

FCC Part 15.247

Test Information:

Serial No.:	2FUQ-1	Test Date:	2023/12/29~2024/02/01
Test Site:	RF	Test Mode:	Transmitting
Tester:	Arthur Su	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	22.7-24	Relative Humidity: (%)	53-60	ATM Pressure: (kPa)	101.2-101.5
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/03/31	2024/03/30
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/03/31	2024/03/30

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

20 dB Emission Bandwidth

BDR

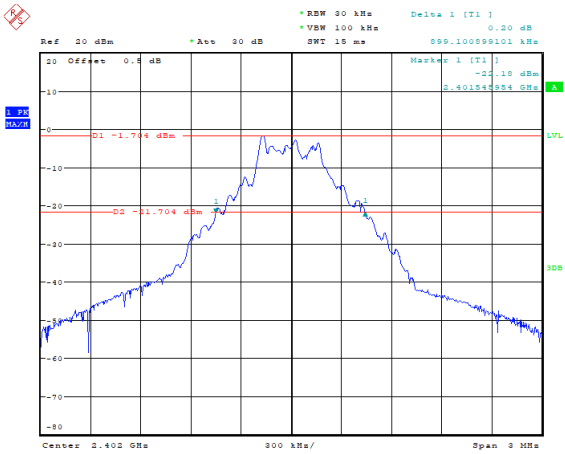
Mode	Value (MHz)
GFSK_Low	0.899
GFSK_Middle	0.899
GFSK_High	0.899

EDR

Mode	Value (MHz)
$\pi/4$ -DQPSK_Low	1.271
$\pi/4$ -DQPSK_Middle	1.274
$\pi/4$ -DQPSK_High	1.277
8DPSK_Low	1.262
8DPSK_Middle	1.271
8DPSK_High	1.268

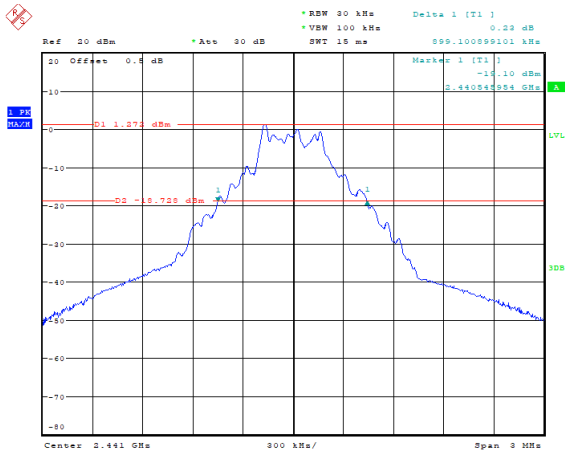
BDR

GFSK_Low 0.899 MHz



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:32:44

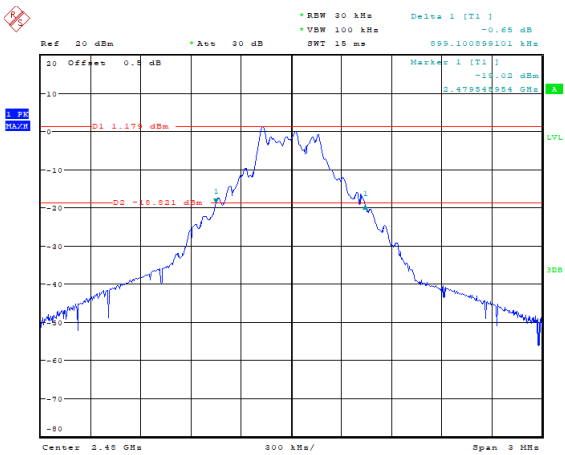
GFSK_Middle 0.899 MHz



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:38:39

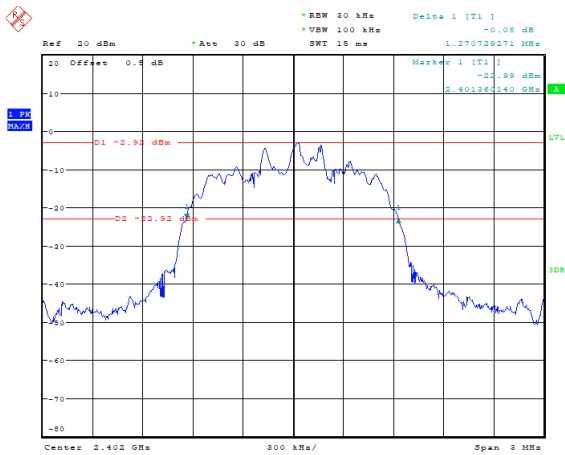
EDR

GFSK_High 0.899 MHz



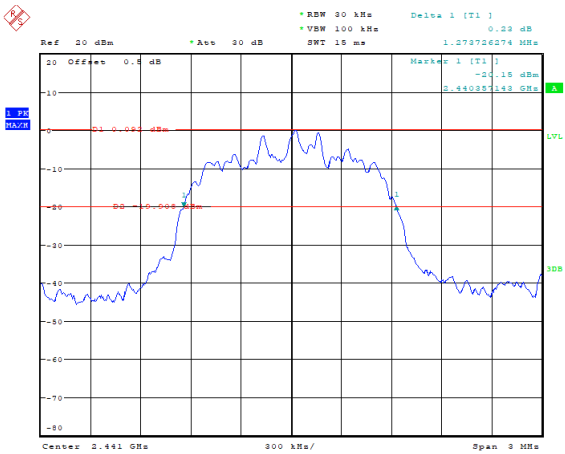
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:44:08

$\pi/4$ -DQPSK_Low 1.271 MHz



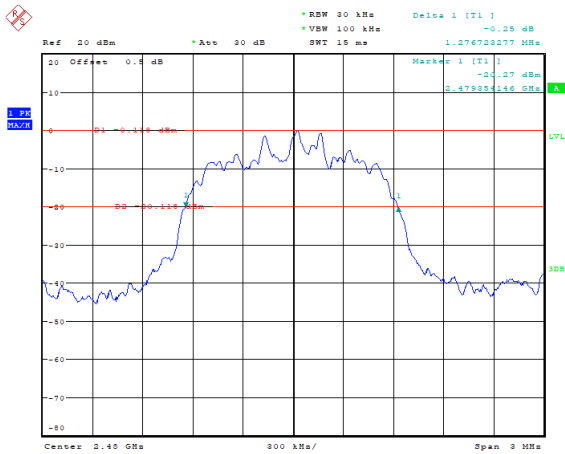
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:54:11

$\pi/4$ -DQPSK_Middle 1.274 MHz



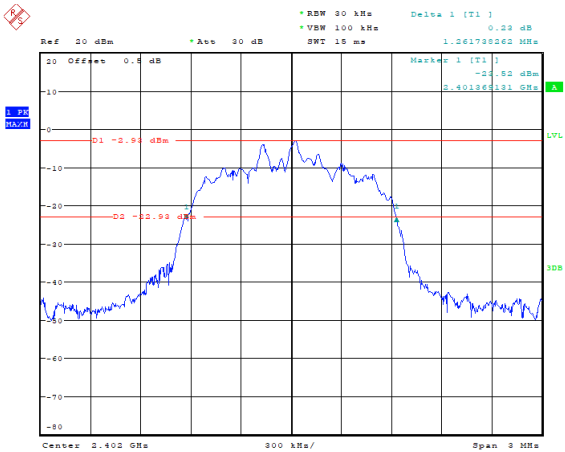
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 16:00:13

