

Appendix A

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

Product Name: Speaker
Trade Mark: SUPERSONIC
Test Model: SC-1197BT

Environmental Conditions

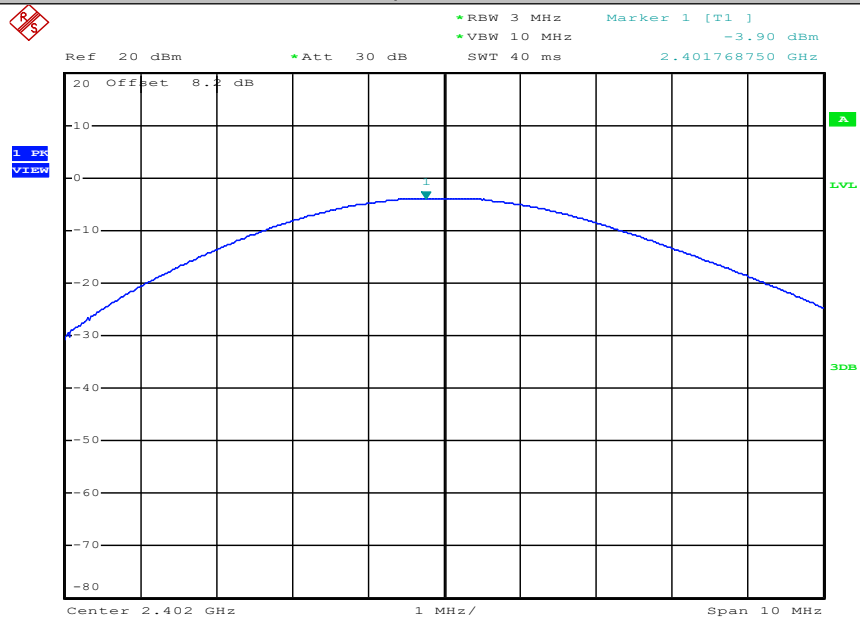
Temperature:	23.3 ° C
Relative Humidity:	53.8%
ATM Pressure:	100.0 kPa
Test Engineer:	David Luo
Supervised by:	Wang.Chuang

A.1 Maxmum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-3.900	21	PASS
	MCH	-4.780	21	PASS
	HCH	-6.220	21	PASS
$\pi/4$ DQPSK	LCH	-1.700	21	PASS
	MCH	-2.680	21	PASS
	HCH	-4.140	21	PASS
8DPSK	LCH	-1.150	21	PASS
	MCH	-2.160	21	PASS
	HCH	-3.560	21	PASS

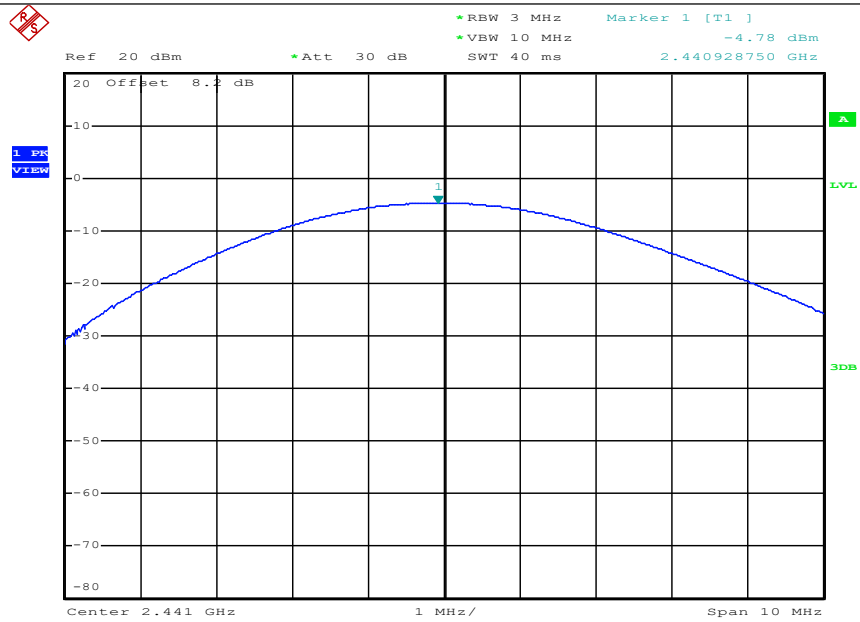
Test Graphs

GFSK/LCH



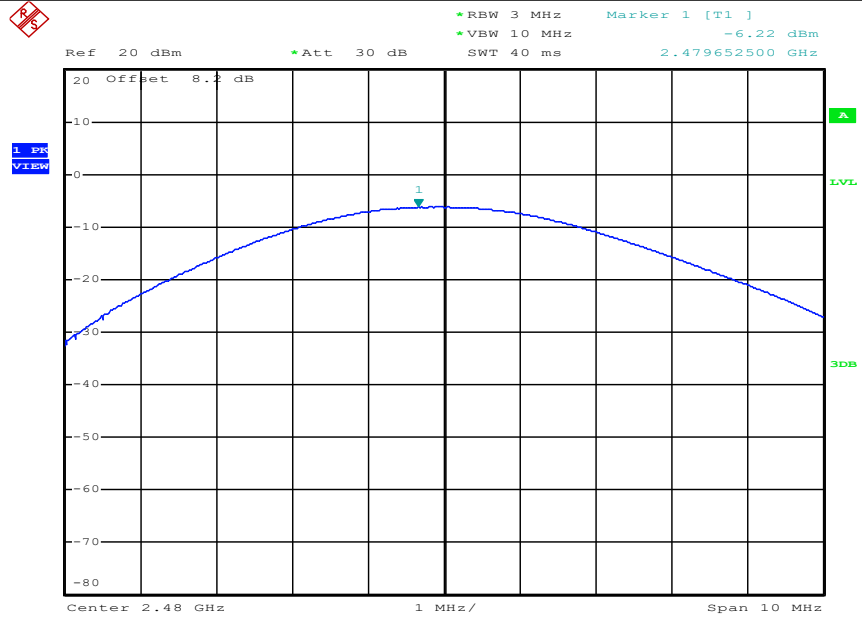
Date: 27.SEP.2019 14:02:10

GFSK/MCH



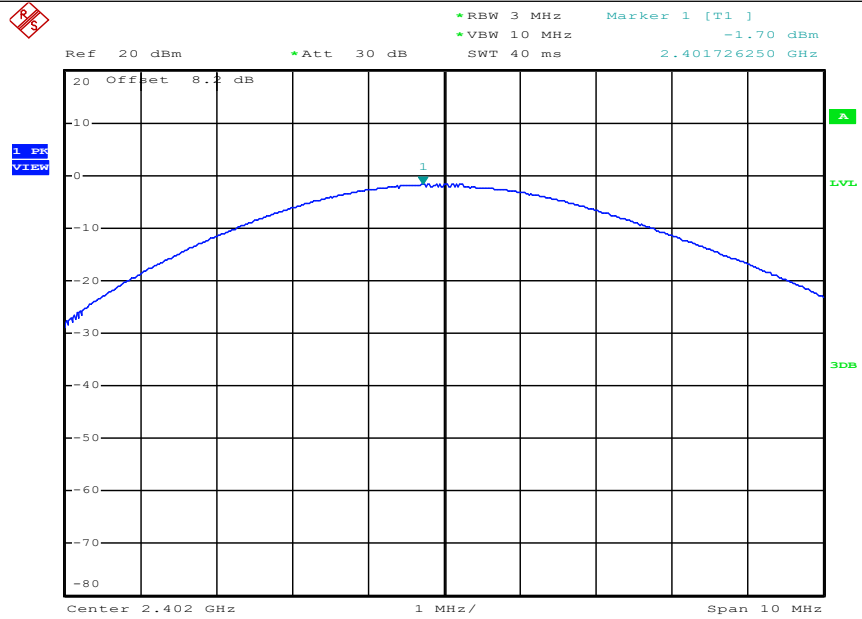
Date: 27.SEP.2019 14:07:03

GFSK/HCH



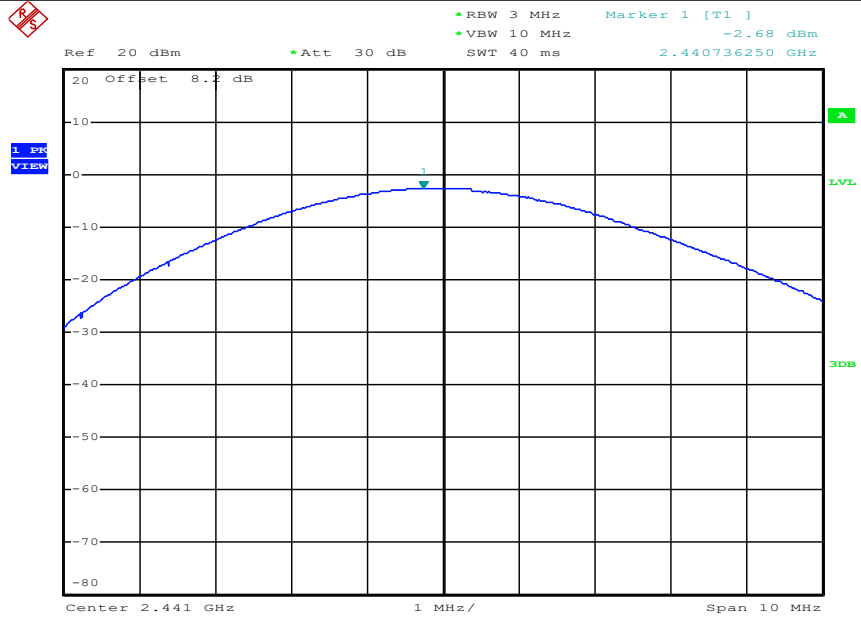
Date: 27.SEP.2019 14:09:10

$\pi/4$ DQPSK/LCH



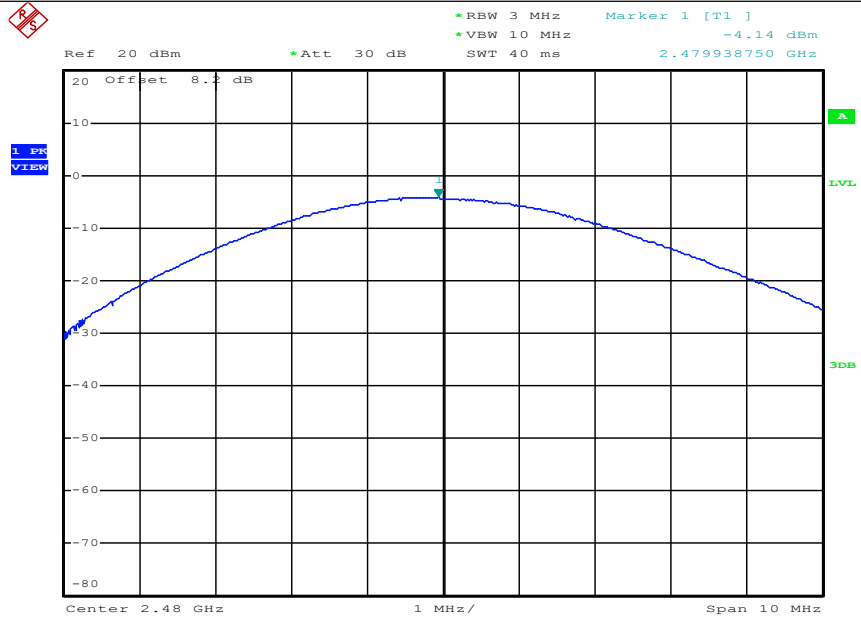
Date: 27.SEP.2019 14:12:02

$\pi/4$ DQPSK/MCH



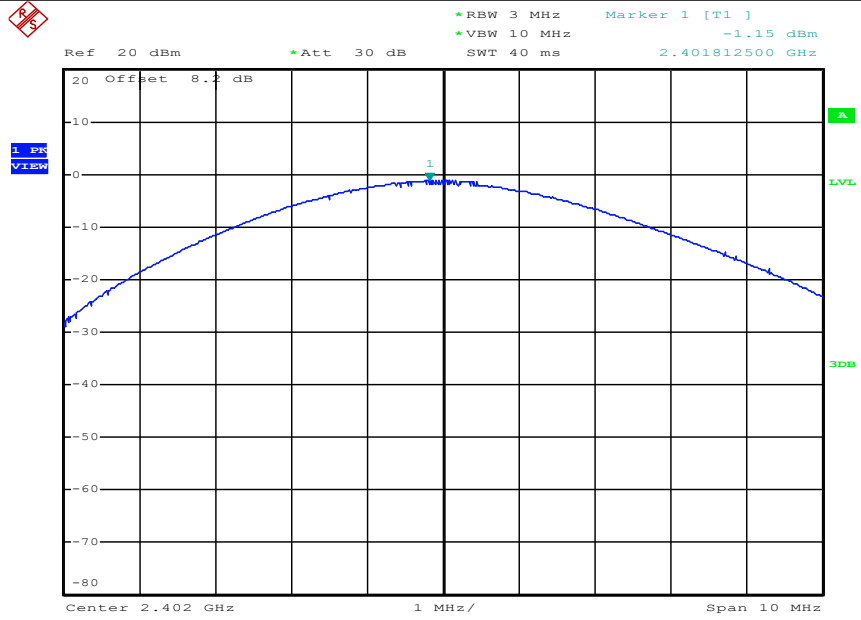
Date: 27.SEP.2019 14:14:36

$\pi/4$ DQPSK/HCH



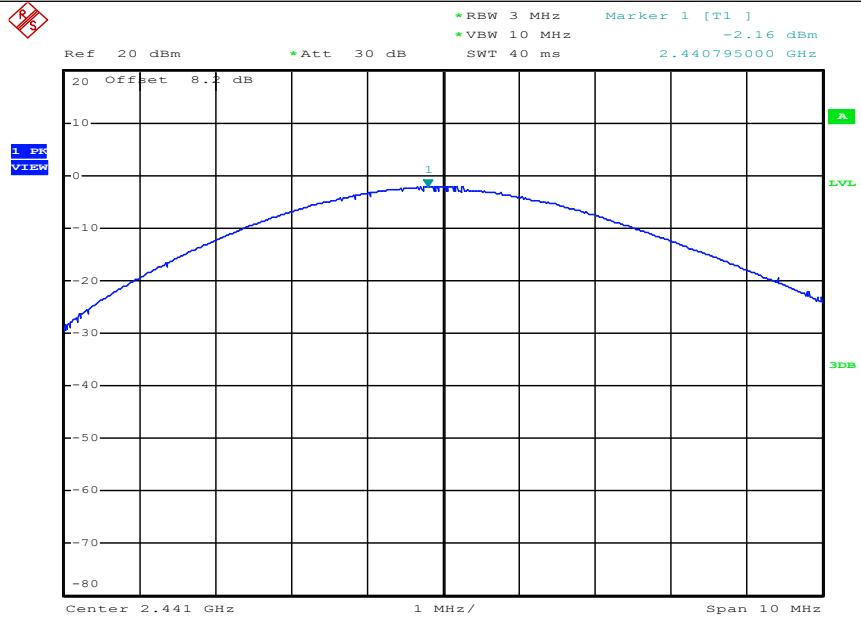
Date: 27.SEP.2019 14:16:33

8DPSK/LCH



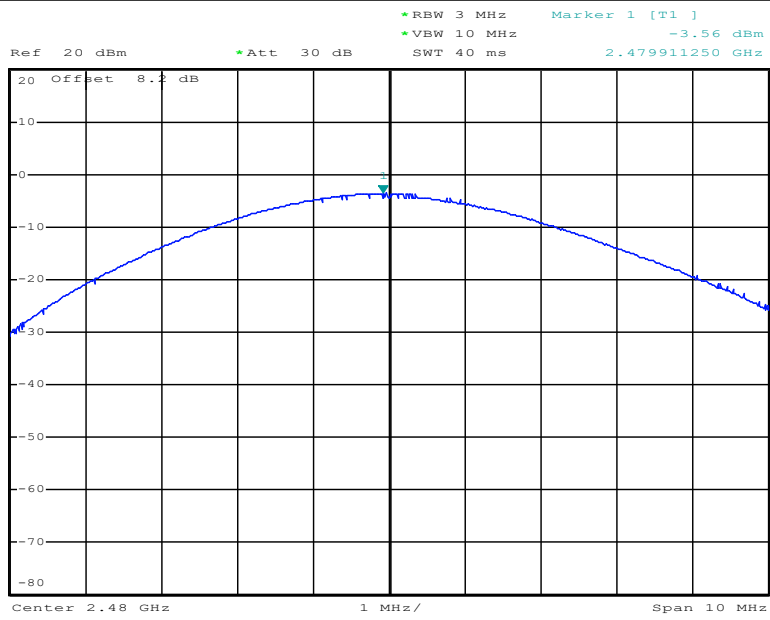
Date: 27.SEP.2019 14:19:17

8DPSK/MCH



Date: 27.SEP.2019 14:21:53

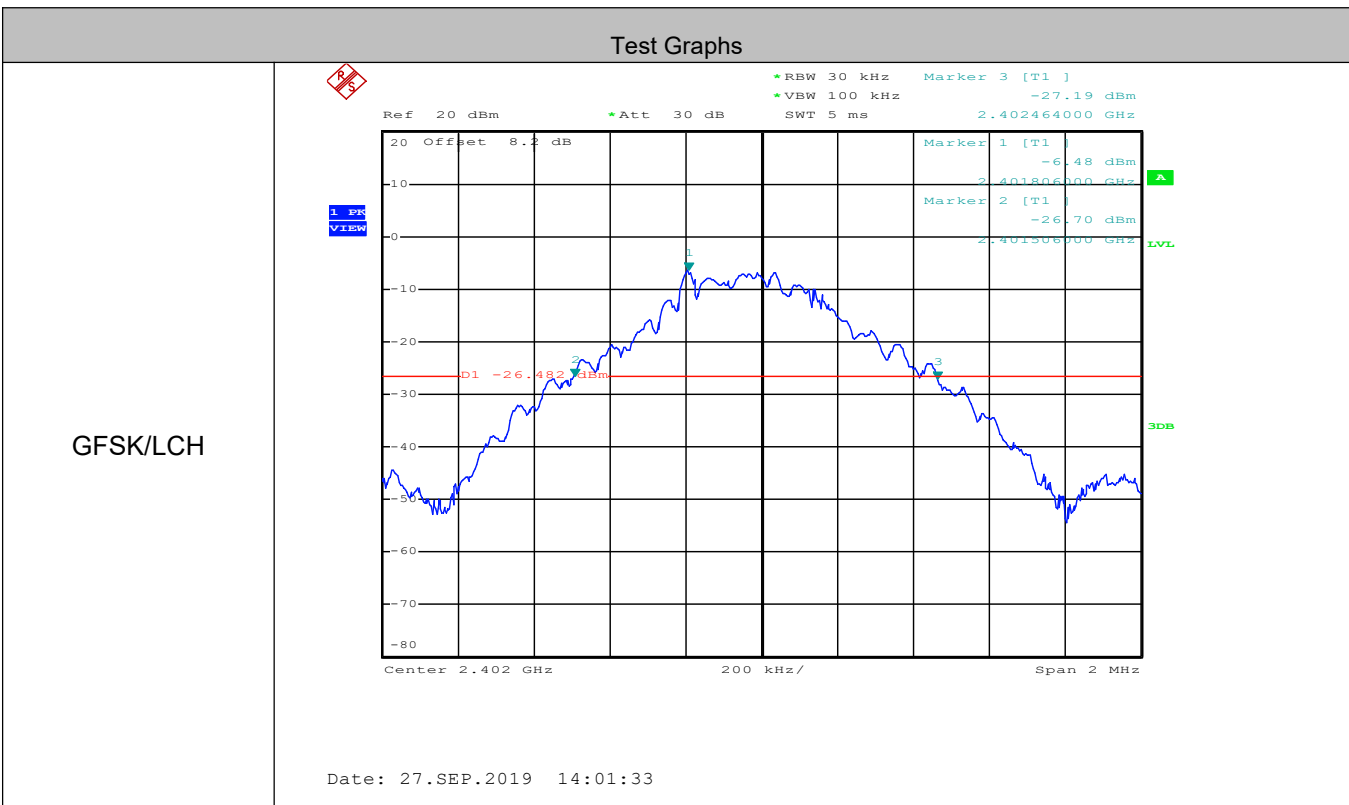
8DPSK/HCH



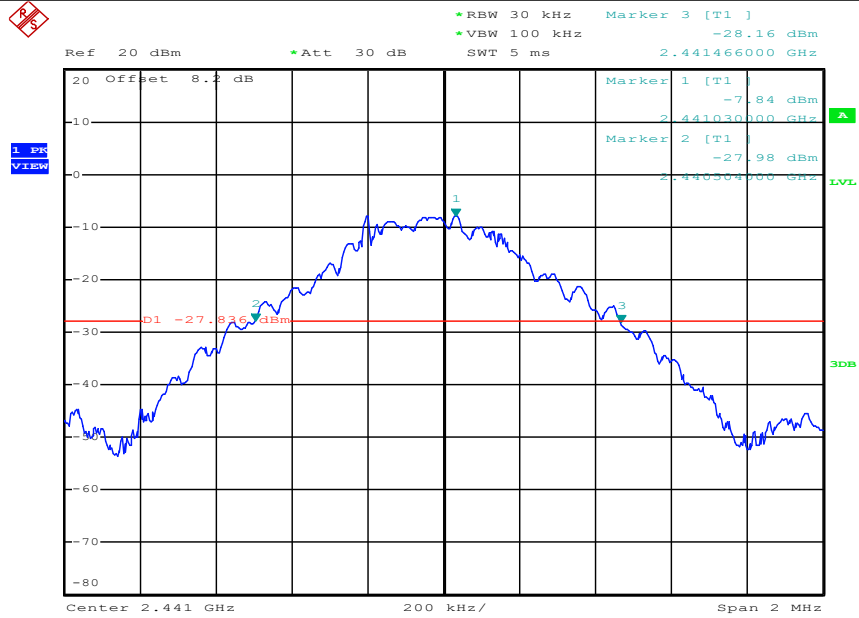
Date: 27.SEP.2019 14:23:37

A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.958	Not Specified	PASS
	MCH	0.962	Not Specified	PASS
	HCH	0.956	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.284	Not Specified	PASS
	MCH	1.282	Not Specified	PASS
	HCH	1.282	Not Specified	PASS
8DPSK	LCH	1.296	Not Specified	PASS
	MCH	1.300	Not Specified	PASS
	HCH	1.298	Not Specified	PASS

