

Appendix A

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

Product Name: BLUETOOTH SPEAKER

Trade Mark: N/A

Test Model: BSSK9025

Environmental Conditions

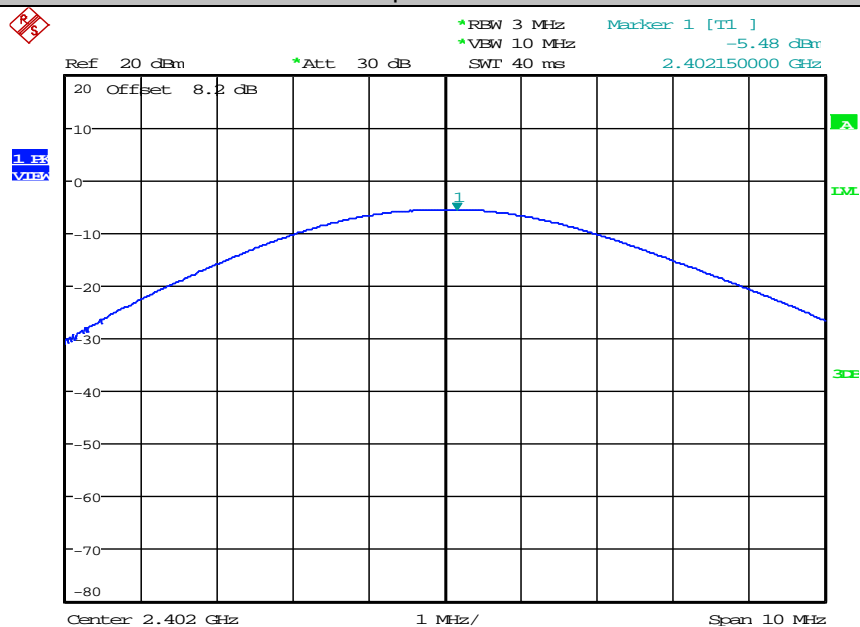
Temperature:	24.8 ° C
Relative Humidity:	54.2 %
ATM Pressure:	100.0 kPa
Test Engineer:	Alisa Huang
Supervised by:	Wang.Chuang

A.1 Maxmum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-5.480	21	PASS
	MCH	-5.510	21	PASS
	HCH	-6.340	21	PASS
$\pi/4$ DQPSK	LCH	-4.320	21	PASS
	MCH	-4.420	21	PASS
	HCH	-5.120	21	PASS

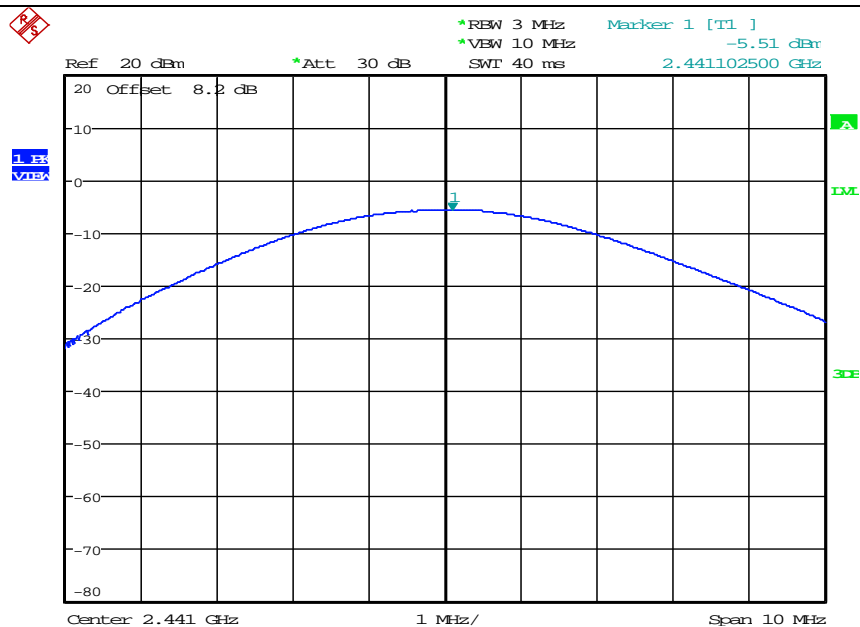
Test Graphs

GFSK/LCH



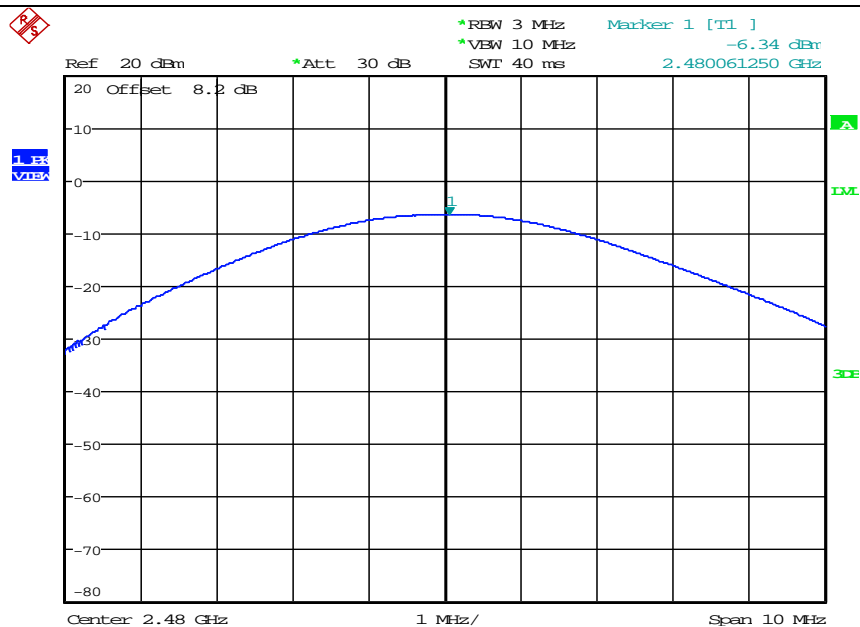
Date: 29.AUG.2019 19:02:36

GFSK/MCH

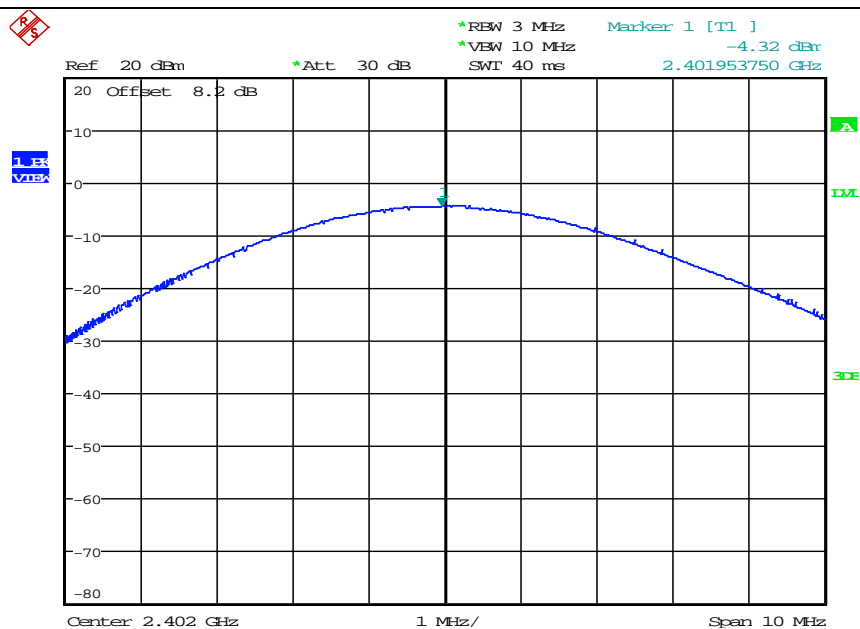


Date: 29.AUG.2019 19:06:02

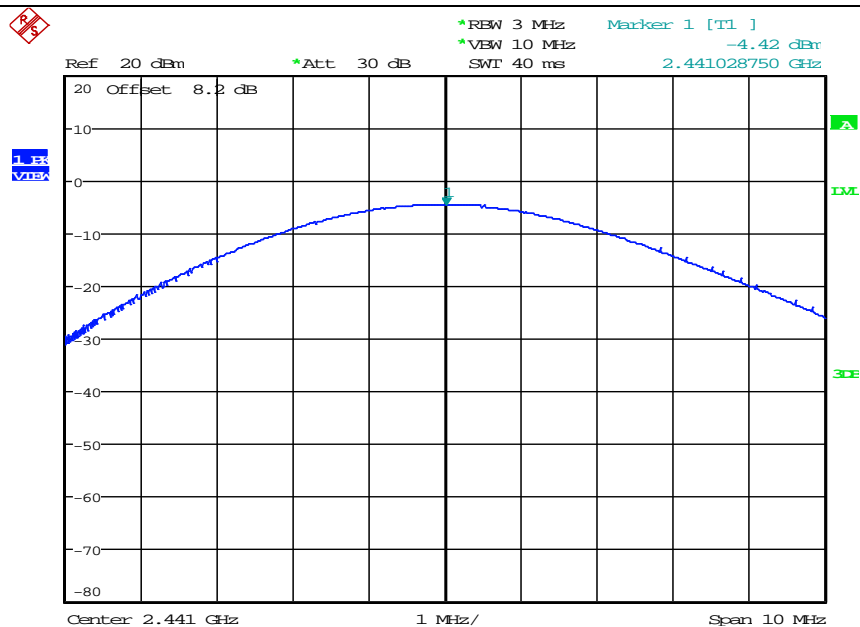
GFSK/HCH



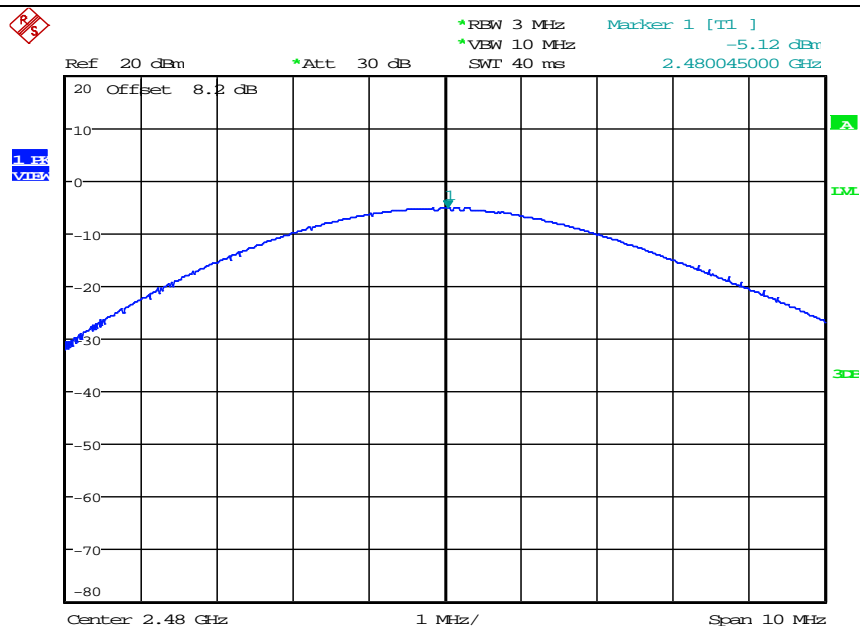
Date: 29.AUG.2019 19:07:48

 $\pi/4$ DQPSK/LCH

Date: 29.AUG.2019 19:10:43

$\pi/4$ DQPSK/MCH

Date: 29.AUG.2019 19:13:14

 $\pi/4$ DQPSK/HCH

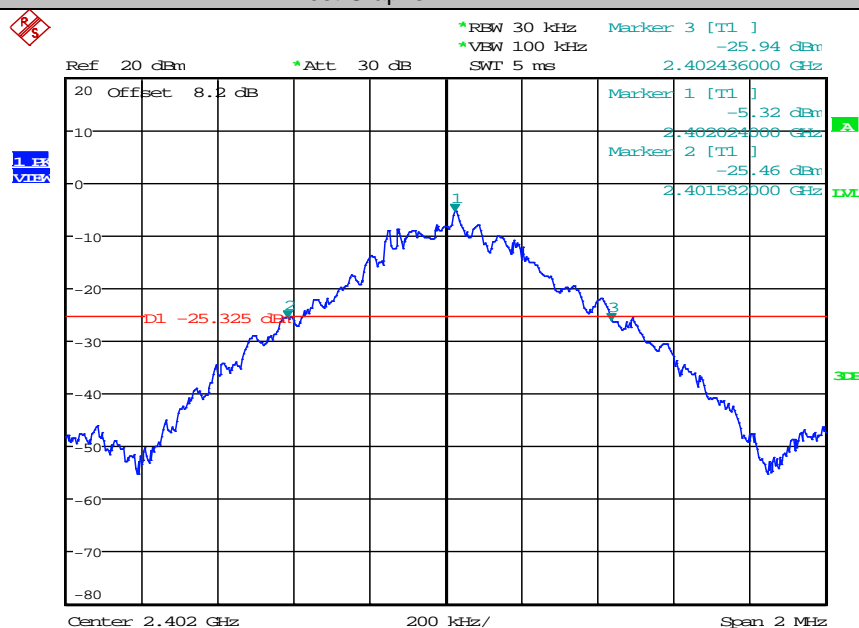
Date: 29.AUG.2019 19:15:20

A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.854	Not Specified	PASS
	MCH	0.866	Not Specified	PASS
	HCH	0.856	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.222	Not Specified	PASS
	MCH	1.222	Not Specified	PASS
	HCH	1.228	Not Specified	PASS

