

Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Mini 802.11ac Wireless USB Adapter

Trade Mark: N/A

Test Model: U0633

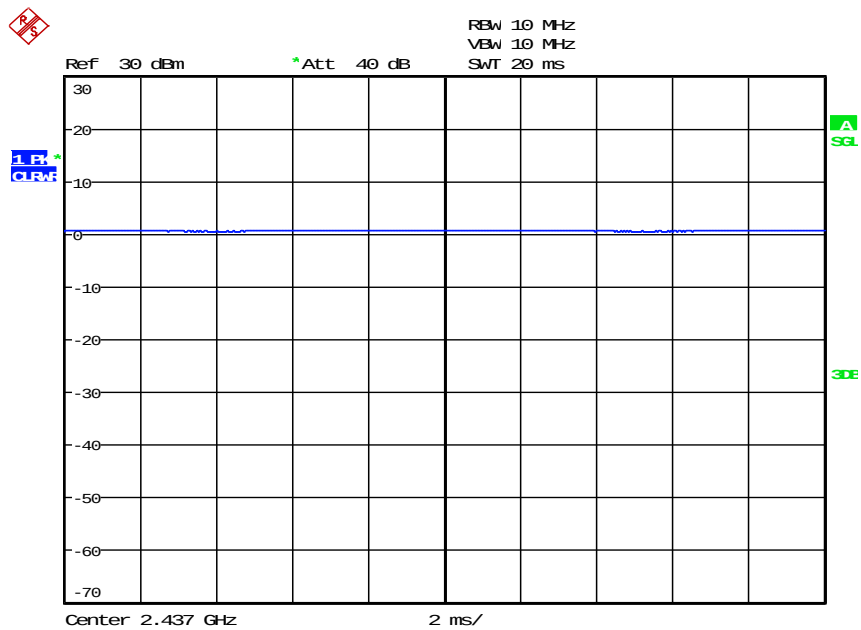
Environmental Conditions

Temperature:	23.7 ° C
Relative Humidity:	52.8%
ATM Pressure:	100.0 kPa
Test Engineer:	David Luo
Supervised by:	Wang.Chuang

C.1 Duty Cycle

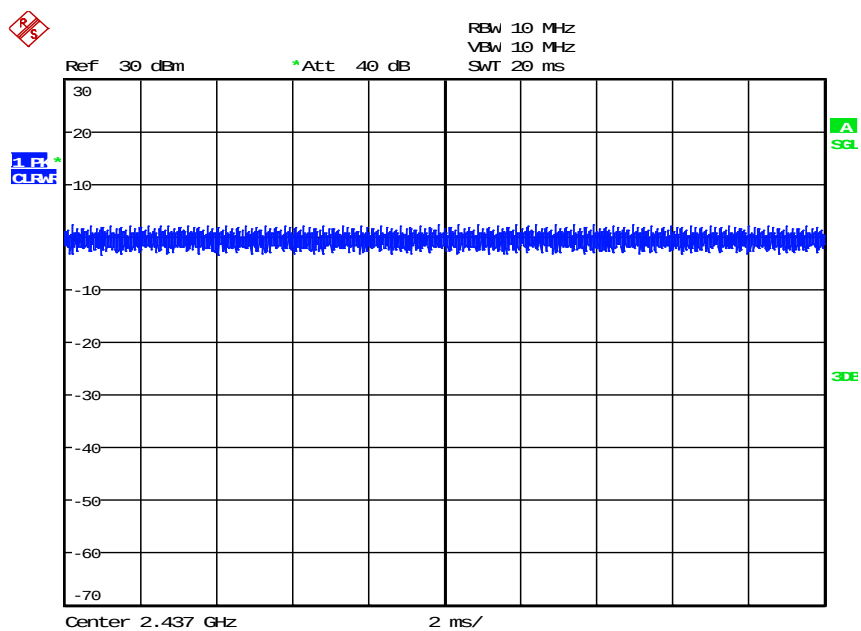
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	100	PASS
11G	2437	Ant1	100	PASS
11N20SISO	2437	Ant1	100	PASS
11N40SISO	2437	Ant1	100	PASS

Duty Cycle_11B_2437_Ant1



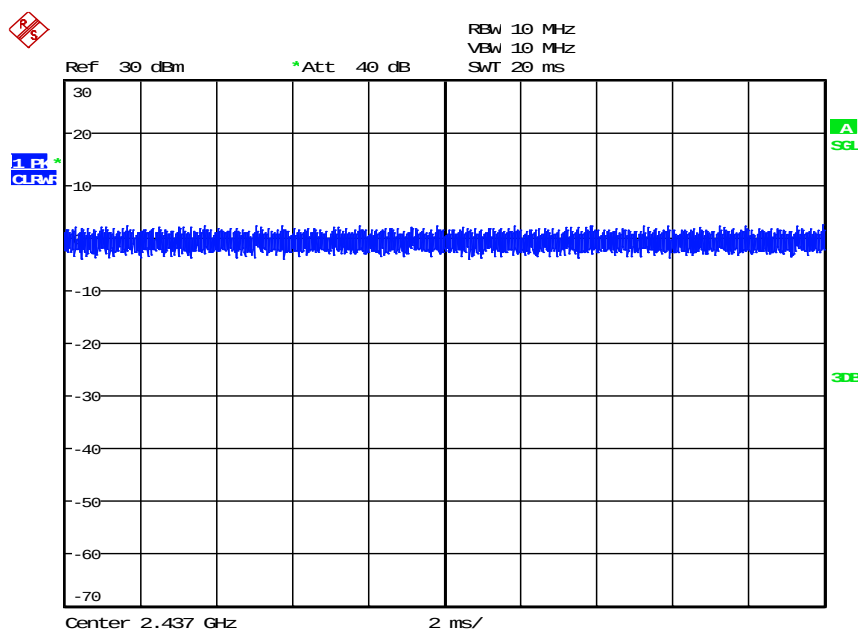
Date: 5.SEP.2019 17:11:02

Duty Cycle_11G_2437_Ant1



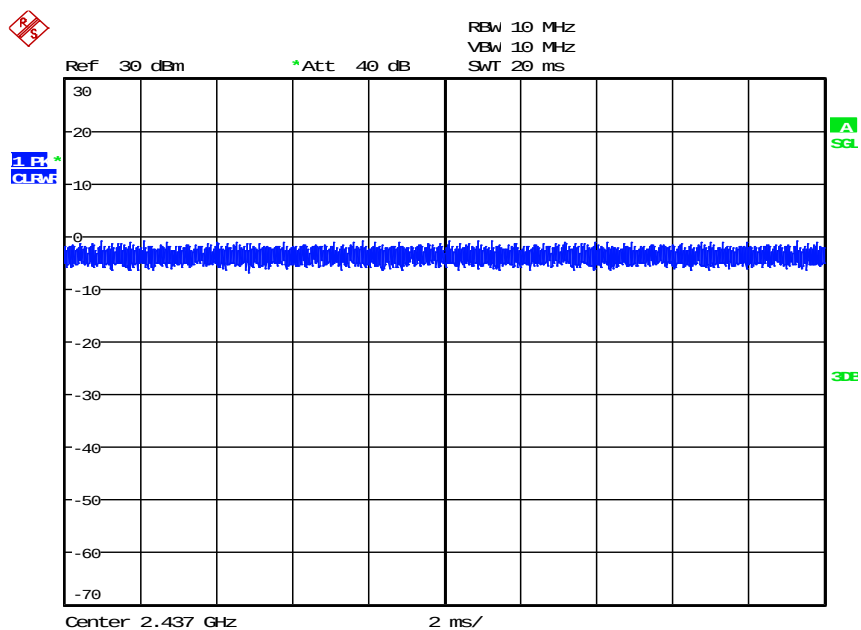
Date: 5.SEP.2019 17:11:50

Duty Cycle_11N20SISO_2437_Ant1



Date: 5.SEP.2019 17:12:16

Duty Cycle_11N40SISO_2437_Ant1



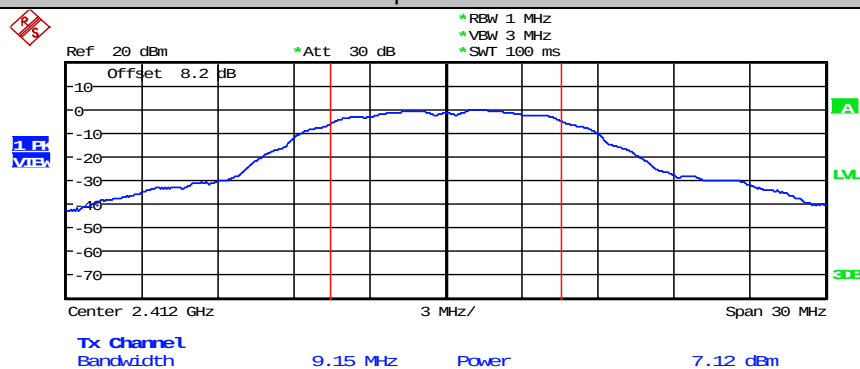
Date: 5.SEP.2019 17:13:31

C.2 Maximum Conducted Output Power

Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	7.12	30	PASS
	MCH	6.43	30	PASS
	HCH	6.8	30	PASS
11G	LCH	10.85	30	PASS
	MCH	11.19	30	PASS
	HCH	10.52	30	PASS
11N20SISO	LCH	12.81	30	PASS
	MCH	12.51	30	PASS
	HCH	12	30	PASS
11N40SISO	LCH	14.88	30	PASS
	MCH	14.91	30	PASS
	HCH	14.27	30	PASS

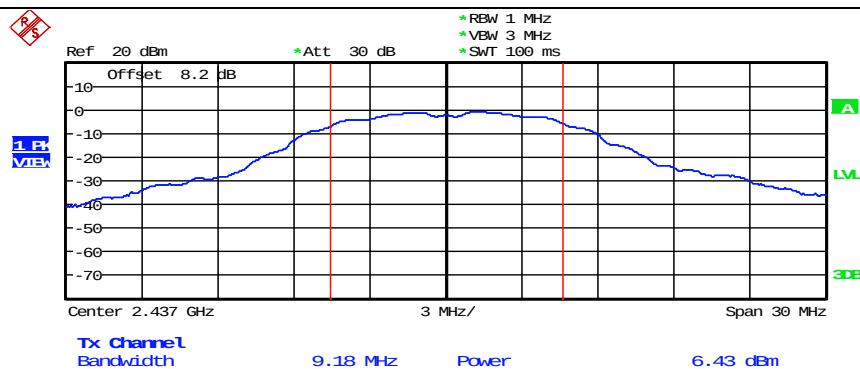
Test Graphs

11B/LCH



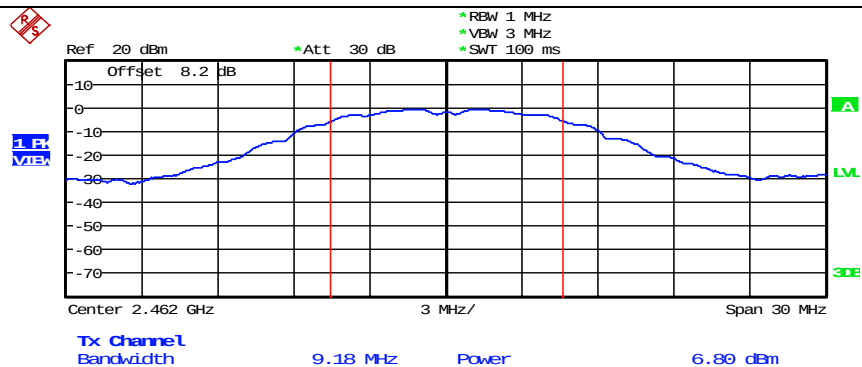
Date: 5.SEP.2019 16:23:20

11B/MCH

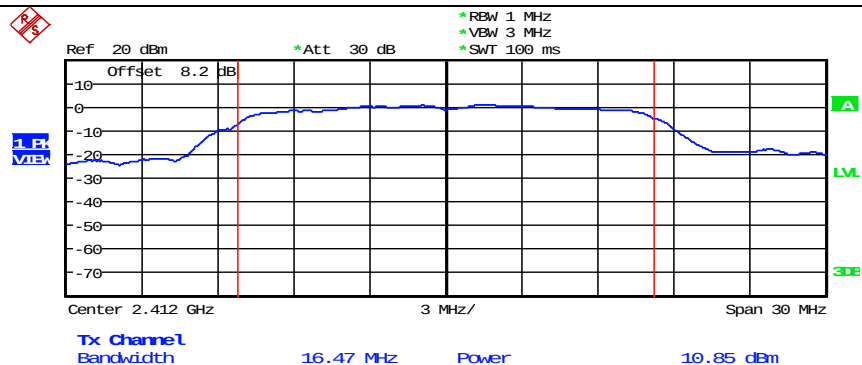


Date: 5.SEP.2019 16:26:08

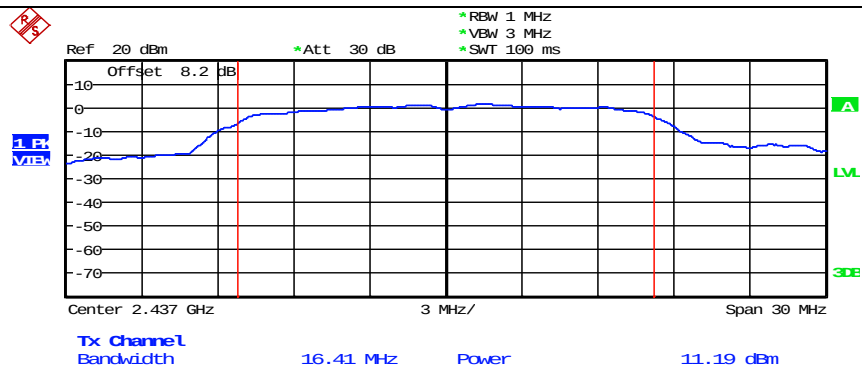
11B/HCH



11G/LCH

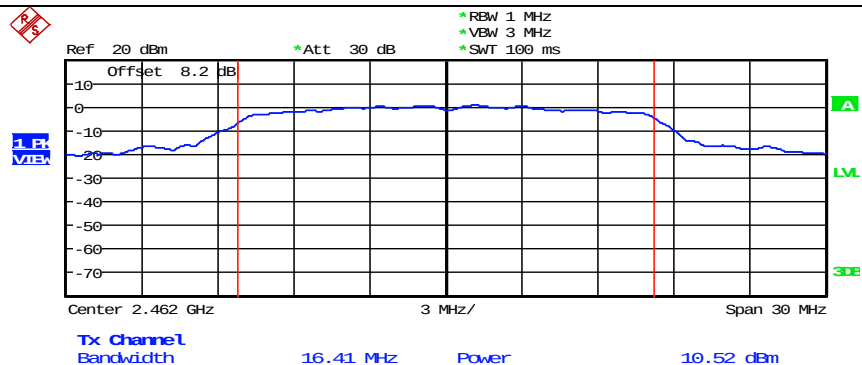


11G/MCH



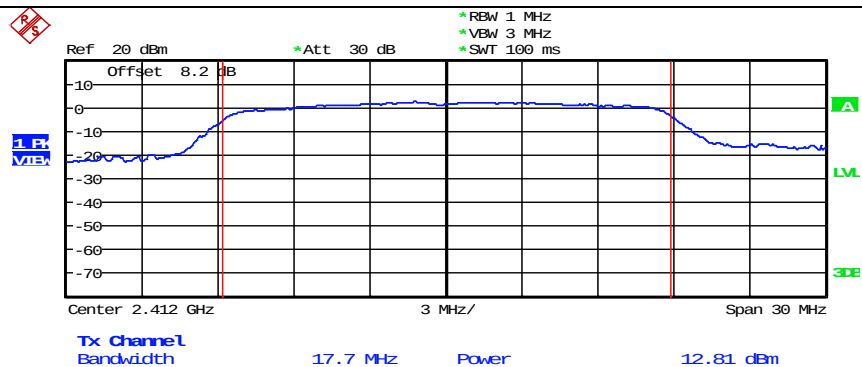
Date: 5.SEP.2019 16:35:23

11G/HCH



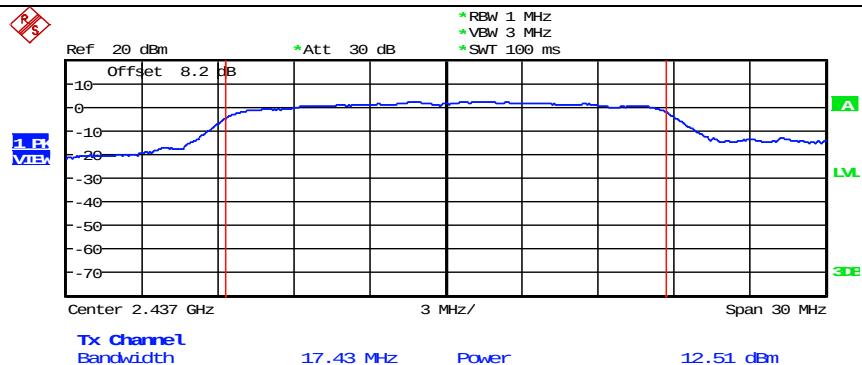
Date: 5.SEP.2019 16:37:55

11N20SISO/LCH



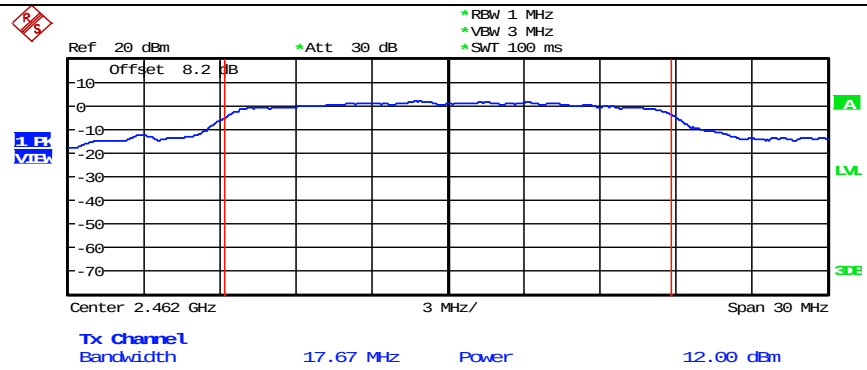
Date: 5.SEP.2019 16:43:17

11N20SISO/MCH



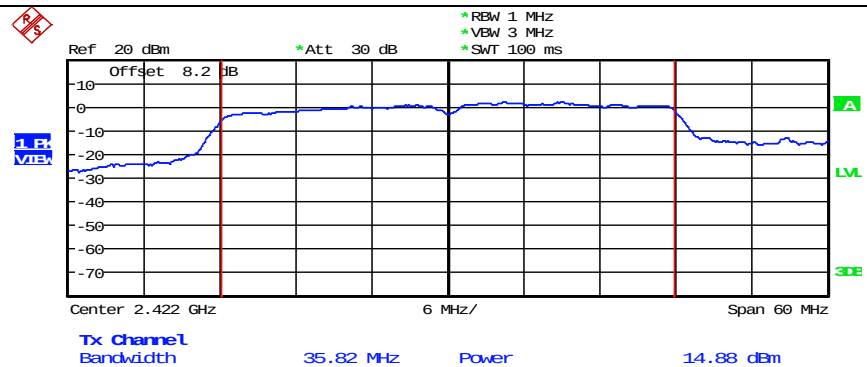
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11N20SISO/HCH