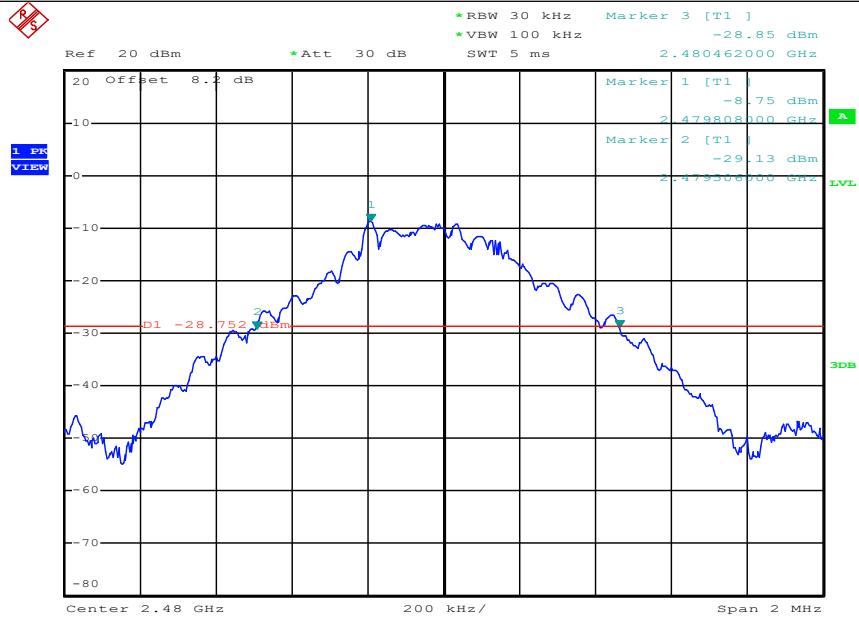


GFSK/MCH



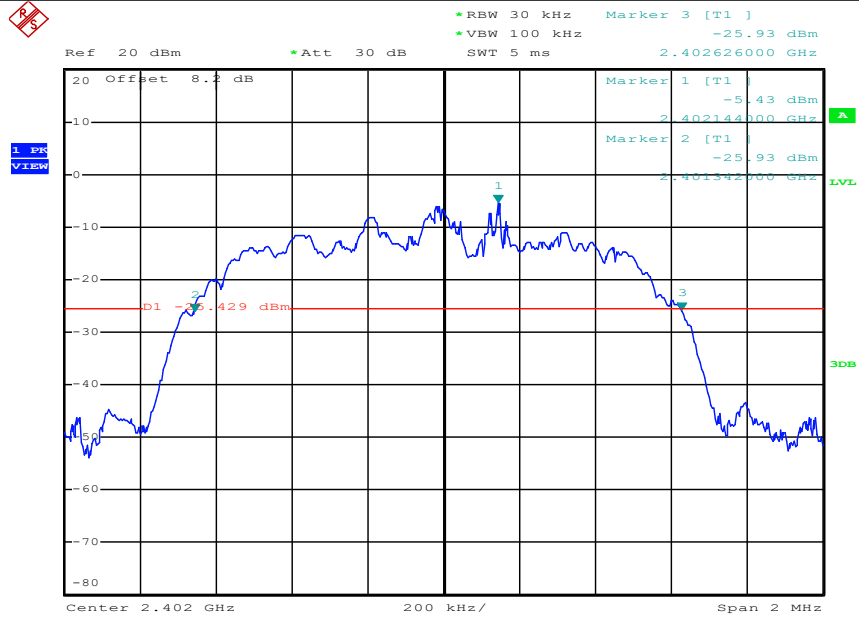
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GFSK/HCH



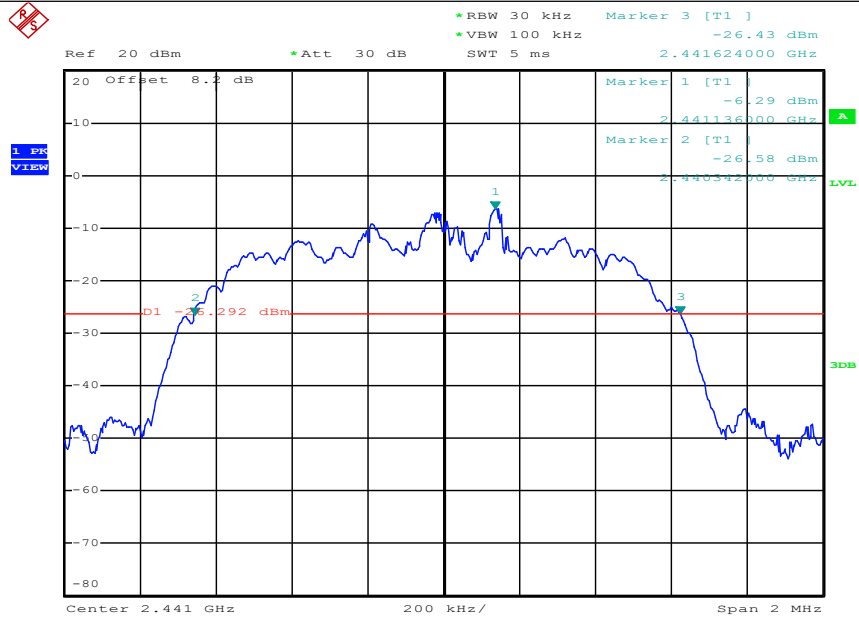
Date: 27.SEP.2019 14:08:34

$\pi/4$ DQPSK/LCH



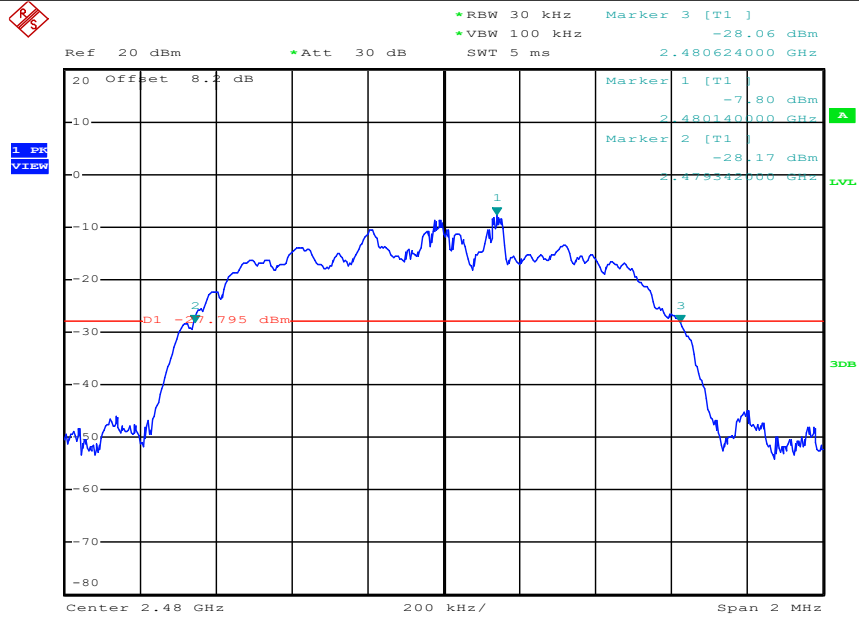
Date: 27.SEP.2019 14:11:26

$\pi/4$ DQPSK/MCH



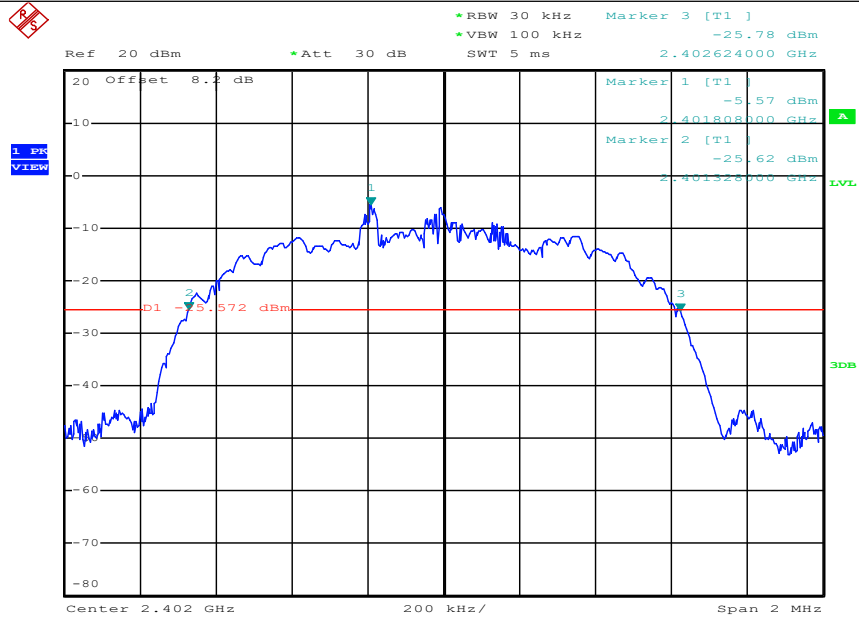
Date: 27.SEP.2019 14:14:00

$\pi/4$ DQPSK/HCH



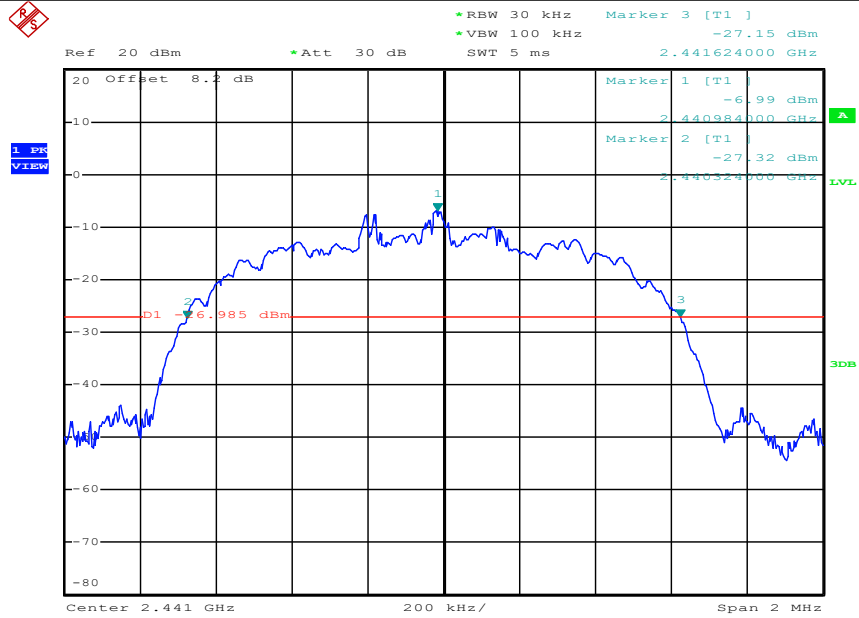
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8DPSK/LCH



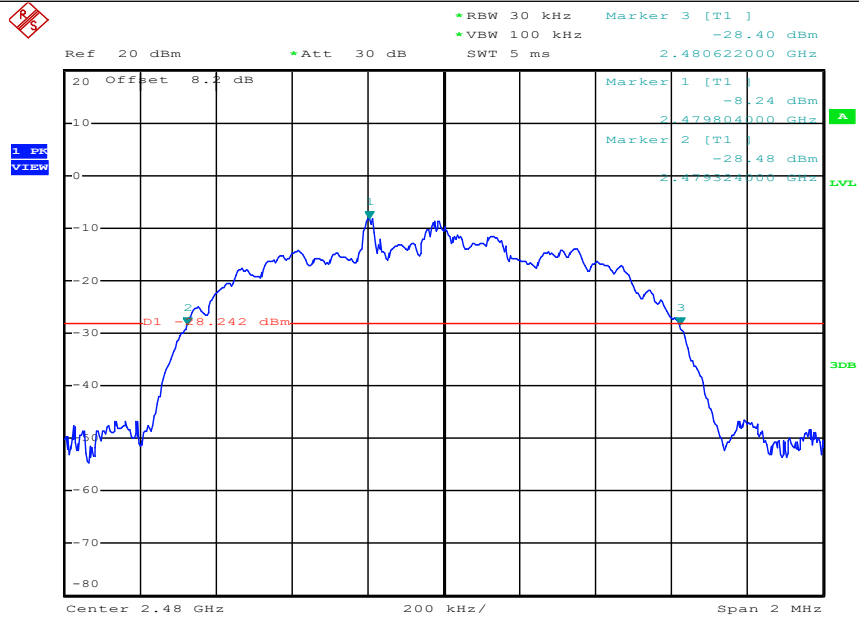
Date: 27.SEP.2019 14:18:40

8DPSK/MCH



Date: 27.SEP.2019 14:21:16

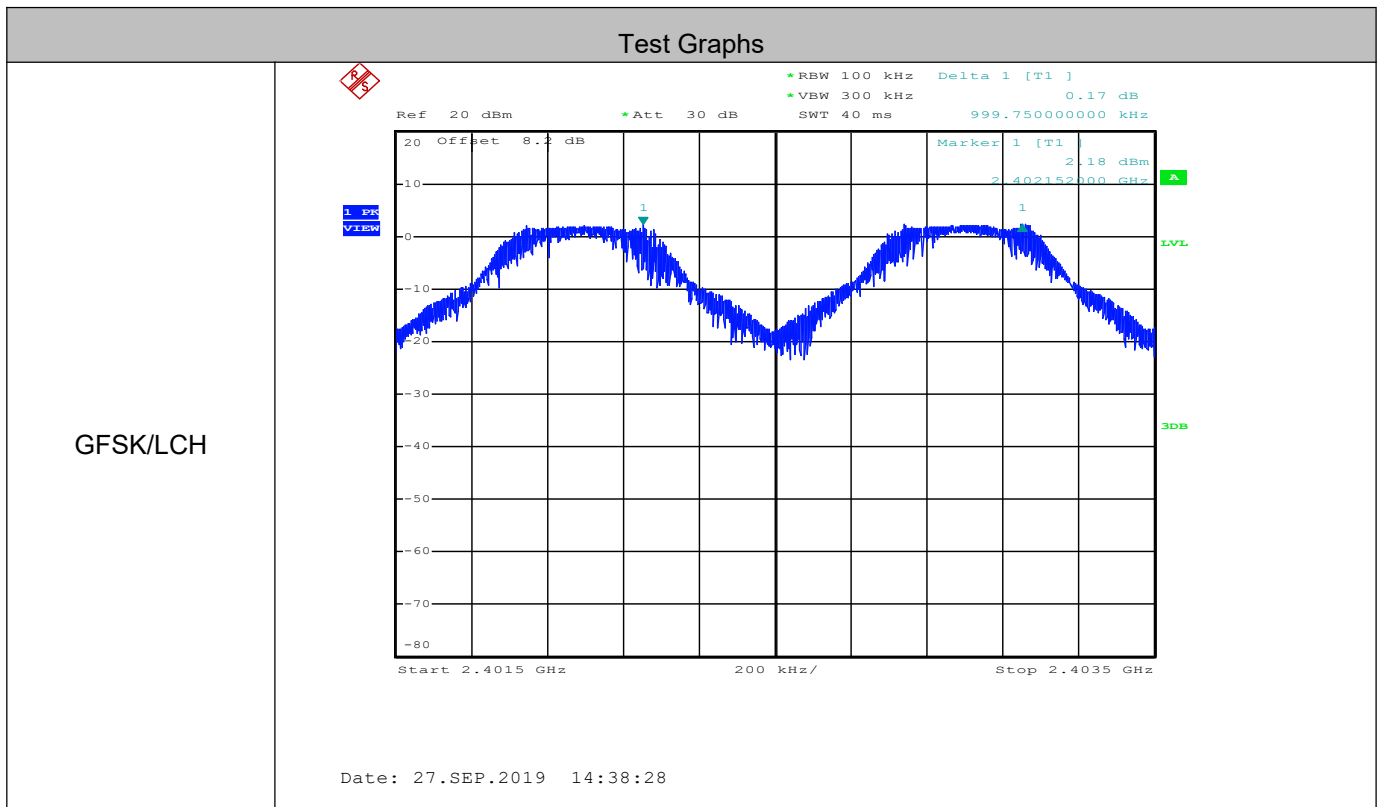
8DPSK/HCH



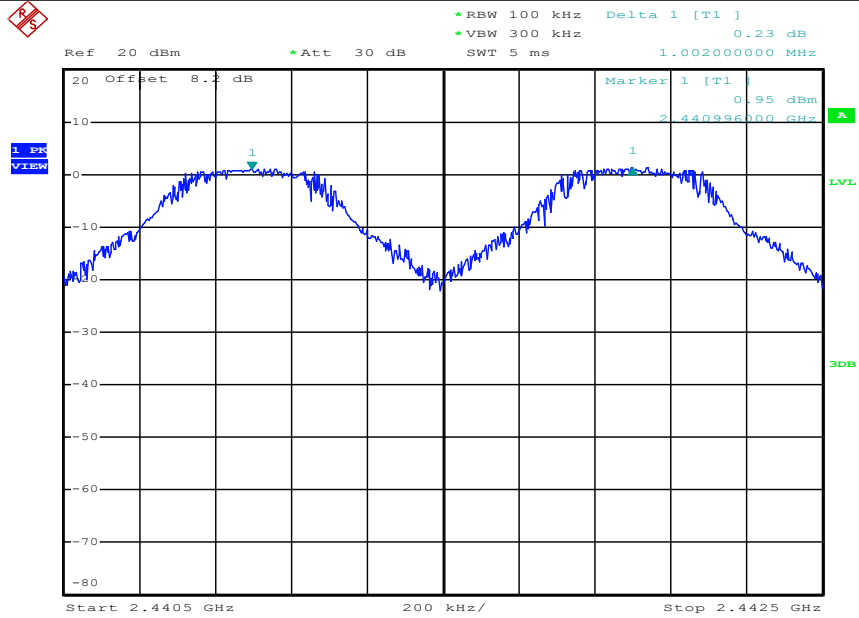
Date: 27.SEP.2019 14:23:00

A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.000	0.641	PASS
	MCH	1.002	0.641	PASS
	HCH	1.004	0.641	PASS
π/4DQPSK	LCH	1.234	0.856	PASS
	MCH	1.002	0.856	PASS
	HCH	1.310	0.856	PASS
8DPSK	LCH	1.342	0.867	PASS
	MCH	1.016	0.867	PASS
	HCH	1.152	0.867	PASS

