

FCC Part 15.247

Test Information:

Serial No.:	2GUK-1	Test Date:	2024/02/02~2024/02/08
Test Site:	RF	Test Mode:	Transmitting
Tester:	Chin	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	22.6-23	Relative Humidity: (%)	49-52	ATM Pressure: (kPa)	101.1
----------------------	---------	---------------------------	-------	------------------------	-------

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

* 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).

Tester:

Chin Qin

Reviewer:

Gary Ling

20 dB Emission Bandwidth**BDR**

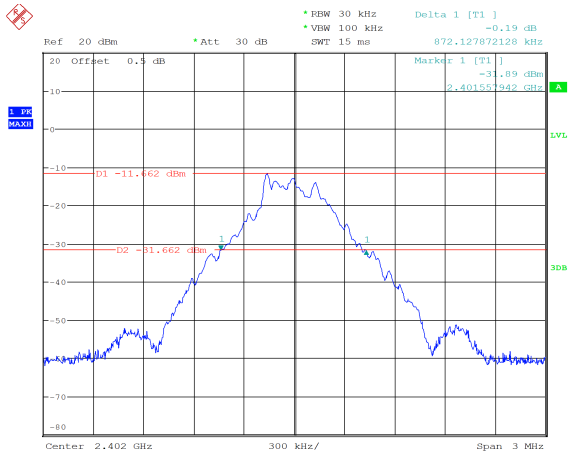
Mode	Value (MHz)
GFSK_Low	0.872
GFSK_Middle	0.878
GFSK_High	0.890

EDR

Mode	Value (MHz)
$\pi/4$ -DQPSK_Low	1.253
$\pi/4$ -DQPSK_Middle	1.250
$\pi/4$ -DQPSK_High	1.244

