

## Appendix C

### RF Test Data for 2.4G WIFI (Conducted Measurement)

**Product Name:** WIFI Alarm System

**Trade Mark:** N/A

**Test Model:** WS-01

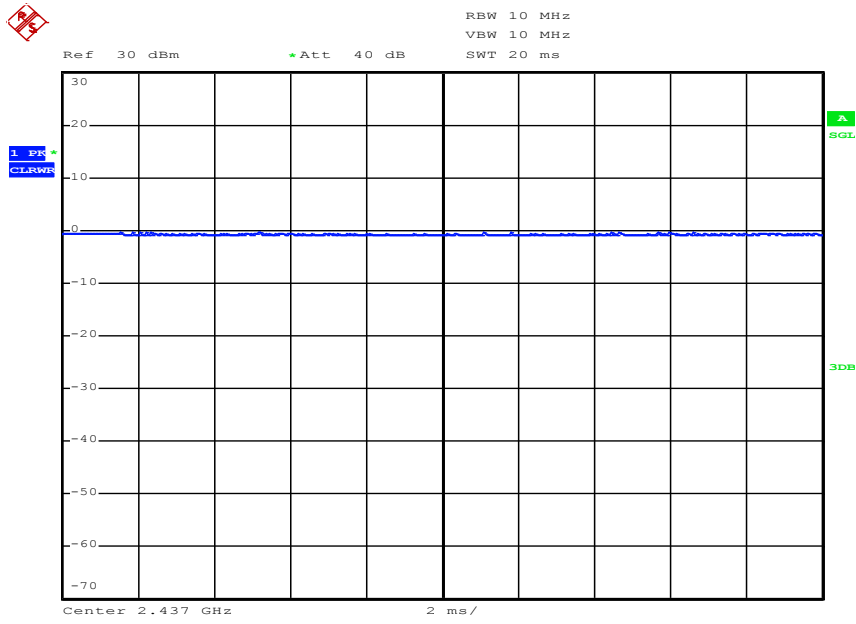
#### Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Li Huan
Supervised by:	Wang.Chuang

#### C.1 Duty Cycle

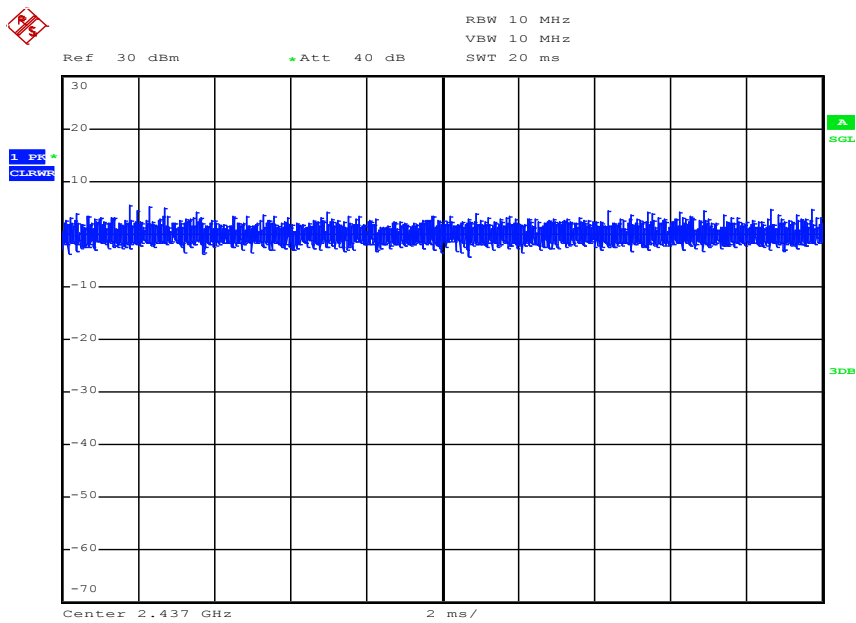
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	100	PASS
11G	2437	Ant1	100	PASS
11N20SISO	2437	Ant1	100	PASS
11N40SISO	2437	Ant1	100	PASS

### Duty Cycle\_11B\_2437\_Ant1



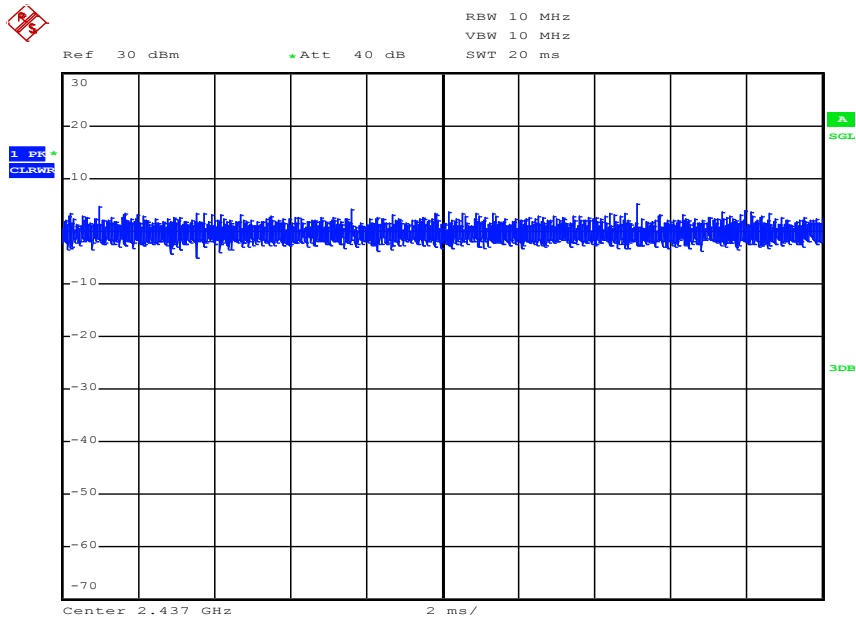
Date: 29.SEP.2019 14:12:46

### Duty Cycle\_11G\_2437\_Ant1



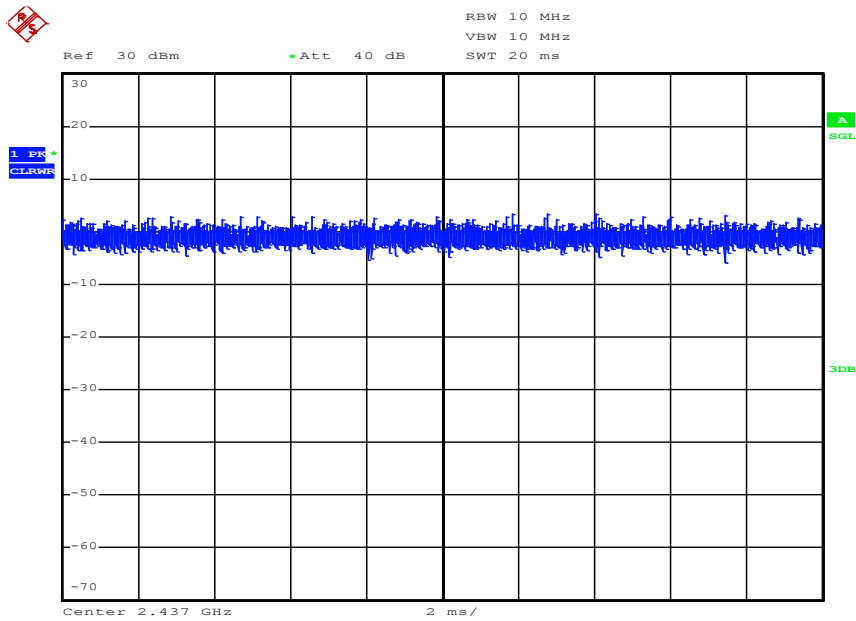
Date: 29.SEP.2019 14:13:30

### Duty Cycle\_11N20SISO\_2437\_Ant1



Date: 29.SEP.2019 14:14:39

### Duty Cycle\_11N40SISO\_2437\_Ant1



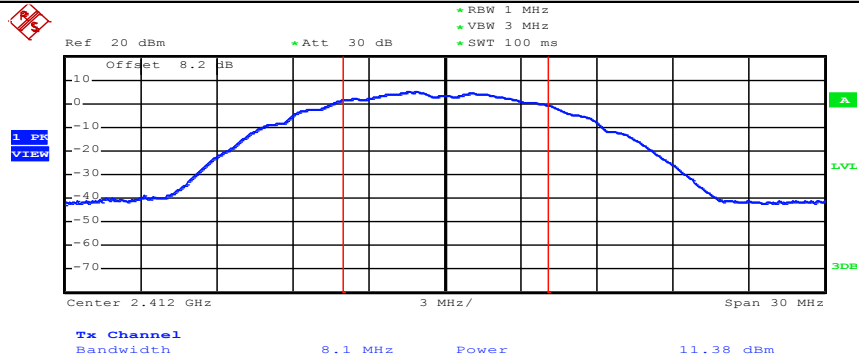
Date: 29.SEP.2019 14:15:02

**C.2 Maximum Conducted Output Power**

Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	11.38	30	PASS
	MCH	11.43	30	PASS
	HCH	11.71	30	PASS
11G	LCH	11.42	30	PASS
	MCH	11.43	30	PASS
	HCH	11.7	30	PASS
11N20SISO	LCH	11.43	30	PASS
	MCH	11.06	30	PASS
	HCH	11.5	30	PASS
11N40SISO	LCH	12.03	30	PASS
	MCH	10.26	30	PASS
	HCH	10.67	30	PASS