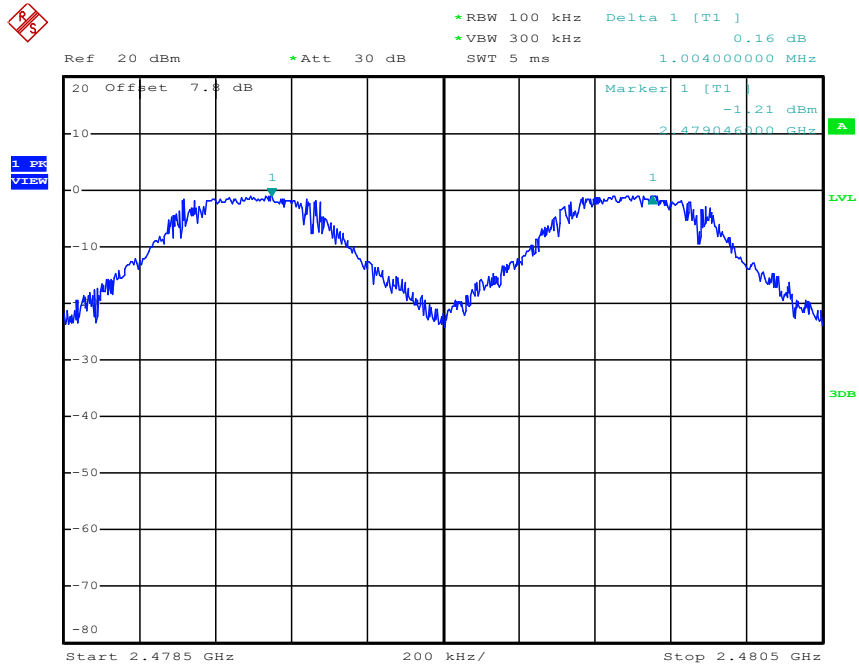


GFSK/MCH



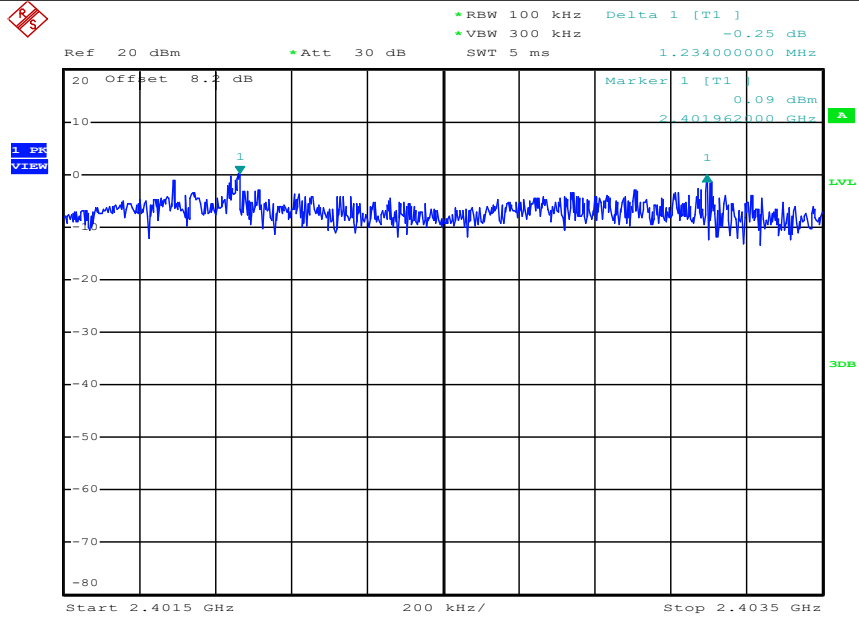
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GFSK/HCH



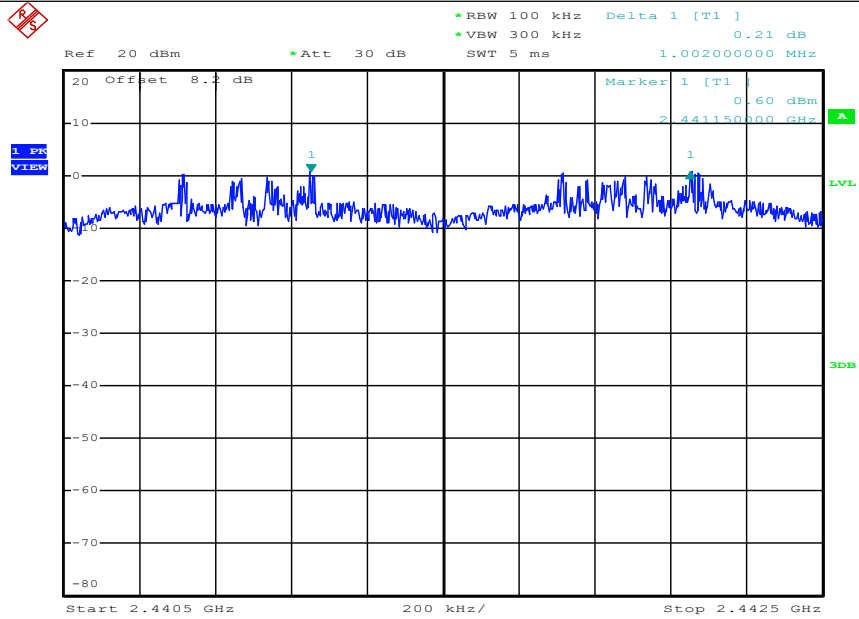
Date: 27.SEP.2019 14:41:33

π /4DQPSK/LCH



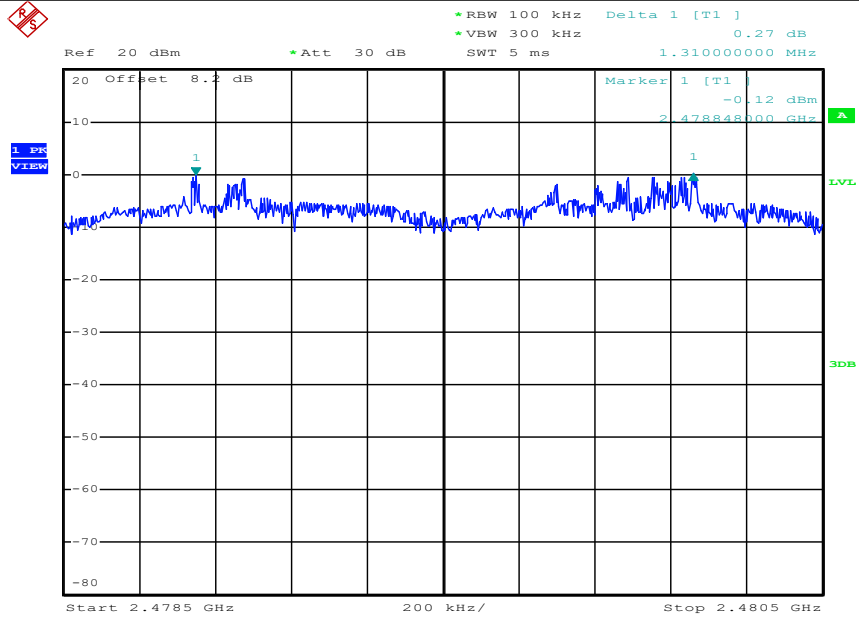
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π /4DQPSK/MCH



