

Appendix C

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Stereo DAB/Internet Radio

Trade Mark: N/A

Test Model: MA-230S

Environmental Conditions

Temperature:	23.6° C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Jerry.Zeng
Supervised by:	Wang.Chuang

C.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	100	PASS
11G	2437	Ant1	100	PASS
11N20SISO	2437	Ant1	100	PASS
11N40SISO	2437	Ant1	100	PASS

Ref 30 dBm Att 40 dB RBW 10 MHz VBW 10 MHz SWT 20 ms

1 PR
CLRWR

30
20
10
0
-10
-20
-30
-40
-50
-60
-70

Center 2.437 GHz 2 ms/

Date: 22.AUG.2019 18:05:27

Ref 30 dBm • Att 40 dB RBW 10 MHz
 VBW 10 MHz
 SWT 20 ms

1 PK
 CLRWB

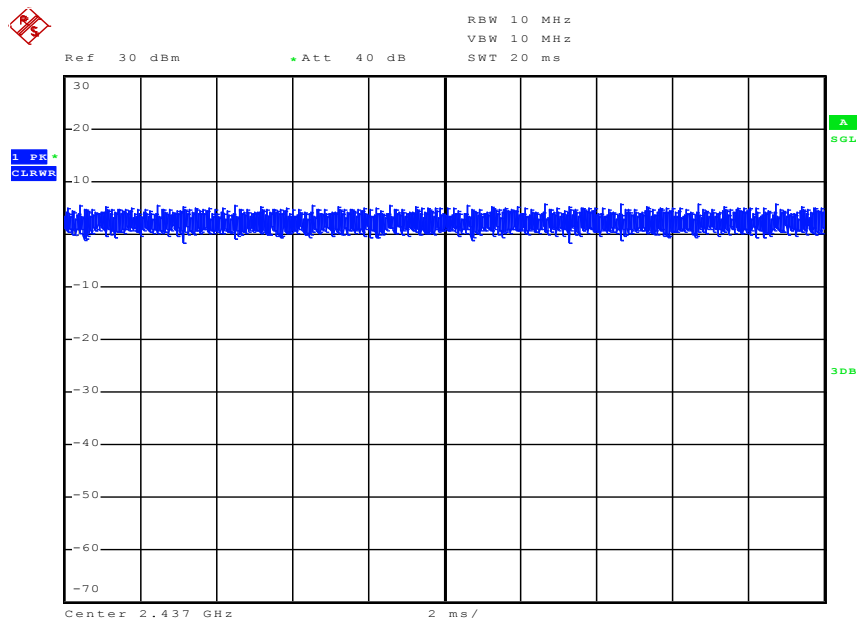
30
 -20
 -10
 -30
 -40
 -50
 -60
 -70

Center 2.437 GHz 2 ms/

A
 SGL
 3DB

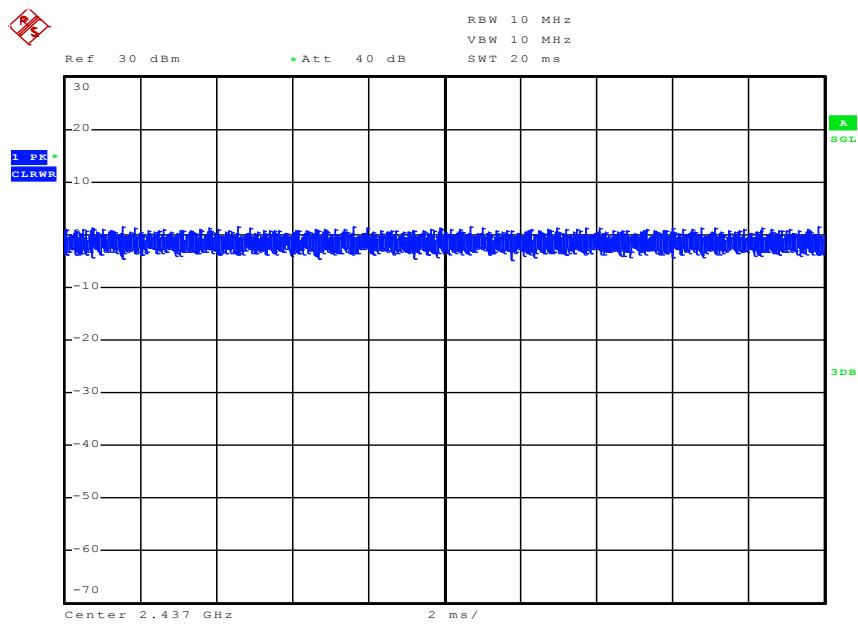
Date: 22.AUG.2019 18:05:54

Duty Cycle_11N20SISO_2437_Ant1



Date: 22.AUG.2019 18:06:18

Duty Cycle_11N40SISO_2437_Ant1



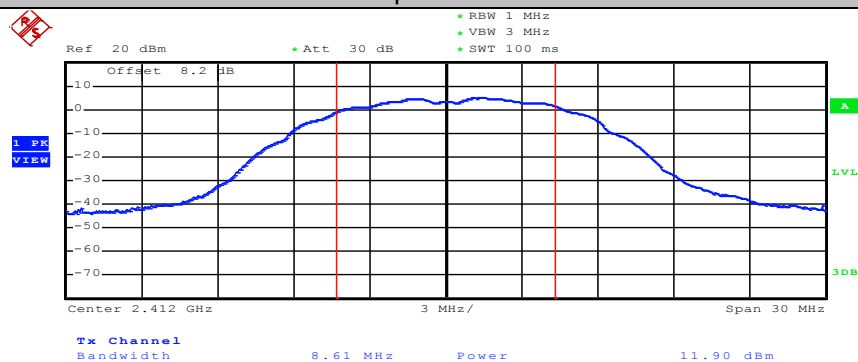
Date: 22.AUG.2019 18:06:50

C.2 Maximum Conducted Output Power

Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	11.9	30	PASS
	MCH	11.9	30	PASS
	HCH	10.86	30	PASS
11G	LCH	15.55	30	PASS
	MCH	15.3	30	PASS
	HCH	14.87	30	PASS
11N20SISO	LCH	15.25	30	PASS
	MCH	15.67	30	PASS
	HCH	14.67	30	PASS
11N40SISO	LCH	13.95	30	PASS
	MCH	14.31	30	PASS
	HCH	14.52	30	PASS

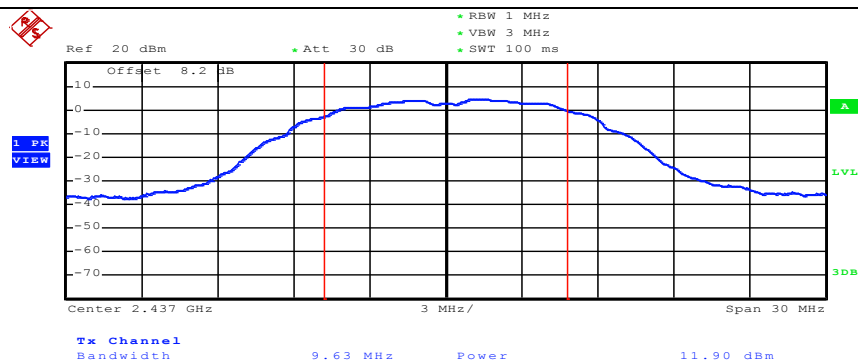
Test Graphs

11B/LCH



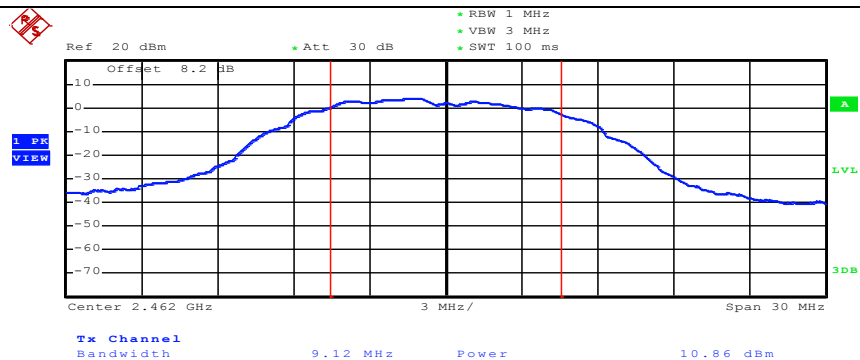
Date: 22.AUG.2019 17:28:13

11B/MCH



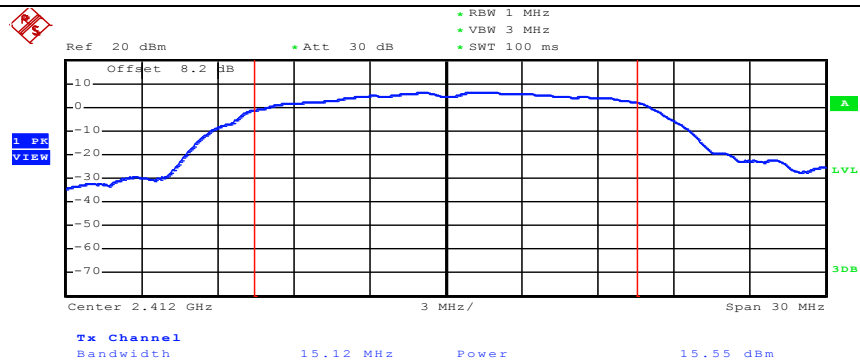
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11B/HCH



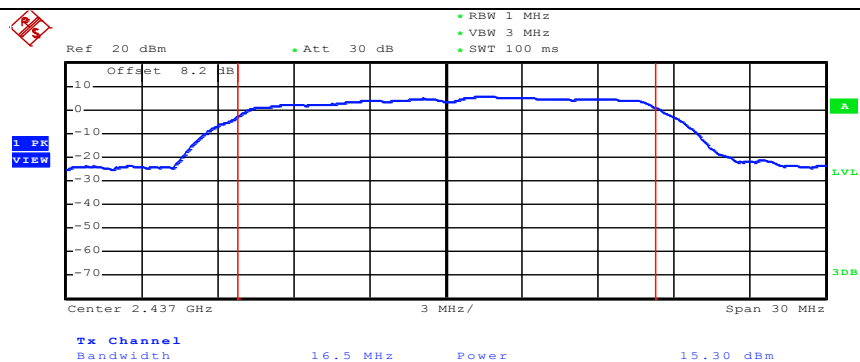
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11G/LCH



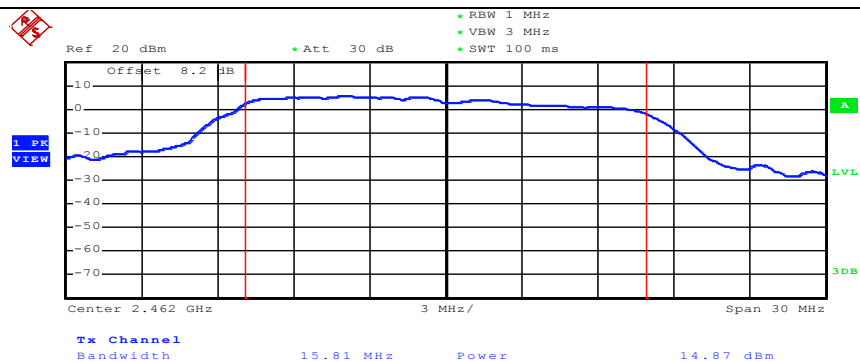
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11G/MCH



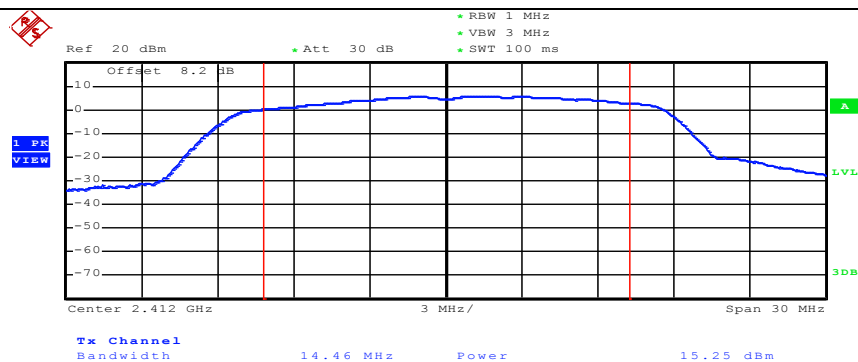
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11G/HCH



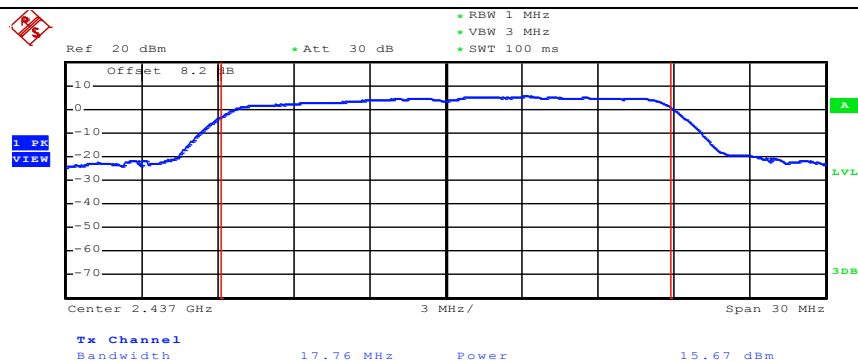
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11N20SISO/LCH



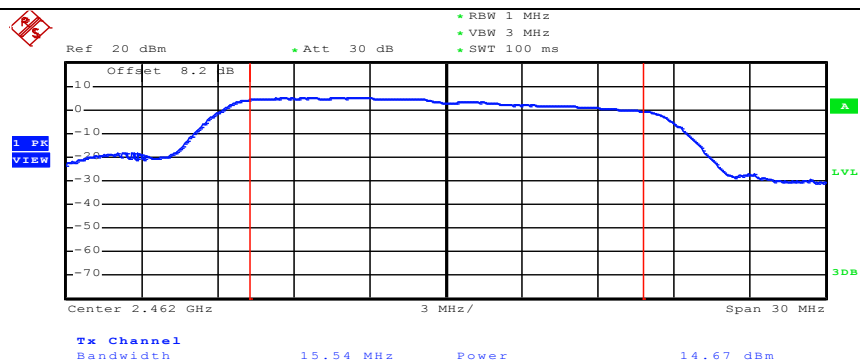
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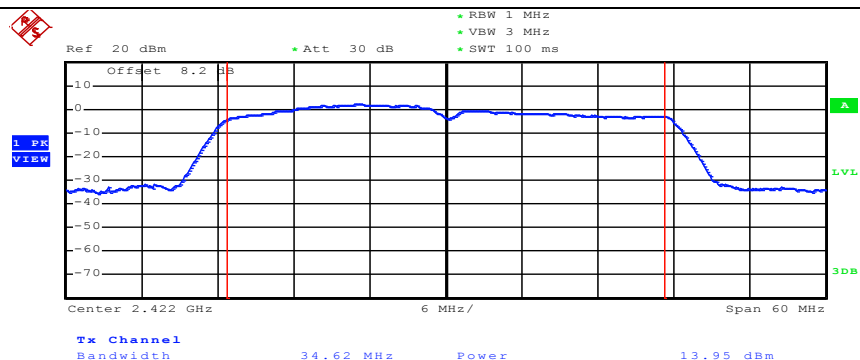
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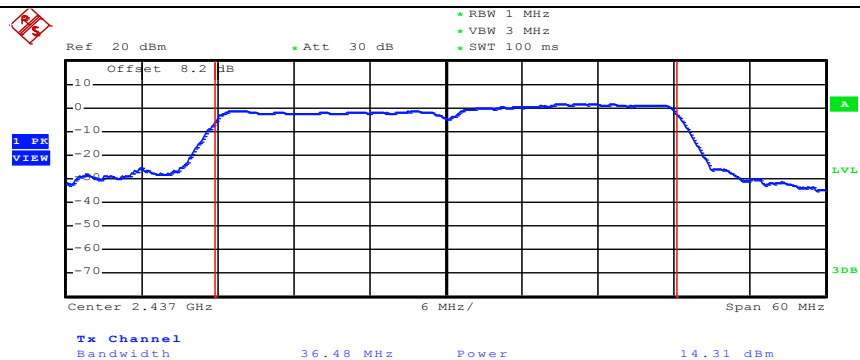
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11N40SISO/LCH



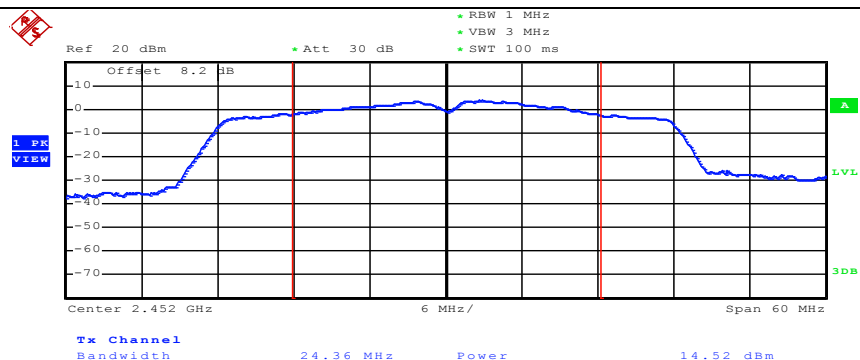
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11N40SISO/MCH



Date: 22.AUG.2019 18:01:25

11N40SISO/HCH



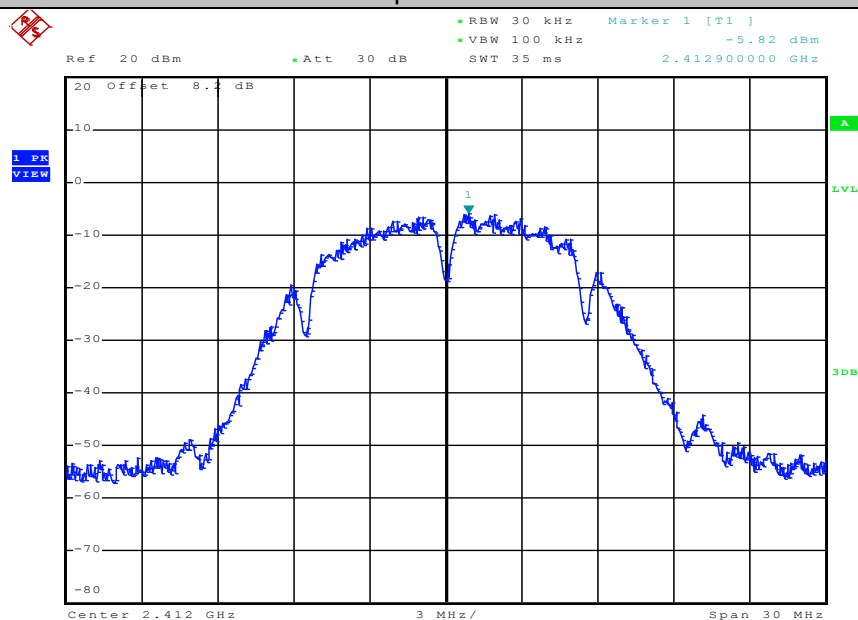
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C.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/30KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-5.820	8	PASS
	MCH	-5.850	8	PASS
	HCH	-7.190	8	PASS
11G	LCH	-7.430	8	PASS
	MCH	-7.980	8	PASS
	HCH	-8.690	8	PASS
11N20SISO	LCH	-6.420	8	PASS
	MCH	-7.110	8	PASS
	HCH	-8.390	8	PASS
11N40SISO	LCH	-11.680	8	PASS
	MCH	-12.210	8	PASS
	HCH	-10.250	8	PASS