$\pi/4$ -DQPSK_High 1.277 MHz



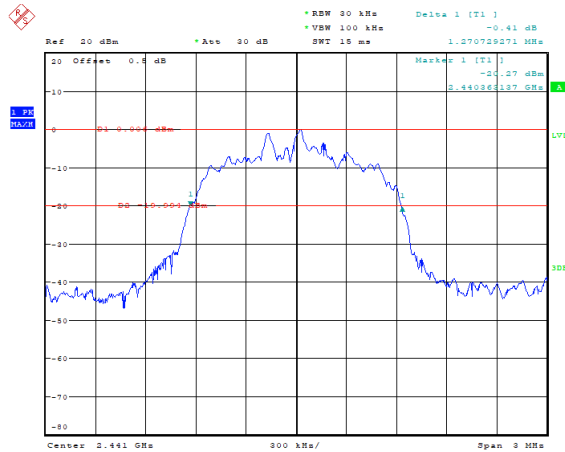
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 16:05:04

8DPSK_Low 1.262 MHz



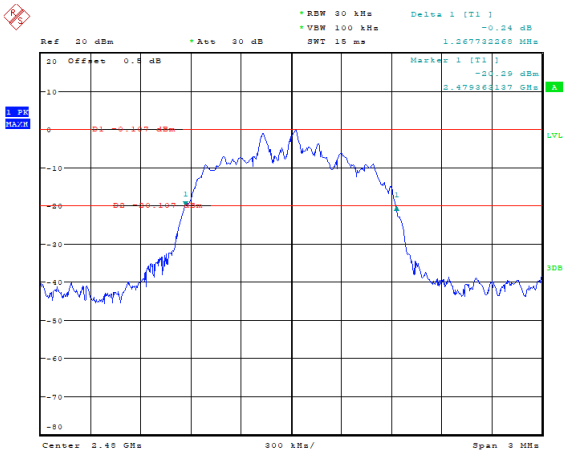
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 16:15:42

8DPSK_Middle 1.271 MHz



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 16:20:46

8DPSK_High 1.268 MHz



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 16:26:54

99% Occupied Bandwidth

BDR

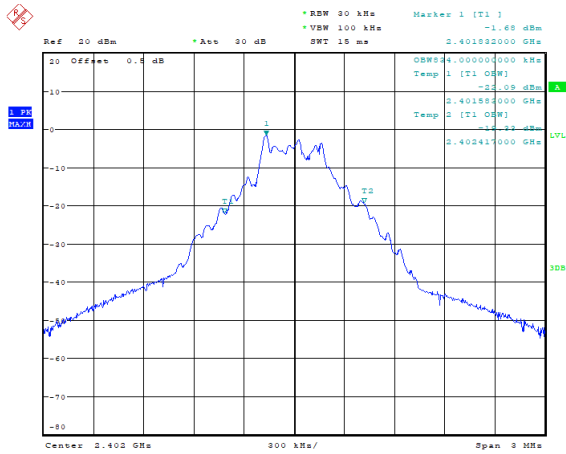
Mode	99% OBW (MHz)
GFSK_Low	0.834
GFSK_Middle	0.834
GFSK_High	0.834

EDR

Mode	99% OBW (MHz)
$\pi/4$ -DQPSK_Low	1.167
$\pi/4$ -DQPSK_Middle	1.167
$\pi/4$ -DQPSK_High	1.170
8DPSK_Low	1.164
8DPSK_Middle	1.170
8DPSK_High	1.167

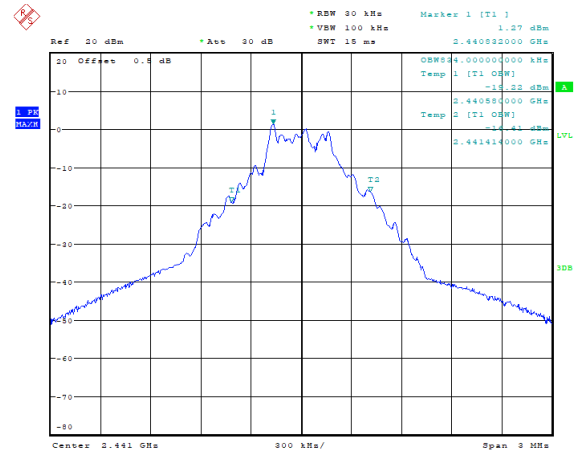
BDR

GFSK_Low 0.834 MHz



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:33:21

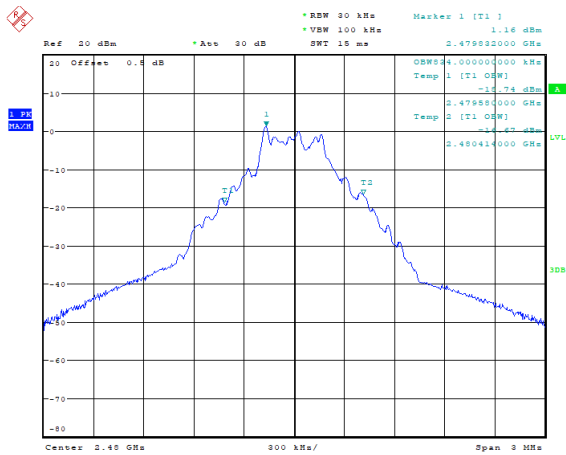
GFSK_Middle 0.834 MHz



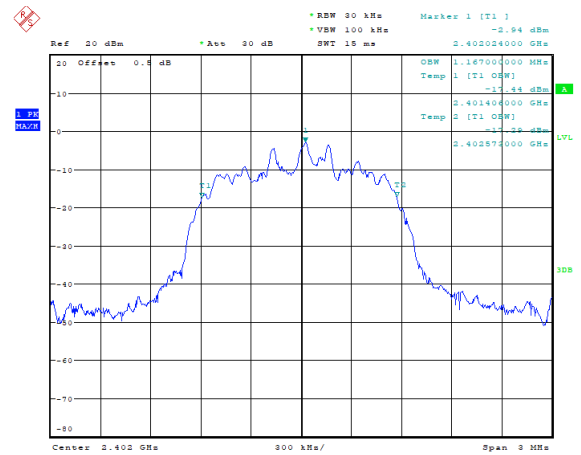
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:39:09