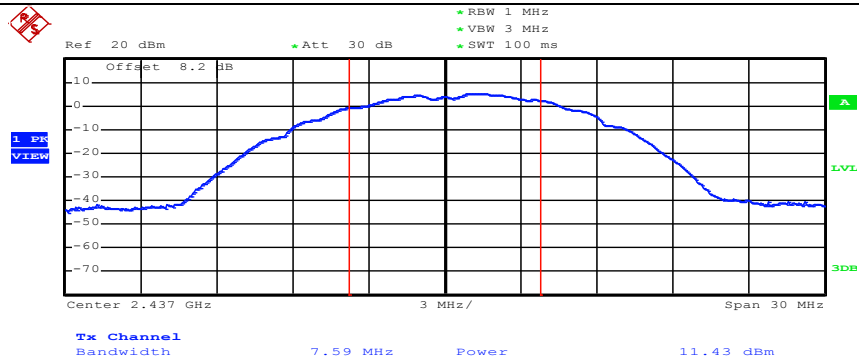
### Test Graphs

11B/LCH



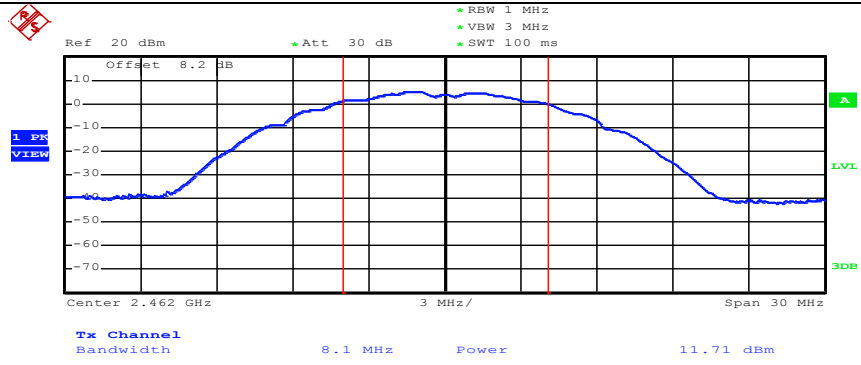
Date: 29.SEP.2019 13:40:26

11B/MCH



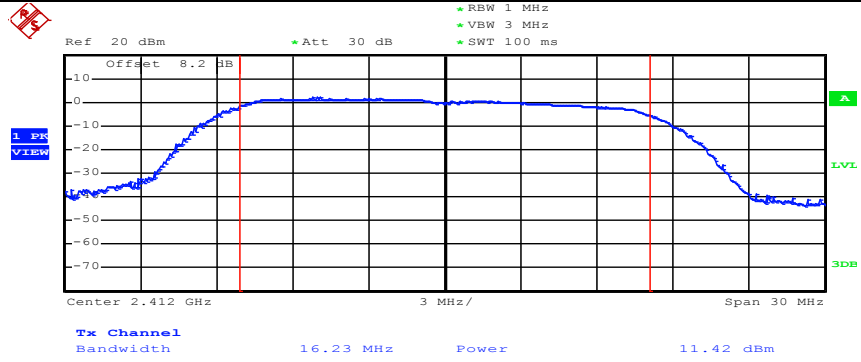
Date: 29.SEP.2019 13:43:00

11B/HCH



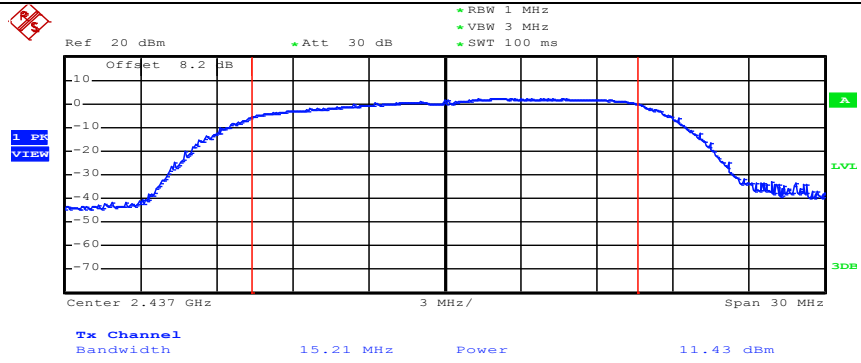
Date: 29.SEP.2019 13:44:46

11G/LCH



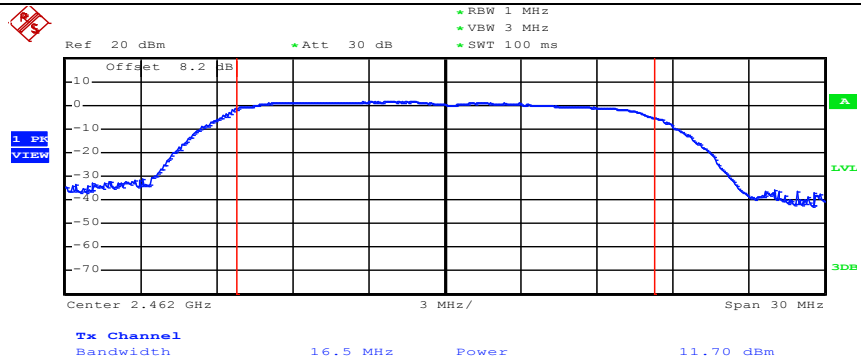
Date: 29.SEP.2019 13:48:54

11G/MCH



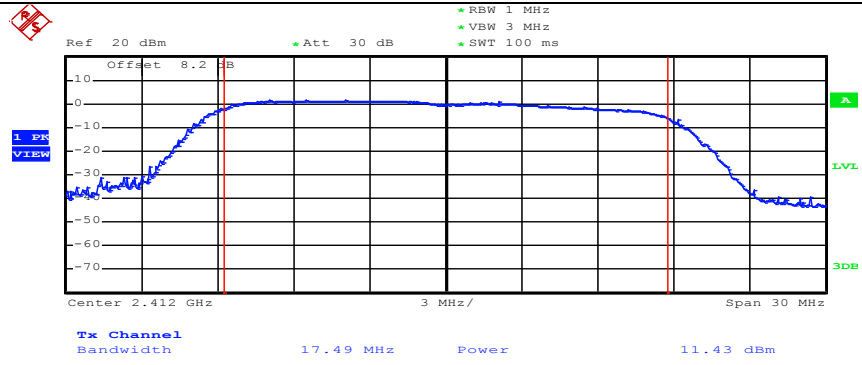
Date: 29.SEP.2019 13:51:25

11G/HCH



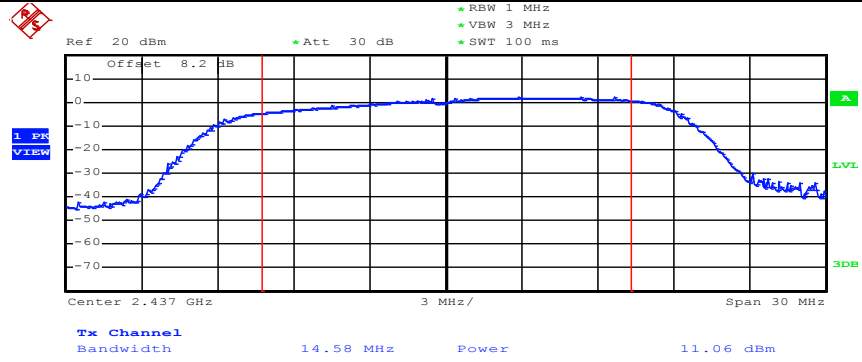
Date: 29.SEP.2019 13:53:10

11N20SISO/LCH



Date: 29.SEP.2019 13:55:49

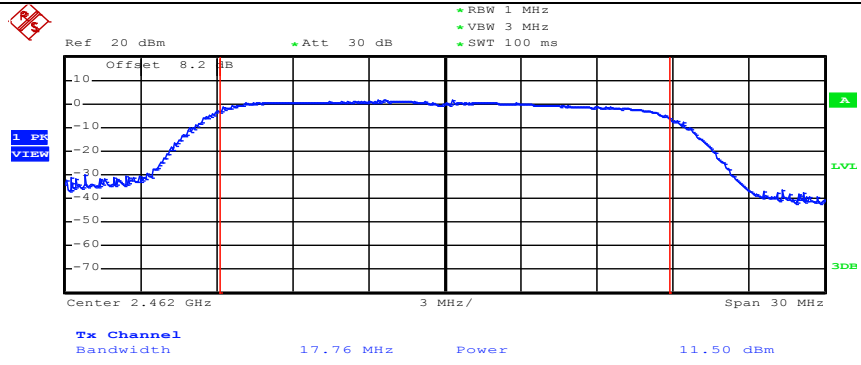
11N20SISO/MCH



Date: 29.SEP.2019 13:58:19

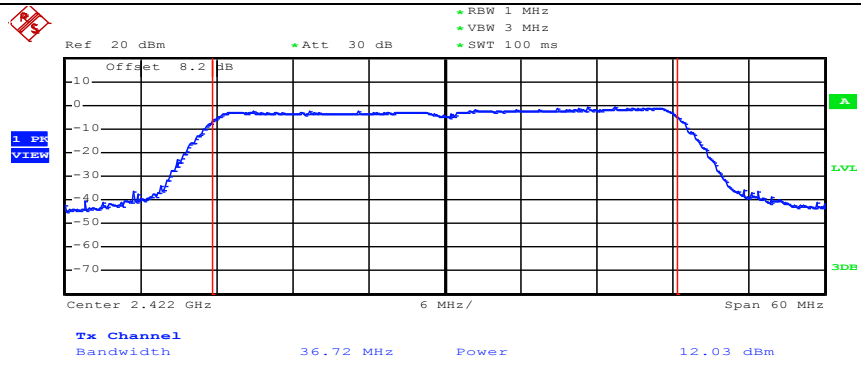


11N20SISO/HCH



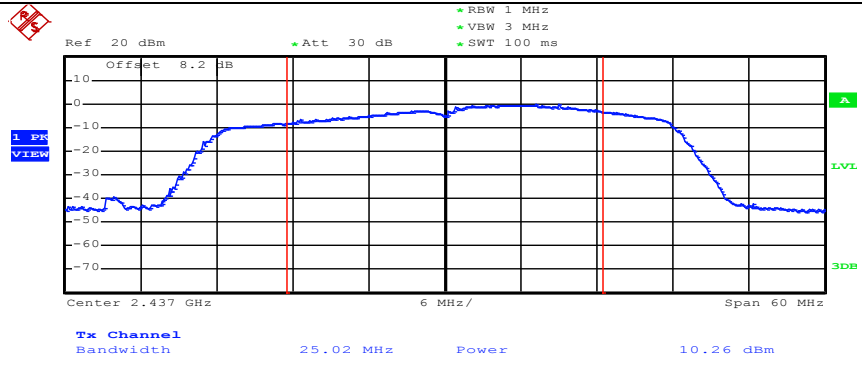
Date: 29.SEP.2019 14:00:04

11N40SISO/LCH



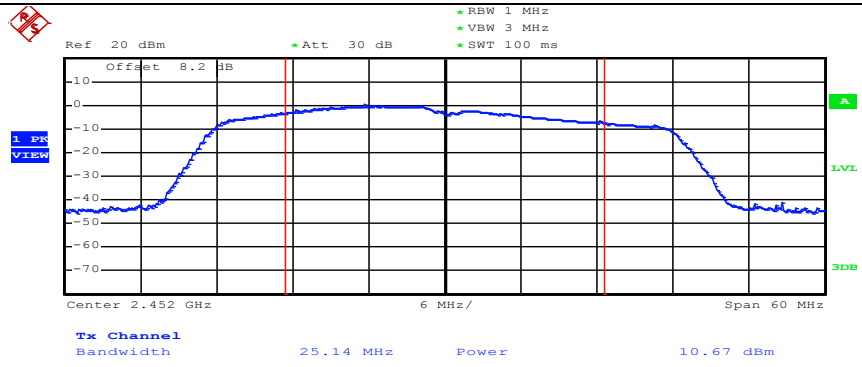
Date: 29.SEP.2019 14:02:38

11N40SISO/MCH



Date: 29.SEP.2019 14:06:23

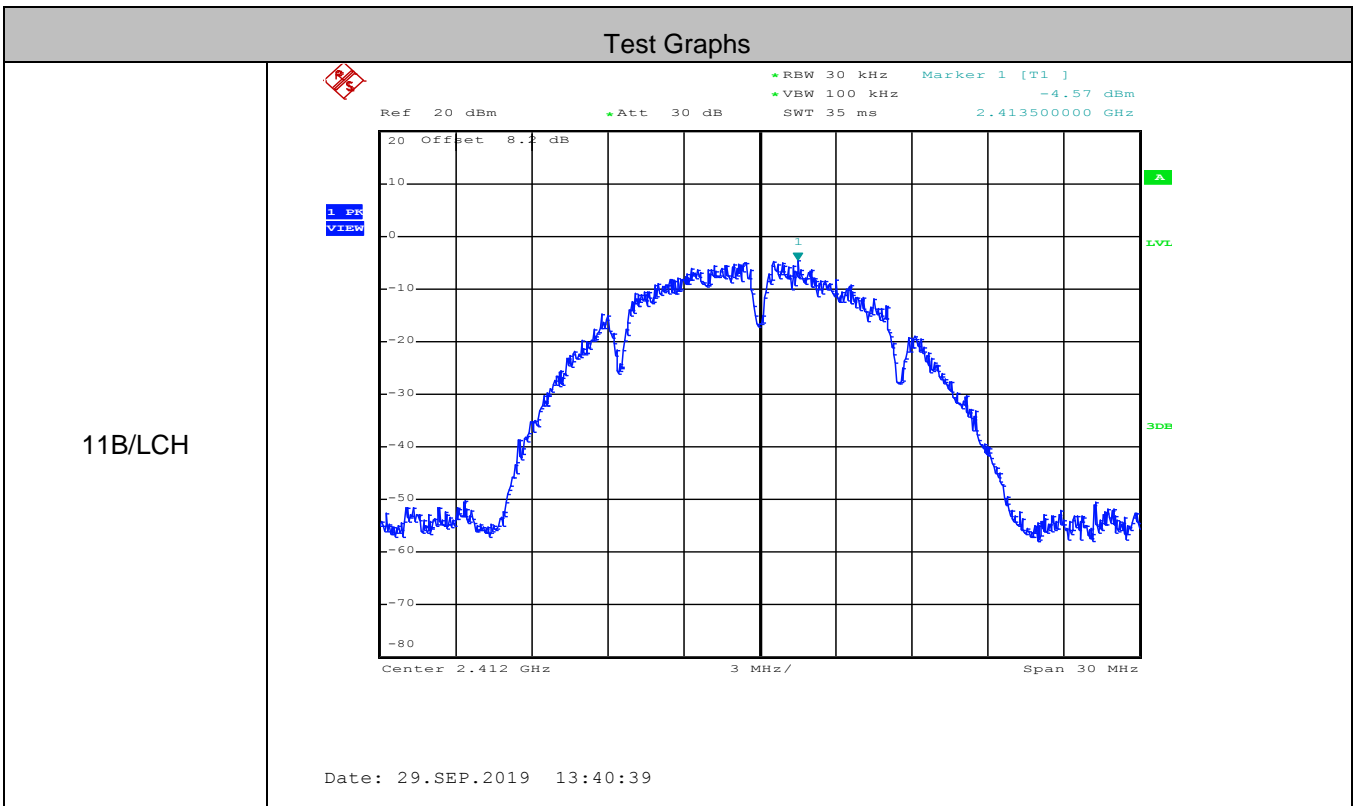
11N40SISO/HCH



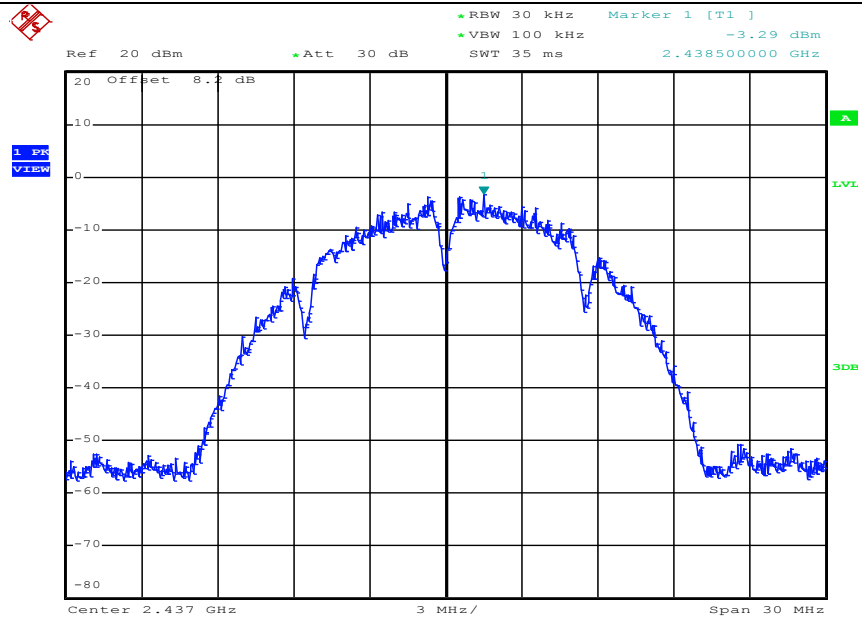
Date: 29.SEP.2019 14:09:11

### C.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/30KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-4.570	8	PASS
	MCH	-3.290	8	PASS
	HCH	-3.370	8	PASS
11G	LCH	-12.550	8	PASS
	MCH	-11.110	8	PASS
	HCH	-12.790	8	PASS
11N20SISO	LCH	-12.430	8	PASS
	MCH	-12.630	8	PASS
	HCH	-13.090	8	PASS
11N40SISO	LCH	-15.760	8	PASS
	MCH	-14.660	8	PASS
	HCH	-14.710	8	PASS