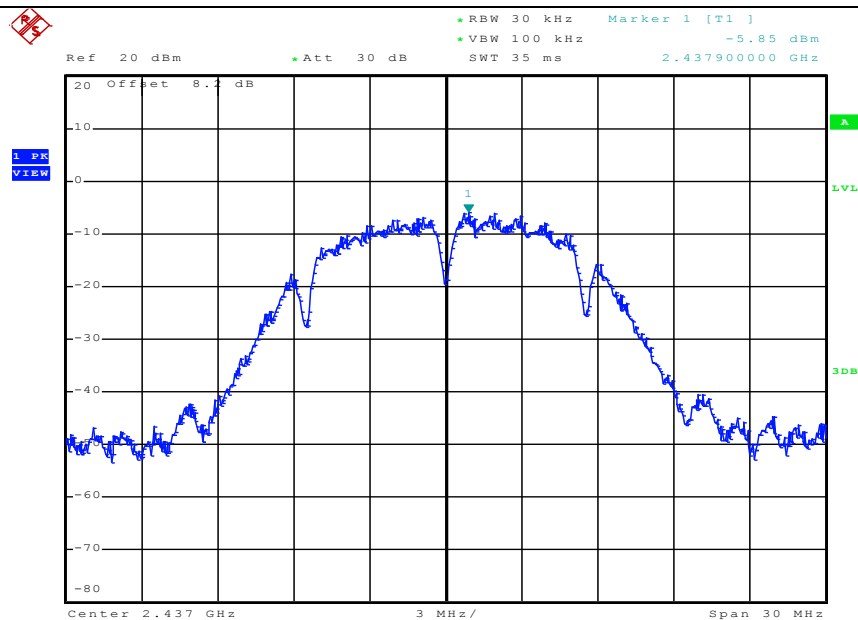
Test Graphs

11B/LCH



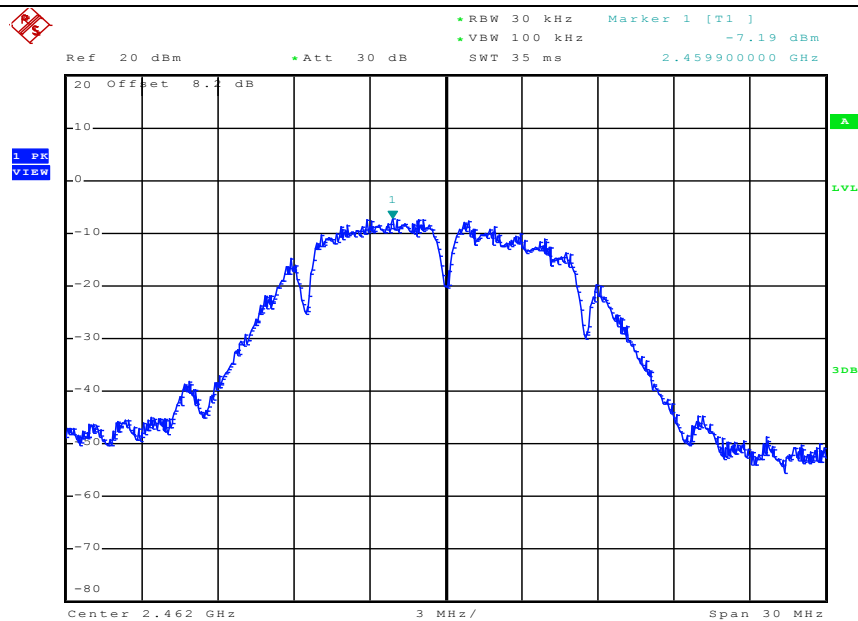
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11B/MCH



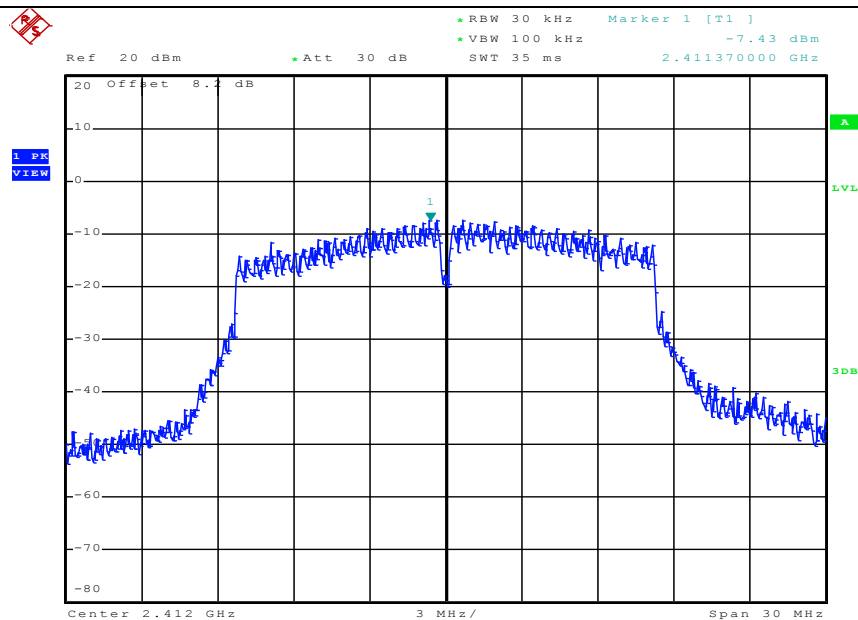
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11B/HCH



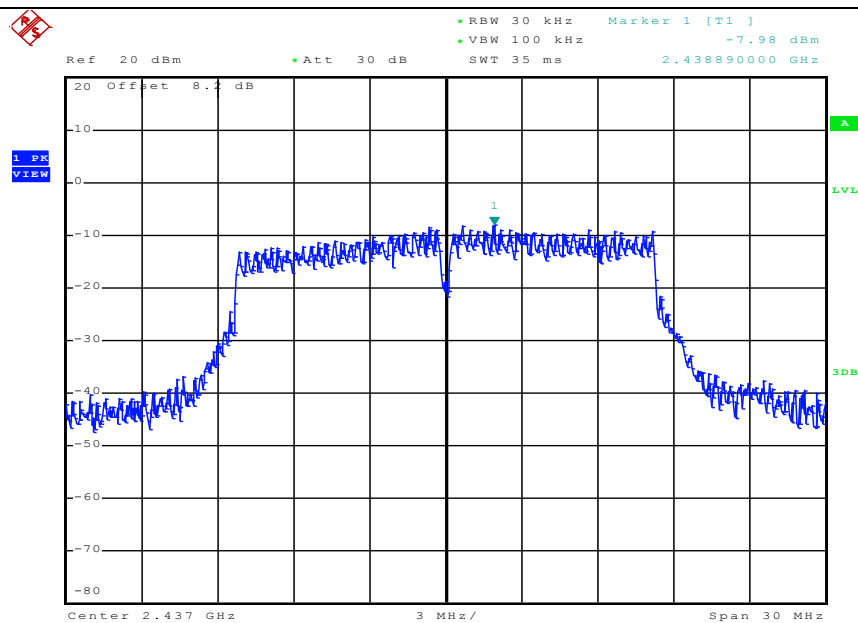
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11G/LCH



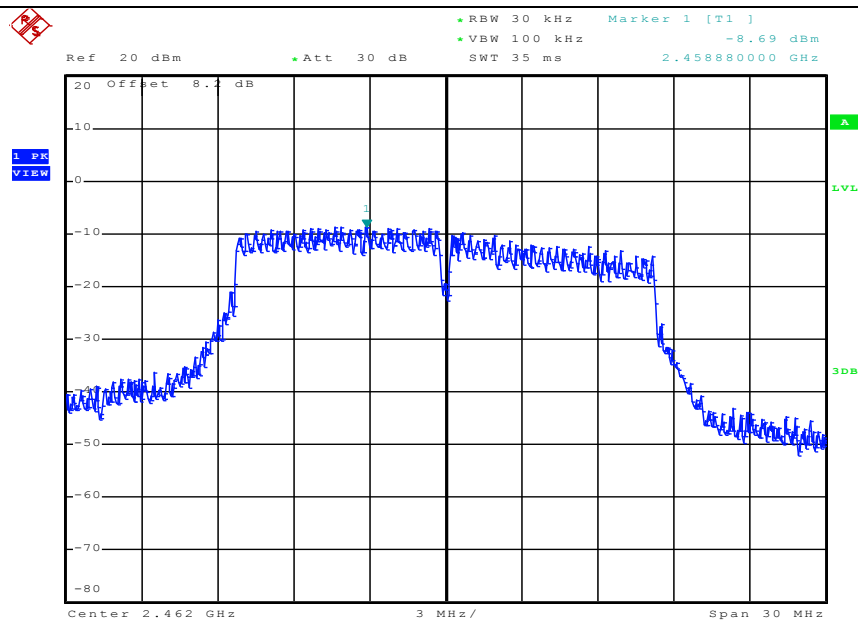
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11G/MCH



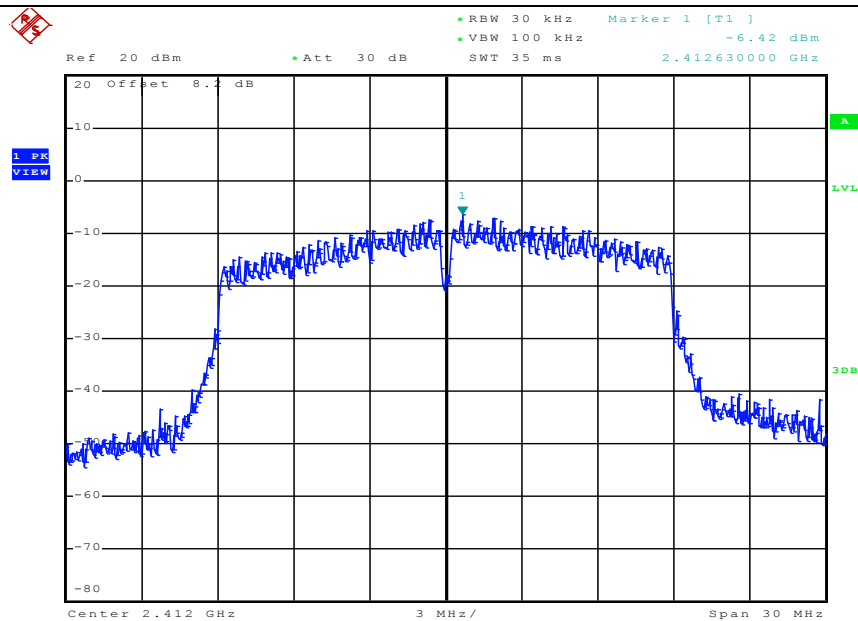
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11G/HCH



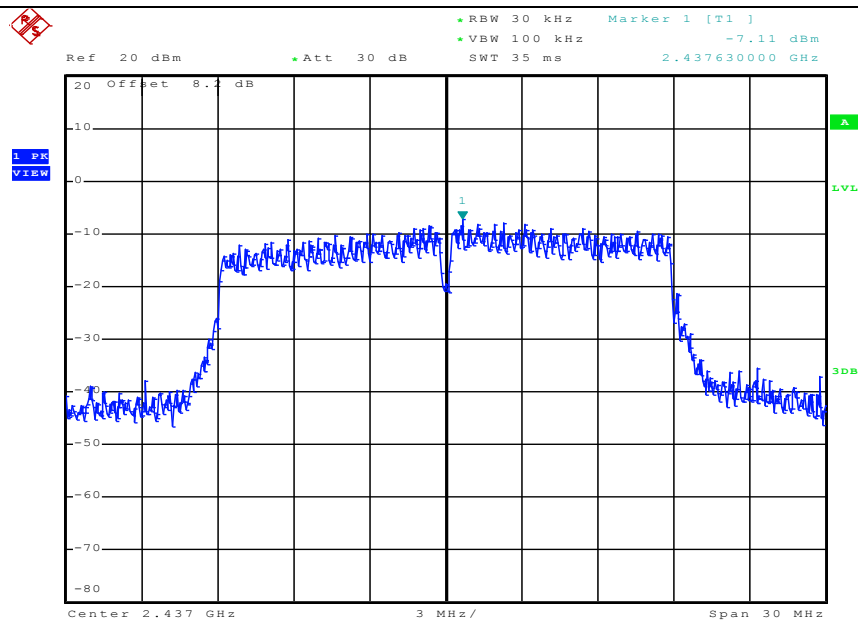
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11N20SISO/LCH



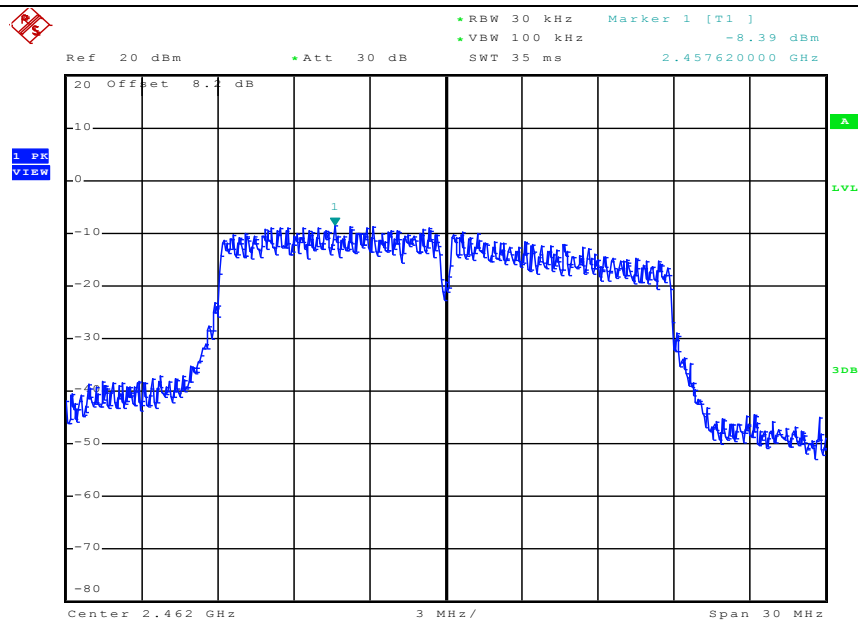
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11N20SISO/MCH



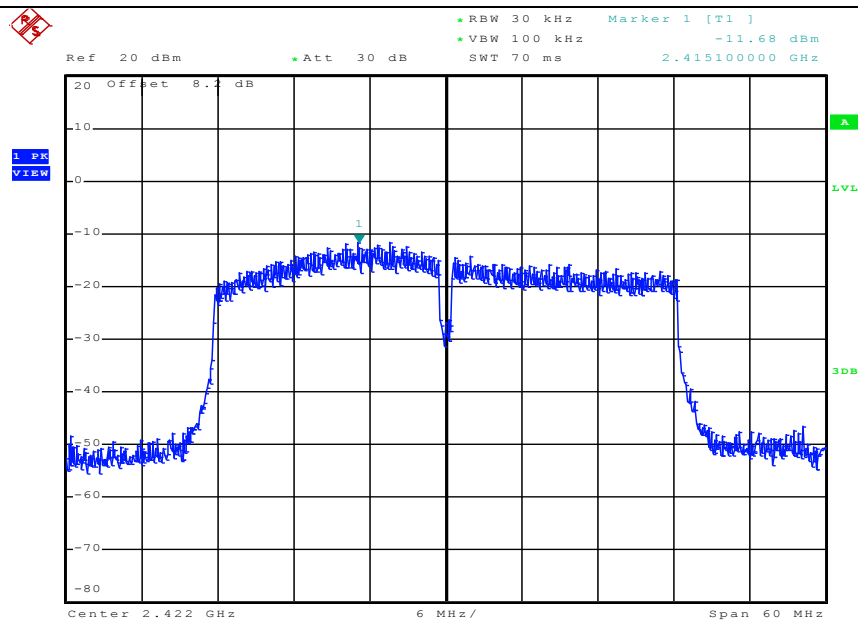
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11N20SISO/HCH



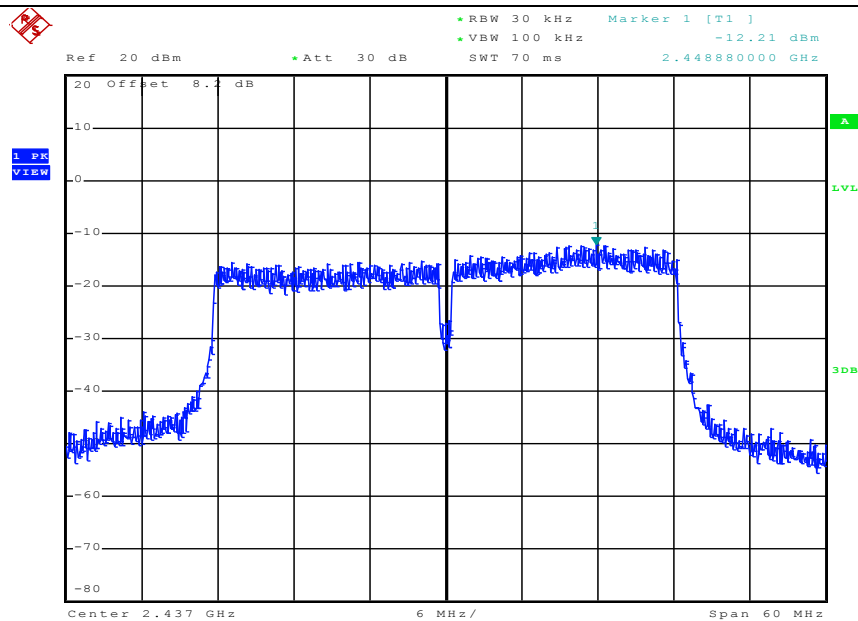
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11N40SISO/LCH