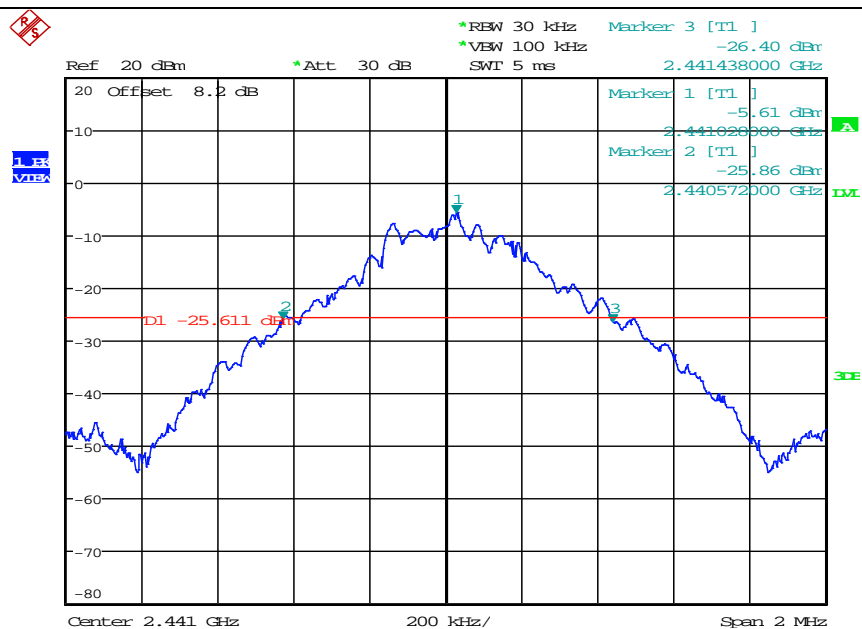
Test Graphs

GFSK/LCH



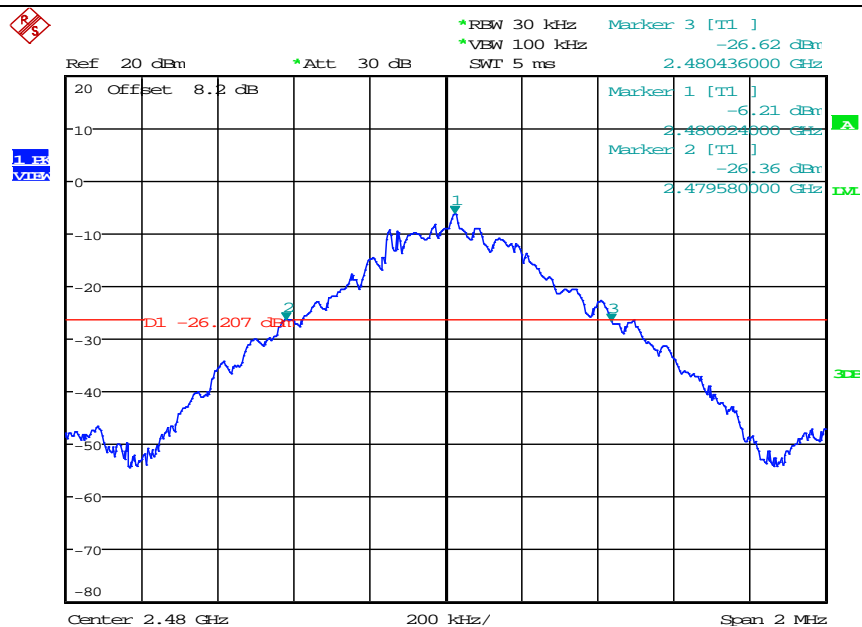
Date: 29.AUG.2019 19:02:00

GFSK/MCH

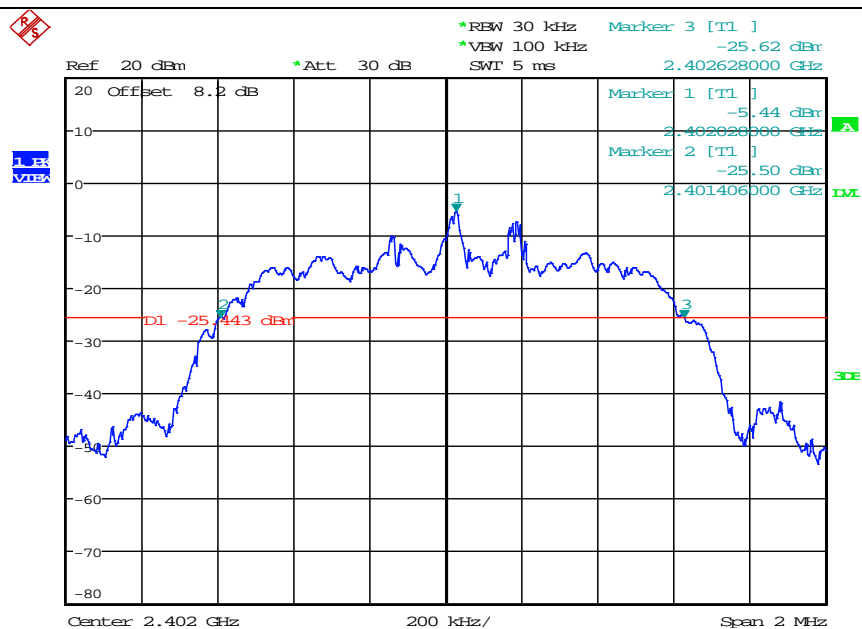
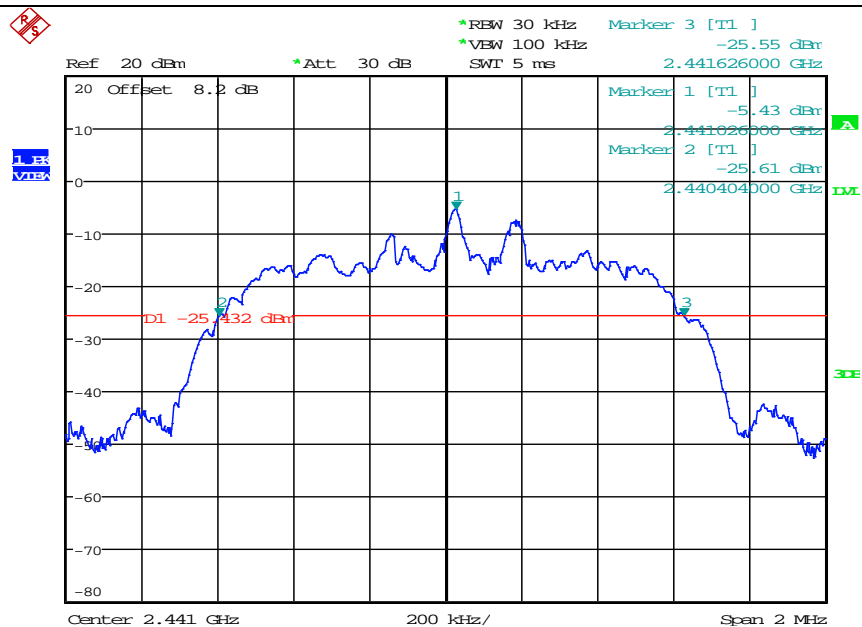


Date: 29.AUG.2019 19:05:26

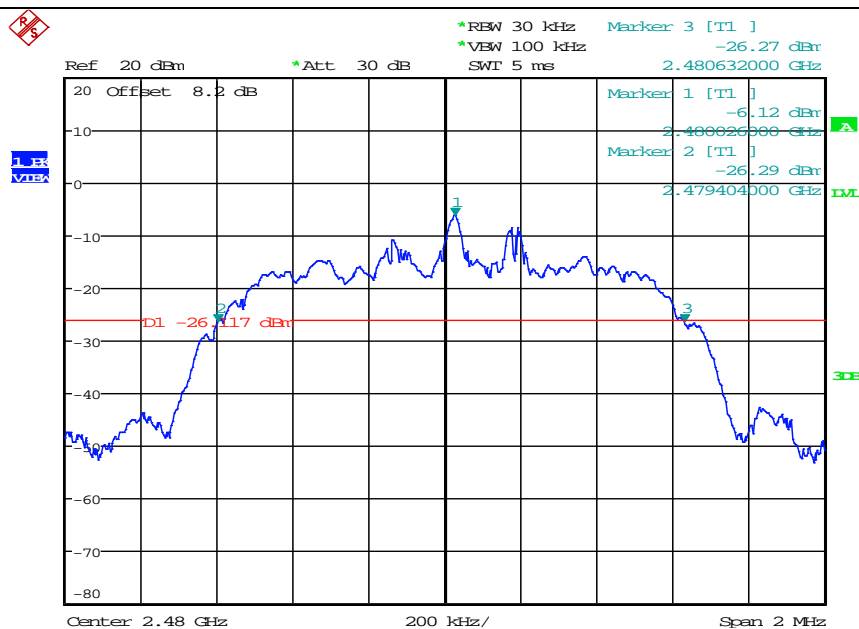
GFSK/HCH



Date: 29.AUG.2019 19:07:11

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

$\pi/4$ DQPSK/HCH



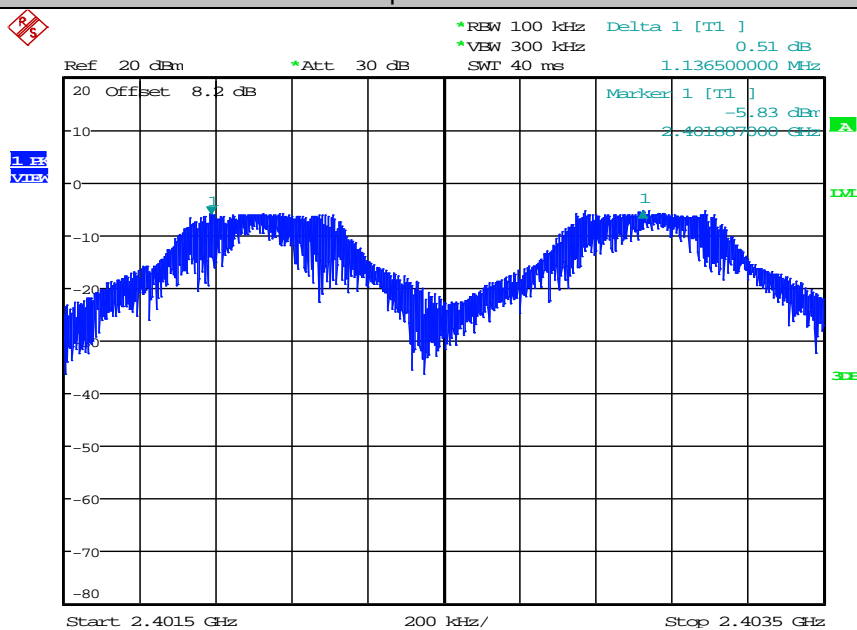
Date: 29.AUG.2019 19:14:43

A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.136	0.577	PASS
	MCH	0.832	0.577	PASS
	HCH	0.992	0.577	PASS
π /4DQPSK	LCH	0.820	0.819	PASS
	MCH	1.332	0.819	PASS
	HCH	0.982	0.819	PASS

