

Appendix A

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

Product Name: Mini Projector

Trade Mark: N/A

Test Model: HDP300

Environmental Conditions

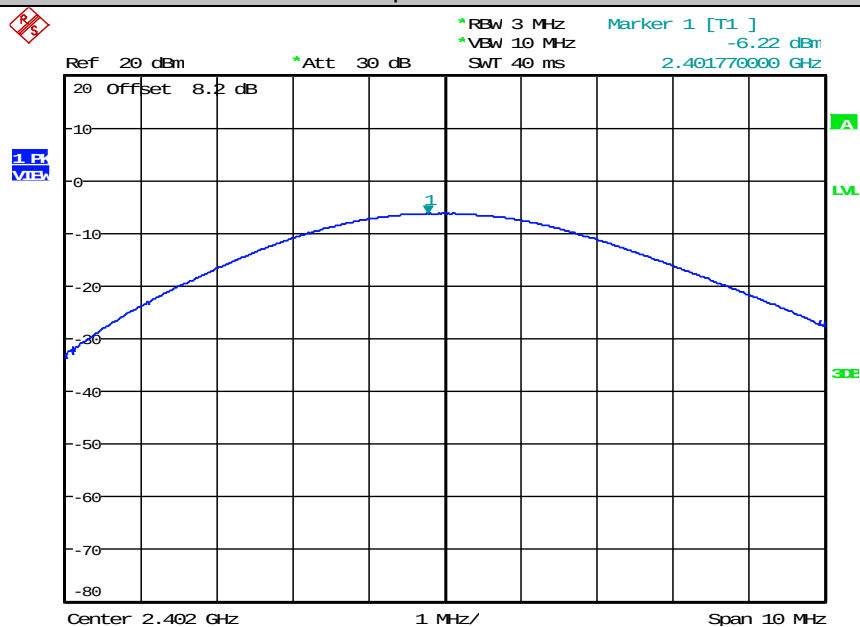
Temperature:	24.1 ° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Wang.Chuang

A.1 Maximum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-6.220	30	PASS
	MCH	-5.790	30	PASS
	HCH	-5.180	30	PASS
$\pi/4$ DQPSK	LCH	-6.980	21	PASS
	MCH	-6.710	21	PASS
	HCH	-6.220	21	PASS
8DPSK	LCH	-6.860	21	PASS
	MCH	-6.550	21	PASS
	HCH	-6.090	21	PASS

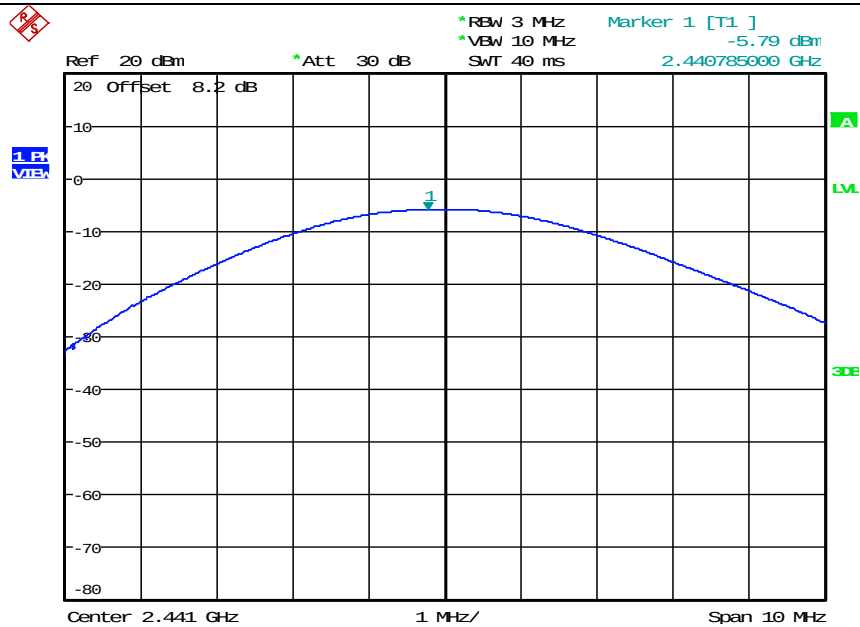
Test Graphs

GFSK/LCH



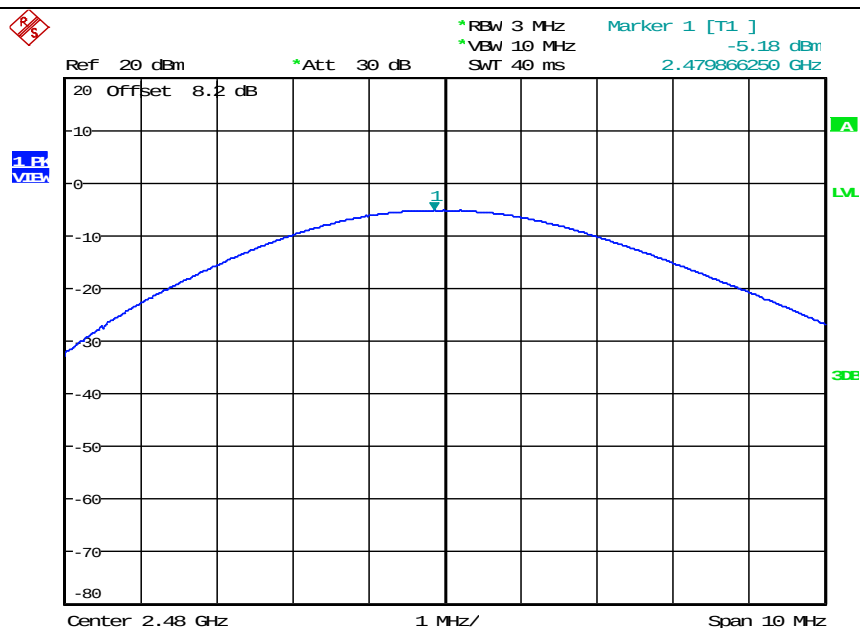
Date: 5.SEP.2019 11:30:20

GFSK/MCH

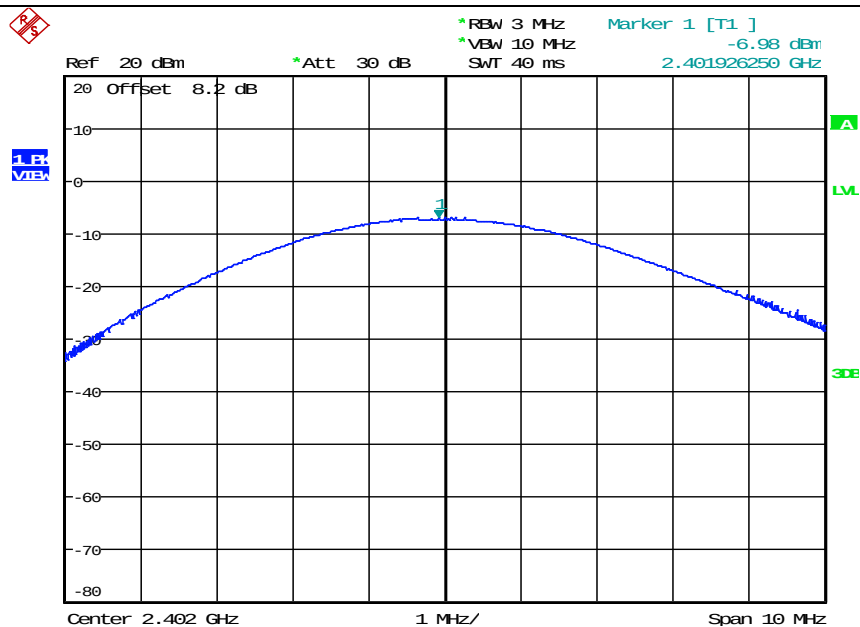


Date: 5.SEP.2019 11:32:48

GFSK/HCH

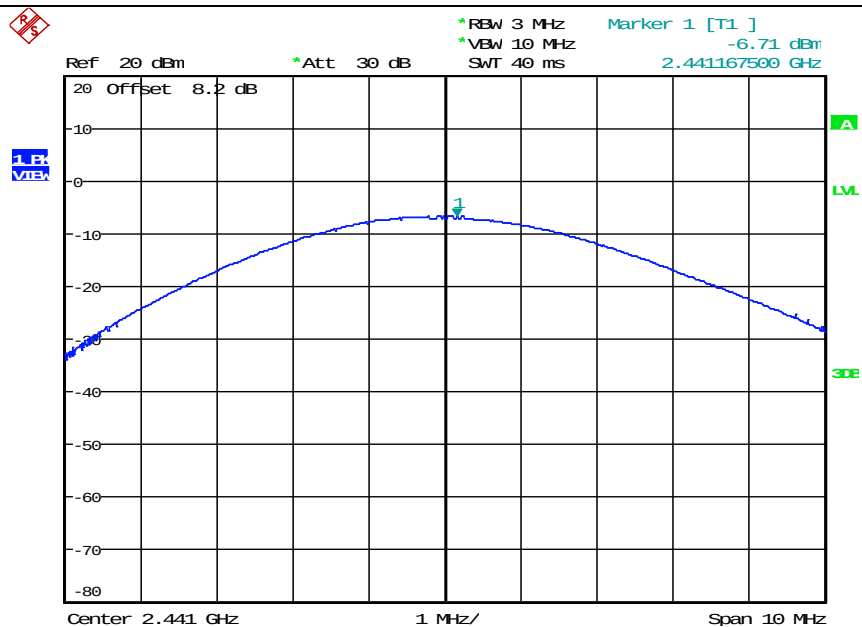


Date: 5.SEP.2019 11:37:17

 $\pi/4$ DQPSK/LCH

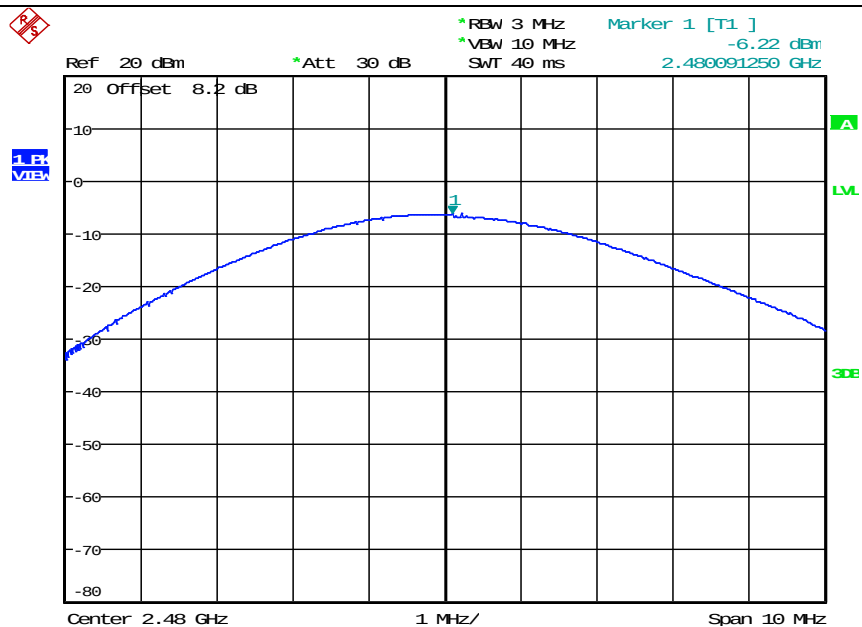
Date: 5.SEP.2019 11:41:53

$\pi/4$ DQPSK/MCH



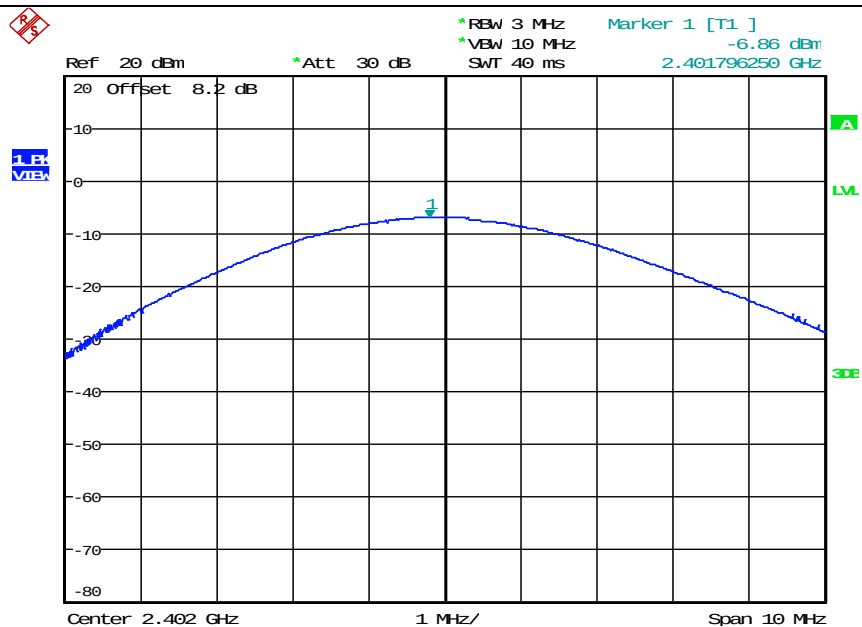
Date: 5.SEP.2019 11:44:22

$\pi/4$ DQPSK/HCH



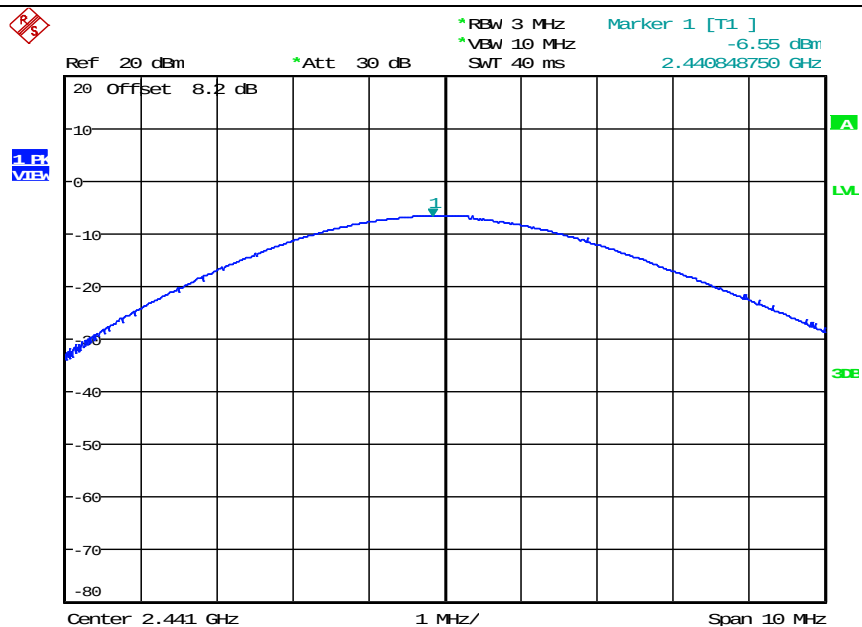
Date: 5.SEP.2019 11:46:08

8DPSK/LCH



Date: 5.SEP.2019 11:49:03

8DPSK/MCH

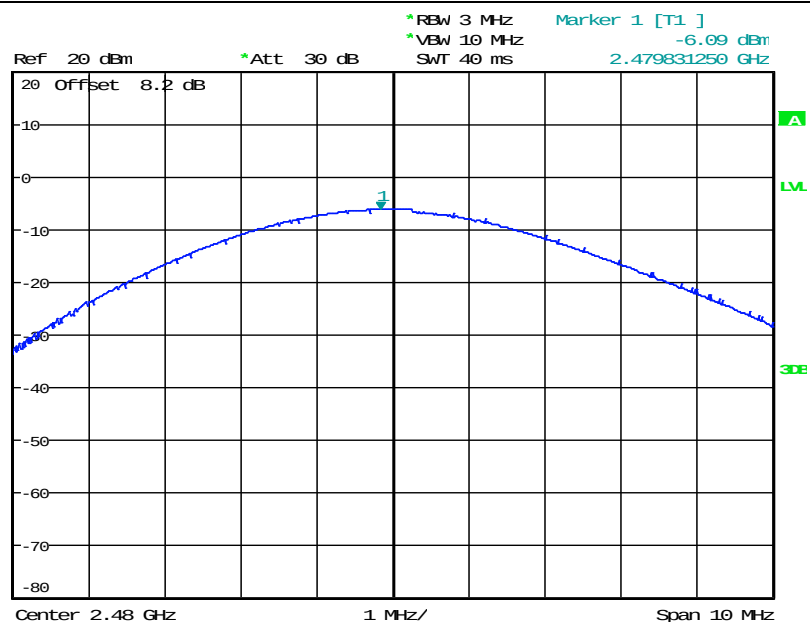


Date: 5.SEP.2019 11:51:45

8DPSK/HCH



1 R
VIB



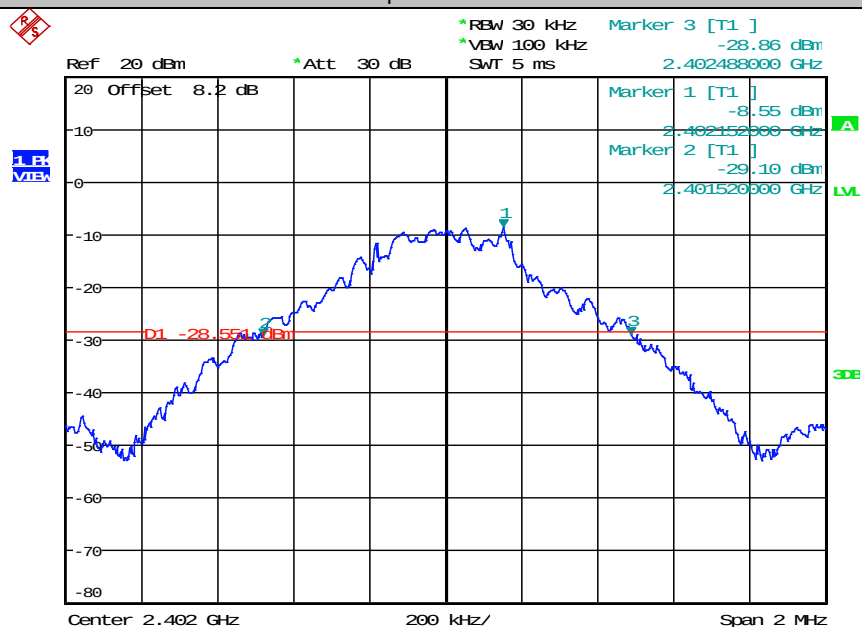
Date: 5.SEP.2019 11:53:32

A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.968	Not Specified	PASS
	MCH	1.030	Not Specified	PASS
	HCH	1.034	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.312	Not Specified	PASS
	MCH	1.288	Not Specified	PASS
	HCH	1.286	Not Specified	PASS
8DPSK	LCH	1.310	Not Specified	PASS
	MCH	1.290	Not Specified	PASS
	HCH	1.296	Not Specified	PASS