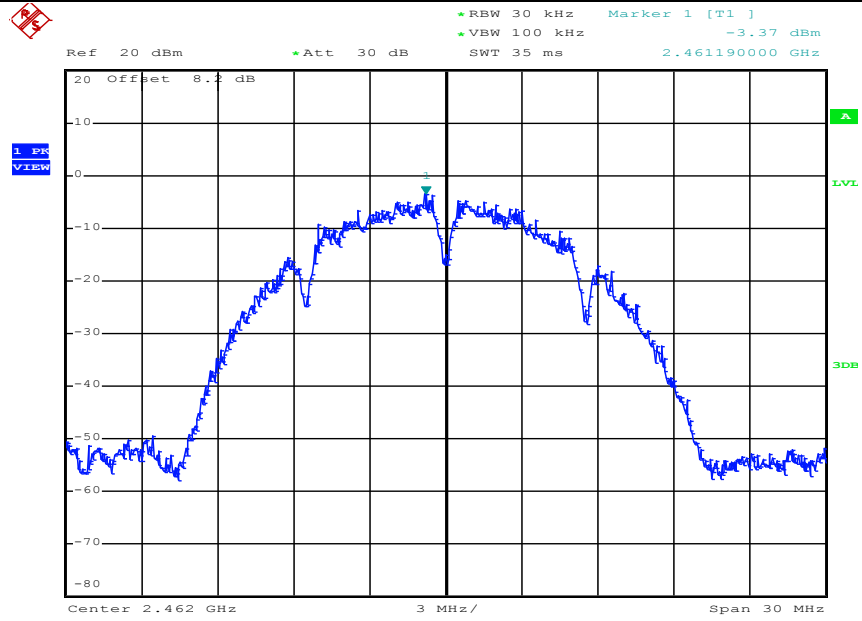


11B/MCH



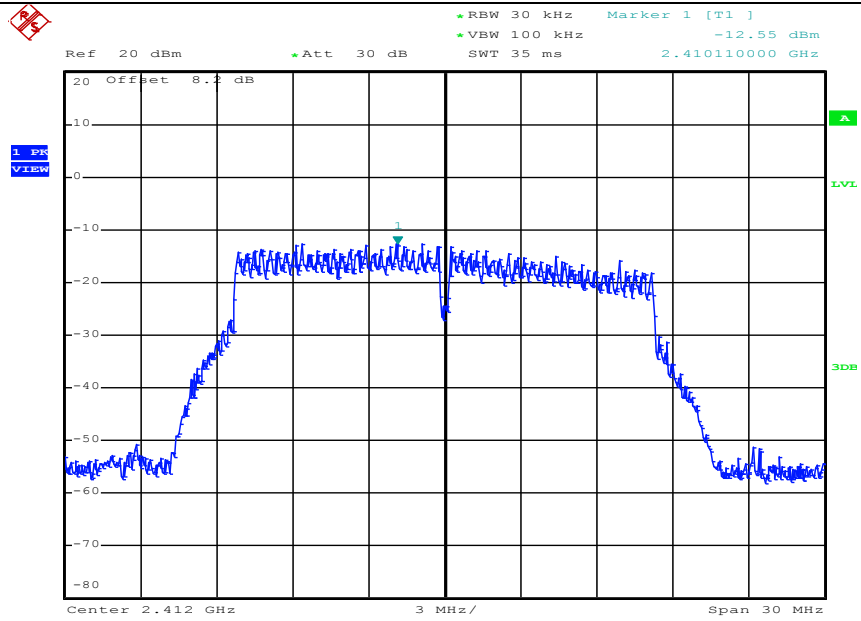
Date: 29.SEP.2019 13:43:13

11B/HCH



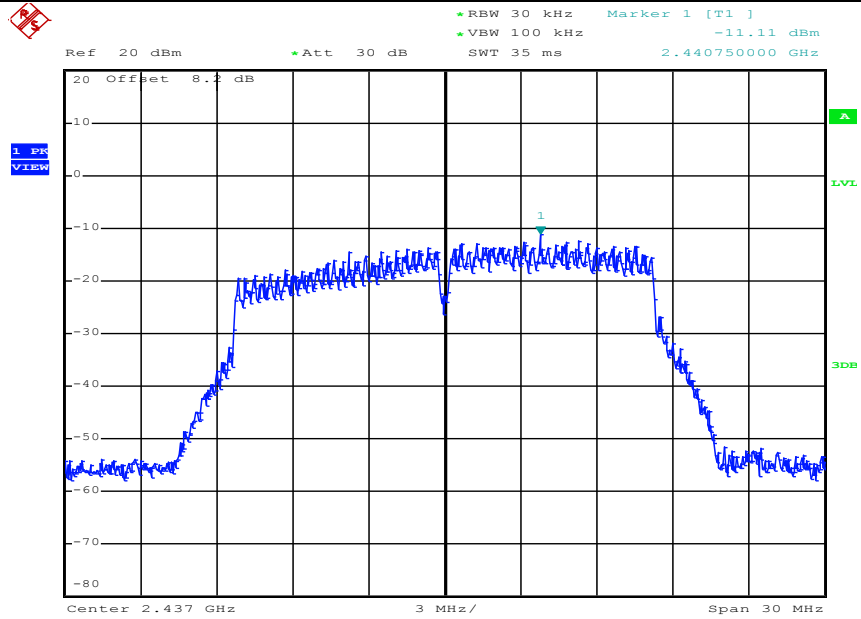
Date: 29.SEP.2019 13:44:59

11G/LCH



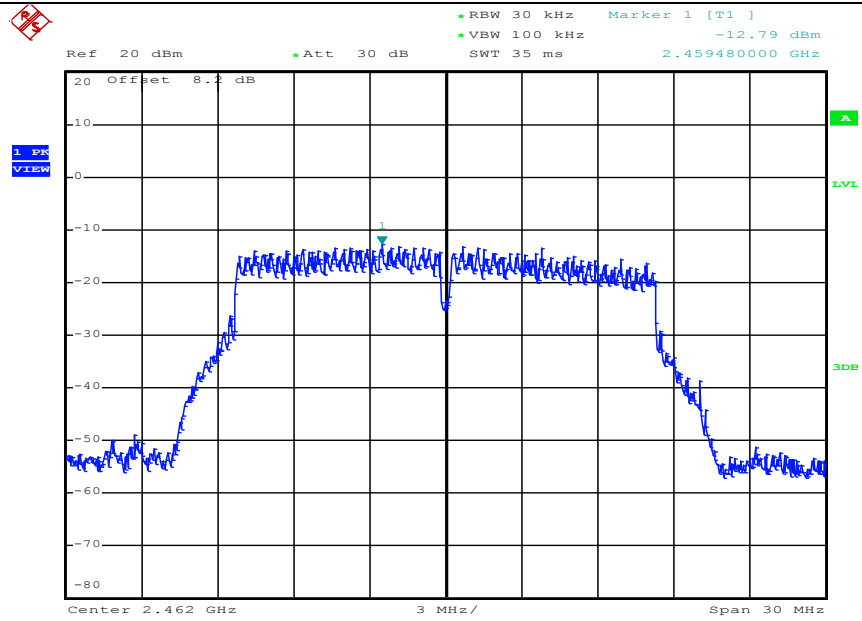
Date: 29.SEP.2019 13:49:07

11G/MCH



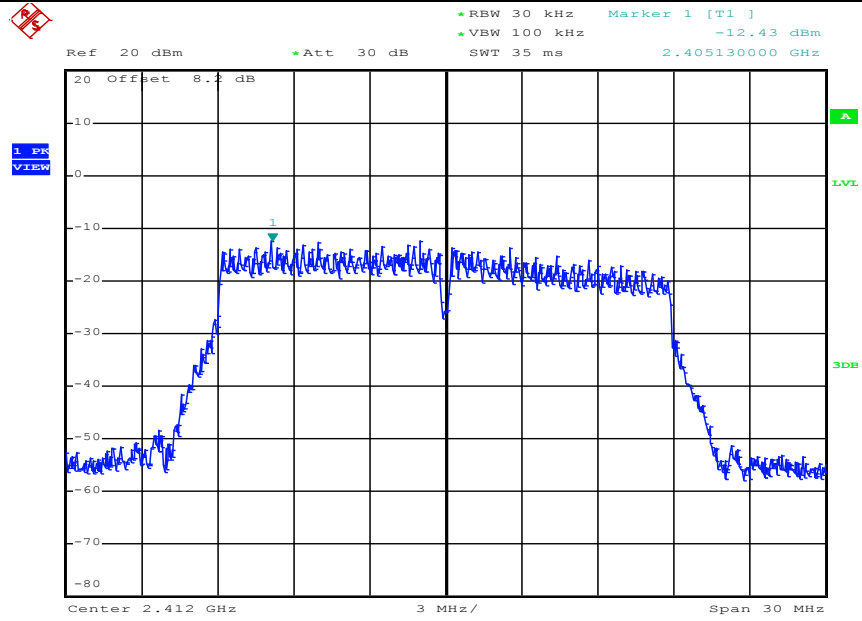
Date: 29.SEP.2019 13:51:38

11G/HCH



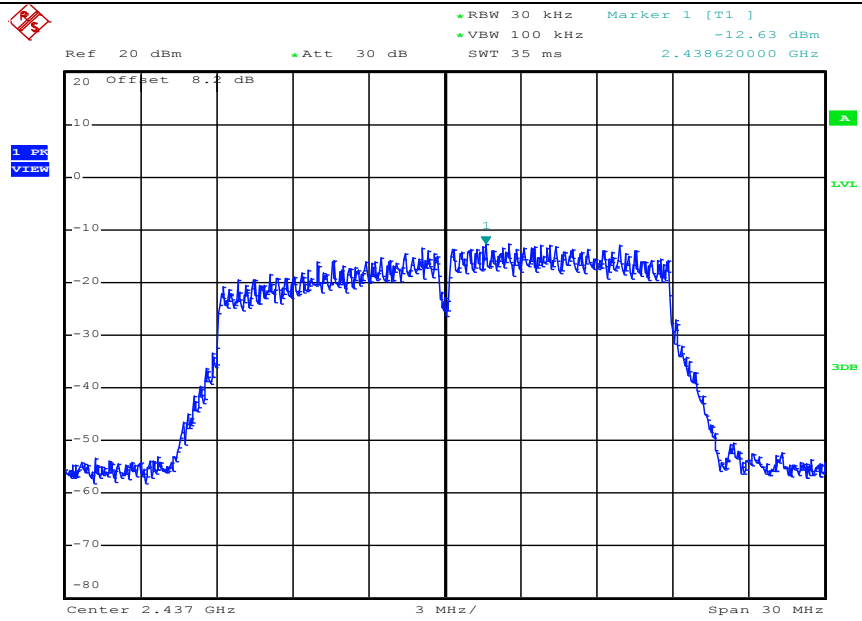
Date: 29.SEP.2019 13:53:23

11N20SISO/LCH



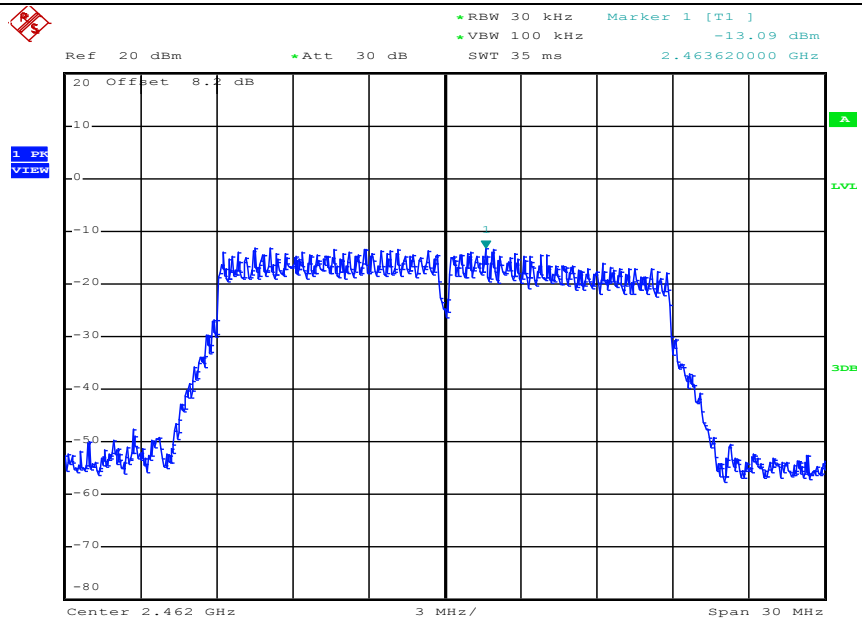
Date: 29.SEP.2019 13:56:02

11N20SISO/MCH



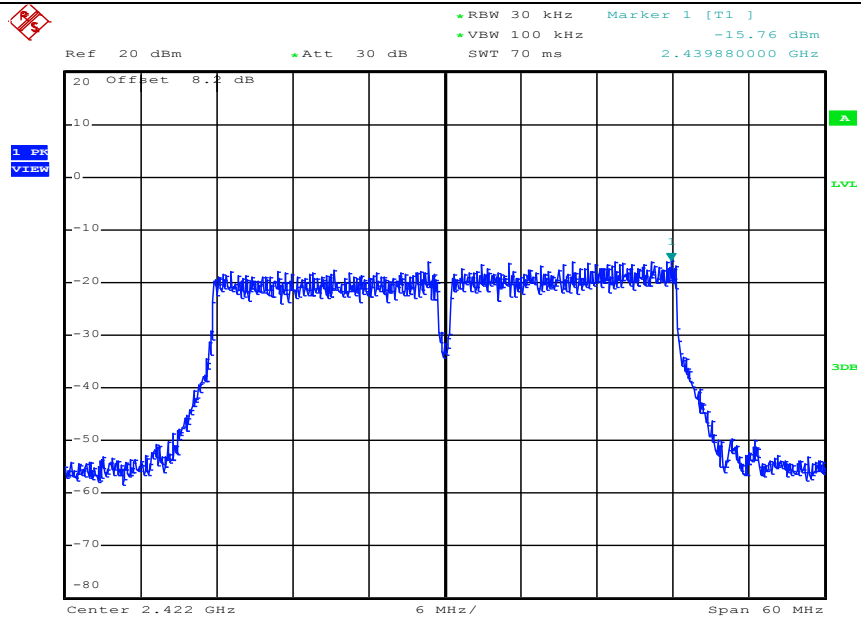
Date: 29.SEP.2019 13:58:32

11N20SISO/HCH



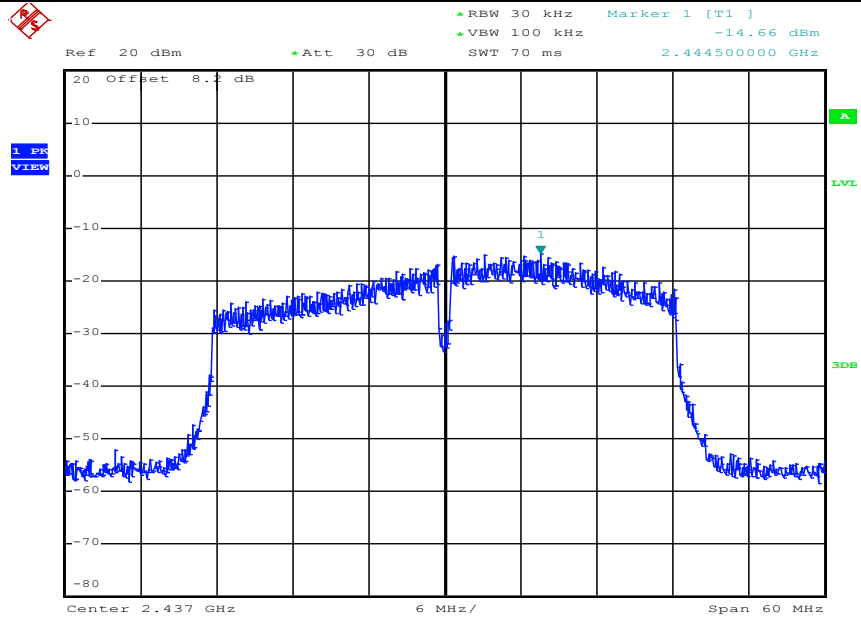
Date: 29.SEP.2019 14:00:17

11N40SISO/LCH



Date: 29.SEP.2019 14:02:50

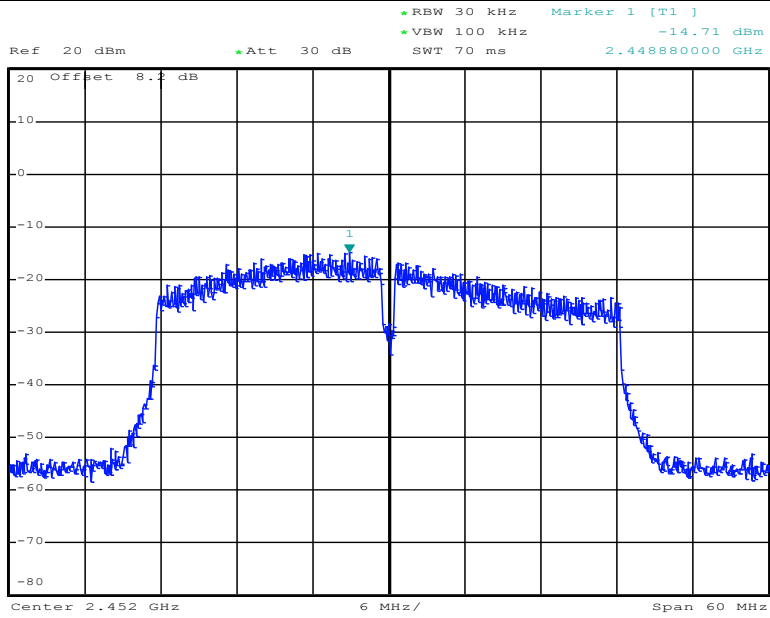
11N40SISO/MCH



Date: 29.SEP.2019 14:06:36



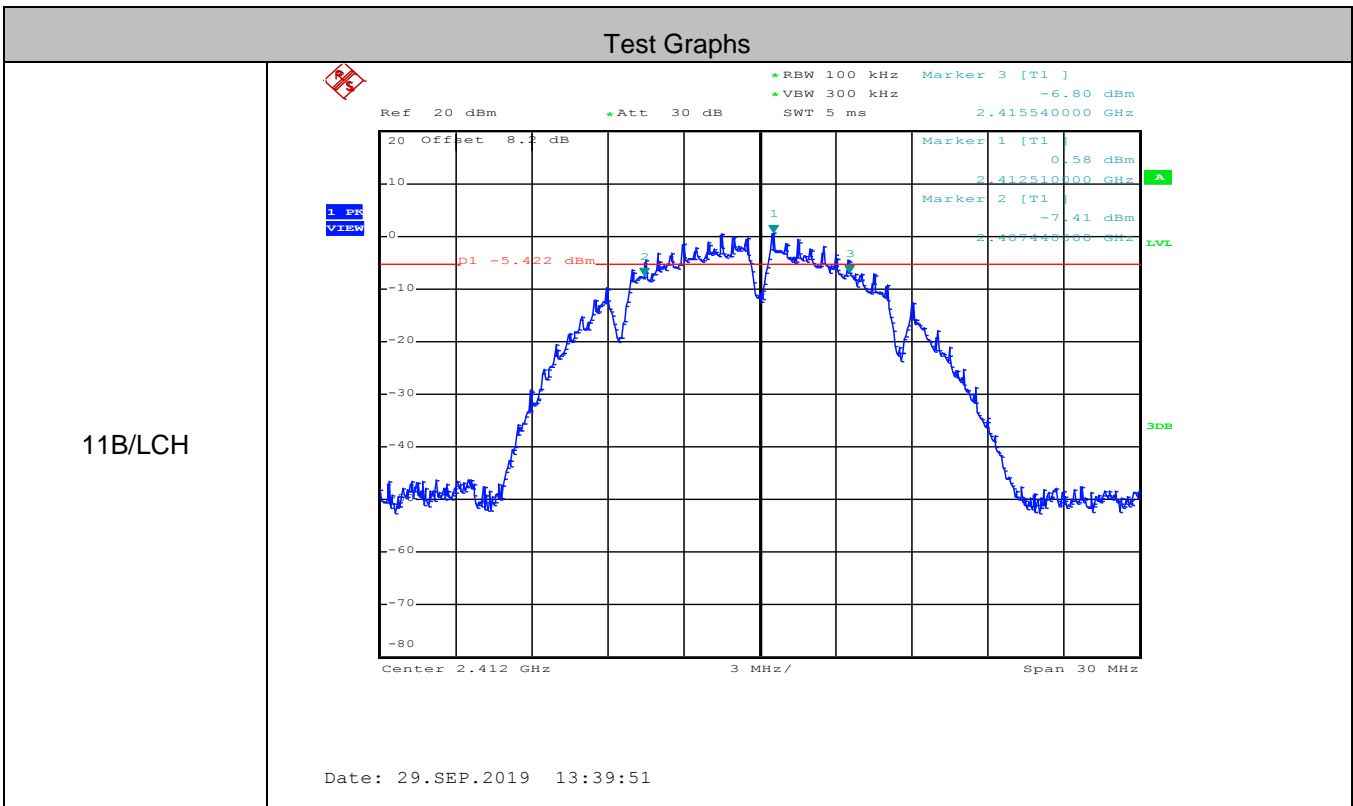
11N40SISO/HCH



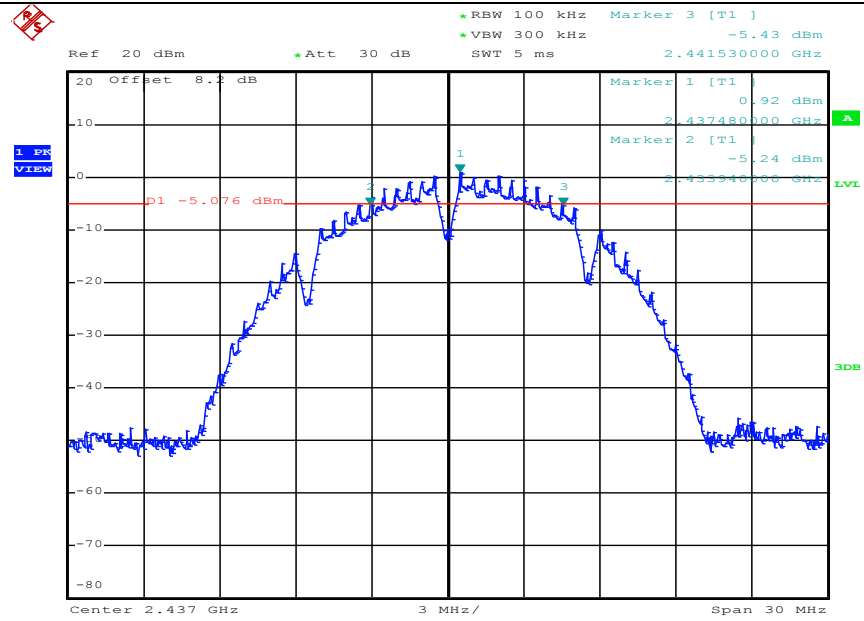
Date: 29.SEP.2019 14:09:24

**C.4 6dB Bandwidth**

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	8.100	≥0.5	PASS
	MCH	7.590	≥0.5	PASS
	HCH	8.100	≥0.5	PASS
11G	LCH	16.230	≥0.5	PASS
	MCH	15.210	≥0.5	PASS
	HCH	16.500	≥0.5	PASS
11N20SISO	LCH	17.490	≥0.5	PASS
	MCH	14.580	≥0.5	PASS
	HCH	17.760	≥0.5	PASS
11N40SISO	LCH	36.720	≥0.5	PASS
	MCH	25.020	≥0.5	PASS
	HCH	25.140	≥0.5	PASS