EDR

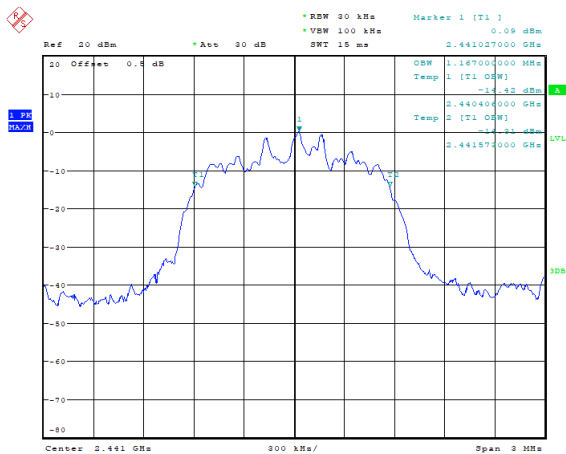
GFSK_High 0.834 MHz



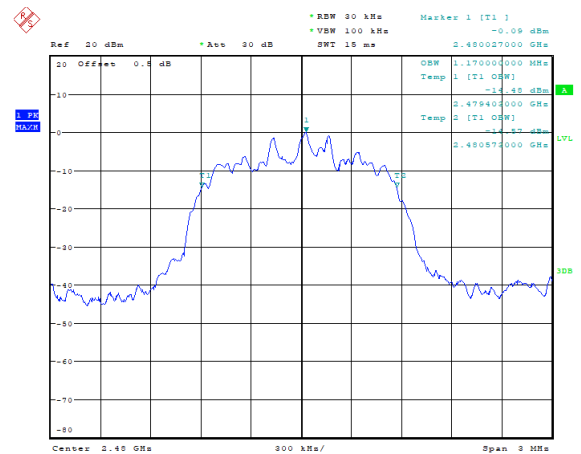
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:44:38

 $\pi/4$ -DQPSK_Low 1.167 MHz

ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:54:59

 $\pi/4$ -DQPSK_Middle 1.167 MHz

ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 16:00:34

 $\pi/4$ -DQPSK_High 1.170 MHz

ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 16:05:23

Channel Separation**BDR**

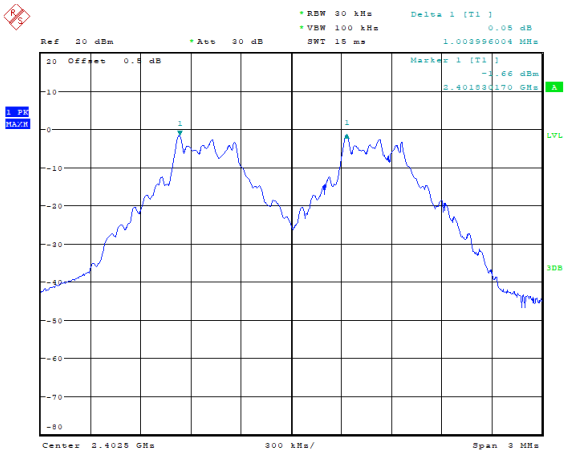
Mode	Value (MHz)	Limit (MHz)	Result
GFSK_Low	1.004	0.599	Pass
GFSK_Middle	1.001	0.599	Pass
GFSK_High	1.007	0.599	Pass

EDR

Mode	Value (MHz)	Limit (MHz)	Result
$\pi/4$ -DQPSK_Low	1.001	0.847	Pass
$\pi/4$ -DQPSK_Middle	1.004	0.849	Pass
$\pi/4$ -DQPSK_High	1.001	0.851	Pass
8DPSK_Low	0.998	0.841	Pass
8DPSK_Middle	1.001	0.847	Pass
8DPSK_High	1.007	0.845	Pass

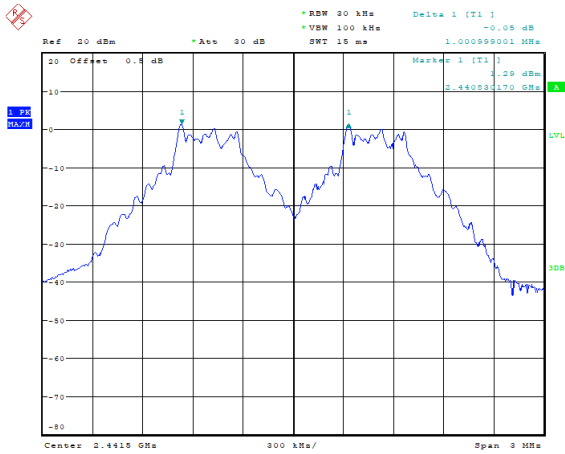
BDR

GFSK_Low 1.004 MHz



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:37:26

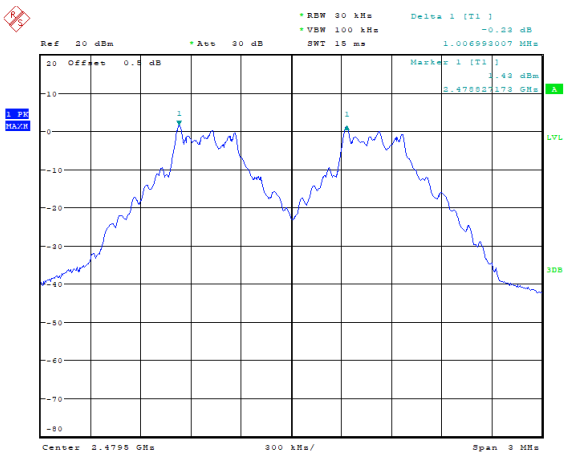
GFSK_Middle 1.001 MHz



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:40:08

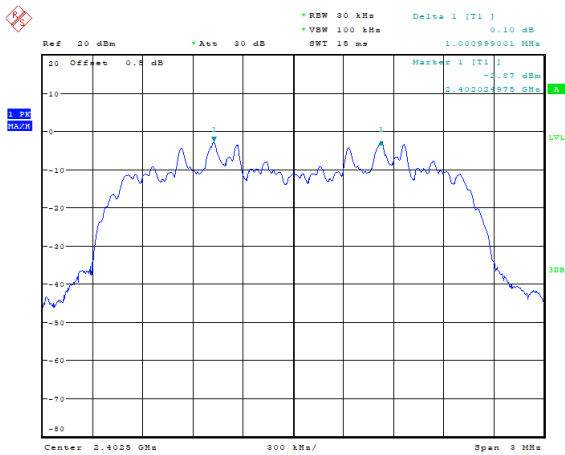
EDR

GFSK_High 1.007 MHz



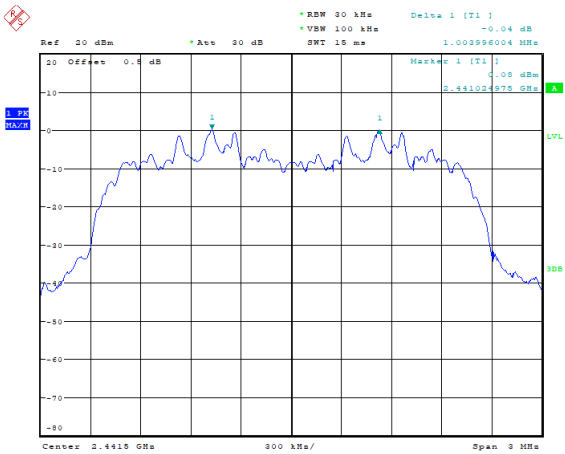
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:45:44

