

Appendix A

RF Test Data for BT V4.1(BDR/EDR) (Conducted Measurement)

Product Name: Legends Ultimate Home Arcade

Trade Mark: N/A

Test Model: HA8800

Environmental Conditions

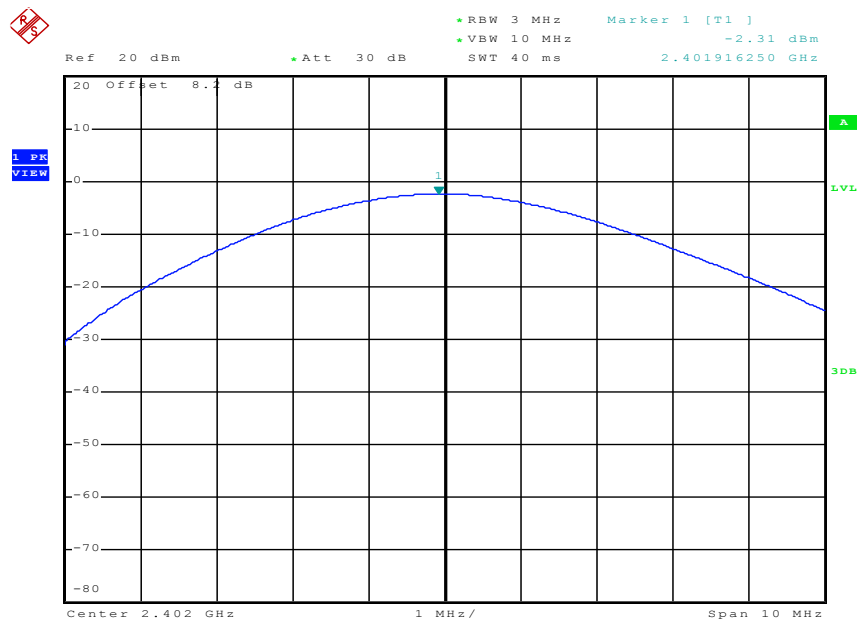
Temperature:	24.3° C
Relative Humidity:	54.3%
ATM Pressure:	100.0 kPa
Test Engineer:	JK ZHOU
Supervised by:	Wang Chuang

A.1 Maximum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-2.310	21	PASS
	MCH	-3.230	21	PASS
	HCH	-2.680	21	PASS
$\pi/4$ DQPSK	LCH	-3.130	21	PASS
	MCH	-4.050	21	PASS
	HCH	-3.410	21	PASS
8DPSK	LCH	-3.160	21	PASS
	MCH	-4.080	21	PASS
	HCH	-3.440	21	PASS

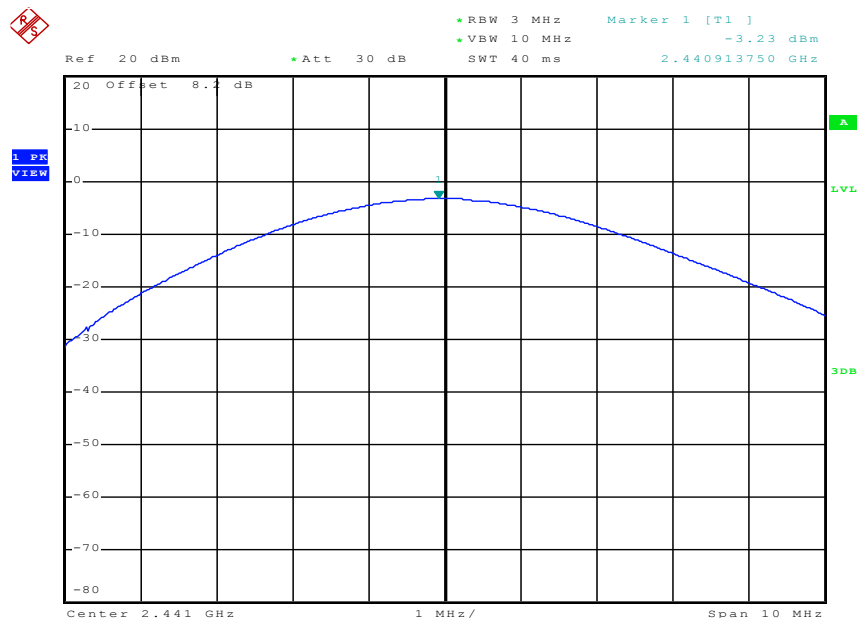
Test Graphs

GFSK/LCH



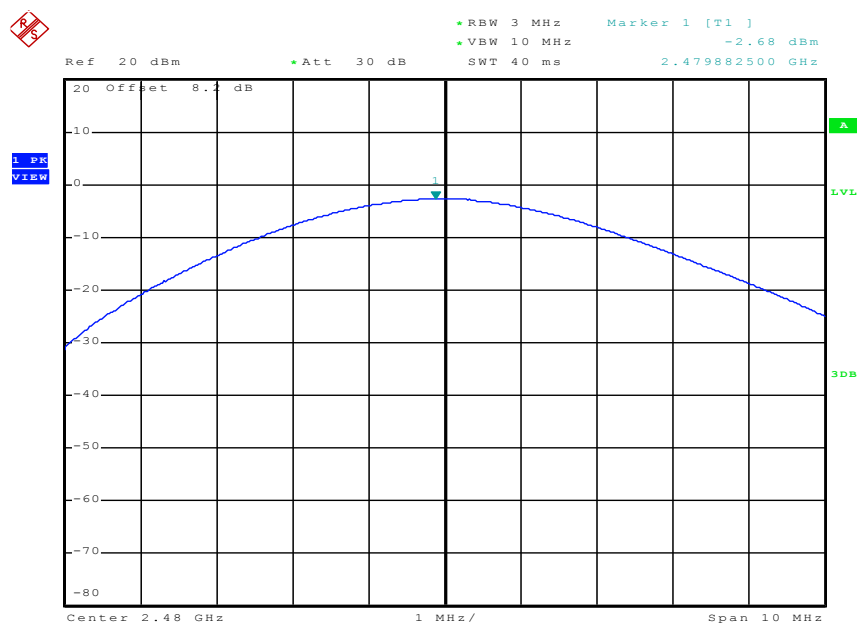
Date: 9 AUG 2019 20:16:41

GFSK/MCH

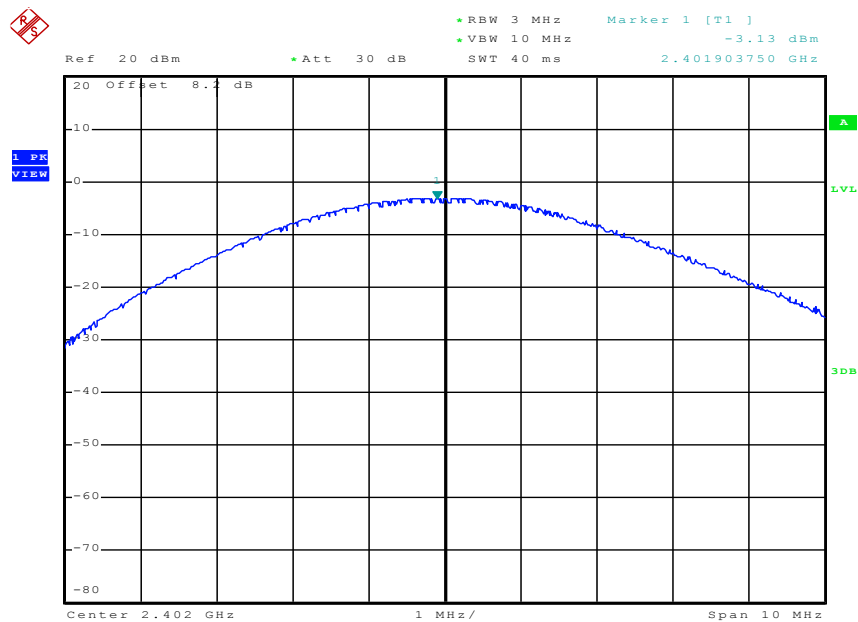


Date: 9 AUG 2019 20:20:19

GFSK/HCH

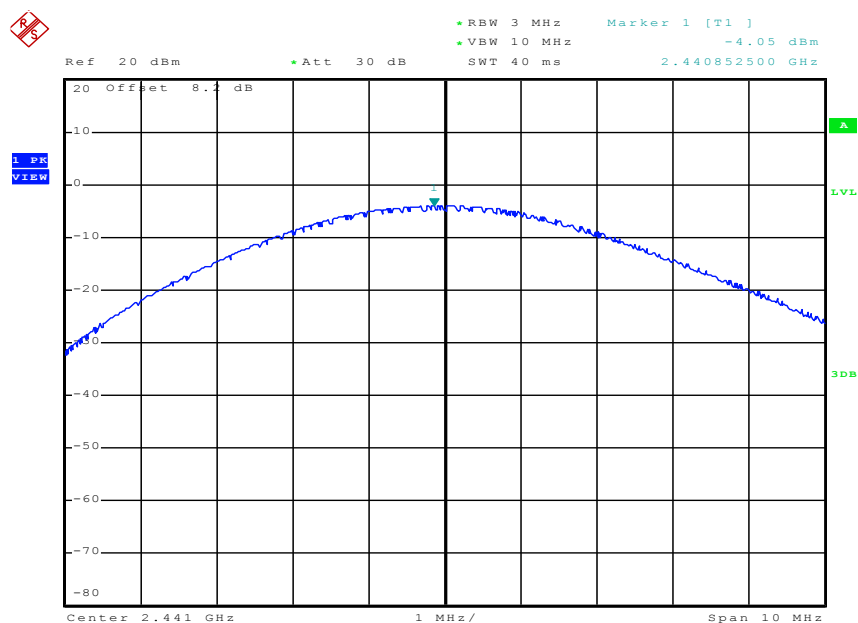


Date: 9.AUG.2019 20:24:49

 $\pi/4$ DQPSK/LCH

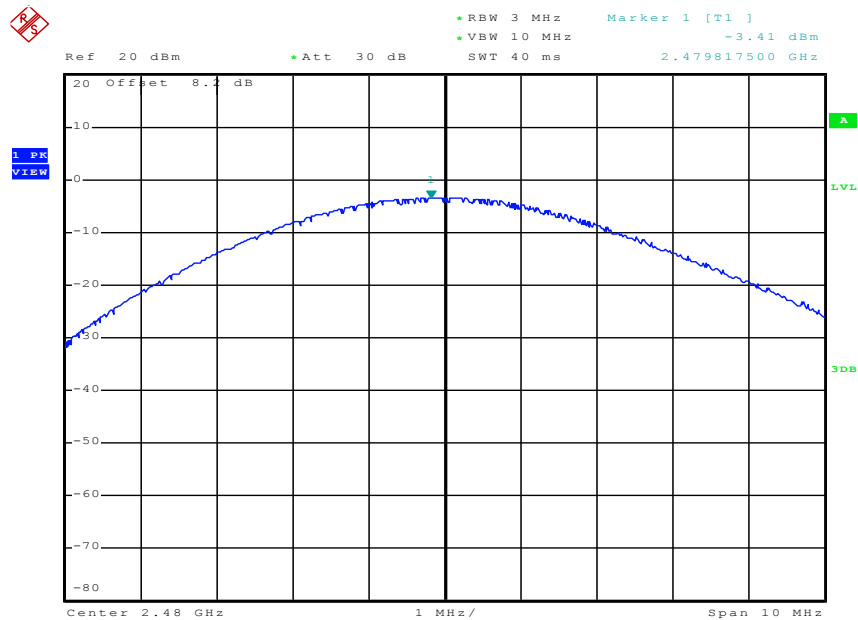
Date: 9.AUG.2019 20:28:03

$\pi/4$ DQPSK/MCH



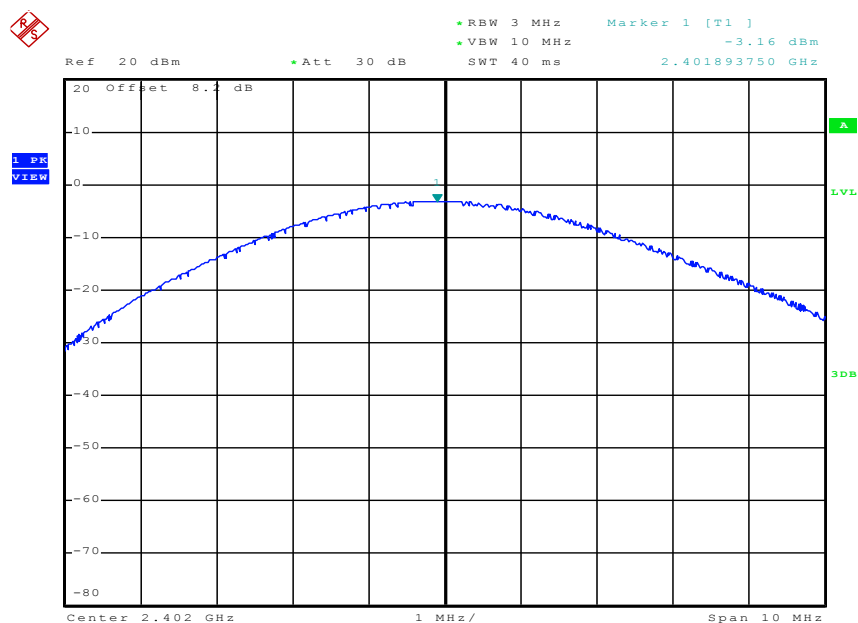
Date: 9.AUG.2019 20:30:44

$\pi/4$ DQPSK/HCH



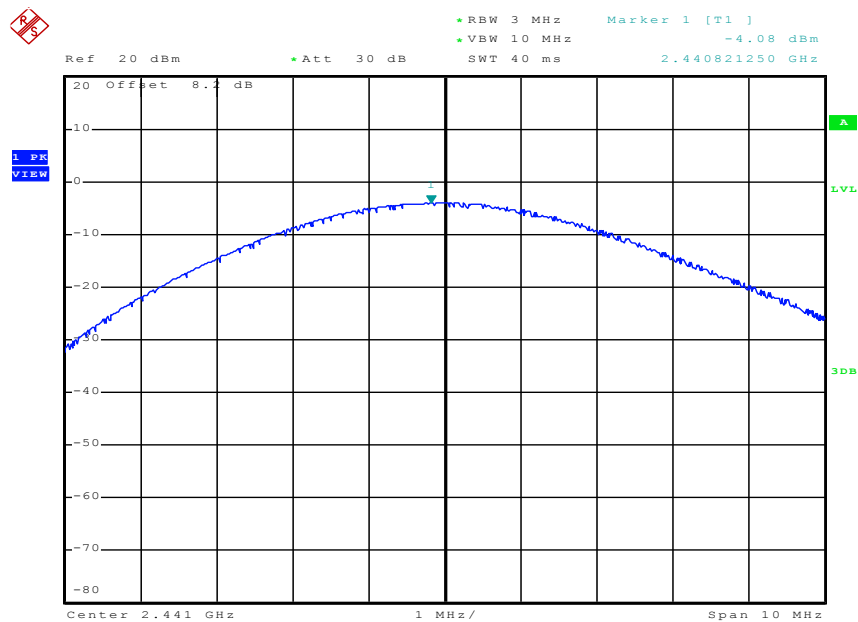
Date: 9.AUG.2019 20:32:42

8DPSK/LCH



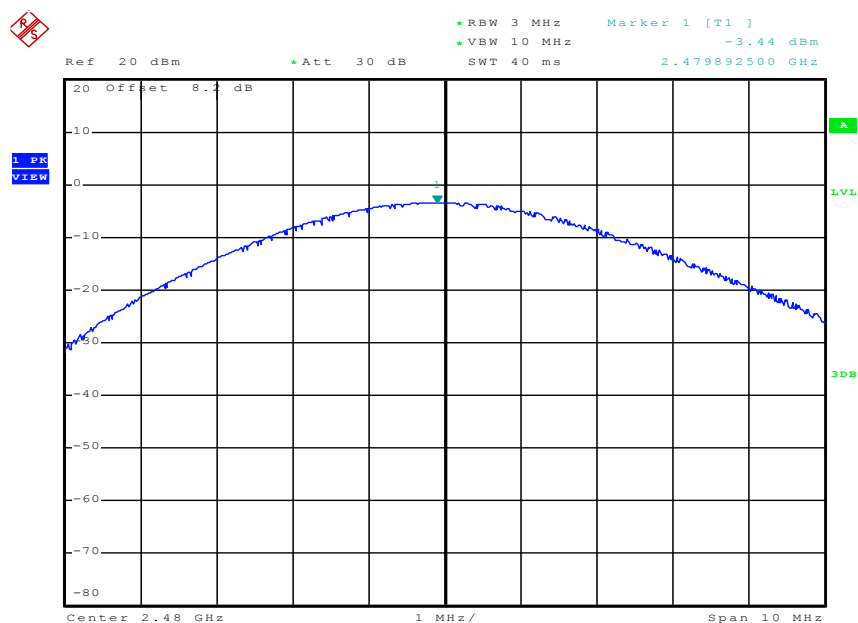
Date: 9.AUG.2019 20:35:29

8DPSK/MCH



Date: 9.AUG.2019 20:38:00

8DPSK/HCH



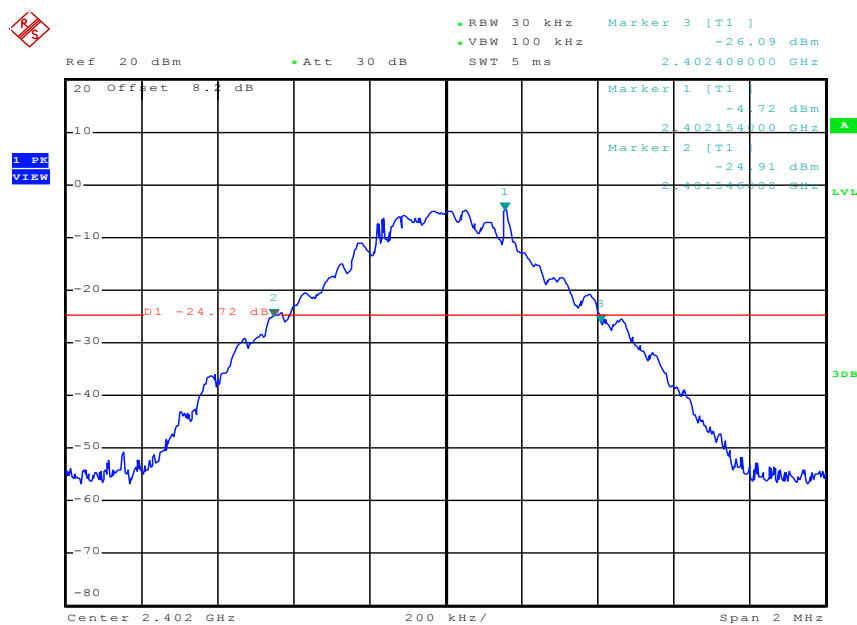
Date: 9.AUG.2019 20:39:43

A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.862	Not Specified	PASS
	MCH	0.862	Not Specified	PASS
	HCH	0.864	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.260	Not Specified	PASS
	MCH	1.262	Not Specified	PASS
	HCH	1.262	Not Specified	PASS
8DPSK	LCH	1.256	Not Specified	PASS
	MCH	1.256	Not Specified	PASS
	HCH	1.258	Not Specified	PASS