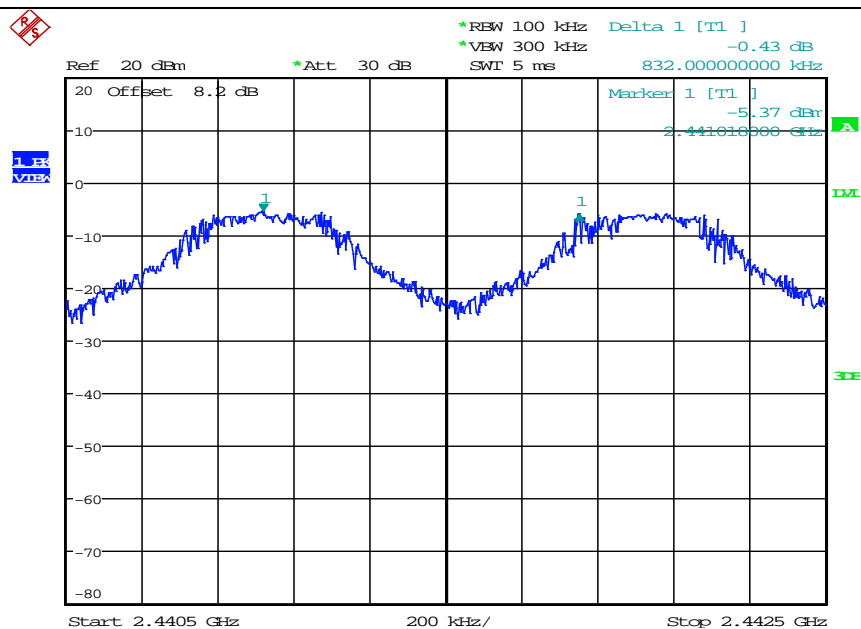
Test Graphs

GFSK/LCH



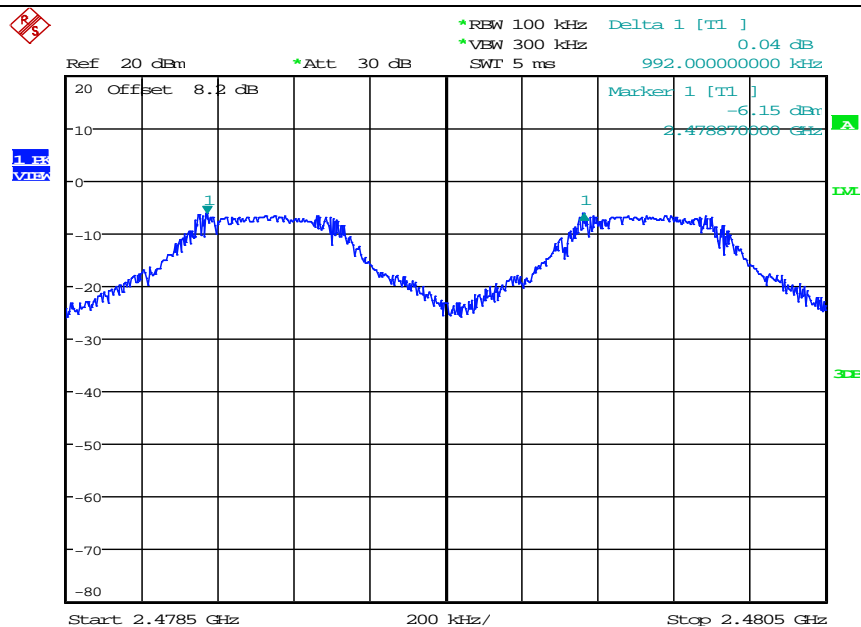
Date: 29.AUG.2019 19:55:49

GFSK/MCH

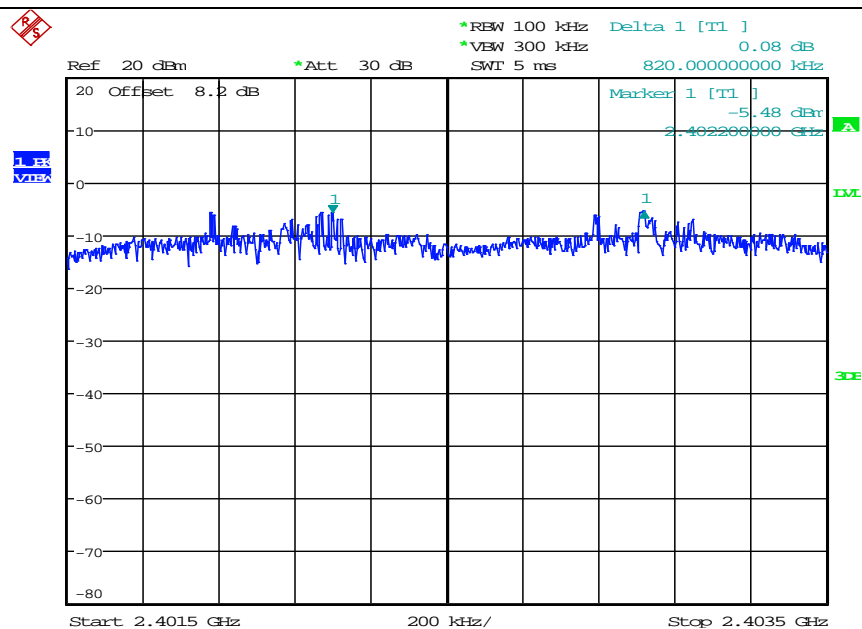


Date: 29.AUG.2019 19:58:31

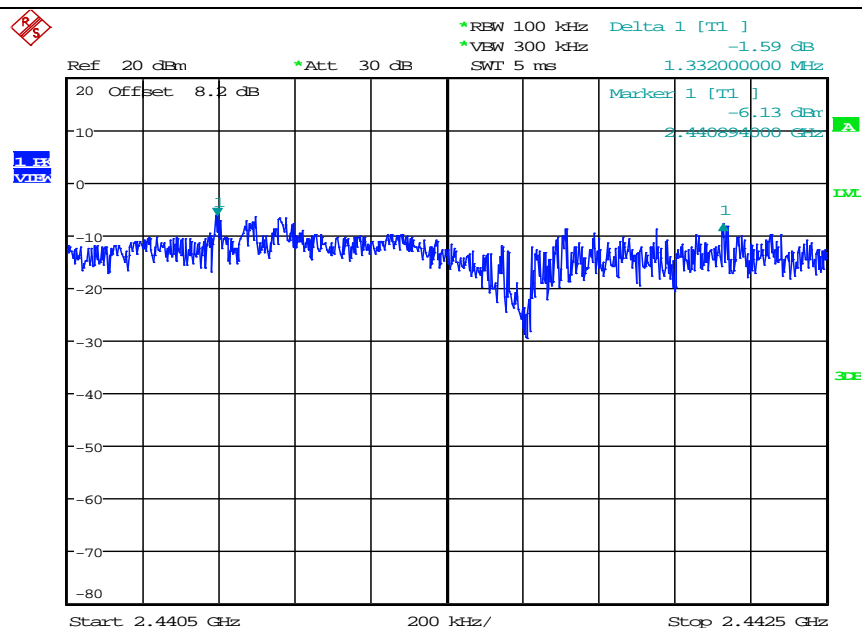
GFSK/HCH



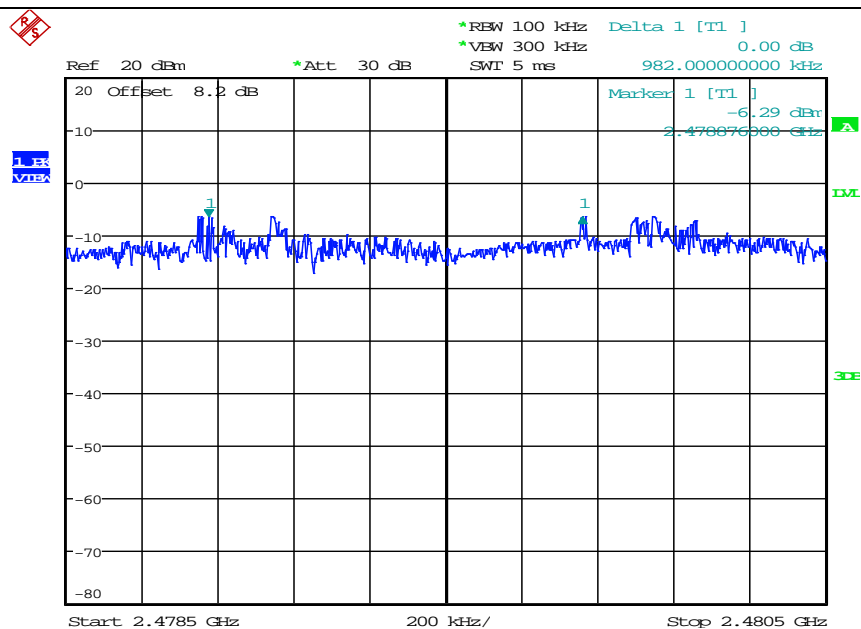
Date: 29.AUG.2019 19:59:15

$\pi/4$ DQPSK/LCH

Date: 29.AUG.2019 19:43:37

 $\pi/4$ DQPSK/MCH

Date: 29.AUG.2019 19:28:59

π /4DQPSK/HCH

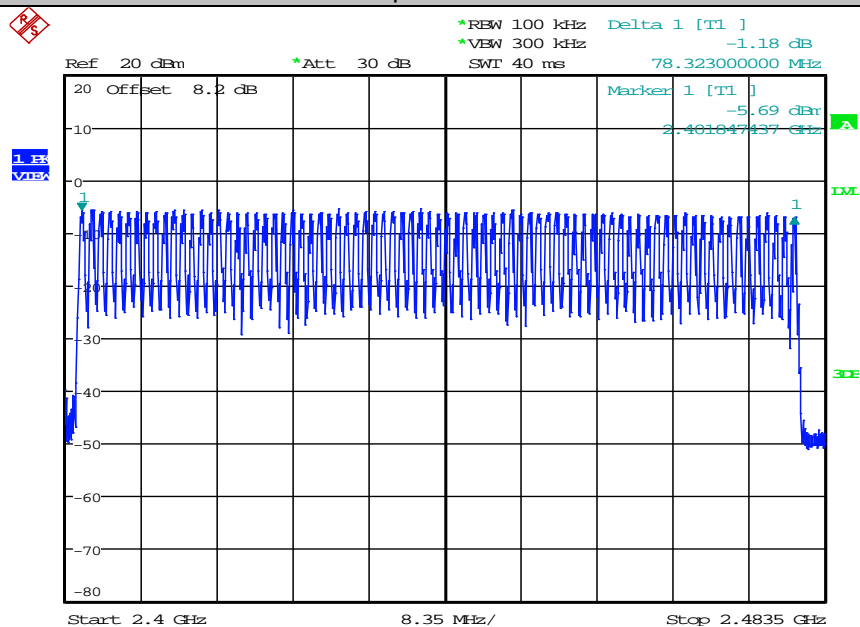
Date: 29.AUG.2019 19:44:31

A.4 Hopping Channel Number

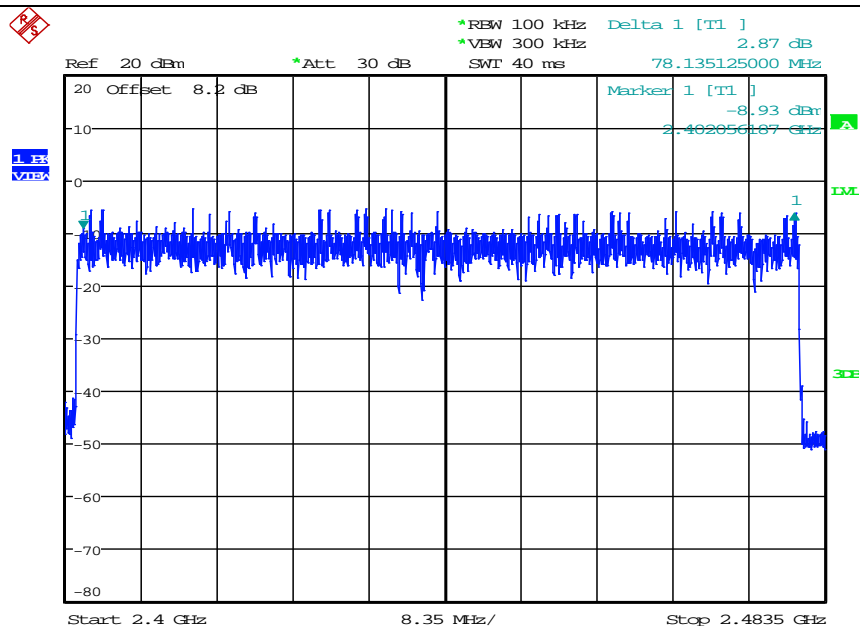
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
π /4DQPSK	Hop	79	≥ 15	PASS