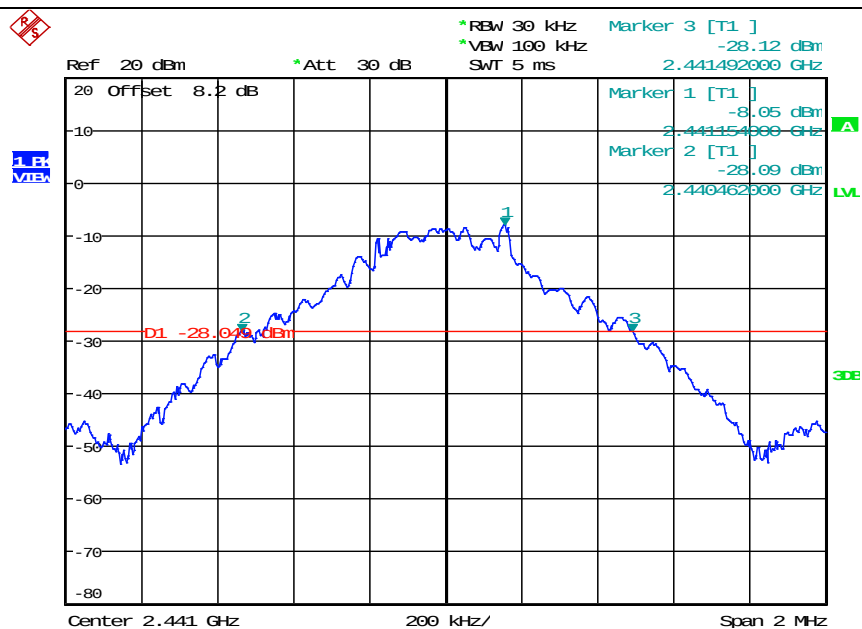
Test Graphs

GFSK/LCH



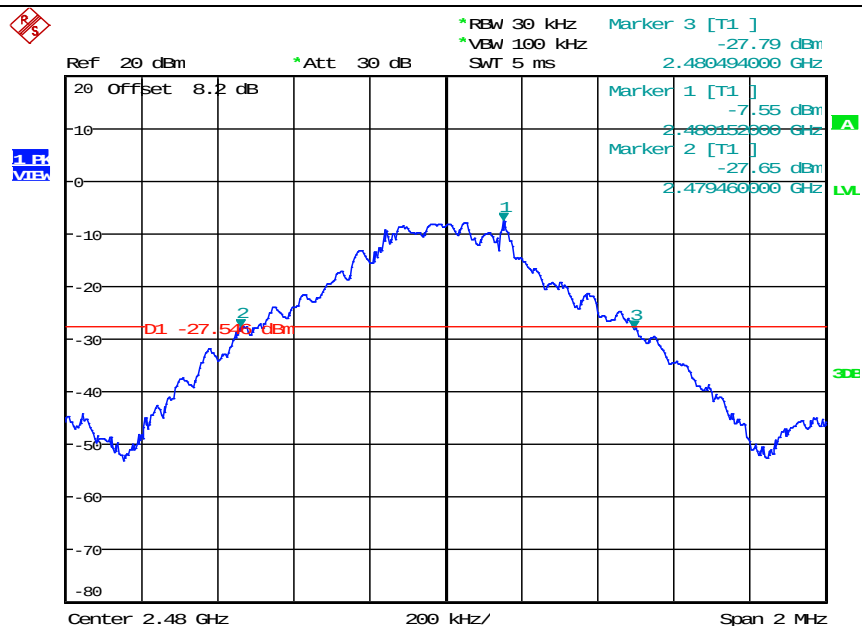
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GFSK/MCH

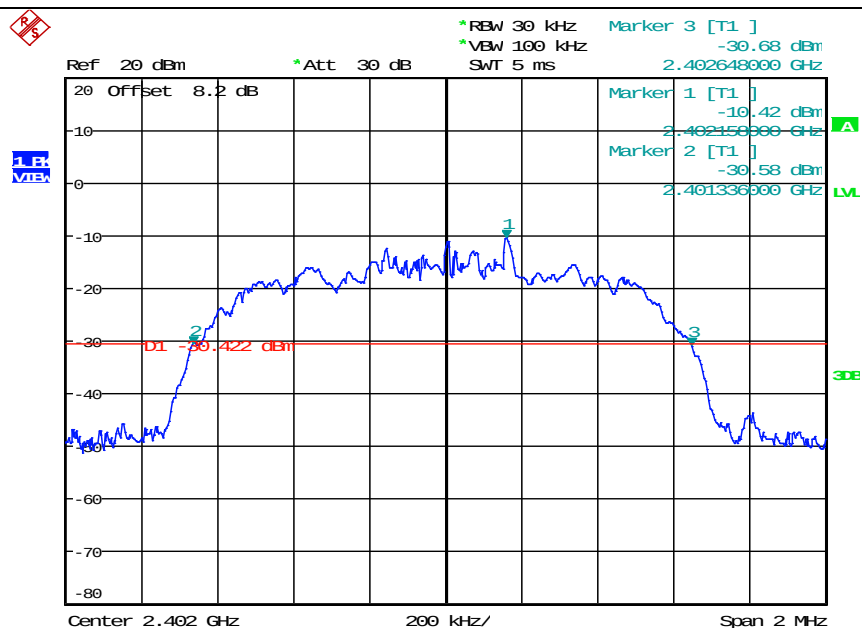
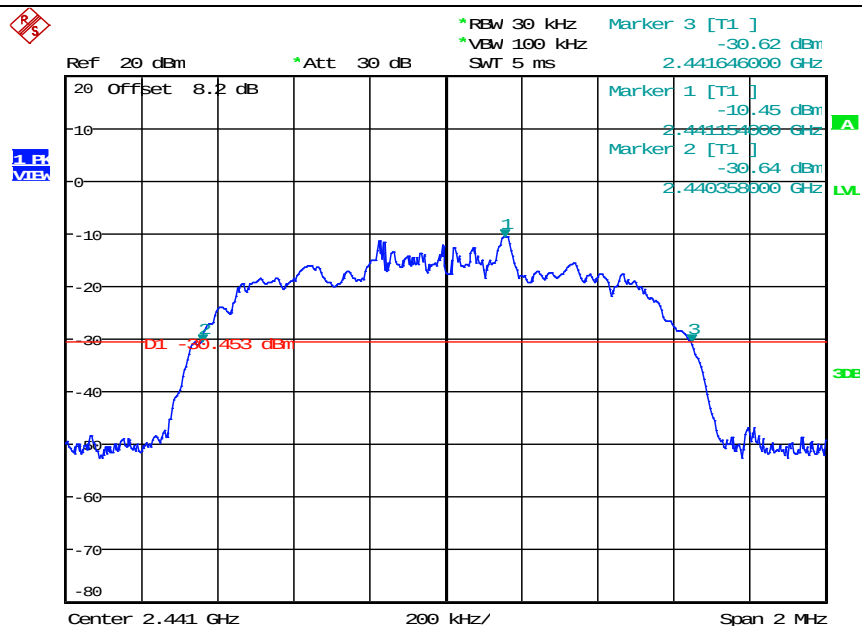


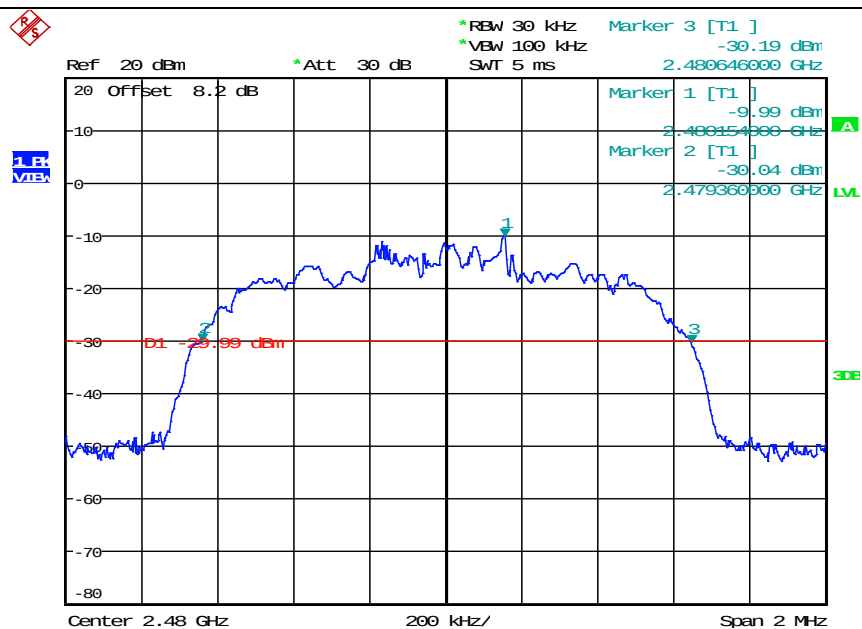
Date: 5.SEP.2019 11:32:12

GFSK/HCH



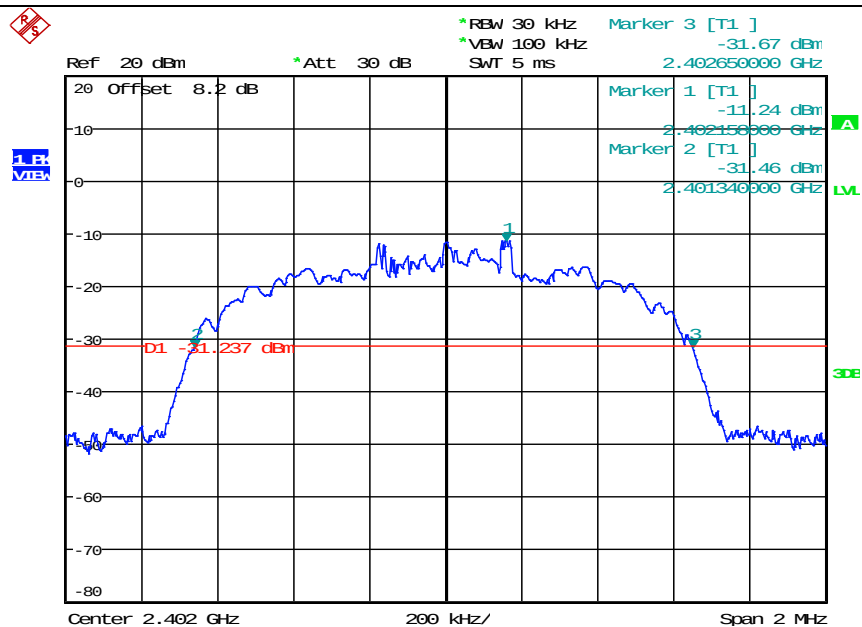
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$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

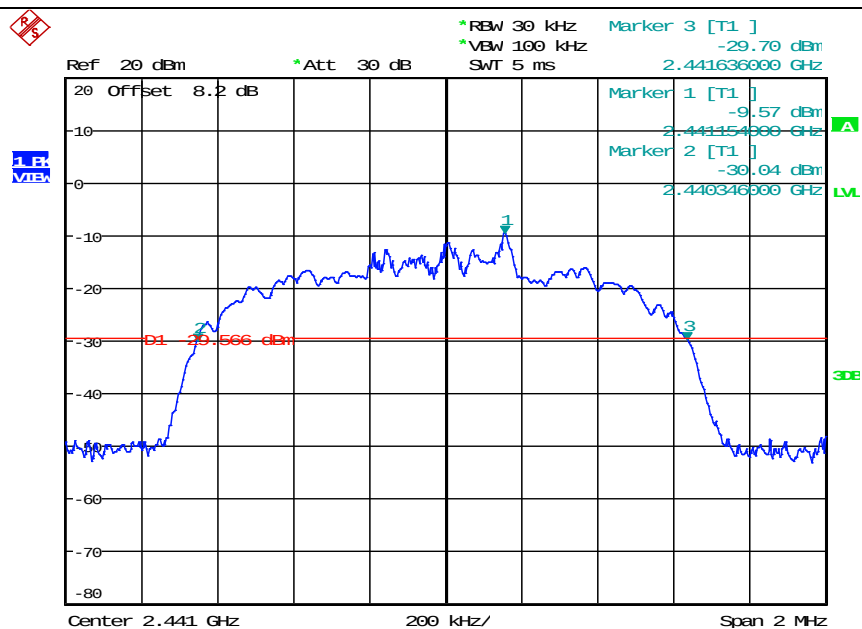
Date: 5.SEP.2019 11:45:32

8DPSK/LCH

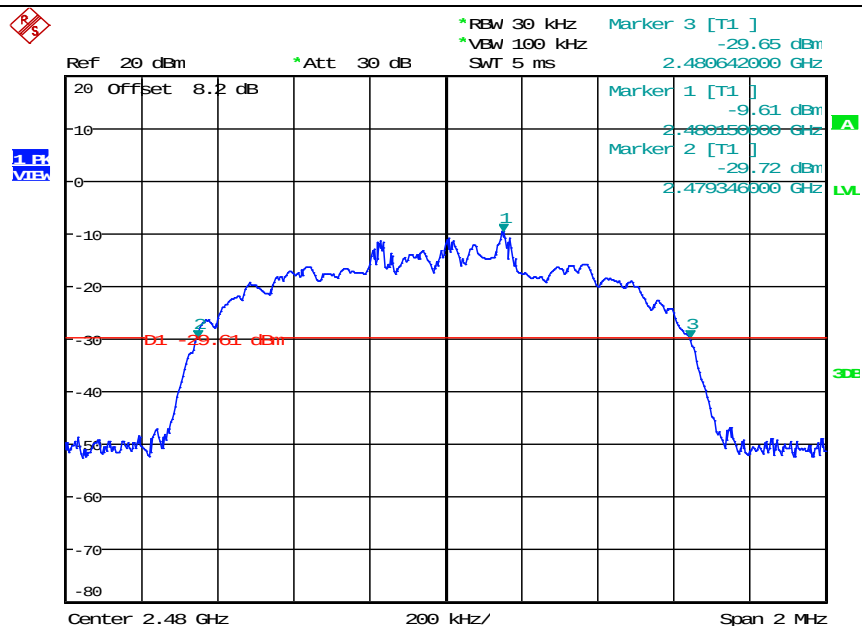


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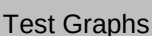
8DPSK/MCH



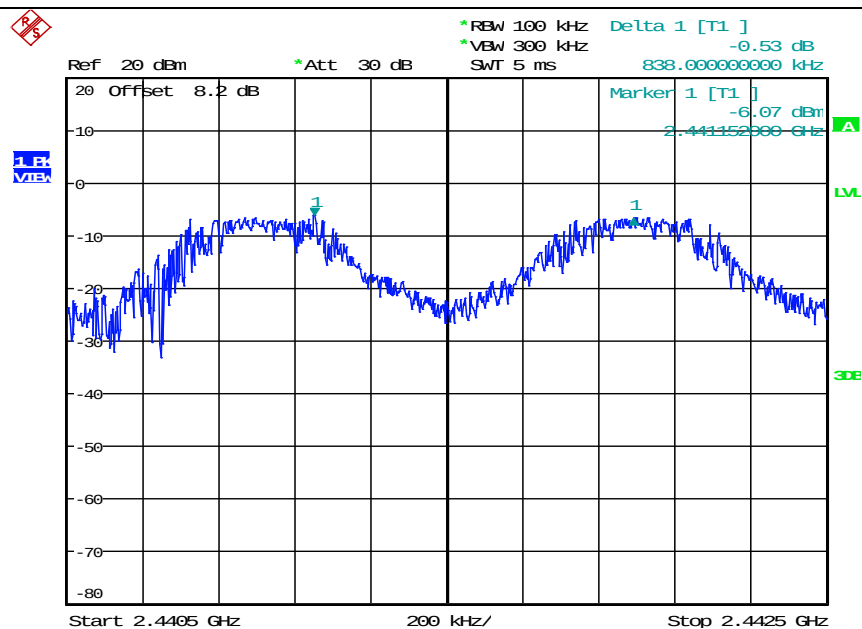
8DPSK/HCH



Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.328	0.689	PASS
	MCH	0.838	0.689	PASS
	HCH	1.056	0.689	PASS
$\pi/4$ DQPSK	LCH	1.022	0.875	PASS
	MCH	1.338	0.875	PASS
	HCH	0.974	0.875	PASS
8DPSK	LCH	1.330	0.873	PASS
	MCH	1.140	0.873	PASS
	HCH	1.274	0.873	PASS