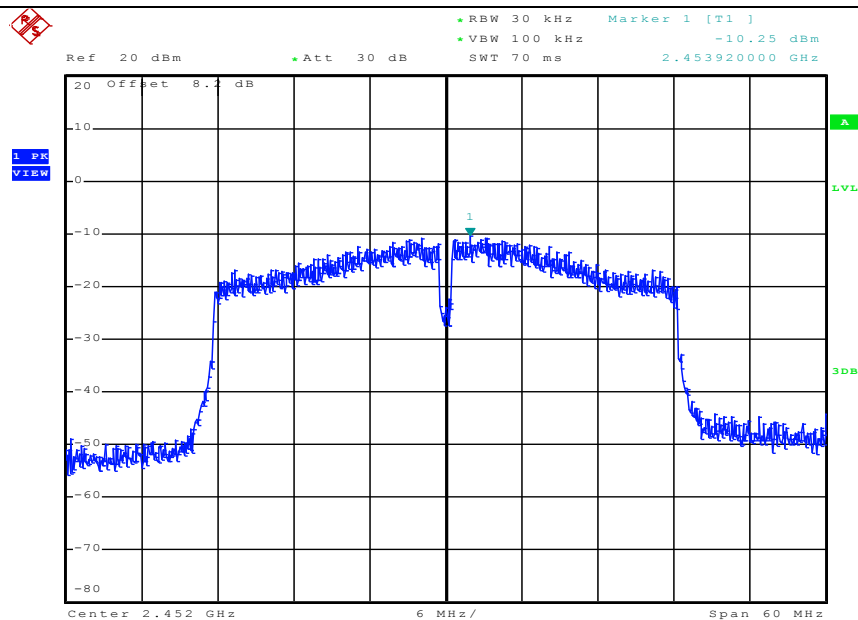
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11N40SISO/MCH



Date: 22.AUG.2019 18:01:38

11N40SISO/HCH



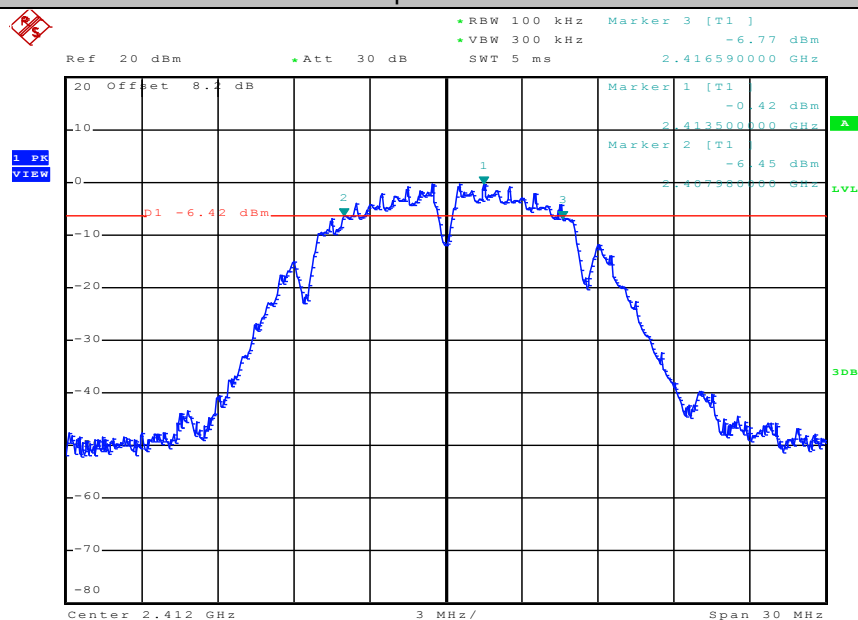
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C.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	8.610	≥ 0.5	PASS
	MCH	9.630	≥ 0.5	PASS
	HCH	9.120	≥ 0.5	PASS
11G	LCH	15.120	≥ 0.5	PASS
	MCH	16.500	≥ 0.5	PASS
	HCH	15.810	≥ 0.5	PASS
11N20SISO	LCH	14.460	≥ 0.5	PASS
	MCH	17.760	≥ 0.5	PASS
	HCH	15.540	≥ 0.5	PASS
11N40SISO	LCH	34.620	≥ 0.5	PASS
	MCH	36.480	≥ 0.5	PASS
	HCH	24.360	≥ 0.5	PASS

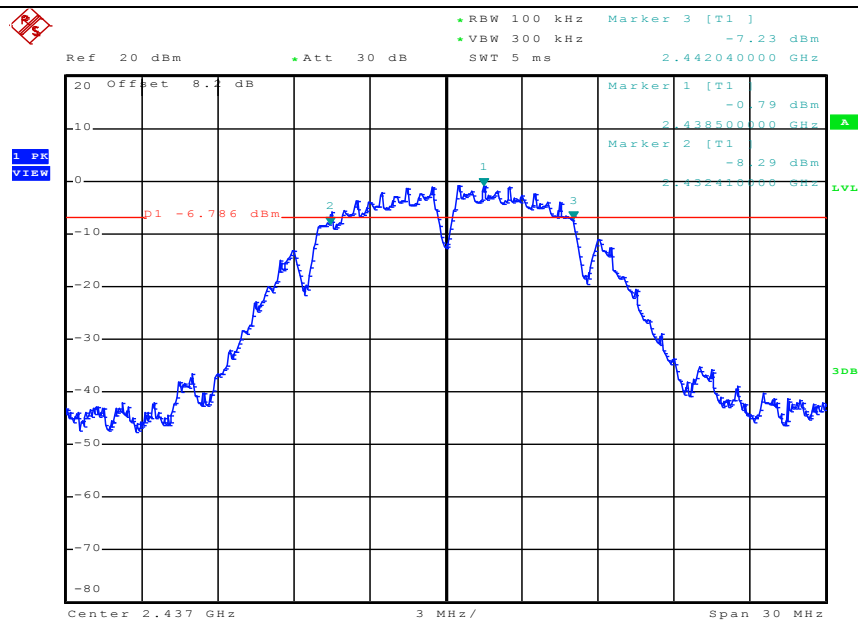
Test Graphs

11B/LCH



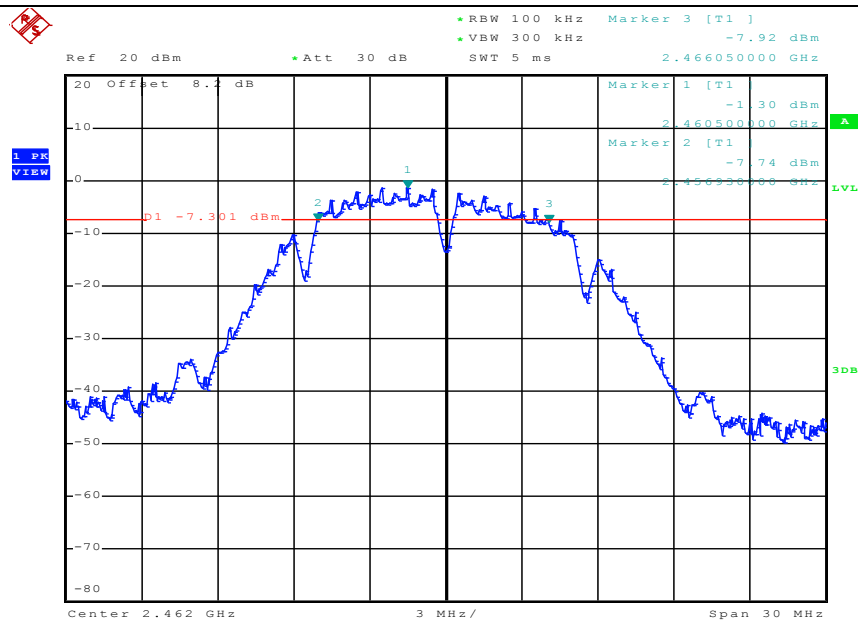
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11B/MCH



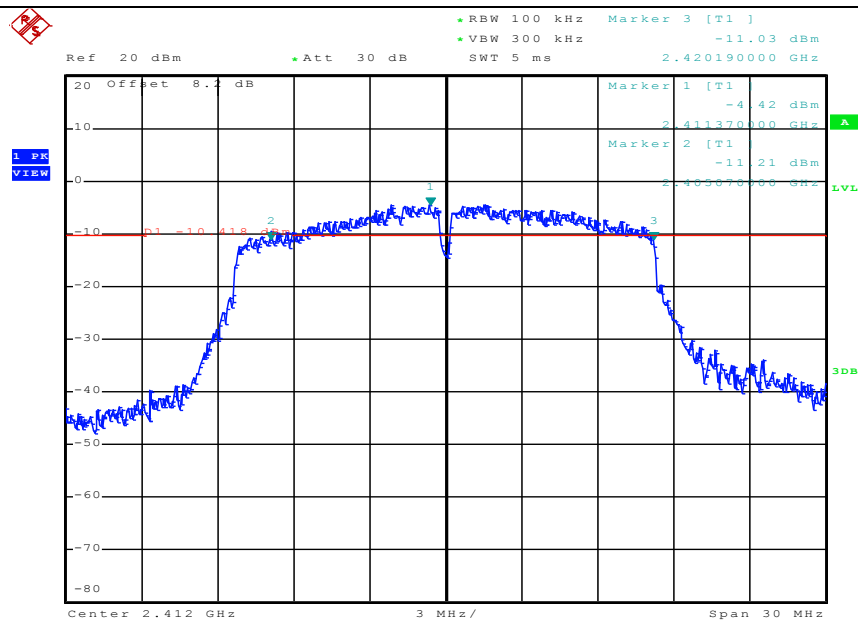
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11B/HCH



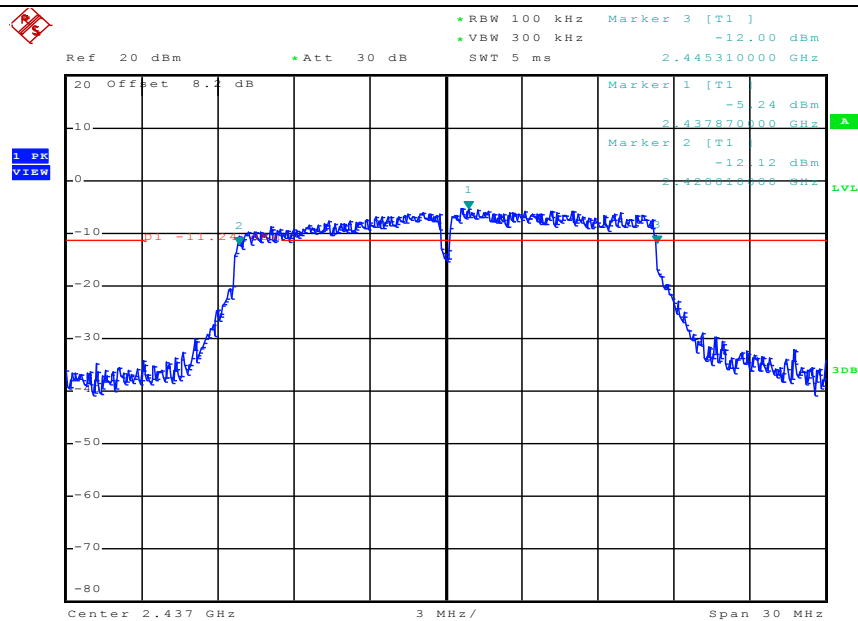
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11G/LCH



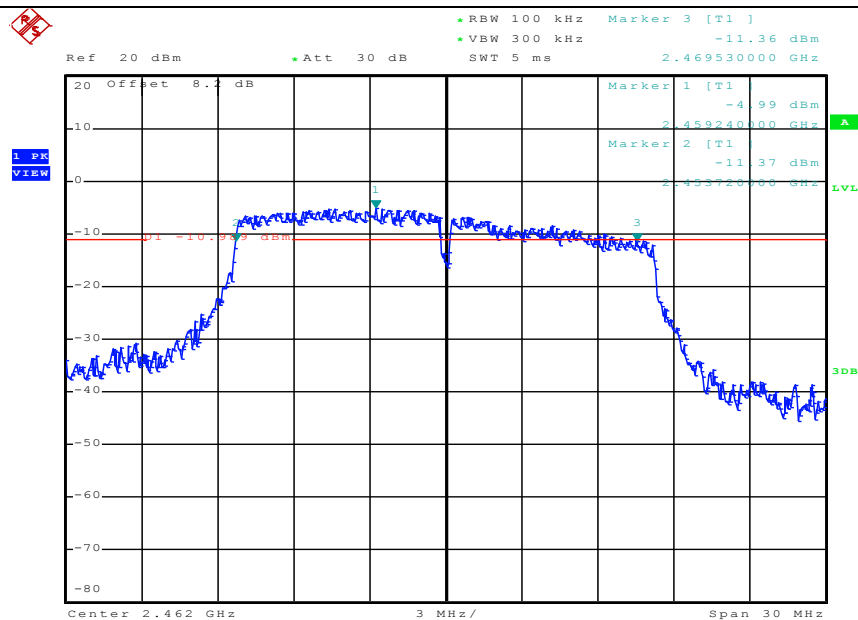
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11G/MCH



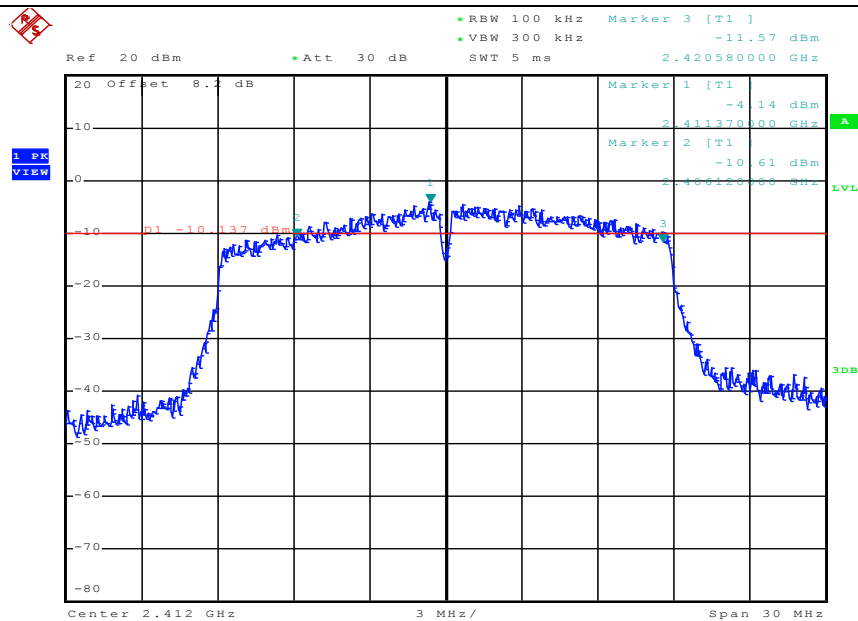
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11G/HCH



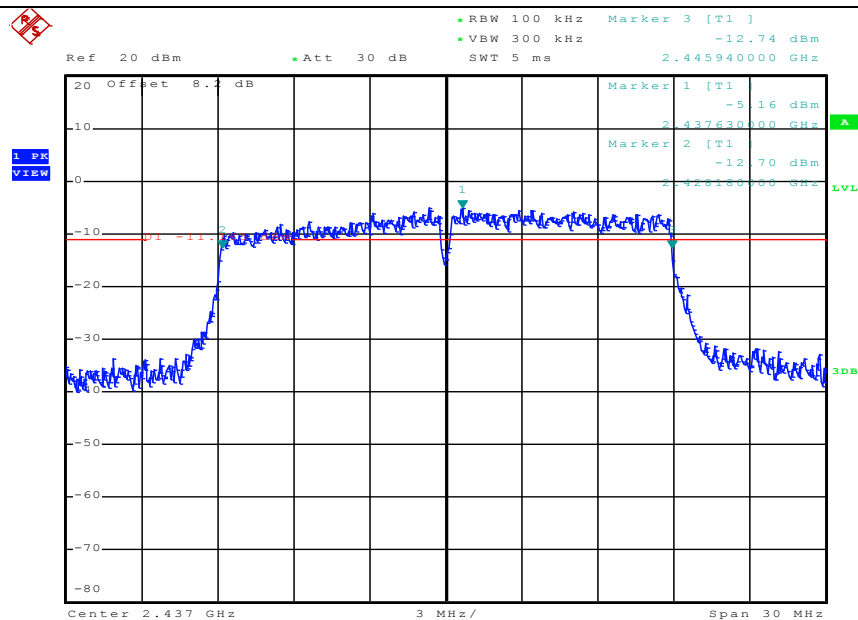
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11N20SISO/LCH



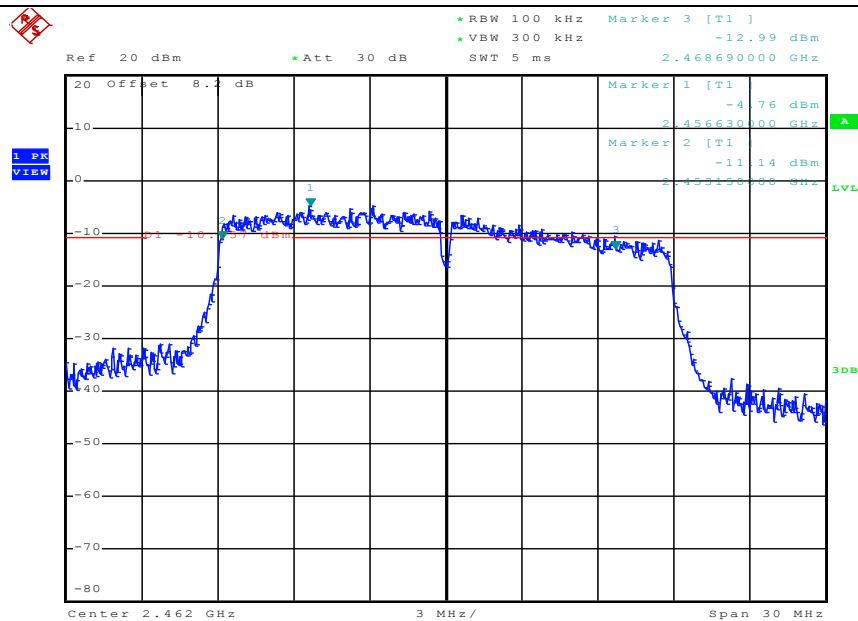
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11N20SISO/MCH