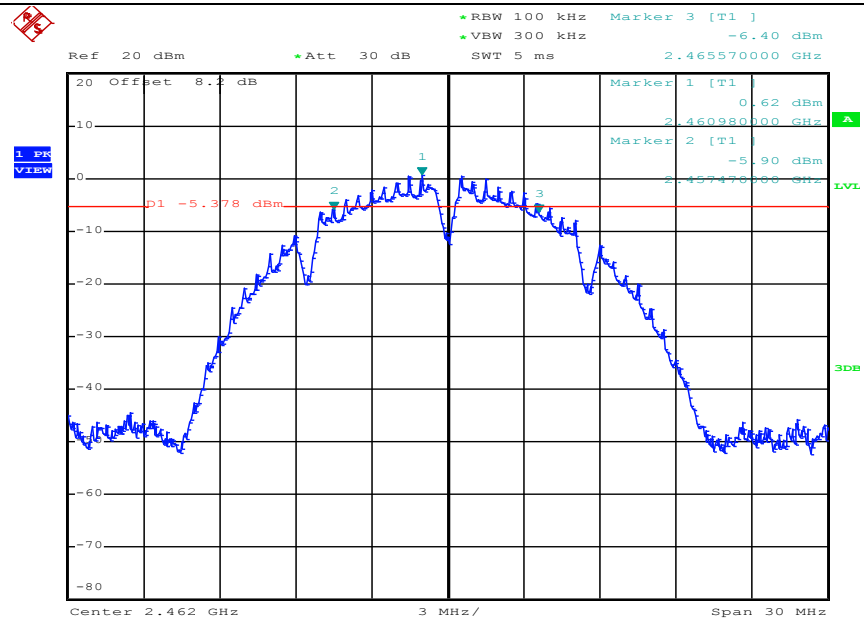


11B/MCH



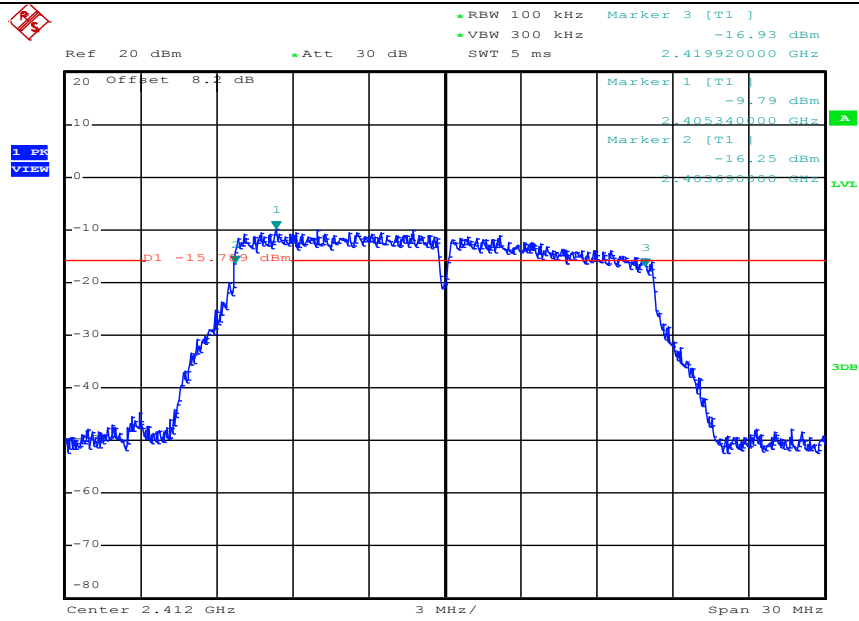
Date: 29.SEP.2019 13:42:26

11B/HCH



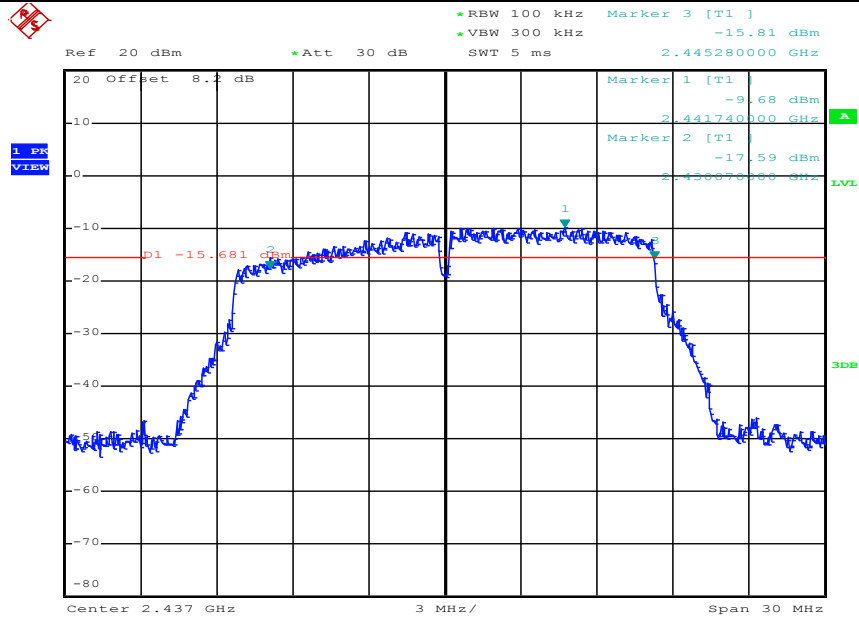
Date: 29.SEP.2019 13:44:11

11G/LCH



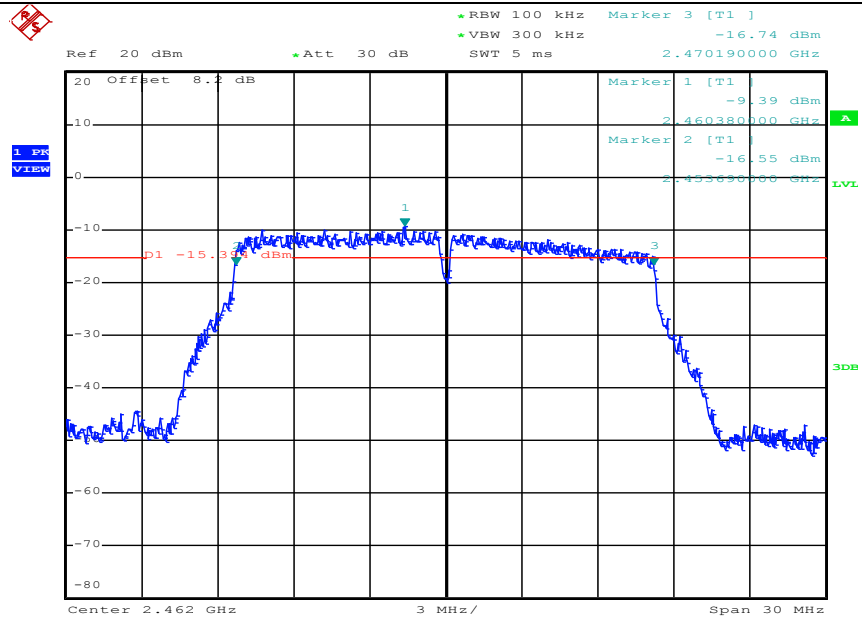
Date: 29.SEP.2019 13:48:20

11G/MCH



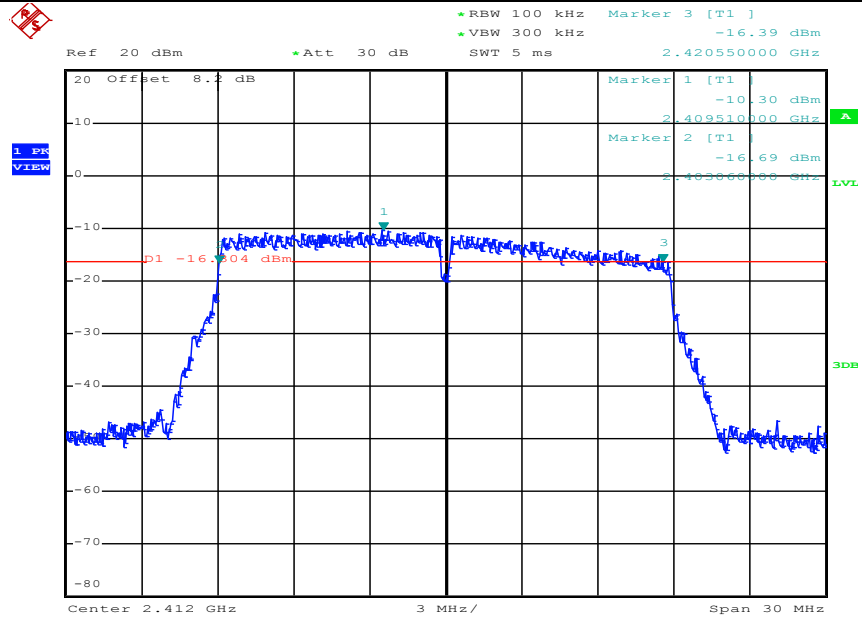
Date: 29.SEP.2019 13:50:50

11G/HCH



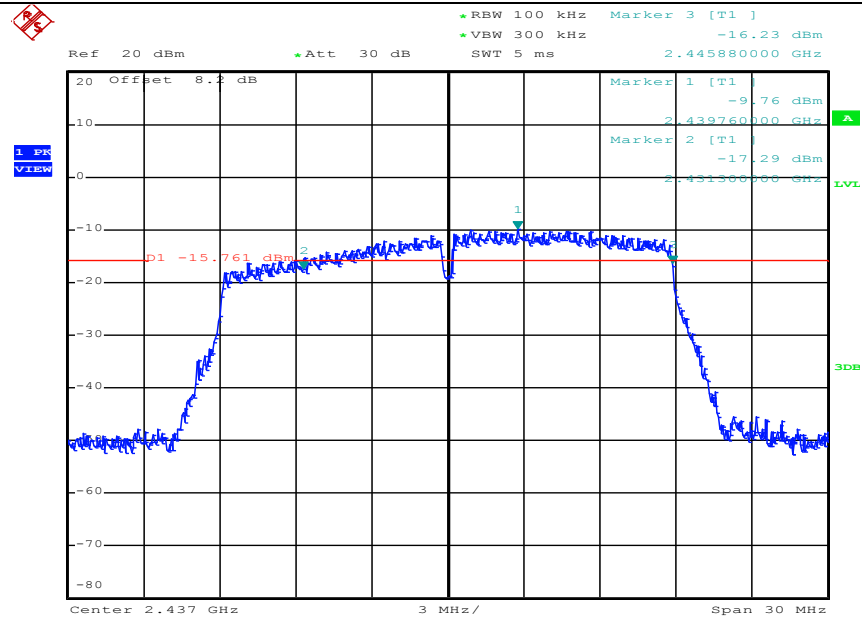
Date: 29.SEP.2019 13:52:35

11N20SISO/LCH



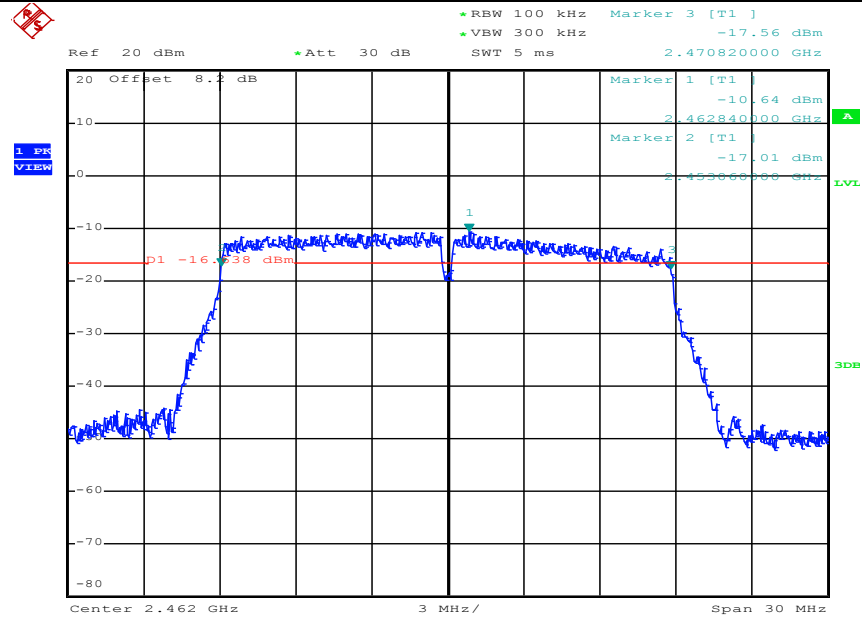
Date: 29.SEP.2019 13:55:14

11N20SISO/MCH



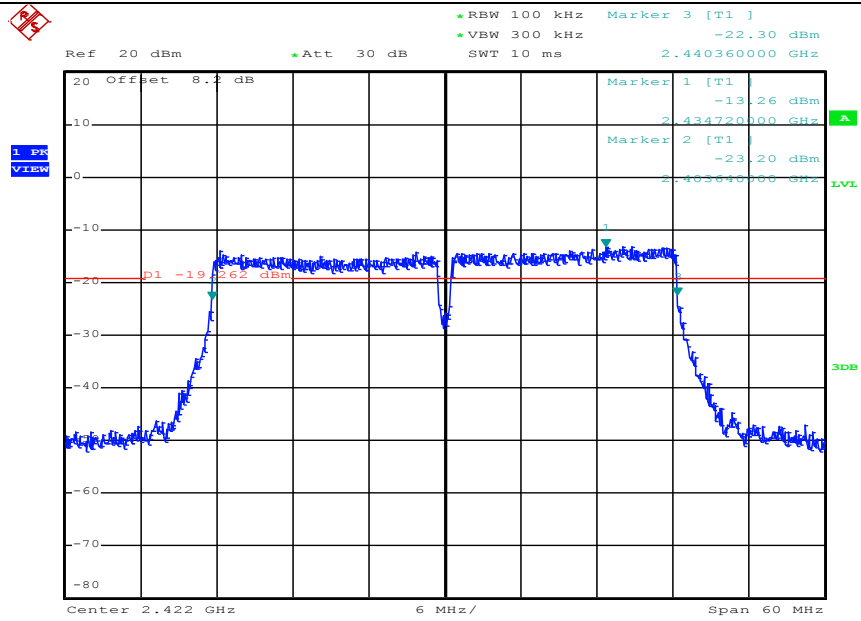
Date: 29.SEP.2019 13:57:45

11N20SISO/HCH



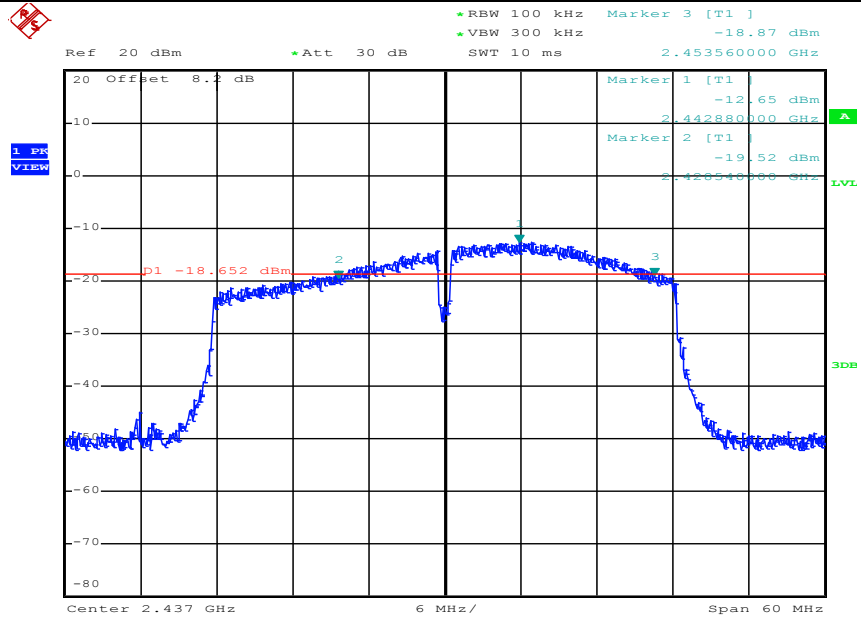
Date: 29.SEP.2019 13:59:29

11N40SISO/LCH



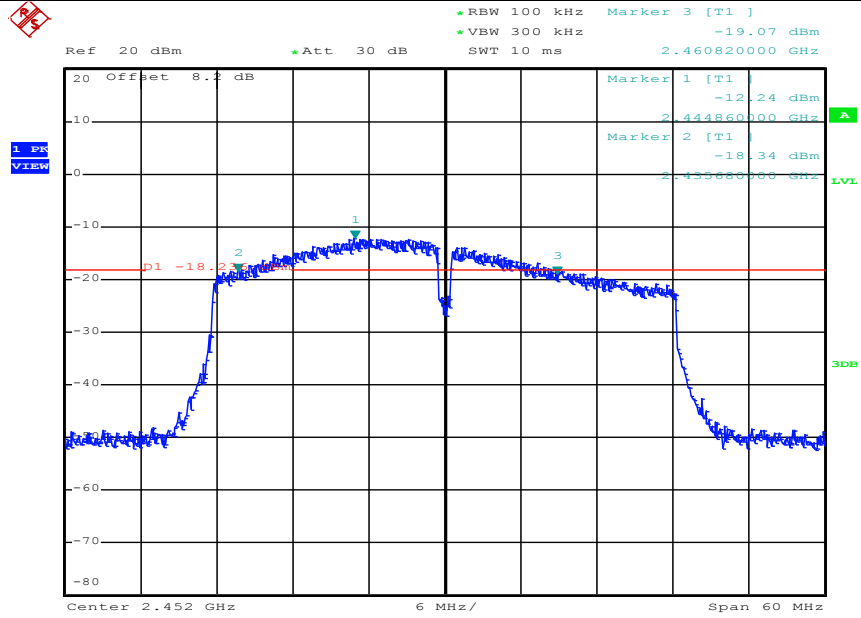
Date: 29.SEP.2019 14:02:03

11N40SISO/MCH



Date: 29.SEP.2019 14:05:49

11N40SISO/HCH



Date: 29.SEP.2019 14:08:37

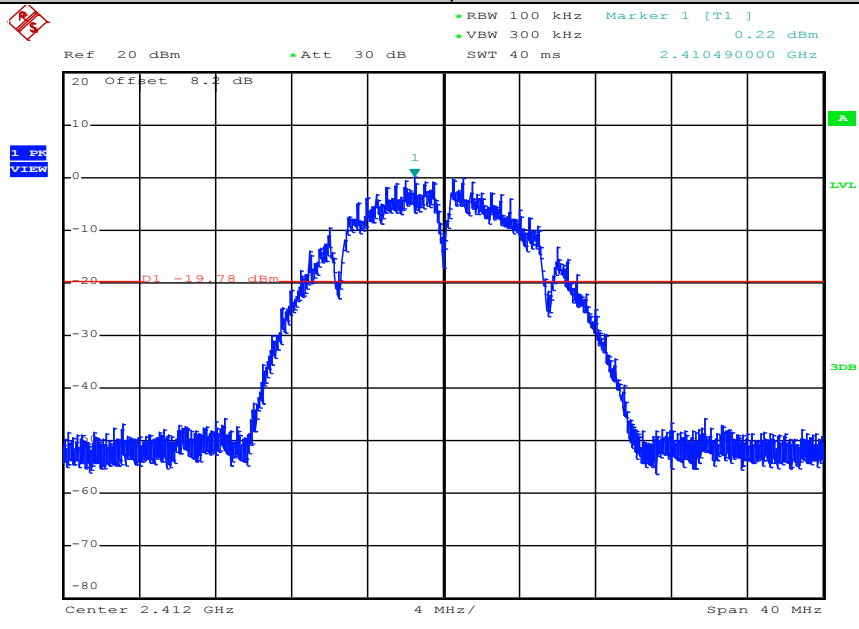


**C.5 RF Conducted Spurious Emissions**

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	0.22	-31.900	-19.780	PASS
	MCH	1.02	-32.460	-18.980	PASS
	HCH	0.21	-32.120	-19.790	PASS
11G	LCH	-10.29	-31.720	-30.290	PASS
	MCH	-9.3	-32.070	-29.300	PASS
	HCH	-10.22	-32.110	-30.220	PASS
11N20 SISO	LCH	-10.66	-30.780	-30.660	PASS
	MCH	-10.04	-32.000	-30.040	PASS
	HCH	-10.77	-31.980	-30.770	PASS
11N40 SISO	LCH	-9.3	-31.880	-29.300	PASS
	MCH	-7.51	-32.640	-27.510	PASS
	HCH	-5.88	-31.270	-25.880	PASS