$\pi/4$ -DQPSK_Low 1.001 MHz



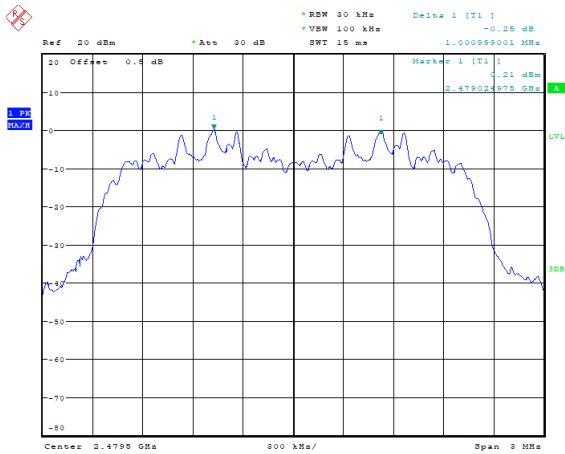
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:56:25

$\pi/4$ -DQPSK_Middle 1.004 MHz



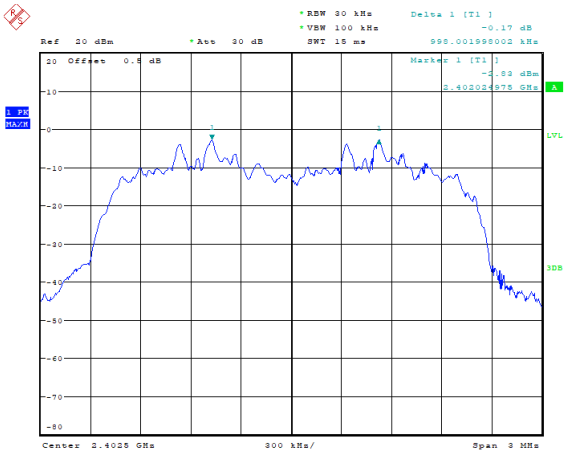
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 16:01:29

$\pi/4$ -DQPSK_High 1.001 MHz



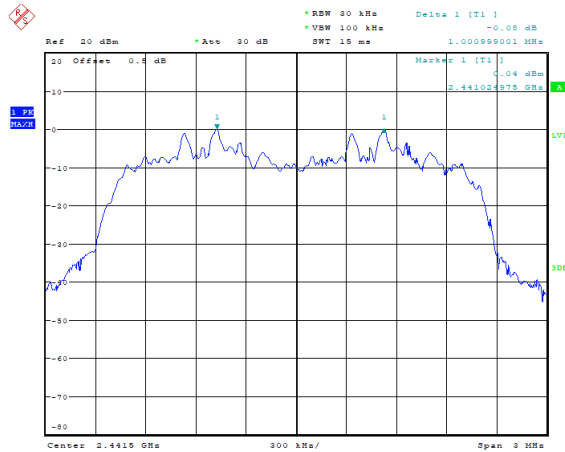
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 16:07:19

8DPSK_Low 0.998 MHz



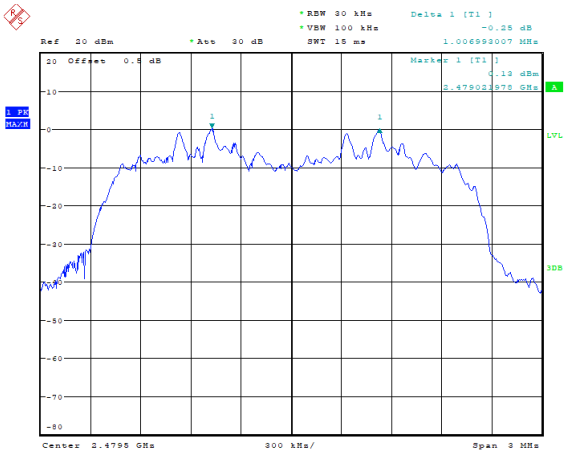
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DECEMBER.2023 16:18:50

8DPSK_Middle 1.001 MHz



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DECEMBER.2023 16:23:05

8DPSK_High 1.007 MHz



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DECEMBER.2023 16:41:53

Number of Hopping Frequency

BDR

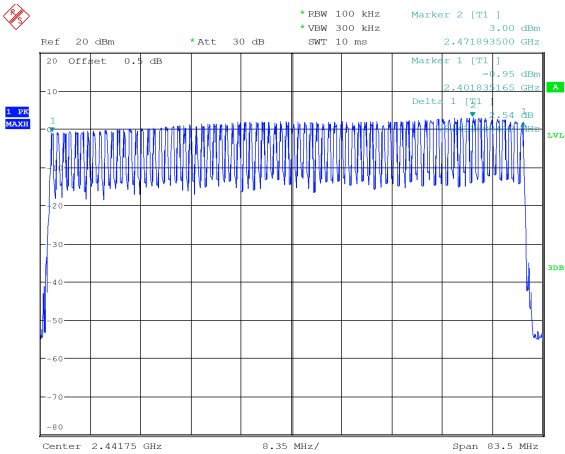
Mode	Value	Limit	Result
GFSK_Hopping	79	15	Pass

EDR

Mode	Value	Limit	Result
$\pi/4$ -DQPSK_Hopping	79	15	Pass
8DPSK_Hopping	79	15	Pass

BDR

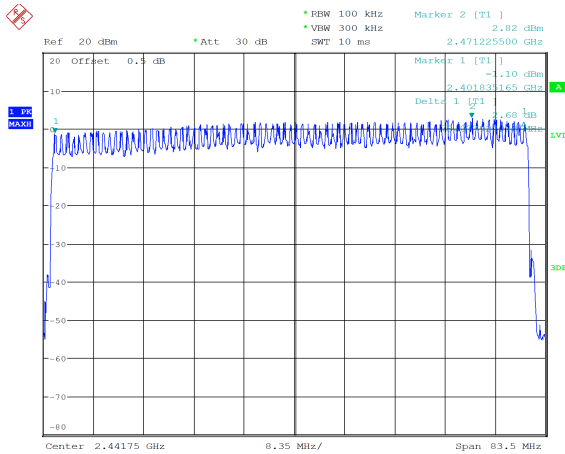
GFSK_Hopping 79



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 1.FEB.2024 14:24:50

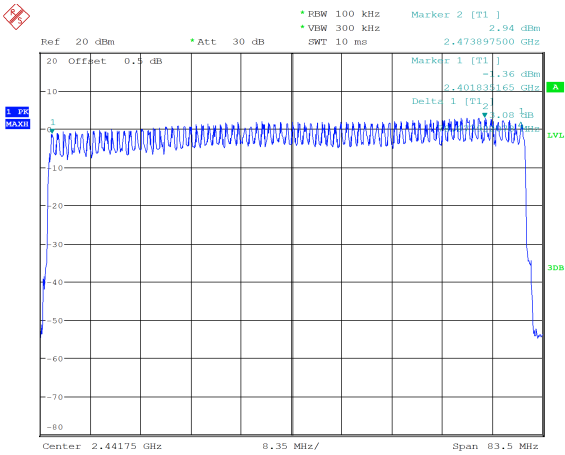
EDR

$\pi/4$ -DQPSK_Hopping 79



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 1.FEB.2024 14:29:47

8DPSK_Hopping 79



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 1.FEB.2024 14:37:50

Time of Occupancy (dwell time)**BDR**

Mode	Pulse width (ms)	Dwell time (s)	Limit (s)	Result
GFSK_Hopping_DH1	0.409	0.131	0.400	Pass
GFSK_Hopping_DH3	1.672	0.268	0.400	Pass
GFSK_Hopping_DH5	2.942	0.314	0.400	Pass

