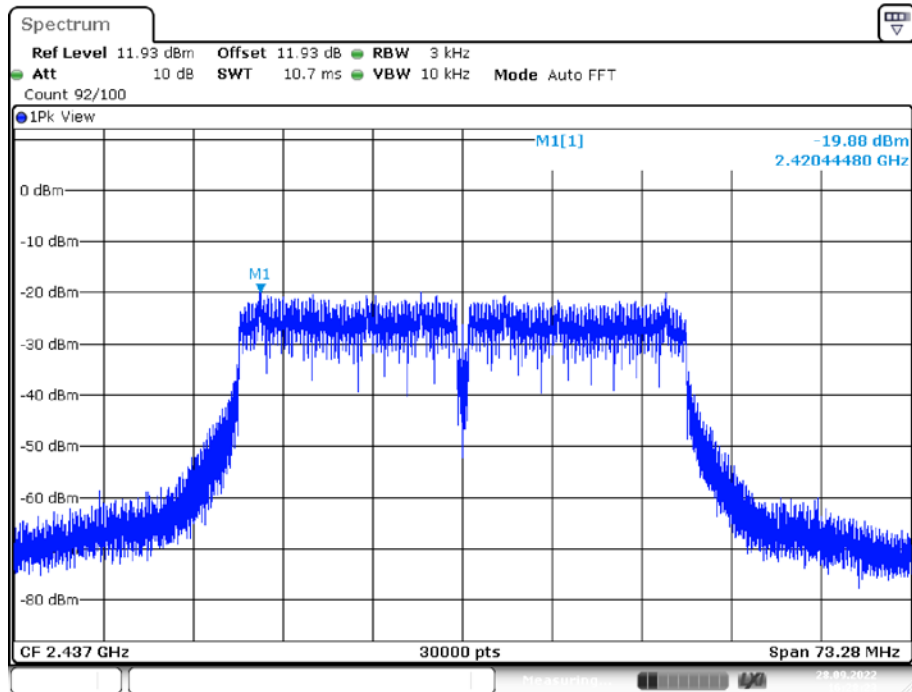
### 11N40 MIMO\_Ant1\_2422



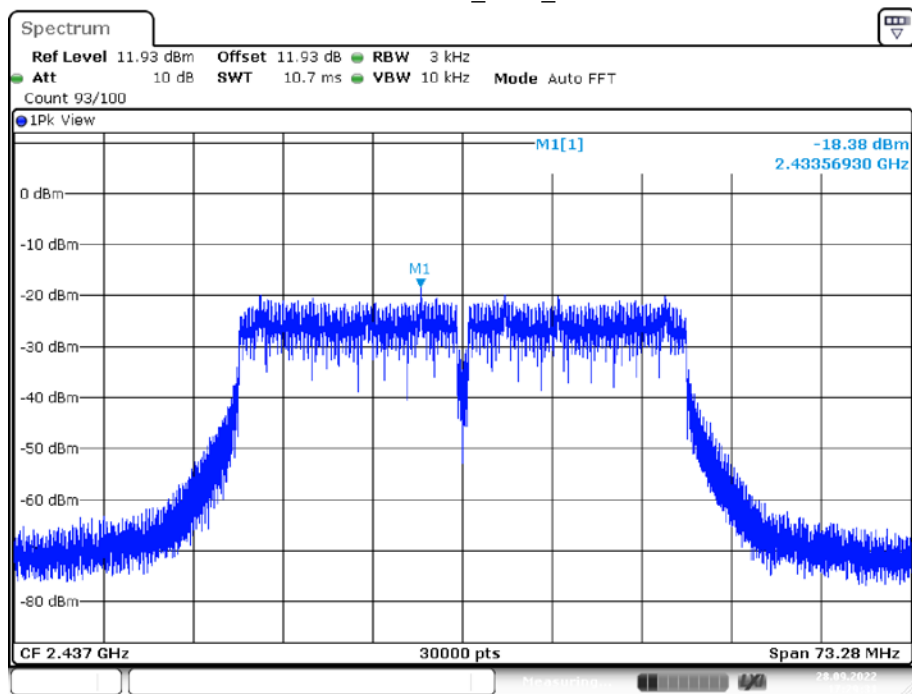
### 11N40 MIMO\_Ant2\_2422



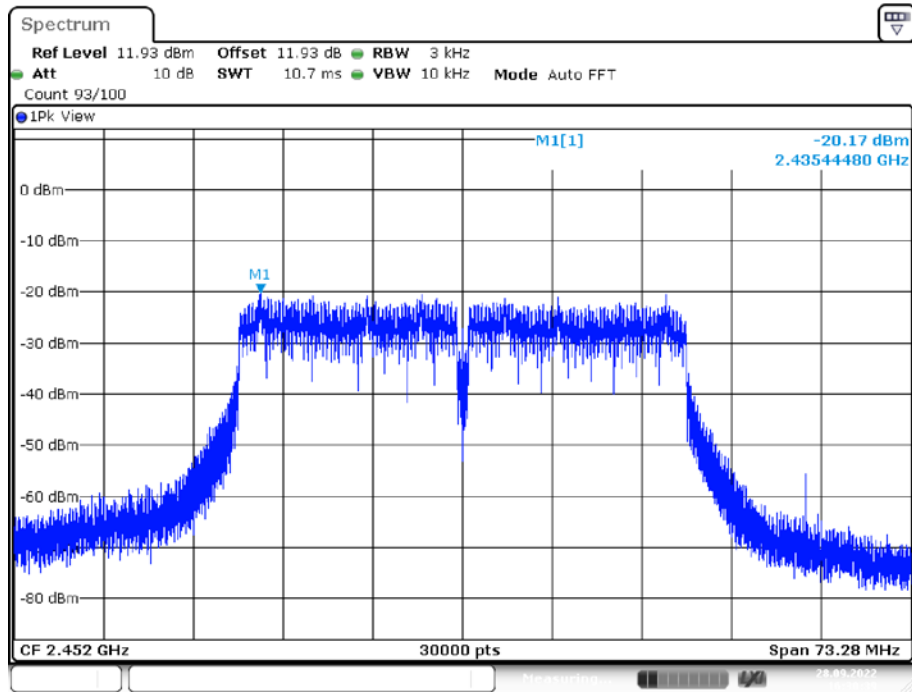
11N40 MIMO\_Ant1\_2437



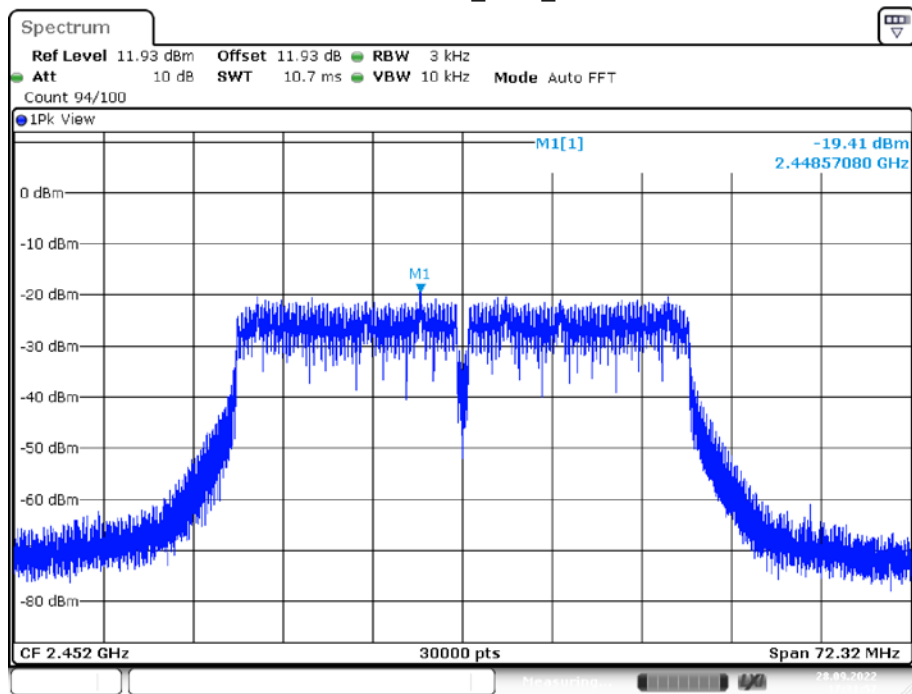
11N40 MIMO\_Ant2\_2437



### 11N40 MIMO\_Ant1\_2452



### 11N40 MIMO\_Ant2\_2452

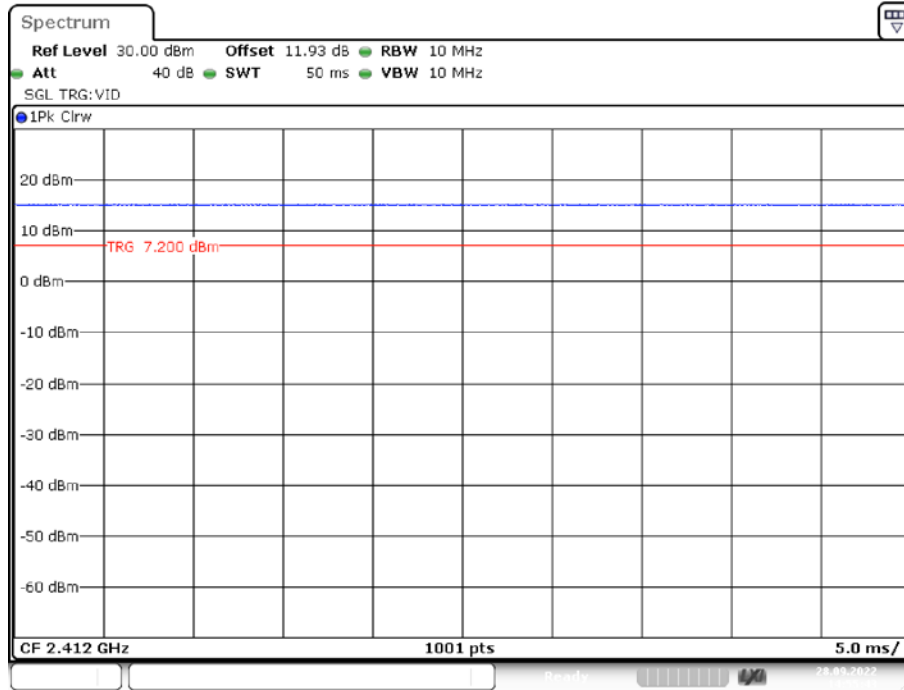


**APPENDIX F: Duty Cycle****Test Result**

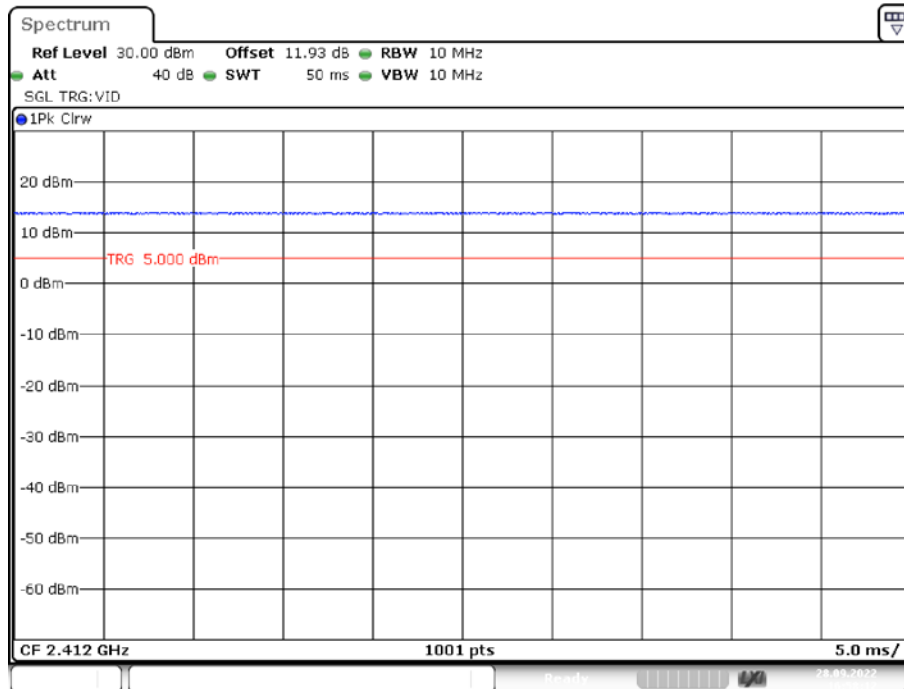
Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11B MIMO	Ant1	2412	50.00	50.00	100.00
	Ant2	2412	50.00	50.00	100.00
	Ant1	2437	50.00	50.00	100.00
	Ant2	2437	50.00	50.00	100.00
	Ant1	2462	50.00	50.00	100.00
	Ant2	2462	50.00	50.00	100.00
11G MIMO	Ant1	2412	50.00	50.00	100.00
	Ant2	2412	50.00	50.00	100.00
	Ant1	2437	50.00	50.00	100.00
	Ant2	2437	50.00	50.00	100.00
	Ant1	2462	50.00	50.00	100.00
	Ant2	2462	50.00	50.00	100.00
11N20 MIMO	Ant1	2412	50.00	50.00	100.00
	Ant2	2412	50.00	50.00	100.00
	Ant1	2437	50.00	50.00	100.00
	Ant2	2437	50.00	50.00	100.00
	Ant1	2462	50.00	50.00	100.00
	Ant2	2462	50.00	50.00	100.00
11N40 MIMO	Ant1	2422	50.00	50.00	100.00
	Ant2	2422	50.00	50.00	100.00
	Ant1	2437	50.00	50.00	100.00
	Ant2	2437	50.00	50.00	100.00
	Ant1	2452	50.00	50.00	100.00
	Ant2	2452	50.00	50.00	100.00

