

## Appendix A

### RF Test Data for BT V5.0(BDR/EDR) (Conducted Measurement)

Product Name: 720P smart Roku projector

Trade Mark: RCA

Test Model: RPJ133

#### Environmental Conditions

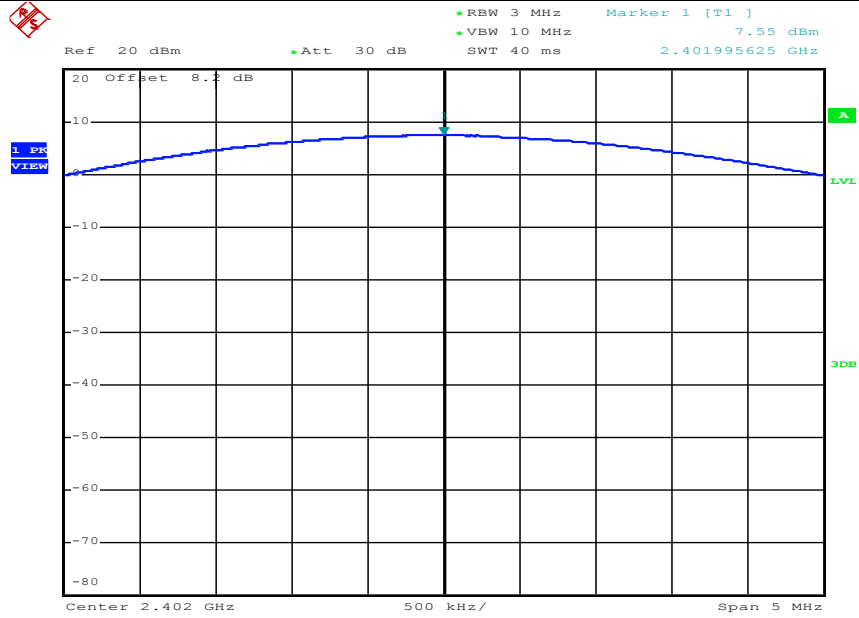
Temperature:	24.6 ° C
Relative Humidity:	52.8%
ATM Pressure:	100.0 kPa
Test Engineer:	JK ZHOU
Supervised by:	Wang.Chuang

#### A.1 Maxmum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	7.550	21	PASS
	MCH	6.750	21	PASS
	HCH	7.330	21	PASS
$\pi/4$ DQPSK	LCH	6.720	21	PASS
	MCH	5.660	21	PASS
	HCH	6.510	21	PASS
8DPSK	LCH	6.720	21	PASS
	MCH	6.630	21	PASS
	HCH	6.480	21	PASS

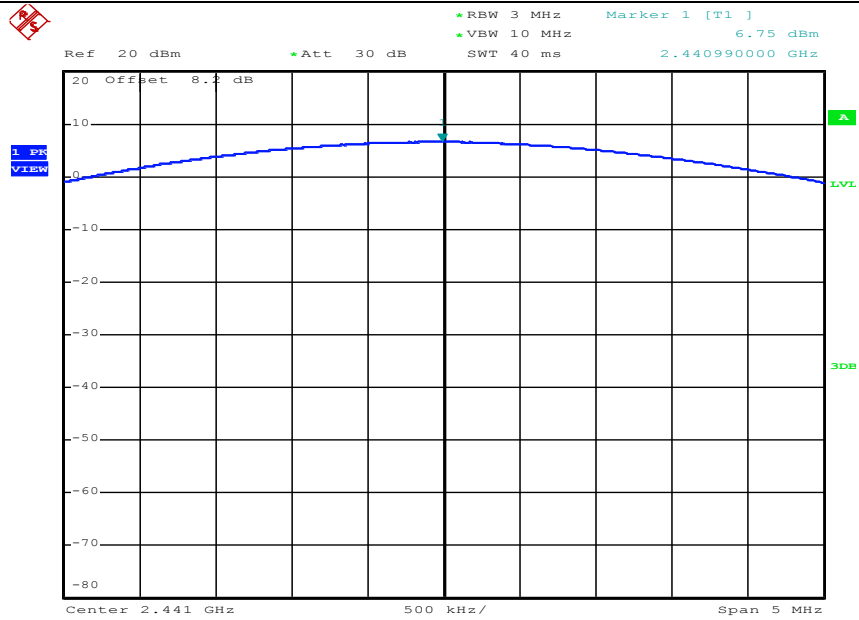
Test Graphs

GFSK/LCH



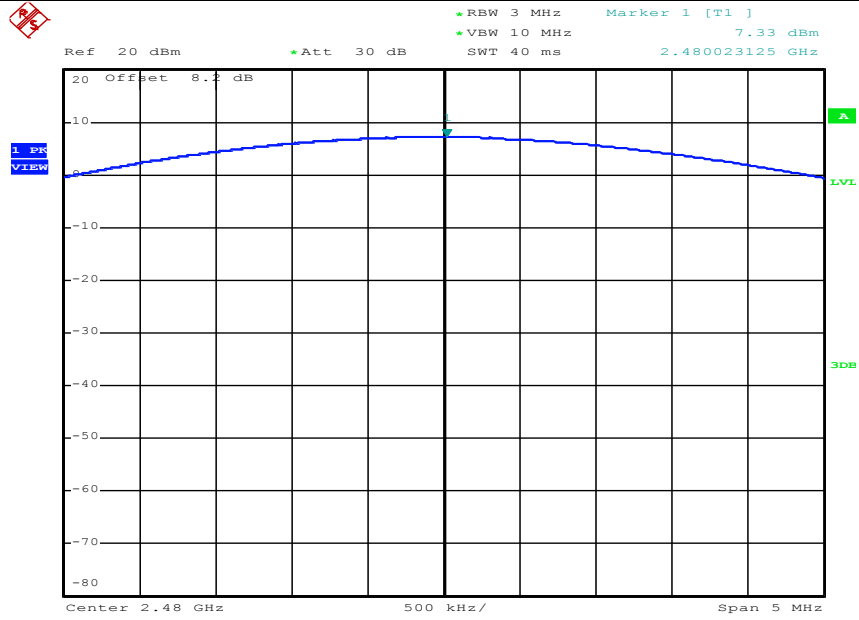
Date: 10.AUG.2019 18:31:48

GFSK/MCH



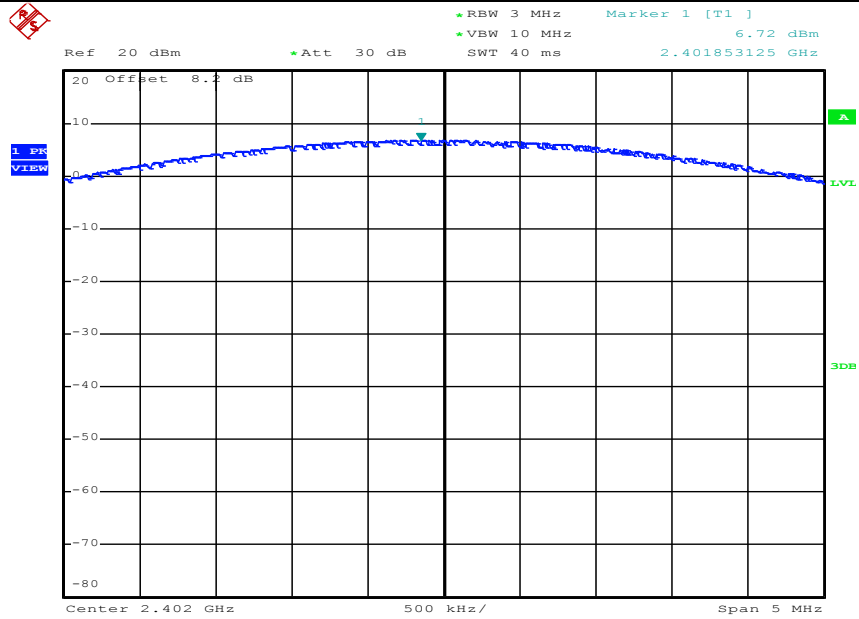
Date: 10.AUG.2019 18:34:29

GFSK/HCH



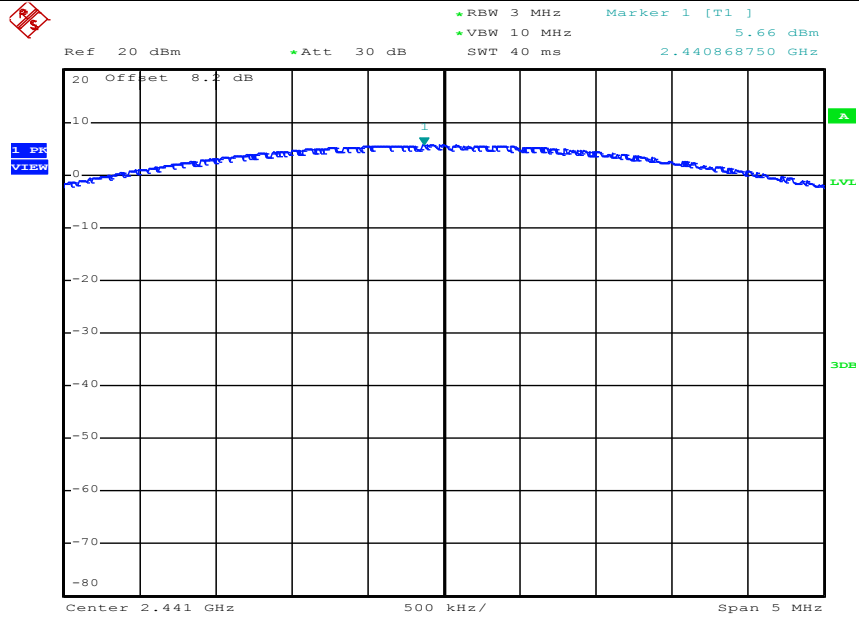
Date: 10.AUG.2019 18:36:24

$\pi/4$ DQPSK/LCH



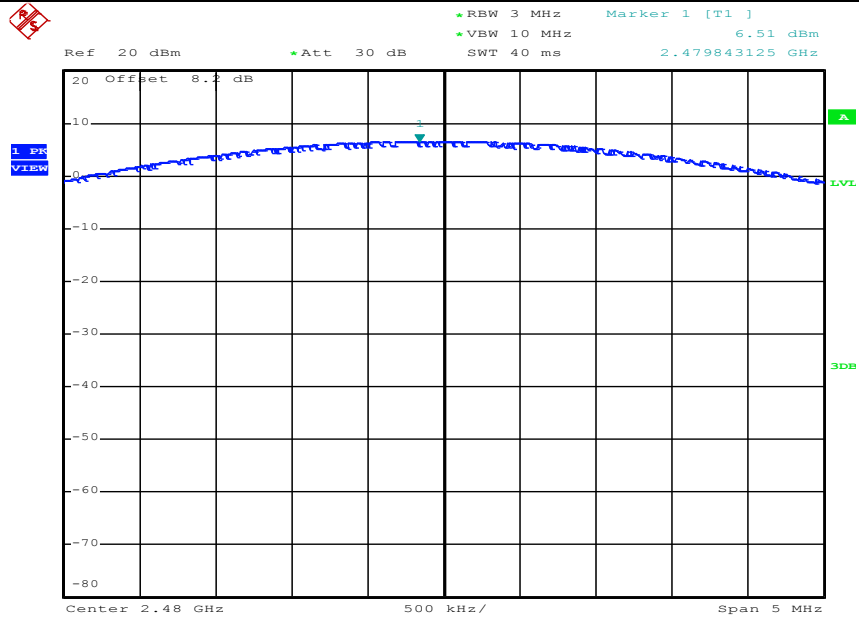
Date: 10.AUG.2019 18:42:00

$\pi/4$ DQPSK/MCH



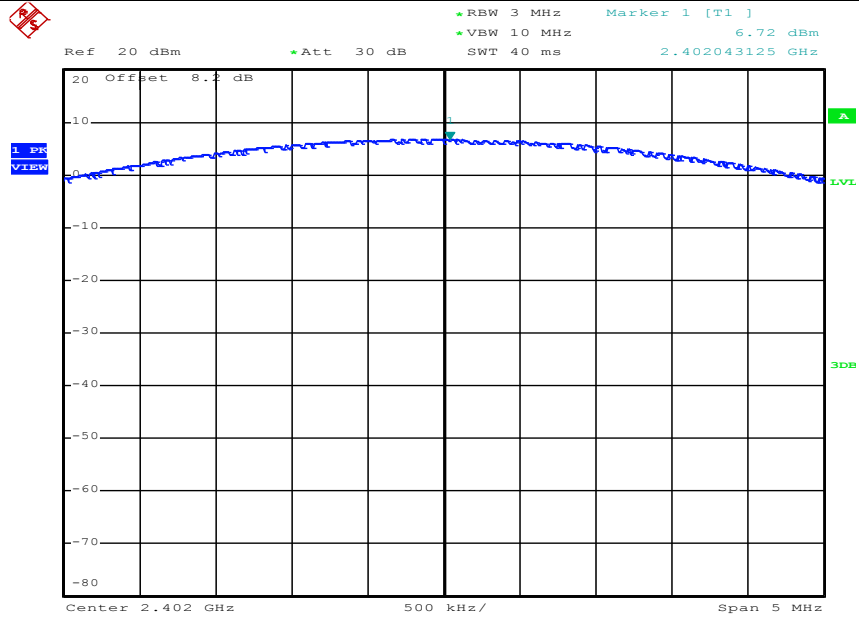
Date: 10.AUG.2019 18:44:55

$\pi/4$ DQPSK/HCH



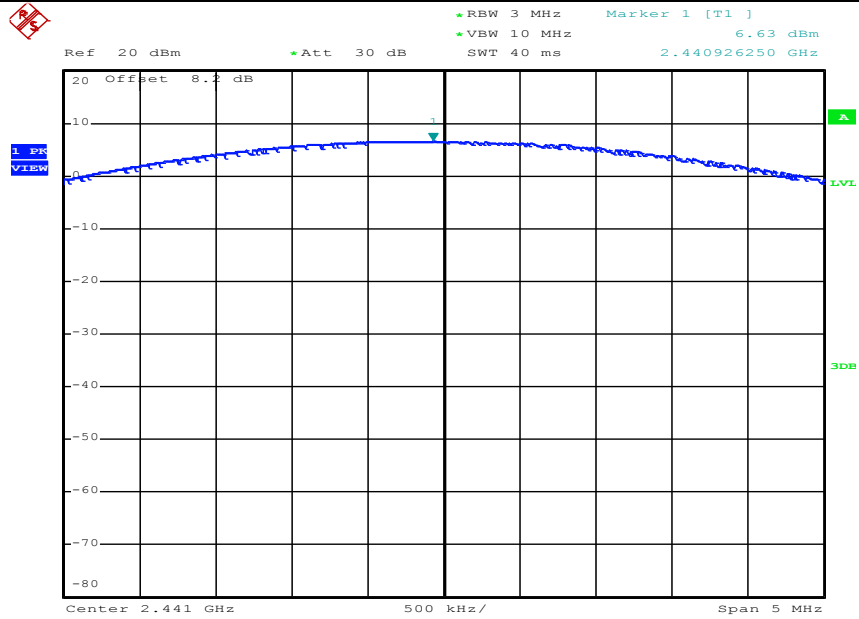
Date: 10.AUG.2019 18:46:34

8DPSK/LCH



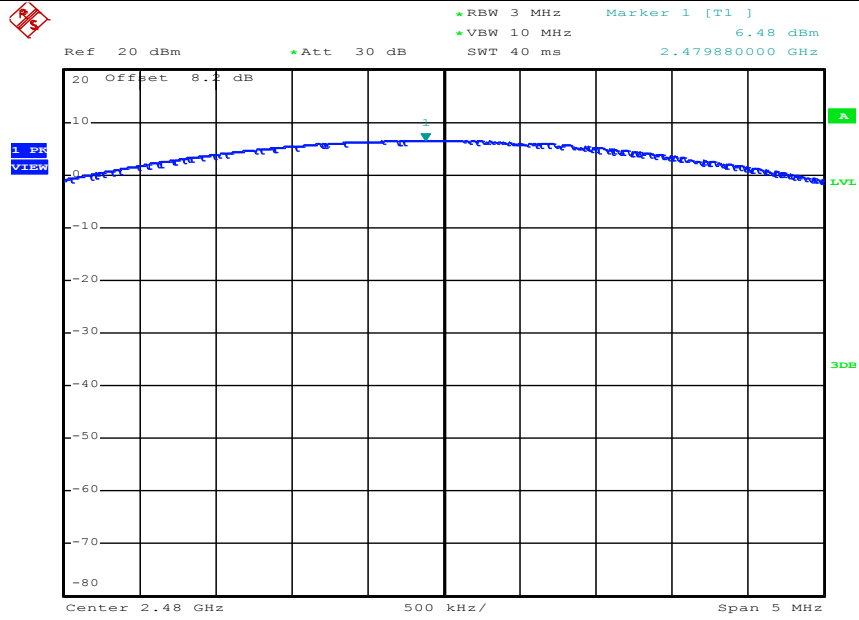
Date: 10.AUG.2019 18:49:23

8DPSK/MCH



Date: 10.AUG.2019 18:51:48

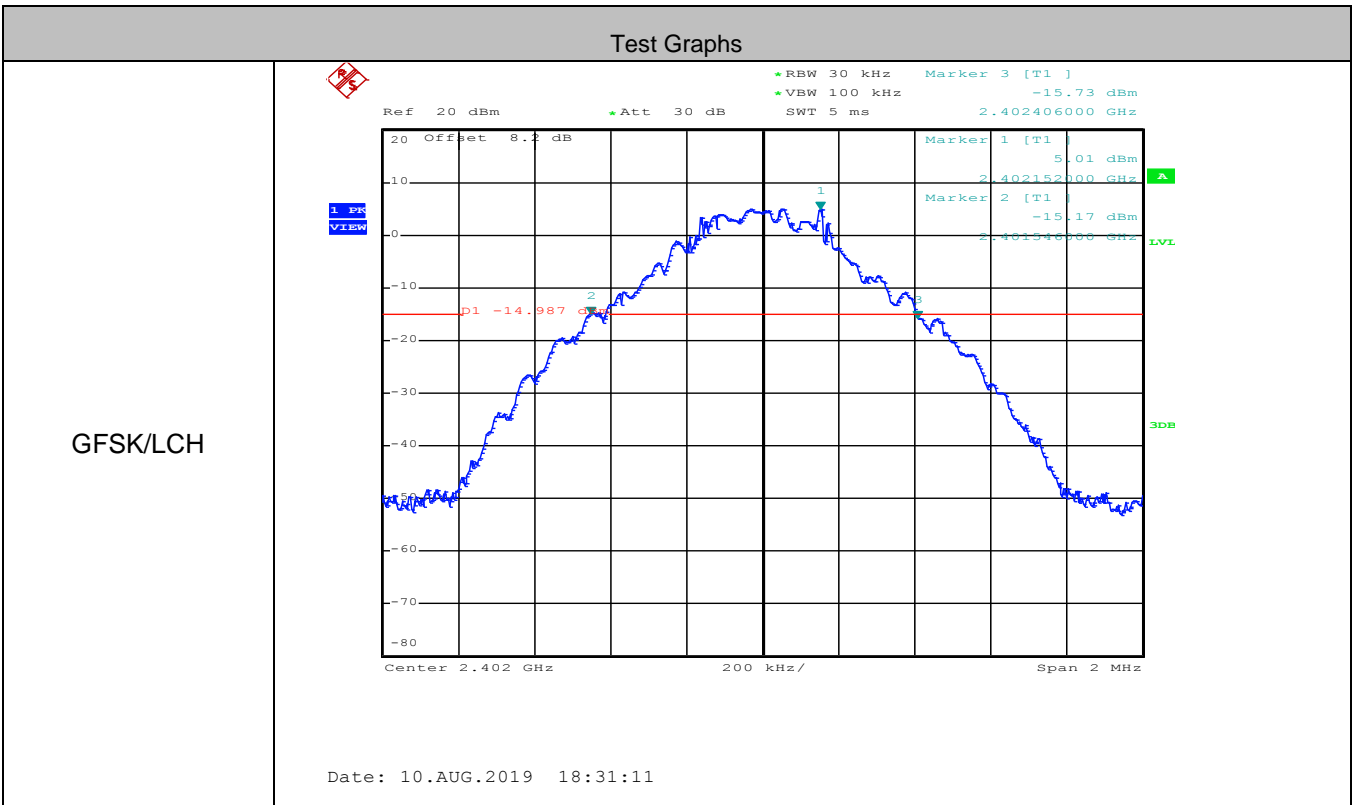
8DPSK/HCH



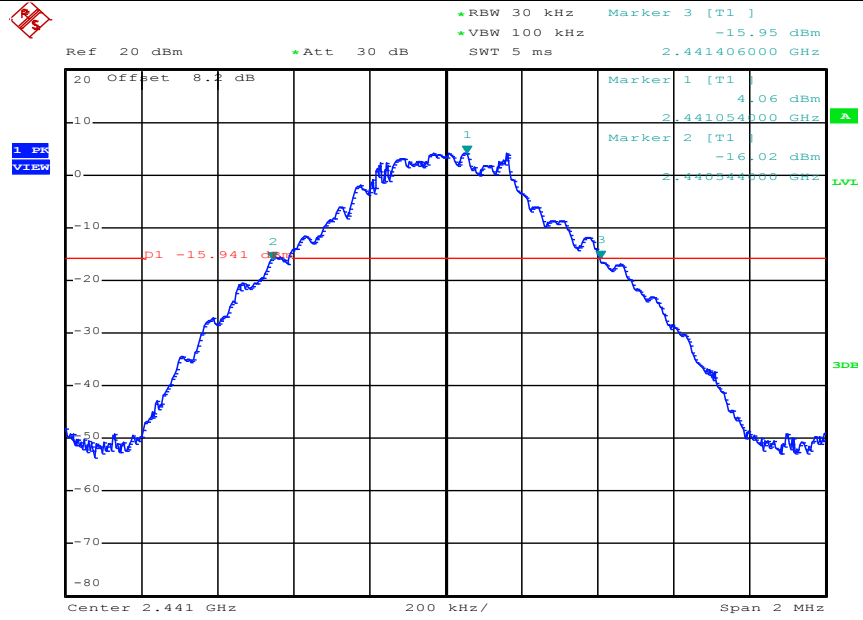
Date: 10.AUG.2019 18:54:14

**A.2 20dB Bandwidth**

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.860	Not Specified	PASS
	MCH	0.862	Not Specified	PASS
	HCH	0.858	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.260	Not Specified	PASS
	MCH	1.272	Not Specified	PASS
	HCH	1.260	Not Specified	PASS
8DPSK	LCH	1.258	Not Specified	PASS
	MCH	1.254	Not Specified	PASS
	HCH	1.258	Not Specified	PASS

