

## Appendix A

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

Product Name: IPTV Set-Top Box

Trade Mark: N/A

Test Model: SML-5051W

#### Environmental Conditions

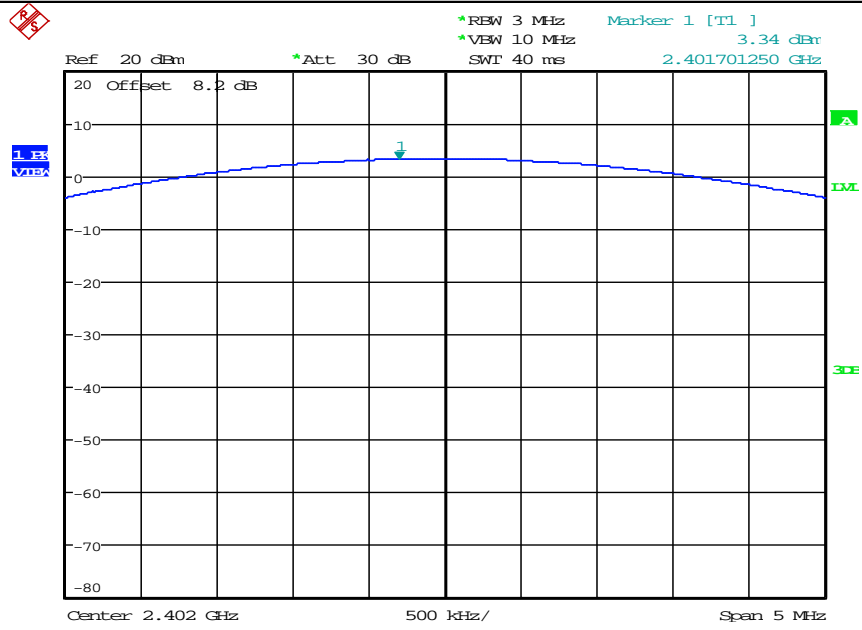
Temperature:	23.4 °C
Relative Humidity:	53.5%
ATM Pressure:	100.0 kPa
Test Engineer:	David Luo
Supervised by:	Wang.Chuang

#### A.1 Maxmum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.340	30	PASS
	MCH	4.310	30	PASS
	HCH	2.850	30	PASS
$\pi/4$ DQPSK	LCH	2.700	21	PASS
	MCH	3.580	21	PASS
	HCH	2.180	21	PASS
8DPSK	LCH	2.790	21	PASS
	MCH	3.730	21	PASS
	HCH	2.240	21	PASS

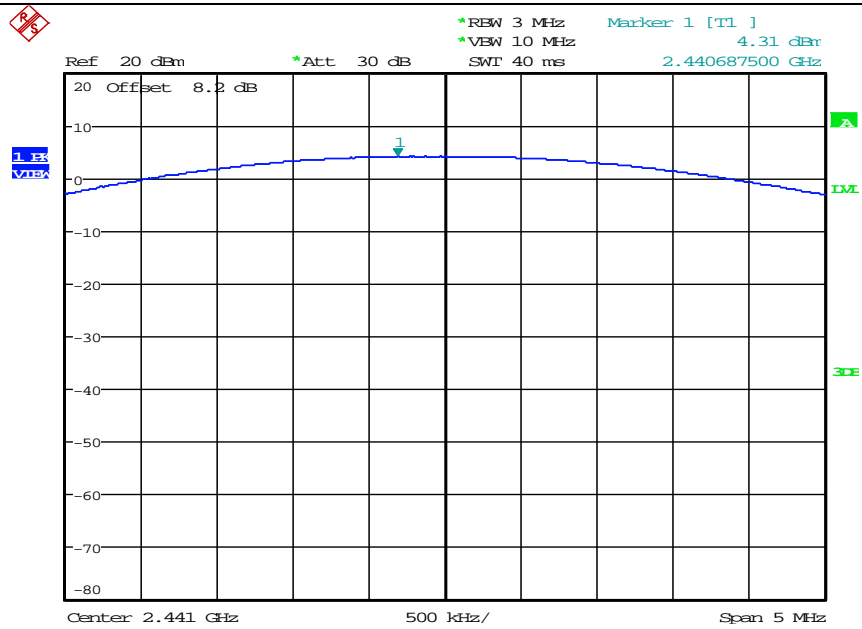
Test Graphs

GFSK/LCH



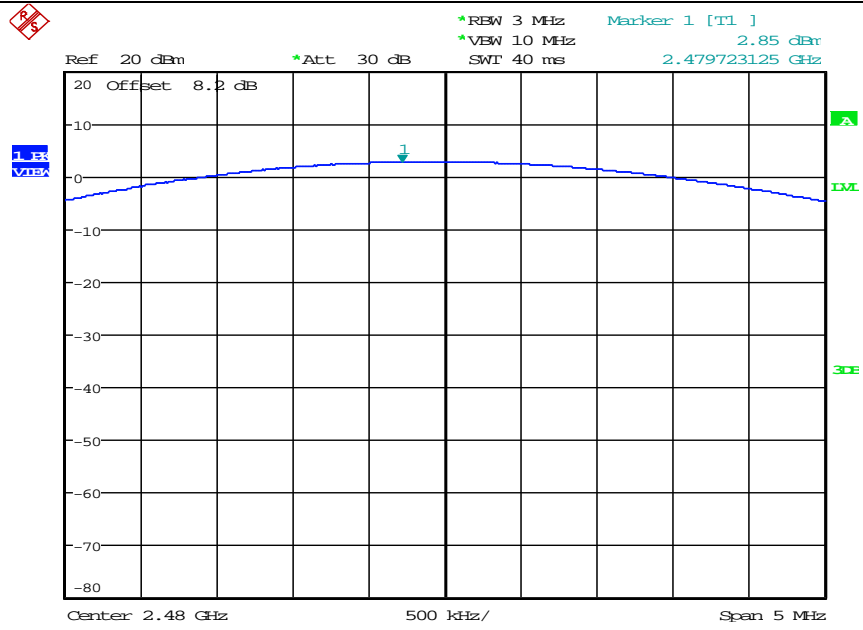
Date: 23.AUG.2019 17:11:42

GFSK/MCH



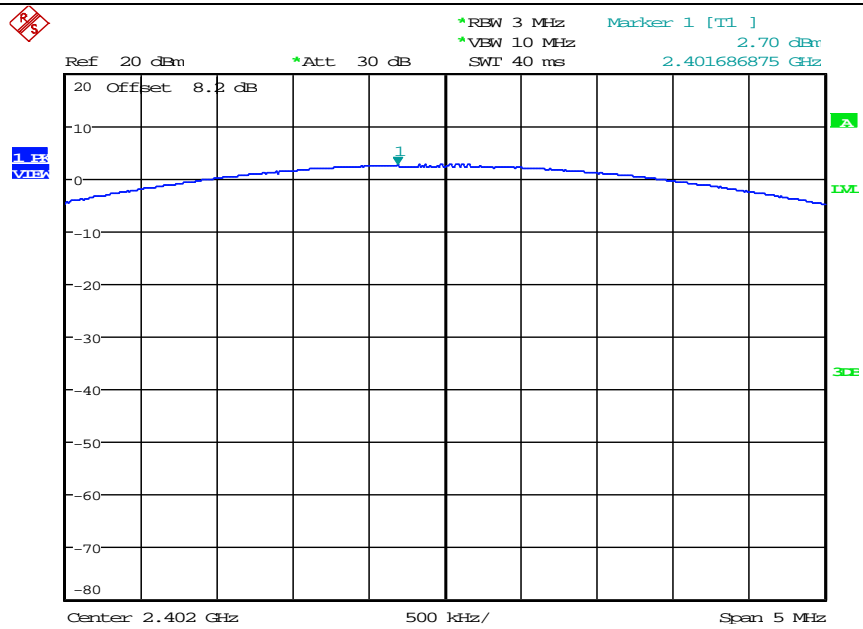
Date: 23.AUG.2019 17:14:14

GFSK/HCH



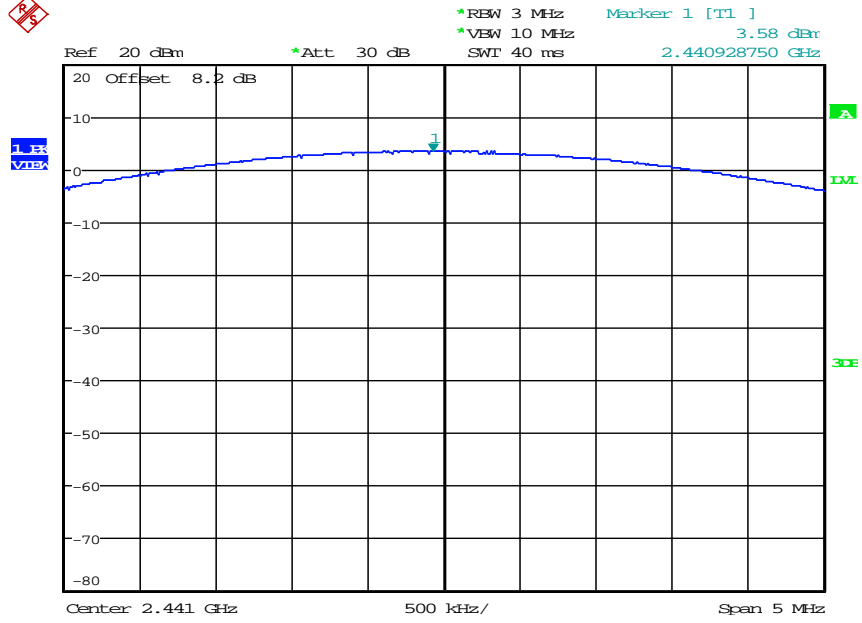
Date: 23.AUG.2019 17:16:55

$\pi/4$ DQPSK/LCH



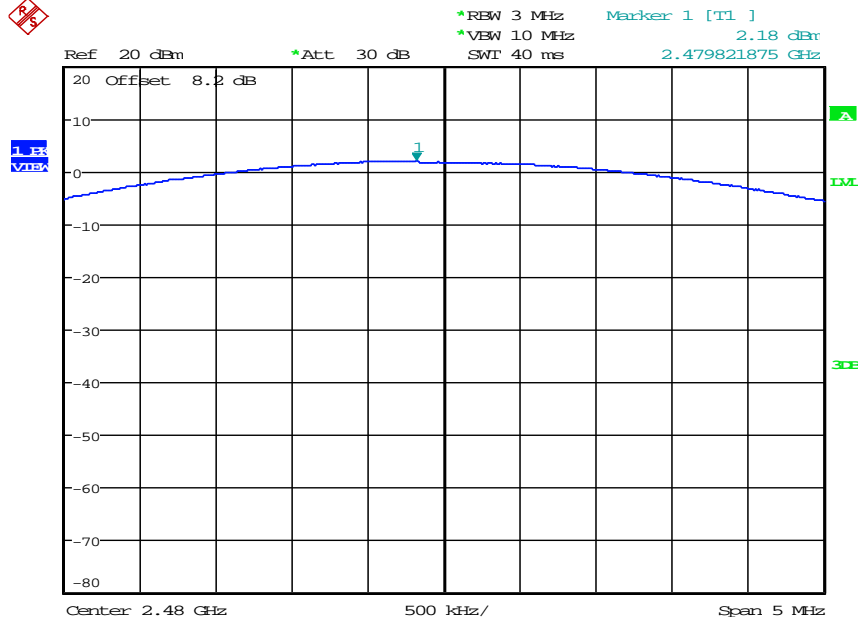
Date: 23.AUG.2019 17:22:03

$\pi/4$ DQPSK/MCH



Date: 23.AUG.2019 17:27:26

$\pi/4$ DQPSK/HCH

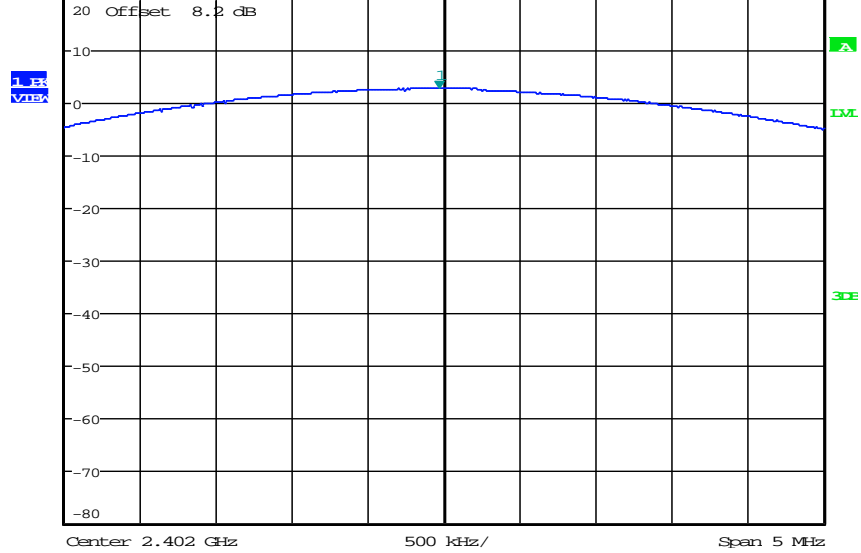


Date: 23.AUG.2019 17:29:05

8DPSK/LCH



Ref 20 dBm \*Att 30 dB \*RBW 3 MHz Marker 1 [T1 ]  
\*VEW 10 MHz 2.79 dBm  
SWT 40 ms 2.401968750 GHz

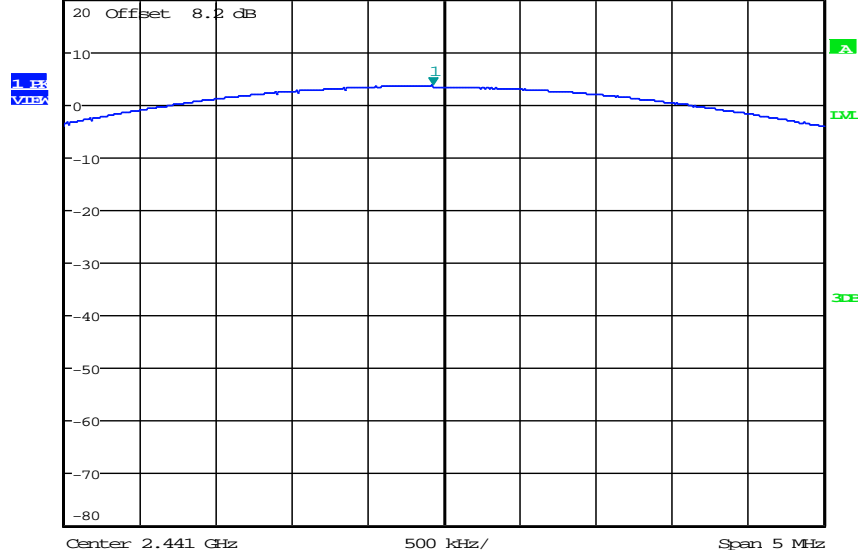


Date: 23.AUG.2019 17:31:36

8DPSK/MCH



Ref 20 dBm \*Att 30 dB \*RBW 3 MHz Marker 1 [T1 ]  
\*VEW 10 MHz 3.73 dBm  
SWT 40 ms 2.440925000 GHz

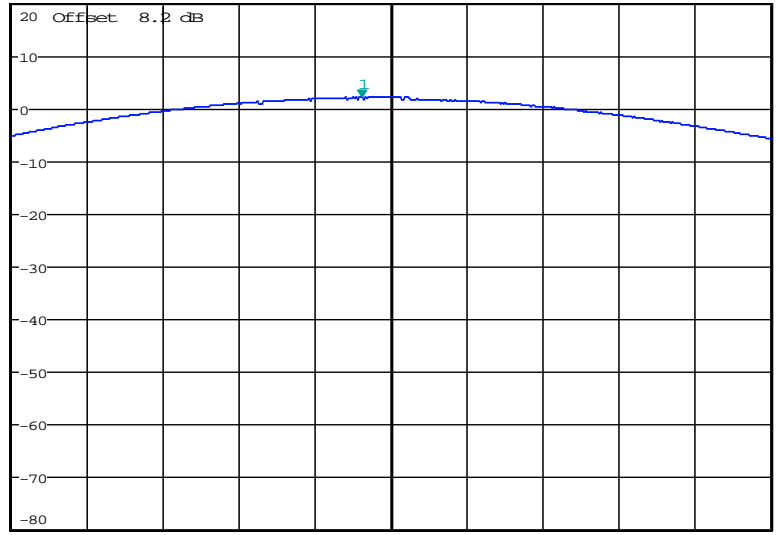


Date: 23.AUG.2019 17:33:59

8DPSK/HCH



Ref 20 dBm \*Att 30 dB \*RBW 3 MHz Marker 1 [T1 ]  
\*VIEW 10 MHz 2.24 dBm  
SWT 40 ms 2.479812500 GHz

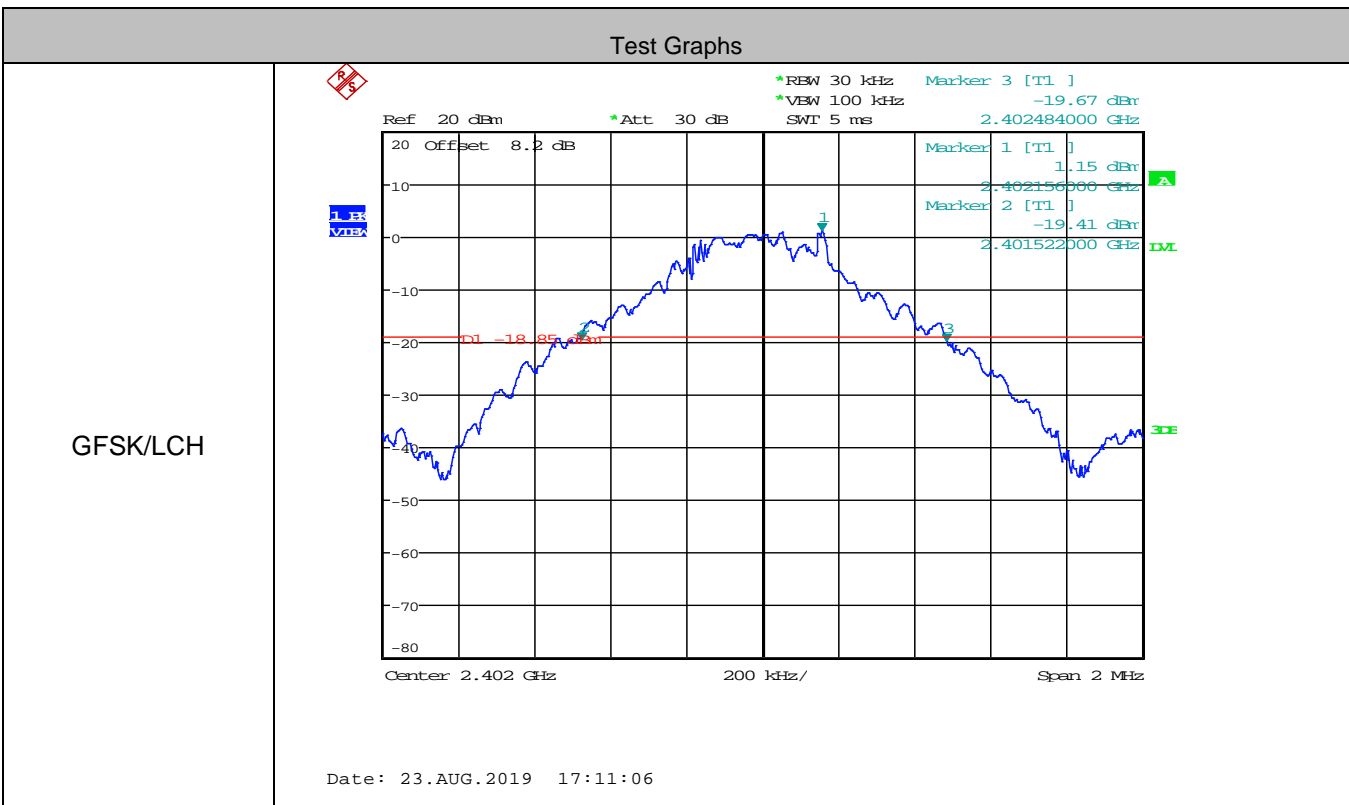


Center 2.48 GHz 500 kHz/ Span 5 MHz

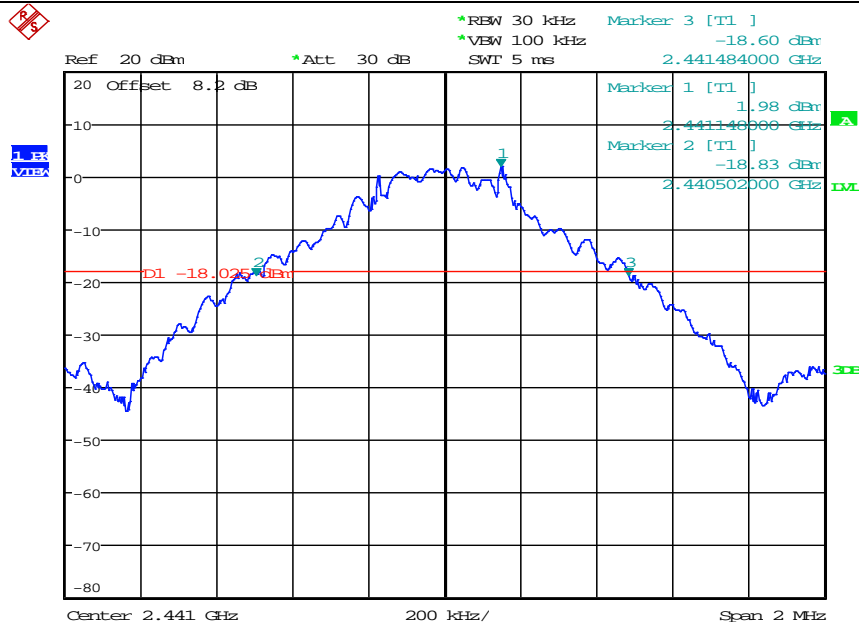
Date: 23.AUG.2019 17:35:40

**A.2 20dB Bandwidth**

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.962	Not Specified	PASS
	MCH	0.982	Not Specified	PASS
	HCH	0.964	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.300	Not Specified	PASS
	MCH	1.302	Not Specified	PASS
	HCH	1.306	Not Specified	PASS
8DPSK	LCH	1.306	Not Specified	PASS
	MCH	1.300	Not Specified	PASS
	HCH	1.296	Not Specified	PASS