EDR

Mode	Pulse width (ms)	Dwell time (s)	Limit (s)	Result
$\pi/4$ -DQPSK_Hopping_2DH1	0.402	0.129	0.400	Pass
$\pi/4$ -DQPSK_Hopping_2DH3	1.663	0.266	0.400	Pass
$\pi/4$ -DQPSK_Hopping_2DH5	2.932	0.313	0.400	Pass
8DPSK_Hopping_3DH1	0.400	0.128	0.400	Pass
8DPSK_Hopping_3DH3	1.660	0.266	0.400	Pass
8DPSK_Hopping_3DH5	2.932	0.313	0.400	Pass

Note:

DH1: Dwell time = Pulse time (ms) $\times$ (1600/2/79) $\times$ 31.6 s

DH3: Dwell time = Pulse time (ms) $\times$ (1600/4/79) $\times$ 31.6 s

DH5: Dwell time = Pulse time (ms) $\times$ (1600/6/79) $\times$ 31.6 s

2DH1: Dwell time = Pulse time (ms) $\times$ (1600/2/79) $\times$ 31.6 s

2DH3: Dwell time = Pulse time (ms) $\times$ (1600/4/79) $\times$ 31.6 s

2DH5: Dwell time = Pulse time (ms) $\times$ (1600/6/79) $\times$ 31.6 s

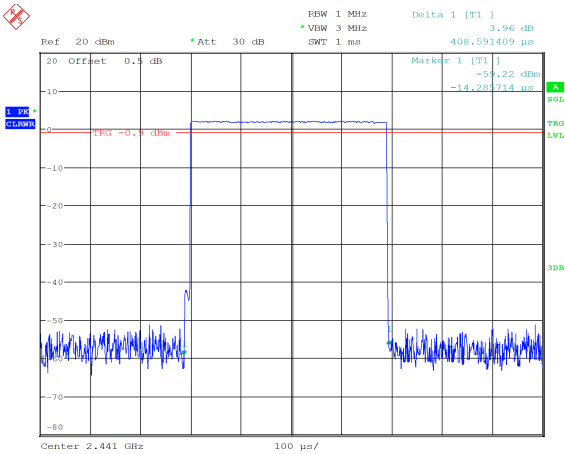
3DH1: Dwell time = Pulse time (ms) $\times$ (1600/2/79) $\times$ 31.6 s

3DH3: Dwell time = Pulse time (ms) $\times$ (1600/4/79) $\times$ 31.6 s

3DH5: Dwell time = Pulse time (ms) $\times$ (1600/6/79) $\times$ 31.6 s

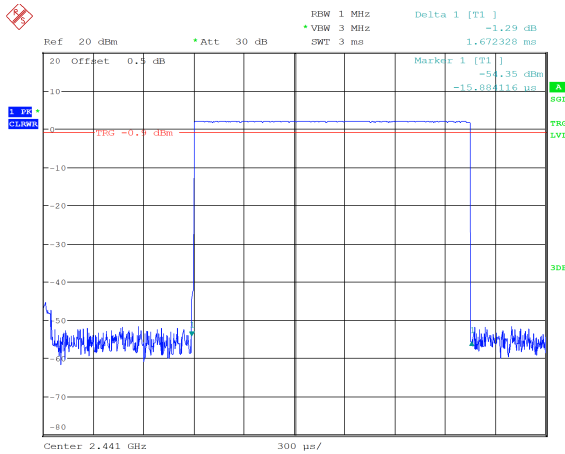
BDR

GFSK_Hopping_DH1 0.409ms



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 1.FEB.2024 14:41:13

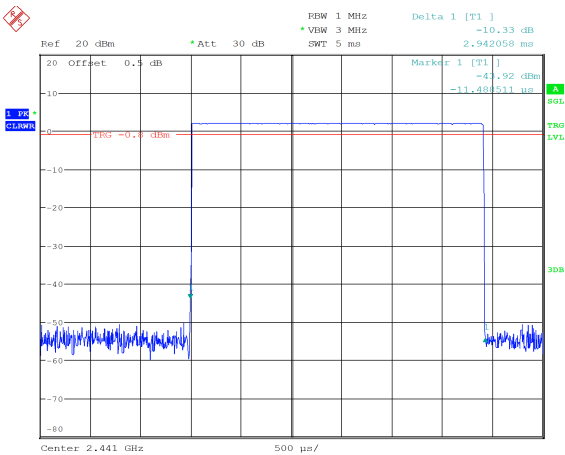
GFSK_Hopping_DH3 1.672ms



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 1.FEB.2024 14:42:38

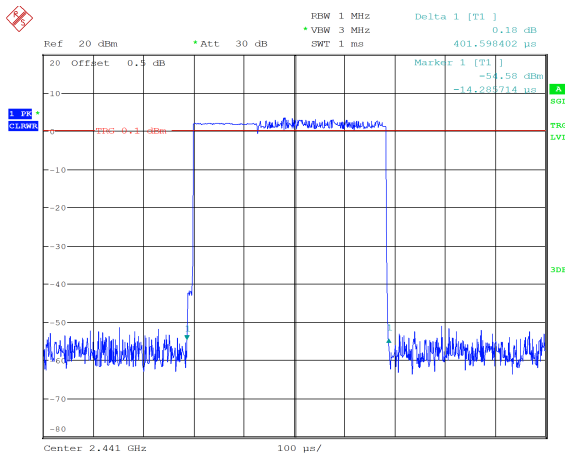
EDR

GFSK_Hopping_DH5 2.942ms



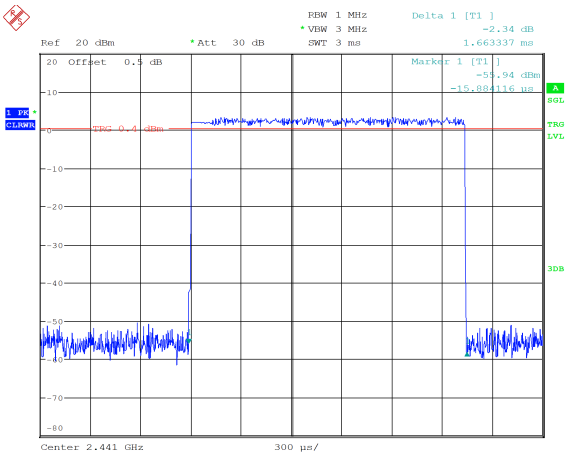
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 1.FEB.2024 14:44:24

