

Appendix A

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

Product Name: Bluetooth Speaker

Trade Mark: N/A

Test Model: BTS0011

Environmental Conditions

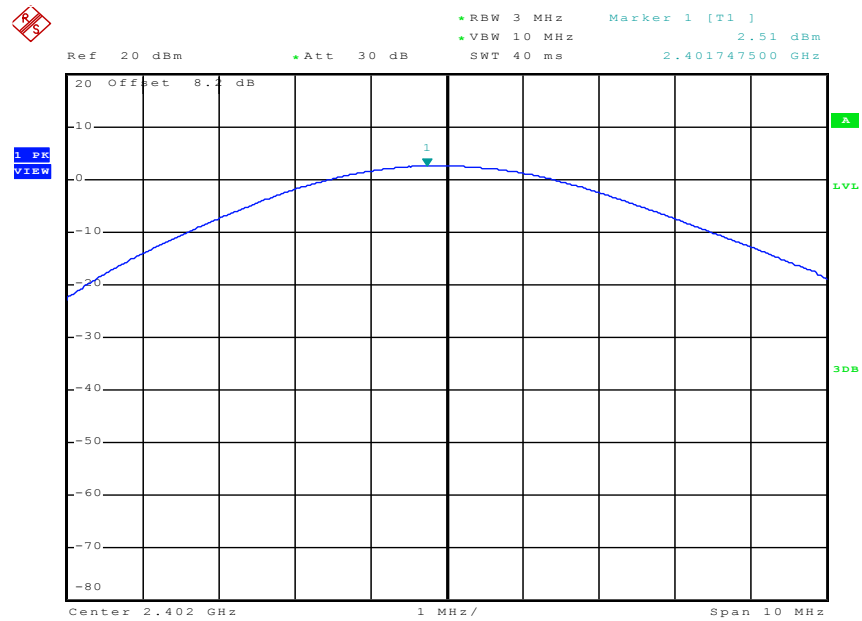
Temperature:	24.6 ° C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	David Luo
Supervised by:	Wang Chuang

A.1 Maximum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.510	30	PASS
	MCH	3.030	30	PASS
	HCH	3.180	30	PASS
$\pi/4$ DQPSK	LCH	2.880	21	PASS
	MCH	3.400	21	PASS
	HCH	3.580	21	PASS

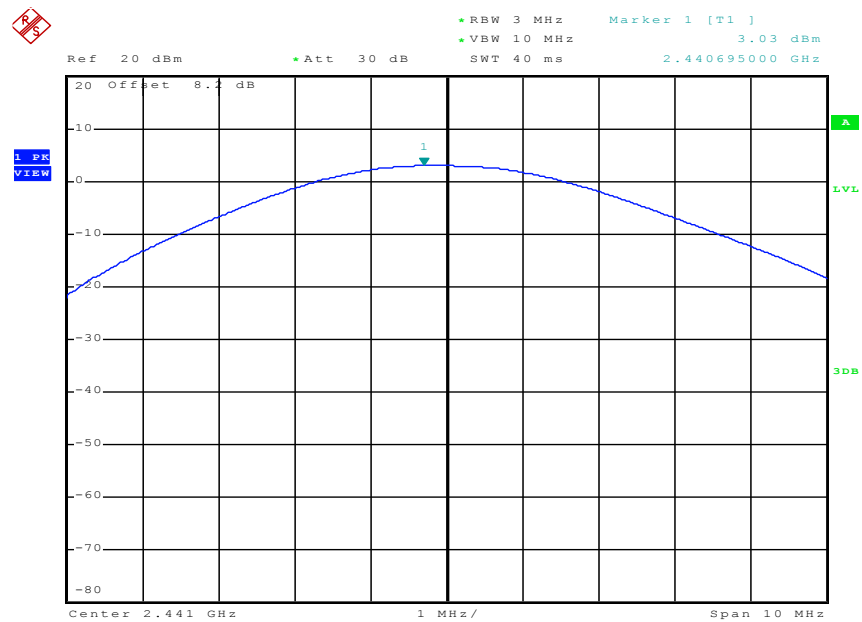
Test Graphs

GFSK/LCH



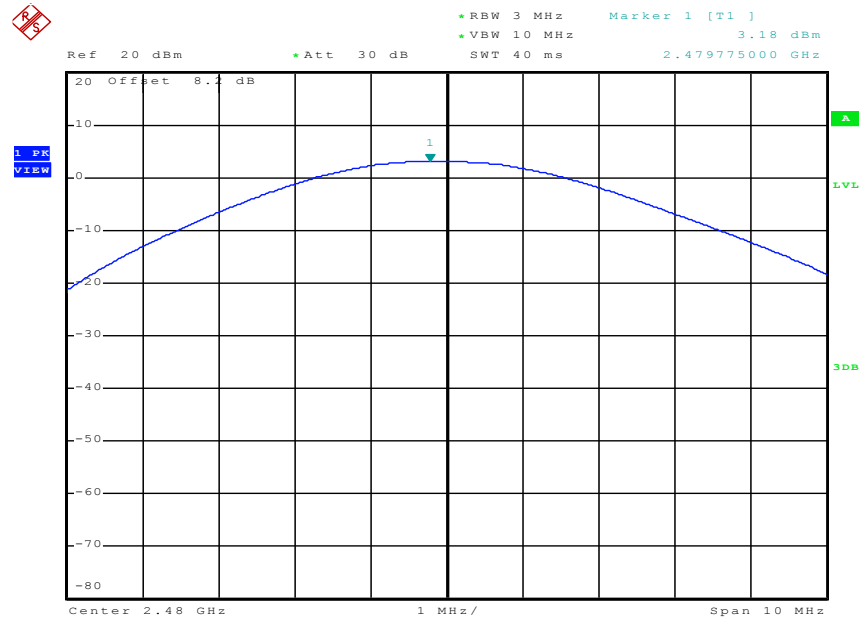
Date: 18 SEP 2019 18:30:35

GFSK/MCH



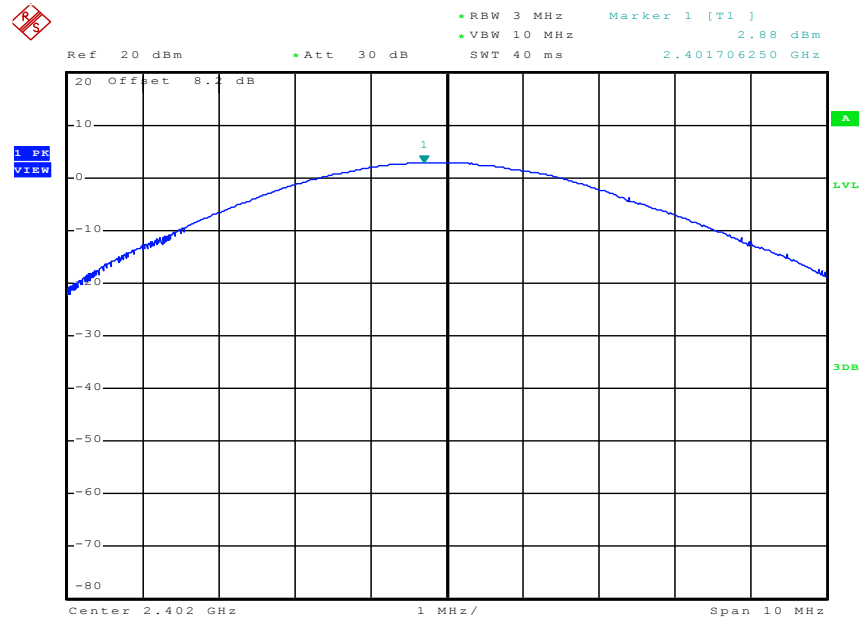
Date: 18 SEP 2019 18:34:12

GFSK/HCH



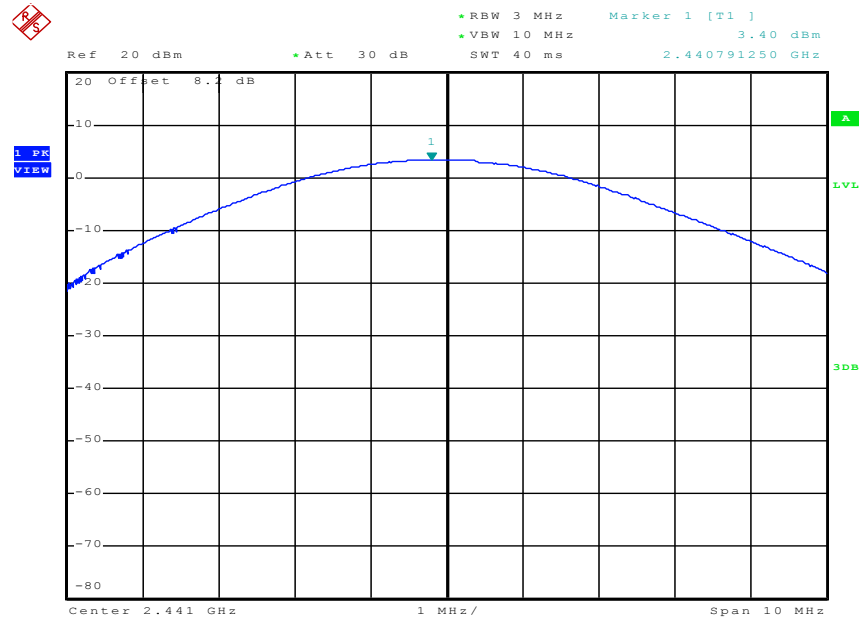
Date: 18_SEP.2019 18:36:01

$\pi/4$ DQPSK/LCH



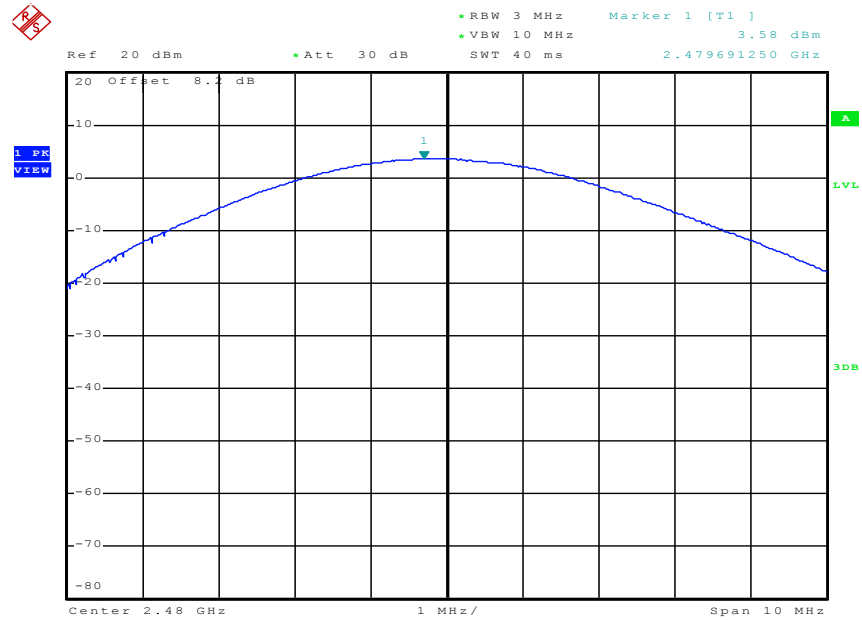
Date: 18_SEP.2019 18:38:43

$\pi/4$ DQPSK/MCH



Date: 18_SEP.2019 18:41:35

$\pi/4$ DQPSK/HCH



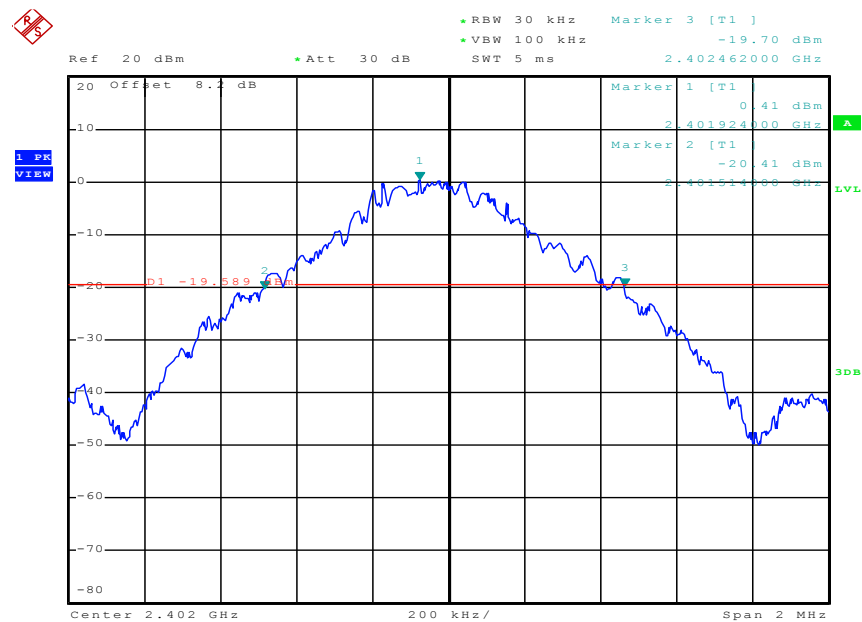
Date: 18_SEP.2019 18:43:20

A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.948	Not Specified	PASS
	MCH	0.946	Not Specified	PASS
	HCH	0.946	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.312	Not Specified	PASS
	MCH	1.370	Not Specified	PASS
	HCH	1.318	Not Specified	PASS