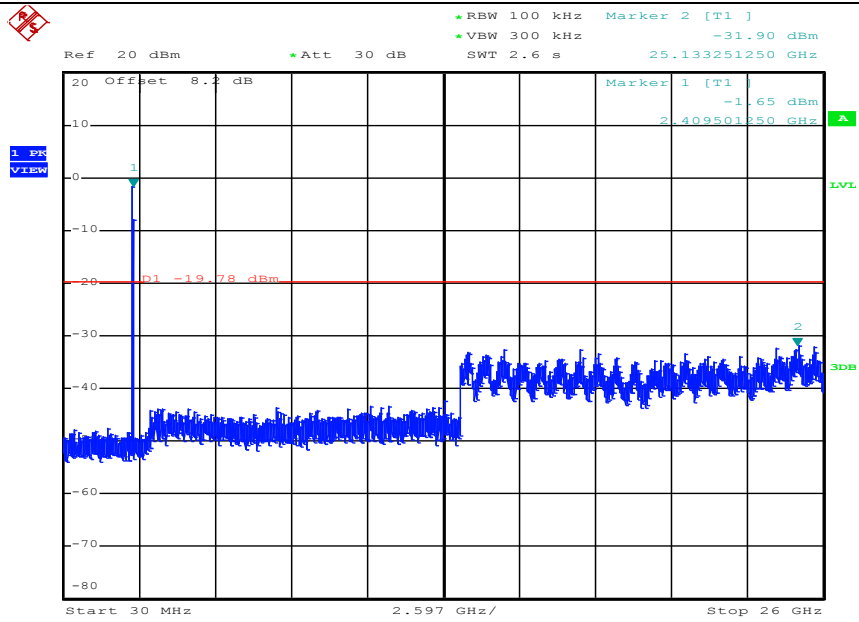
### 11B\_LCH\_Graphs

Pref/11B/LCH



Date: 29.SEP.2019 13:41:05

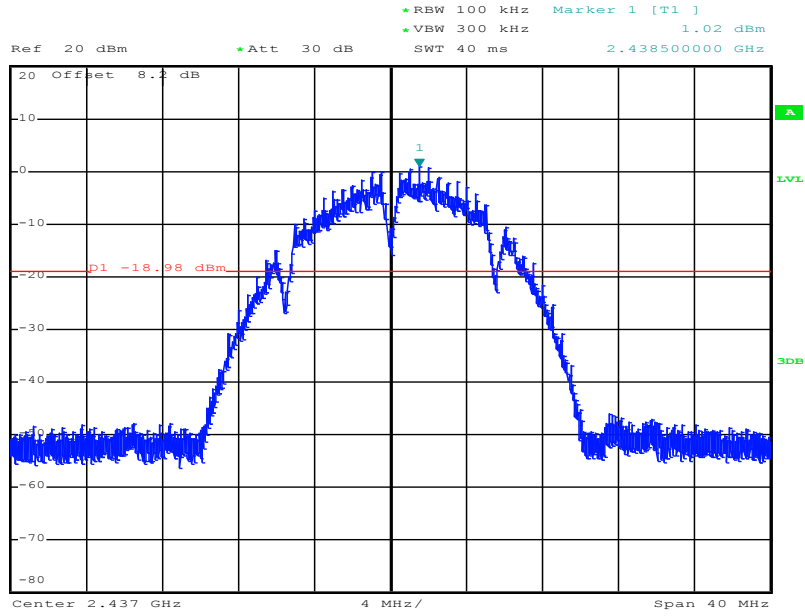
Puw/11B/LCH



Date: 29.SEP.2019 13:41:19

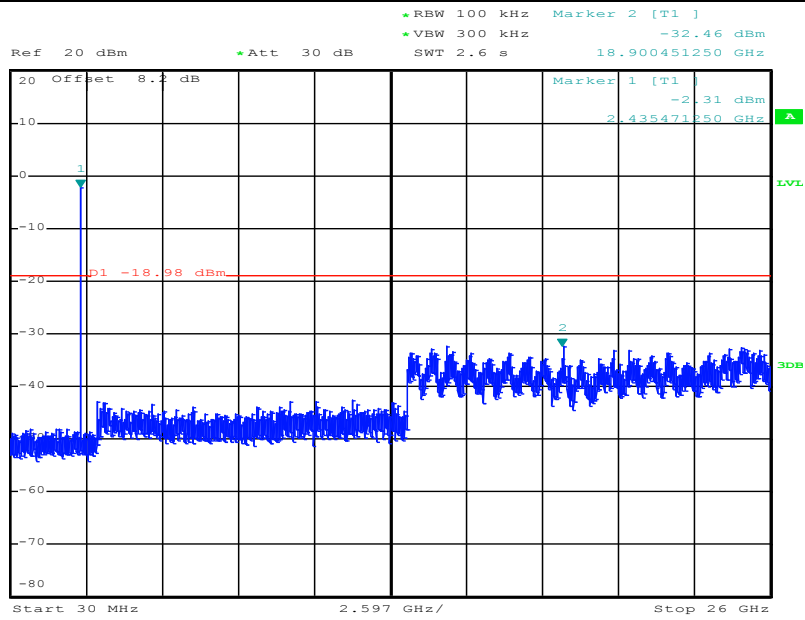
### 11B\_MCH\_Graphs

Pref/11B/MCH



Date: 29.SEP.2019 13:43:26

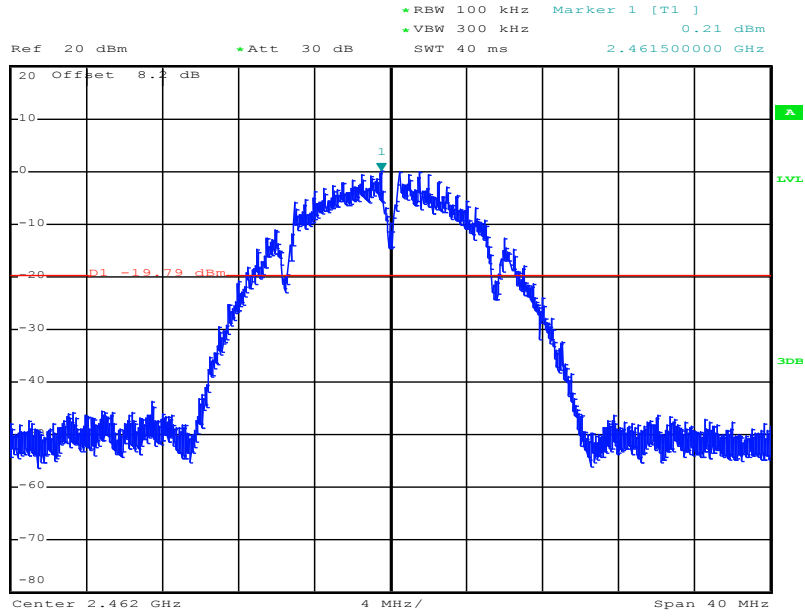
Puw/11B/MCH



Date: 29.SEP.2019 13:43:40

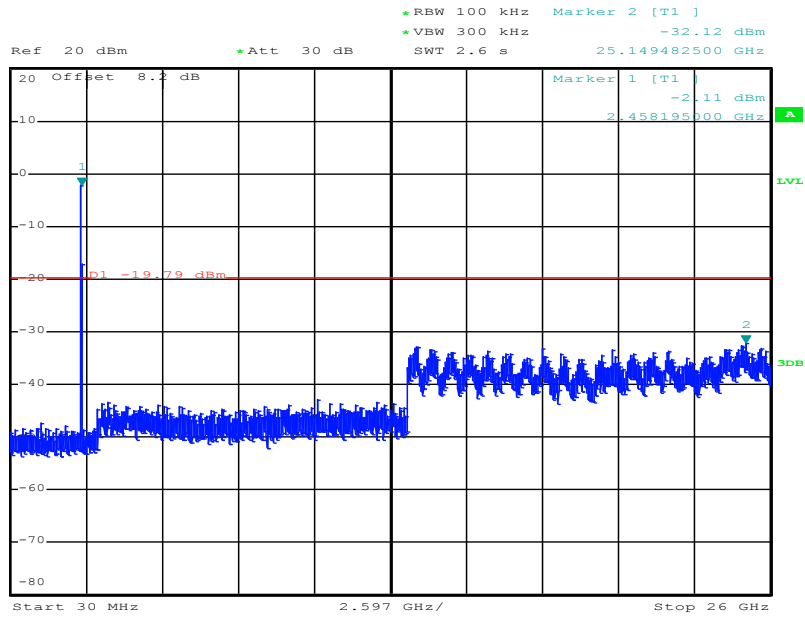
### 11B\_HCH\_Graphs

Pref/11B/HCH



Date: 29.SEP.2019 13:45:25

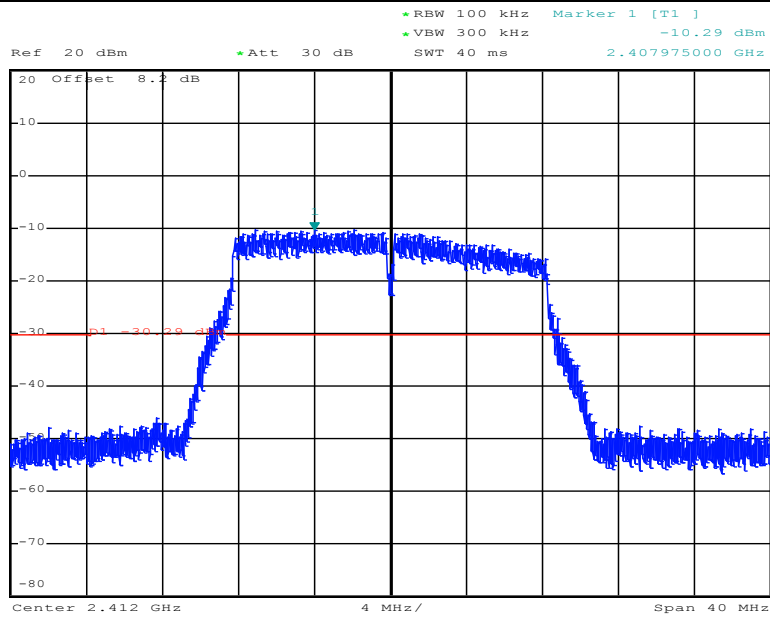
Puw/11B/HCH



Date: 29.SEP.2019 13:45:40

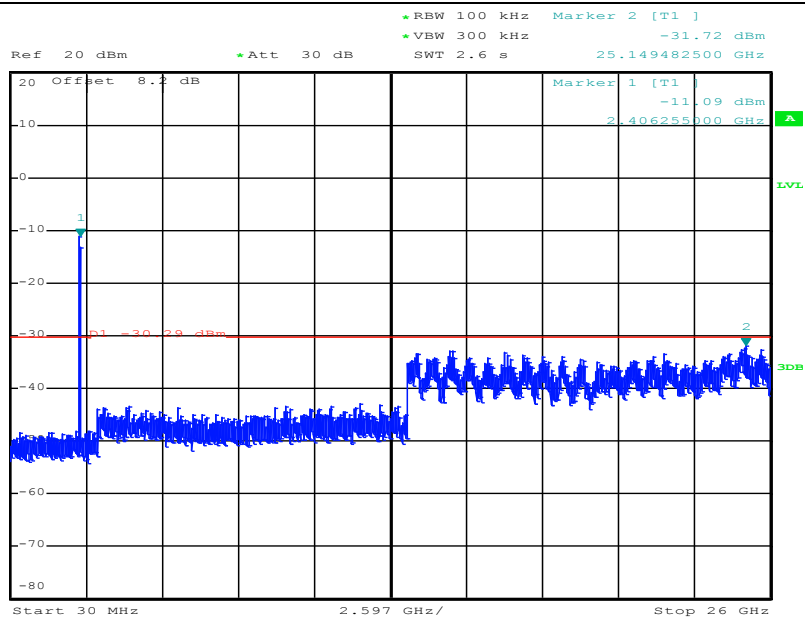
### 11G\_LCH\_Graphs

Pref/11G/LCH



Date: 29.SEP.2019 13:49:34

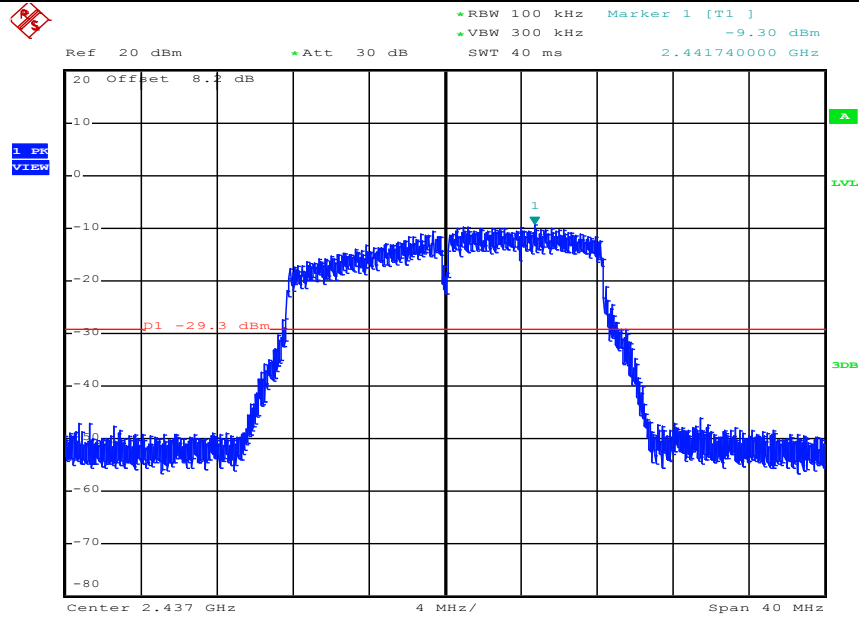
Puw/11G/LCH



Date: 29.SEP.2019 13:49:48

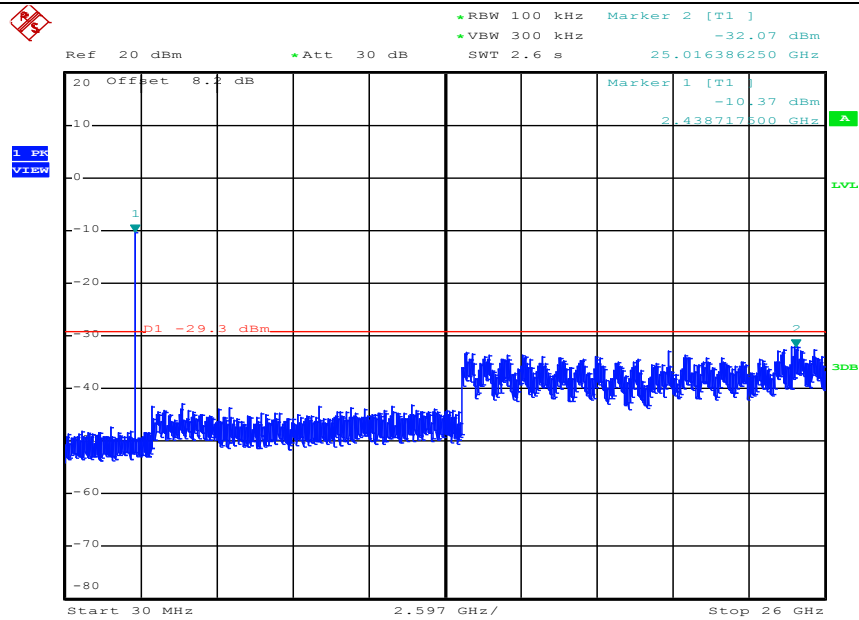
### 11G\_MCH\_Graphs

Pref/11G/MCH



Date: 29.SEP.2019 13:51:50

Puw/11G/MCH



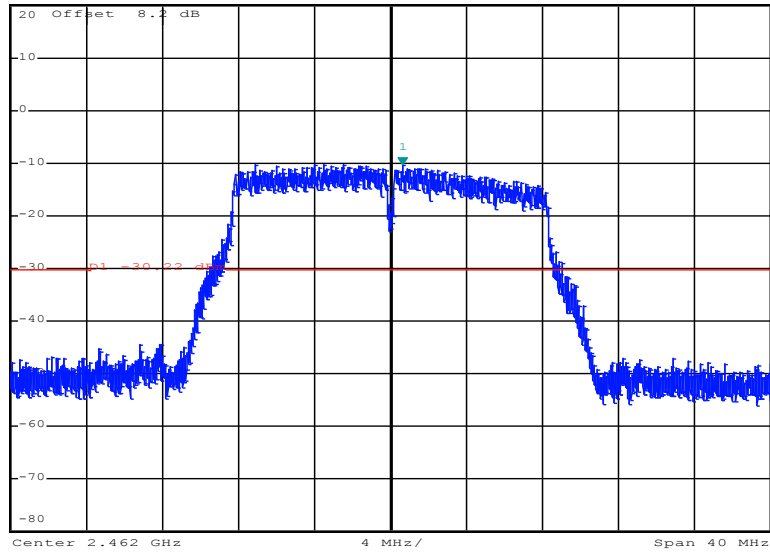
Date: 29.SEP.2019 13:52:05

### 11G\_HCH\_Graphs

Pref/11G/HCH



Ref 20 dBm    Att 30 dB    RBW 100 kHz    Marker 1 [T1]    -10.22 dBm  
VBW 300 kHz    SWT 40 ms    2.462645000 GHz

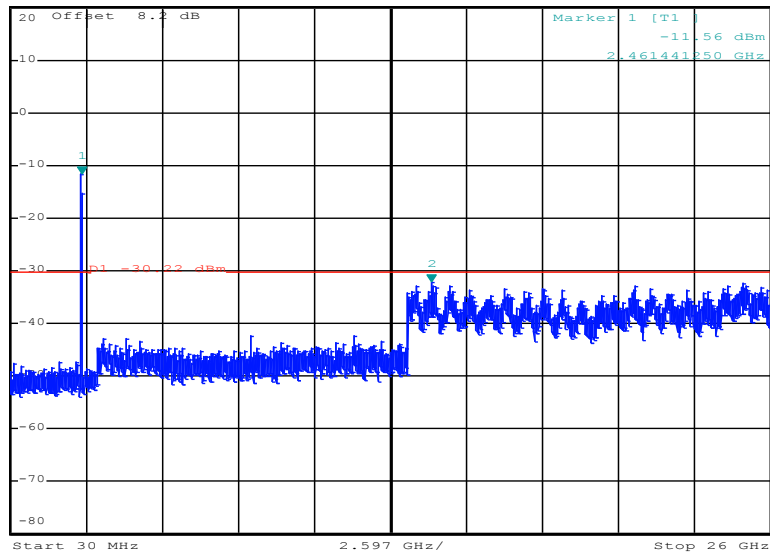


Date: 29.SEP.2019 13:53:49

Puw/11G/HCH



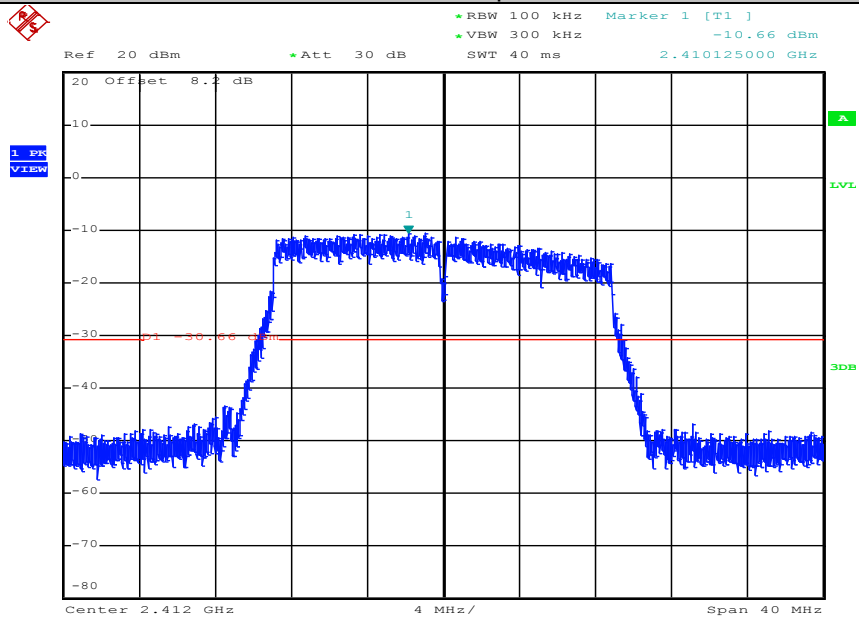
Ref 20 dBm    Att 30 dB    RBW 100 kHz    Marker 2 [T1]    -32.11 dBm  
VBW 300 kHz    SWT 2.6 s    14.423872500 GHz