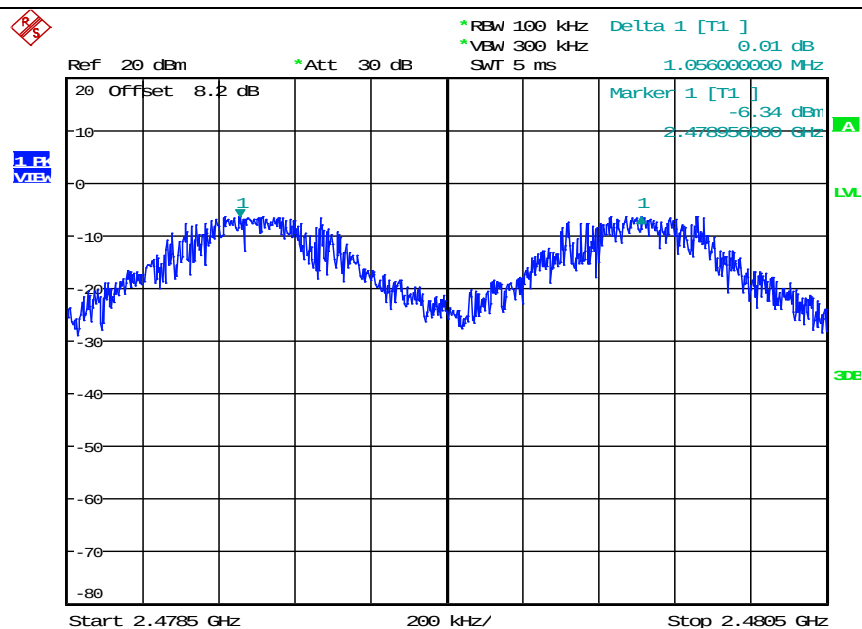


GFSK/MCH

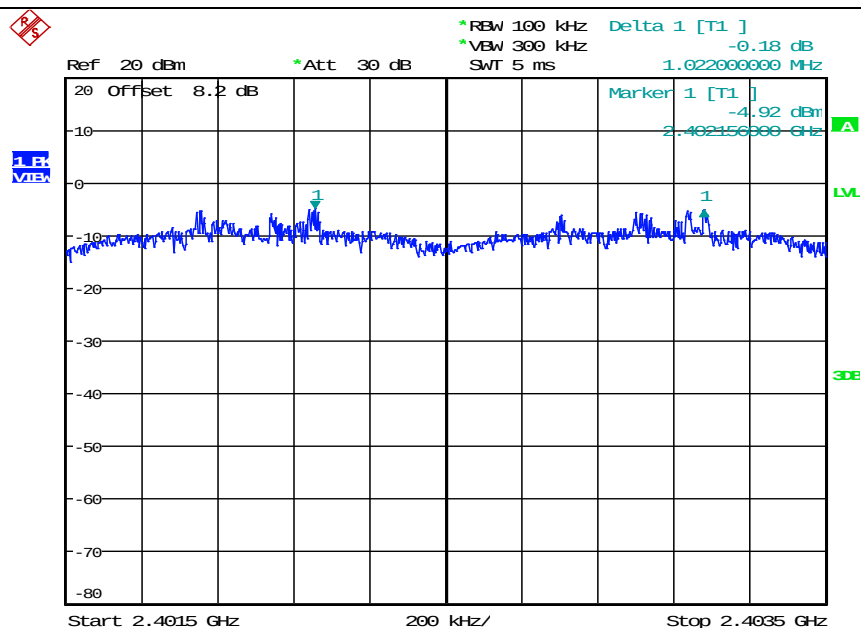


Date: 5.SEP.2019 13:45:20

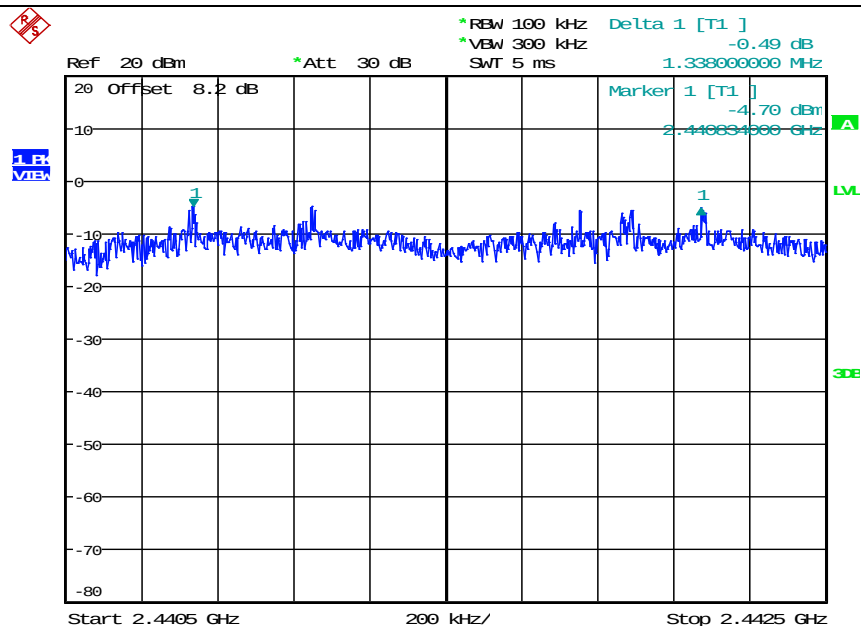
GFSK/HCH



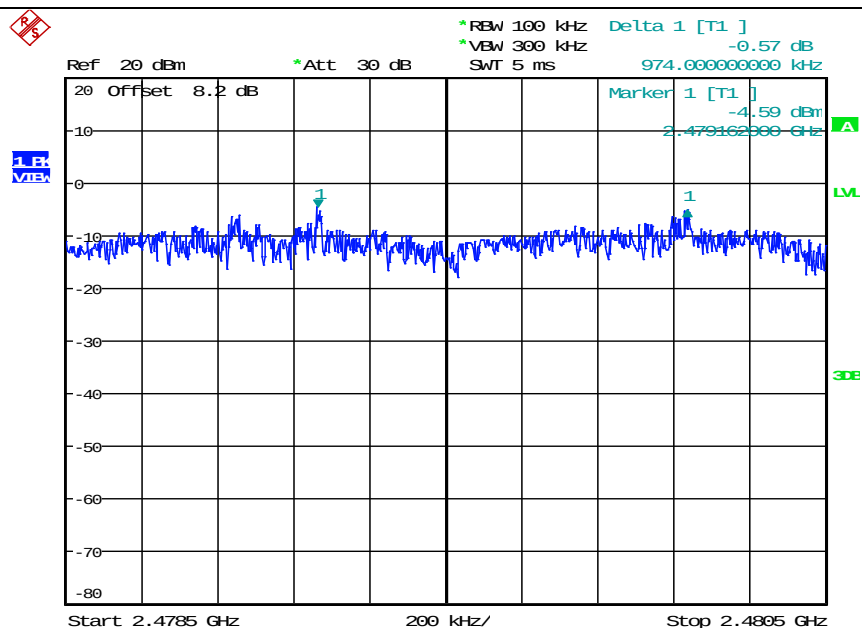
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$\pi/4$ DQPSK/LCH

Date: 5.SEP.2019 13:52:29

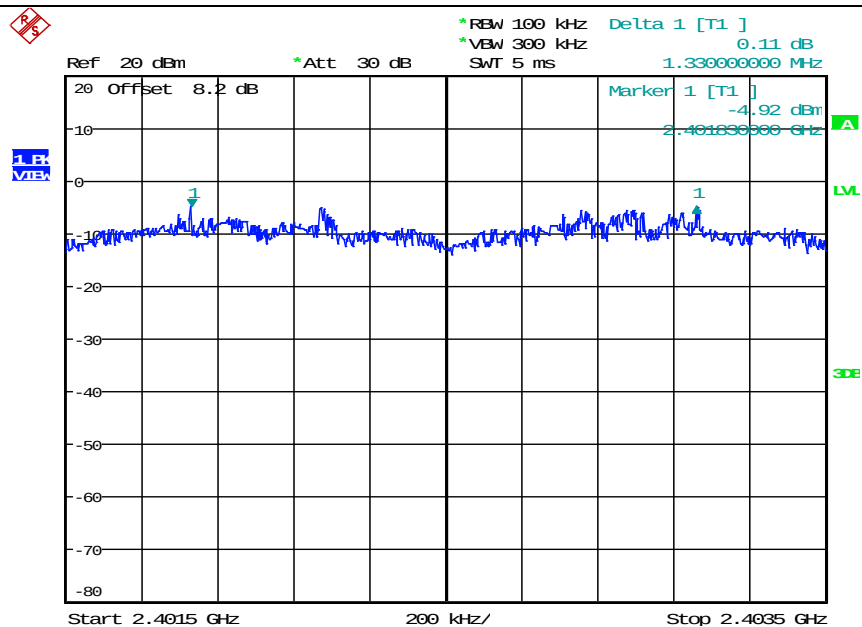
 $\pi/4$ DQPSK/MCH

Date: 5.SEP.2019 13:54:09

$\pi/4$ DQPSK/HCH

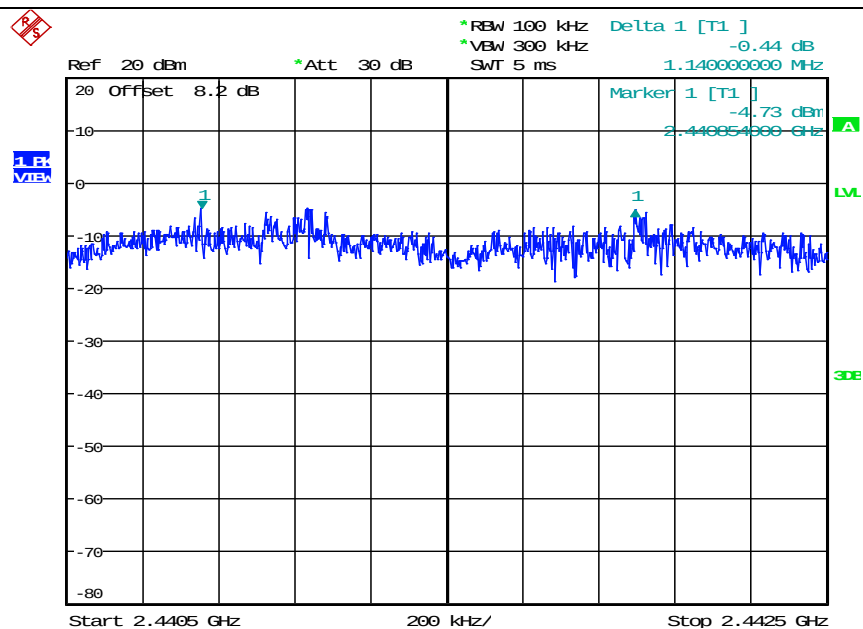
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8DPSK/LCH



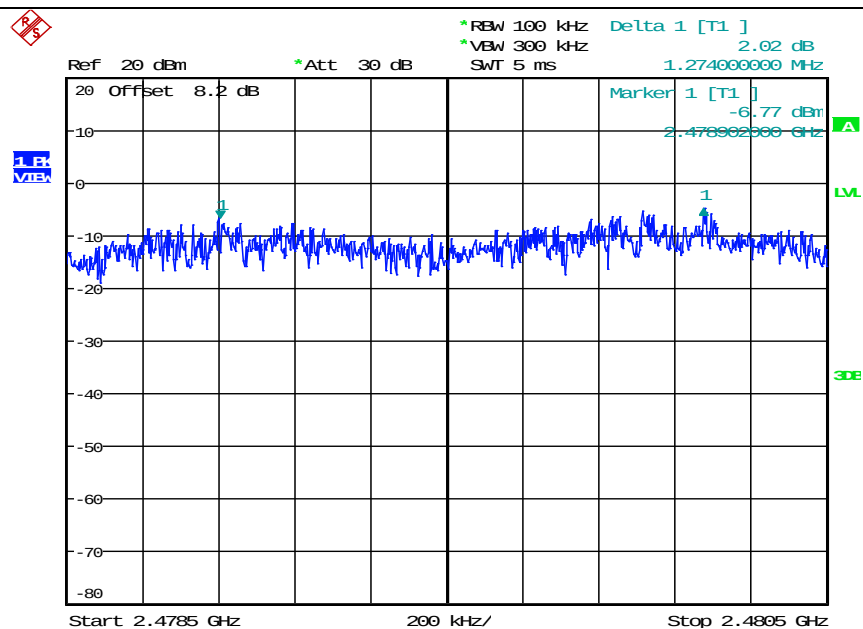
Date: 5.SEP.2019 14:00:57

8DPSK/MCH



Date: 5.SEP.2019 14:04:12

8DPSK/HCH



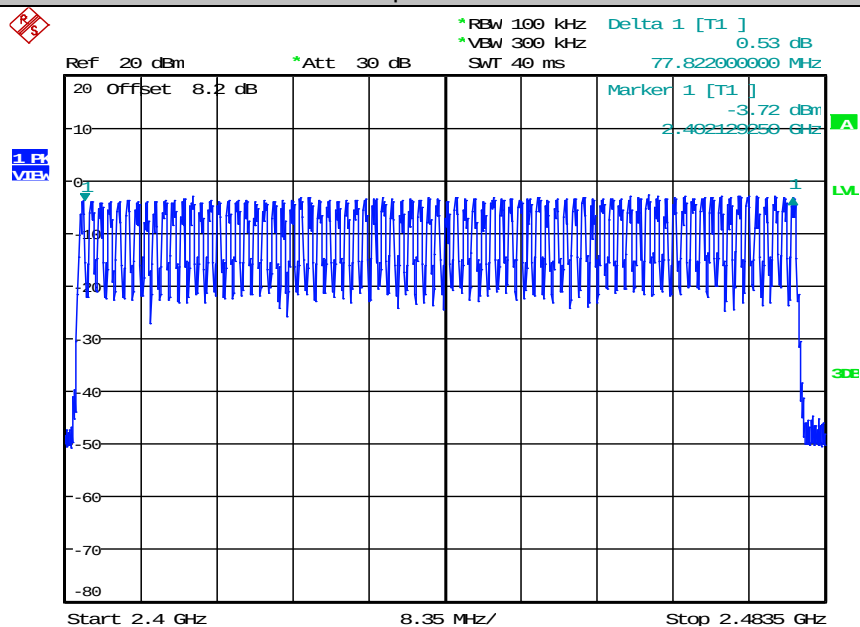
Date: 5.SEP.2019 14:10:58

A.4 Hopping Channel Number

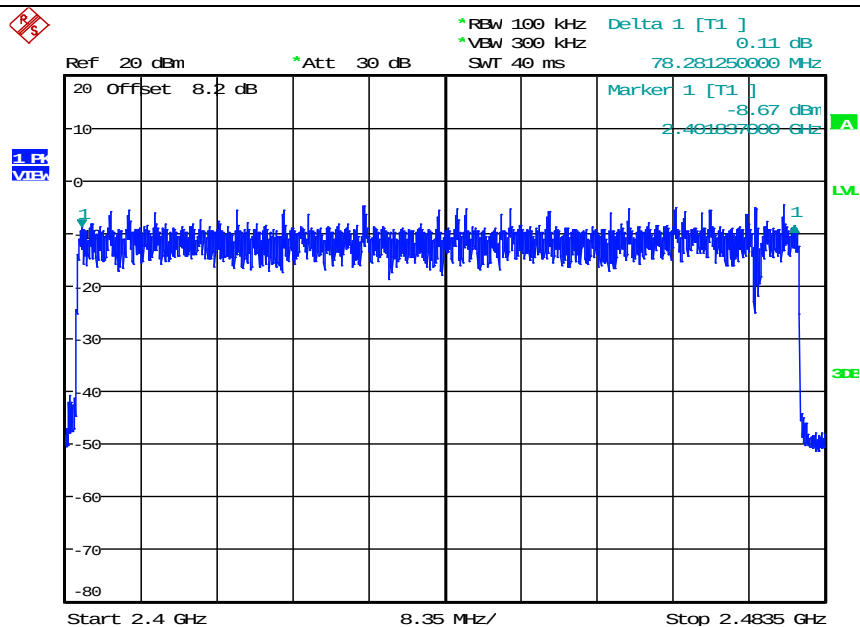
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

GFSK/Hop

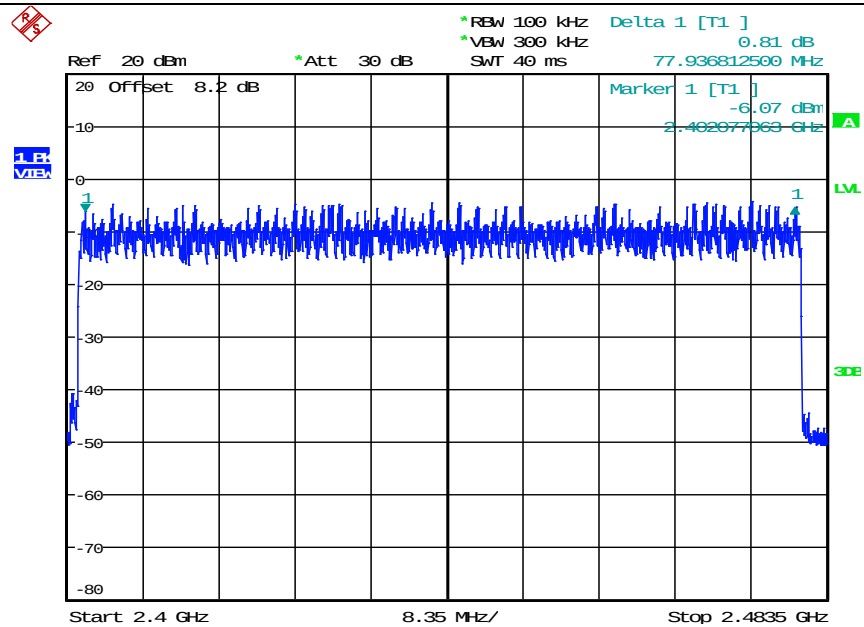


Date: 5.SEP.2019 13:50:33

 $\pi/4$ DQPSK/Hop

Date: 5.SEP.2019 13:58:06

8DPSK/Hop



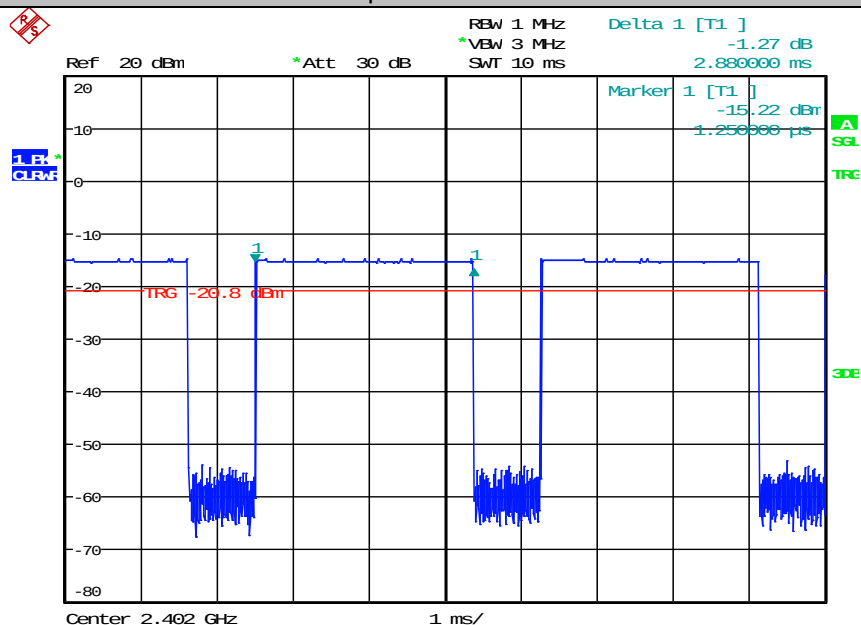
Date: 5.SEP.2019 14:19:33

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	0.308	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