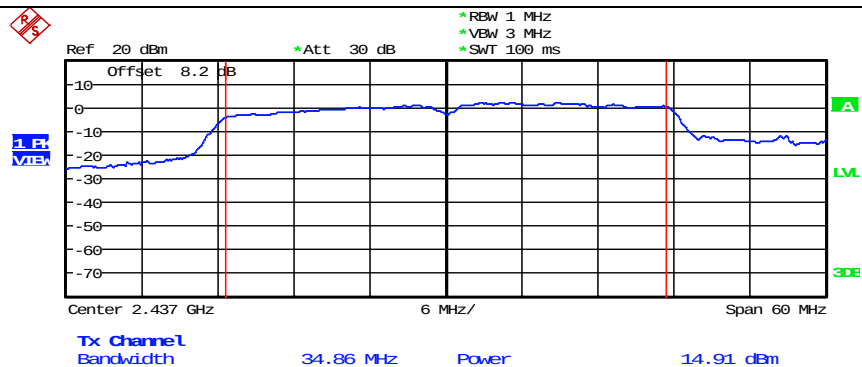
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11N40SISO/LCH



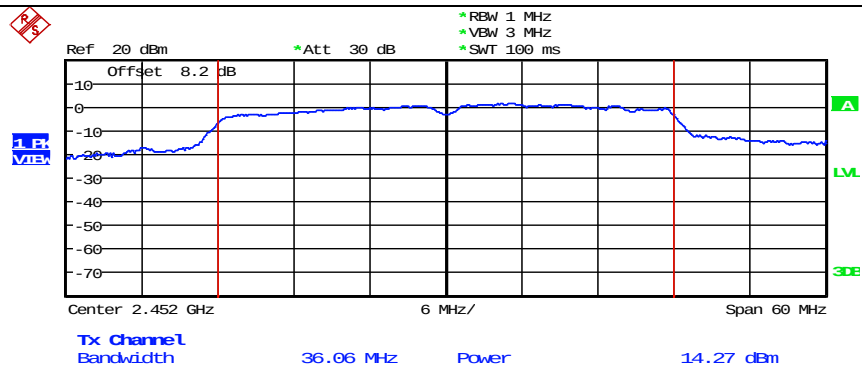
Date: 5.SEP.2019 16:56:28

11N40SISO/MCH



Date: 5.SEP.2019 17:01:06

11N40SISO/HCH



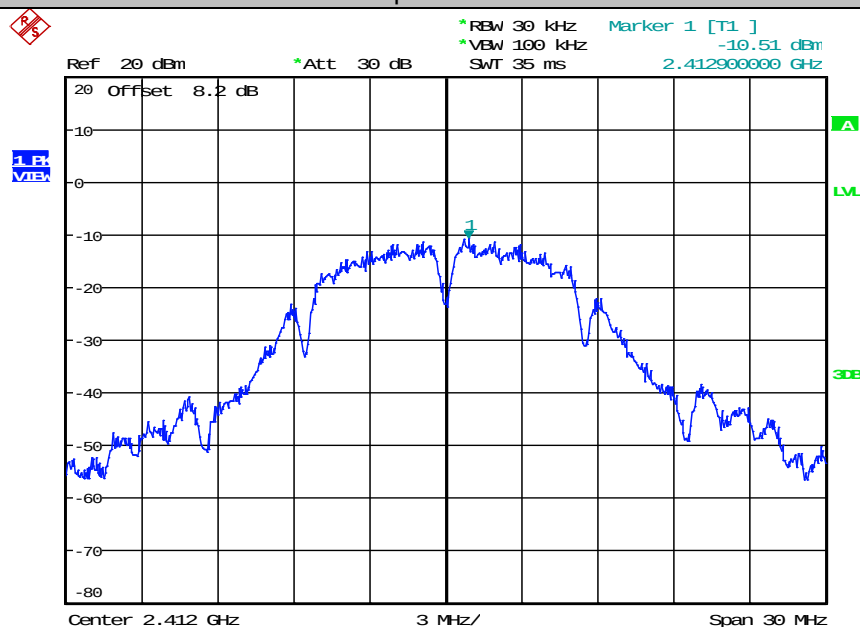
Date: 5.SEP.2019 17:03:35

C.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/30KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-10.510	8	PASS
	MCH	-11.250	8	PASS
	HCH	-11.240	8	PASS
11G	LCH	-12.520	8	PASS
	MCH	-12.390	8	PASS
	HCH	-12.920	8	PASS
11N20SISO	LCH	-9.860	8	PASS
	MCH	-10.720	8	PASS
	HCH	-11.040	8	PASS
11N40SISO	LCH	-12.190	8	PASS
	MCH	-11.800	8	PASS
	HCH	-12.900	8	PASS

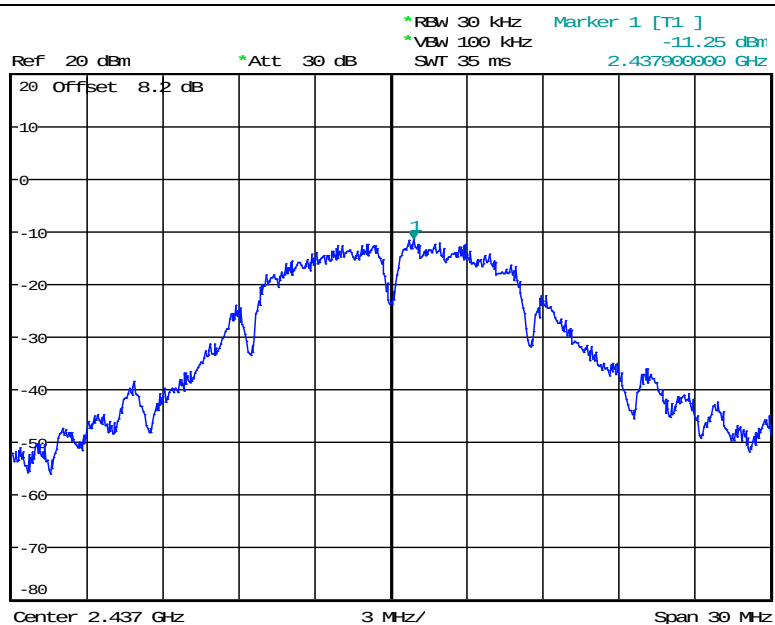
Test Graphs

11B/LCH



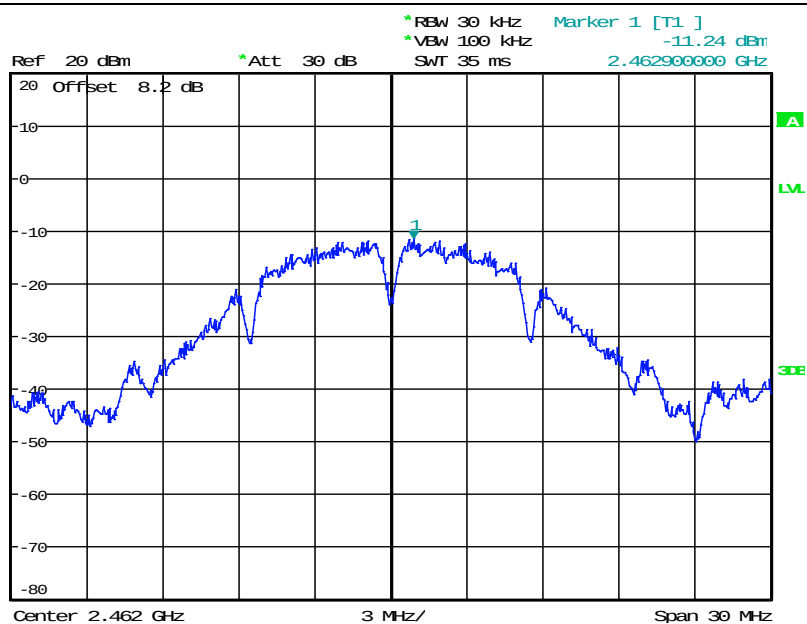
Date: 5.SEP.2019 16:23:33

11B/MCH

1 F
VIEW

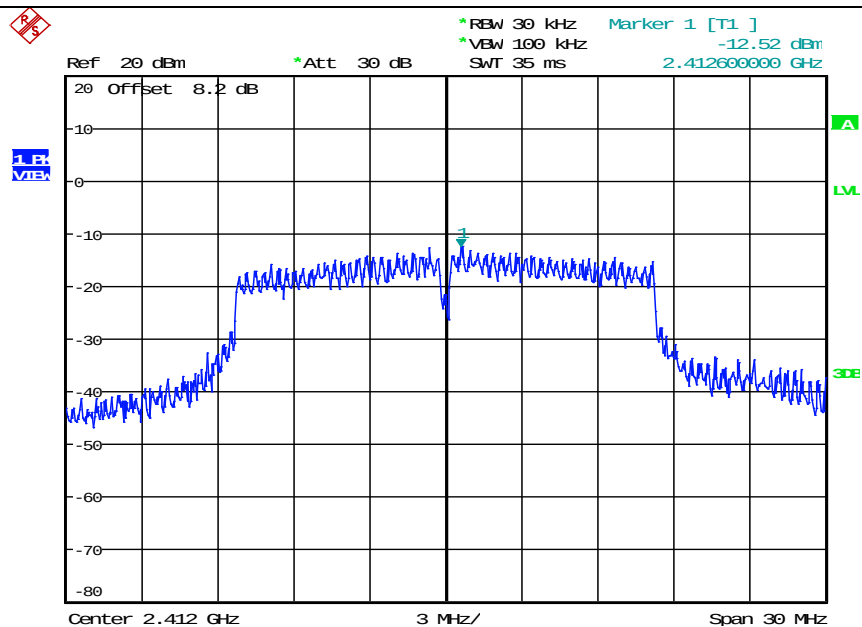
Date: 5.SEP.2019 16:26:21

11B/HCH

1 F
VIEW

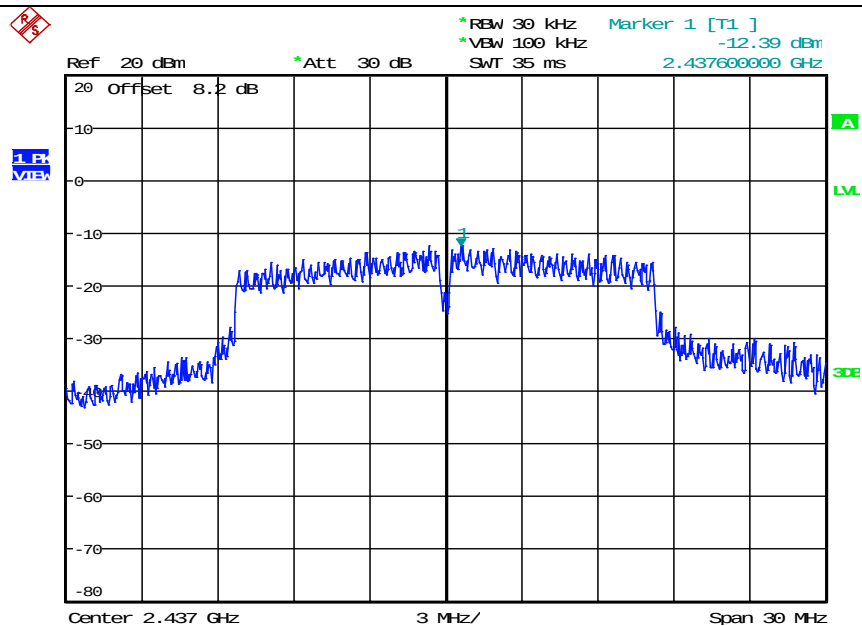
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11G/LCH



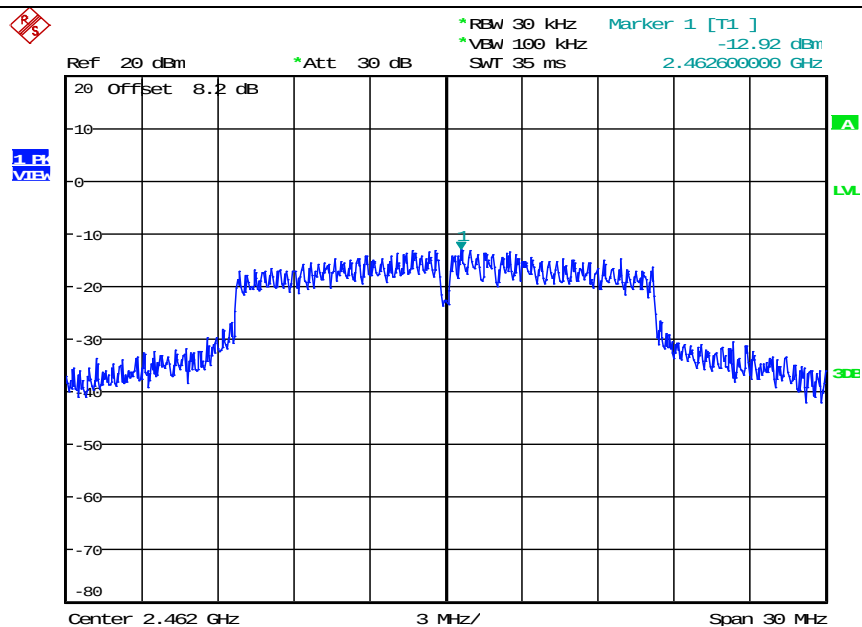
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11G/MCH



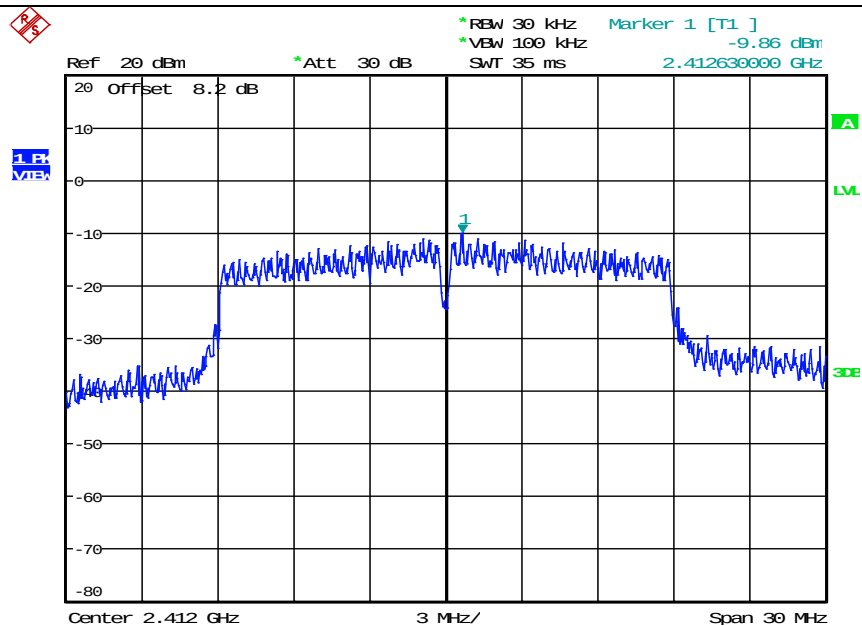
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11G/HCH



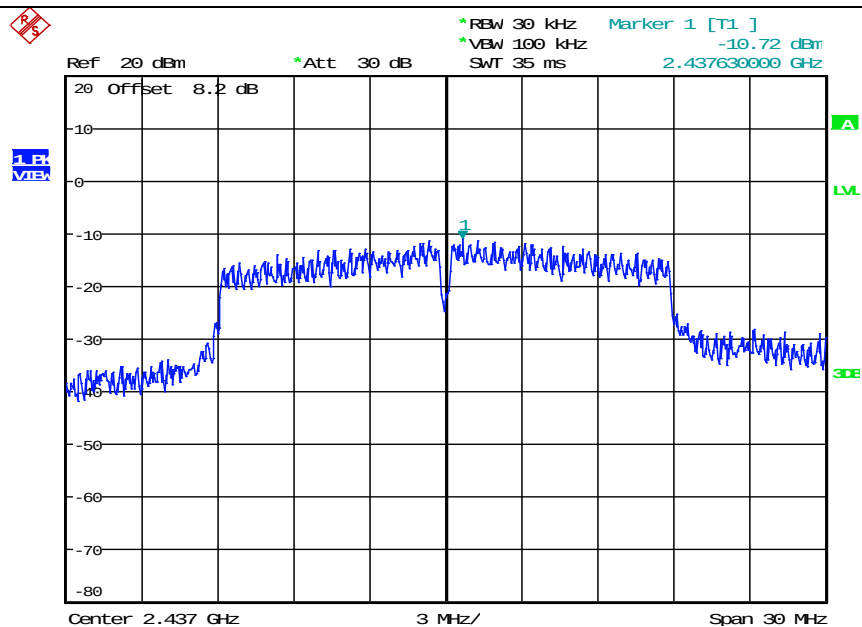
Date: 5.SEP.2019 16:38:08

11N20SISO/LCH



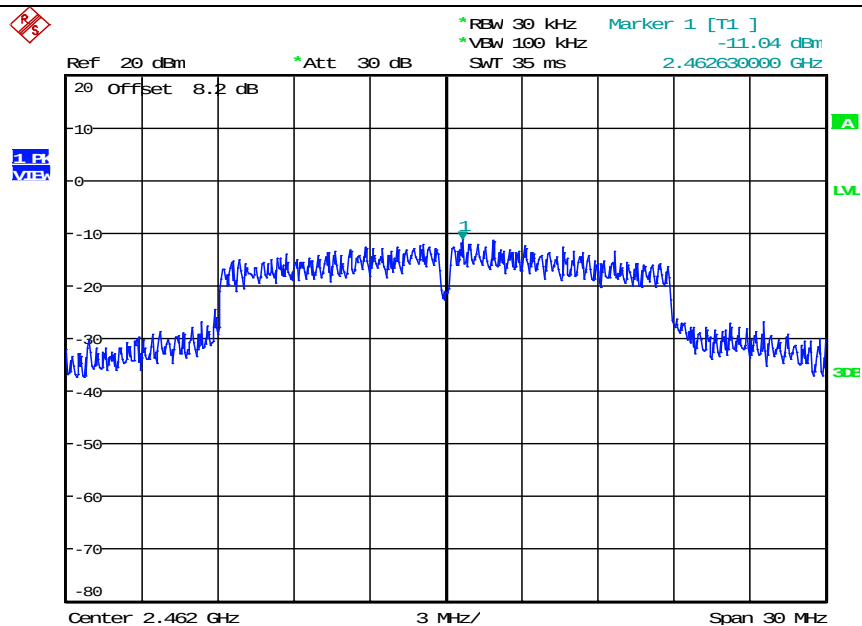
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11N20SISO/MCH