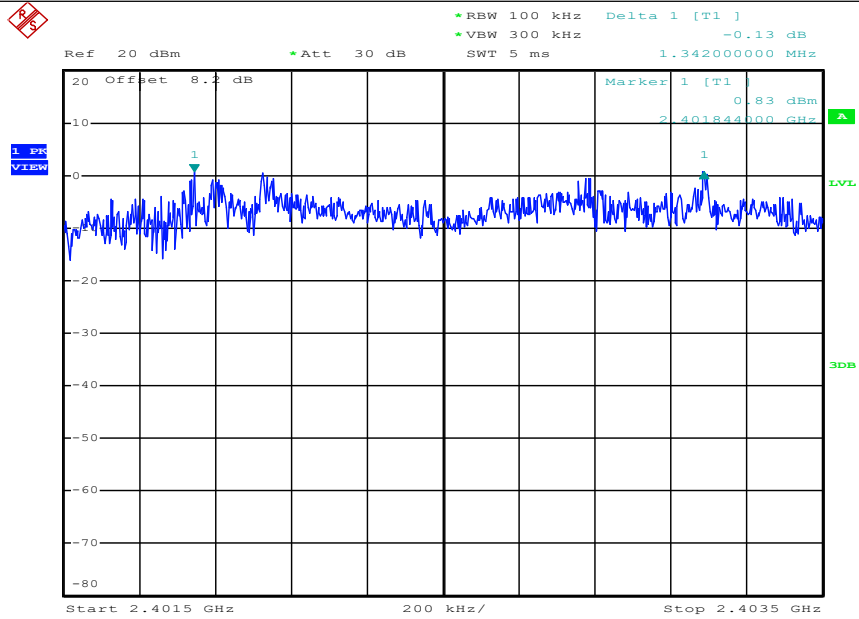
Date: 27.SEP.2019 14:49:25

π /4DQPSK/HCH



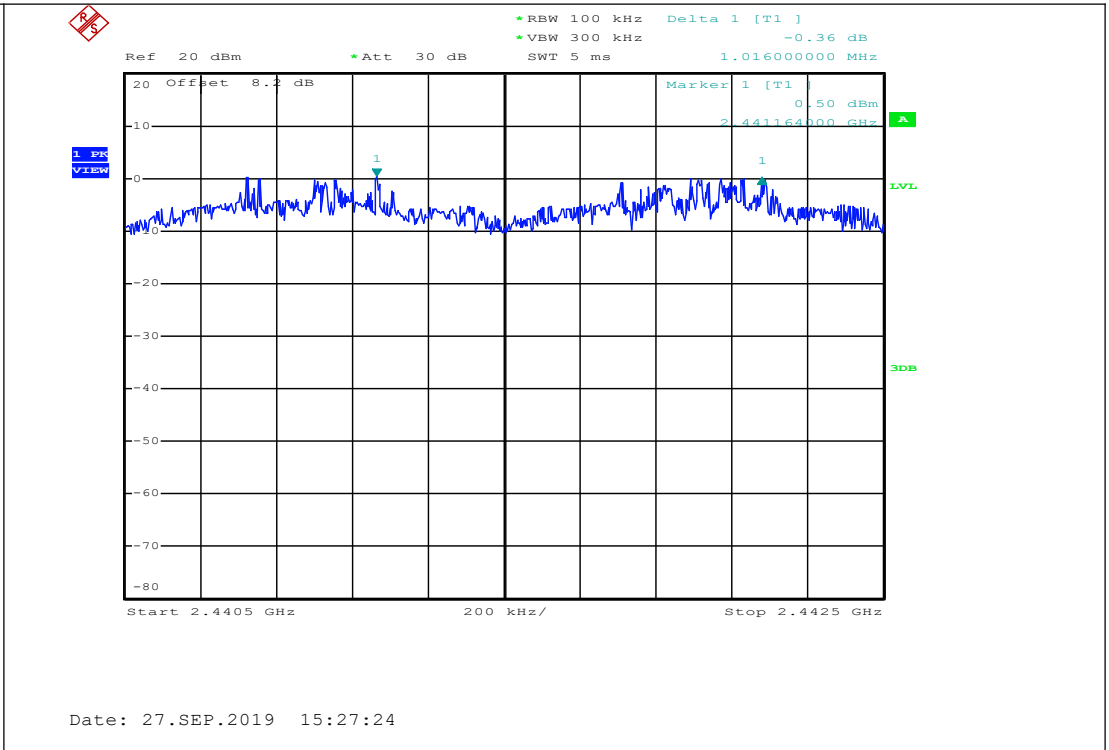
Date: 27.SEP.2019 14:50:32

8DPSK/LCH

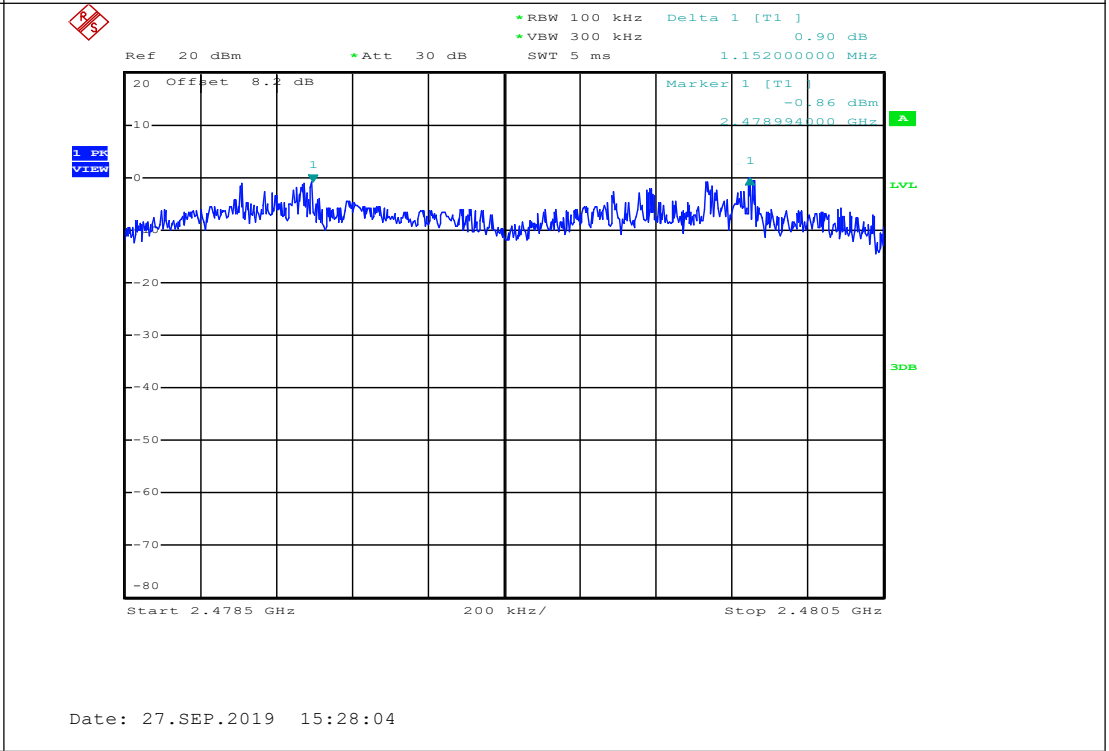


Date: 27.SEP.2019 14:59:33

8DPSK/MCH



8DPSK/HCH

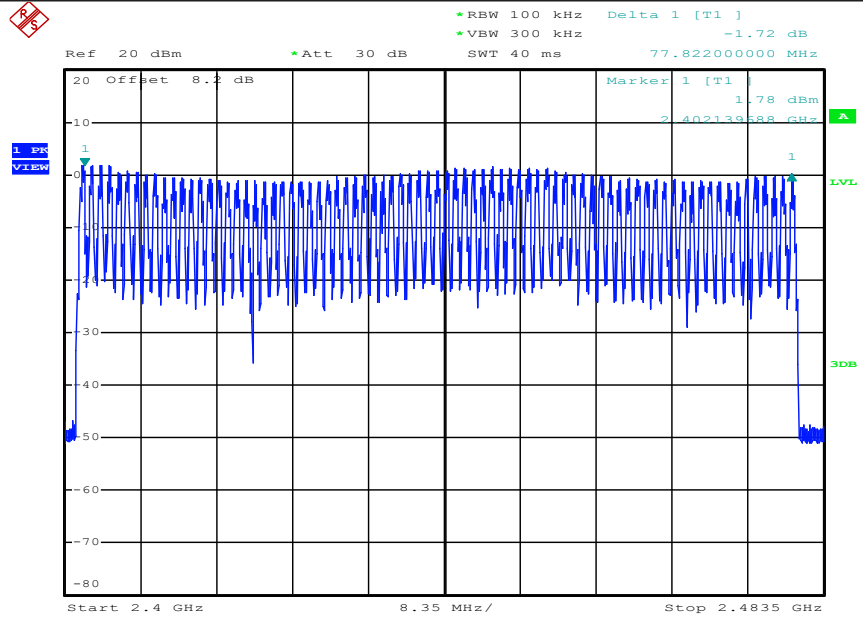


A.4 Hopping Channel Number

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

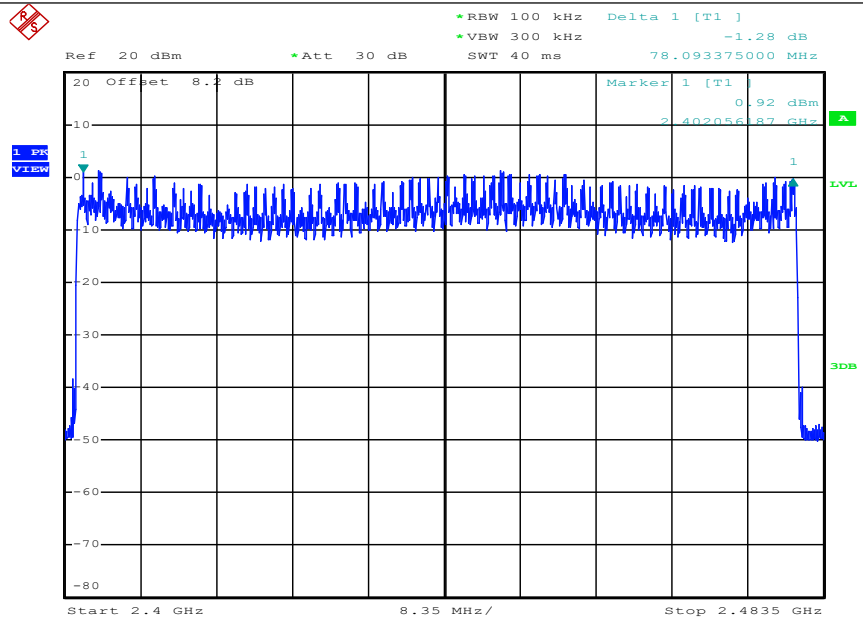
Test Graphs

GFSK/Hop



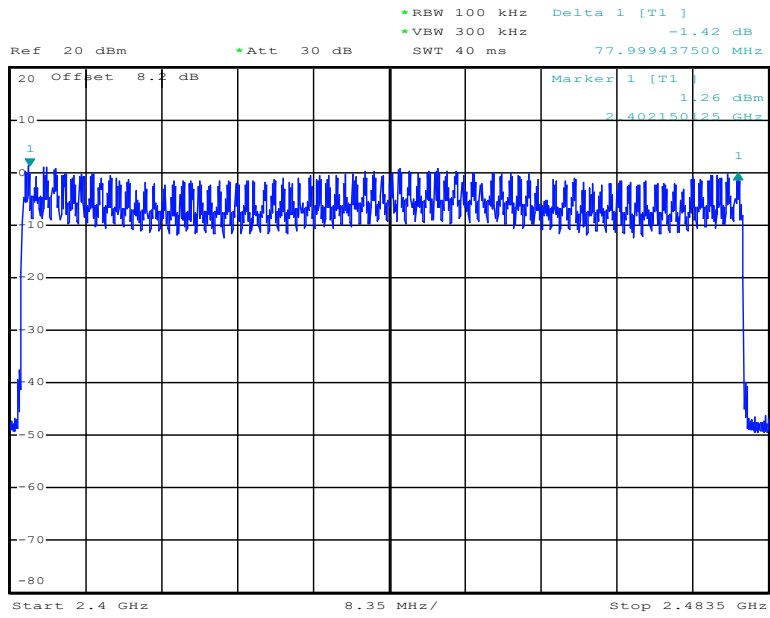
Date: 27.SEP.2019 14:44:57

$\pi/4$ DQPSK/Hop



Date: 27.SEP.2019 14:58:48

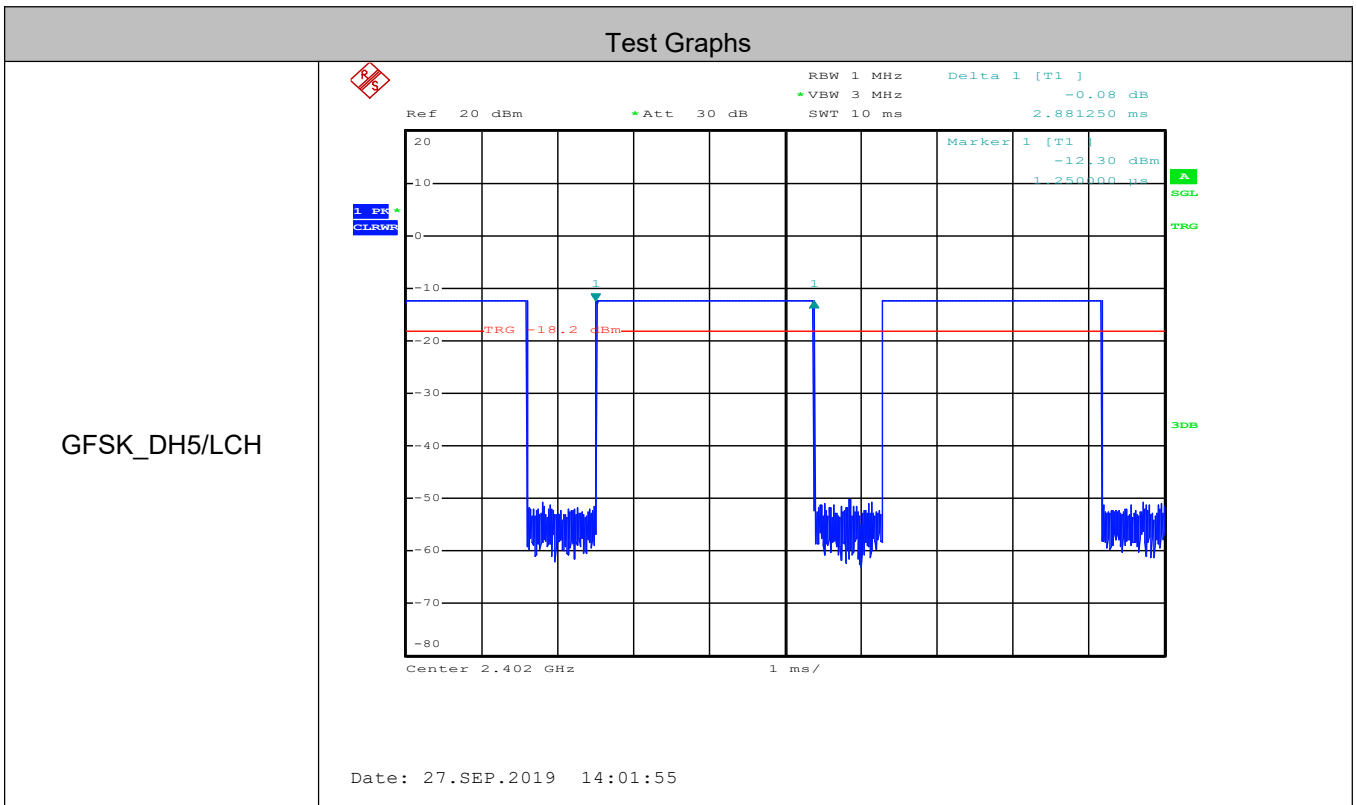
8DPSK/Hop



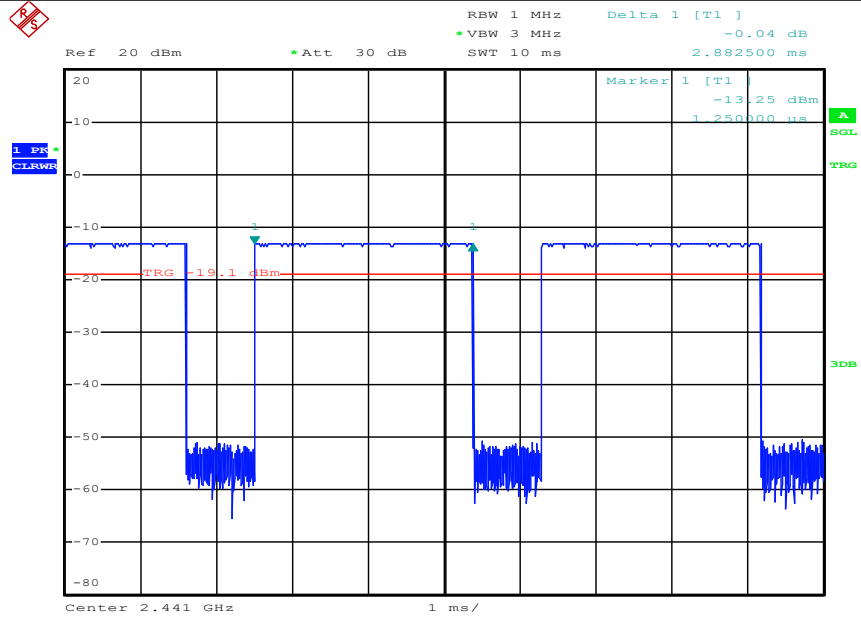
Date: 27.SEP.2019 16:03:14

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
π/4DQPSK	2DH5	LCH	2.88	106.7	0.308	0.4	PASS
	2DH5	MCH	2.88	106.7	0.308	0.4	PASS
	2DH5	HCH	2.88	106.7	0.308	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