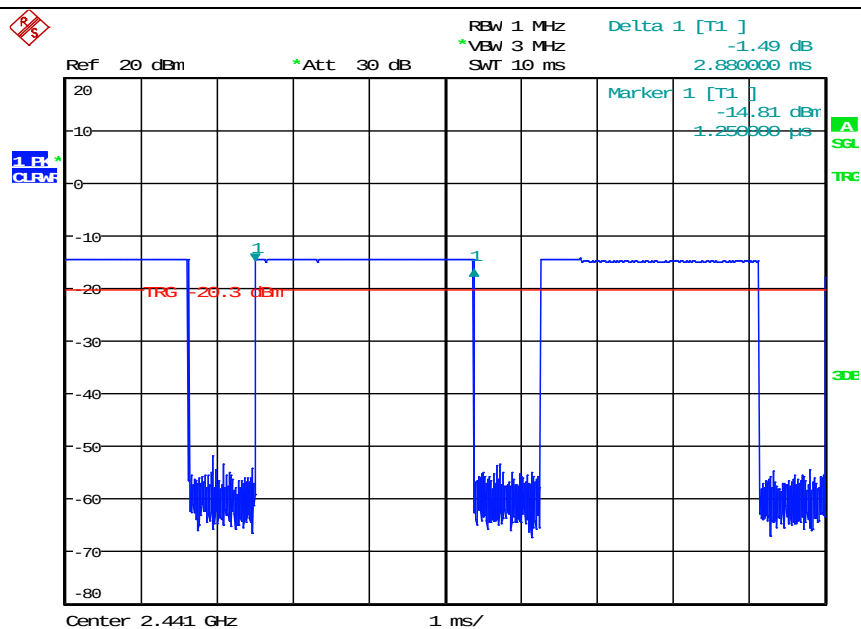
Test Graphs

GFSK_DH5/LCH



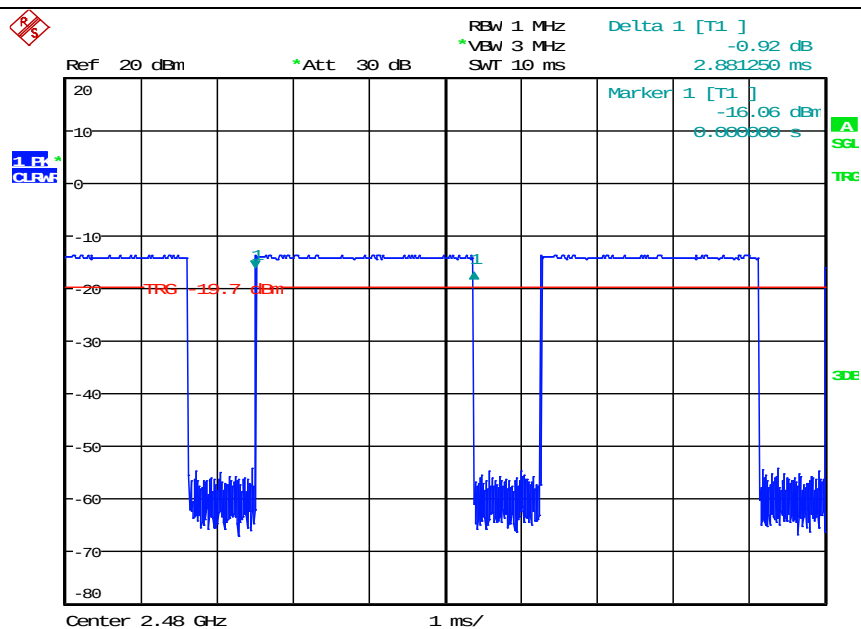
Date: 5.SEP.2019 11:30:05

GFSK_DH5/MCH



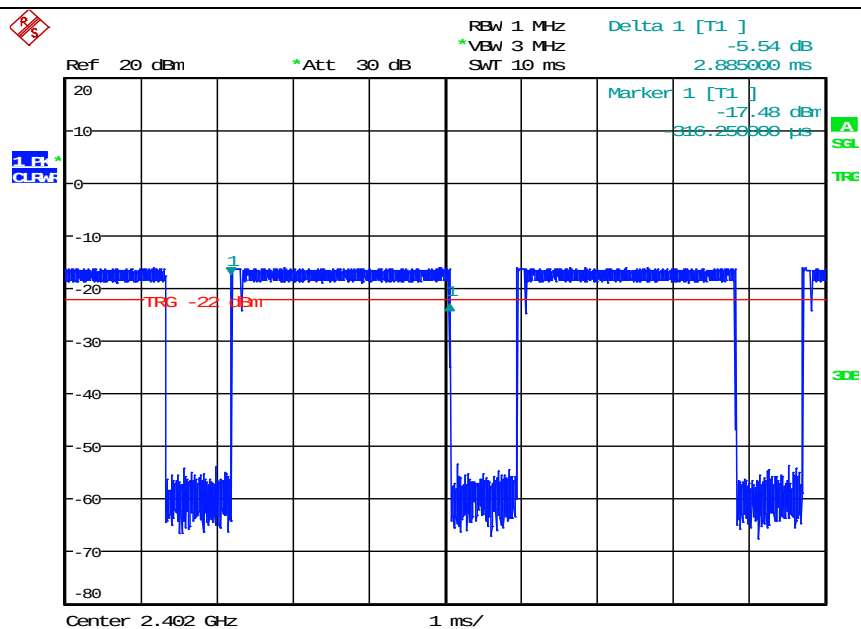
Date: 5.SEP.2019 11:32:33

GFSK_DH5/HCH



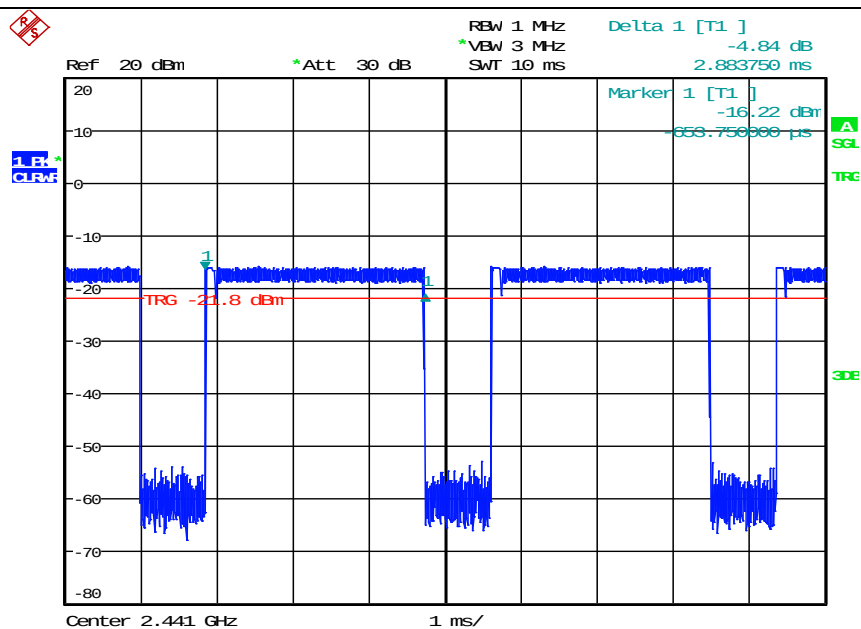
Date: 5.SEP.2019 11:37:02

$\pi/4$ DQPSK
_2DH5/LCH



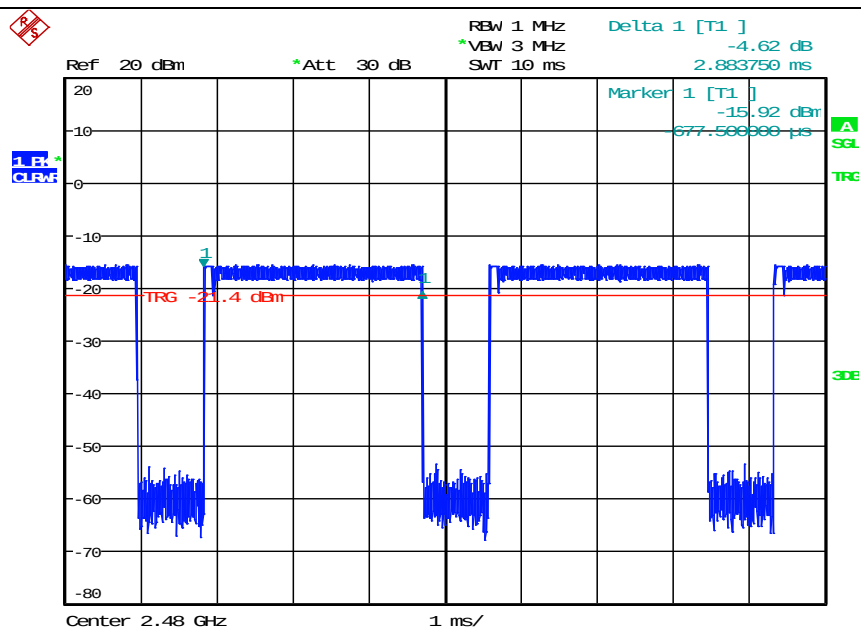
Date: 5.SEP.2019 11:41:38

$\pi/4$ DQPSK
_2DH5/MCH



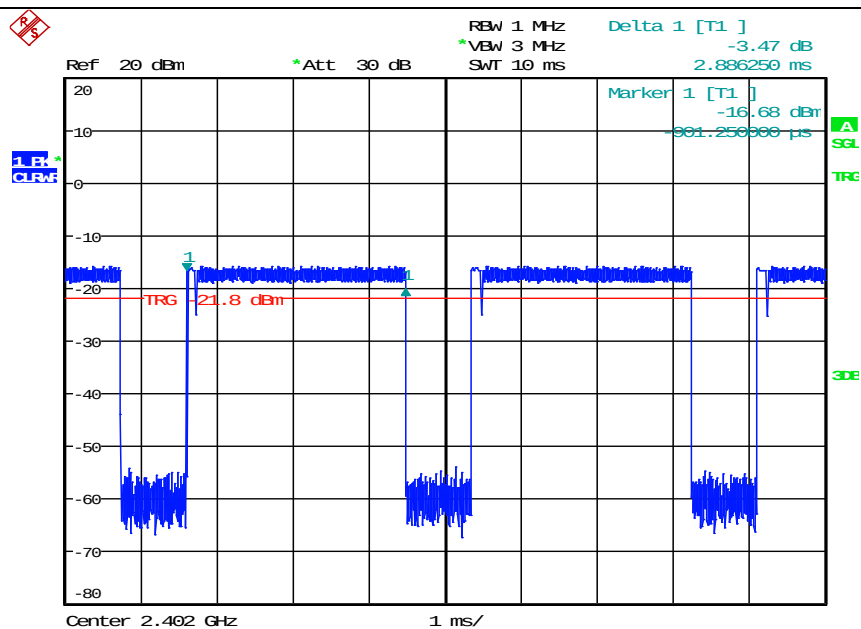
Date: 5.SEP.2019 11:44:07

$\pi/4$ DQPSK
_2DH5/HCH



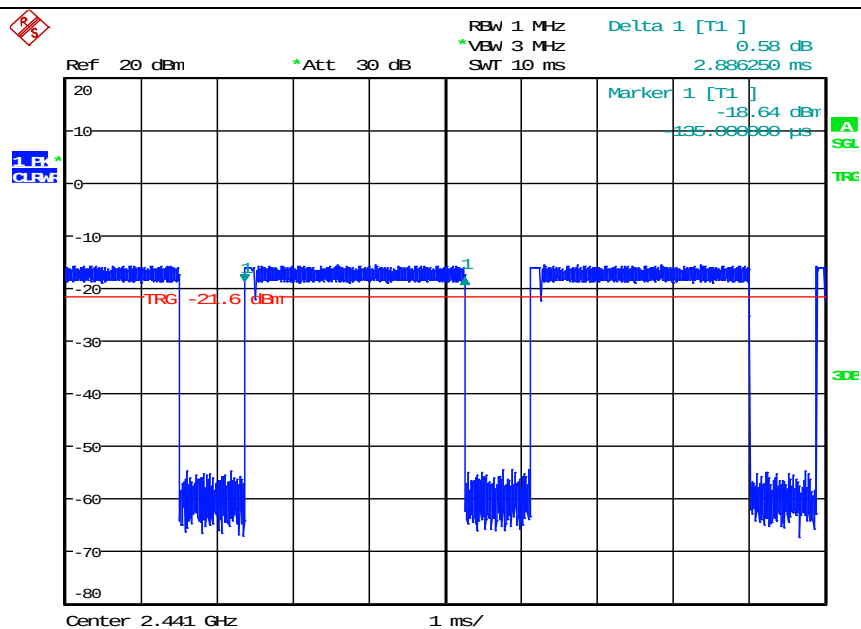
Date: 5.SEP.2019 11:45:54

8DPSK_3DH5/LCH



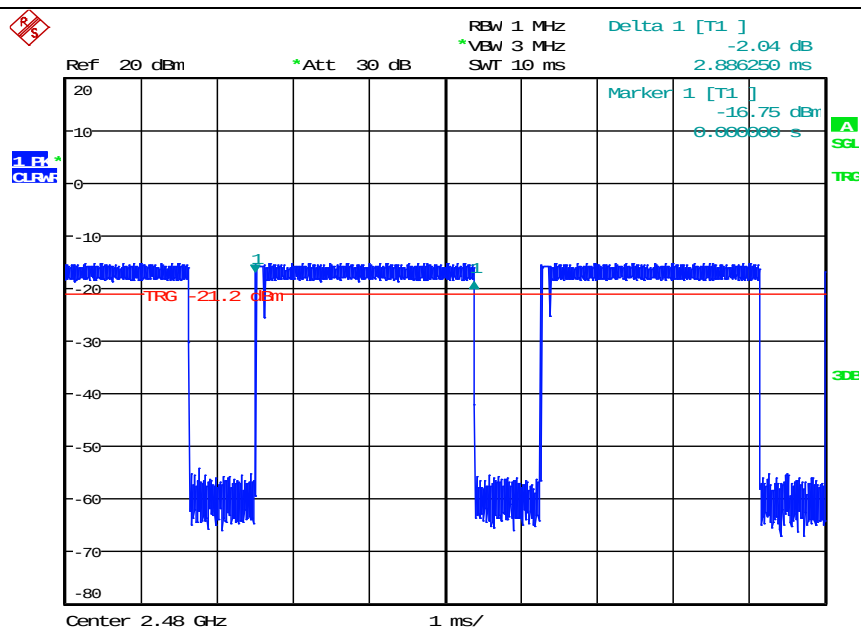
Date: 5.SEP.2019 11:48:48

8DPSK_3DH5/MCH



Date: 5.SEP.2019 11:51:30

8DPSK_3DH5/HCH



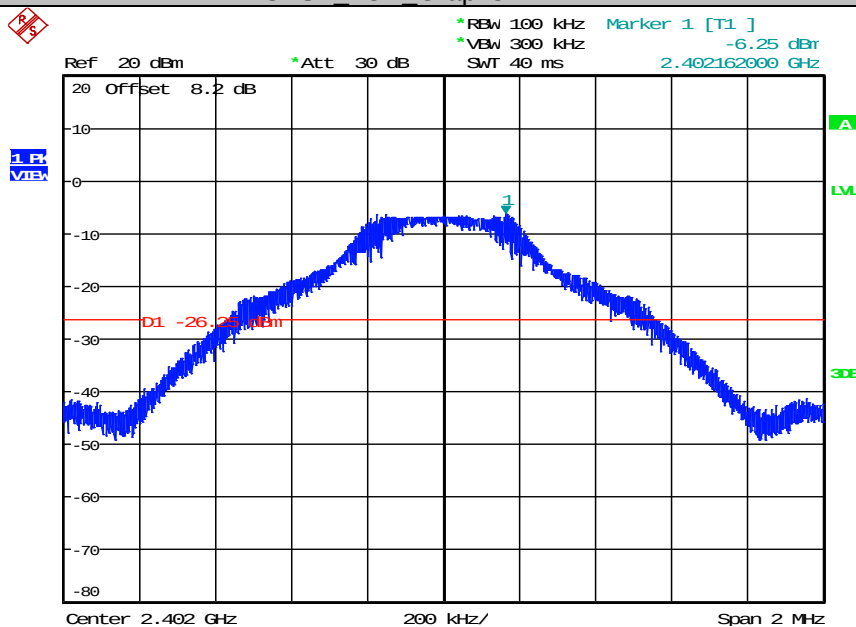
Date: 5.SEP.2019 11:53:17

A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-6.25	-31.900	-26.250	PASS
	MCH	-5.74	-32.860	-25.740	PASS
	HCH	-5.22	-32.380	-25.220	PASS
$\pi/4$ DQPSK	LCH	-7.48	-33.090	-27.480	PASS
	MCH	-7.33	-31.430	-27.330	PASS
	HCH	-7.08	-32.230	-27.080	PASS
8DPSK	LCH	-7.44	-32.520	-27.440	PASS
	MCH	-7.35	-32.170	-27.350	PASS
	HCH	-6.95	-32.620	-26.950	PASS