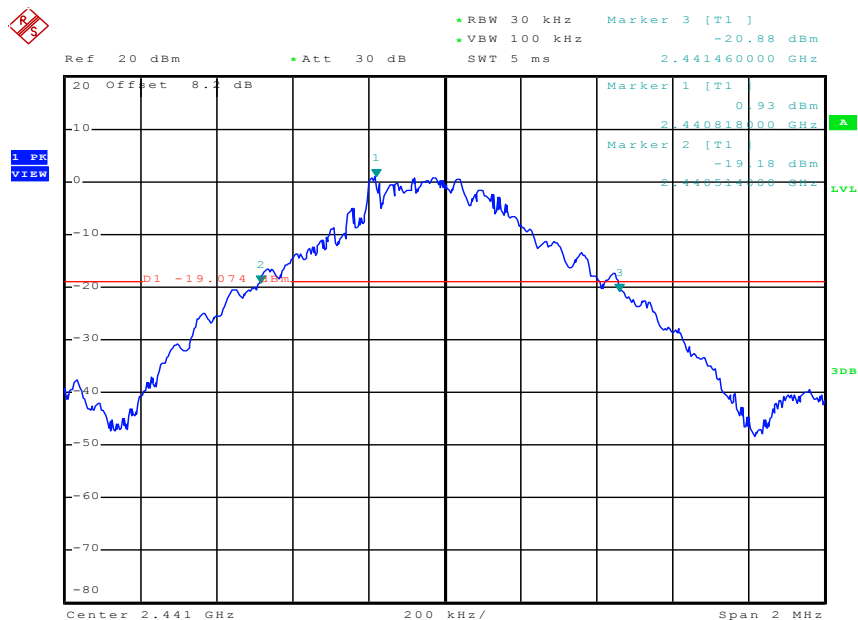
Test Graphs

GFSK/LCH



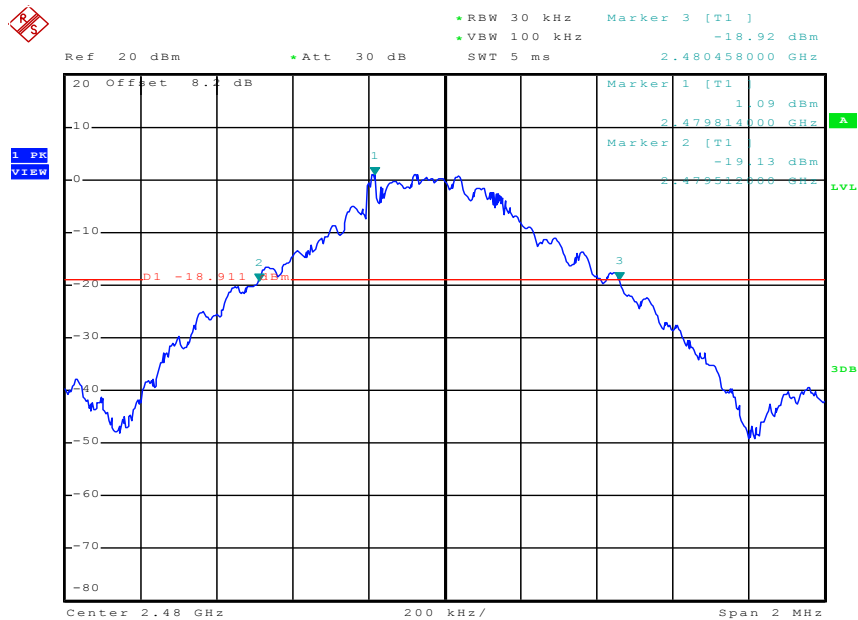
Date: 18 SEP 2019 18:29:59

GFSK/MCH



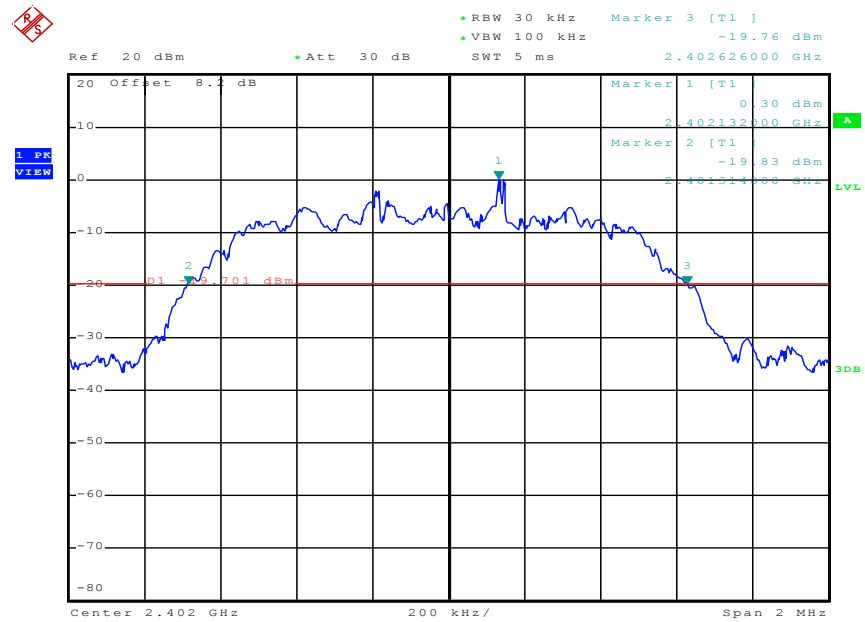
Date: 18.SEP.2019 18:33:36

GFSK/HCH



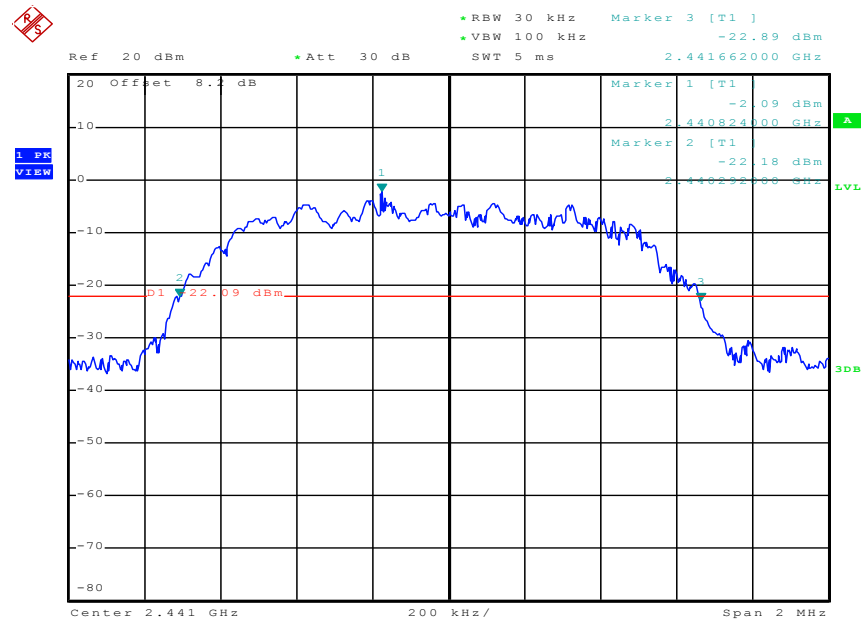
Date: 18.SEP.2019 18:35:25

$\pi/4$ DQPSK/LCH



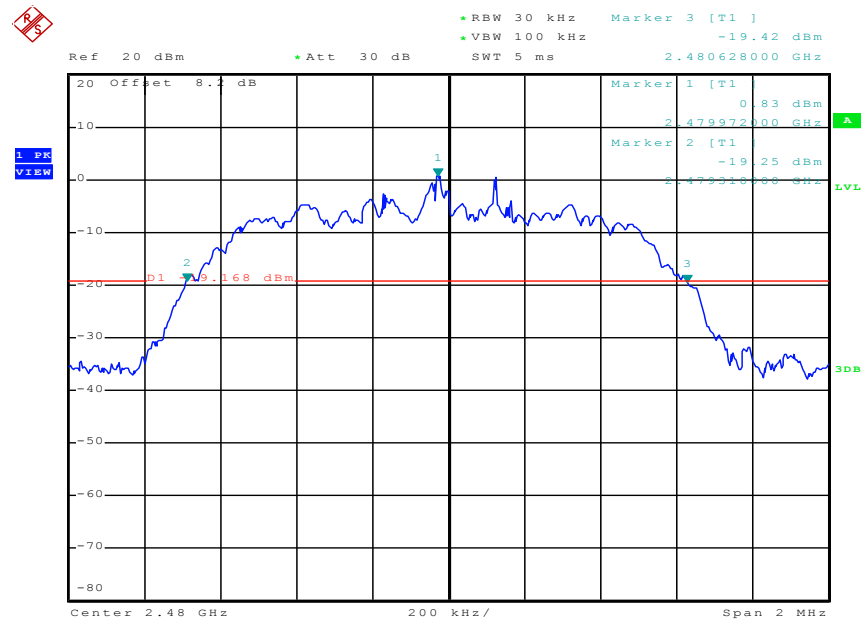
Date: 18.SEP.2019 18:38:07

$\pi/4$ DQPSK/MCH



Date: 18.SEP.2019 18:40:58

$\pi/4$ DQPSK/HCH



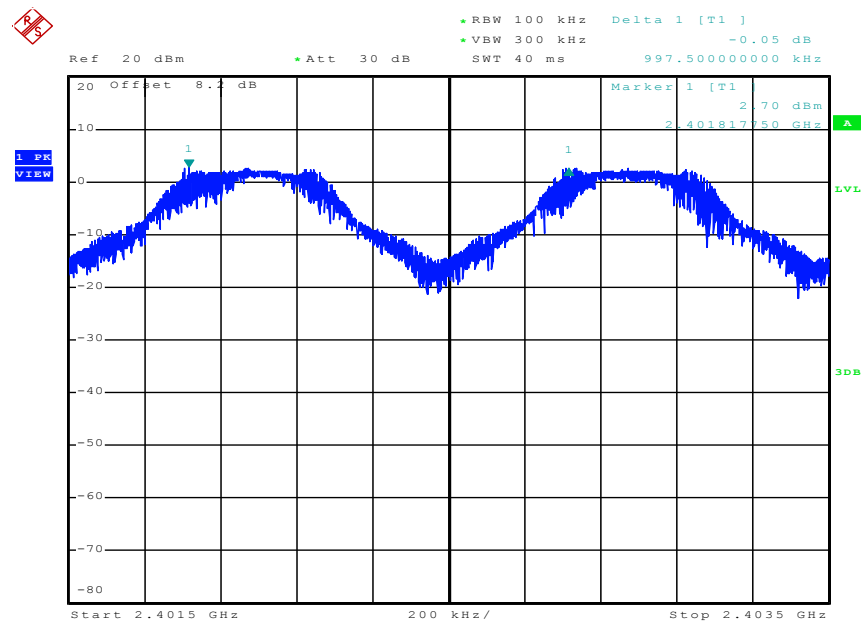
Date: 18.SEP.2019 18:42:43

A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.997	0.632	PASS
	MCH	1.322	0.632	PASS
	HCH	0.696	0.632	PASS
$\pi/4$ DQPSK	LCH	0.986	0.913	PASS
	MCH	1.008	0.913	PASS
	HCH	1.006	0.913	PASS