Date: 29.SEP.2019 13:54:04

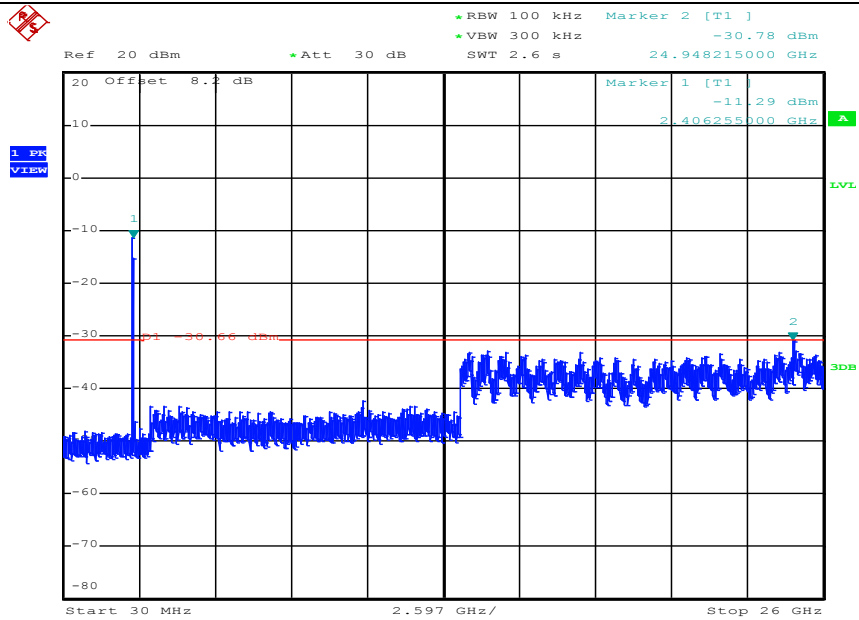
### 11N20SISO\_LCH\_Graphs

Pref/11N20SIS  
O/LCH



Date: 29.SEP.2019 13:56:28

Puw/11N20  
SISO/LCH

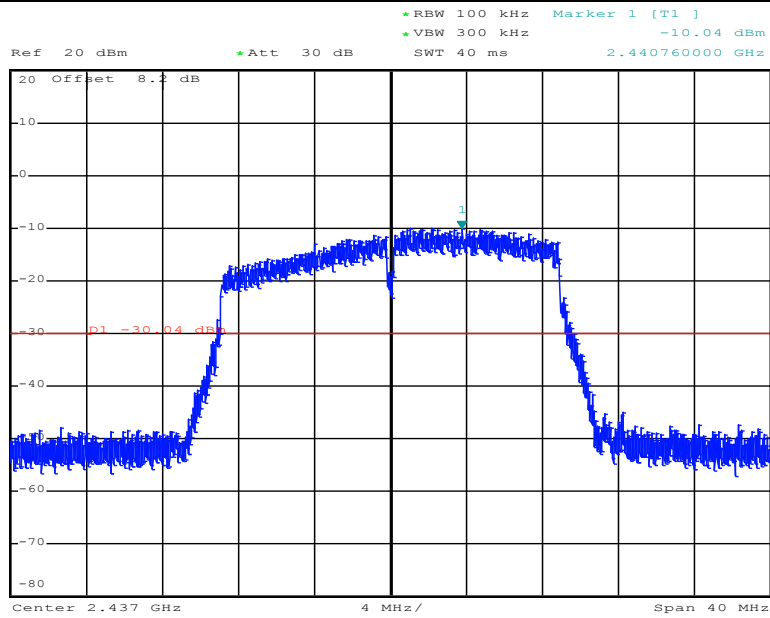


Date: 29.SEP.2019 13:56:42



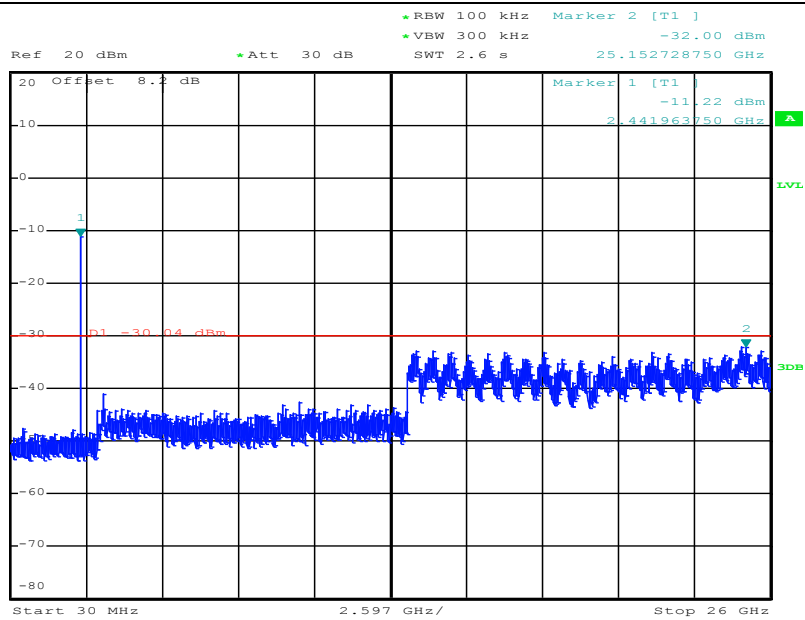
11N20SISO\_MCH\_Graphs

Pref/11N20  
SISO/MCH



Date: 29.SEP.2019 13:58:45

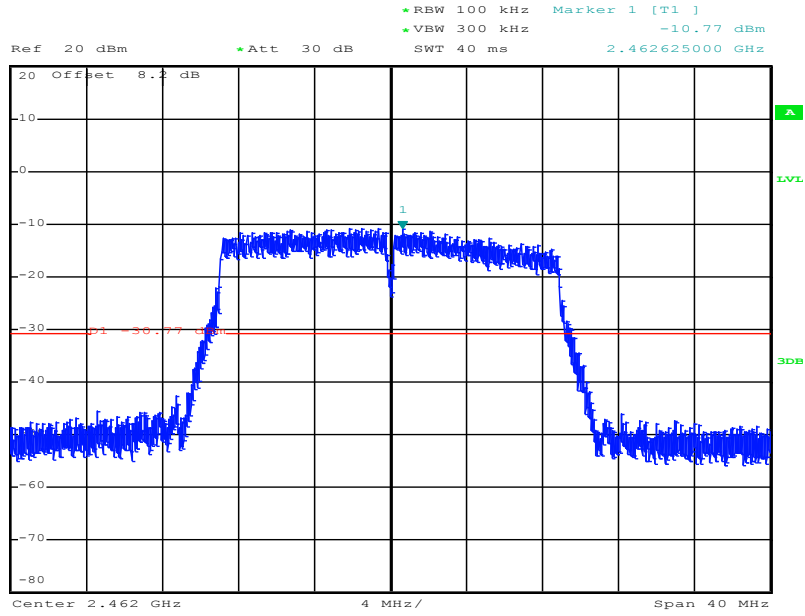
Puw/11N20  
SISO/MCH



Date: 29.SEP.2019 13:58:59

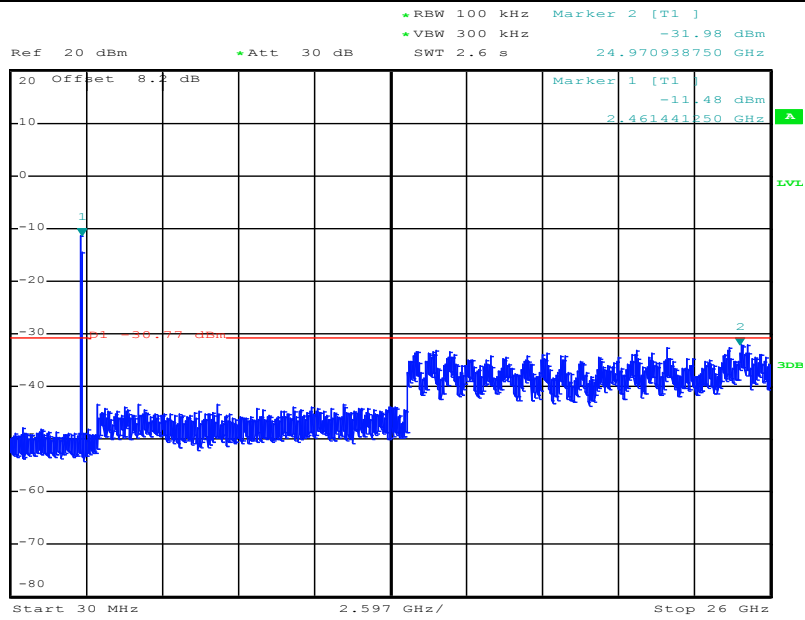
### 11N20SISO\_HCH\_Graphs

Pref/11N20  
SISO/HCH



Date: 29.SEP.2019 14:00:43

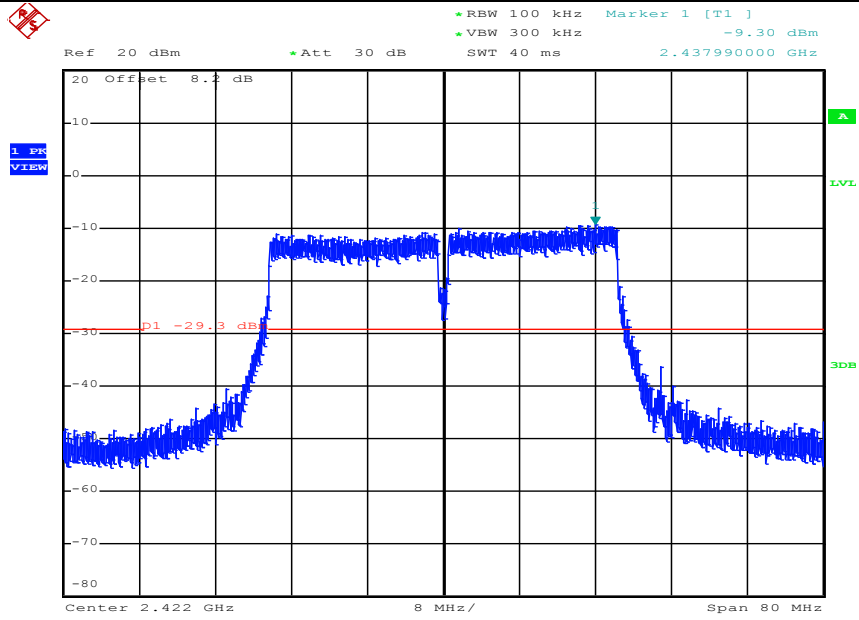
Puw/11N20  
SISO/HCH



Date: 29.SEP.2019 14:00:57

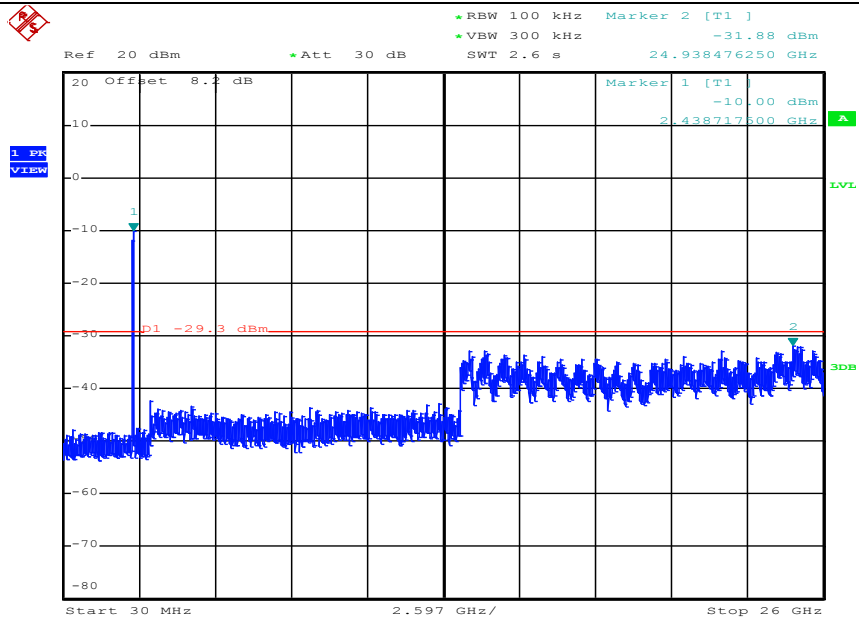
11N40SISO\_LCH\_Graphs

Pref/11N40  
SISO/LCH



Date: 29.SEP.2019 14:04:29

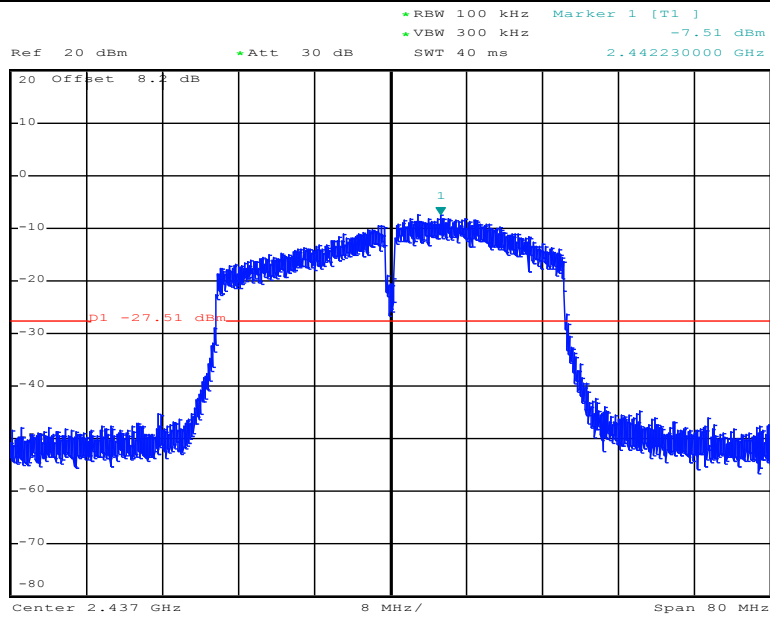
Puw/11N40  
SISO/LCH



Date: 29.SEP.2019 14:04:44

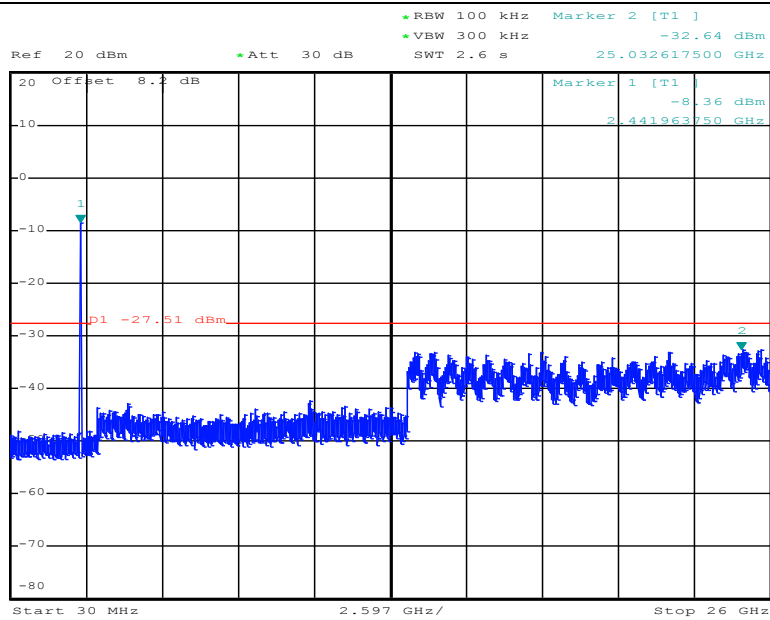
### 11N40SISO\_MCH\_Graphs

Pref/11N40  
SISO/MCH



Date: 29.SEP.2019 14:07:30

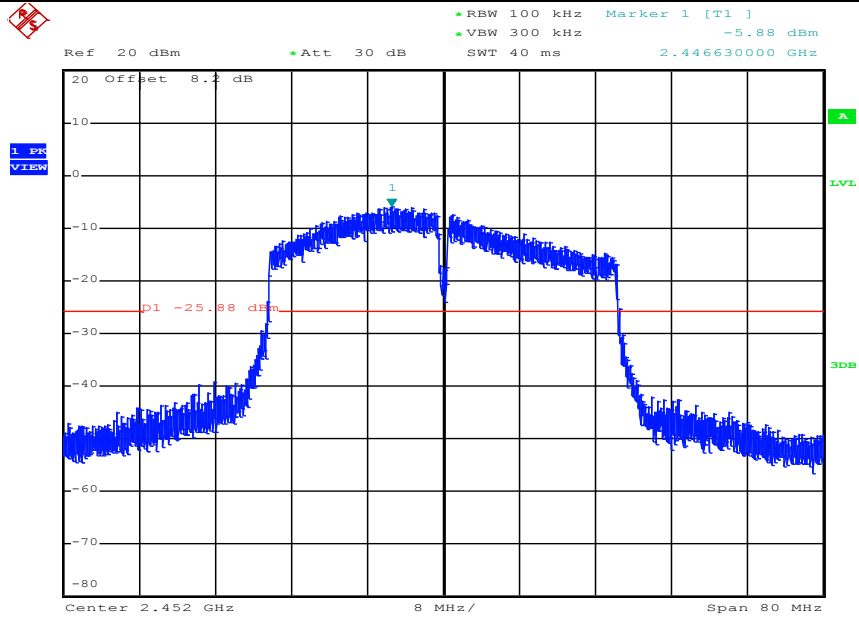
Puw/11N40  
SISO/MCH



Date: 29.SEP.2019 14:07:45

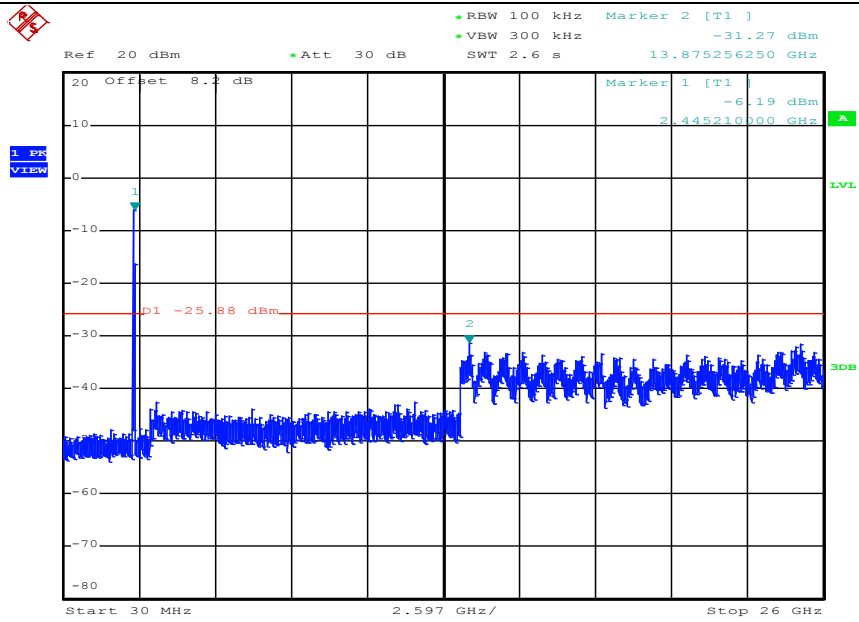
### 11N40SISO\_HCH\_Graphs

Pref/11N40  
SISO/HCH



Date: 29.SEP.2019 14:10:47

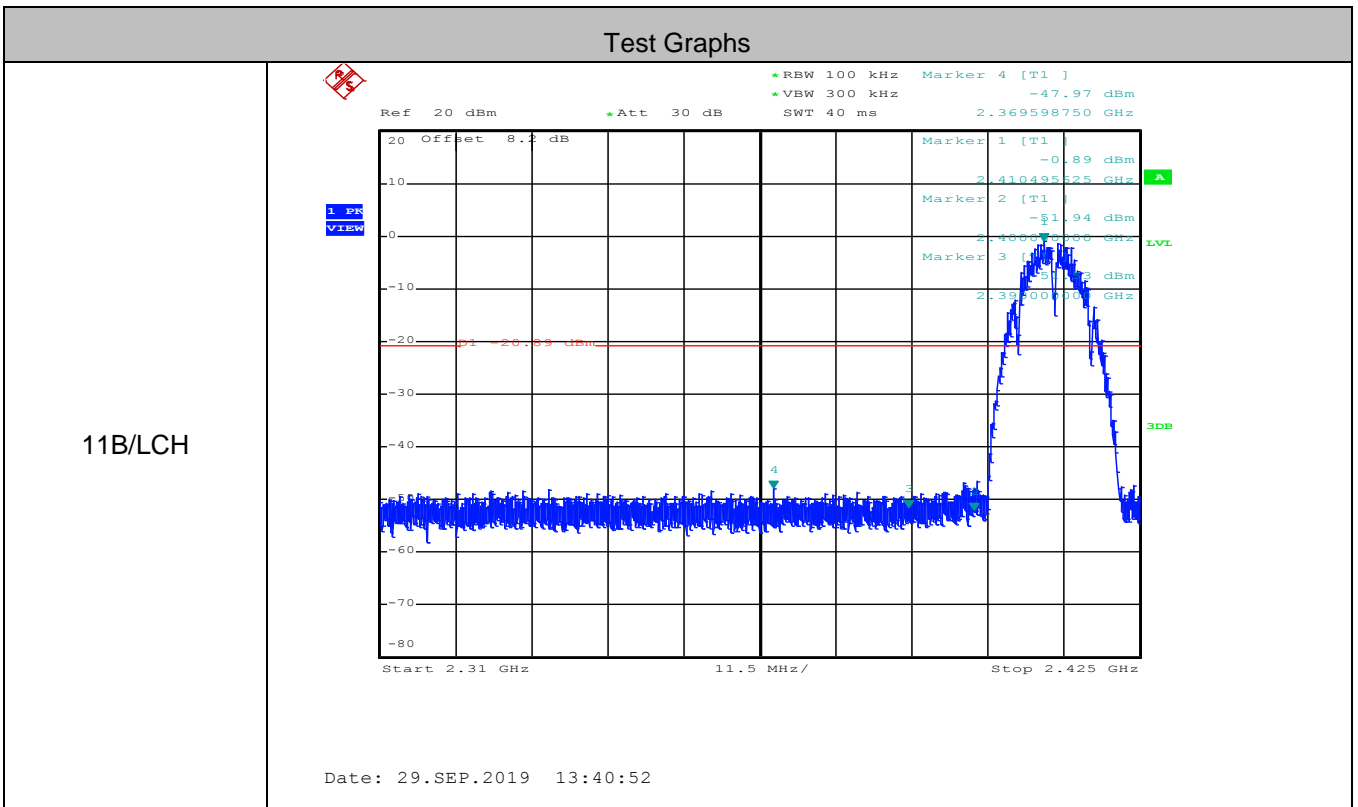
Puw/11N40  
SISO/HCH



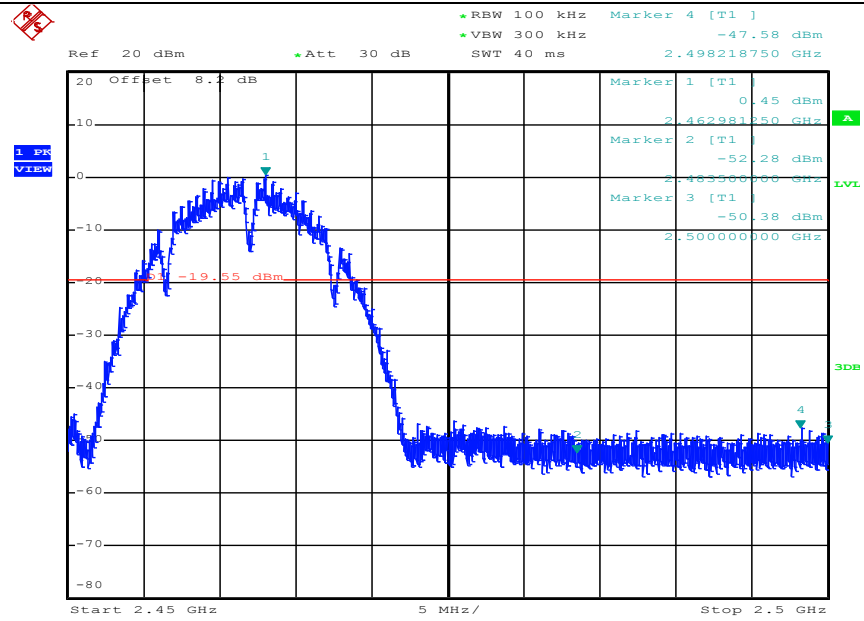
Date: 29.SEP.2019 14:11:02

### C.6 Band-edge for RF Conducted Emissions

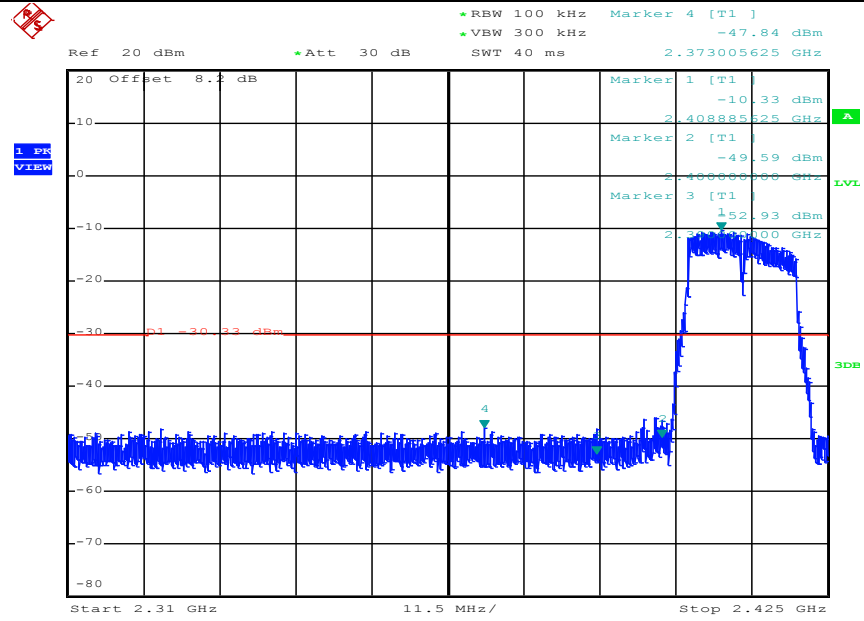
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-0.890	-47.974	-20.89	PASS
	HCH	0.450	-47.583	-19.55	PASS
11G	LCH	-10.330	-47.837	-30.33	PASS
	HCH	-10.440	-47.409	-30.44	PASS
11N20SISO	LCH	-10.940	-47.217	-30.94	PASS
	HCH	-10.760	-47.596	-30.76	PASS
11N40SISO	LCH	-13.520	-47.896	-33.52	PASS
	HCH	-11.700	-47.033	-31.7	PASS