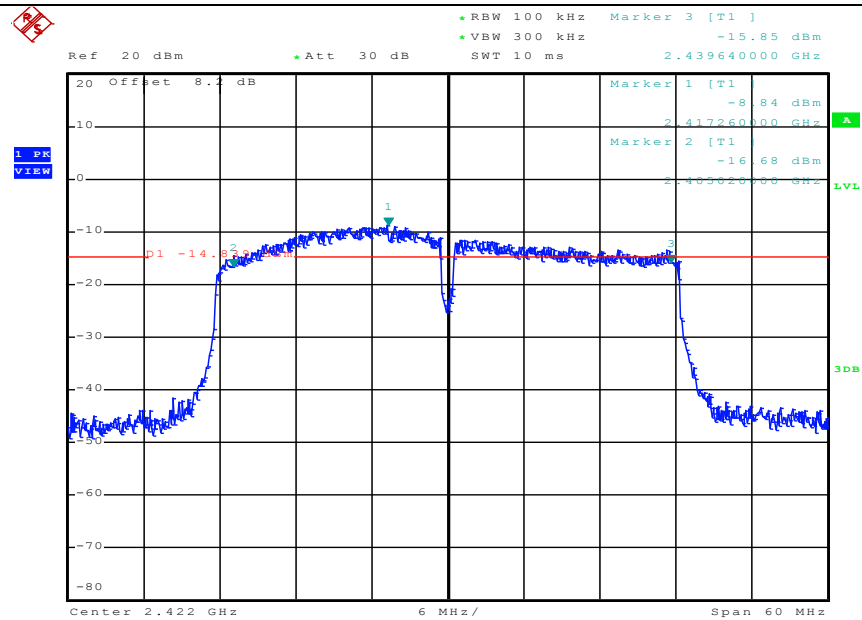
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11N20SISO/HCH



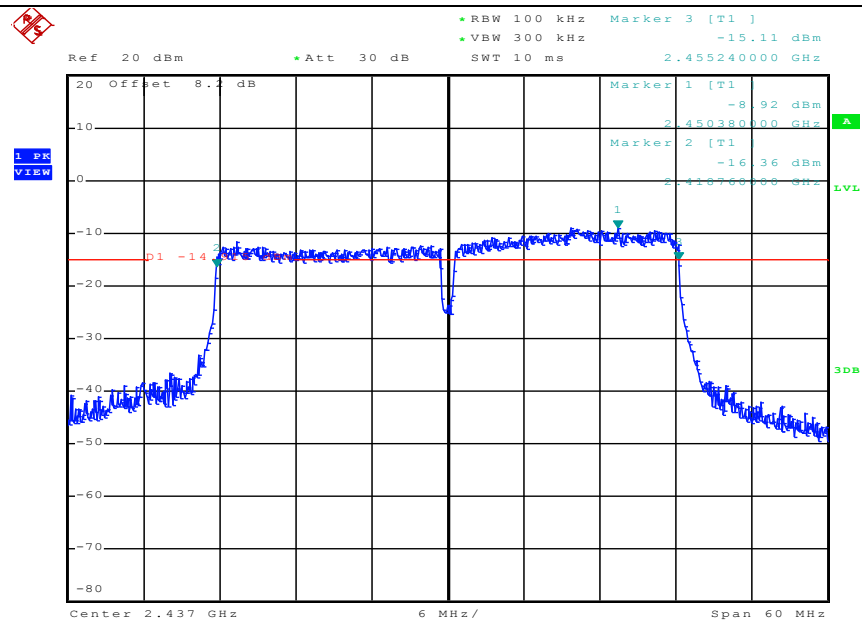
Date: 22.AUG.2019 17:54:25

11N40SISO/LCH



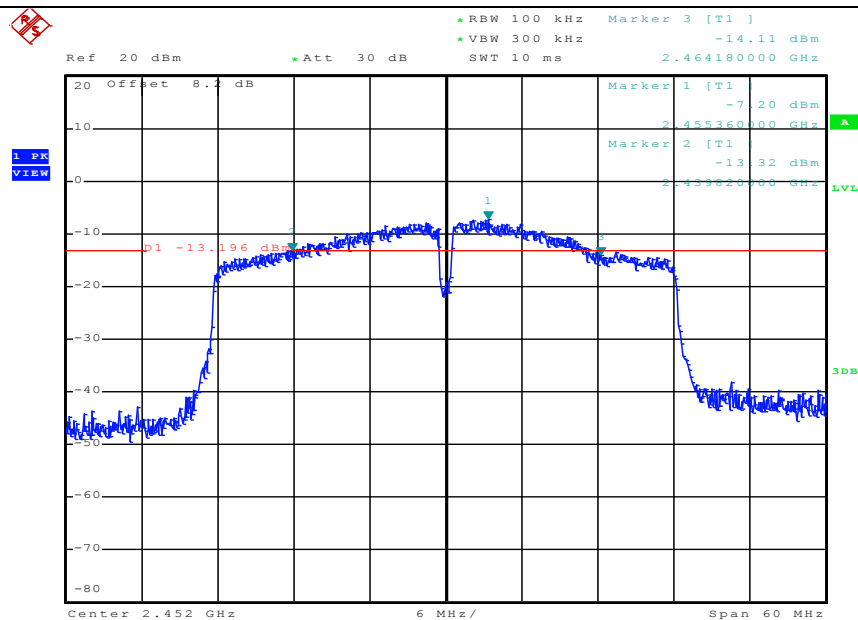
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11N40SISO/MCH



Date: 22.AUG.2019 18:00:50

11N40SISO/HCH



Date: 22.AUG.2019 18:02:52

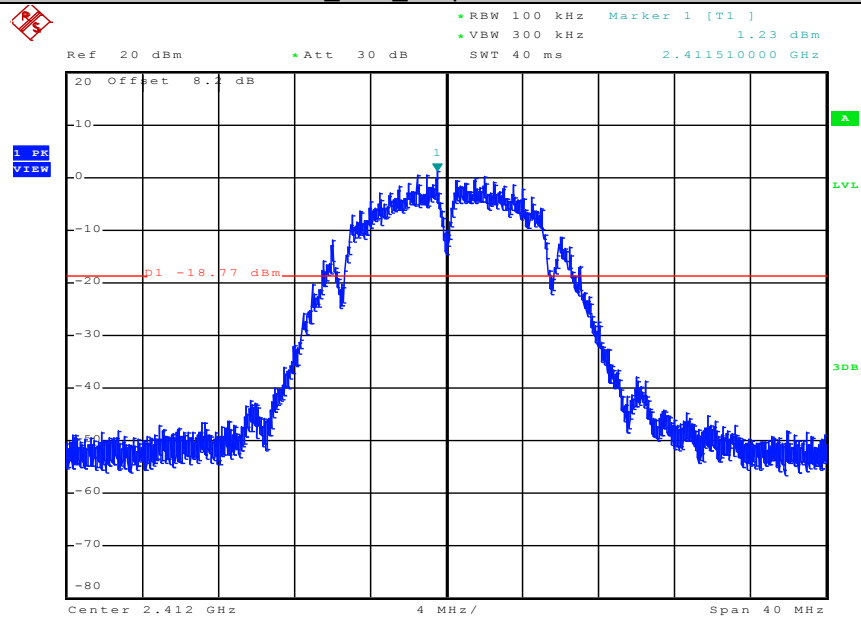
C.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdic
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					t
11B	LCH	1.23	-32.220	-18.770	PASS
	MCH	0.11	-32.060	-19.890	PASS
	HCH	0.53	-31.540	-19.470	PASS
11G	LCH	-4.34	-30.330	-24.340	PASS
	MCH	-5.36	-32.630	-25.360	PASS
	HCH	-5.22	-32.070	-25.220	PASS
11N20 SISO	LCH	-4.64	-32.090	-24.640	PASS
	MCH	-5.36	-31.810	-25.360	PASS
	HCH	-5.33	-31.740	-25.330	PASS
11N40 SISO	LCH	-4.87	-31.400	-24.870	PASS
	MCH	-9.32	-30.930	-29.320	PASS
	HCH	-7.05	-32.170	-27.050	PASS

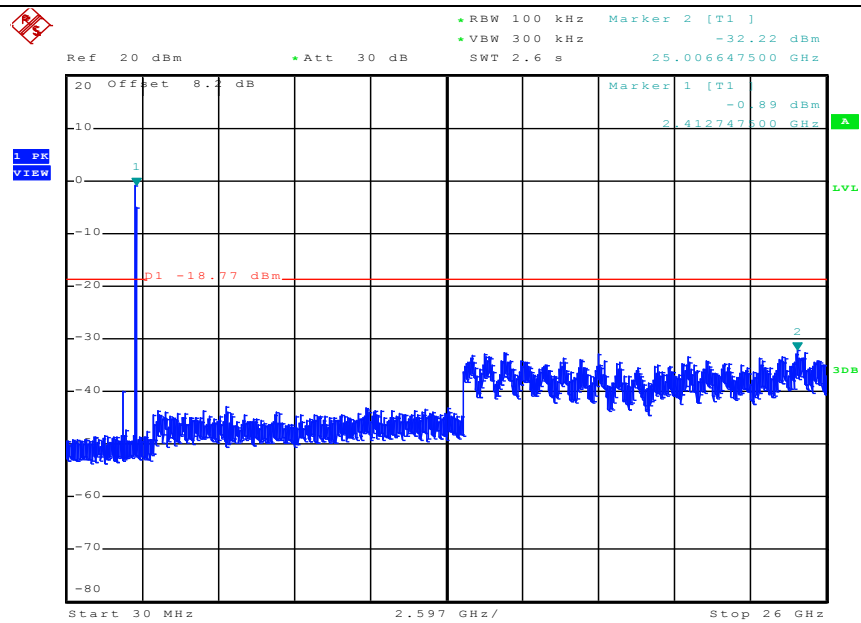
11B LCH Graphs

Pref/11B/LCH



Date: 22.AUG.2019 18:08:09

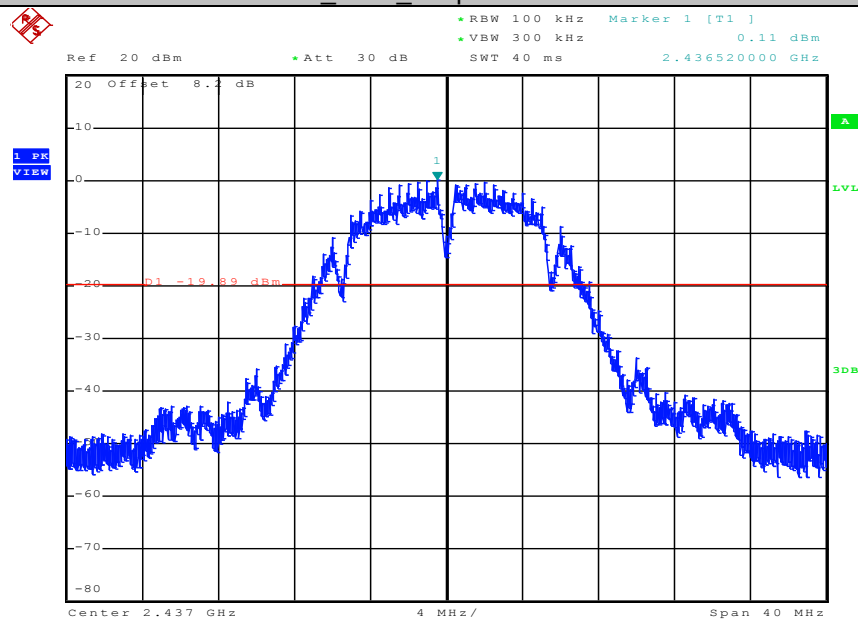
Puw/11B/LCH



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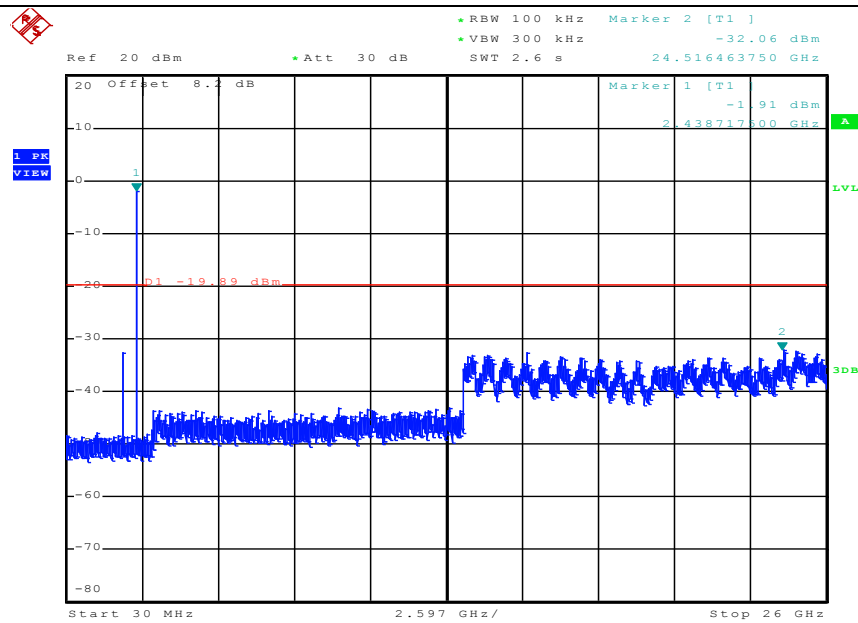
11B_MCH_Graphs

Pref/11B/MCH



Date: 22.AUG.2019 18:08:50

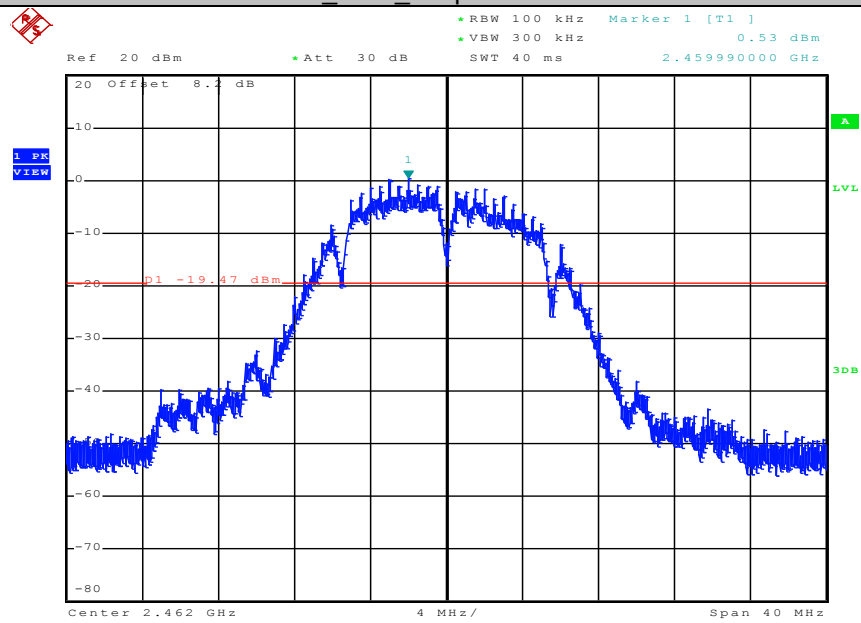
Puw/11B/MCH



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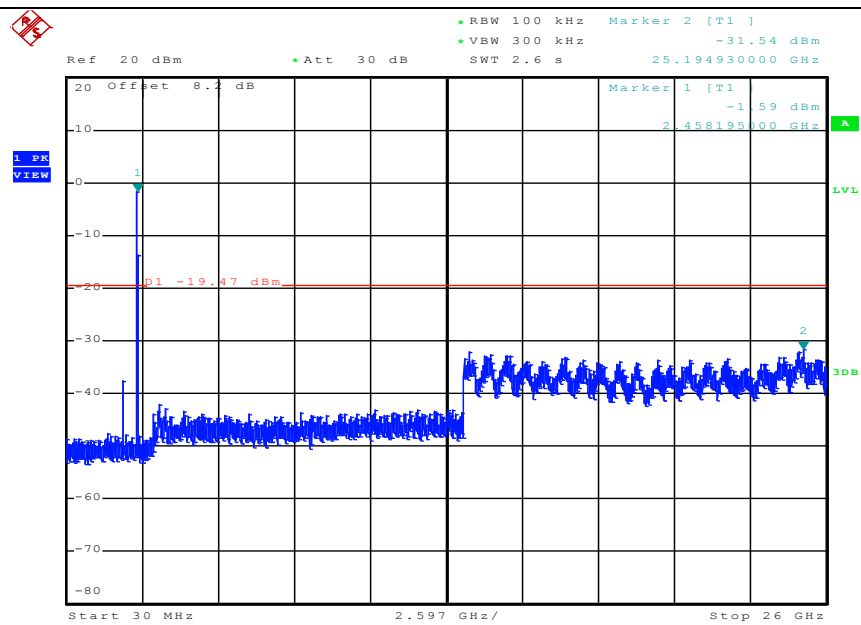
11B_HCH_Graphs

Pref/11B/HCH



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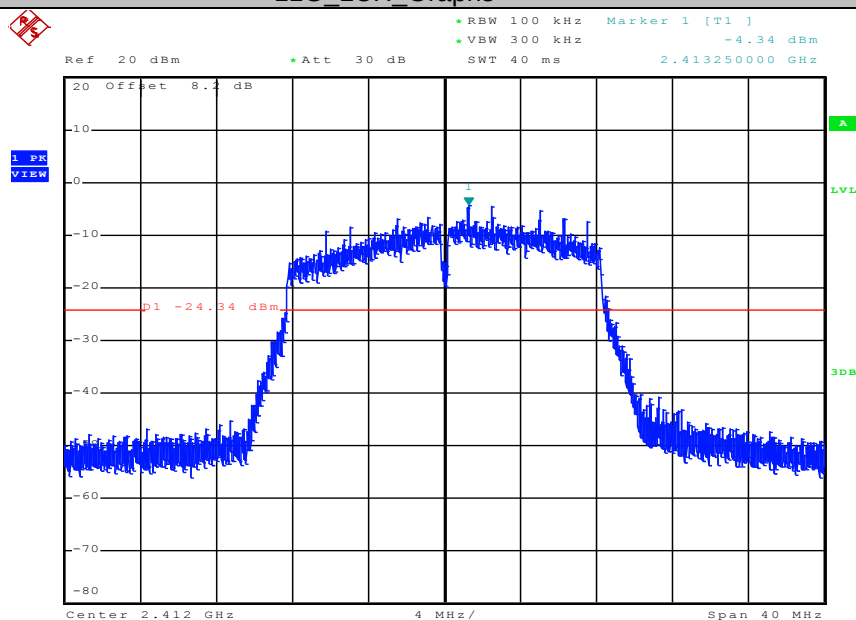
Puw/11B/HCH