Test Graphs

GFSK/Hop



Date: 29.AUG.2019 20:04:16

 $\pi/4$ DQPSK/Hop

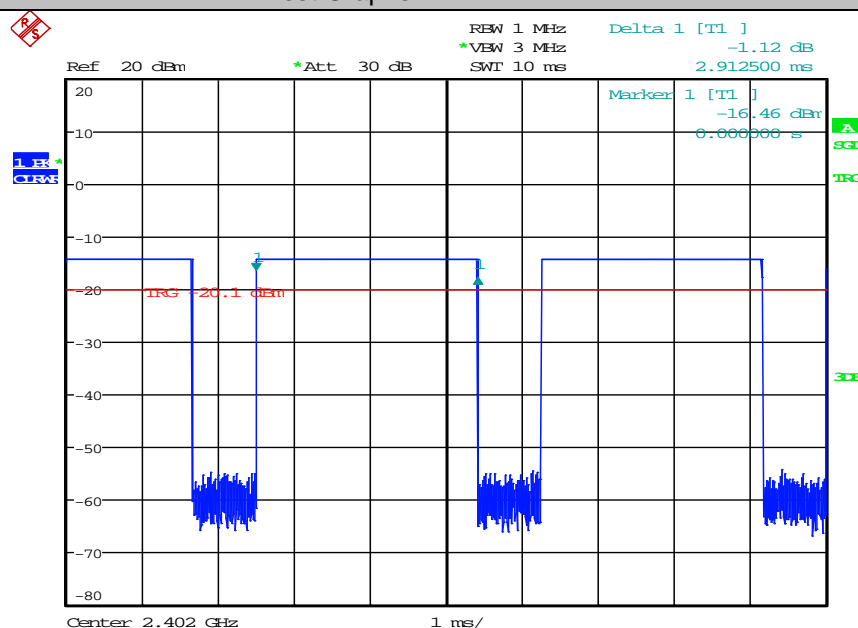
Date: 29.AUG.2019 19:33:17

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	2.91	106.7	0.31	0.4	PASS
	DH5	MCH	2.91	106.7	0.31	0.4	PASS
	DH5	HCH	2.91	106.7	0.31	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.91	106.7	0.312	0.4	PASS
	2DH5	MCH	2.91	106.7	0.312	0.4	PASS
	2DH5	HCH	2.91	106.7	0.312	0.4	PASS

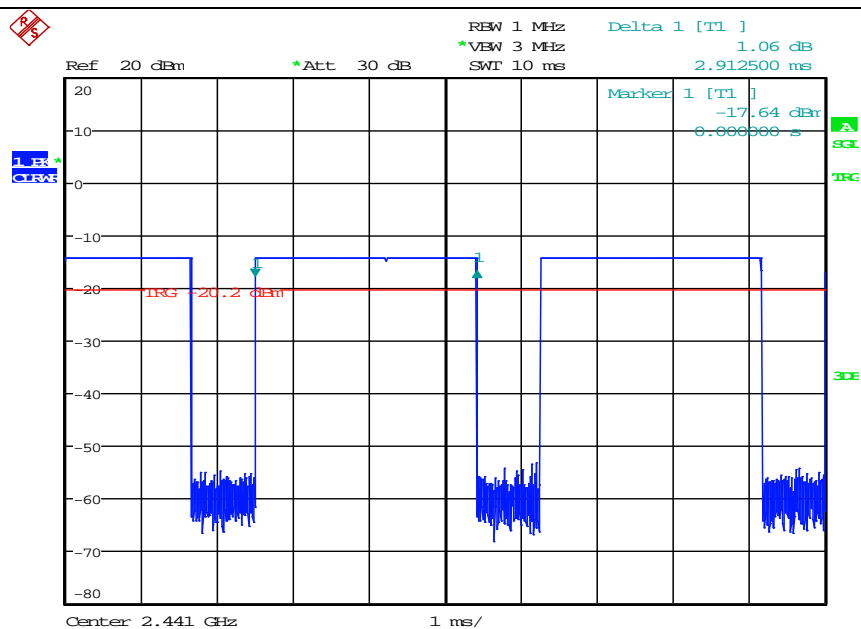
Test Graphs

GFSK_DH5/LCH



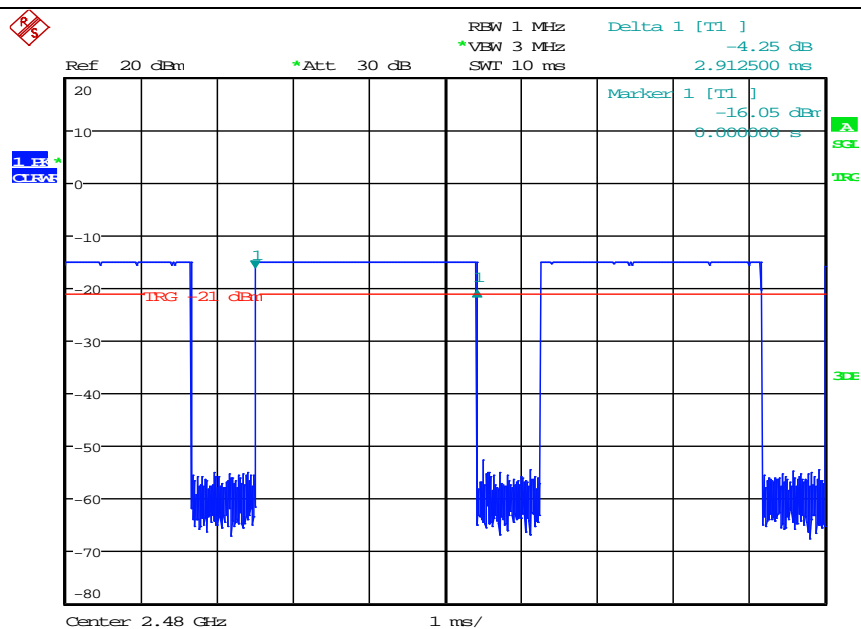
Date: 29.AUG.2019 19:02:21

GFSK_DH5/MCH



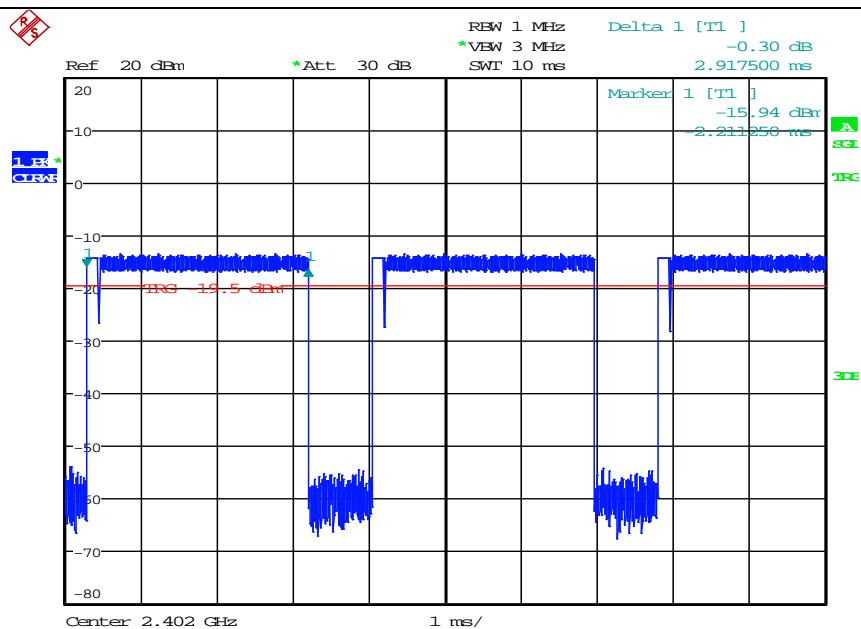
Date: 29.AUG.2019 19:05:47

GFSK_DH5/HCH



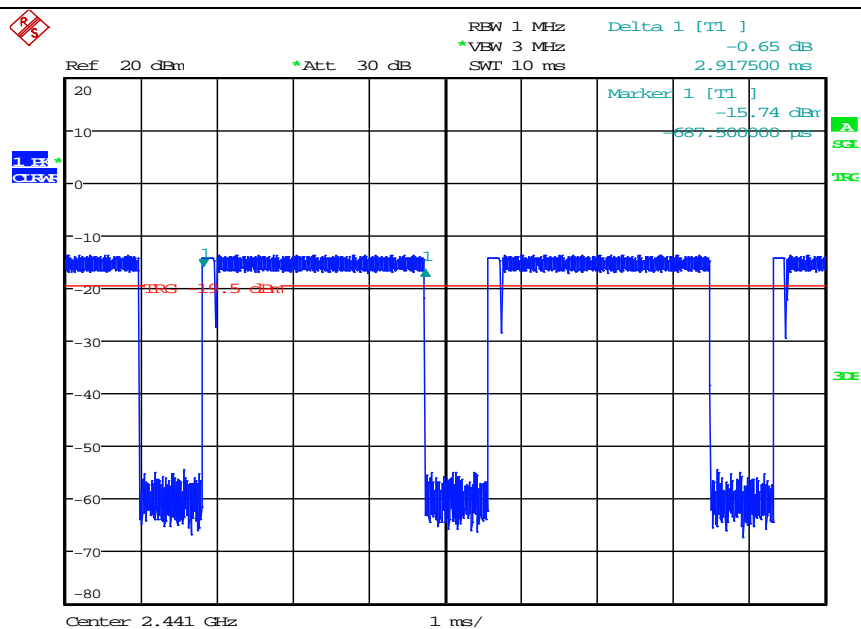
Date: 29.AUG.2019 19:07:32

$\pi/4$ DQPSK
_2DH5/LCH



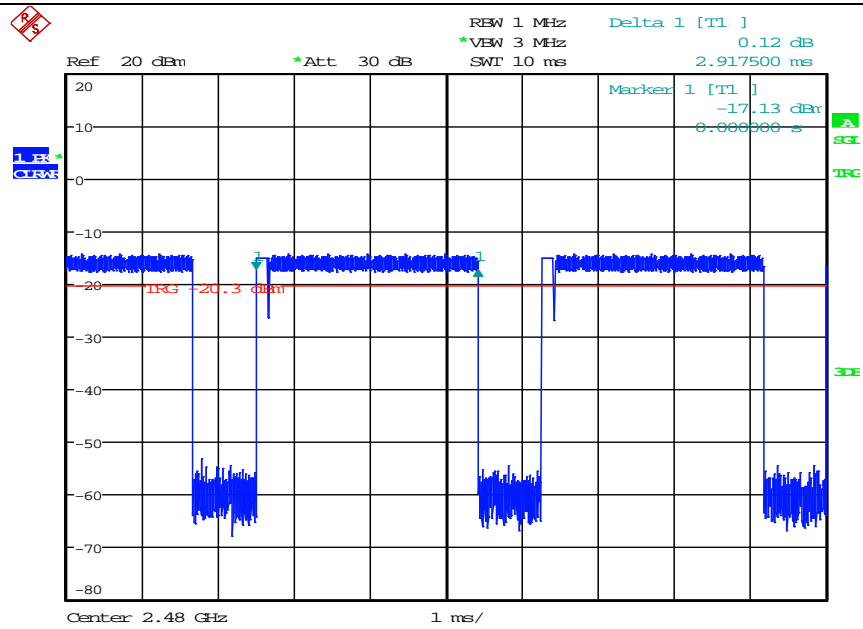
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$\pi/4$ DQPSK
_2DH5/MCH



Date: 29.AUG.2019 19:12:59

$\pi/4$ DQPSK
_2DH5/HCH



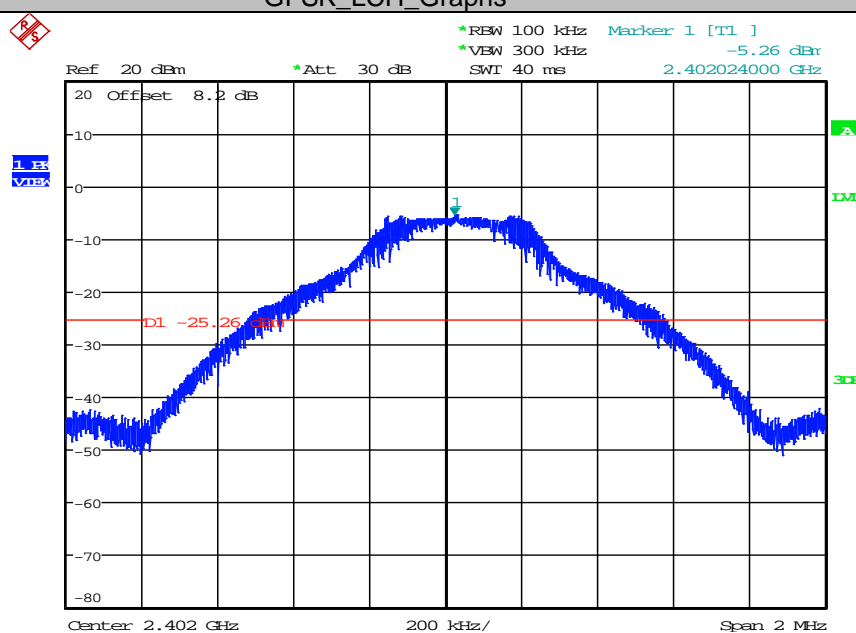
Date: 29.AUG.2019 19:15:04

A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-5.26	-31.320	-25.260	PASS
	MCH	-5.35	-33.230	-25.350	PASS
	HCH	-6.14	-32.540	-26.140	PASS
$\pi/4$ DQPSK	LCH	-5.27	-32.980	-25.270	PASS
	MCH	-5.33	-31.390	-25.330	PASS
	HCH	-6.09	-32.570	-26.090	PASS