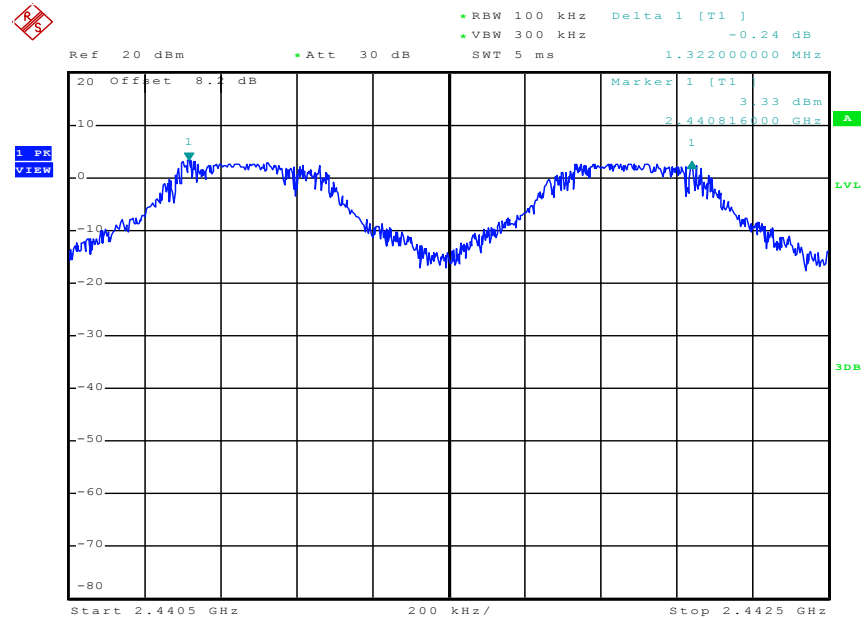
Test Graphs

GFSK/LCH



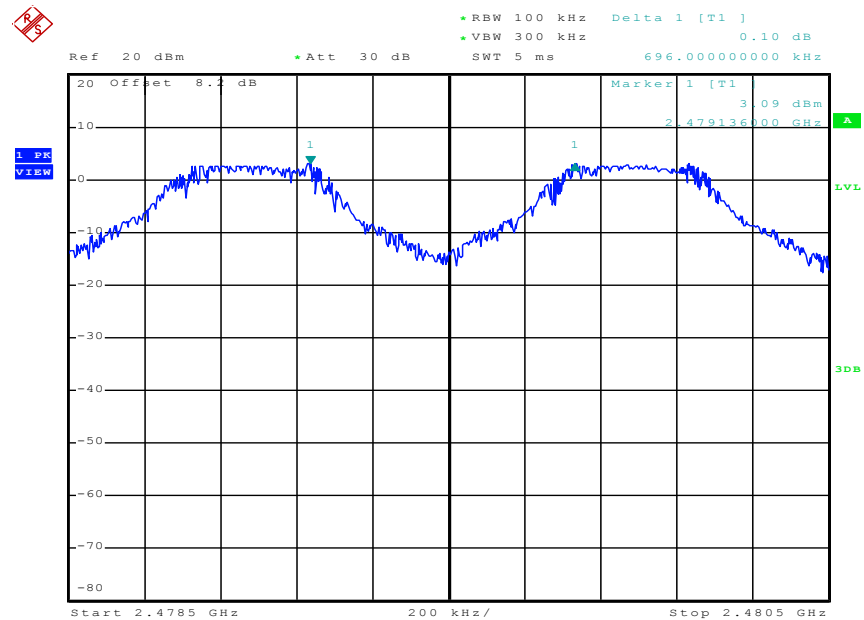
Date: 18 SEP 2019 18:48:16

GFSK/MCH



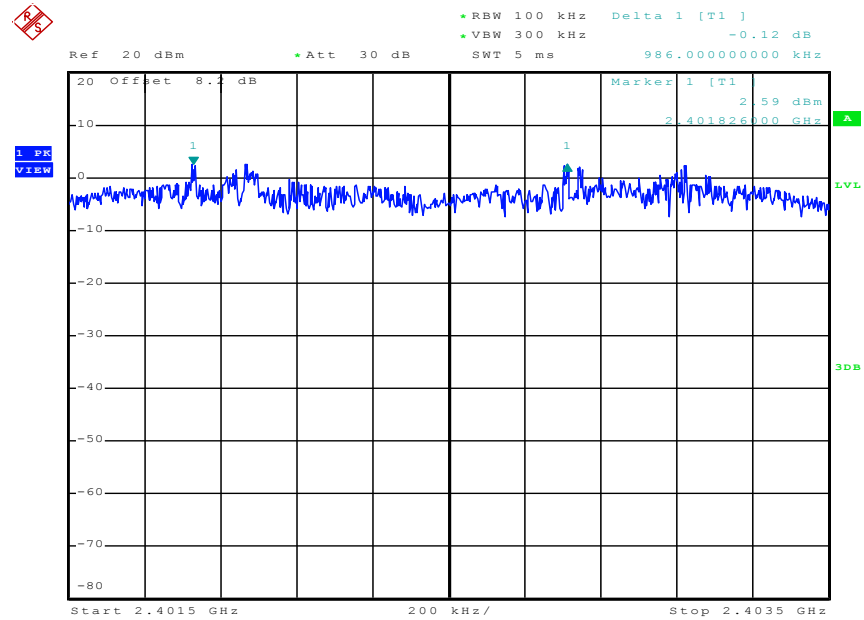
Date: 18_SEP.2019 18:52:44

GFSK/HCH



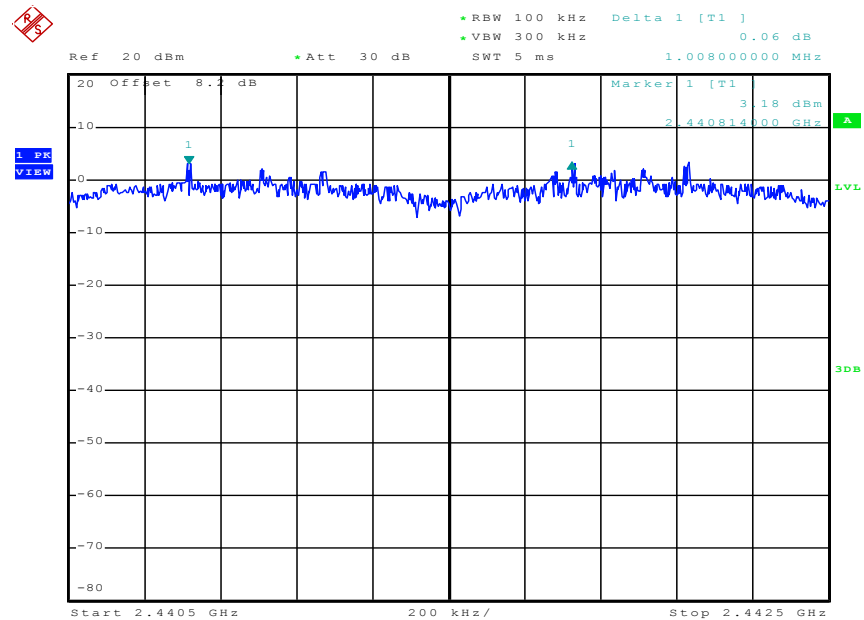
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$\pi/4$ DQPSK/LCH



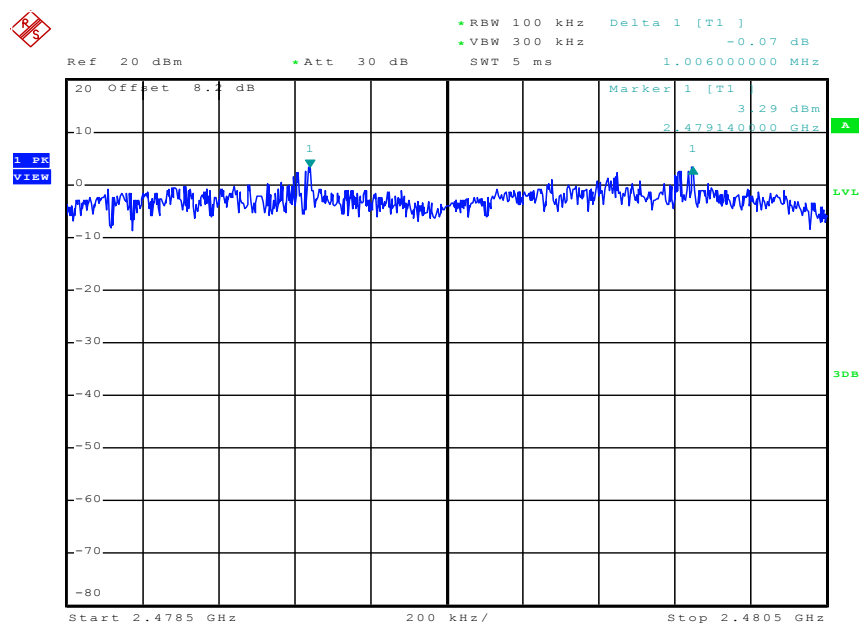
Date: 18_SEP.2019 19:02:14

$\pi/4$ DQPSK/MCH



Date: 18_SEP.2019 19:23:09

$\pi/4$ DQPSK/HCH



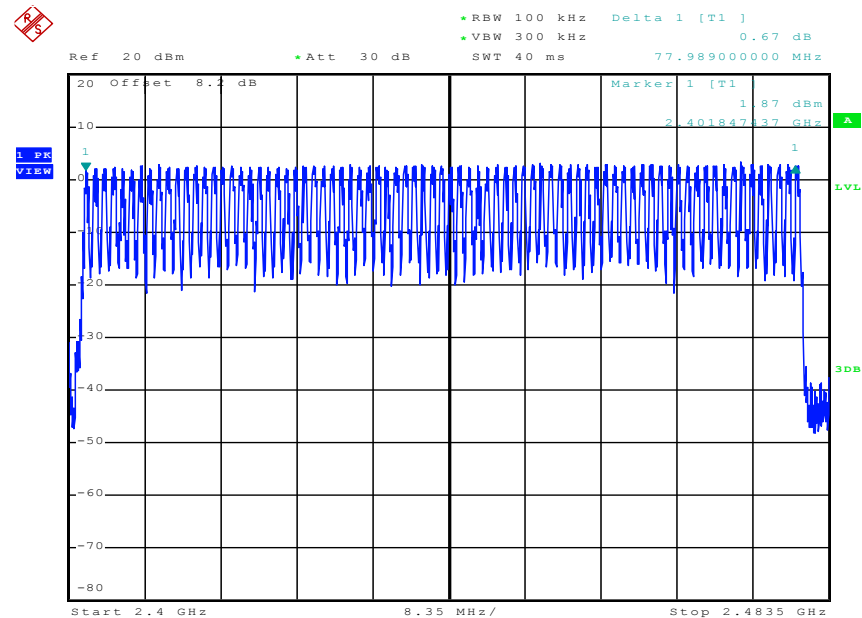
Date: 18.SEP.2019 19:24:04

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

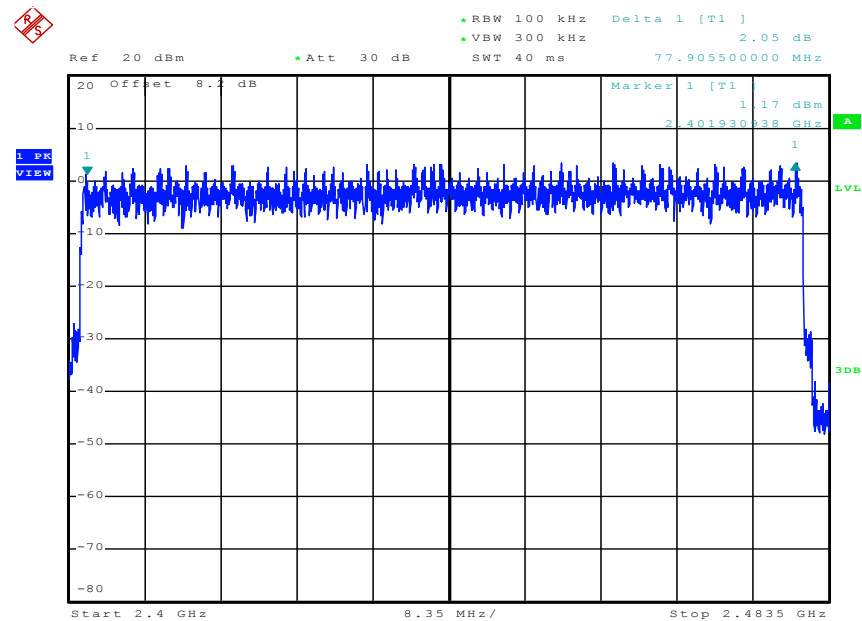
Test Graphs

GFSK/Hop



Date: 18 SEP 2019 19:00:48

$\pi/4$ DQPSK/Hop



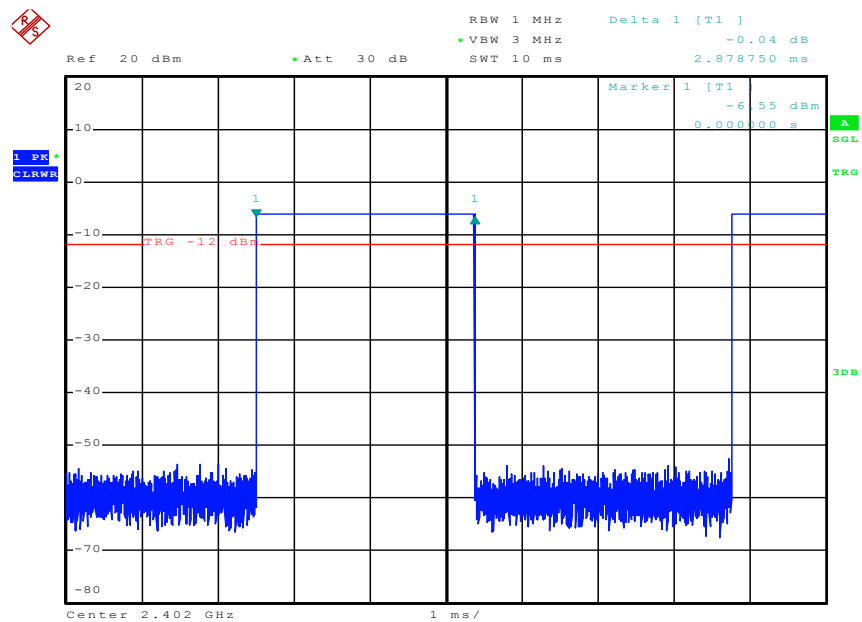
Date: 18 SEP 2019 19:21:06

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	0.308	0.4	PASS
	2DH5	HCH	2.88	106.7	0.308	0.4	PASS