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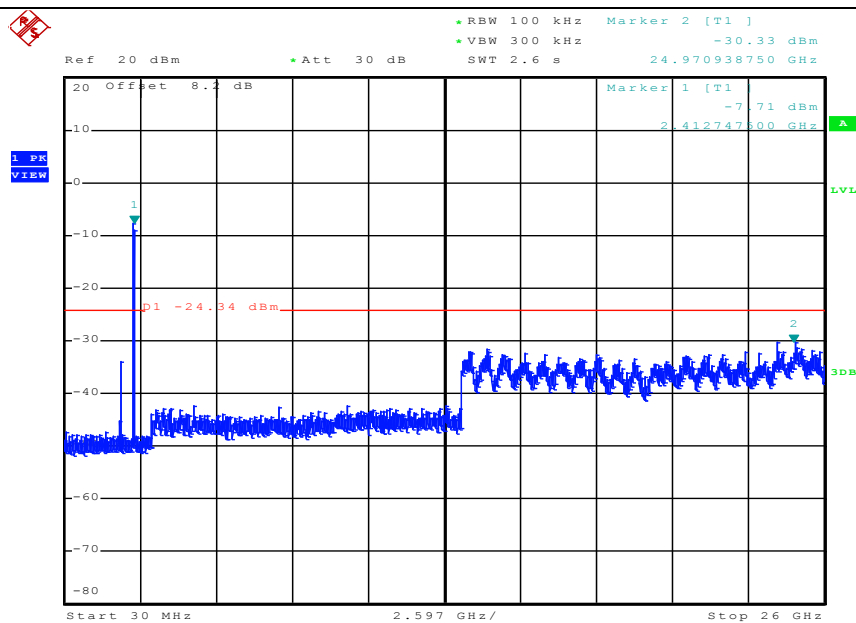
11G_LCH_Graphs

Pref/11G/LCH



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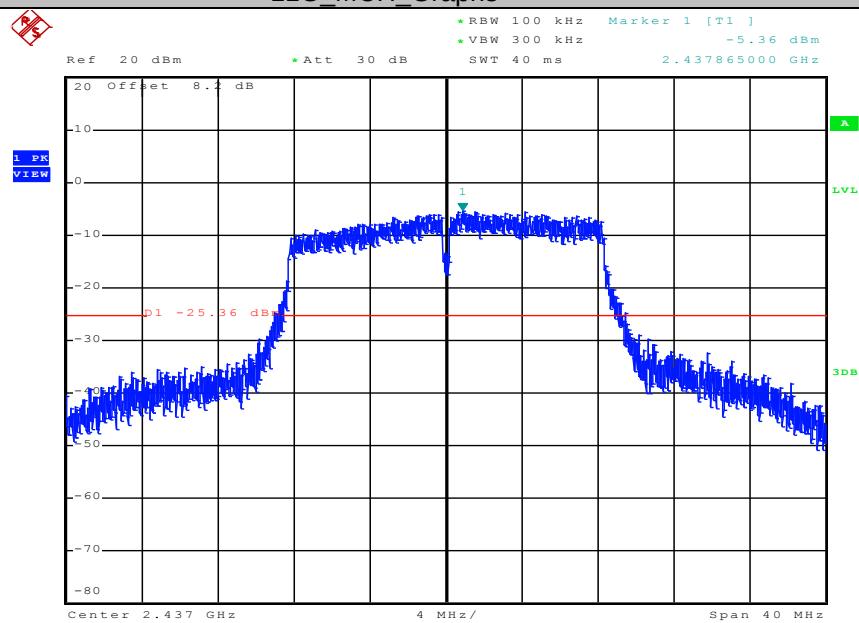
Puw/11G/LCH