### Test Graphs

11B MIMO\_Ant1\_2412

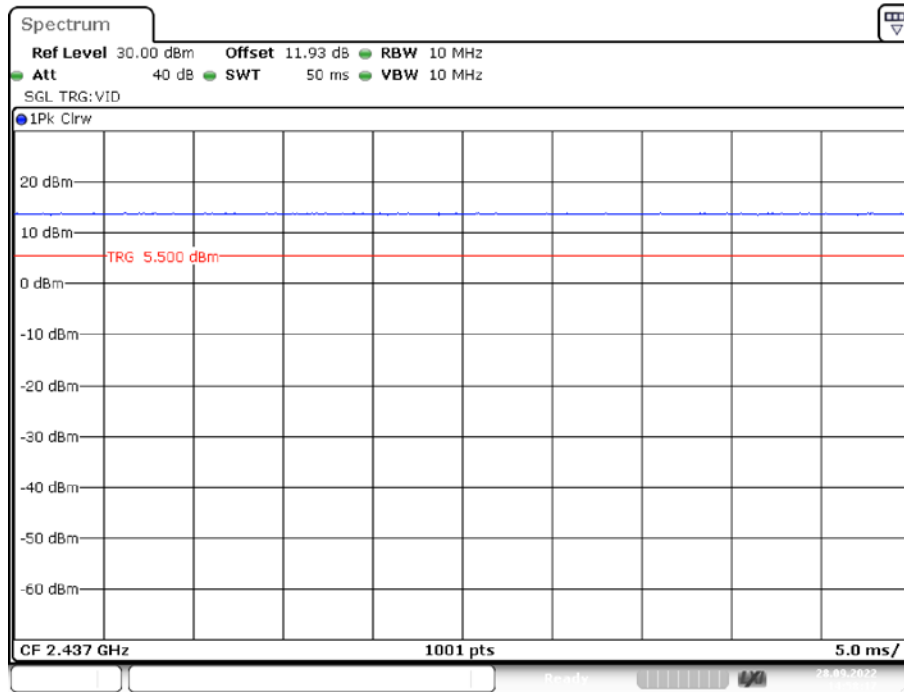


11B MIMO\_Ant2\_2412



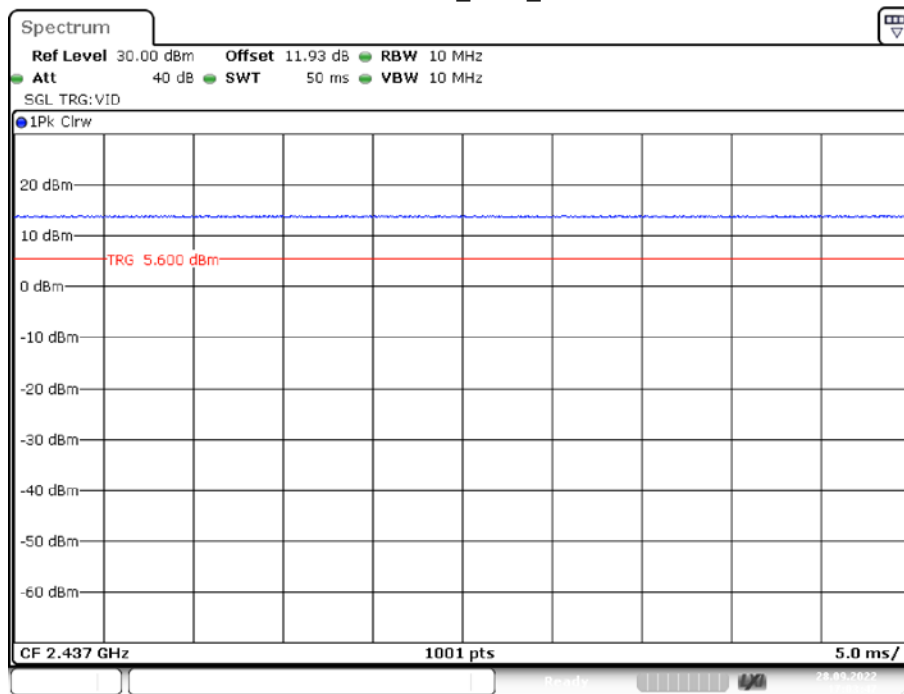


### 11B MIMO\_Ant1\_2437



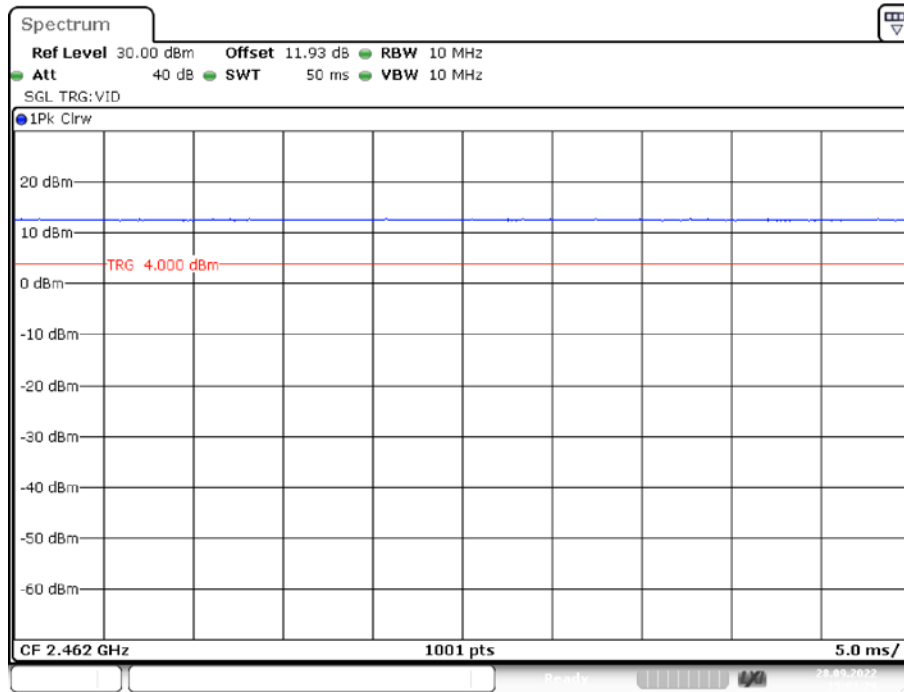
Date: 28.SEP.2022 14:58:18

### 11B MIMO\_Ant2\_2437



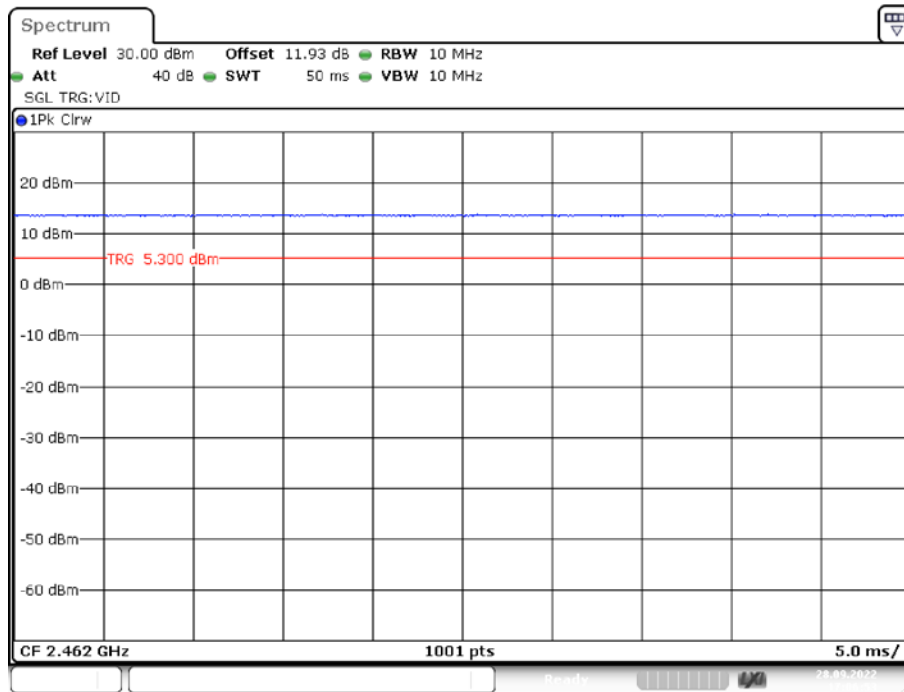
Date: 28.SEP.2022 17:03:48