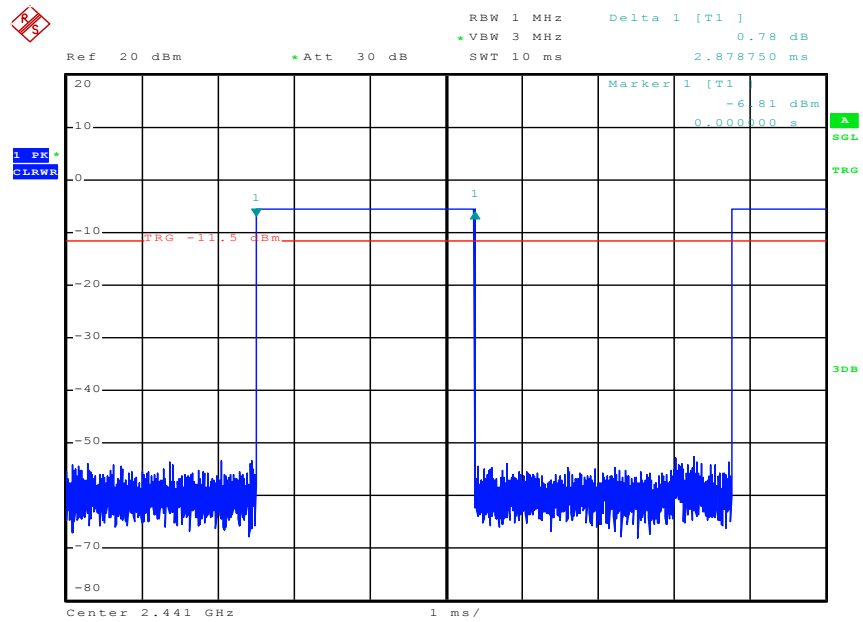
Test Graphs

GFSK_DH5/LCH



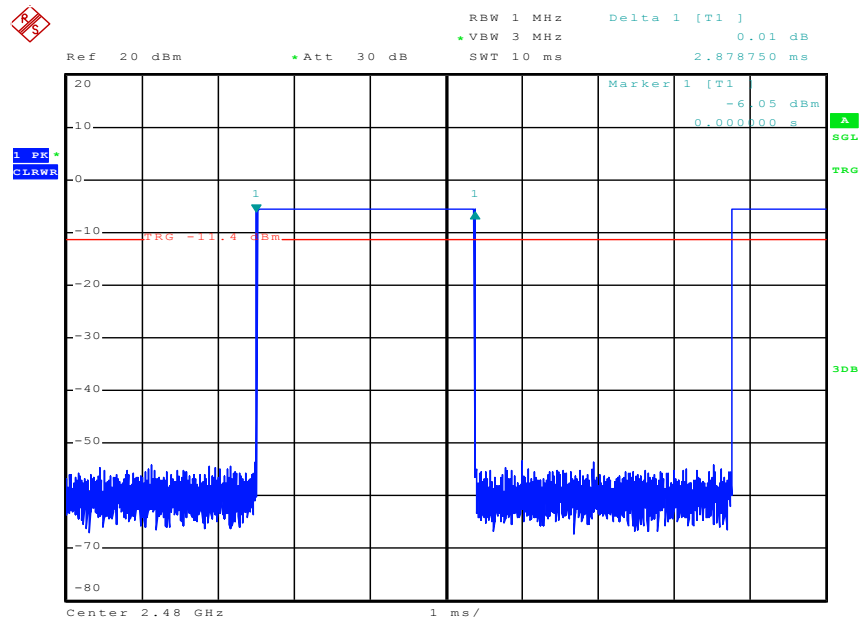
Date: 18 SEP 2019 18:30:20

GFSK_DH5/MCH



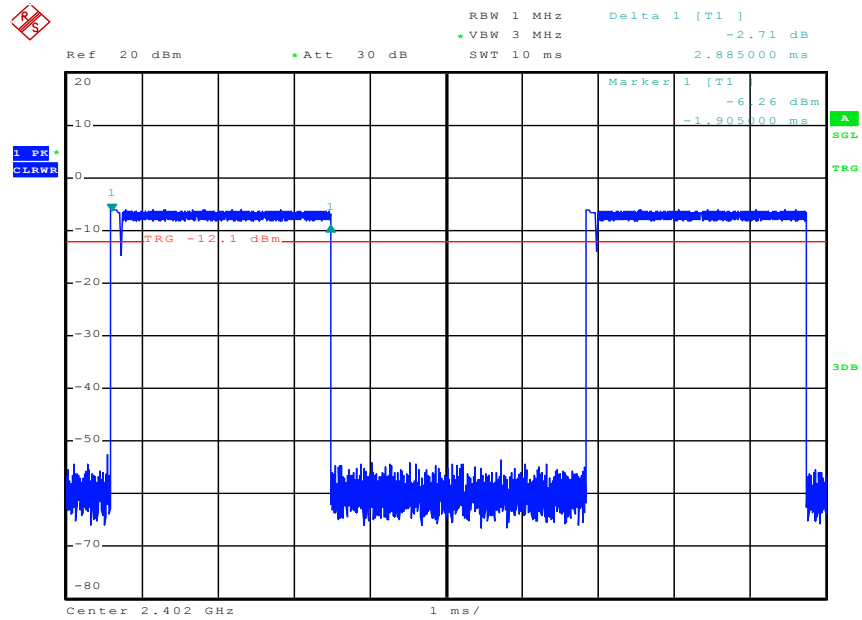
Date: 18.SEP.2019 18:33:57

GFSK_DH5/HCH



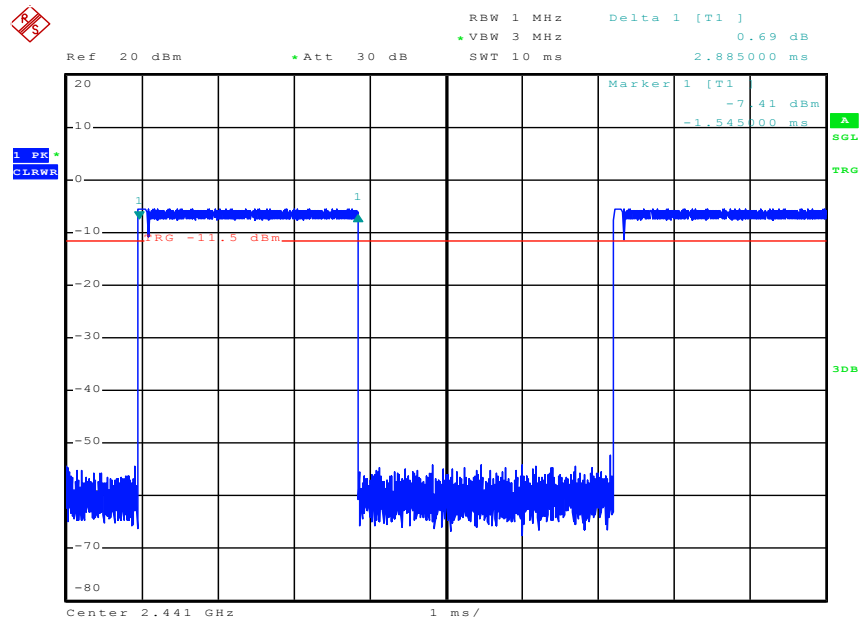
Date: 18.SEP.2019 18:35:46

$\pi/4$ DQPSK
_2DH5/LCH



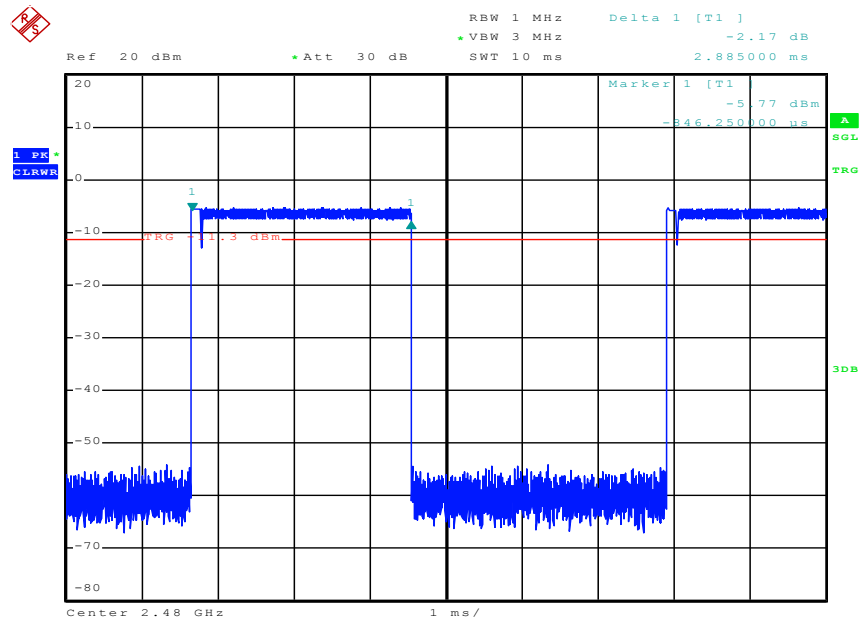
Date: 18.SEP.2019 18:38:28

$\pi/4$ DQPSK
_2DH5/MCH



Date: 18.SEP.2019 18:41:20

$\pi/4$ DQPSK
_2DH5/HCH



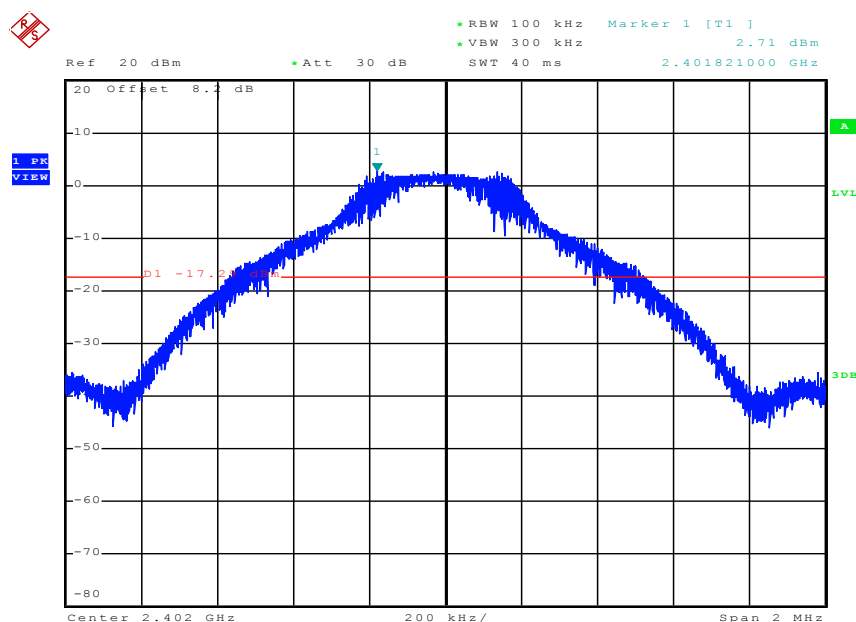
Date: 18 SEP 2019 18:43:05

A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.71	-32.550	-17.290	PASS
	MCH	3.3	-33.050	-16.700	PASS
	HCH	3.27	-32.700	-16.730	PASS
$\pi/4$ DQPSK	LCH	2.47	-31.420	-17.530	PASS
	MCH	3.13	-32.380	-16.870	PASS
	HCH	3.25	-32.650	-16.750	PASS