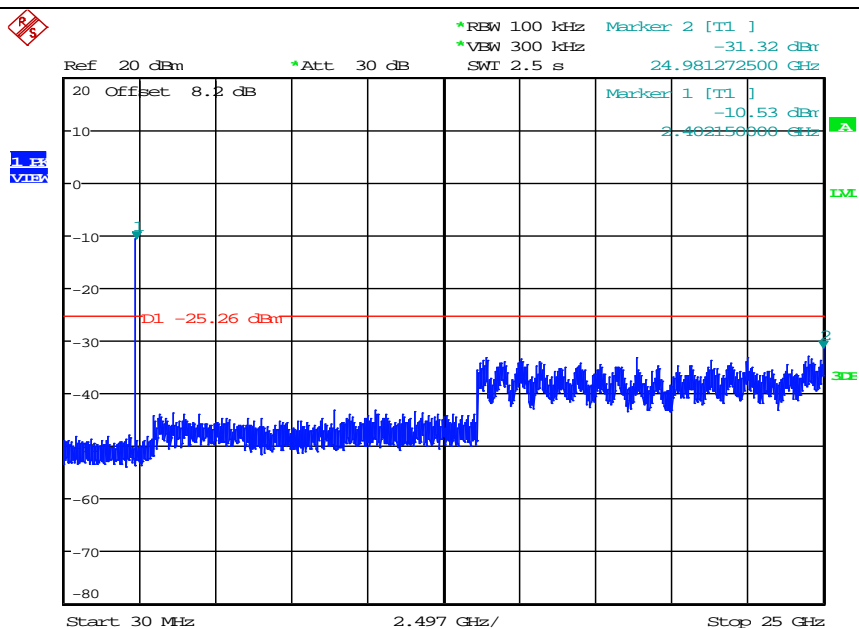
GFSK_LCH_Graphs

Pref



Date: 29.AUG.2019 19:03:05

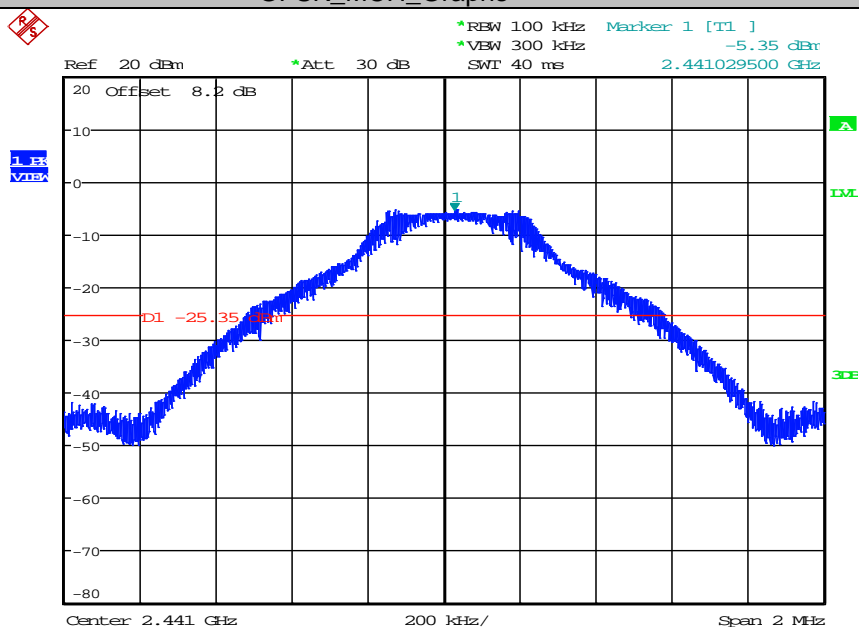
P_{uw}



Date: 29.AUG.2019 19:03:19

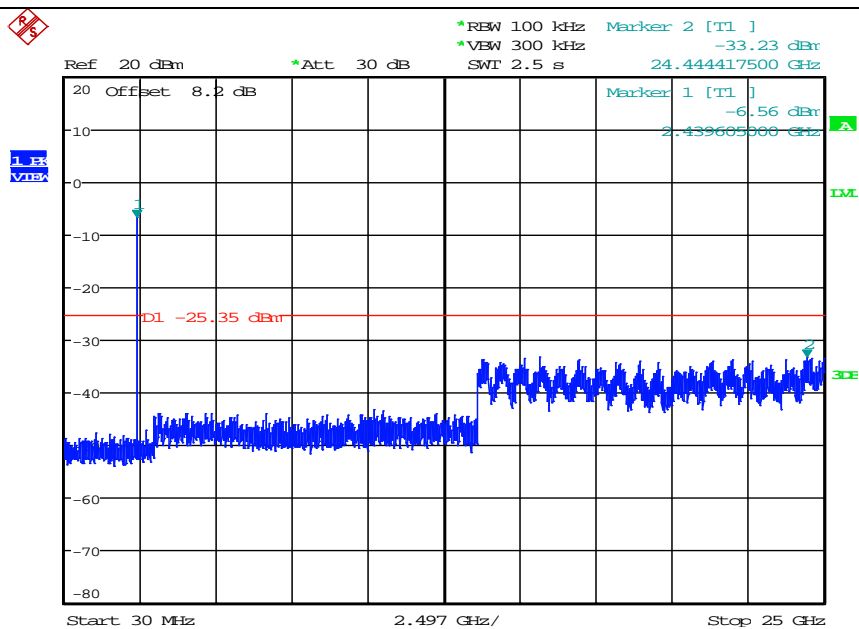
GFSK_MCH_Graphs

Pref



Date: 29.AUG.2019 19:06:15

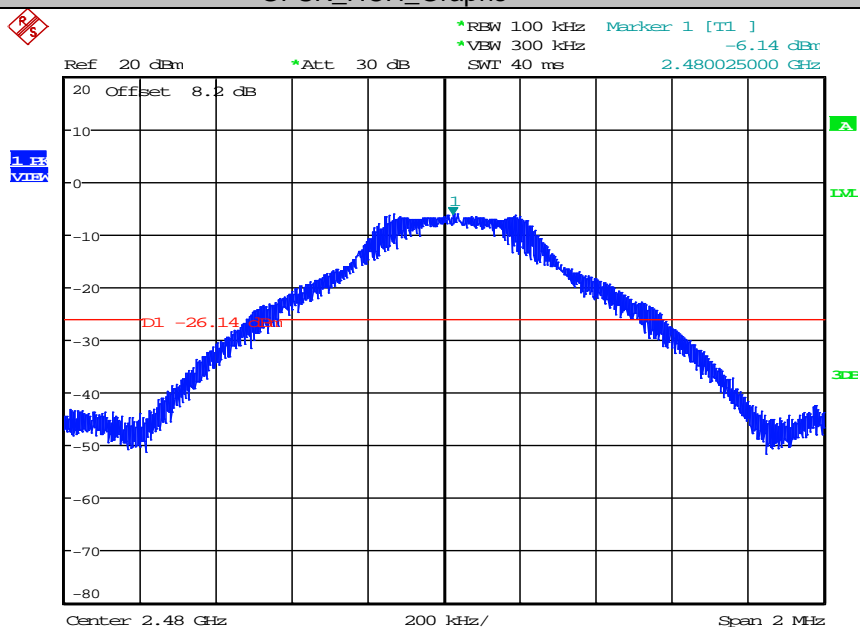
Puw



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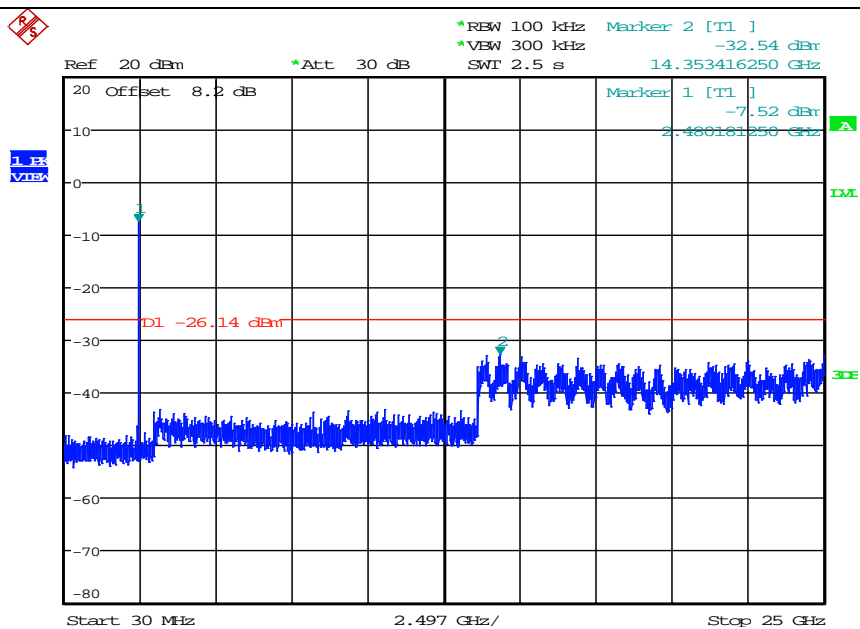
GFSK_HCH_Graphs