Date: 22.AUG.2019 18:12:28

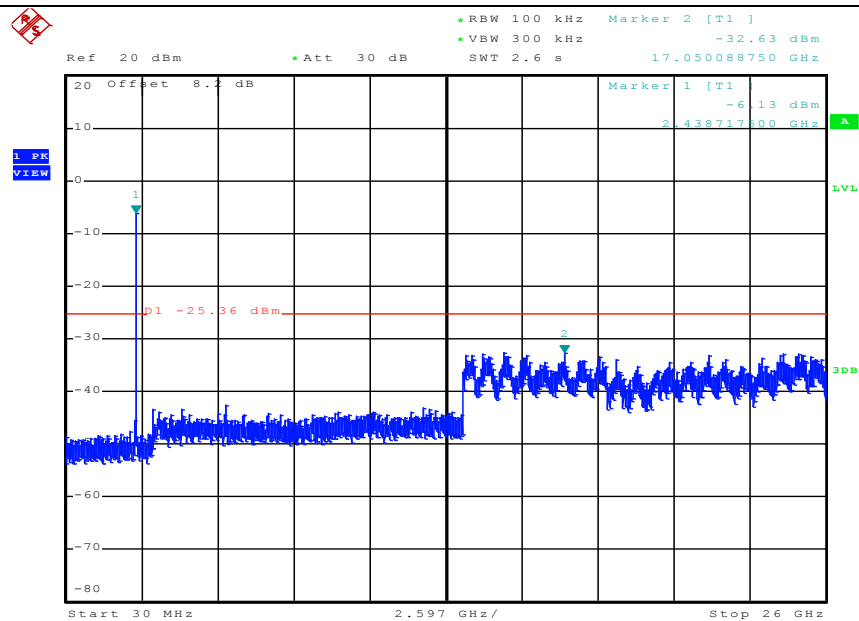
11G_MCH_Graphs

Pref/11G/MCH



Date: 22.AUG.2019 17:46:14

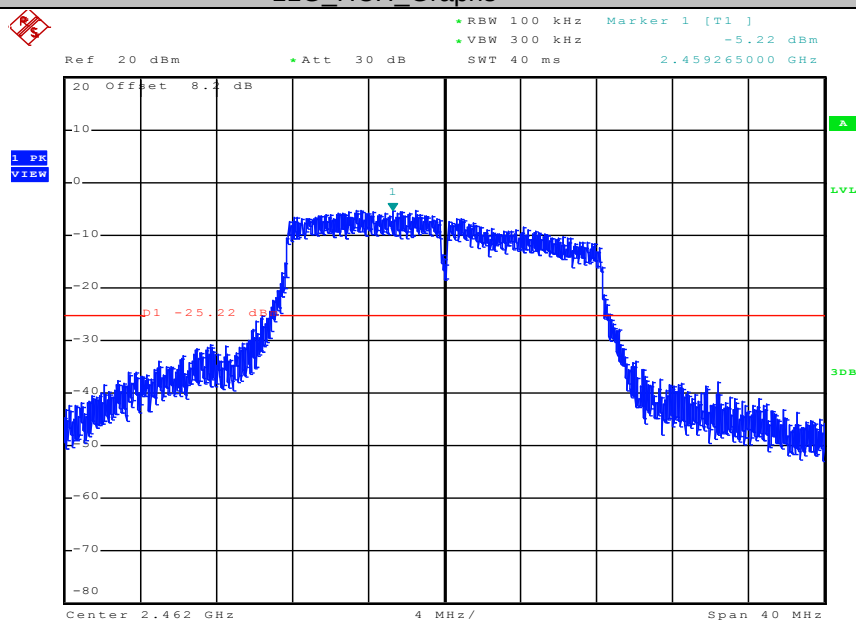
Puw/11G/MCH



Date: 22.AUG.2019 17:46:30

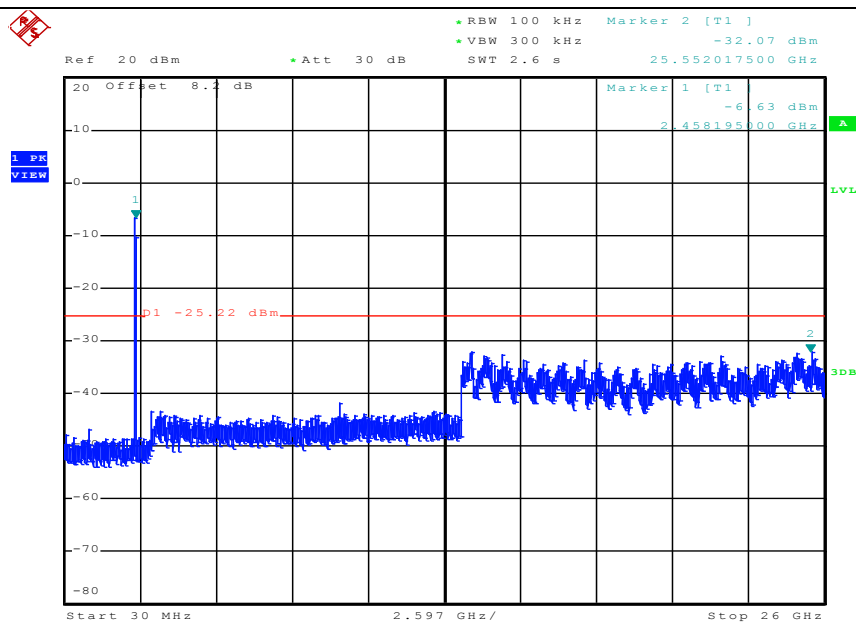
11G_HCH_Graphs

Pref/11G/HCH



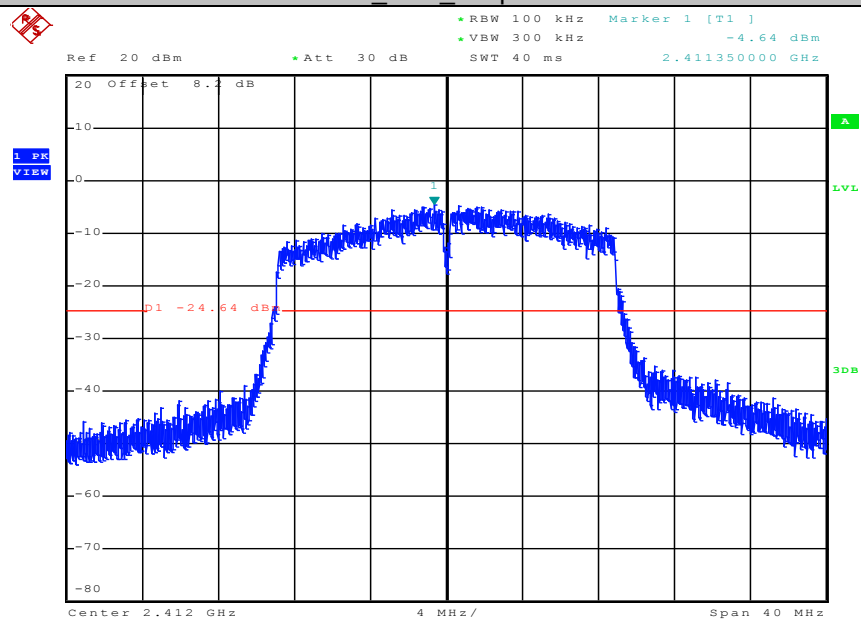
Date: 22.AUG.2019 17:48:18

Puw/11G/HCH

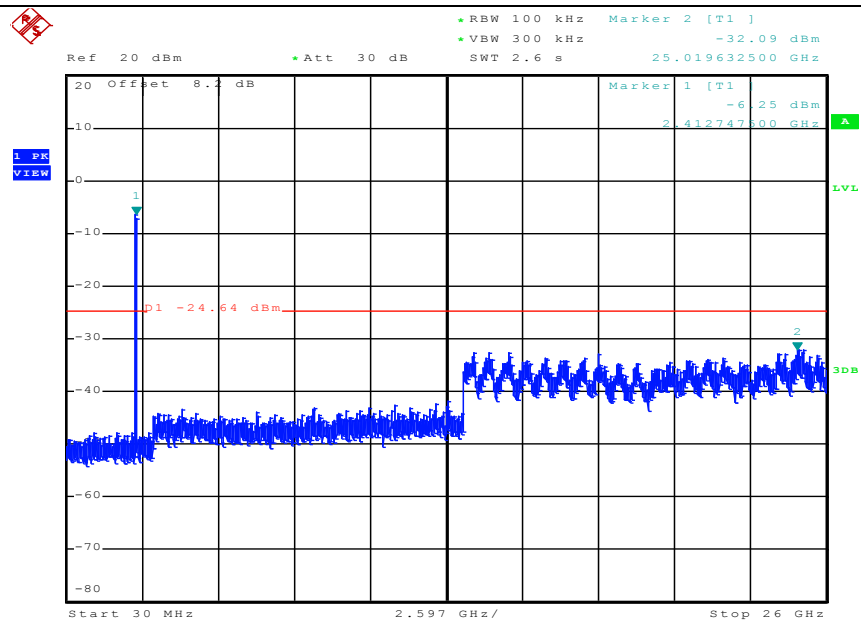


Date: 22.AUG.2019 17:48:34

11N20SISO_LCH_Graphs

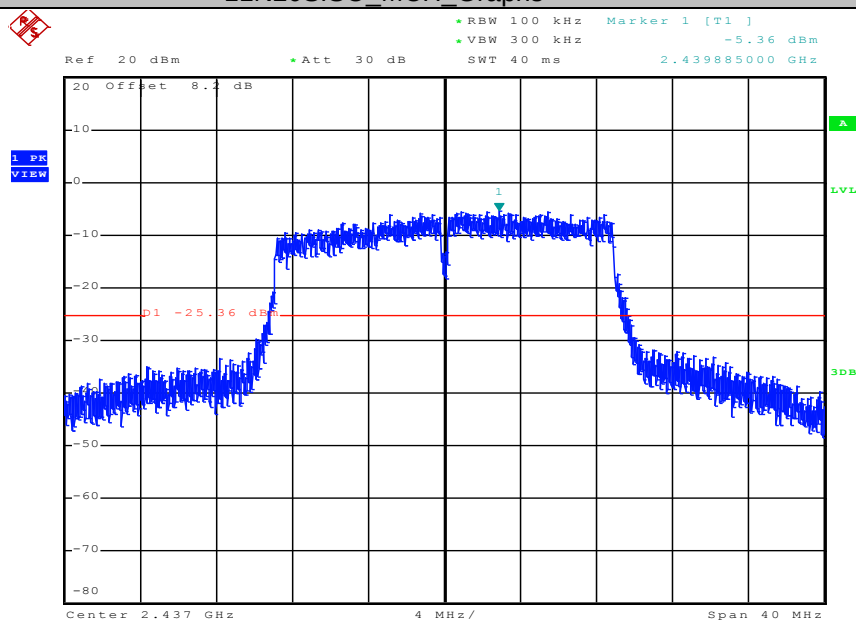
Pref/11N20SIS
O/LCH

Date: 22.AUG.2019 17:50:53

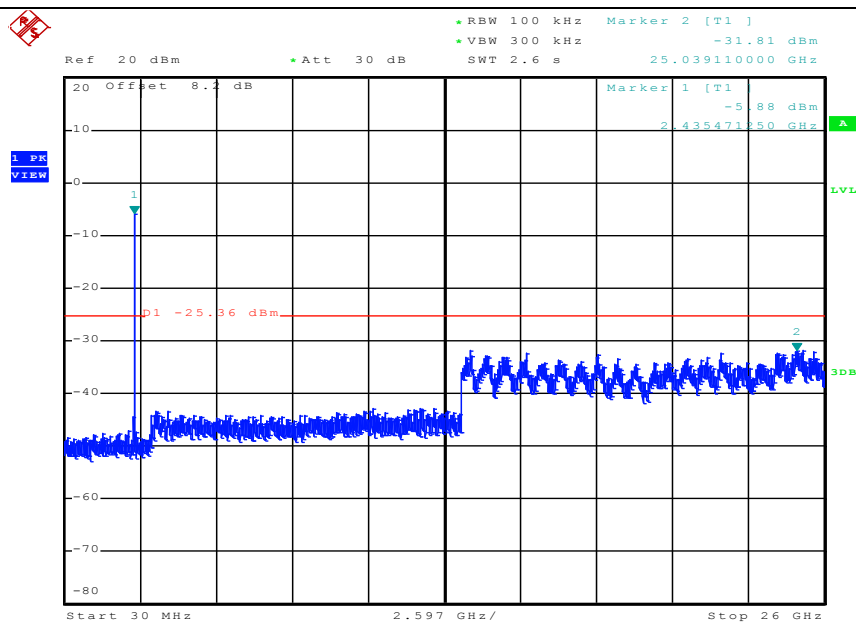
Puw/11N20
SISO/LCH

Date: 22.AUG.2019 17:51:11

11N20SISO_MCH_Graphs

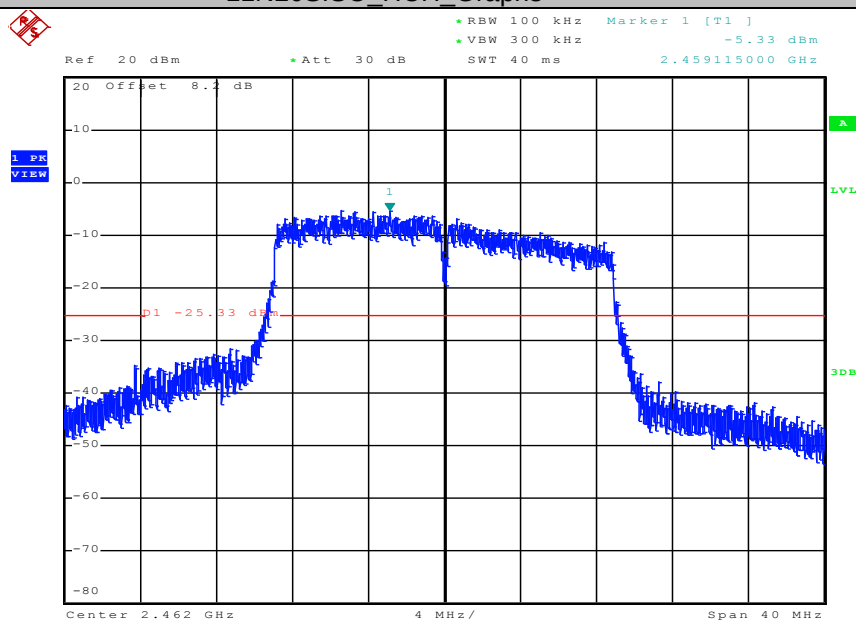
Pref/11N20
SISO/MCH

Date: 22.AUG.2019 17:53:17

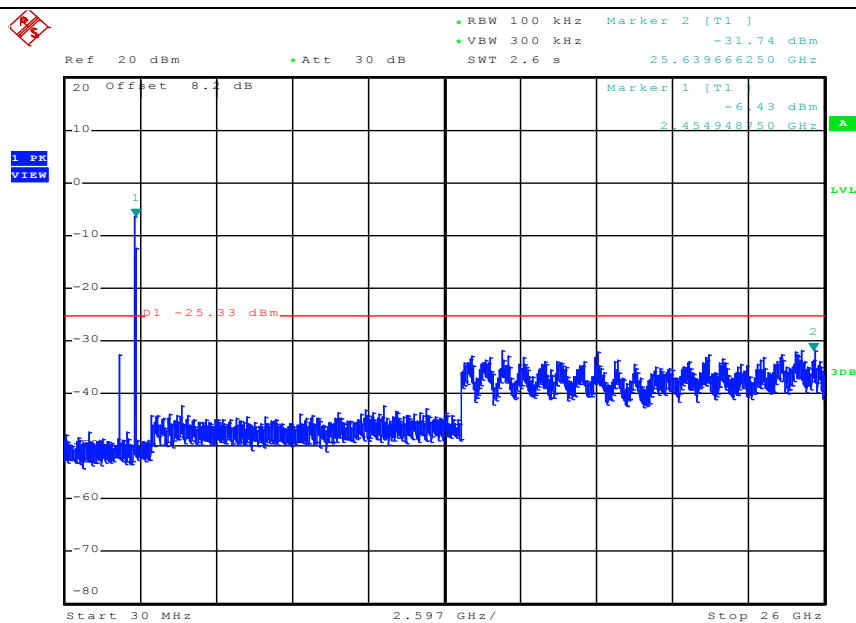
Puw/11N20
SISO/MCH

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11N20SISO_HCH_Graphs

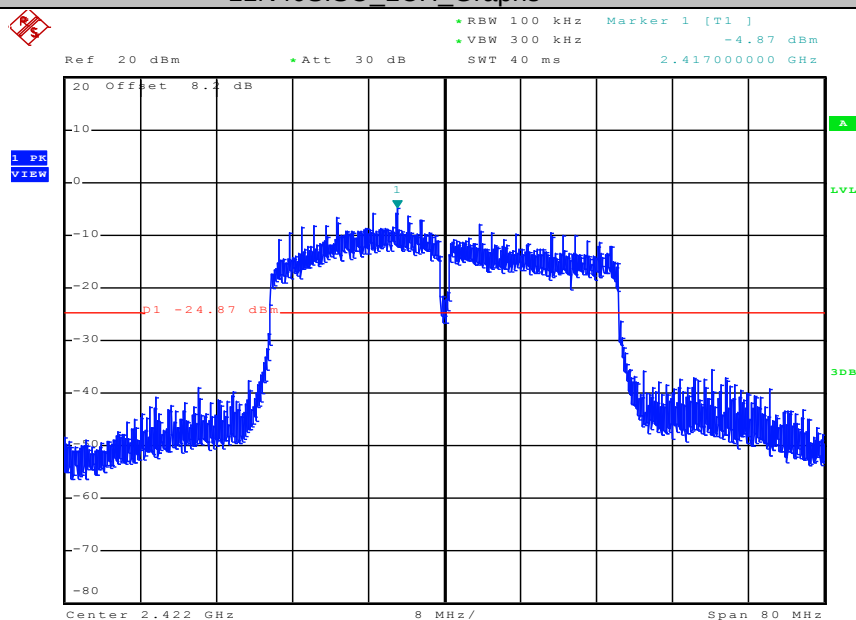
Pref/11N20
SISO/HCH

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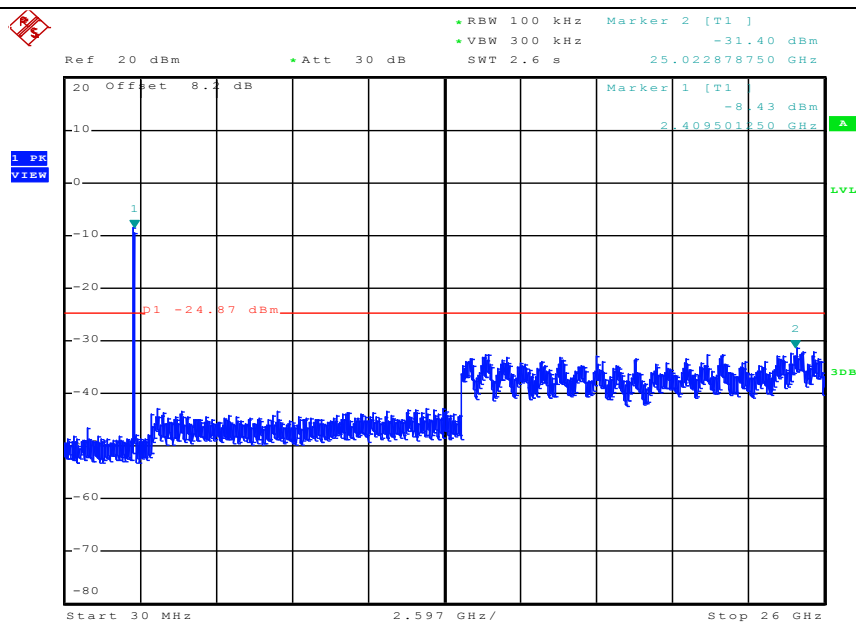
Puw/11N20
SISO/HCH

Date: 22.AUG.2019 17:55:55

11N40SISO_LCH_Graphs

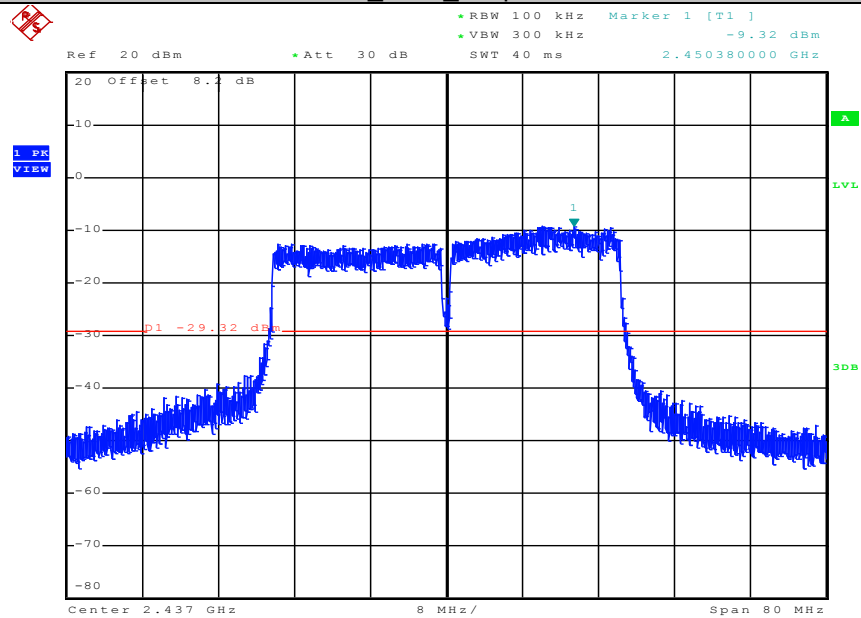
Pref/11N40
SISO/LCH

Date: 22.AUG.2019 18:16:36

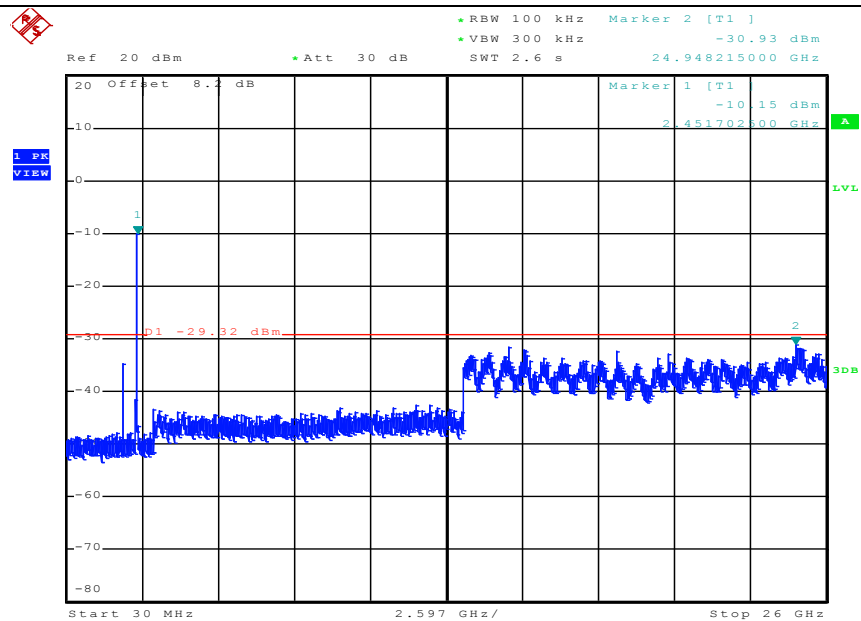
Puw/11N40
SISO/LCH

Date: 22.AUG.2019 18:16:58

11N40SISO_MCH_Graphs

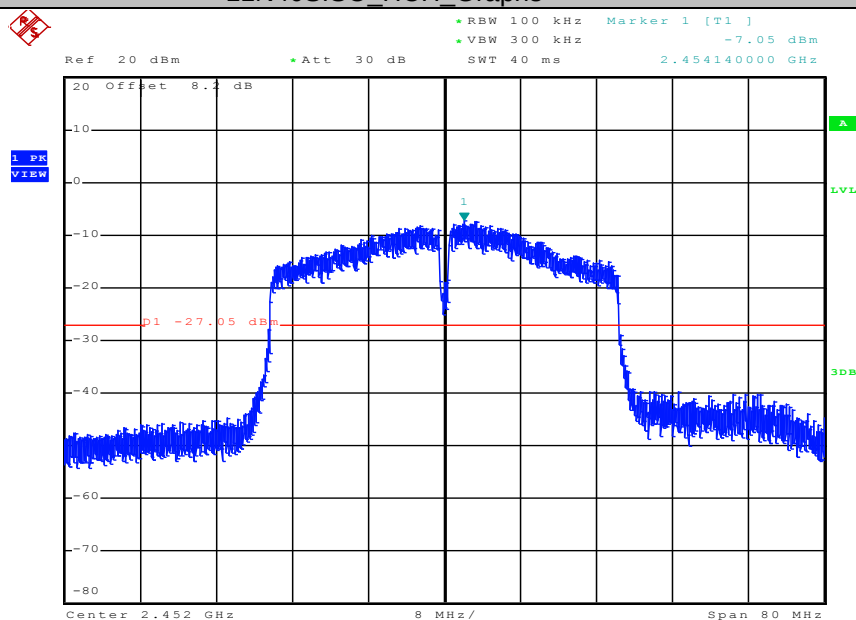
Pref/11N40
SISO/MCH

Date: 22.AUG.2019 18:01:50

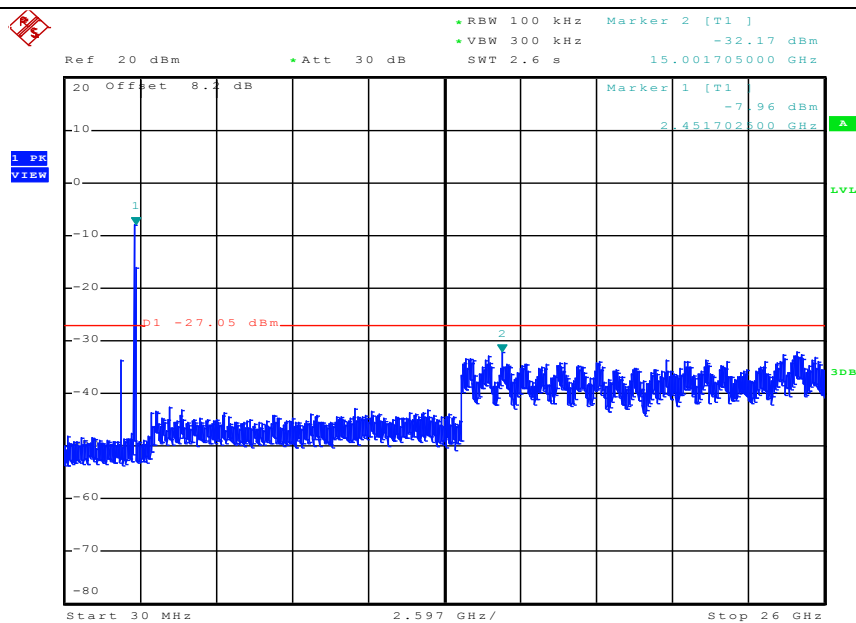
Puw/11N40
SISO/MCH

Date: 22.AUG.2019 18:02:14

11N40SISO_HCH_Graphs

Pref/11N40
SISO/HCH

Date: 22.AUG.2019 18:04:06

Puw/11N40
SISO/HCH

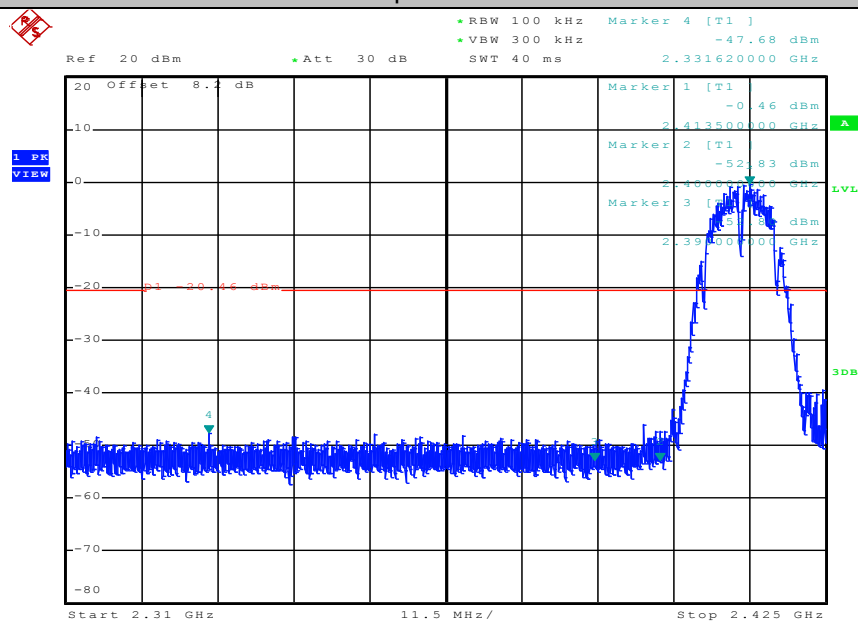
Date: 22.AUG.2019 18:04:21

C.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-0.460	-47.680	-20.46	PASS
	HCH	-1.150	-48.120	-21.15	PASS
11G	LCH	-4.560	-48.012	-24.56	PASS
	HCH	-5.160	-45.841	-25.16	PASS
11N20SISO	LCH	-4.870	-47.806	-24.87	PASS
	HCH	-5.860	-45.224	-25.86	PASS
11N40SISO	LCH	-9.240	-46.772	-29.24	PASS
	HCH	-7.040	-39.709	-27.04	PASS