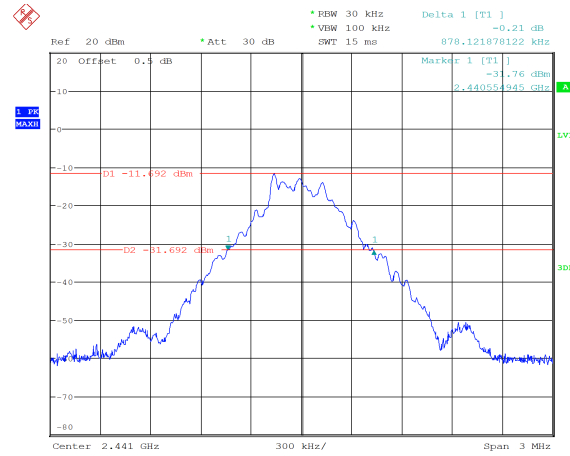
BDR

GFSK_Low 0.872 MHz



ProjectNo.:CR240104515-RF Tester:Chin
 Date: 8.FEB.2024 13:59:08

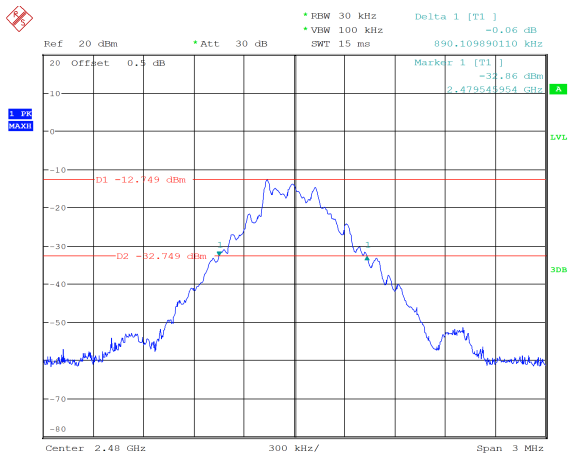
GFSK_Middle 0.878 MHz



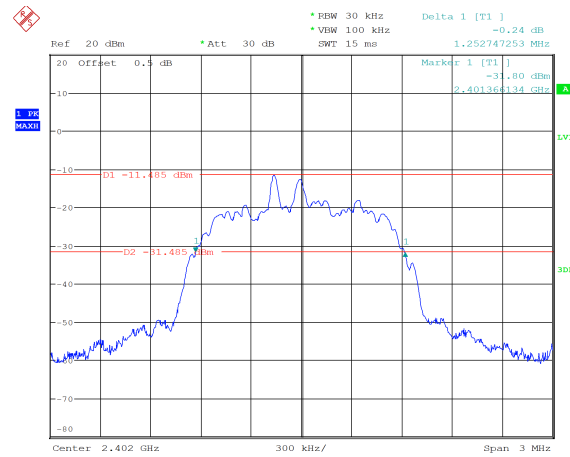
ProjectNo.:CR240104515-RF Tester:Chin
 Date: 2.FEB.2024 16:27:45

EDR

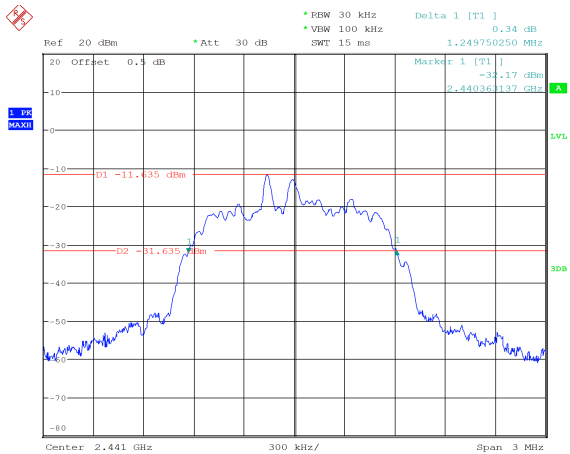
GFSK_High 0.890 MHz



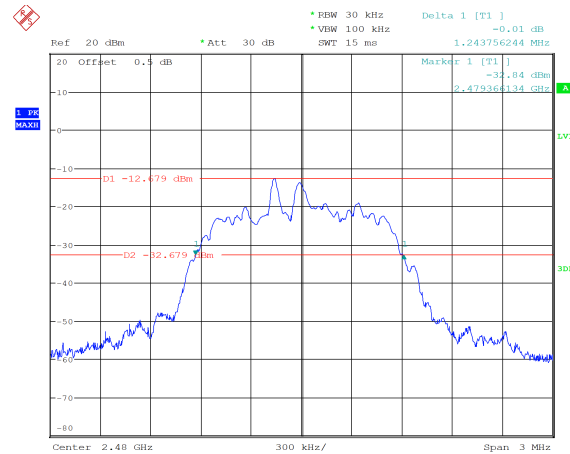
ProjectNo.:CR240104515-RF Tester:Chin
 Date: 2.FEB.2024 16:31:16

 $\pi/4$ -DQPSK_Low 1.253 MHz

ProjectNo.:CR240104515-RF Tester:Chin
 Date: 2.FEB.2024 16:38:07

 $\pi/4$ -DQPSK_Middle 1.250 MHz

ProjectNo.:CR240104515-RF Tester:Chin
 Date: 2.FEB.2024 16:40:52

 $\pi/4$ -DQPSK_High 1.244 MHz

ProjectNo.:CR240104515-RF Tester:Chin
 Date: 2.FEB.2024 16:45:28

99% Occupied Bandwidth**BDR**

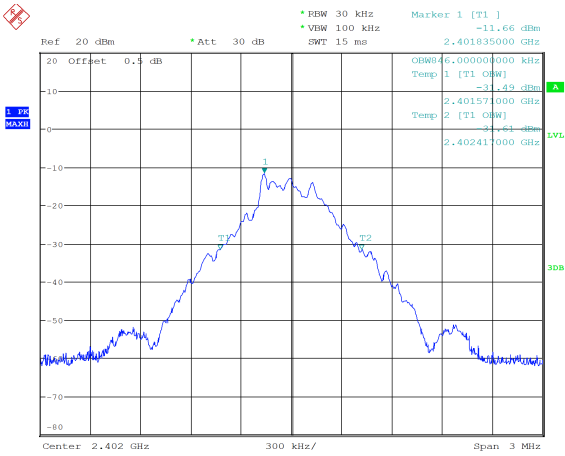
Mode	99% OBW (MHz)
GFSK_Low	0.846
GFSK_Middle	0.843
GFSK_High	0.855