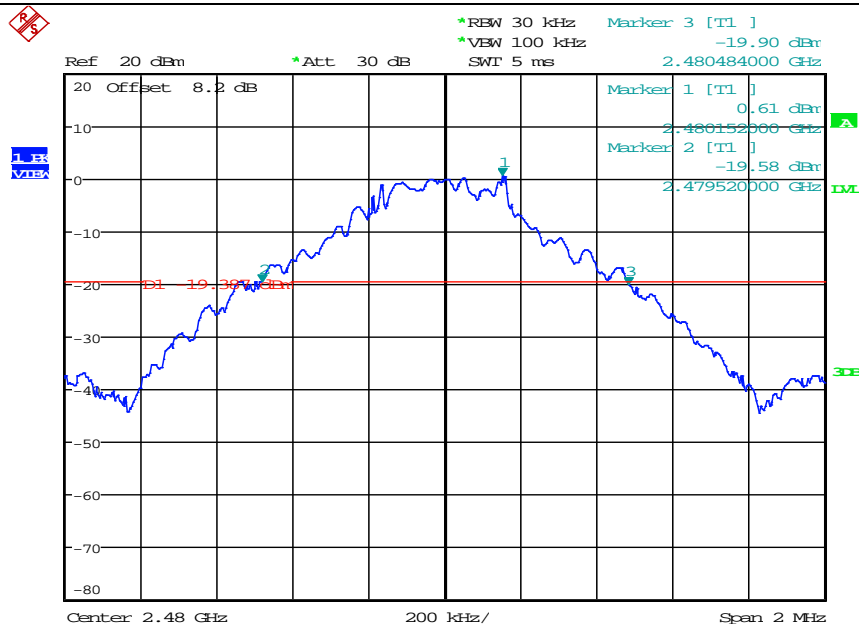


GFSK/MCH



Date: 23.AUG.2019 17:13:38

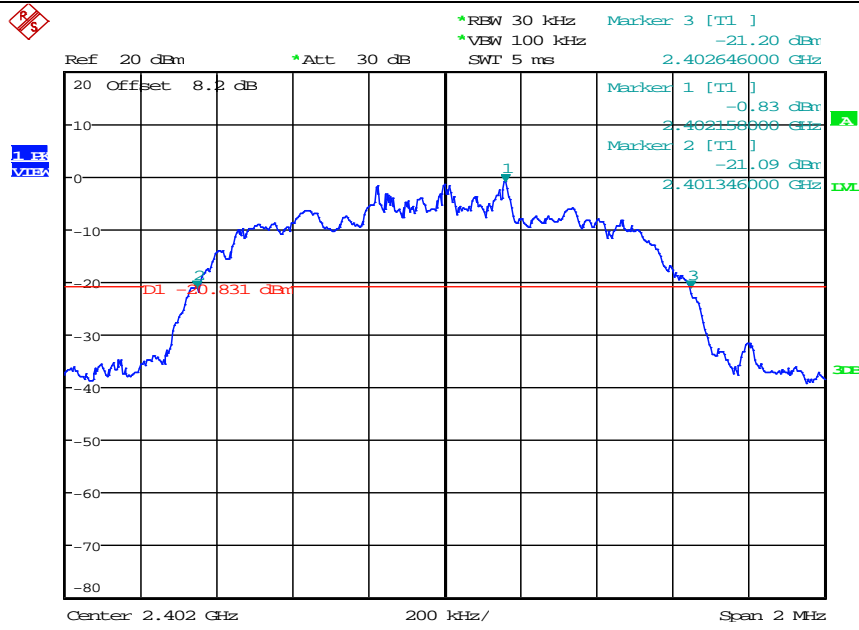
GFSK/HCH



Date: 23.AUG.2019 17:16:19

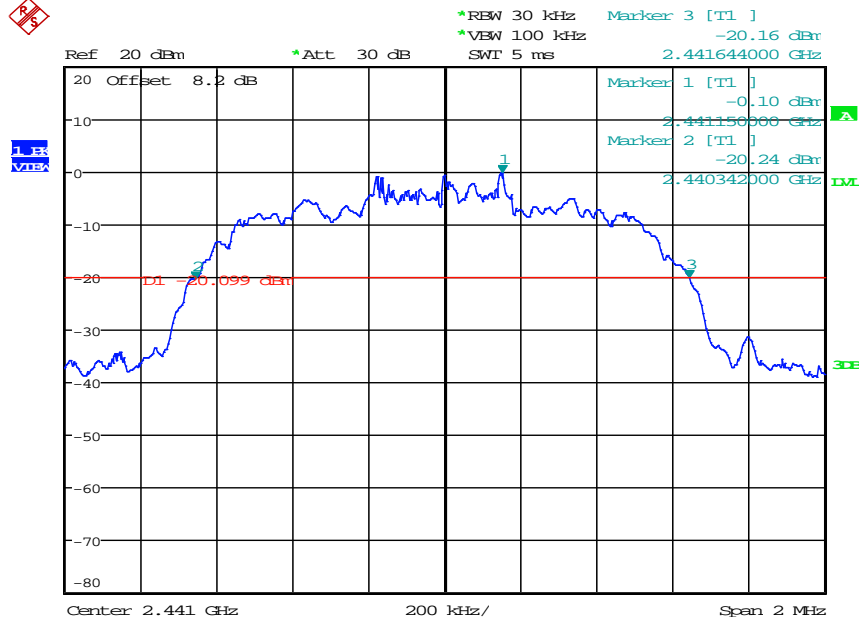


$\pi/4$ DQPSK/LCH



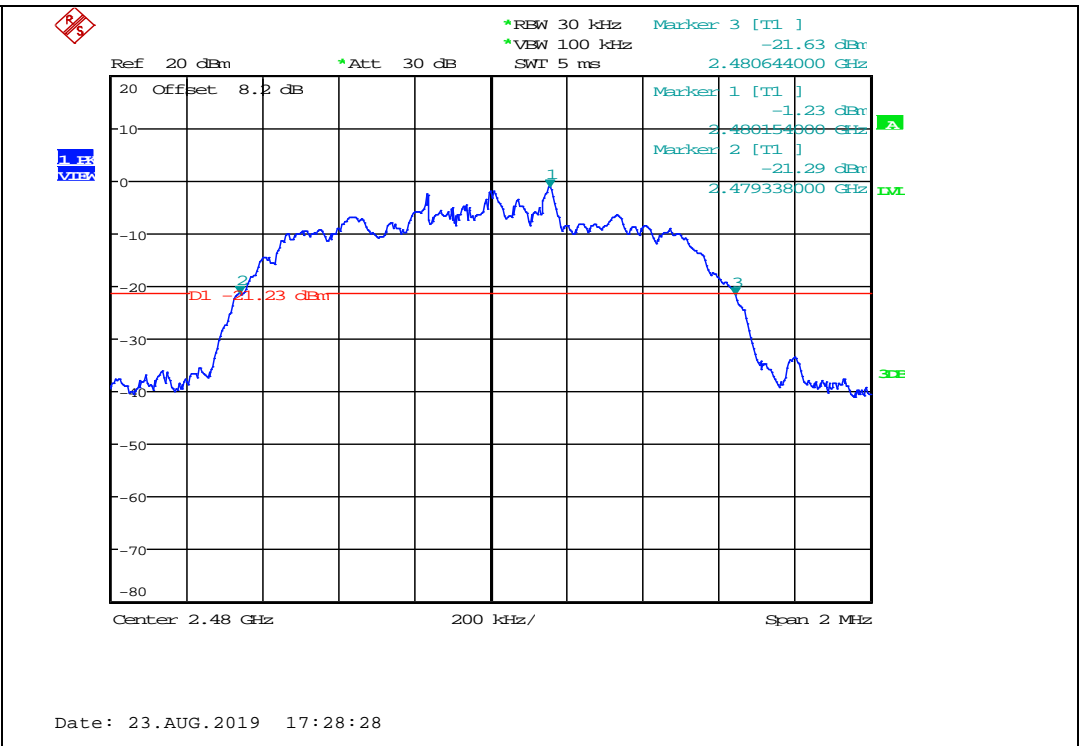
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$\pi/4$ DQPSK/MCH

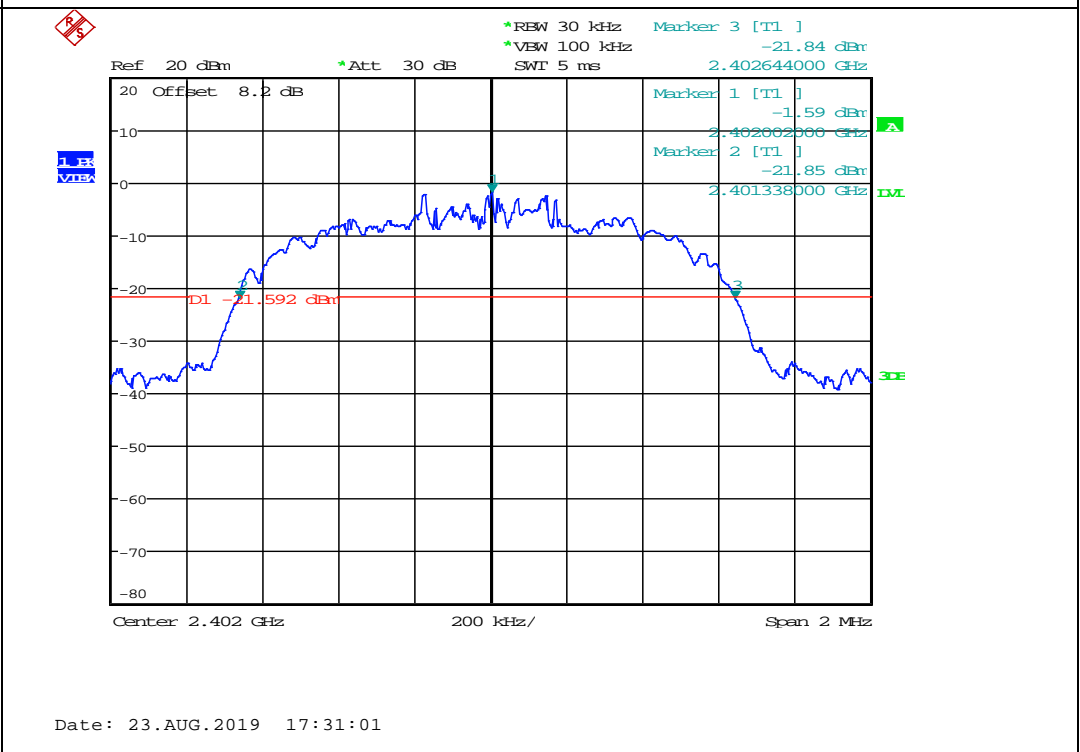


Date: 23.AUG.2019 17:26:50

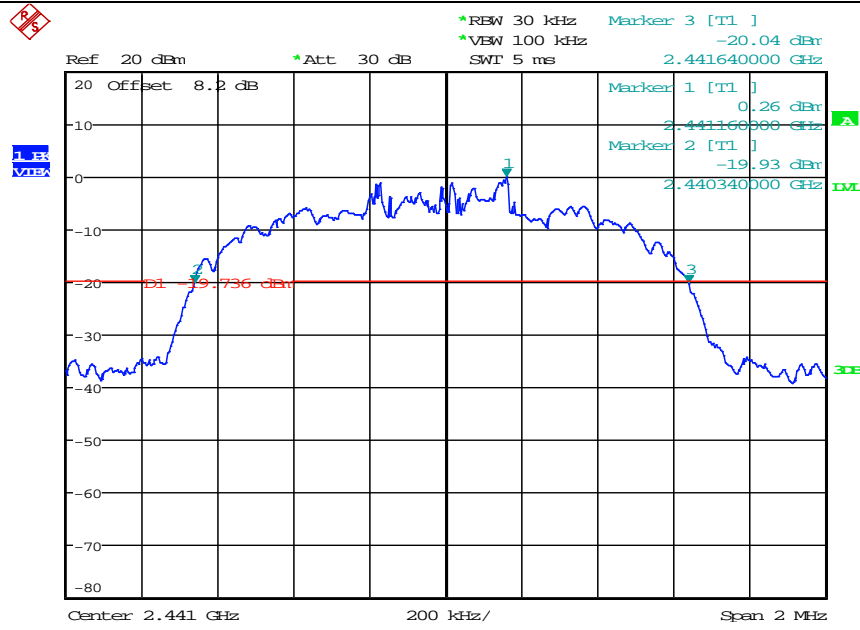
$\pi/4$ DQPSK/HCH



8DPSK/LCH

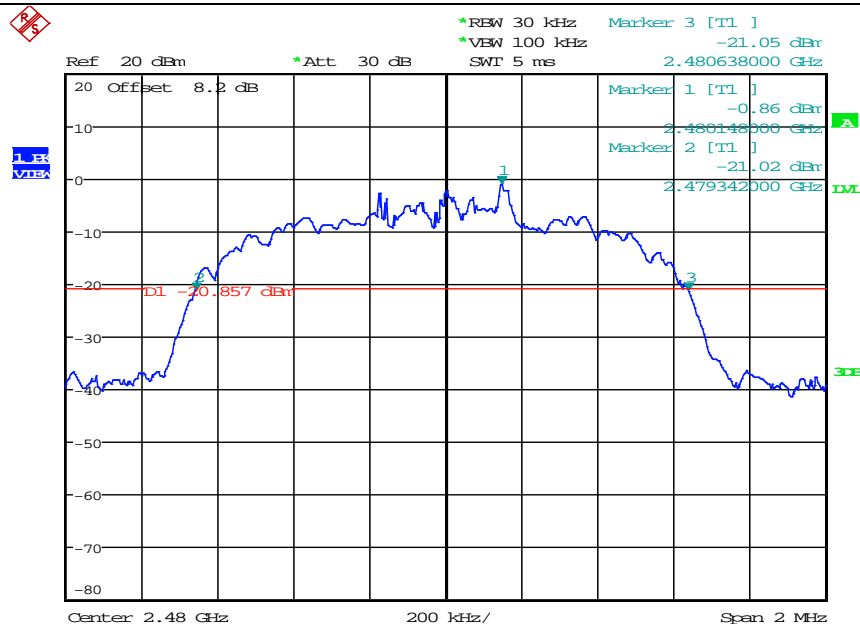


8DPSK/MCH



Date: 23.AUG.2019 17:33:23

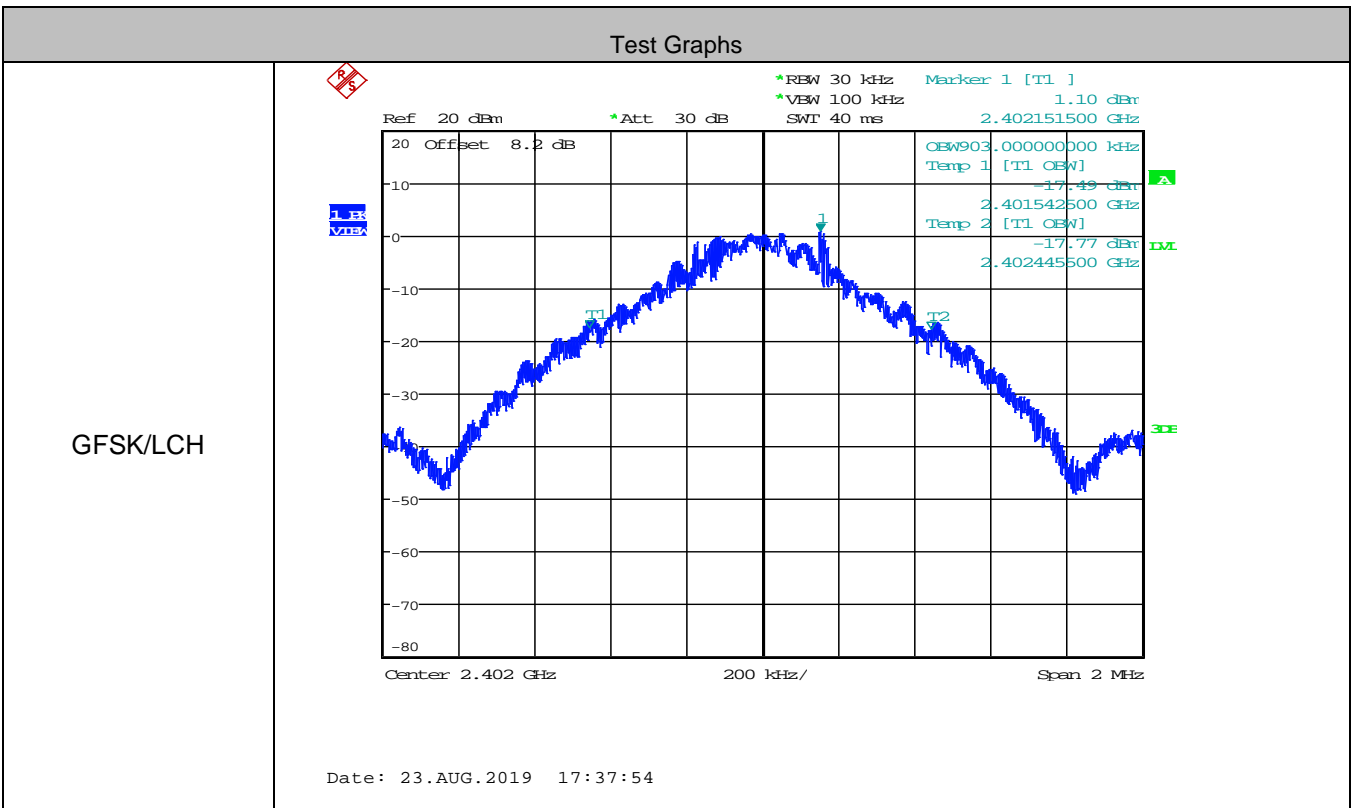
8DPSK/HCH



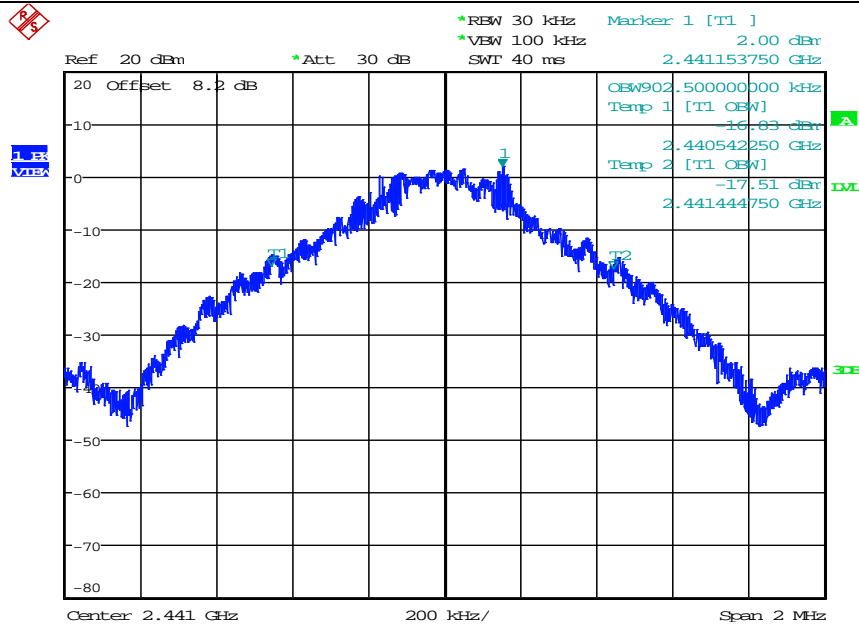
Date: 23.AUG.2019 17:35:05

### A.3 Occupied Bandwidth

Mode	Channel.	Occupied Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.903	Not Specified	PASS
	MCH	0.903	Not Specified	PASS
	HCH	0.904	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.202	Not Specified	PASS
	MCH	1.198	Not Specified	PASS
	HCH	1.197	Not Specified	PASS
8DPSK	LCH	1.206	Not Specified	PASS
	MCH	1.203	Not Specified	PASS
	HCH	1.206	Not Specified	PASS

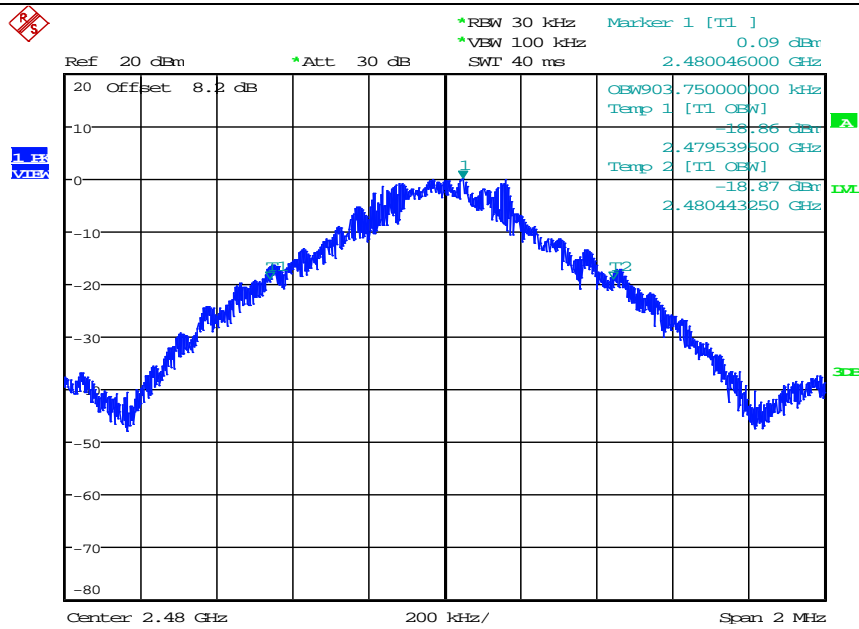


GFSK/MCH



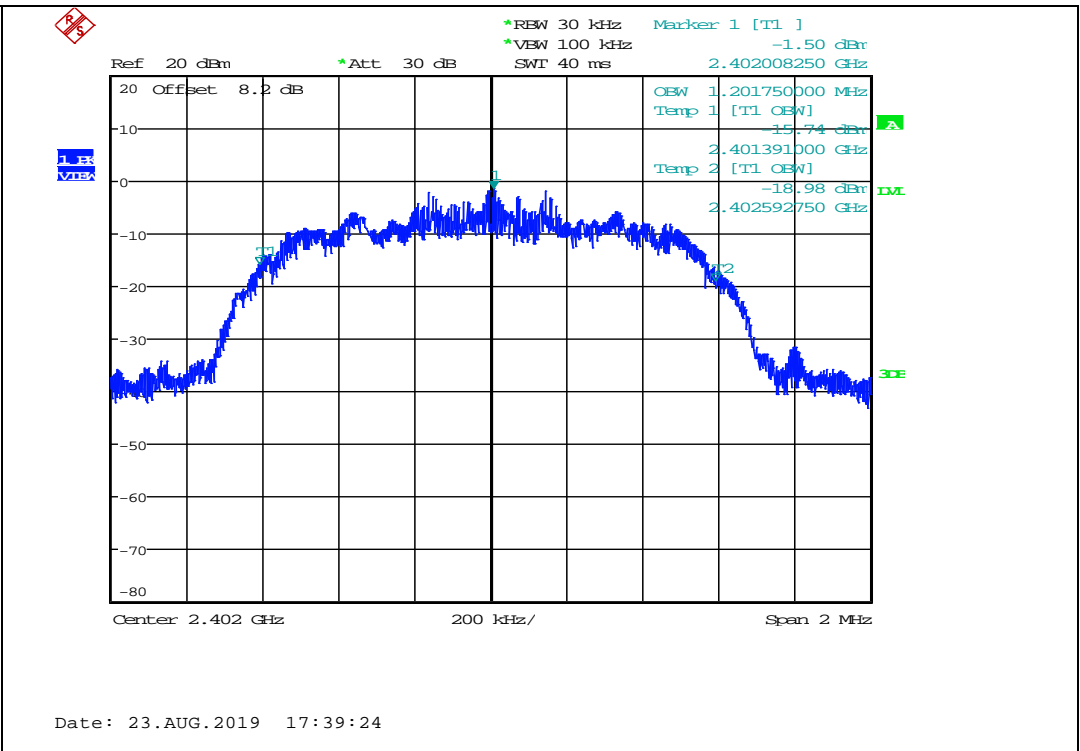
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GFSK/HCH