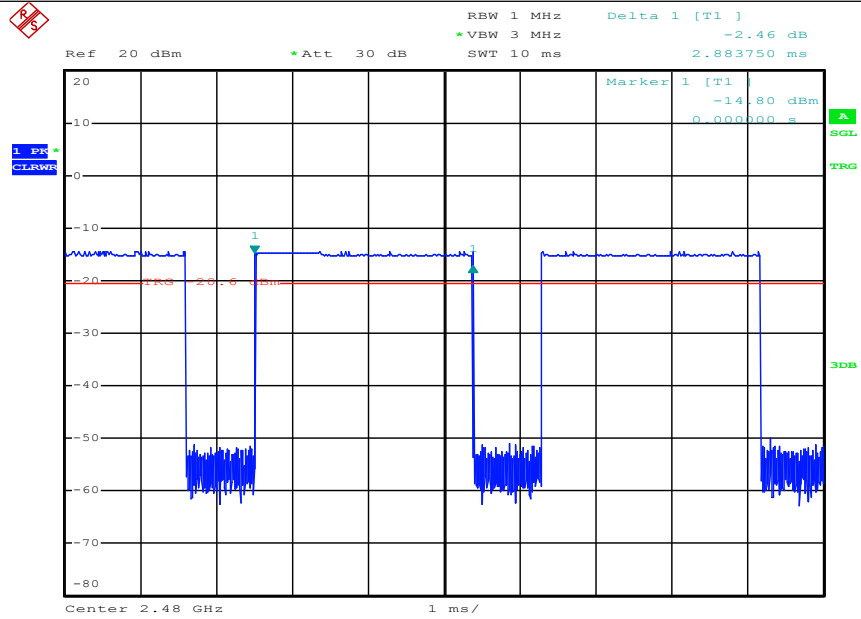


GFSK_DH5/MCH



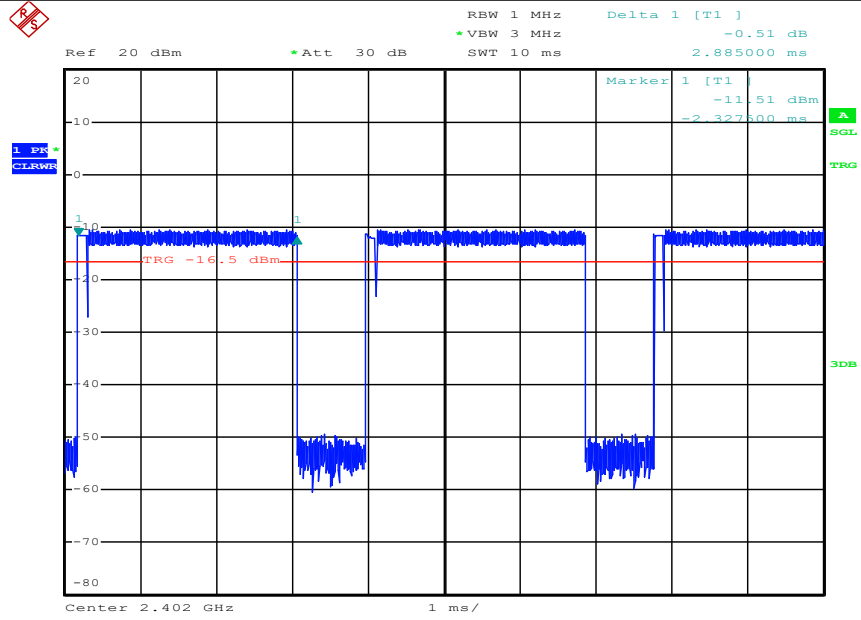
Date: 27.SEP.2019 14:06:48

GFSK_DH5/HCH



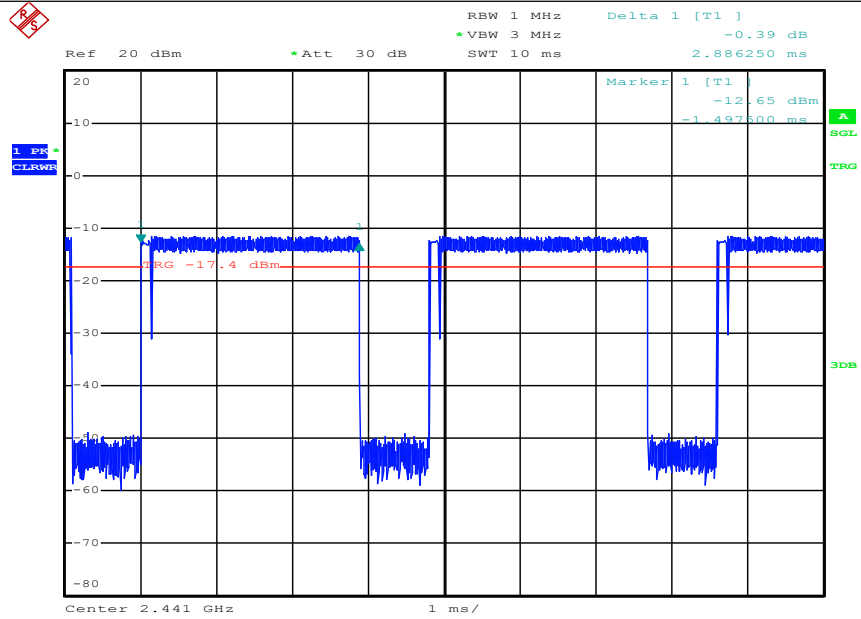
Date: 27.SEP.2019 14:08:55

$\pi/4$ DQPSK
_2DH5/LCH



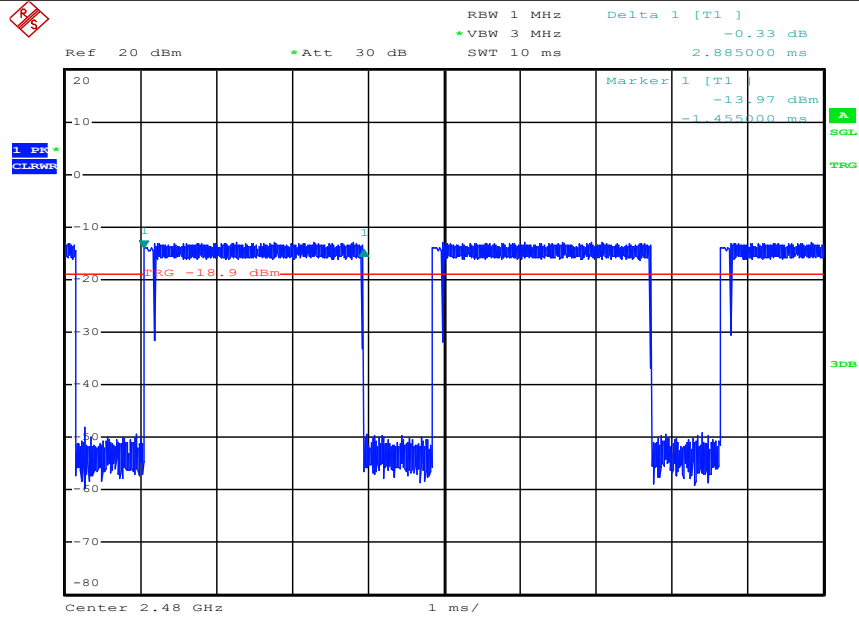
Date: 27.SEP.2019 14:11:47

$\pi/4$ DQPSK
_2DH5/MCH



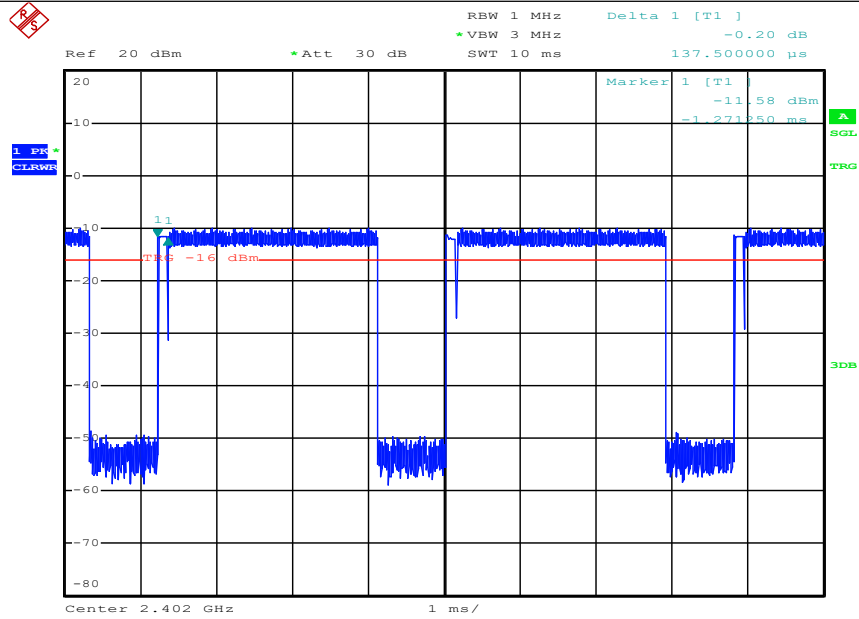
Date: 27.SEP.2019 14:14:21

$\pi/4$ DQPSK
_2DH5/HCH



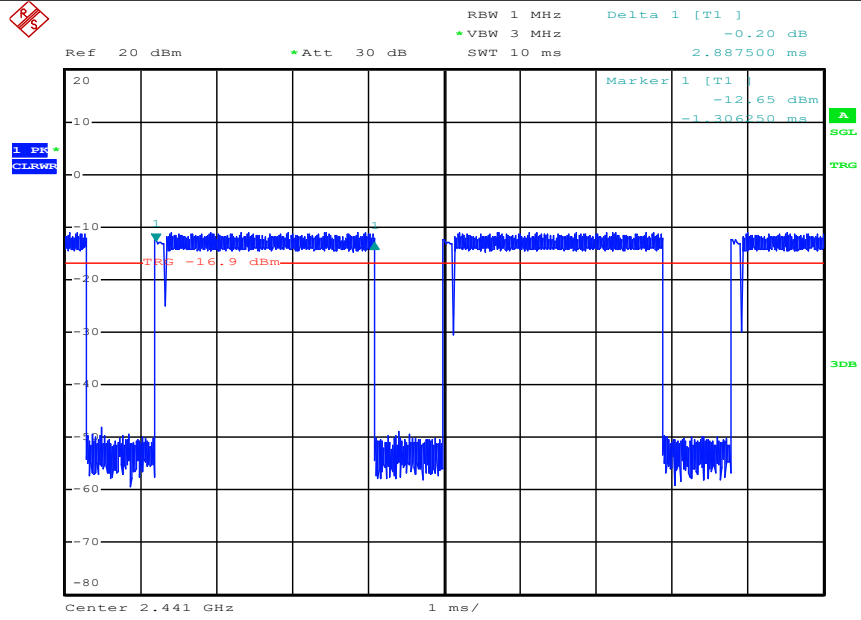
Date: 27.SEP.2019 14:16:18

8DPSK _3DH5/LCH



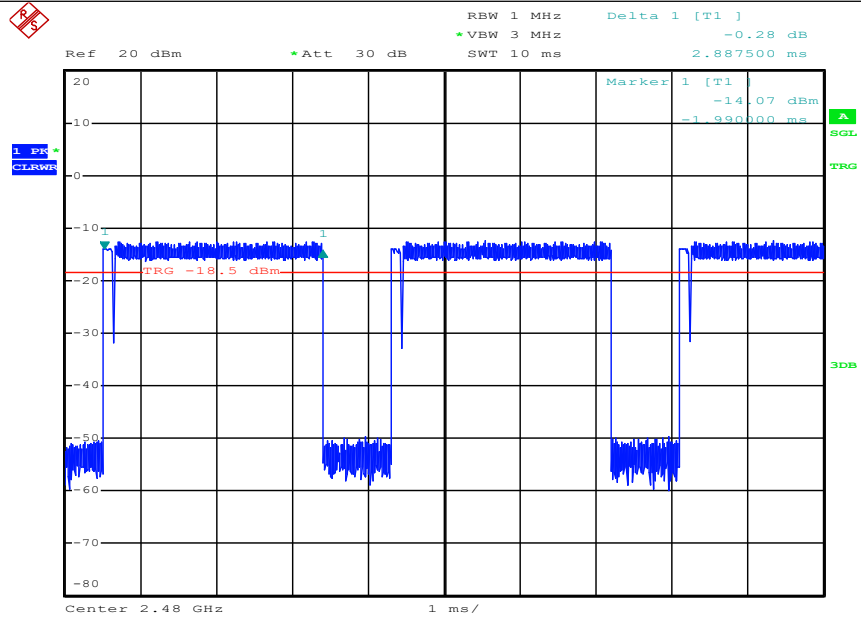
Date: 27.SEP.2019 14:19:02

8DPSK_3DH5/MCH



Date: 27.SEP.2019 14:21:38

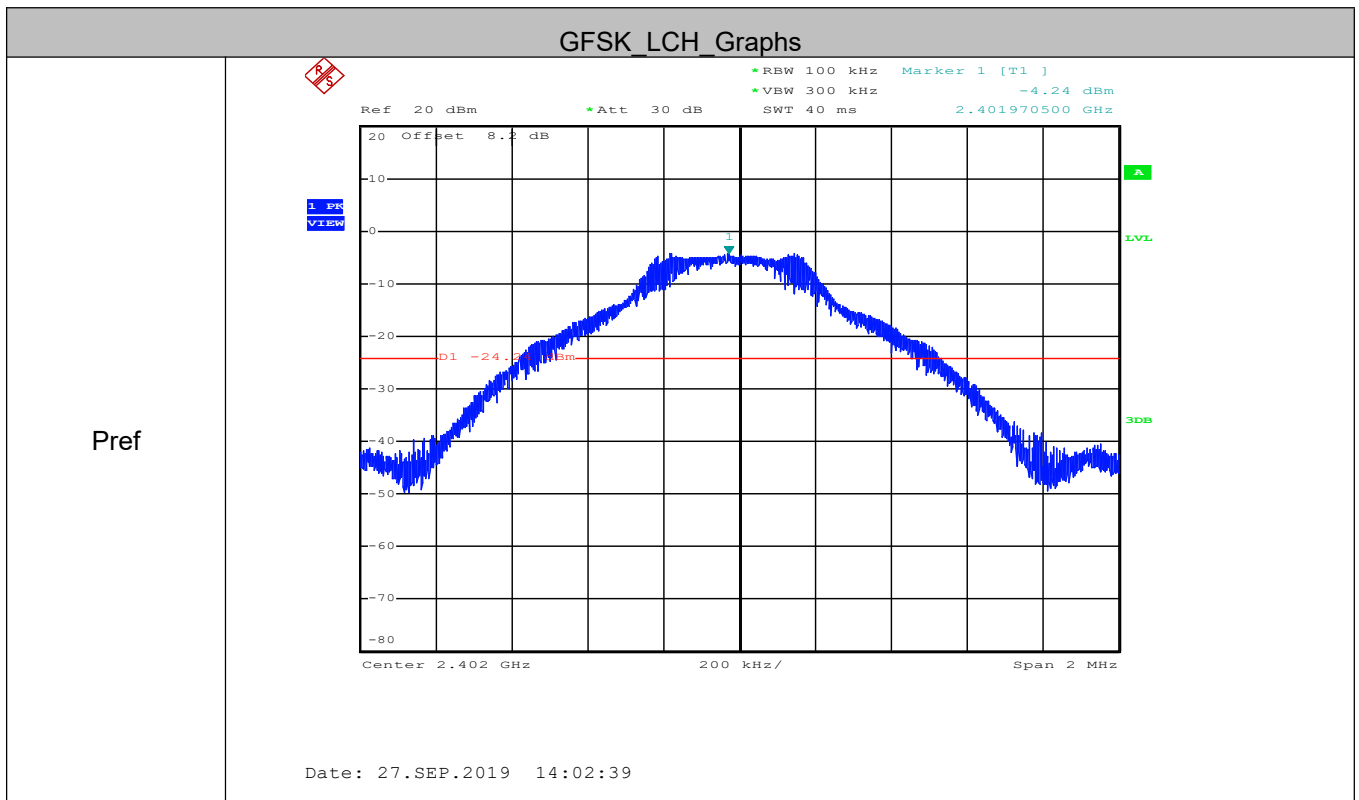
8DPSK_3DH5/HCH



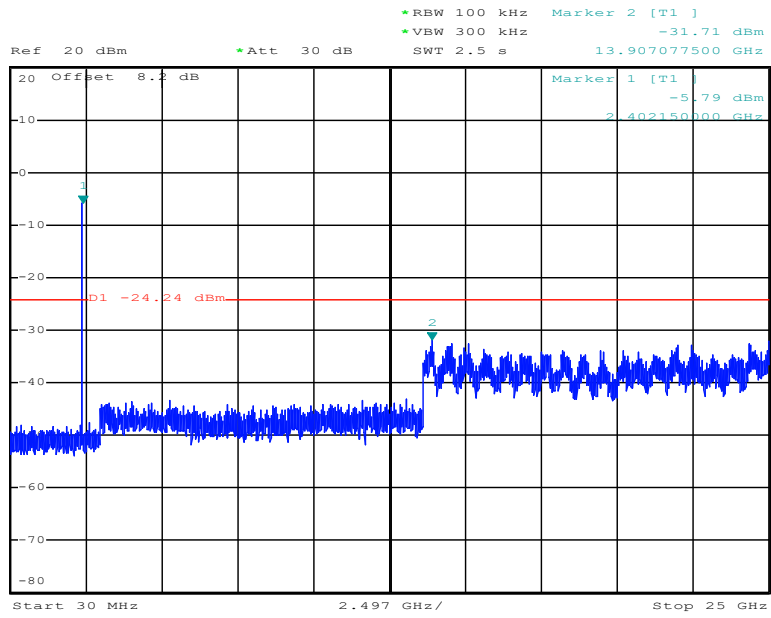
Date: 27.SEP.2019 14:23:22

A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-4.24	-31.710	-24.240	PASS
	MCH	-5.06	-31.930	-25.060	PASS
	HCH	-6.51	-32.510	-26.510	PASS
$\pi/4$ DQPSK	LCH	-3.41	-32.950	-23.410	PASS
	MCH	-4.33	-31.760	-24.330	PASS
	HCH	-5.86	-31.680	-25.860	PASS
8DPSK	LCH	-3.35	-32.230	-23.350	PASS
	MCH	-4.37	-32.490	-24.370	PASS
	HCH	-5.89	-32.350	-25.890	PASS



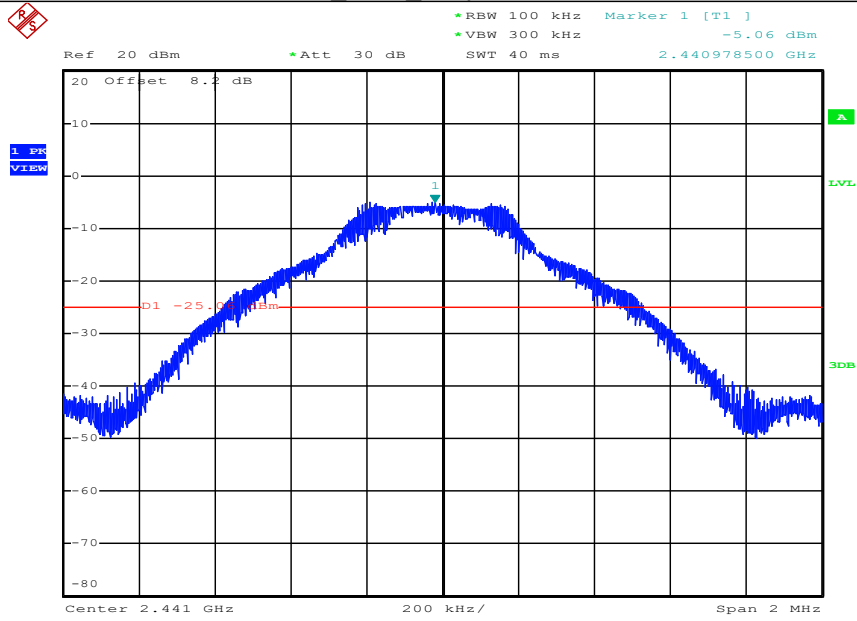
P_u



Date: 27.SEP.2019 14:02:54

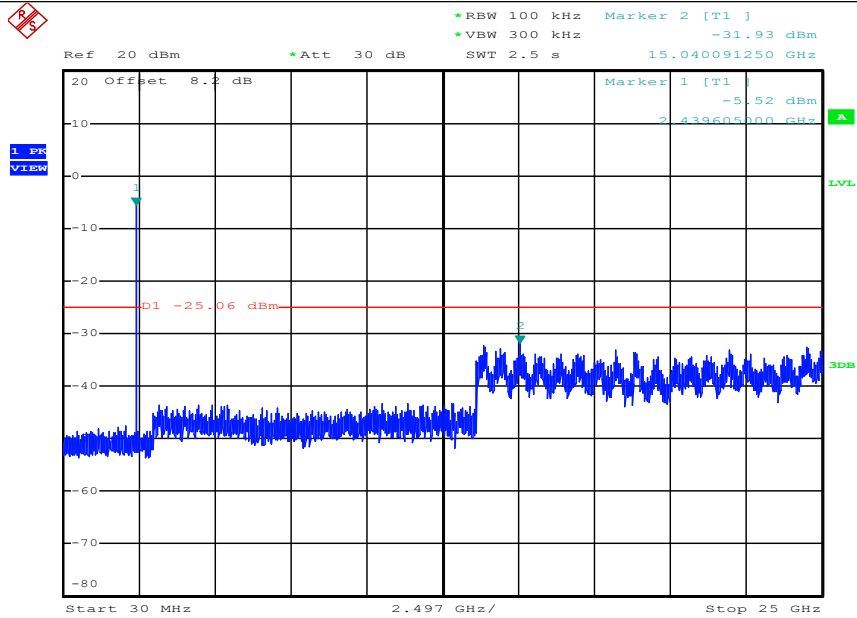
GFSK_MCH_Graphs

Pref



Date: 27.SEP.2019 14:07:16

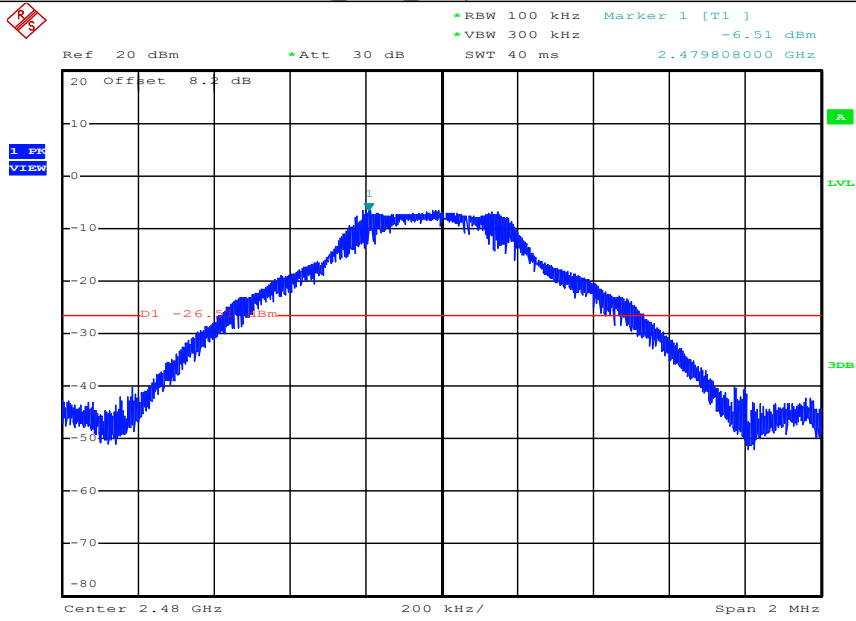
Puw



Date: 27.SEP.2019 14:07:31

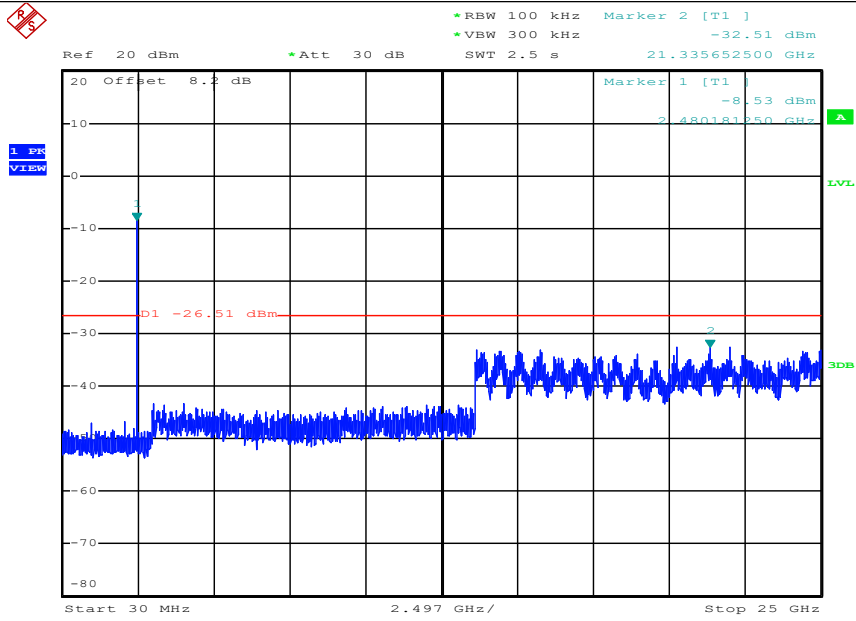
GFSK_HCH_Graphs

Pref



Date: 27.SEP.2019 14:09:39

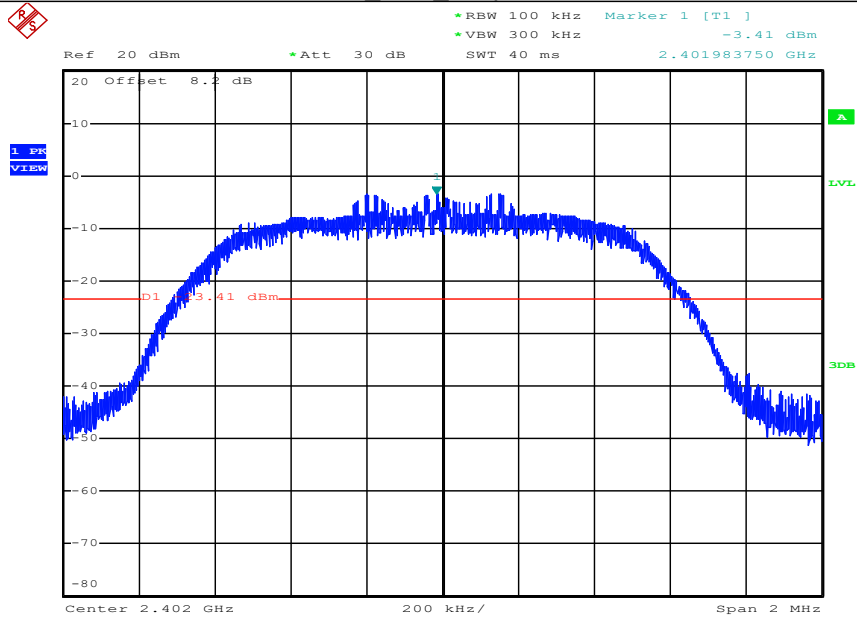
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Date: 27.SEP.2019 14:09:54