### 11B MIMO\_Ant1\_2462



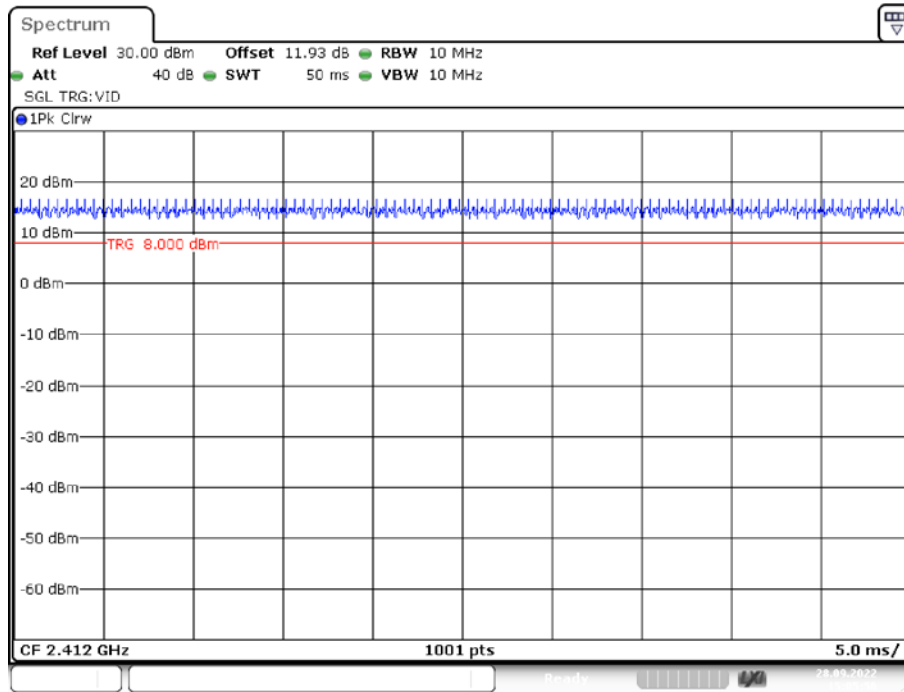
Date: 28.SEP.2022 15:03:30

### 11B MIMO\_Ant2\_2462



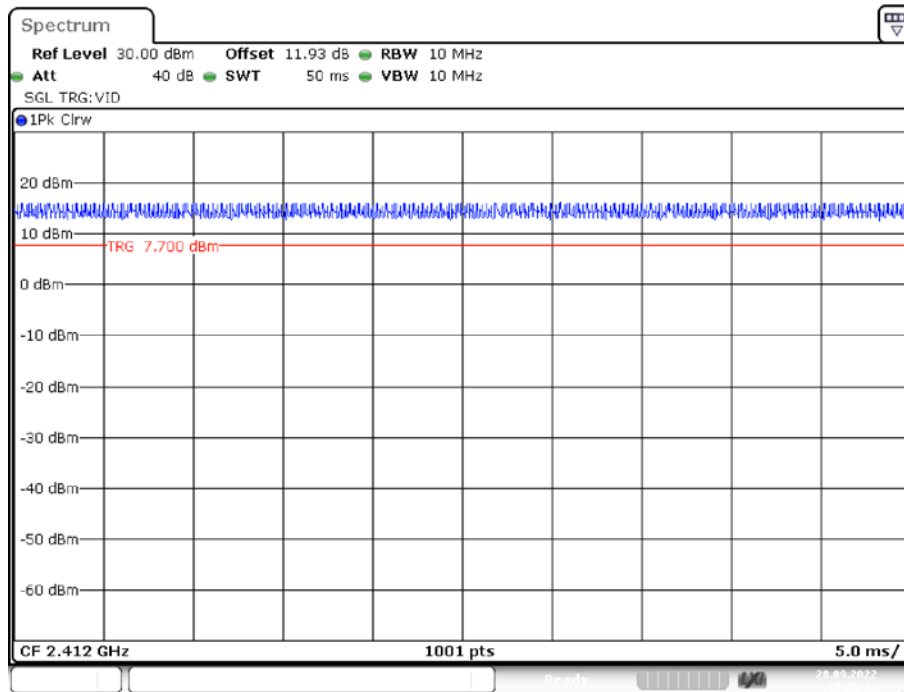
Date: 28.SEP.2022 17:06:54

### 11G MIMO\_Ant1\_2412



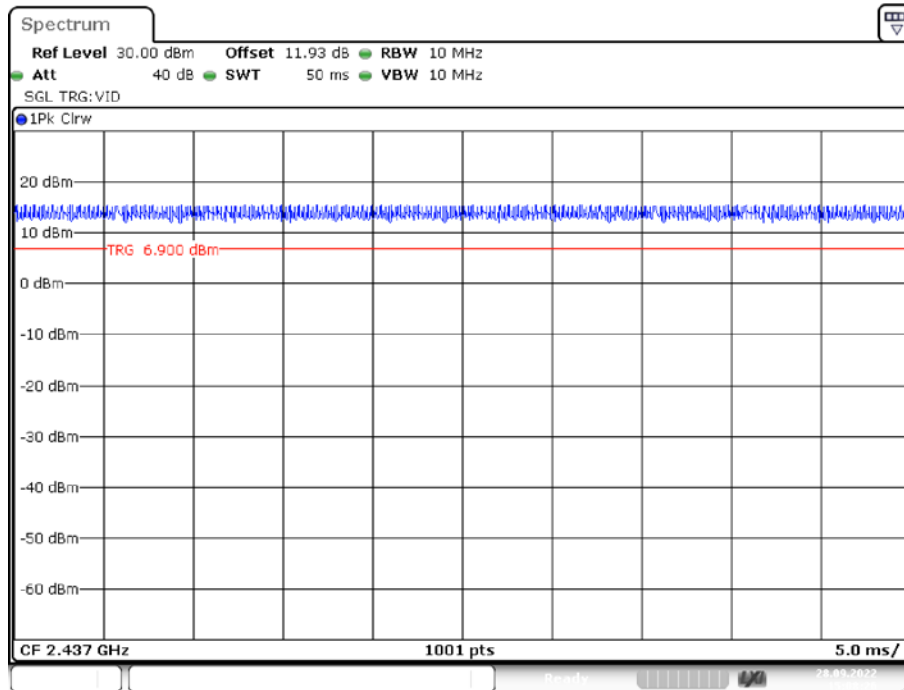
Date: 28.SEP.2022 15:05:56

### 11G MIMO\_Ant2\_2412



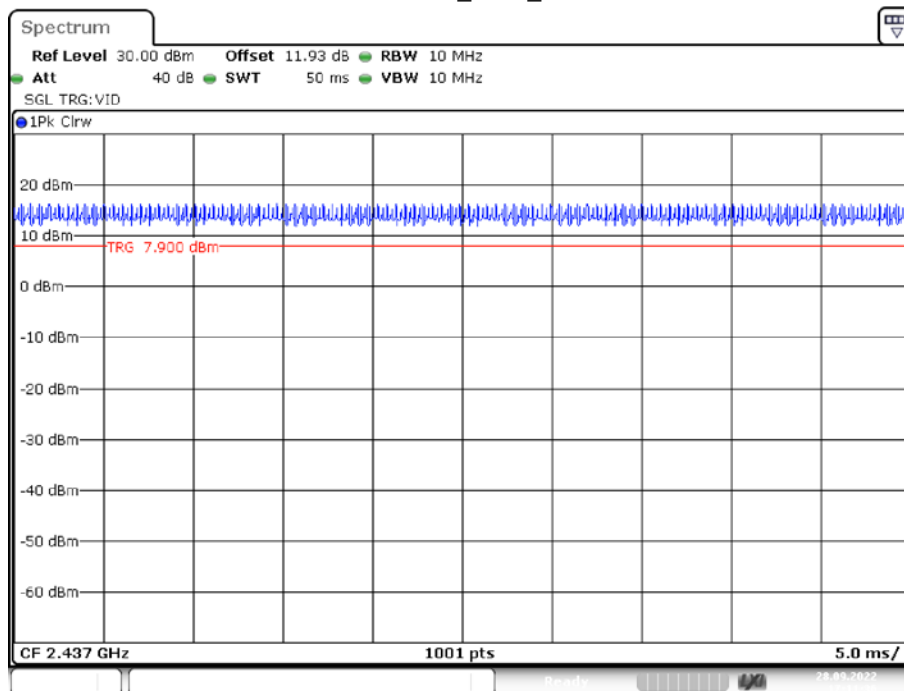
Date: 28.SEP.2022 17:09:14