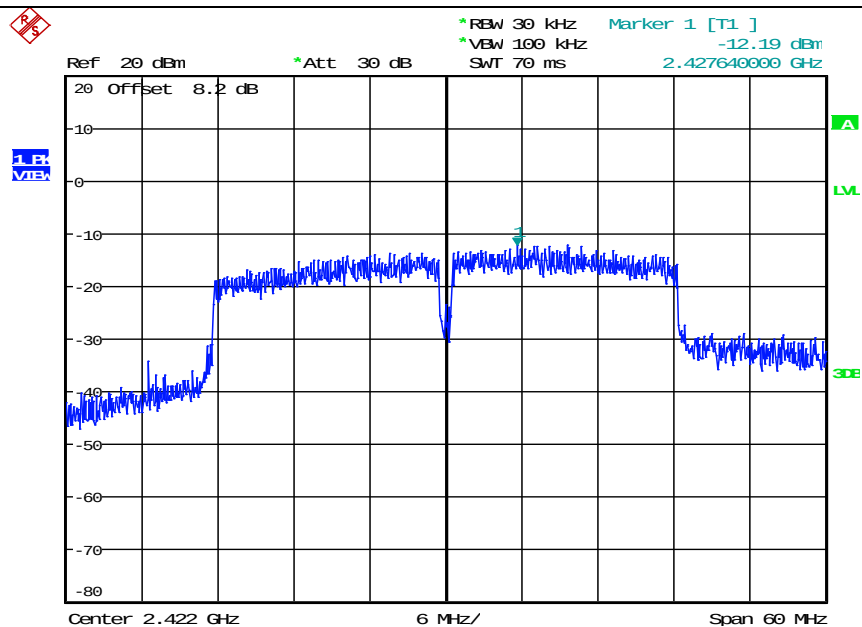
Date: 5.SEP.2019 16:46:11

11N20SISO/HCH



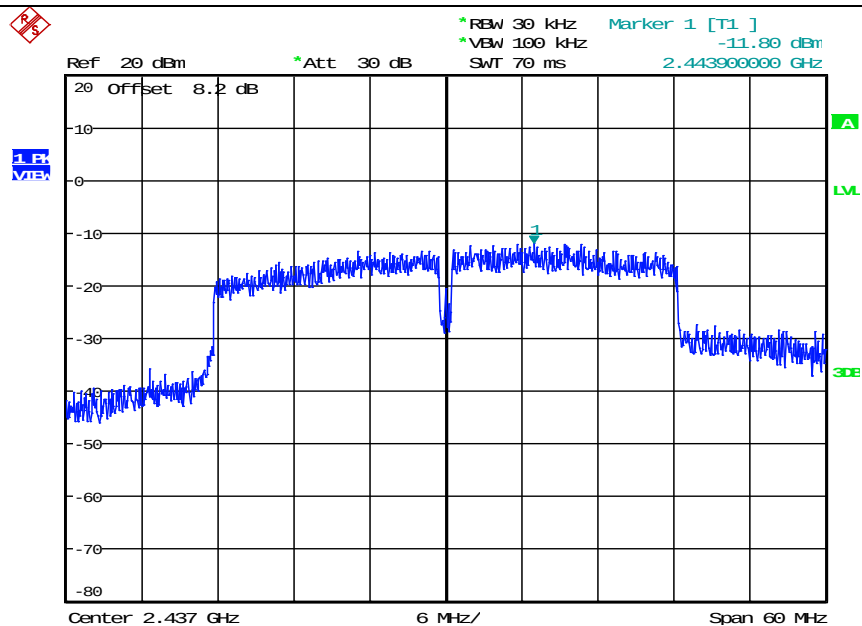
Date: 5.SEP.2019 16:48:08

11N40SISO/LCH



Date: 5.SEP.2019 16:56:41

11N40SISO/MCH

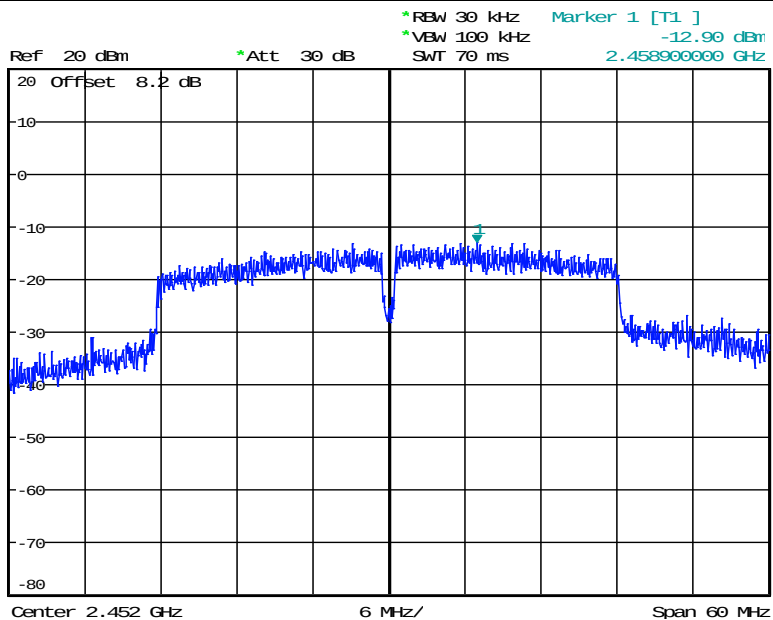


Date: 5.SEP.2019 17:01:18

11N40SISO/HCH



1 F
VIEW



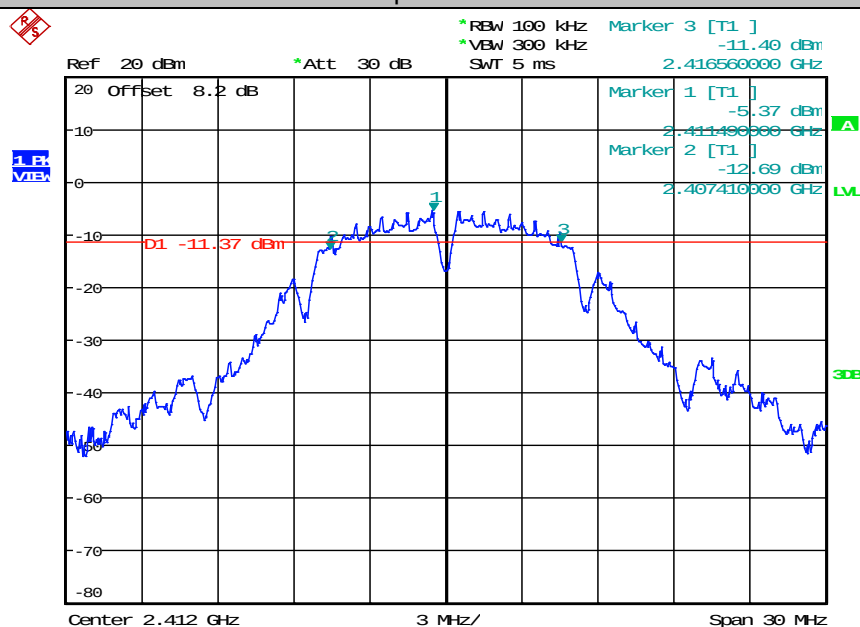
Date: 5.SEP.2019 17:03:48

C.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	9.150	≥ 0.5	PASS
	MCH	9.180	≥ 0.5	PASS
	HCH	9.180	≥ 0.5	PASS
11G	LCH	16.470	≥ 0.5	PASS
	MCH	16.410	≥ 0.5	PASS
	HCH	16.410	≥ 0.5	PASS
11N20SISO	LCH	17.700	≥ 0.5	PASS
	MCH	17.430	≥ 0.5	PASS
	HCH	17.670	≥ 0.5	PASS
11N40SISO	LCH	35.820	≥ 0.5	PASS
	MCH	34.860	≥ 0.5	PASS
	HCH	36.060	≥ 0.5	PASS

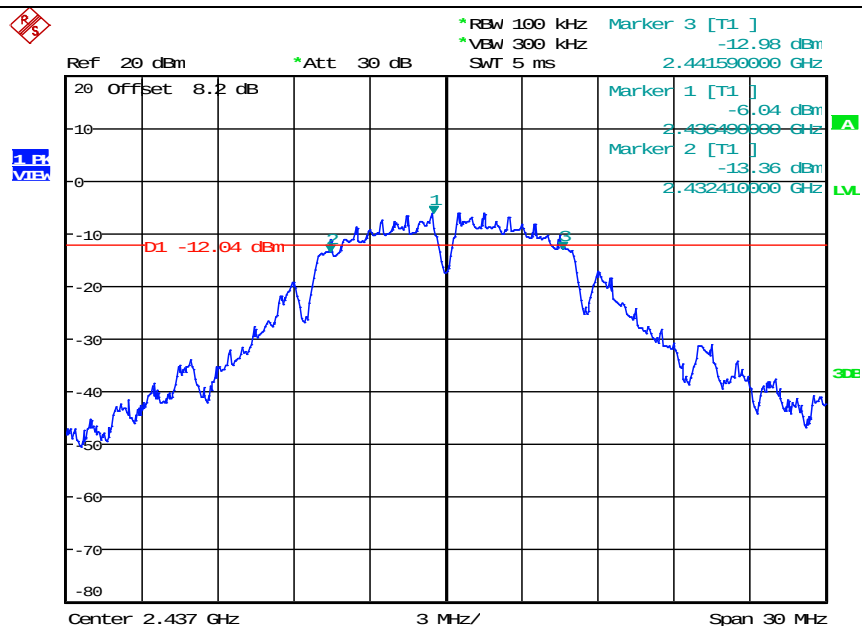
Test Graphs

11B/LCH



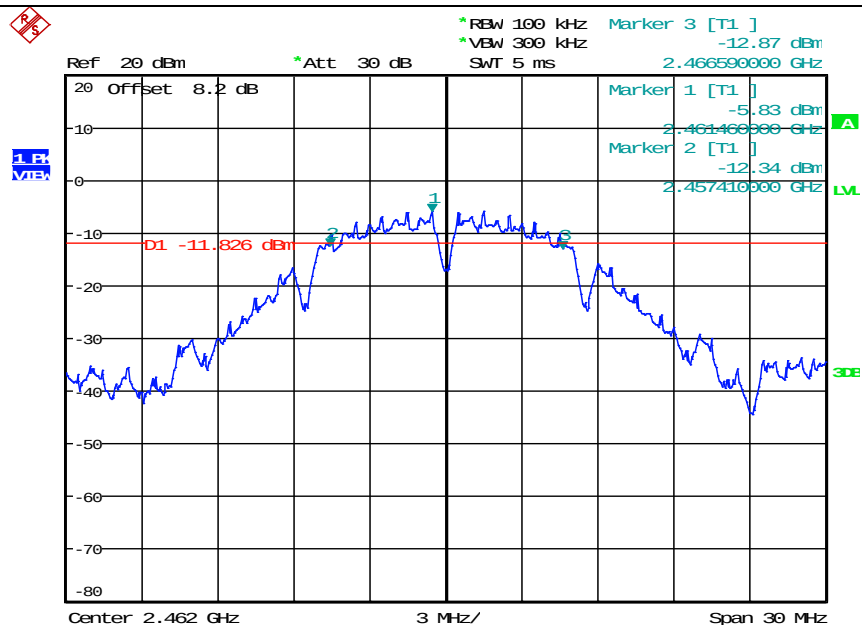
Date: 5.SEP.2019 16:22:45

11B/MCH



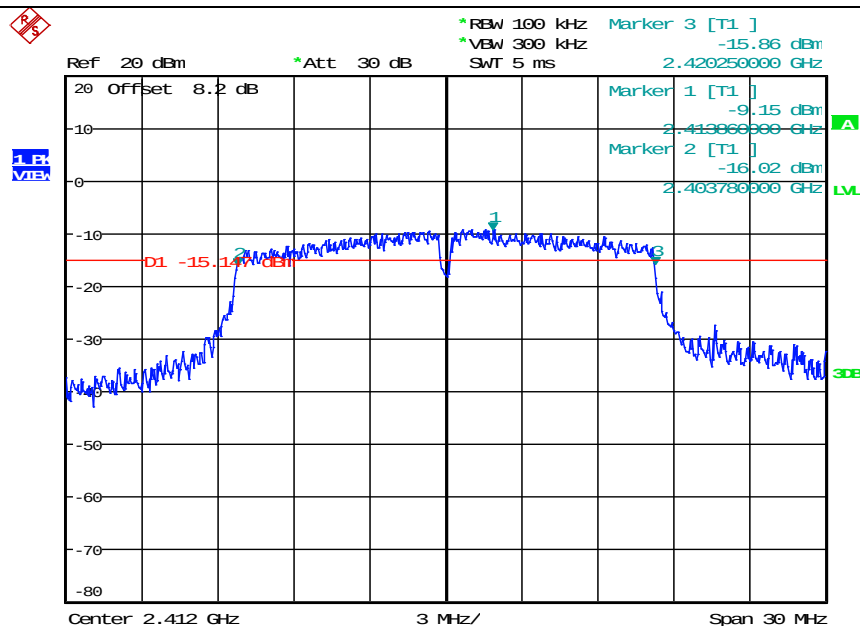
Date: 5.SEP.2019 16:25:34

11B/HCH



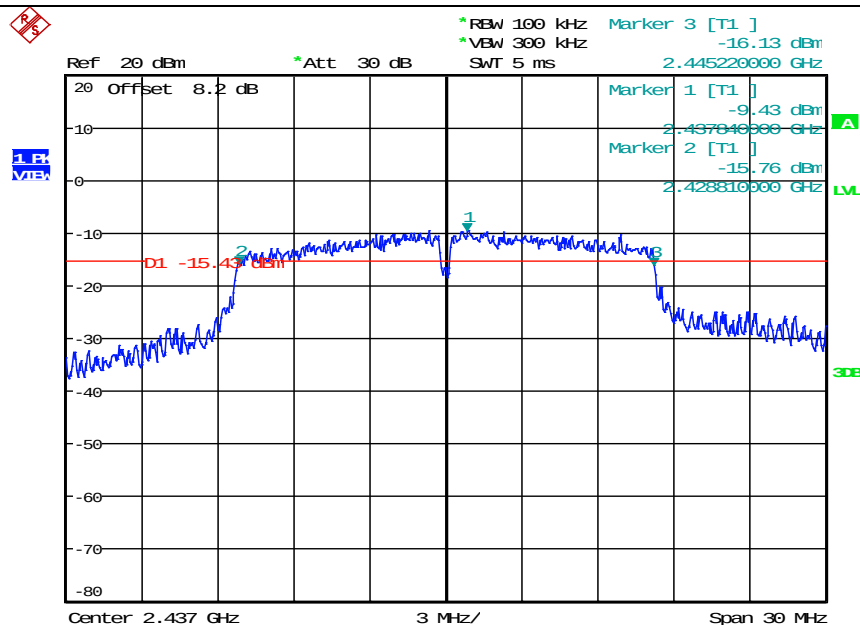
Date: 5.SEP.2019 16:27:22

11G/LCH



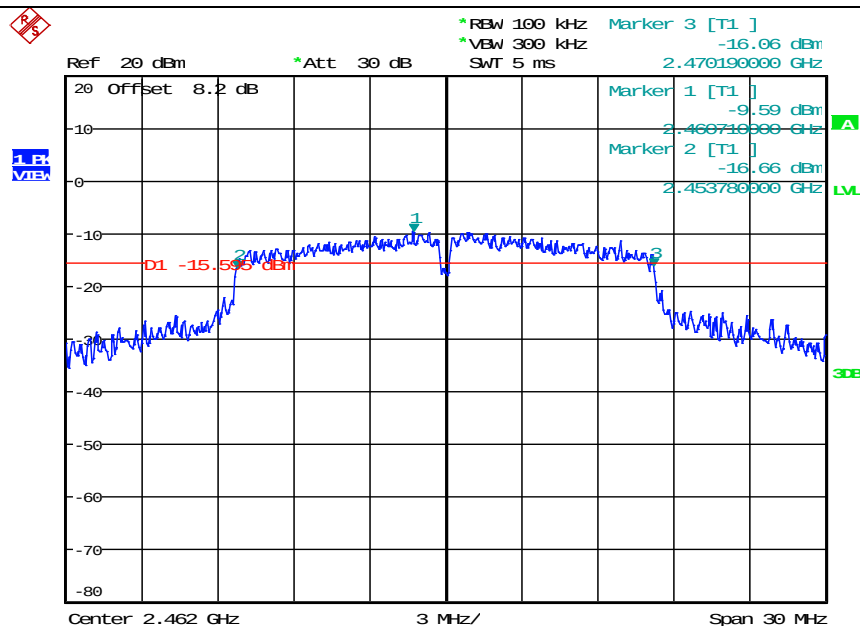
Date: 5.SEP.2019 16:30:46

11G/MCH



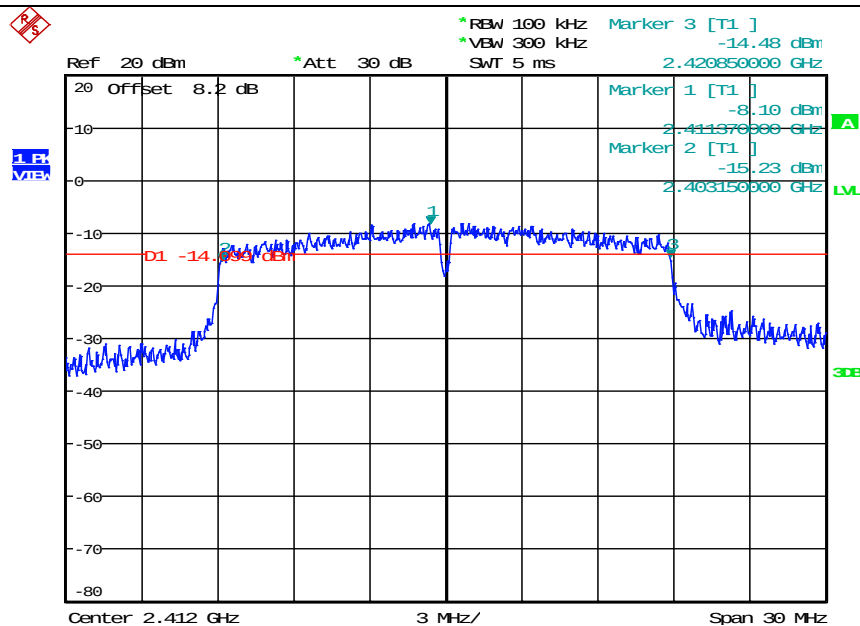
Date: 5.SEP.2019 16:34:48

11G/HCH



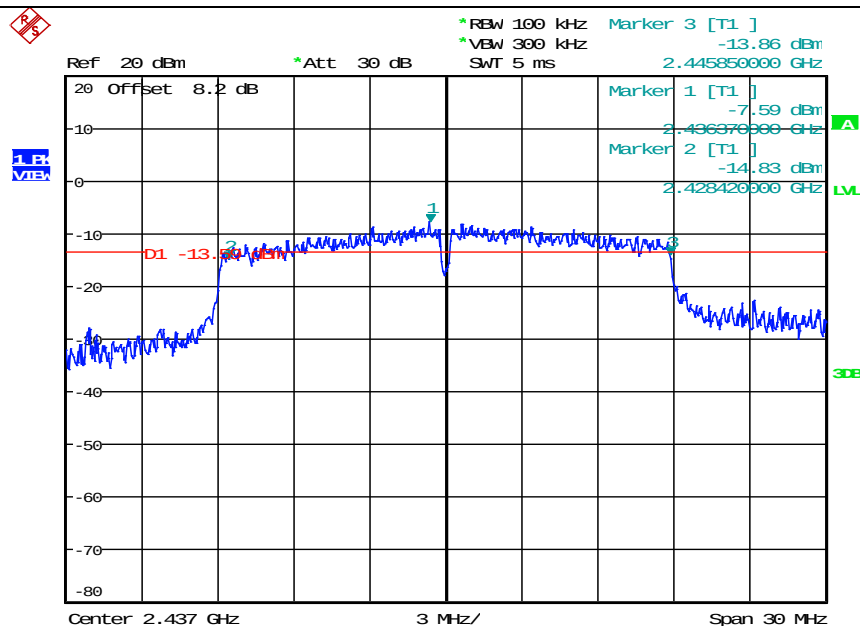
Date: 5.SEP.2019 16:37:21

11N20SISO/LCH



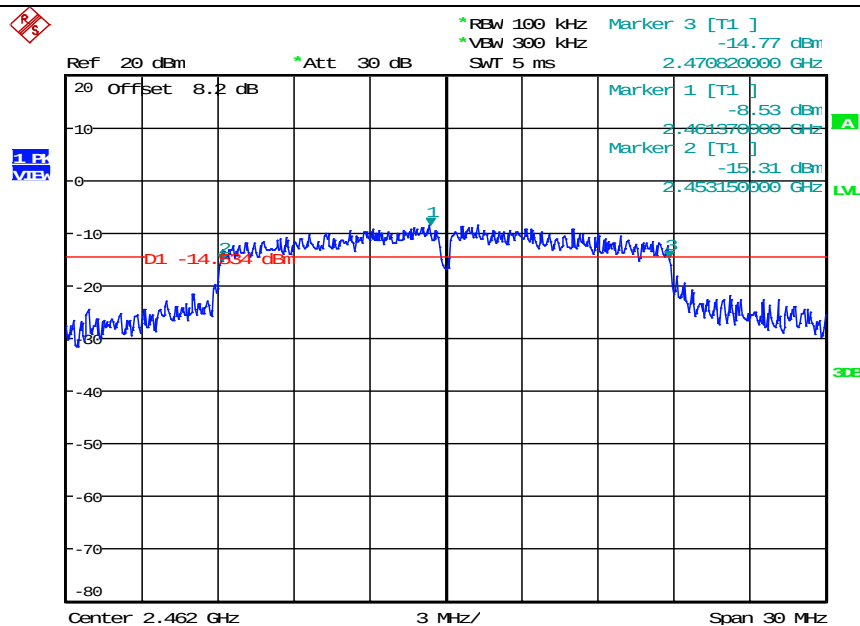
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11N20SISO/MCH