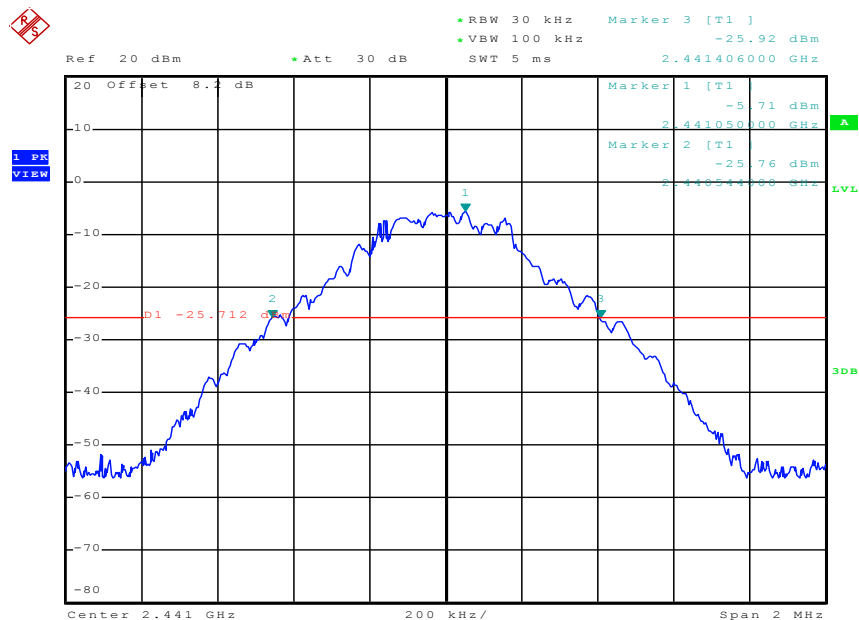
Test Graphs

GFSK/LCH



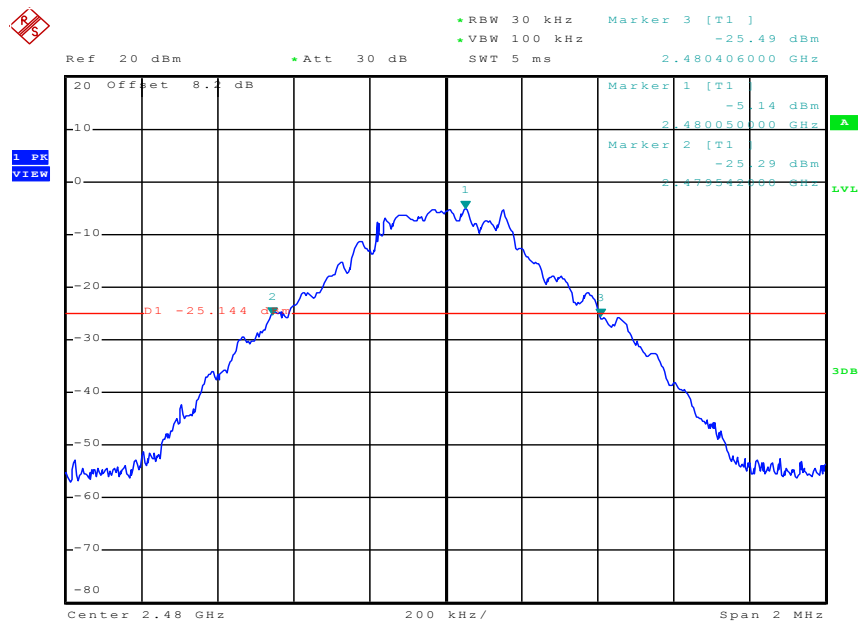
Date: 9.AUG.2019 20:16:05

GFSK/MCH

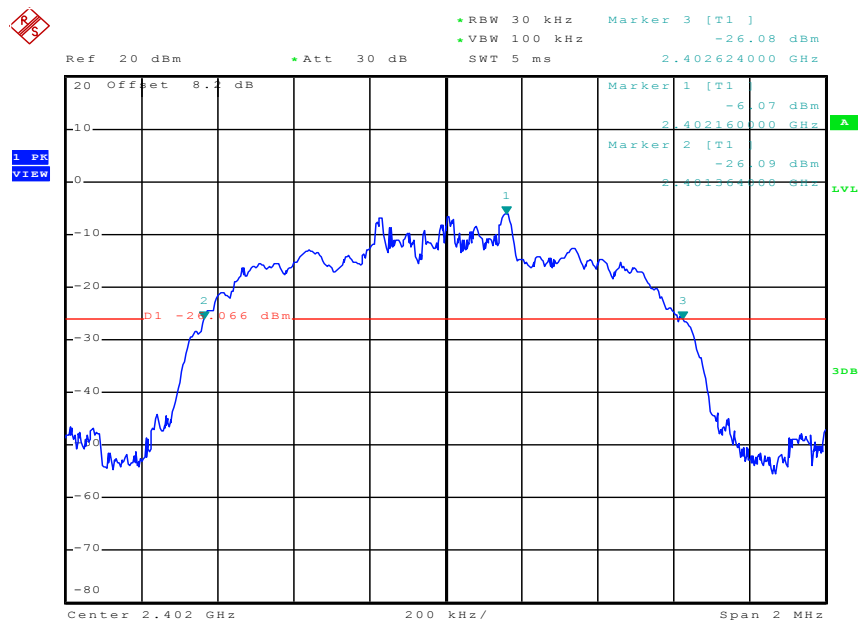


Date: 9.AUG.2019 20:19:42

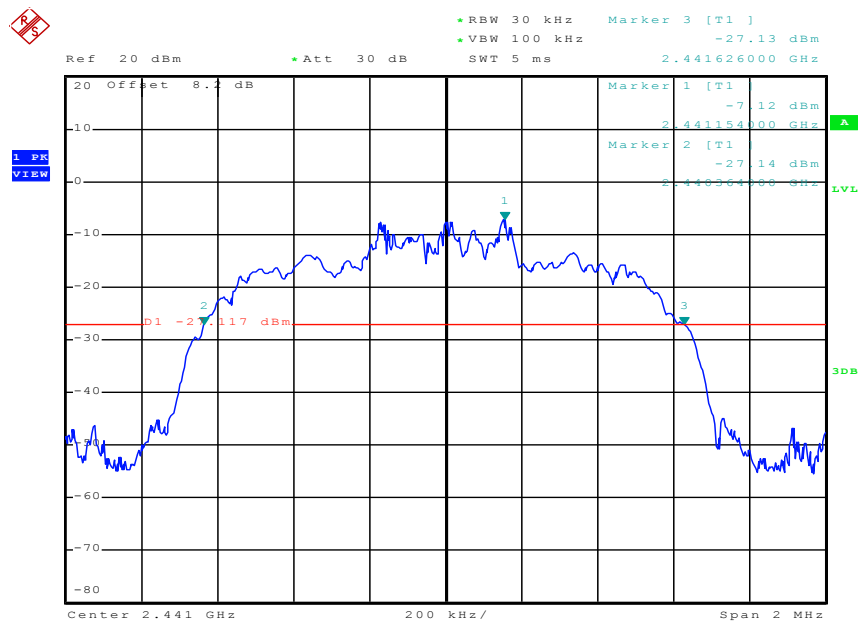
GFSK/HCH



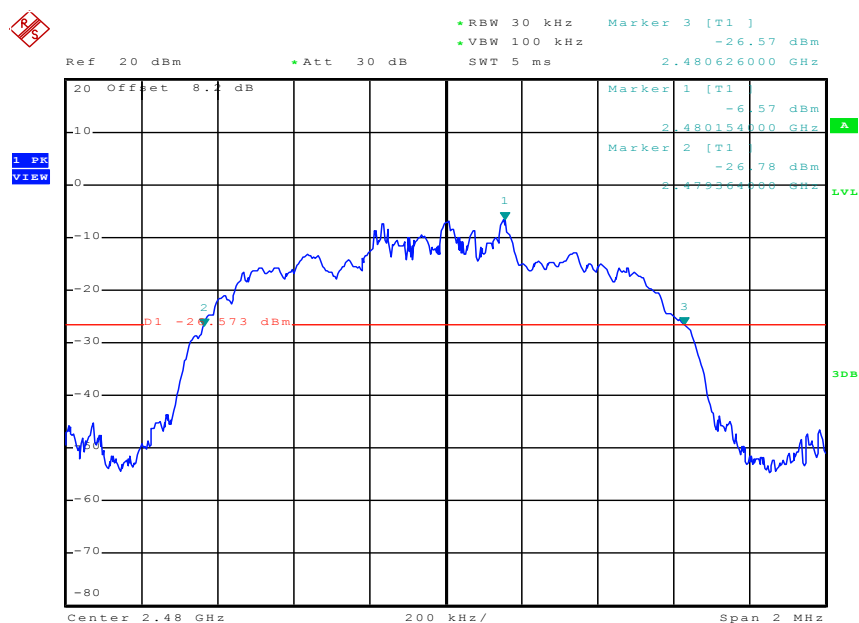
Date: 9.AUG.2019 20:24:13

$\pi/4$ DQPSK/LCH

Date: 9.AUG.2019 20:27:27

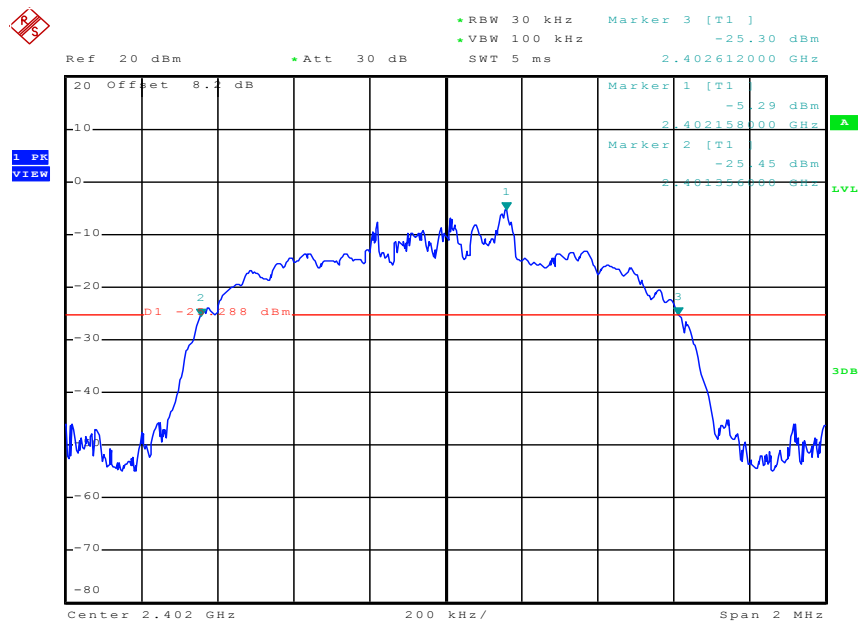
 $\pi/4$ DQPSK/MCH

Date: 9.AUG.2019 20:30:08

$\pi/4$ DQPSK/HCH

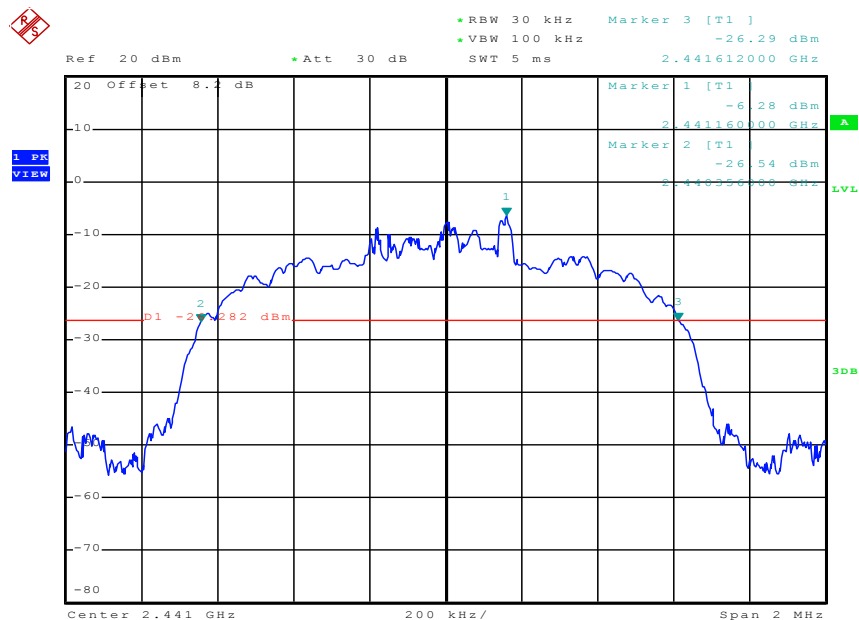
Date: 9.AUG.2019 20:32:06

8DPSK/LCH



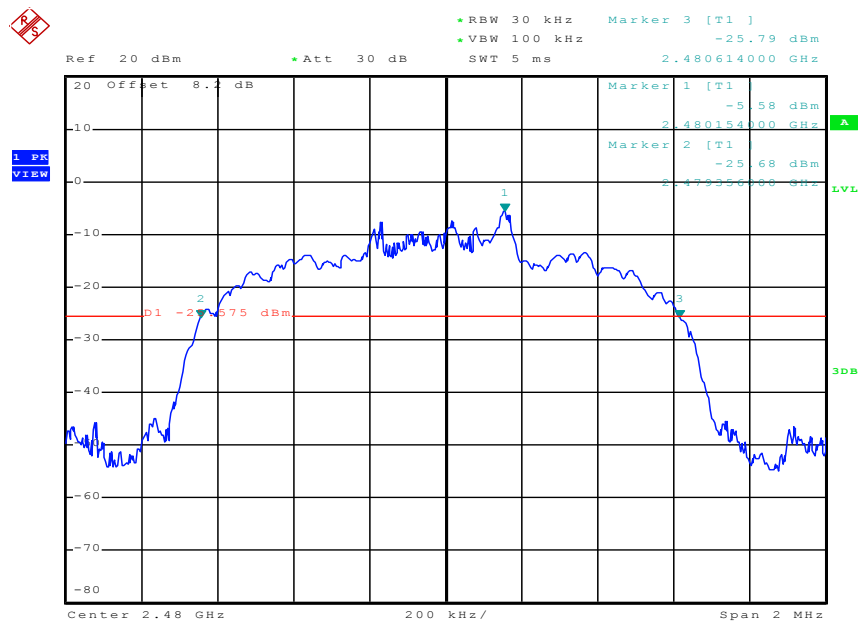
Date: 9.AUG.2019 20:34:54

8DPSK/MCH



Date: 9.AUG.2019 20:37:25

8DPSK/HCH



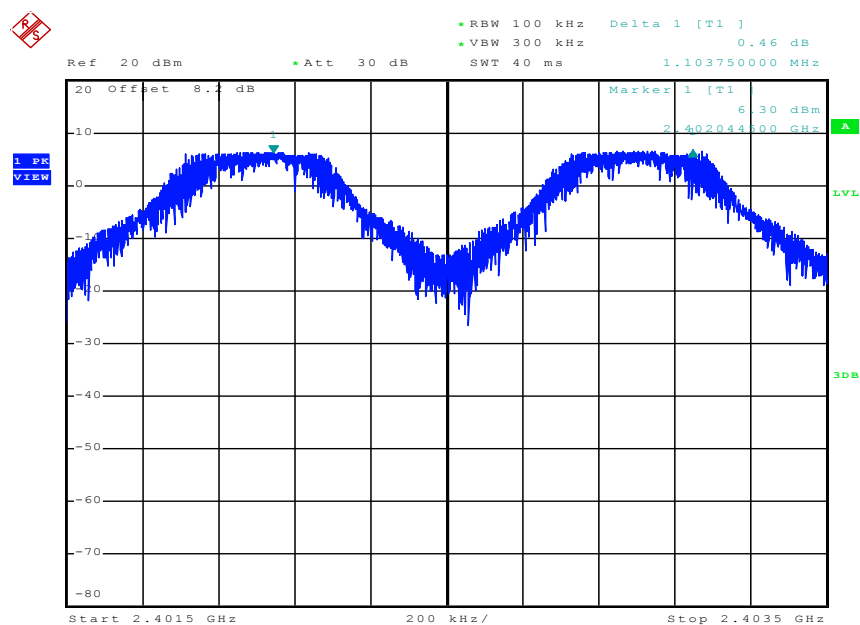
Date: 9.AUG.2019 20:39:07

A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.104	0.576	PASS
	MCH	0.946	0.576	PASS
	HCH	1.008	0.576	PASS
$\pi/4$ DQPSK	LCH	1.002	0.841	PASS
	MCH	1.008	0.841	PASS
	HCH	0.842	0.841	PASS
8DPSK	LCH	0.878	0.839	PASS
	MCH	1.266	0.839	PASS
	HCH	1.074	0.839	PASS