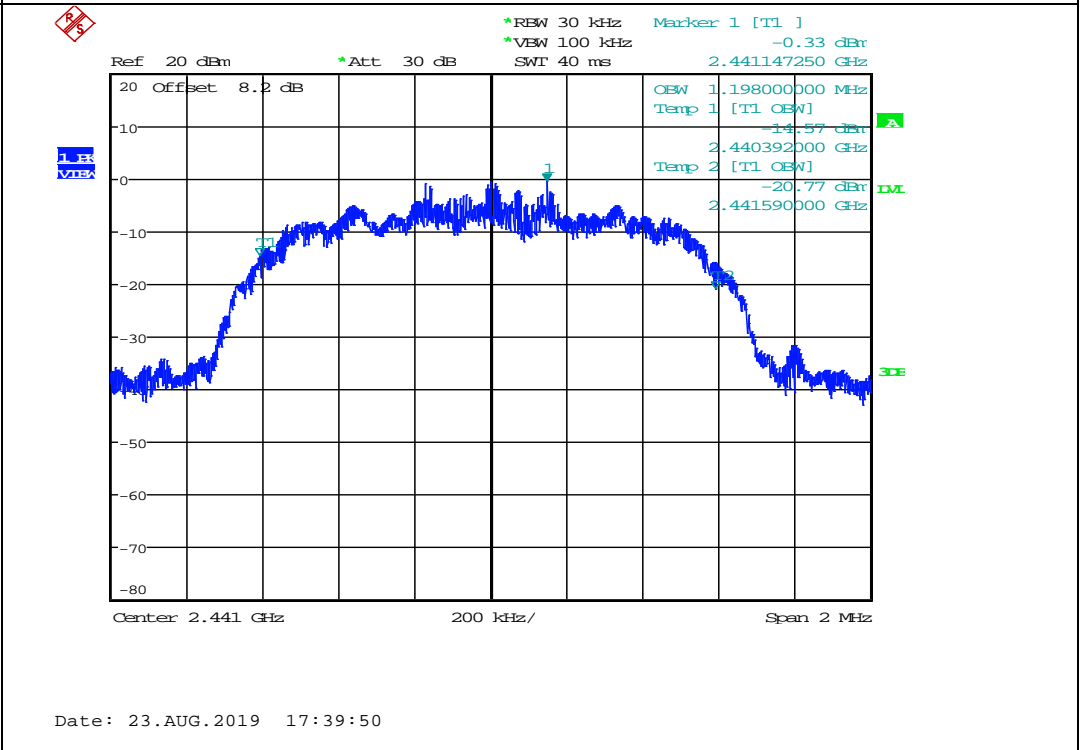


Date: 23.AUG.2019 17:38:46

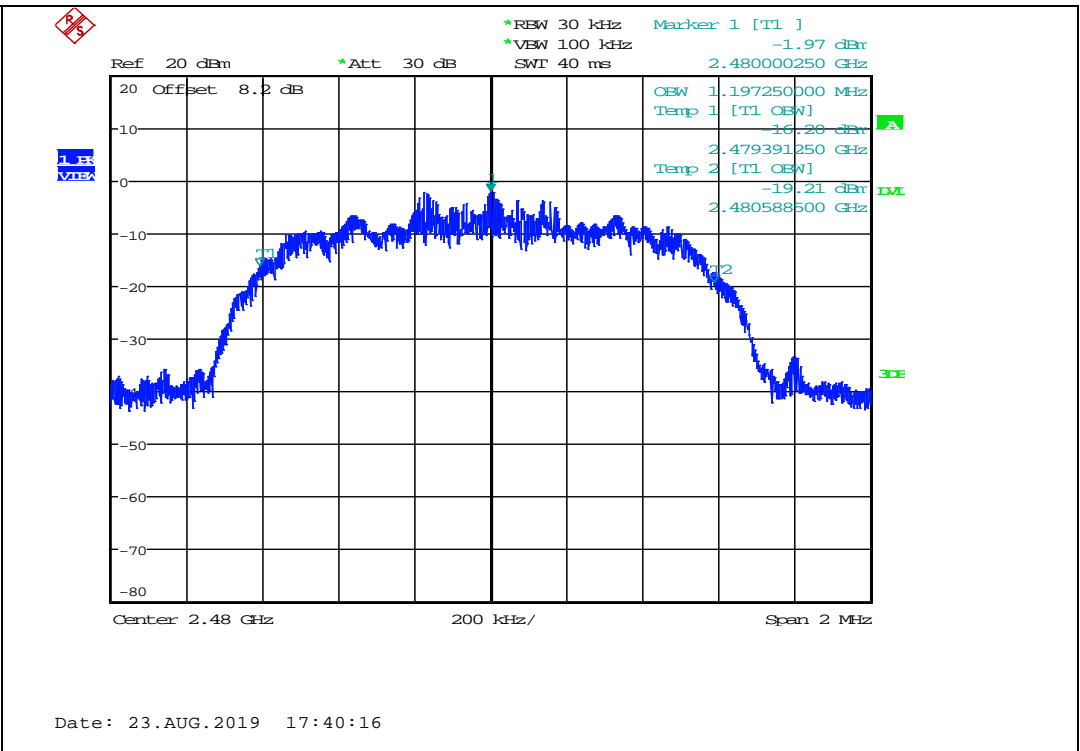
$\pi/4$ DQPSK/LCH



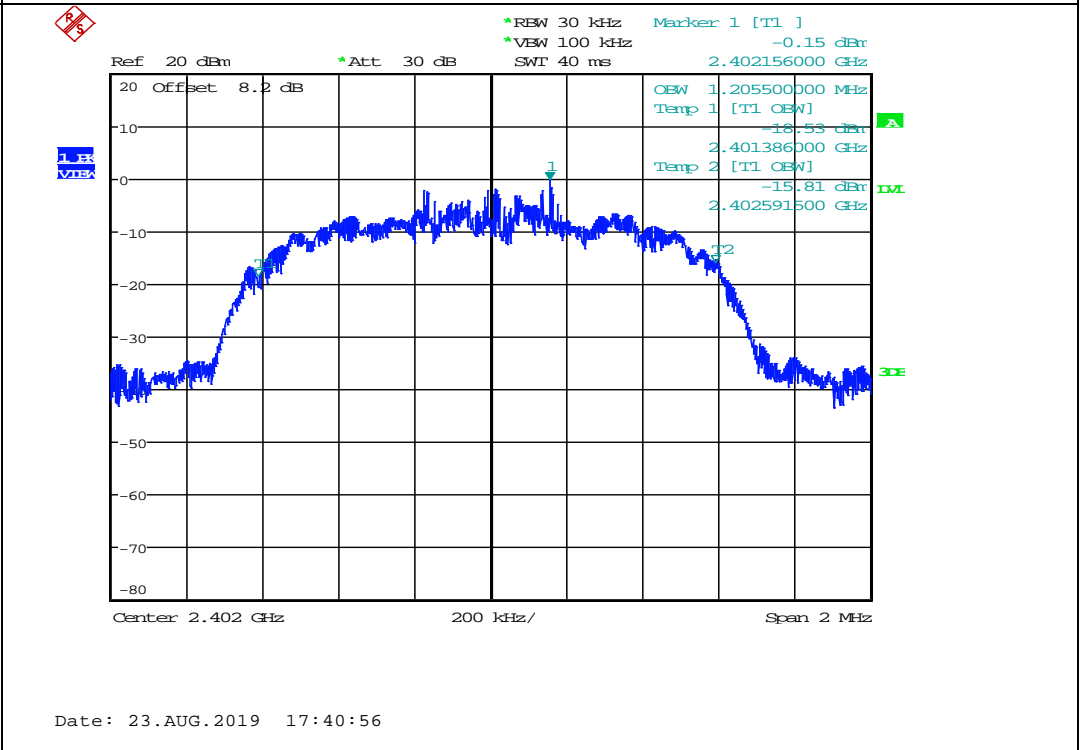
$\pi/4$ DQPSK/MCH

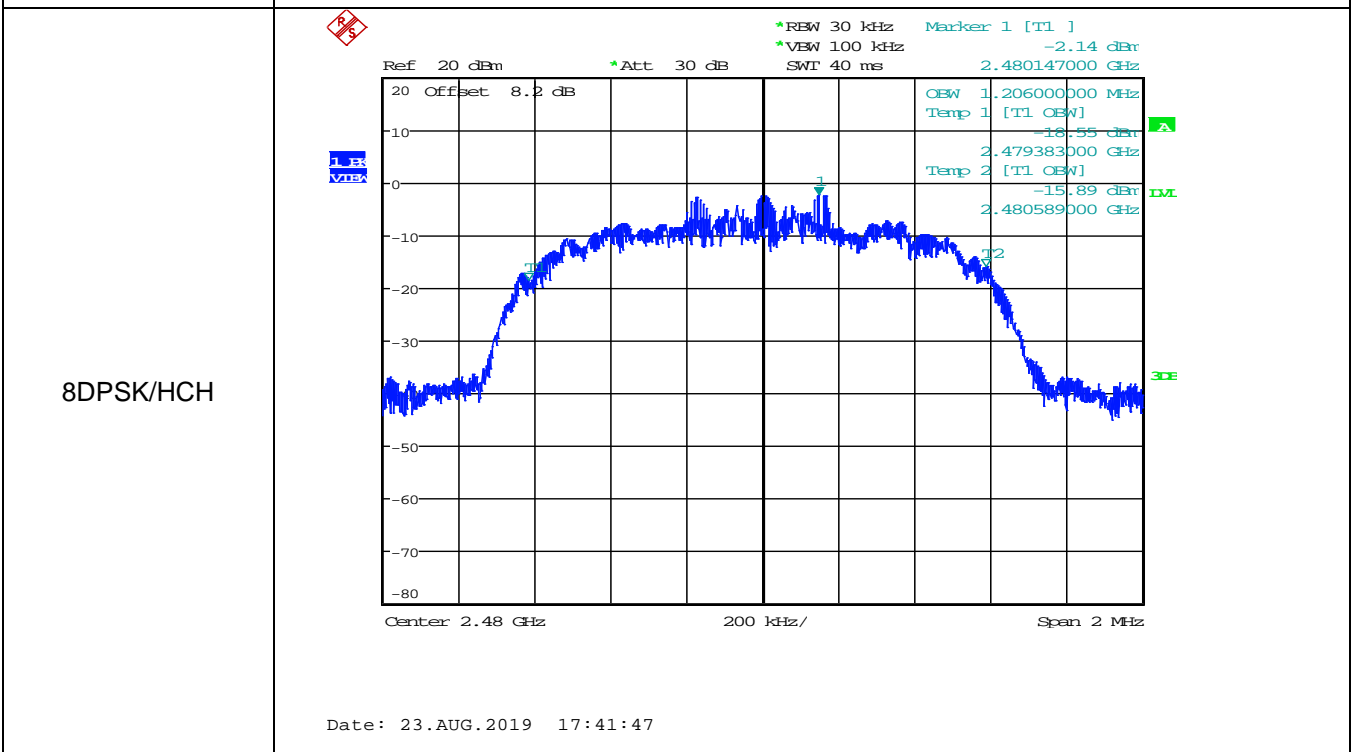
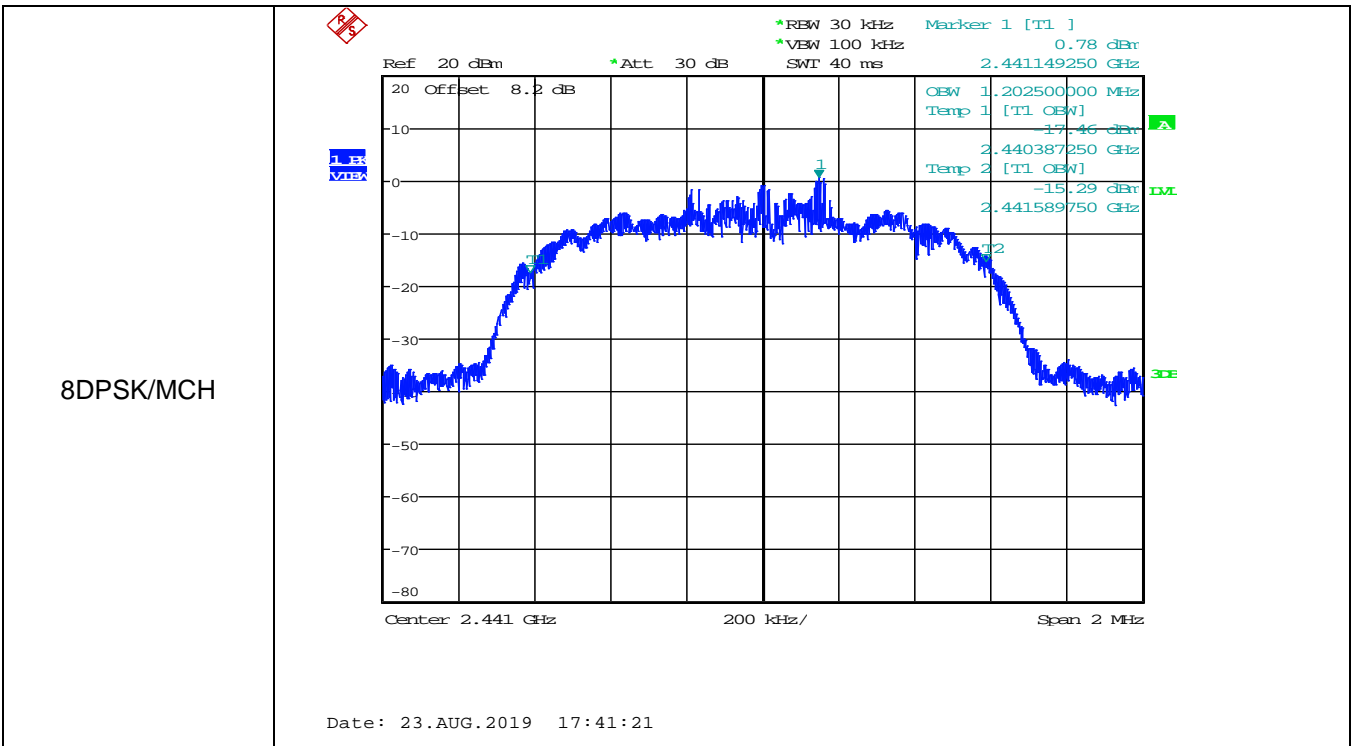


$\pi/4$ DQPSK/HCH



8DPSK/LCH





### A.4 Carrier Frequency Separation

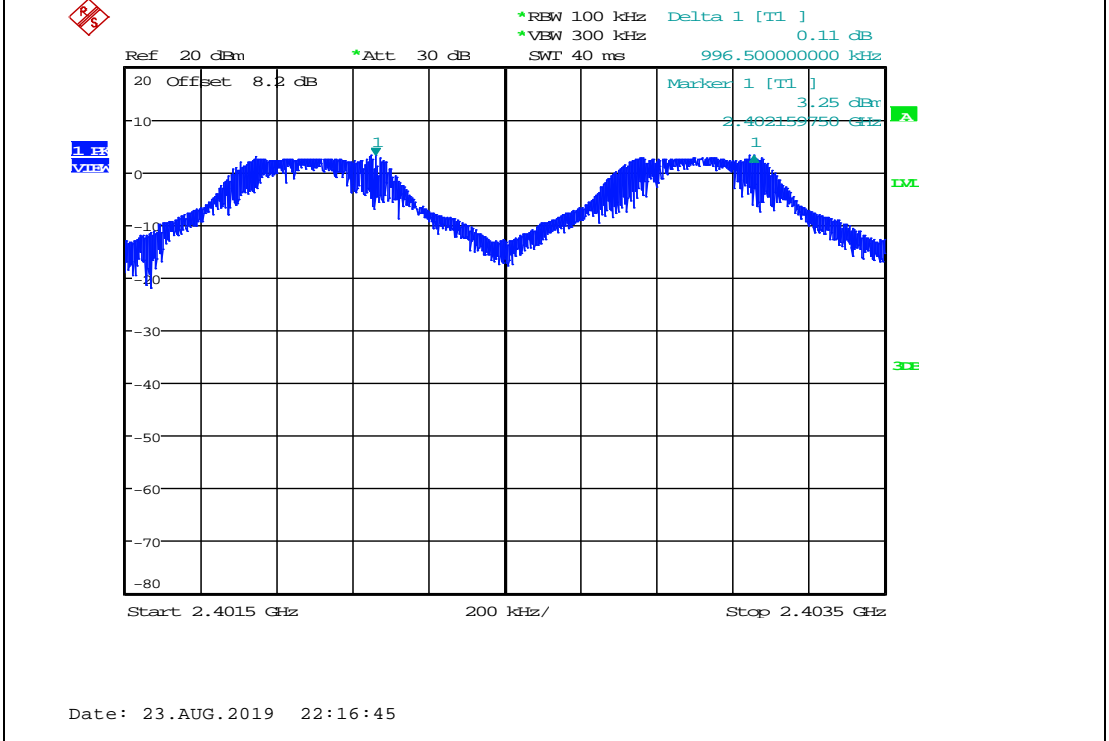
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.997	0.655	PASS
	MCH	1.006	0.655	PASS
	HCH	1.012	0.655	PASS
$\pi/4$ DQPSK	LCH	1.162	0.871	PASS



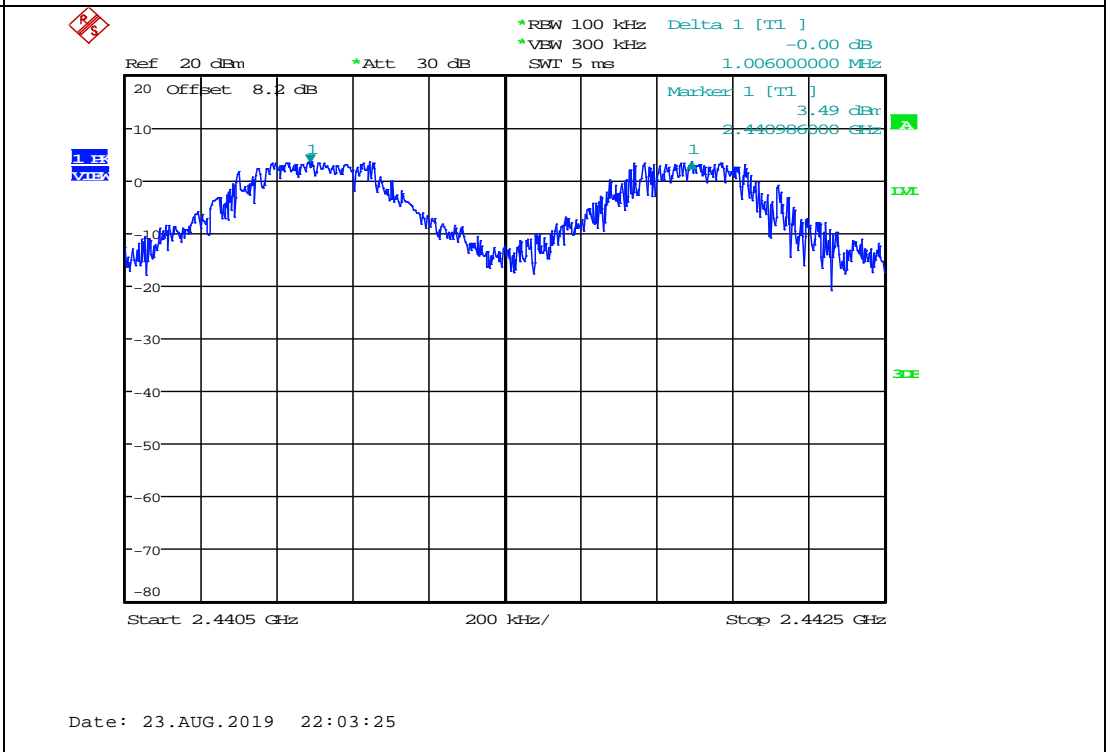
	MCH	1.080	0.871	PASS
	HCH	0.996	0.871	PASS
8DPSK	LCH	0.980	0.871	PASS
	MCH	0.984	0.871	PASS
	HCH	0.982	0.871	PASS