$\pi/4$ -DQPSK_Hopping_2DH1 0.402ms



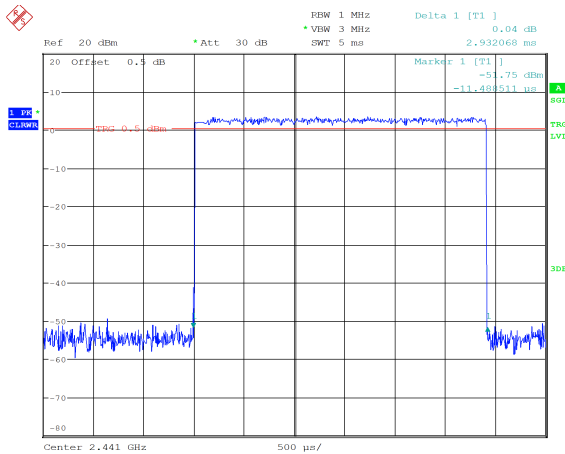
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 1.FEB.2024 14:45:55

$\pi/4$ -DQPSK_Hopping_2DH3 1.663ms



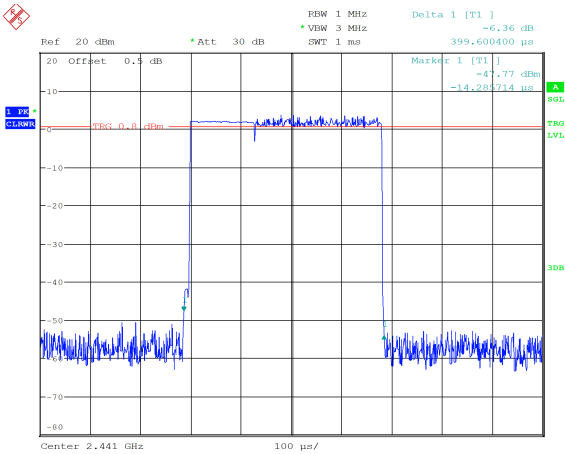
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 1.FEB.2024 14:47:31

$\pi/4$ -DQPSK_Hopping_2DH5 2.932ms



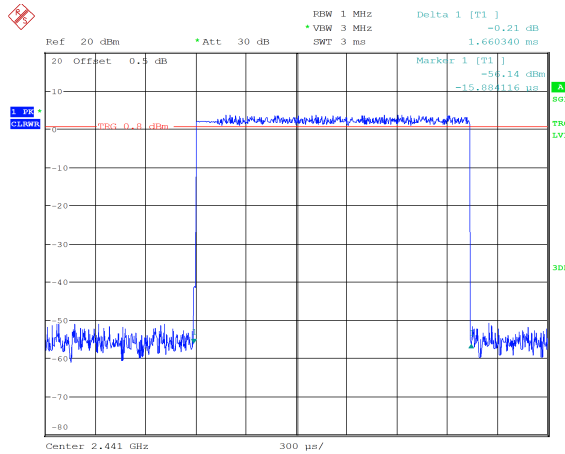
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 1.FEB.2024 14:48:53

8DPSK_Hopping_3DH1 0.400ms



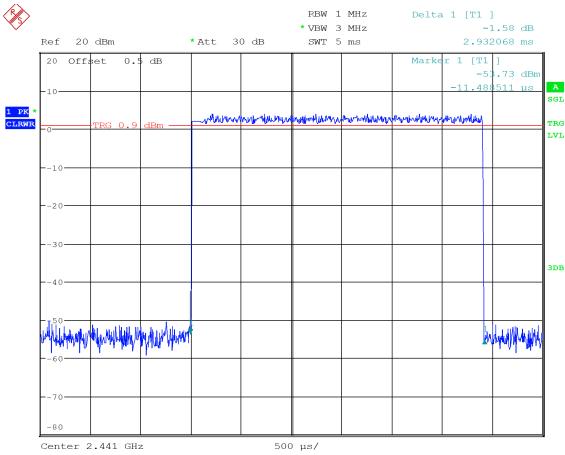
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 1.FEB.2024 14:50:46

8DPSK_Hopping_3DH3 1.660ms



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 1.FEB.2024 14:52:38

8DPSK_Hopping_3DH5 2.932ms



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 1.FEB.2024 14:54:06

Maximum Conducted Output Power**BDR**

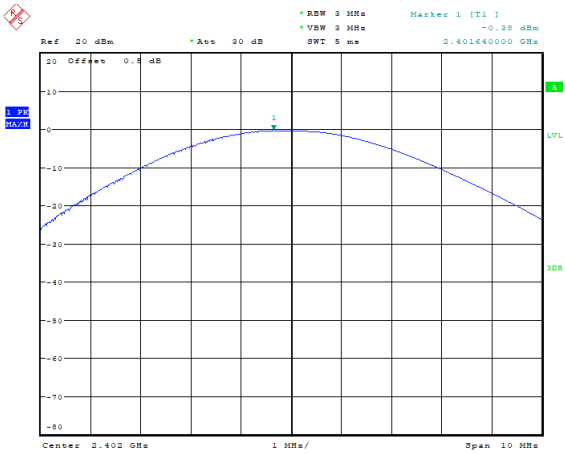
Mode	Value (dBm)	Limit (dBm)	Result
GFSK_Low	-0.38	21.00	Pass
GFSK_Middle	2.56	21.00	Pass
GFSK_High	2.43	21.00	Pass

EDR

Mode	Value (dBm)	Limit (dBm)	Result
$\pi/4$ -DQPSK_Low	1.29	21.00	Pass
$\pi/4$ -DQPSK_Middle	4.21	21.00	Pass
$\pi/4$ -DQPSK_High	4.08	21.00	Pass
8DPSK_Low	1.76	21.00	Pass
8DPSK_Middle	4.65	21.00	Pass
8DPSK_High	4.47	21.00	Pass