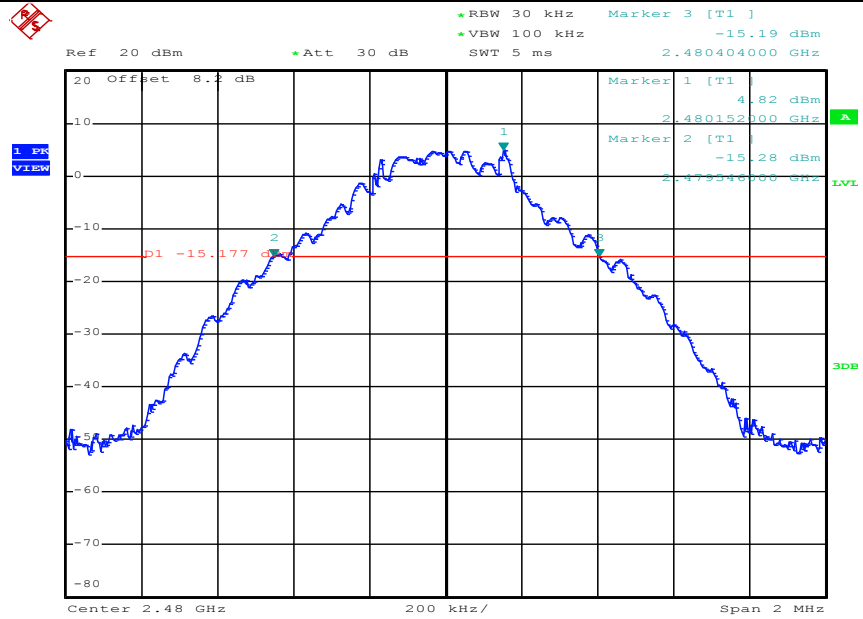


GFSK/MCH



Date: 10.AUG.2019 18:33:53

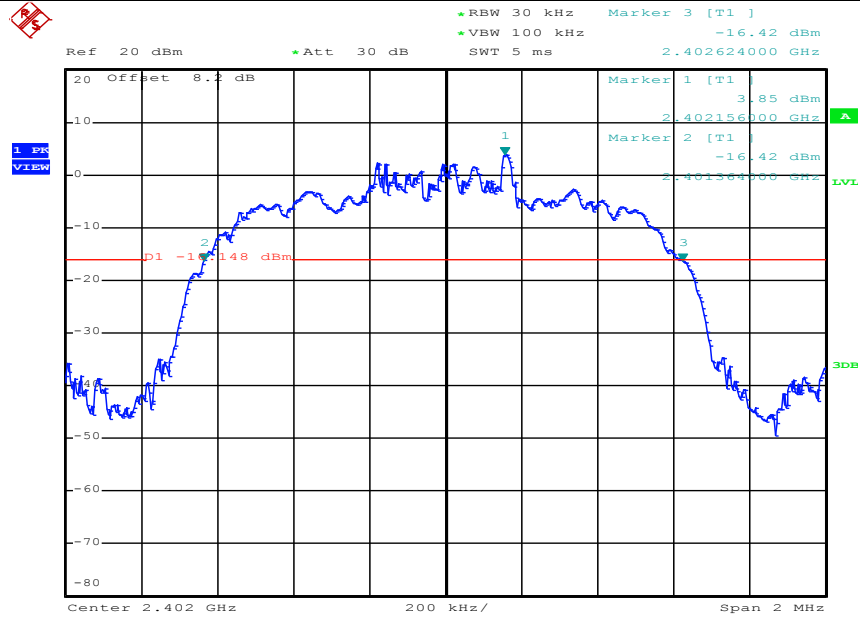
GFSK/HCH



Date: 10.AUG.2019 18:35:48

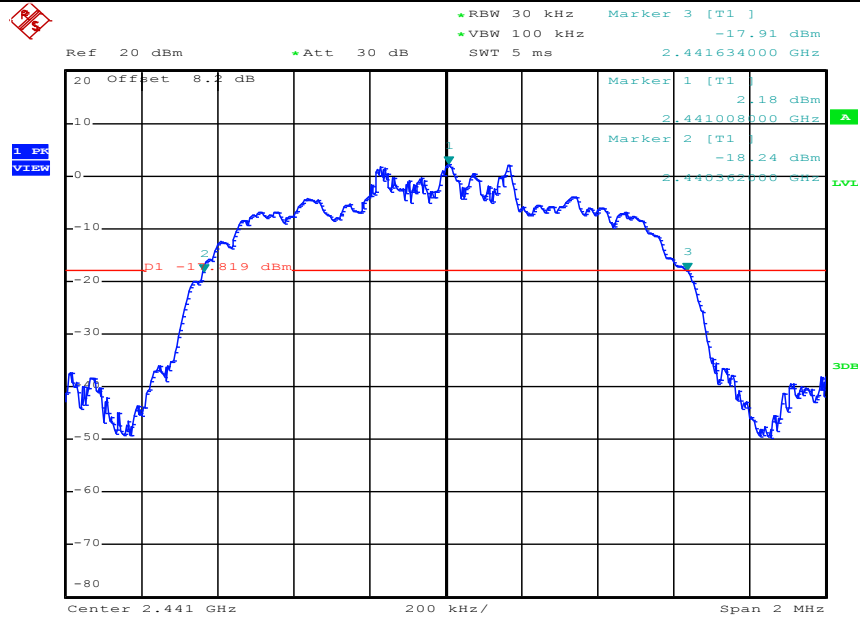


$\pi/4$ DQPSK/LCH



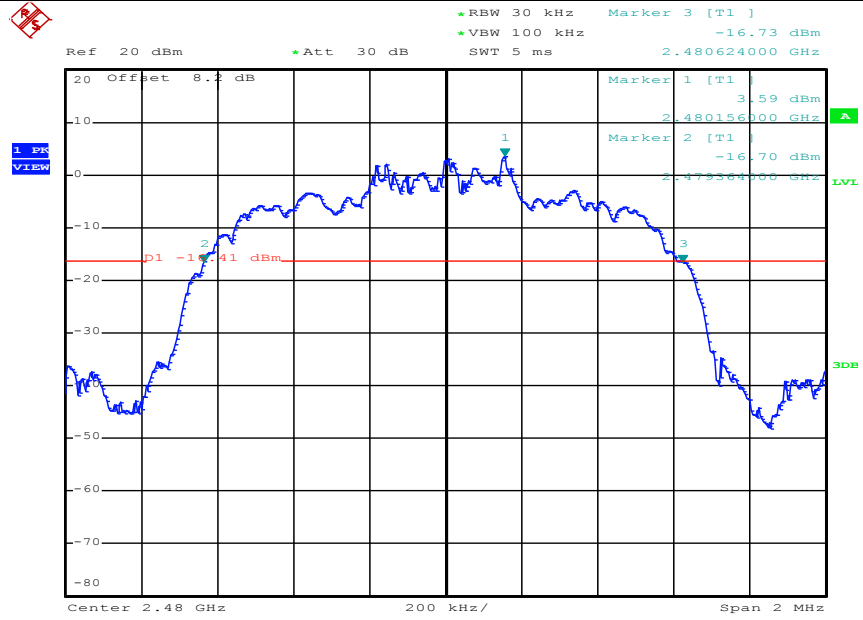
Date: 10.AUG.2019 18:41:23

$\pi/4$ DQPSK/MCH



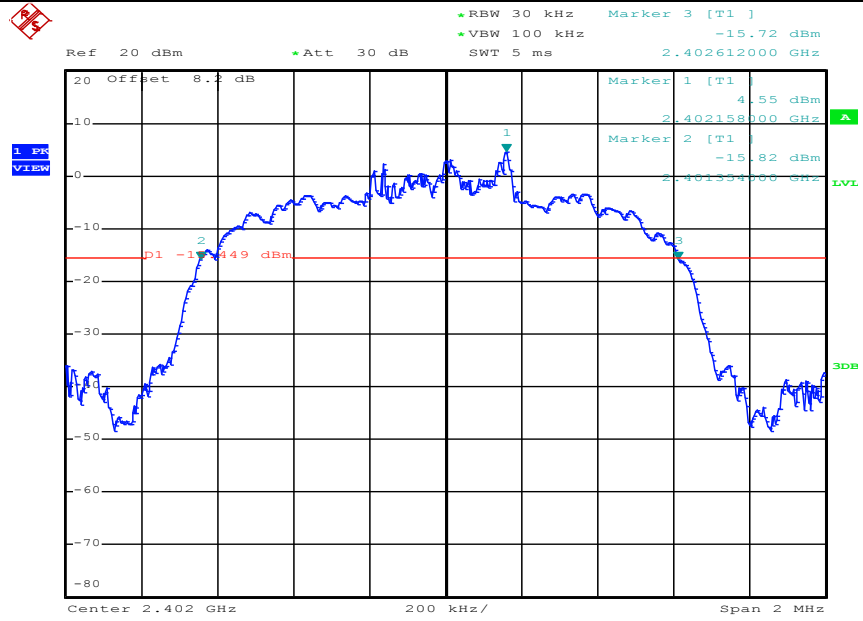
Date: 10.AUG.2019 18:44:21

$\pi/4$ DQPSK/HCH



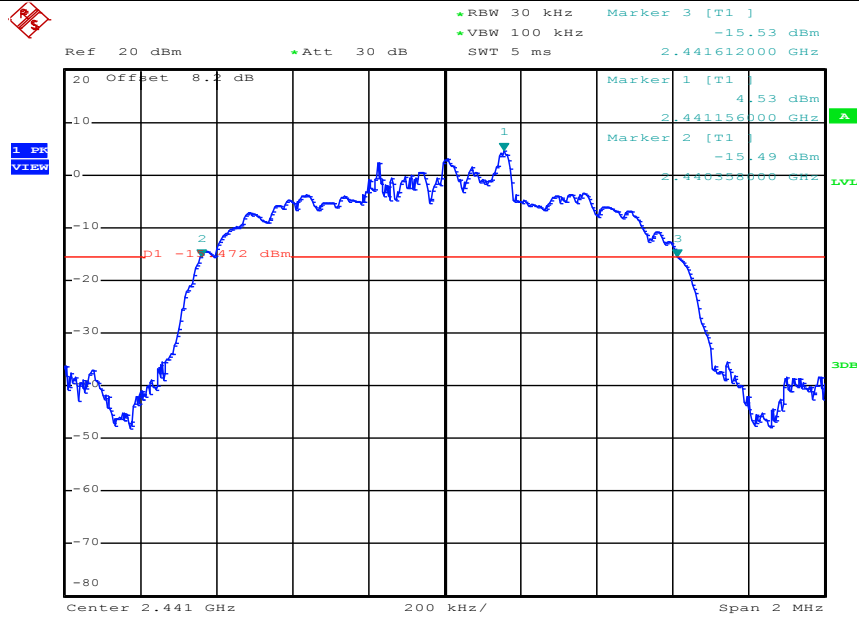
Date: 10.AUG.2019 18:46:00

8DPSK/LCH



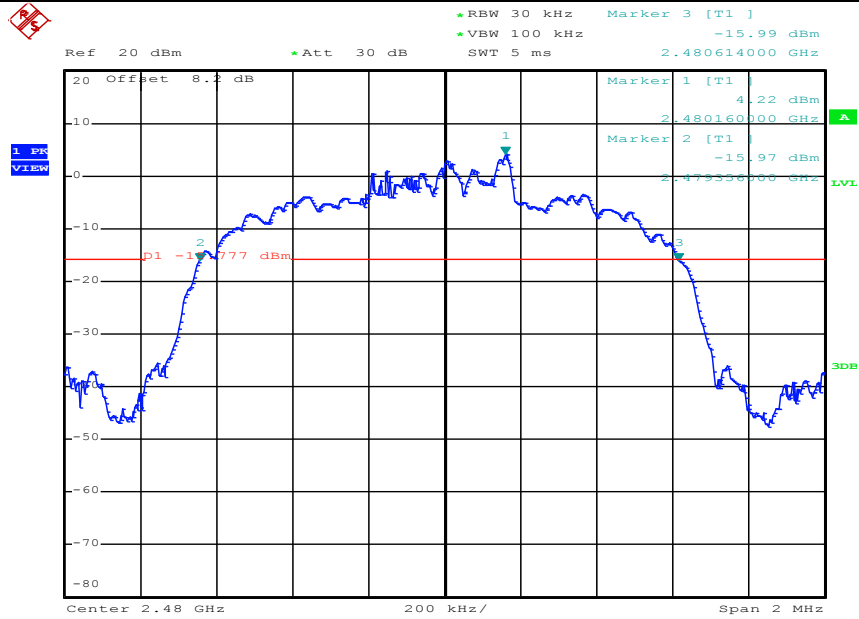
Date: 10.AUG.2019 18:48:48

8DPSK/MCH



Date: 10.AUG.2019 18:51:14

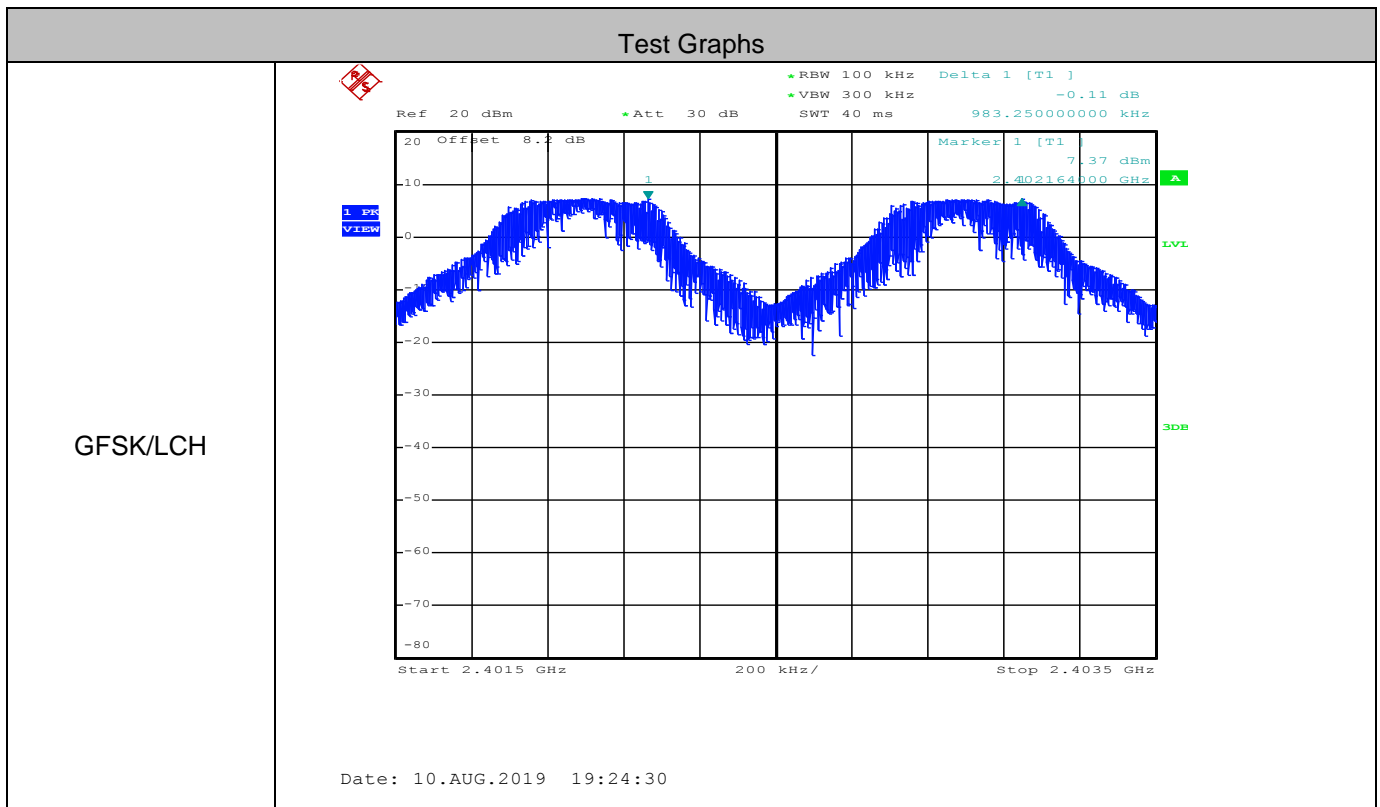
8DPSK/HCH



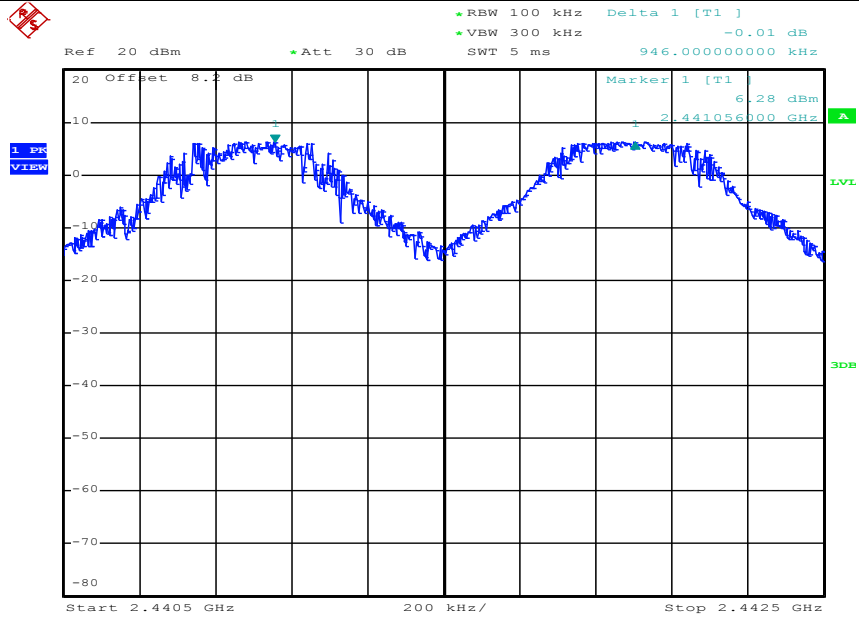
Date: 10.AUG.2019 18:53:40

### A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.983	0.575	PASS
	MCH	0.946	0.575	PASS
	HCH	0.928	0.575	PASS
π/4DQPSK	LCH	0.944	0.848	PASS
	MCH	1.114	0.848	PASS
	HCH	1.152	0.848	PASS
8DPSK	LCH	1.204	0.839	PASS
	MCH	0.884	0.839	PASS
	HCH	1.300	0.839	PASS