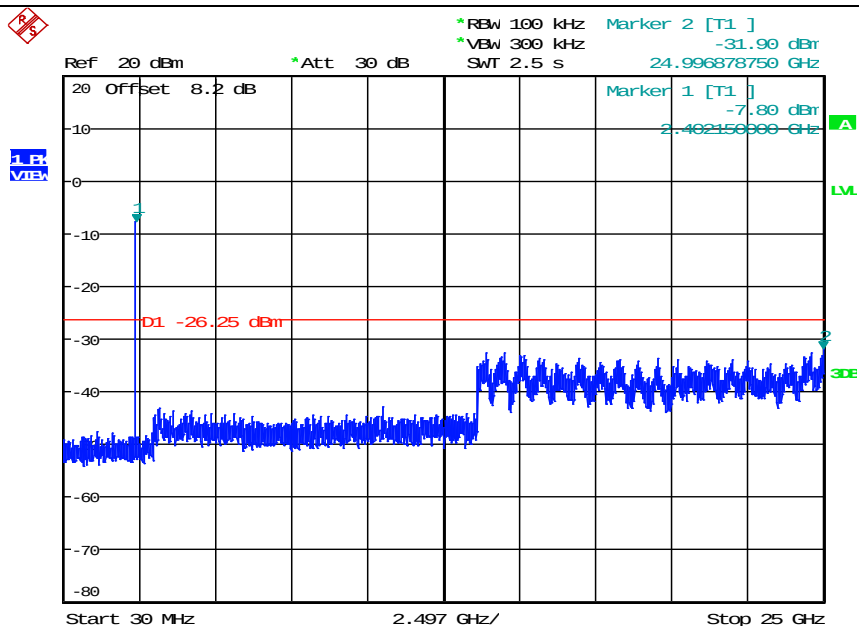
GFSK LCH Graphs

Pref



Date: 5.SEP.2019 11:30:49

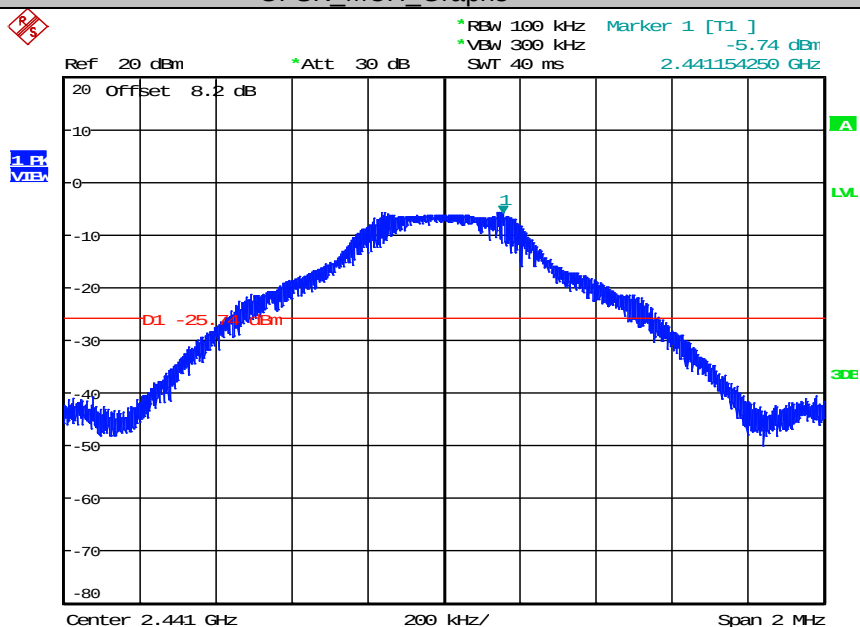
Puw



Date: 5.SEP.2019 11:31:04

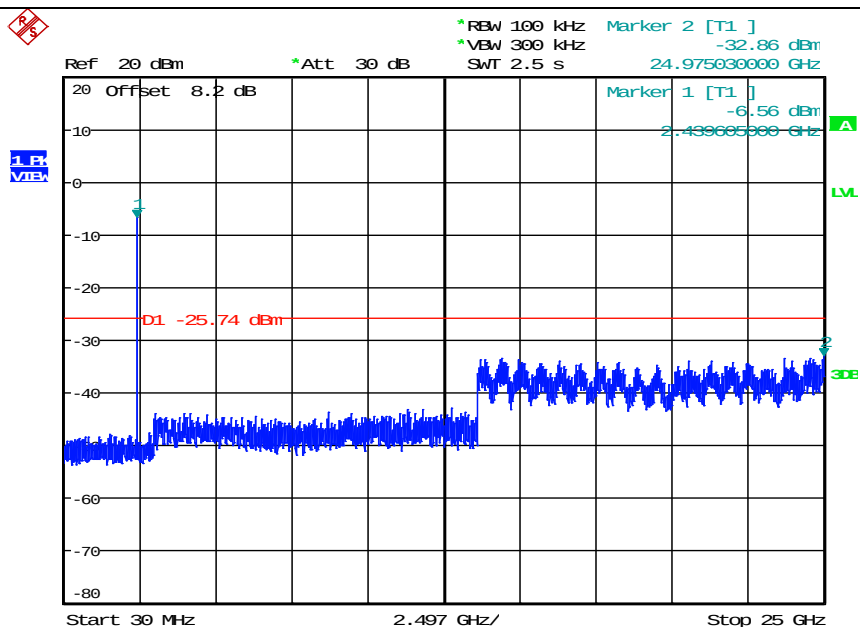
GFSK MCH_Graphs

Pref



Date: 5.SEP.2019 11:33:01

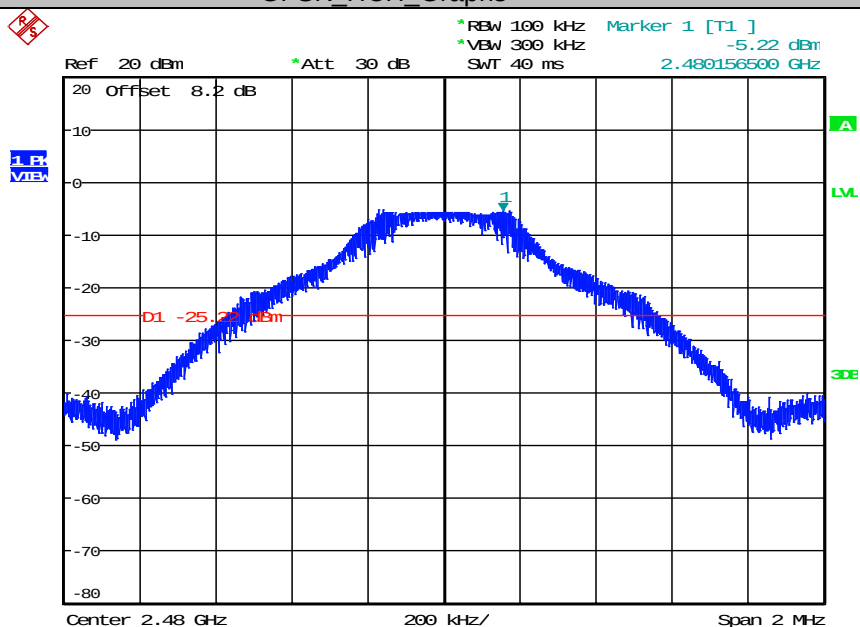
Puw



Date: 5.SEP.2019 11:33:15

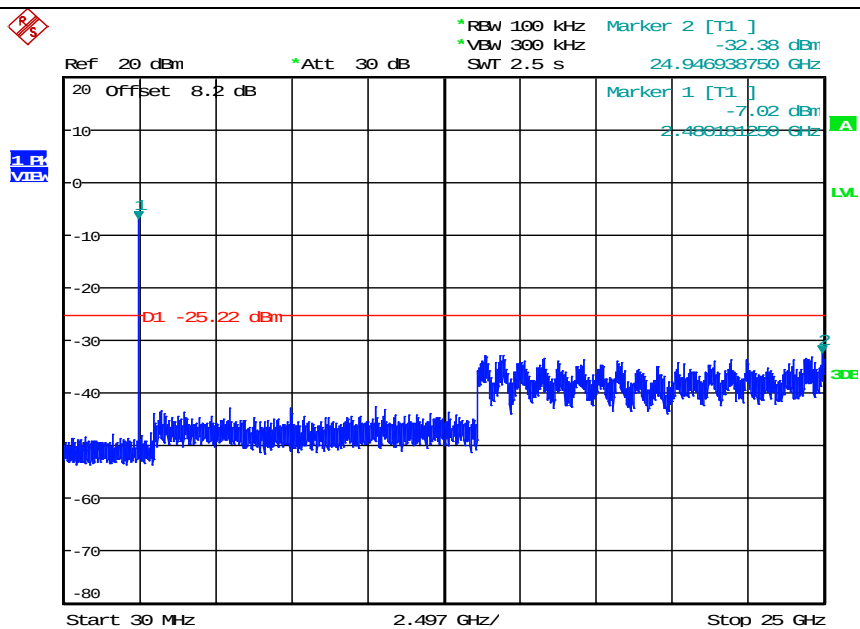
GFSK HCH Graphs

Pref



Date: 5.SEP.2019 11:37:46

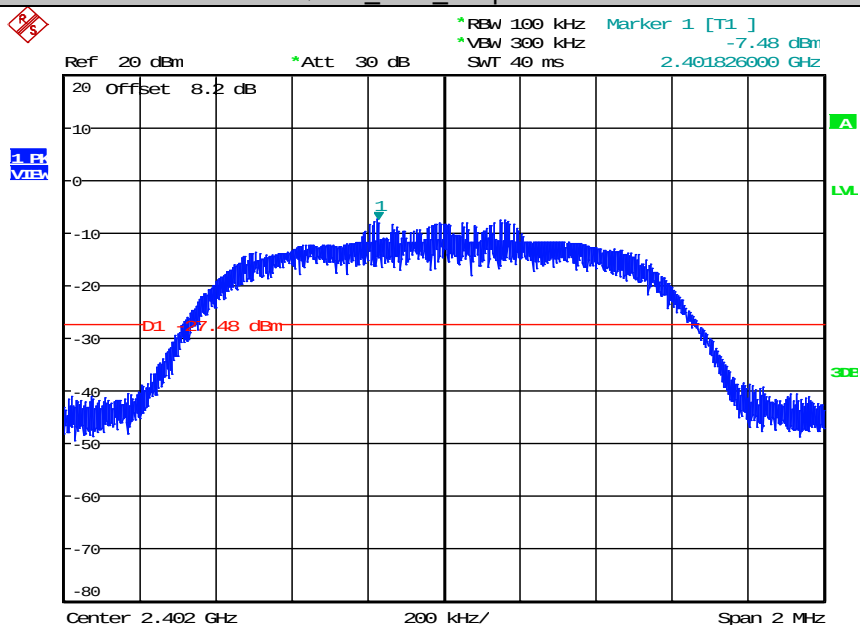
Puw



Date: 5.SEP.2019 11:38:01

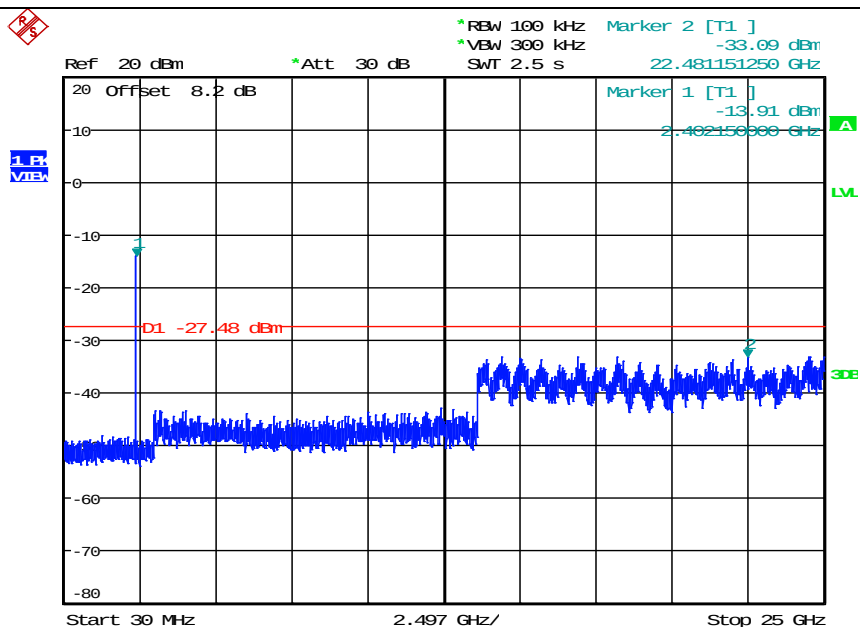
$\pi/4$ DQPSK LCH_Graphs

Pref



Date: 5.SEP.2019 11:42:22

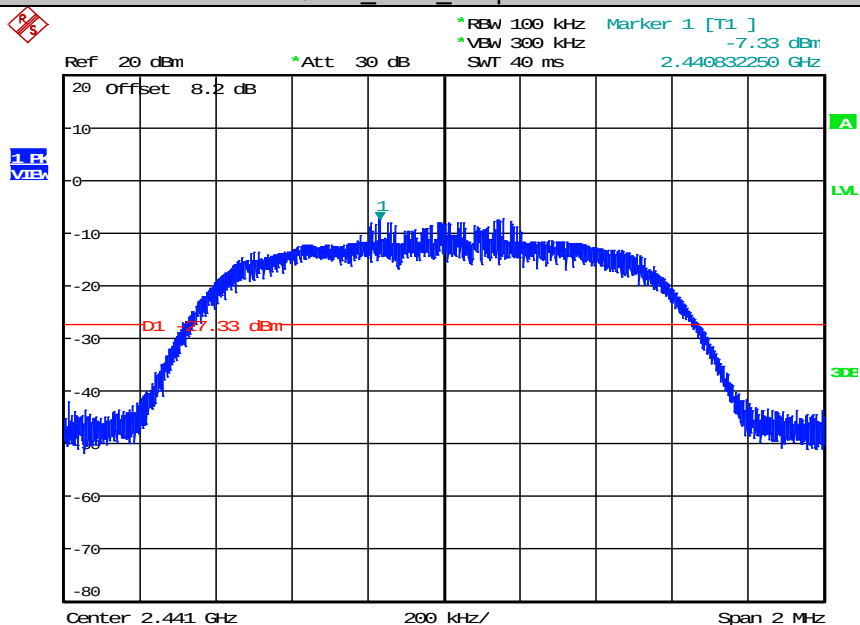
Puw



Date: 5.SEP.2019 11:42:37

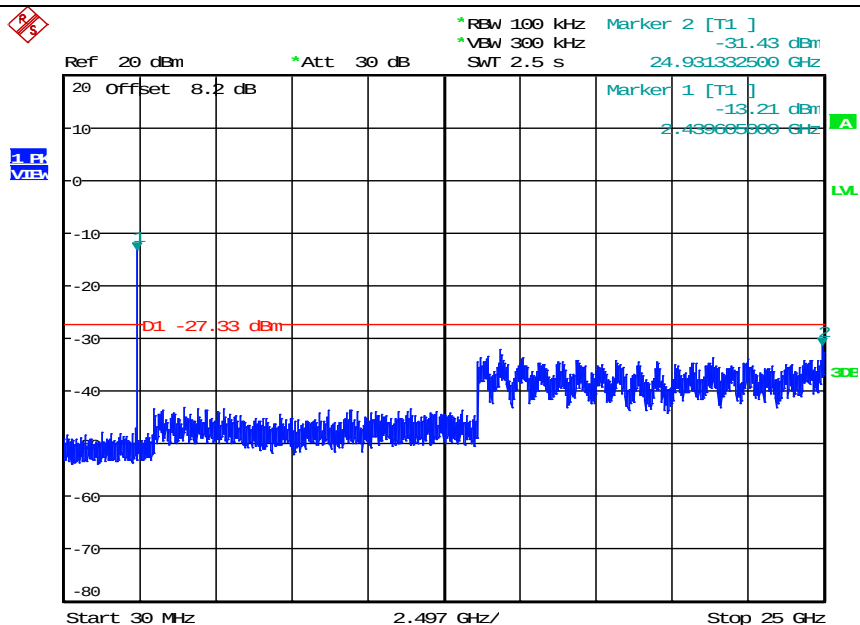
$\pi/4$ DQPSK_MCH_Graphs

Pref



Date: 5.SEP.2019 11:44:35

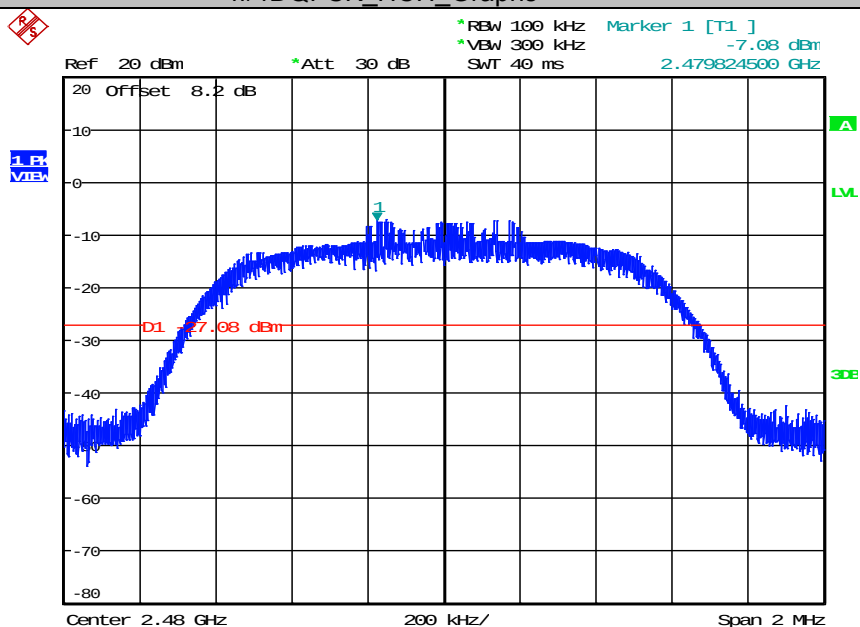
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Date: 5.SEP.2019 11:44:49

