

Appendix A

RF Test Data for BT V4.2(BDR/EDR) (Conducted Measurement)

Product Name: WIRELESS EARPHONES

Trade Mark: ITFIT

Test Model: ITFIT-103B

Environmental Conditions

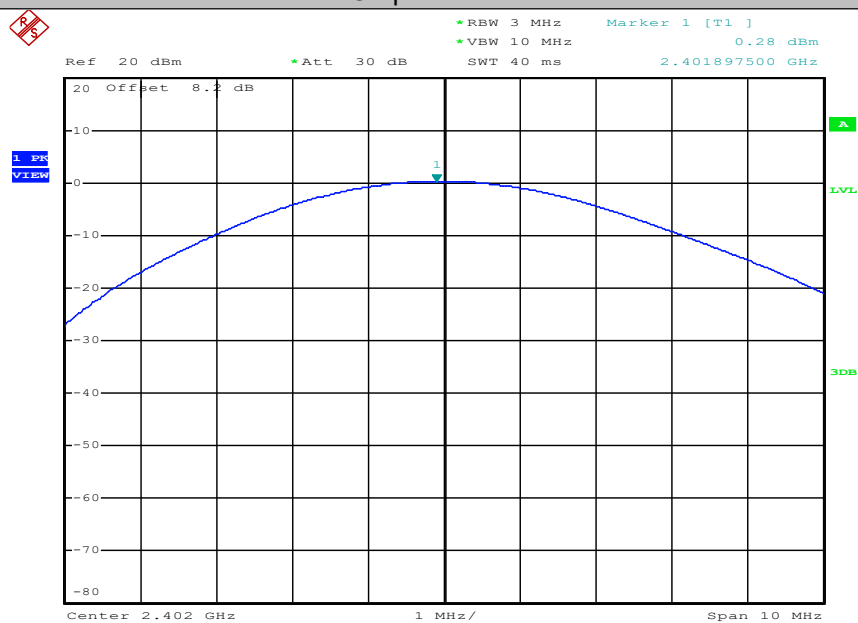
Temperature:	22.6° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Alisa Huang
Supervised by:	Wang.Chuang

A.1 Maximum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.280	30	PASS
	MCH	0.530	30	PASS
	HCH	0.920	30	PASS
$\pi/4$ DQPSK	LCH	0.100	21	PASS
	MCH	0.380	21	PASS
	HCH	0.530	21	PASS
8DPSK	LCH	0.220	21	PASS
	MCH	0.470	21	PASS
	HCH	0.890	21	PASS

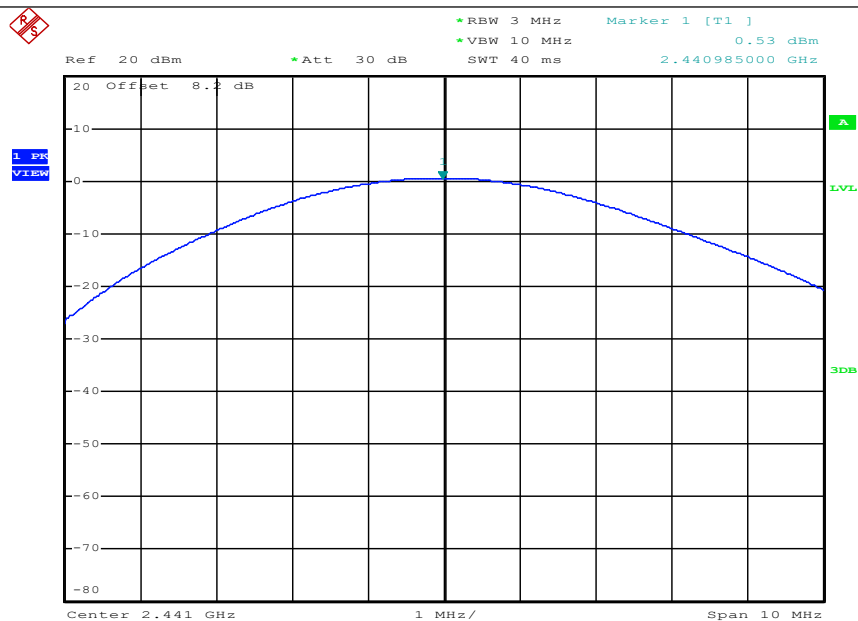
Test Graphs

GFSK/LCH



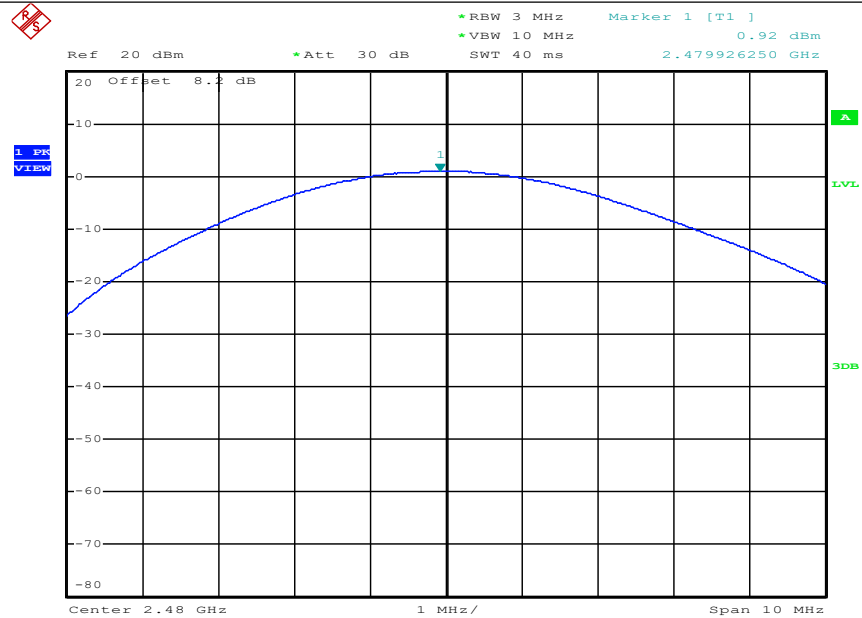
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GFSK/MCH

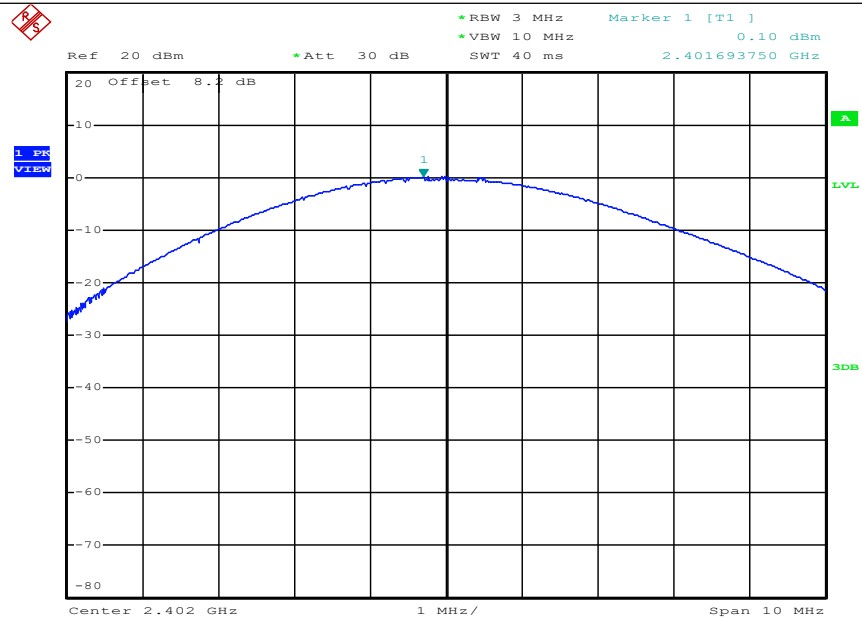


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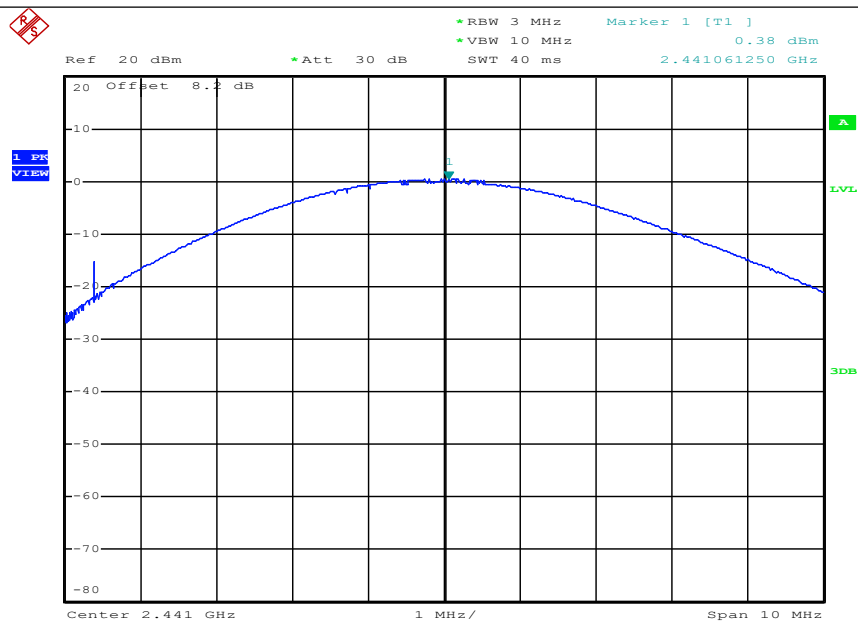
GFSK/HCH



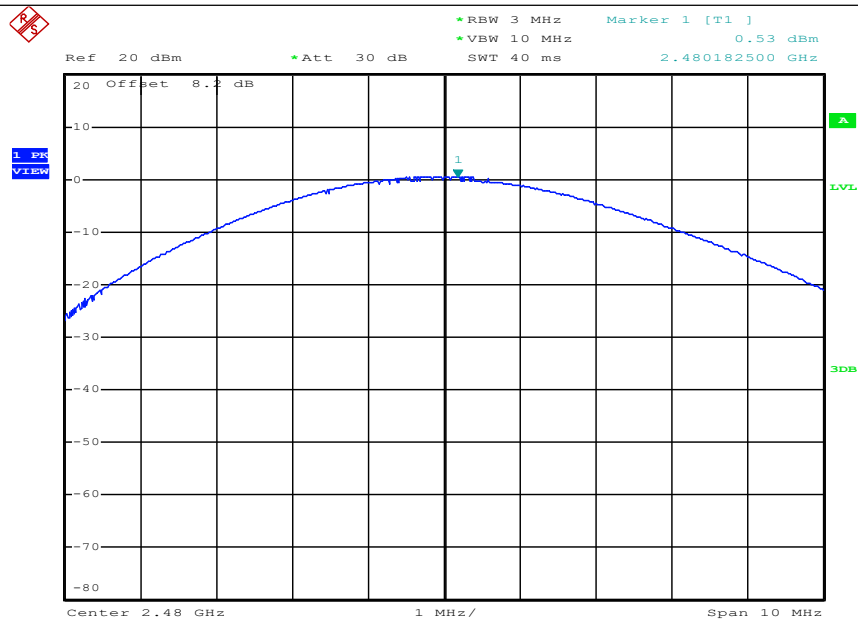
Date: 29.SEP.2019 13:49:23

 π /4DQPSK/LCH

Date: 29.SEP.2019 13:57:59

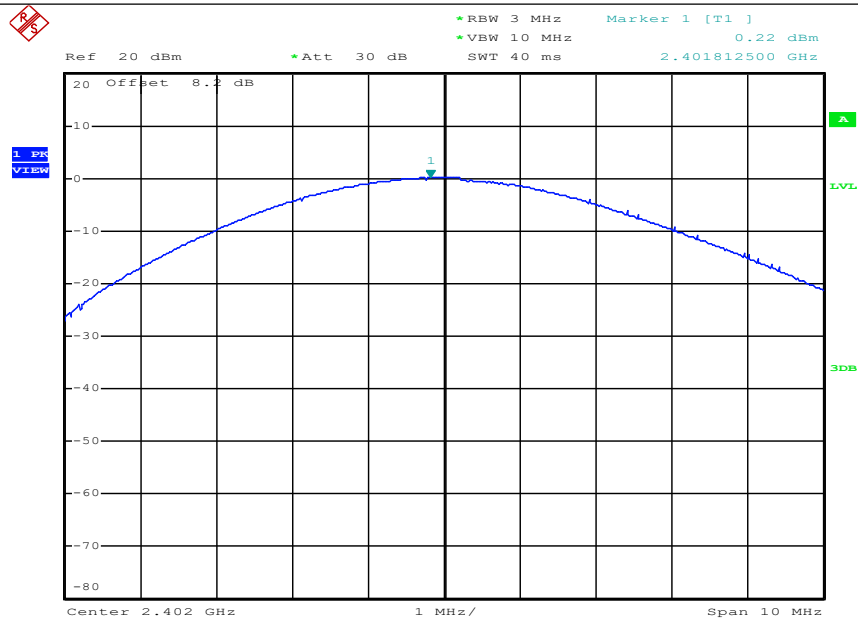
$\pi/4$ DQPSK/MCH

Date: 29.SEP.2019 14:00:32

 $\pi/4$ DQPSK/HCH

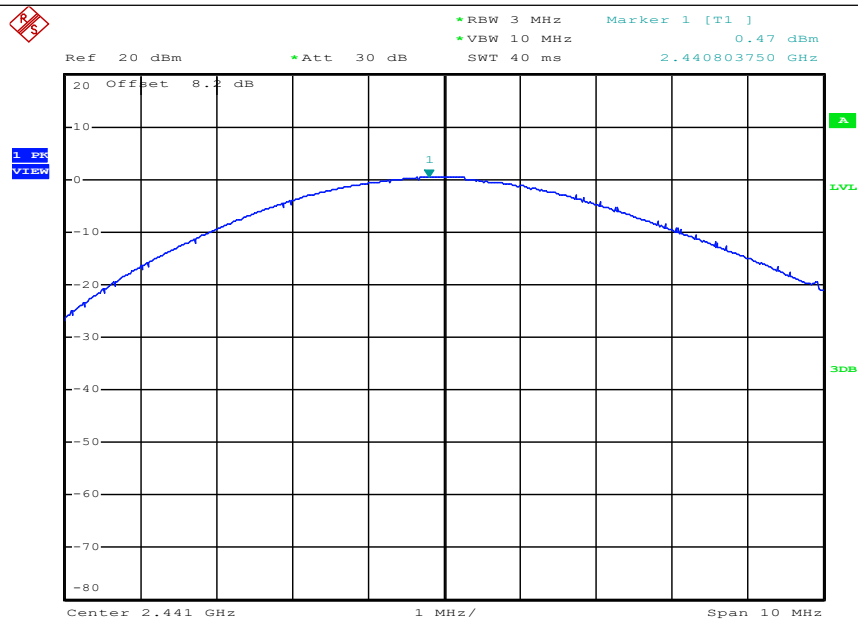
Date: 29.SEP.2019 14:52:28

8DPSK/LCH



Date: 29.SEP.2019 14:05:07

8DPSK/MCH



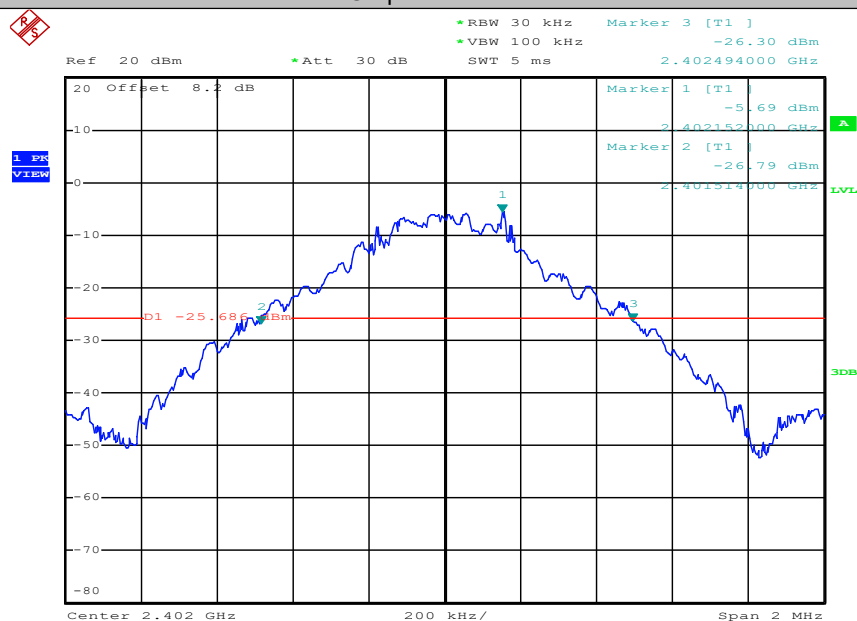
Date: 29.SEP.2019 14:07:40

A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.980	Not Specified	PASS
	MCH	0.984	Not Specified	PASS
	HCH	0.984	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.310	Not Specified	PASS
	MCH	1.286	Not Specified	PASS
	HCH	1.292	Not Specified	PASS
8DPSK	LCH	1.286	Not Specified	PASS
	MCH	1.286	Not Specified	PASS
	HCH	1.282	Not Specified	PASS