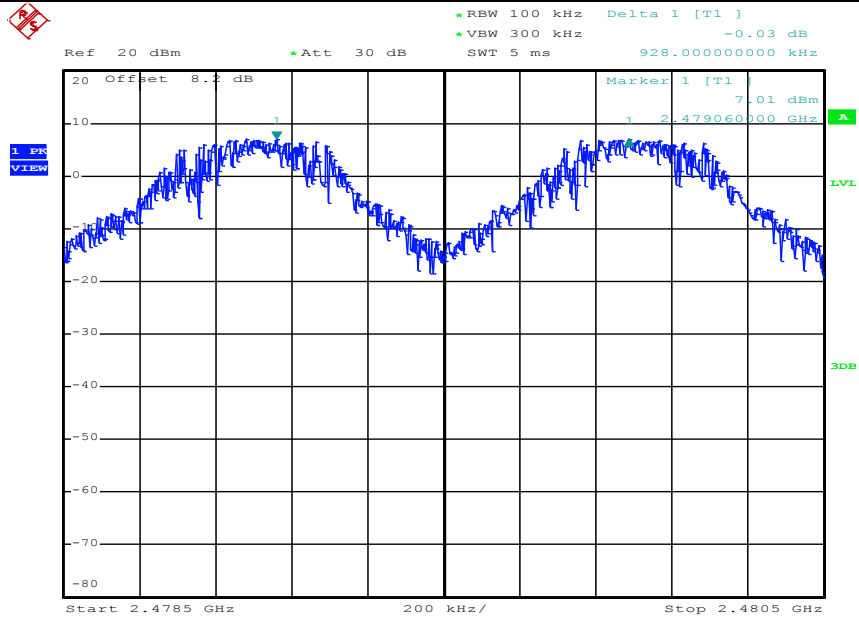


GFSK/MCH



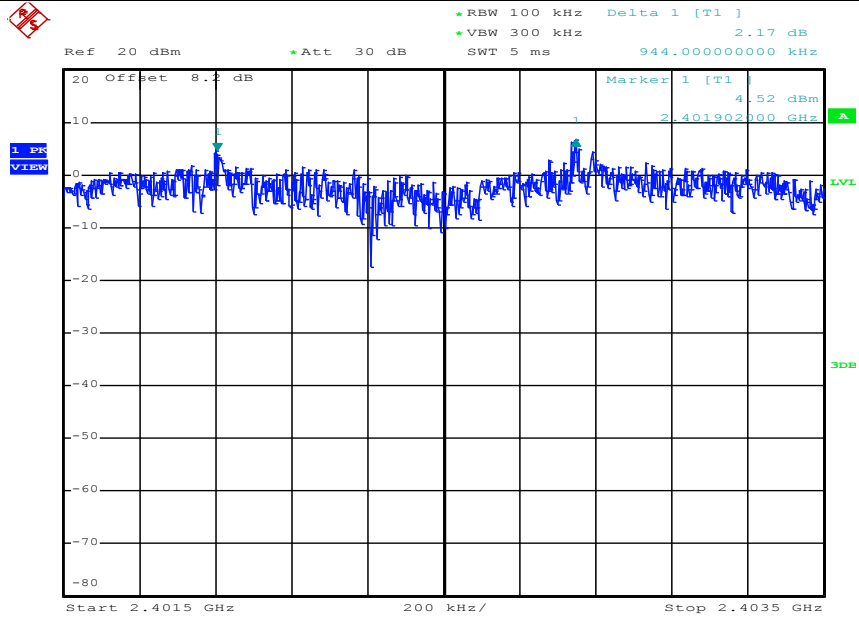
Date: 10.AUG.2019 19:19:58

GFSK/HCH



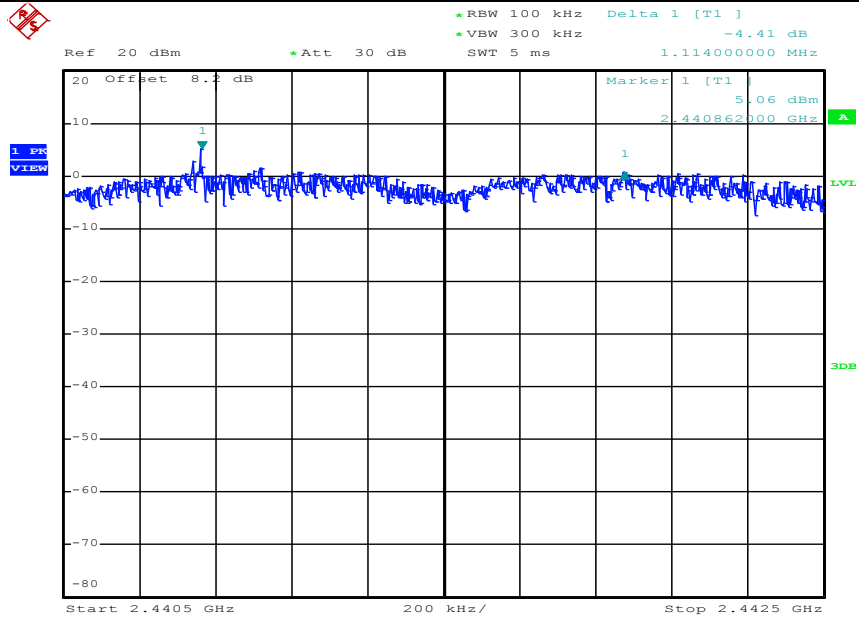
Date: 10.AUG.2019 19:20:21

$\pi/4$ DQPSK/LCH



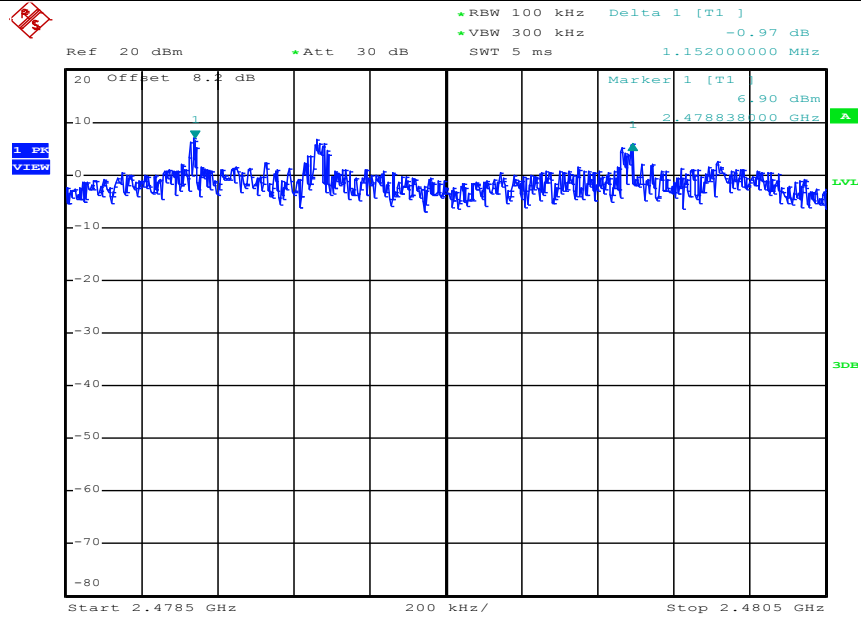
Date: 10.AUG.2019 19:25:59

$\pi/4$ DQPSK/MCH



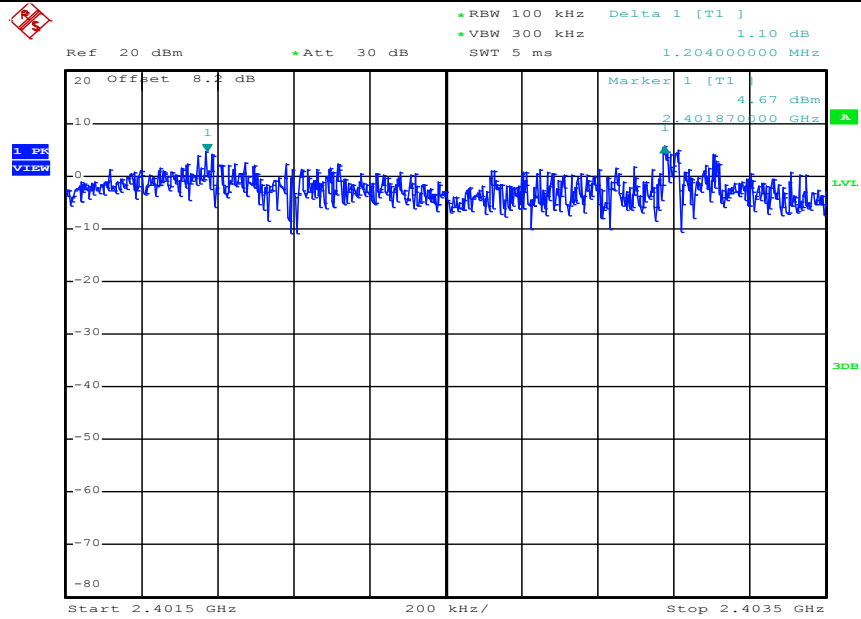
Date: 10.AUG.2019 19:27:46

$\pi$ /4DQPSK/HCH

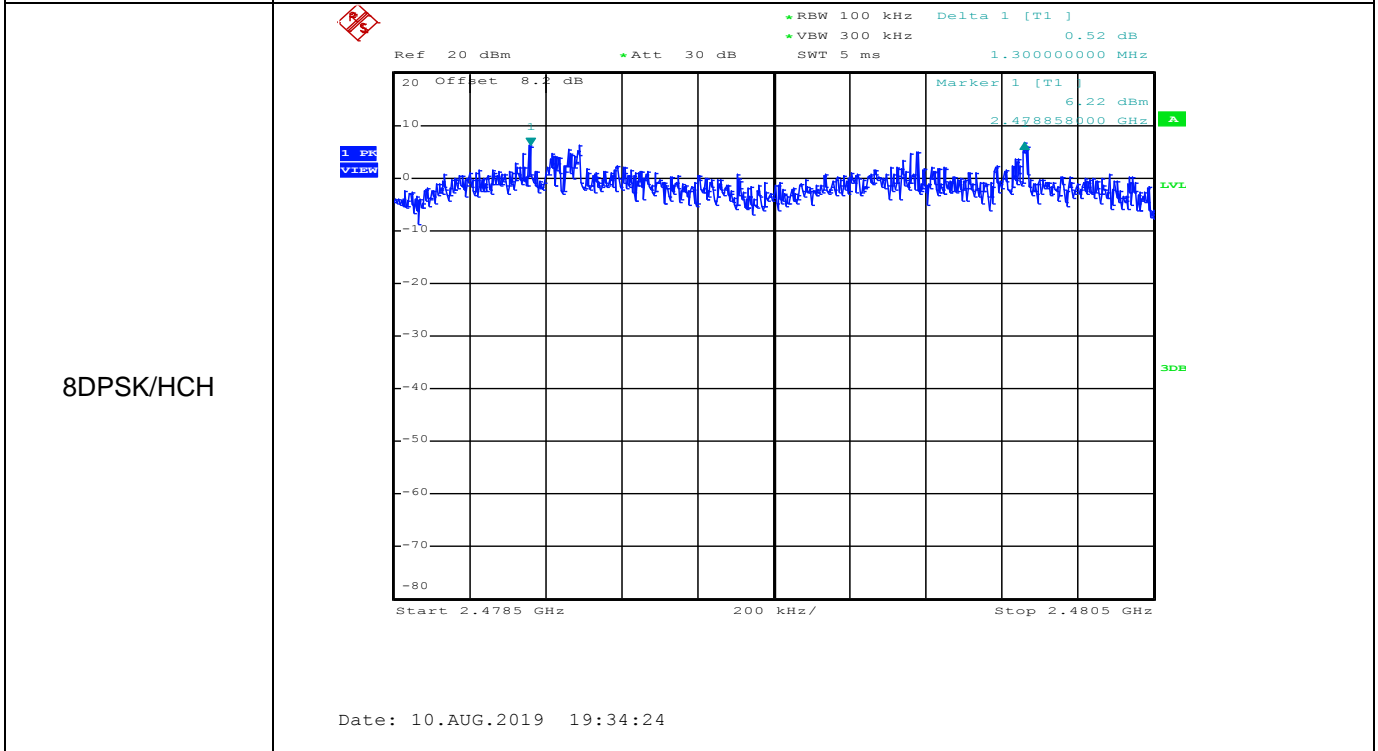
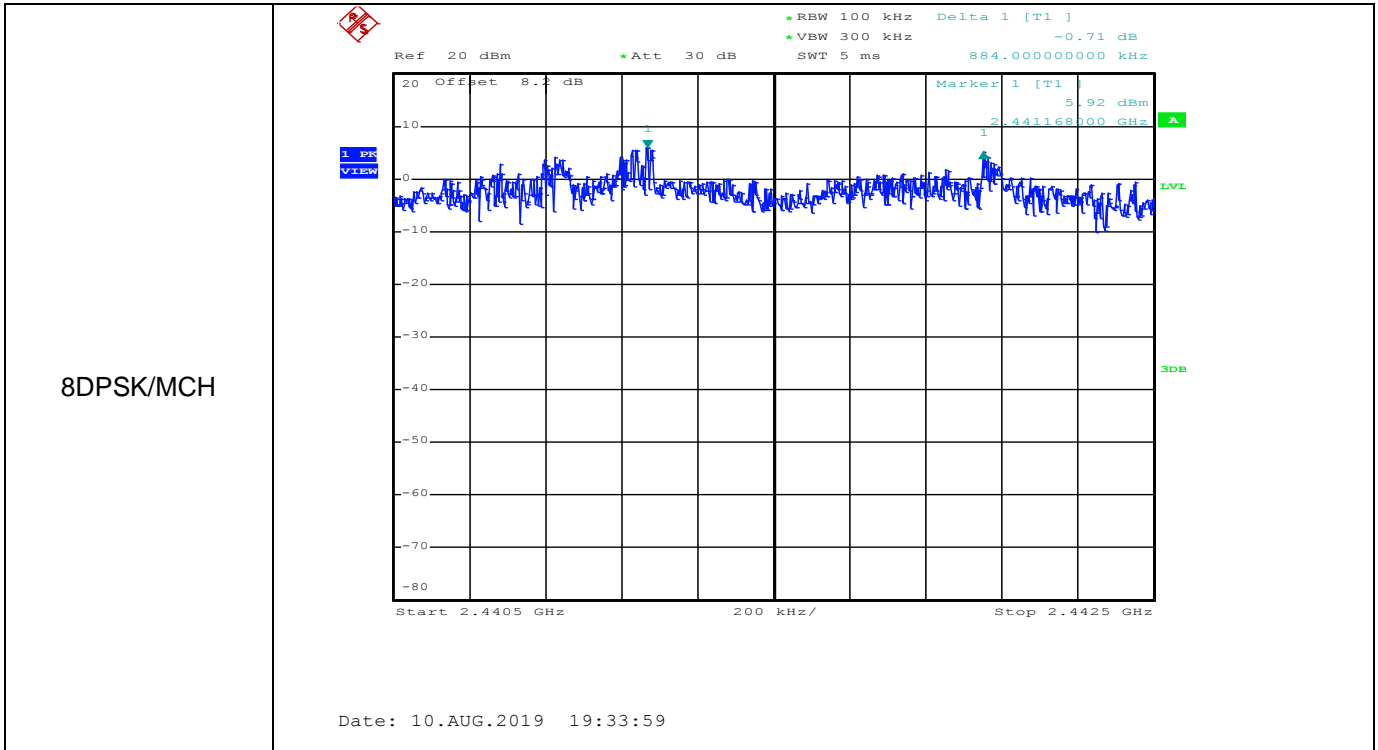