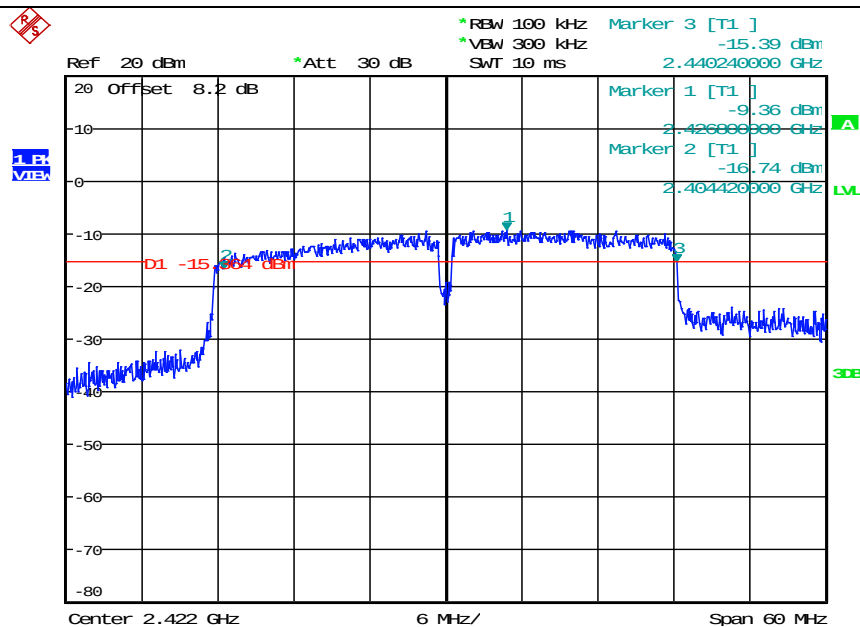
Date: 5.SEP.2019 16:45:23

11N20SISO/HCH



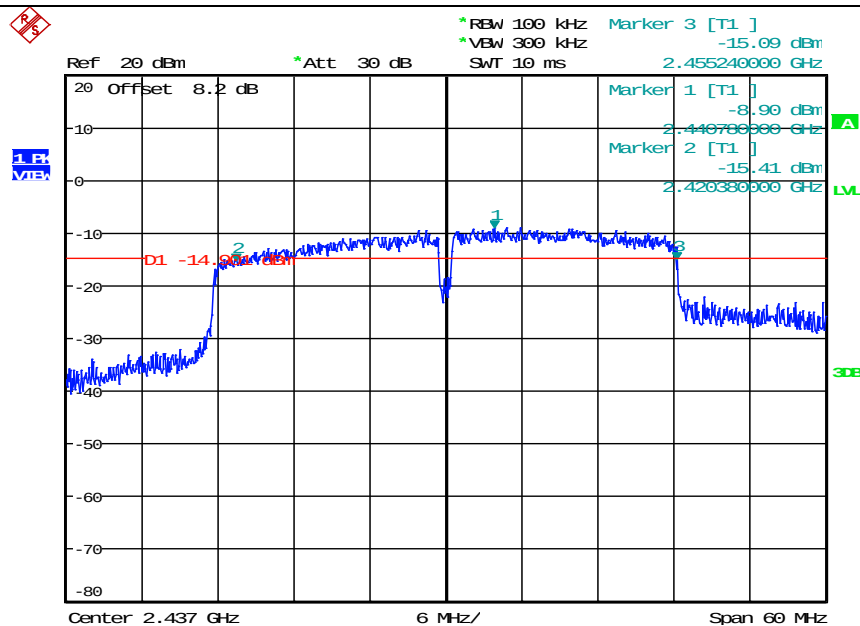
Date: 5.SEP.2019 16:47:20

11N40SISO/LCH



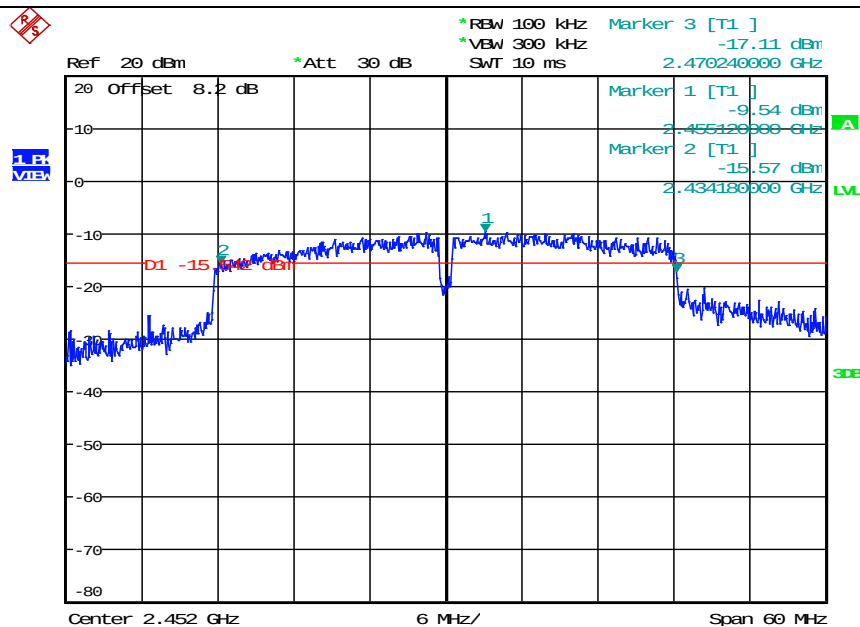
Date: 5.SEP.2019 16:55:53

11N40SISO/MCH



Date: 5.SEP.2019 17:00:31

11N40SISO/HCH



Date: 5.SEP.2019 17:03:00

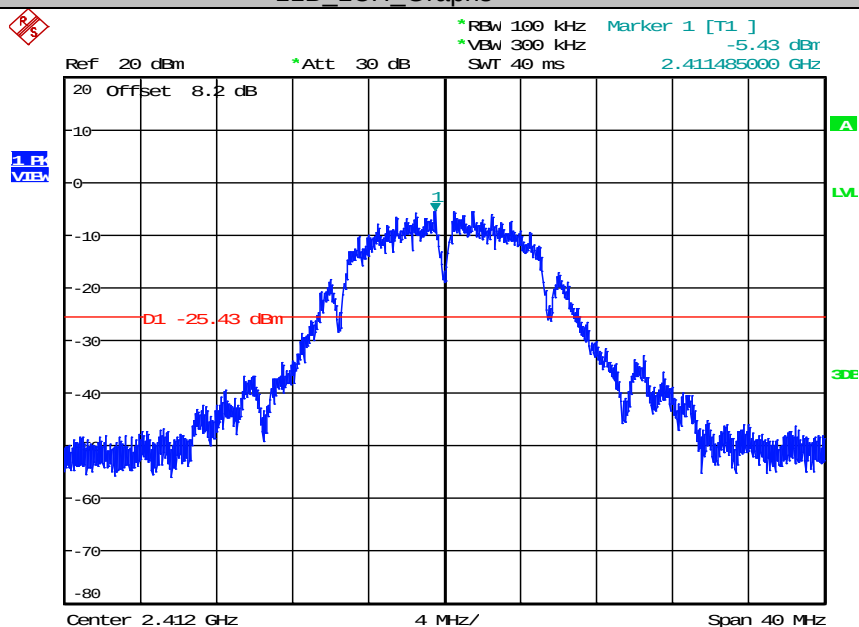
C.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdic
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					t
11B	LCH	-5.43	-30.940	-25.430	PASS
	MCH	-6.07	-31.490	-26.070	PASS
	HCH	-5.86	-31.530	-25.860	PASS
11G	LCH	-9.92	-31.470	-29.920	PASS
	MCH	-9.6	-32.140	-29.600	PASS
	HCH	-9.9	-31.050	-29.900	PASS
11N20 SISO	LCH	-7.9	-31.750	-27.900	PASS
	MCH	-7.78	-31.830	-27.780	PASS
	HCH	-8.69	-32.390	-28.690	PASS
11N40 SISO	LCH	-9.43	-31.970	-29.430	PASS
	MCH	-9.09	-31.180	-29.090	PASS
	HCH	-9.49	-31.420	-29.490	PASS