Pref



Date: 29.AUG.2019 19:08:17

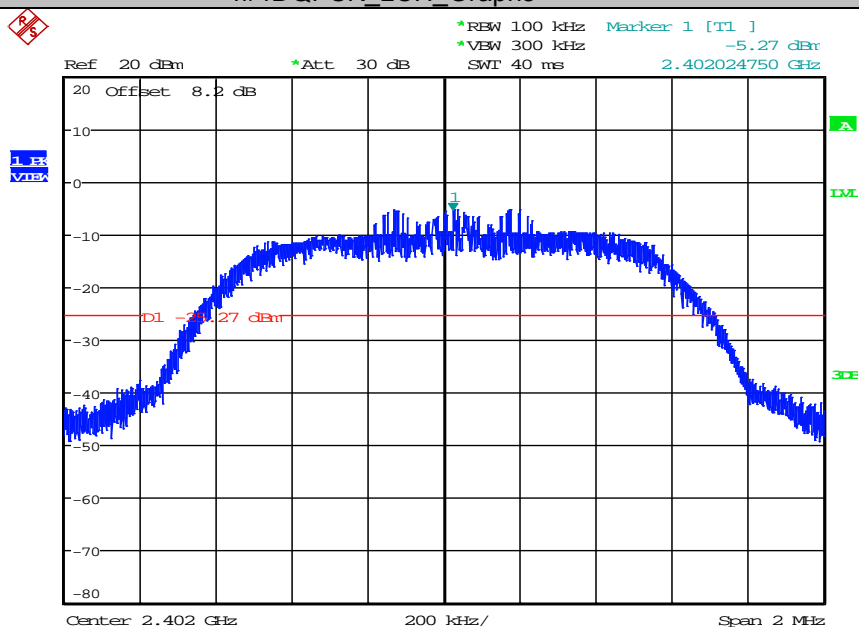
Puw



Date: 29.AUG.2019 19:08:31

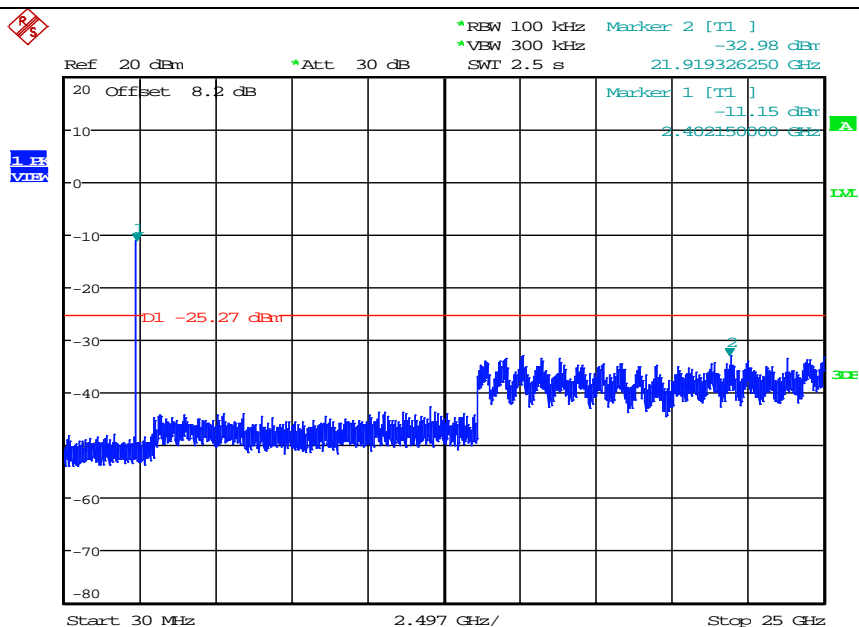
$\pi/4$ DQPSK_LCH_Graphs

Pref



Date: 29.AUG.2019 19:11:12

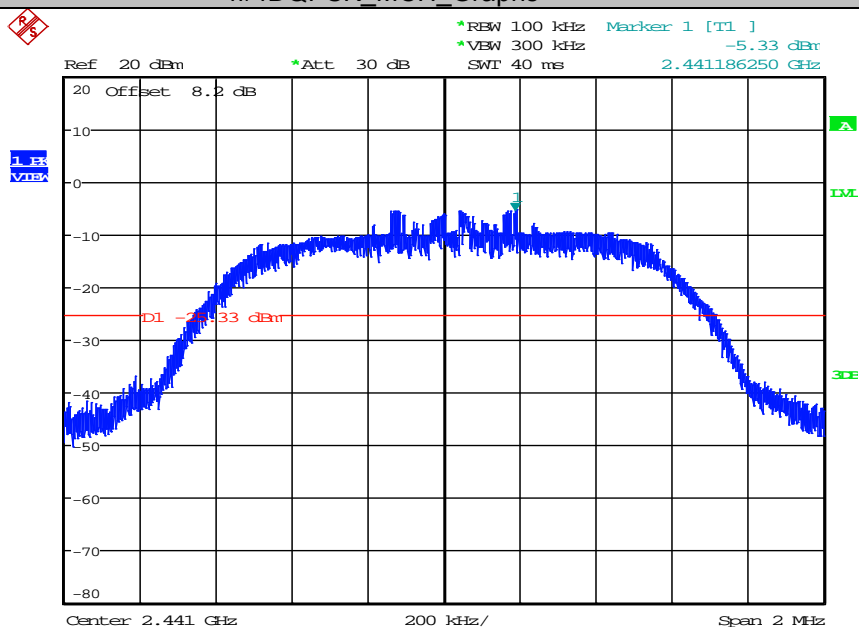
Puw



Date: 29.AUG.2019 19:11:27

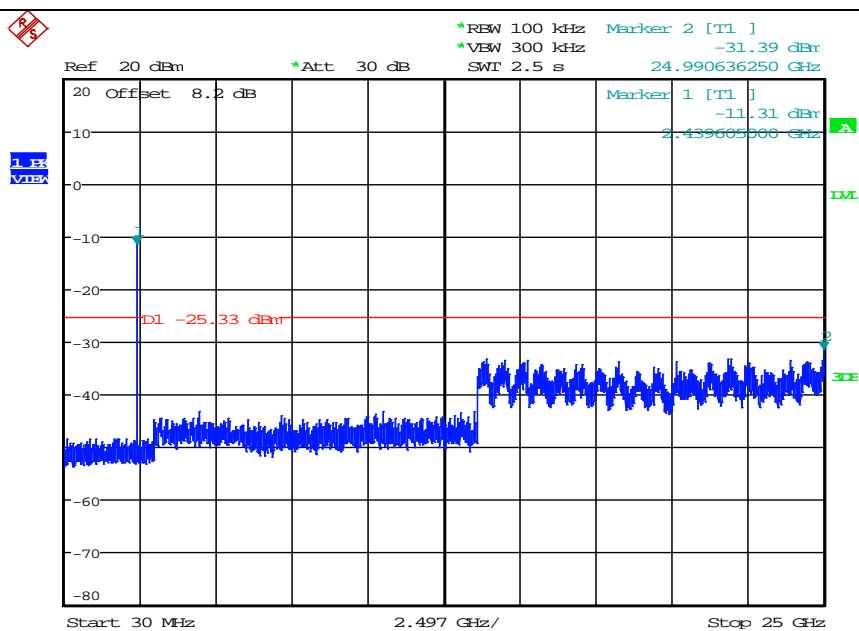
$\pi/4$ DQPSK_MCH_Graphs

Pref



Date: 29.AUG.2019 19:13:26

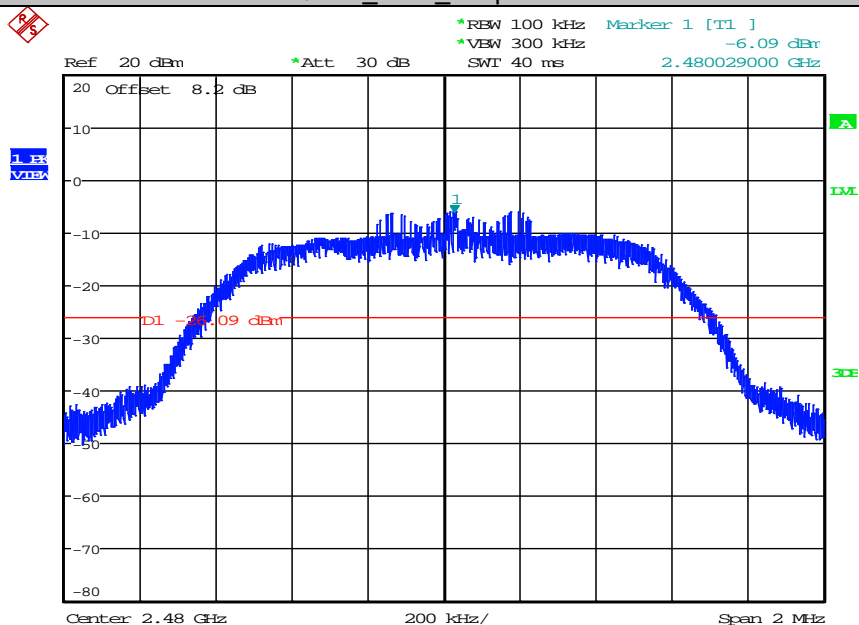
Puw



Date: 29.AUG.2019 19:13:41

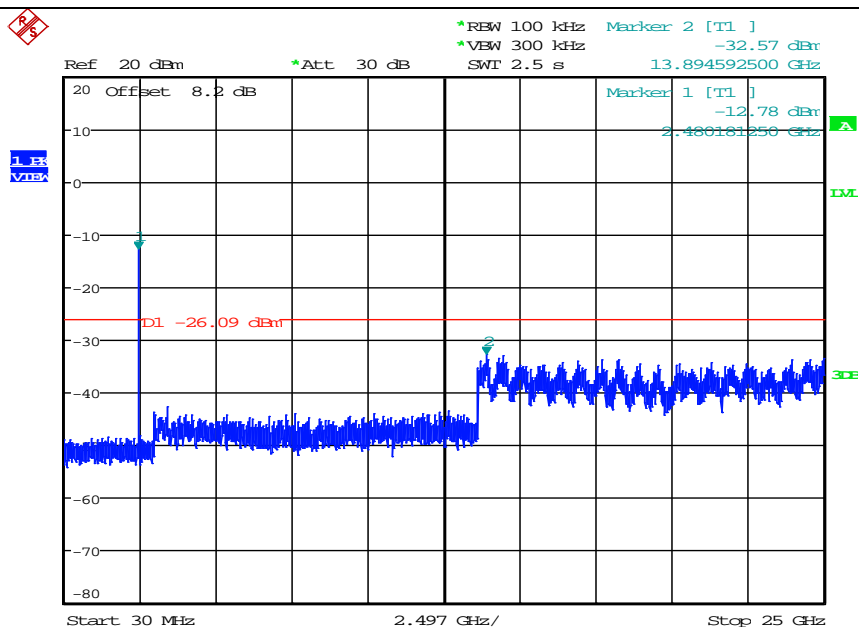
$\pi/4$ DQPSK_HCH_Graphs

Pref



Date: 29.AUG.2019 19:15:49

Puw



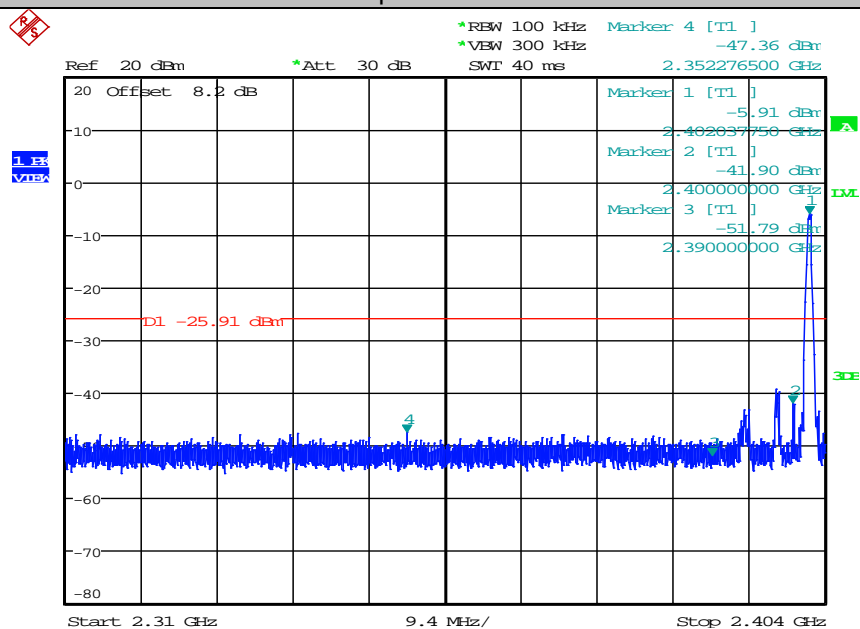
Date: 29.AUG.2019 19:16:03

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	-5.910	Off	-47.364	-25.91	PASS
			-5.370	On	-46.817	-25.37	PASS
	HCH	2480	-6.480	Off	-47.261	-26.48	PASS
			-5.640	On	-46.664	-25.64	PASS
π /4DQPSK	LCH	2402	-5.800	Off	-47.197	-25.8	PASS
			-5.380	On	-46.237	-25.38	PASS
	HCH	2480	-6.040	Off	-46.997	-26.04	PASS
			-5.620	On	-46.837	-25.62	PASS