Date: 10.AUG.2019 19:28:11

8DPSK/LCH



Date: 10.AUG.2019 19:31:56



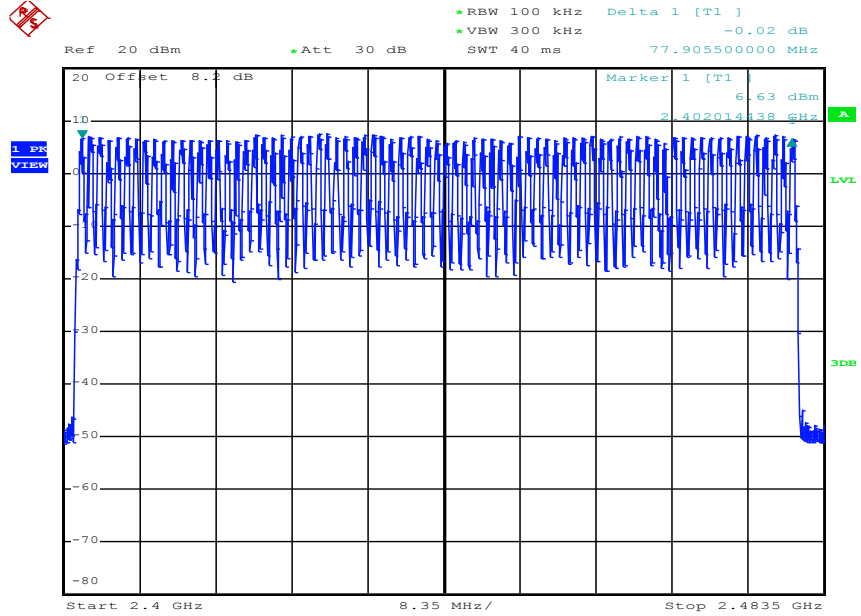
#### A.4 Hopping Channel Number

Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS



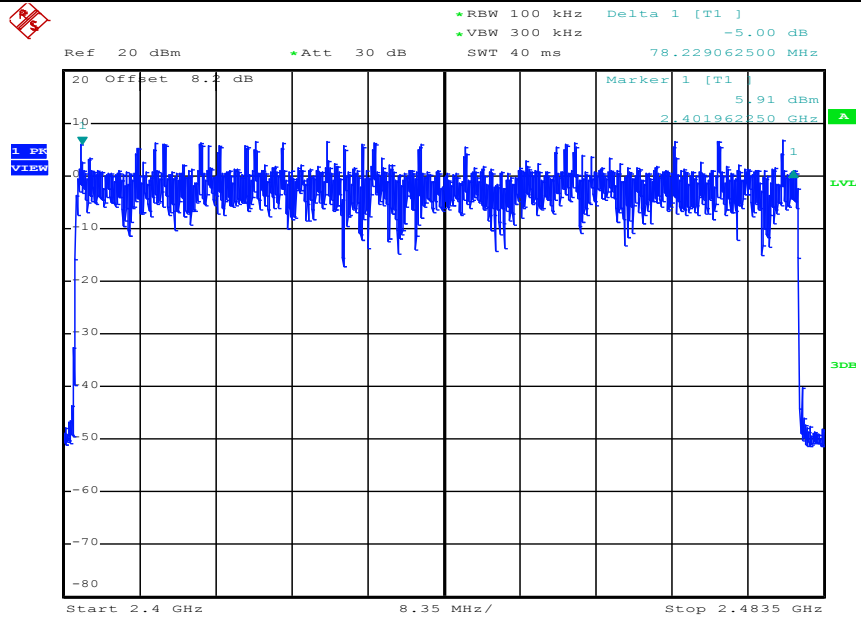
Test Graphs

GFSK/Hop



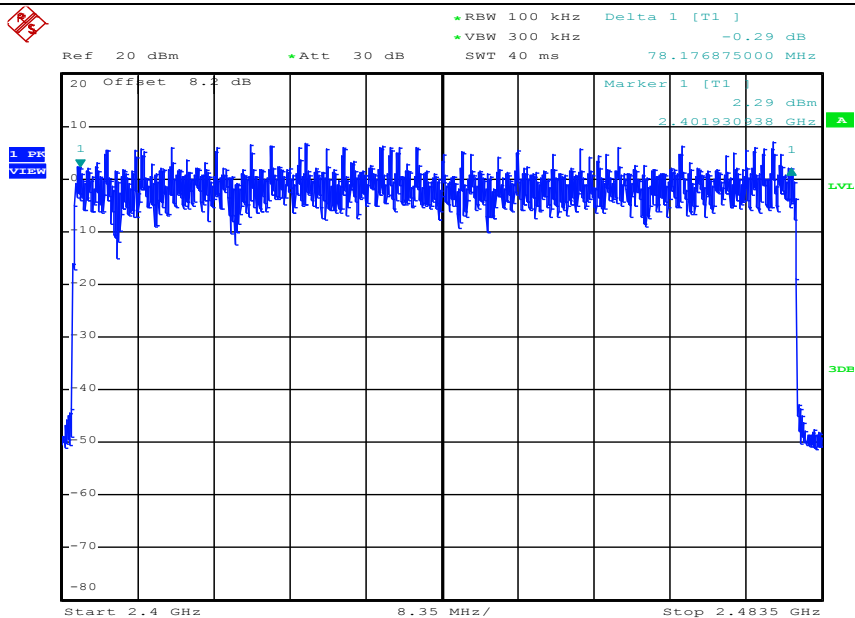
Date: 10.AUG.2019 19:22:56

$\pi/4$ DQPSK/Hop



Date: 10.AUG.2019 19:31:14

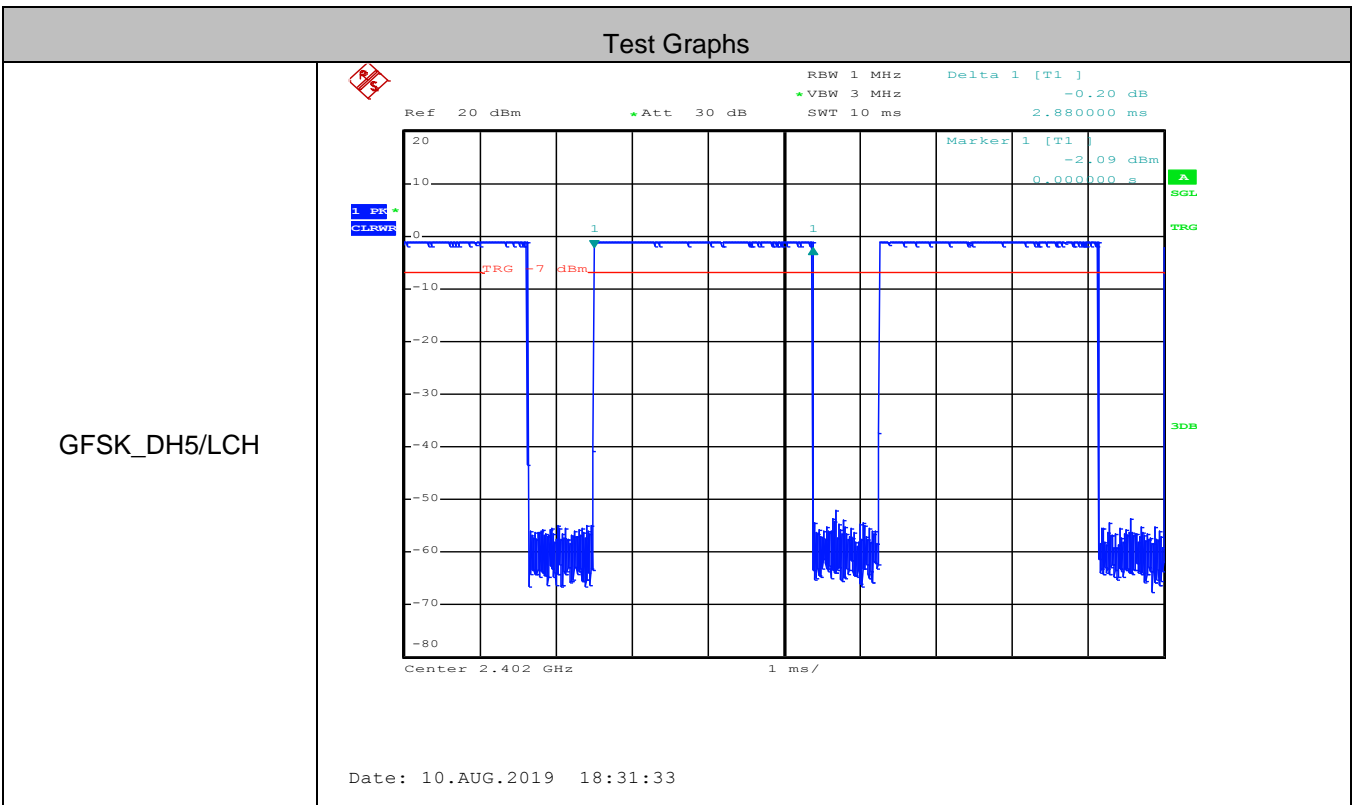
8DPSK/Hop



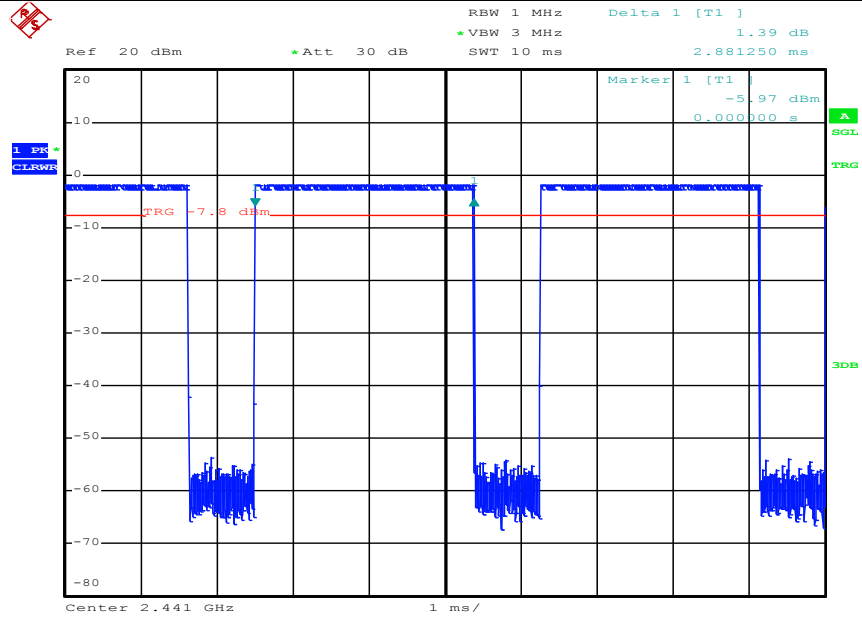
Date: 10.AUG.2019 19:37:42

### A.5 Dwell Time

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.306	0.4	PASS
	2DH5	HCH	2.88	106.7	0.306	0.4	PASS
8DPSK	3DH5	LCH	2.88	106.7	0.308	0.4	PASS
	3DH5	MCH	2.88	106.7	0.308	0.4	PASS
	3DH5	HCH	2.88	106.7	0.308	0.4	PASS