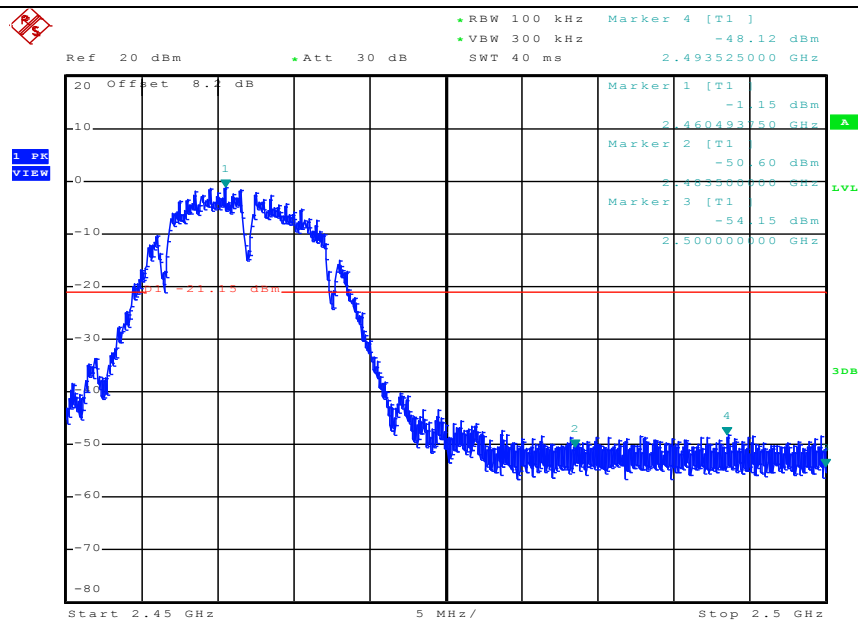
Test Graphs

11B/LCH



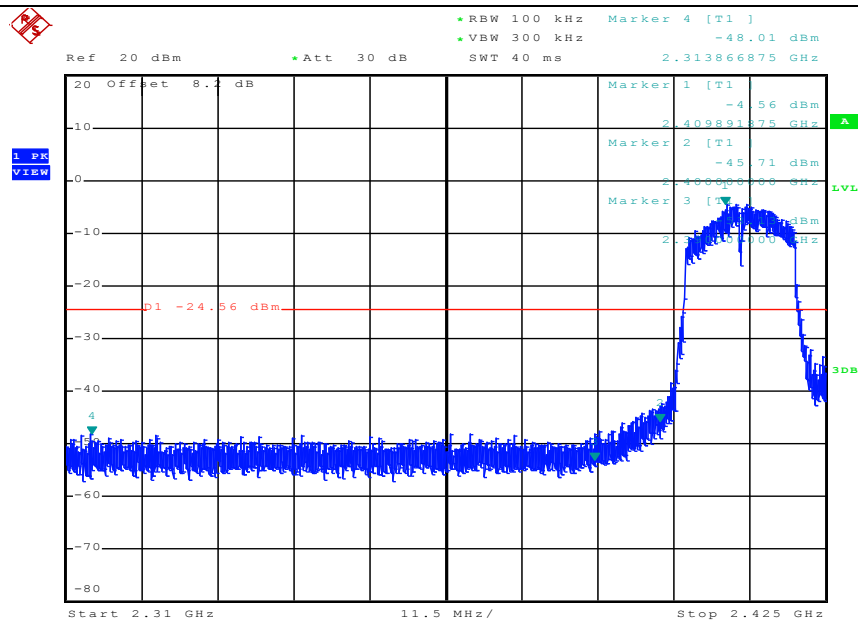
Date: 22.AUG.2019 17:28:39

11B/HCH



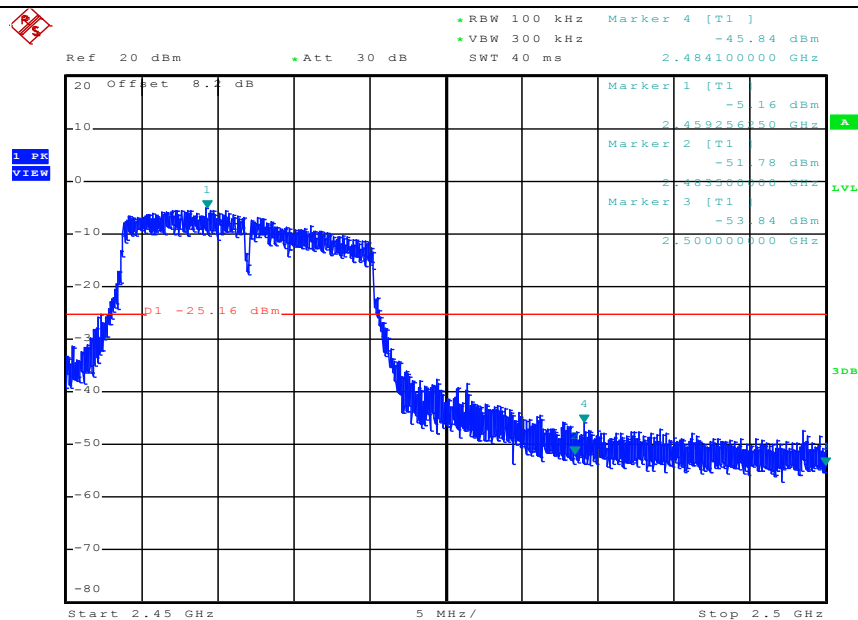
Date: 22.AUG.2019 17:37:46

11G/LCH



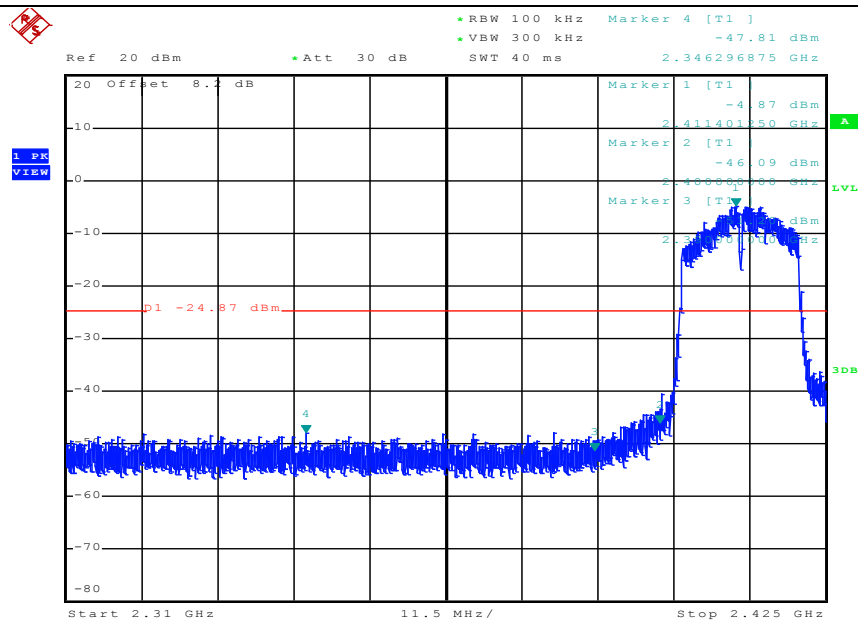
Date: 22.AUG.2019 17:40:47

11G/HCH



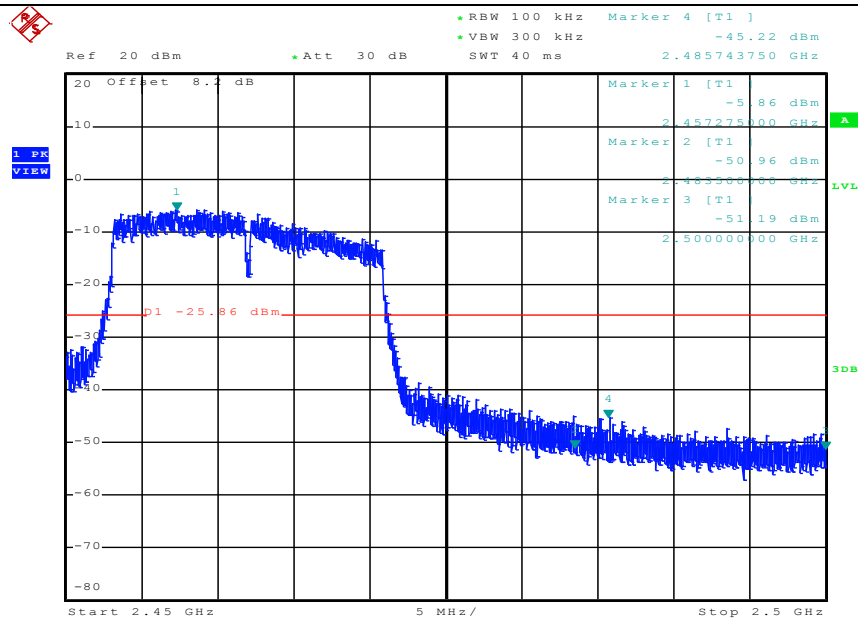
Date: 22.AUG.2019 17:48:05

11N20SISO/LCH



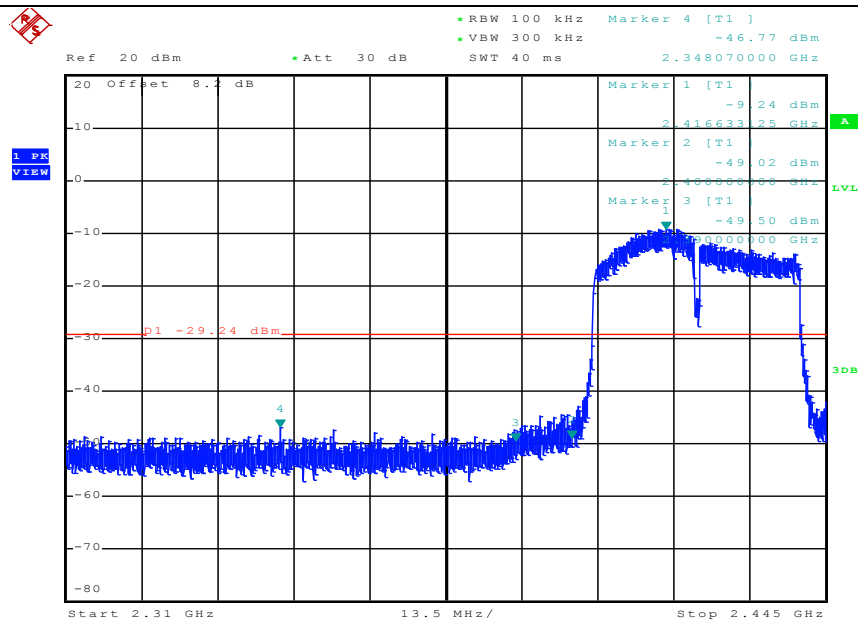
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11N20SISO/HCH



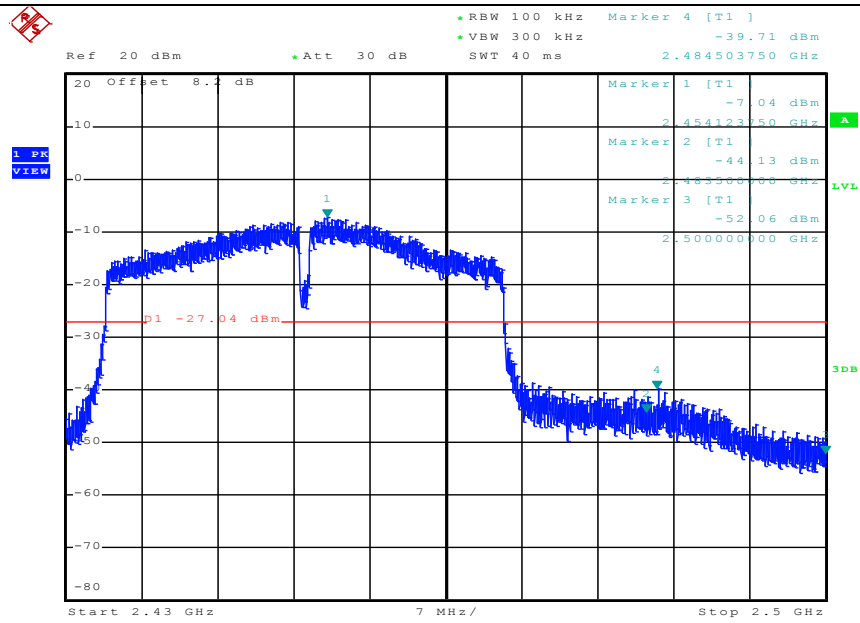
Date: 22.AUG.2019 17:55:25

11N40SISO/LCH



Date: 22.AUG.2019 17:58:55

11N40SISO/HCH



Date: 22.AUG.2019 18:03:53

C.7 Restrict-band band-edge measurements

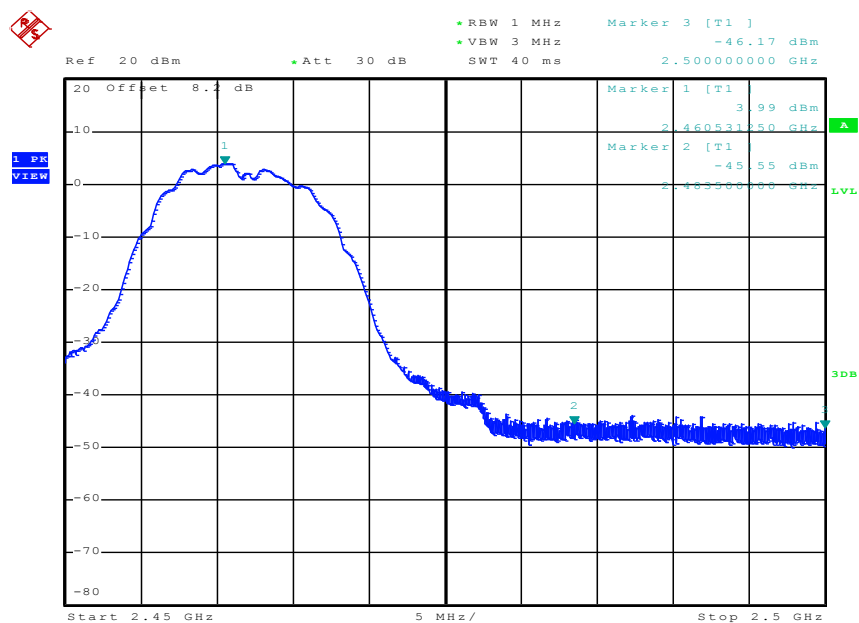
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.0	-46.29	3.3	0	52.27	PEAK	74	PASS
	2412	Ant1	2310.0	-57.84	3.3	0	40.72	AV	54	PASS
	2412	Ant1	2390.0	-45.77	3.3	0	52.79	PEAK	74	PASS
	2412	Ant1	2390.0	-57.37	3.3	0	41.19	AV	54	PASS
	2462	Ant1	2483.5	-45.55	3.3	0	53.01	PEAK	74	PASS
	2462	Ant1	2483.5	-56.57	3.3	0	41.99	AV	54	PASS
	2462	Ant1	2500.0	-46.17	3.3	0	52.39	PEAK	74	PASS
	2462	Ant1	2500.0	-57.91	3.3	0	40.65	AV	54	PASS
11G	2412	Ant1	2310.0	-48.19	3.3	0	50.37	PEAK	74	PASS
	2412	Ant1	2310.0	-57.87	3.3	0	40.69	AV	54	PASS
	2412	Ant1	2390.0	-45.41	3.3	0	53.15	PEAK	74	PASS
	2412	Ant1	2390.0	-55.62	3.3	0	42.94	AV	54	PASS
	2462	Ant1	2483.5	-39.68	3.3	0	58.88	PEAK	74	PASS
	2462	Ant1	2483.5	-51.94	3.3	0	46.62	AV	54	PASS
	2462	Ant1	2500.0	-46.18	3.3	0	52.38	PEAK	74	PASS
	2462	Ant1	2500.0	-57.22	3.3	0	41.34	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-47.97	3.3	0	50.59	PEAK	74	PASS
	2412	Ant1	2310.0	-57.89	3.3	0	40.67	AV	54	PASS
	2412	Ant1	2390.0	-42.07	3.3	0	56.49	PEAK	74	PASS
	2412	Ant1	2390.0	-55.21	3.3	0	43.35	AV	54	PASS
	2462	Ant1	2483.5	-36.33	3.3	0	62.23	PEAK	74	PASS
	2462	Ant1	2483.5	-51.06	3.3	0	47.5	AV	54	PASS
	2462	Ant1	2500.0	-48.33	3.3	0	50.23	PEAK	74	PASS
	2462	Ant1	2500.0	-57.20	3.3	0	41.36	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-48.62	3.3	0	49.94	PEAK	74	PASS
	2422	Ant1	2310.0	-57.87	3.3	0	40.69	AV	54	PASS

	2422	Ant1	2390.0	-40.64	3.3	0	57.92	PEAK	74	PASS
	2422	Ant1	2390.0	-51.98	3.3	0	46.58	AV	54	PASS
	2452	Ant1	2483.5	-31.41	3.3	0	67.15	PEAK	74	PASS
	2452	Ant1	2483.5	-45.06	3.3	0	53.5	AV	54	PASS
	2452	Ant1	2500.0	-45.62	3.3	0	52.94	PEAK	74	PASS
	2452	Ant1	2500.0	-56.23	3.3	0	42.33	AV	54	PASS

Date: 22.AUG.2019 17:29:23

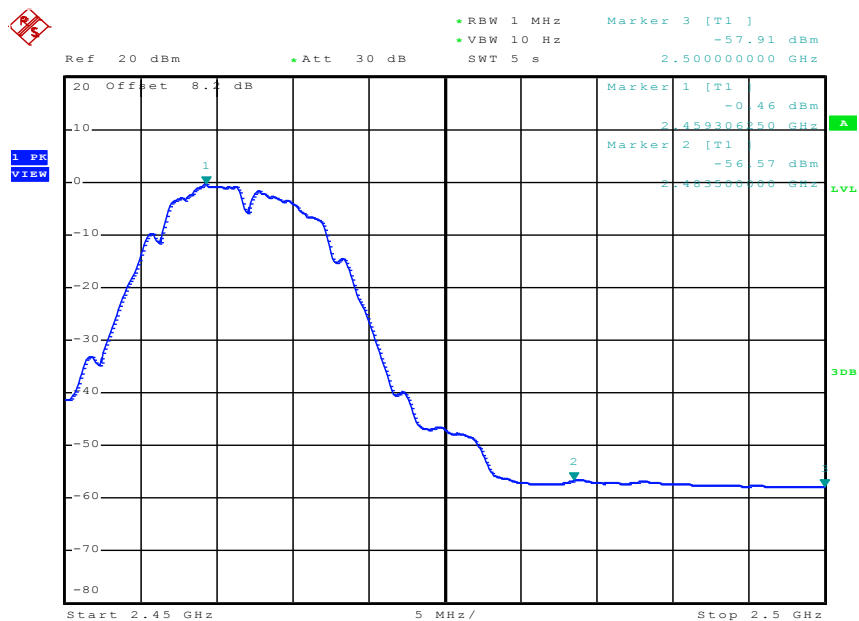
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Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



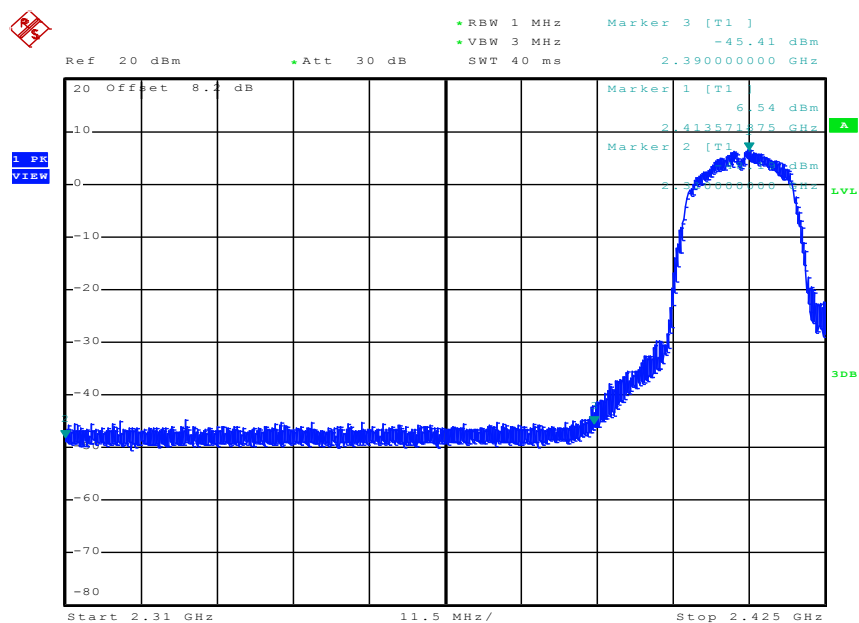
Date: 22.AUG.2019 17:38:43

Restrict-band band-edge measurements_11B_2462_Ant1_AV



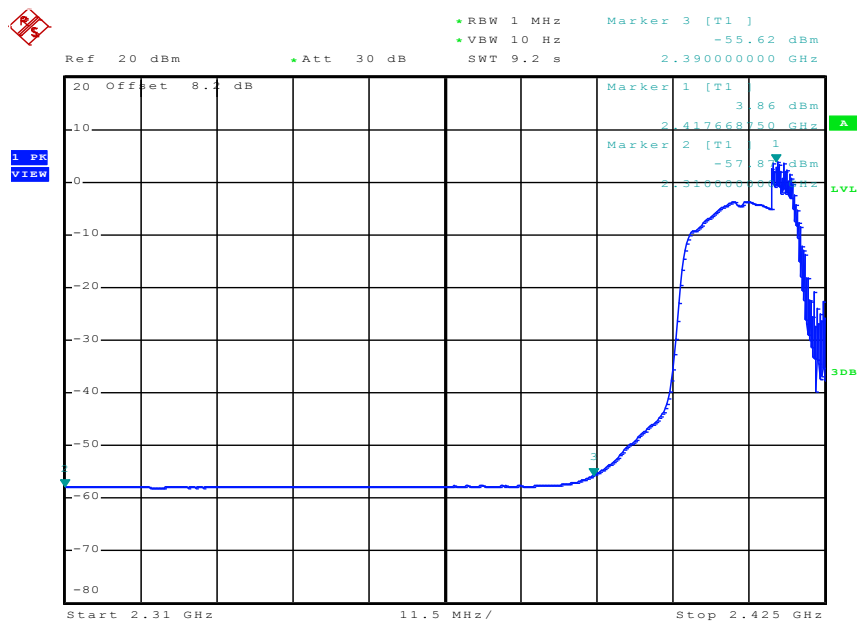
Date: 22.AUG.2019 17:38:58

Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



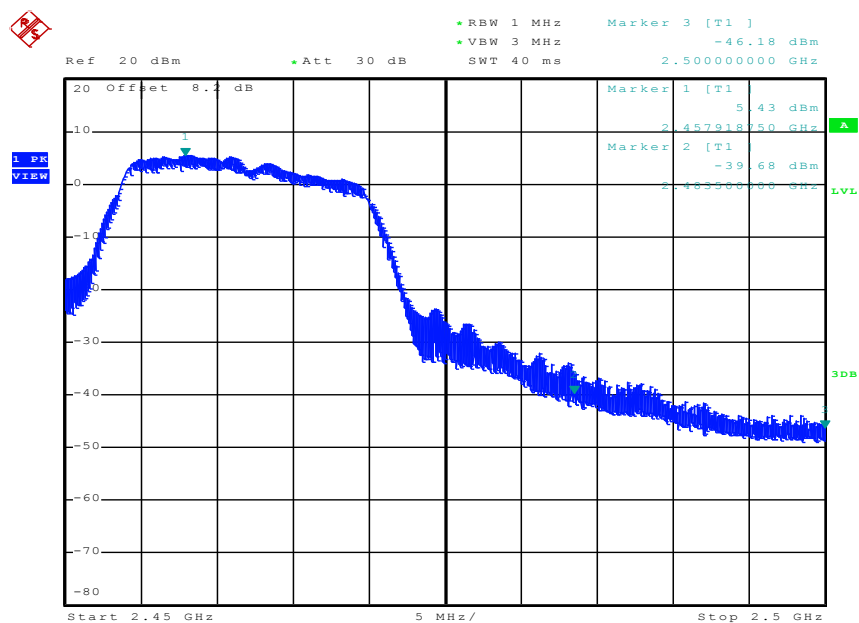
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Restrict-band band-edge measurements_11G_2412_Ant1_AV