EDR

Mode	99% OBW (MHz)
$\pi/4$ -DQPSK_Low	1.170
$\pi/4$ -DQPSK_Middle	1.176
$\pi/4$ -DQPSK_High	1.173

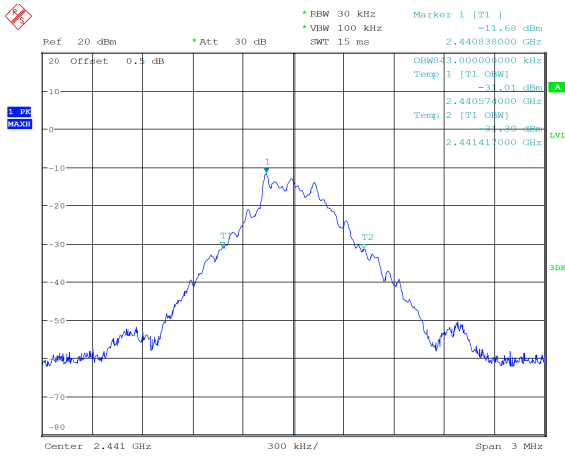
BDR

GFSK_Low 0.846 MHz



ProjectNo.:CR240104515-RF Tester:Chin
Date: 8.FEB.2024 13:59:39

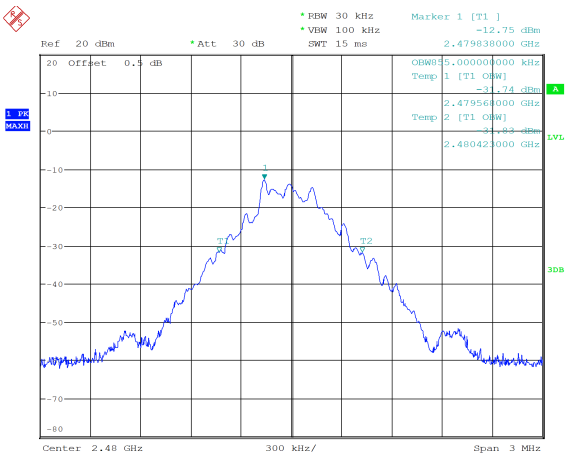
GFSK_Middle 0.843 MHz



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:28:17

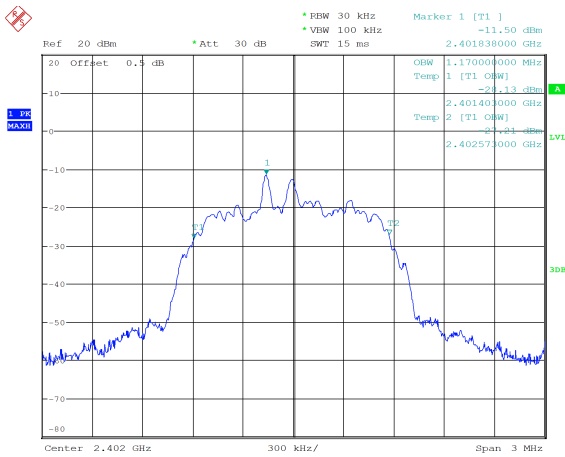
EDR

GFSK_High 0.855 MHz



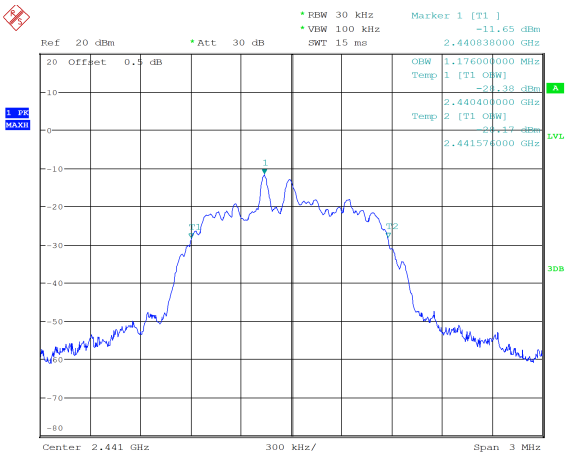
ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:31:49

$\pi/4$ -DQPSK_Low 1.170 MHz



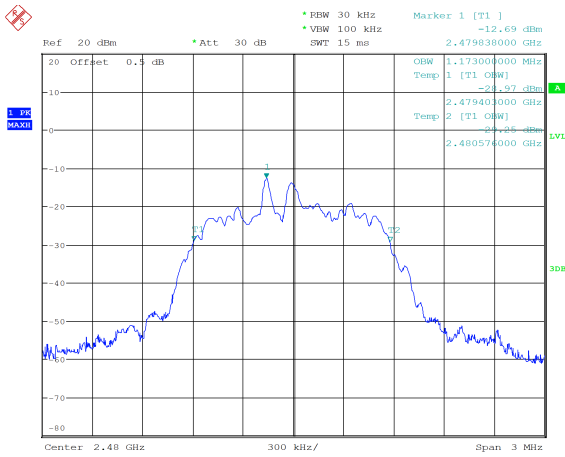
ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:38:40

$\pi/4$ -DQPSK_Middle 1.176 MHz



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:41:30

$\pi/4$ -DQPSK_High 1.173 MHz



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:46:08

Channel Separation**BDR**

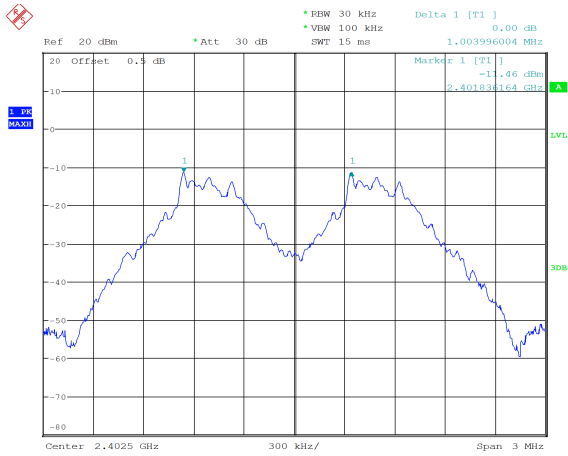
Mode	Value (MHz)	Limit (MHz)	Result
GFSK_Low	1.004	0.757	Pass
GFSK_Middle	1.004	0.585	Pass
GFSK_High	1.001	0.593	Pass

EDR

Mode	Value (MHz)	Limit (MHz)	Result
$\pi/4$ -DQPSK_Low	1.001	0.835	Pass
$\pi/4$ -DQPSK_Middle	1.004	0.833	Pass
$\pi/4$ -DQPSK_High	1.004	0.829	Pass