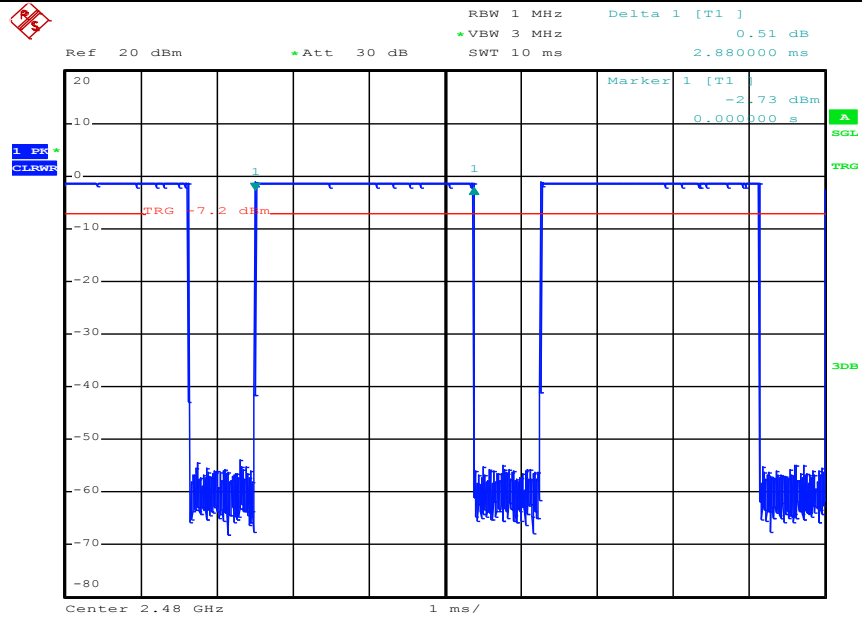


GFSK\_DH5/MCH



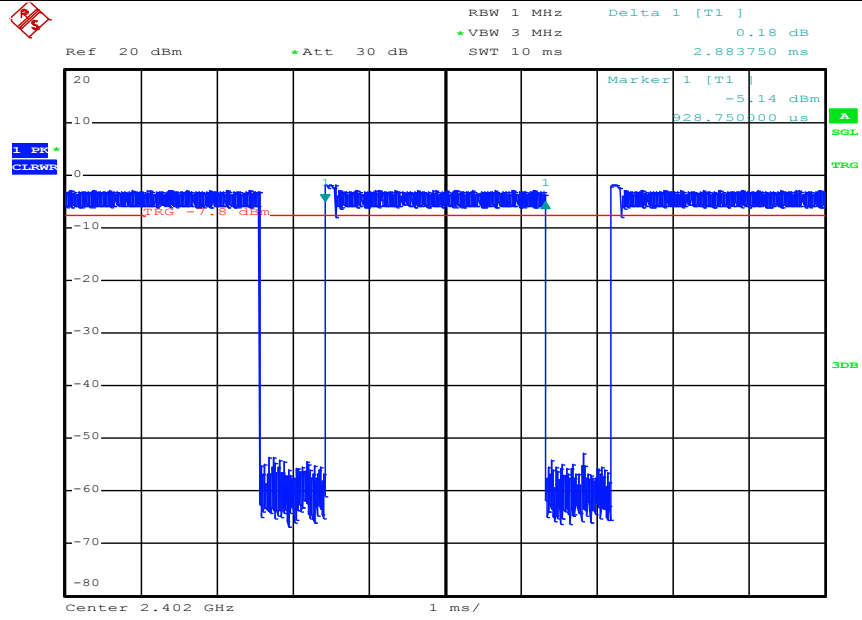
Date: 10.AUG.2019 18:34:14

GFSK\_DH5/HCH



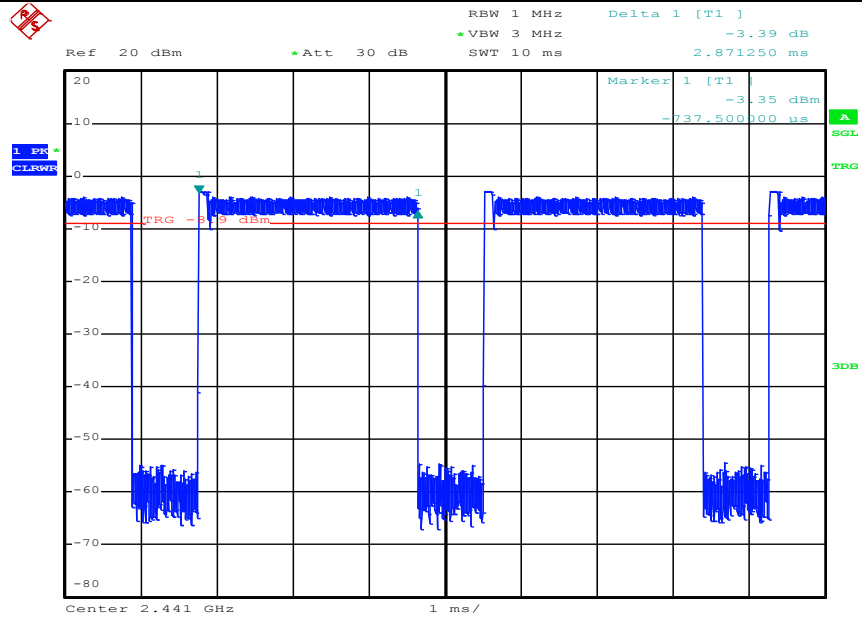
Date: 10.AUG.2019 18:36:09

$\pi/4$ DQPSK  
\_2DH5/LCH



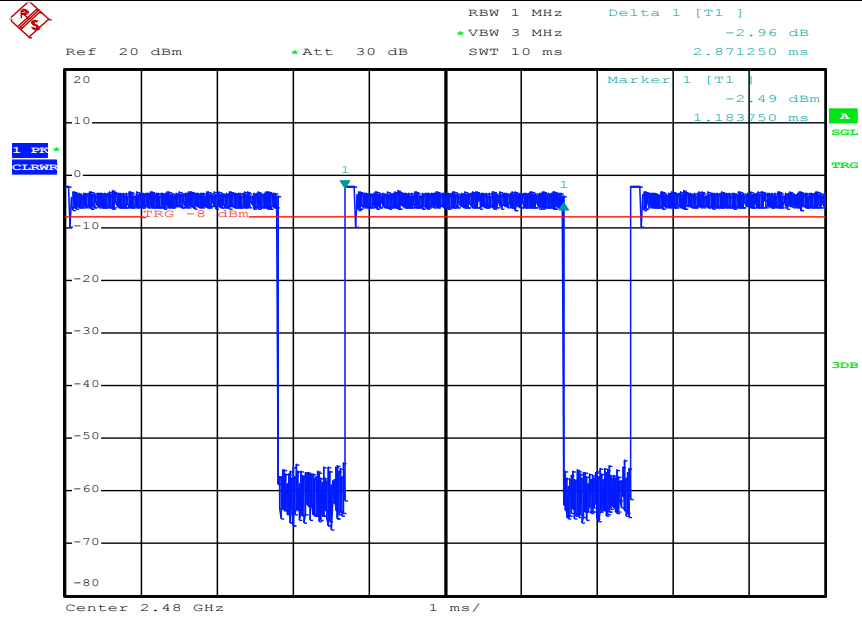
Date: 10.AUG.2019 18:41:45

$\pi/4$ DQPSK  
\_2DH5/MCH



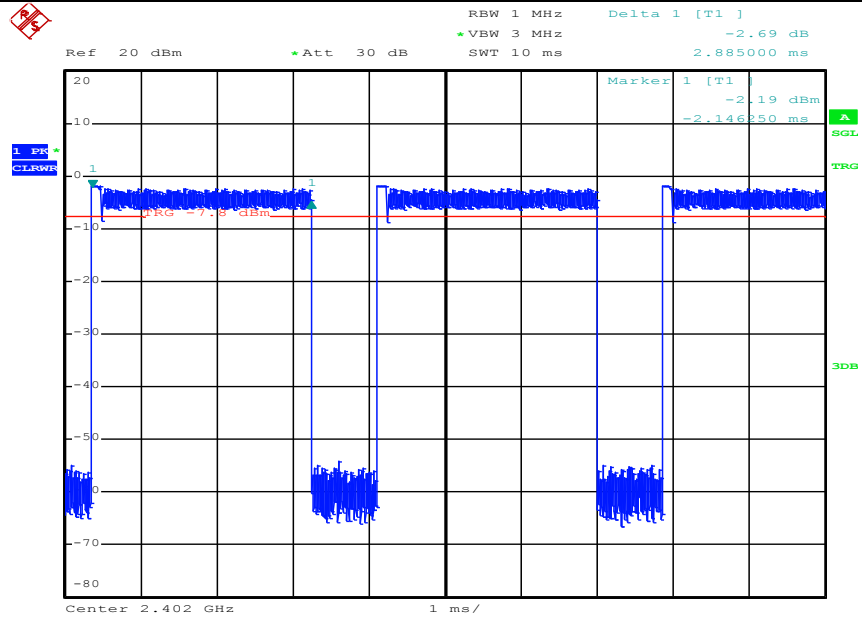
Date: 10.AUG.2019 18:44:41

$\pi/4$ DQPSK  
\_2DH5/HCH



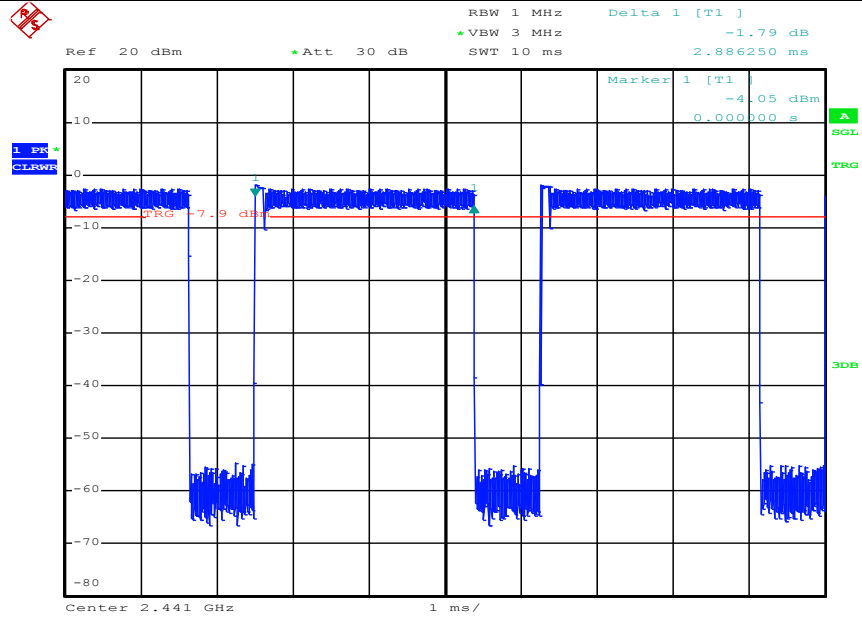
Date: 10.AUG.2019 18:46:20

8DPSK\_3DH5/LCH



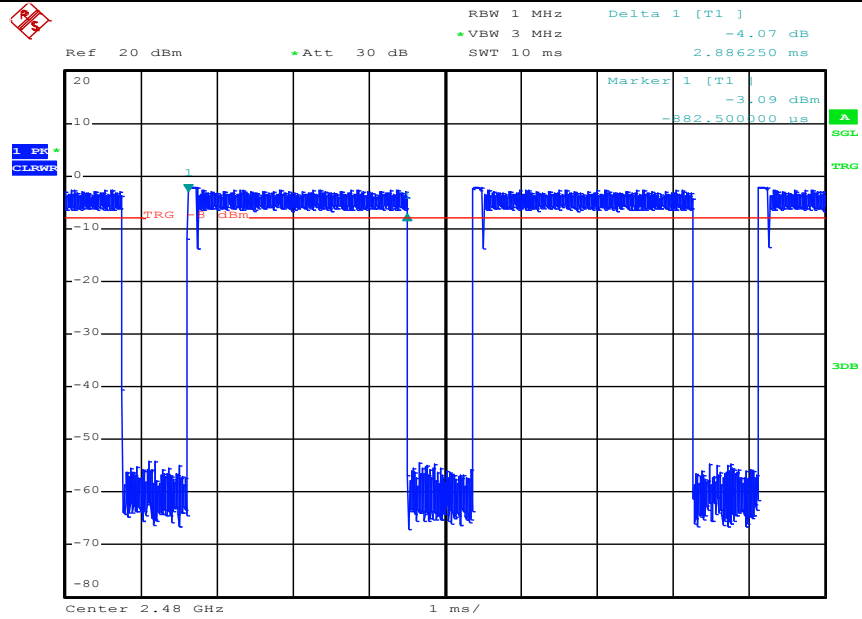
Date: 10.AUG.2019 18:49:08

8DPSK\_3DH5/MCH



Date: 10.AUG.2019 18:51:34

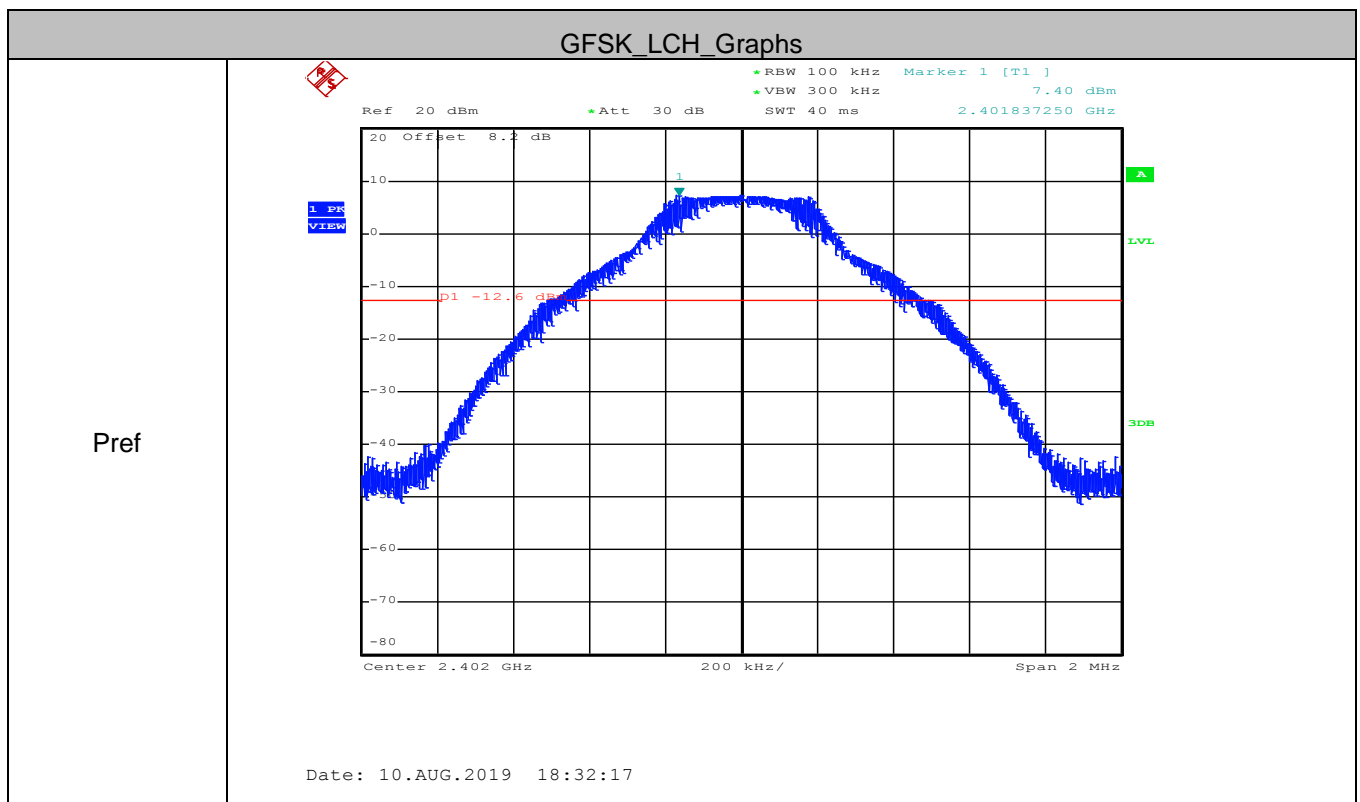
8DPSK\_3DH5/HCH



Date: 10.AUG.2019 18:54:00

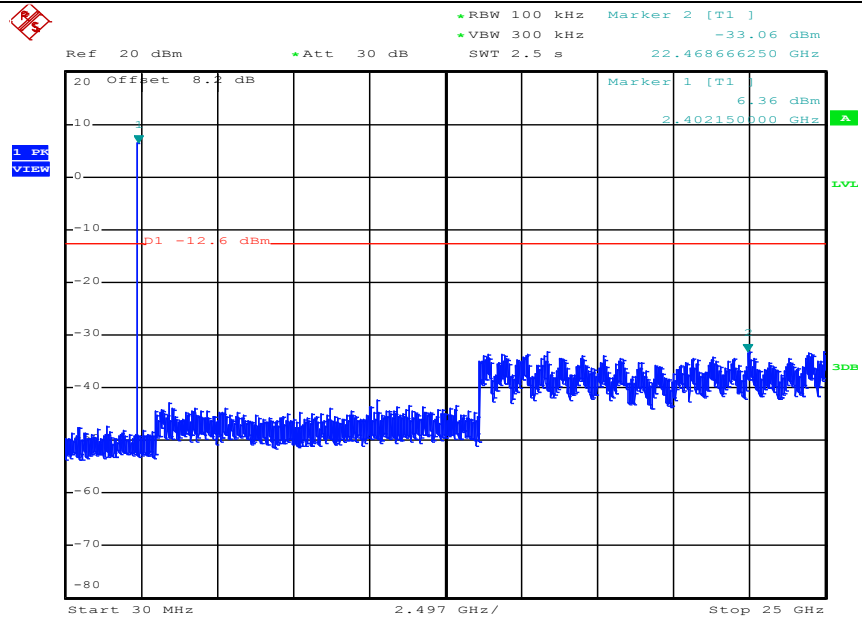
### A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	7.4	-33.060	-12.600	PASS
	MCH	6.6	-32.560	-13.400	PASS
	HCH	7.14	-32.540	-12.860	PASS
$\pi/4$ DQPSK	LCH	6.9	-31.810	-13.100	PASS
	MCH	5.8	-32.930	-14.200	PASS
	HCH	6.65	-32.200	-13.350	PASS
8DPSK	LCH	6.86	-32.740	-13.140	PASS
	MCH	6.78	-31.950	-13.220	PASS
	HCH	6.63	-32.200	-13.370	PASS