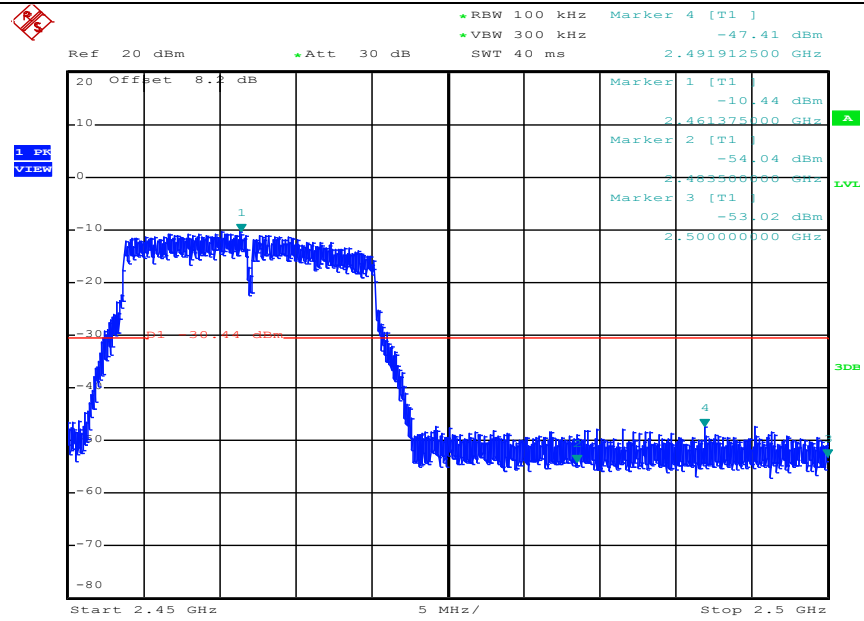
11B/HCH



11G/LCH

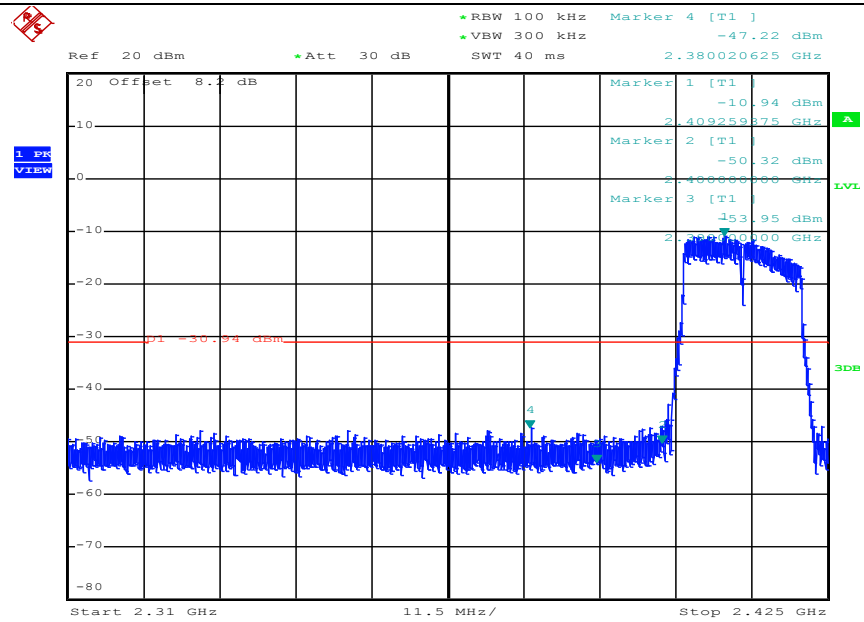


11G/HCH



Date: 29.SEP.2019 13:53:36

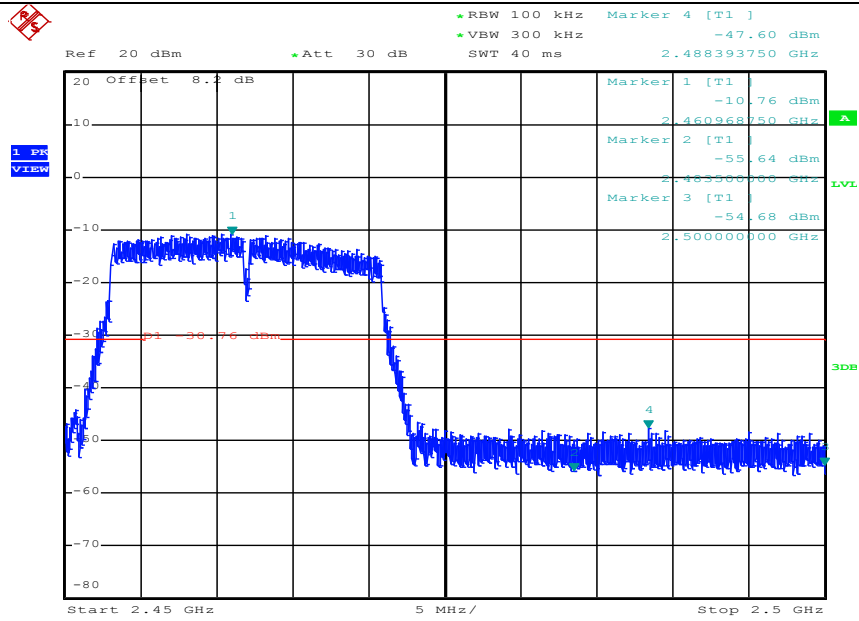
11N20SISO/LCH



Date: 29.SEP.2019 13:56:15

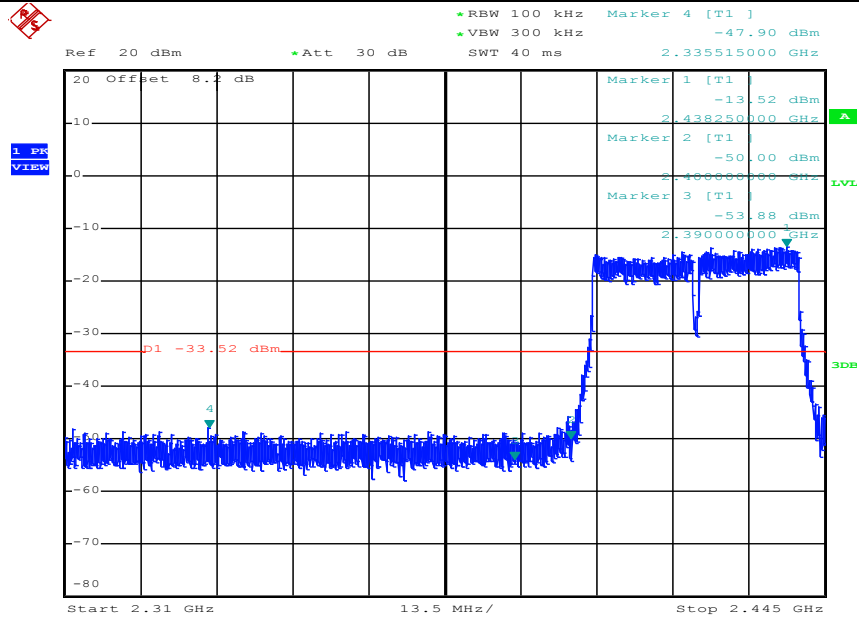


11N20SISO/HCH



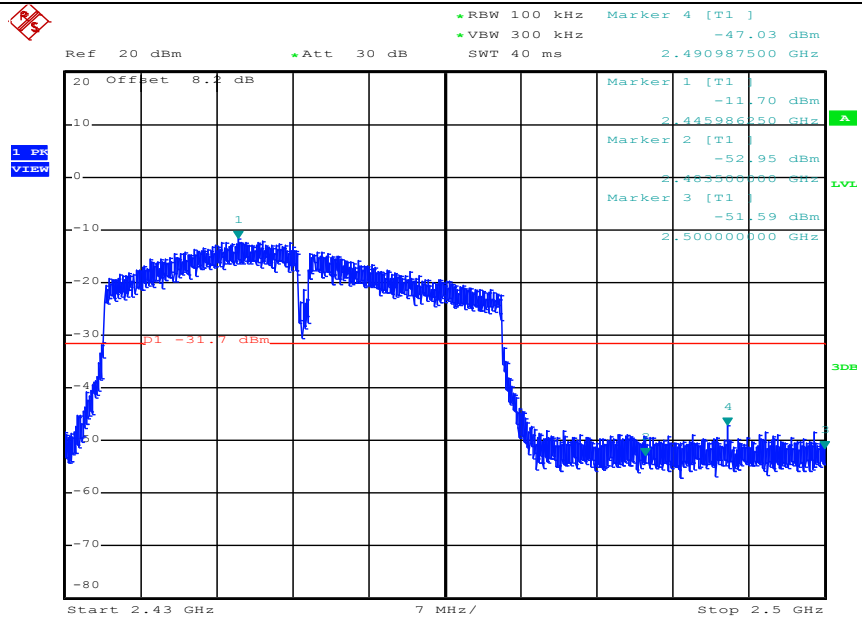
Date: 29.SEP.2019 14:00:30

11N40SISO/LCH



Date: 29.SEP.2019 14:03:04

11N40SISO/HCH



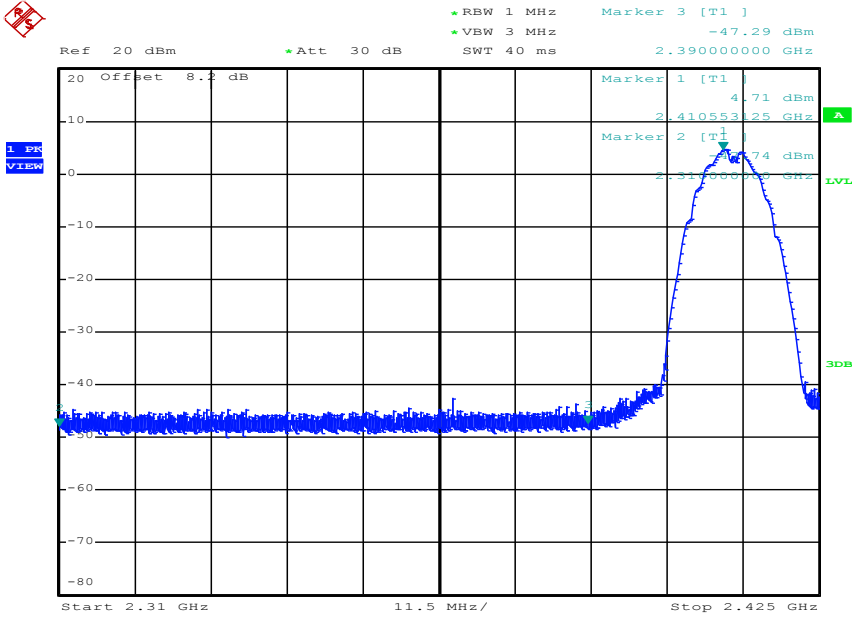
Date: 29.SEP.2019 14:09:37

### C.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBu V/m]	Verdict
11B	2412	Ant1	2310.0	-47.74	2.0	0	47.52	PEAK	74	PASS
	2412	Ant1	2310.0	-57.30	2.0	0	37.96	AV	54	PASS
	2412	Ant1	2390.0	-47.29	2.0	0	47.97	PEAK	74	PASS
	2412	Ant1	2390.0	-56.90	2.0	0	38.36	AV	54	PASS
	2462	Ant1	2483.5	-46.25	2.0	0	49.01	PEAK	74	PASS
	2462	Ant1	2483.5	-56.51	2.0	0	38.75	AV	54	PASS
	2462	Ant1	2500.0	-46.52	2.0	0	48.74	PEAK	74	PASS
	2462	Ant1	2500.0	-57.48	2.0	0	37.78	AV	54	PASS
11G	2412	Ant1	2310.0	-47.00	2.0	0	48.26	PEAK	74	PASS
	2412	Ant1	2310.0	-57.32	2.0	0	37.94	AV	54	PASS
	2412	Ant1	2390.0	-46.34	2.0	0	48.92	PEAK	74	PASS
	2412	Ant1	2390.0	-56.80	2.0	0	38.46	AV	54	PASS
	2462	Ant1	2483.5	-46.92	2.0	0	48.34	PEAK	74	PASS
	2462	Ant1	2483.5	-56.13	2.0	0	39.13	AV	54	PASS
	2462	Ant1	2500.0	-46.60	2.0	0	48.66	PEAK	74	PASS
	2462	Ant1	2500.0	-57.48	2.0	0	37.78	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-48.35	2.0	0	46.91	PEAK	74	PASS
	2412	Ant1	2310.0	-57.29	2.0	0	37.97	AV	54	PASS
	2412	Ant1	2390.0	-45.45	2.0	0	49.81	PEAK	74	PASS
	2412	Ant1	2390.0	-56.66	2.0	0	38.60	AV	54	PASS
	2462	Ant1	2483.5	-46.93	2.0	0	48.33	PEAK	74	PASS
	2462	Ant1	2483.5	-56.16	2.0	0	39.10	AV	54	PASS
	2462	Ant1	2500.0	-48.17	2.0	0	47.09	PEAK	74	PASS
	2462	Ant1	2500.0	-57.45	2.0	0	37.81	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-48.63	2.0	0	46.63	PEAK	74	PASS
	2422	Ant1	2310.0	-57.32	2.0	0	37.94	AV	54	PASS

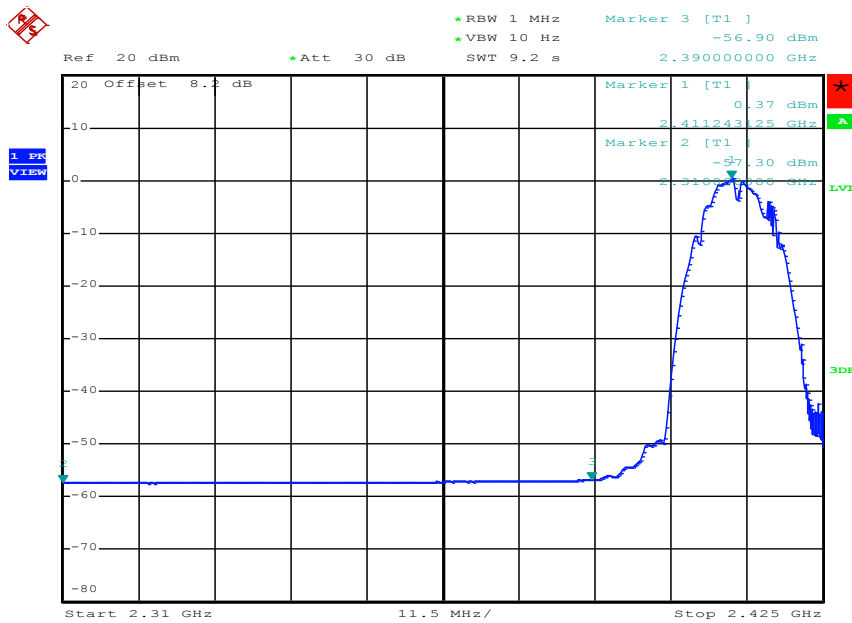
	2422	Ant1	2390.0	-40.03	2.0	0	55.23	PEAK	74	PASS
	2422	Ant1	2390.0	-54.16	2.0	0	41.10	AV	54	PASS
	2452	Ant1	2483.5	-37.64	2.0	0	57.62	PEAK	74	PASS
	2452	Ant1	2483.5	-51.12	2.0	0	44.14	AV	54	PASS
	2452	Ant1	2500.0	-47.45	2.0	0	47.81	PEAK	74	PASS
	2452	Ant1	2500.0	-57.33	2.0	0	37.93	AV	54	PASS