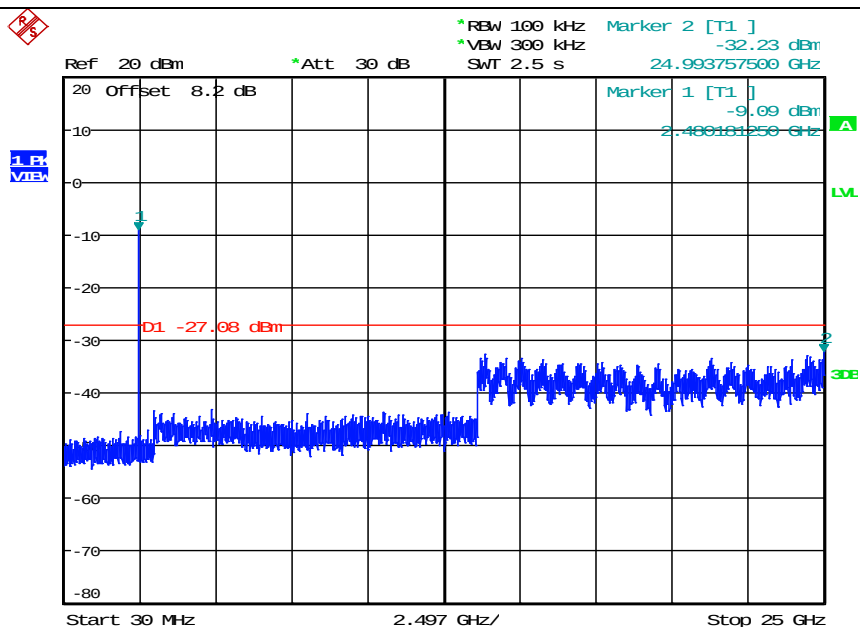
$\pi/4$ DQPSK_HCH_Graphs

Pref



Date: 5.SEP.2019 11:46:38

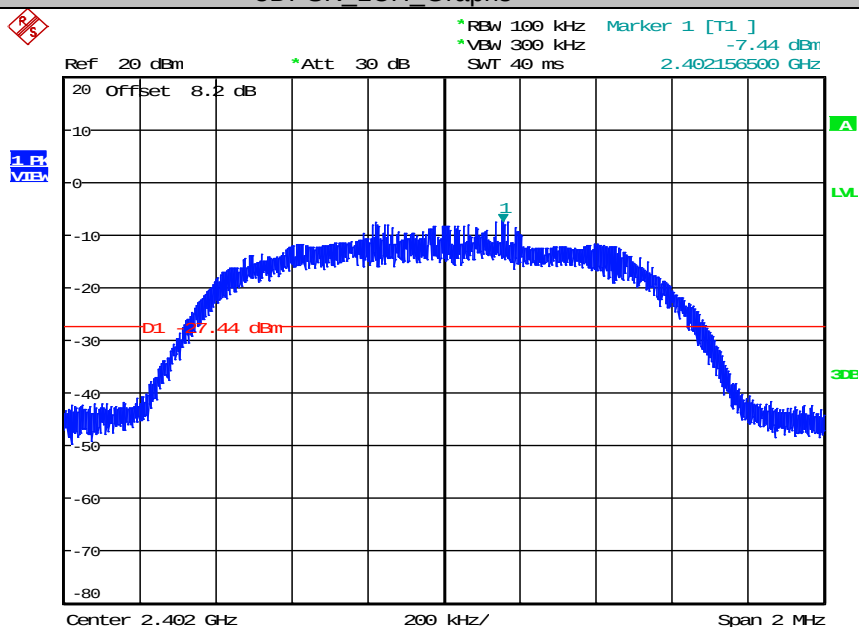
Puw



Date: 5.SEP.2019 11:46:52

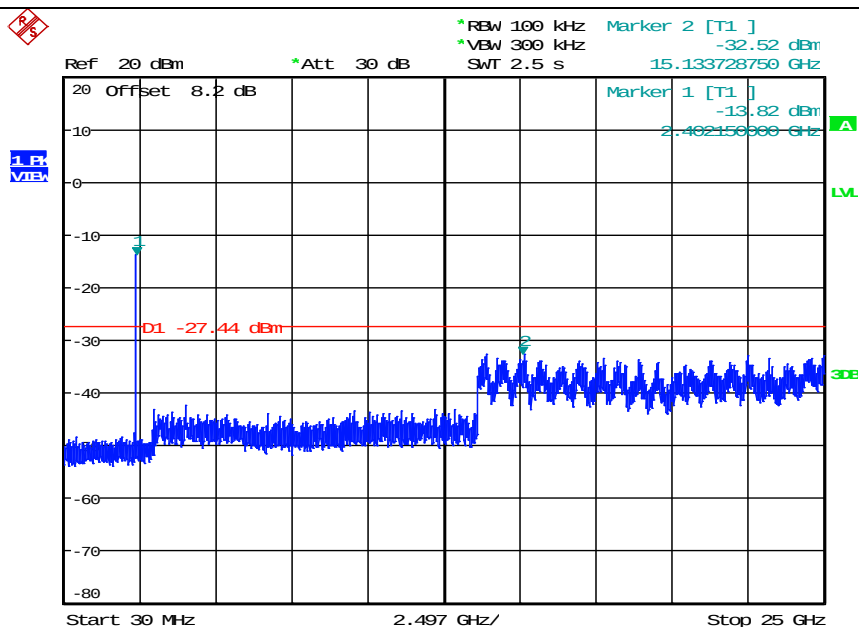
8DPSK_LCH_Graphs

Pref



Date: 5.SEP.2019 11:49:33

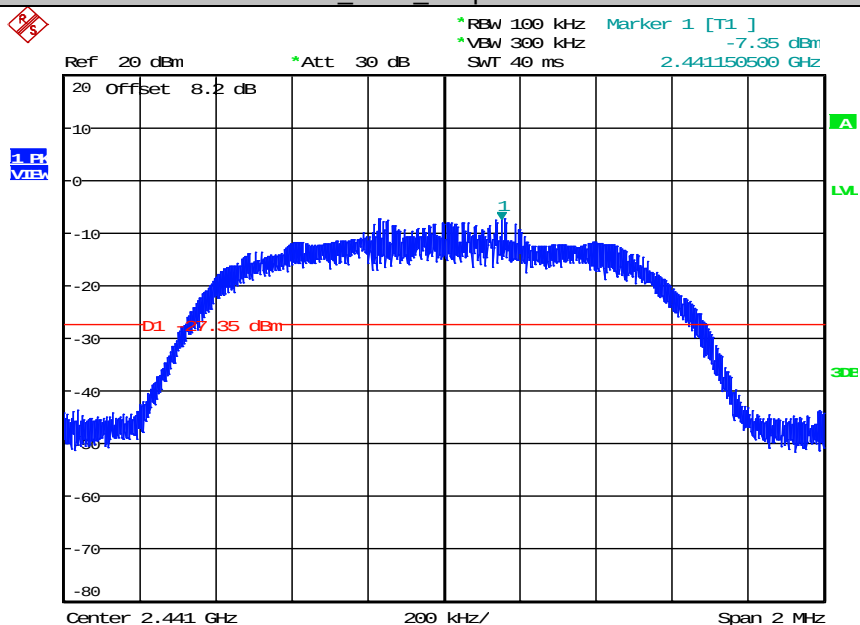
Puw



Date: 5.SEP.2019 11:49:47

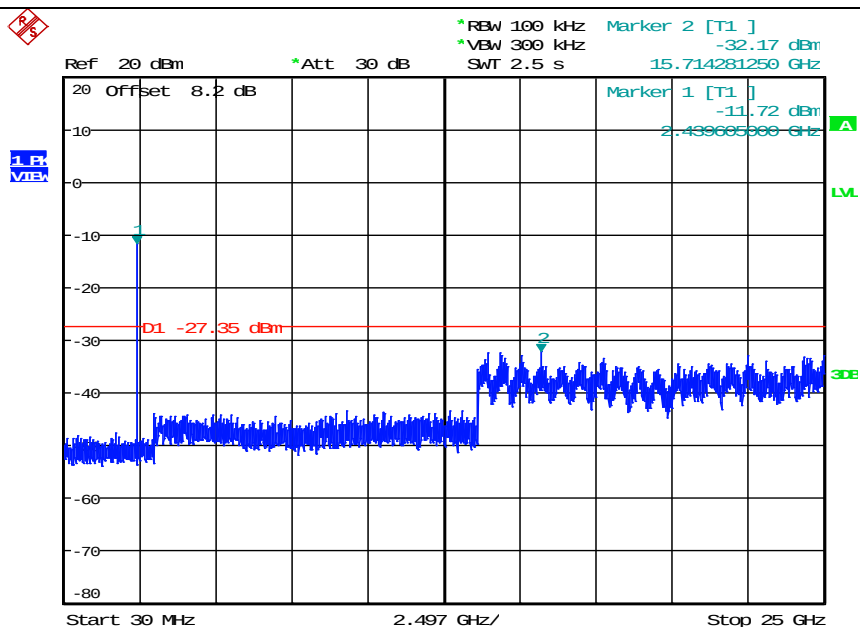
8DPSK_MCH_Graphs

Pref



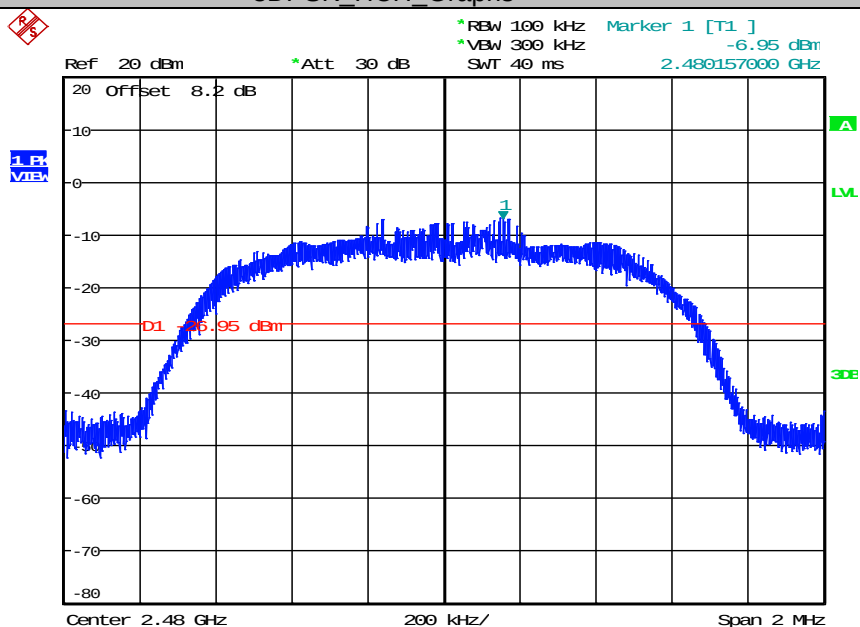
Date: 5.SEP.2019 11:51:58

Puw

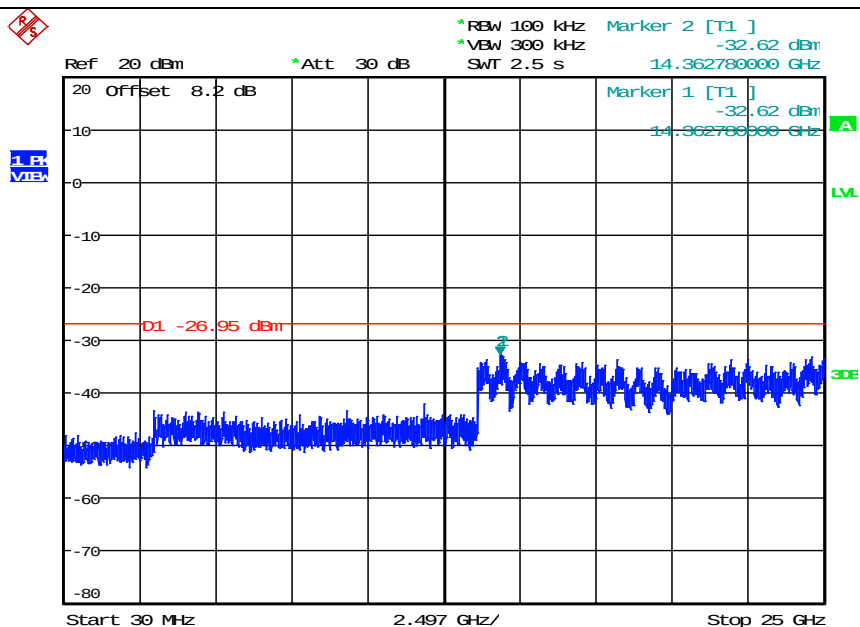


Date: 5.SEP.2019 11:52:12

8DPSK_HCH_Graphs



Date: 5.SEP.2019 11:54:02



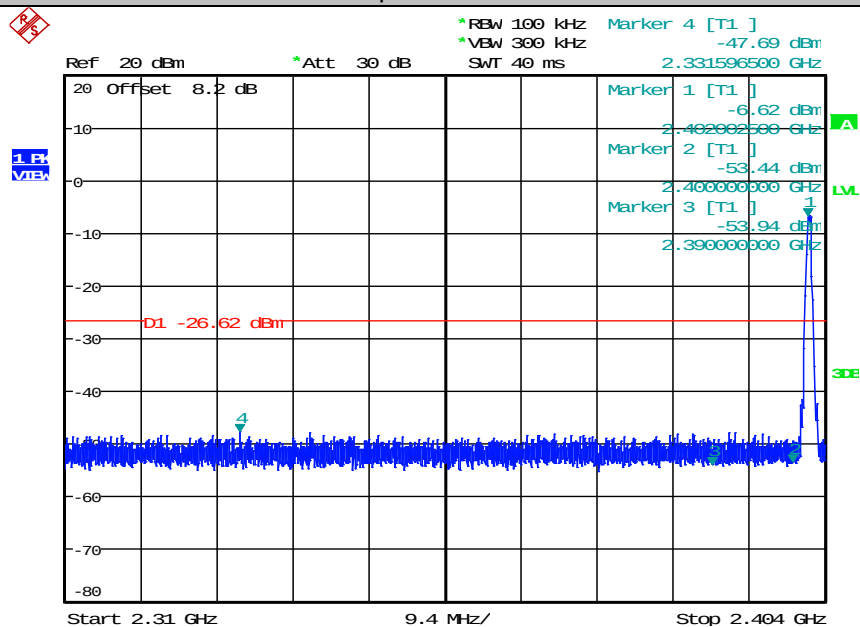
Date: 5.SEP.2019 11:54:16

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	-6.620	Off	-47.689	-26.62	PASS
			-6.490	On	-46.837	-26.49	PASS
	HCH	2480	-5.770	Off	-47.316	-25.77	PASS
			-3.690	On	-46.429	-23.69	PASS
π /4DQPSK	LCH	2402	-7.670	Off	-47.075	-27.67	PASS
			-4.910	On	-46.821	-24.91	PASS
	HCH	2480	-7.270	Off	-46.712	-27.27	PASS
			-4.920	On	-47.180	-24.92	PASS
8DPSK	LCH	2402	-8.190	Off	-47.059	-28.19	PASS
			-4.460	On	-47.013	-24.46	PASS
	HCH	2480	-7.870	Off	-47.680	-27.87	PASS
			-5.050	On	-47.084	-25.05	PASS

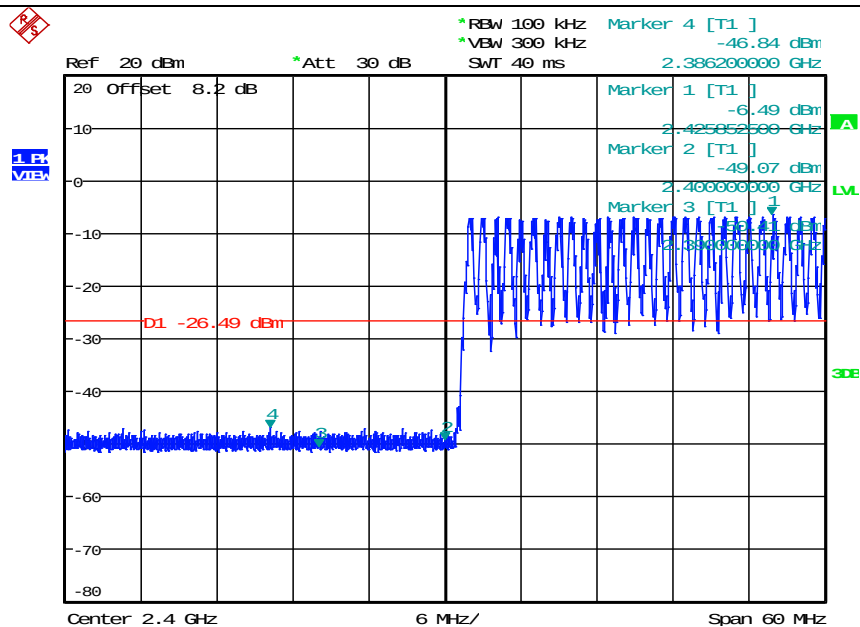
Test Graphs

GFSK/LCH/No Hop



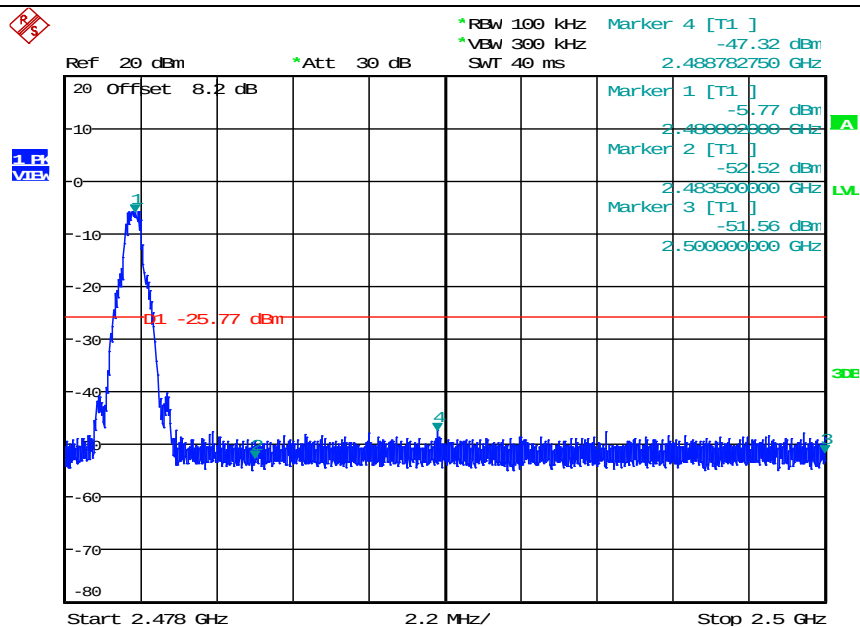
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GFSK/LCH/Hop