### 11G MIMO\_Ant1\_2437



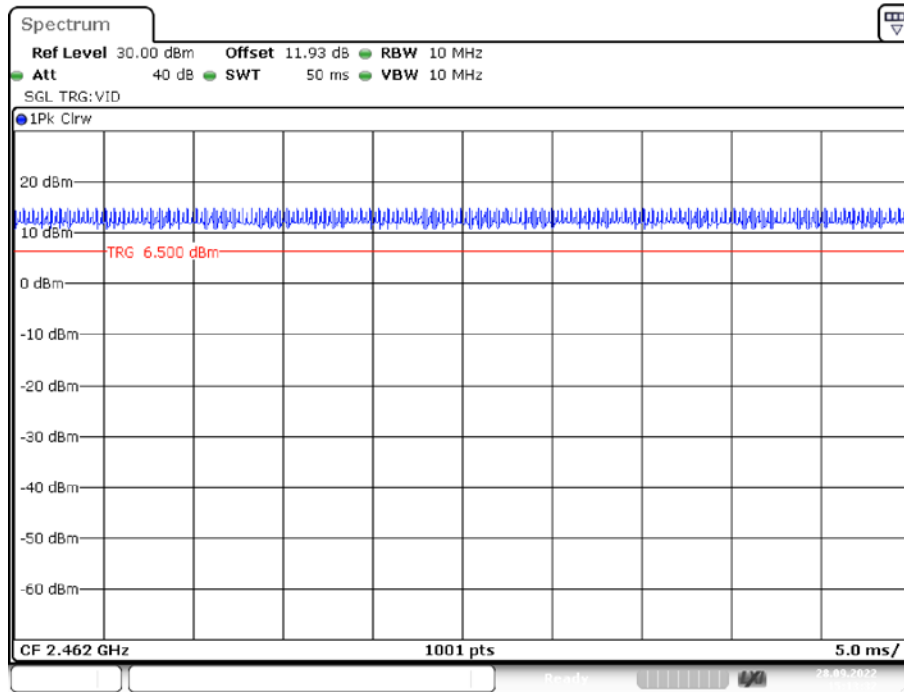
Date: 28.SEP.2022 15:08:27

### 11G MIMO\_Ant2\_2437



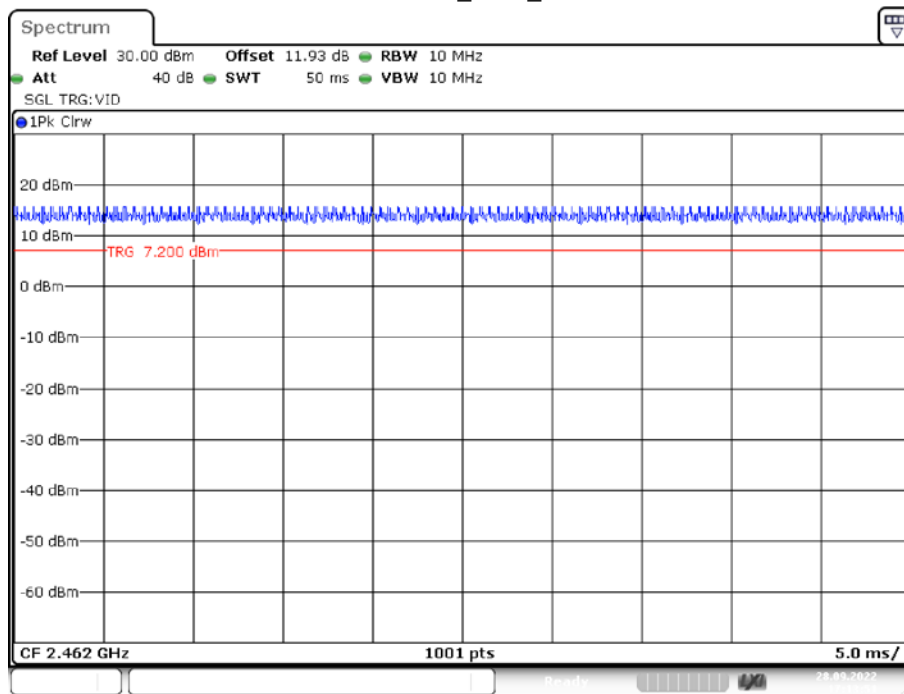
Date: 28.SEP.2022 17:11:37

### 11G MIMO\_Ant1\_2462



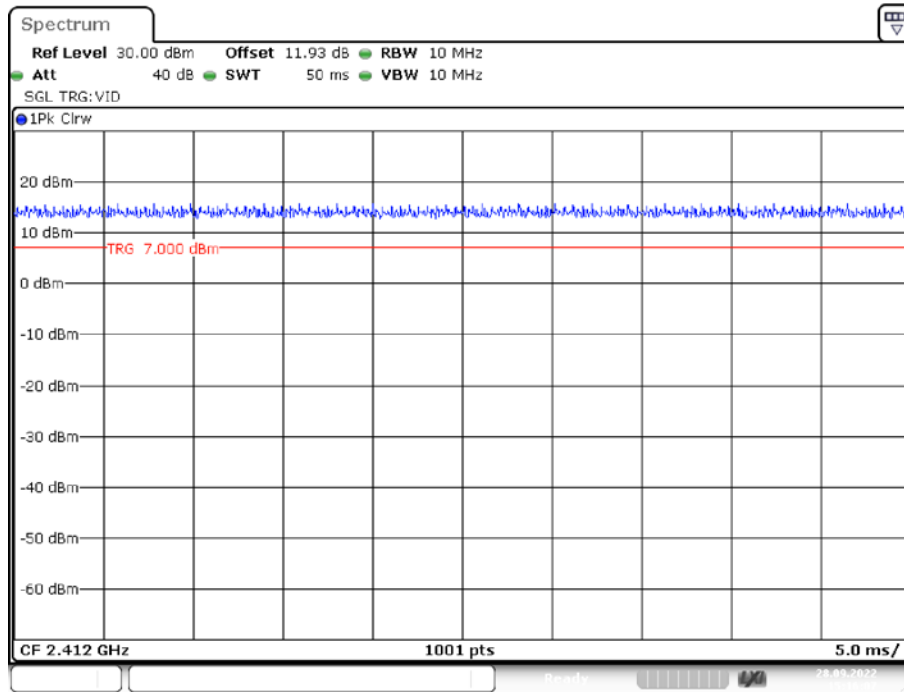
Date: 28.SEP.2022 15:13:33

### 11G MIMO\_Ant2\_2462



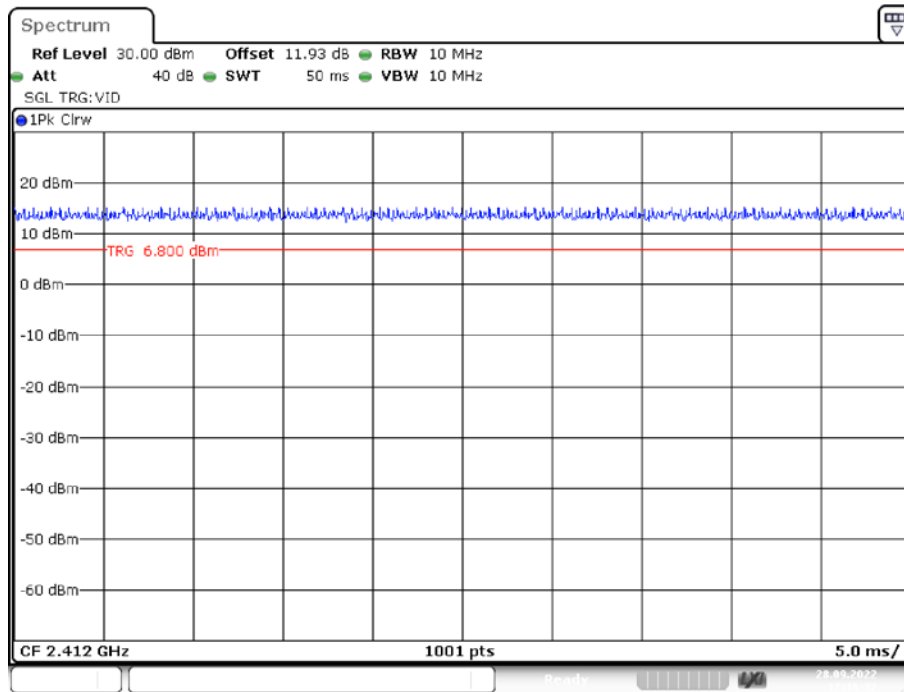