Restrict-band band-edge measurements\_11B\_2412\_Ant1\_PEAK



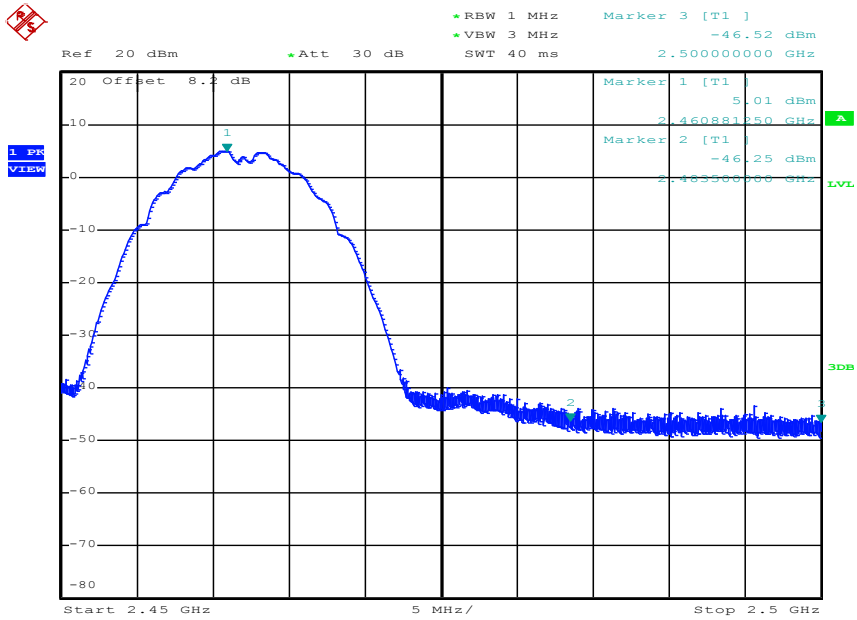
Date: 29.SEP.2019 13:41:38

Restrict-band band-edge measurements\_11B\_2412\_Ant1\_AV



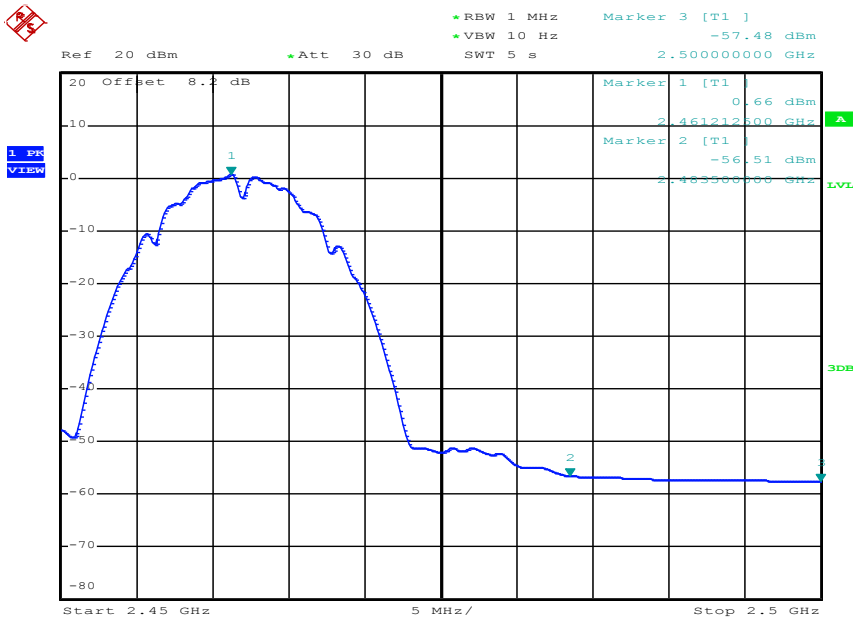
Date: 29.SEP.2019 13:41:54

Restrict-band band-edge measurements\_11B\_2462\_Ant1\_PEAK



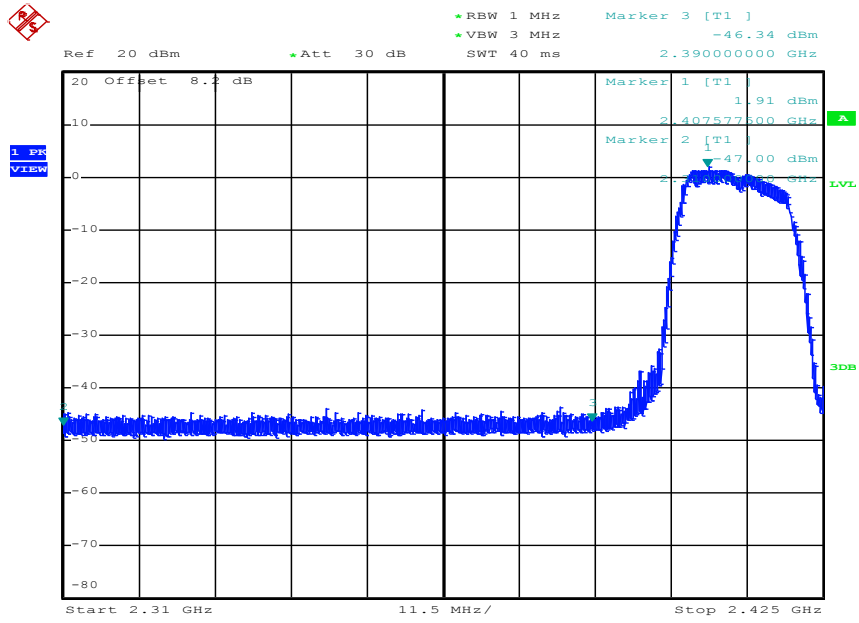
Date: 29.SEP.2019 13:45:58

Restrict-band band-edge measurements\_11B\_2462\_Ant1\_AV



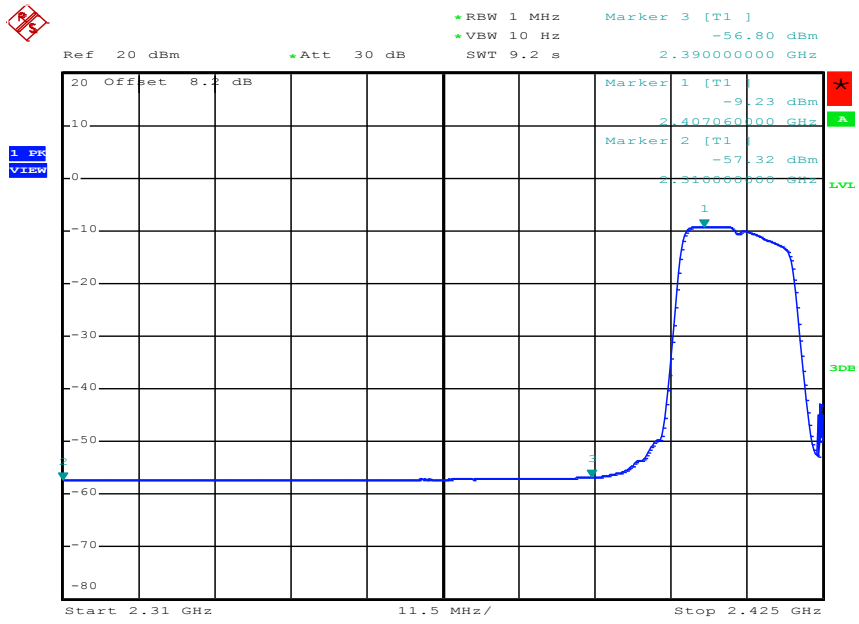
Date: 29.SEP.2019 13:46:14

Restrict-band band-edge measurements\_11G\_2412\_Ant1\_PEAK



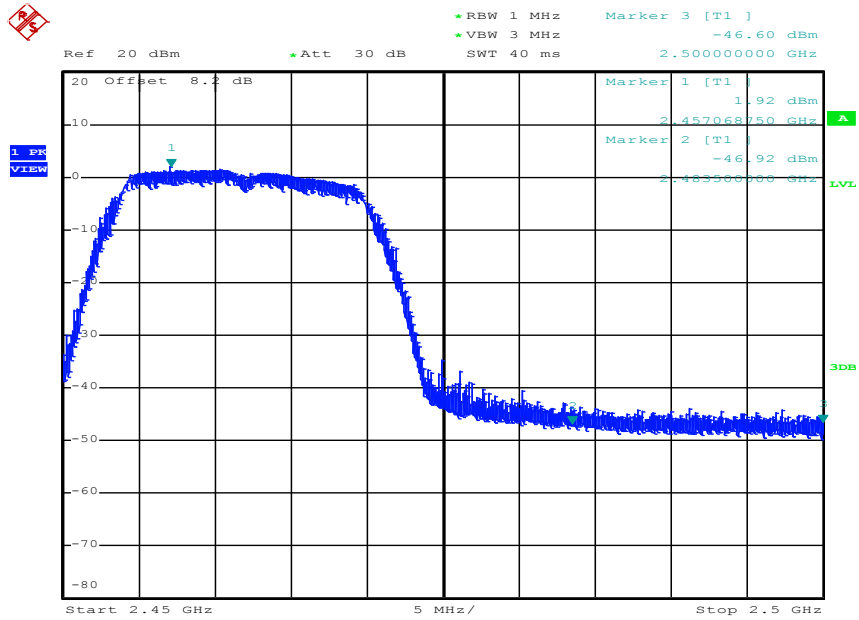
Date: 29.SEP.2019 13:50:07

Restrict-band band-edge measurements\_11G\_2412\_Ant1\_AV



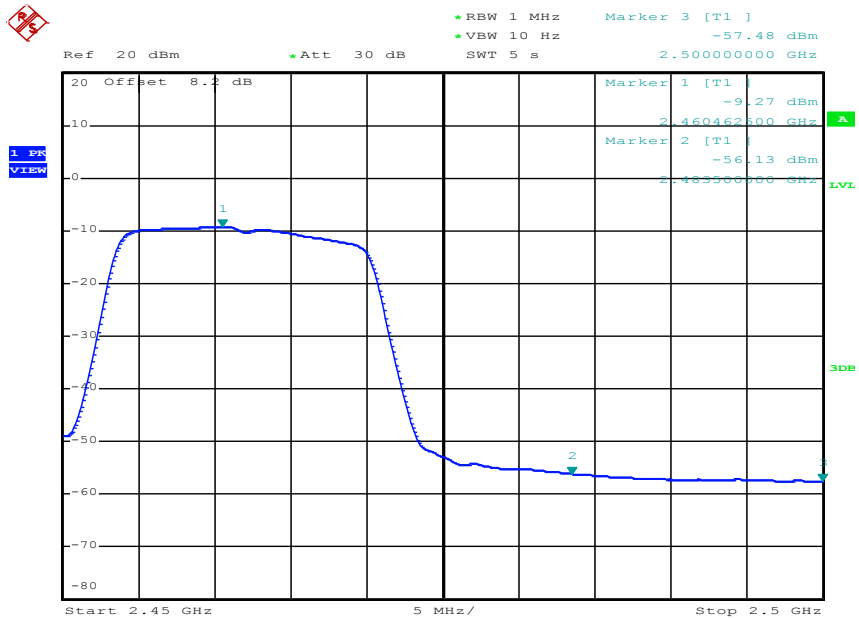
Date: 29.SEP.2019 13:50:23

Restrict-band band-edge measurements\_11G\_2462\_Ant1\_PEAK



Date: 29.SEP.2019 13:54:22

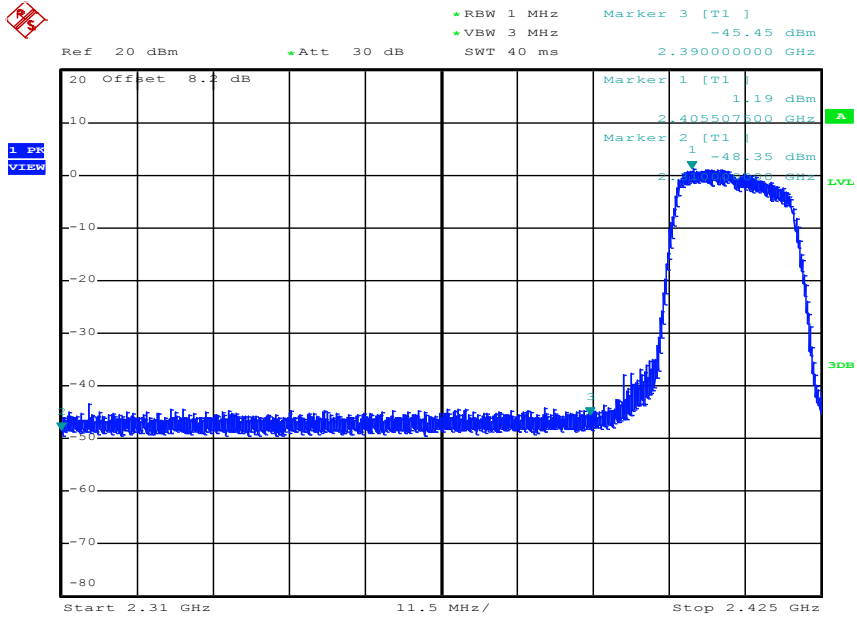
Restrict-band band-edge measurements\_11G\_2462\_Ant1\_AV



Date: 29.SEP.2019 13:54:37

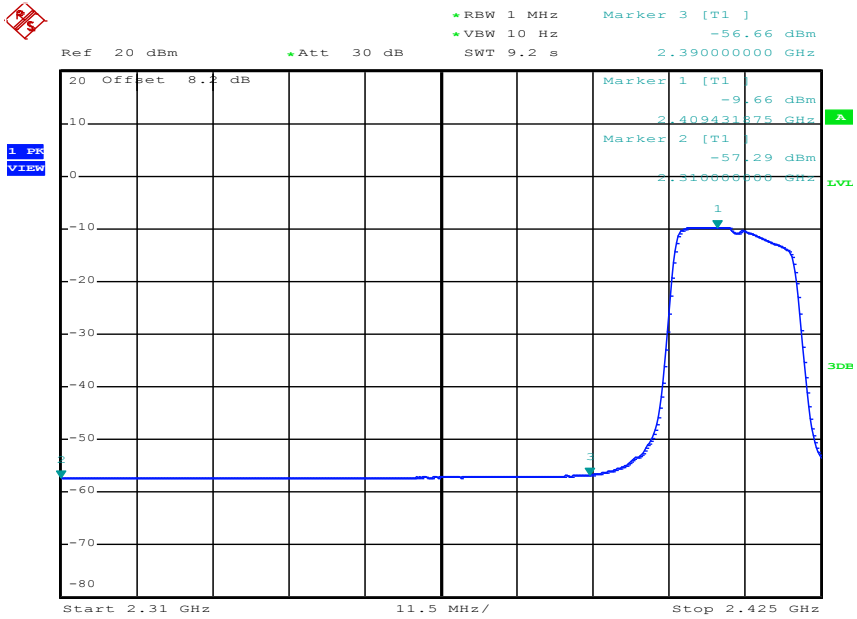


Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_PEAK



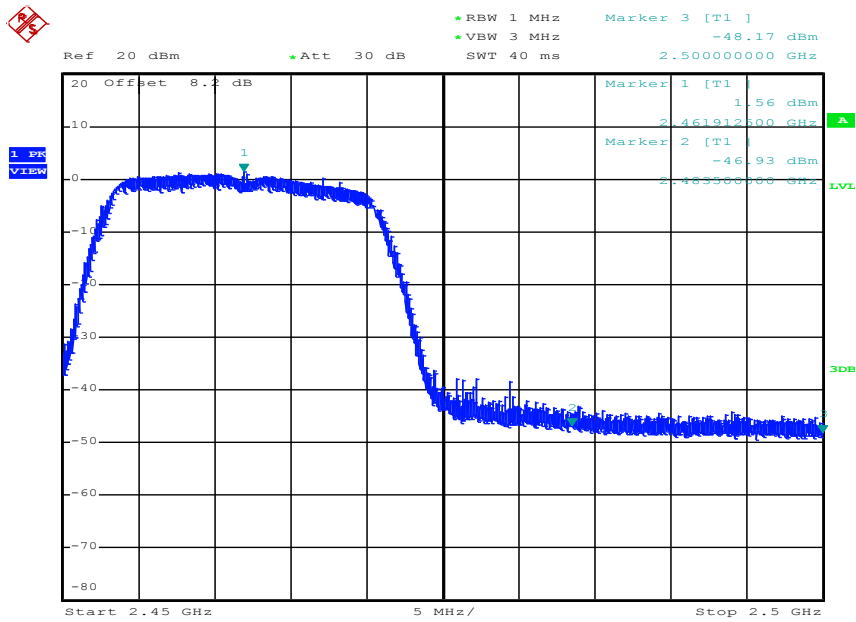
Date: 29.SEP.2019 13:57:01

Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_AV



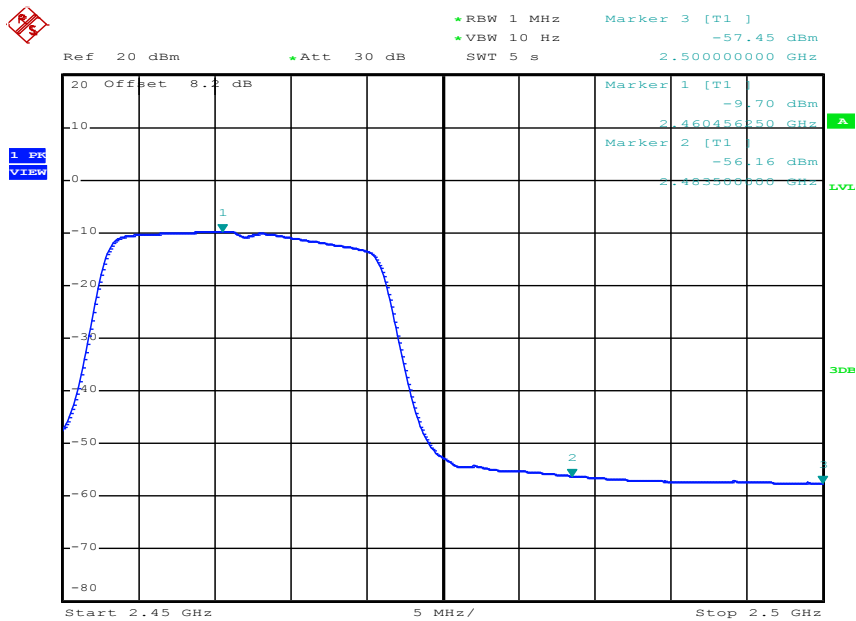
Date: 29.SEP.2019 13:57:18

Restrict-band band-edge measurements\_11N20SISO\_2462\_Ant1\_PEAK



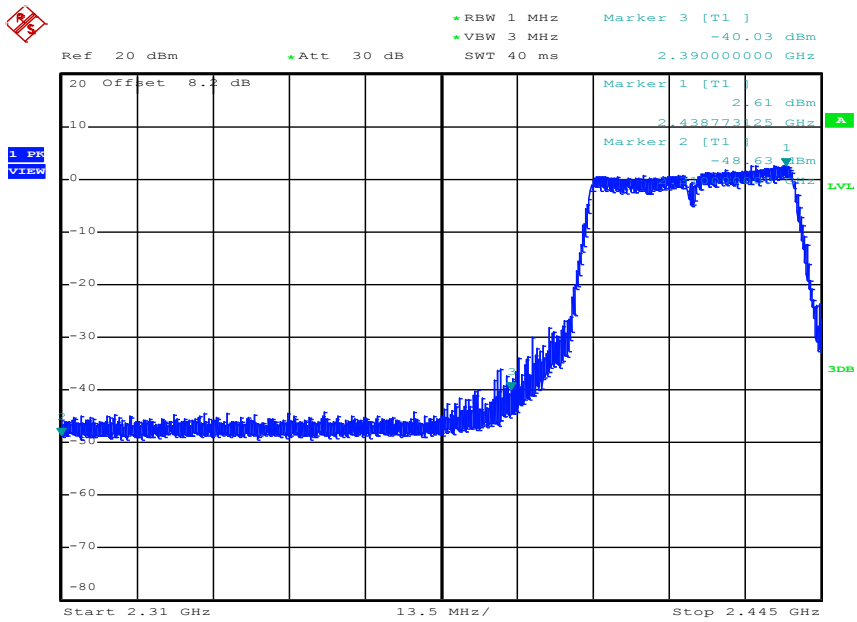
Date: 29.SEP.2019 14:01:16

Restrict-band band-edge measurements\_11N20SISO\_2462\_Ant1\_AV



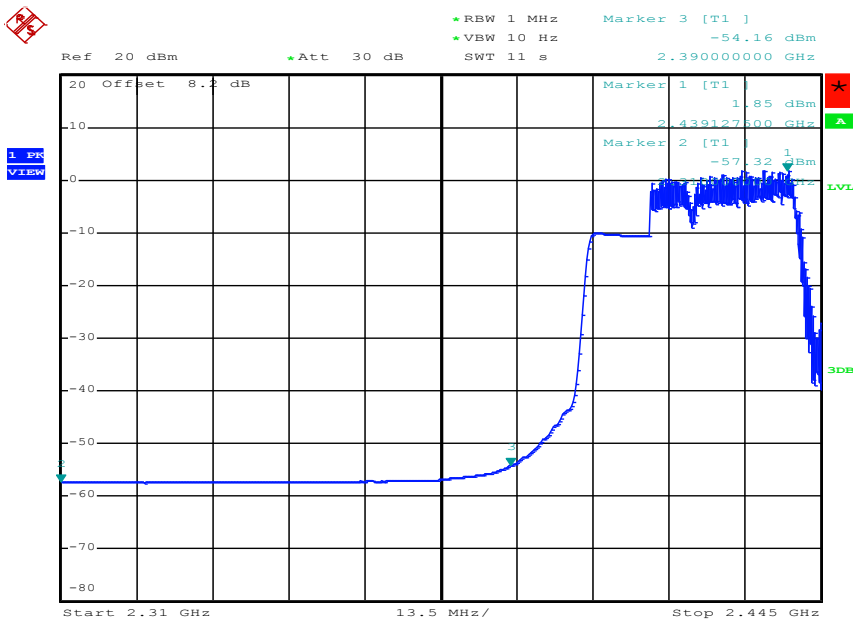
Date: 29.SEP.2019 14:01:32

Restrict-band band-edge measurements\_11N40SISO\_2422\_Ant1\_PEAK



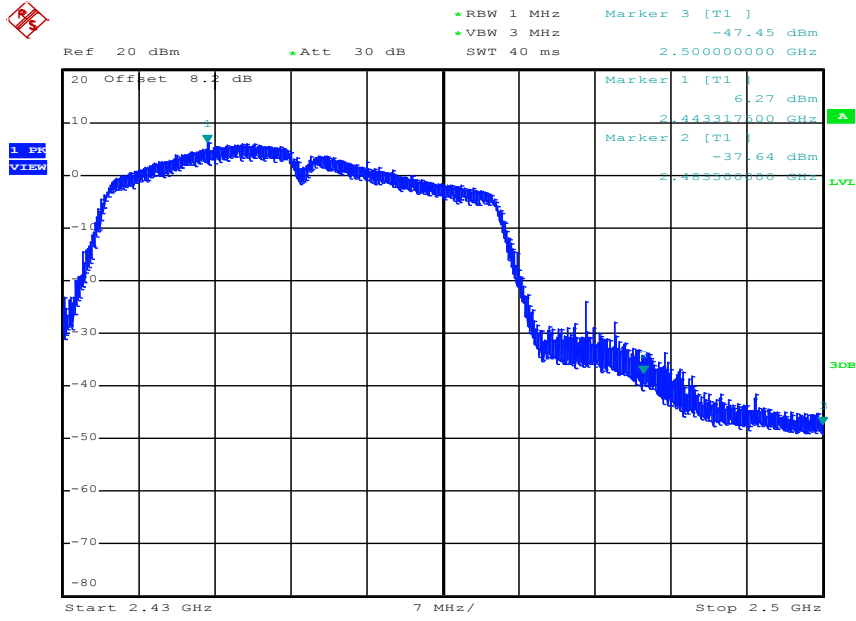
Date: 29.SEP.2019 14:05:03

Restrict-band band-edge measurements\_11N40SISO\_2422\_Ant1\_AV



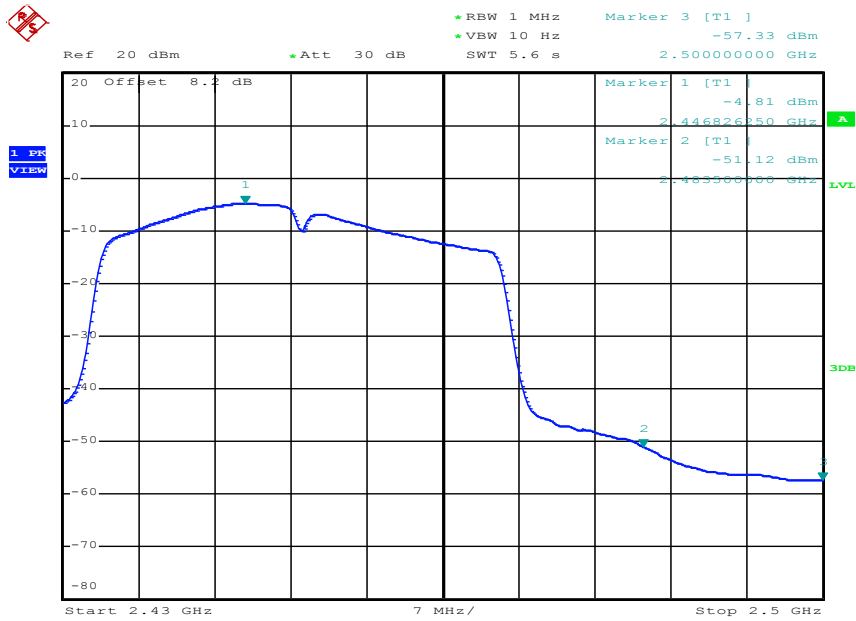
Date: 29.SEP.2019 14:05:18

Restrict-band band-edge measurements\_11N40SISO\_2452\_Ant1\_PEAK



Date: 29.SEP.2019 14:11:21

Restrict-band band-edge measurements\_11N40SISO\_2452\_Ant1\_AV



Date: 29.SEP.2019 14:11:36