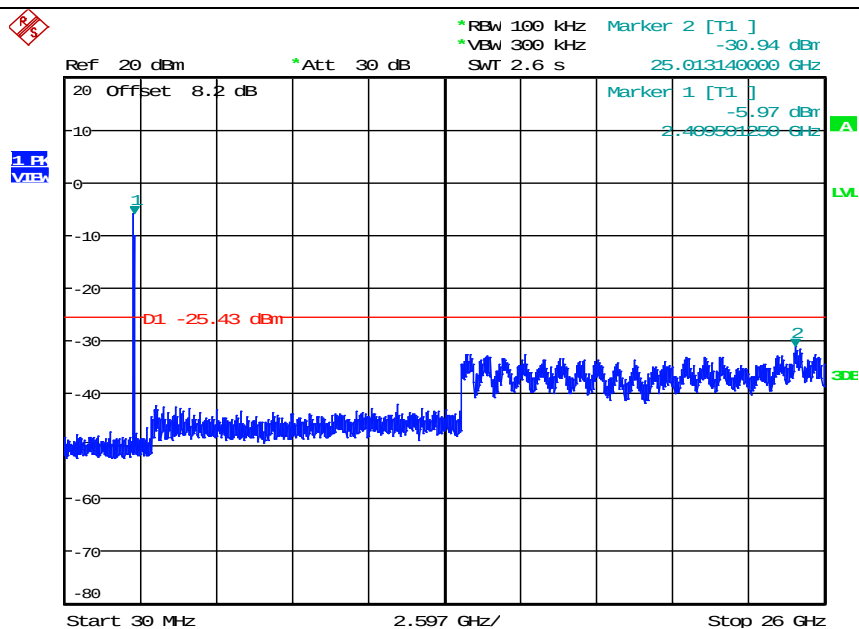
11B_LCH_Graphs

Pref/11B/LCH



Date: 5.SEP.2019 16:23:59

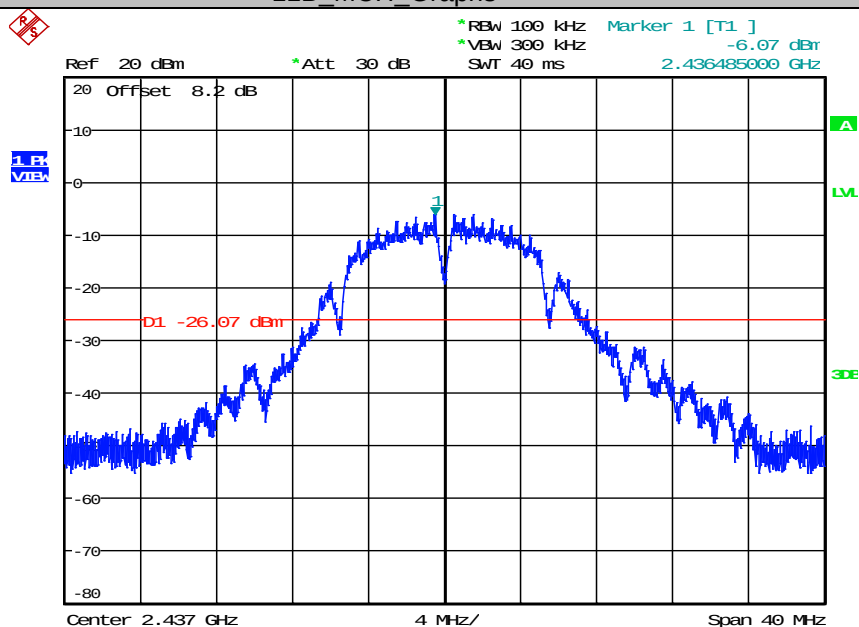
Puw/11B/LCH



Date: 5.SEP.2019 16:24:28

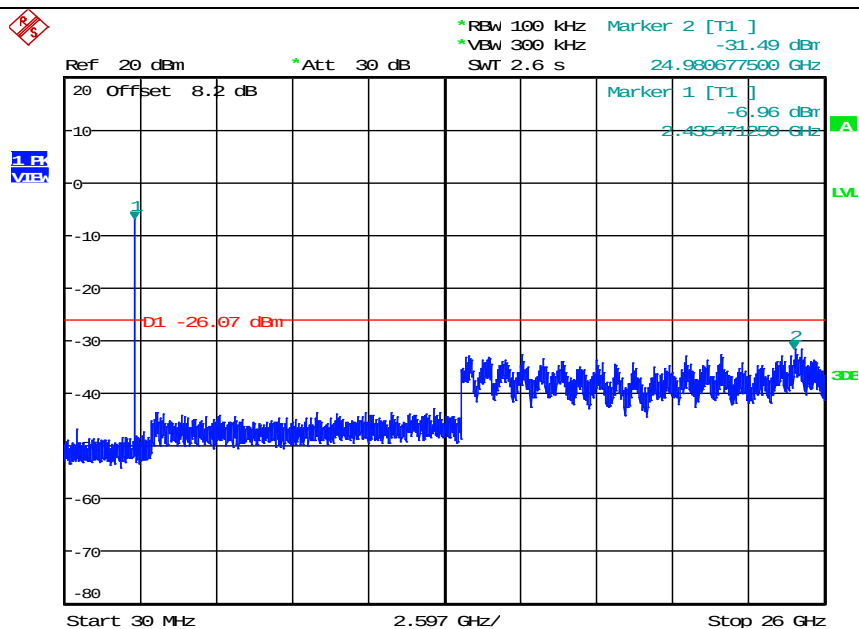
11B_MCH_Graphs

Pref/11B/MCH



Date: 5.SEP.2019 16:26:34

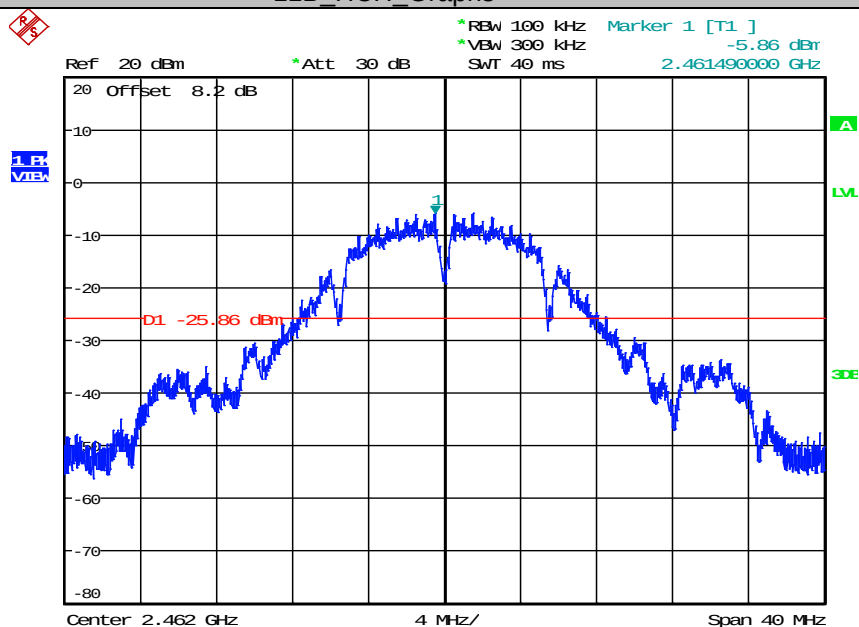
Puw/11B/MCH



Date: 5.SEP.2019 16:26:50

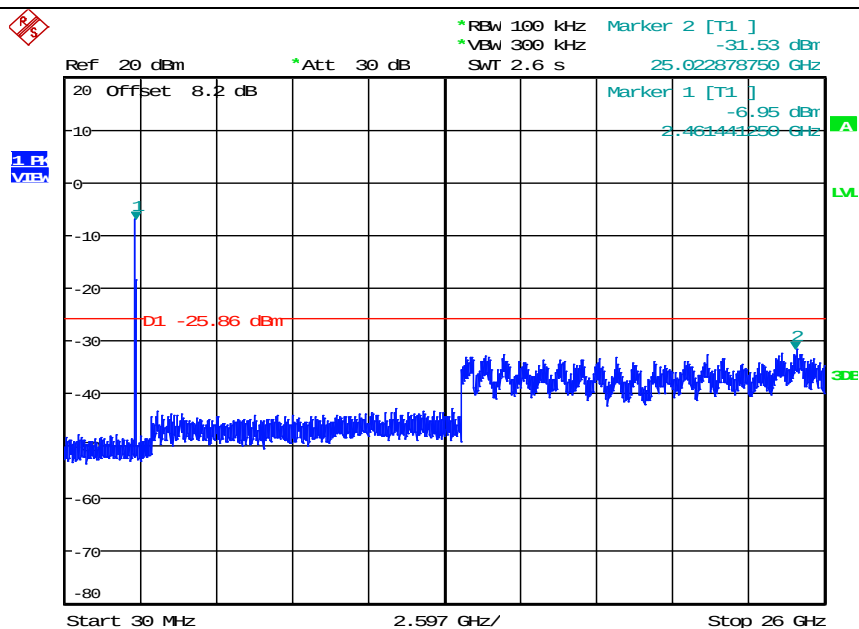
11B_HCH_Graphs

Pref/11B/HCH



Date: 5.SEP.2019 16:29:16

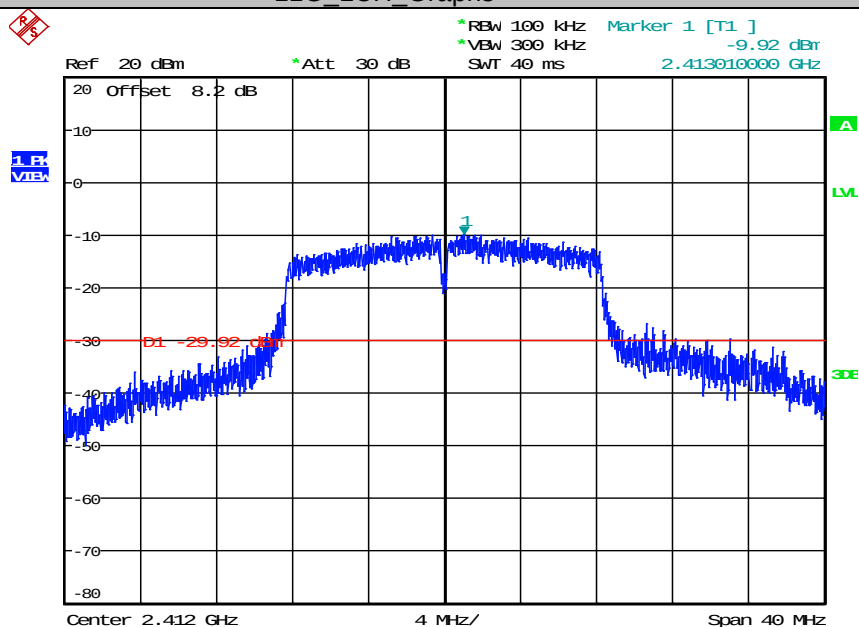
Puw/11B/HCH



Date: 5.SEP.2019 16:29:37

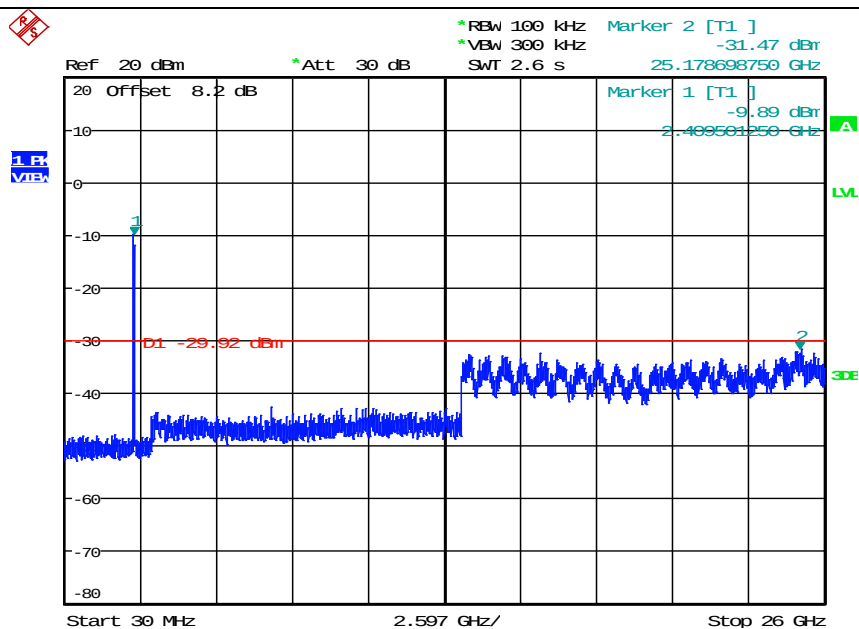
11G_LCH_Graphs

Pref/11G/LCH



Date: 5.SEP.2019 16:32:00

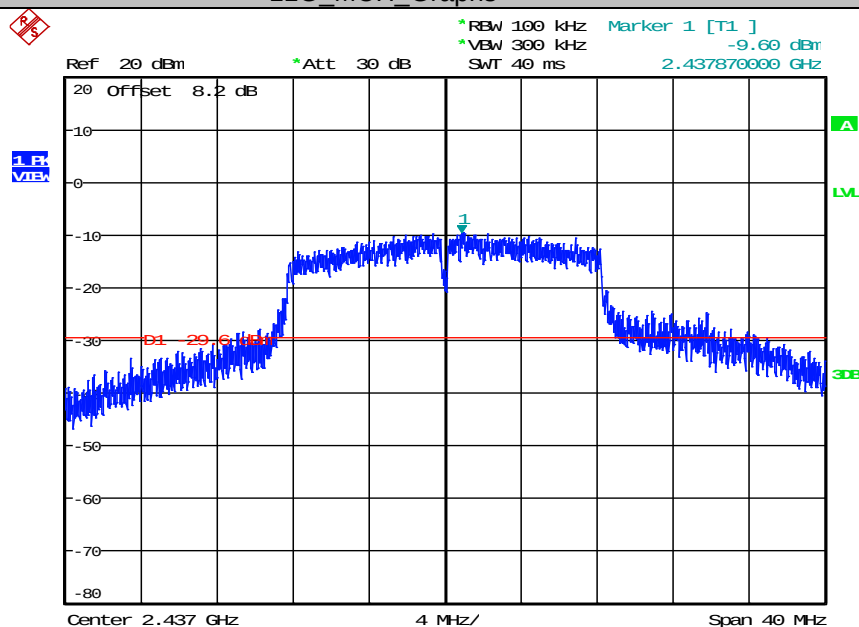
Puw/11G/LCH



Date: 5.SEP.2019 16:32:23

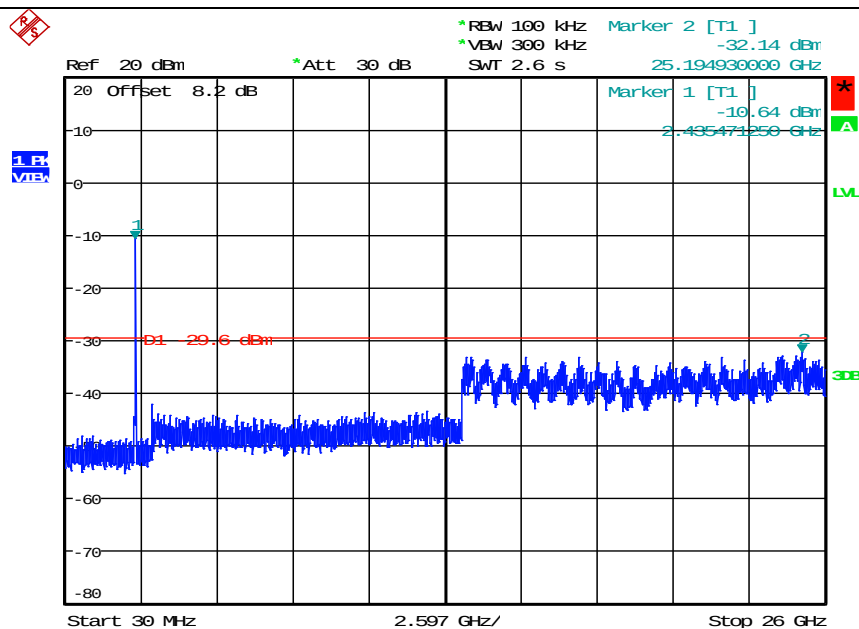
11G_MCH_Graphs

Pref/11G/MCH



Date: 5.SEP.2019 16:36:19

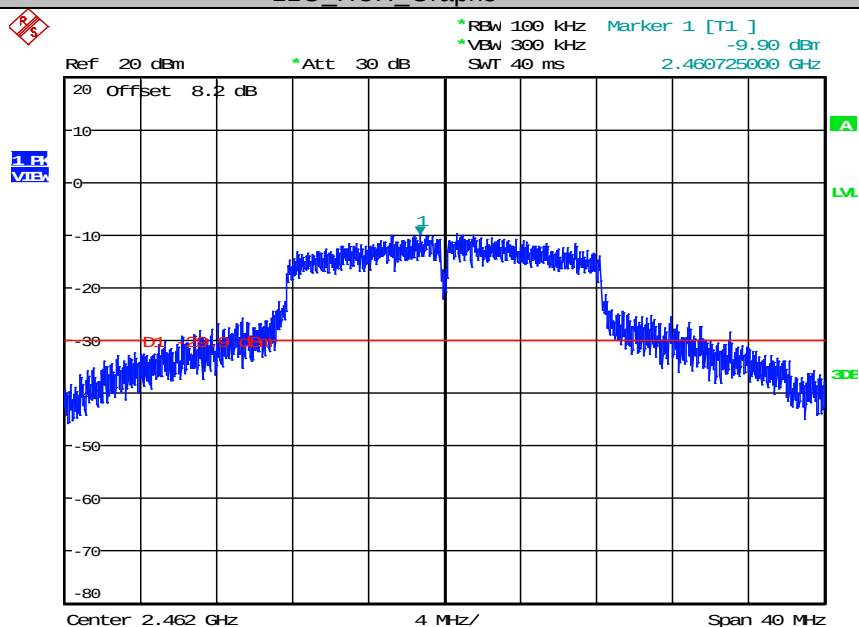
Puw/11G/MCH



Date: 5.SEP.2019 16:36:49

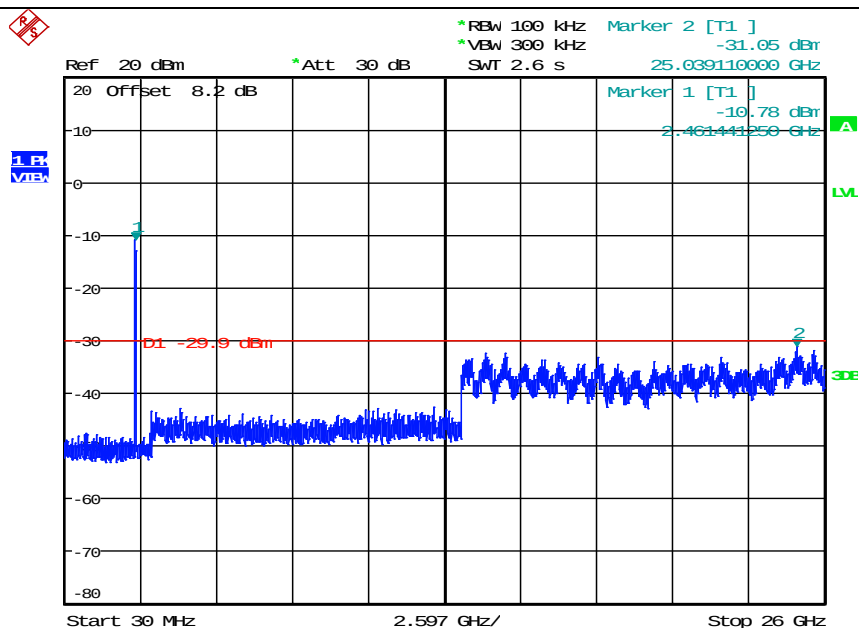
11G_HCH_Graphs

Pref/11G/HCH



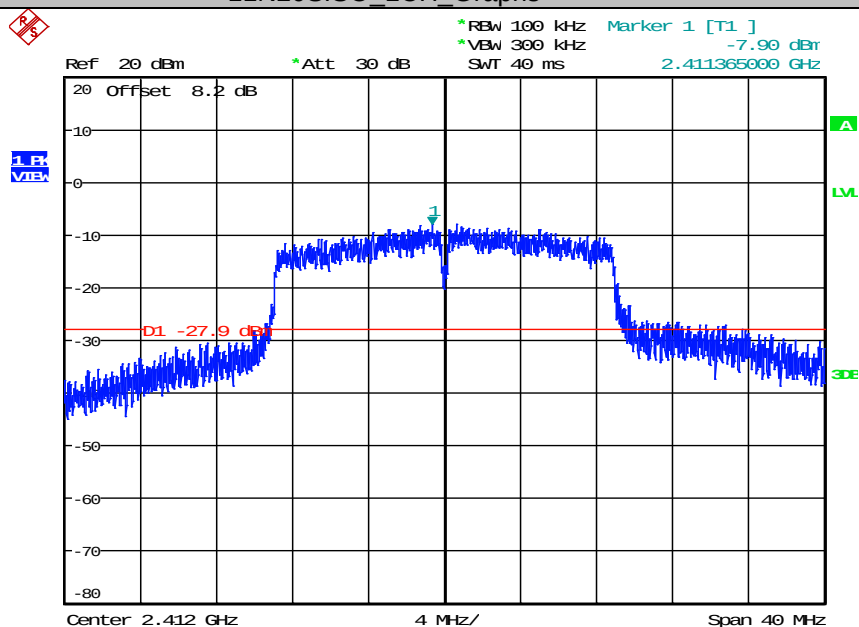
Date: 5.SEP.2019 16:38:35

Puw/11G/HCH

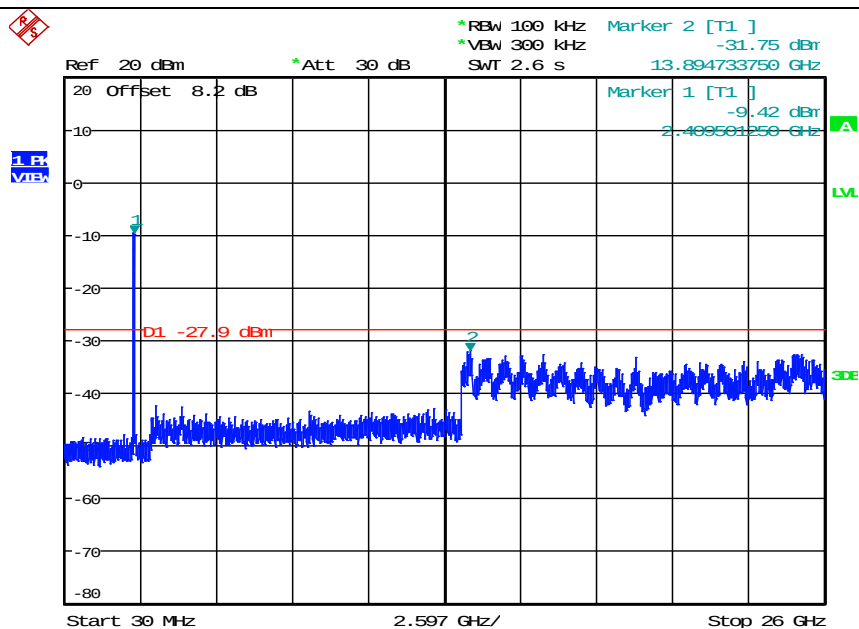


Date: 5.SEP.2019 16:38:53

11N20SISO LCH Graphs

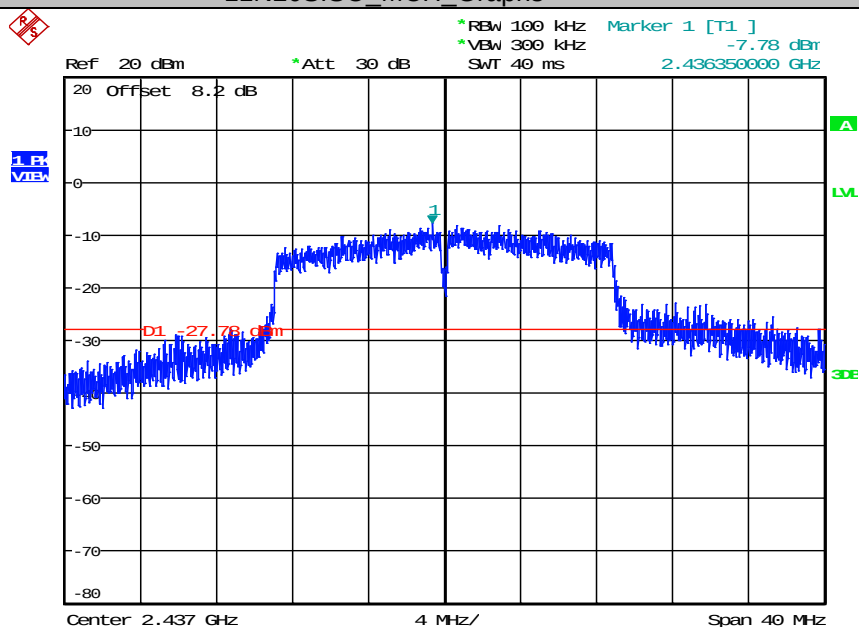
Pref/11N20SIS
O/LCH

Date: 5.SEP.2019 16:43:56

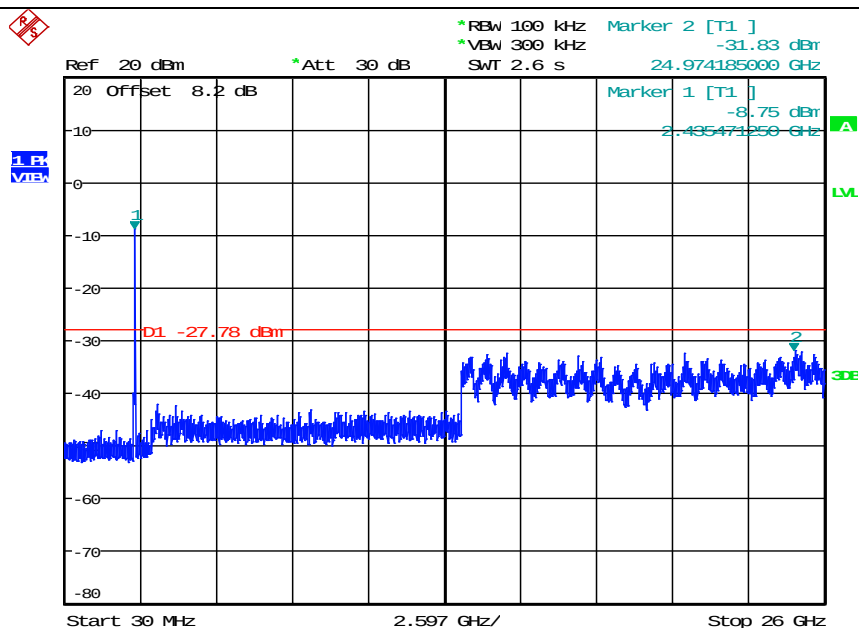
Puw/11N20
SISO/LCH

Date: 5.SEP.2019 16:44:12

11N20SISO_MCH_Graphs

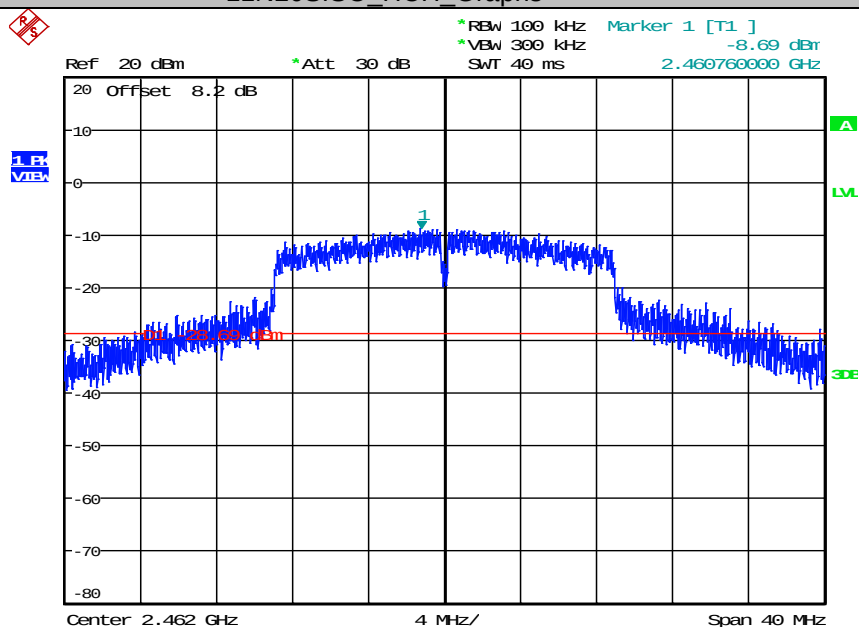
Pref/11N20
SISO/MCH