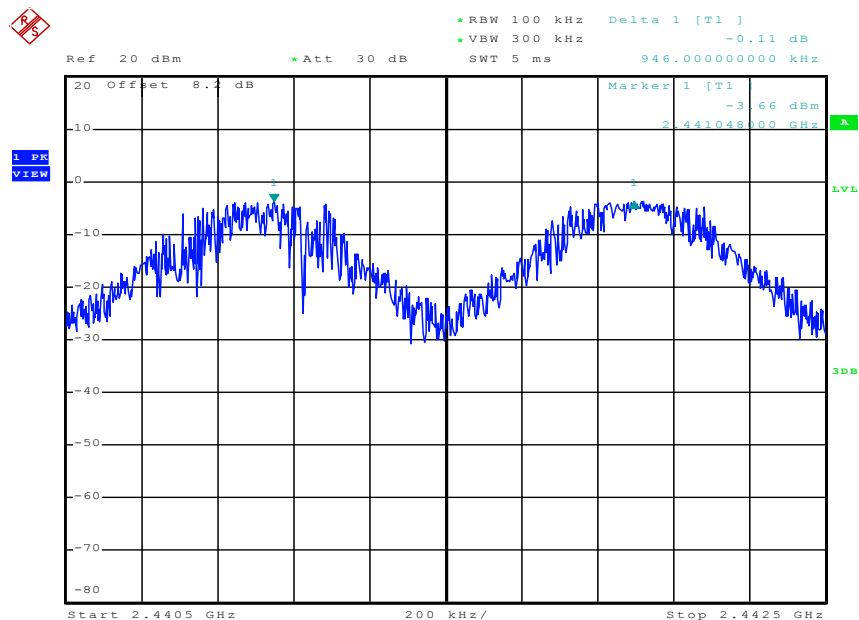
Test Graphs

GFSK/LCH



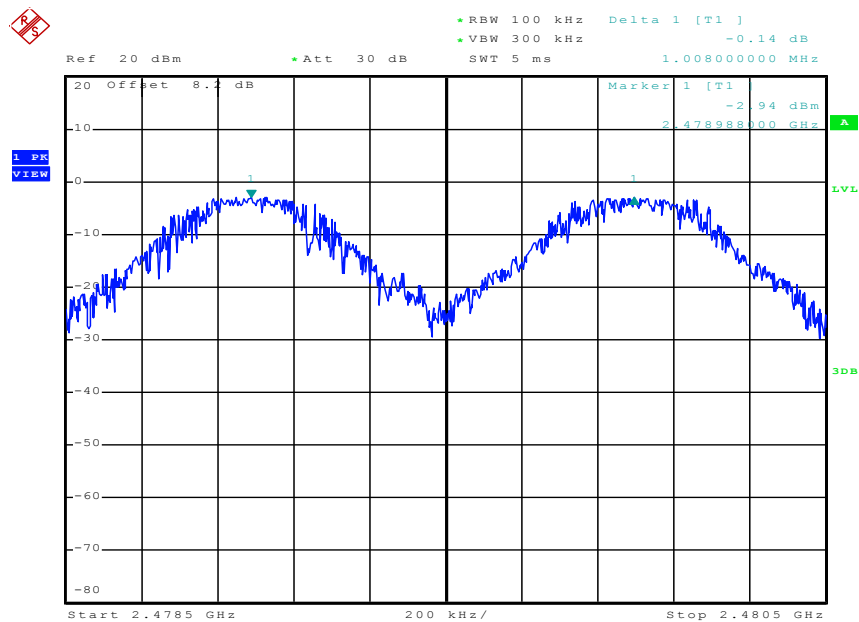
Date: 19 SEP. 2019 16:21:21

GFSK/MCH

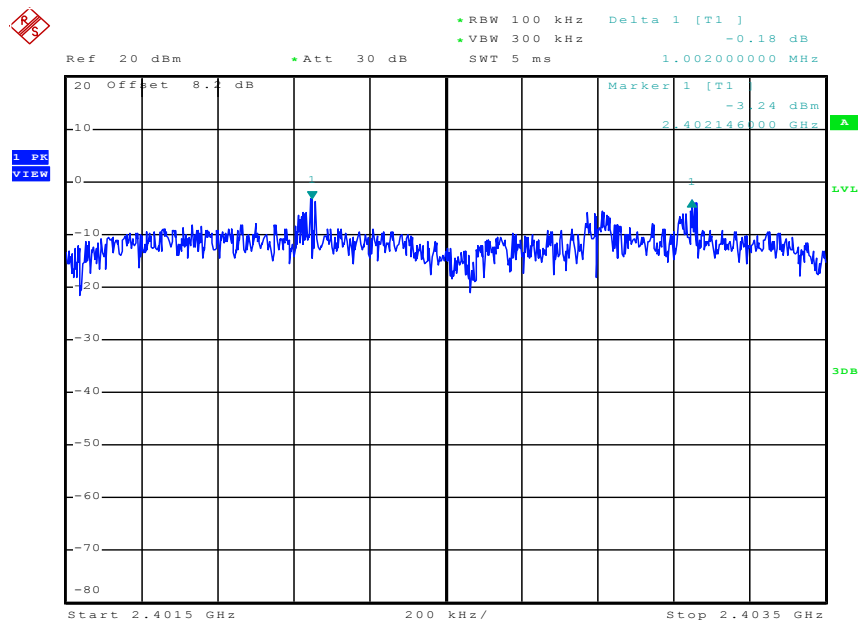


Date: 9.AUG.2019 20:43:58

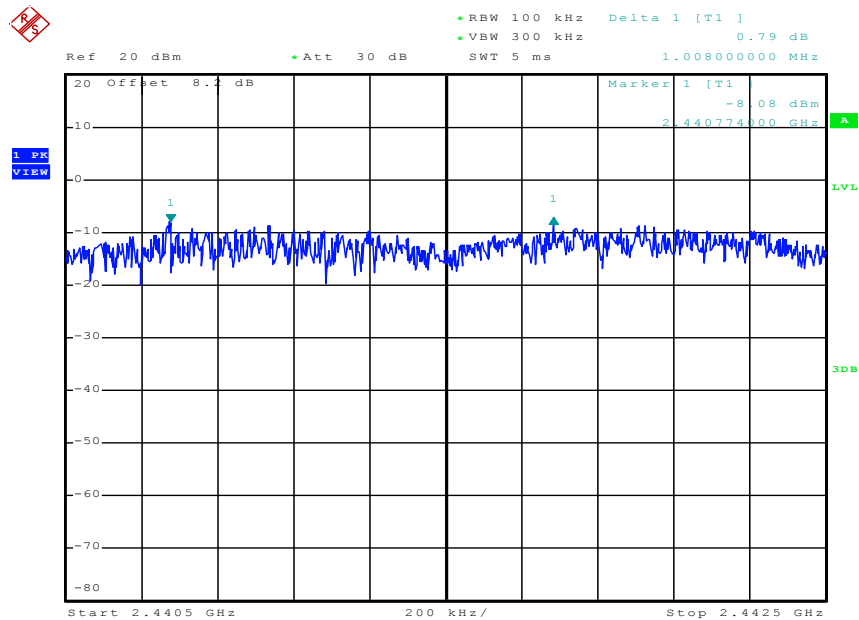
GFSK/HCH



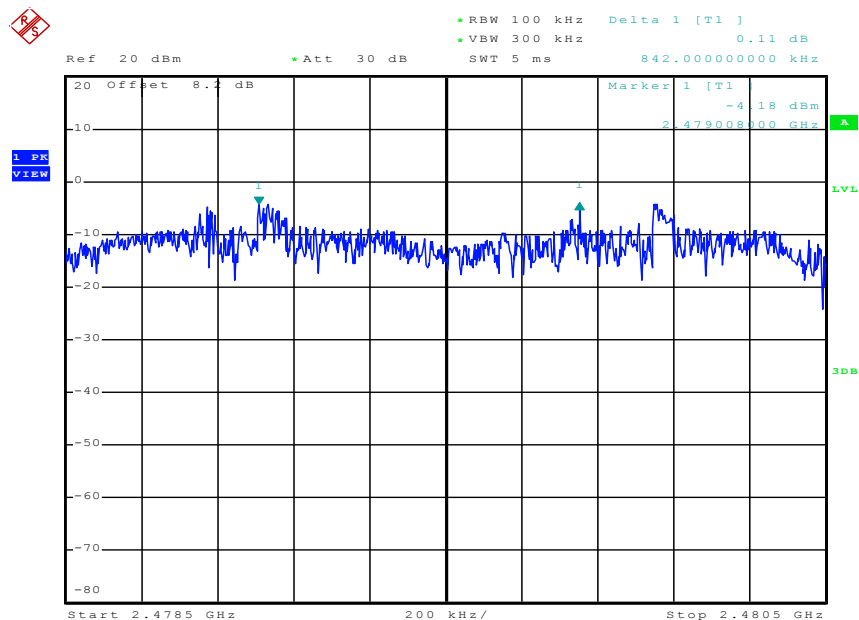
Date: 9.AUG.2019 20:44:17

$\pi/4$ DQPSK/LCH

Date: 9.AUG.2019 20:46:52

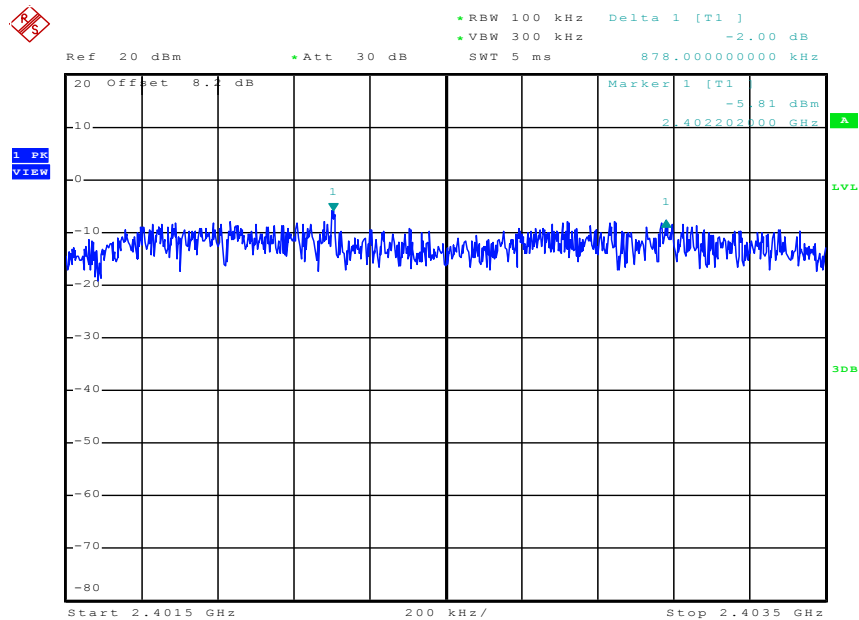
 $\pi/4$ DQPSK/MCH

Date: 9.AUG.2019 20:48:32

π /4DQPSK/HCH

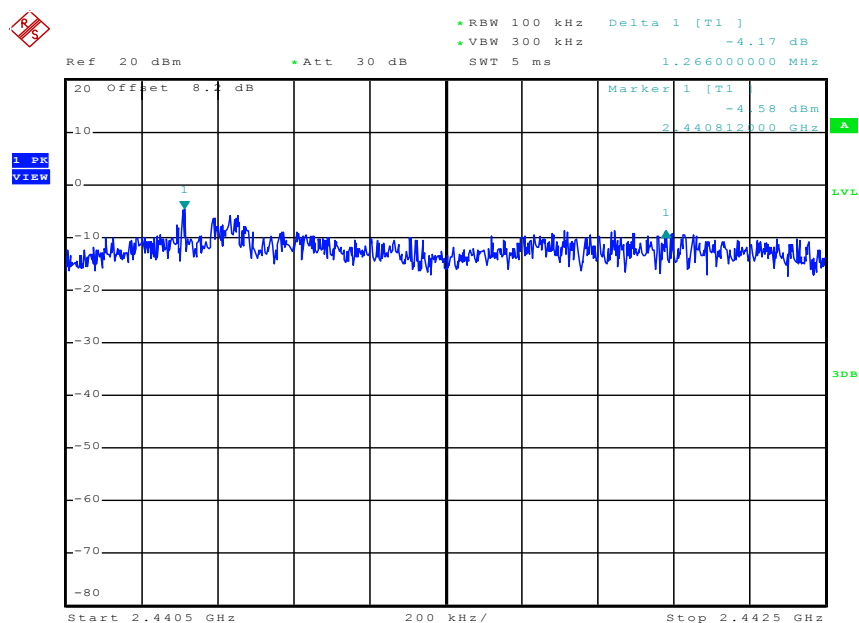
Date: 9.AUG.2019 20:48:56

8DPSK/LCH



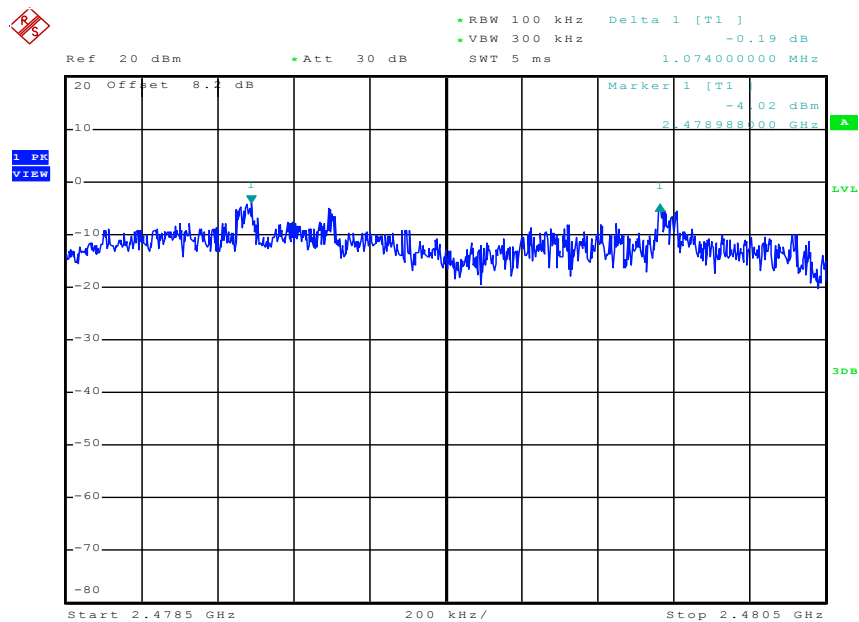
Date: 9.AUG.2019 20:56:37

8DPSK/MCH



Date: 9.AUG.2019 20:59:11

8DPSK/HCH



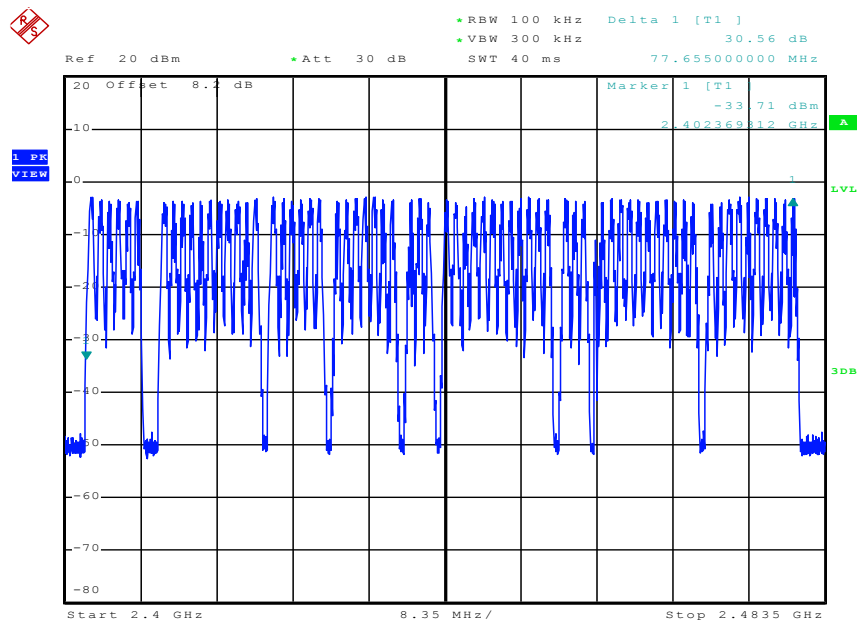
Date: 9.AUG.2019 20:59:35

A.4 Hopping Channel Number

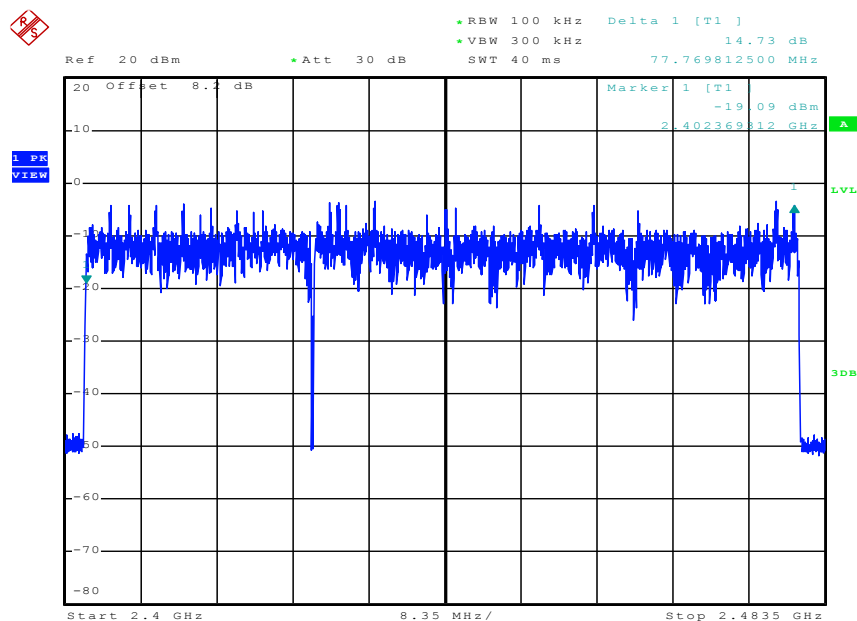
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

GFSK/Hop

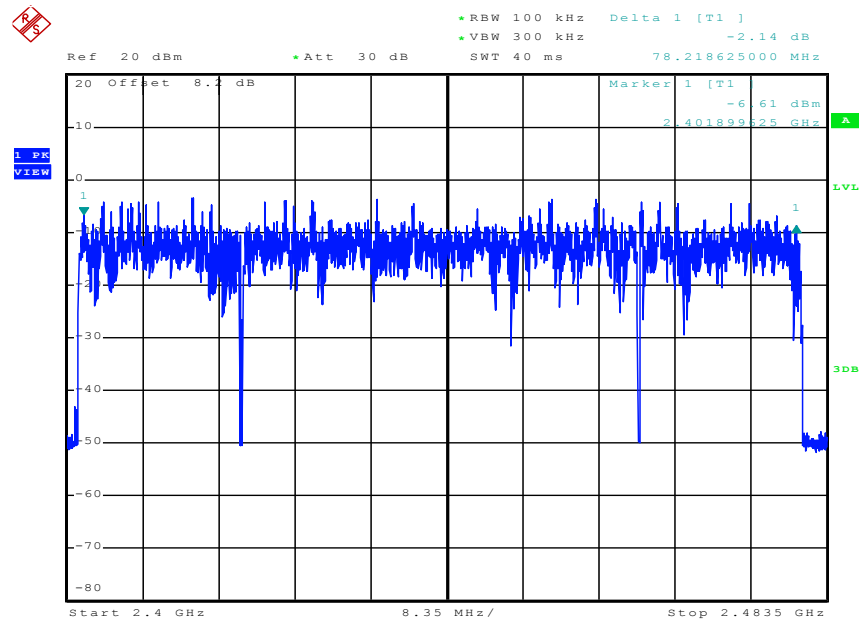


Date: 9 AUG 2019 20:45:37

 $\pi/4$ DQPSK/Hop

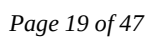
Date: 9 AUG 2019 20:51:26

8DPSK/Hop

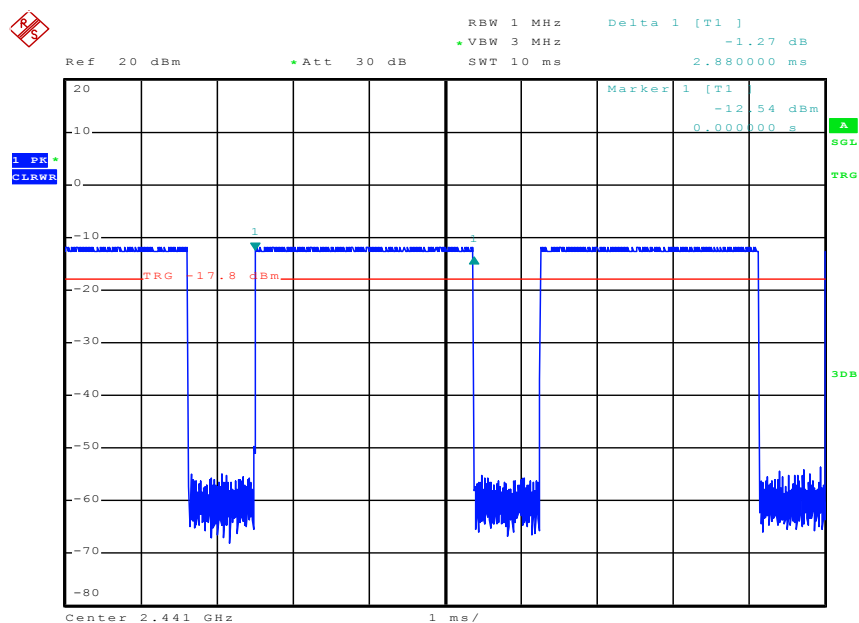


Date: 9.AUG.2019 21:02:06

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	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7	0.307	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