Date: 28.SEP.2022 17:13:52

### 11N20 MIMO\_Ant1\_2412



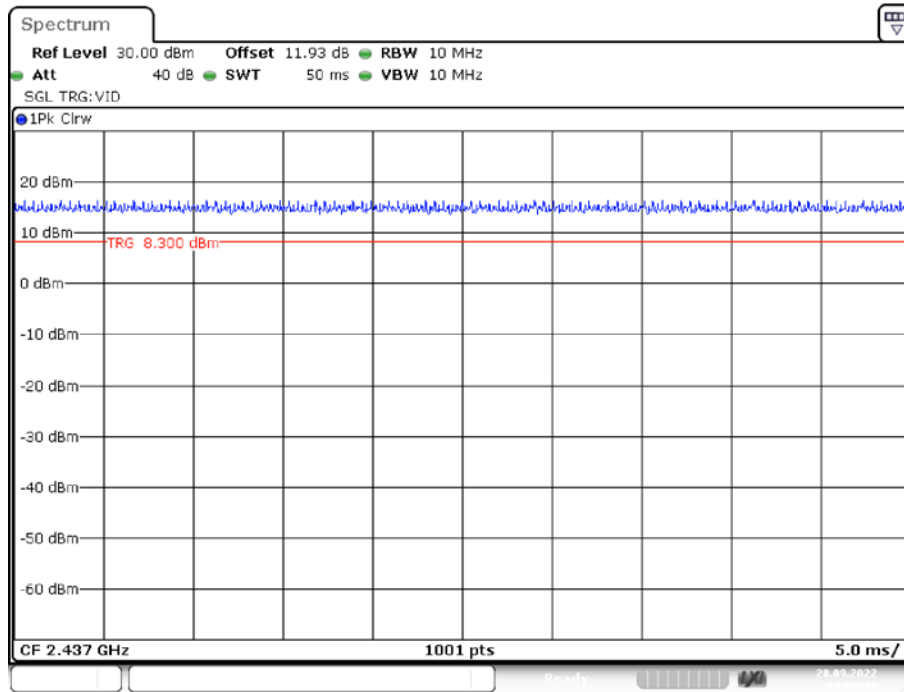
Date: 28.SEP.2022 15:16:07

### 11N20 MIMO\_Ant2\_2412



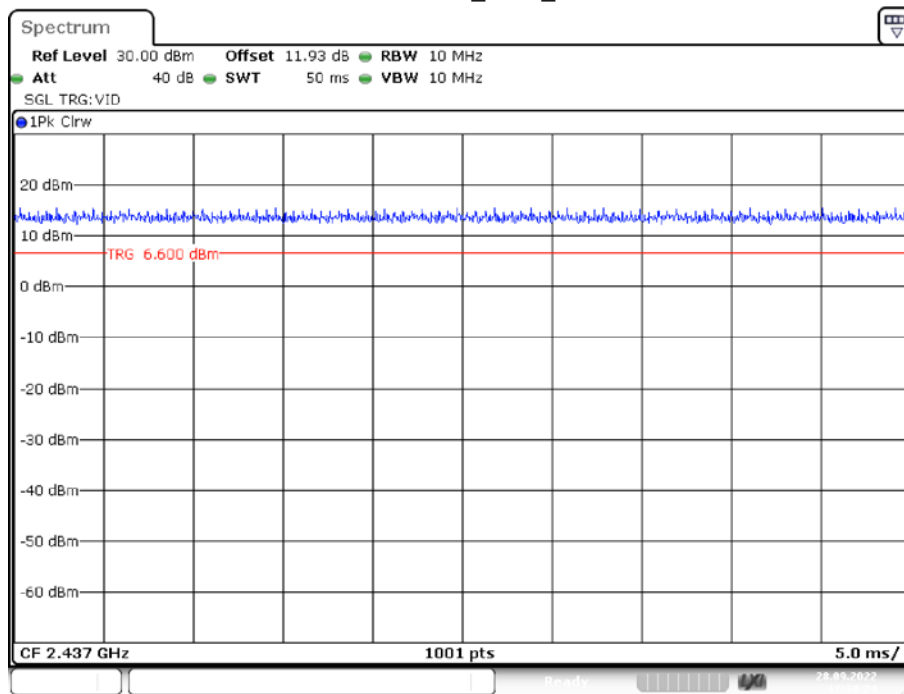
Date: 28.SEP.2022 17:16:33

### 11N20 MIMO\_Ant1\_2437



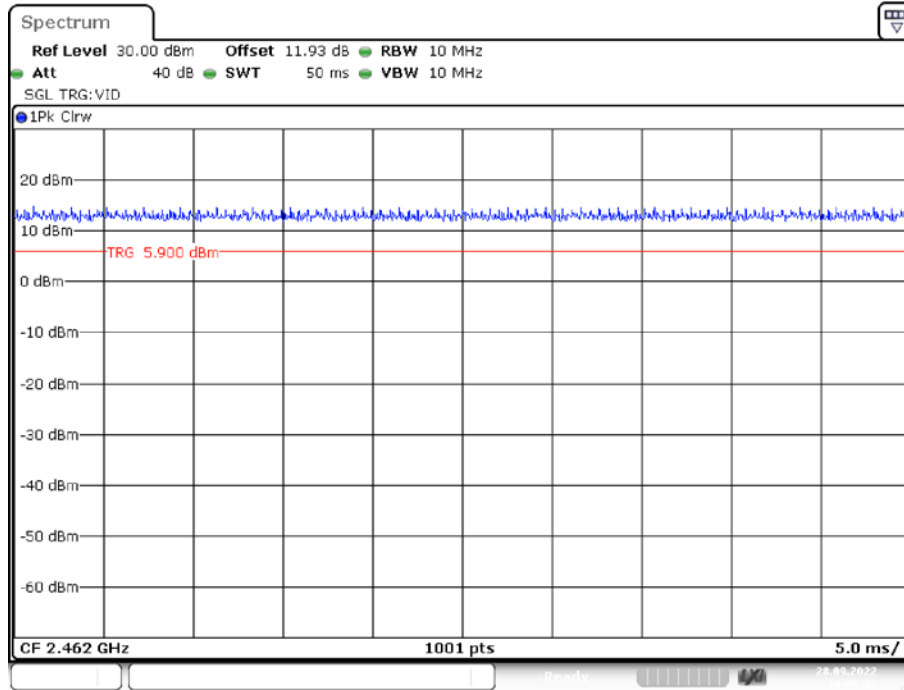
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### 11N20 MIMO\_Ant2\_2437