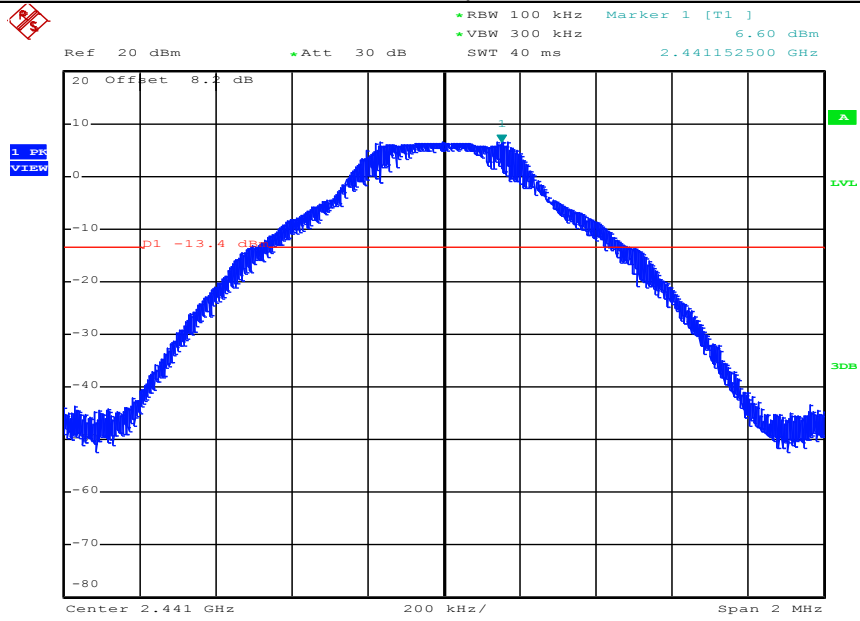
P<sub>uw</sub>



Date: 10.AUG.2019 18:32:31

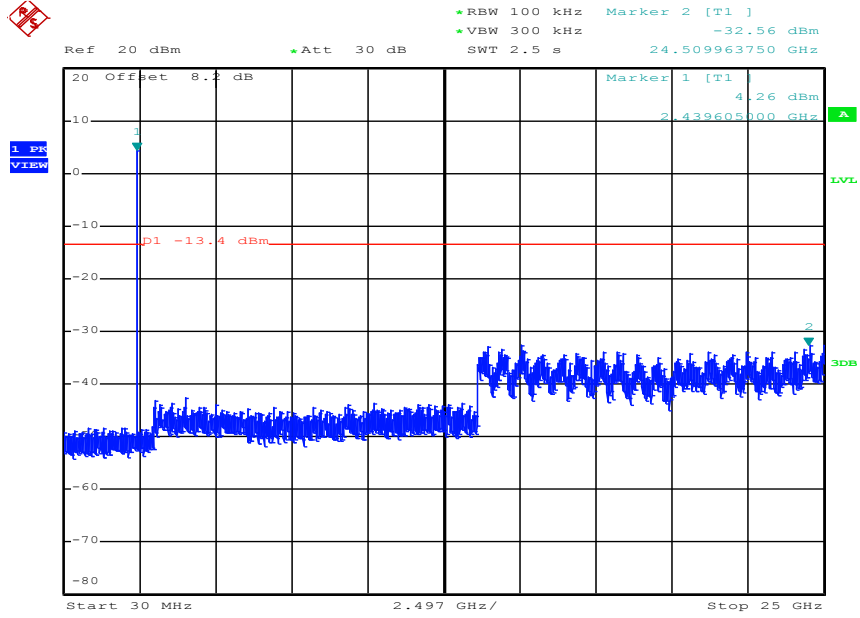
GFSK\_MCH\_Graphs

Pref



Date: 10.AUG.2019 18:34:42

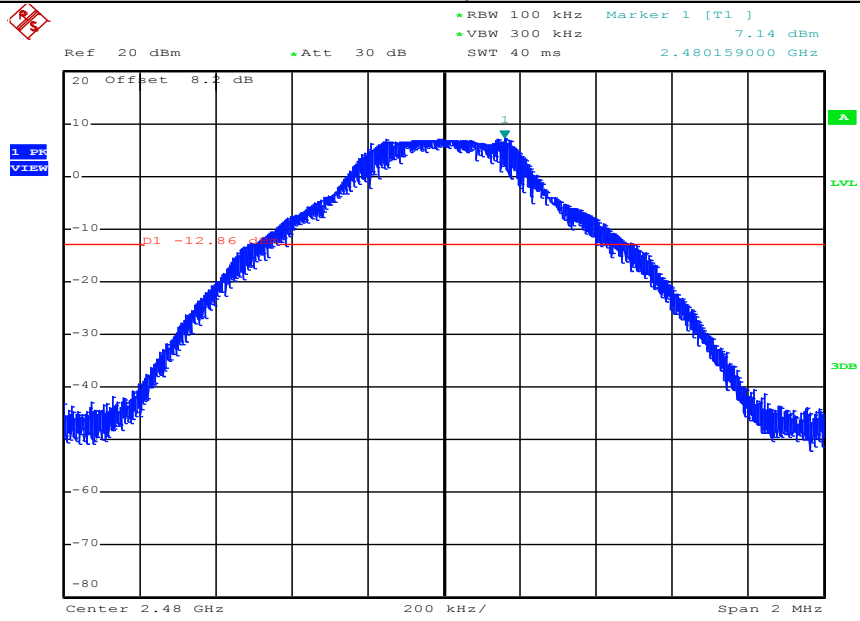
Puw



Date: 10.AUG.2019 18:34:56

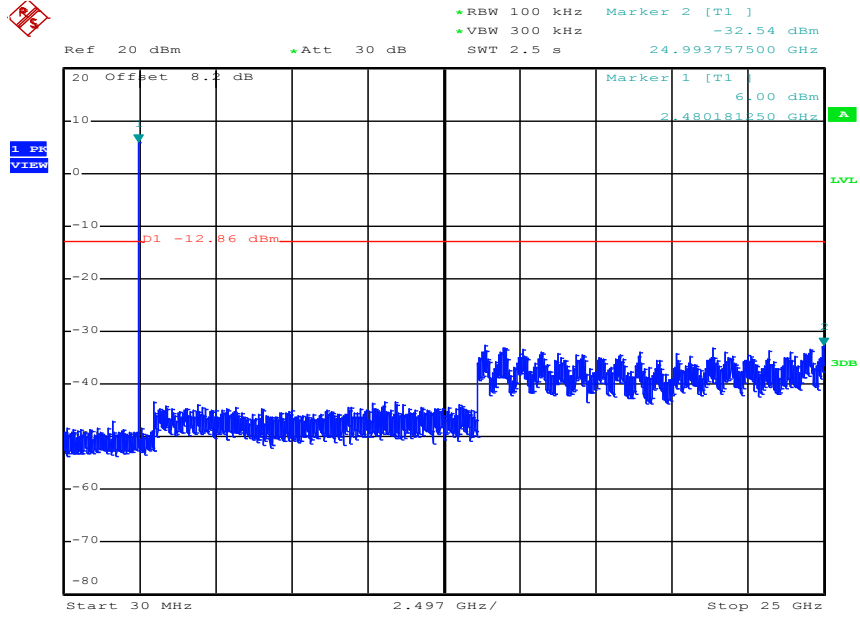
GFSK\_HCH\_Graphs

Pref



Date: 10.AUG.2019 18:36:54

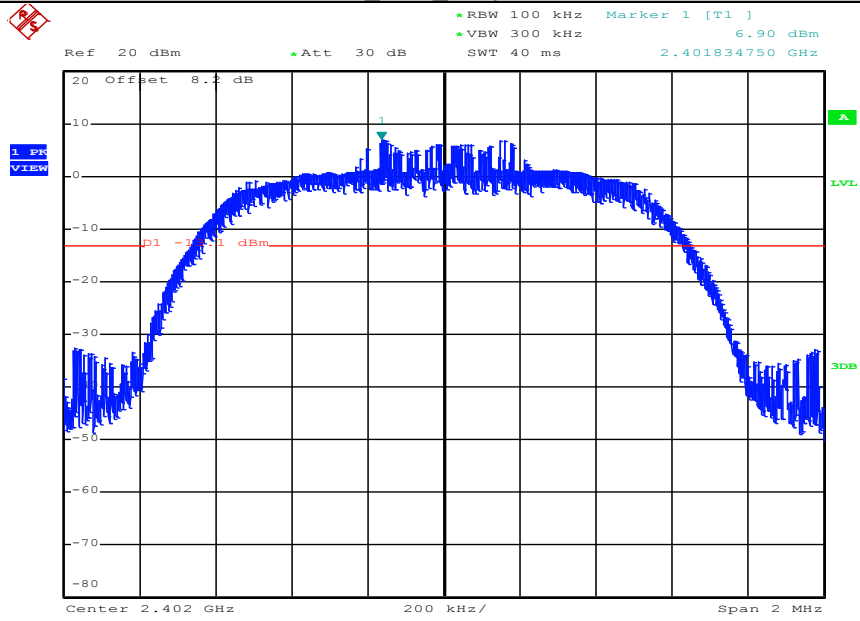
Puw



Date: 10.AUG.2019 18:37:08

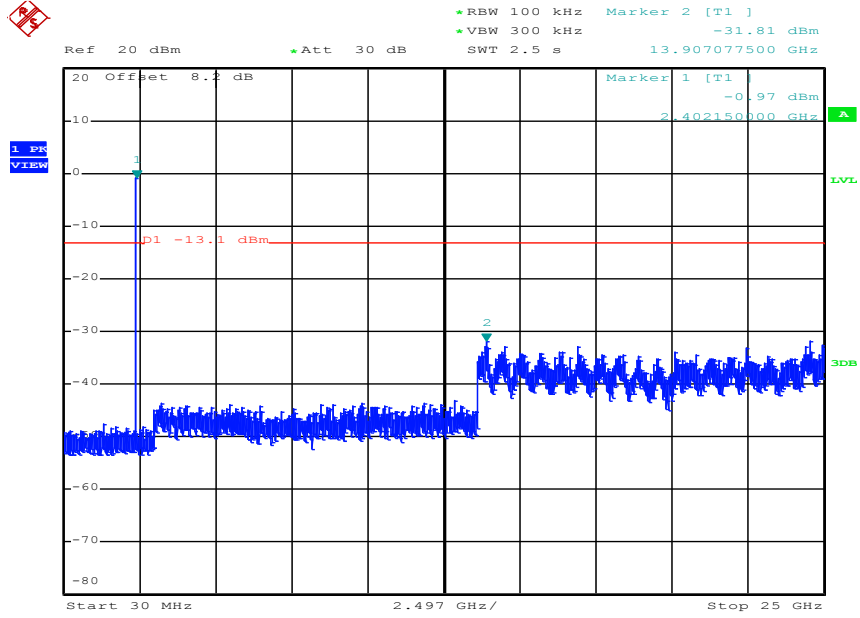
$\pi/4$ DQPSK\_LCH\_Graphs

Pref



Date: 10.AUG.2019 18:42:29

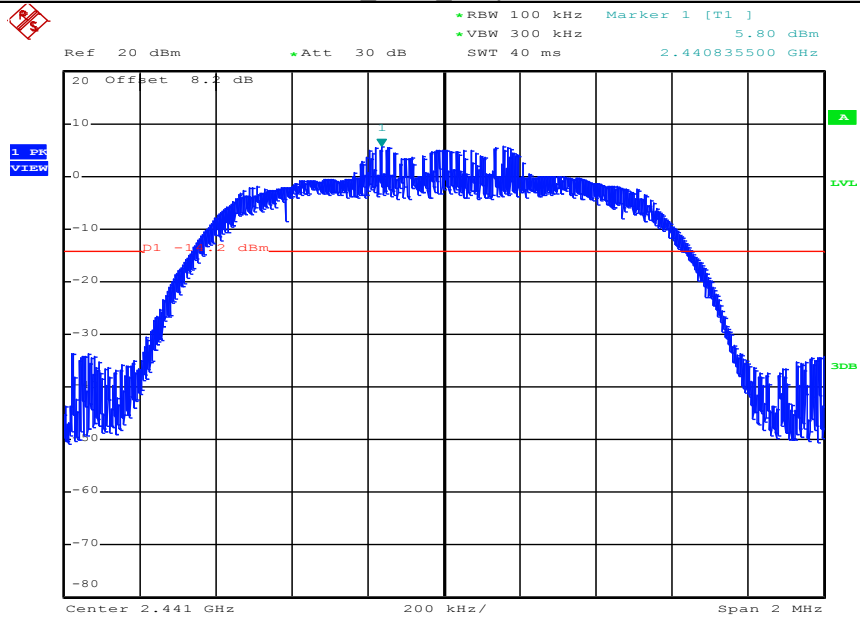
Puw



Date: 10.AUG.2019 18:42:44

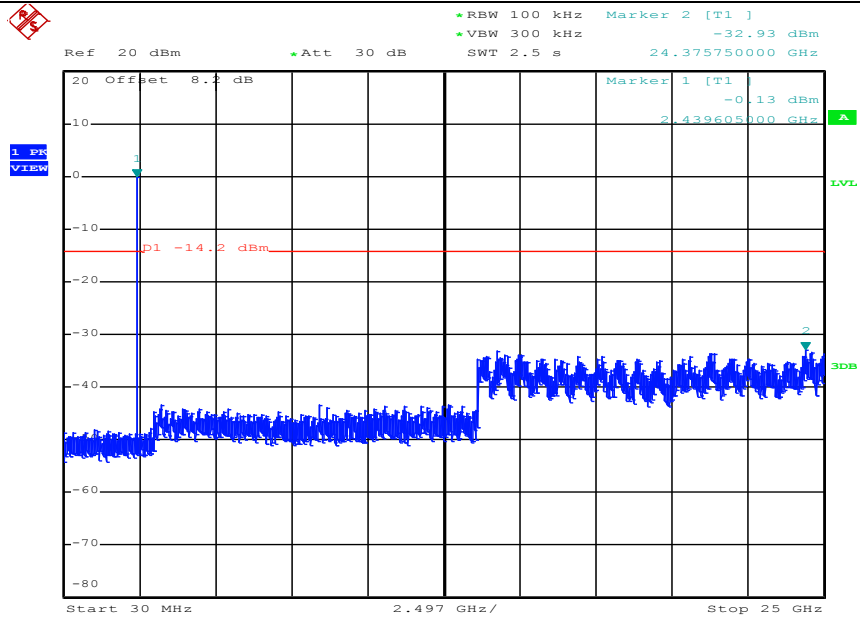
$\pi/4$ DQPSK\_MCH\_Graphs

Pref



Date: 10.AUG.2019 18:45:07

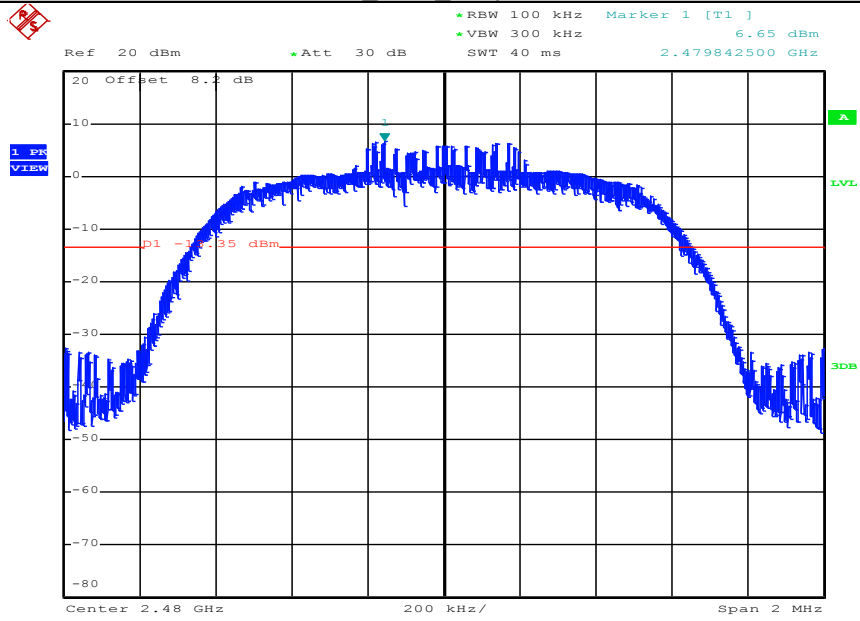
Puw



Date: 10.AUG.2019 18:45:21

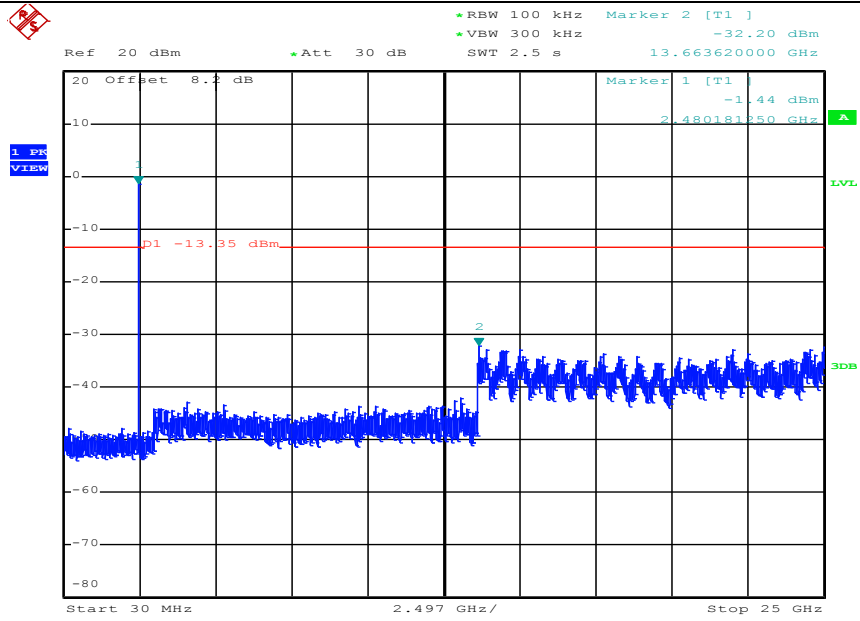
$\pi/4$ DQPSK\_HCH\_Graphs

Pref



Date: 10.AUG.2019 18:47:02

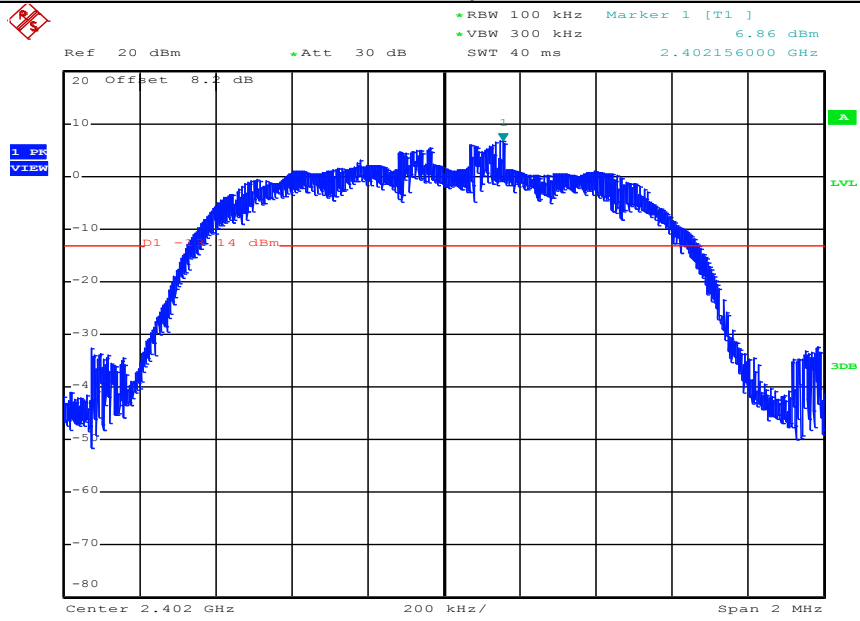
Puw



Date: 10.AUG.2019 18:47:16

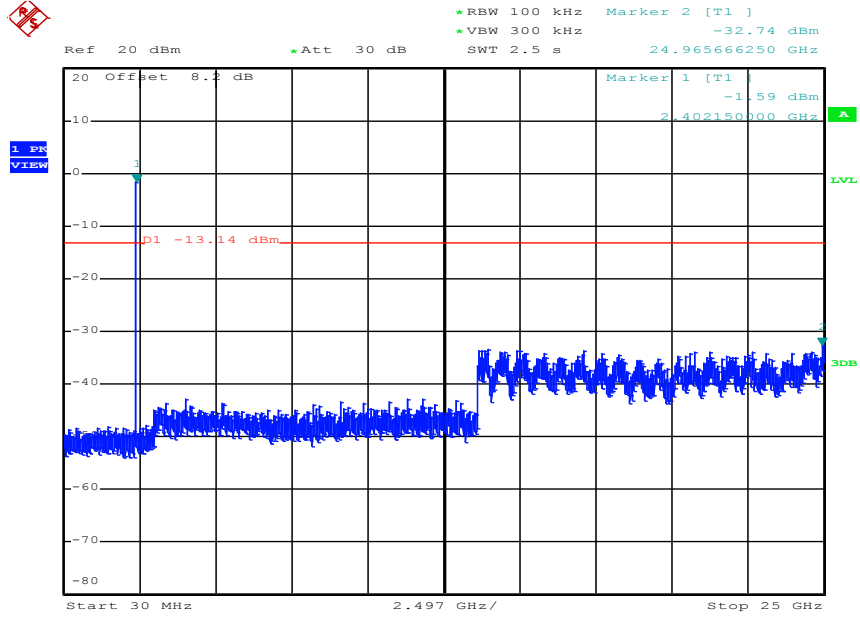
8DPSK\_LCH\_Graphs

Pref



Date: 10.AUG.2019 18:49:50

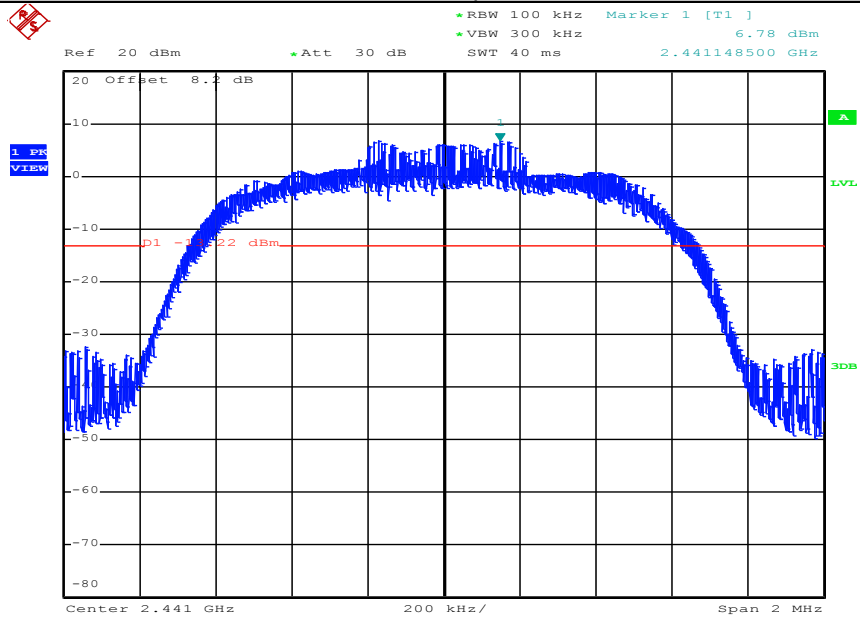
Puw



Date: 10.AUG.2019 18:50:04

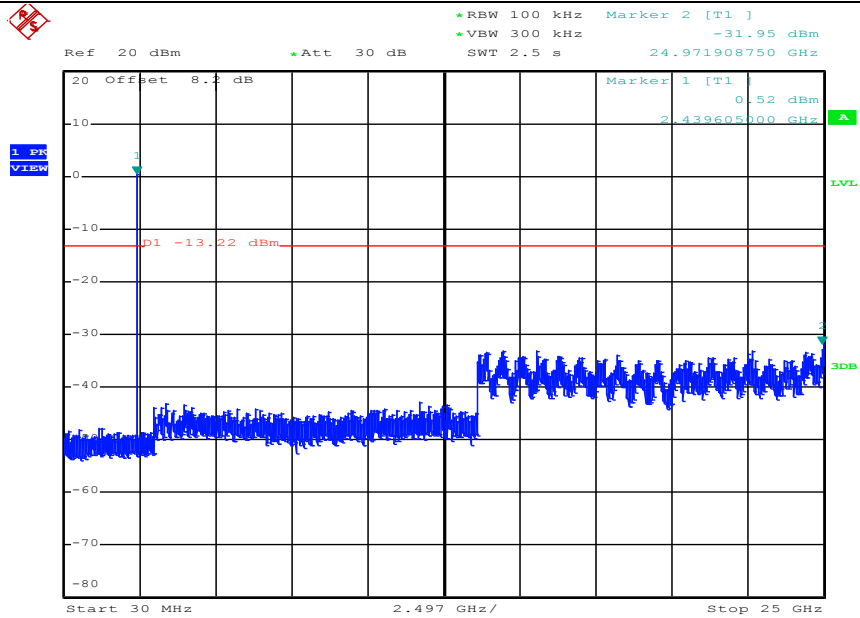
8DPSK\_MCH\_Graphs

Pref



Date: 10.AUG.2019 18:52:00

Puw

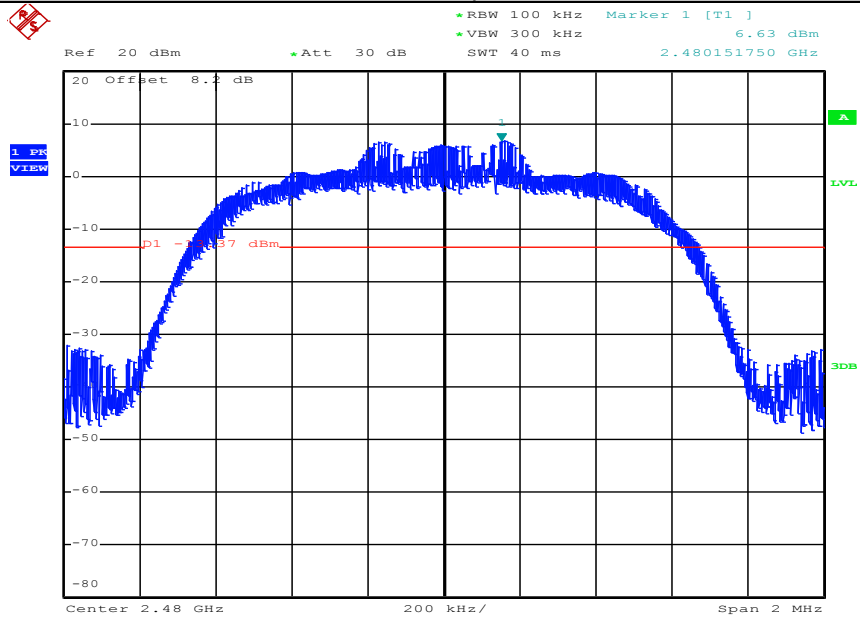


Date: 10.AUG.2019 18:52:14



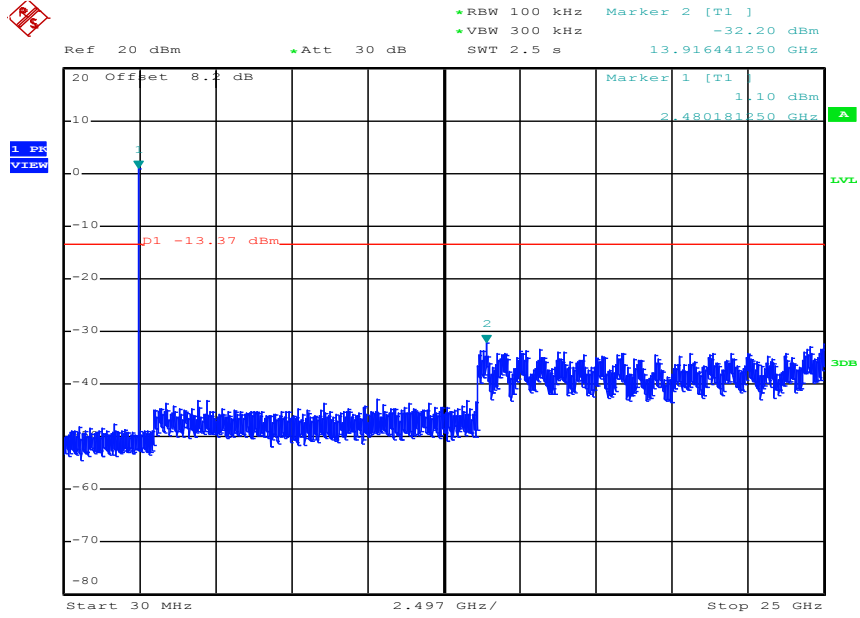
8DPSK\_HCH\_Graphs

Pref



Date: 10.AUG.2019 18:54:42

Puw



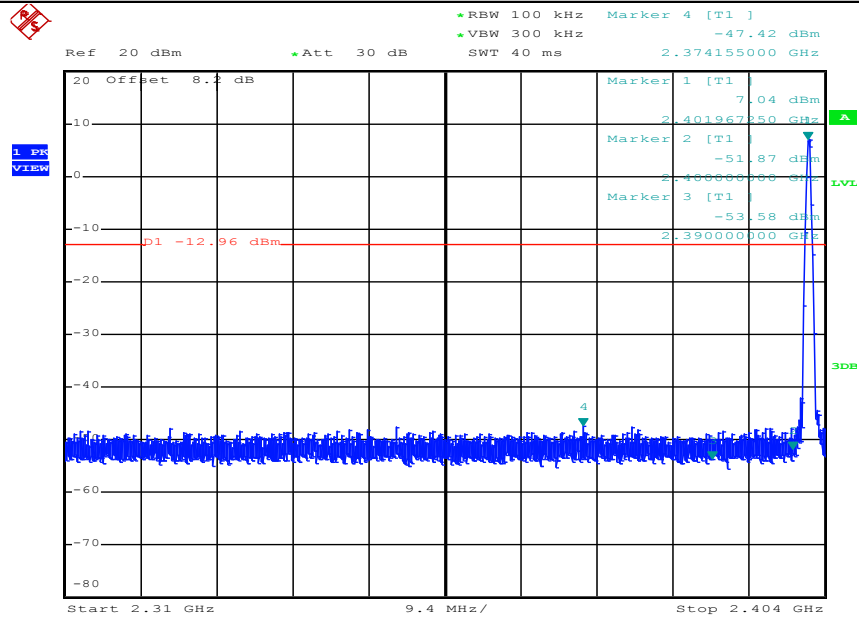
Date: 10.AUG.2019 18:54:56

### A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	7.040	Off	-47.416	-12.96	PASS
			7.400	On	-46.805	-12.6	PASS
	HCH	2480	6.930	Off	-47.235	-13.07	PASS
			7.150	On	-46.992	-12.85	PASS
π/4DQPSK	LCH	2402	6.060	Off	-46.943	-13.94	PASS
			5.860	On	-46.652	-14.14	PASS
	HCH	2480	6.640	Off	-47.227	-13.36	PASS
			6.620	On	-46.927	-13.38	PASS
8DPSK	LCH	2402	2.180	Off	-47.551	-17.82	PASS
			6.660	On	-46.241	-13.34	PASS
	HCH	2480	6.470	Off	-47.547	-13.53	PASS
			6.650	On	-45.652	-13.35	PASS