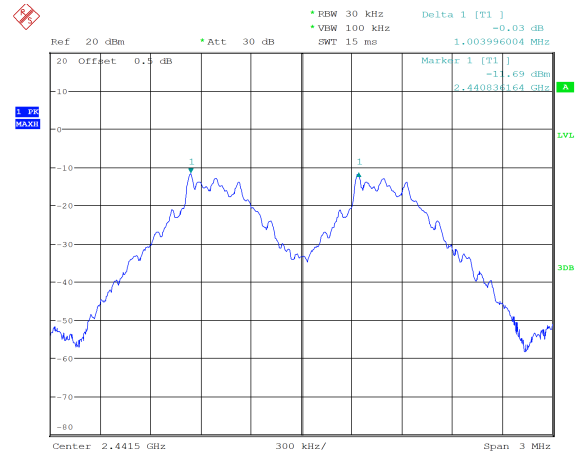
BDR

GFSK_Low 1.004 MHz



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:52:19

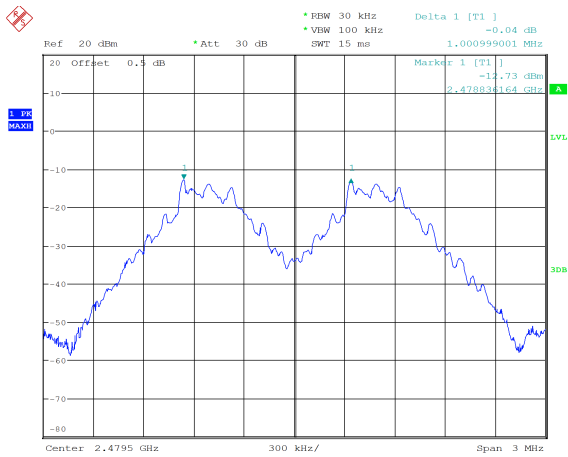
GFSK_Middle 1.004 MHz



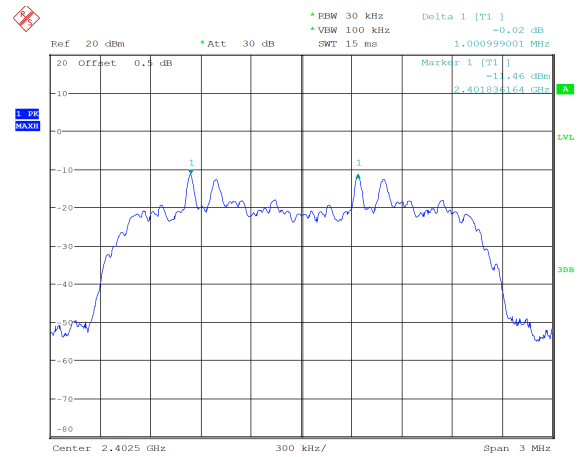
ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:29:10

EDR

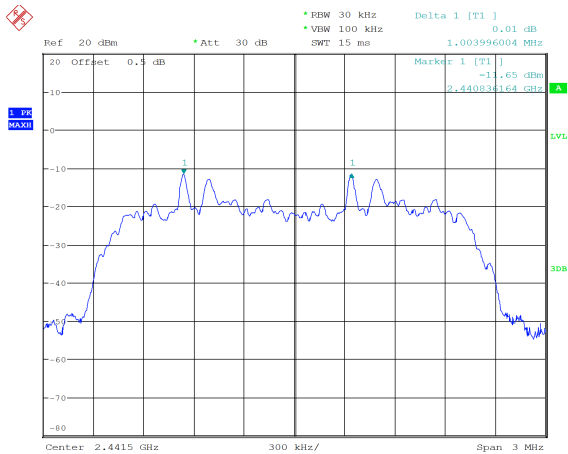
GFSK_High 1.001 MHz



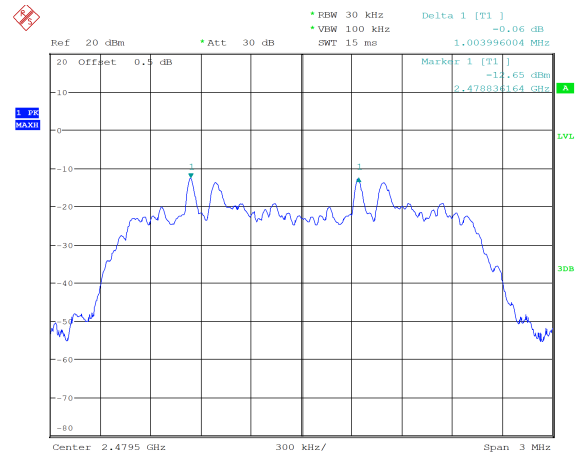
ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:32:55