**Test Graphs**

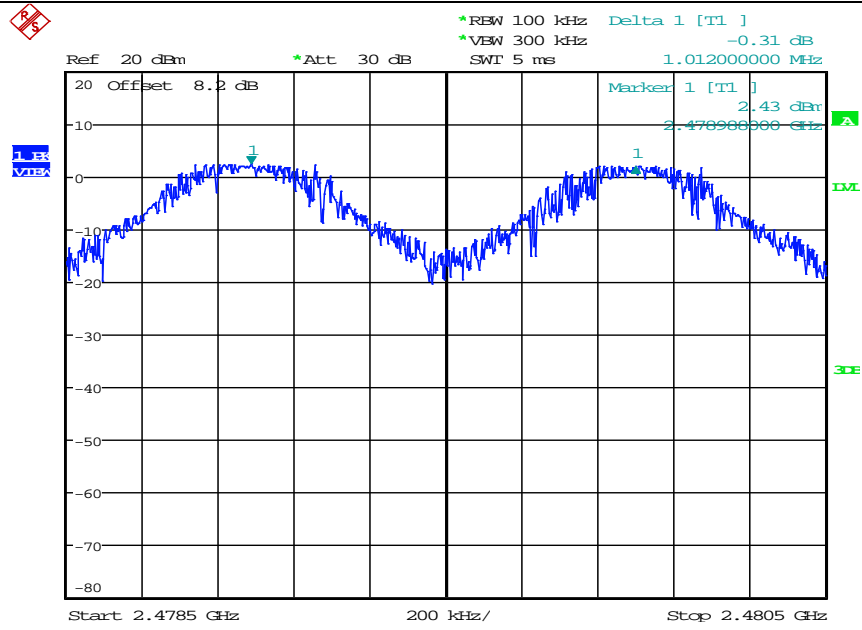
GFSK/LCH



GFSK/MCH

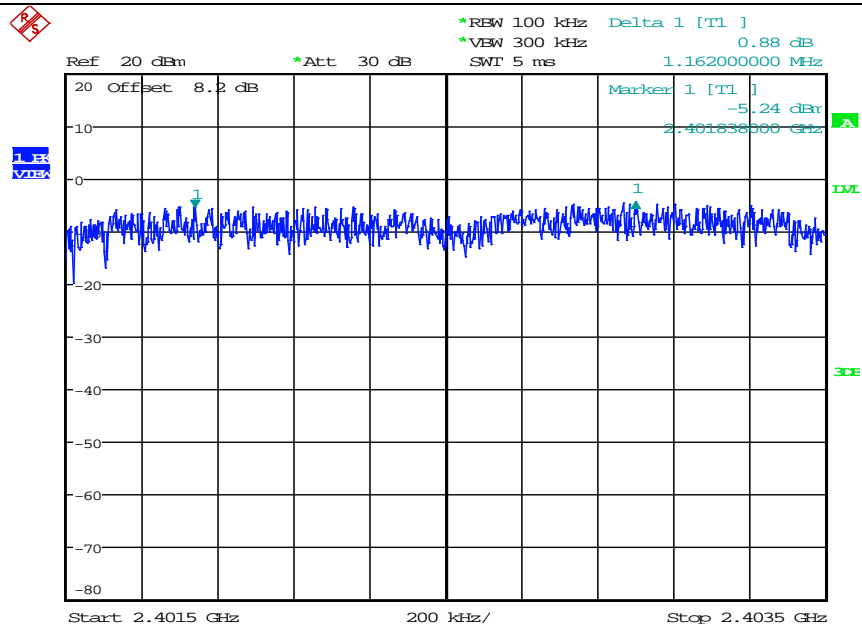


GFSK/HCH



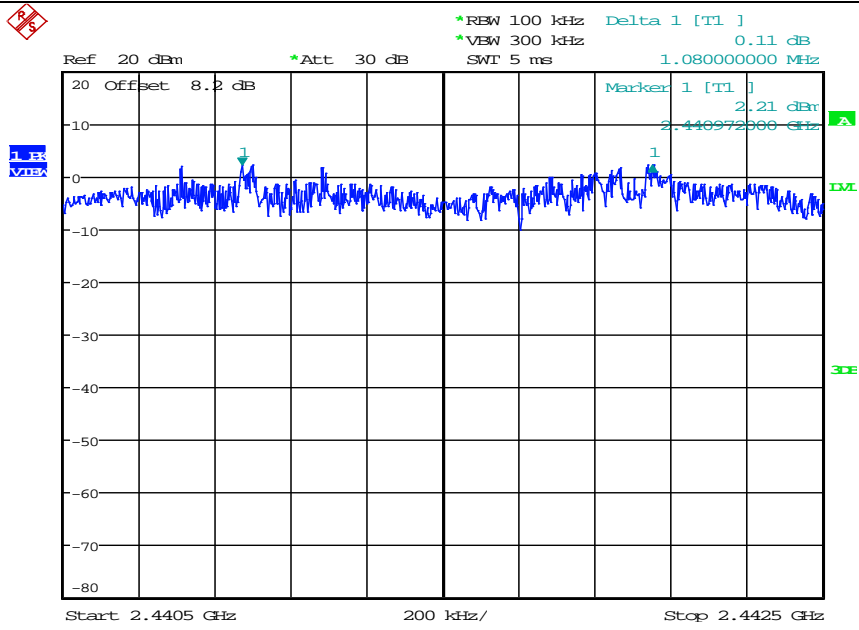
Date: 23.AUG.2019 17:44:55

π/4DQPSK/LCH



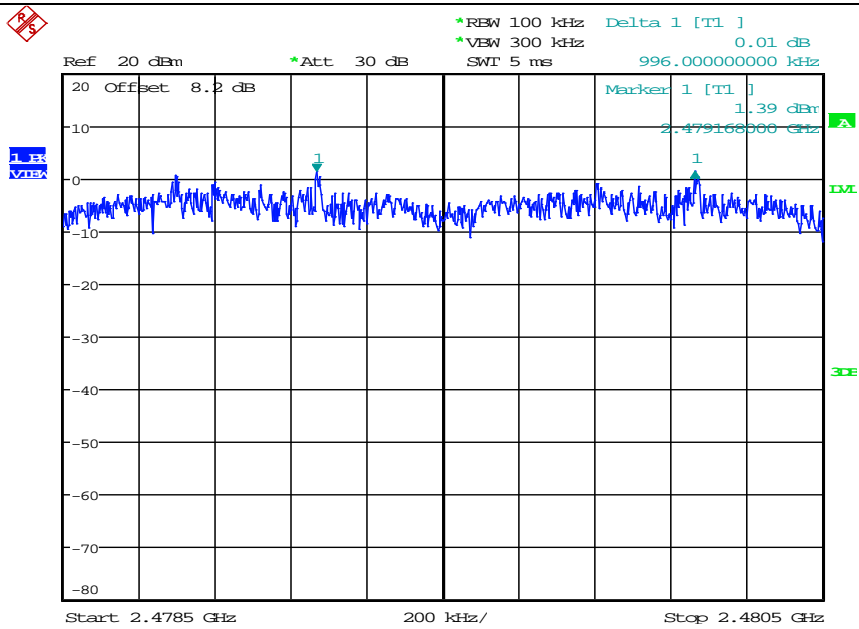
Date: 23.AUG.2019 18:44:06

$\pi/4$ DQPSK/MCH



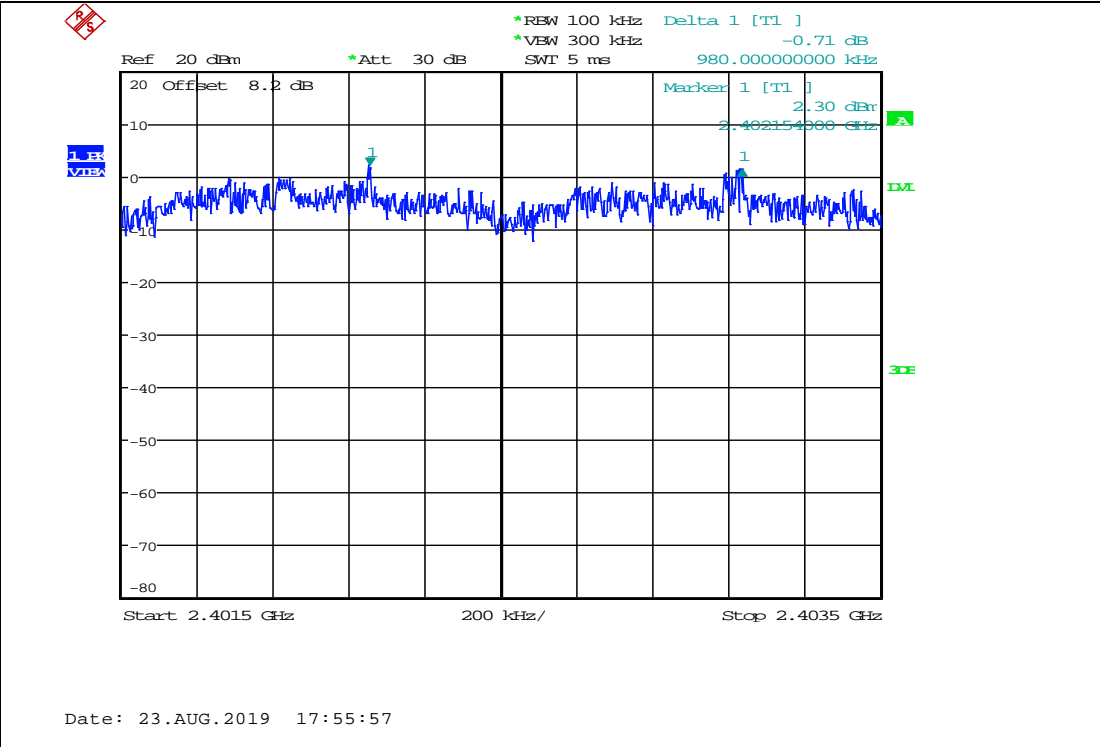
Date: 23.AUG.2019 17:50:11

$\pi/4$ DQPSK/HCH

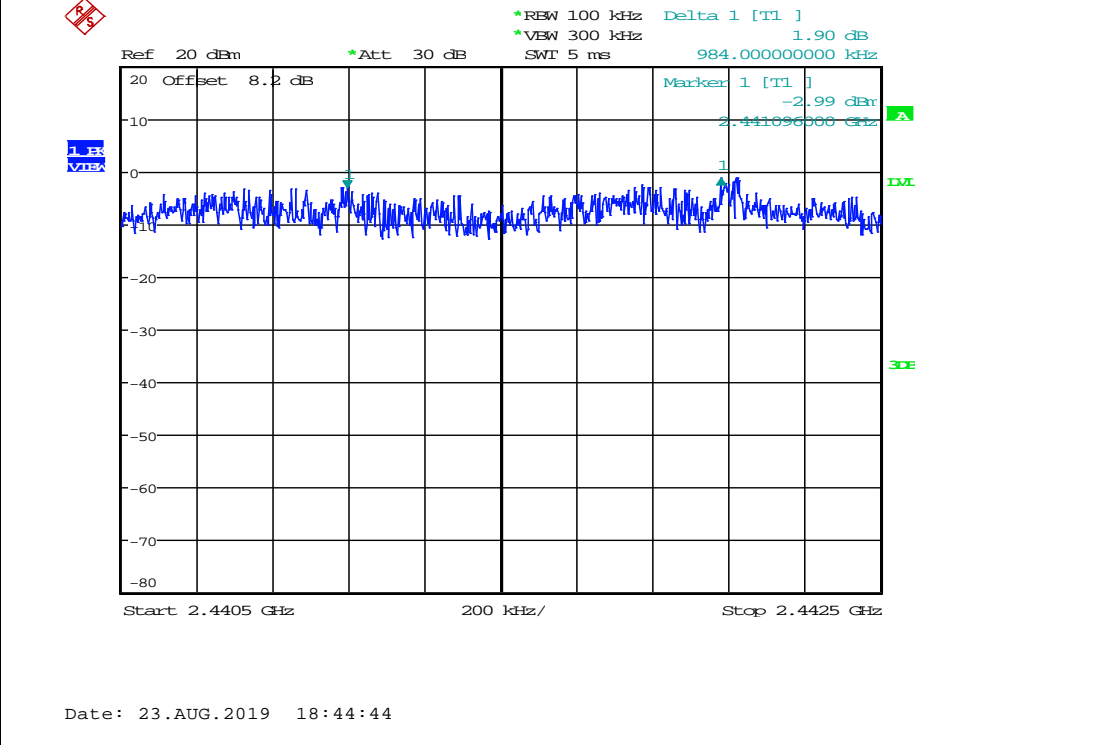


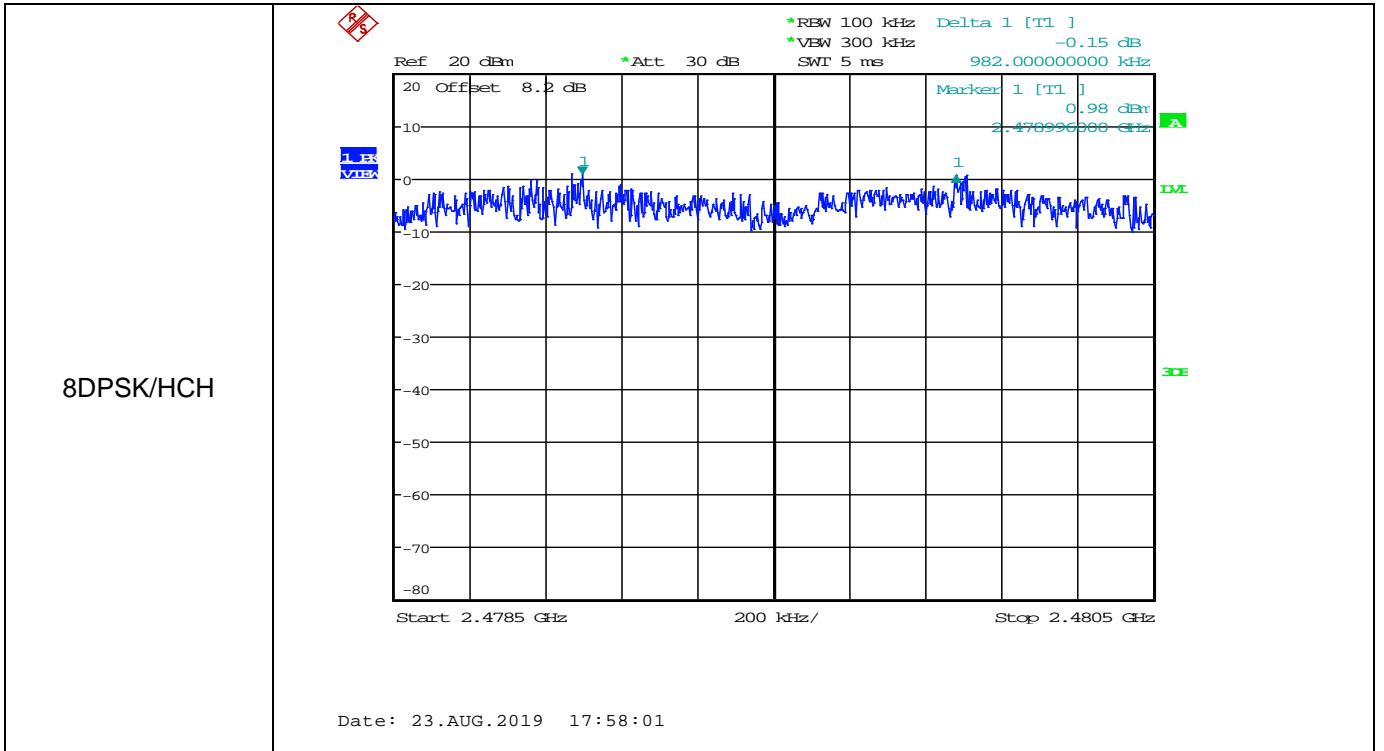
Date: 23.AUG.2019 17:50:35

8DPSK/LCH



8DPSK/MCH



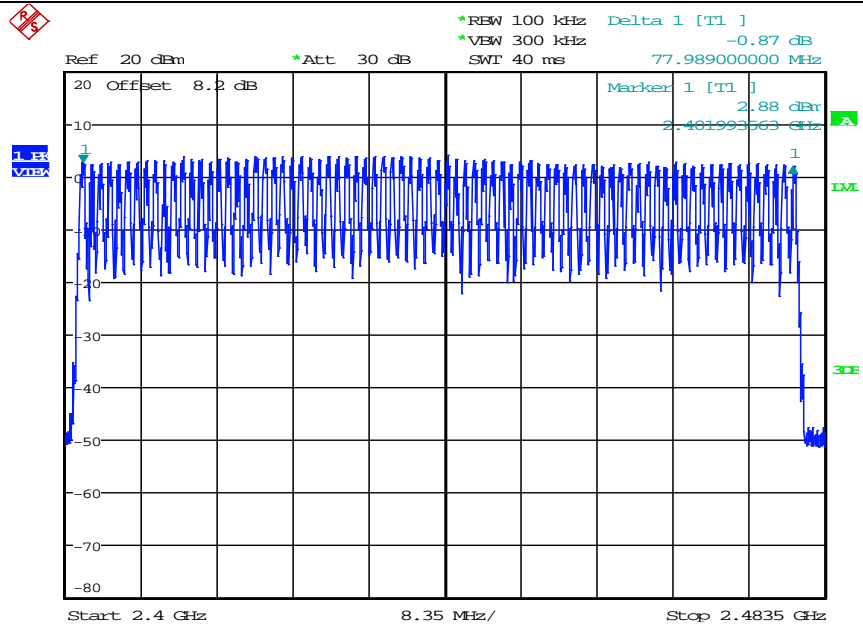


### A.5 Hopping Channel Number

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

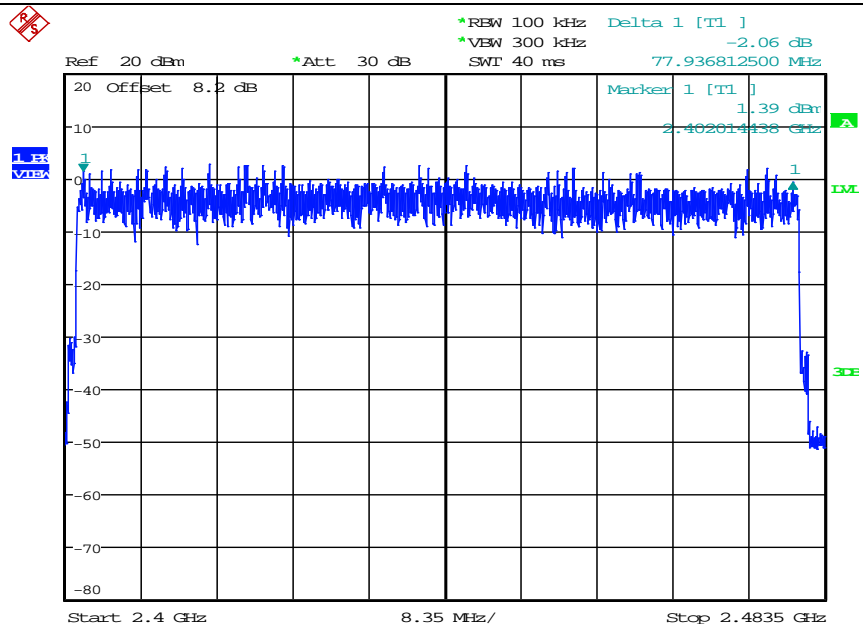
Test Graphs

GFSK/Hop



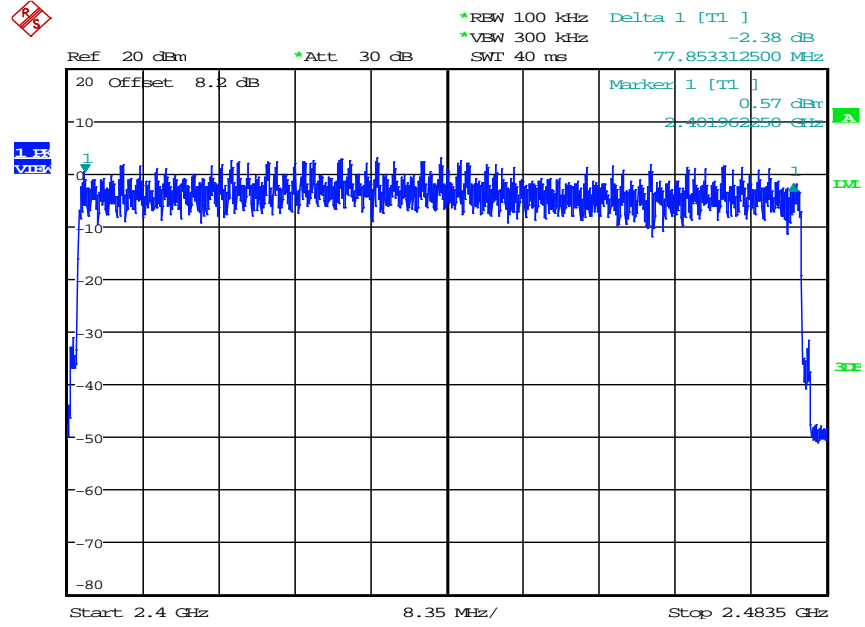
Date: 23.AUG.2019 22:06:15

$\pi/4$ DQPSK/Hop



Date: 23.AUG.2019 17:55:19

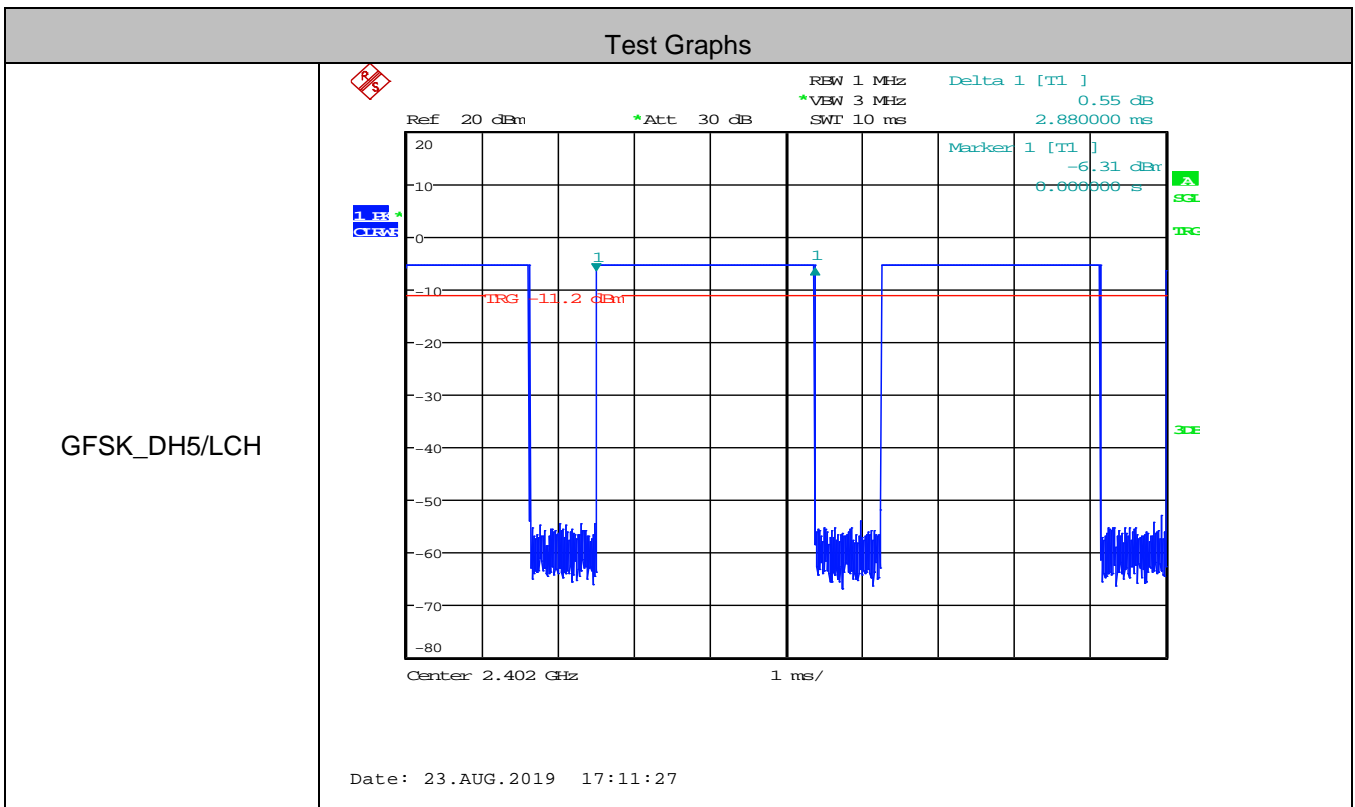
8DPSK/Hop



Date: 23.AUG.2019 22:13:21

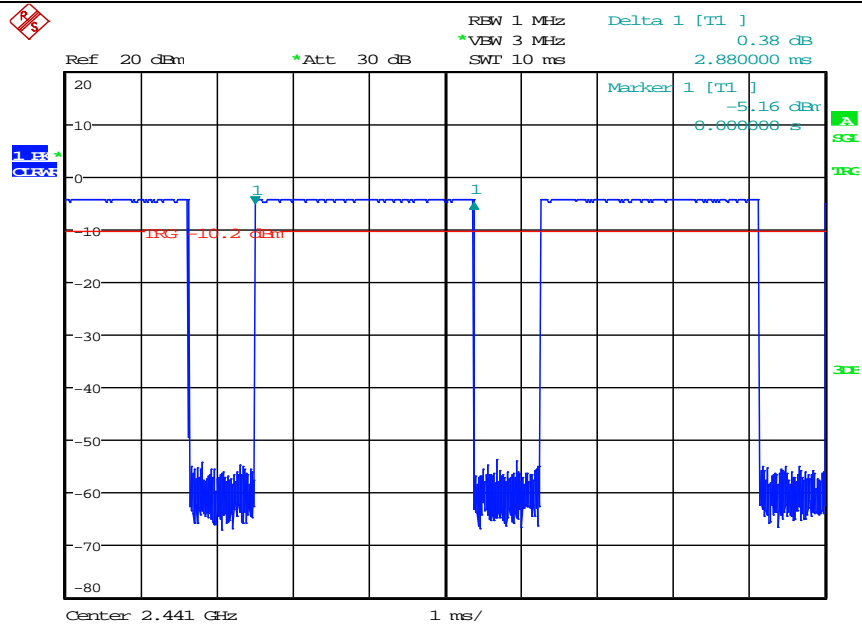
### A.6 Dwell Time

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	0.307	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	0.308	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