Date: 5.SEP.2019 16:46:23

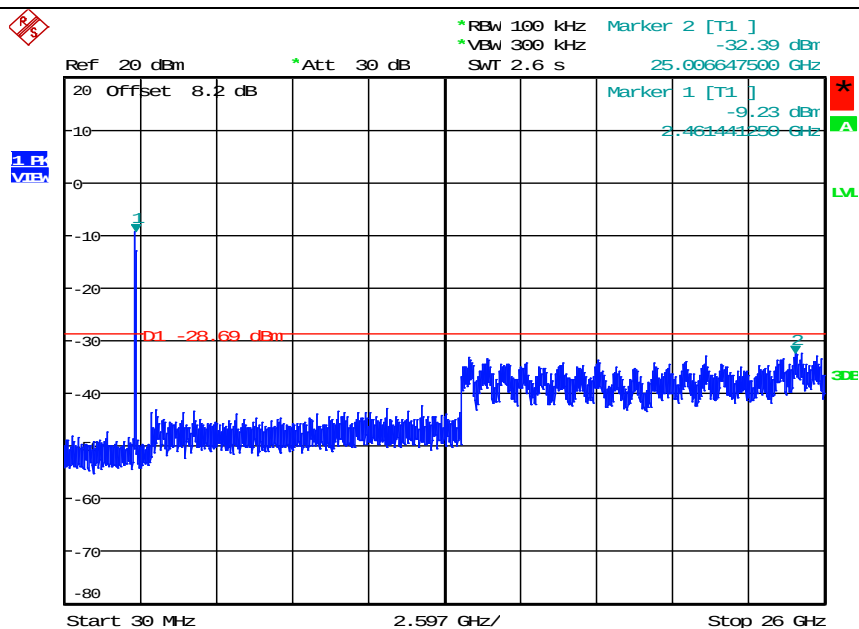
Puw/11N20
SISO/MCH

Date: 5.SEP.2019 16:46:42

11N20SISO_HCH_Graphs

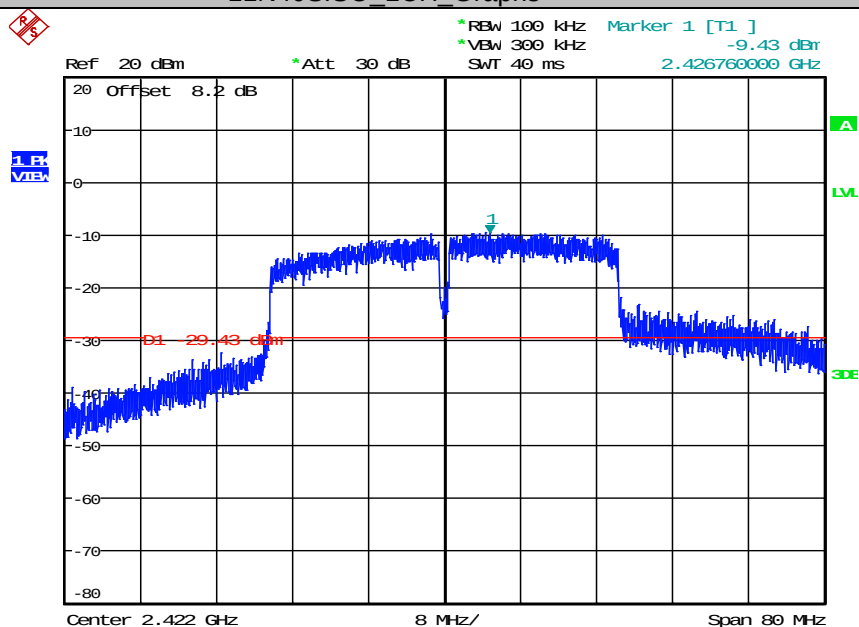
Pref/11N20
SISO/HCH

Date: 5.SEP.2019 16:48:34

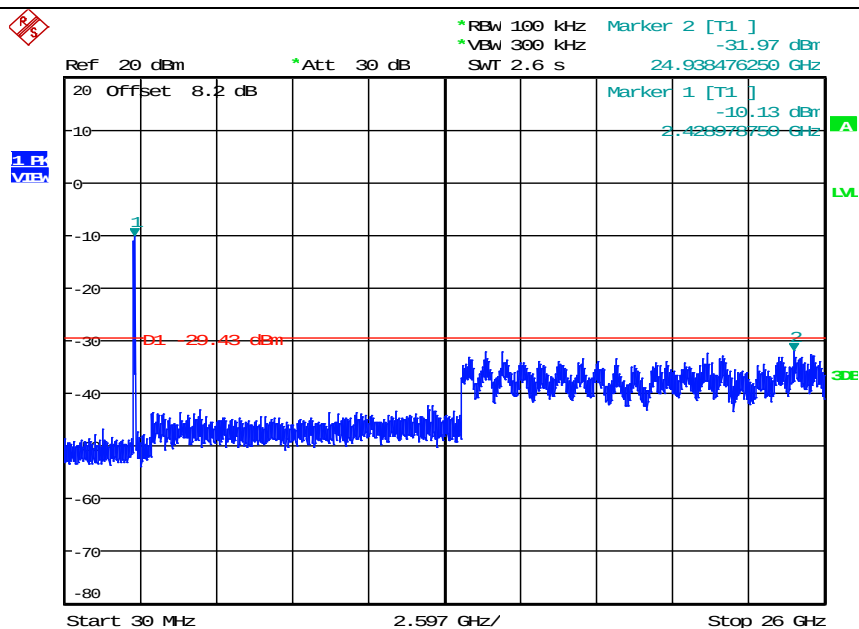
Puw/11N20
SISO/HCH

Date: 5.SEP.2019 16:48:55

11N40SISO_LCH_Graphs

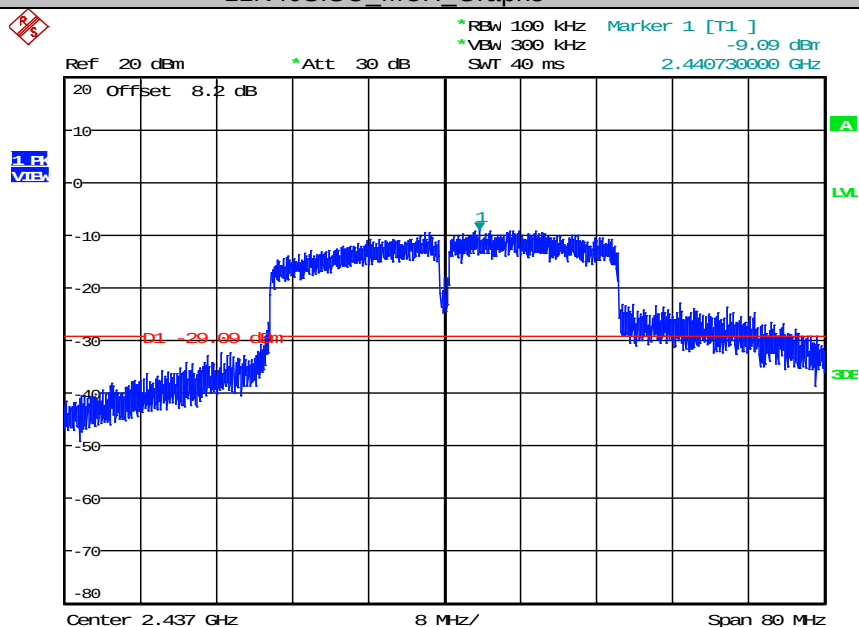
Pref/11N40
SISO/LCH

Date: 5.SEP.2019 16:57:07

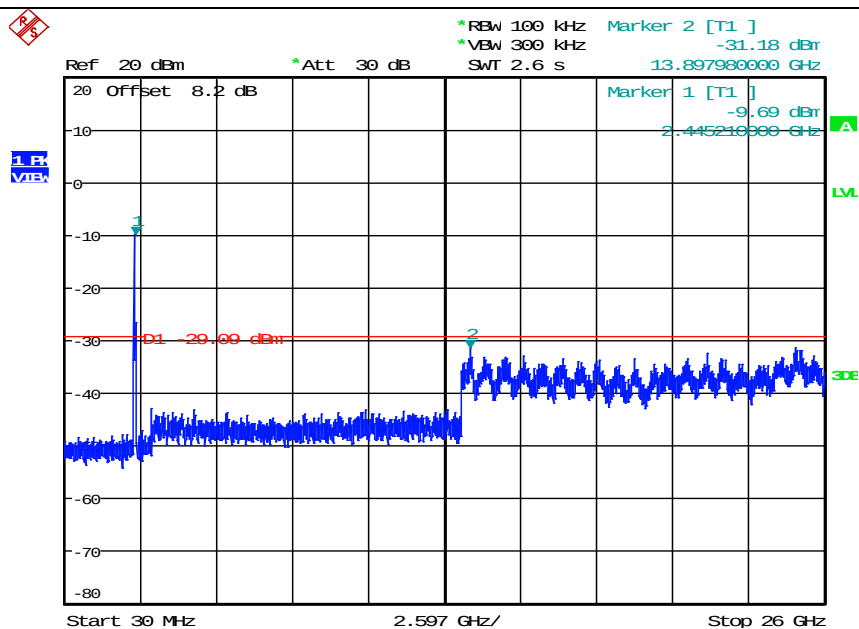
Puw/11N40
SISO/LCH

Date: 5.SEP.2019 16:57:24

11N40SISO_MCH_Graphs

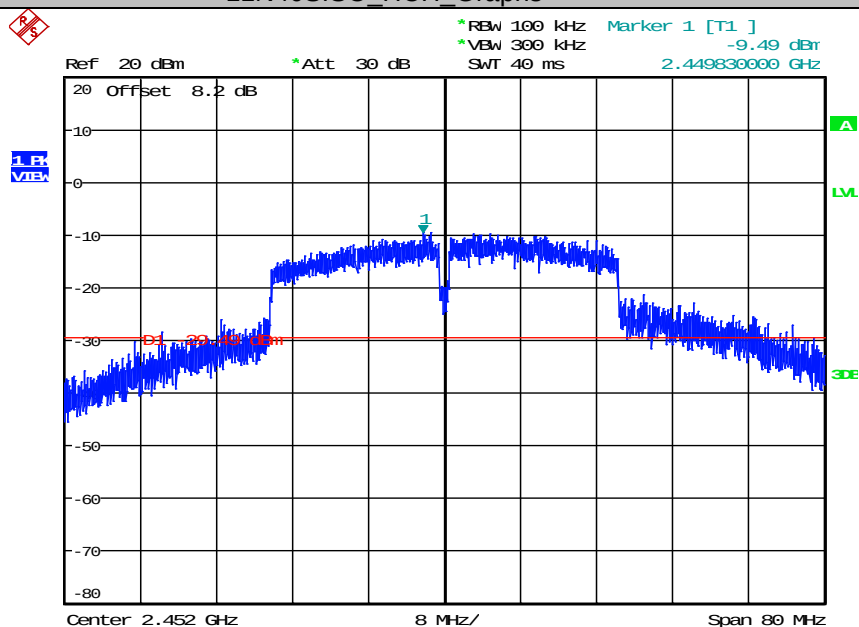
Pref/11N40
SISO/MCH

Date: 5.SEP.2019 17:01:31

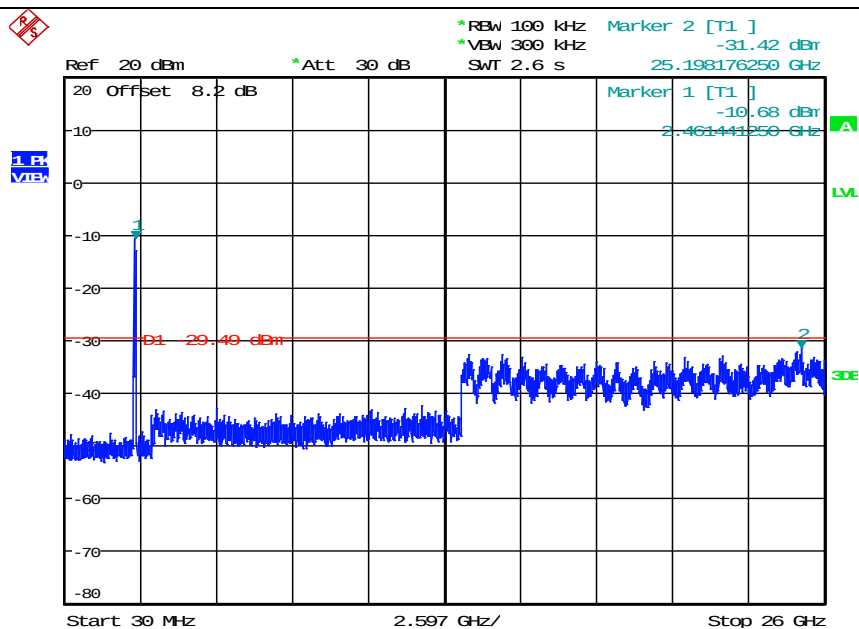
Puw/11N40
SISO/MCH

Date: 5.SEP.2019 17:01:50

11N40SISO_HCH_Graphs

Pref/11N40
SISO/HCH

Date: 5.SEP.2019 17:04:45

Puw/11N40
SISO/HCH

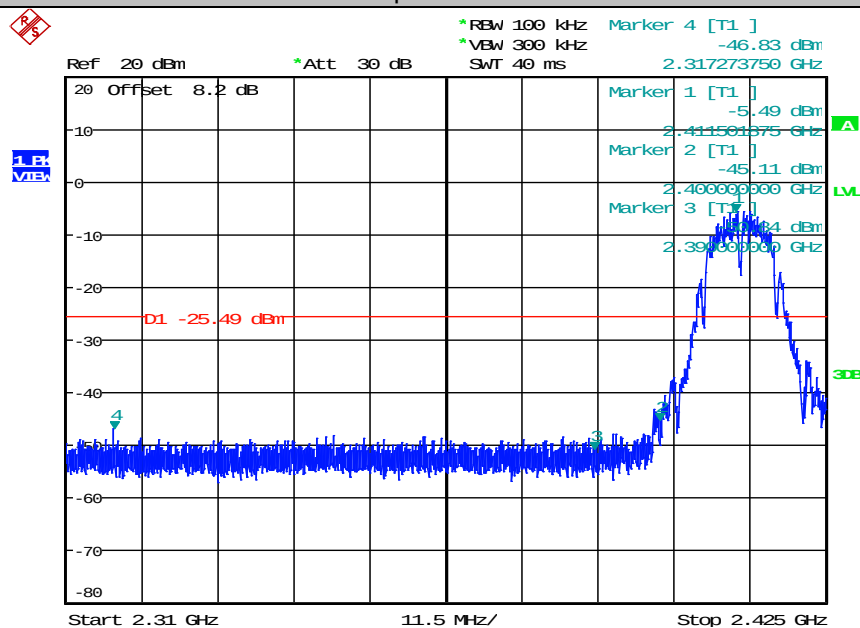
Date: 5.SEP.2019 17:05:03

C.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-5.490	-46.829	-25.49	PASS
	HCH	-5.870	-46.865	-25.87	PASS
11G	LCH	-10.180	-45.666	-30.18	PASS
	HCH	-9.890	-40.995	-29.89	PASS
11N20SISO	LCH	-8.040	-38.618	-28.04	PASS
	HCH	-8.650	-33.472	-28.65	PASS
11N40SISO	LCH	-9.110	-37.911	-29.11	PASS
	HCH	-12.260	-32.888	-32.26	PASS

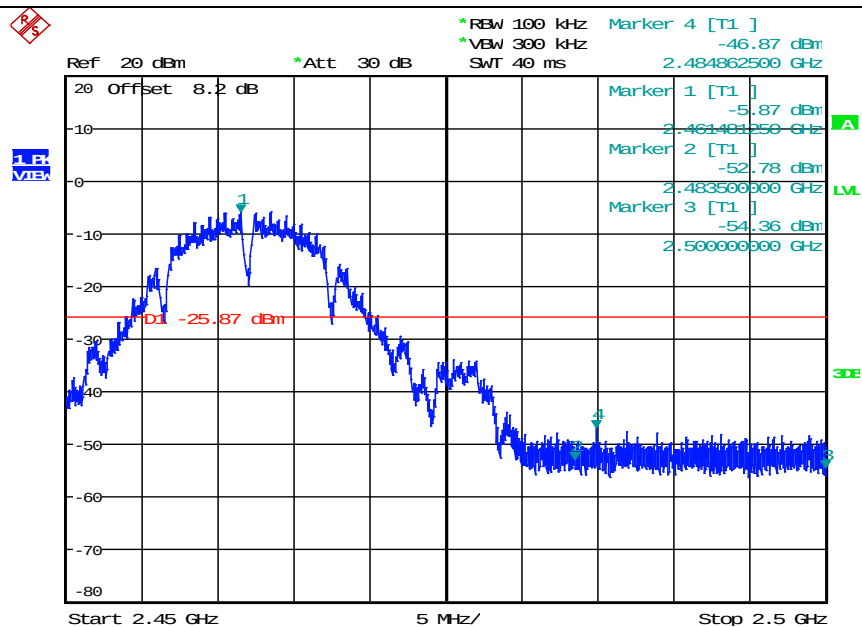
Test Graphs

11B/LCH



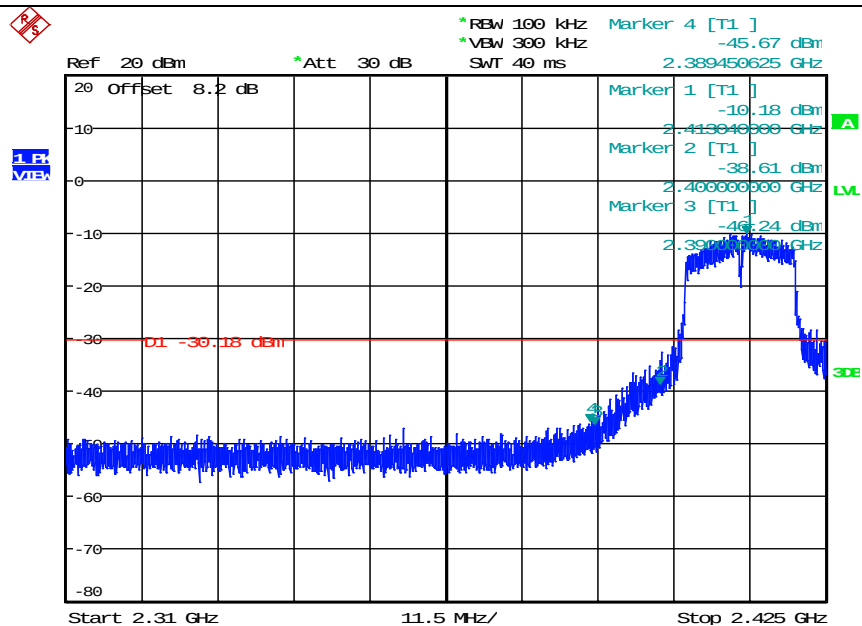
Date: 5.SEP.2019 16:23:46

11B/HCH



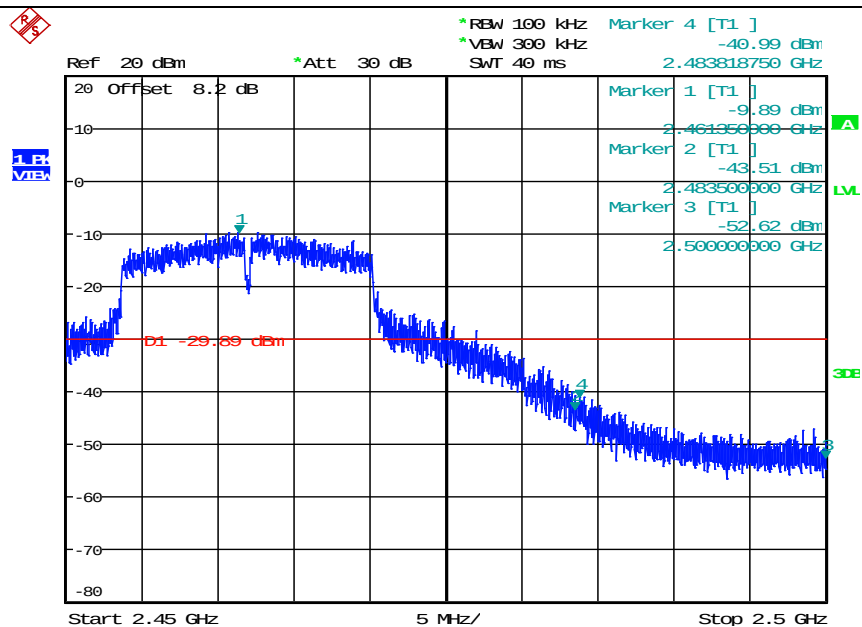
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11G/LCH