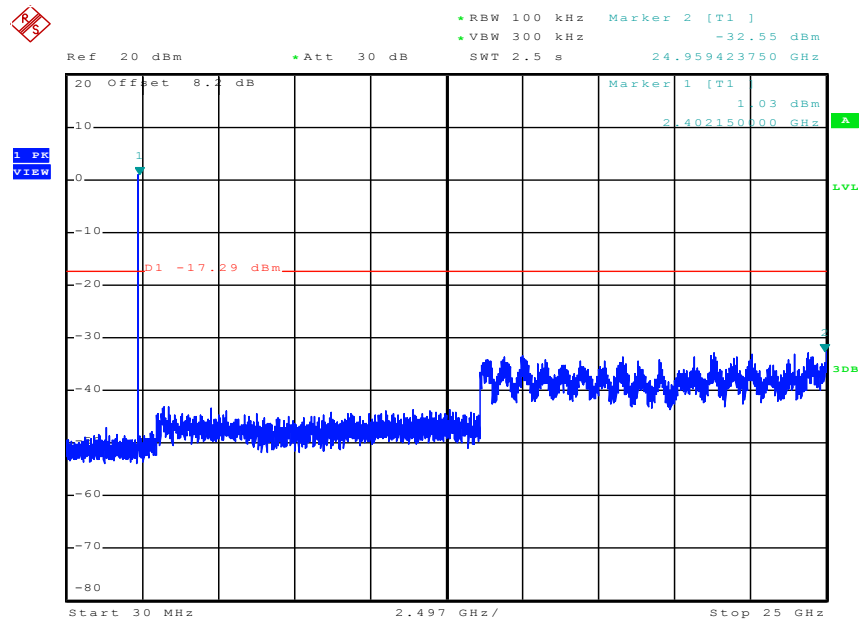
GFSK LCH Graphs

Pref



Date: 18.SEP.2019 18:31:58

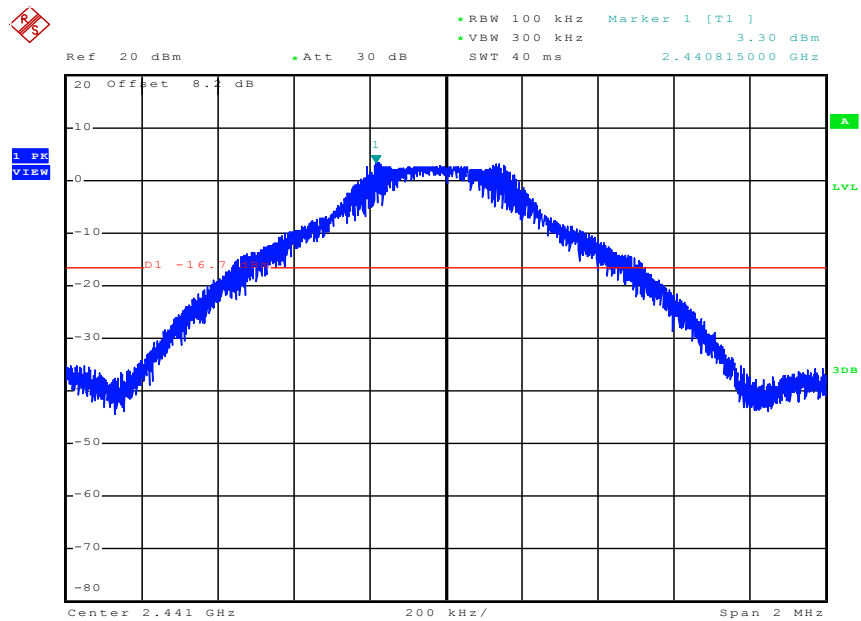
Puw



Date: 18.SEP.2019 18:32:13

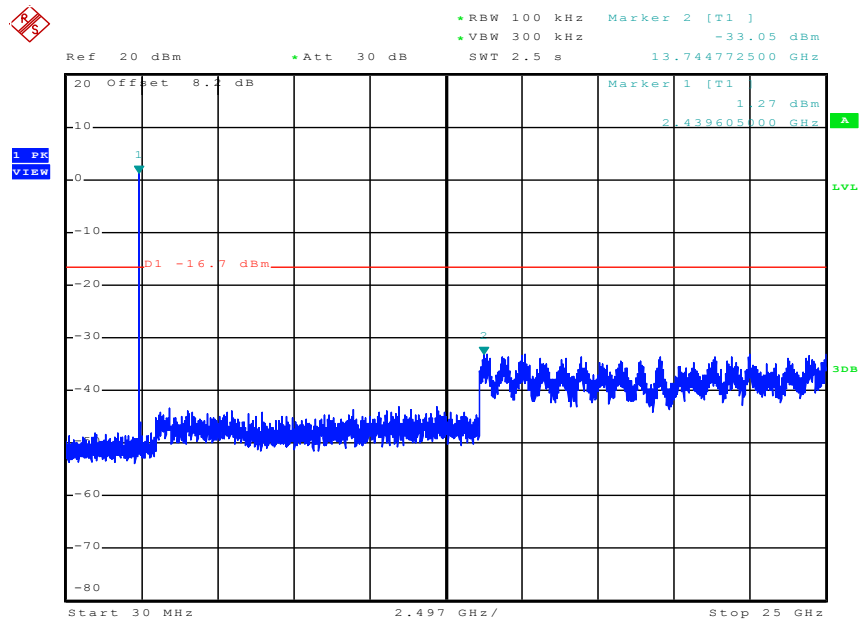
GFSK MCH Graphs

Pref



Date: 18.SEP.2019 18:34:24

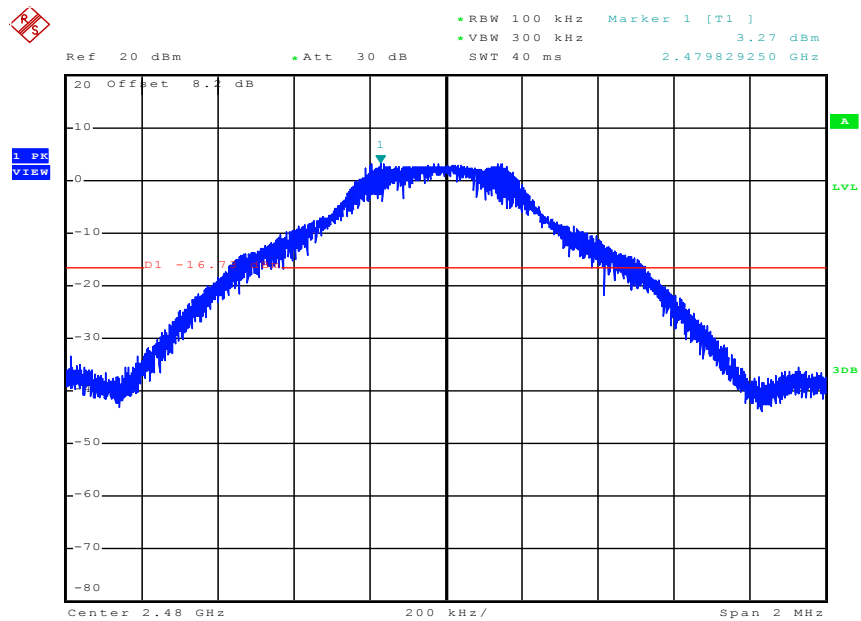
Puw



Date: 18_SEP.2019 18:34:39

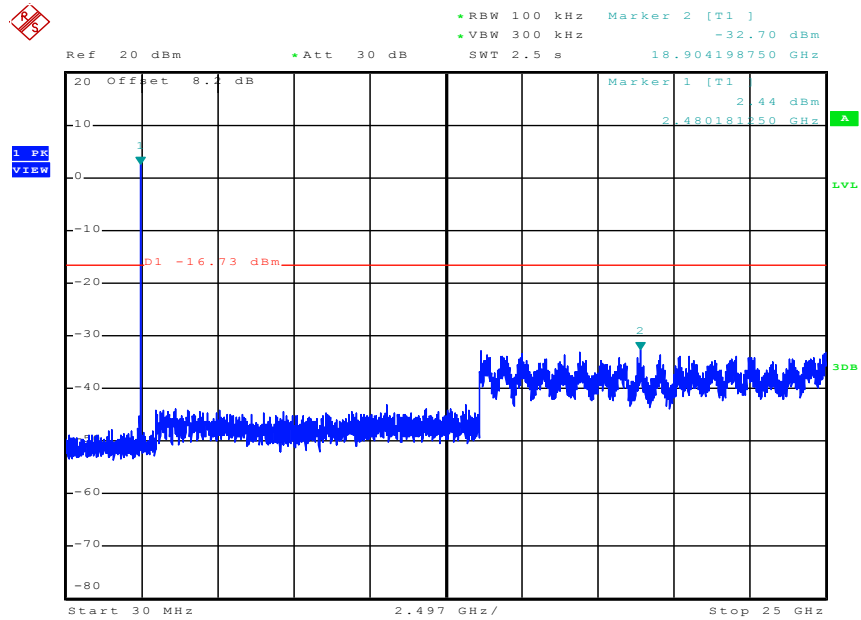
GFSK HCH Graphs

Pref



Date: 18_SEP.2019 18:36:31

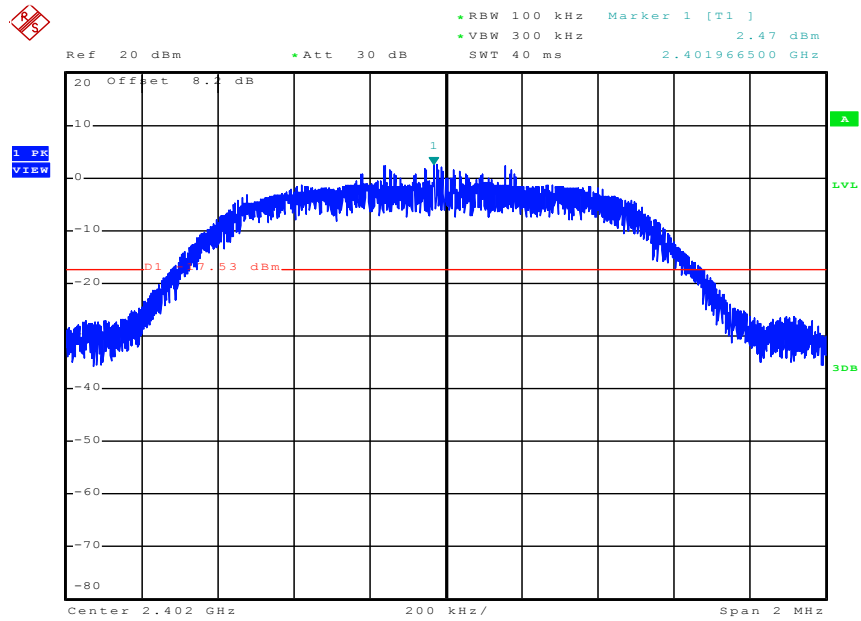
Puw



Date: 18_SEP_2019 18:36:45

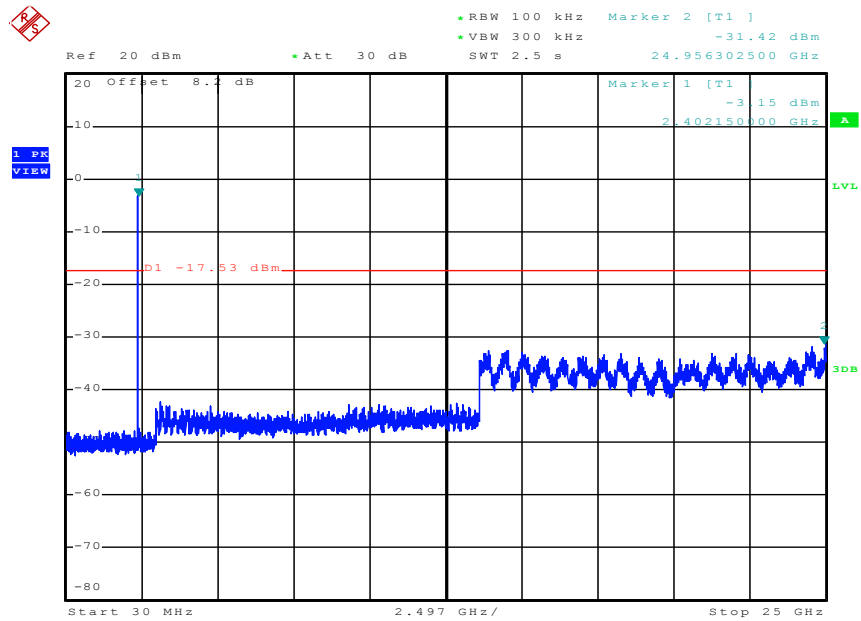
$\pi/4$ DQPSK_LCH_Graphs

Pref



Date: 18 SEP 2019 18:39:13

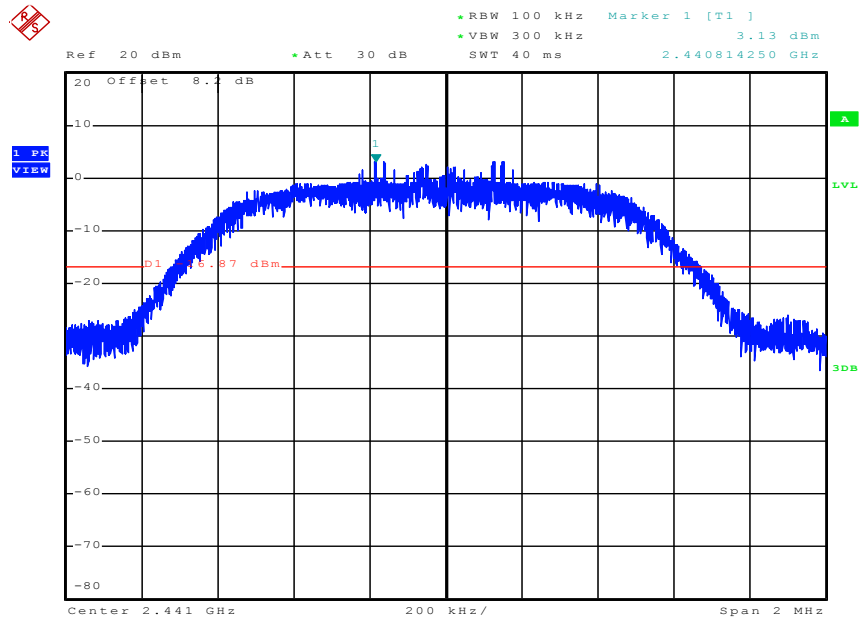
Puw



Date: 18 SEP 2019 18:39:44

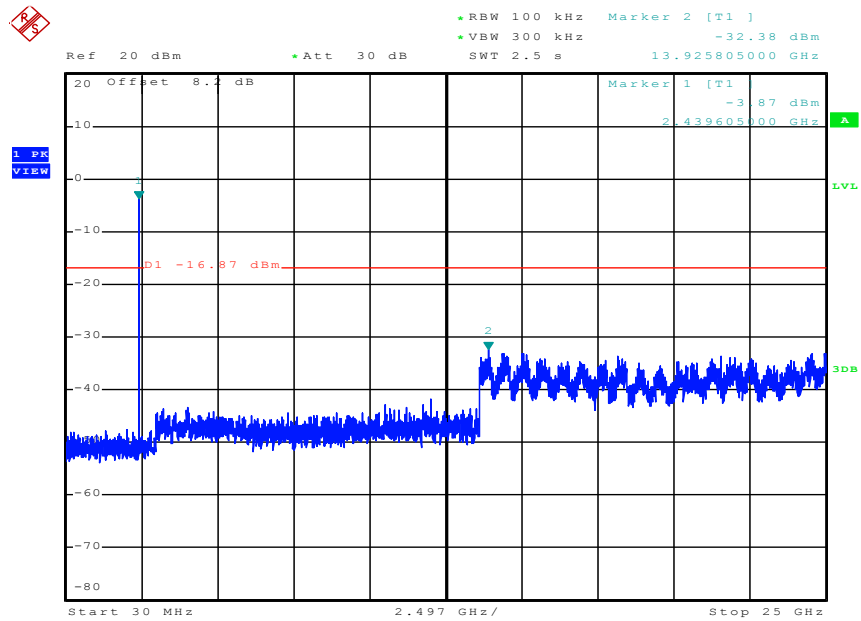