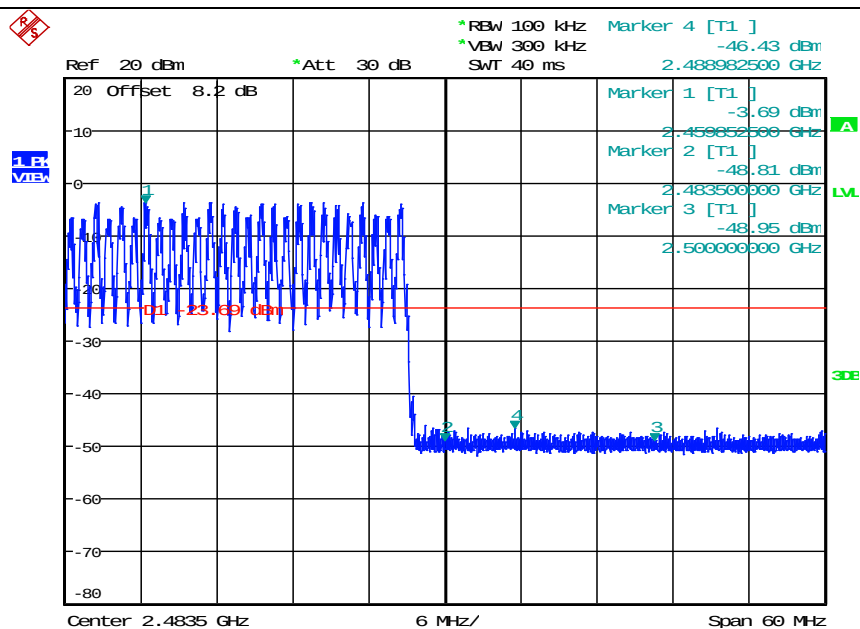


Date: 5.SEP.2019 13:44:55

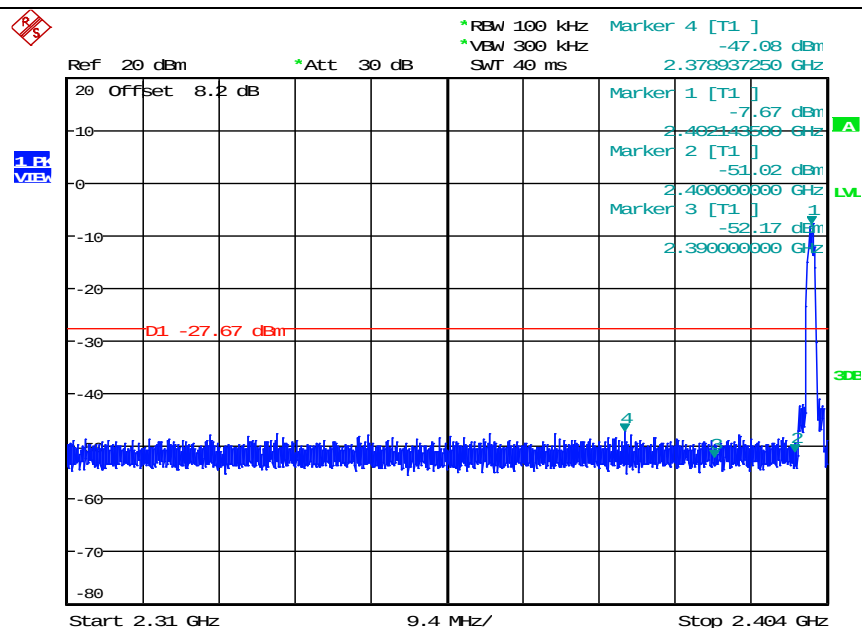
GFSK/HCH/No Hop



GFSK/HCH/Hop

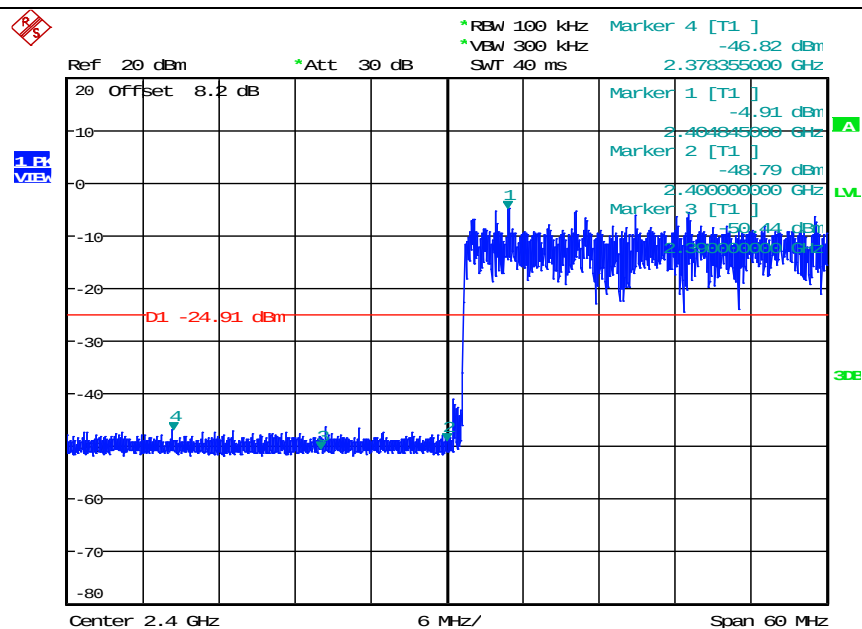


$\pi/4$ DQPSK/LCH/No
Hop



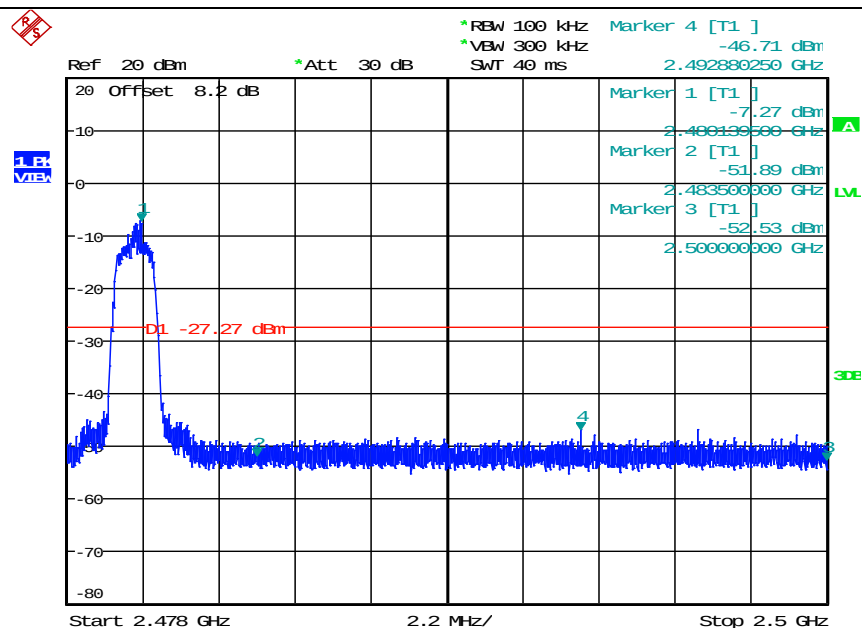
Date: 5.SEP.2019 11:42:09

$\pi/4$ DQPSK/LCH/Hop



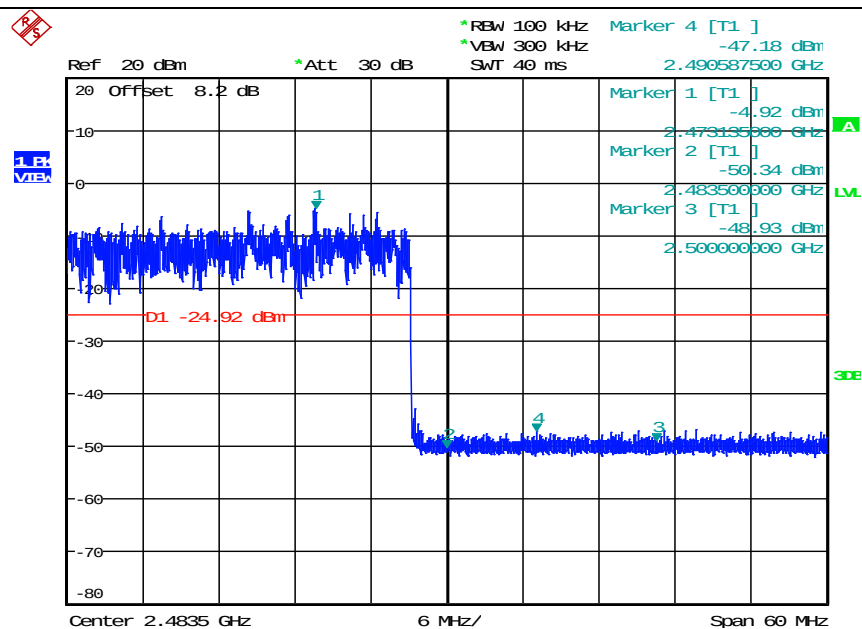
Date: 5.SEP.2019 13:53:44

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



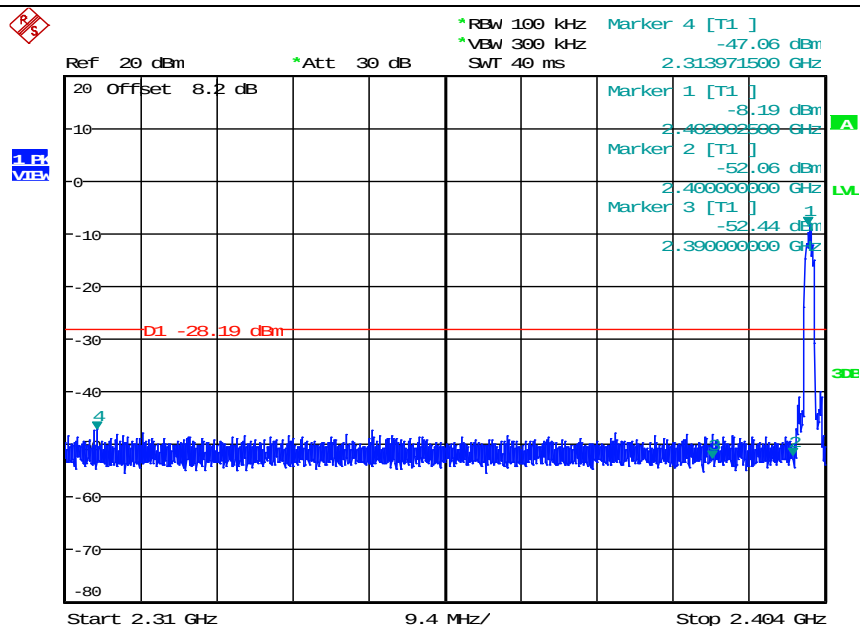
Date: 5.SEP.2019 11:46:25

$\pi/4$ DQPSK/HCH/Hop



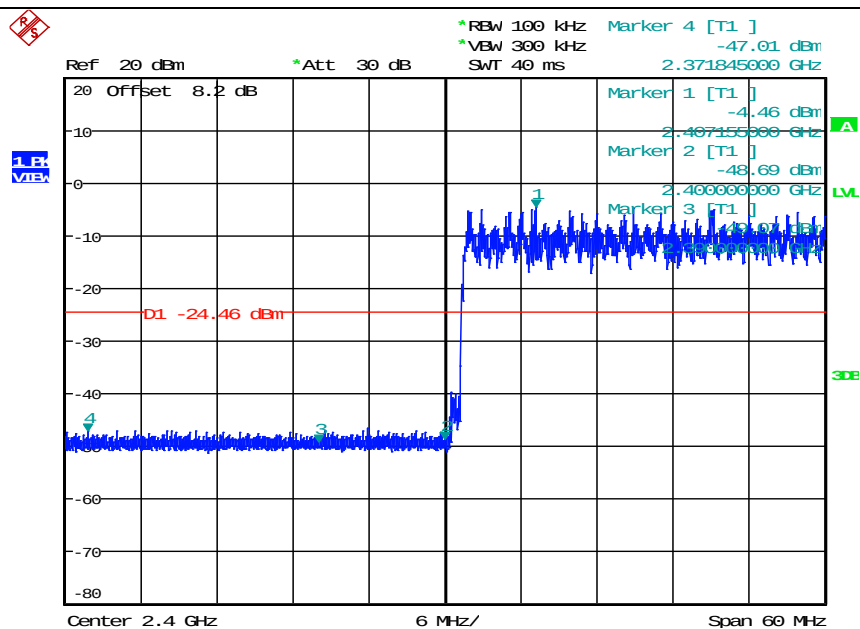
Date: 5.SEP.2019 13:55:49

8DPSK/LCH/No Hop



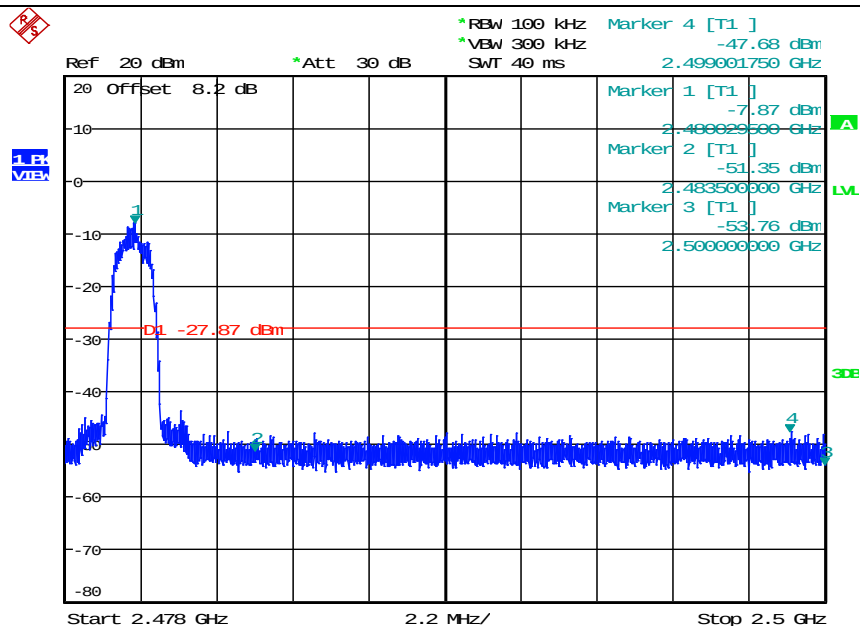
Date: 5.SEP.2019 11:49:20

8DPSK/LCH/Hop

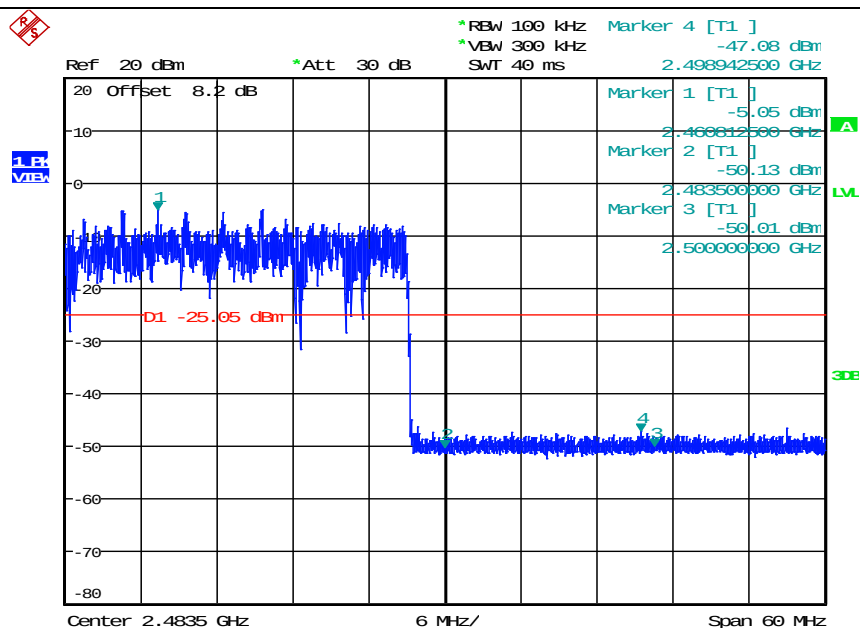


Date: 5.SEP.2019 14:03:47

8DPSK/HCH/No Hop



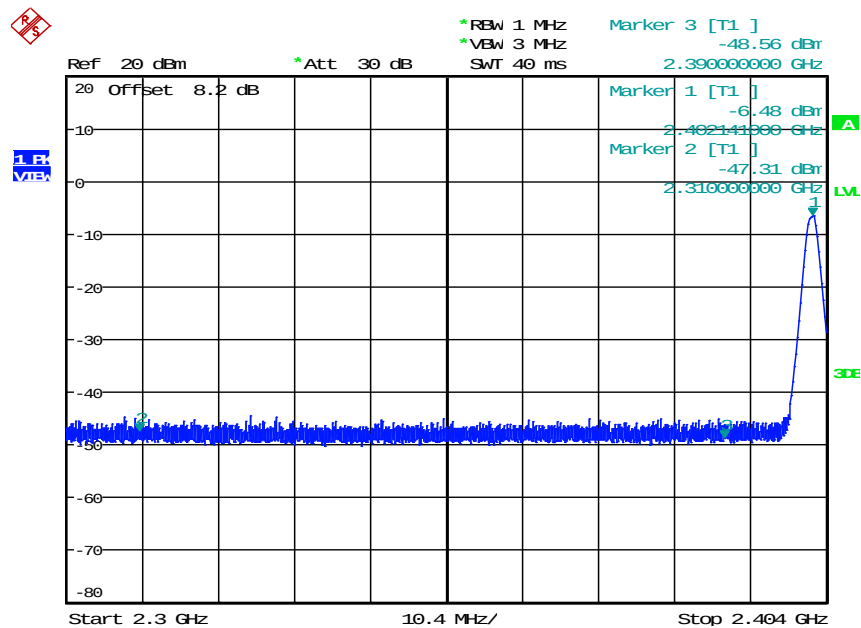
8DPSK/HCH/Hop



A.8 Restrict-band band-edge measurements

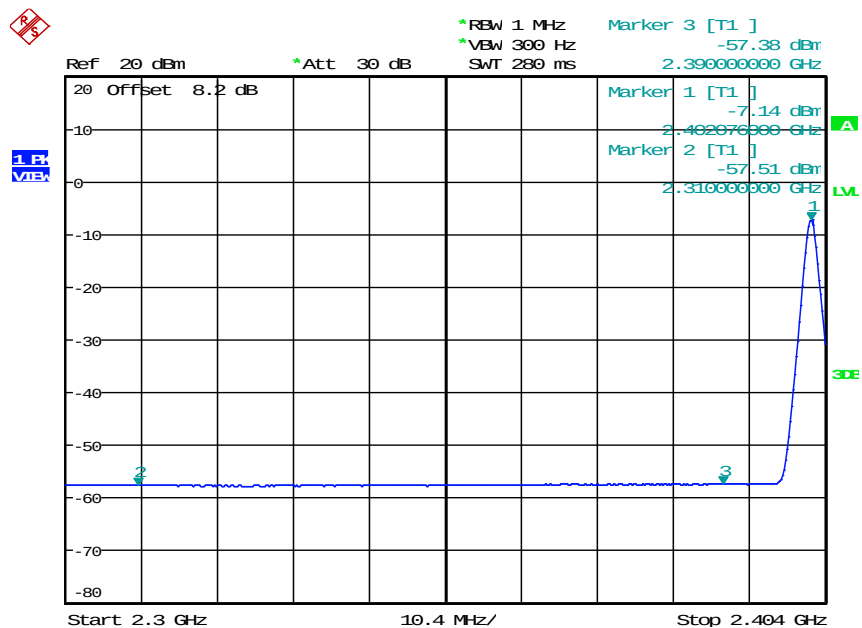
Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-47.31	2.0	0	47.95	PEAK	74	PASS
	Off	2310.0	-57.51	2.0	0	37.75	AV	54	PASS
	Off	2390.0	-48.56	2.0	0	46.70	PEAK	74	PASS
	Off	2390.0	-57.38	2.0	0	37.88	AV	54	PASS
	Off	2483.5	-44.02	2.0	0	51.24	PEAK	74	PASS
	Off	2483.5	-48.19	2.0	0	47.07	AV	54	PASS
	Off	2500.0	-47.23	2.0	0	48.03	PEAK	74	PASS
	Off	2500.0	-58.02	2.0	0	37.24	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-48.55	2.0	0	46.71	PEAK	74	PASS
	Off	2310.0	-57.62	2.0	0	37.64	AV	54	PASS
	Off	2390.0	-48.02	2.0	0	47.24	PEAK	74	PASS
	Off	2390.0	-57.30	2.0	0	37.96	AV	54	PASS
	Off	2483.5	-44.37	2.0	0	50.89	PEAK	74	PASS
	Off	2483.5	-50.76	2.0	0	44.50	AV	54	PASS
	Off	2500.0	-46.87	2.0	0	48.39	PEAK	74	PASS
	Off	2500.0	-58.01	2.0	0	37.25	AV	54	PASS
8DPSK	Off	2310.0	-47.86	2.0	0	47.40	PEAK	74	PASS
	Off	2310.0	-57.67	2.0	0	37.59	AV	54	PASS
	Off	2390.0	-47.67	2.0	0	47.59	PEAK	74	PASS
	Off	2390.0	-57.39	2.0	0	37.87	AV	54	PASS
	Off	2483.5	-43.82	2.0	0	51.44	PEAK	74	PASS
	Off	2483.5	-50.74	2.0	0	44.52	AV	54	PASS
	Off	2500.0	-47.83	2.0	0	47.43	PEAK	74	PASS
	Off	2500.0	-57.96	2.0	0	37.30	AV	54	PASS