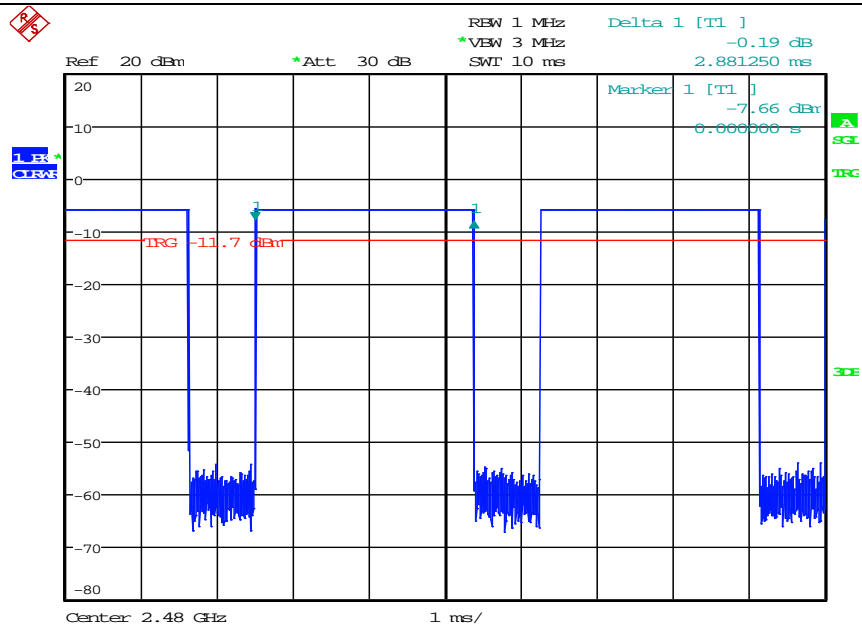


GFSK\_DH5/MCH



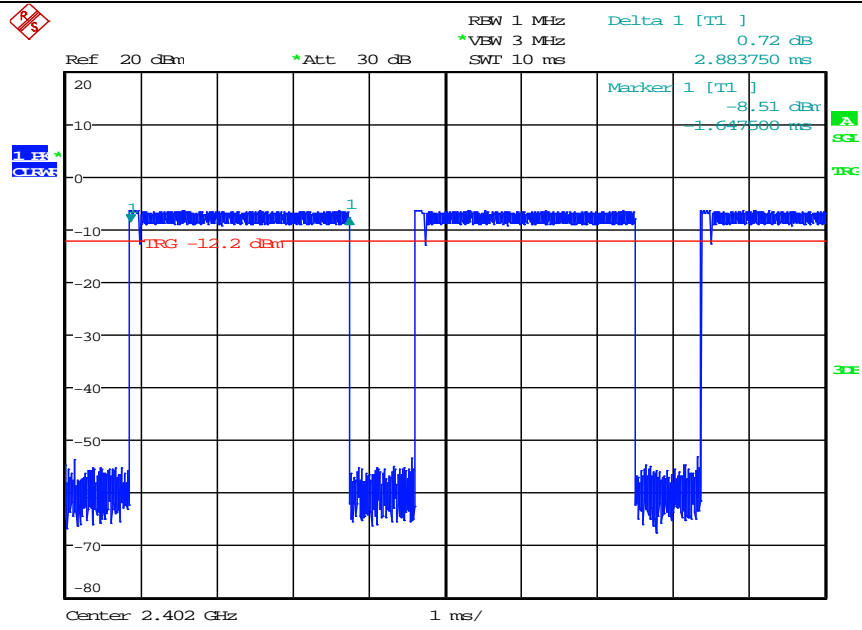
Date: 23.AUG.2019 17:13:59

GFSK\_DH5/HCH



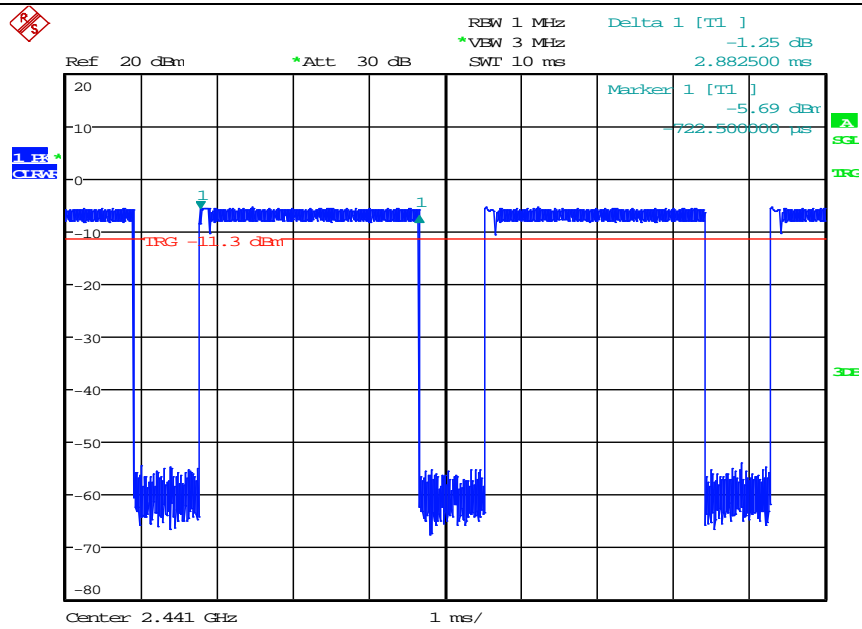
Date: 23.AUG.2019 17:16:41

$\pi/4$ DQPSK  
\_2DH5/LCH



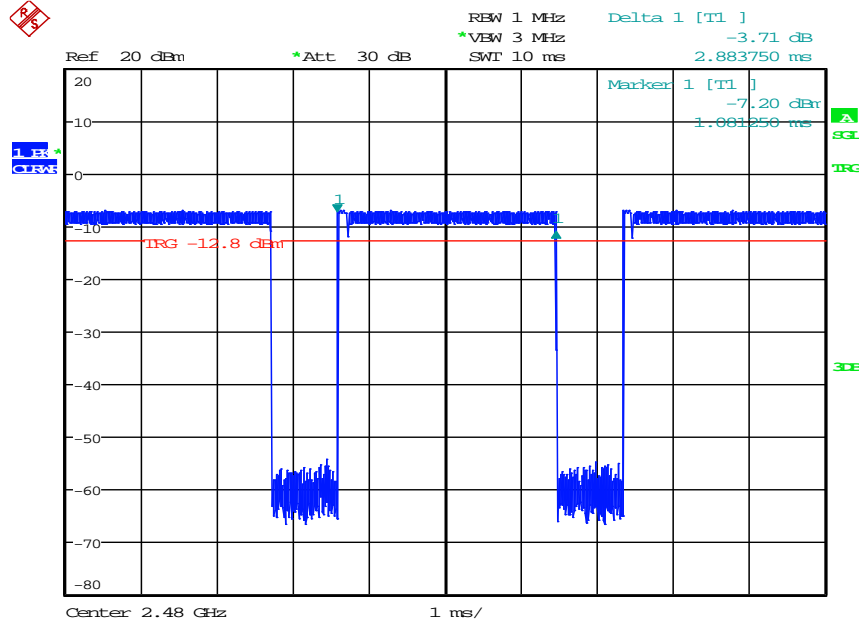
Date: 23.AUG.2019 17:21:48

$\pi/4$ DQPSK  
\_2DH5/MCH



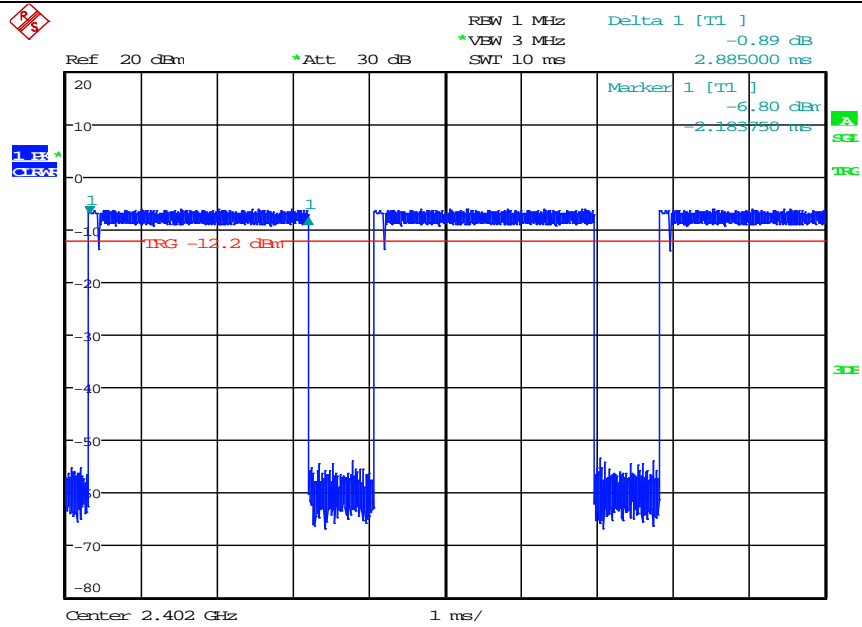
Date: 23.AUG.2019 17:27:11

$\pi/4$ DQPSK  
\_2DH5/HCH



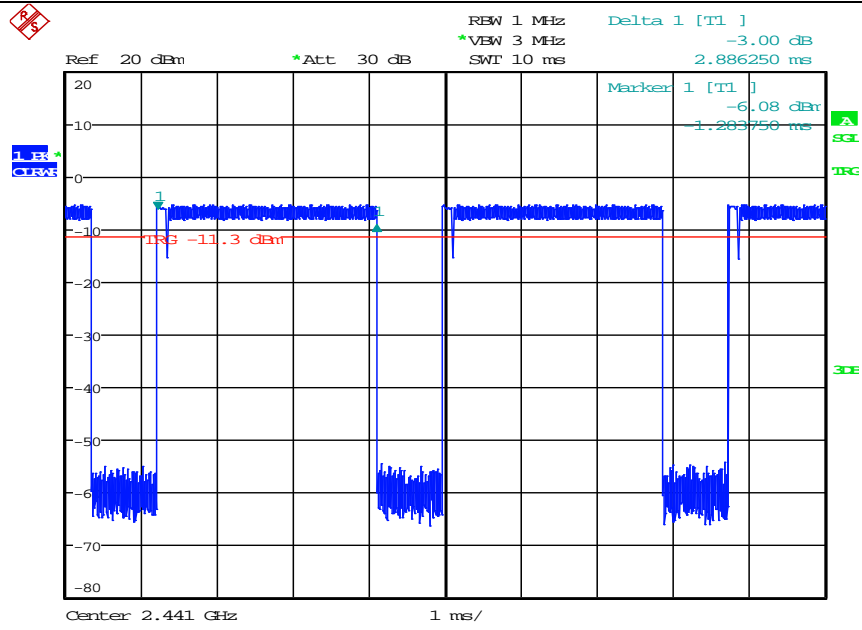
Date: 23.AUG.2019 17:28:50

8DPSK\_3DH5/LCH



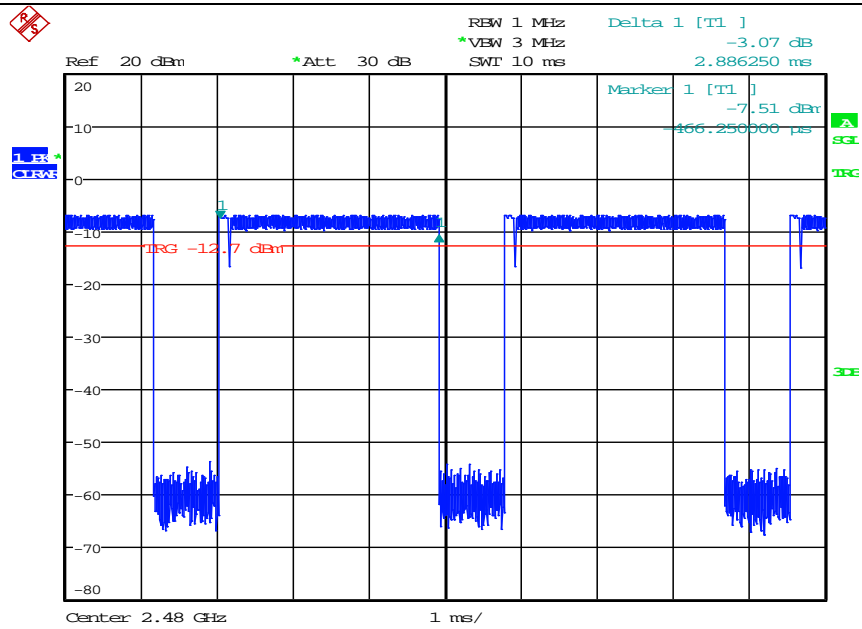
Date: 23.AUG.2019 17:31:22

8DPSK\_3DH5/MCH



Date: 23.AUG.2019 17:33:44

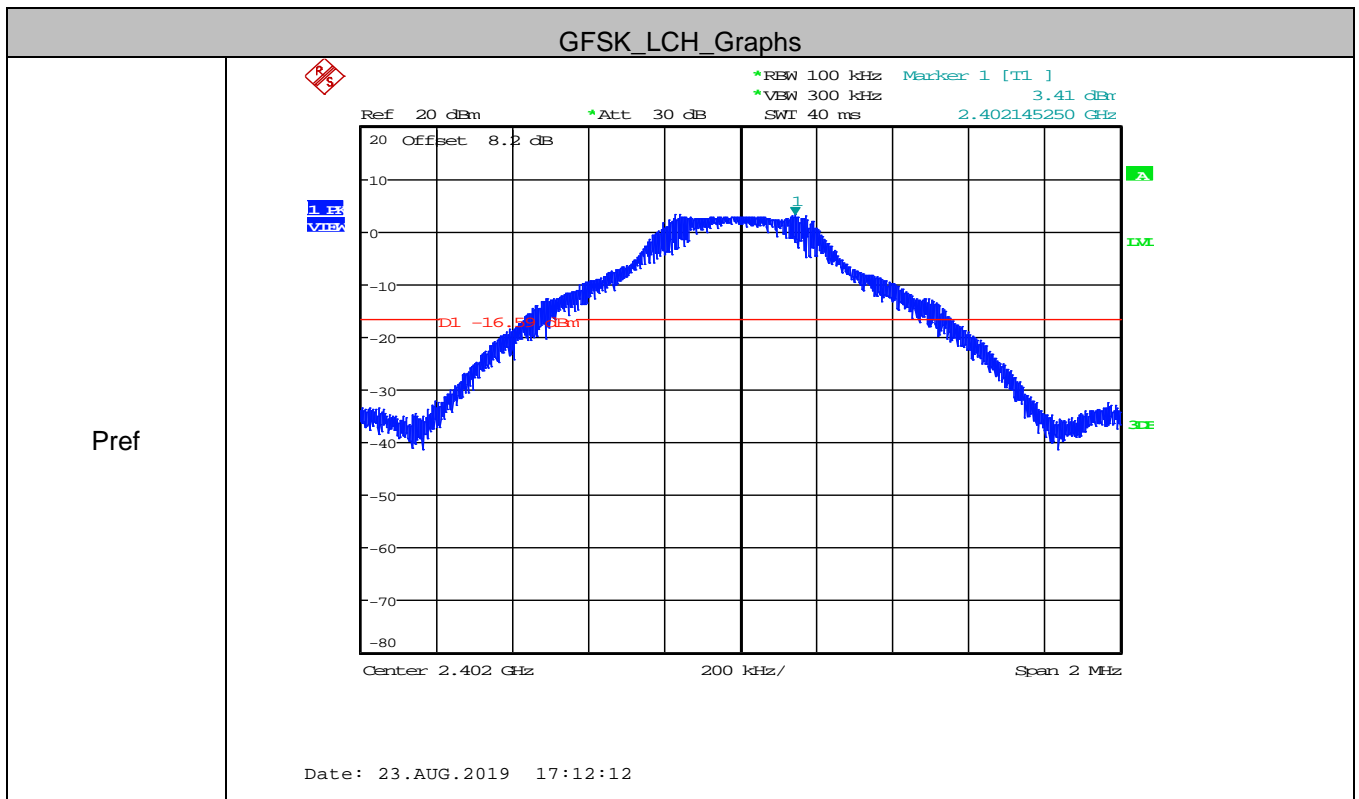
8DPSK\_3DH5/HCH



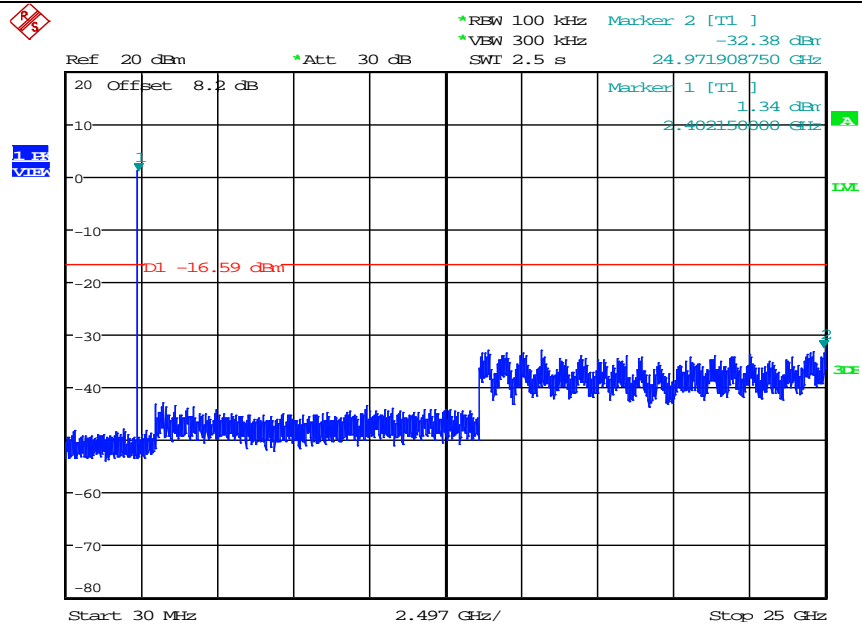
Date: 23.AUG.2019 17:35:26

### A.7 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.41	-32.380	-16.590	PASS
	MCH	4.4	-32.930	-15.600	PASS
	HCH	2.89	-32.420	-17.110	PASS
π/4DQPSK	LCH	2.29	-32.250	-17.710	PASS
	MCH	3.21	-31.050	-16.790	PASS
	HCH	1.48	-32.830	-18.520	PASS
8DPSK	LCH	2.31	-32.410	-17.690	PASS
	MCH	3.21	-32.300	-16.790	PASS
	HCH	1.7	-32.140	-18.300	PASS