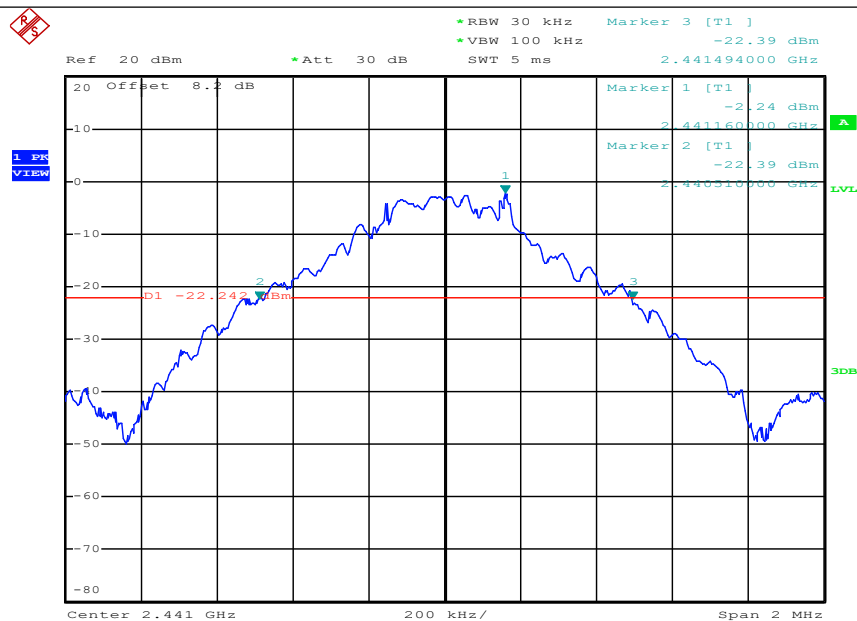
Test Graphs

GFSK/LCH



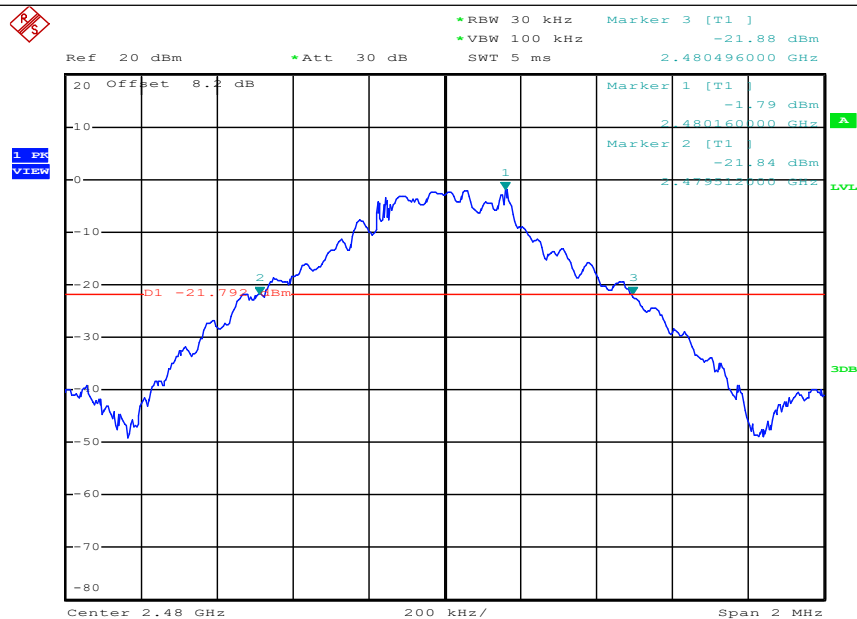
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GFSK/MCH

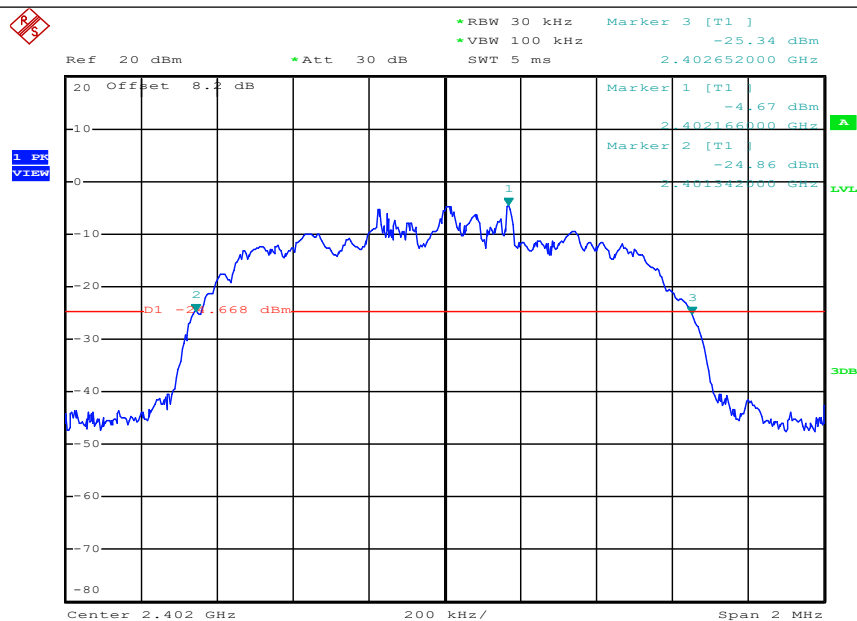


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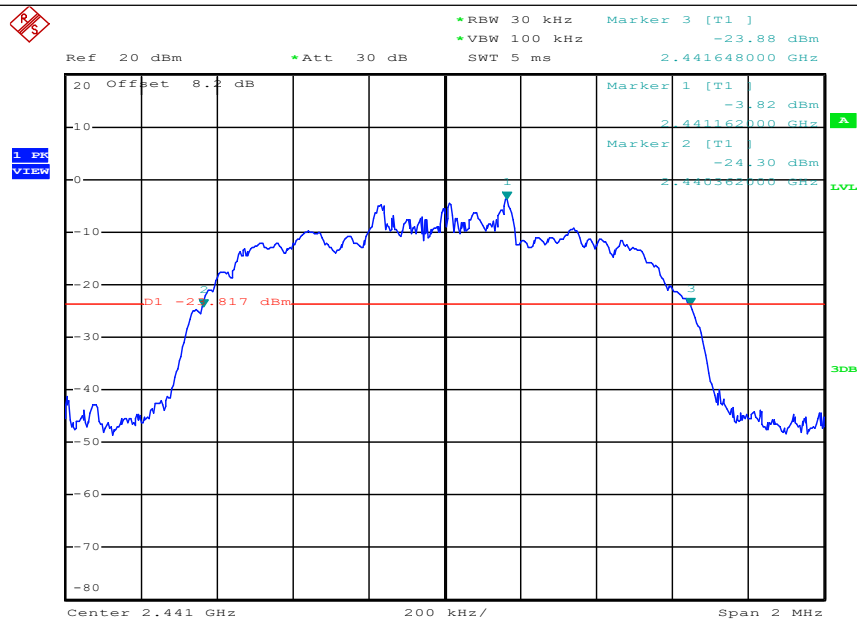
GFSK/HCH



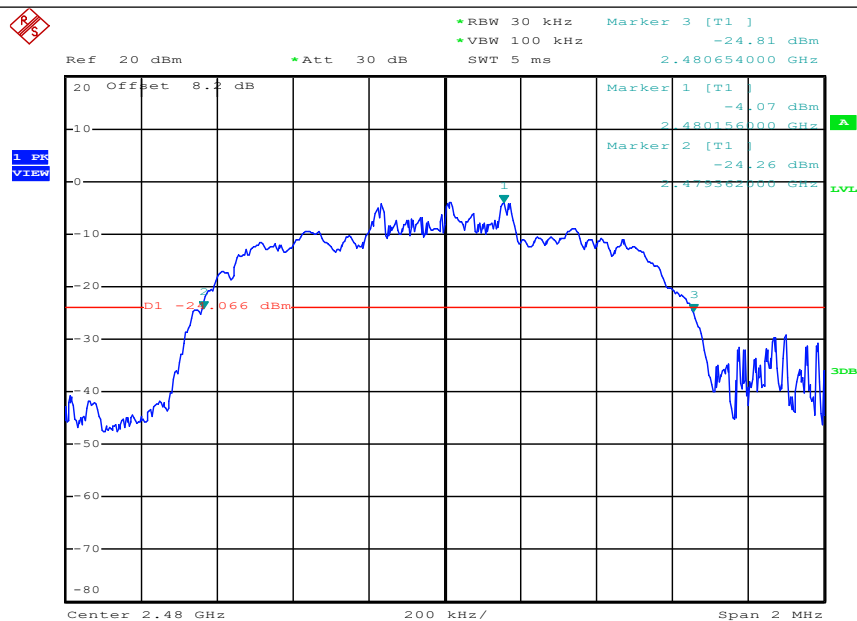
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$\pi/4$ DQPSK/LCH

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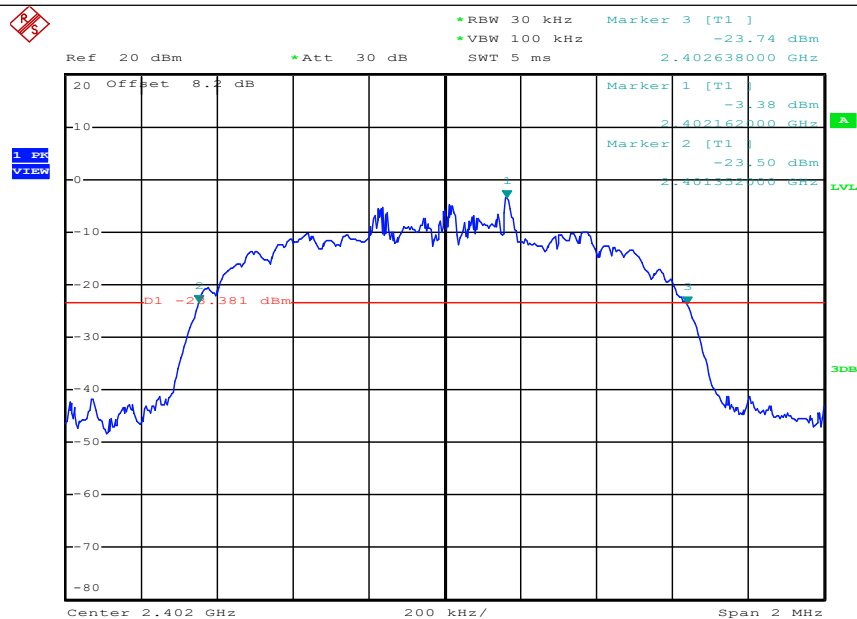
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$\pi/4$ DQPSK/HCH

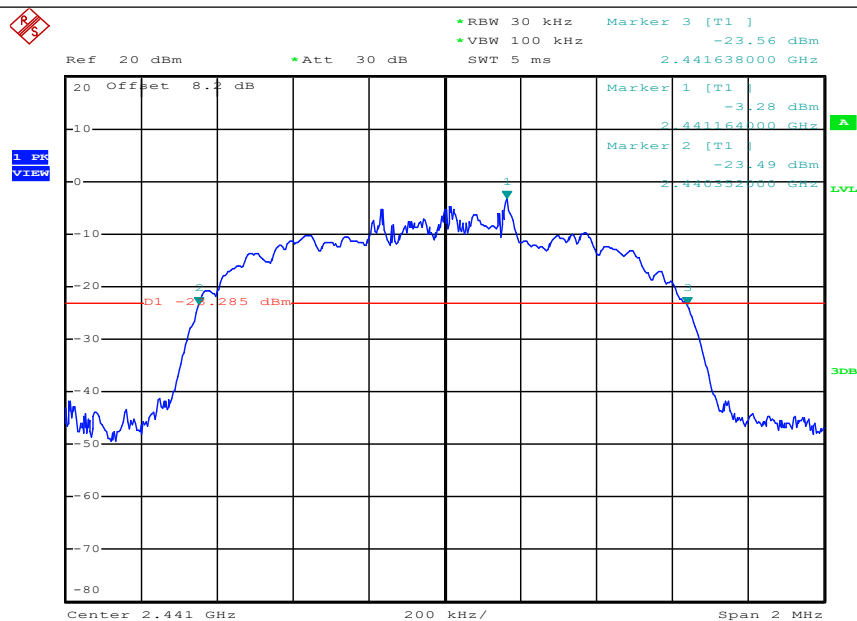
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8DPSK/LCH



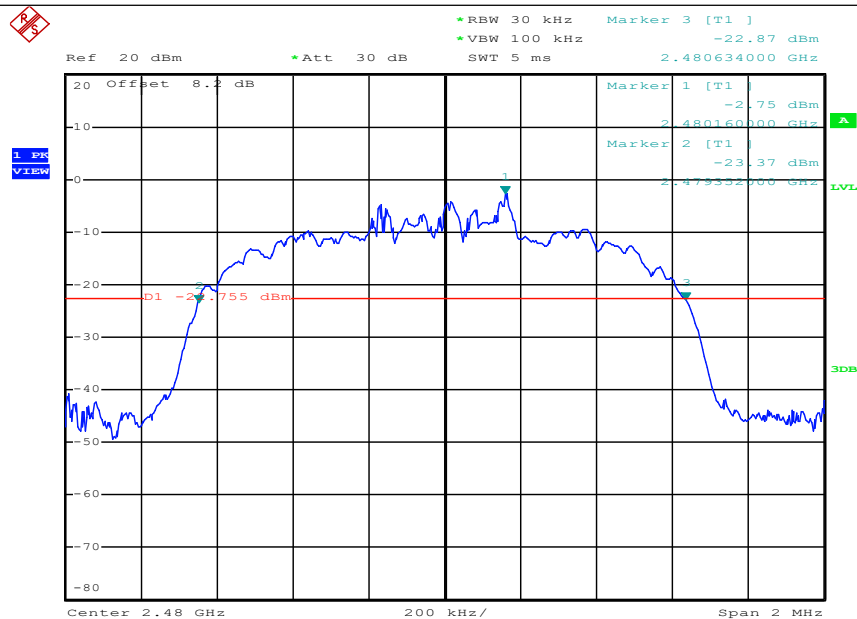
Date: 29.SEP.2019 14:04:31

8DPSK/MCH



Date: 29.SEP.2019 14:07:03

8DPSK/HCH



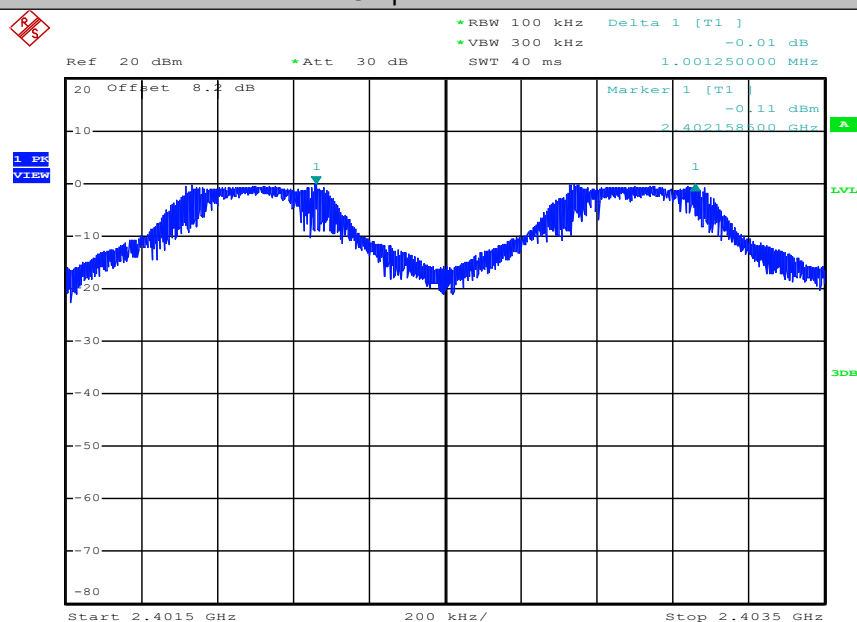
Date: 29.SEP.2019 14:11:04

A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.001	0.656	PASS
	MCH	1.022	0.656	PASS
	HCH	1.158	0.656	PASS
$\pi/4$ DQPSK	LCH	0.976	0.873	PASS
	MCH	1.254	0.873	PASS
	HCH	0.928	0.873	PASS
8DPSK	LCH	1.340	0.857	PASS
	MCH	1.466	0.857	PASS
	HCH	1.094	0.857	PASS

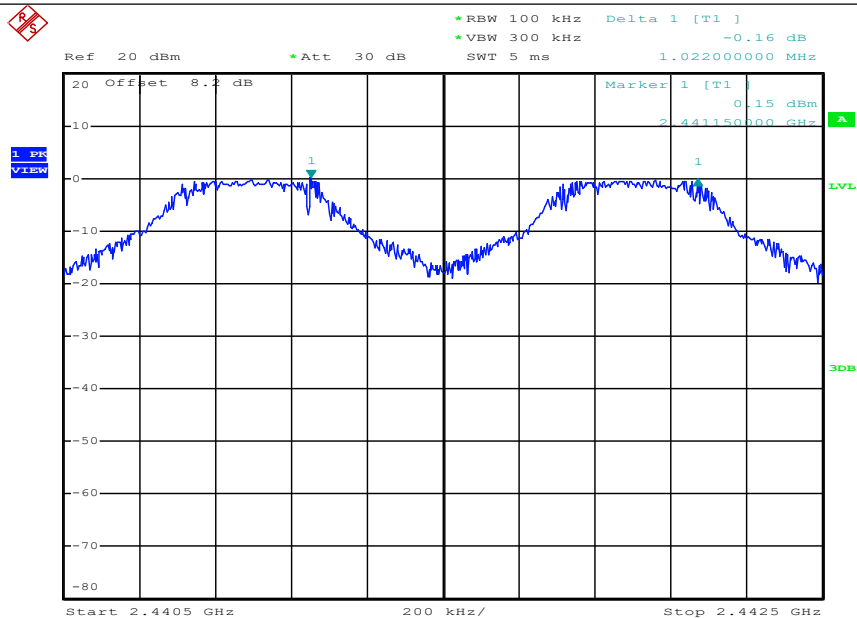
Test Graphs

GFSK/LCH



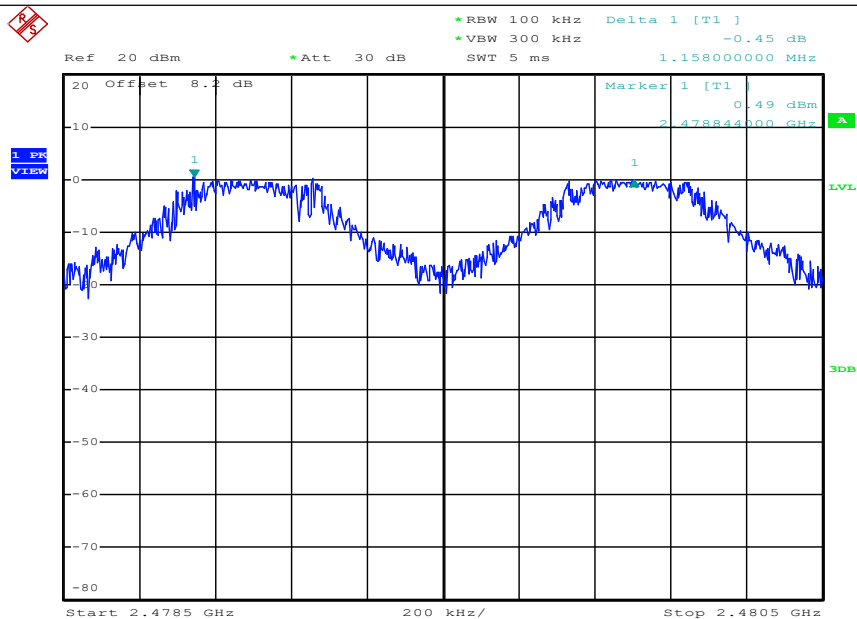
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GFSK/MCH