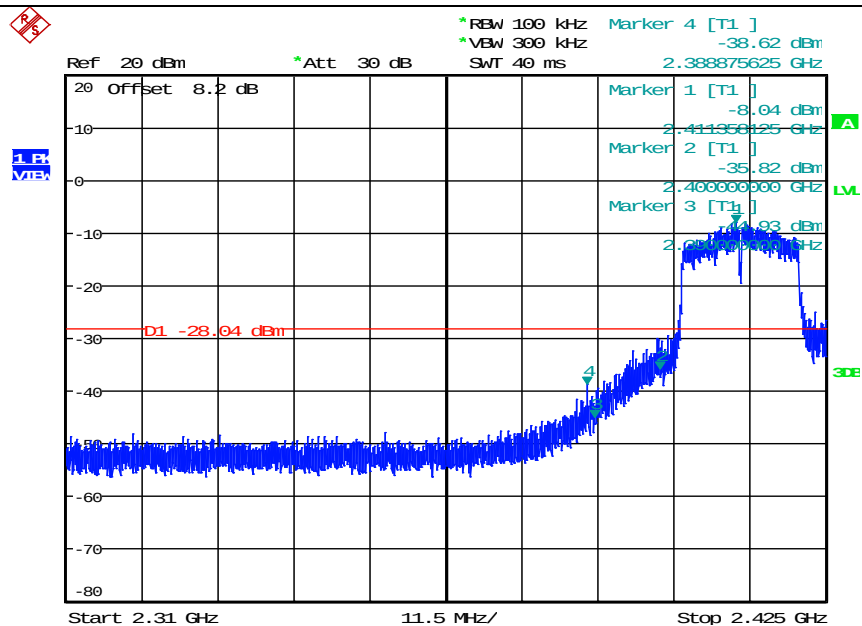
Date: 5.SEP.2019 16:31:46

11G/HCH



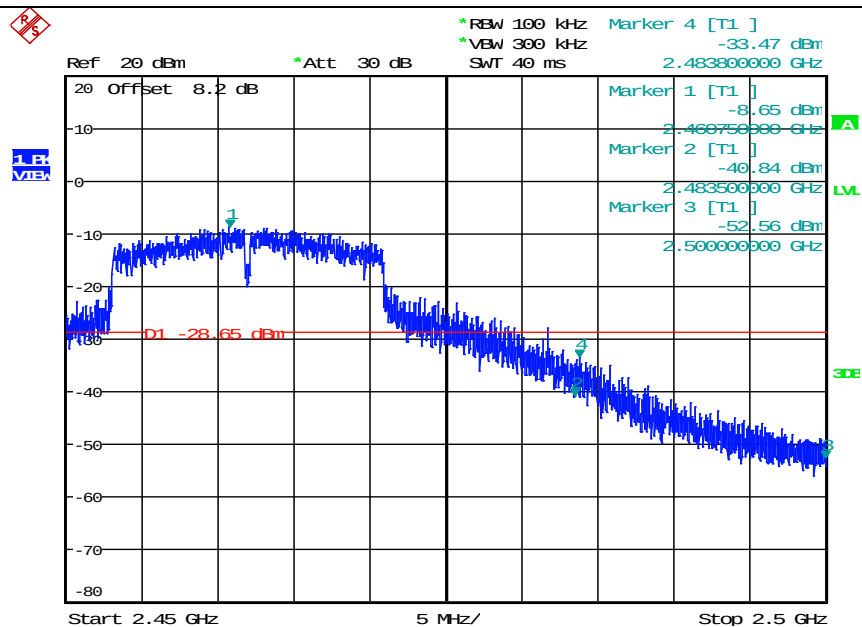
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11N20SISO/LCH



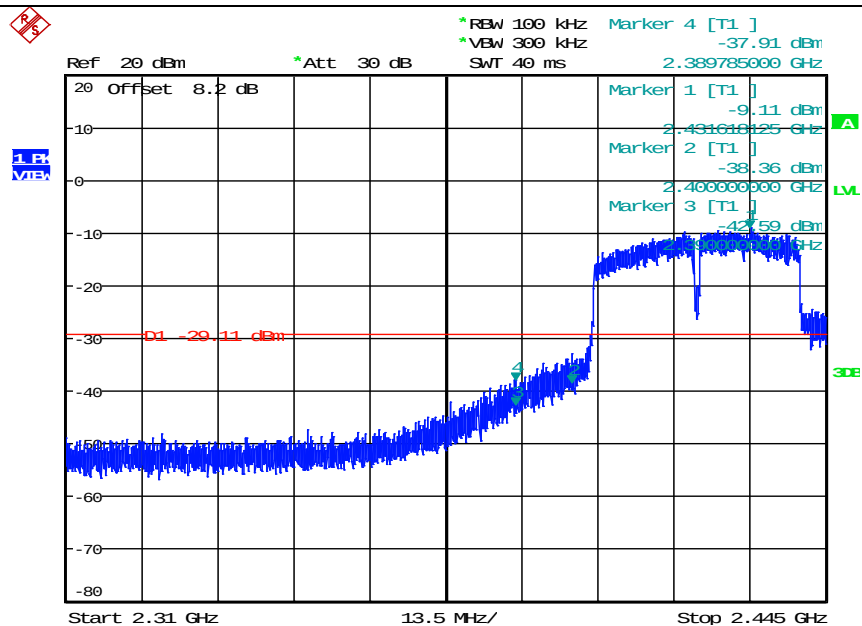
Date: 5.SEP.2019 16:43:43

11N20SISO/HCH



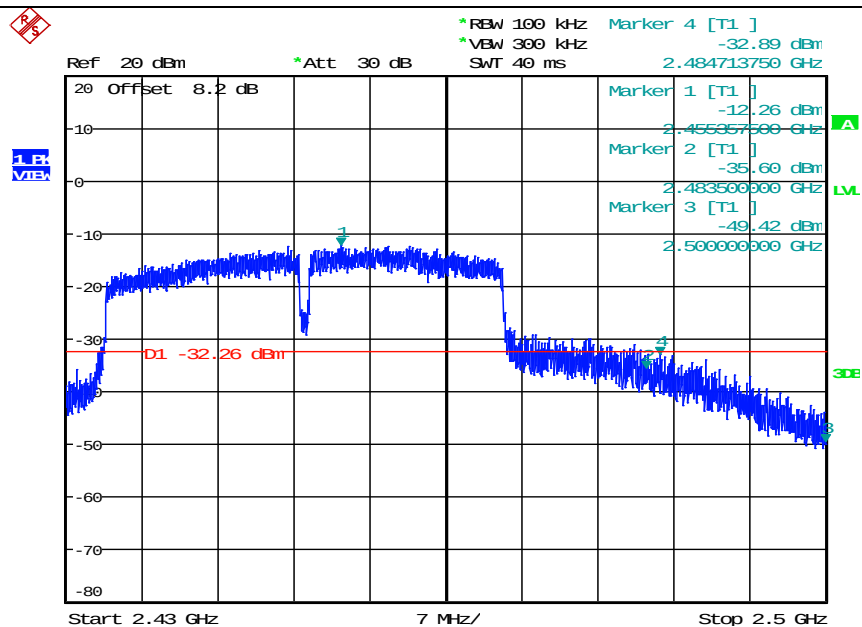
Date: 5.SEP.2019 16:48:21

11N40SISO/LCH



Date: 5.SEP.2019 16:56:54

11N40SISO/HCH



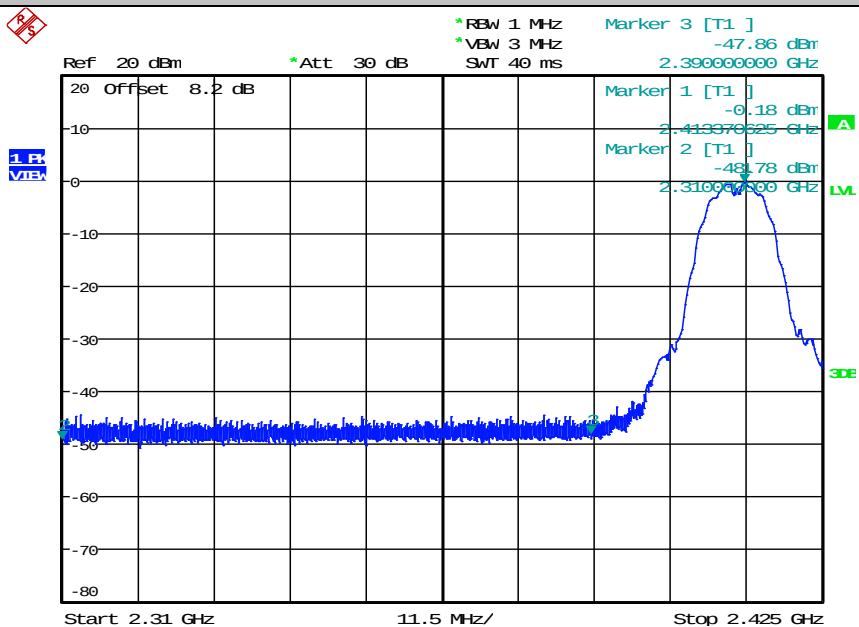
Date: 5.SEP.2019 17:06:14

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	-48.78	2.0	0	48.48	PEAK	74	PASS
	2412	Ant1	2310.0	-57.80	2.0	0	39.46	AV	54	PASS
	2412	Ant1	2390.0	-47.86	2.0	0	49.40	PEAK	74	PASS
	2412	Ant1	2390.0	-57.12	2.0	0	40.14	AV	54	PASS
	2462	Ant1	2483.5	-48.11	2.0	0	49.15	PEAK	74	PASS
	2462	Ant1	2483.5	-57.25	2.0	0	40.01	AV	54	PASS
	2462	Ant1	2500.0	-47.69	2.0	0	49.57	PEAK	74	PASS
	2462	Ant1	2500.0	-57.93	2.0	0	39.33	AV	54	PASS
11G	2412	Ant1	2310.0	-49.21	2.0	0	48.05	PEAK	74	PASS
	2412	Ant1	2310.0	-57.76	2.0	0	39.50	AV	54	PASS
	2412	Ant1	2390.0	-34.99	2.0	0	62.27	PEAK	74	PASS
	2412	Ant1	2390.0	-49.77	2.0	0	47.49	AV	54	PASS
	2462	Ant1	2483.5	-30.27	2.0	0	66.99	PEAK	74	PASS
	2462	Ant1	2483.5	-44.09	2.0	0	53.17	AV	54	PASS
	2462	Ant1	2500.0	-46.07	2.0	0	51.19	PEAK	74	PASS
	2462	Ant1	2500.0	-57.31	2.0	0	39.95	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-48.34	2.0	0	48.92	PEAK	74	PASS
	2412	Ant1	2310.0	-57.79	2.0	0	39.47	AV	54	PASS
	2412	Ant1	2390.0	-29.52	2.0	0	67.74	PEAK	74	PASS
	2412	Ant1	2390.0	-43.42	2.0	0	53.84	AV	54	PASS
	2462	Ant1	2483.5	-29.45	2.0	0	67.81	PEAK	74	PASS
	2462	Ant1	2483.5	-43.64	2.0	0	53.62	AV	54	PASS
	2462	Ant1	2500.0	-46.01	2.0	0	51.25	PEAK	74	PASS
	2462	Ant1	2500.0	-57.32	2.0	0	39.94	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-47.00	2.0	0	50.26	PEAK	74	PASS
	2422	Ant1	2310.0	-57.79	2.0	0	39.47	AV	54	PASS

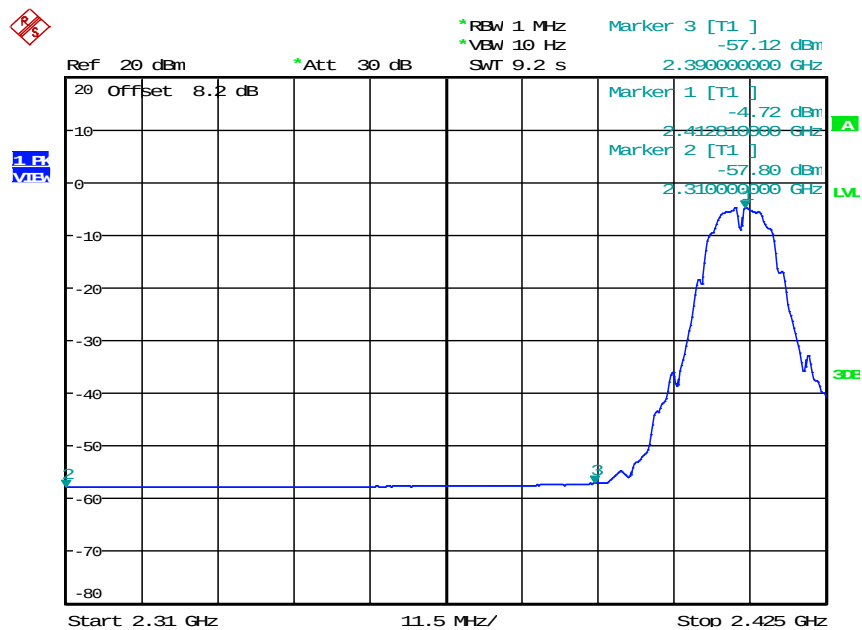
	2422	Ant1	2390.0	-31.75	2.0	0	65.51	PEAK	74	PASS
	2422	Ant1	2390.0	-43.38	2.0	0	53.88	AV	54	PASS
	2452	Ant1	2483.5	-27.86	2.0	0	69.40	PEAK	74	PASS
	2452	Ant1	2483.5	-43.60	2.0	0	53.66	AV	54	PASS
	2452	Ant1	2500.0	-42.79	2.0	0	54.47	PEAK	74	PASS
	2452	Ant1	2500.0	-55.10	2.0	0	42.16	AV	54	PASS

Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



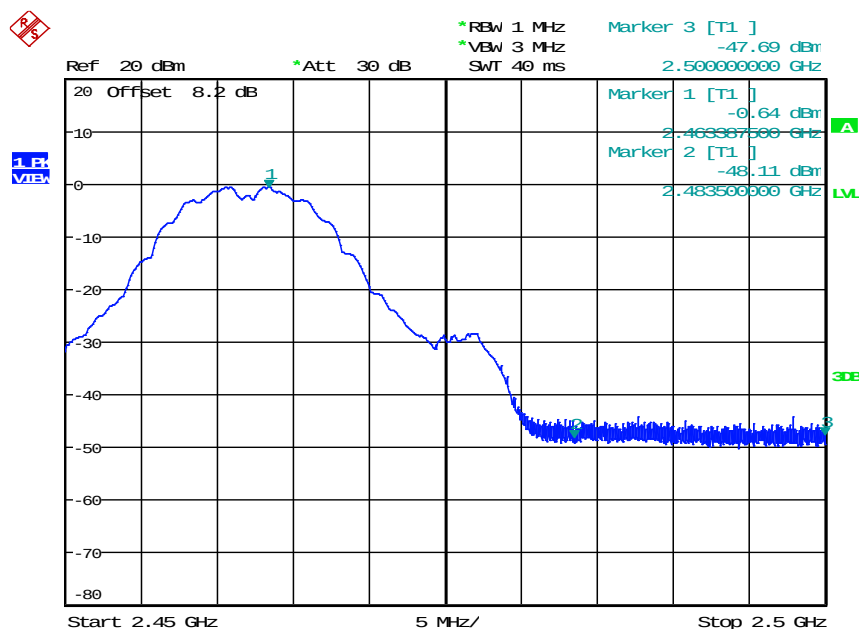
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Restrict-band band-edge measurements_11B_2412_Ant1_AV



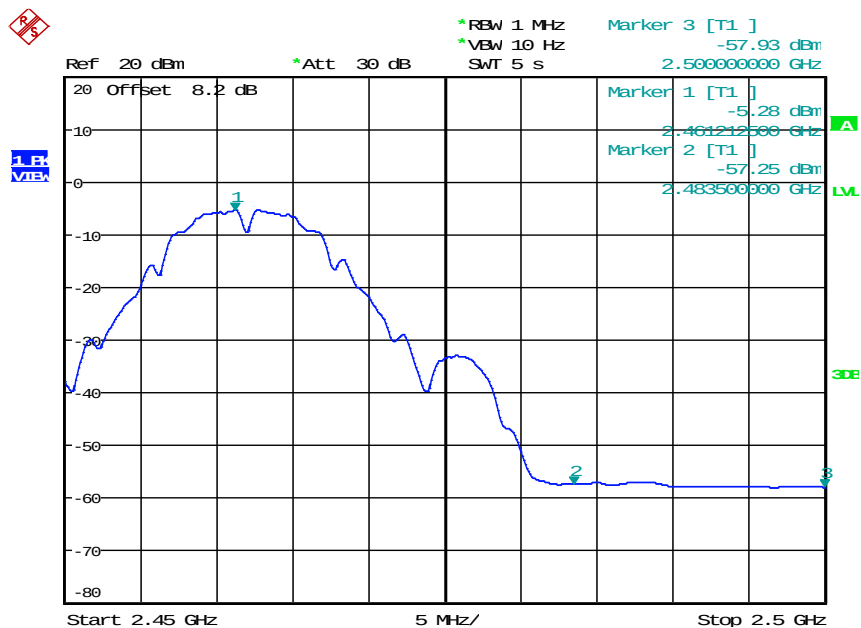
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Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