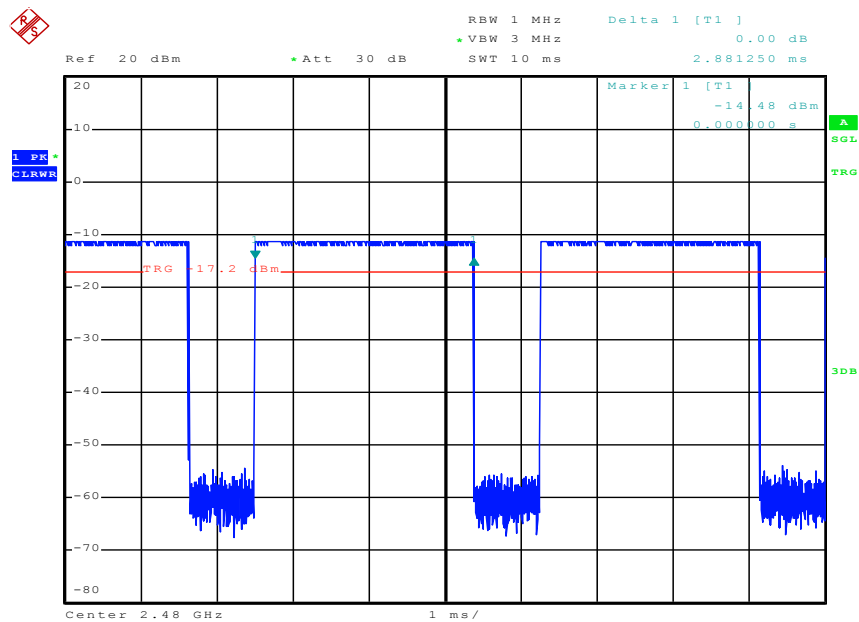


GFSK_DH5/MCH



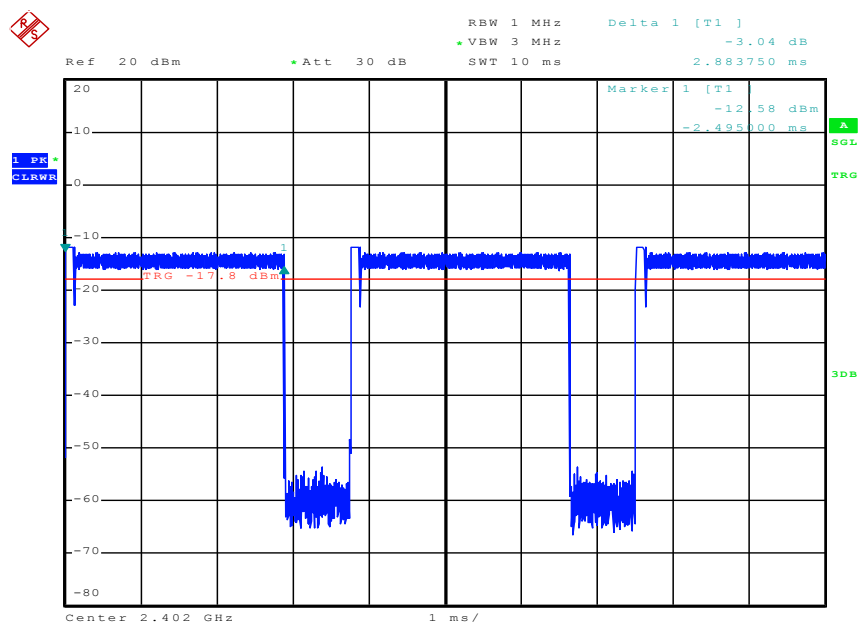
Date: 9.AUG.2019 20:20:04

GFSK_DH5/HCH



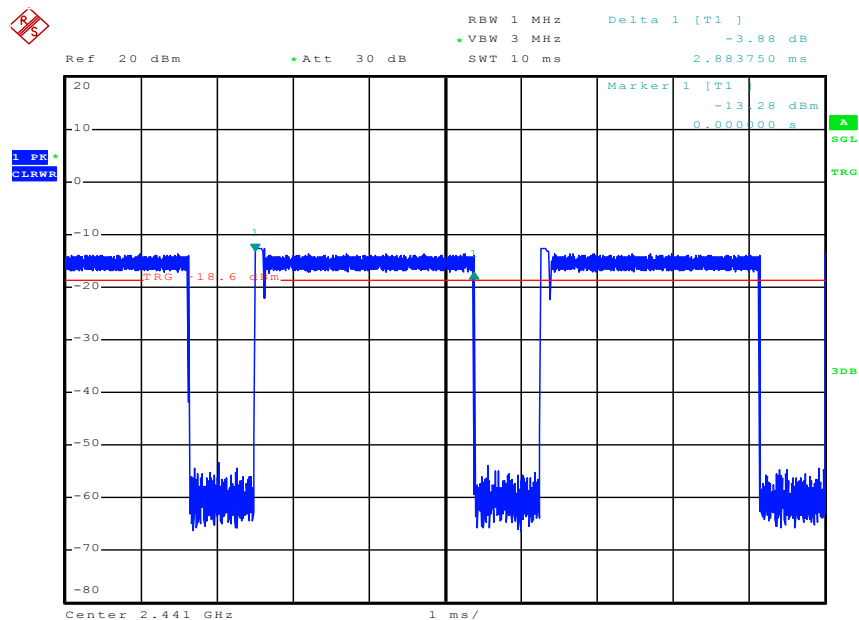
Date: 9.AUG.2019 20:24:35

$\pi/4$ DQPSK
_2DH5/LCH



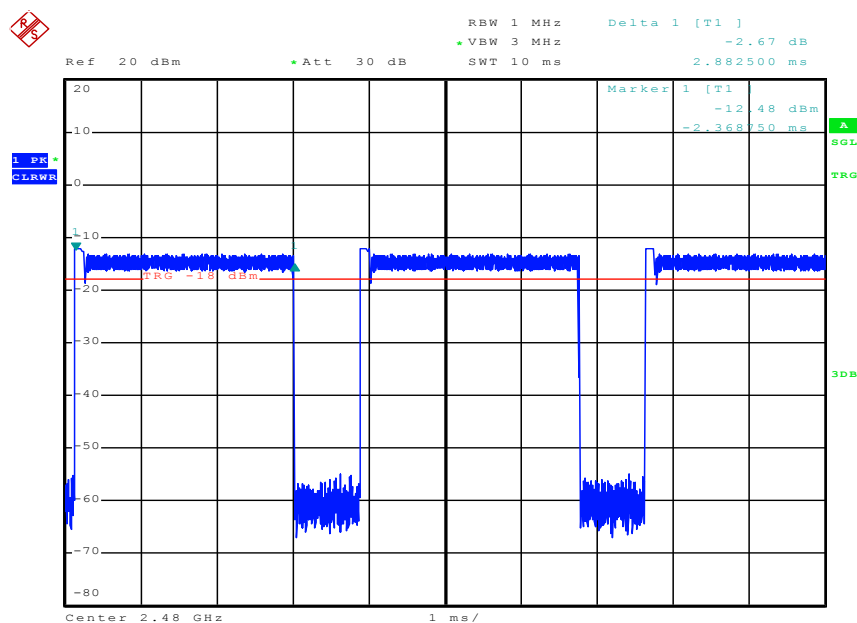
Date: 9.AUG.2019 20:27:48

$\pi/4$ DQPSK
_2DH5/MCH



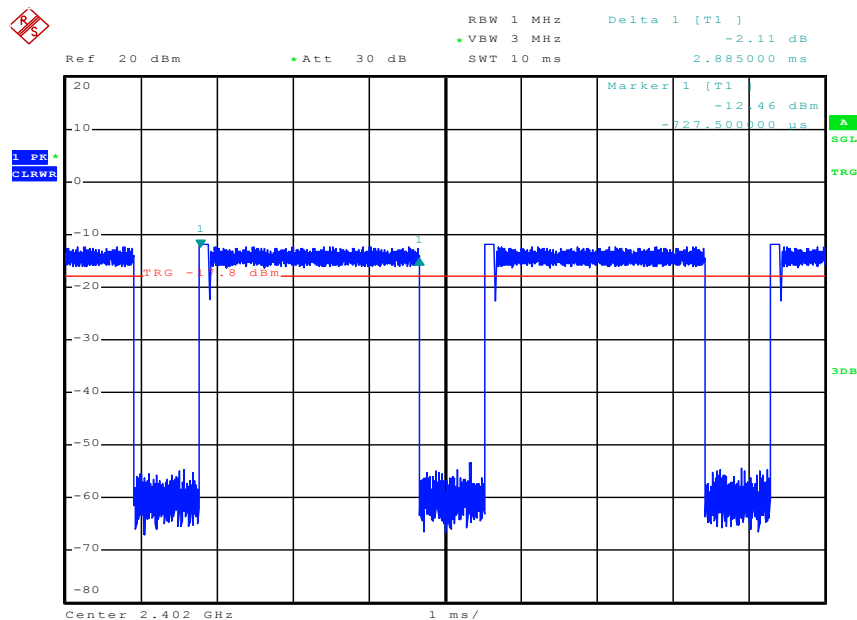
Date: 9.AUG.2019 20:30:30

$\pi/4$ DQPSK
_2DH5/HCH



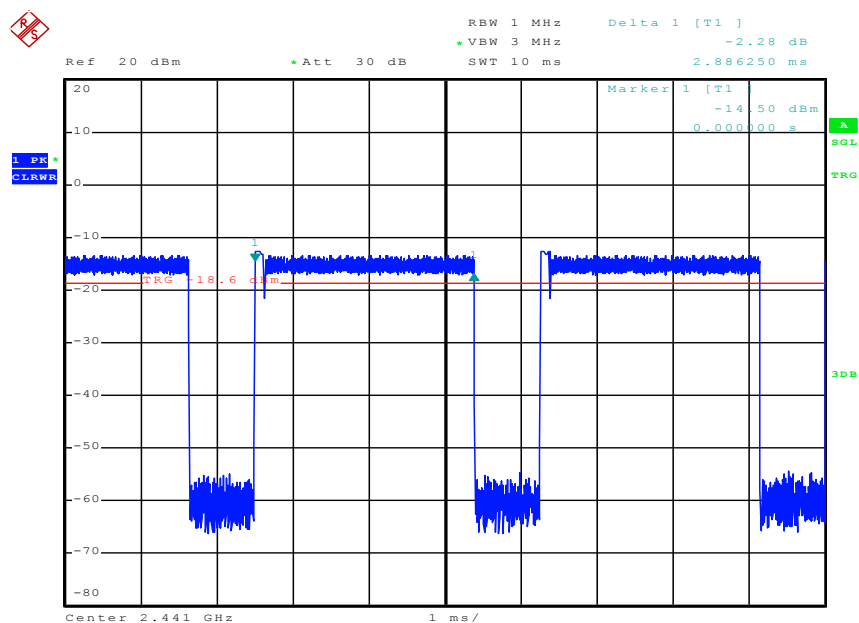
Date: 9.AUG.2019 20:32:27

8DPSK_3DH5/LCH



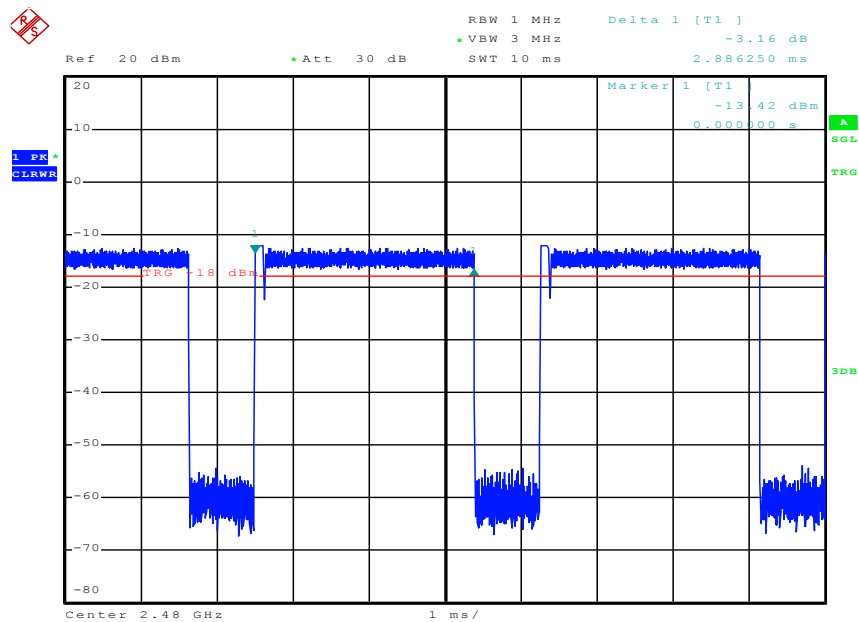
Date: 9.AUG.2019 20:35:15

8DPSK_3DH5/MCH



Date: 9.AUG.2019 20:37:46

8DPSK_3DH5/HCH



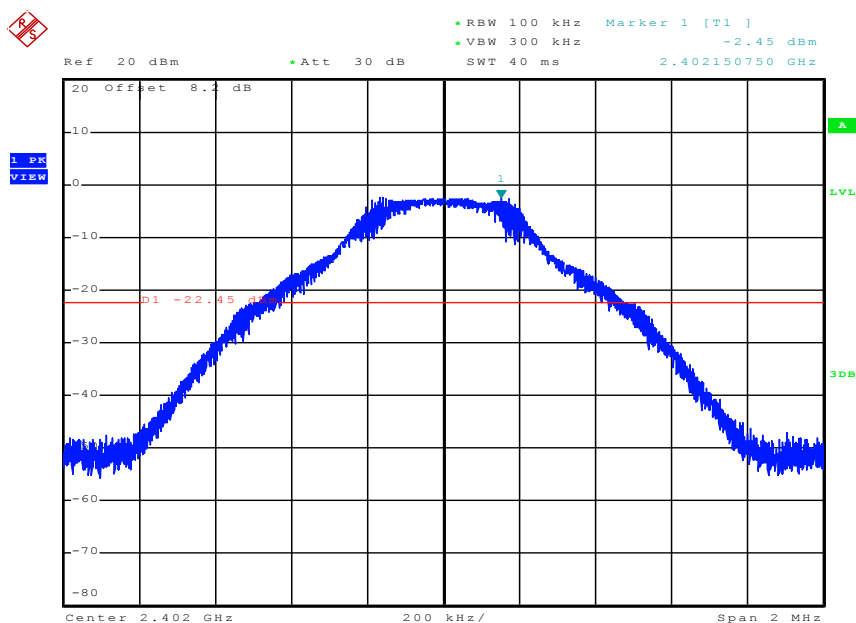
Date: 9.AUG.2019 20:39:28

A.6 RF Conducted Spurious Emissions

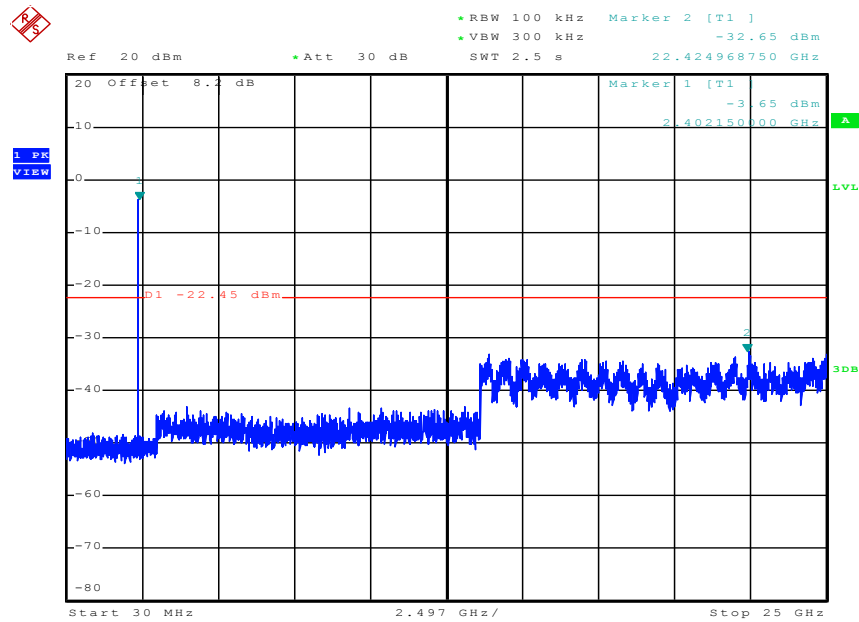
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-2.45	-32.650	-22.450	PASS
	MCH	-3.33	-32.460	-23.330	PASS
	HCH	-2.81	-32.610	-22.810	PASS
$\pi/4$ DQPSK	LCH	-2.97	-31.710	-22.970	PASS
	MCH	-3.88	-31.580	-23.880	PASS
	HCH	-3.31	-32.860	-23.310	PASS
8DPSK	LCH	-3.01	-31.220	-23.010	PASS
	MCH	-3.88	-31.910	-23.880	PASS
	HCH	-3.38	-32.200	-23.380	PASS