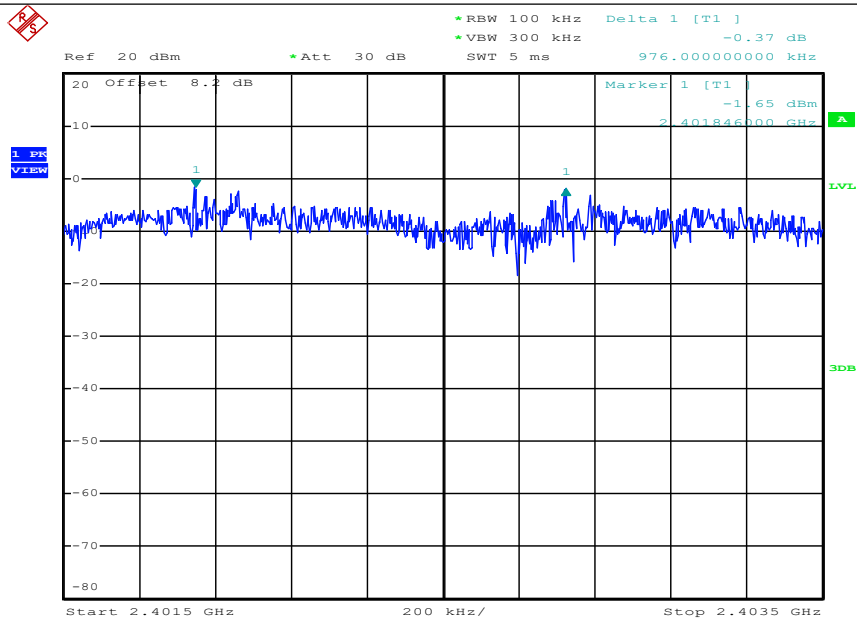


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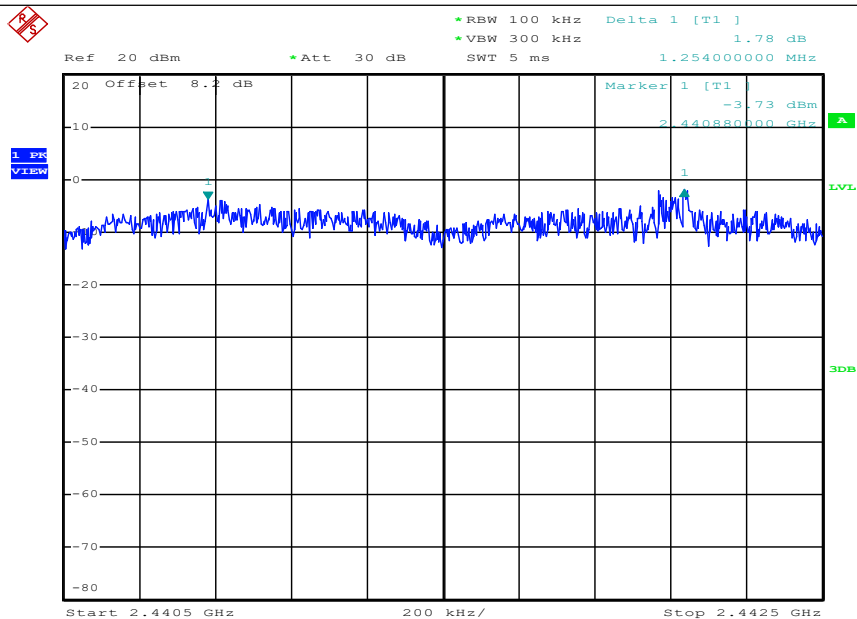
GFSK/HCH



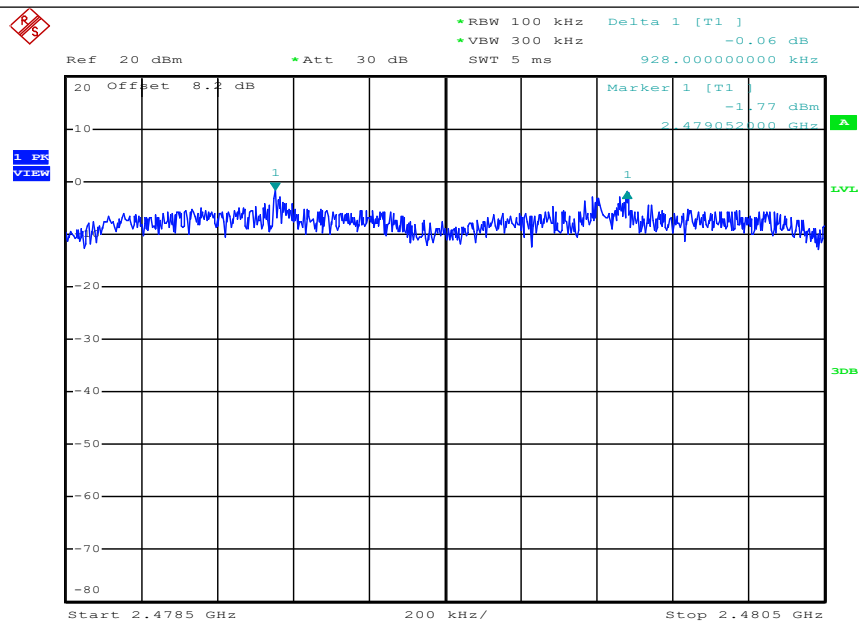
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$\pi/4$ DQPSK/LCH

Date: 29.SEP.2019 14:25:39

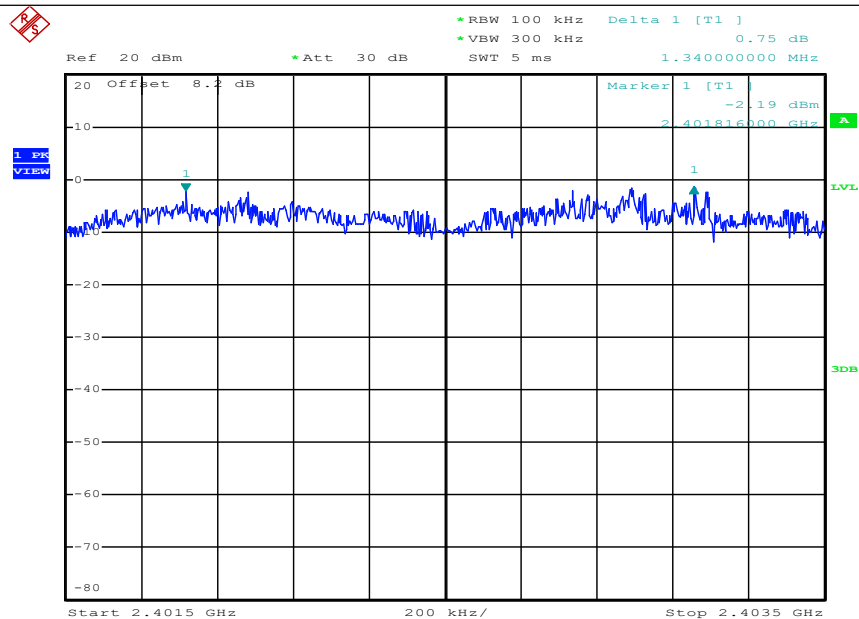
 $\pi/4$ DQPSK/MCH

Date: 29.SEP.2019 14:28:47

π /4DQPSK/HCH

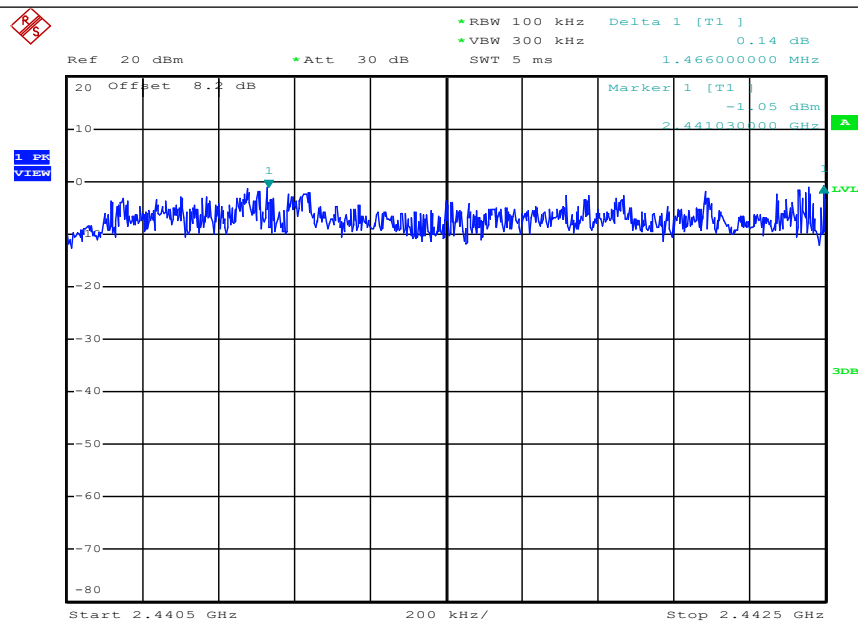
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8DPSK/LCH



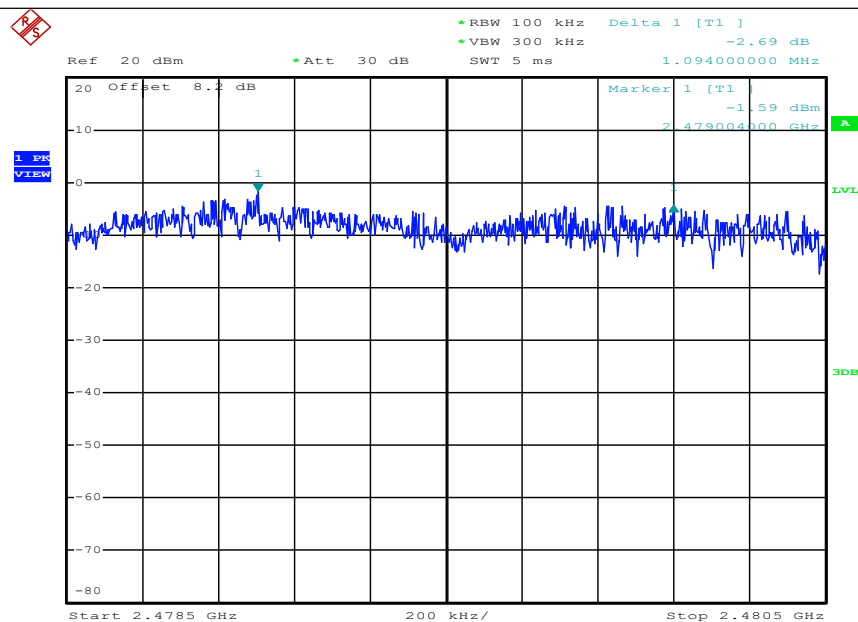
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8DPSK/MCH



Date: 29.SEP.2019 14:51:03

8DPSK/HCH



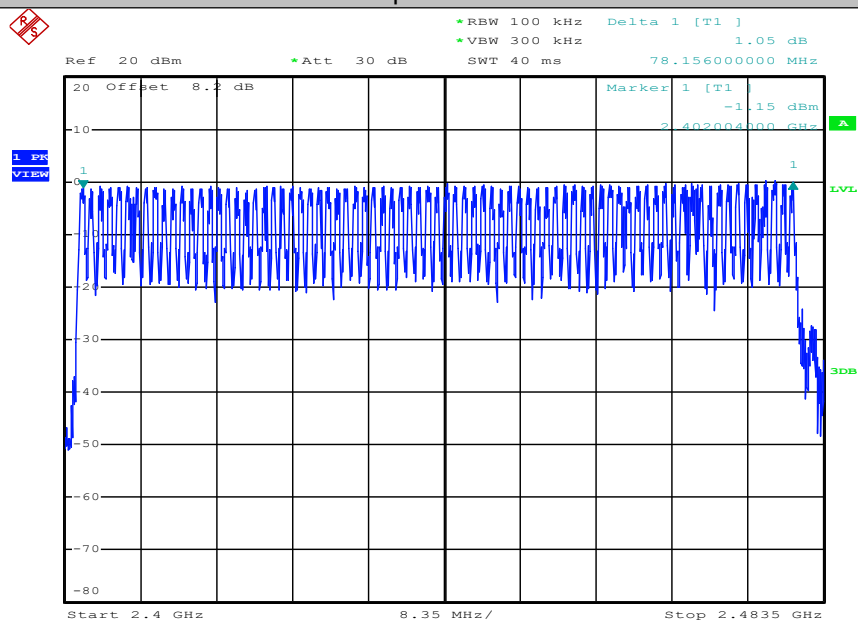
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A.4 Hopping Channel Number

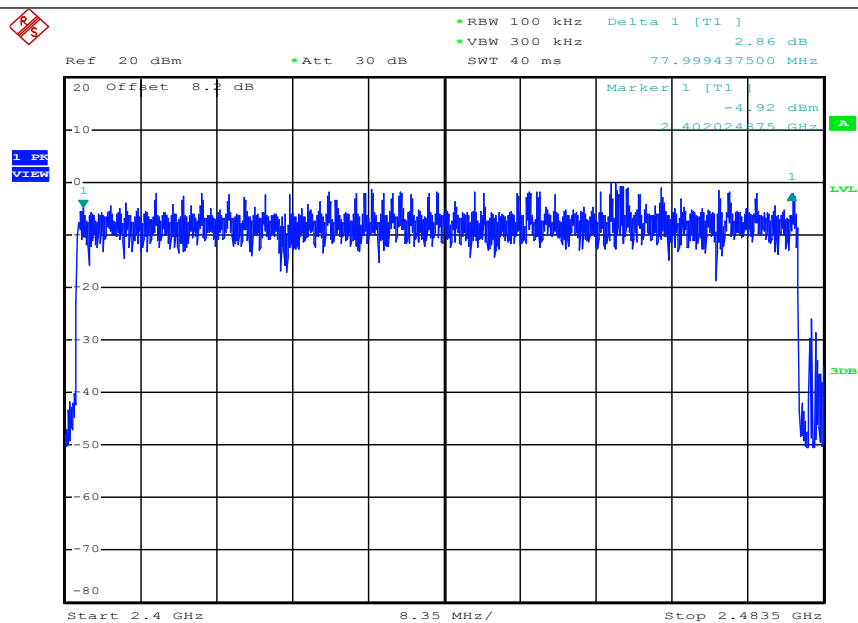
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

GFSK/Hop

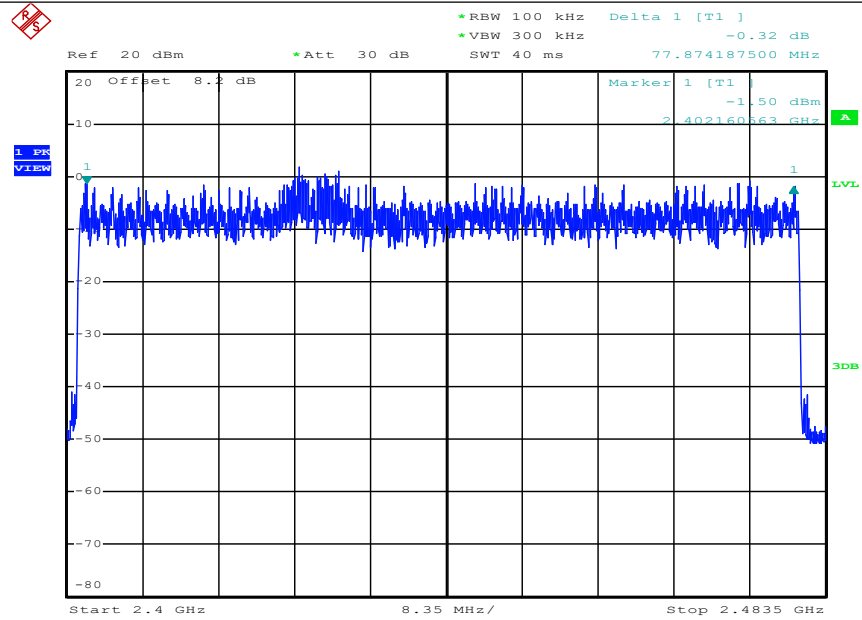


Date: 29.SEP.2019 14:24:40

 $\pi/4$ DQPSK/Hop

Date: 29.SEP.2019 14:33:50

8DPSK/Hop



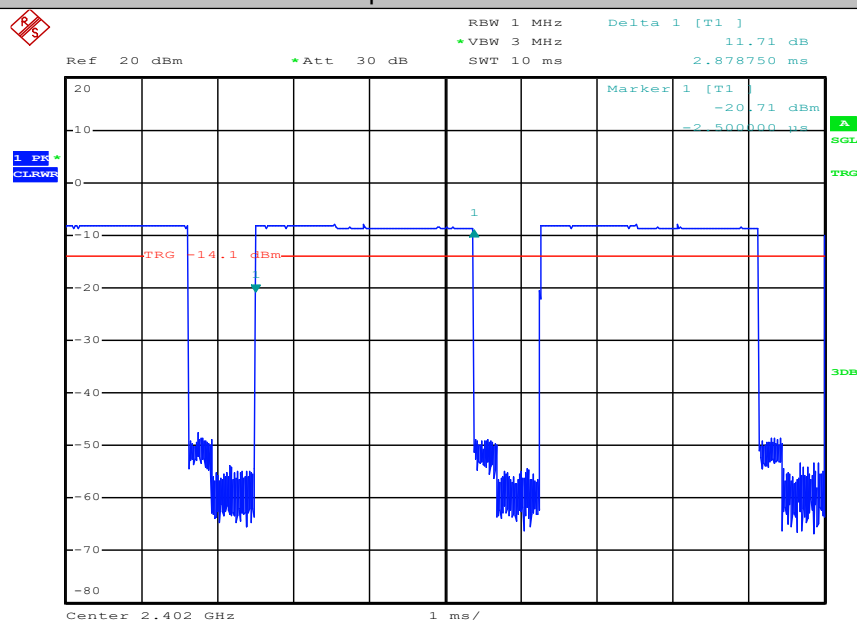
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A.5 Dwell Time

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	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7	0.307	0.4	PASS
8DPSK	3DH5	LCH	2.88	106.7	0.307	0.4	PASS
	3DH5	MCH	2.88	106.7	0.308	0.4	PASS
	3DH5	HCH	2.88	106.7	0.307	0.4	PASS