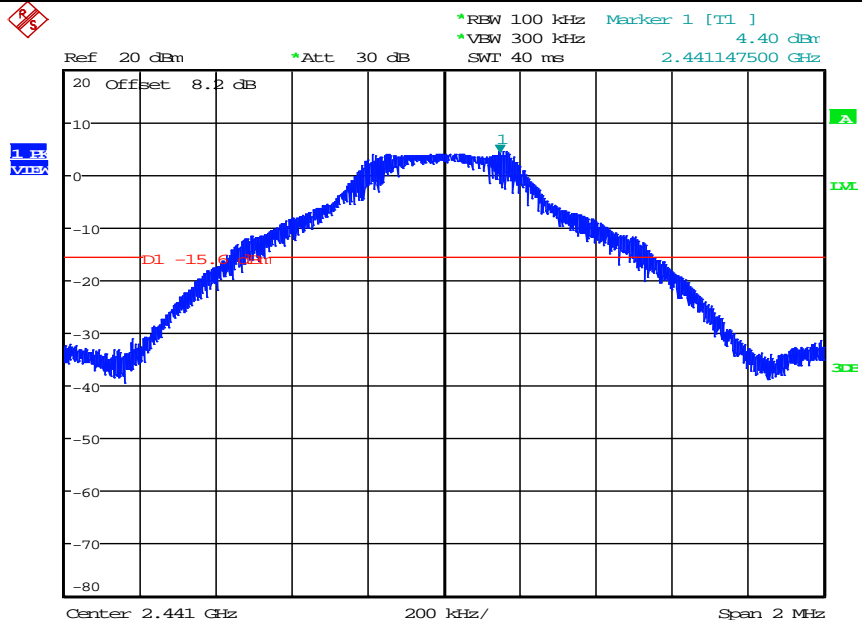
P<sub>uw</sub>



Date: 23.AUG.2019 17:12:26

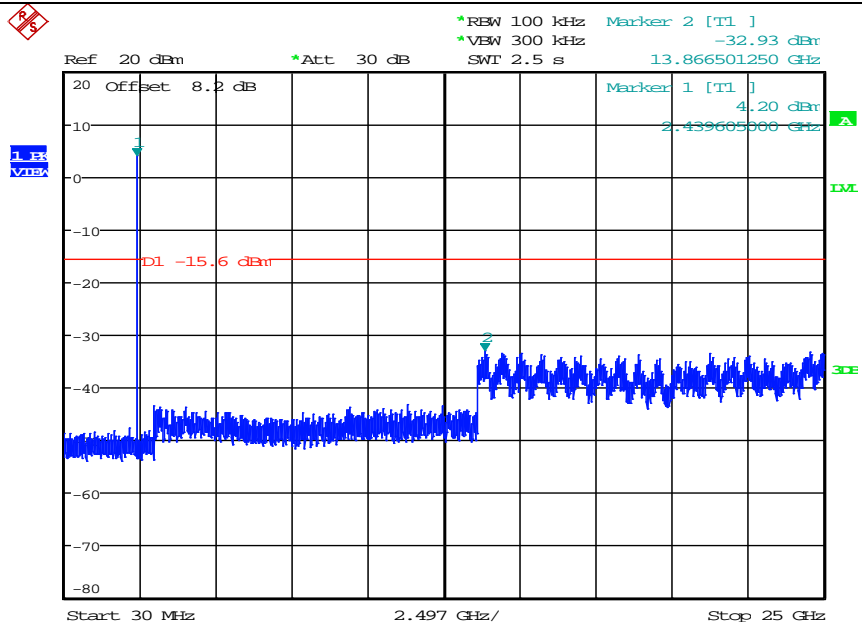
### GFSK\_MCH\_Graphs

Pref



Date: 23.AUG.2019 17:14:27

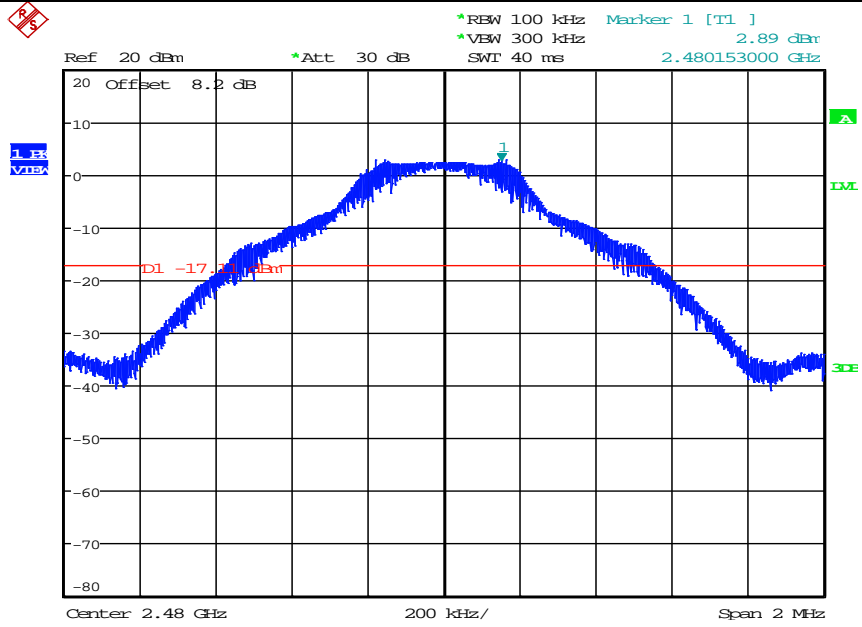
Puw



Date: 23.AUG.2019 17:14:41

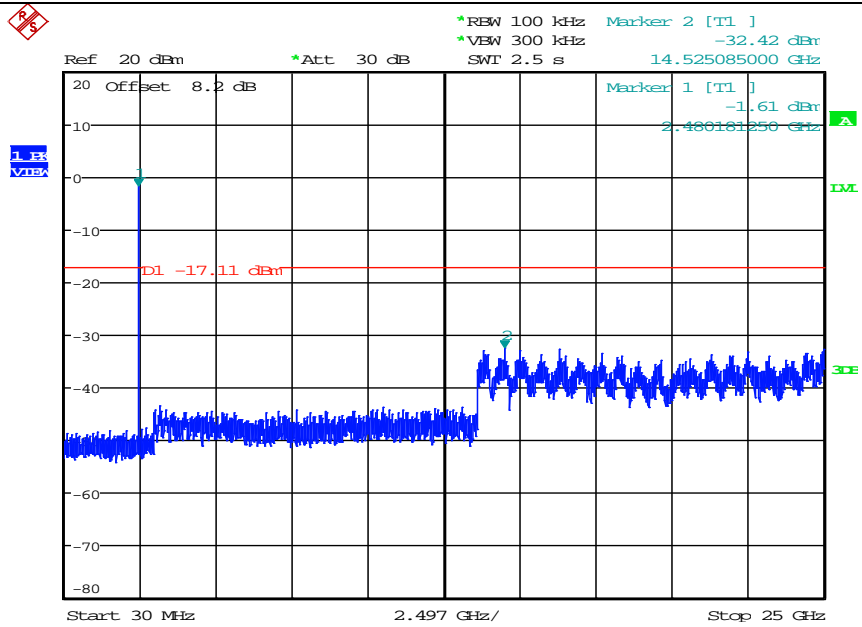
### GFSK\_HCH\_Graphs

Pref



Date: 23.AUG.2019 17:17:24

Puw

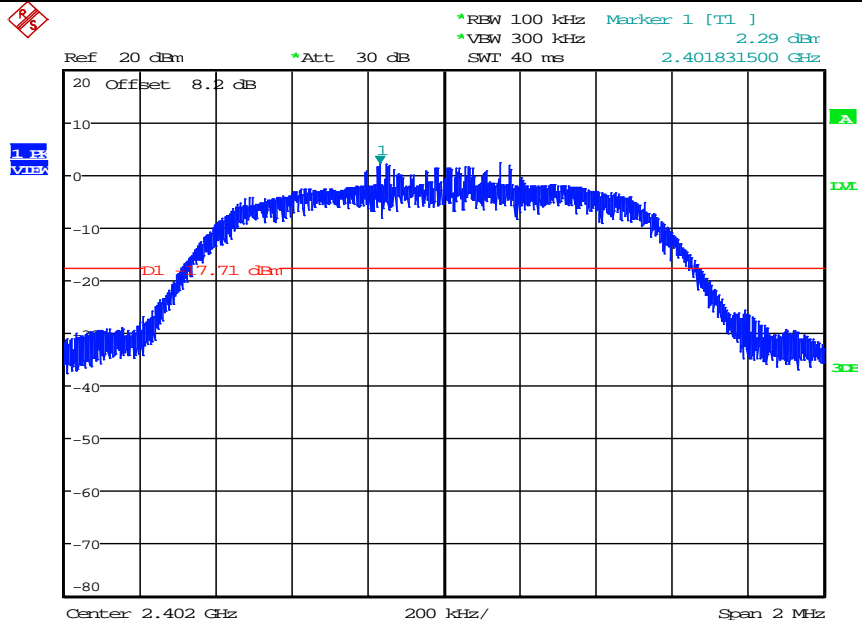


Date: 23.AUG.2019 17:17:38



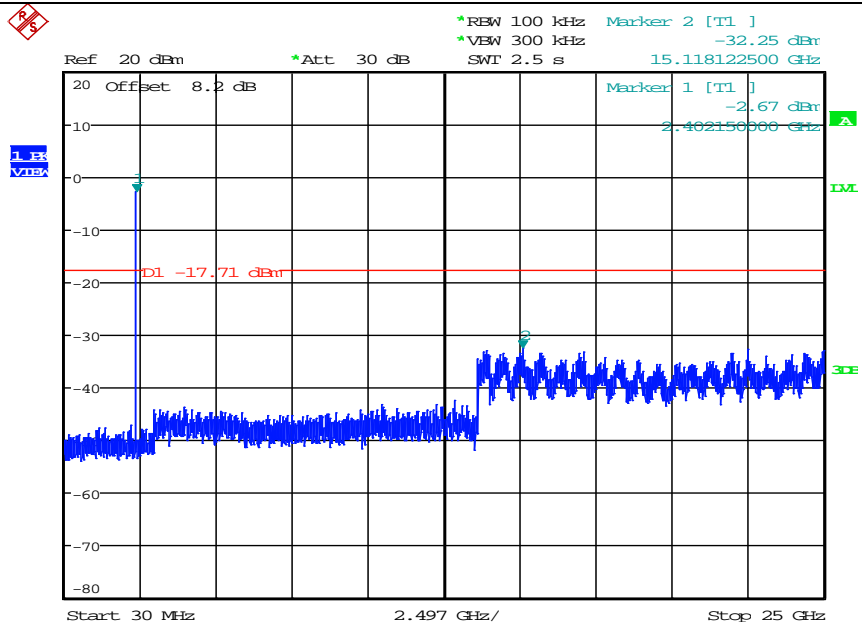
$\pi/4$ DQPSK\_LCH\_Graphs

Pref



Date: 23.AUG.2019 17:22:32

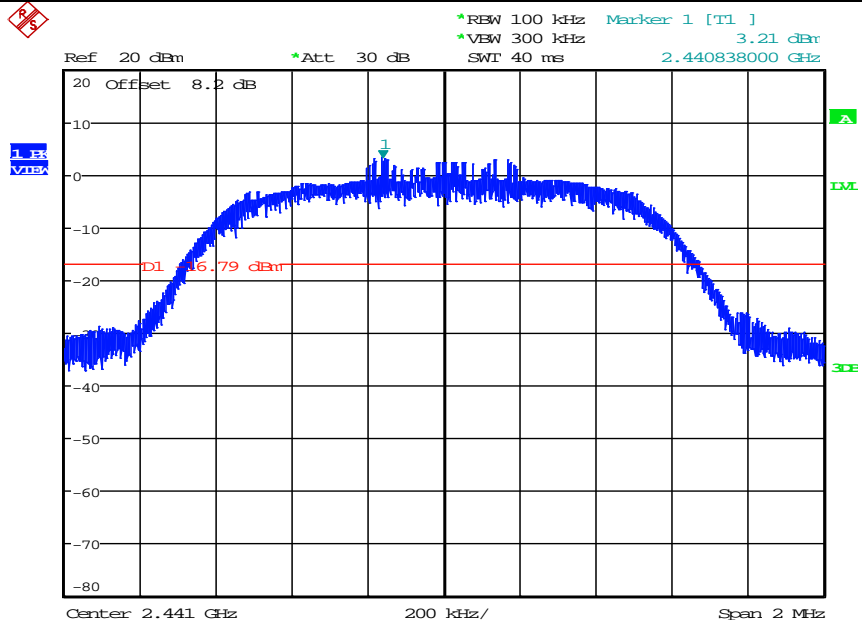
Puw



Date: 23.AUG.2019 17:22:46

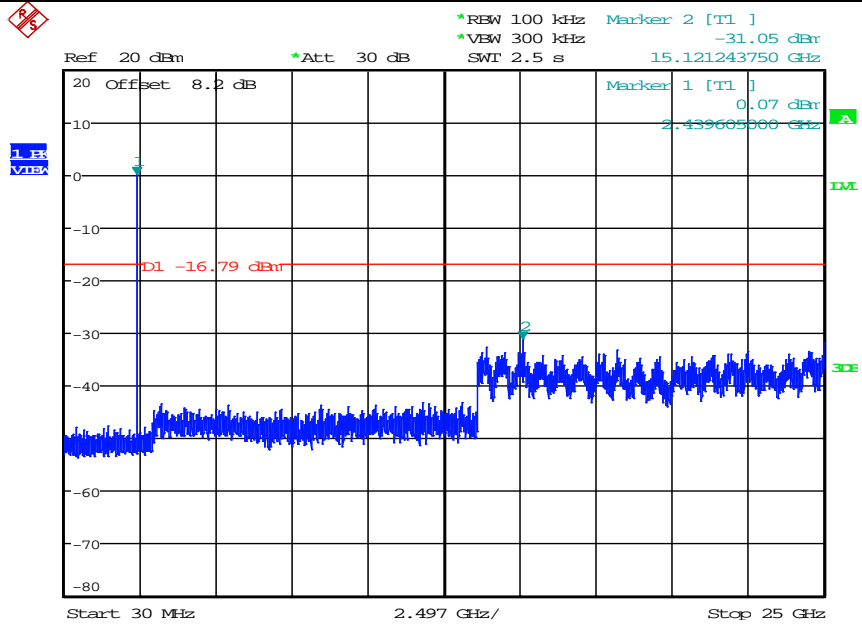
$\pi/4$ DQPSK\_MCH\_Graphs

Pref



Date: 23.AUG.2019 17:27:38

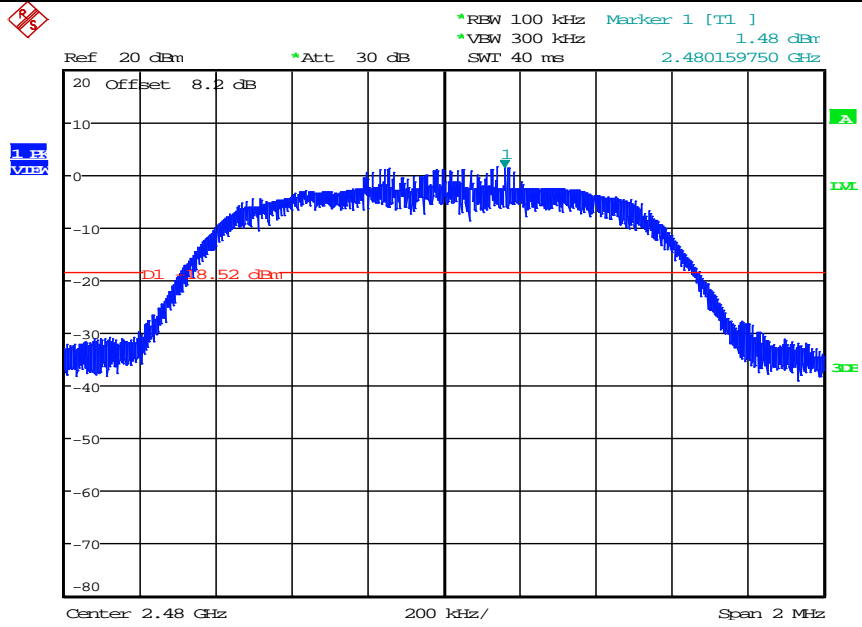
Puw



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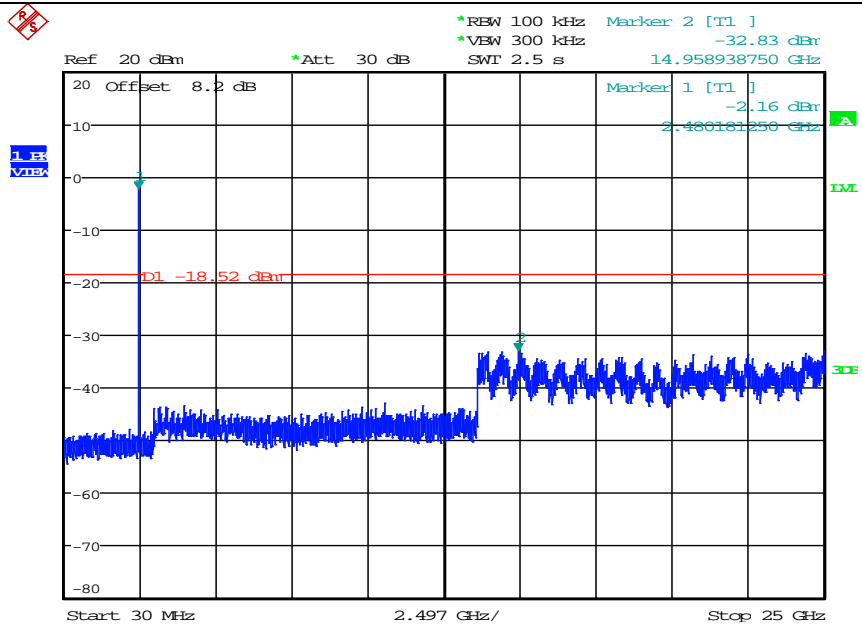
### $\pi/4$ DQPSK\_HCH\_Graphs

Pref



Date: 23.AUG.2019 17:29:34

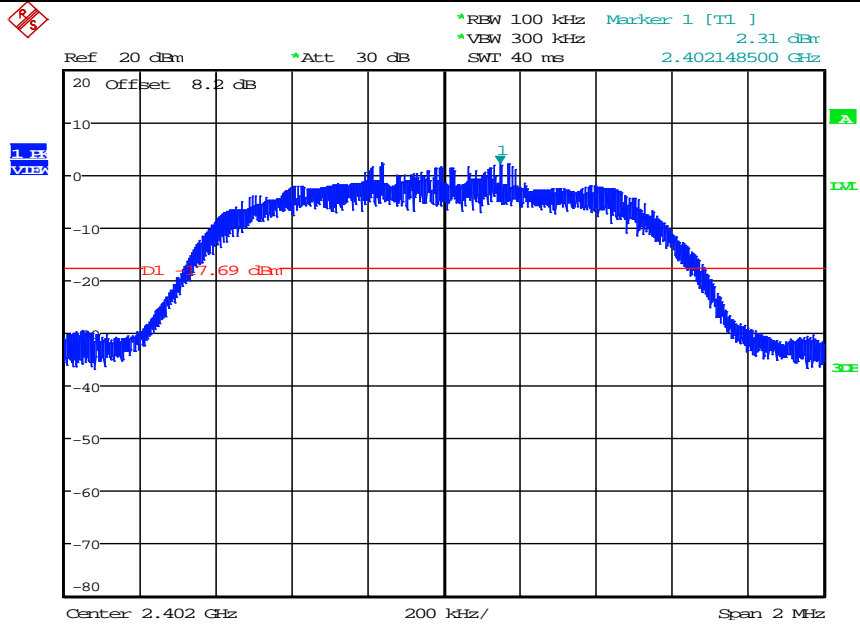
Puw



Date: 23.AUG.2019 17:29:48

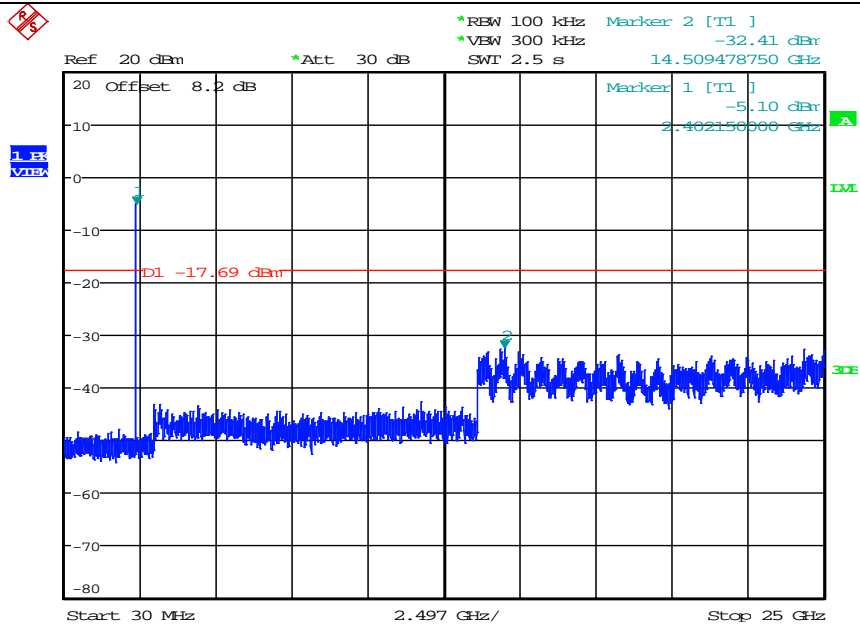
### 8DPSK\_LCH\_Graphs

Pref



Date: 23.AUG.2019 17:32:05

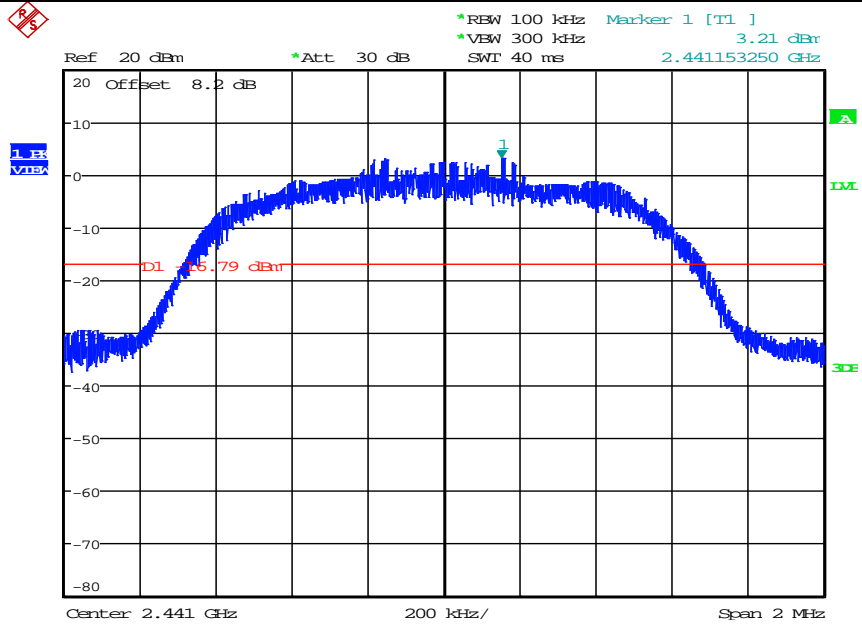
Puw



Date: 23.AUG.2019 17:32:19

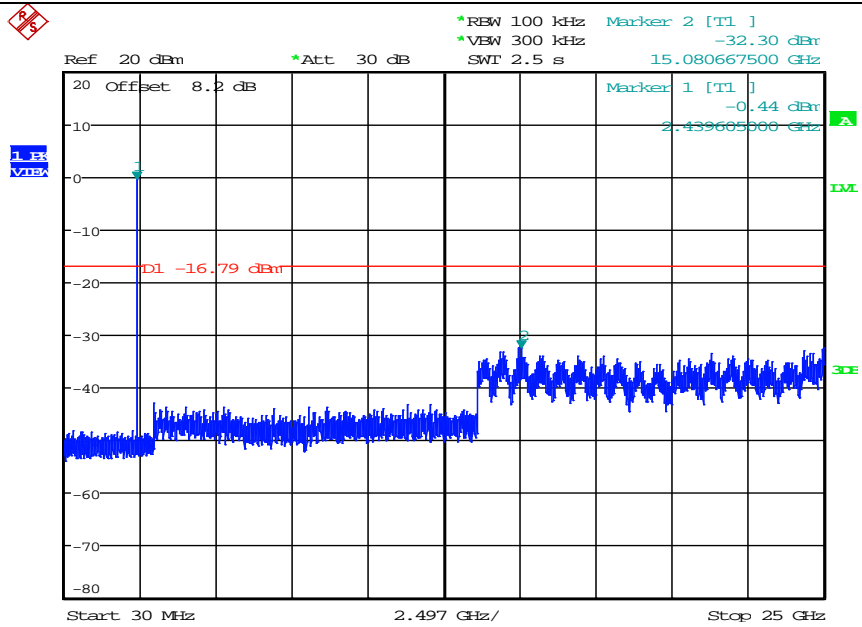
### 8DPSK\_MCH\_Graphs

Pref



Date: 23.AUG.2019 17:34:11

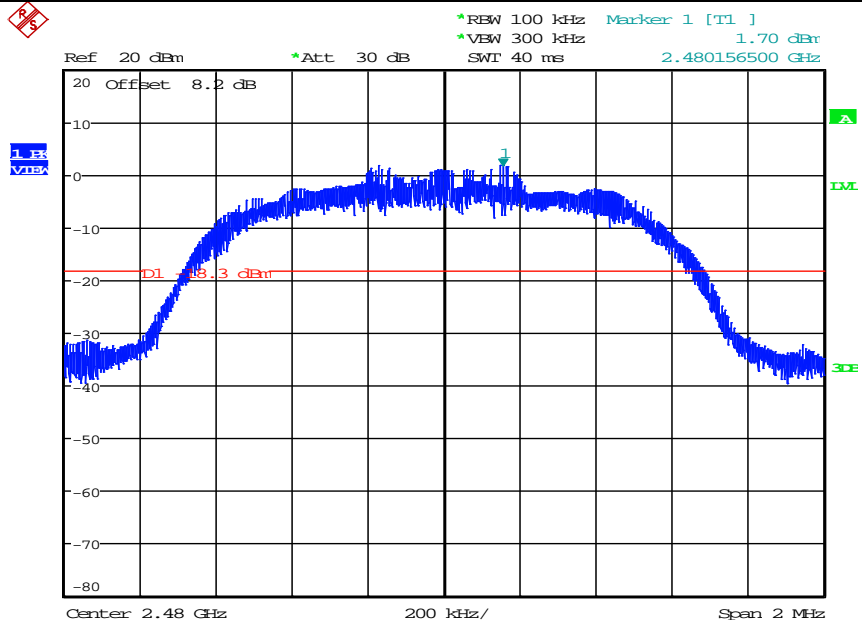
Puw



Date: 23.AUG.2019 17:34:26

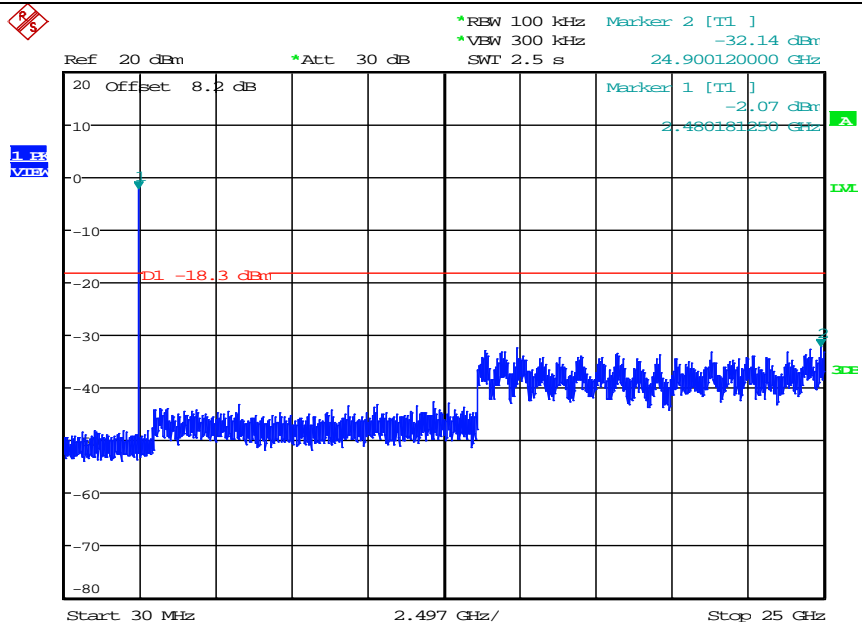
### 8DPSK\_HCH\_Graphs

Pref



Date: 23.AUG.2019 17:36:09

Puw



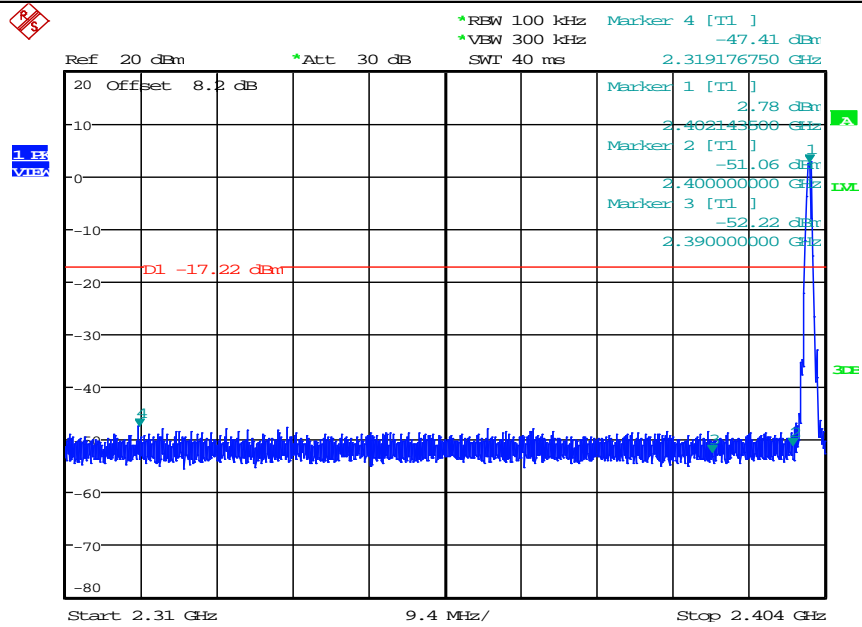
Date: 23.AUG.2019 17:36:24

## A.8 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	2.780	Off	-47.411	-17.22	PASS
			4.410	On	-46.648	-15.59	PASS
	HCH	2480	2.840	Off	-47.244	-17.16	PASS
			2.860	On	-47.578	-17.14	PASS
$\pi$ /4DQPSK	LCH	2402	2.280	Off	-47.218	-17.72	PASS
			2.690	On	-46.471	-17.31	PASS
	HCH	2480	0.860	Off	-47.729	-19.14	PASS
			2.130	On	-46.817	-17.87	PASS
8DPSK	LCH	2402	1.990	Off	-47.542	-18.01	PASS
			3.140	On	-46.660	-16.86	PASS
	HCH	2480	1.330	Off	-47.291	-18.67	PASS
			1.480	On	-46.448	-18.52	PASS