GFSK_LCH_Graphs

Pref



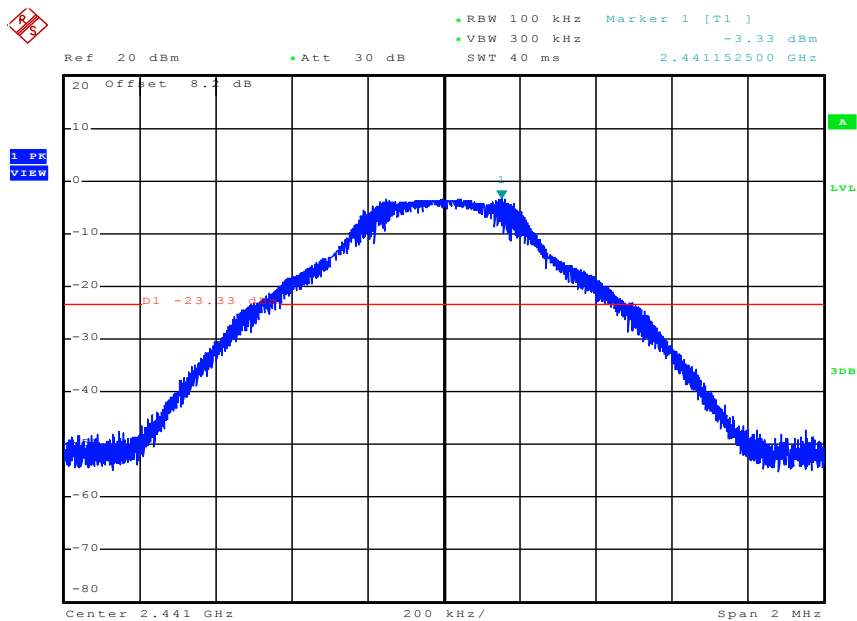
Date: 9 AUG 2019 20:17:11

P_{uw}

Date: 9 AUG 2019 20:17:25

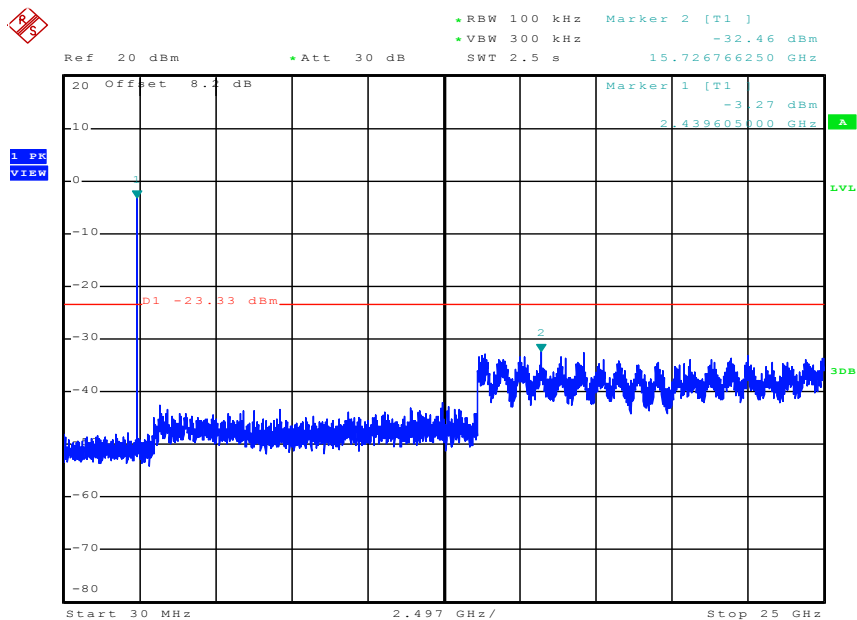
GFSK_MCH_Graphs

Pref



Date: 9 AUG 2019 20:20:31

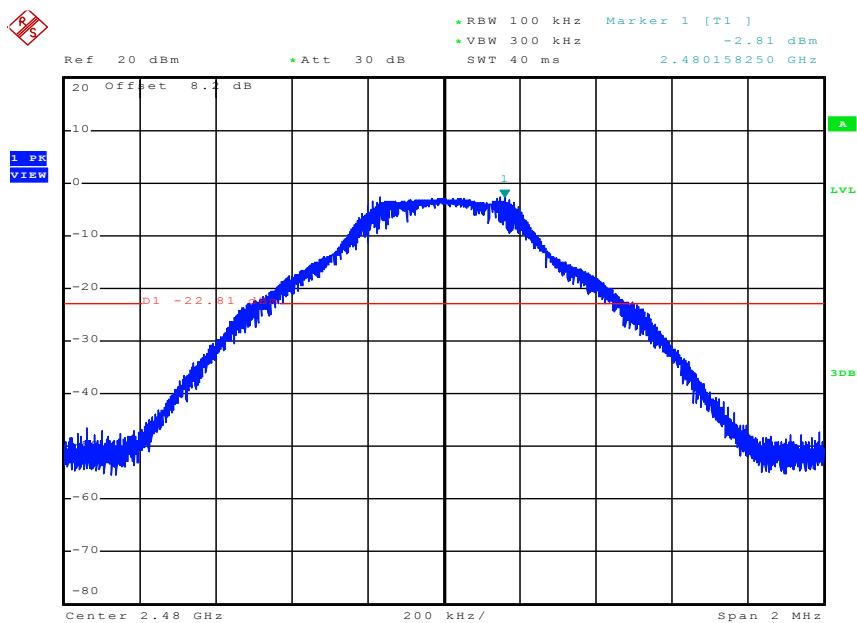
Puw



Date: 9 AUG 2019 20:20:46

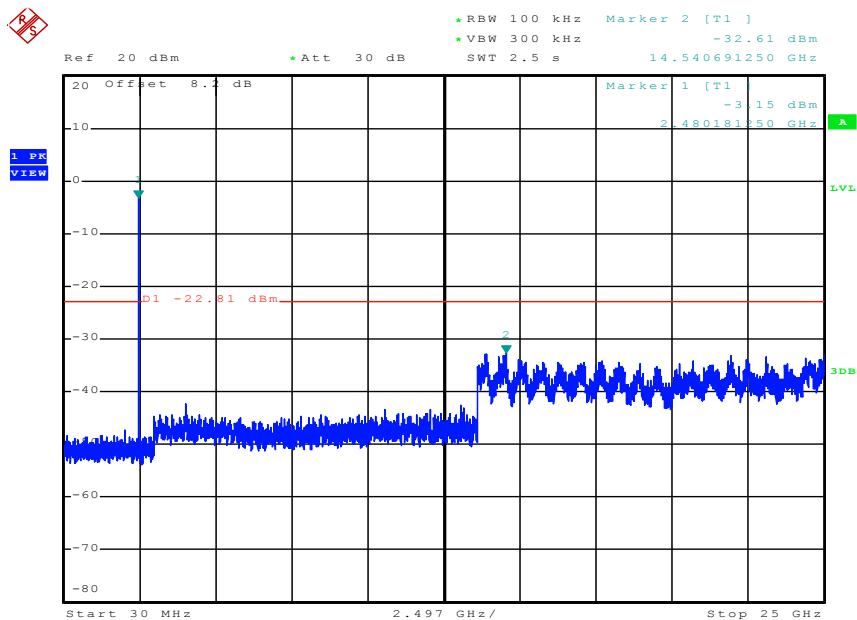
GFSK_HCH_Graphs

Pref



Date: 9 AUG 2019 20:25:18

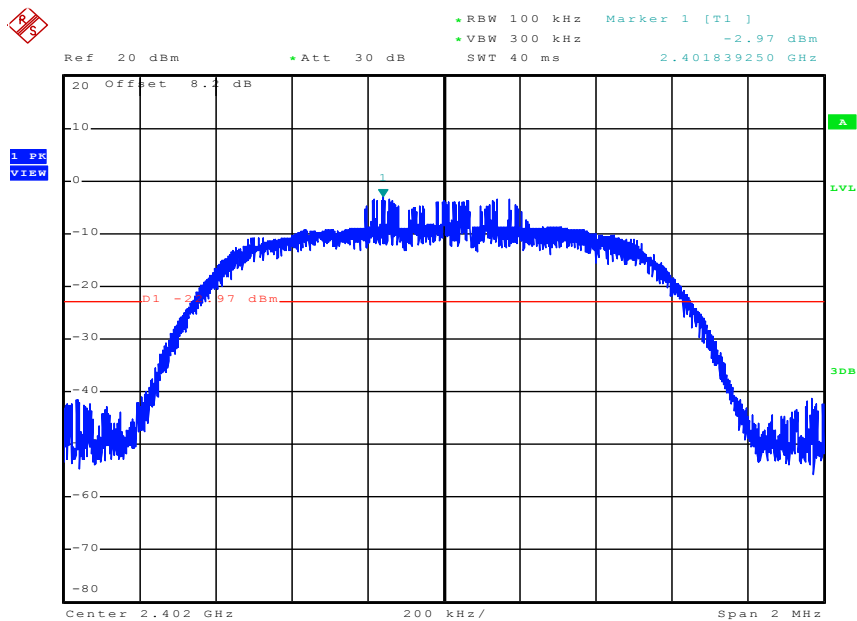
Puw



Date: 9 AUG 2019 20:25:32

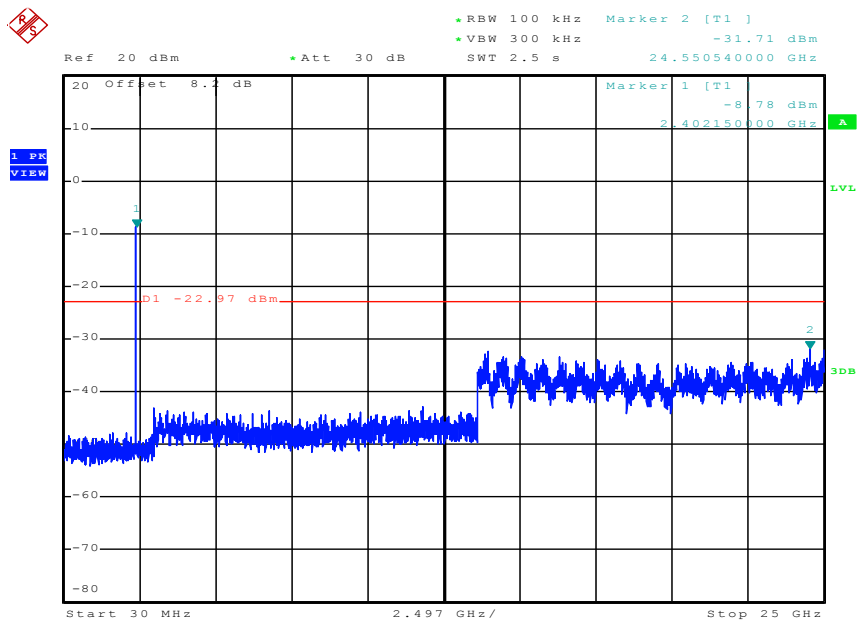
$\pi/4$ DQPSK_LCH_Graphs

Pref



Date: 9 AUG 2019 20:28:32

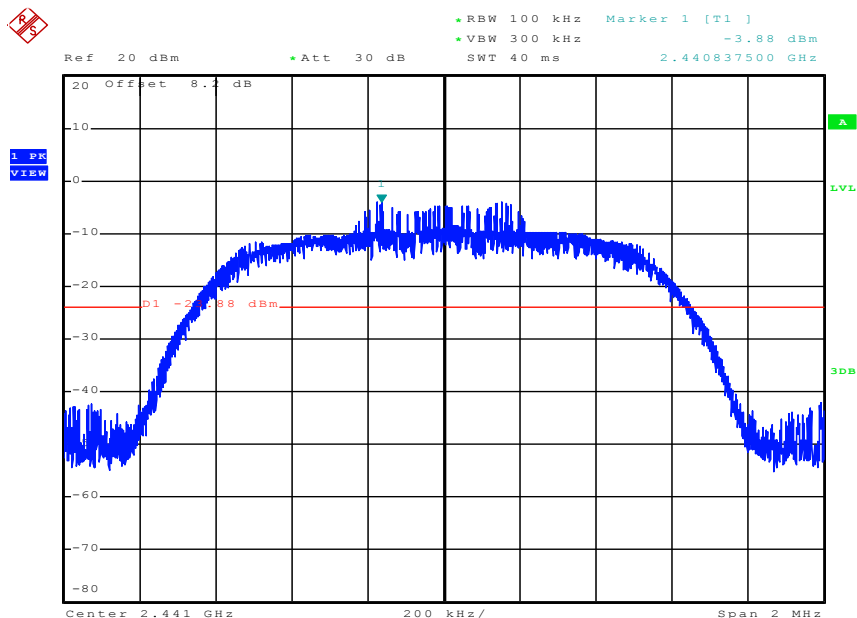
Puw



Date: 9 AUG 2019 20:28:47

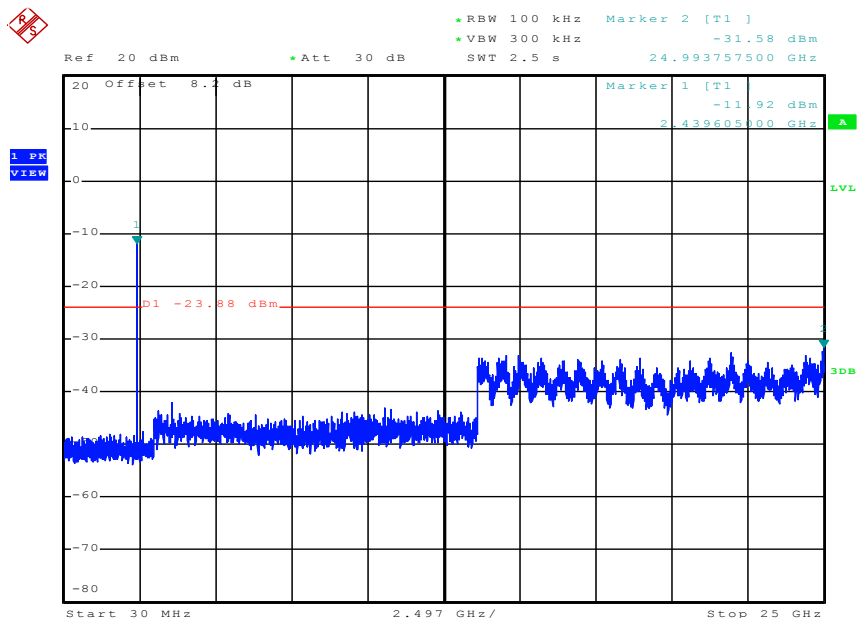
$\pi/4$ DQPSK_MCH_Graphs

Pref



Date: 9 AUG 2019 20:30:57

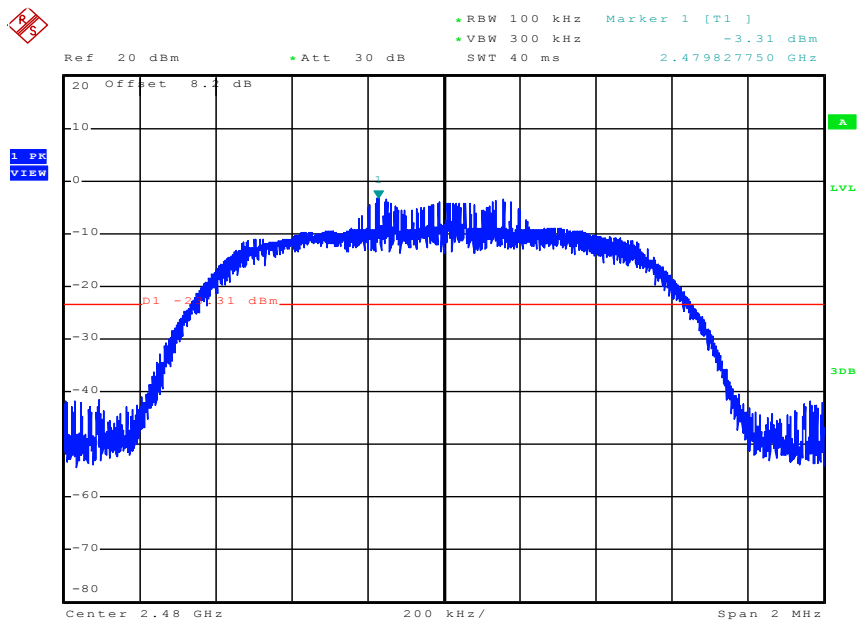
Puw



Date: 9 AUG 2019 20:31:11

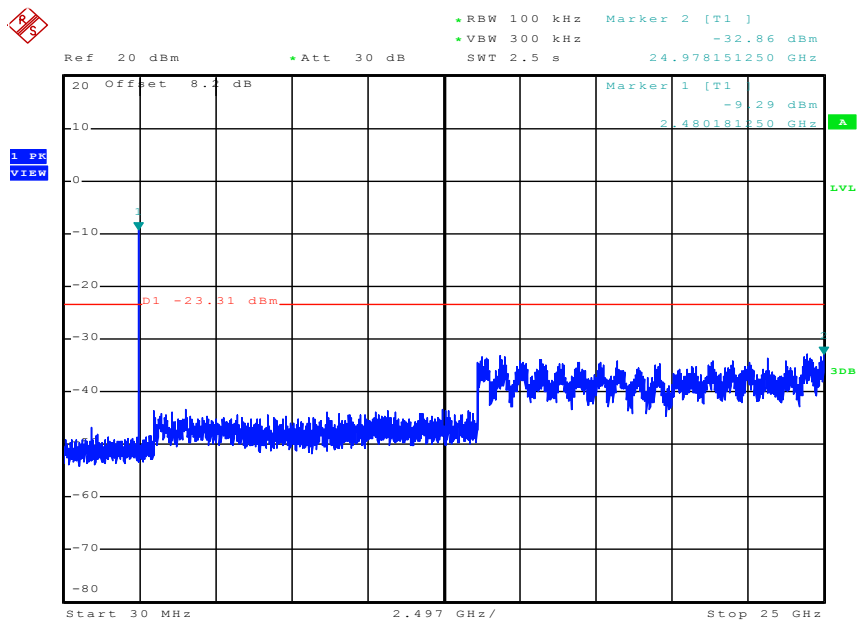
$\pi/4$ DQPSK_HCH_Graphs

Pref



Date: 9 AUG 2019 20:33:10

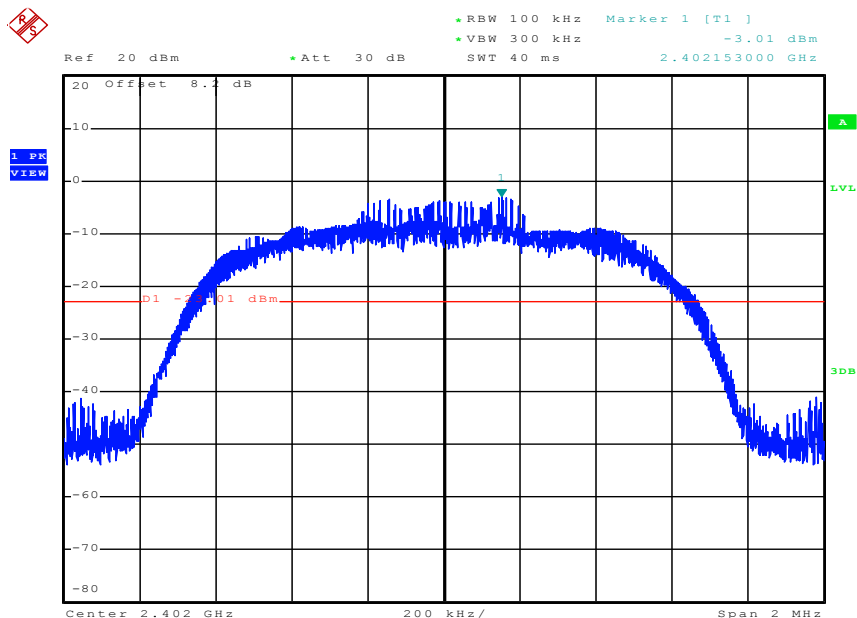
Puw



Date: 9 AUG 2019 20:33:25