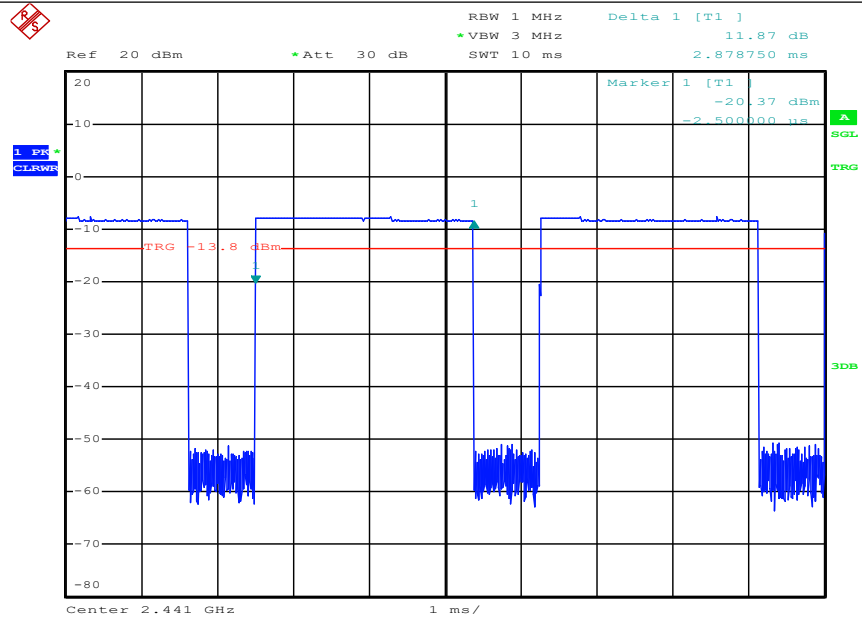
Test Graphs

GFSK_DH5/LCH



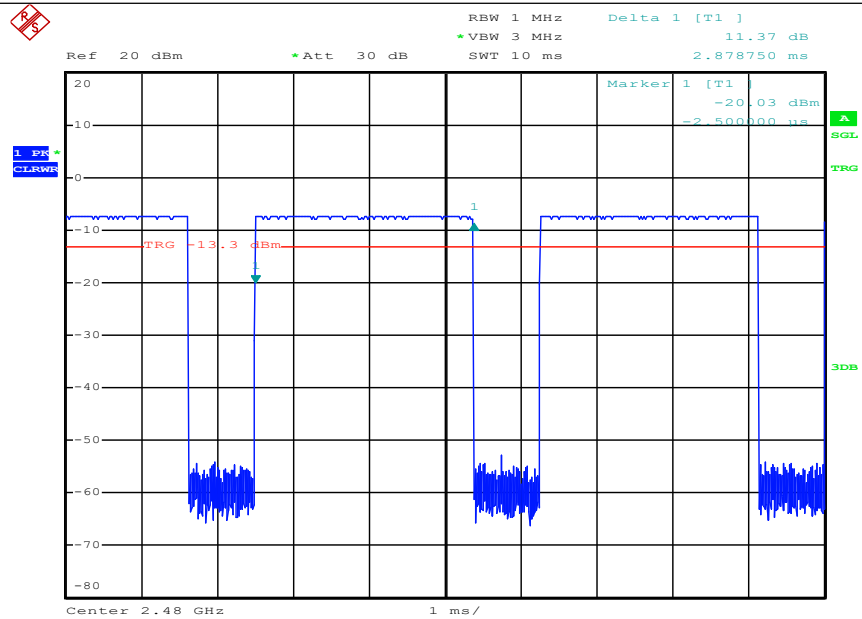
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GFSK_DH5/MCH



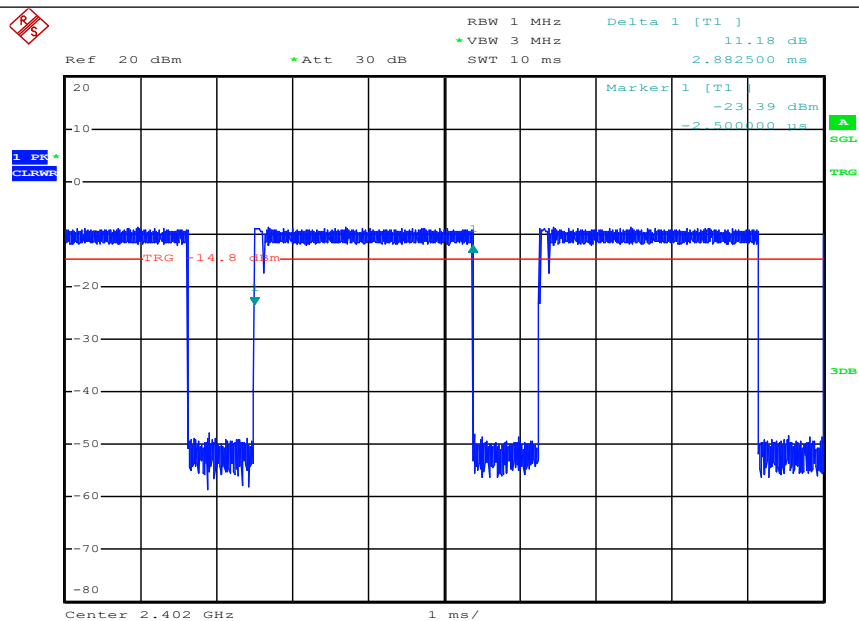
Date: 29.SEP.2019 13:47:22

GFSK_DH5/HCH



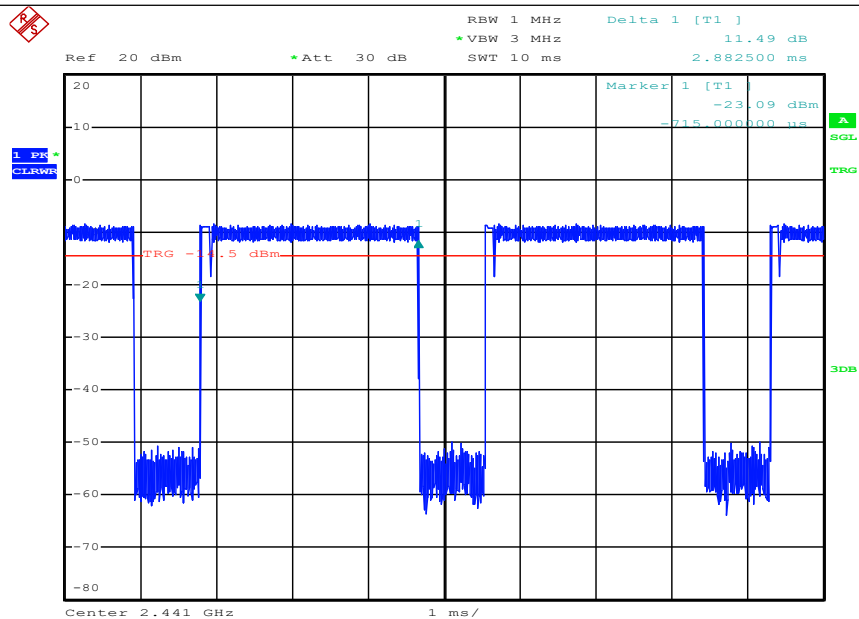
Date: 29.SEP.2019 13:49:09

$\pi/4$ DQPSK
_2DH5/LCH



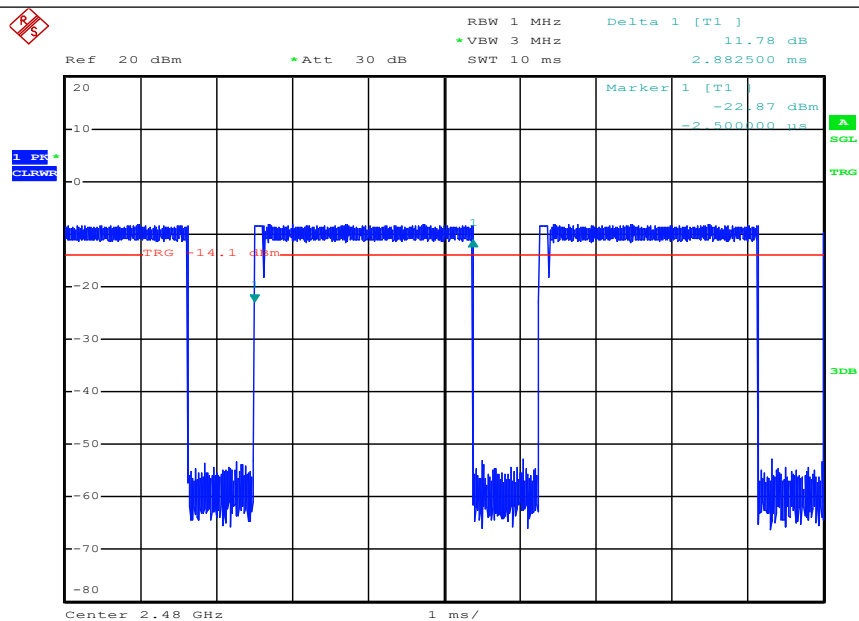
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$\pi/4$ DQPSK
_2DH5/MCH



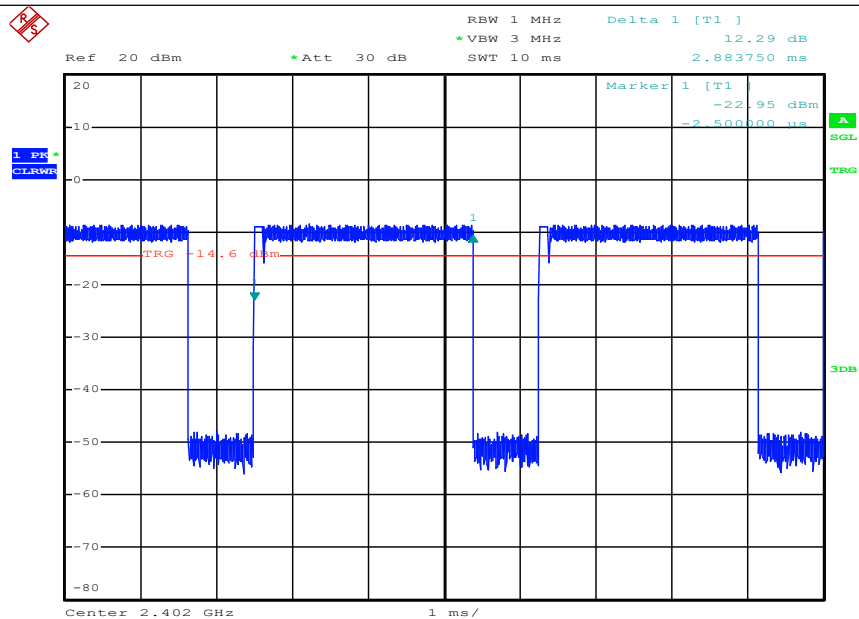
Date: 29.SEP.2019 14:00:17

$\pi/4$ DQPSK
_2DH5/HCH



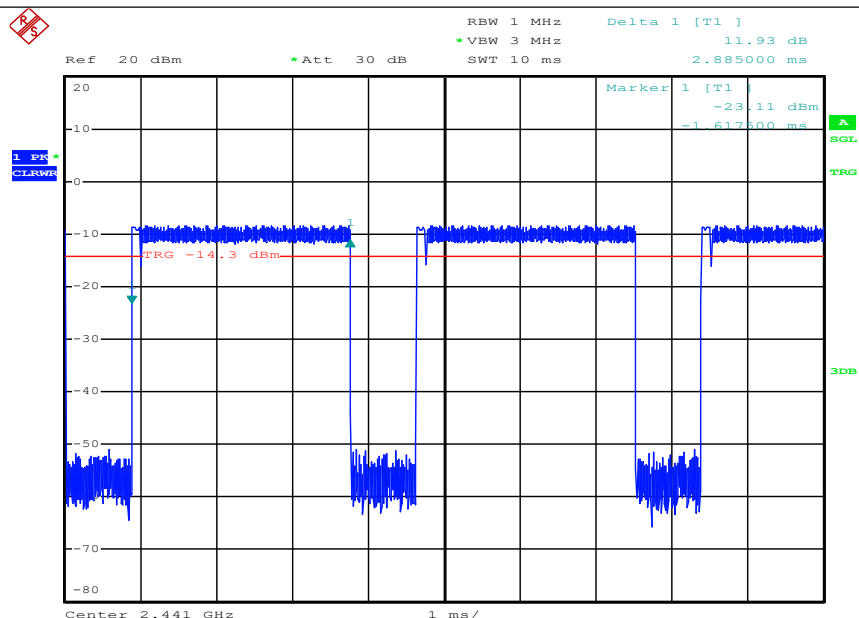
Date: 29.SEP.2019 14:02:05

8DPSK_3DH5/LCH



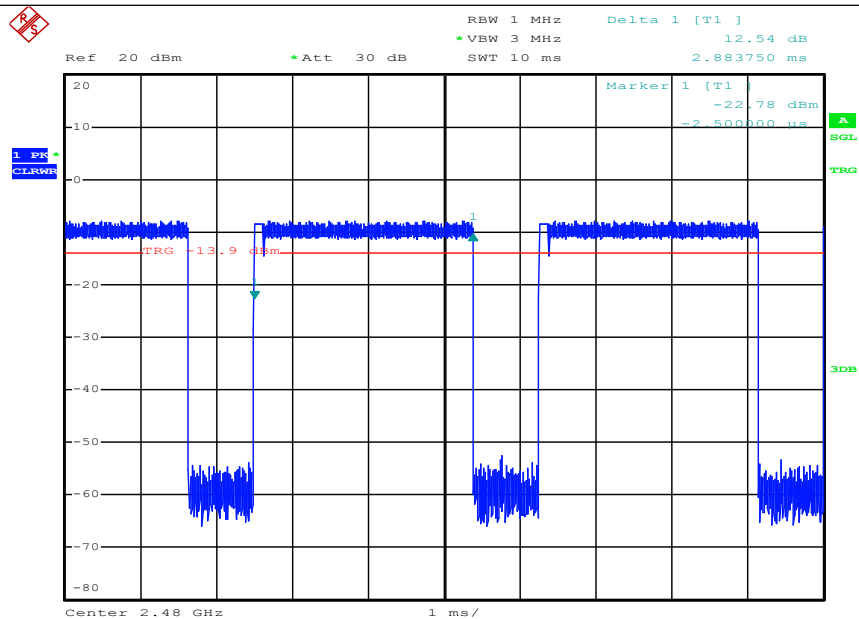
Date: 29.SEP.2019 14:04:52

8DPSK_3DH5/MCH



Date: 29.SEP.2019 14:07:25

8DPSK_3DH5/HCH



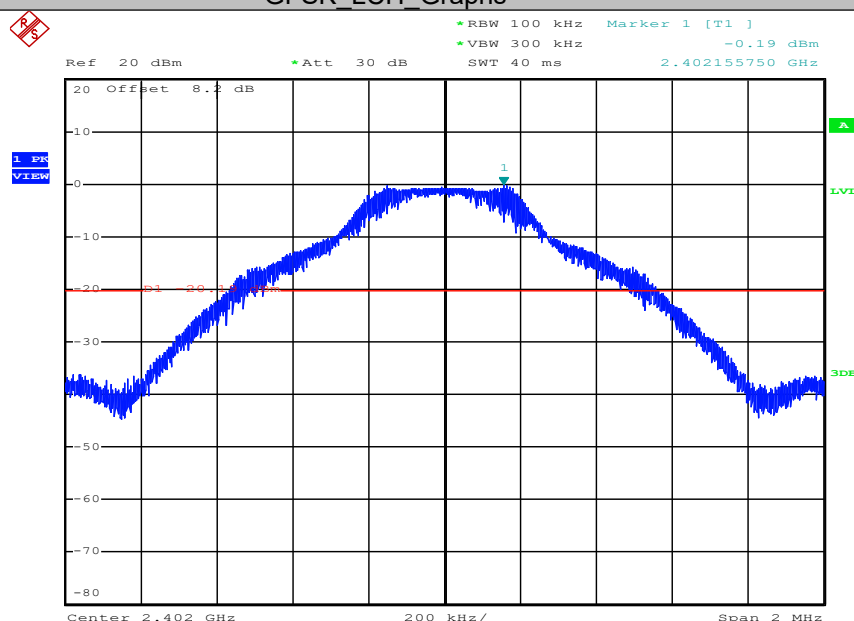
Date: 29.SEP.2019 14:11:25

A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.19	-31.260	-20.190	PASS
	MCH	0.07	-32.510	-19.930	PASS
	HCH	0.54	-32.130	-19.460	PASS
$\pi/4$ DQPSK	LCH	-1.35	-31.590	-21.350	PASS
	MCH	-1.06	-31.420	-21.060	PASS
	HCH	-0.62	-31.690	-20.620	PASS
8DPSK	LCH	-1.02	-32.450	-21.020	PASS
	MCH	-0.89	-31.970	-20.890	PASS
	HCH	-0.47	-31.820	-20.470	PASS