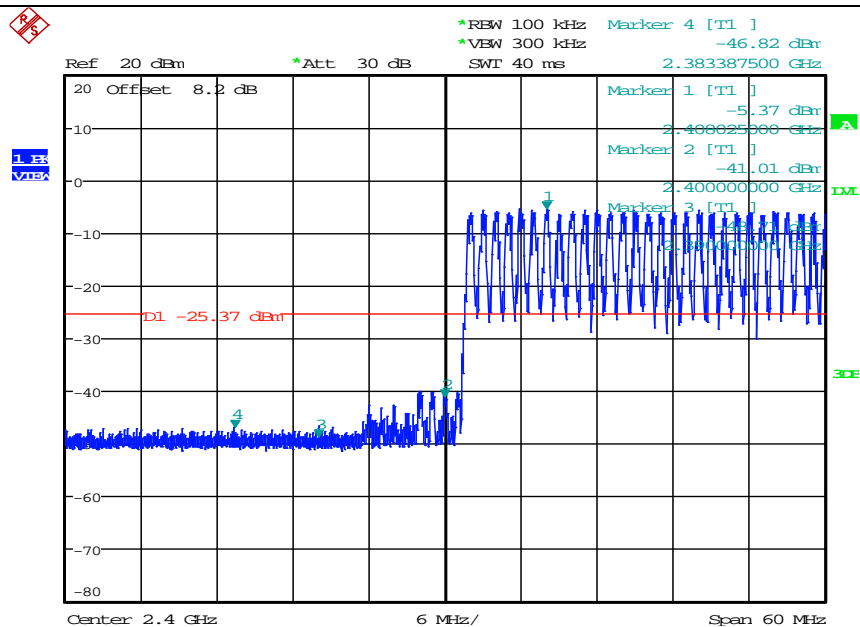
Test Graphs

GFSK/LCH/No Hop



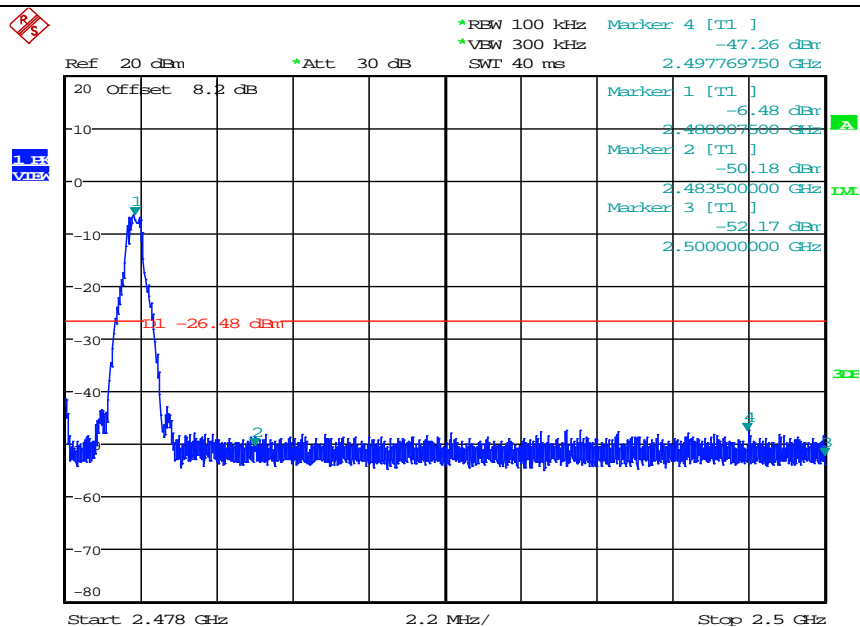
Date: 29.AUG.2019 19:02:52

GFSK/LCH/Hop



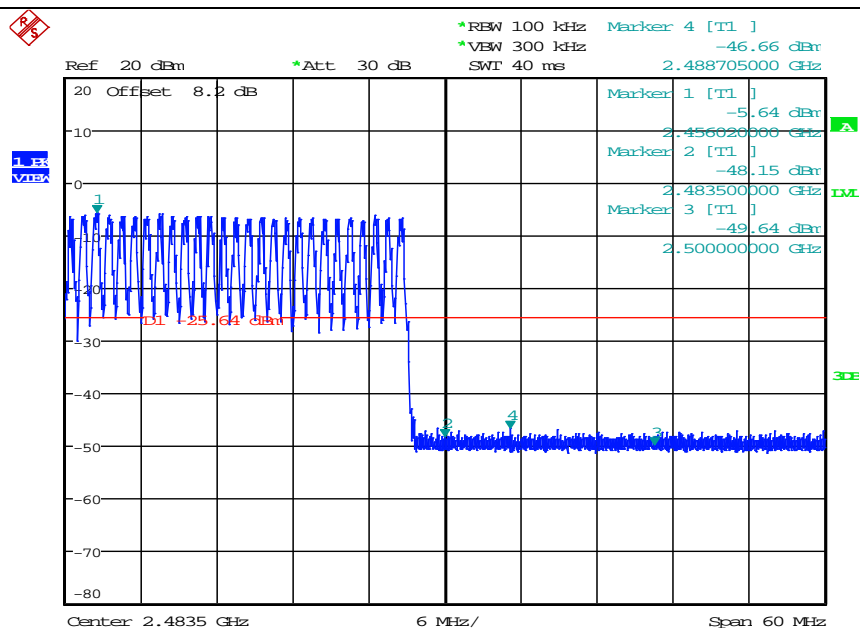
Date: 29.AUG.2019 19:57:53

GFSK/HCH/No Hop



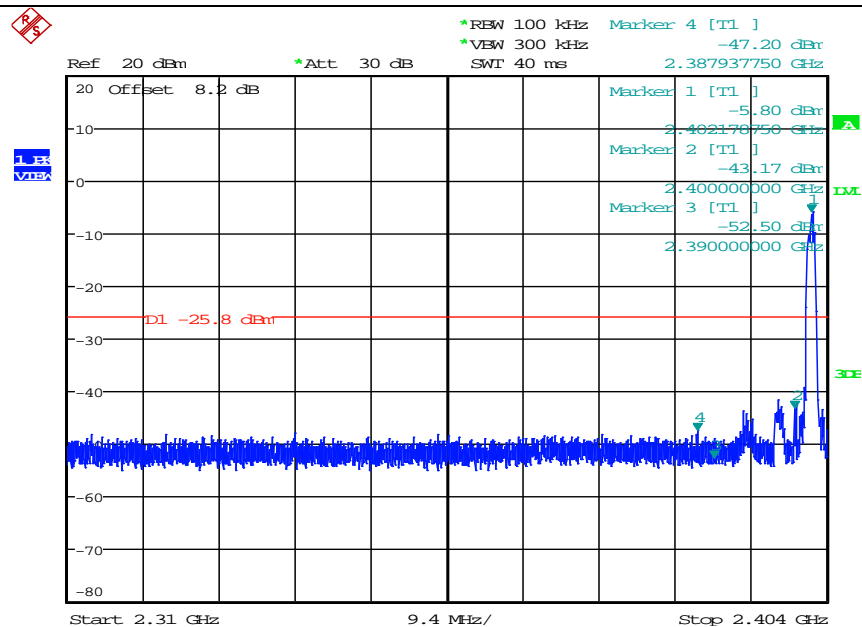
Date: 29.AUG.2019 19:08:04

GFSK/HCH/Hop



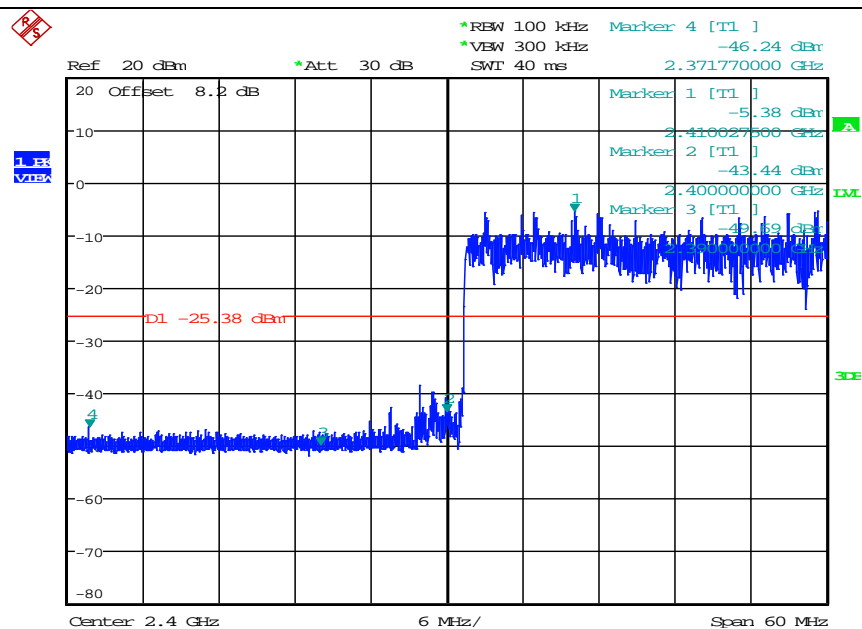
Date: 29.AUG.2019 20:01:20

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



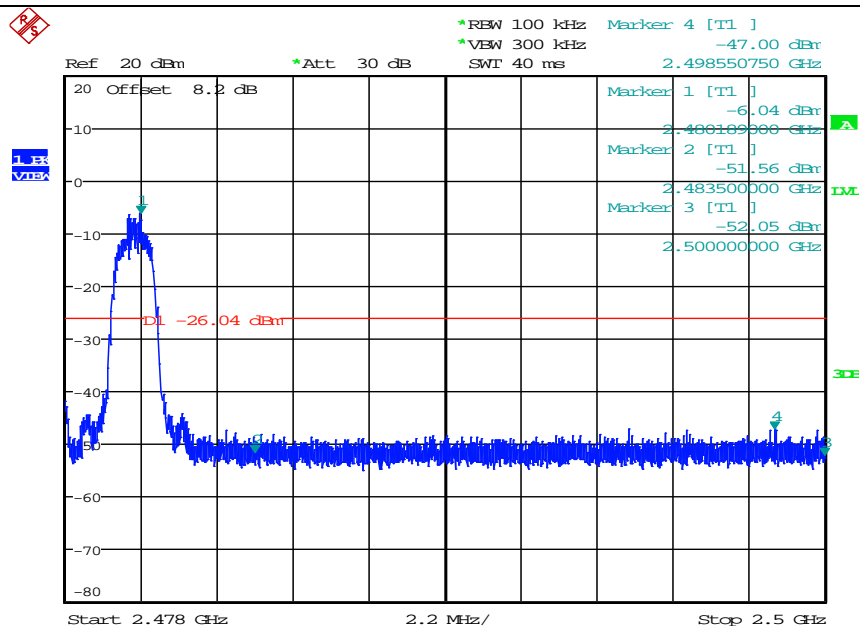
Date: 29.AUG.2019 19:10:59

$\pi/4$ DQPSK/LCH/Hop

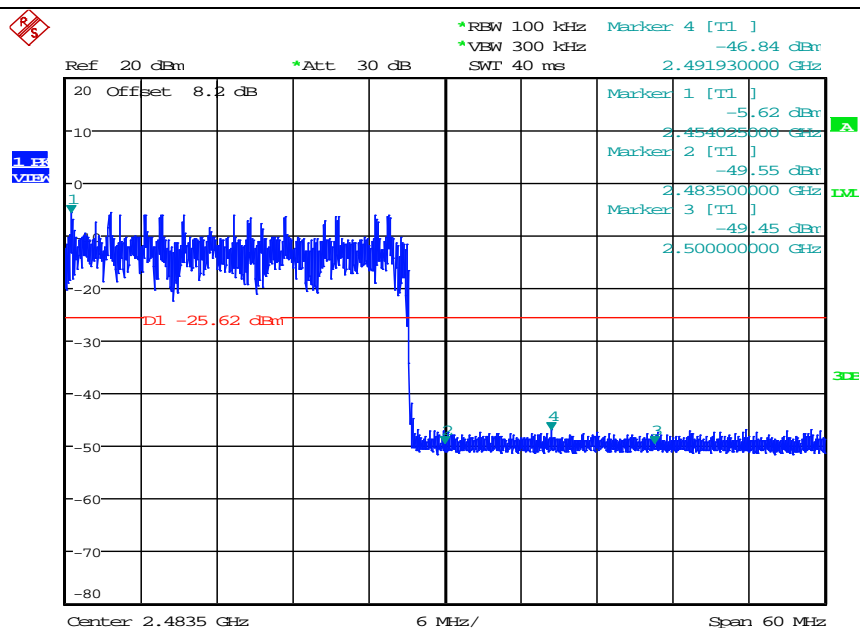


Date: 29.AUG.2019 19:28:34

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



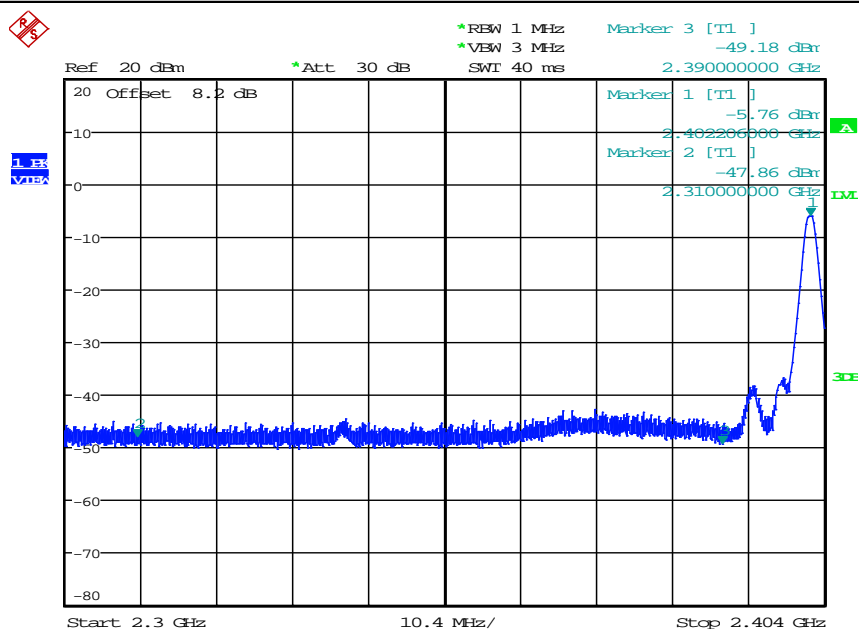
$\pi/4$ DQPSK/HCH/Hop



A.8 Restrict-band band-edge measurements

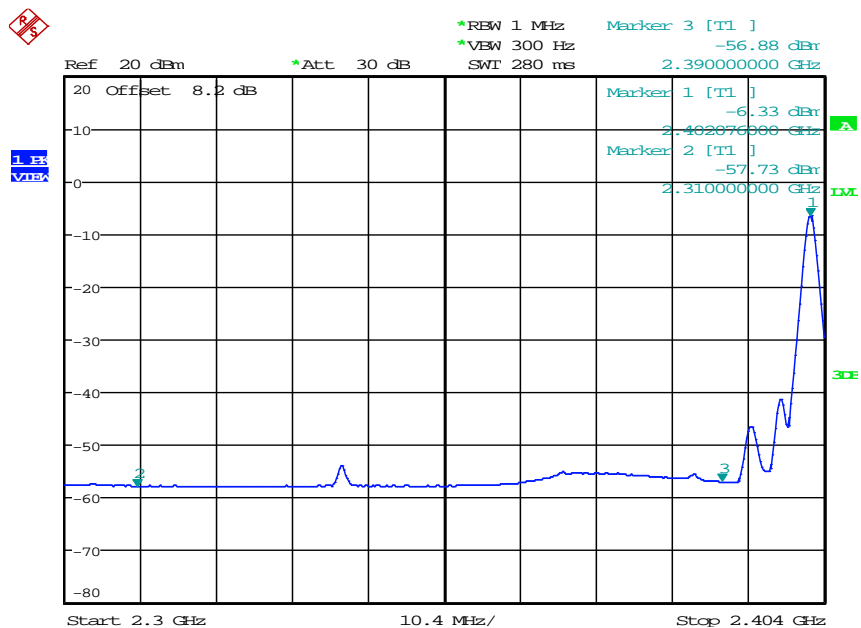
Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-47.86	2.0	0	47.90	PEAK	74	PASS
	Off	2310.0	-57.73	2.0	0	38.03	AV	54	PASS
	Off	2390.0	-49.18	2.0	0	46.58	PEAK	74	PASS
	Off	2390.0	-56.88	2.0	0	38.88	AV	54	PASS
	Off	2483.5	-43.49	2.0	0	52.27	PEAK	74	PASS
	Off	2483.5	-48.88	2.0	0	46.88	AV	54	PASS
	Off	2500.0	-45.80	2.0	0	49.96	PEAK	74	PASS
	Off	2500.0	-56.19	2.0	0	39.57	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-47.84	2.0	0	47.92	PEAK	74	PASS
	Off	2310.0	-57.70	2.0	0	38.06	AV	54	PASS
	Off	2390.0	-46.86	2.0	0	48.90	PEAK	74	PASS
	Off	2390.0	-56.97	2.0	0	38.79	AV	54	PASS
	Off	2483.5	-42.49	2.0	0	53.27	PEAK	74	PASS
	Off	2483.5	-49.63	2.0	0	46.13	AV	54	PASS
	Off	2500.0	-46.33	2.0	0	49.43	PEAK	74	PASS
	Off	2500.0	-56.29	2.0	0	39.47	AV	54	PASS