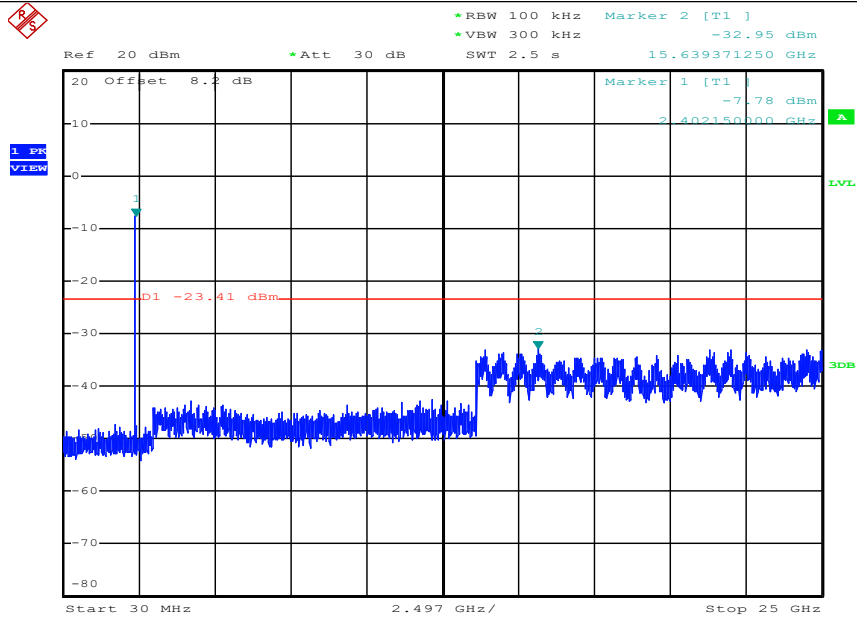
$\pi/4$ DQPSK_LCH_Graphs

Pref



Date: 27.SEP.2019 14:12:32

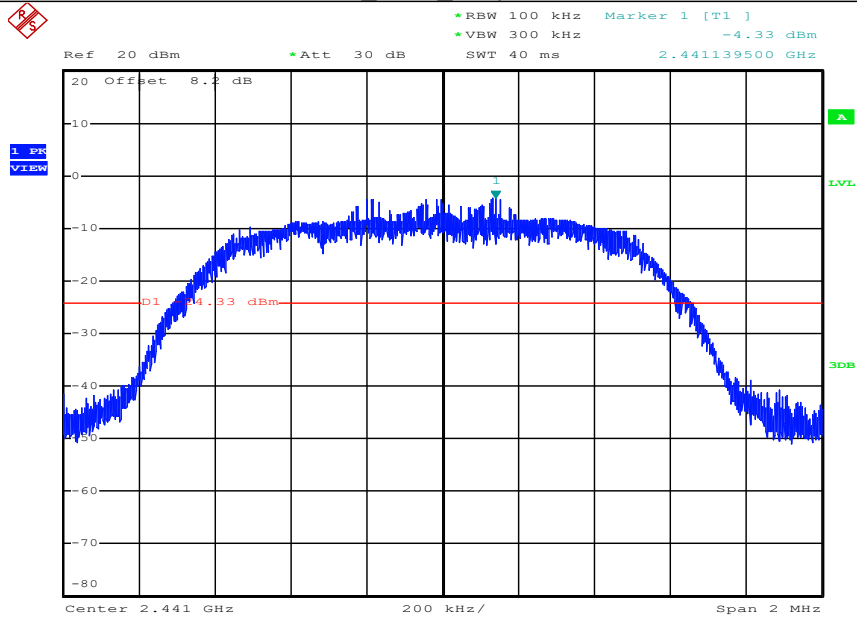
Puw



Date: 27.SEP.2019 14:12:46

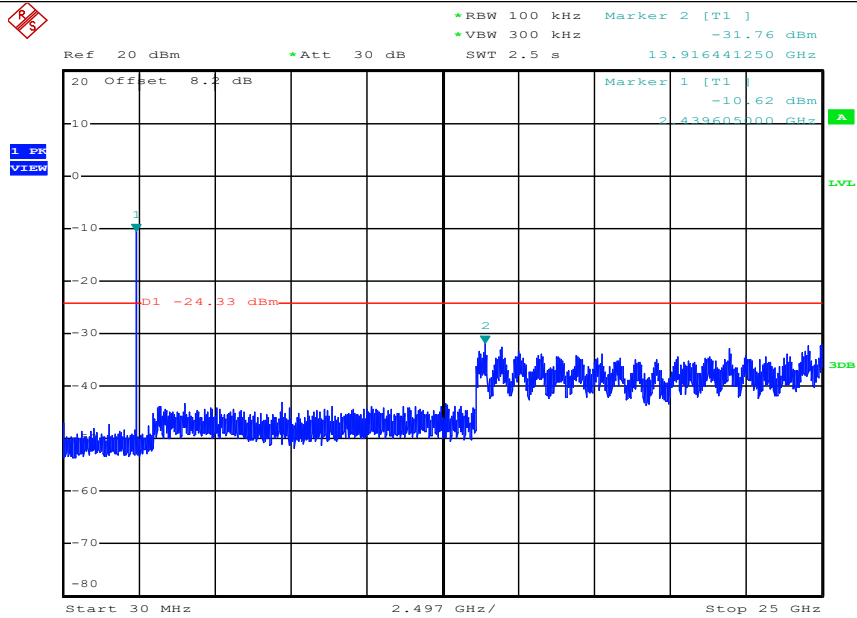
$\pi/4$ DQPSK_MCH_Graphs

Pref



Date: 27.SEP.2019 14:14:49

Puw



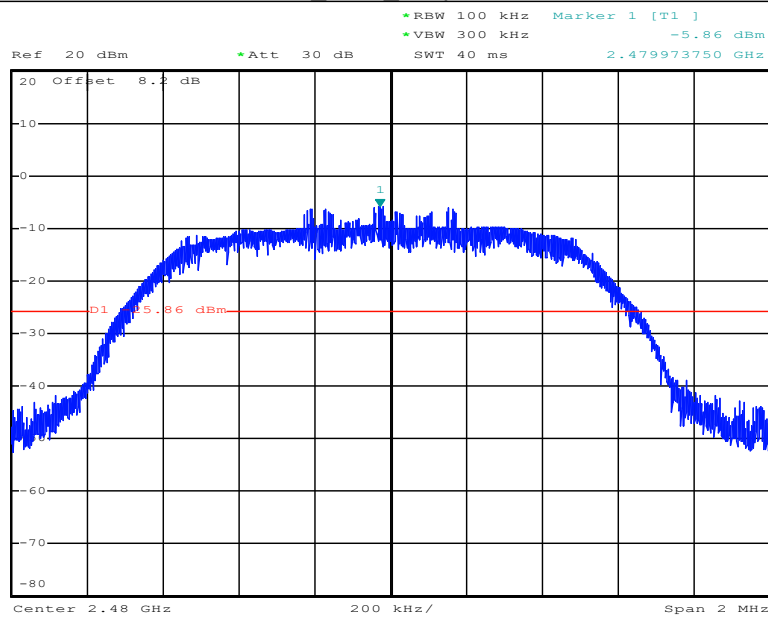
Date: 27.SEP.2019 14:15:04

$\pi/4$ DQPSK_HCH_Graphs

Pref



1 PR
VIEW

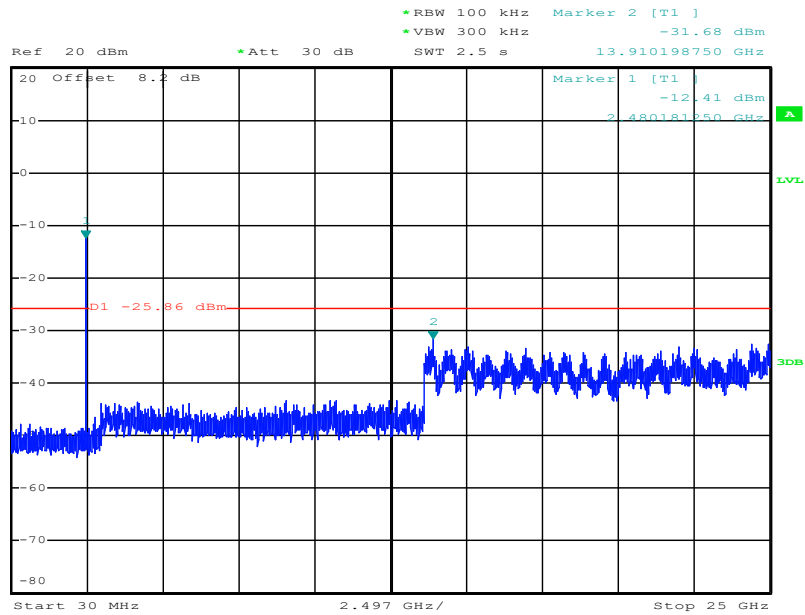


Date: 27.SEP.2019 14:17:03

Puw



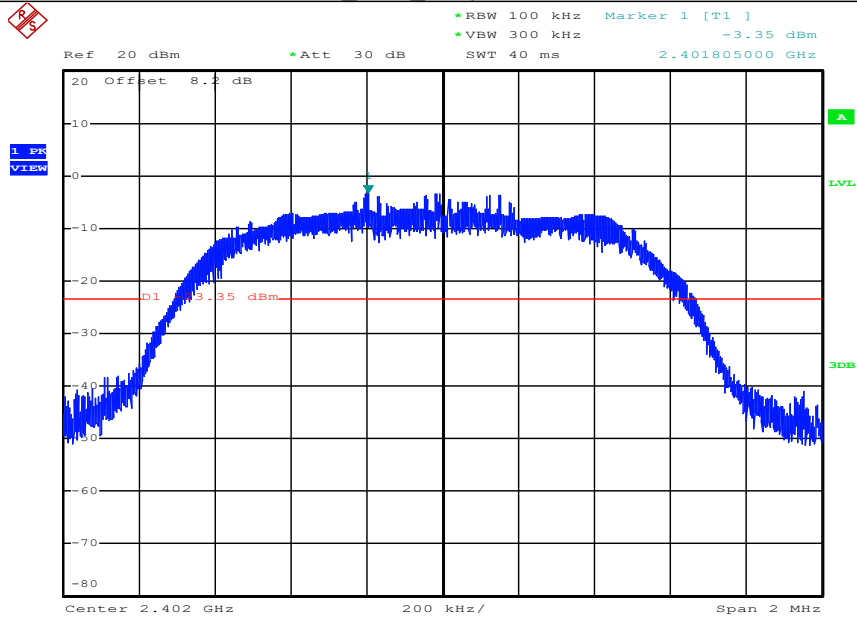
1 PR
VIEW



Date: 27.SEP.2019 14:17:17

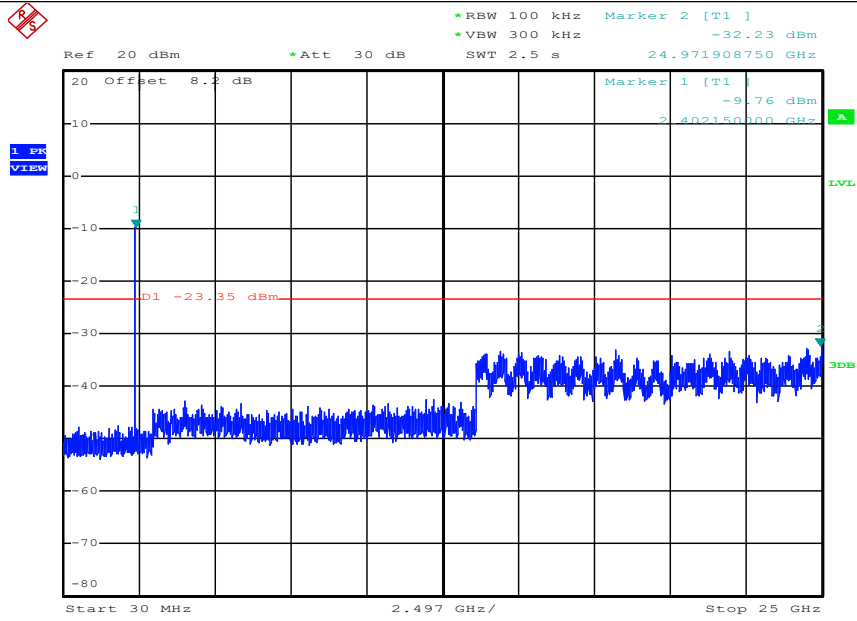
8DPSK_LCH_Graphs

Pref



Date: 27.SEP.2019 14:19:46

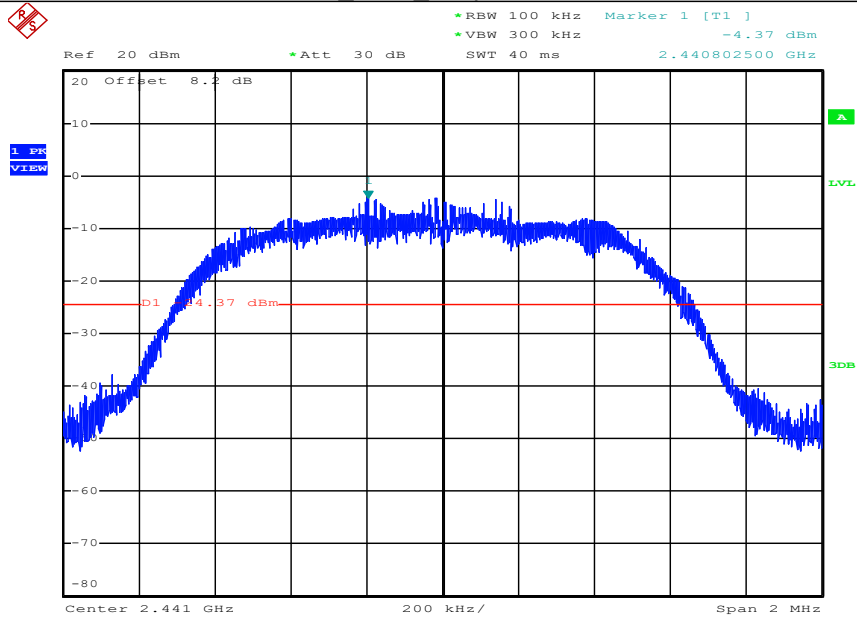
Puw



Date: 27.SEP.2019 14:20:01

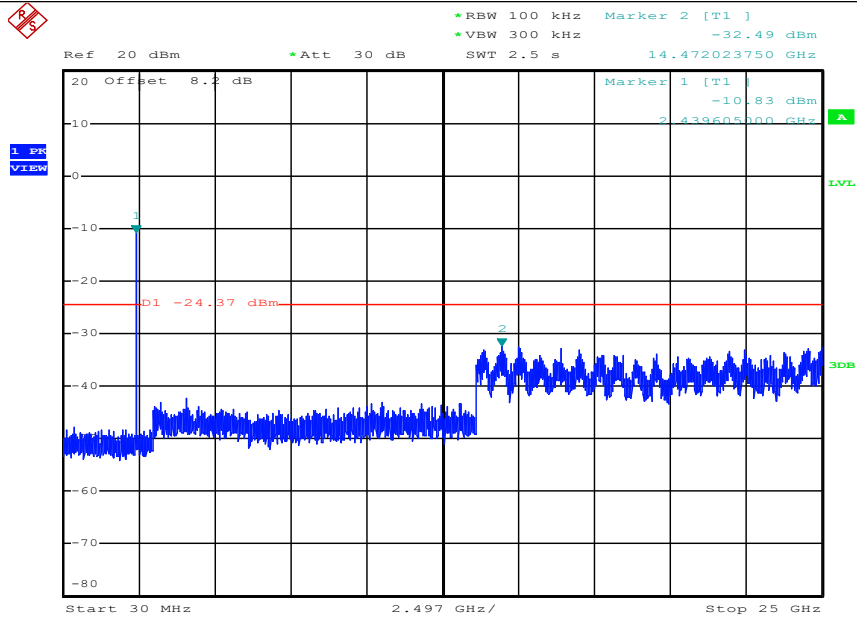
8DPSK_MCH_Graphs

Pref



Date: 27.SEP.2019 14:22:05

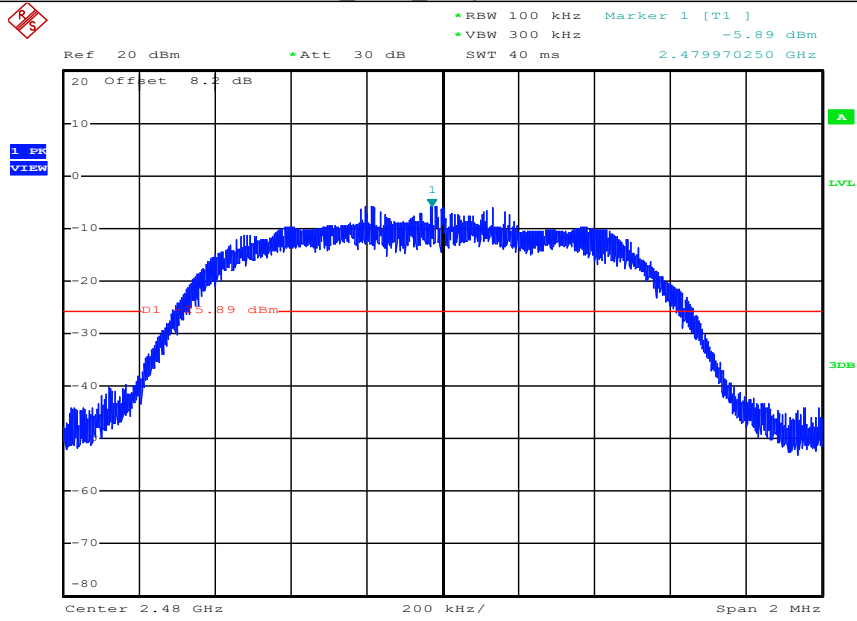
Puw



Date: 27.SEP.2019 14:22:20

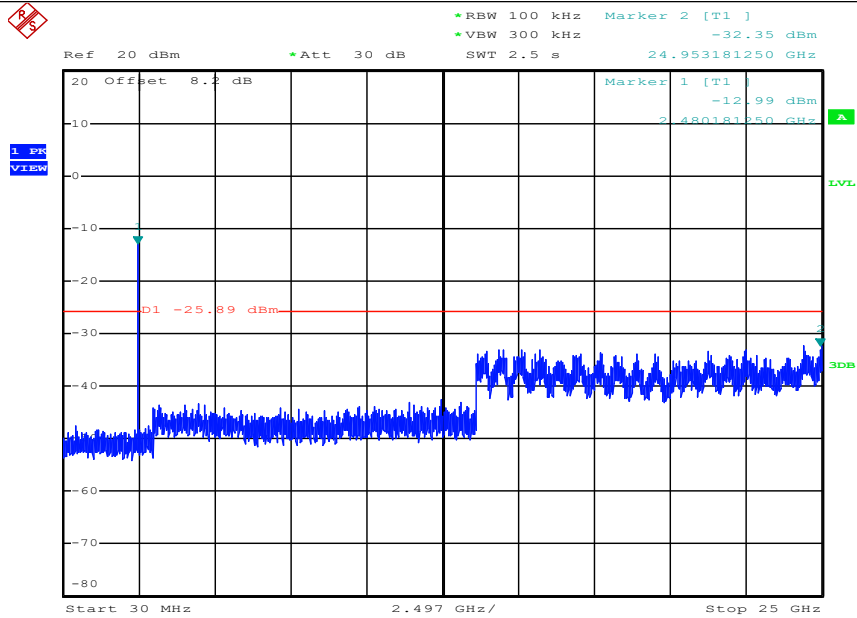
8DPSK_HCH_Graphs

Pref



Date: 27.SEP.2019 14:24:07

Puw



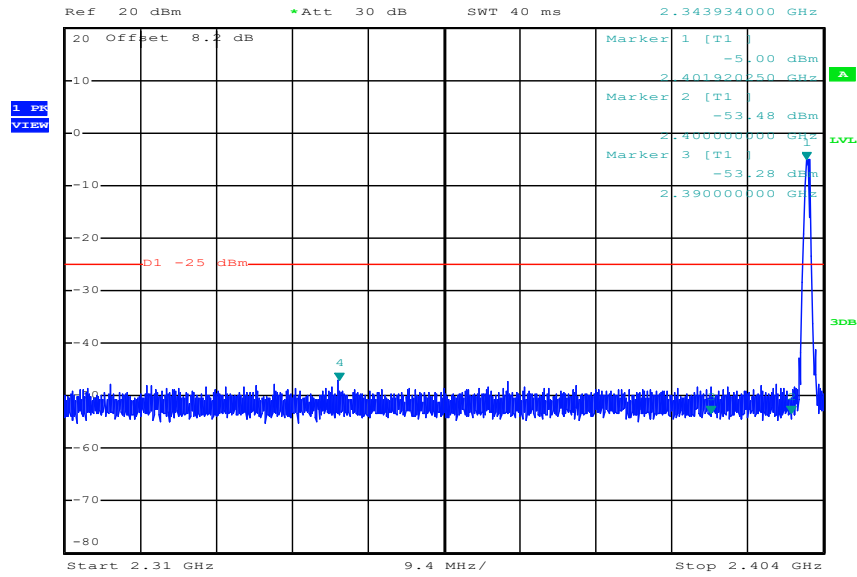
Date: 27.SEP.2019 14:24:22

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	-5.000	Off	-47.016	-25	PASS
			1.730	On	-46.673	-18.27	PASS
	HCH	2480	-6.580	Off	-47.179	-26.58	PASS
			0.660	On	-46.705	-19.34	PASS
π/4DQPSK	LCH	2402	-3.400	Off	-47.383	-23.4	PASS
			0.930	On	-46.350	-19.07	PASS
	HCH	2480	-6.010	Off	-47.221	-26.01	PASS
			0.100	On	-47.054	-19.9	PASS
8DPSK	LCH	2402	-6.160	Off	-46.873	-26.16	PASS
			1.820	On	-45.531	-18.18	PASS
	HCH	2480	-5.880	Off	-46.431	-25.88	PASS
			0.220	On	-46.050	-19.78	PASS