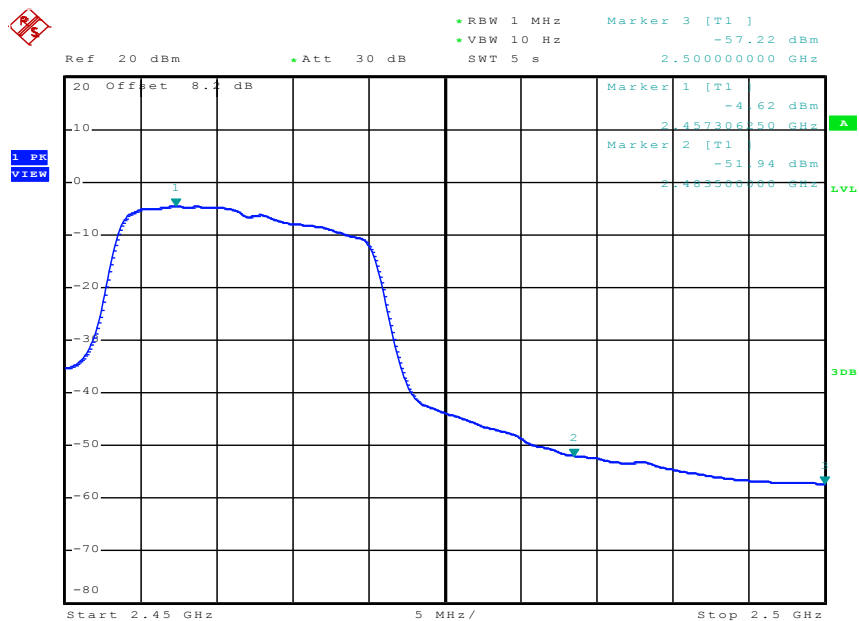
Date: 22.AUG.2019 17:43:52

Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



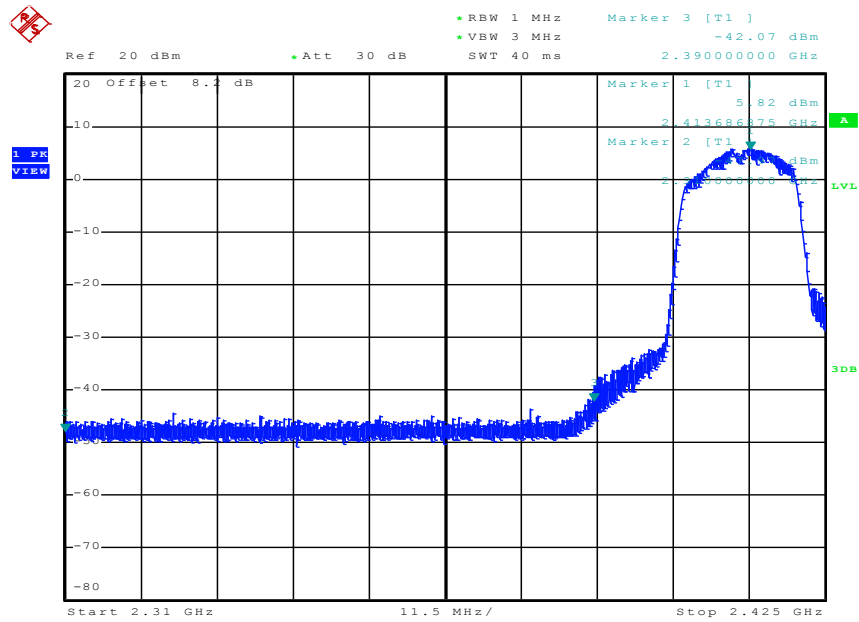
Date: 22.AUG.2019 17:48:53

Restrict-band band-edge measurements_11G_2462_Ant1_AV



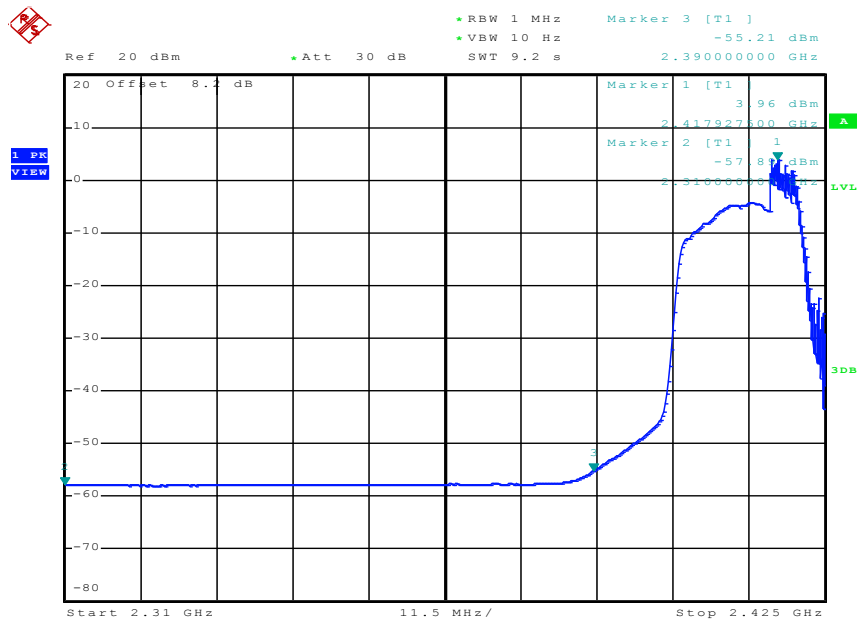
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Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



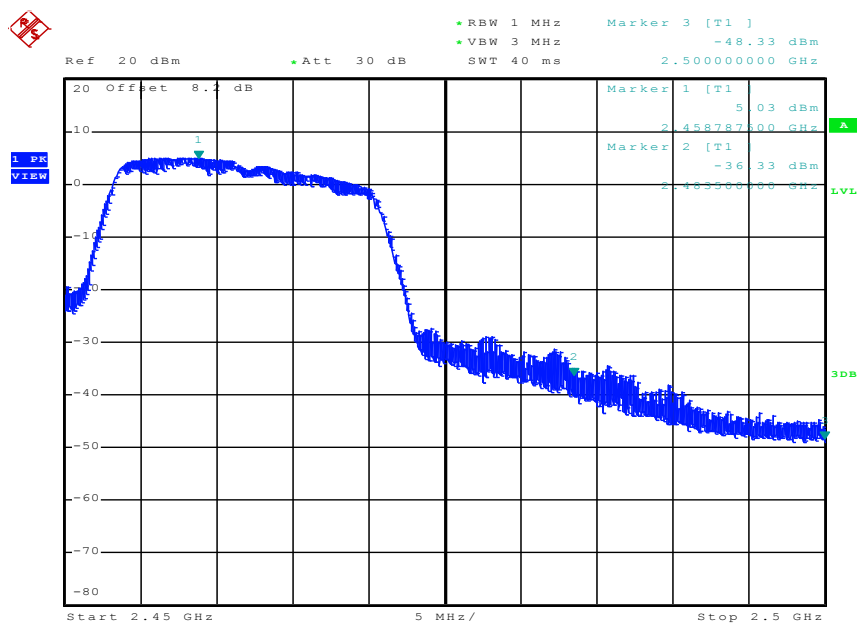
Date: 22.AUG.2019 17:51:29

Restrict-band band-edge measurements_11N20SISO_2412_Ant1_AV



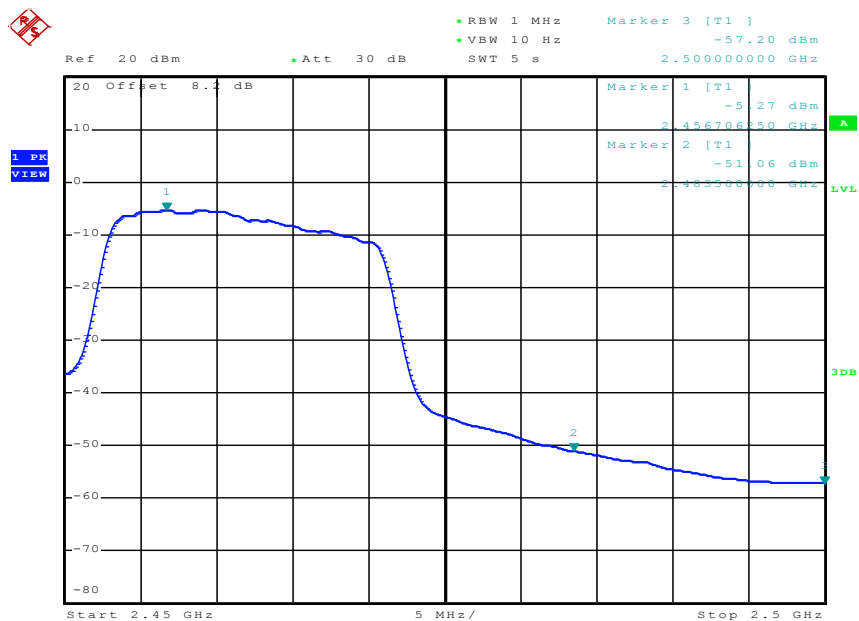
Date: 22.AUG.2019 17:51:45

Restrict-band band-edge measurements_11N20SISO_2462_Ant1_PEAK



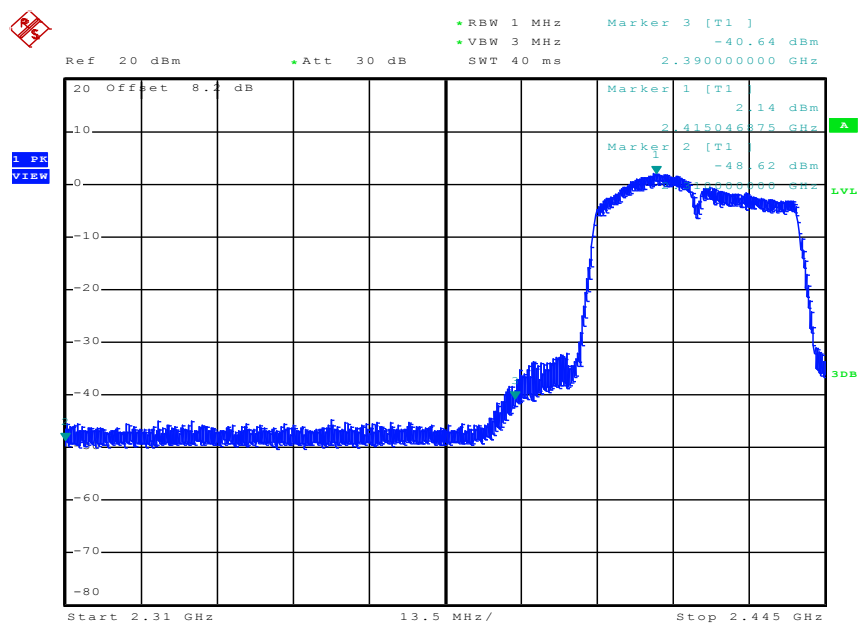
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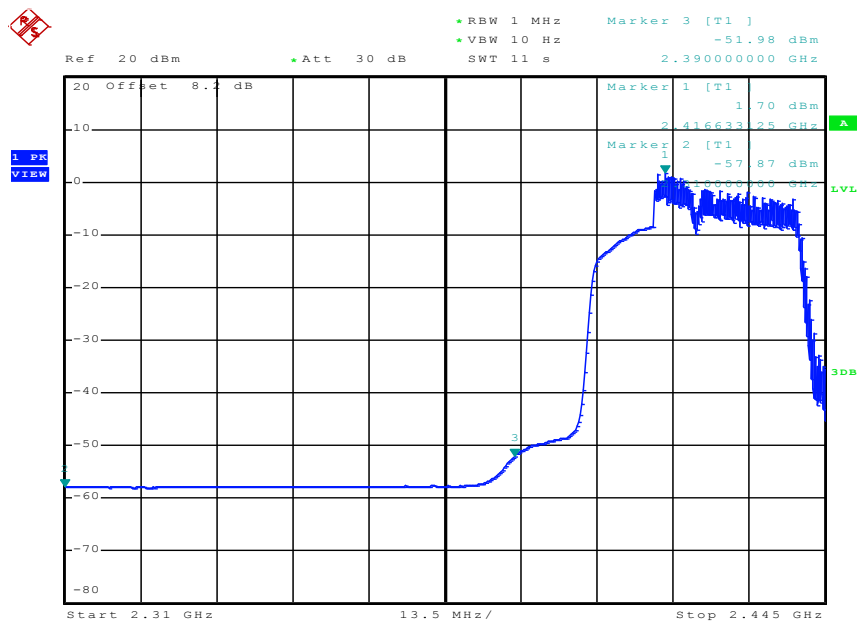
Date: 22.AUG.2019 17:56:29

Restrict-band band-edge measurements_11N40SISO_2422_Ant1_PEAK



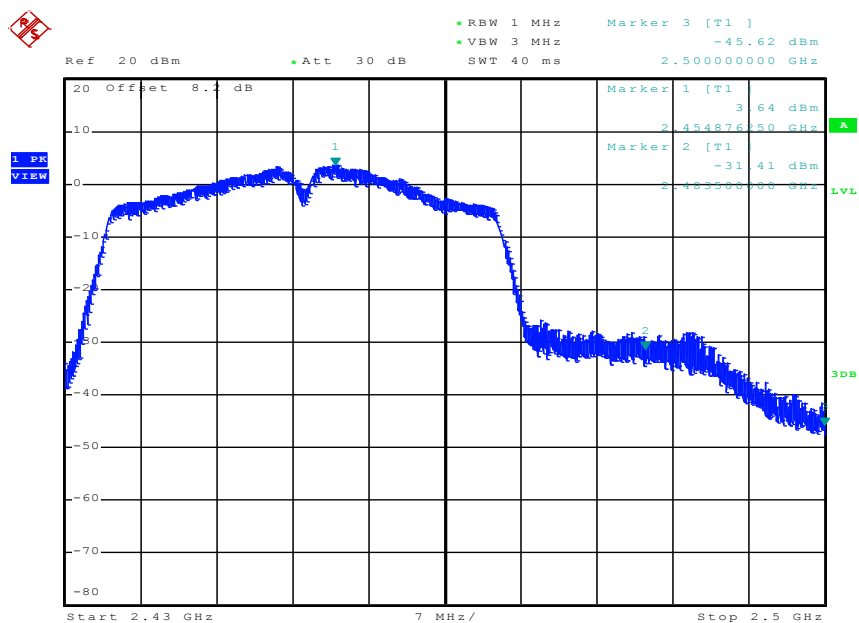
Date: 22.AUG.2019 17:59:40

Restrict-band band-edge measurements_11N40SISO_2422_Ant1_AV



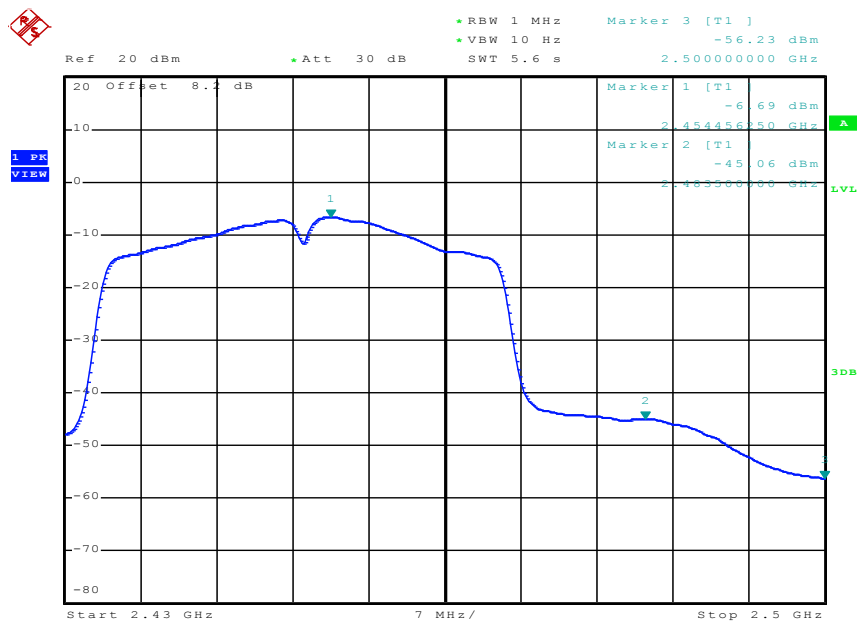
Date: 22.AUG.2019 17:59:55

Restrict-band band-edge measurements_11N40SISO_2452_Ant1_PEAK



Date: 22.AUG.2019 18:04:40

Restrict-band band-edge measurements_11N40SISO_2452_Ant1_AV



Date: 22.AUG.2019 18:04:55