 $\pi/4$ -DQPSK_Low 1.001 MHz

ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:39:38

 $\pi/4$ -DQPSK_Middle 1.004 MHz

ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:42:26

 $\pi/4$ -DQPSK_High 1.004 MHz

ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:47:16

Number of Hopping Frequency**BDR**

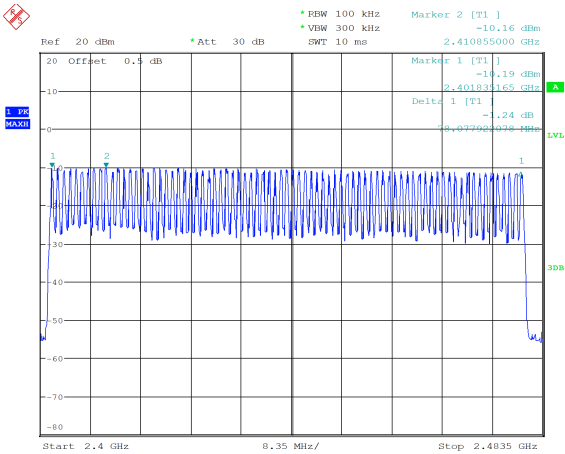
Mode	Value	Limit	Result
GFSK_Hopping	79	15	Pass

EDR

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

BDR

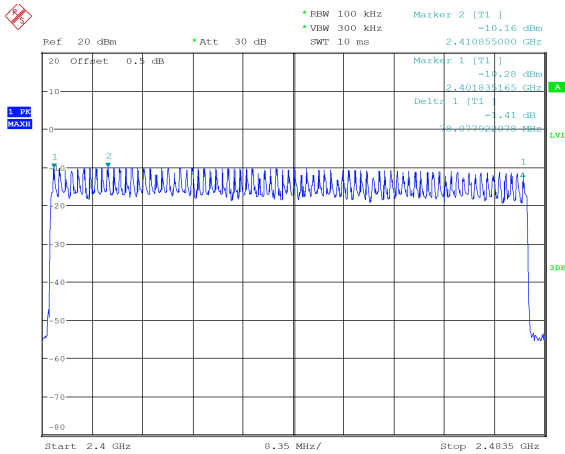
GFSK_Hopping 79



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:57:16

EDR

$\pi/4$ -DQPSK_Hopping 79



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 17:01:01

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

Mode	Pulse width (ms)	Dwell time (s)	Limit (s)	Result
GFSK_Hopping_DH1	0.395	0.126	0.400	Pass
GFSK_Hopping_DH3	1.657	0.265	0.400	Pass
GFSK_Hopping_DH5	2.927	0.312	0.400	Pass

EDR

Mode	Pulse width (ms)	Dwell time (s)	Limit (s)	Result
$\pi/4$ -DQPSK_Hopping_2DH1	0.404	0.129	0.400	Pass
$\pi/4$ -DQPSK_Hopping_2DH3	1.666	0.267	0.400	Pass
$\pi/4$ -DQPSK_Hopping_2DH5	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

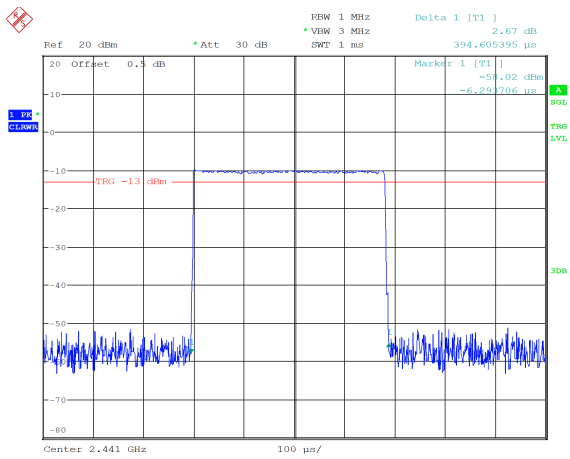
2DH1: Dwell time = Pulse time (ms) $\times$ (1600/2/79) $\times$ 31.6 s