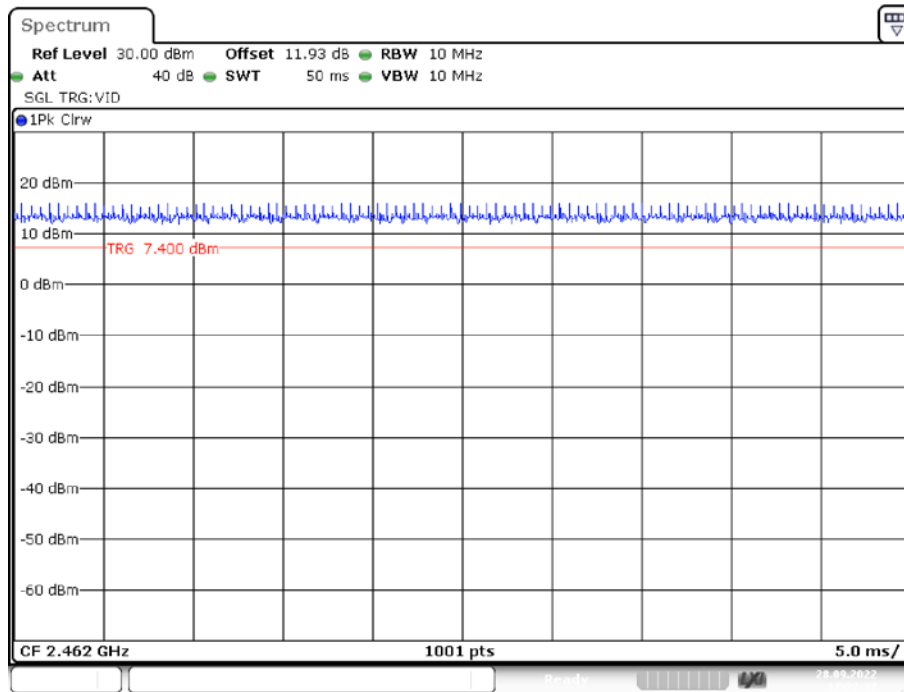
Date: 28.SEP.2022 17:20:25

11N20 MIMO\_Ant1\_2462



Date: 28.SEP.2022 16:06:32

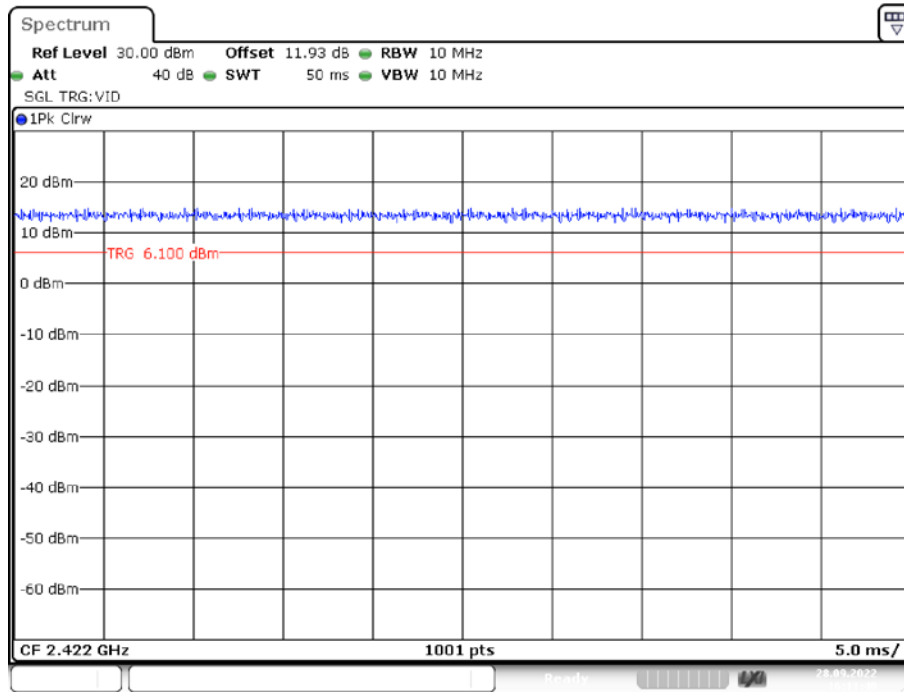
11N20 MIMO\_Ant2\_2462



Date: 28.SEP.2022 17:22:37

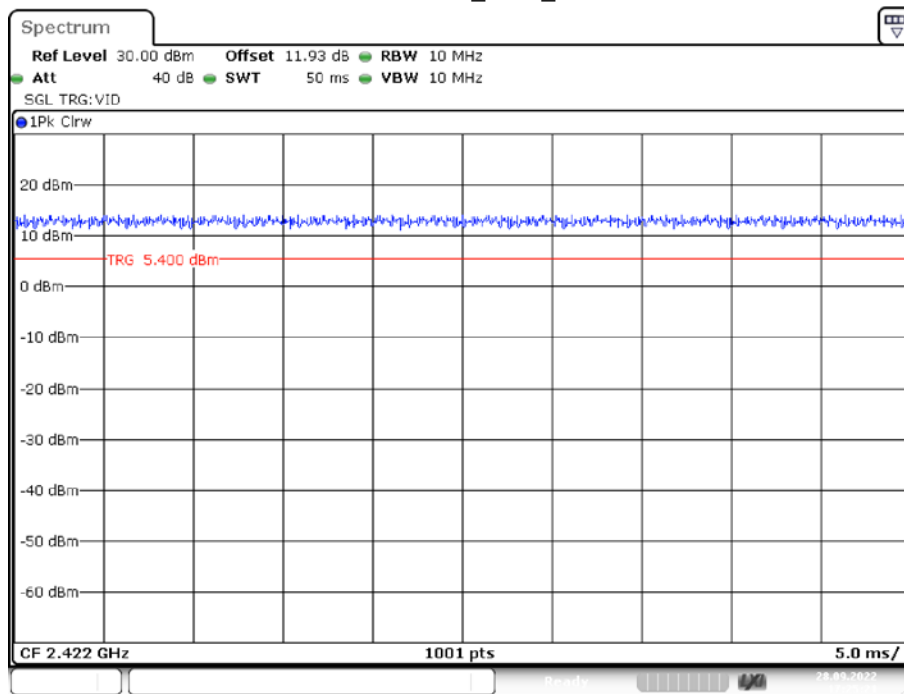


### 11N40 MIMO\_Ant1\_2422



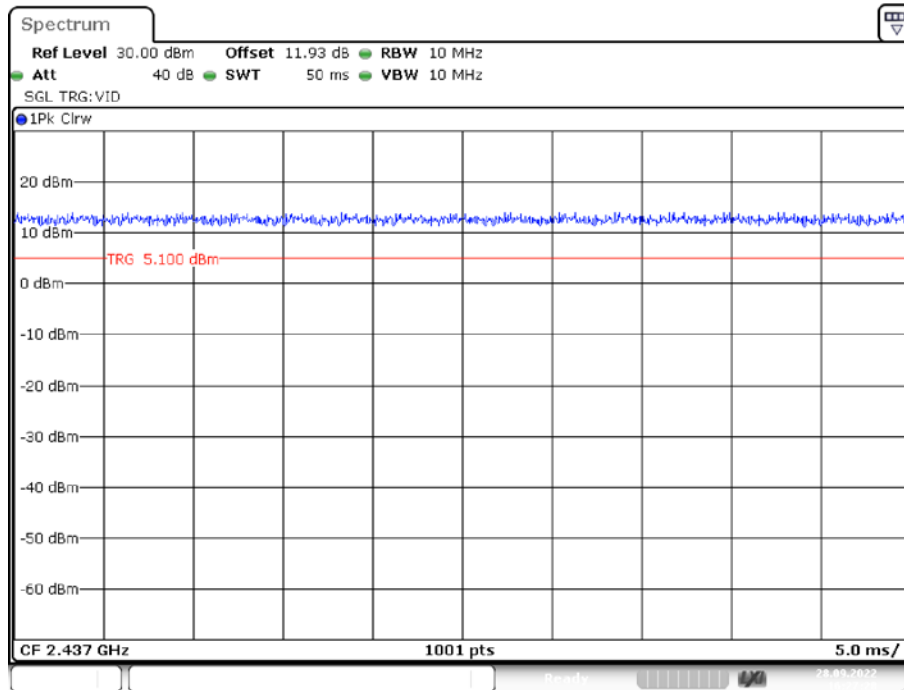
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### 11N40 MIMO\_Ant2\_2422