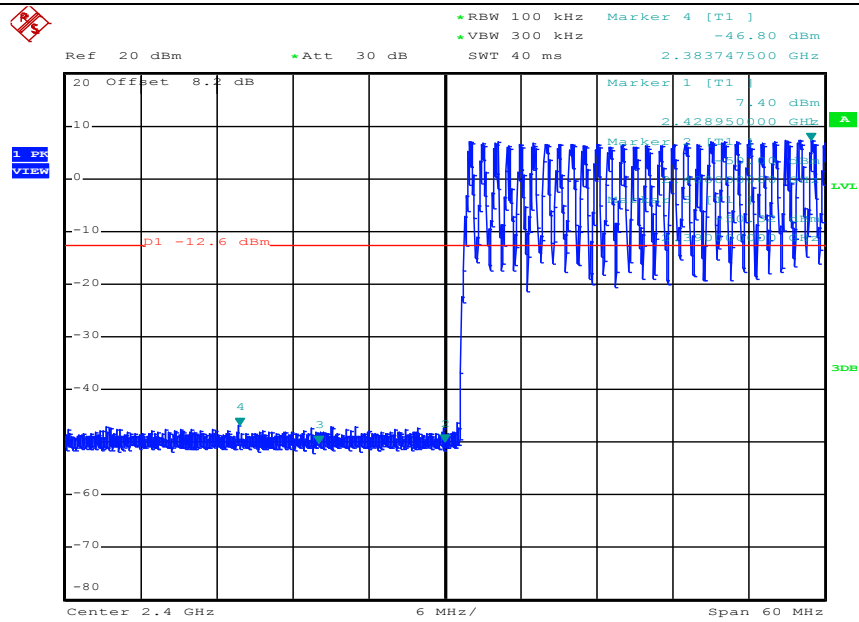
Test Graphs

GFSK/LCH/No Hop



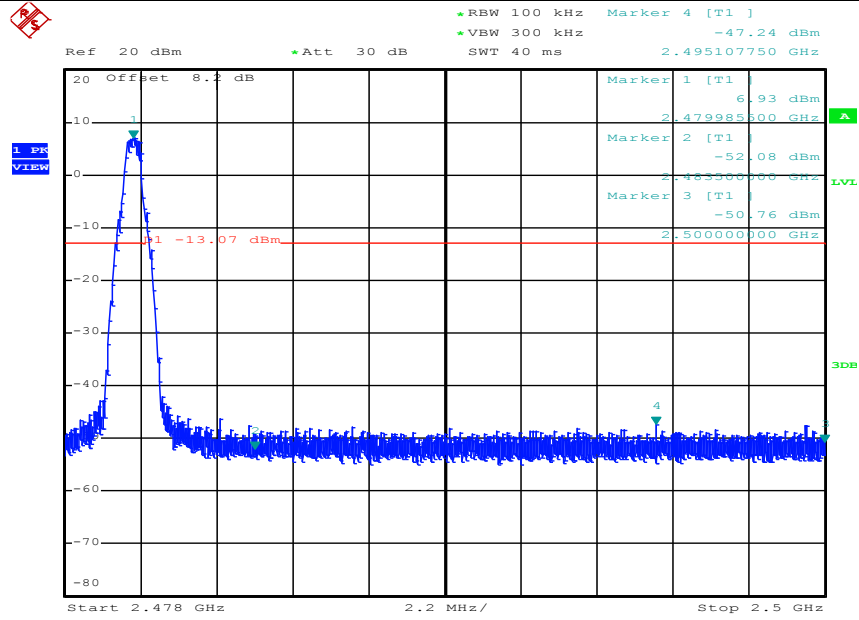
Date: 10.AUG.2019 18:32:04

GFSK/LCH/Hop



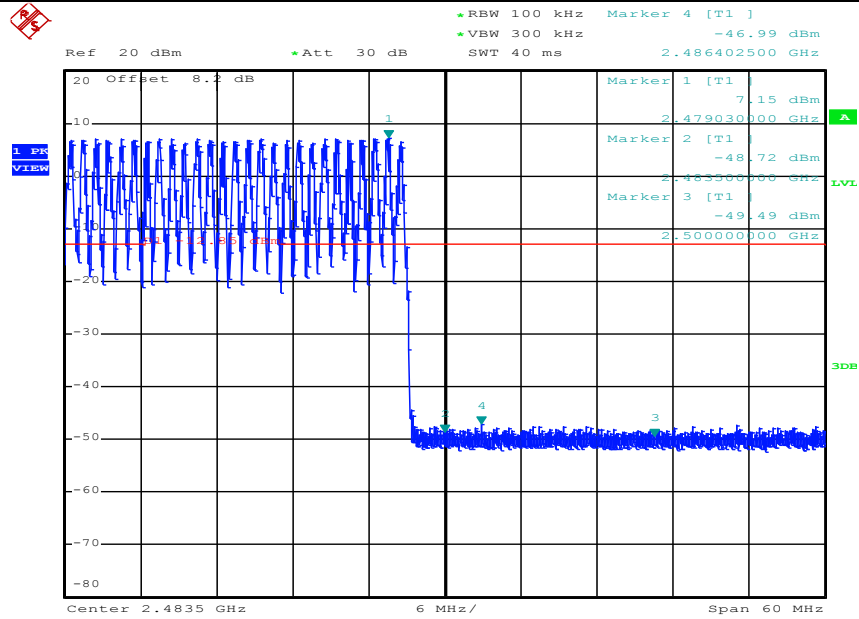
Date: 10.AUG.2019 19:19:27

GFSK/HCH/No Hop



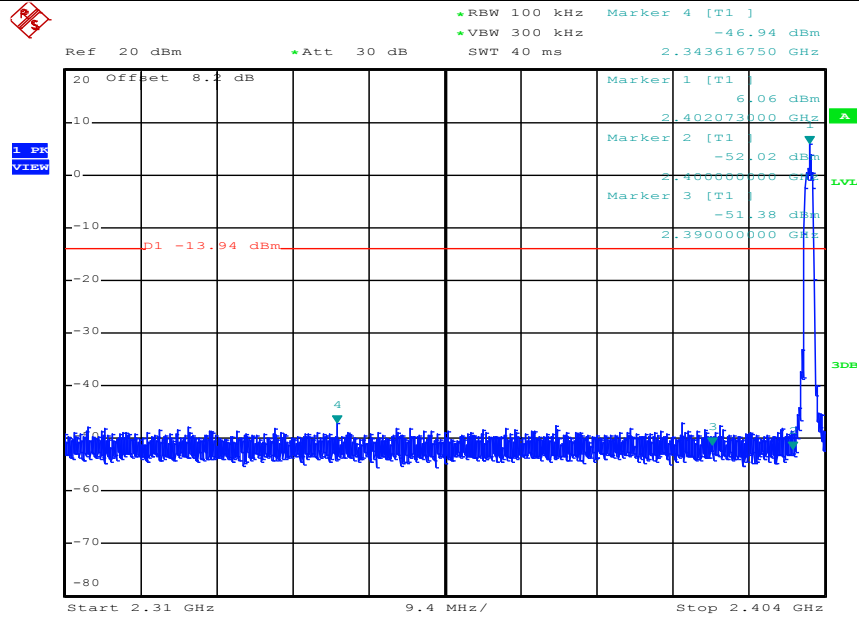
Date: 10.AUG.2019 18:36:41

GFSK/HCH/Hop



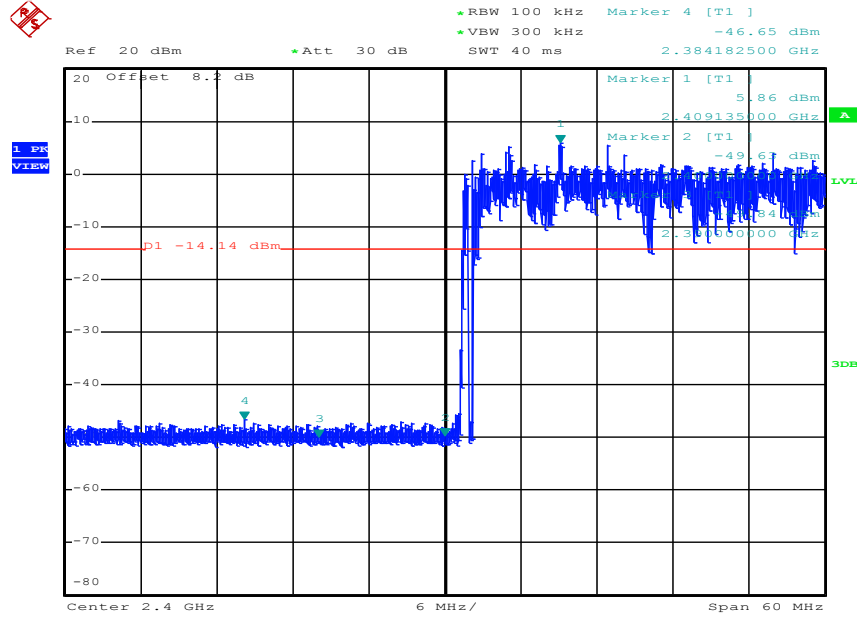
Date: 10.AUG.2019 19:21:20

$\pi/4$ DQPSK/LCH/No  
Hop



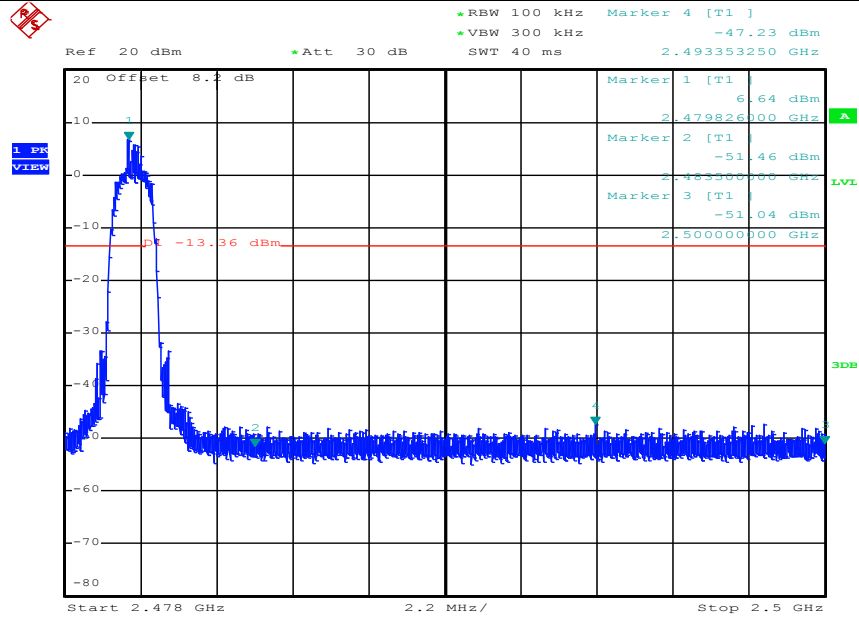
Date: 10.AUG.2019 18:42:16

$\pi/4$ DQPSK/LCH/Hop



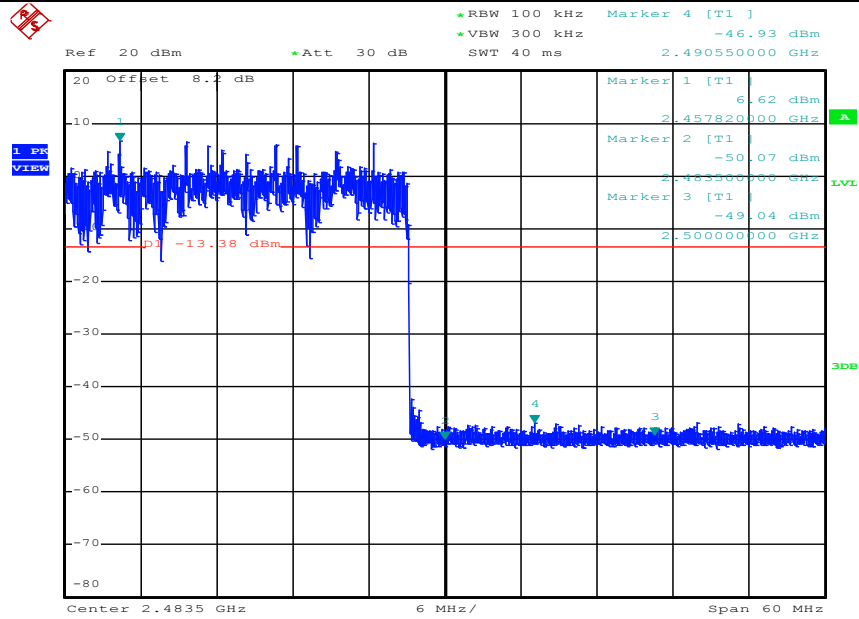
Date: 10.AUG.2019 19:27:20

$\pi$ /4DQPSK/HCH/No  
Hop



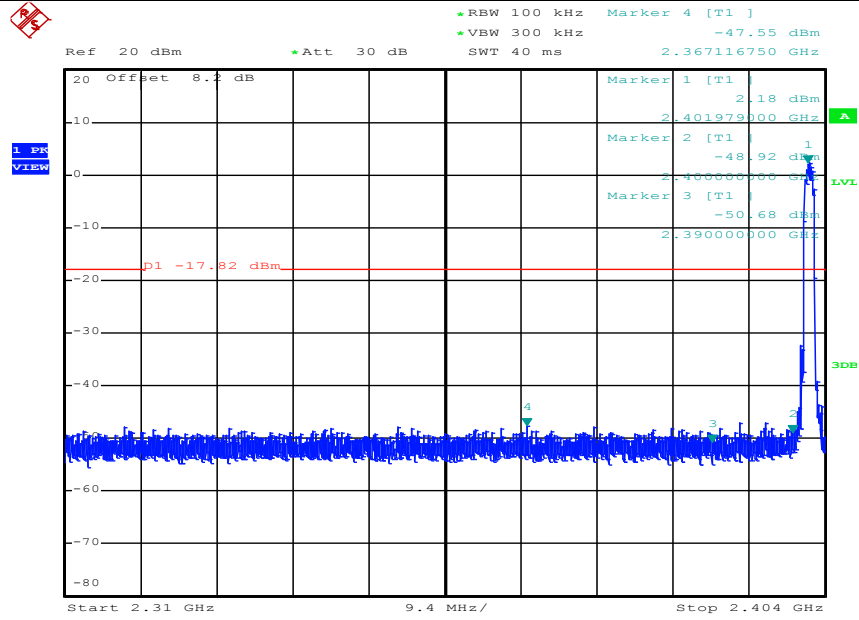
Date: 10.AUG.2019 18:46:50

$\pi$ /4DQPSK/HCH/Hop



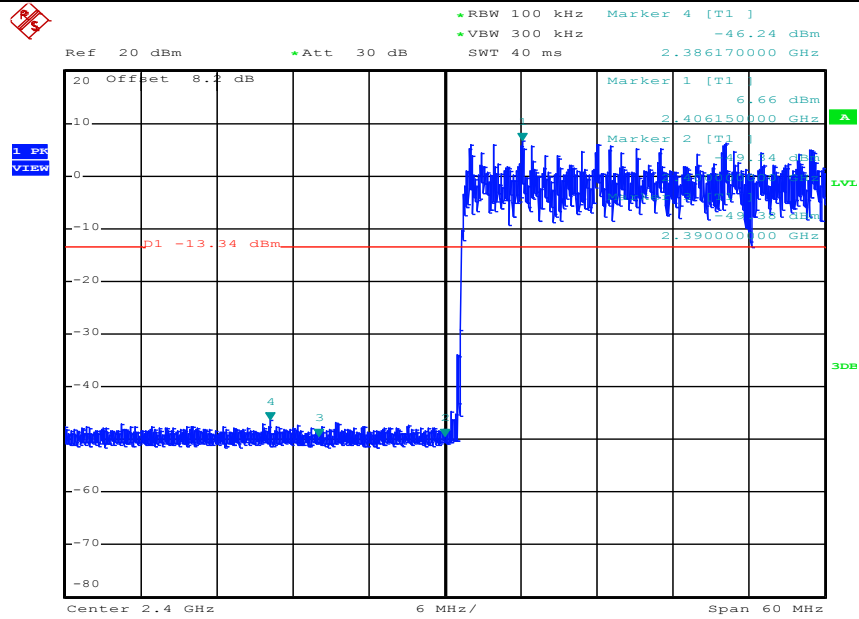
Date: 10.AUG.2019 19:29:47

8DPSK/LCH/No Hop



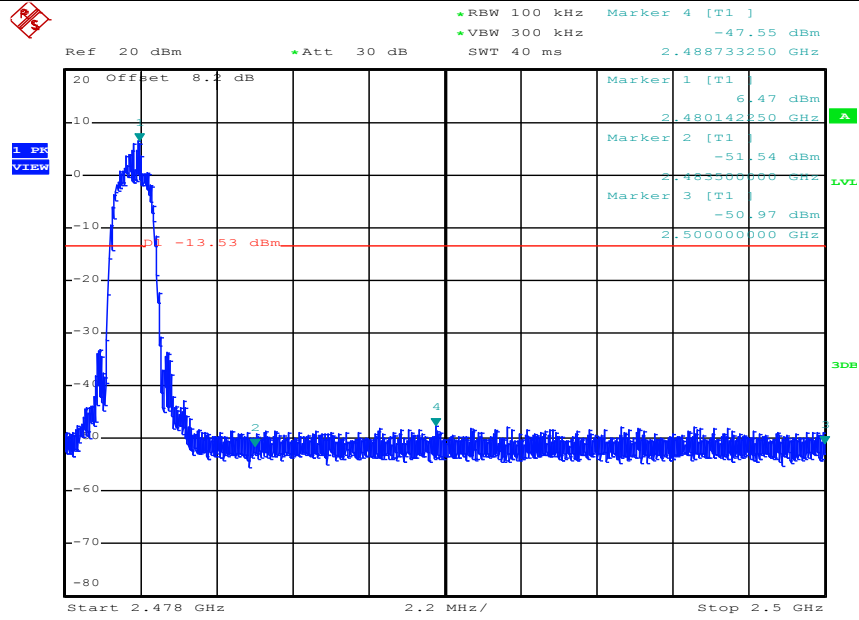
Date: 10.AUG.2019 18:49:38

8DPSK/LCH/Hop



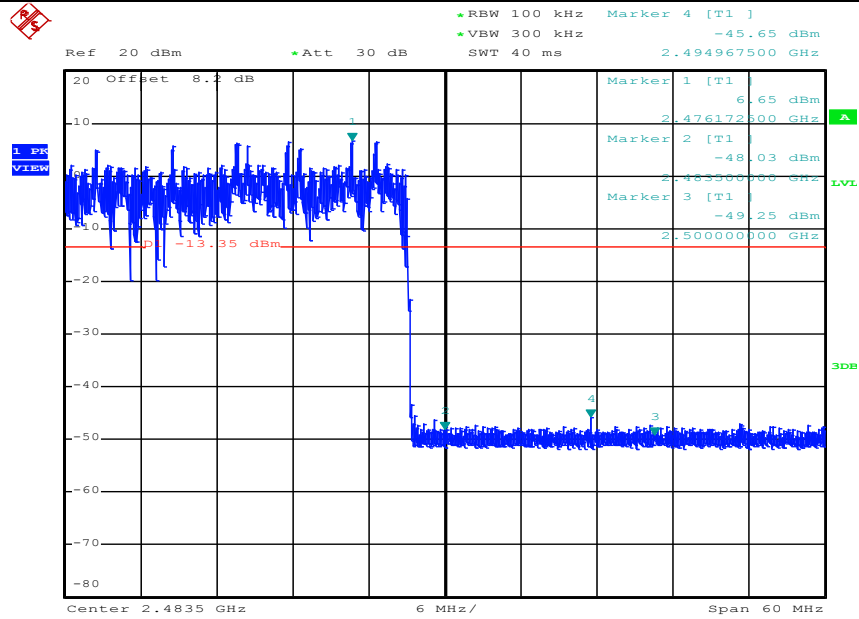
Date: 10.AUG.2019 19:33:34

8DPSK/HCH/No Hop



Date: 10.AUG.2019 18:54:30

8DPSK/HCH/Hop



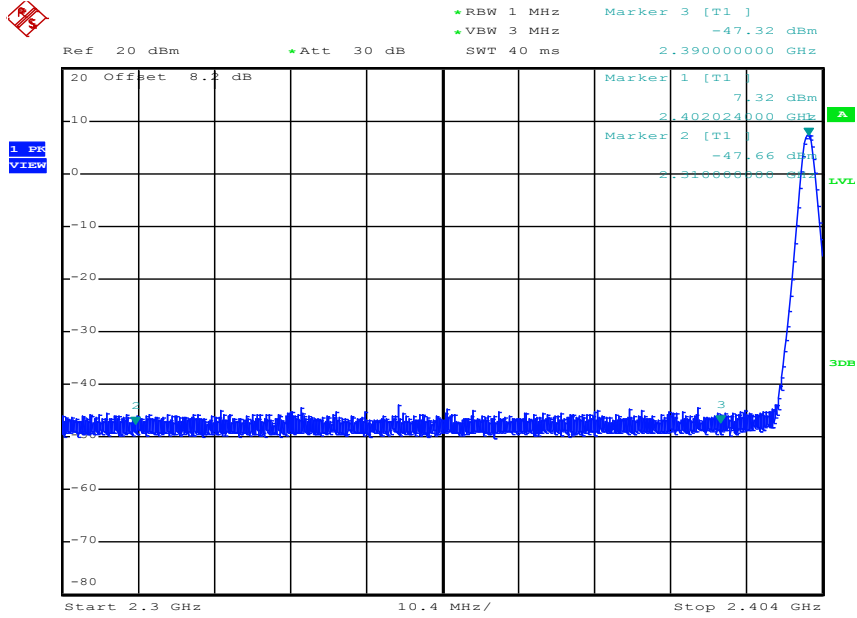
Date: 10.AUG.2019 19:35:39



### A.8 Restrict-band band-edge measurements

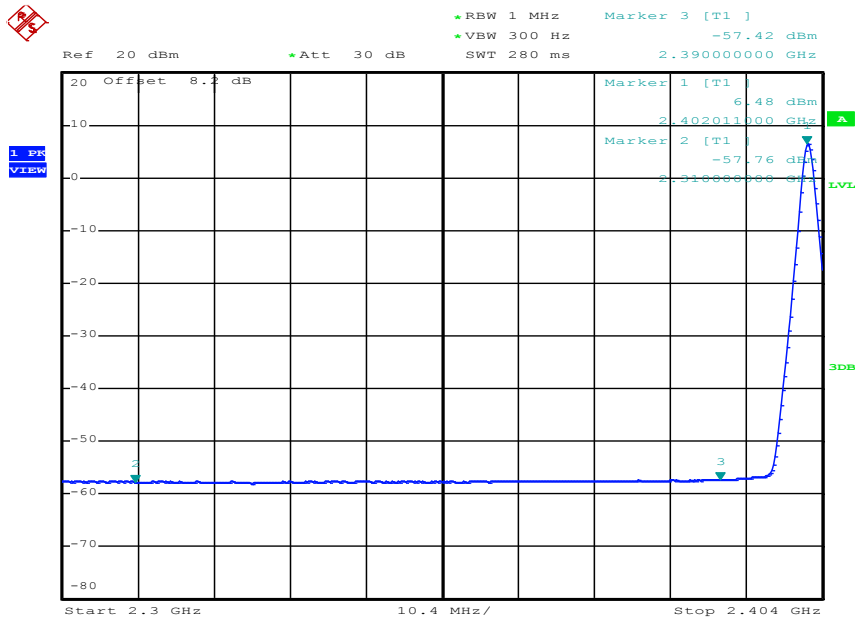
Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-47.66	2.0	0	47.60	PEAK	74	PASS
	Off	2310.0	-57.76	2.0	0	37.50	AV	54	PASS
	Off	2390.0	-47.32	2.0	0	47.94	PEAK	74	PASS
	Off	2390.0	-57.42	2.0	0	37.84	AV	54	PASS
	Off	2483.5	-33.51	2.0	0	61.75	PEAK	74	PASS
	Off	2483.5	-36.10	2.0	0	52.16	AV	54	PASS
	Off	2500.0	-48.68	2.0	0	46.58	PEAK	74	PASS
	Off	2500.0	-57.99	2.0	0	37.27	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-49.27	2.0	0	45.99	PEAK	74	PASS
	Off	2310.0	-57.77	2.0	0	37.49	AV	54	PASS
	Off	2390.0	-48.98	2.0	0	46.28	PEAK	74	PASS
	Off	2390.0	-57.39	2.0	0	37.87	AV	54	PASS
	Off	2483.5	-34.39	2.0	0	60.87	PEAK	74	PASS
	Off	2483.5	-39.41	2.0	0	50.85	AV	54	PASS
	Off	2500.0	-47.97	2.0	0	47.29	PEAK	74	PASS
	Off	2500.0	-58.00	2.0	0	37.26	AV	54	PASS
8DPSK	Off	2310.0	-48.68	2.0	0	46.58	PEAK	74	PASS
	Off	2310.0	-57.75	2.0	0	37.51	AV	54	PASS
	Off	2390.0	-47.47	2.0	0	47.79	PEAK	74	PASS
	Off	2390.0	-57.42	2.0	0	37.84	AV	54	PASS
	Off	2483.5	-34.01	2.0	0	61.25	PEAK	74	PASS
	Off	2483.5	-39.35	2.0	0	51.91	AV	54	PASS
	Off	2500.0	-48.43	2.0	0	46.83	PEAK	74	PASS
	Off	2500.0	-58.06	2.0	0	37.20	AV	54	PASS

Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (Low Channel)



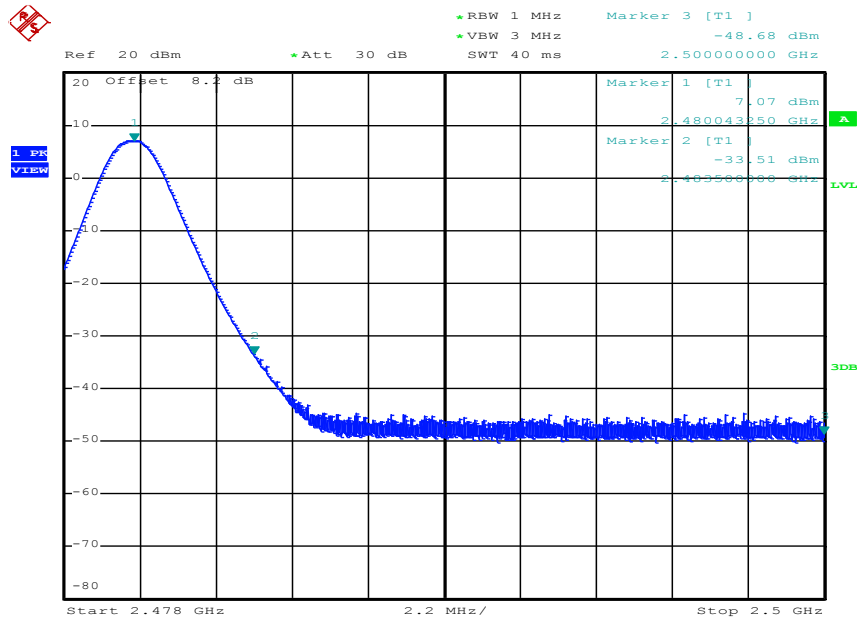
Date: 10.AUG.2019 18:32:51

Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (Low Channel)



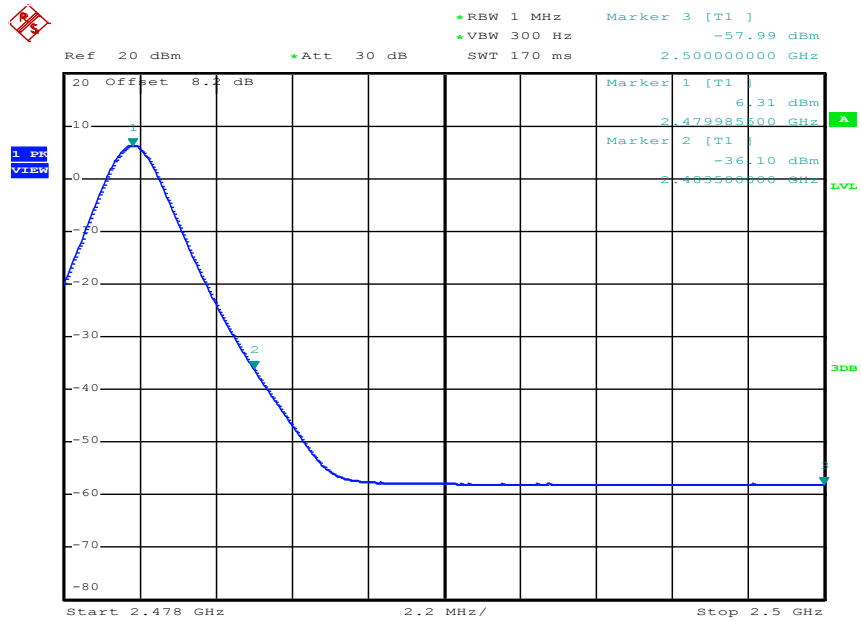
Date: 10.AUG.2019 18:33:04

Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (High Channel)



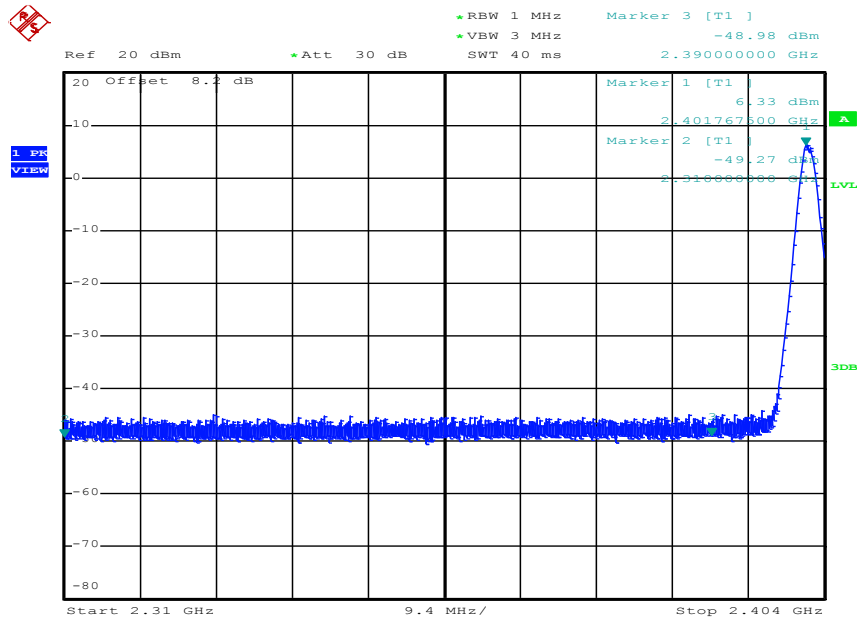
Date: 10.AUG.2019 18:39:59

Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (High Channel)



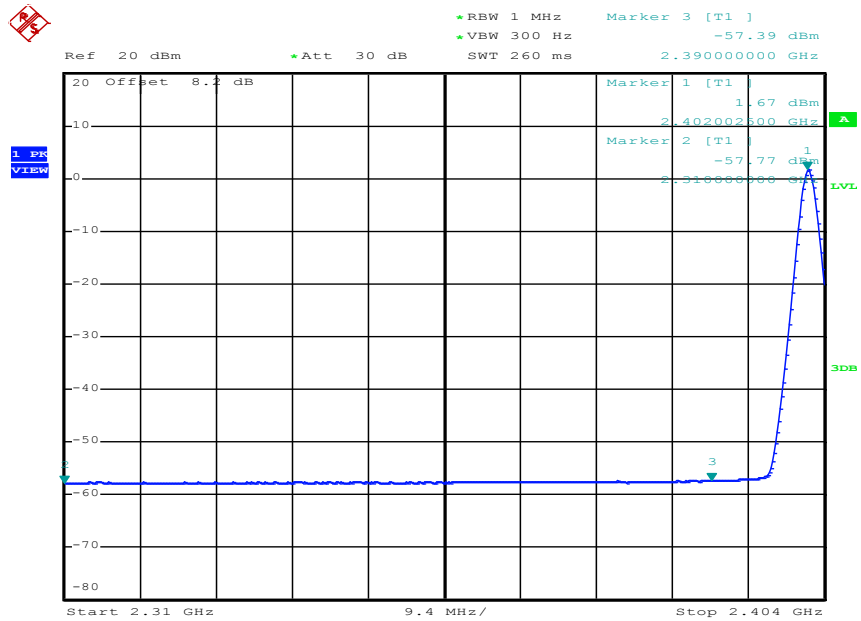
Date: 10.AUG.2019 18:40:12

Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_PEAK (Low Channel)



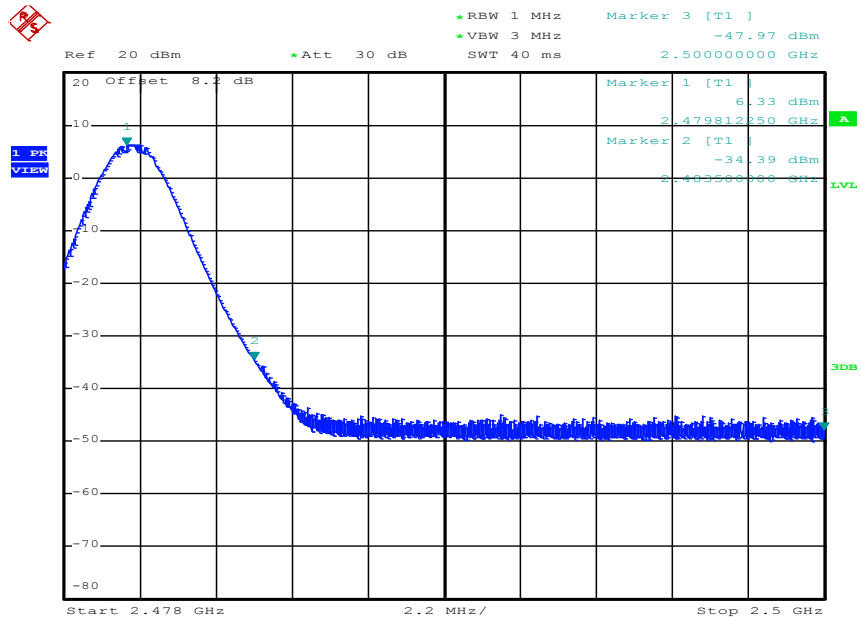
Date: 10.AUG.2019 18:43:02

Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_Average (Low Channel)



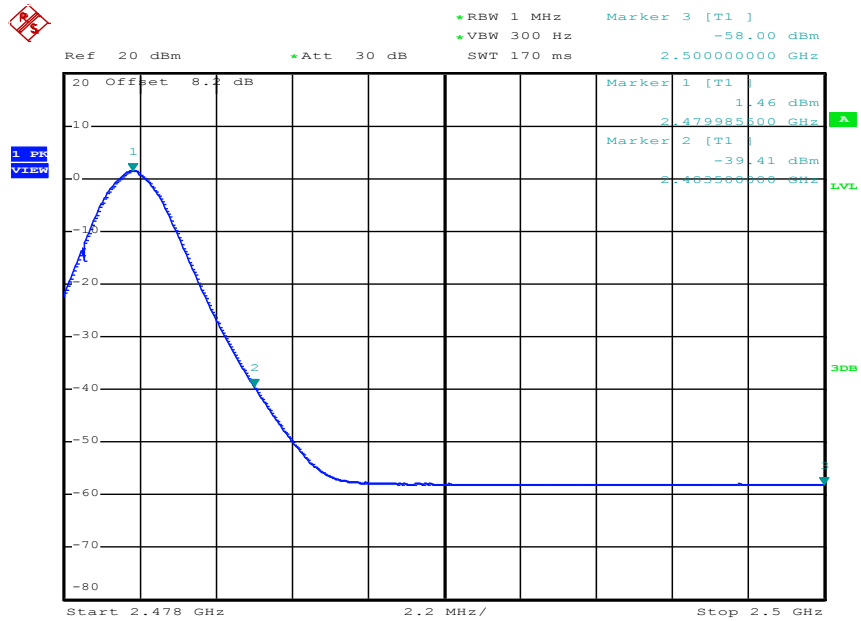
Date: 10.AUG.2019 18:43:16

Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (High Channel)



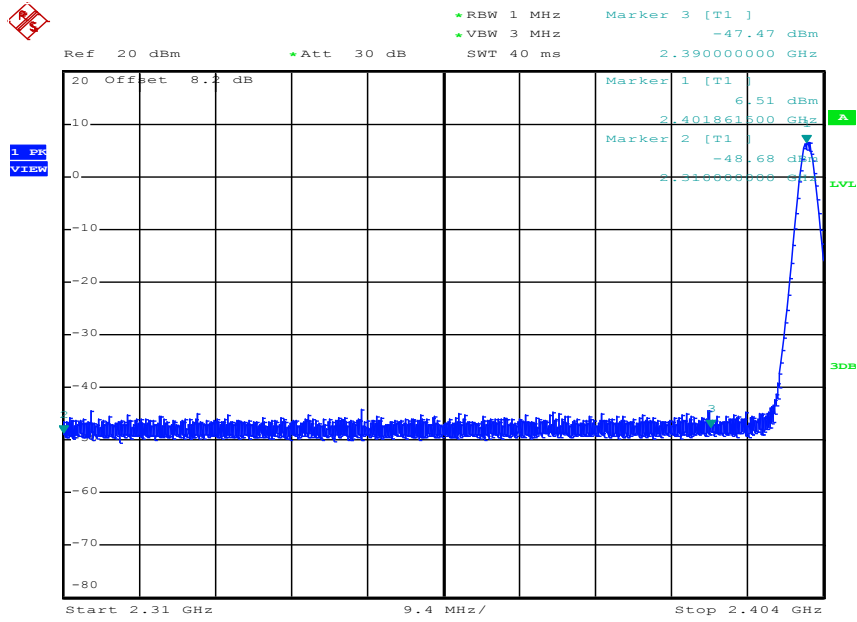
Date: 10.AUG.2019 18:47:34

Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (High Channel)



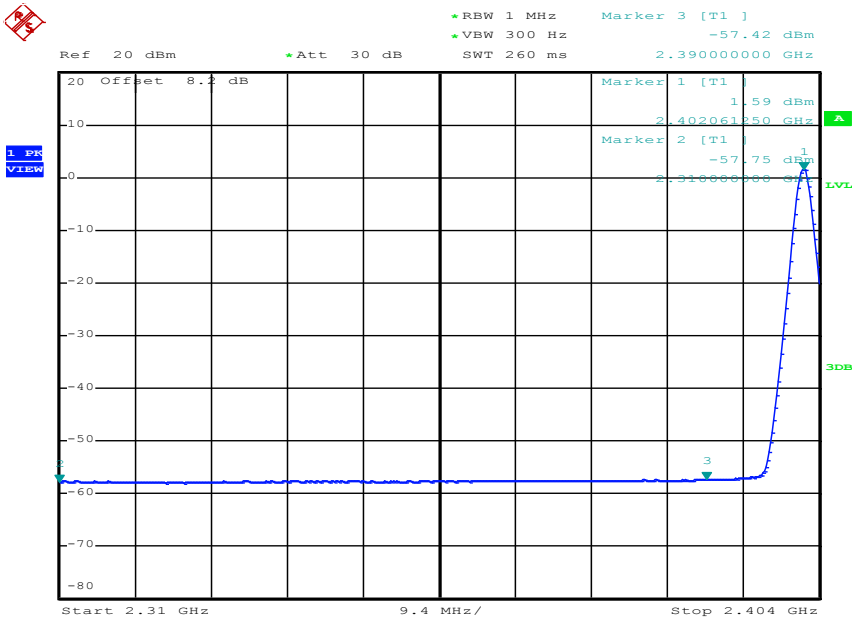
Date: 10.AUG.2019 18:47:47

Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (Low Channel)



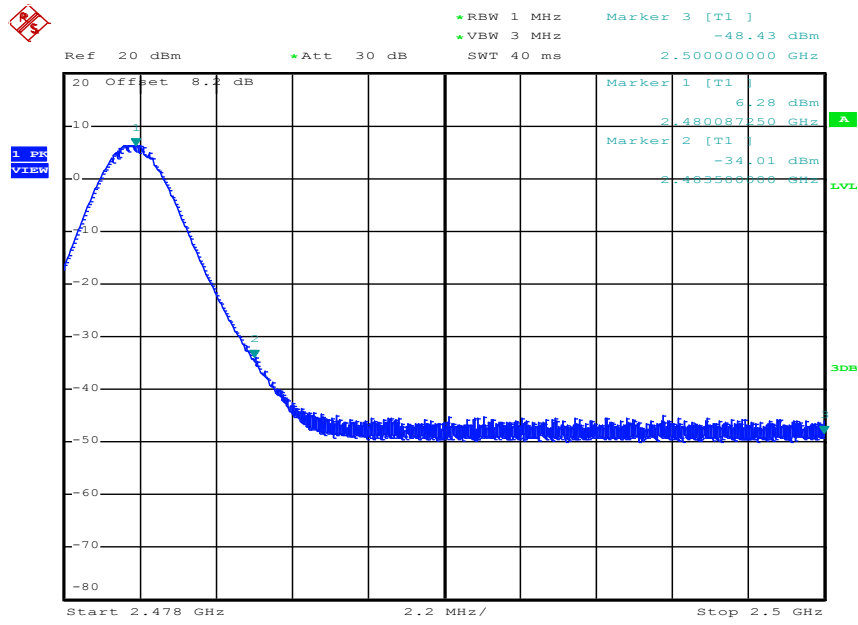
Date: 10.AUG.2019 18:50:22

Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_Average (Low Channel)



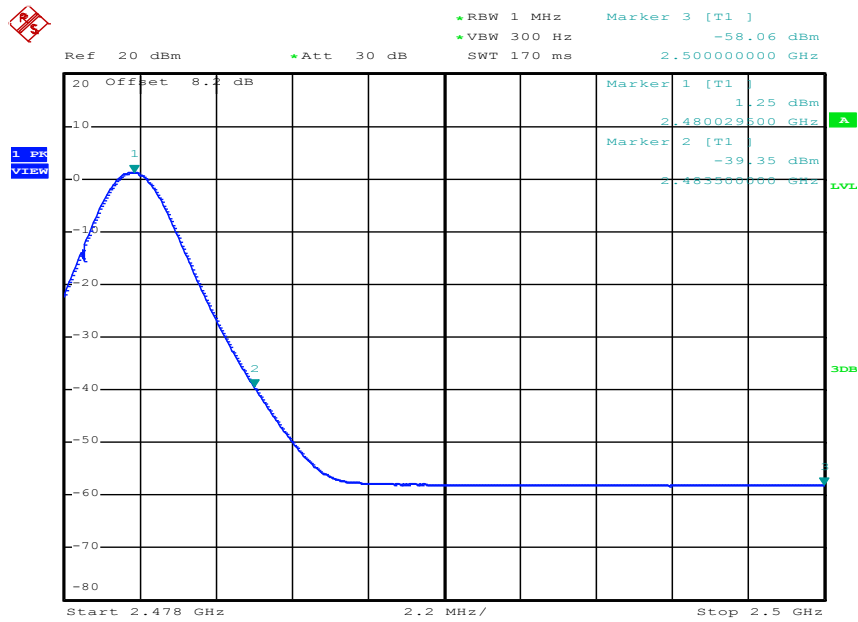
Date: 10.AUG.2019 18:50:36

Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (High Channel)



Date: 10.AUG.2019 18:55:14

Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_Average (High Channel)



Date: 10.AUG.2019 18:55:28