$\pi/4$ DQPSK_MCH_Graphs

Pref



Date: 18 SEP 2019 18:41:48

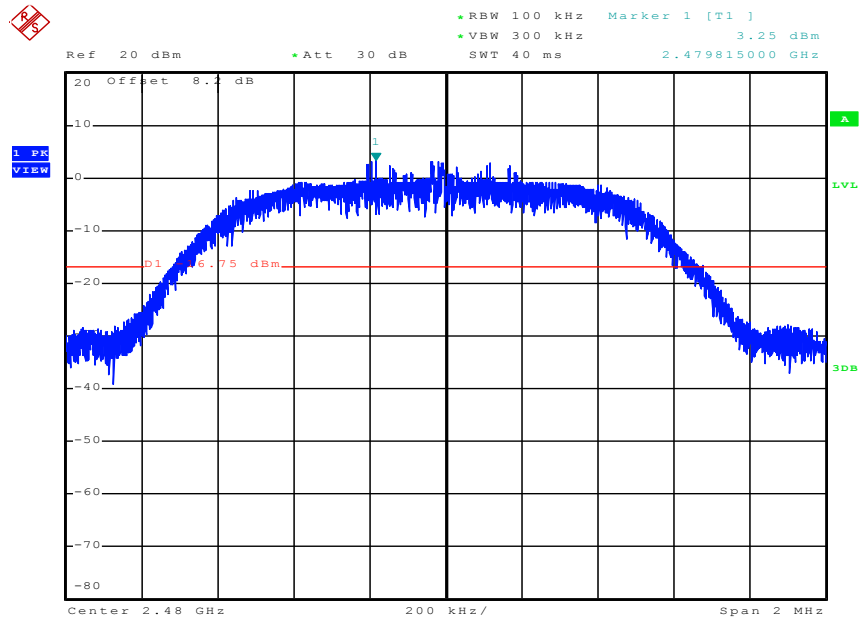
Puw



Date: 18 SEP 2019 18:42:02

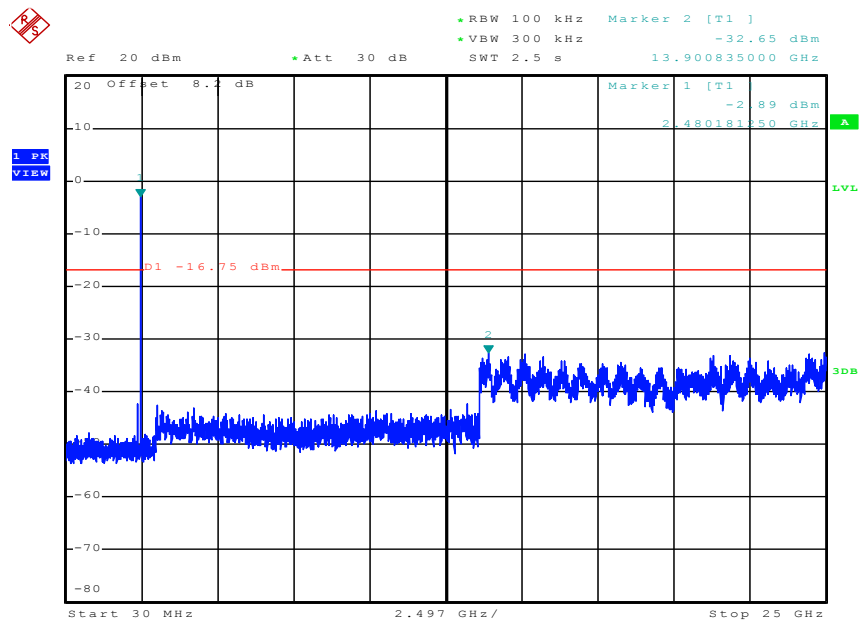
$\pi/4$ DQPSK_HCH_Graphs

Pref



Date: 18 SEP 2019 18:43:49

Puw

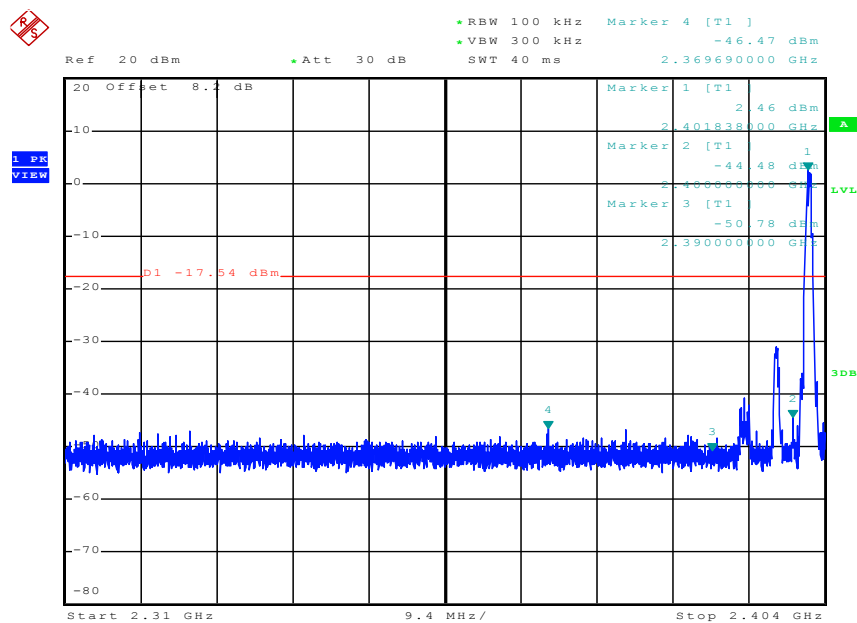


Date: 18 SEP 2019 18:44:04

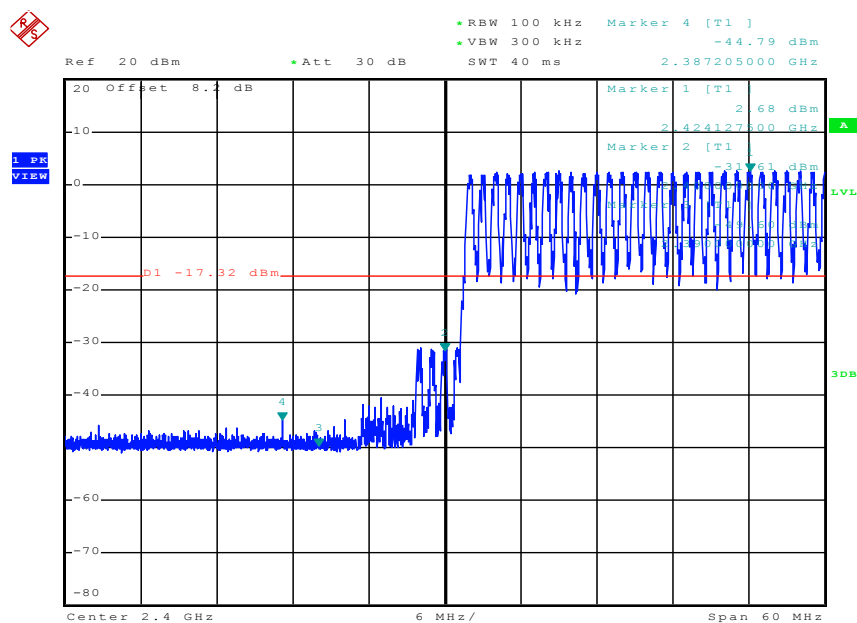
A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	2.460	Off	-46.468	-17.54	PASS
			2.680	On	-44.790	-17.32	PASS
	HCH	2480	2.710	Off	-37.207	-17.29	PASS
			3.070	On	-38.146	-16.93	PASS
$\pi/4$ DQPSK	LCH	2402	2.120	Off	-47.126	-17.88	PASS
			3.000	On	-45.769	-17	PASS
	HCH	2480	3.210	Off	-37.818	-16.79	PASS
			3.230	On	-40.443	-16.77	PASS