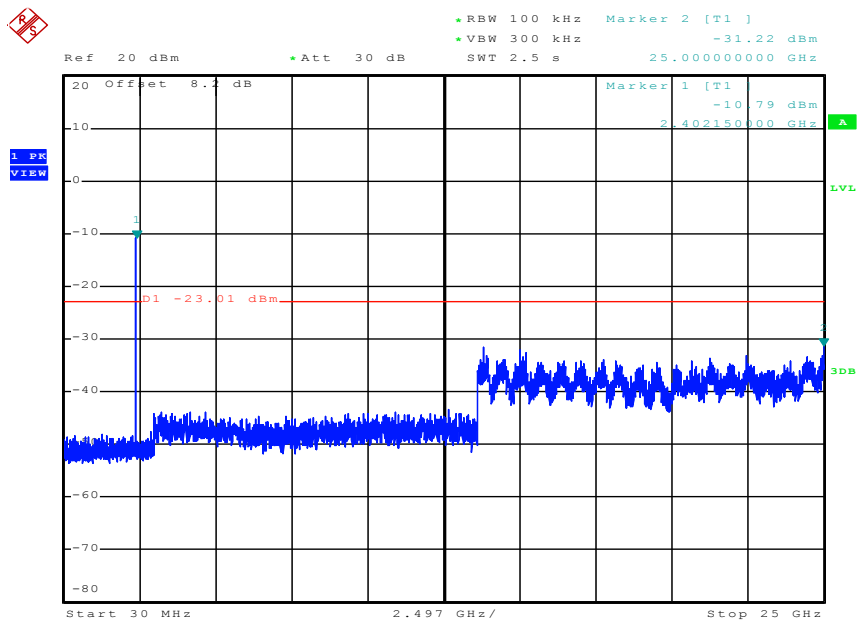
8DPSK_LCH_Graphs

Pref



Date: 9 AUG 2019 20:35:58

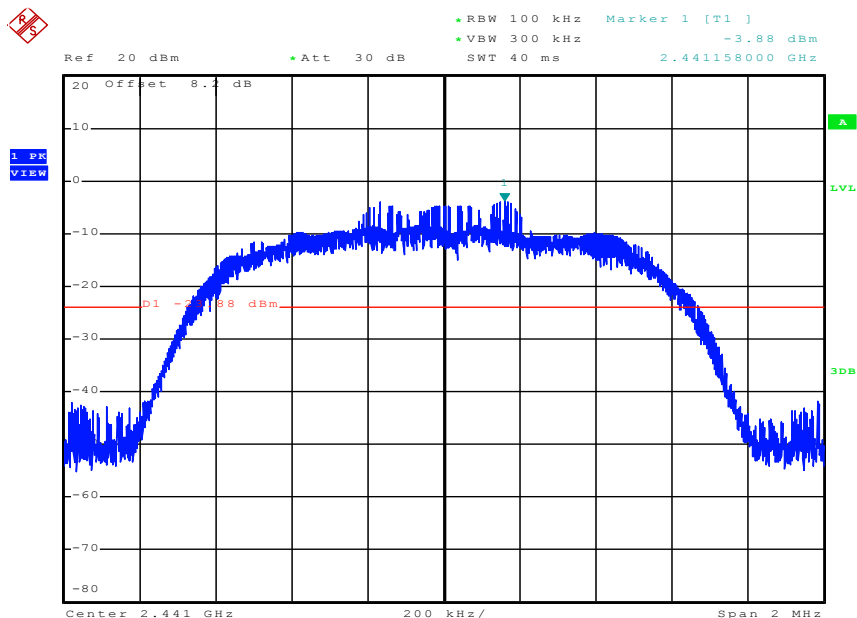
Puw



Date: 9 AUG 2019 20:36:12

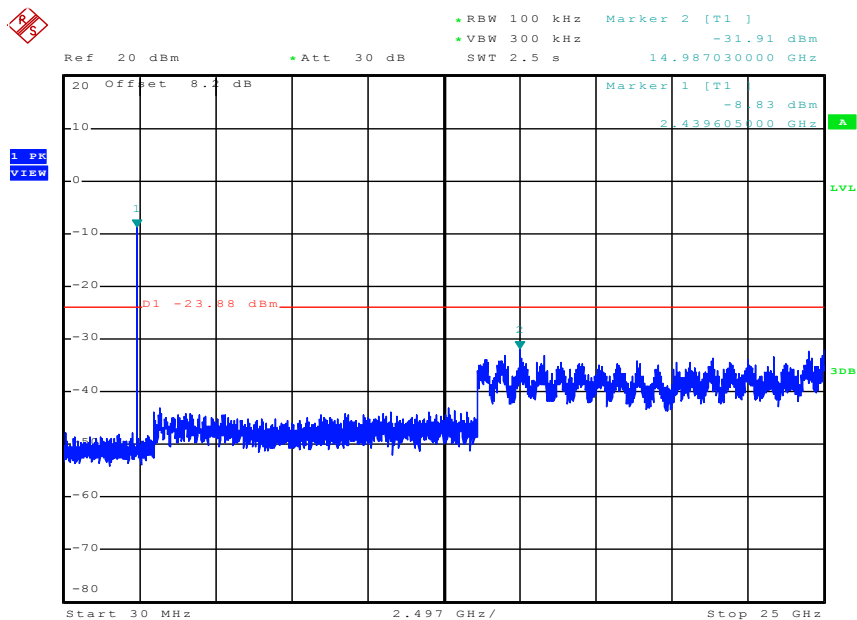
8DPSK_MCH_Graphs

Pref



Date: 9 AUG 2019 20:38:13

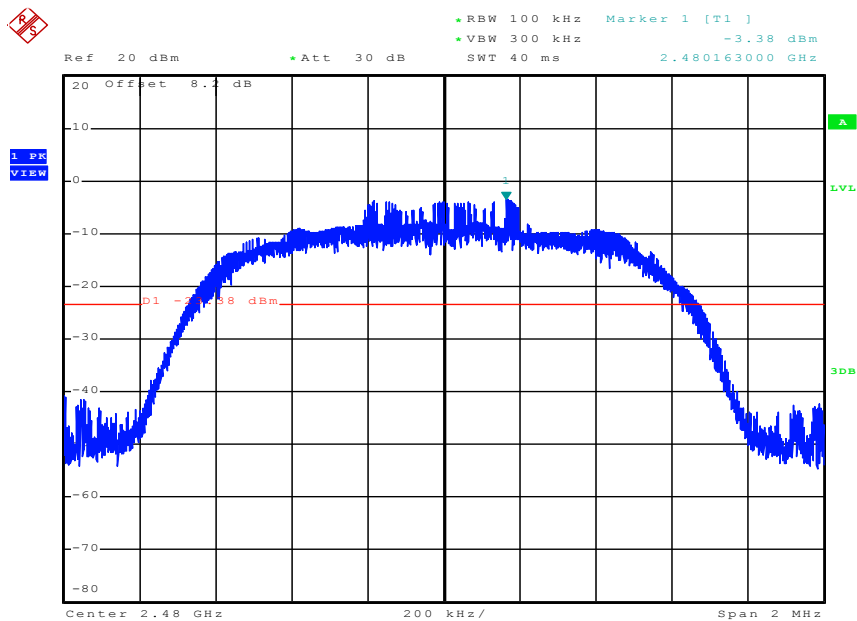
Puw



Date: 9 AUG 2019 20:38:27

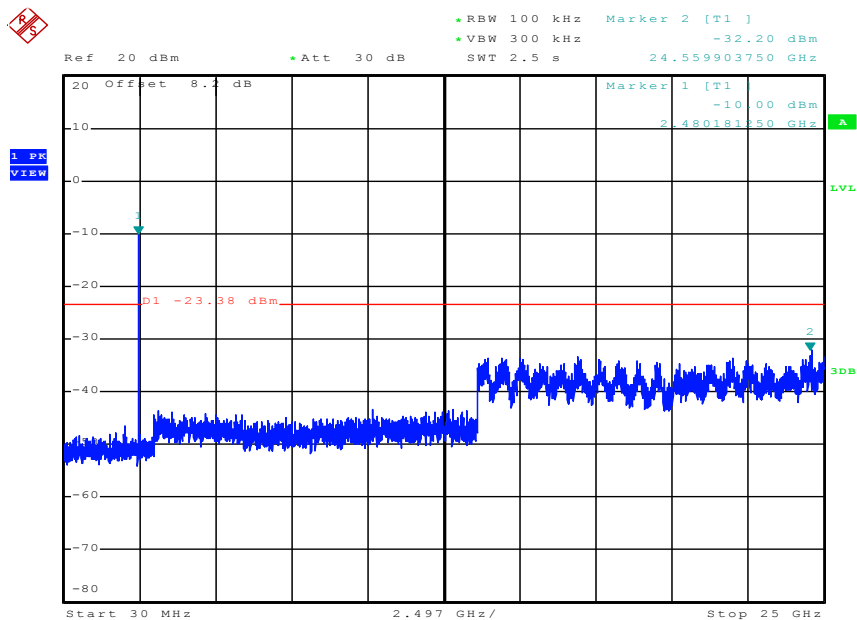
8DPSK_HCH_Graphs

Pref



Date: 9 AUG 2019 20:40:11

Puw



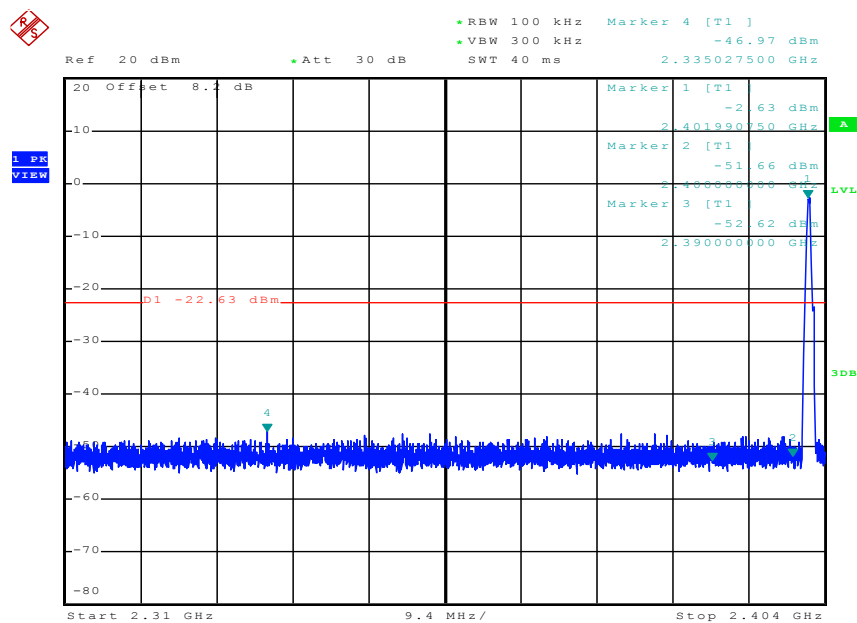
Date: 9 AUG 2019 20:40:26

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	-2.630	Off	-46.972	-22.63	PASS
			-3.150	On	-46.968	-23.15	PASS
	HCH	2480	-2.800	Off	-47.159	-22.8	PASS
			-3.100	On	-47.671	-23.1	PASS
$\pi/4$ DQPSK	LCH	2402	-7.210	Off	-47.084	-27.21	PASS
			-3.720	On	-46.780	-23.72	PASS
	HCH	2480	-3.530	Off	-47.172	-23.53	PASS
			-4.230	On	-46.792	-24.23	PASS
8DPSK	LCH	2402	-3.080	Off	-47.860	-23.08	PASS
			-3.510	On	-46.102	-23.51	PASS
	HCH	2480	-3.370	Off	-47.075	-23.37	PASS
			-3.390	On	-46.972	-23.39	PASS