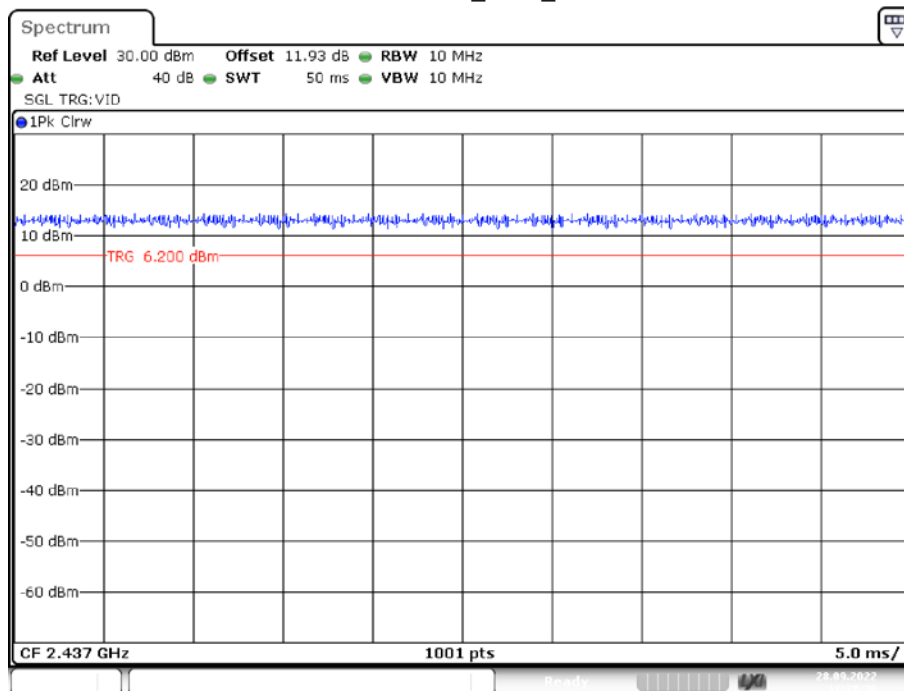
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11N40 MIMO\_Ant1\_2437



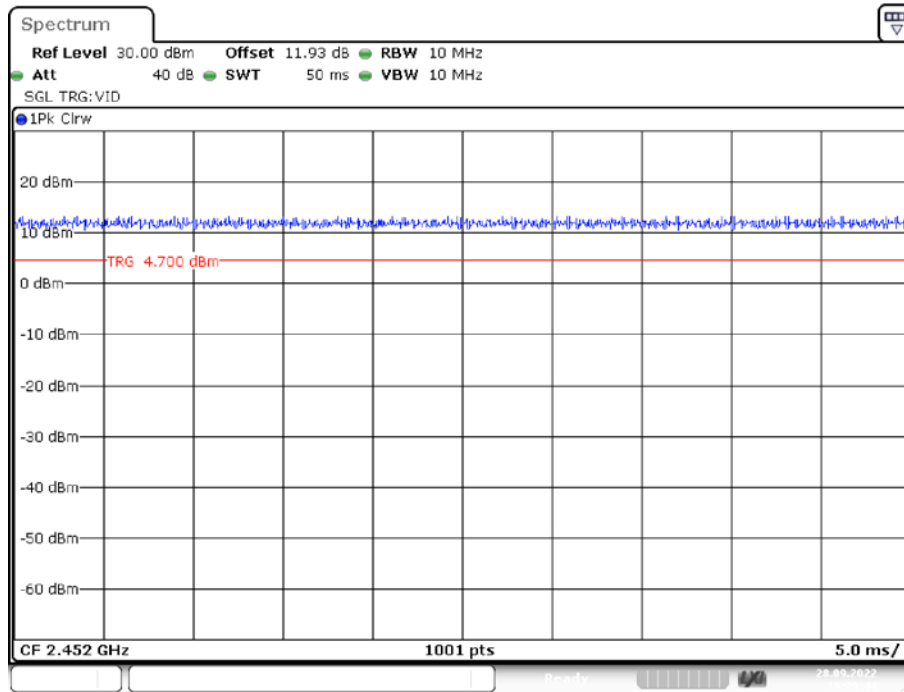
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11N40 MIMO\_Ant2\_2437



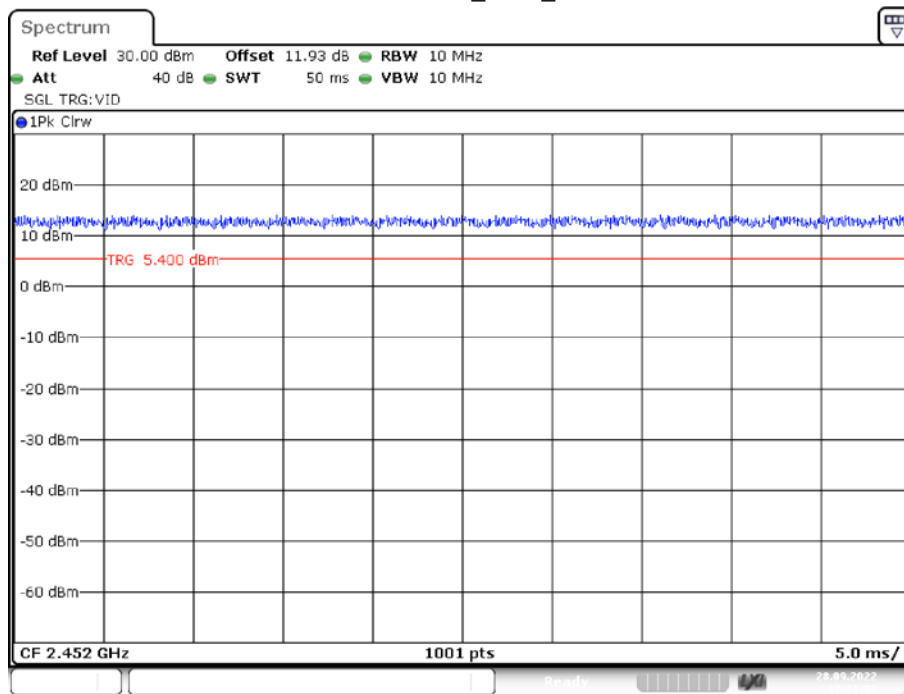
Date: 28.SEP.2022 17:28:36

11N40 MIMO\_Ant1\_2452



Date: 28.SEP.2022 16:29:45

11N40 MIMO\_Ant1\_2452



Date: 28.SEP.2022 17:31:02

\*\*\*\*\* END OF REPORT \*\*\*\*\*