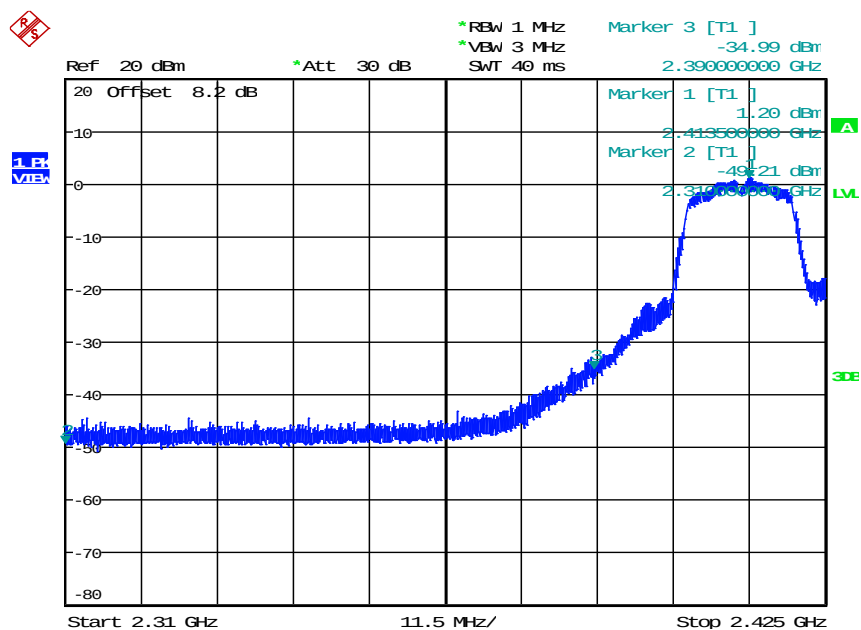
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Restrict-band band-edge measurements_11B_2462_Ant1_AV



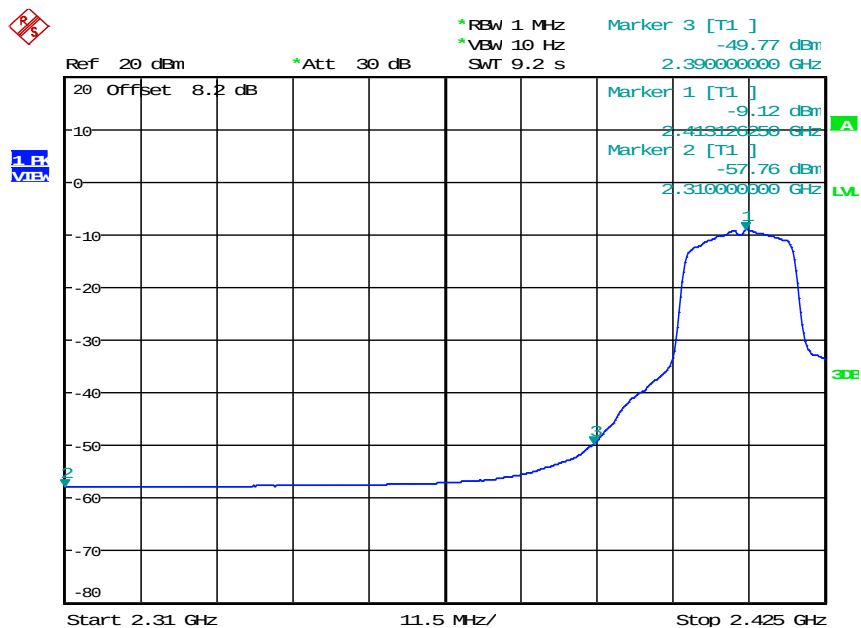
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Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



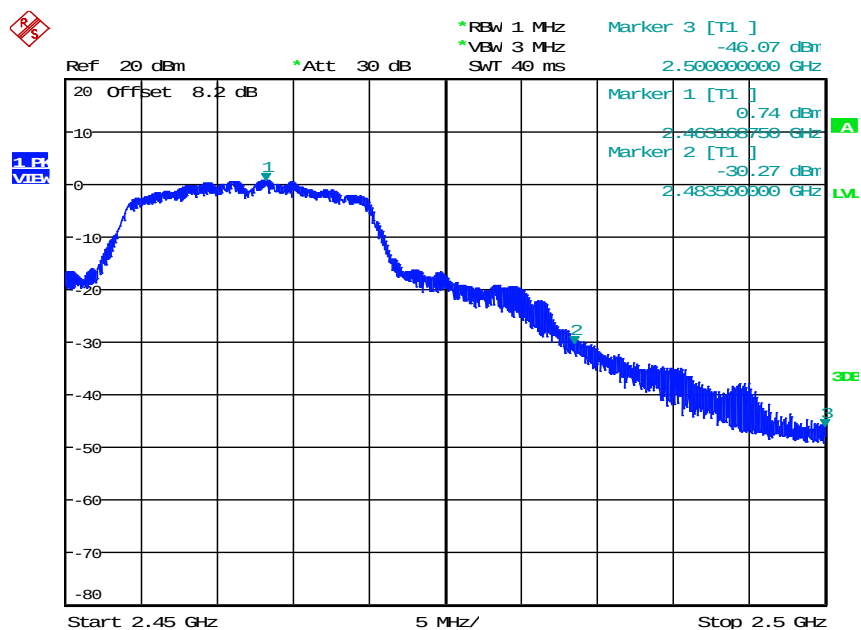
Date: 5.SEP.2019 16:34:00

Restrict-band band-edge measurements_11G_2412_Ant1_AV



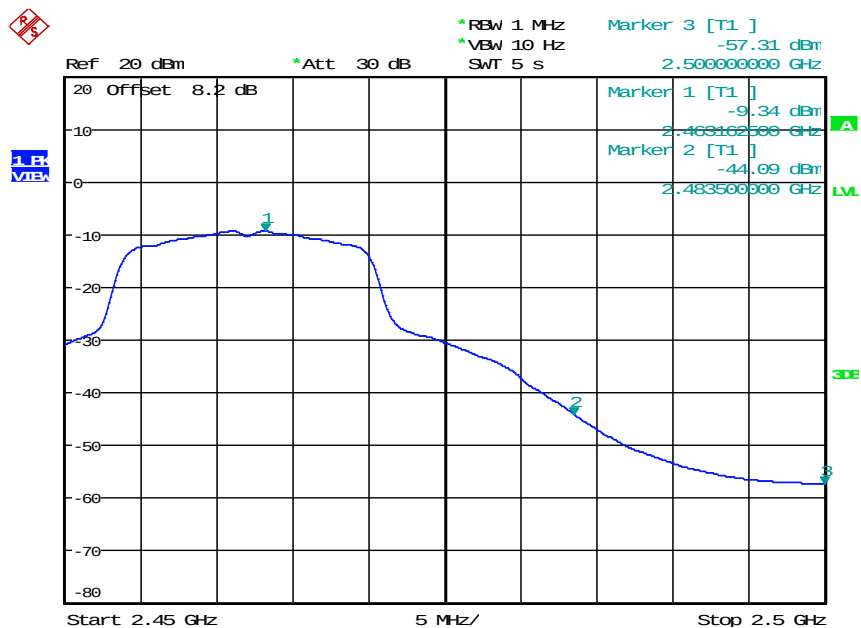
Date: 5.SEP.2019 16:34:18

Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



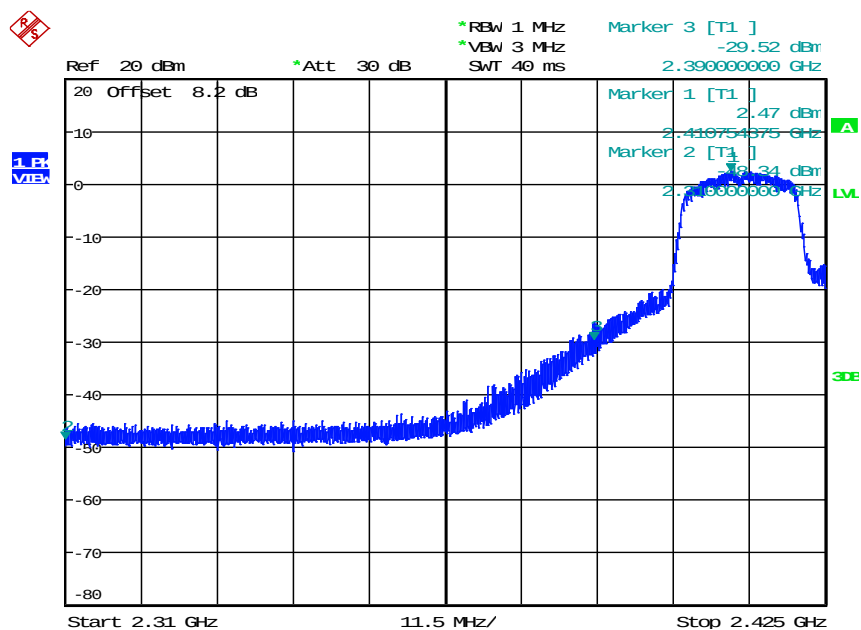
Date: 5.SEP.2019 16:39:12

Restrict-band band-edge measurements_11G_2462_Ant1_AV



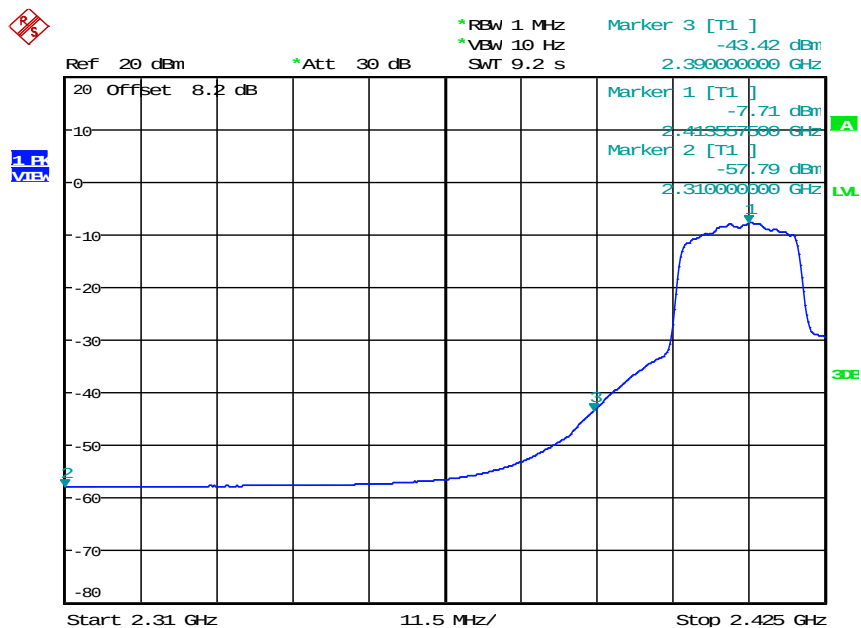
Date: 5.SEP.2019 16:39:27

Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



Date: 5.SEP.2019 16:44:31

Restrict-band band-edge measurements_11N20SISO_2412_Ant1_AV



Date: 5.SEP.2019 16:44:49

Ref 20 dBm *Att 30 dB *RBW 1 MHz *VBW 3 MHz *SWT 40 ms

Marker 3 [T1] -46.01 dBm 2.50000000 GHz

Marker 1 [T1] -29.45 dBm 2.48350000 GHz

Marker 2 [T1] -29.45 dBm 2.48350000 GHz

Offset 8.2 dB

Start 2.45 GHz 5 MHz/ Stop 2.5 GHz

Date: 5.SEP.2019 16:52:55

1. RB VIB

Ref 20 dBm *Att 30 dB *RBW 1 MHz *VBW 10 Hz *SWT 5 s

Marker 3 [T1] -57.32 dBm 2.50000000 GHz

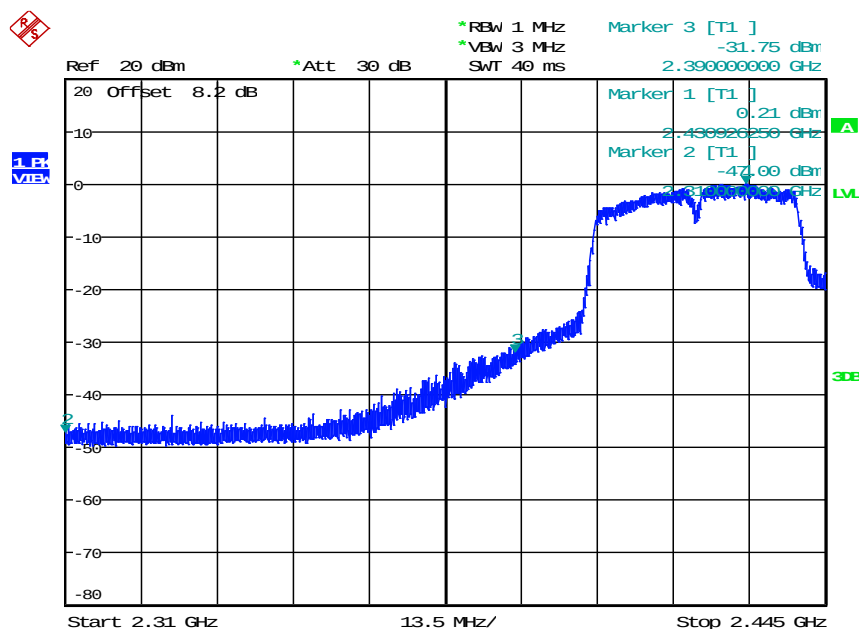
Marker 1 [T1] -10.44 dBm 2.463512500 GHz

Marker 2 [T1] -43.64 dBm 2.483500000 GHz

Start 2.45 GHz 5 MHz/ Stop 2.5 GHz

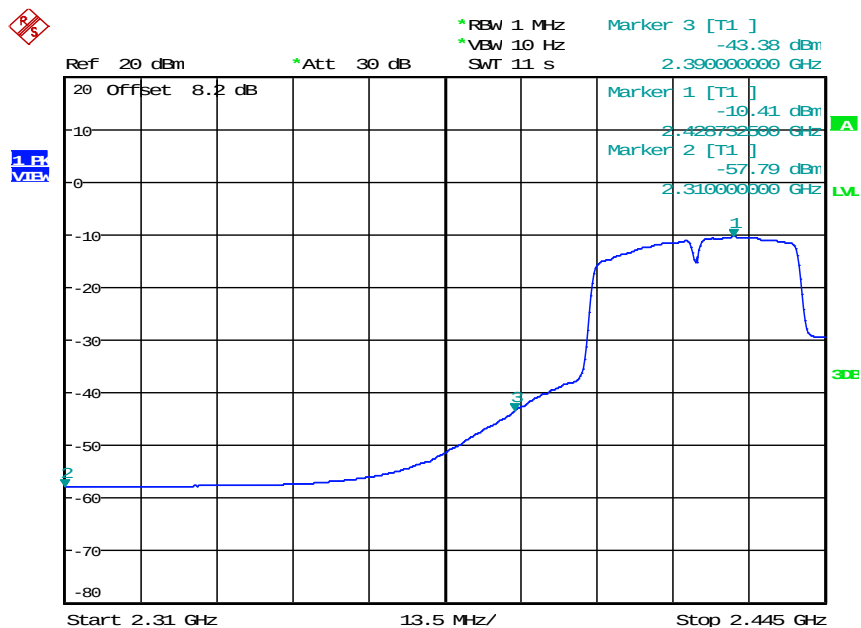
Date: 5.SEP.2019 16:53:11

Restrict-band band-edge measurements_11N40SISO_2422_Ant1_PEAK



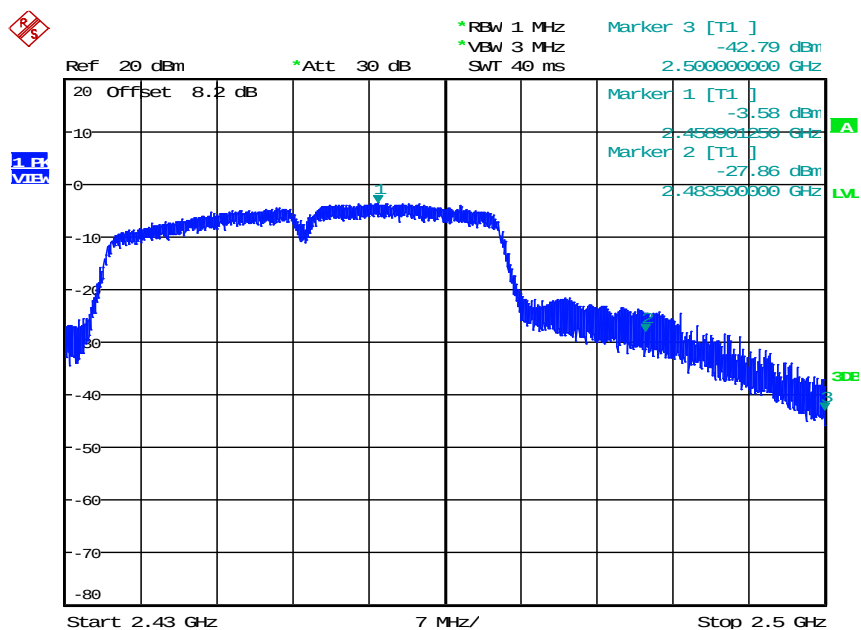
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Restrict-band band-edge measurements_11N40SISO_2422_Ant1_AV



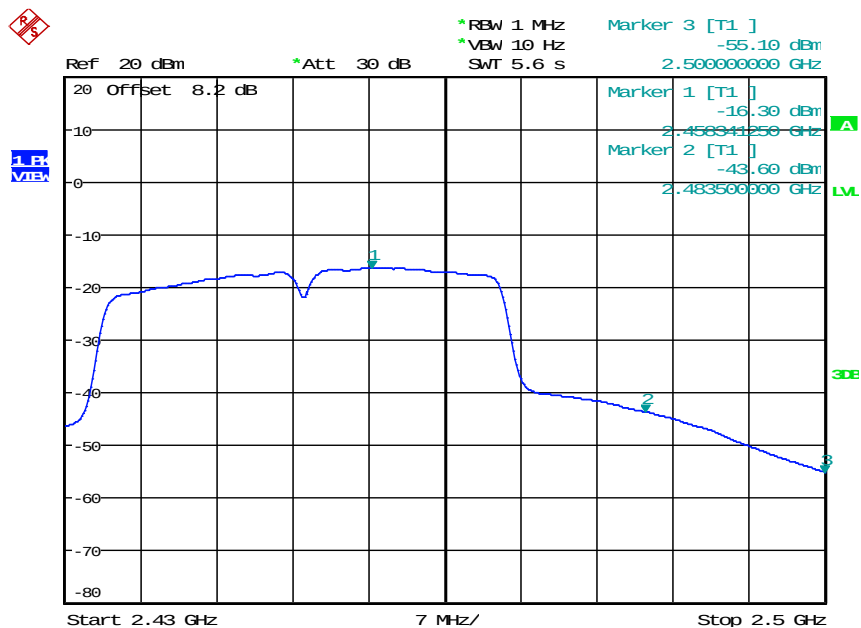
Date: 5.SEP.2019 16:59:53

Restrict-band band-edge measurements_11N40SISO_2452_Ant1_PEAK



Date: 5.SEP.2019 17:10:19

Restrict-band band-edge measurements_11N40SISO_2452_Ant1_AV



Date: 5.SEP.2019 17:10:34