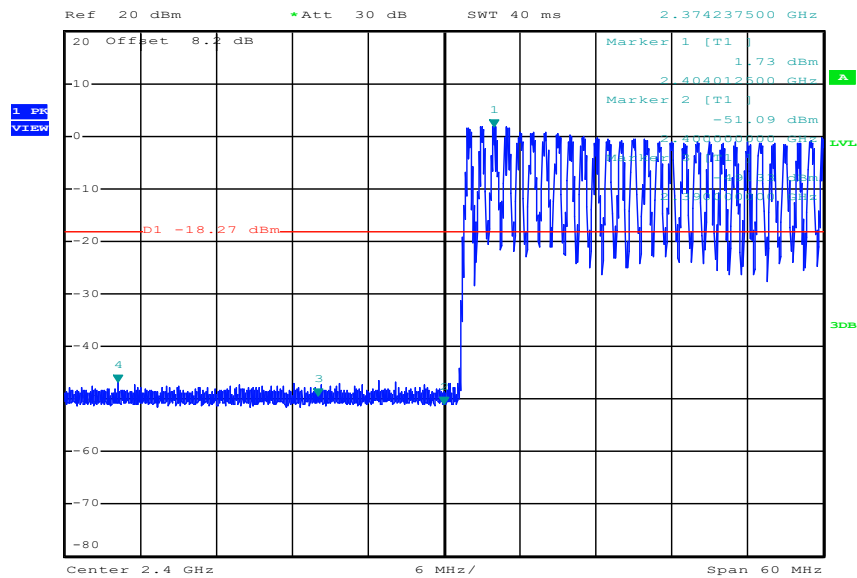
Test Graphs

GFSK/LCH/No Hop



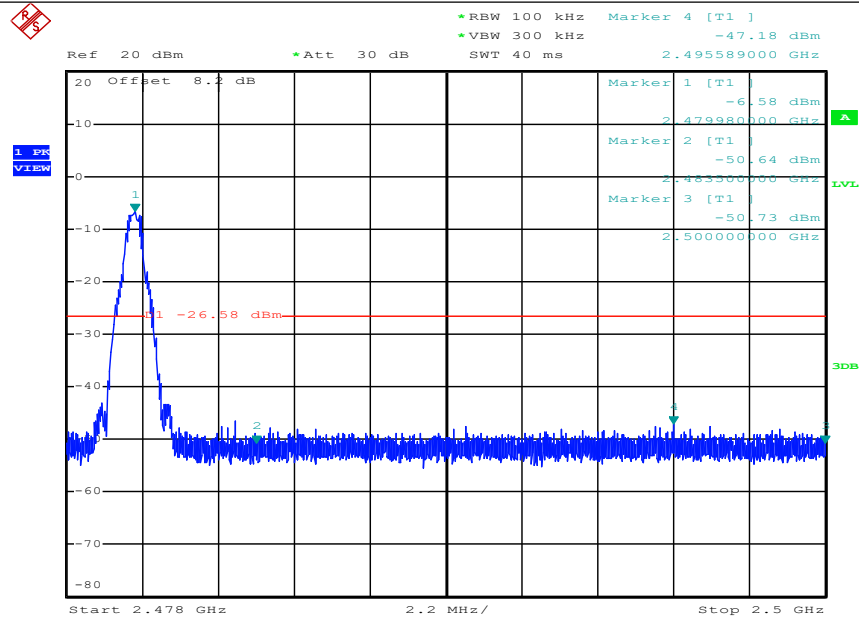
Date: 27.SEP.2019 14:02:26

GFSK/LCH/Hop



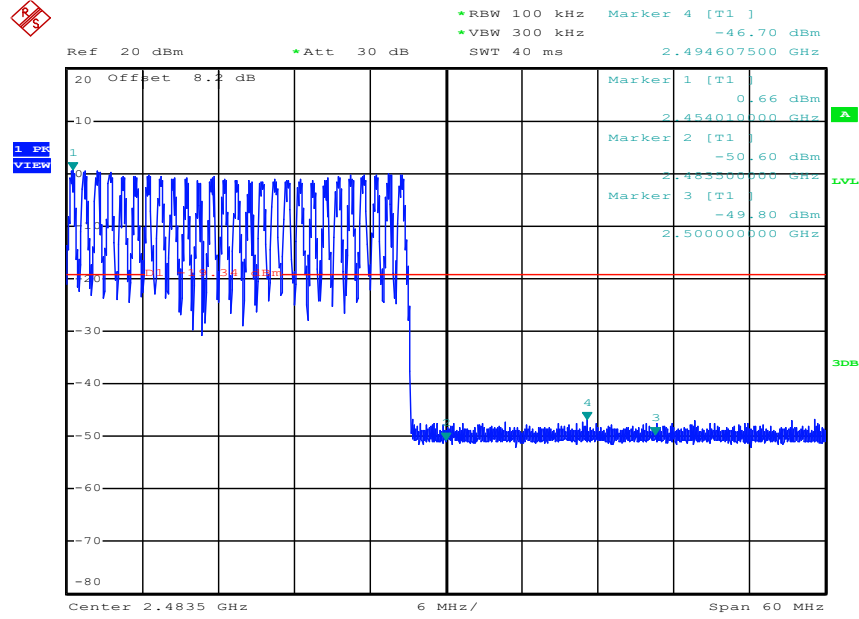
Date: 27.SEP.2019 14:40:08

GFSK/HCH/No Hop



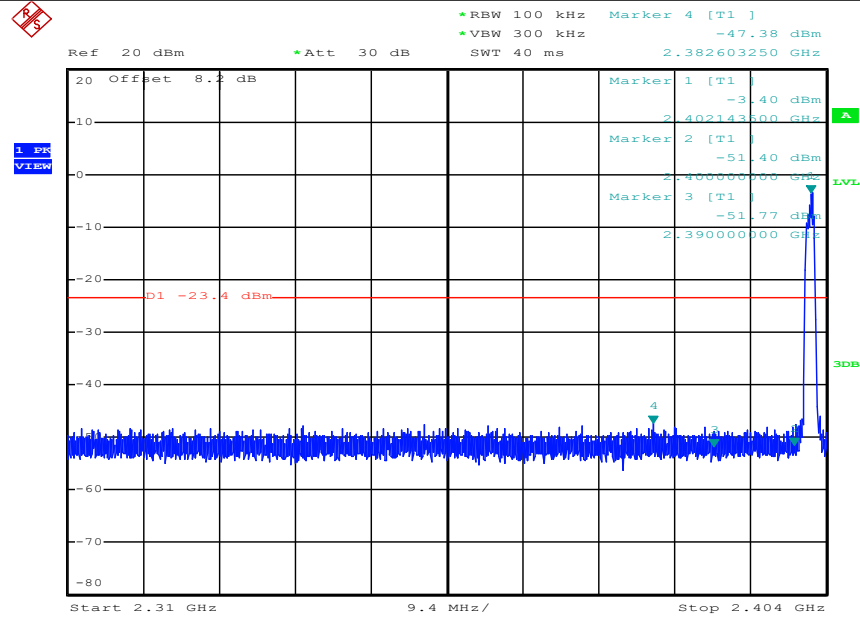
Date: 27.SEP.2019 14:09:27

GFSK/HCH/Hop



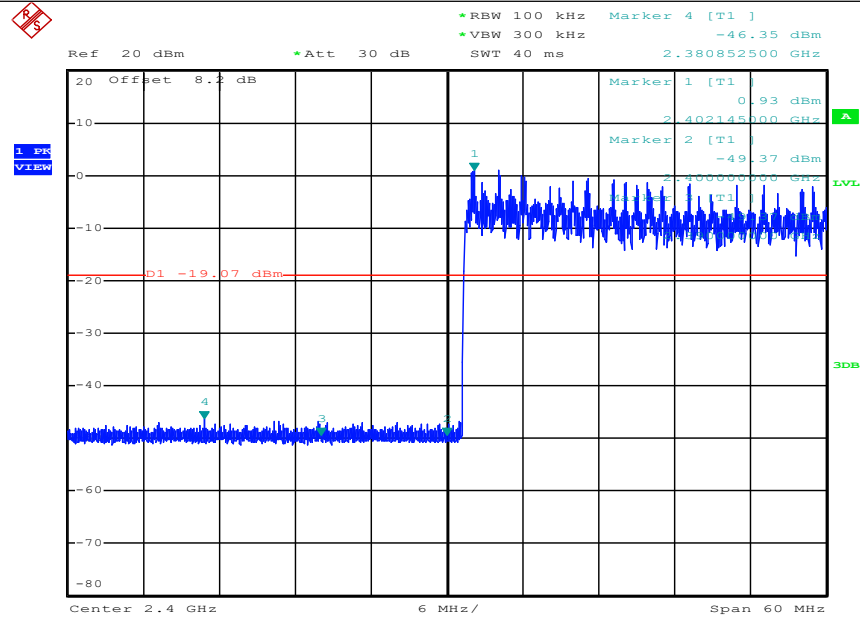
Date: 27.SEP.2019 14:43:04

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



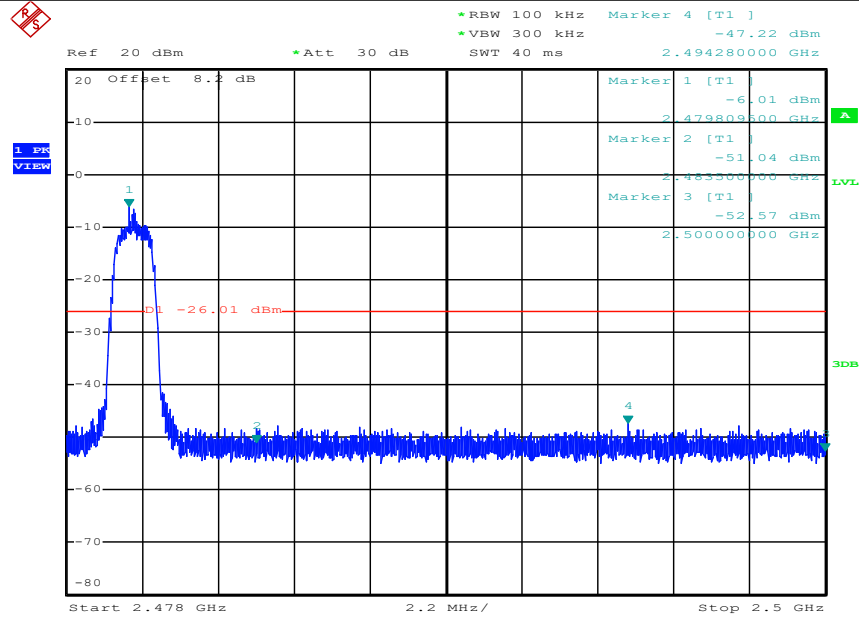
Date: 27.SEP.2019 14:12:19

$\pi/4$ DQPSK/LCH/Hop



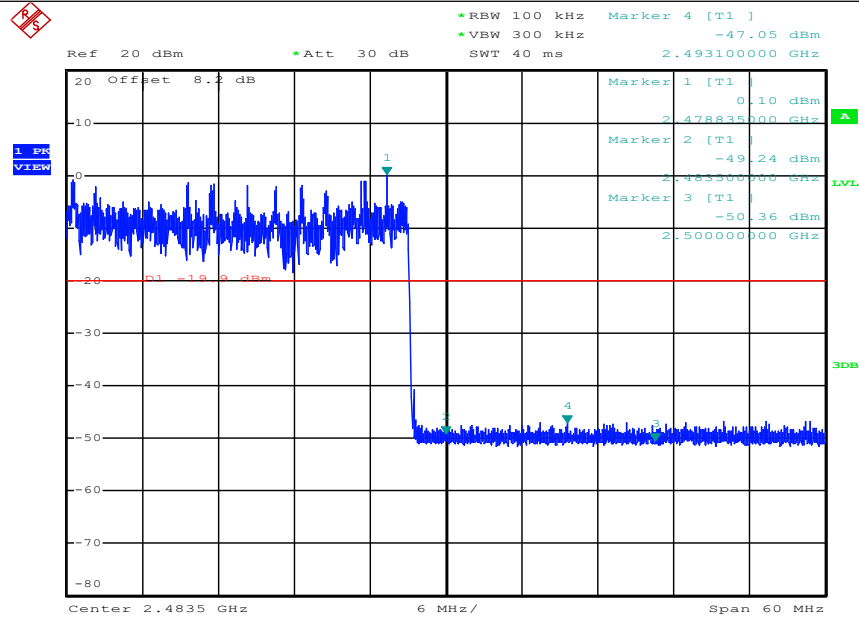
Date: 27.SEP.2019 14:47:58

π /4DQPSK/HCH/No
Hop



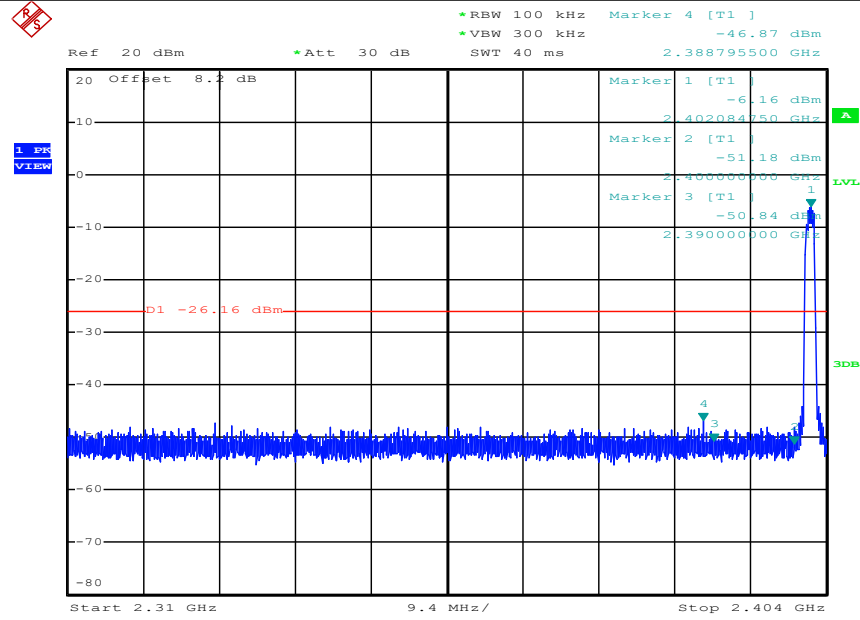
Date: 27.SEP.2019 14:16:50

π /4DQPSK/HCH/Hop

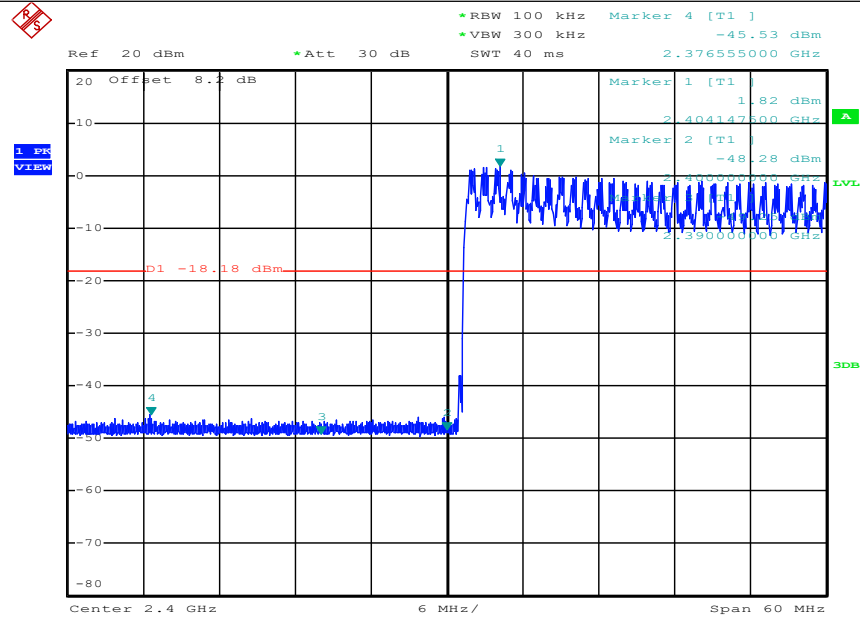


Date: 27.SEP.2019 14:52:07

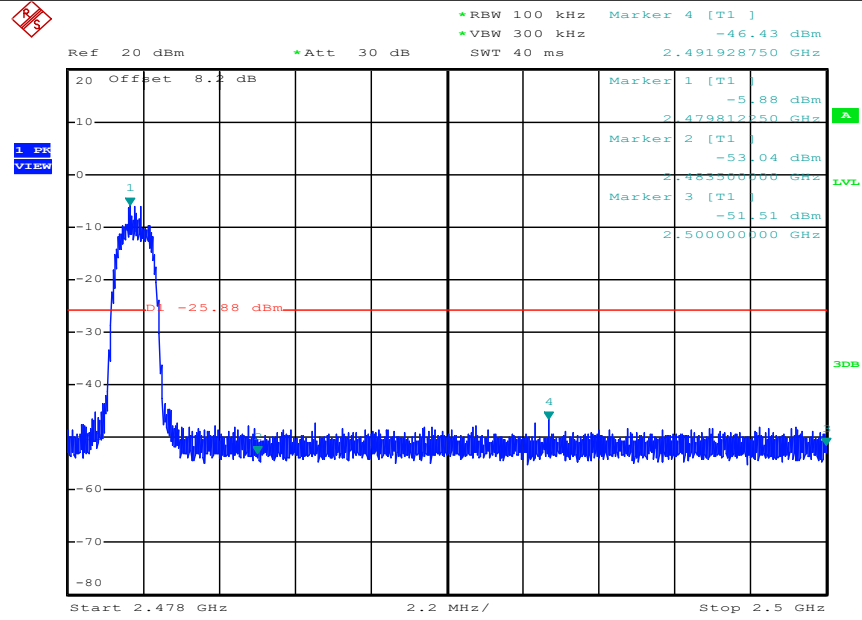
8DPSK/LCH/No Hop



8DPSK/LCH/Hop

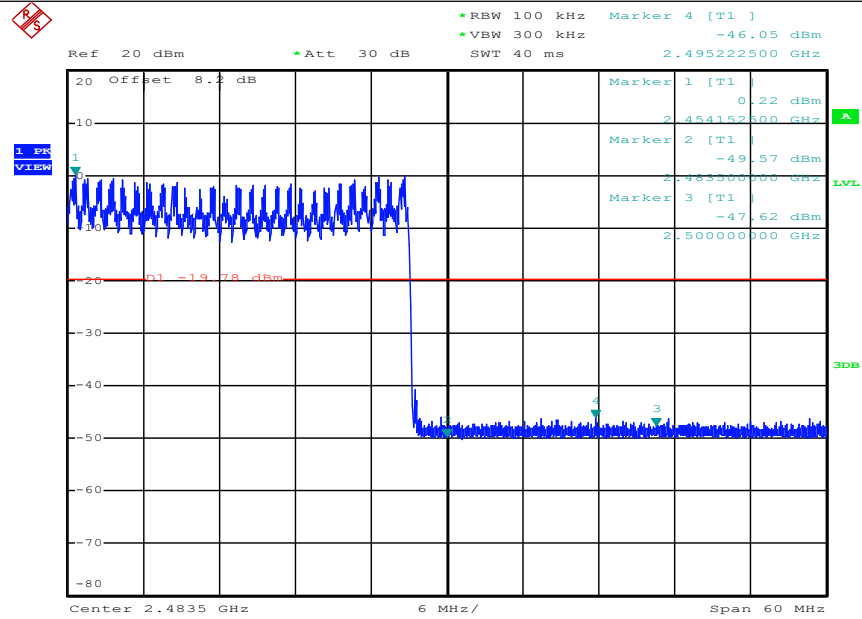


8DPSK/HCH/No Hop



Date: 27.SEP.2019 14:23:54

8DPSK/HCH/Hop

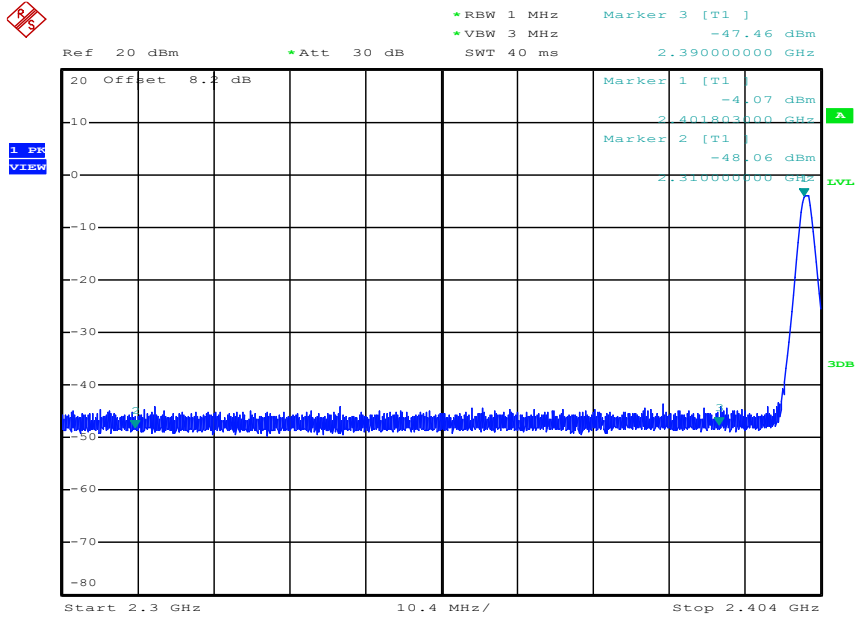


Date: 27.SEP.2019 15:38:24

A.8 Restrict-band band-edge measurements

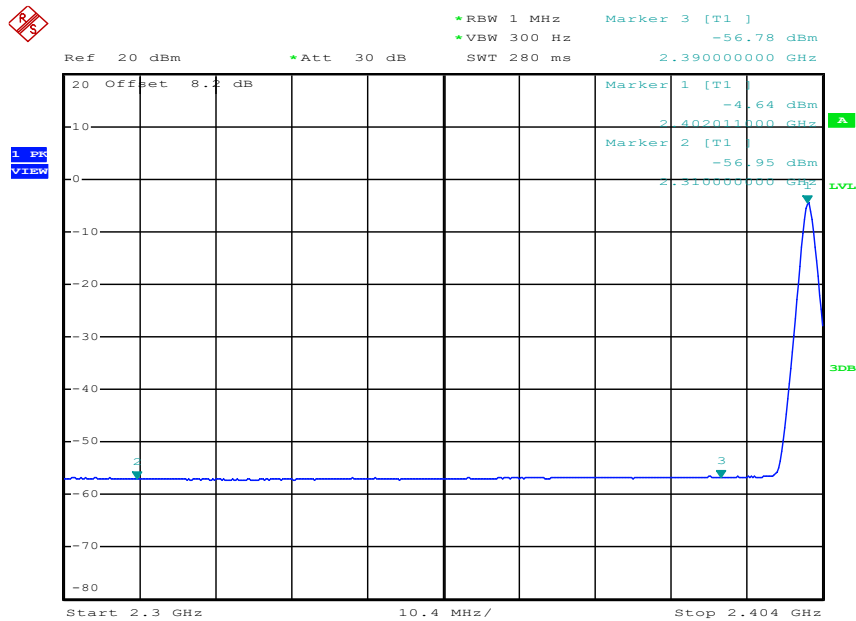
Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-48.06	2.0	0	49.20	PEAK	74	PASS
	Off	2310.0	-56.95	2.0	0	40.31	AV	54	PASS
	Off	2390.0	-47.46	2.0	0	49.80	PEAK	74	PASS
	Off	2390.0	-56.78	2.0	0	40.48	AV	54	PASS
	Off	2483.5	-42.81	2.0	0	54.45	PEAK	74	PASS
	Off	2483.5	-48.43	2.0	0	48.83	AV	54	PASS
	Off	2500.0	-48.50	2.0	0	48.76	PEAK	74	PASS
	Off	2500.0	-57.34	2.0	0	39.92	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-48.71	2.0	0	48.55	PEAK	74	PASS
	Off	2310.0	-57.03	2.0	0	40.23	AV	54	PASS
	Off	2390.0	-45.75	2.0	0	51.51	PEAK	74	PASS
	Off	2390.0	-56.64	2.0	0	40.62	AV	54	PASS
	Off	2483.5	-41.85	2.0	0	55.41	PEAK	74	PASS
	Off	2483.5	-48.24	2.0	0	49.02	AV	54	PASS
	Off	2500.0	-47.41	2.0	0	49.85	PEAK	74	PASS
	Off	2500.0	-57.39	2.0	0	39.87	AV	54	PASS
8DPSK	Off	2310.0	-47.82	2.0	0	49.44	PEAK	74	PASS
	Off	2310.0	-57.04	2.0	0	40.22	AV	54	PASS
	Off	2390.0	-46.01	2.0	0	51.25	PEAK	74	PASS
	Off	2390.0	-56.77	2.0	0	40.49	AV	54	PASS
	Off	2483.5	-41.76	2.0	0	55.50	PEAK	74	PASS
	Off	2483.5	-48.24	2.0	0	49.02	AV	54	PASS
	Off	2500.0	-47.14	2.0	0	50.12	PEAK	74	PASS
	Off	2500.0	-57.46	2.0	0	39.80	AV	54	PASS