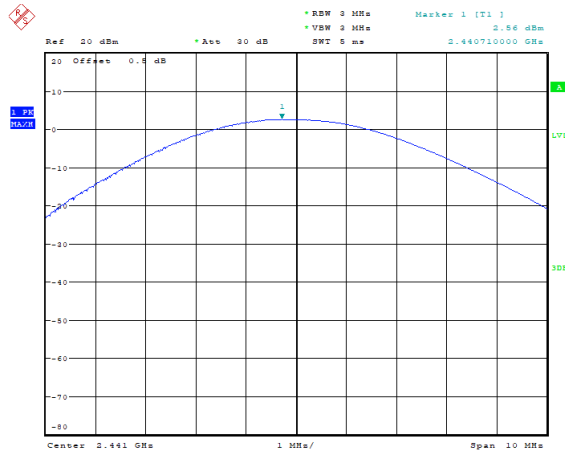
BDR

GFSK_Low -0.38 dBm



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEc.2023 15:31:13

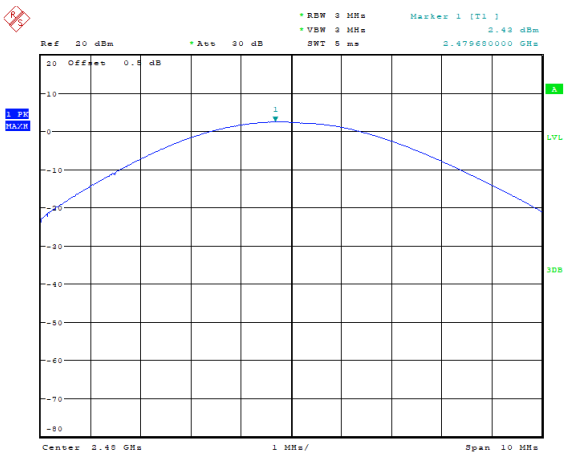
GFSK_Middle 2.56 dBm



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEc.2023 15:38:09

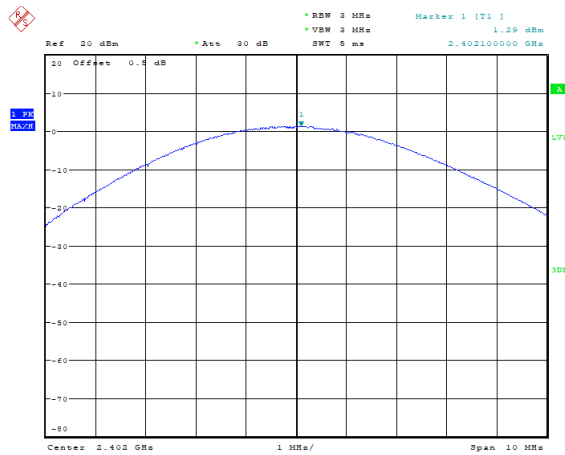
EDR

GFSK_High 2.43 dBm



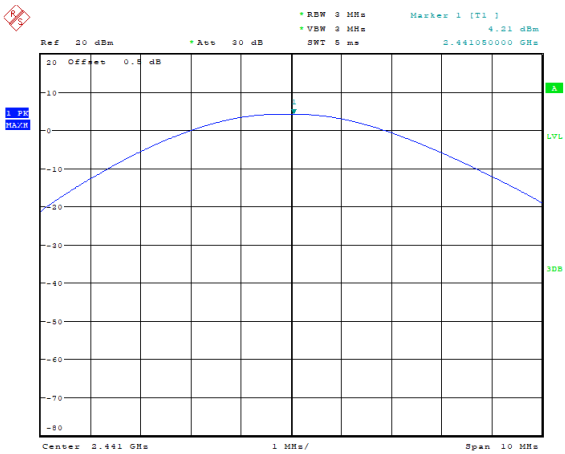
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEc.2023 15:42:05

$\pi/4$ -DQPSK_Low 1.29 dBm



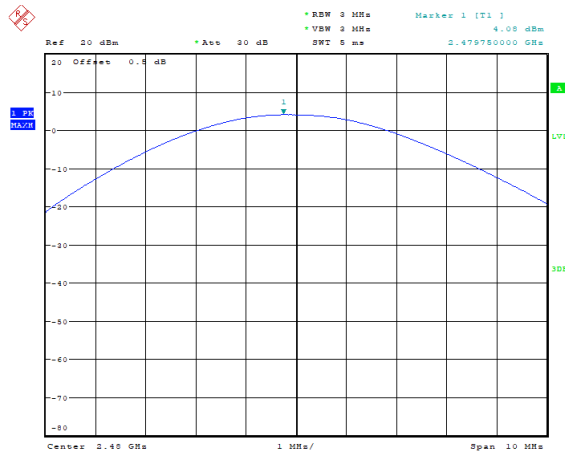
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEc.2023 15:51:24

$\pi/4$ -DQPSK_Middle 4.21 dBm



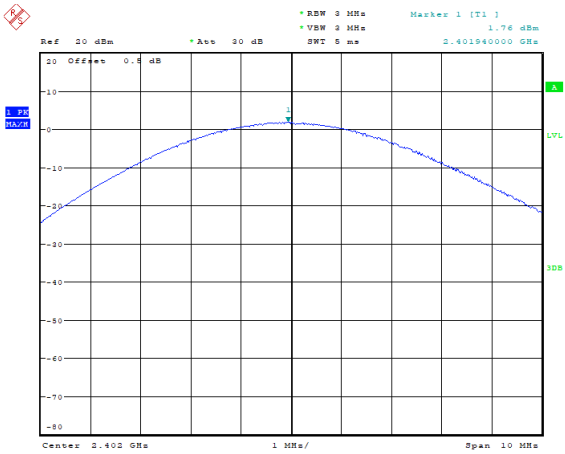
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEc.2023 15:59:49

$\pi/4$ -DQPSK_High 4.08 dBm



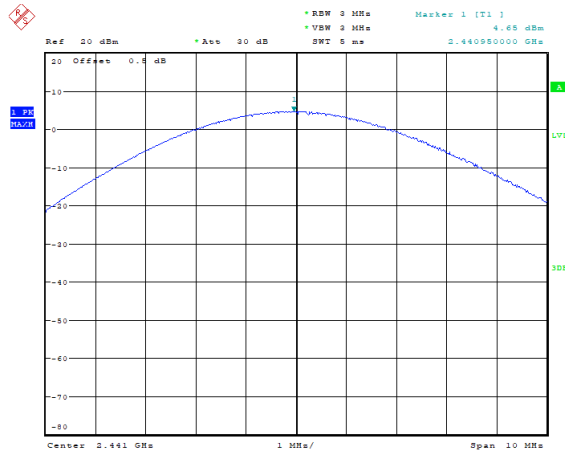
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEc.2023 16:03:40

8DPSK_Low 1.76 dBm



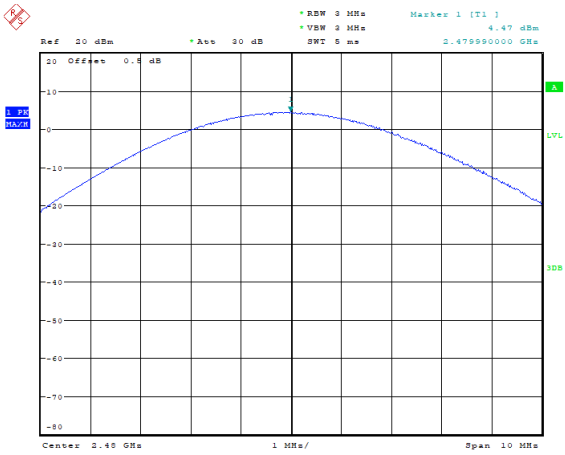
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DECEMBER.2023 16:13:55