Test Graphs

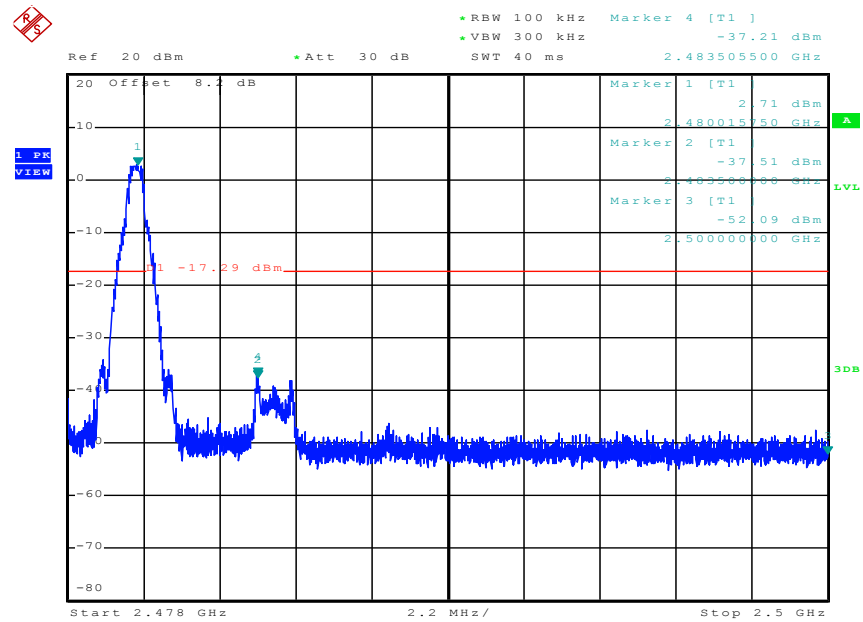


Date: 18 SEP 2019 18:30:52



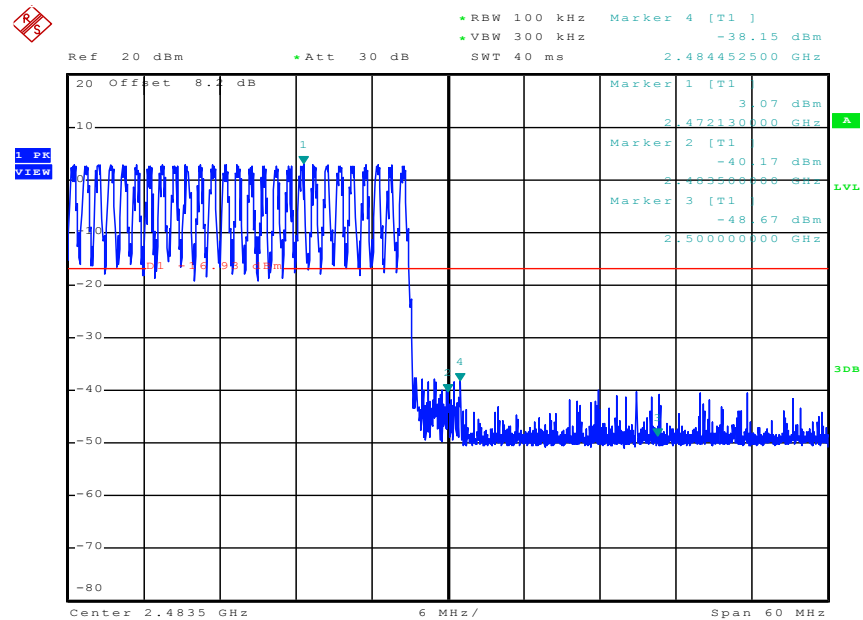
Date: 18 SEP 2019 18:51:42

GFSK/HCH/No Hop



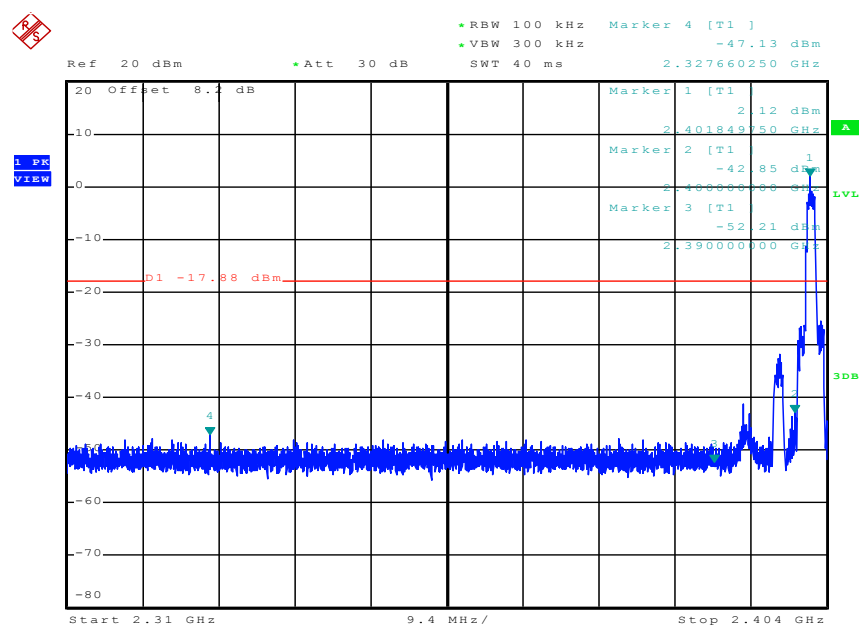
Date: 18.SEP.2019 18:36:18

GFSK/HCH/Hop



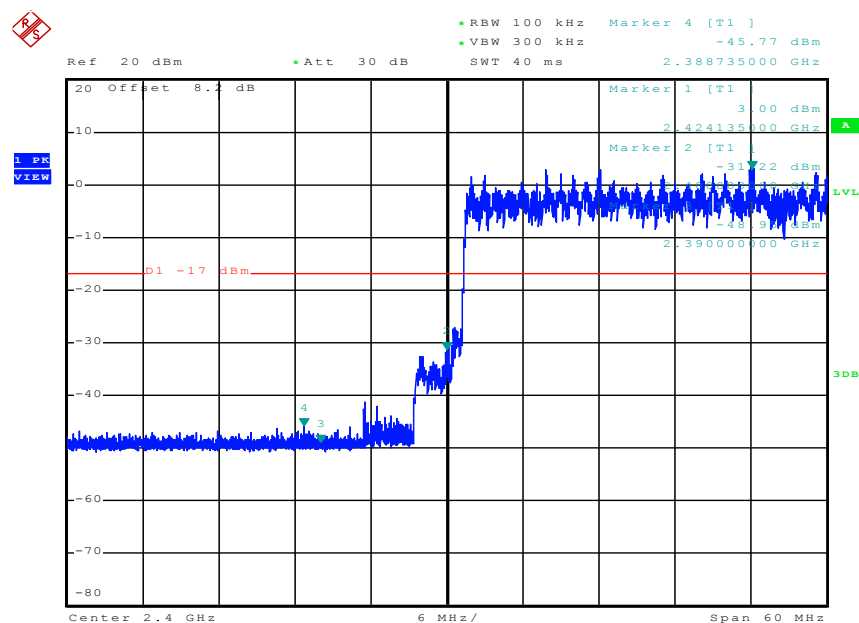
Date: 18.SEP.2019 18:57:41

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



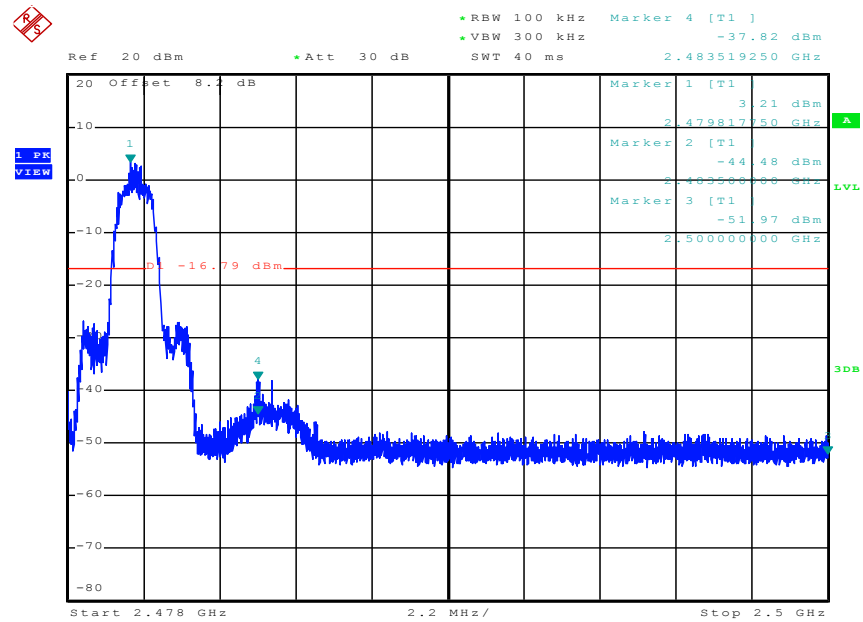
Date: 18-SEP-2019 18:39:00

$\pi/4$ DQPSK/LCH/Hop



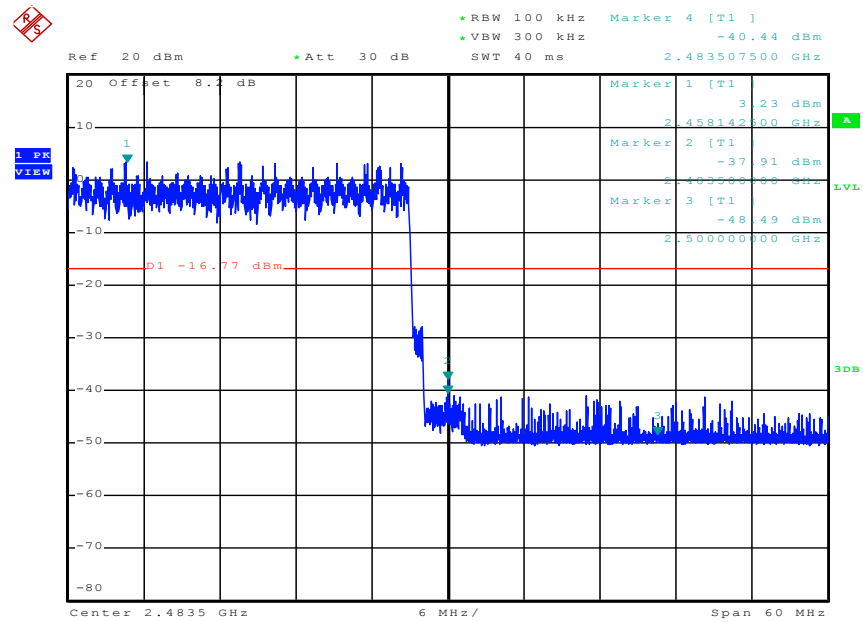
Date: 18-SEP-2019 19:06:27

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



Date: 18.SEP.2019 18:43:36

$\pi/4$ DQPSK/HCH/Hop

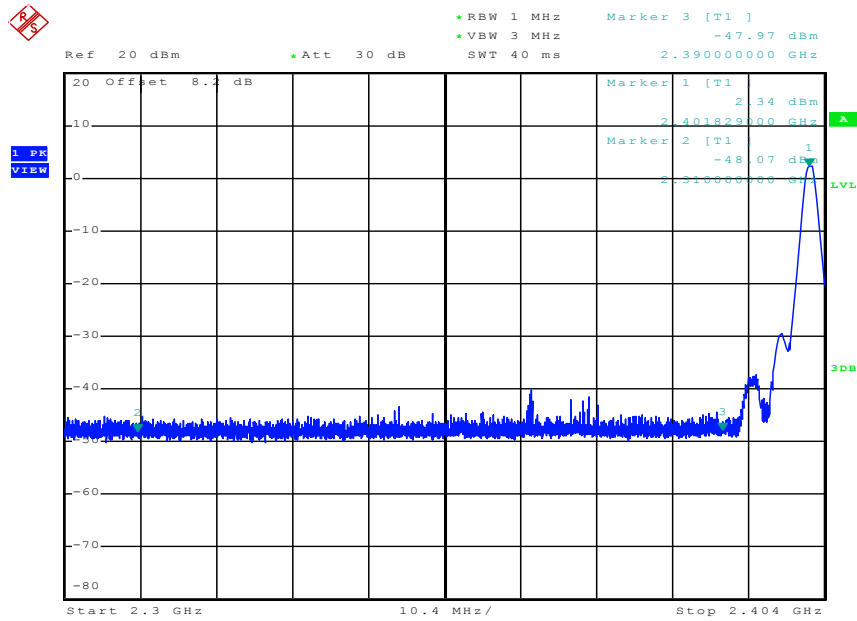


Date: 18.SEP.2019 19:15:18

A.8 Restrict-band band-edge measurements

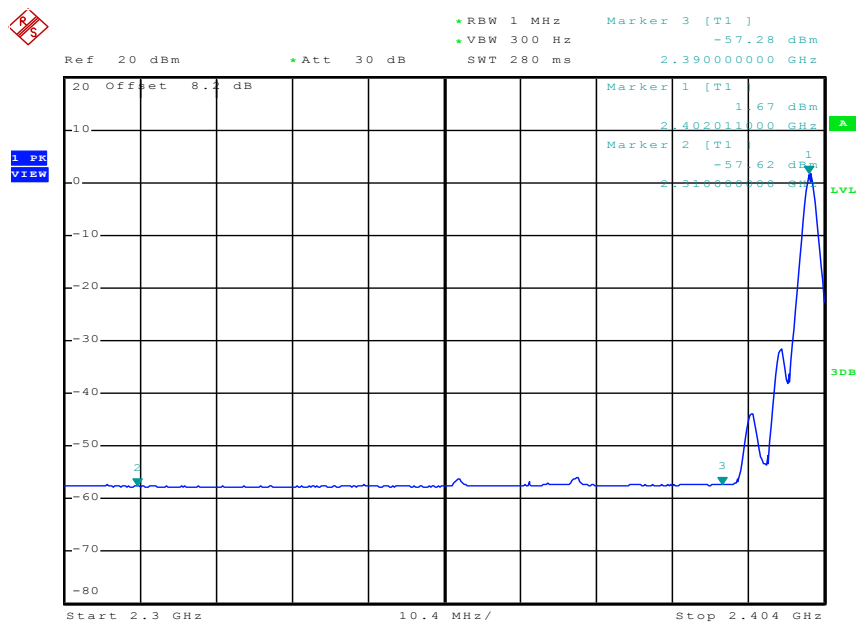
Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-48.07	2.0	0	49.19	PEAK	74	PASS
	Off	2310.0	-57.62	2.0	0	39.64	AV	54	PASS
	Off	2390.0	-47.97	2.0	0	49.29	PEAK	74	PASS
	Off	2390.0	-57.28	2.0	0	39.98	AV	54	PASS
	Off	2483.5	-38.47	2.0	0	58.79	PEAK	74	PASS
	Off	2483.5	-43.34	2.0	0	53.92	AV	54	PASS
	Off	2500.0	-46.48	2.0	0	50.78	PEAK	74	PASS
	Off	2500.0	-58.06	2.0	0	39.20	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-48.91	2.0	0	48.35	PEAK	74	PASS
	Off	2310.0	-57.66	2.0	0	39.60	AV	54	PASS
	Off	2390.0	-48.34	2.0	0	48.92	PEAK	74	PASS
	Off	2390.0	-56.75	2.0	0	40.51	AV	54	PASS
	Off	2483.5	-37.37	2.0	0	59.89	PEAK	74	PASS
	Off	2483.5	-44.10	2.0	0	53.16	AV	54	PASS
	Off	2500.0	-46.31	2.0	0	50.95	PEAK	74	PASS
	Off	2500.0	-57.23	2.0	0	40.03	AV	54	PASS