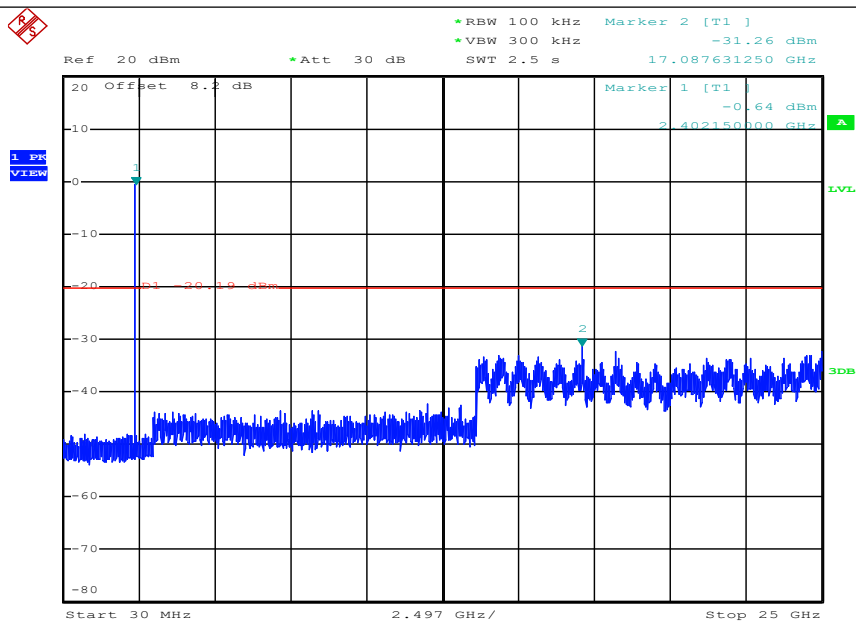
GFSK LCH_Graphs

Pref



Date: 29.SEP.2019 13:45:30

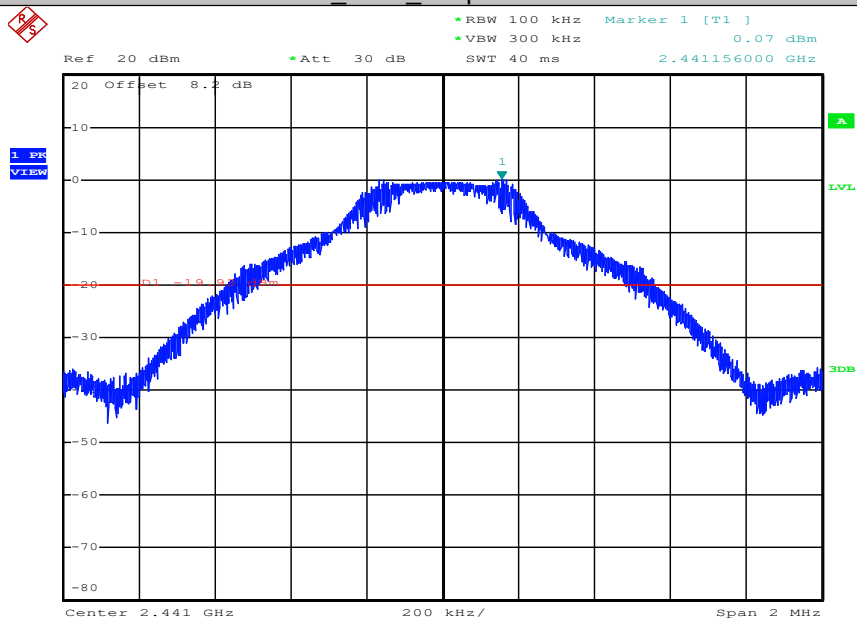
P_{uw}



Date: 29.SEP.2019 13:45:44

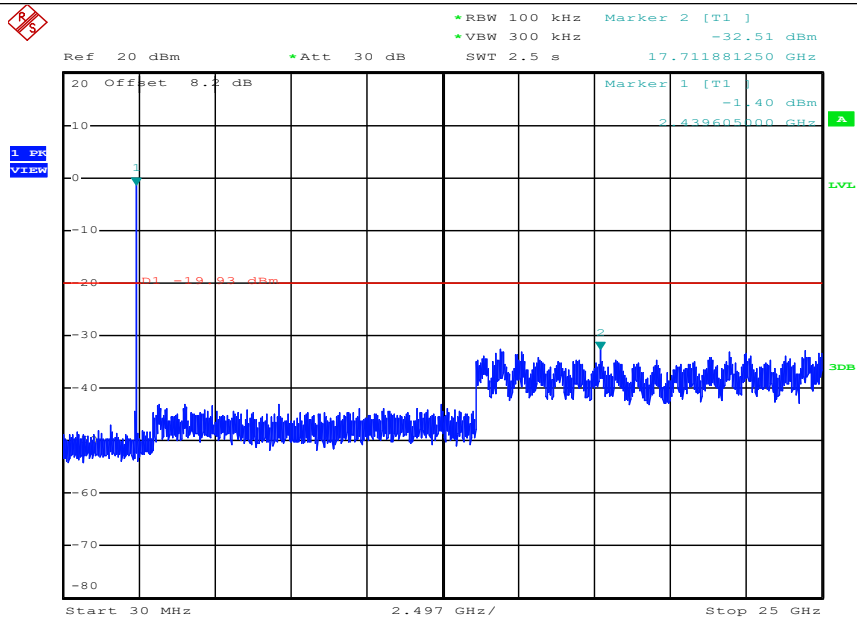
GFSK_MCH_Graphs

Pref



Date: 29.SEP.2019 13:47:50

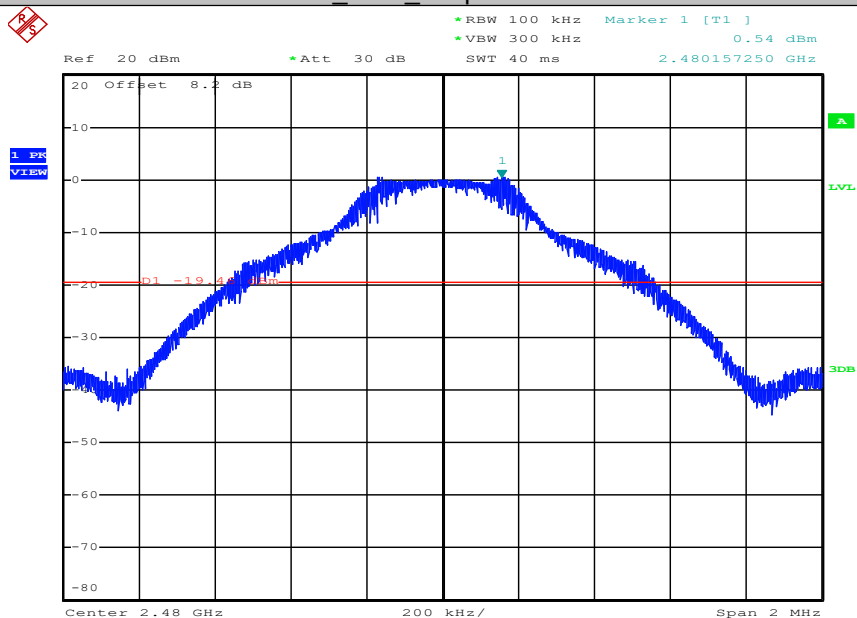
Puw



Date: 29.SEP.2019 13:48:04

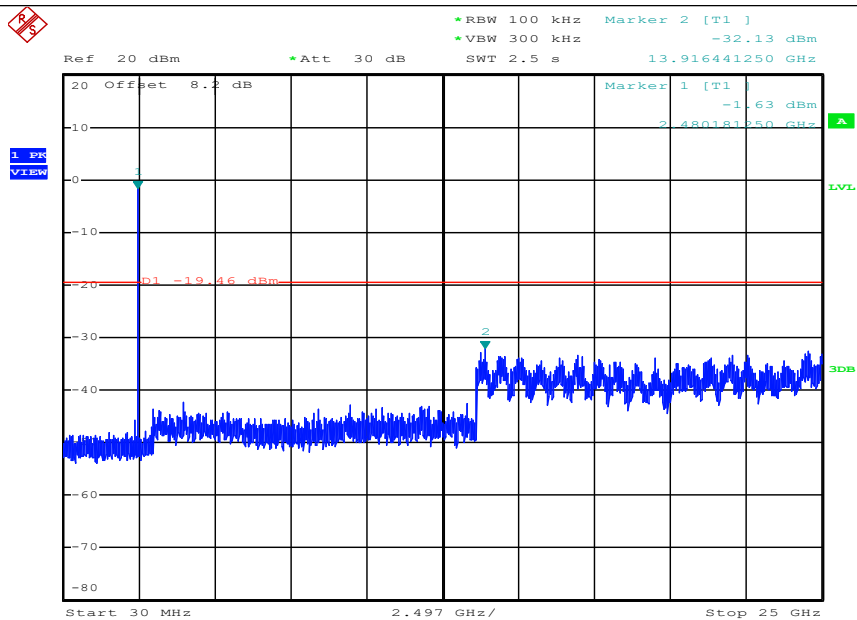
GFSK_HCH_Graphs

Pref



Date: 29.SEP.2019 13:49:52

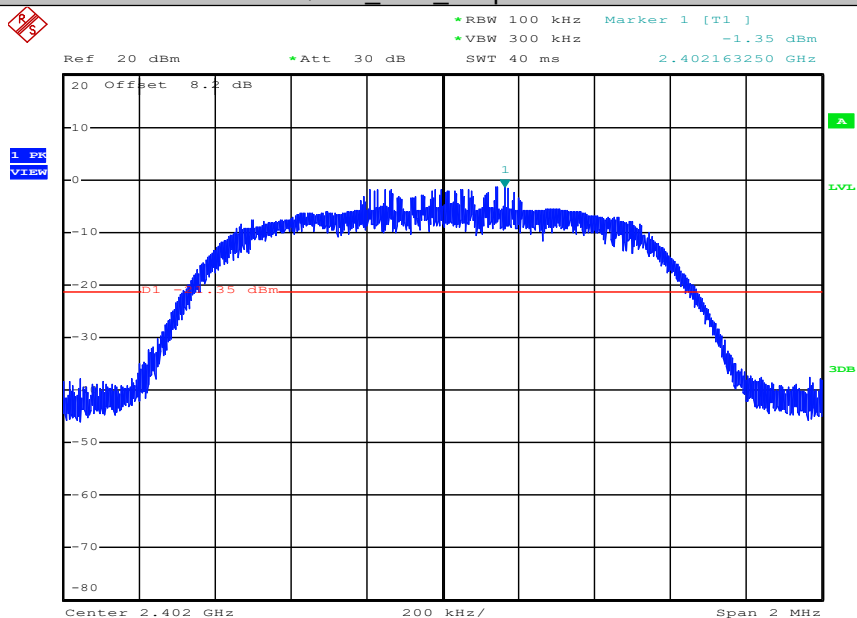
Puw



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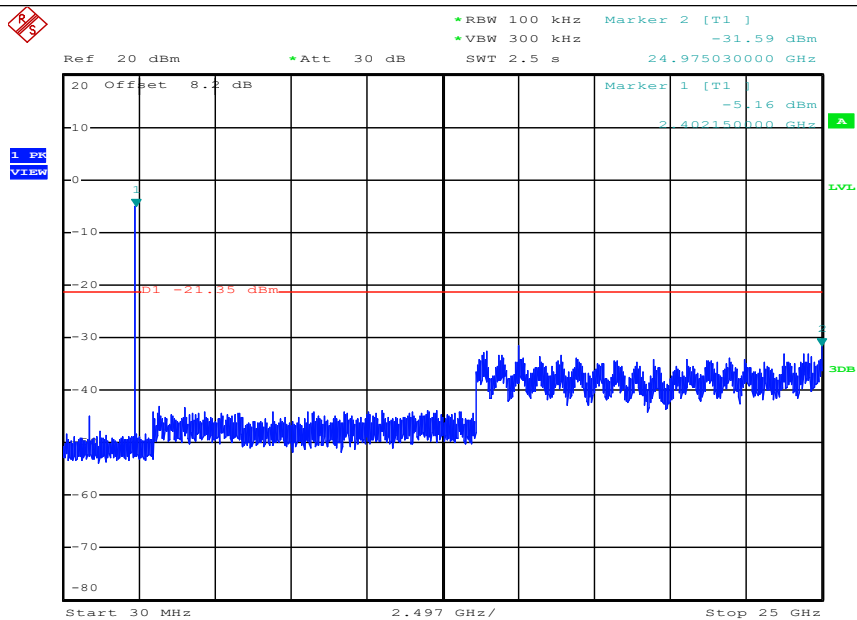
$\pi/4$ DQPSK_LCH_Graphs

Pref



Date: 29.SEP.2019 13:58:28

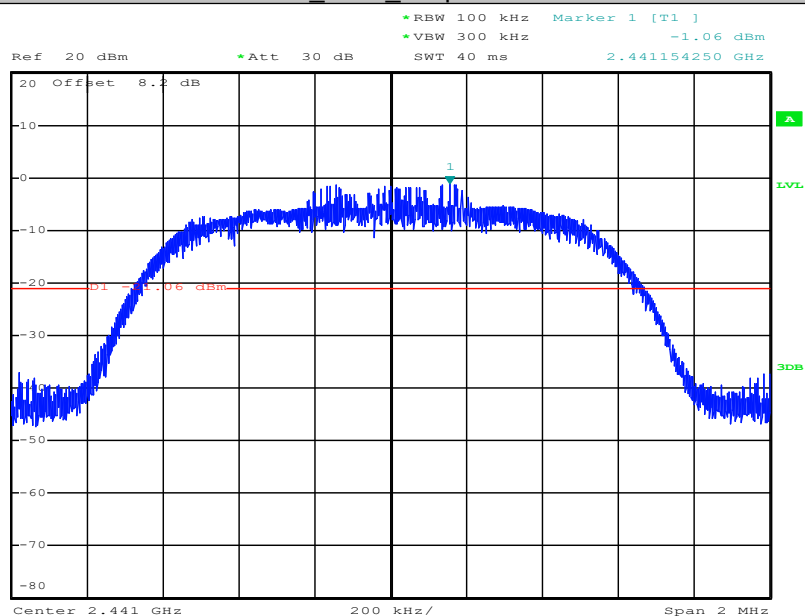
Puw



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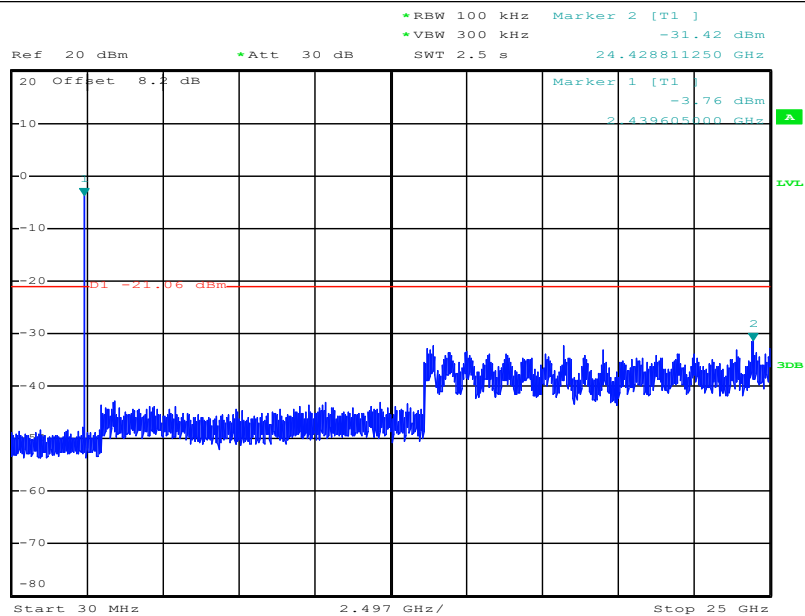
$\pi/4$ DQPSK_MCH_Graphs

Pref

1 PR
VIEW

Date: 29.SEP.2019 14:00:45

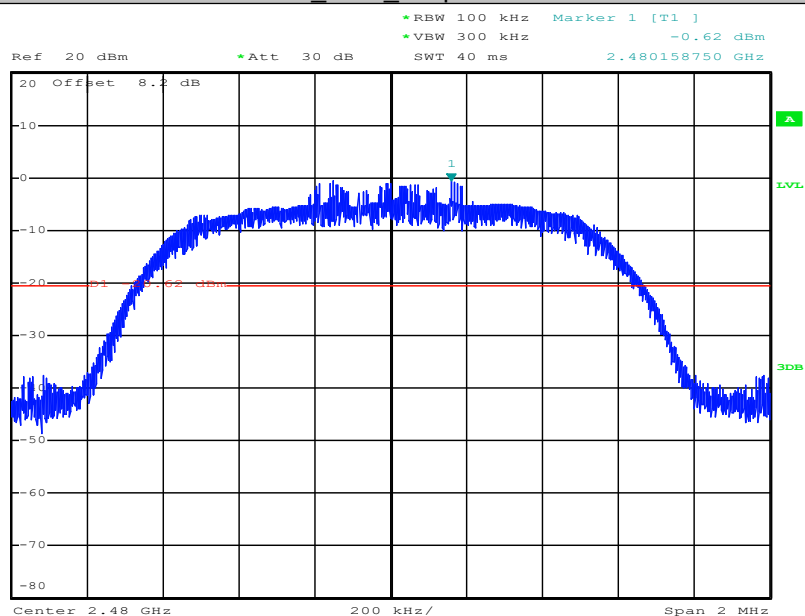
Puw

1 PR
VIEW

Date: 29.SEP.2019 14:00:59

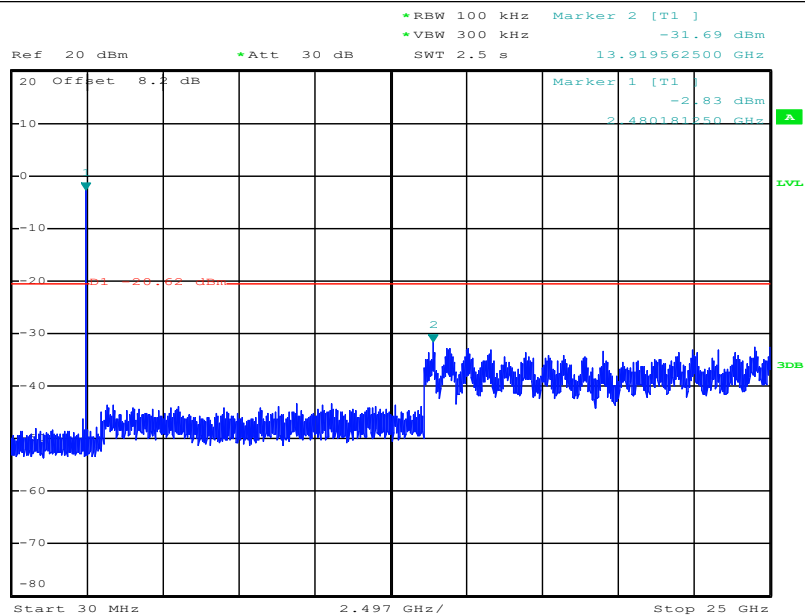
$\pi/4$ DQPSK_HCH_Graphs

Pref

1 PK
VIEW

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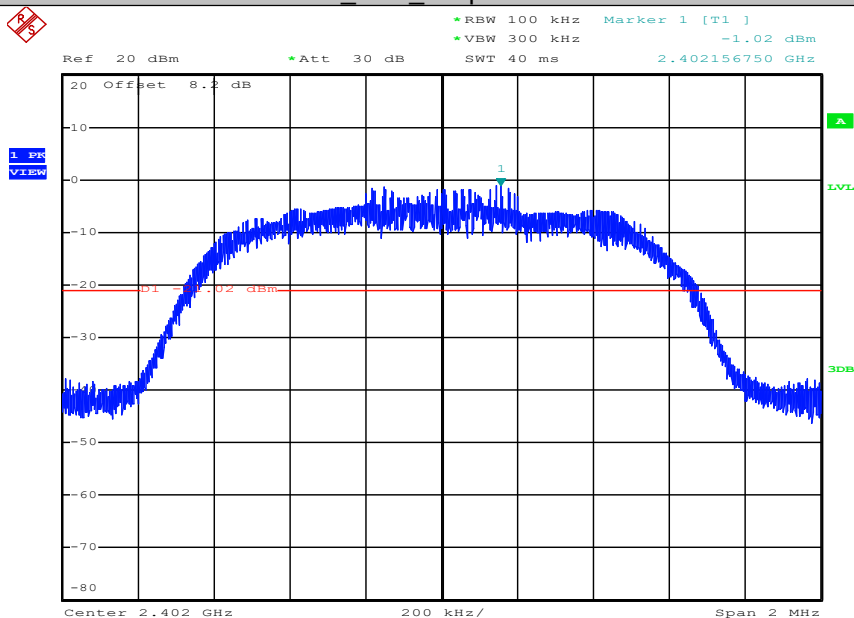
Puw