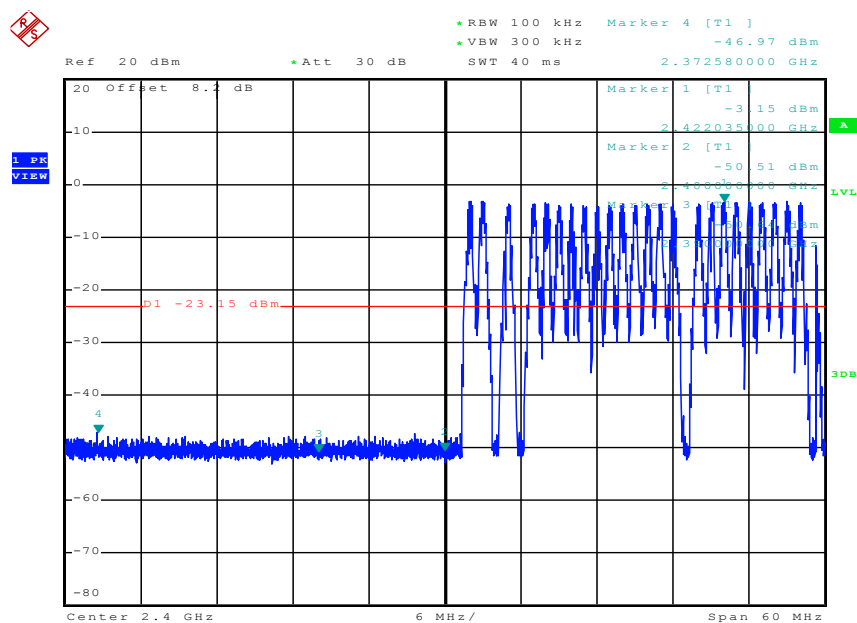
Test Graphs

GFSK/LCH/No Hop



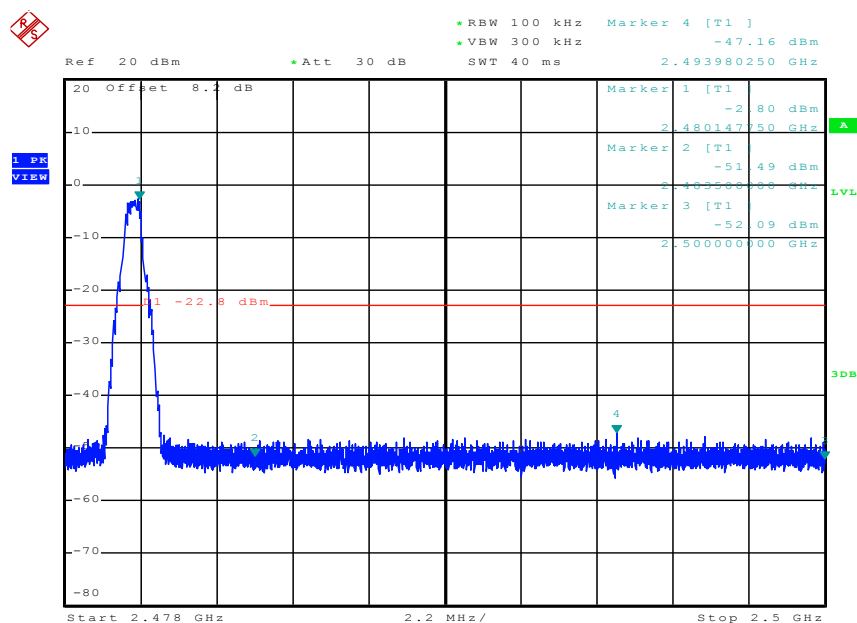
Date: 9 AUG 2019 20:16:58

GFSK/LCH/Hop



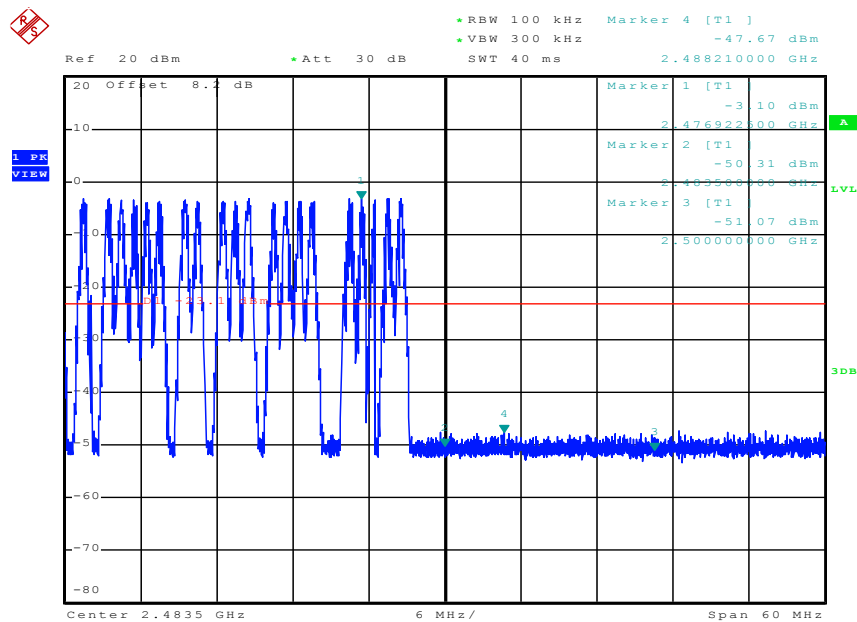
Date: 9 AUG 2019 20:43:38

GFSK/HCH/No Hop



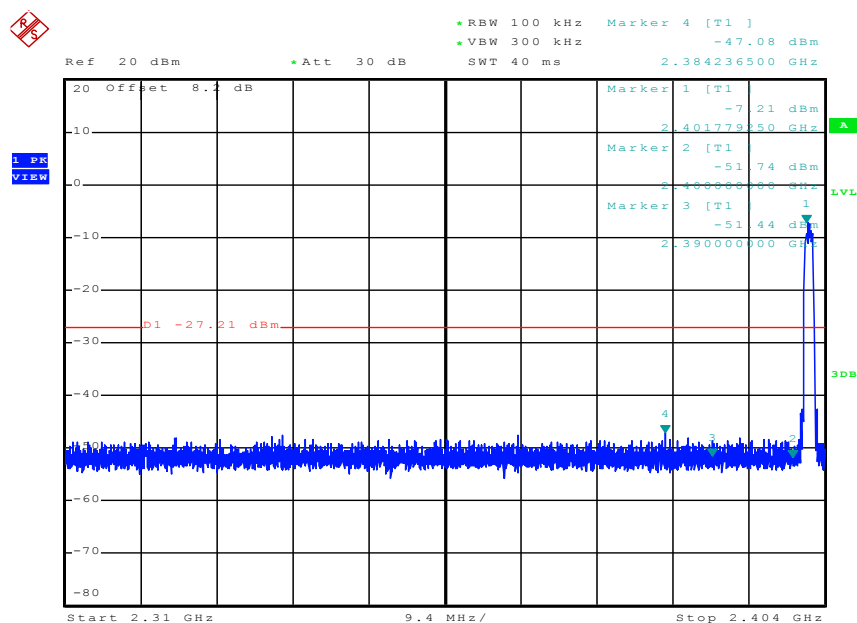
Date: 9.AUG.2019 20:25:05

GFSK/HCH/Hop



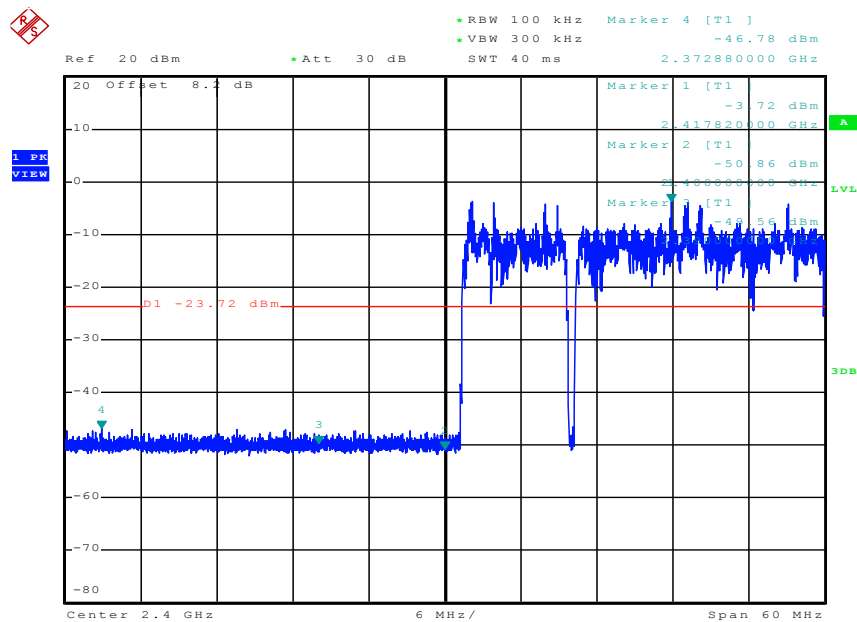
Date: 9.AUG.2019 20:44:52

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



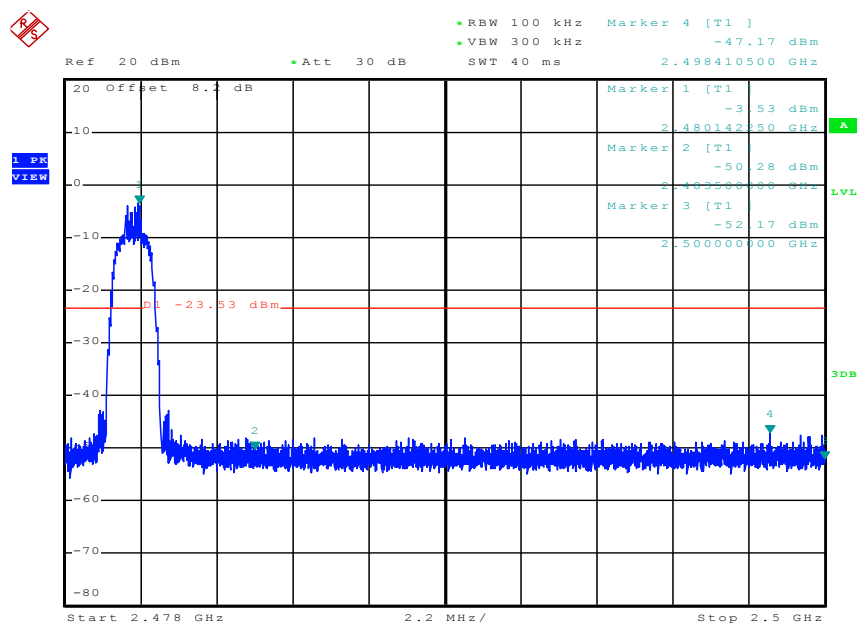
Date: 9.AUG.2019 20:28:20

$\pi/4$ DQPSK/LCH/Hop



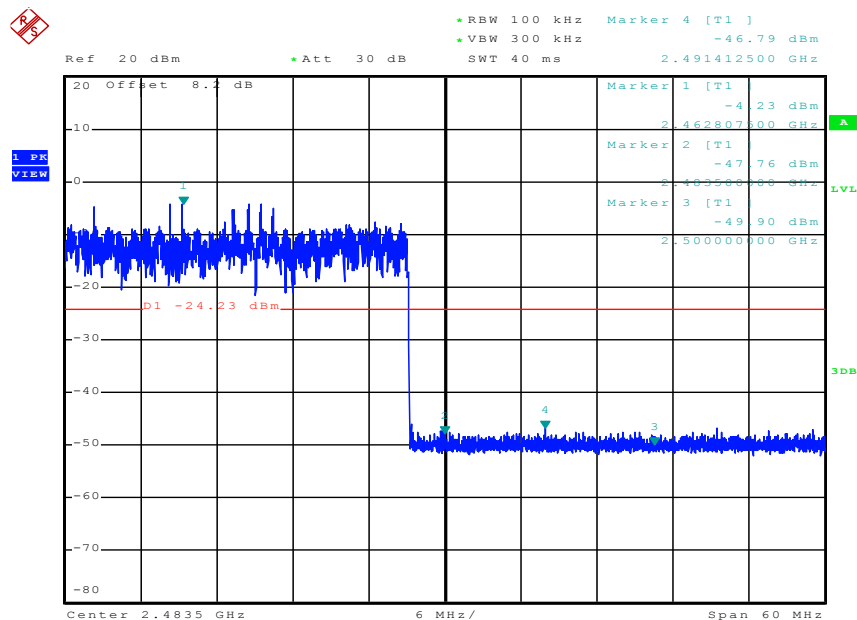
Date: 9.AUG.2019 20:48:07

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



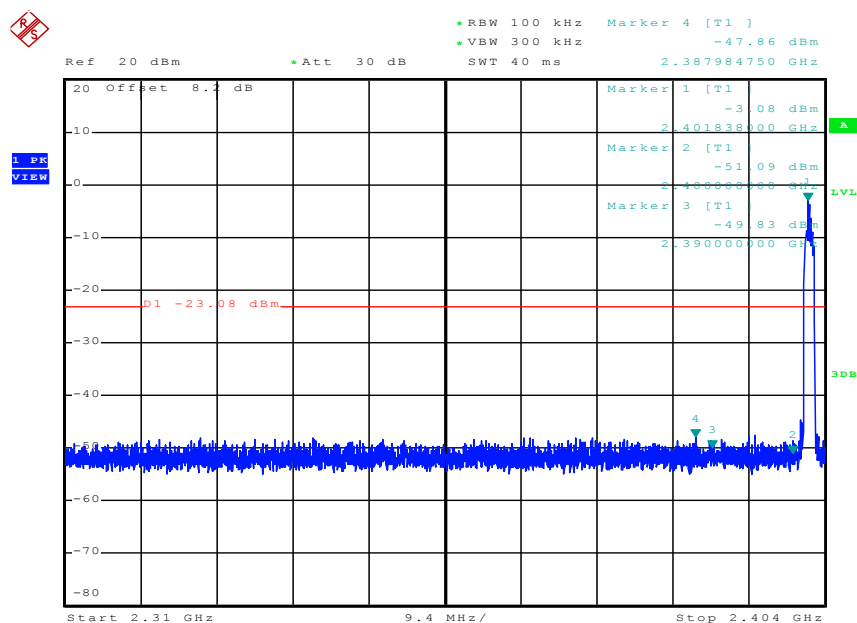
Date: 9.AUG.2019 20:32:58

$\pi/4$ DQPSK/HCH/Hop



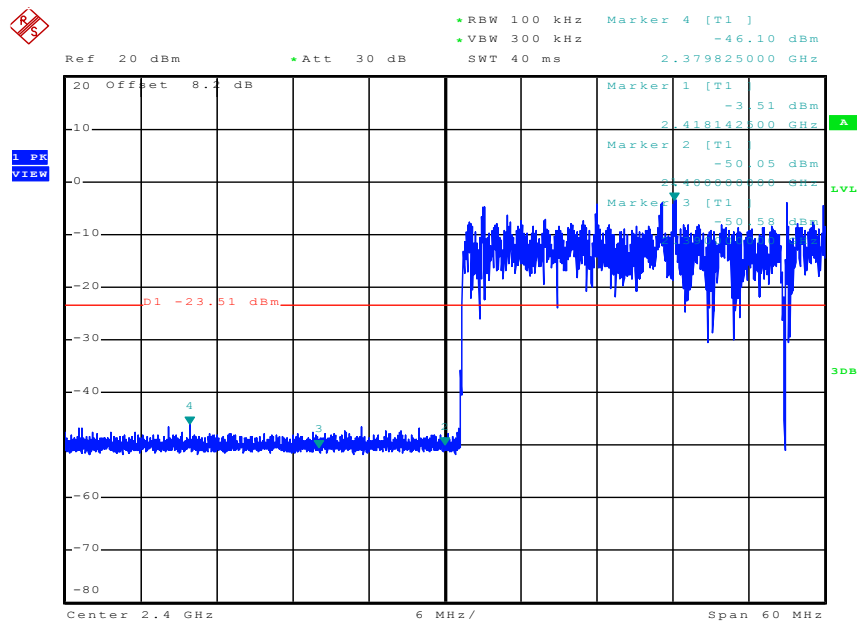
Date: 9.AUG.2019 20:50:11

8DPSK/LCH/No Hop



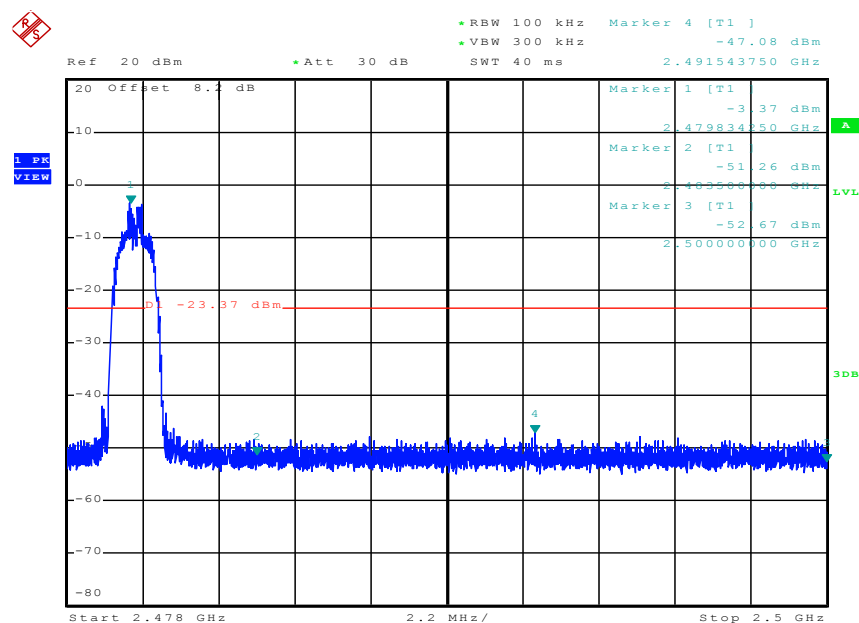
Date: 9.AUG.2019 20:35:45

8DPSK/LCH/Hop



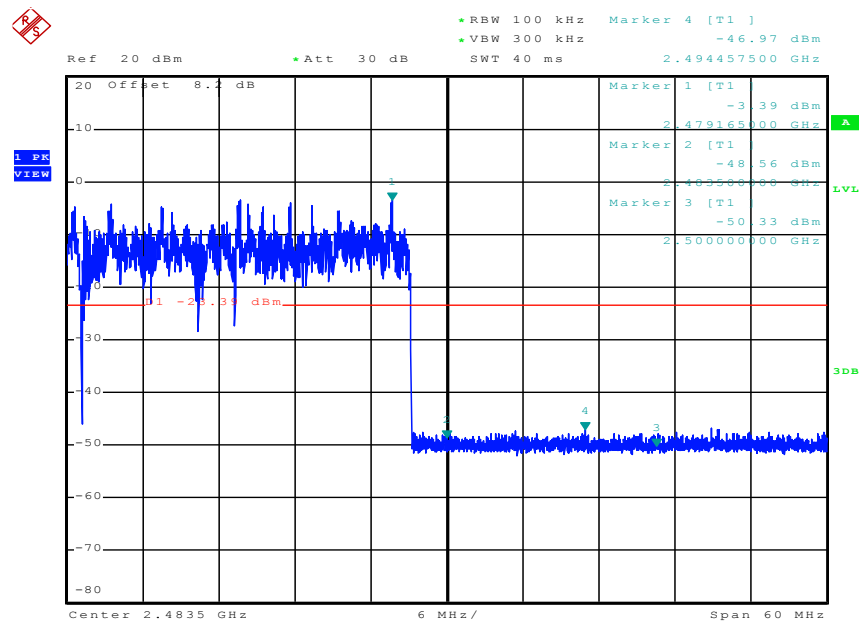
Date: 9.AUG.2019 20:57:53

8DPSK/HCH/No Hop



Date: 9.AUG.2019 20:39:59

8DPSK/HCH/Hop

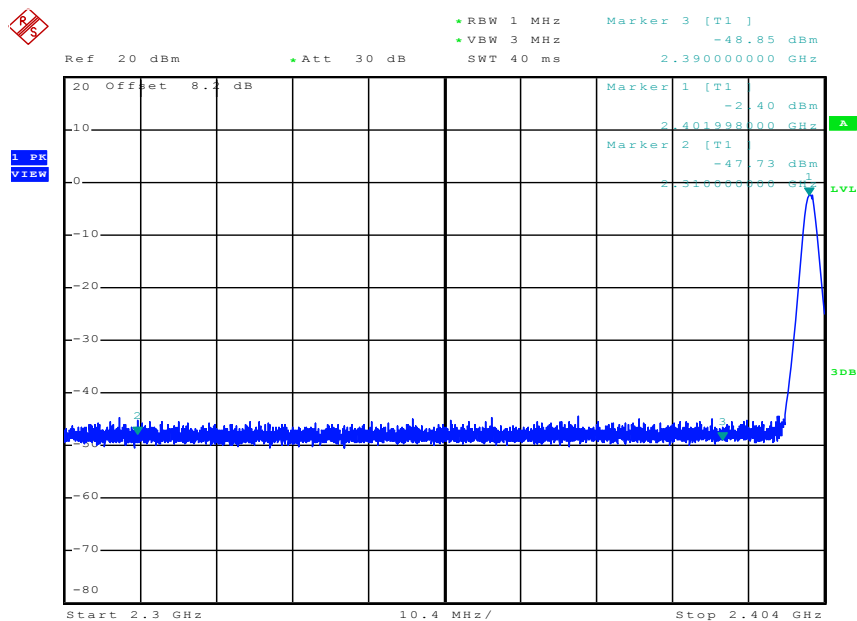


Date: 9.AUG.2019 21:00:51

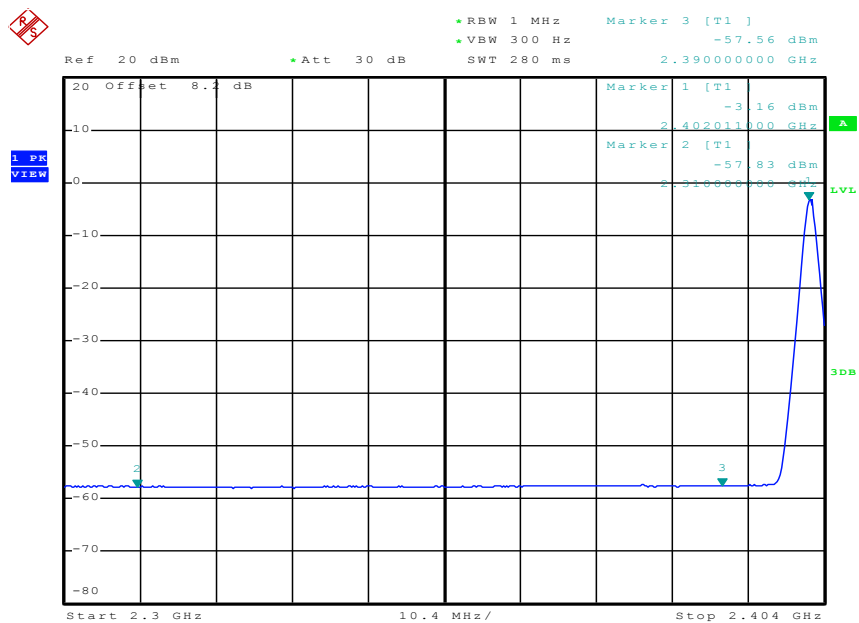
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-47.73	2.0	0	49.50	PEAK	74	PASS
	Off	2310.0	-57.83	2.0	0	39.40	AV	54	PASS
	Off	2390.0	-48.85	2.0	0	48.38	PEAK	74	PASS
	Off	2390.0	-57.56	2.0	0	39.67	AV	54	PASS
	Off	2483.5	-41.82	2.0	0	55.41	PEAK	74	PASS
	Off	2483.5	-46.08	2.0	0	51.15	AV	54	PASS
	Off	2500.0	-48.16	2.0	0	49.07	PEAK	74	PASS
	Off	2500.0	-58.15	2.0	0	39.08	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-49.13	2.0	0	48.10	PEAK	74	PASS
	Off	2310.0	-57.82	2.0	0	39.41	AV	54	PASS
	Off	2390.0	-47.87	2.0	0	49.36	PEAK	74	PASS
	Off	2390.0	-57.59	2.0	0	39.64	AV	54	PASS
	Off	2483.5	-42.97	2.0	0	54.26	PEAK	74	PASS
	Off	2483.5	-48.98	2.0	0	48.25	AV	54	PASS
	Off	2500.0	-47.38	2.0	0	49.85	PEAK	74	PASS
	Off	2500.0	-58.07	2.0	0	39.16	AV	54	PASS
8DPSK	Off	2310.0	-48.77	2.0	0	48.46	PEAK	74	PASS
	Off	2310.0	-57.73	2.0	0	39.50	AV	54	PASS
	Off	2390.0	-49.32	2.0	0	47.91	PEAK	74	PASS
	Off	2390.0	-57.57	2.0	0	39.66	AV	54	PASS
	Off	2483.5	-42.70	2.0	0	54.53	PEAK	74	PASS
	Off	2483.5	-49.01	2.0	0	48.22	AV	54	PASS
	Off	2500.0	-47.06	2.0	0	50.17	PEAK	74	PASS
	Off	2500.0	-58.11	2.0	0	39.12	AV	54	PASS