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



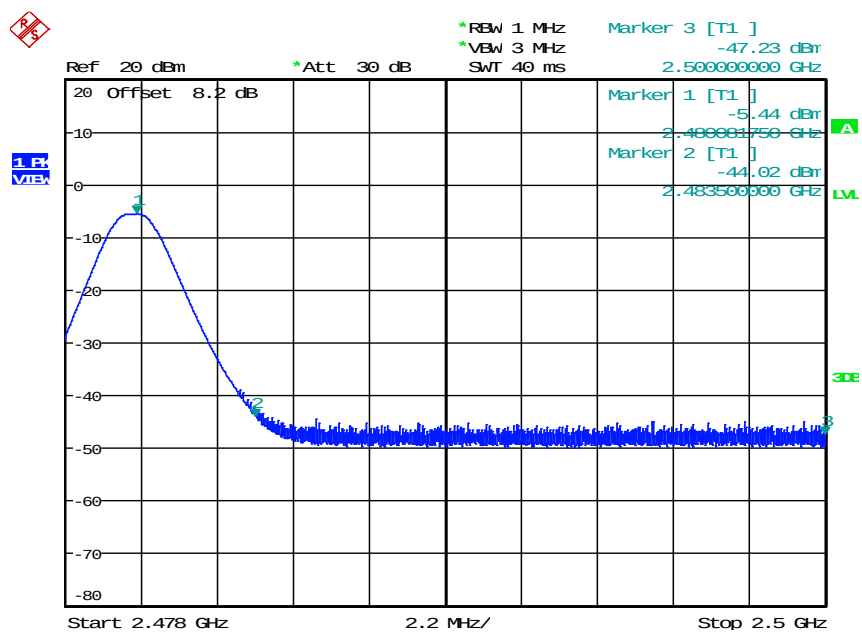
Date: 5.SEP.2019 11:31:23

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



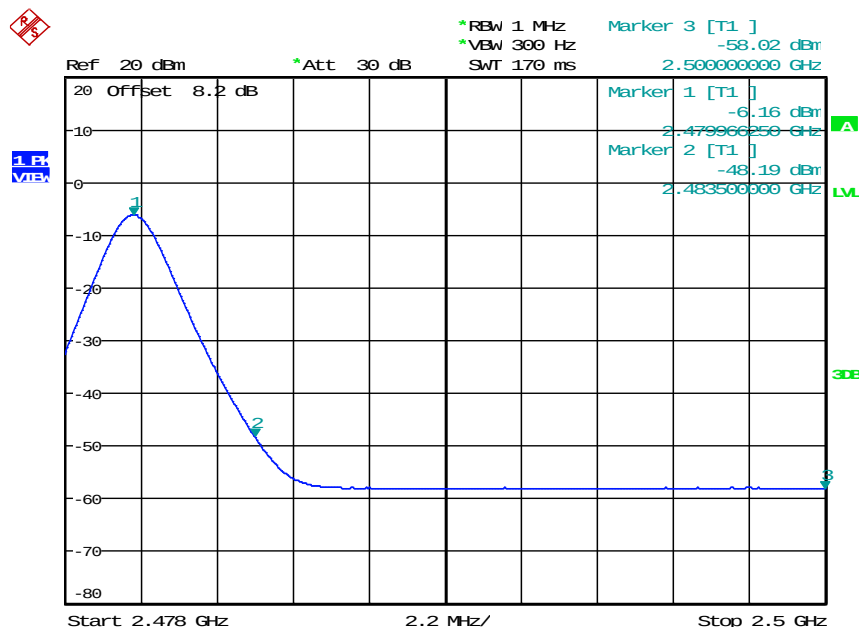
Date: 5.SEP.2019 11:31:36

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

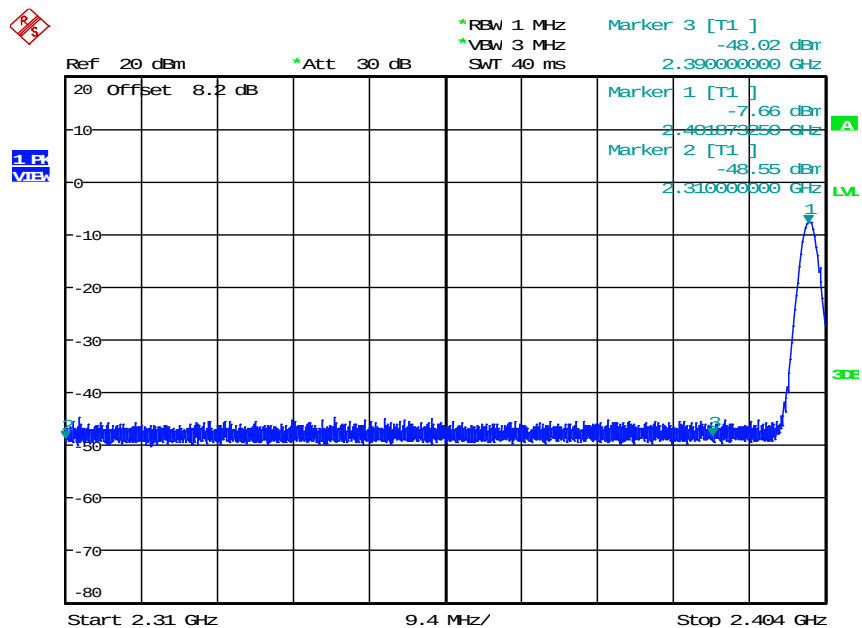


Date: 5.SEP.2019 11:38:20

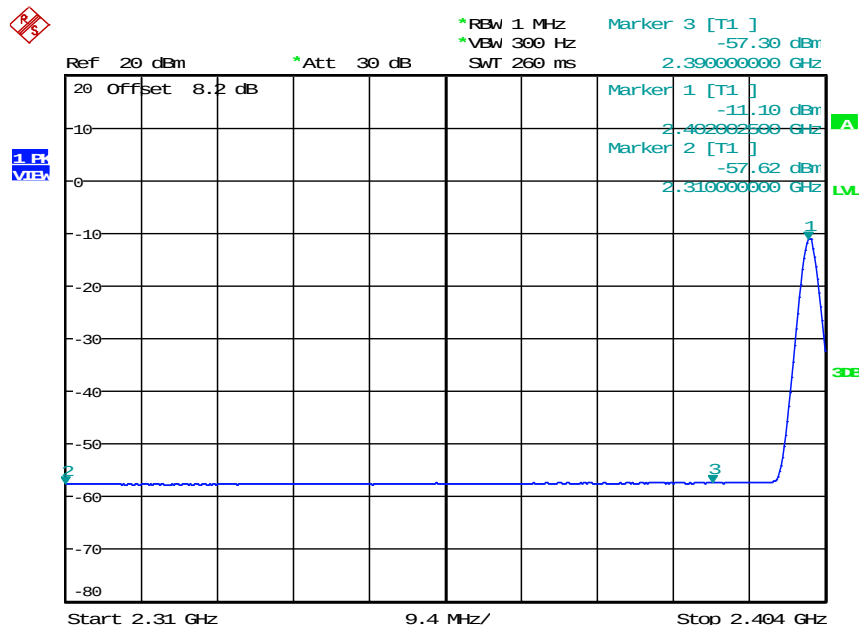
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



Date: 5.SEP.2019 11:38:33

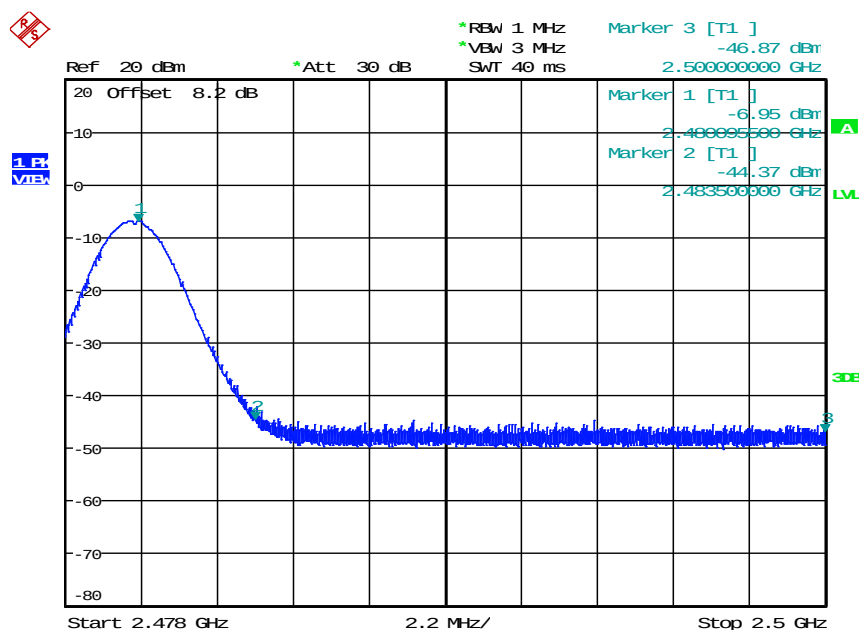
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)

Date: 5.SEP.2019 11:42:56

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

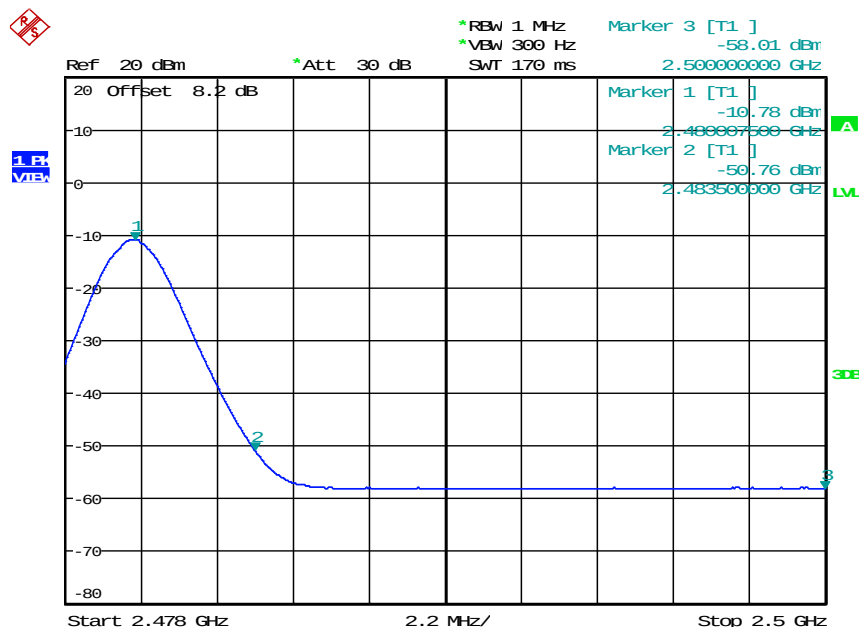
Date: 5.SEP.2019 11:43:09

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



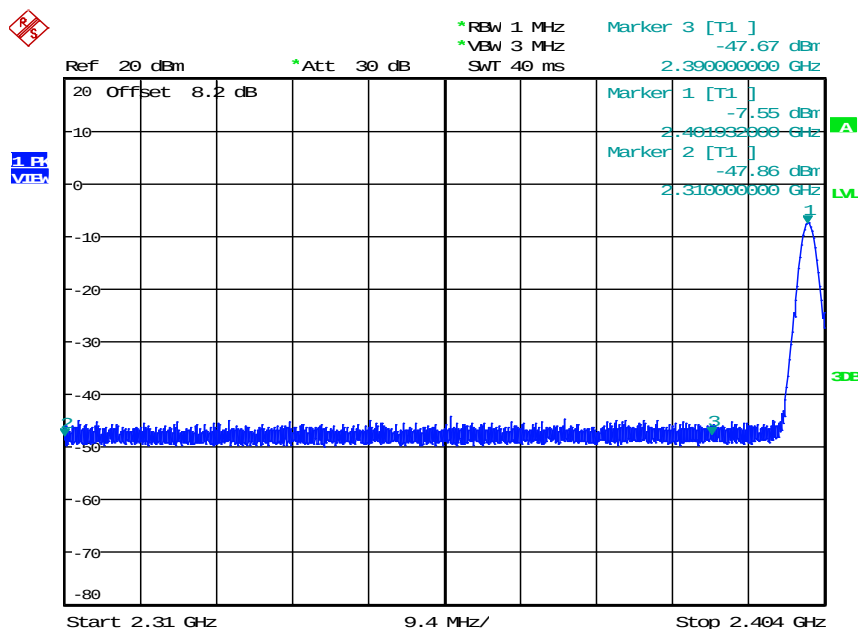
Date: 5.SEP.2019 11:47:11

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



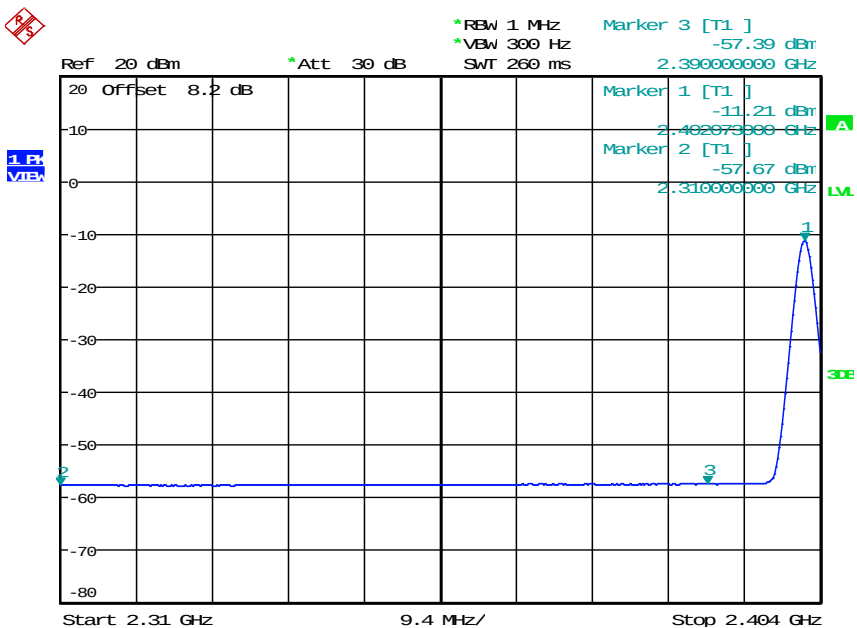
Date: 5.SEP.2019 11:47:24

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



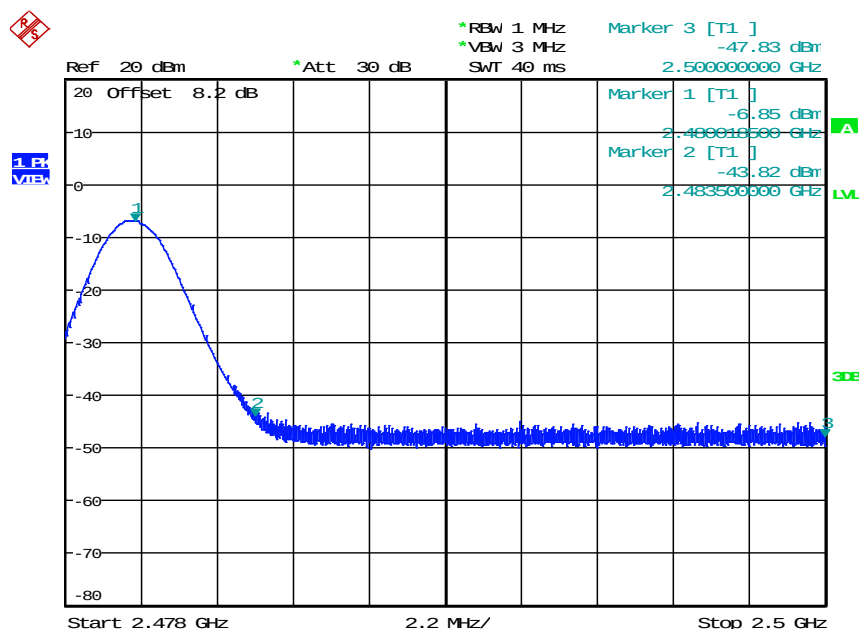
Date: 5.SEP.2019 11:50:06

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



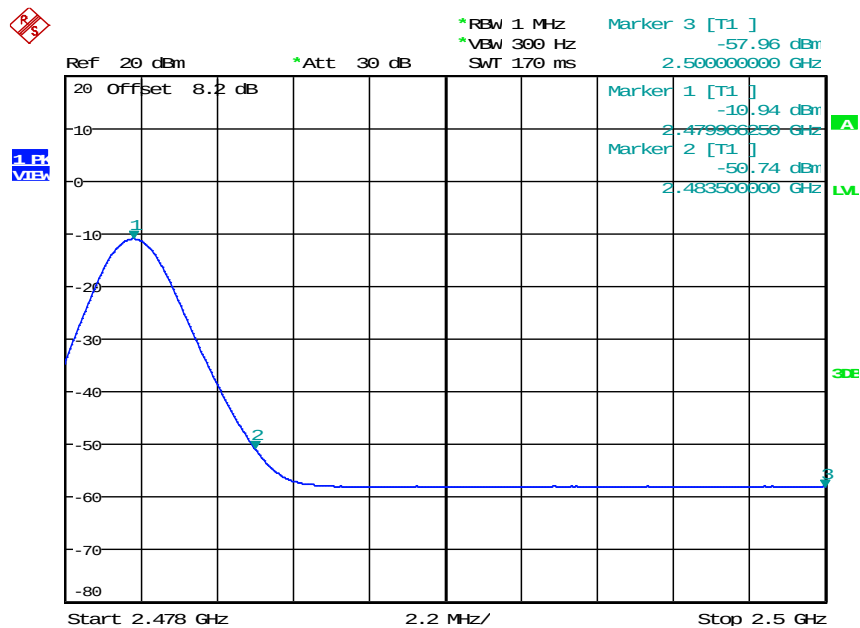
Date: 5.SEP.2019 11:50:19

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



Date: 5.SEP.2019 11:54:35

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



Date: 5.SEP.2019 11:54:49