1 PK
VIEW

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

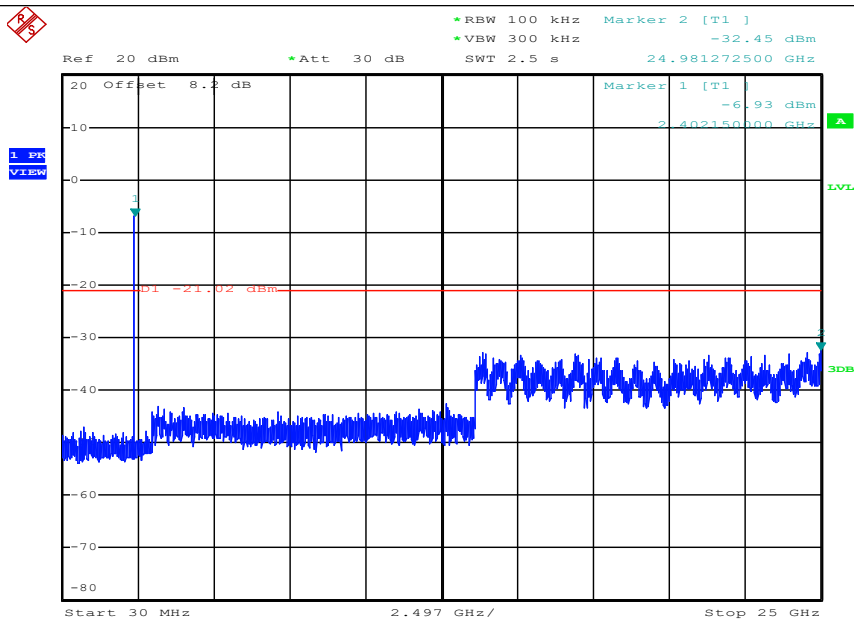
8DPSK_LCH_Graphs

Pref



Date: 29.SEP.2019 14:05:37

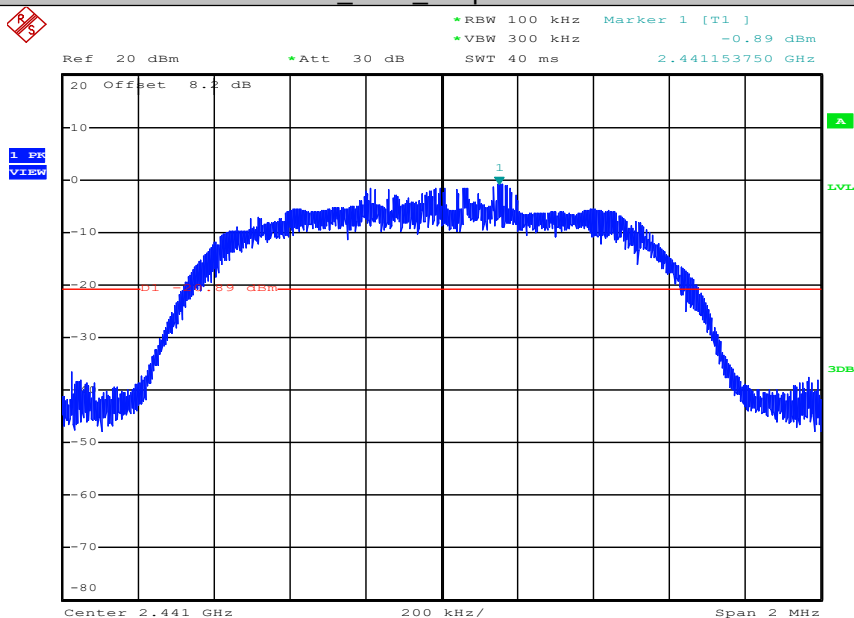
Puw



Date: 29.SEP.2019 14:05:51

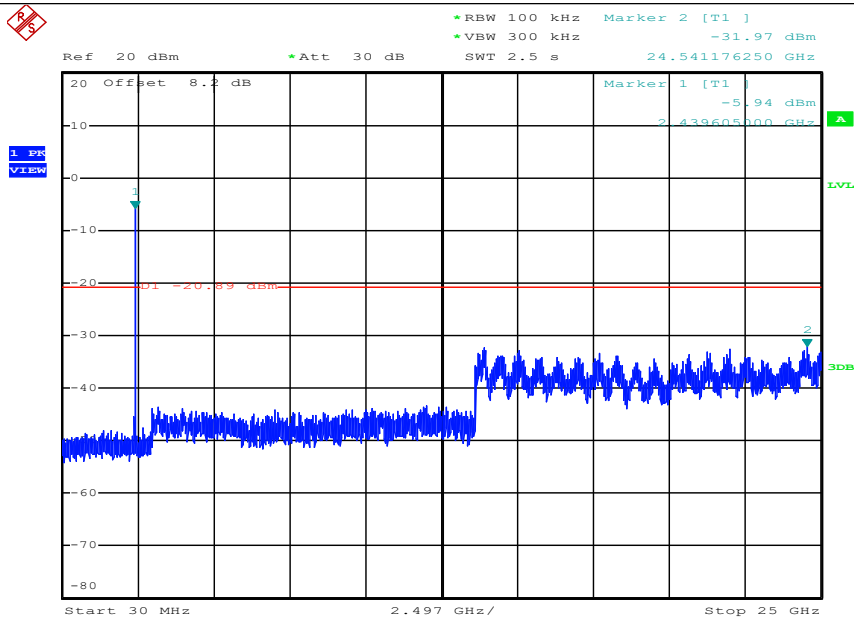
8DPSK_MCH_Graphs

Pref



Date: 29.SEP.2019 14:10:07

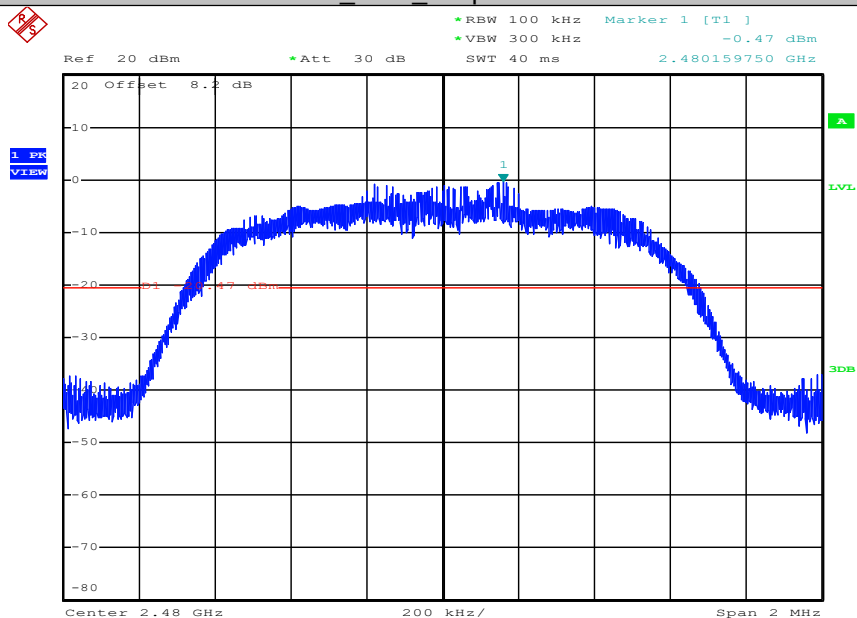
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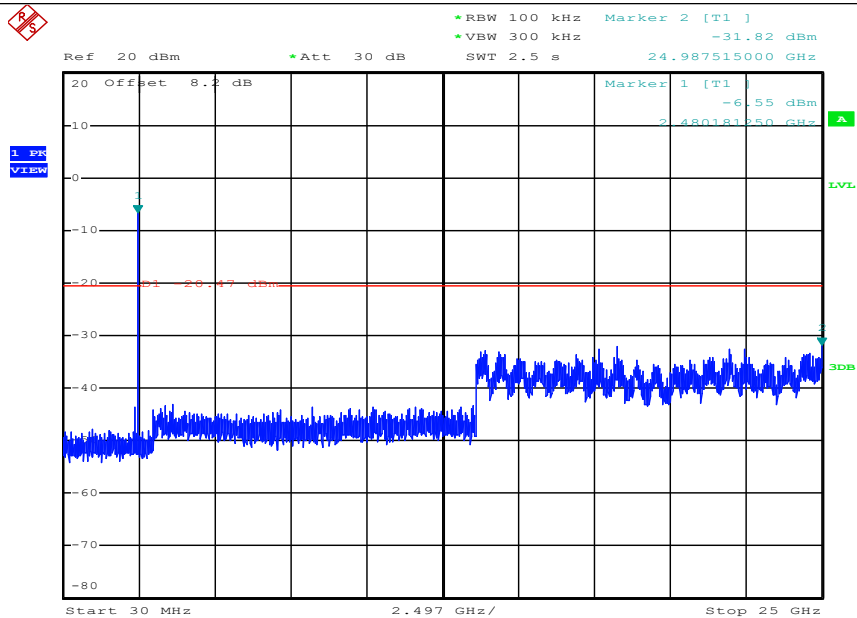
8DPSK_HCH_Graphs

Pref



Date: 29.SEP.2019 14:12:08

Puw



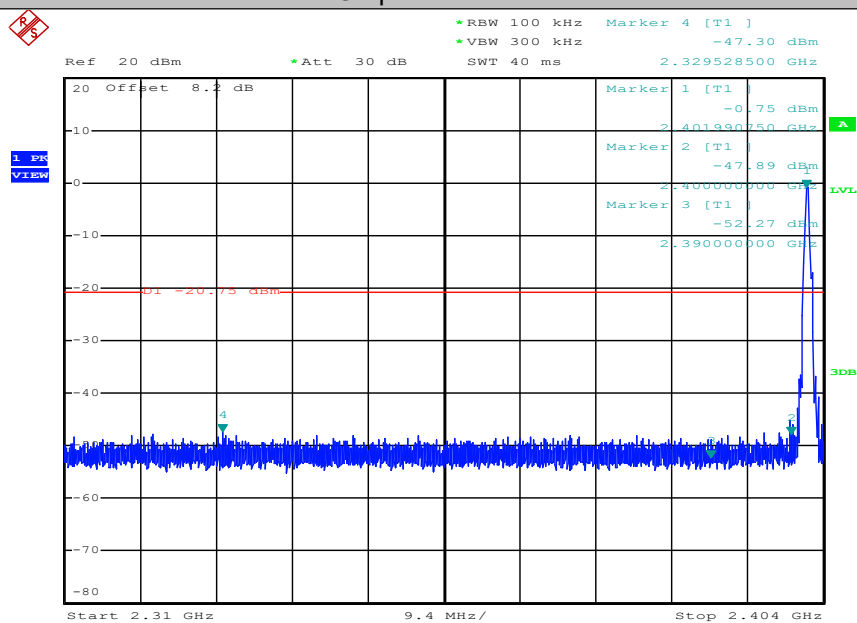
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A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-0.750	Off	-47.297	-20.75	PASS
			-0.110	On	-46.926	-20.11	PASS
	HCH	2480	0.030	Off	-46.885	-19.97	PASS
			2.240	On	-45.002	-17.76	PASS
$\pi/4$ DQPSK	LCH	2402	-1.840	Off	-47.099	-21.84	PASS
			3.320	On	-46.881	-16.68	PASS
	HCH	2480	-0.760	Off	-47.404	-20.76	PASS
			-0.050	On	-47.183	-20.05	PASS
8DPSK	LCH	2402	-1.790	Off	-47.054	-21.79	PASS
			0.930	On	-46.873	-19.07	PASS
	HCH	2480	-0.600	Off	-47.860	-20.6	PASS
			-0.870	On	-46.427	-20.87	PASS