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



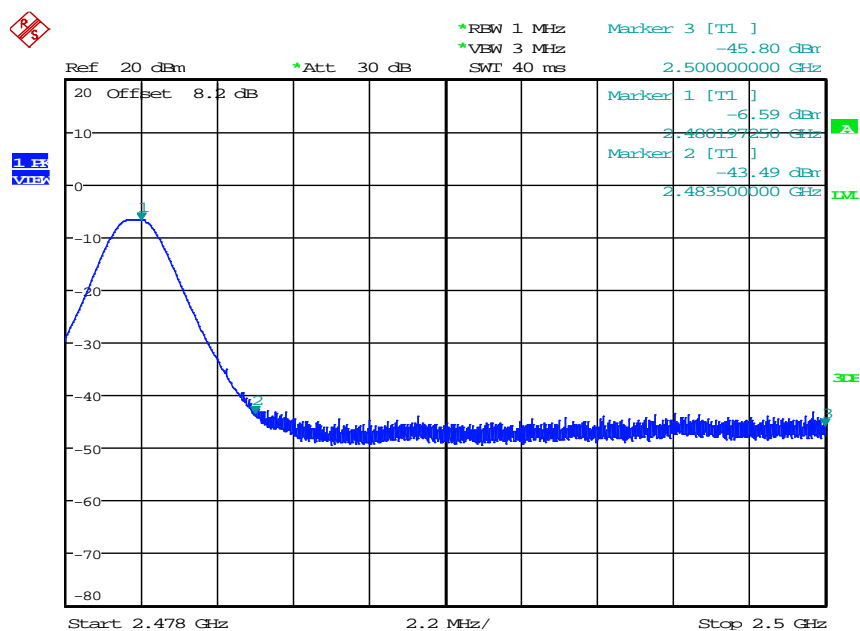
Date: 29.AUG.2019 19:03:38

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



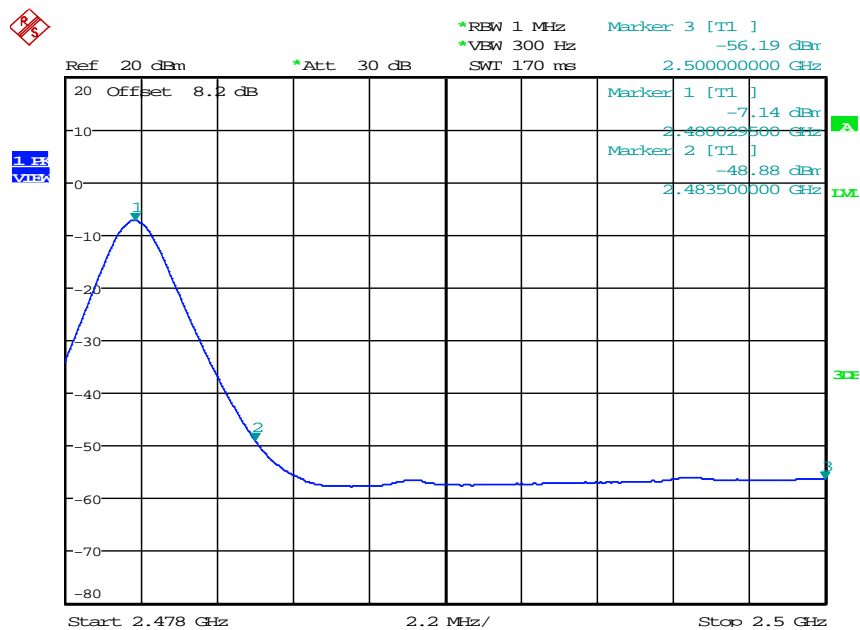
Date: 29.AUG.2019 19:03:51

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

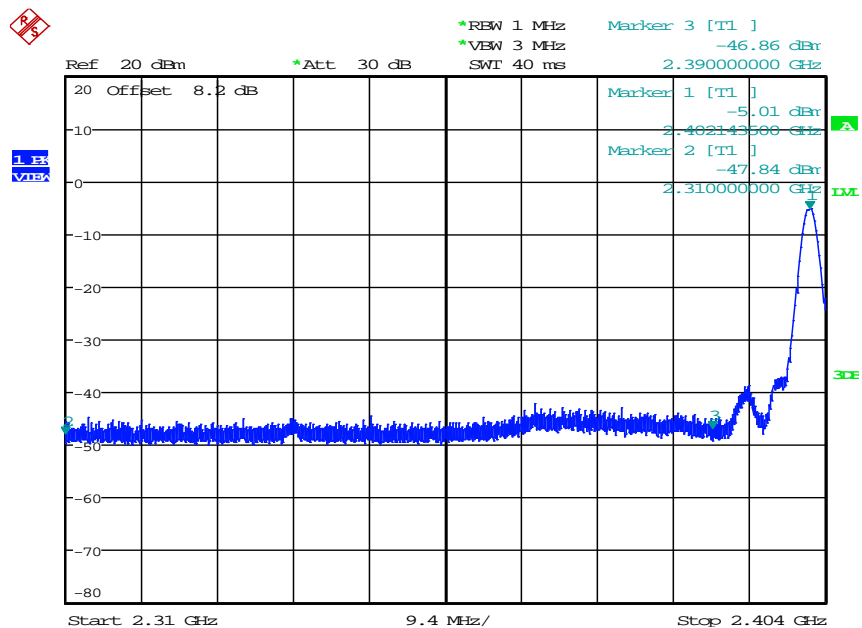


Date: 29.AUG.2019 19:08:50

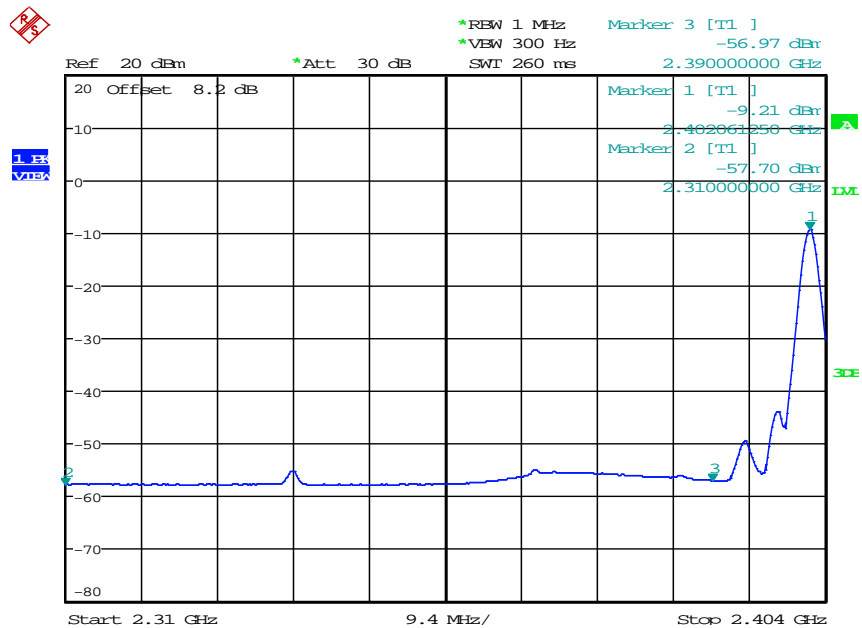
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



Date: 29.AUG.2019 19:09:04

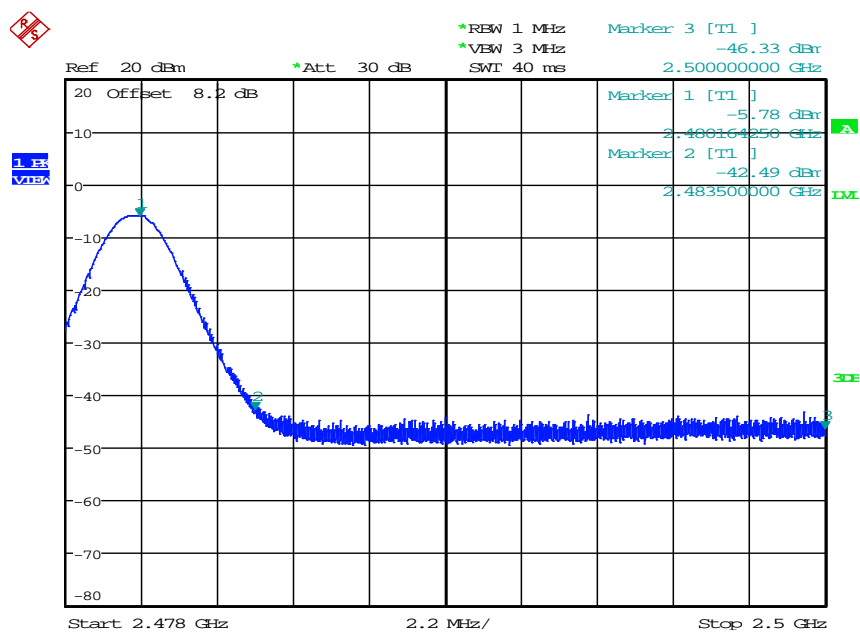
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)

Date: 29.AUG.2019 19:11:45

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

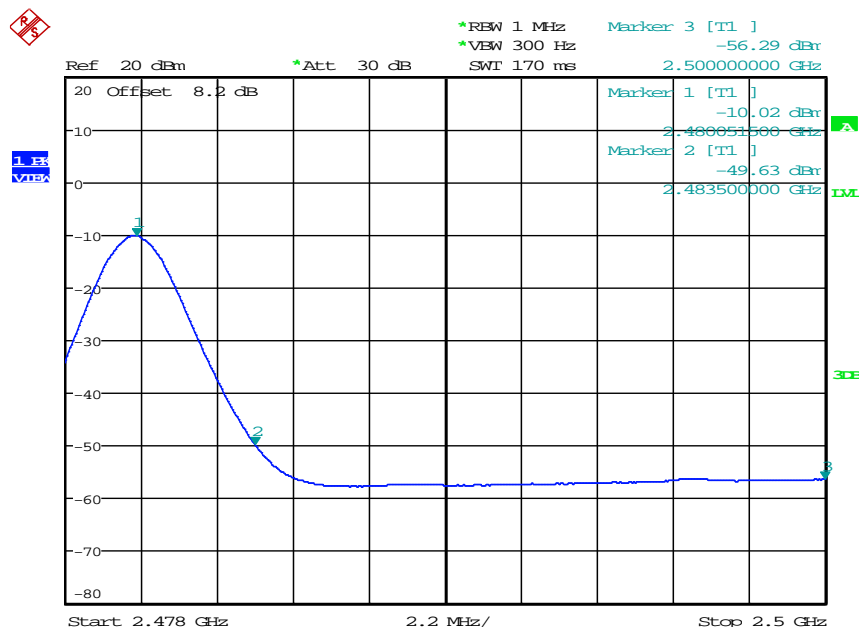
Date: 29.AUG.2019 19:11:58

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



Date: 29.AUG.2019 19:16:21

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



Date: 29.AUG.2019 19:16:35