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



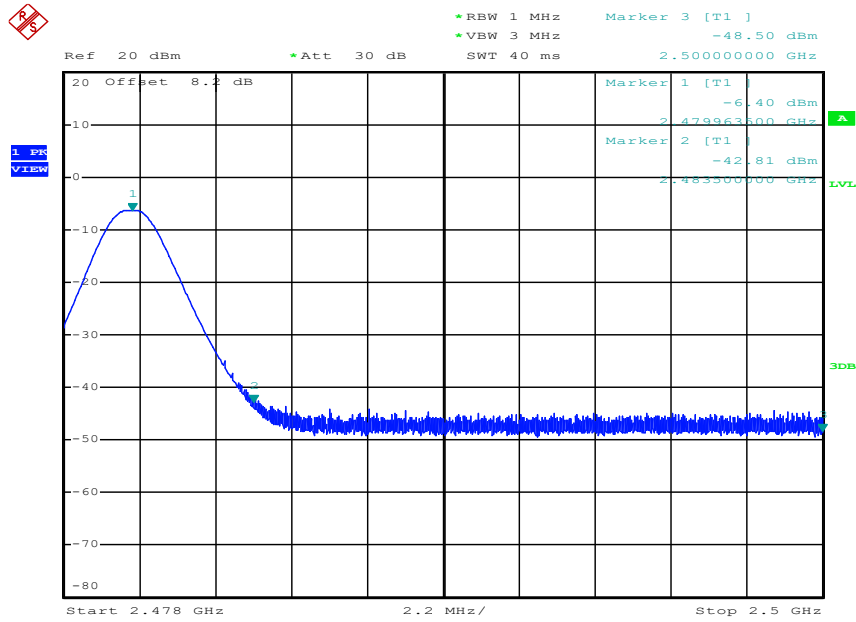
Date: 27.SEP.2019 14:03:13

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



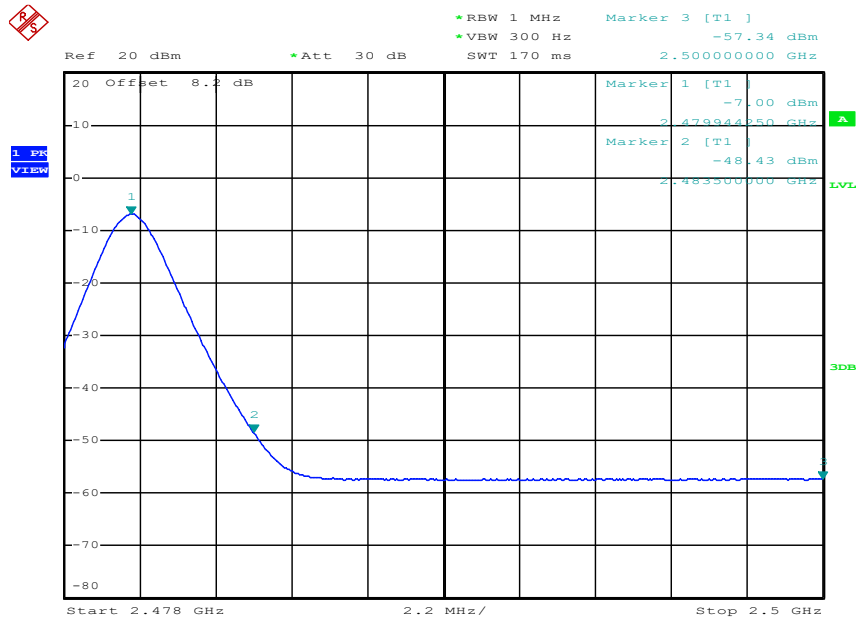
Date: 27.SEP.2019 14:03:26

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



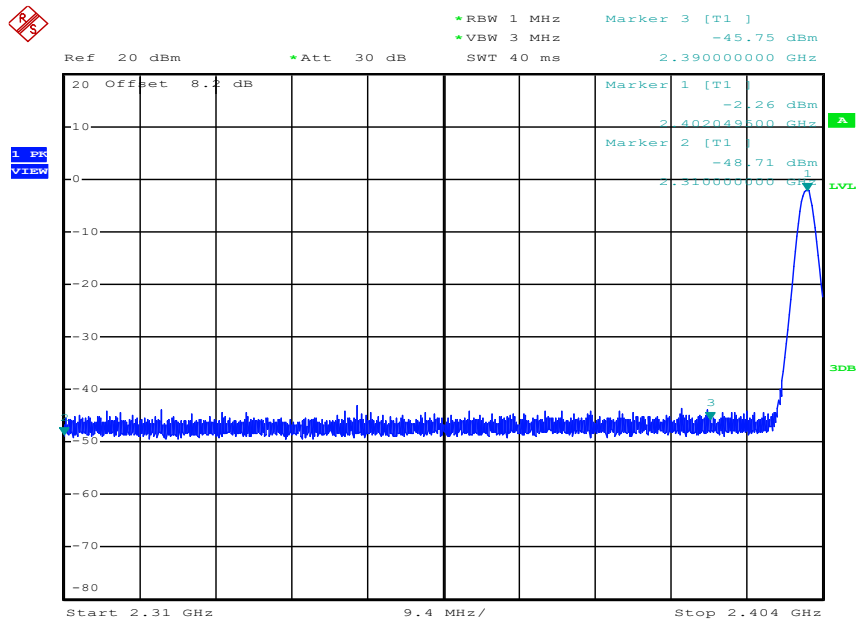
Date: 27.SEP.2019 14:10:13

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



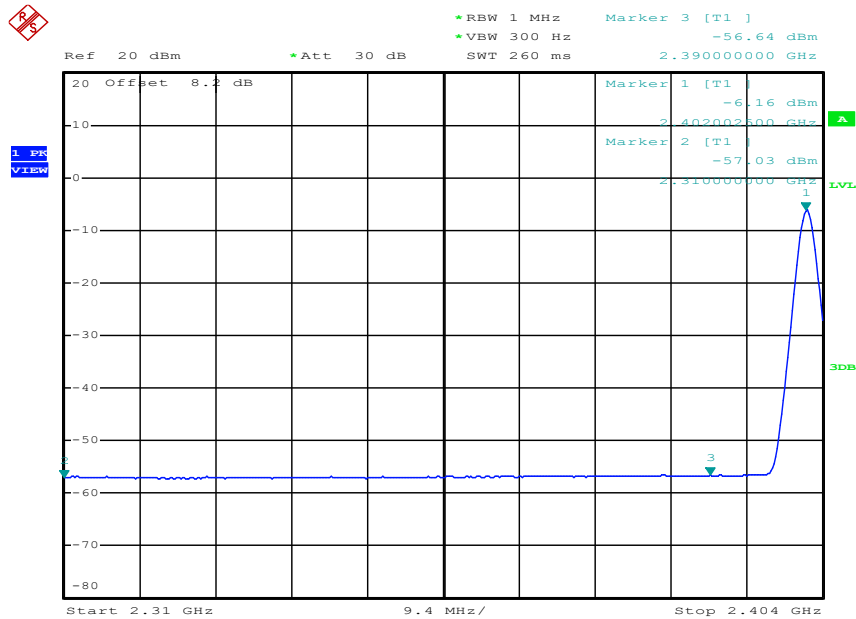
Date: 27.SEP.2019 14:10:26

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



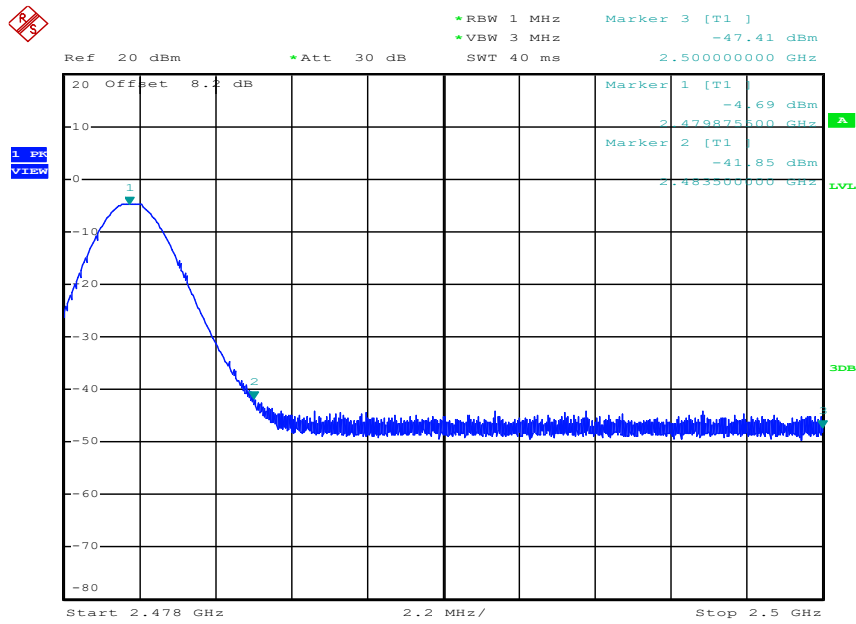
Date: 27.SEP.2019 14:13:05

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



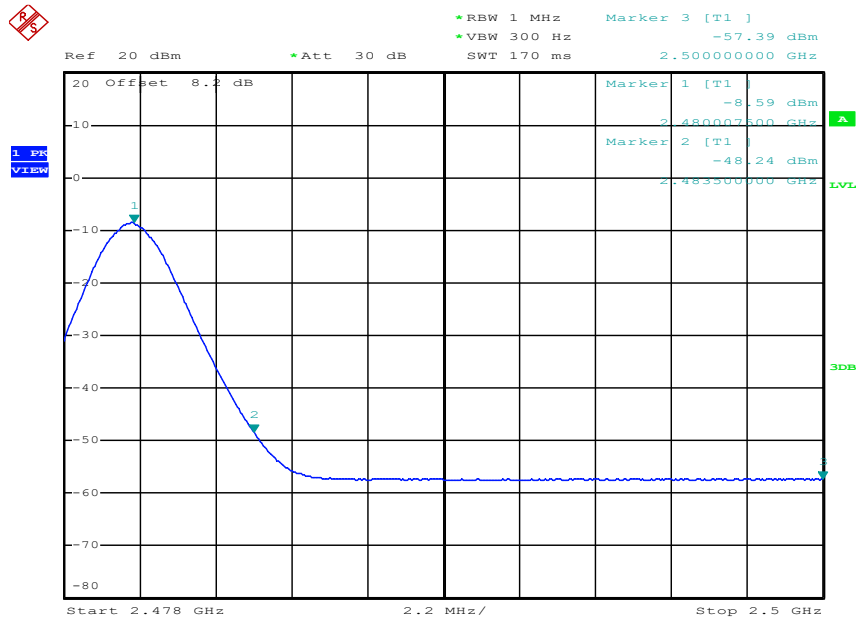
Date: 27.SEP.2019 14:13:18

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



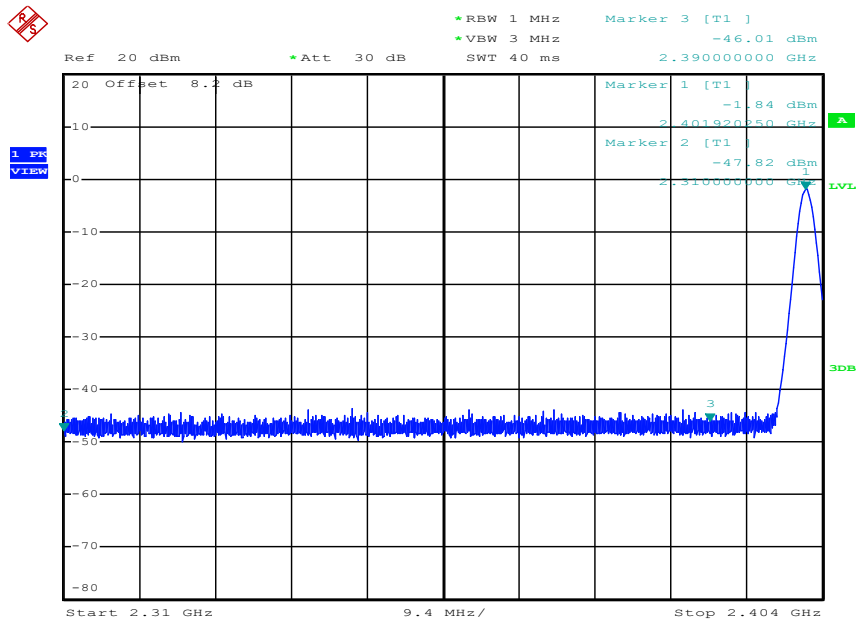
Date: 27.SEP.2019 14:17:36

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



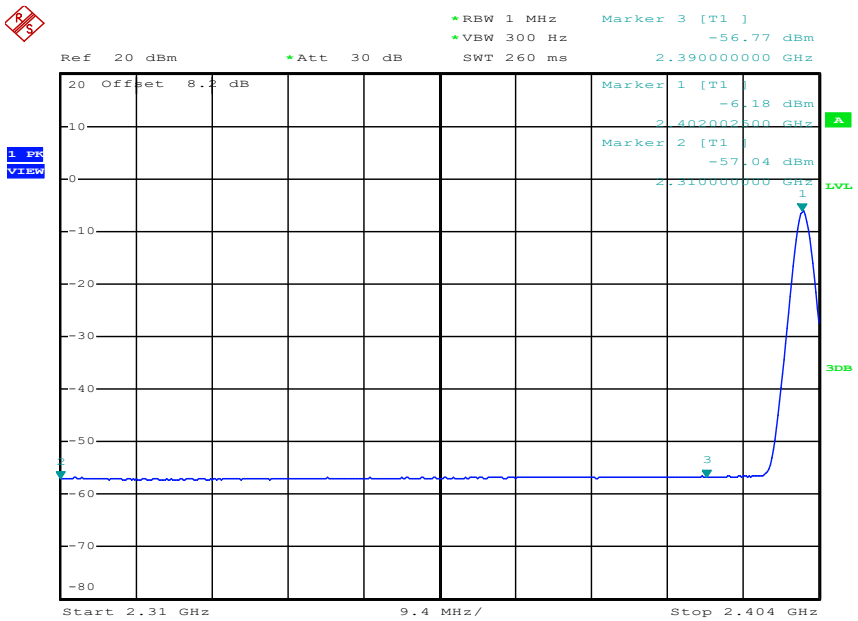
Date: 27.SEP.2019 14:17:49

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



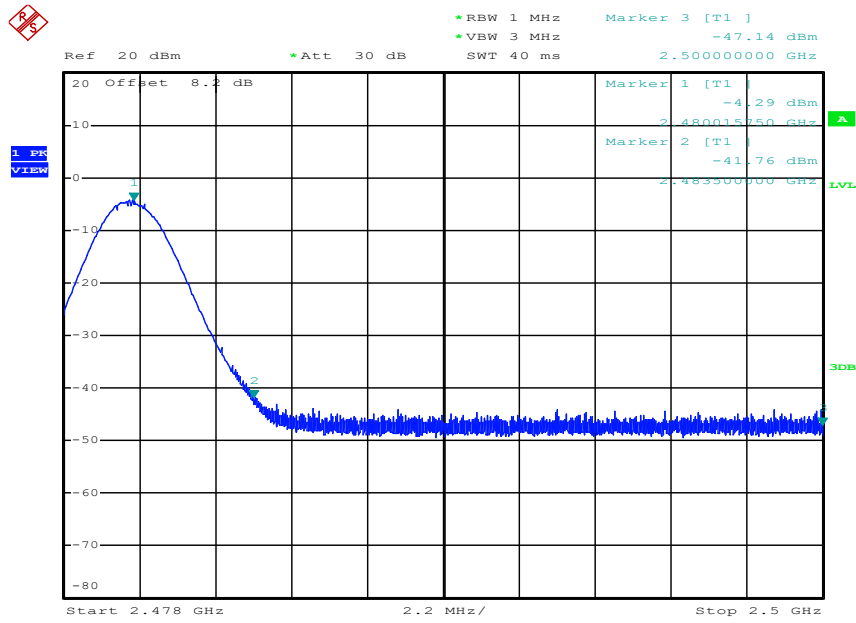
Date: 27.SEP.2019 14:20:20

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



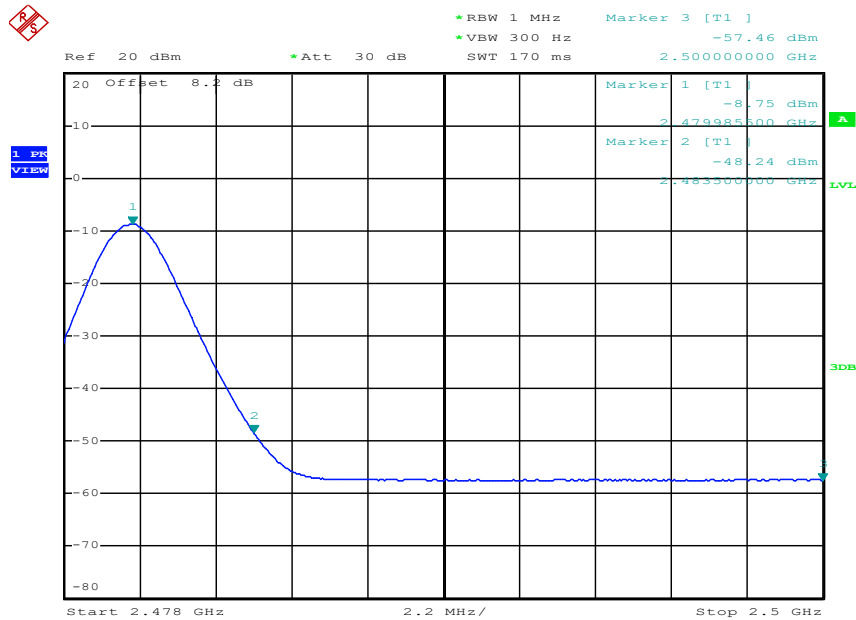
Date: 27.SEP.2019 14:20:33

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



Date: 27.SEP.2019 14:24:40

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



Date: 27.SEP.2019 14:24:54