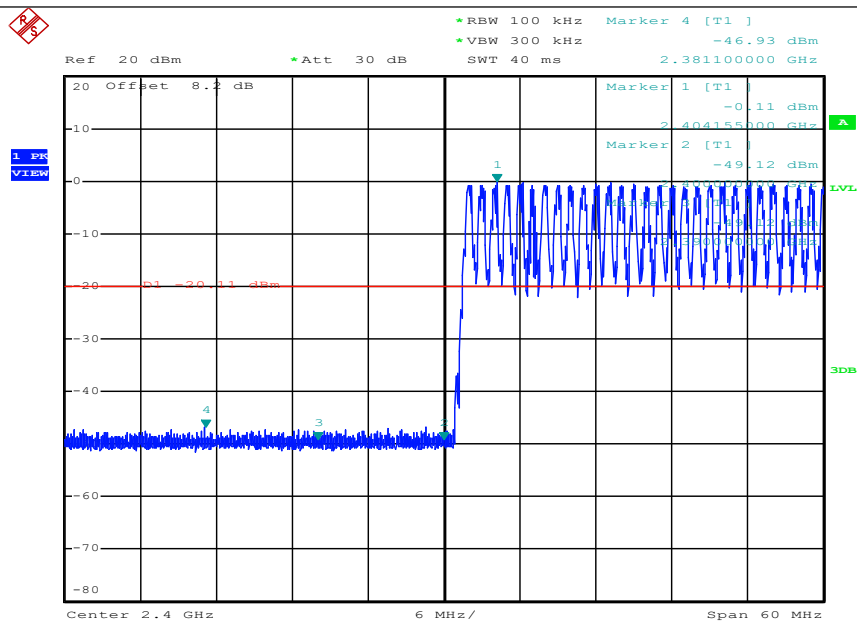
Test Graphs

GFSK/LCH/No Hop



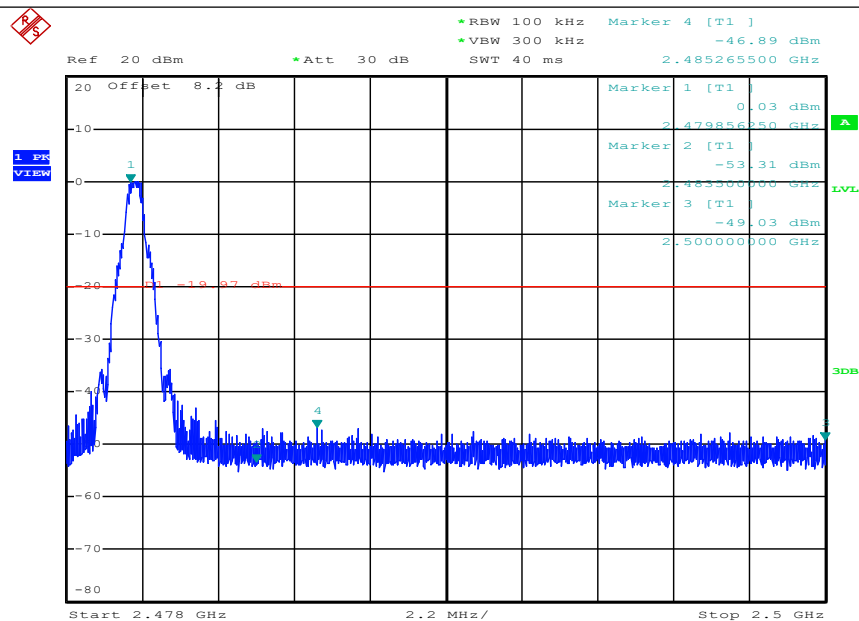
Date: 29.SEP.2019 13:45:17

GFSK/LCH/Hop



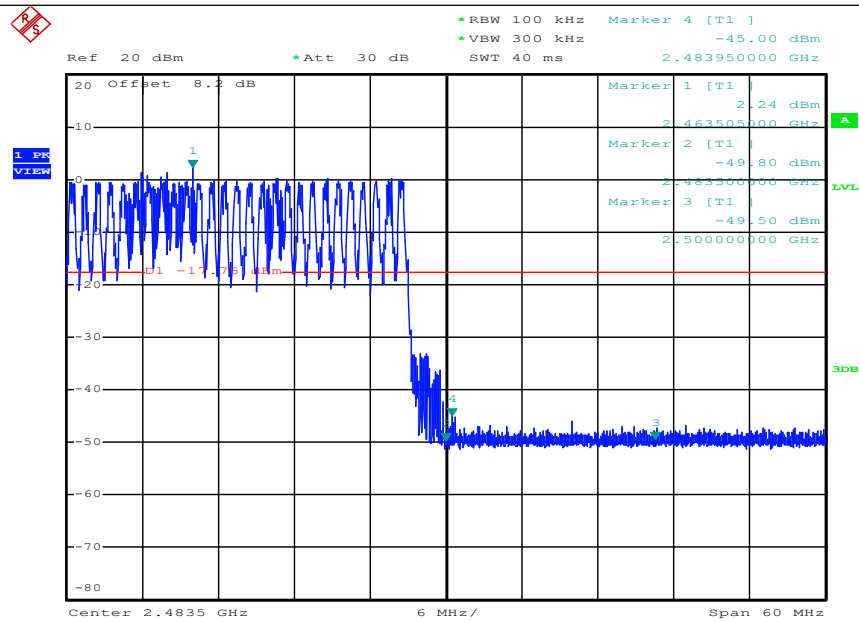
Date: 29.SEP.2019 14:18:31

GFSK/HCH/No Hop



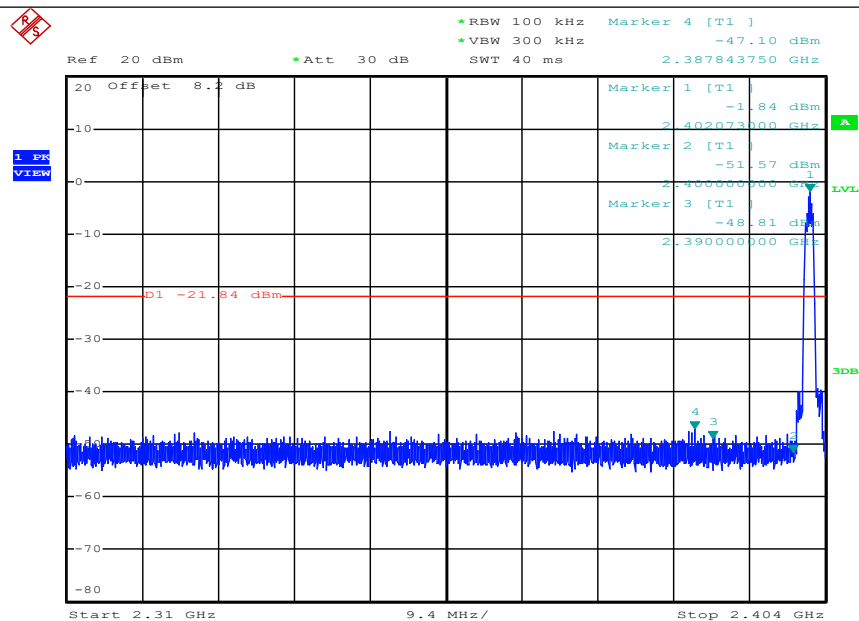
Date: 29.SEP.2019 13:49:40

GFSK/HCH/Hop



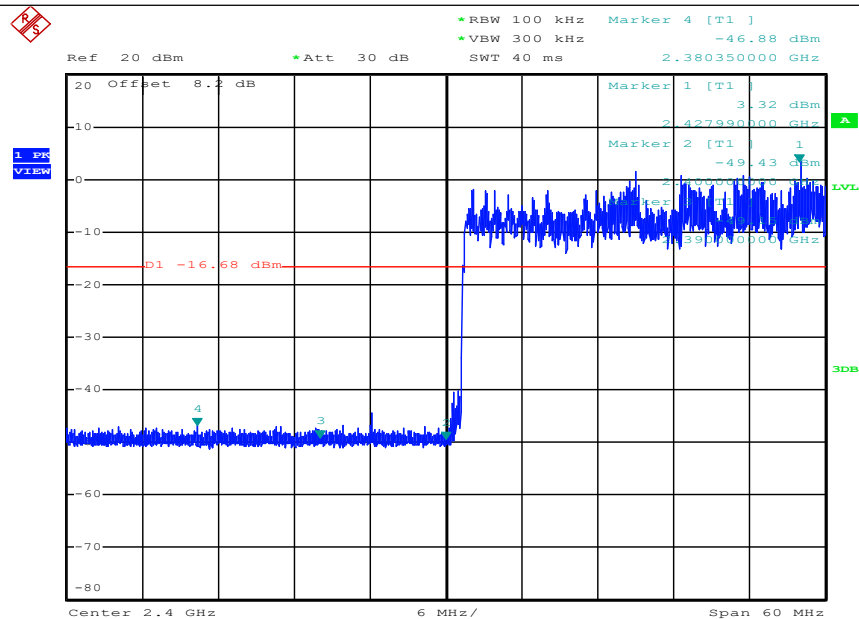
Date: 29.SEP.2019 14:22:06

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



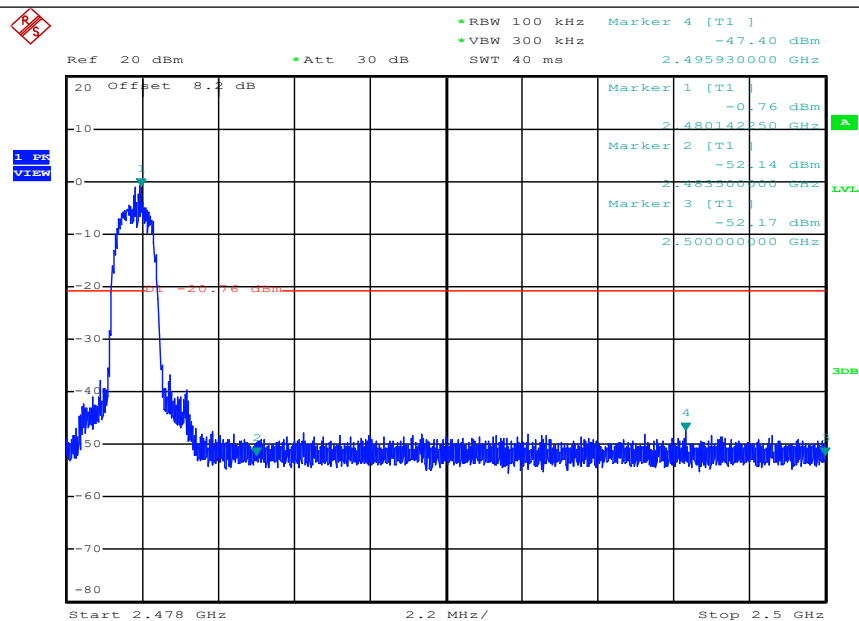
Date: 29.SEP.2019 13:58:15

$\pi/4$ DQPSK/LCH/Hop



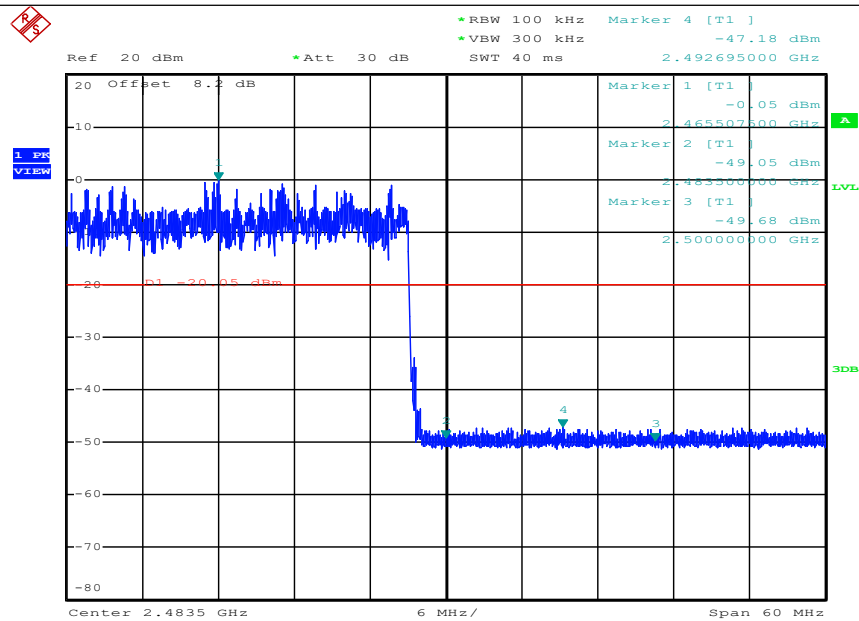
Date: 29.SEP.2019 14:28:15

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



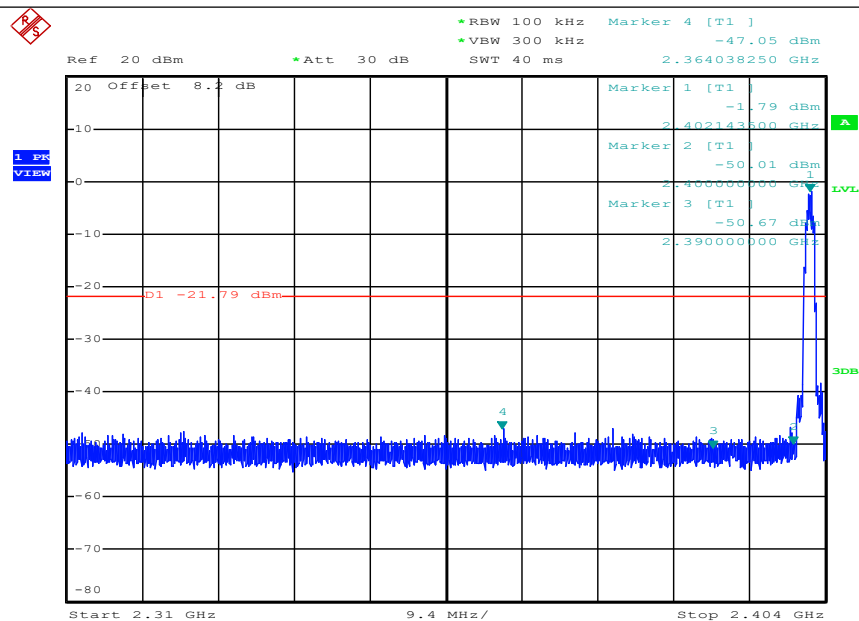
Date: 29.SEP.2019 14:02:36

$\pi/4$ DQPSK/HCH/Hop



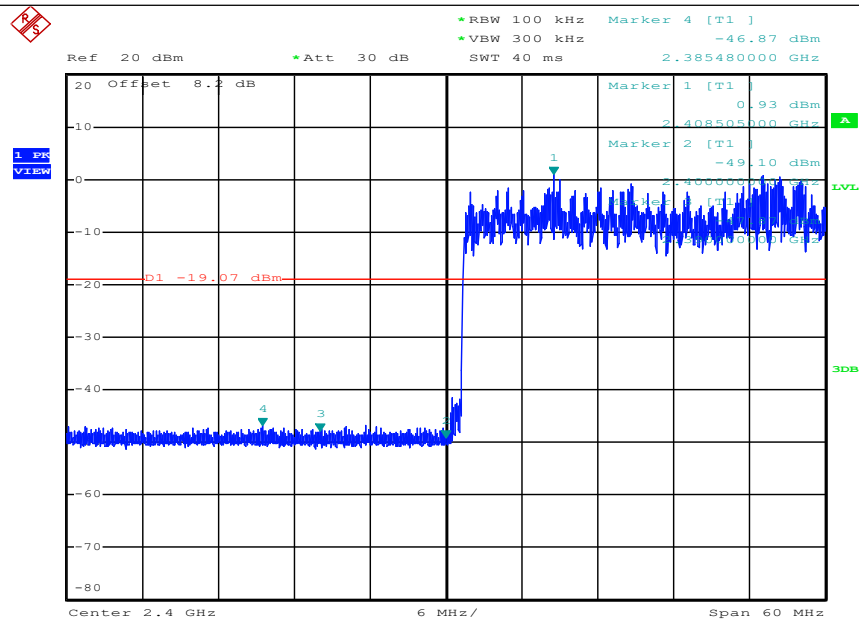
Date: 29.SEP.2019 14:31:12

8DPSK/LCH/No Hop



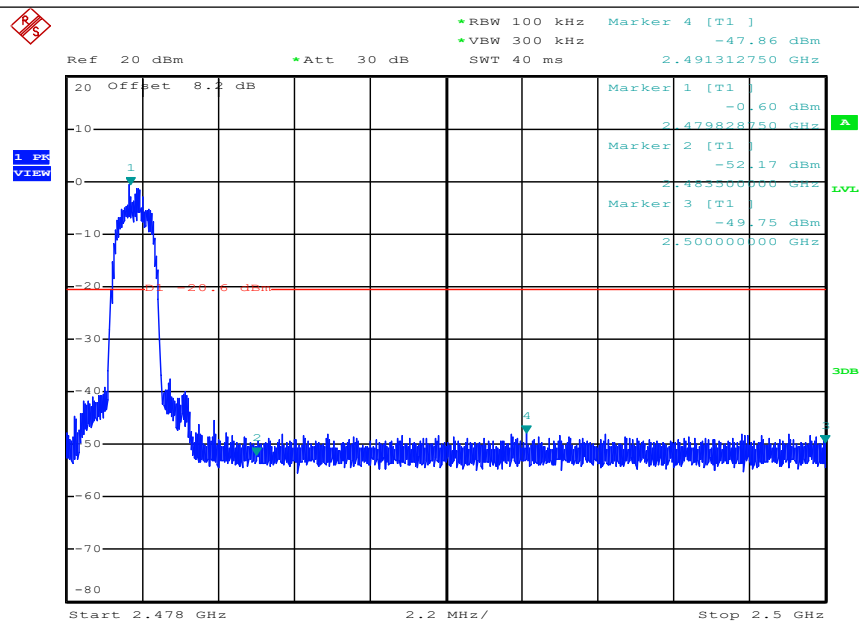
Date: 29.SEP.2019 14:05:24

8DPSK/LCH/Hop



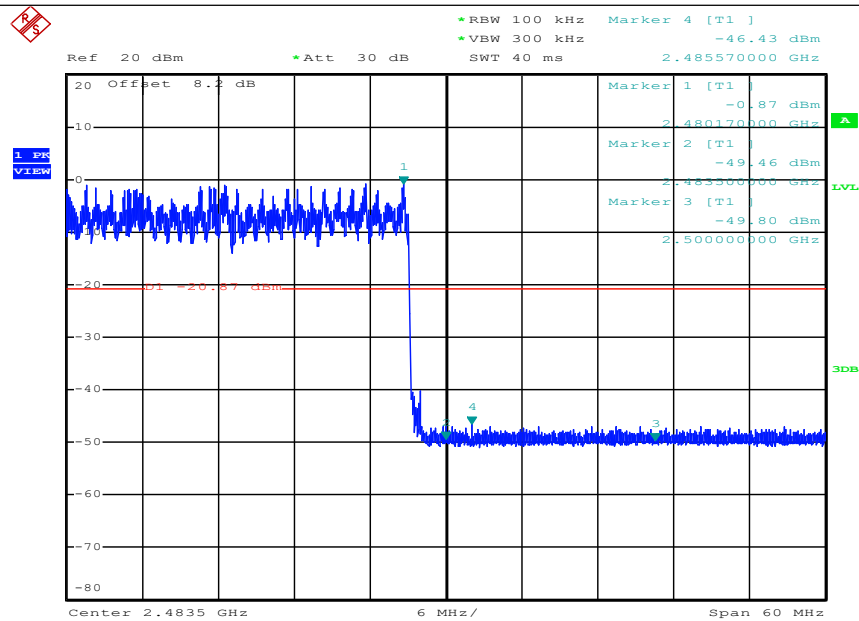
Date: 29.SEP.2019 14:38:26

8DPSK/HCH/No Hop



Date: 29.SEP.2019 14:11:56

8DPSK/HCH/Hop

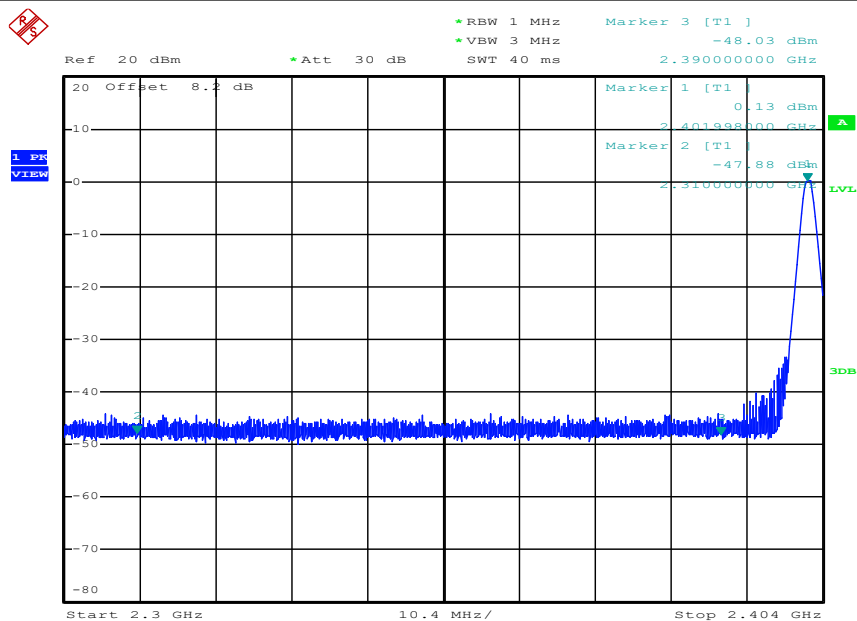


Date: 29.SEP.2019 14:43:24

A.8 Restrict-band band-edge measurements

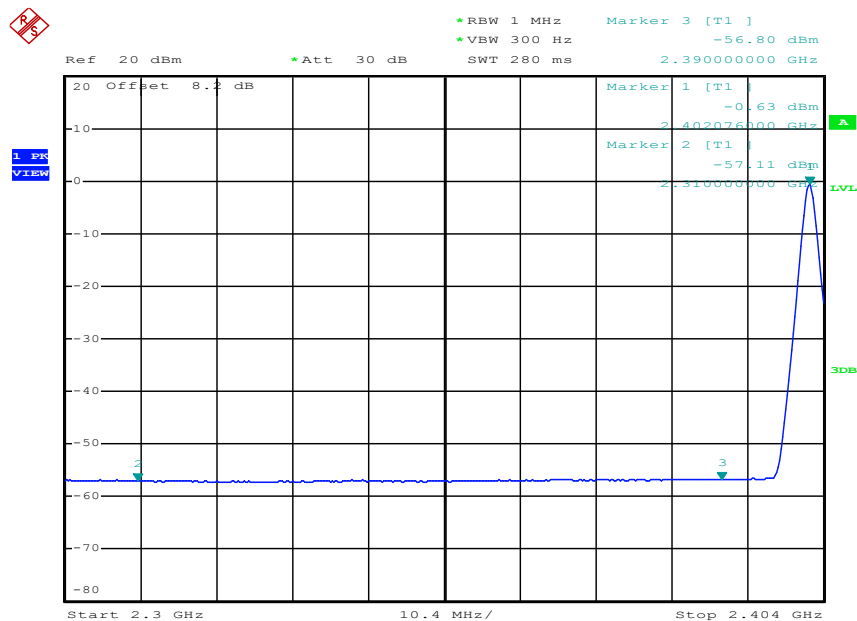
Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-47.88	2.0	0	47.88	PEAK	74	PASS
	Off	2310.0	-57.11	2.0	0	38.65	AV	54	PASS
	Off	2390.0	-48.03	2.0	0	47.73	PEAK	74	PASS
	Off	2390.0	-56.80	2.0	0	38.96	AV	54	PASS
	Off	2483.5	-40.15	2.0	0	55.61	PEAK	74	PASS
	Off	2483.5	-44.10	2.0	0	51.66	AV	54	PASS
	Off	2500.0	-46.37	2.0	0	49.39	PEAK	74	PASS
	Off	2500.0	-57.39	2.0	0	38.37	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-48.20	2.0	0	47.56	PEAK	74	PASS
	Off	2310.0	-56.98	2.0	0	38.78	AV	54	PASS
	Off	2390.0	-46.82	2.0	0	48.94	PEAK	74	PASS
	Off	2390.0	-56.81	2.0	0	38.95	AV	54	PASS
	Off	2483.5	-37.90	2.0	0	57.86	PEAK	74	PASS
	Off	2483.5	-43.44	2.0	0	52.32	AV	54	PASS
	Off	2500.0	-47.44	2.0	0	48.32	PEAK	74	PASS
	Off	2500.0	-57.40	2.0	0	38.36	AV	54	PASS
8DPSK	Off	2310.0	-48.24	2.0	0	47.52	PEAK	74	PASS
	Off	2310.0	-57.02	2.0	0	38.74	AV	54	PASS
	Off	2390.0	-47.39	2.0	0	48.37	PEAK	74	PASS
	Off	2390.0	-56.77	2.0	0	38.99	AV	54	PASS
	Off	2483.5	-37.36	2.0	0	58.40	PEAK	74	PASS
	Off	2483.5	-43.33	2.0	0	52.43	AV	54	PASS
	Off	2500.0	-47.80	2.0	0	47.96	PEAK	74	PASS
	Off	2500.0	-57.37	2.0	0	38.39	AV	54	PASS