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



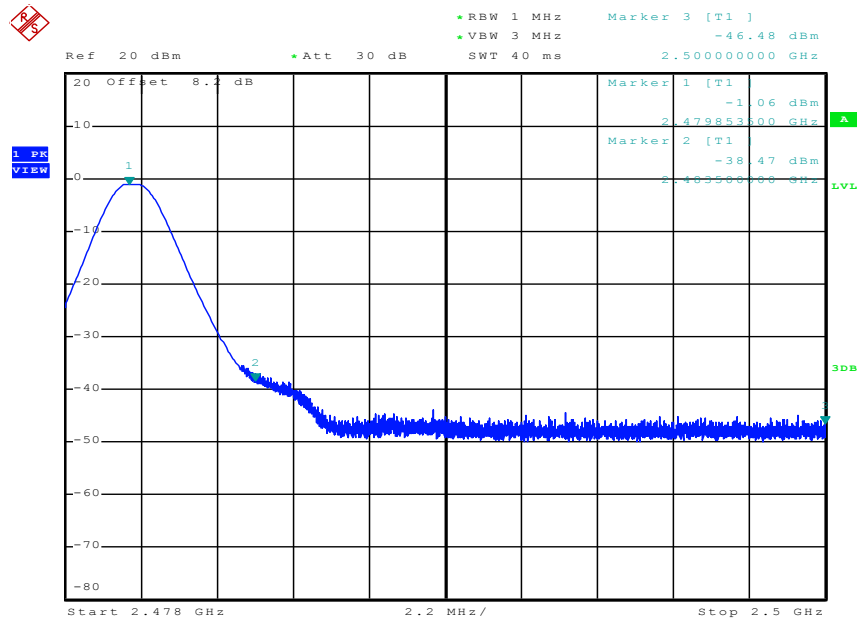
Date: 18.SEP.2019 18:32:32

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



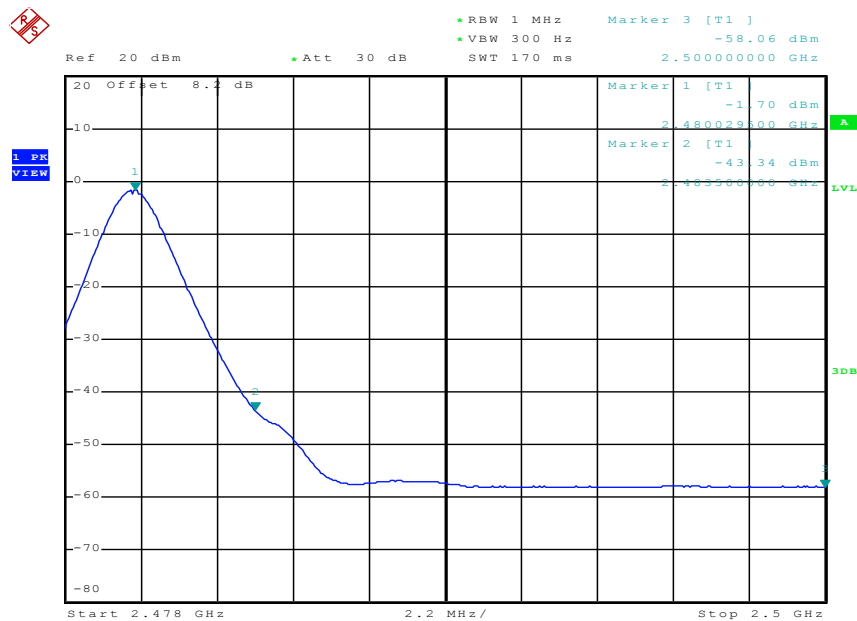
Date: 18.SEP.2019 18:32:45

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



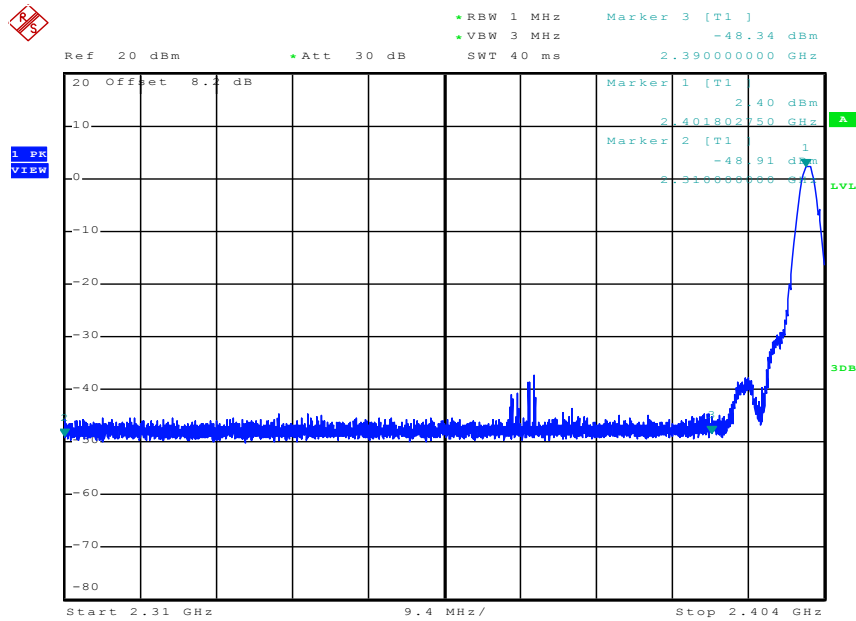
Date: 18.SEP.2019 19:27:22

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



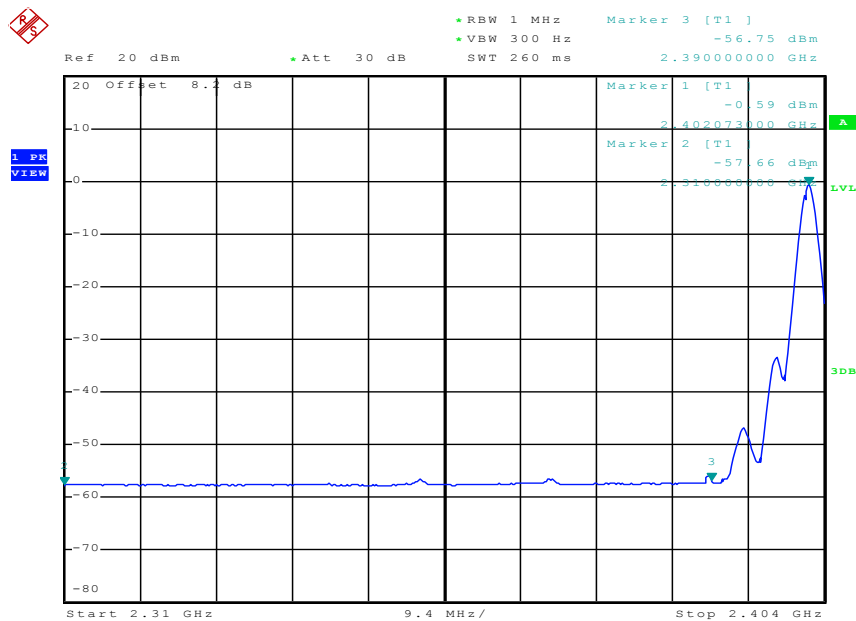
Date: 18.SEP.2019 19:27:35

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



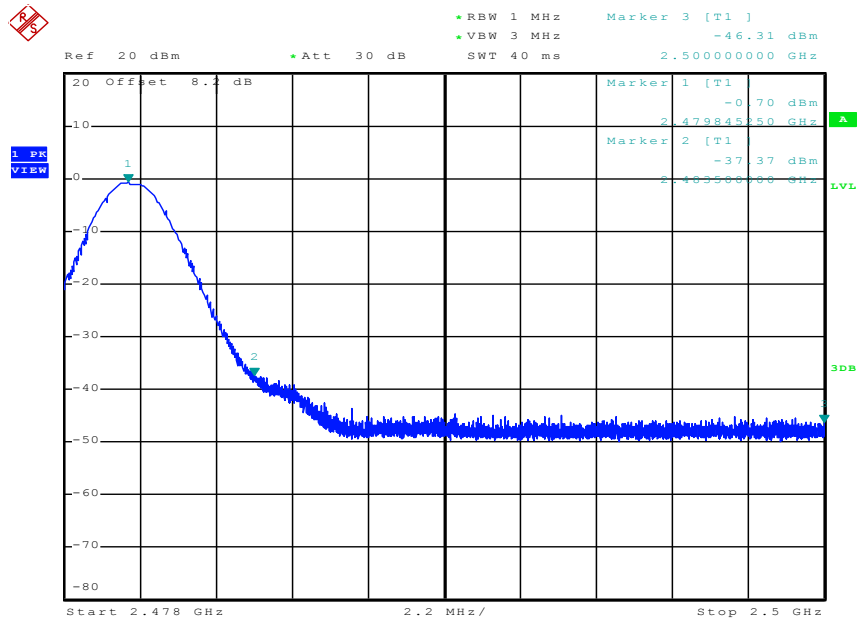
Date: 18.SEP.2019 18:40:03

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



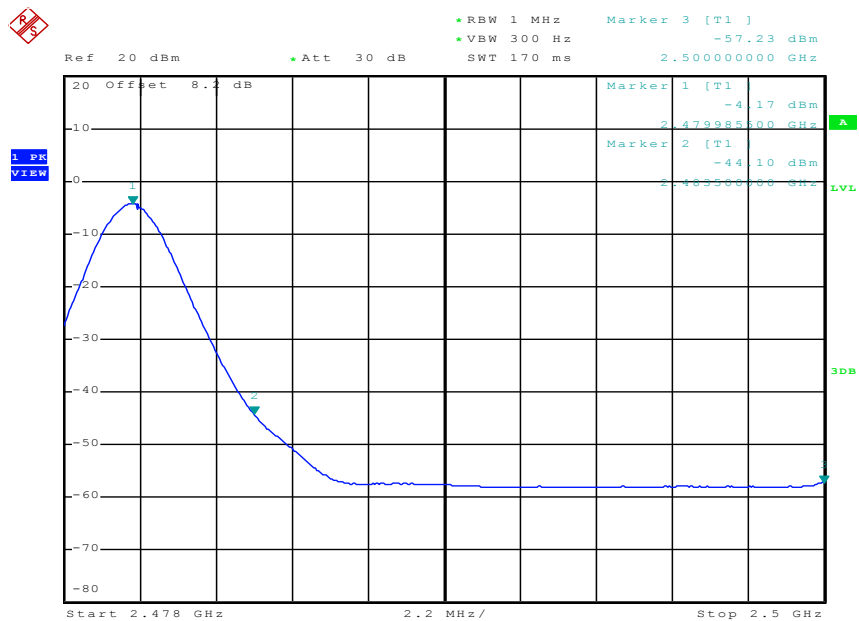
Date: 18.SEP.2019 18:40:16

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



Date: 18.SEP.2019 19:28:27

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



Date: 18.SEP.2019 19:28:41