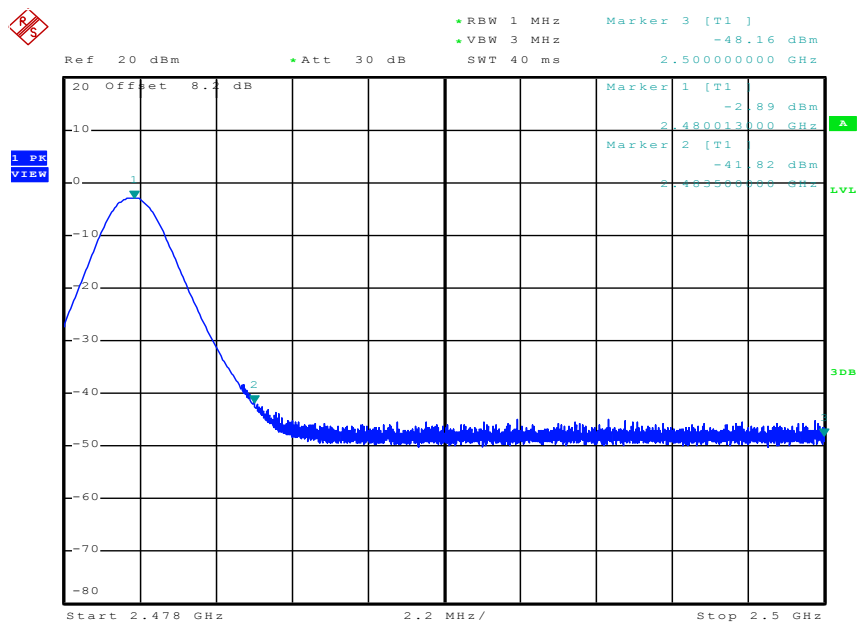
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

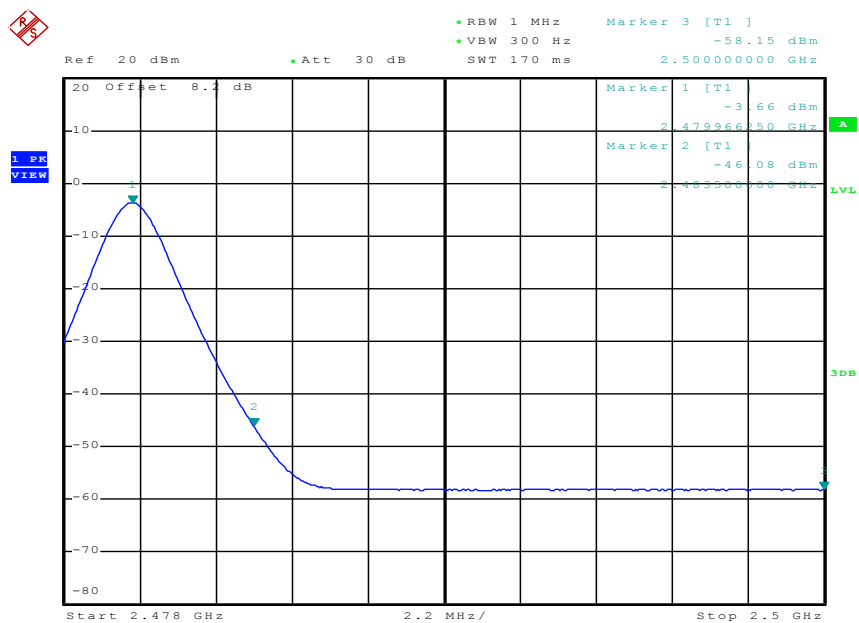


Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)

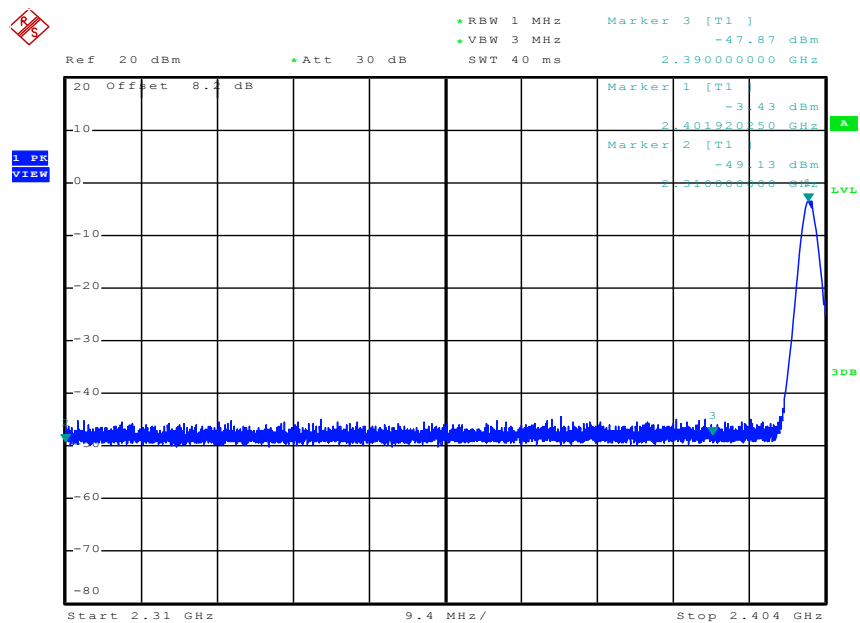
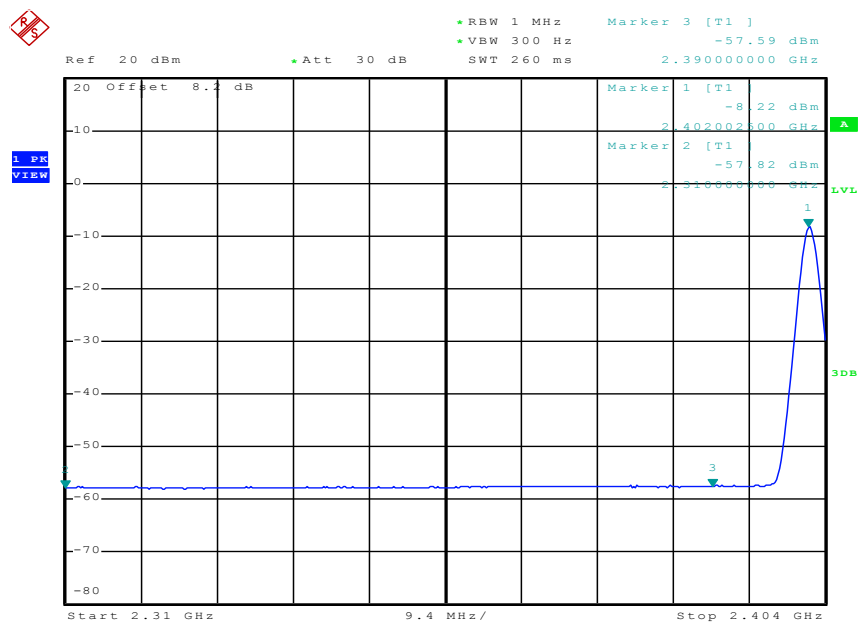


Date: 9.AUG.2019 20:25:51

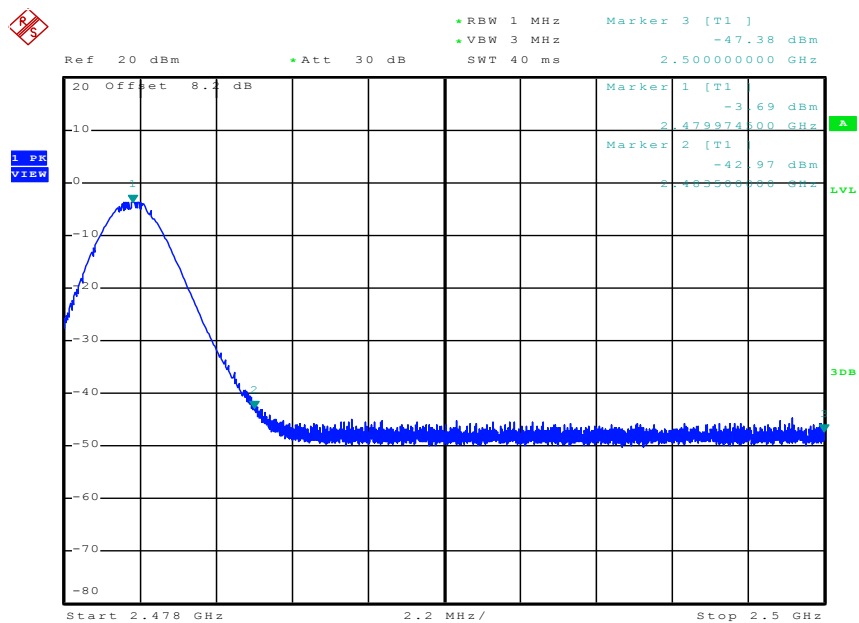
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



Date: 9.AUG.2019 20:26:04

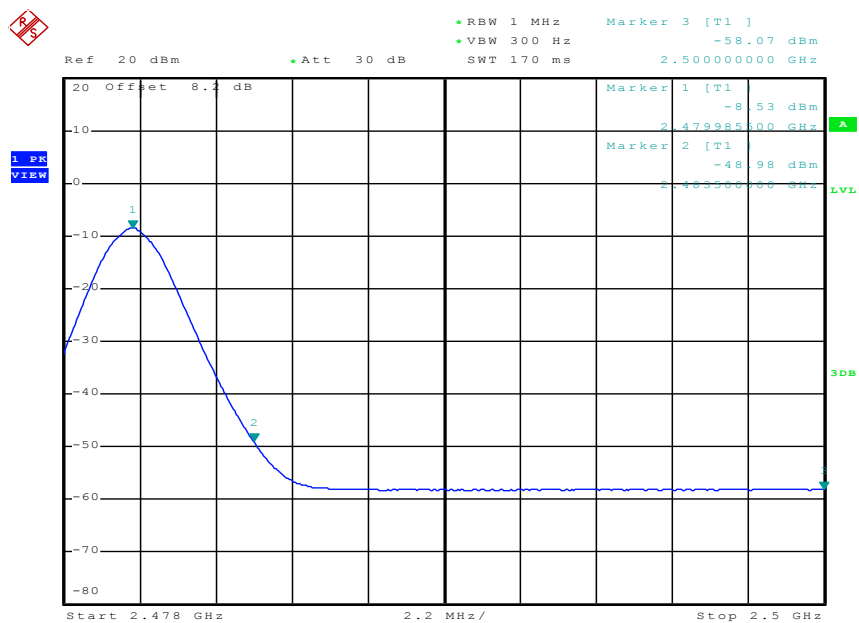
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



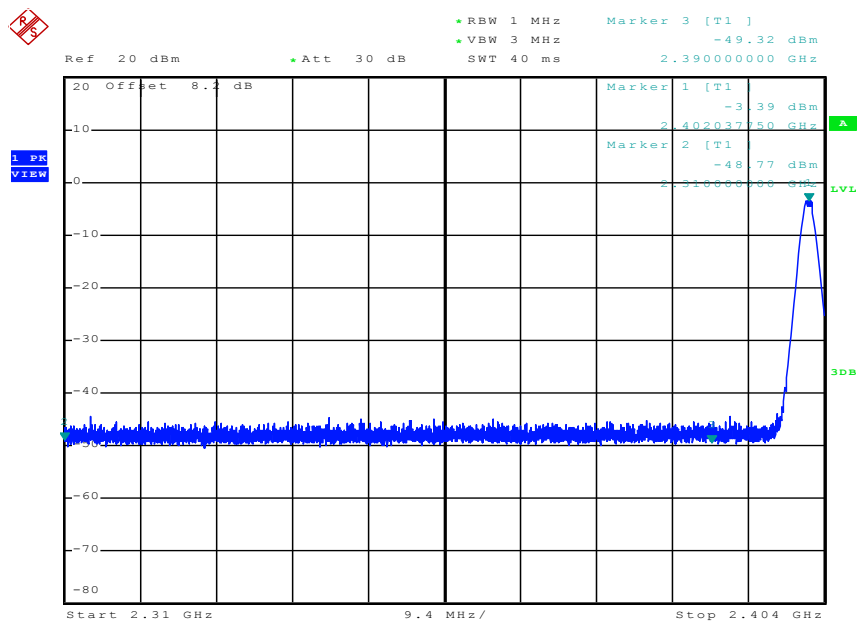
Date: 9.AUG.2019 20:33:43

Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



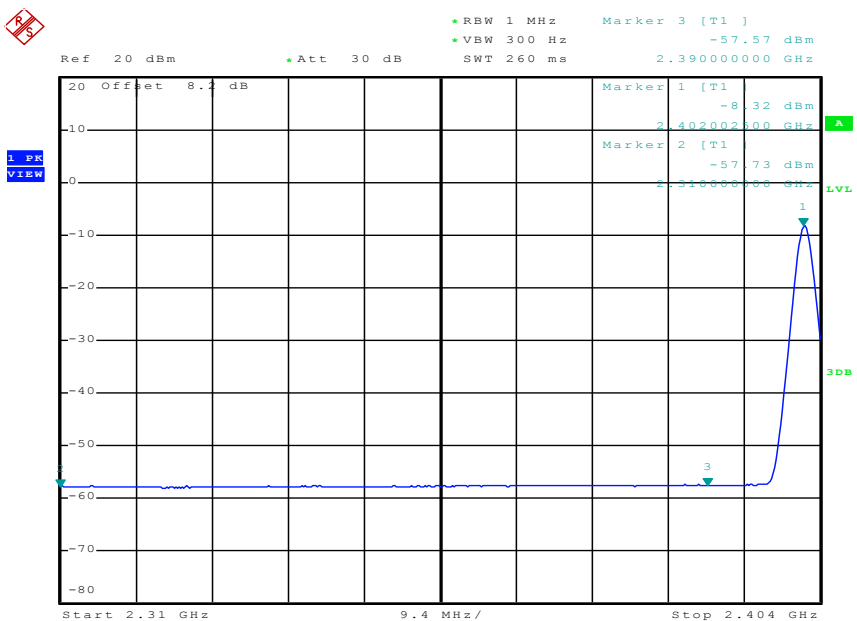
Date: 9.AUG.2019 20:33:56

Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



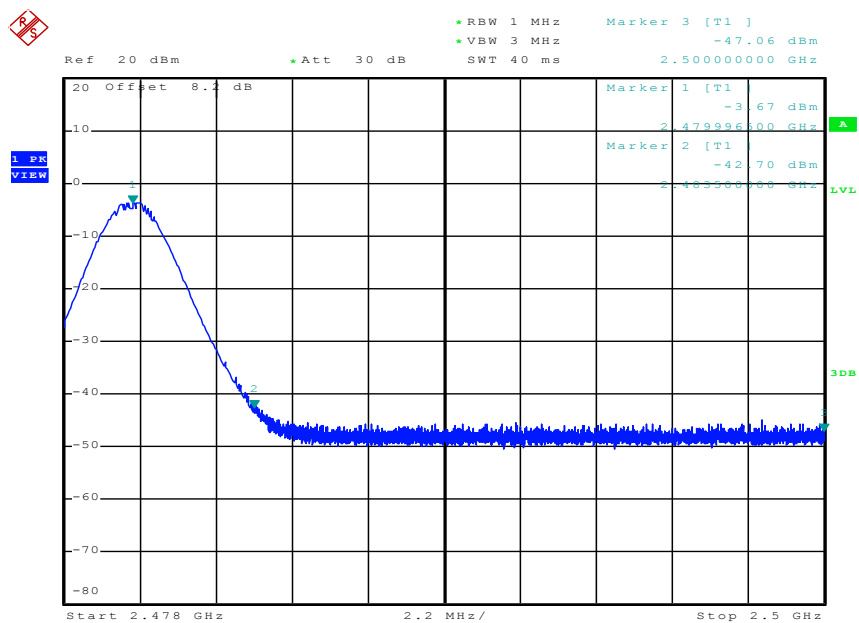
Date: 9.AUG.2019 20:36:31

Restrict-band band-edge measurements_Hopping Off_8DPSK_Average (Low Channel)



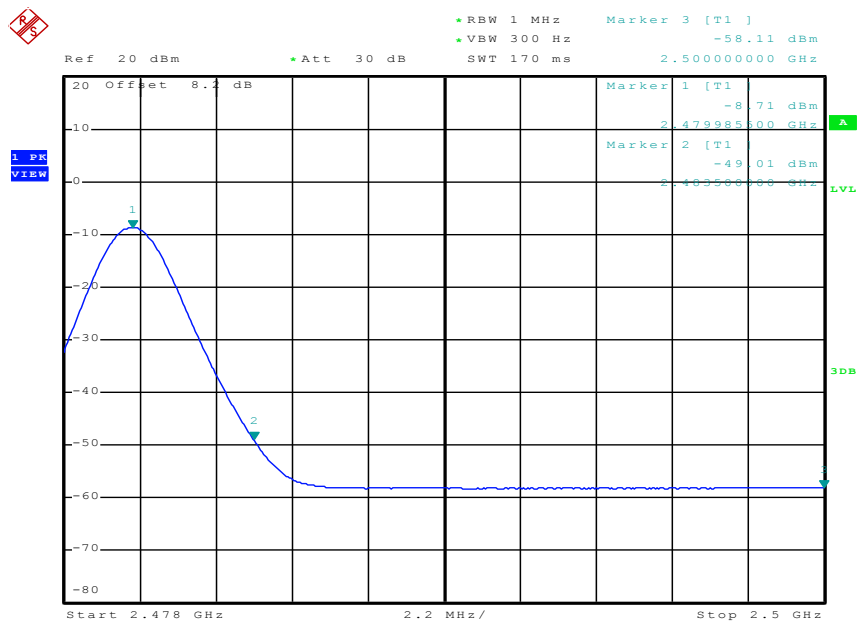
Date: 9.AUG.2019 20:36:43

Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (High Channel)



Date: 9.AUG.2019 20:40:44

Restrict-band band-edge measurements_Hopping Off_8DPSK_Average (High Channel)



Date: 9.AUG.2019 20:40:57