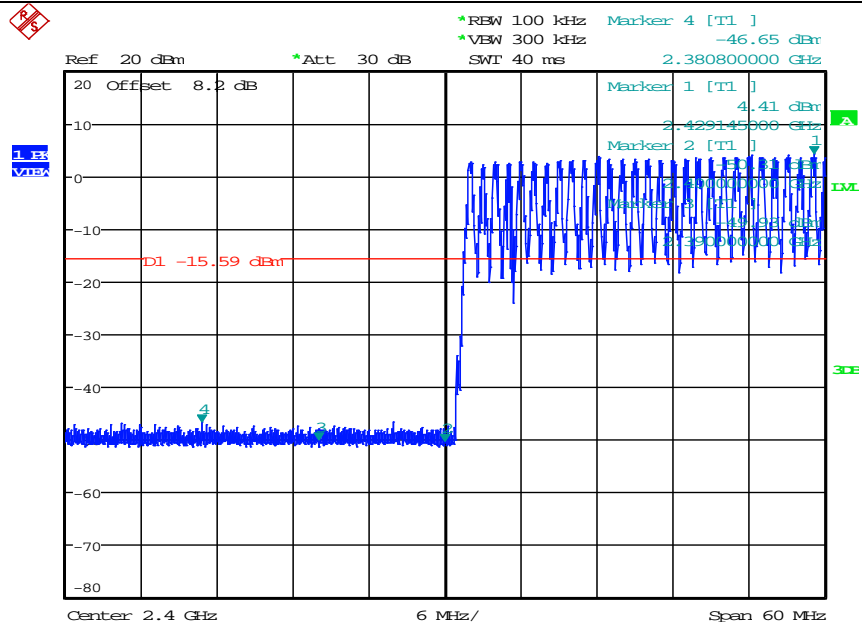
Test Graphs

GFSK/LCH/No Hop



Date: 23.AUG.2019 17:11:59

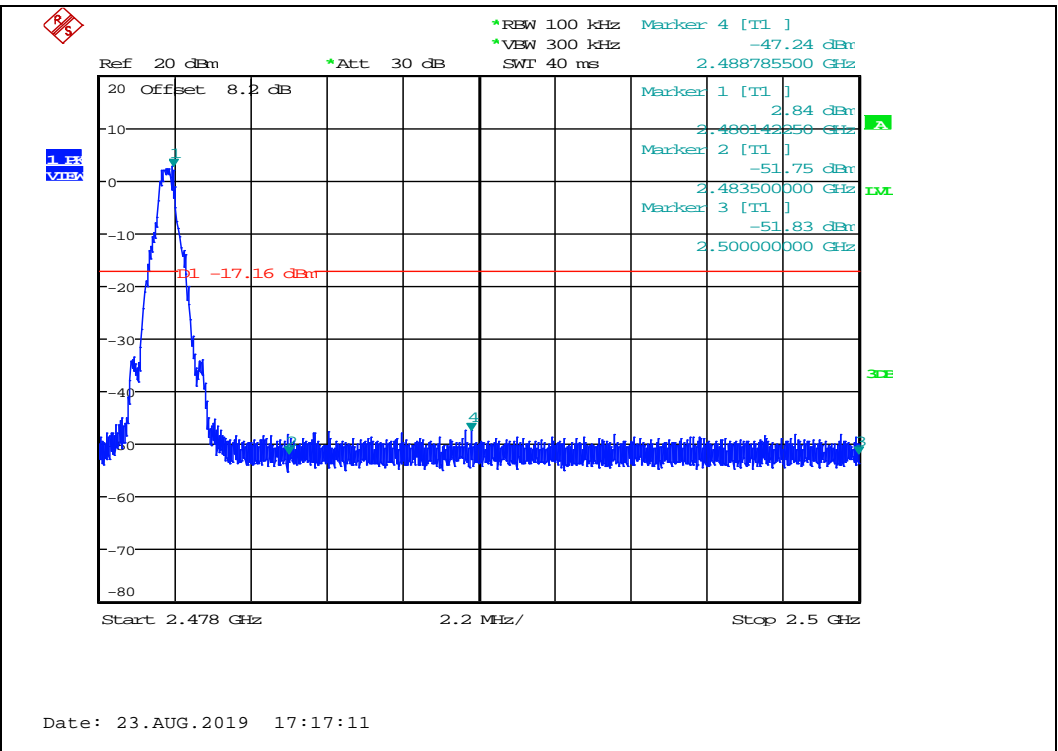
GFSK/LCH/Hop



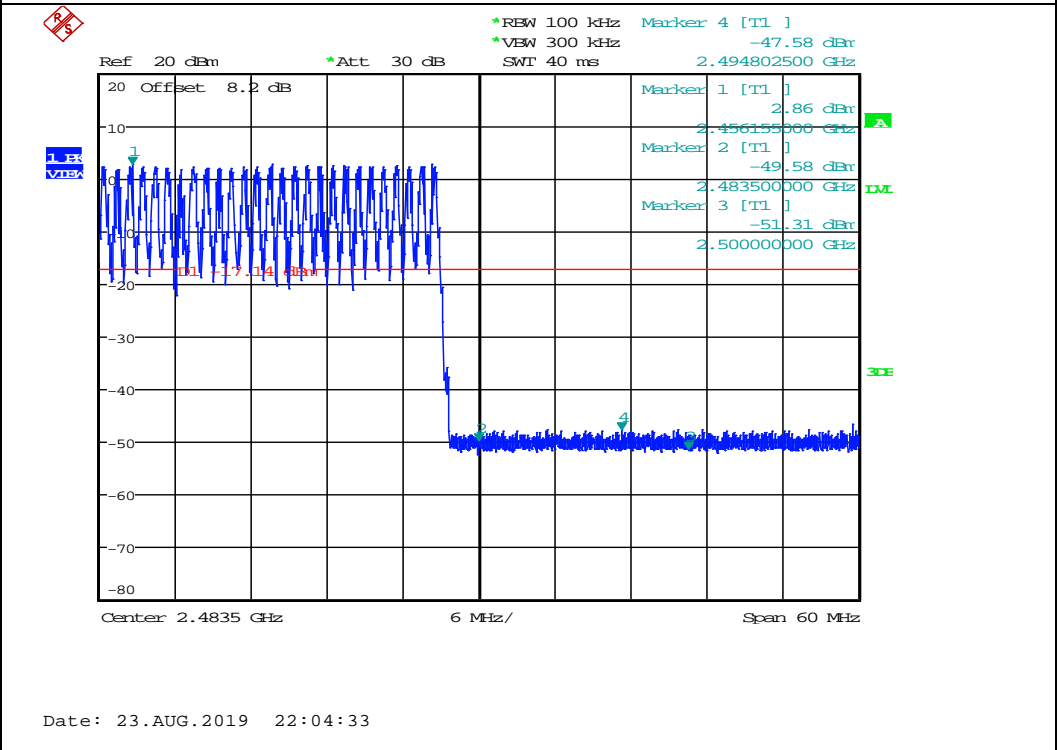
Date: 23.AUG.2019 22:03:01



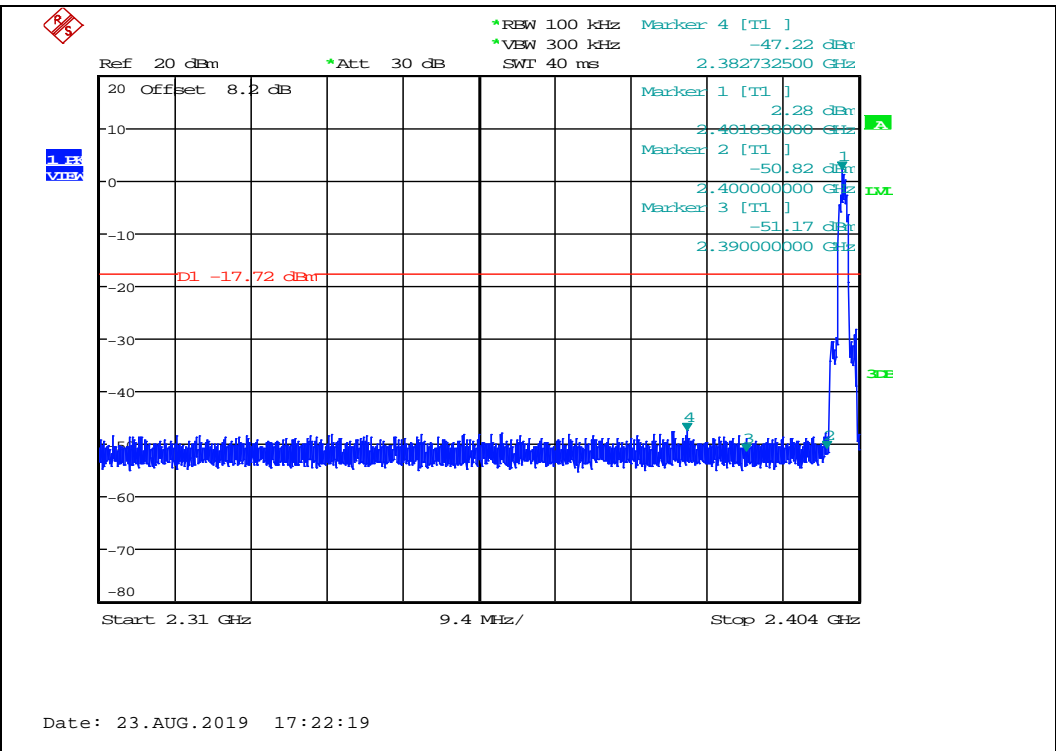
GFSK/HCH/No Hop



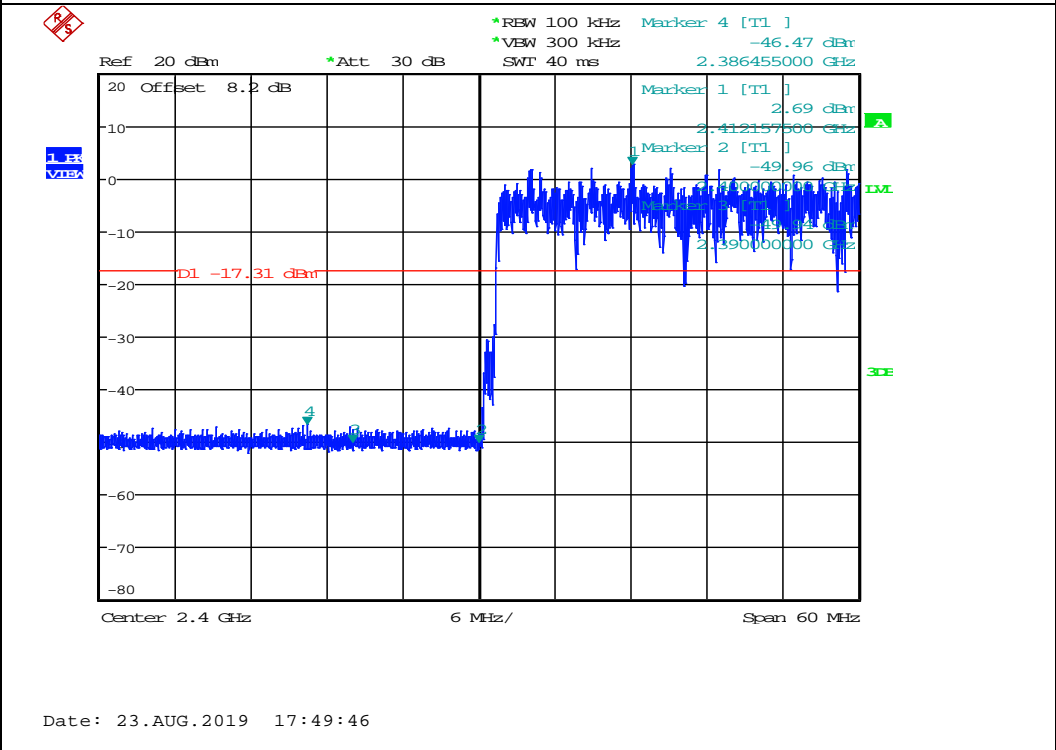
GFSK/HCH/Hop



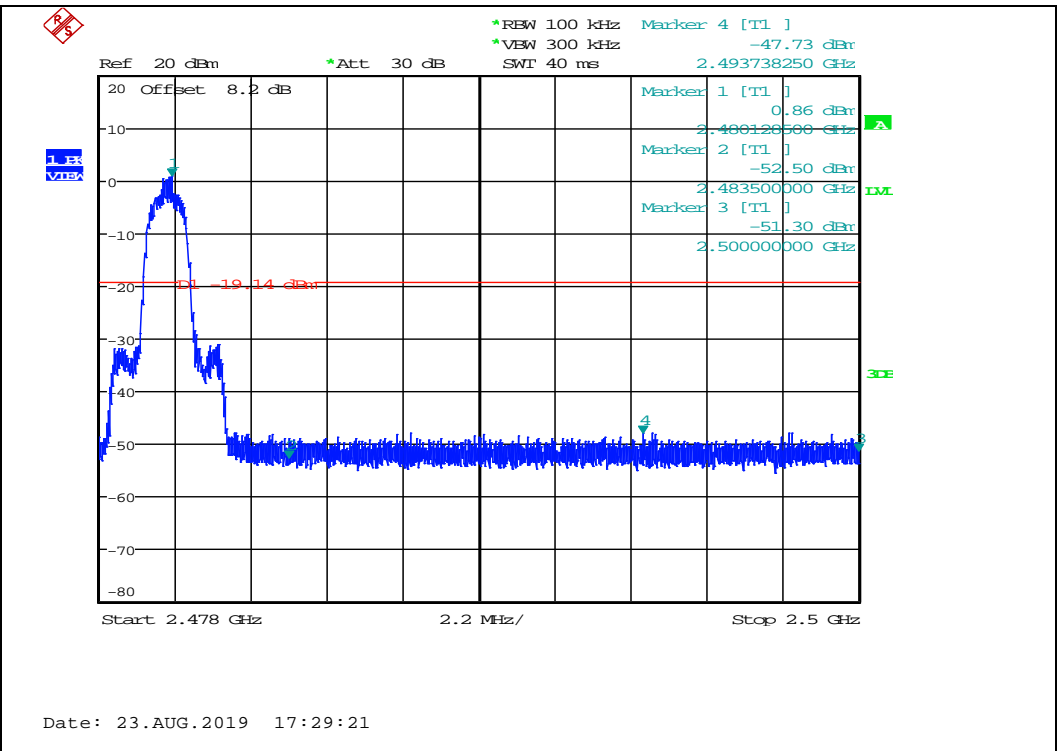
$\pi/4$ DQPSK/LCH/No Hop



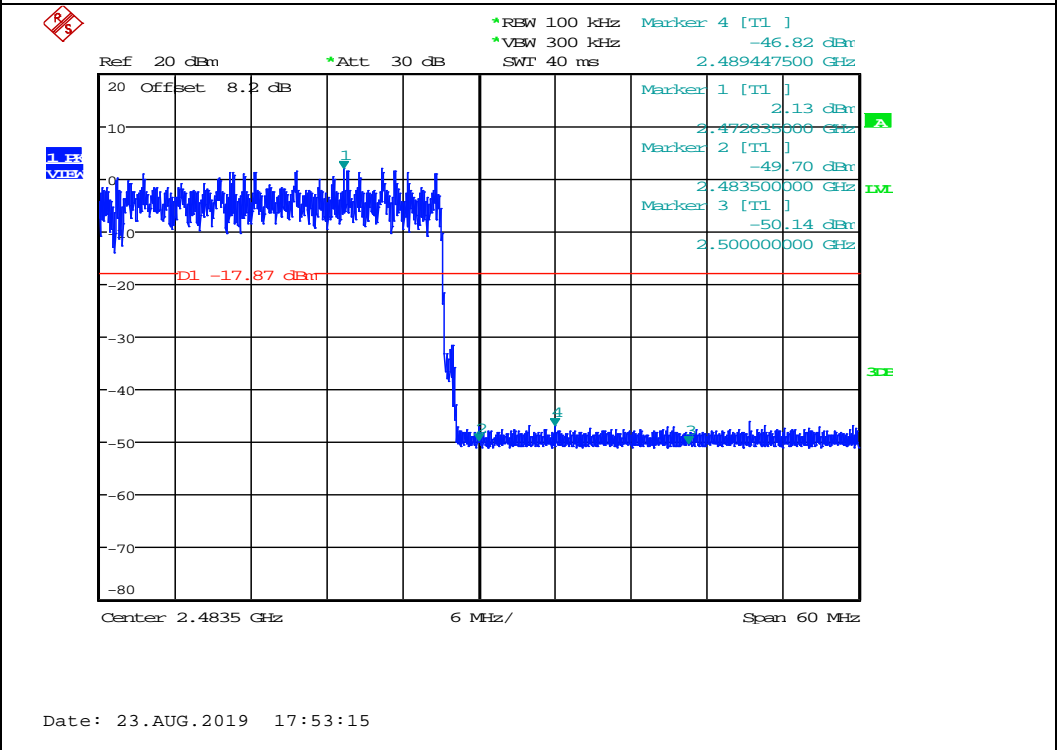
$\pi/4$ DQPSK/LCH/Hop



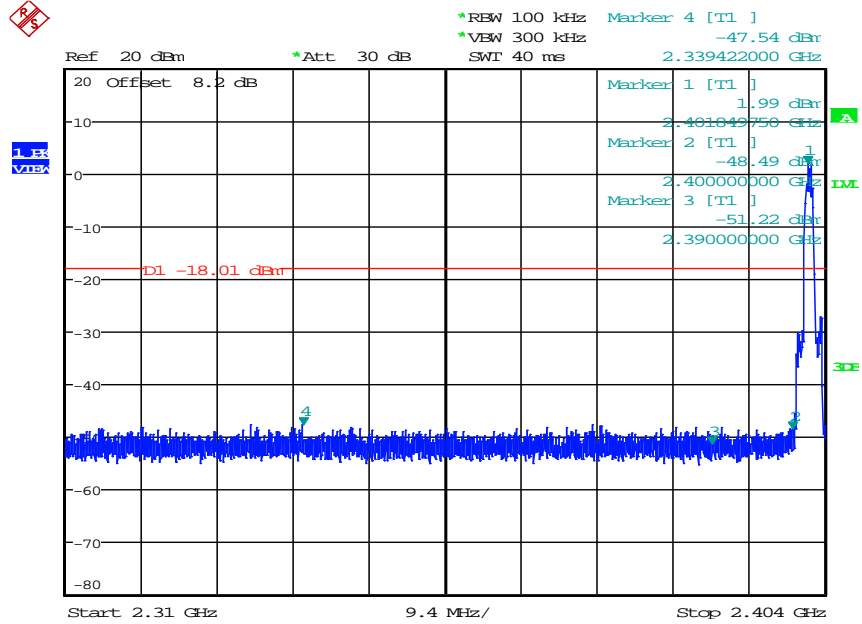
$\pi/4$ DQPSK/HCH/No Hop



$\pi/4$ DQPSK/HCH/Hop

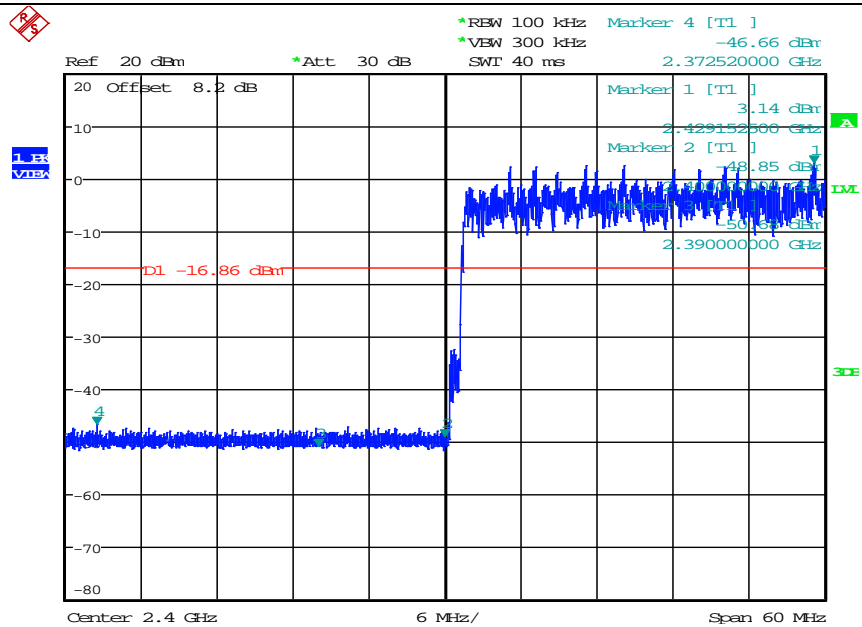


8DPSK/LCH/No Hop



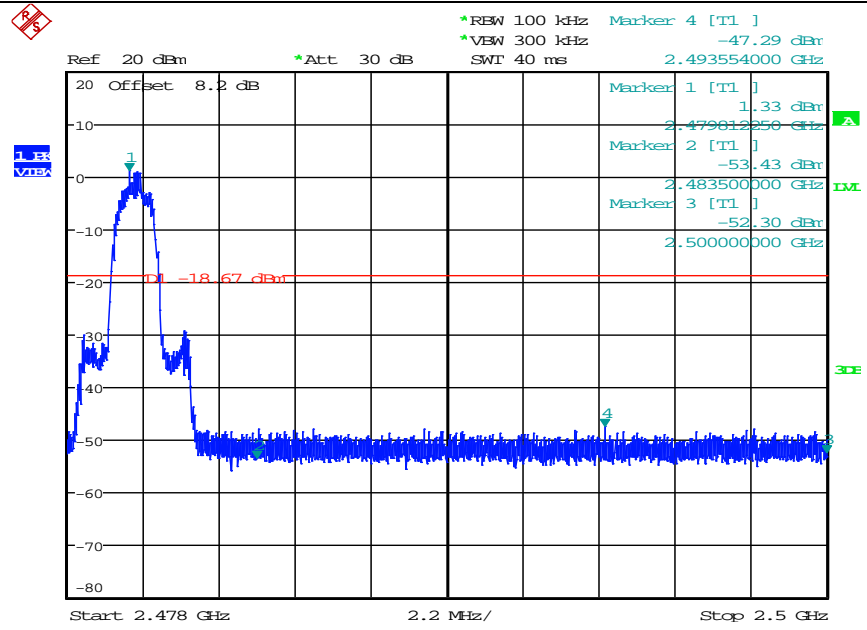
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8DPSK/LCH/Hop