8DPSK_Middle 4.65 dBm



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DECEMBER.2023 16:19:59

8DPSK_High 4.47 dBm



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DECEMBER.2023 16:24:30

100 kHz Bandwidth of Frequency Band Edge**BDR**

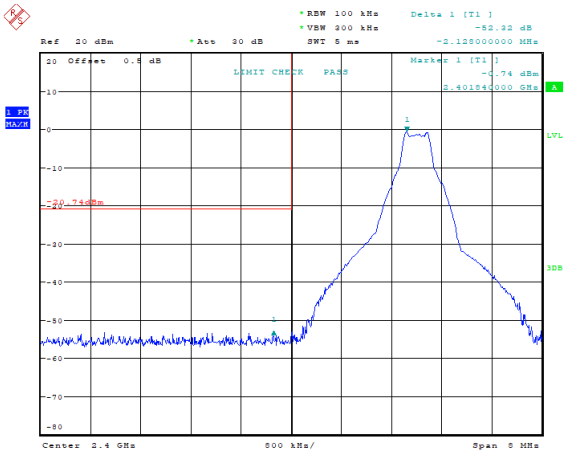
Mode	Value (dB)	Limit (dB)	Result
GFSK_Low	52.32	20.00	Pass
GFSK_High	55.31	20.00	Pass
GFSK_Hopping_Lower	53.04	20.00	Pass
GFSK_Hopping_Upper	56.16	20.00	Pass

EDR

Mode	Value (dB)	Limit (dB)	Result
$\pi/4$ -DQPSK_Low	49.30	20.00	Pass
$\pi/4$ -DQPSK_High	53.72	20.00	Pass
$\pi/4$ -DQPSK_Hopping_Lower	49.97	20.00	Pass
$\pi/4$ -DQPSK_Hopping_Upper	55.40	20.00	Pass
8DPSK_Low	49.22	20.00	Pass
8DPSK_High	54.87	20.00	Pass
8DPSK_Hopping_Lower	49.91	20.00	Pass
8DPSK_Hopping_Upper	55.53	20.00	Pass

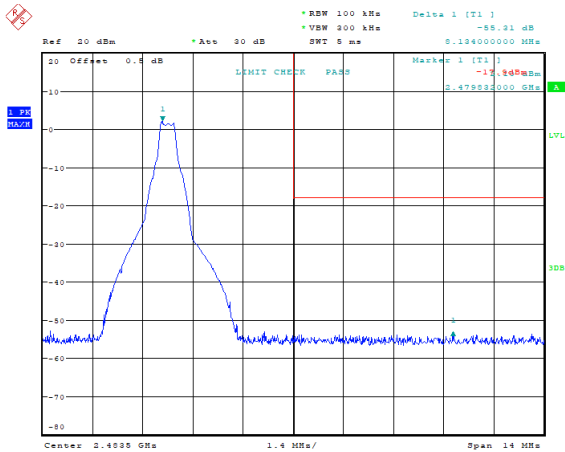
BDR

GFSK_Low 52.32 dB



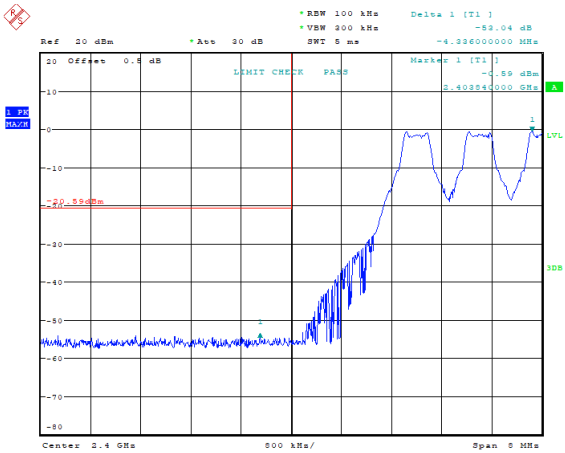
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:32:16

GFSK_High 55.31 dB



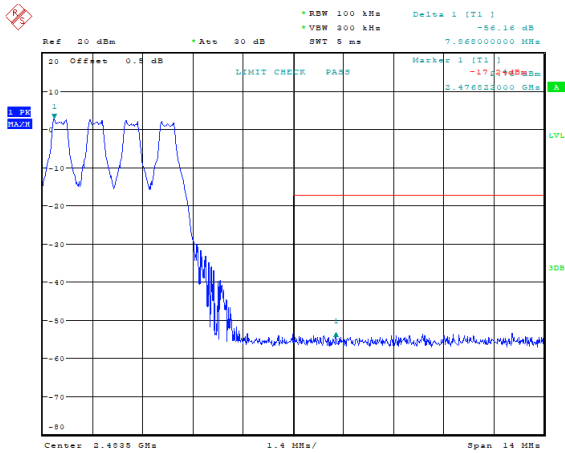
ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:43:38

GFSK_Hopping_Lower 53.04 dB



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 16:49:49

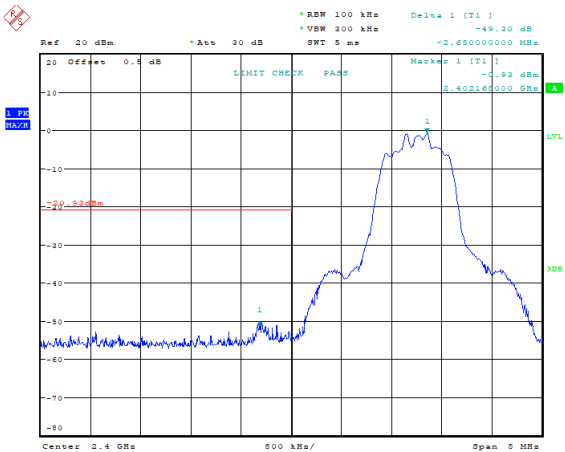
GFSK_Hopping_Upper 56.16 dB



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 16:52:36

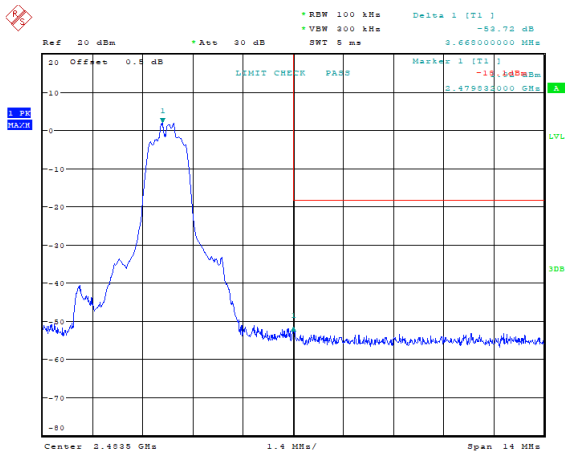
EDR

$\pi/4$ -DQPSK_Low 49.30 dB



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 15:53:18

$\pi/4$ -DQPSK_High 53.72 dB



ProjectNo.:CR231278723-RF Tester:Arthur Su
Date: 29.DEC.2023 16:04:39