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



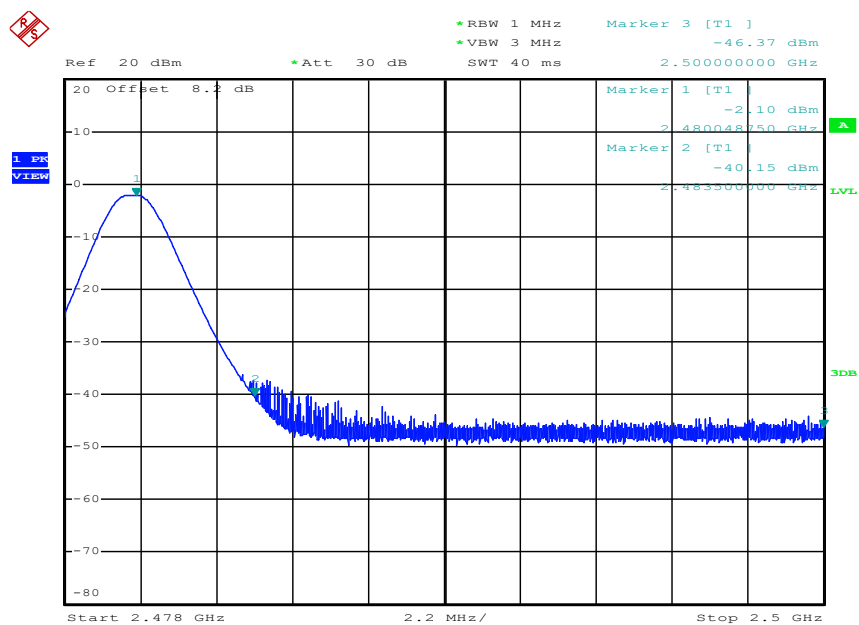
Date: 29.SEP.2019 13:46:03

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



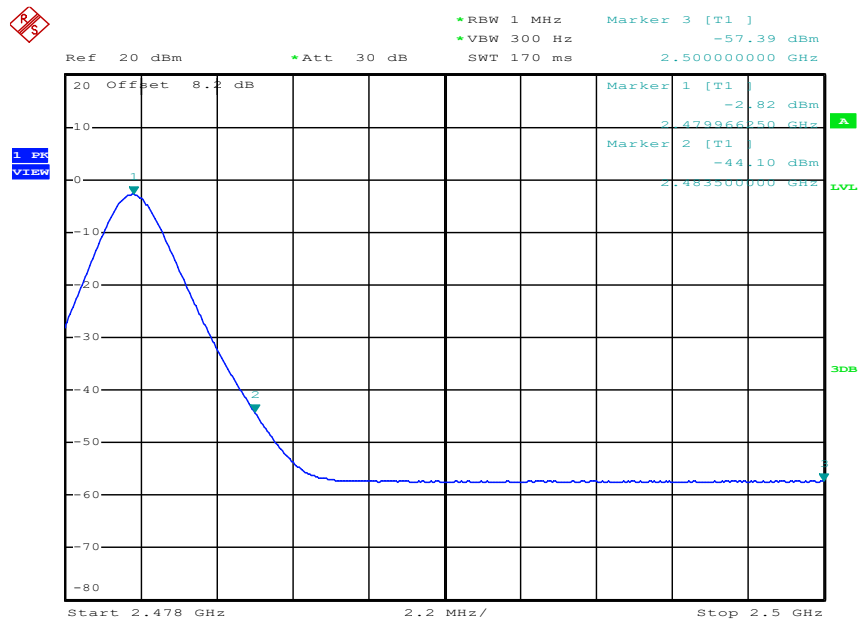
Date: 29.SEP.2019 13:46:17

Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)

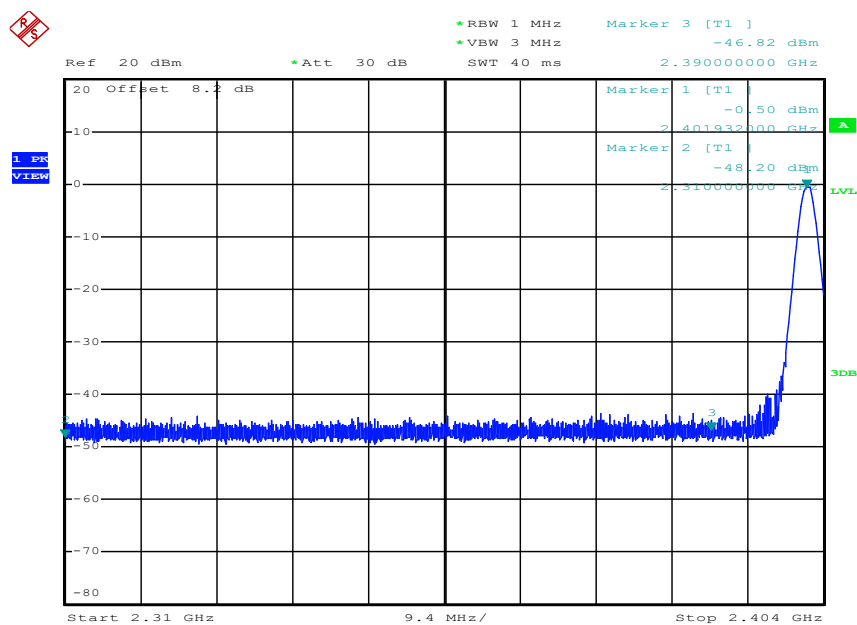


Date: 29.SEP.2019 13:55:40

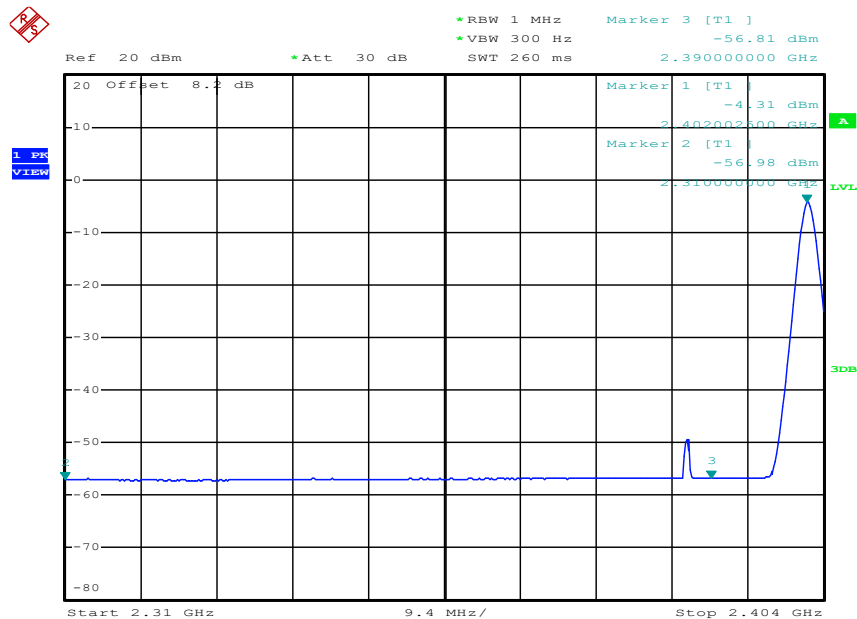
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



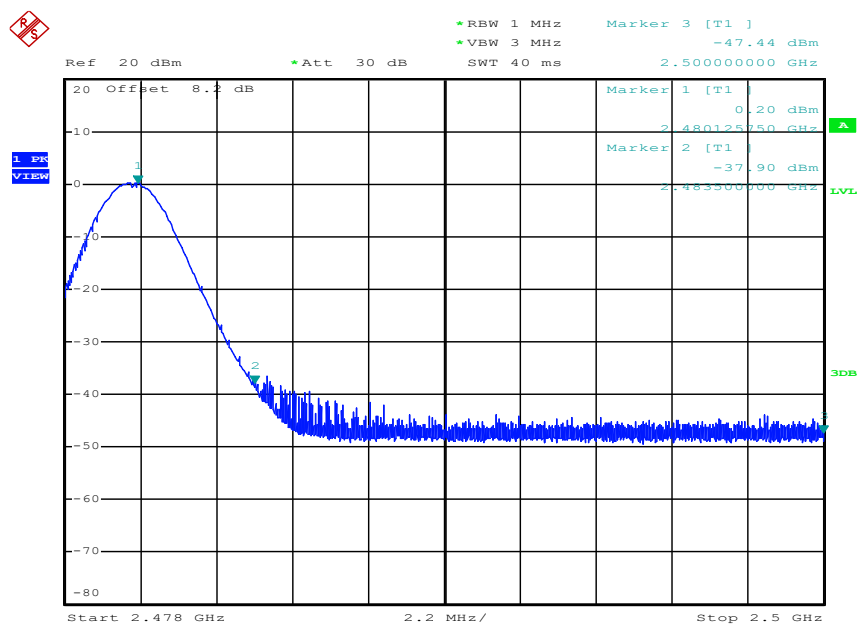
Date: 29.SEP.2019 13:55:53

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

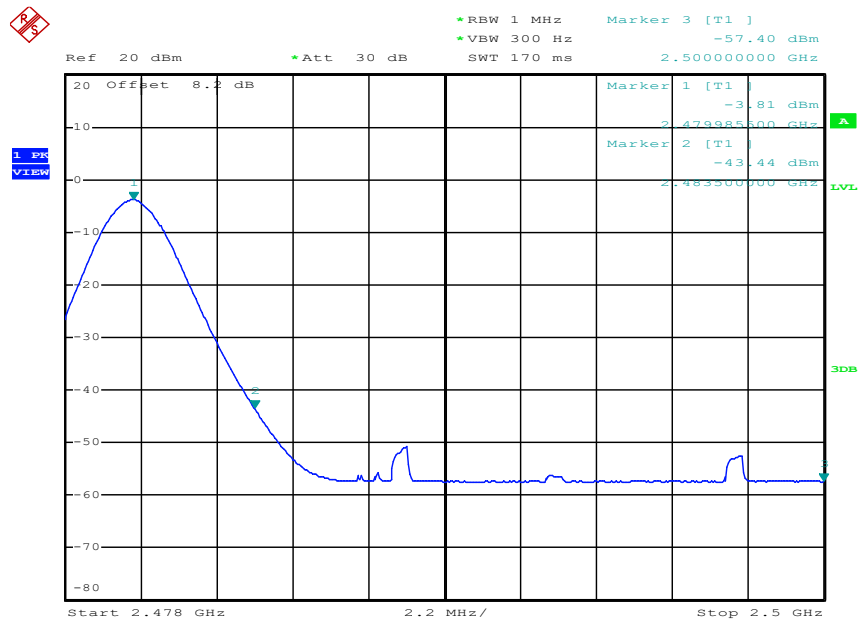
Date: 29.SEP.2019 13:59:01

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

Date: 29.SEP.2019 13:59:15

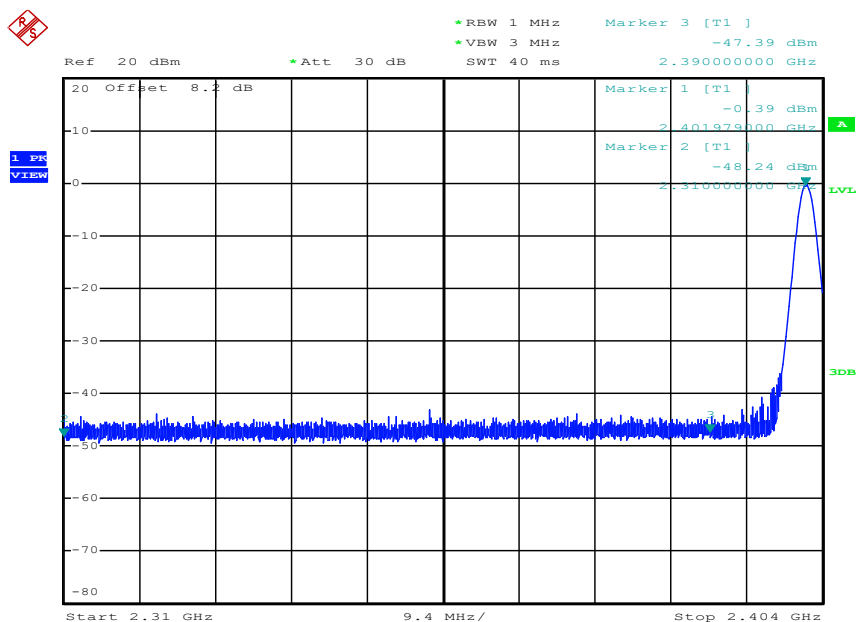
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (High Channel)

Date: 29.SEP.2019 14:03:23

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

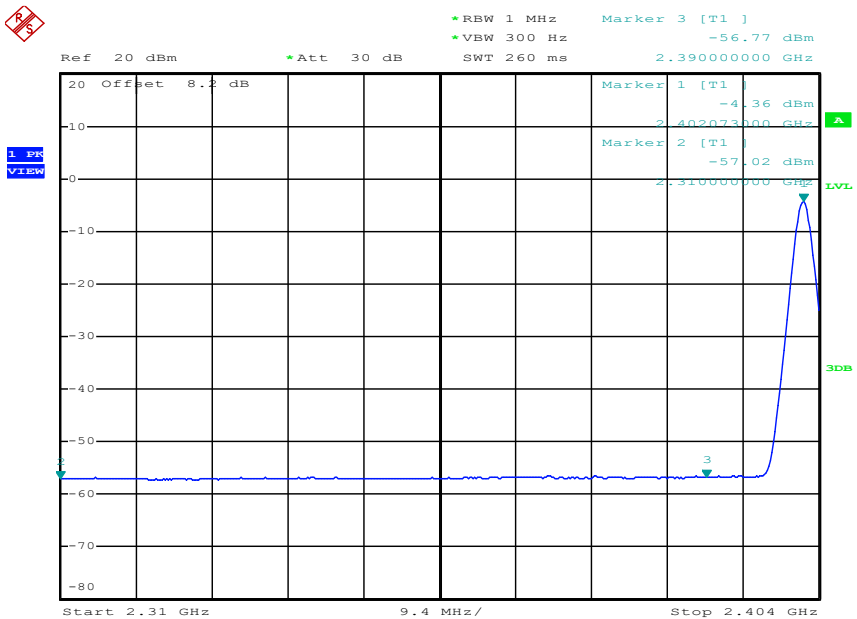
Date: 29.SEP.2019 14:03:36

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



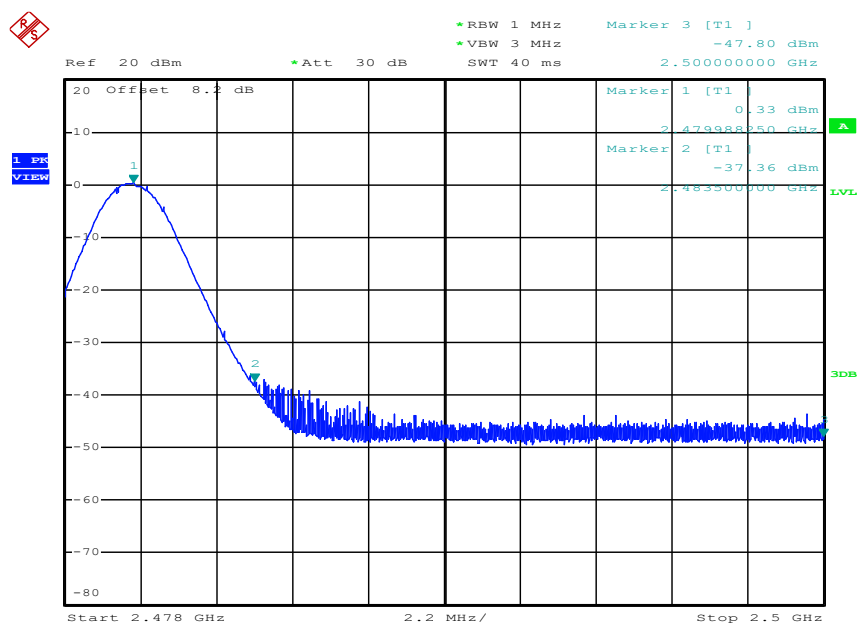
Date: 29.SEP.2019 14:06:10

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



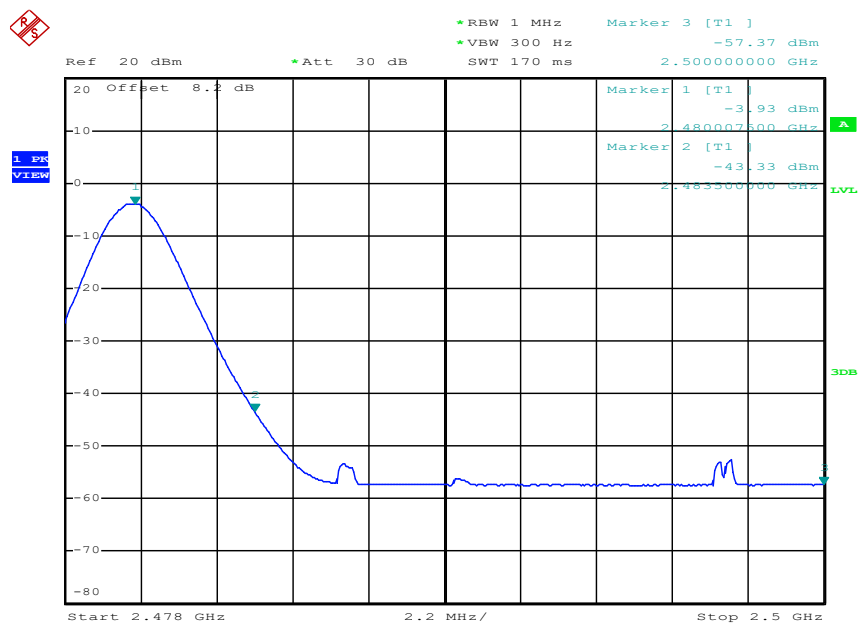
Date: 29.SEP.2019 14:06:24

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



Date: 29.SEP.2019 14:12:41

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



Date: 29.SEP.2019 14:12:55