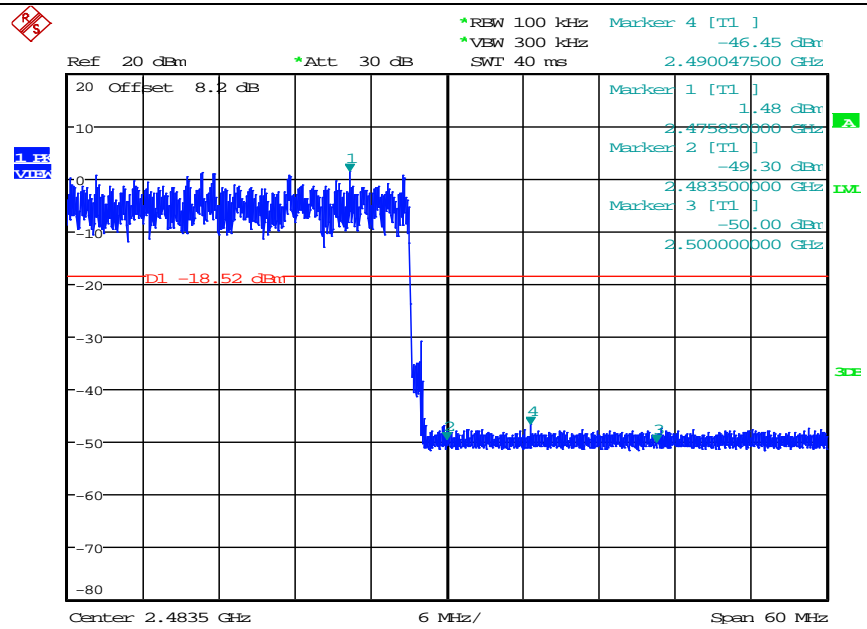
Date: 23.AUG.2019 22:08:24

8DPSK/HCH/No Hop



Date: 23.AUG.2019 17:35:57

8DPSK/HCH/Hop

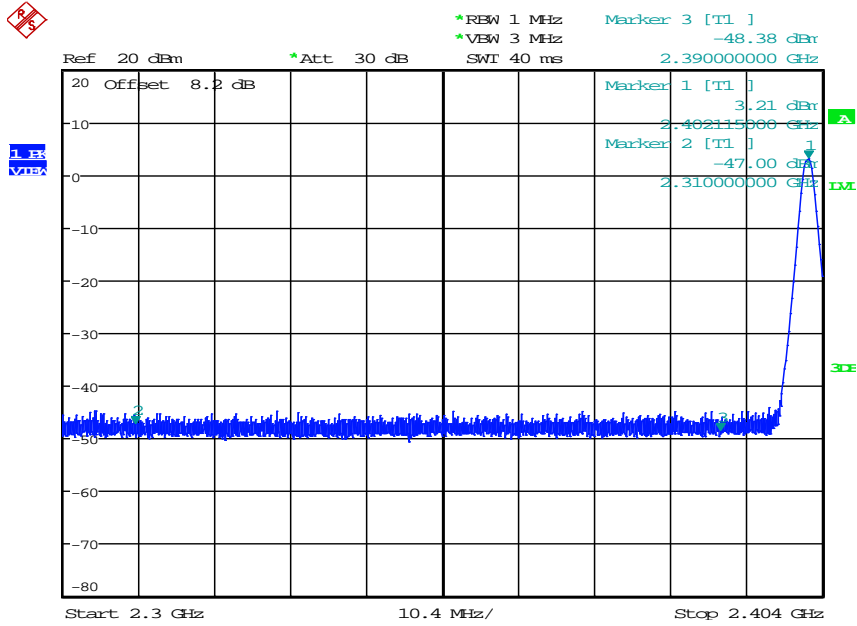


Date: 23.AUG.2019 22:10:09

## A.8 Restrict-band band-edge measurements

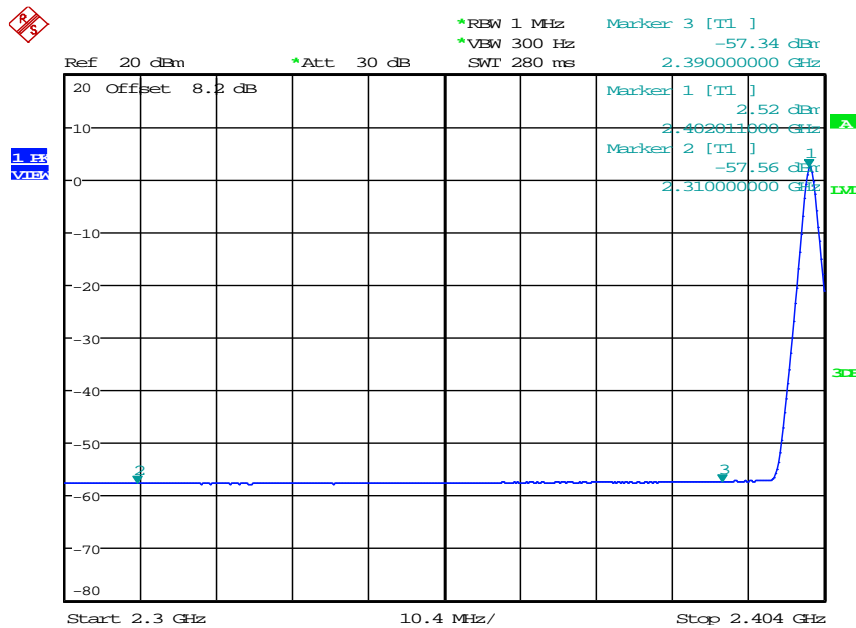
Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-47.00	2.0	0	50.26	PEAK	74	PASS
	Off	2310.0	-57.56	2.0	0	39.70	AV	54	PASS
	Off	2390.0	-48.38	2.0	0	48.88	PEAK	74	PASS
	Off	2390.0	-57.34	2.0	0	39.92	AV	54	PASS
	Off	2483.5	-39.84	2.0	0	57.42	PEAK	74	PASS
	Off	2483.5	-43.32	2.0	0	53.94	AV	54	PASS
	Off	2500.0	-48.37	2.0	0	48.89	PEAK	74	PASS
	Off	2500.0	-57.99	2.0	0	39.27	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-45.91	2.0	0	51.35	PEAK	74	PASS
	Off	2310.0	-57.54	2.0	0	39.72	AV	54	PASS
	Off	2390.0	-48.36	2.0	0	48.90	PEAK	74	PASS
	Off	2390.0	-57.31	2.0	0	39.95	AV	54	PASS
	Off	2483.5	-40.54	2.0	0	56.72	PEAK	74	PASS
	Off	2483.5	-45.49	2.0	0	51.77	AV	54	PASS
	Off	2500.0	-46.75	2.0	0	50.51	PEAK	74	PASS
	Off	2500.0	-58.04	2.0	0	39.22	AV	54	PASS
8DPSK	Off	2310.0	-47.61	2.0	0	49.65	PEAK	74	PASS
	Off	2310.0	-57.66	2.0	0	39.60	AV	54	PASS
	Off	2390.0	-49.13	2.0	0	48.13	PEAK	74	PASS
	Off	2390.0	-57.32	2.0	0	39.94	AV	54	PASS
	Off	2483.5	-39.68	2.0	0	57.58	PEAK	74	PASS
	Off	2483.5	-45.46	2.0	0	51.80	AV	54	PASS
	Off	2500.0	-49.25	2.0	0	48.01	PEAK	74	PASS
	Off	2500.0	-58.04	2.0	0	39.22	AV	54	PASS

Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (Low Channel)



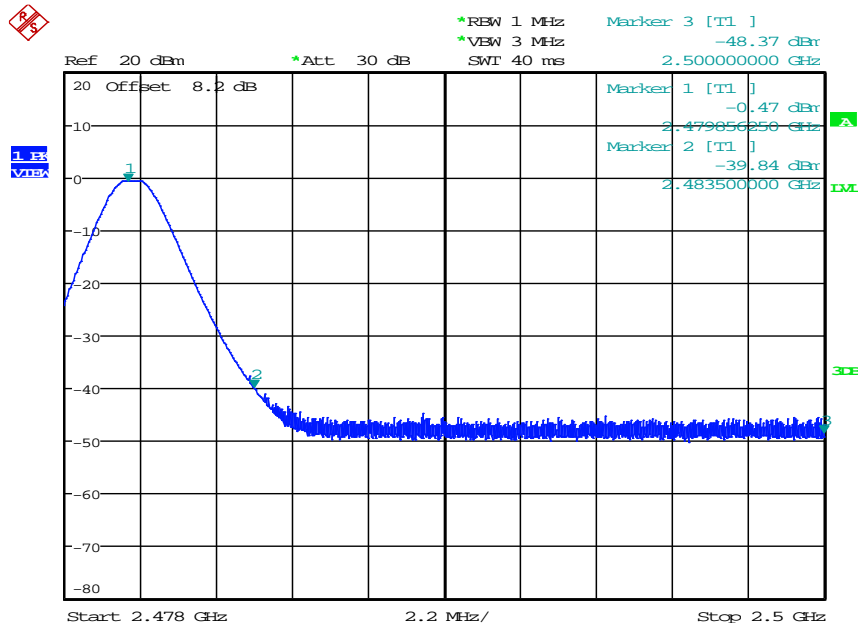
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Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (Low Channel)



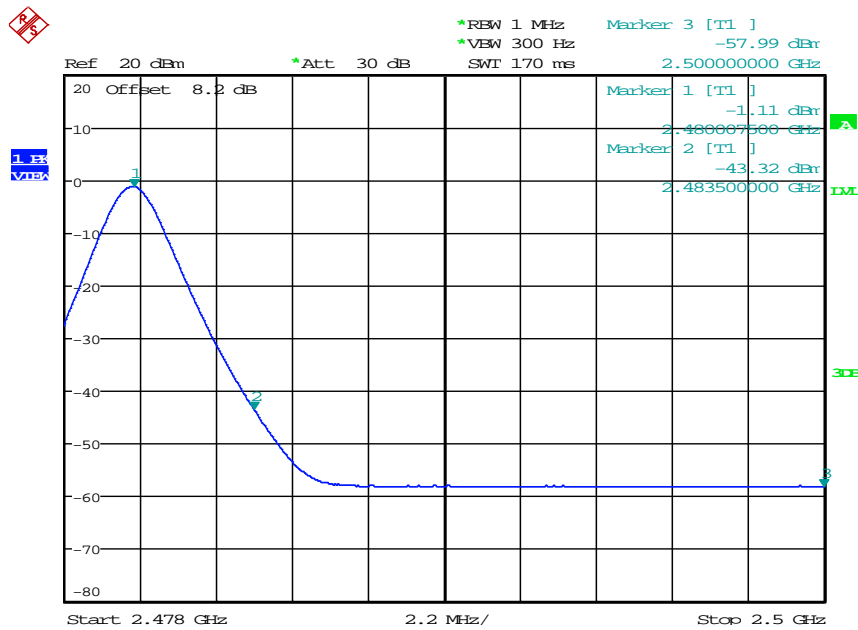
Date: 23.AUG.2019 17:12:57

Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (High Channel)



Date: 23.AUG.2019 18:17:11

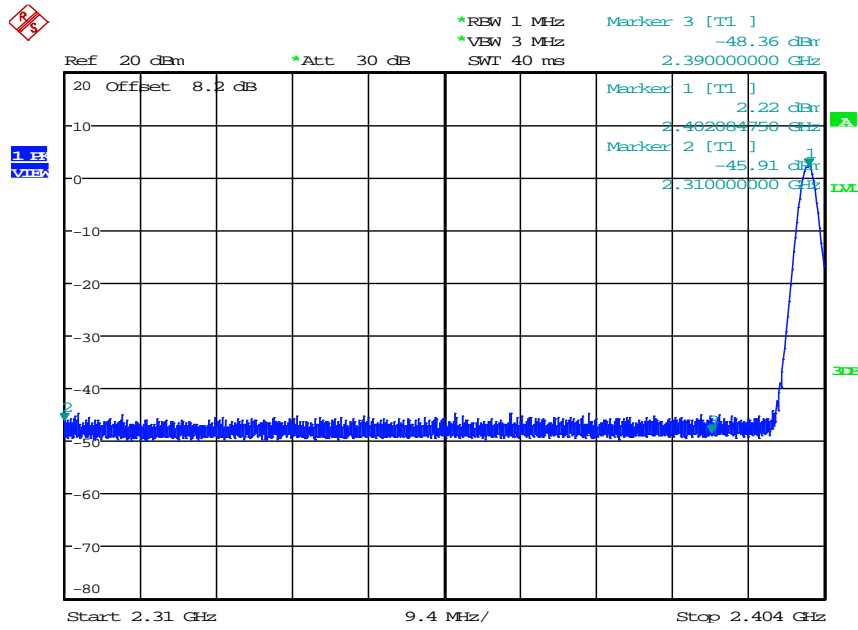
Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (High Channel)



Date: 23.AUG.2019 18:17:24

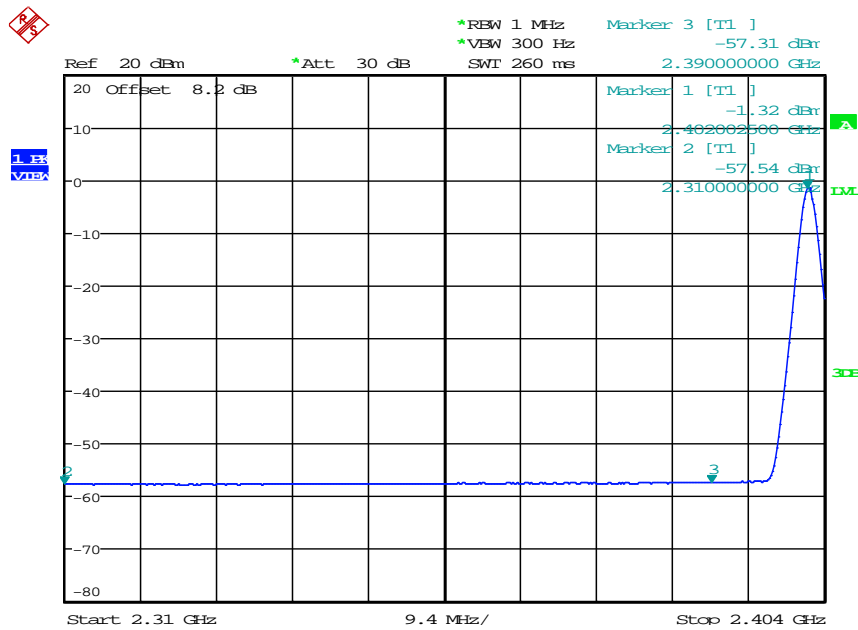


Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (Low Channel)



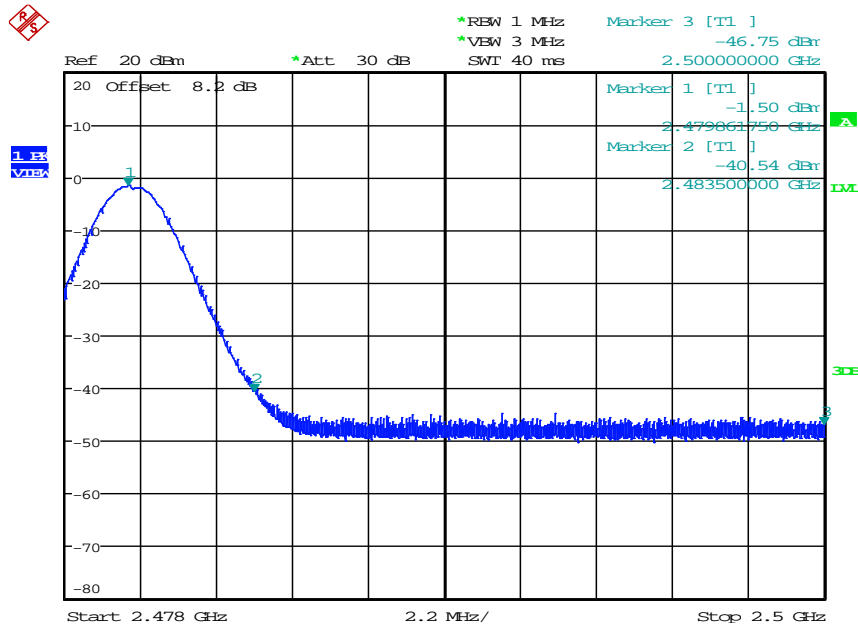
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Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (Low Channel)



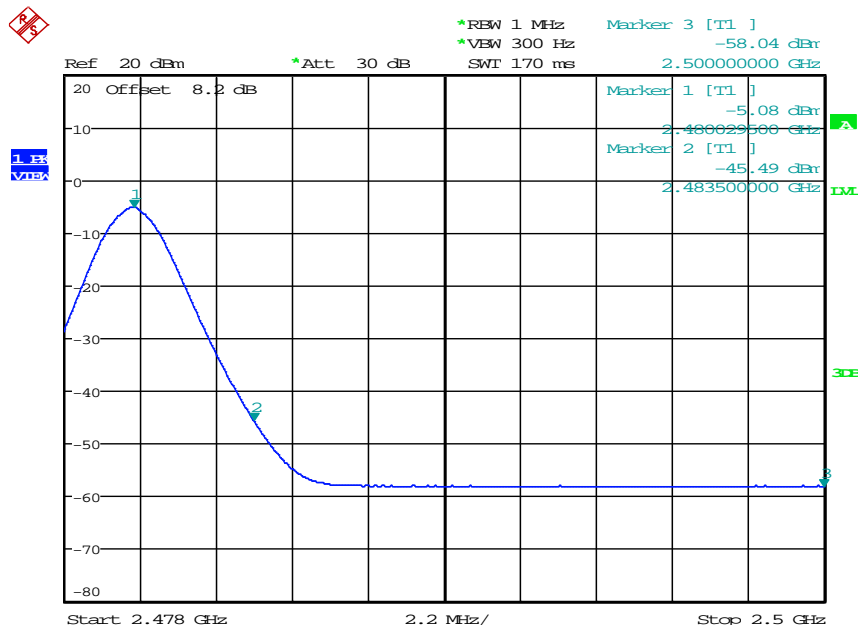
Date: 23.AUG.2019 17:23:18

Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (High Channel)



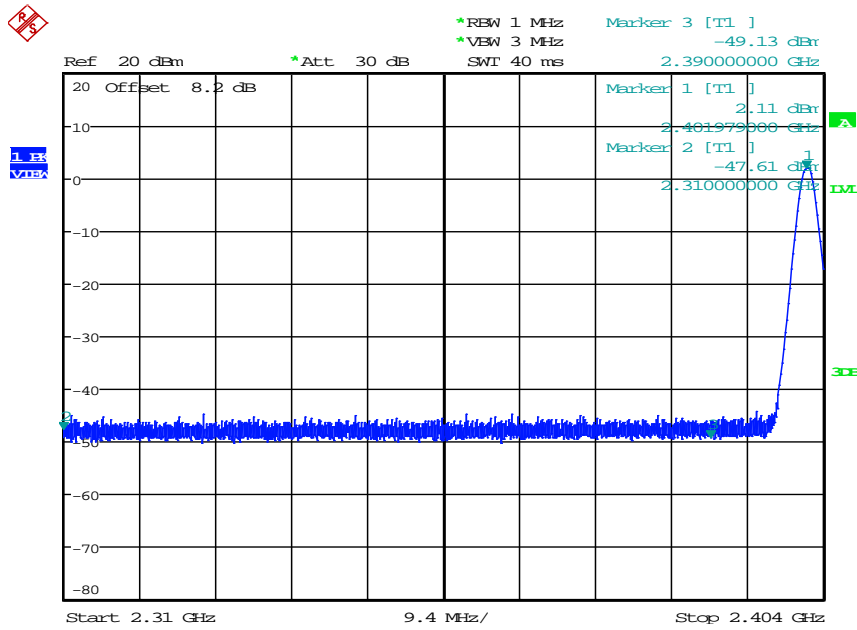
Date: 23.AUG.2019 18:17:50

Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (High Channel)



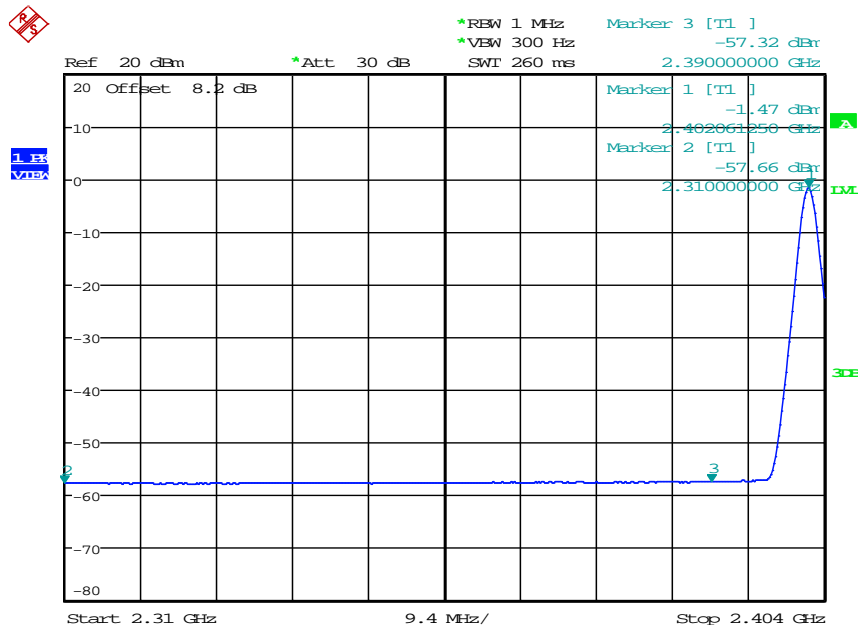
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Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (Low Channel)



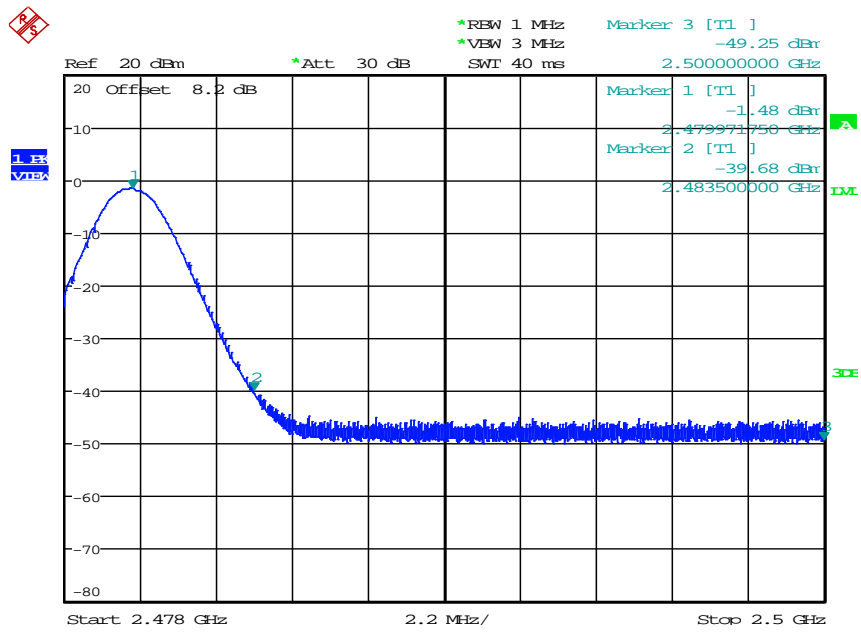
Date: 23.AUG.2019 17:32:38

Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_Average (Low Channel)



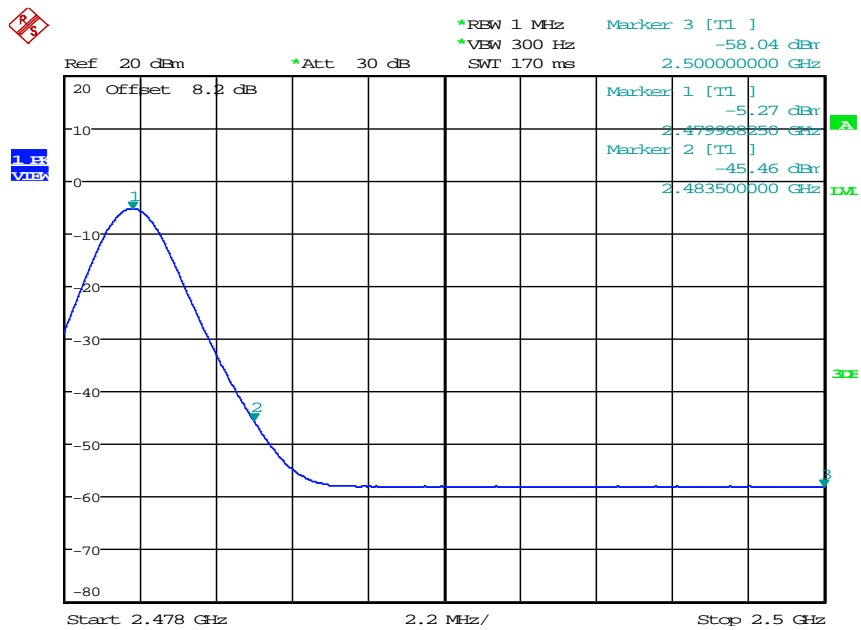
Date: 23.AUG.2019 17:32:51

Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (High Channel)



Date: 23.AUG.2019 18:19:11

Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_Average (High Channel)



Date: 23.AUG.2019 18:19:23