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

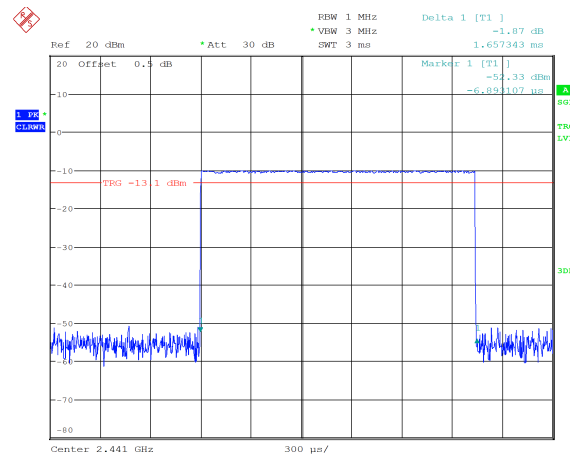
BDR

GFSK_Hopping_DH1 0.395ms



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 17:10:16

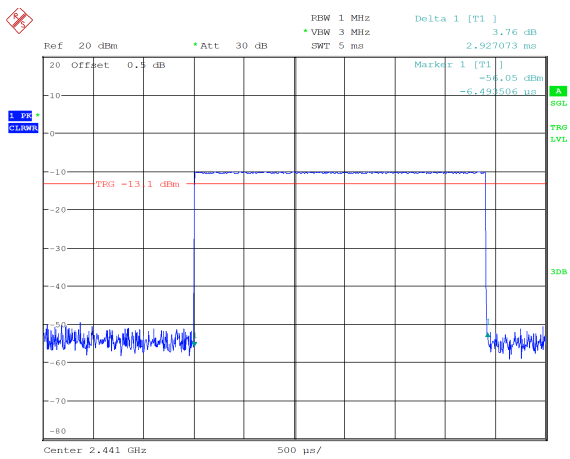
GFSK_Hopping_DH3 1.657ms



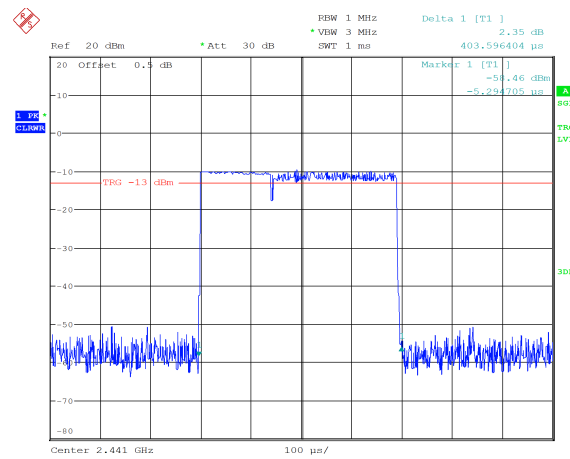
ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 17:12:19

EDR

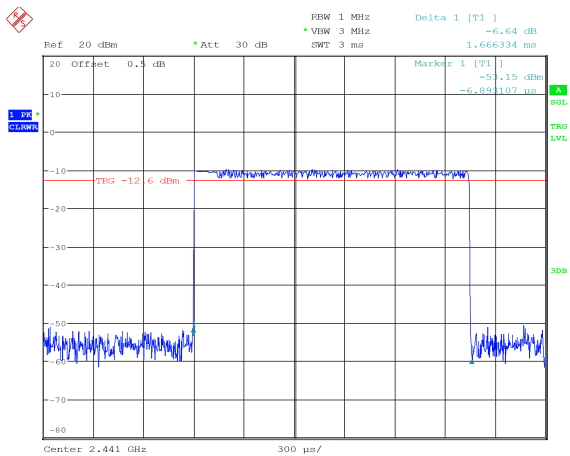
GFSK_Hopping_DH5 2.927ms



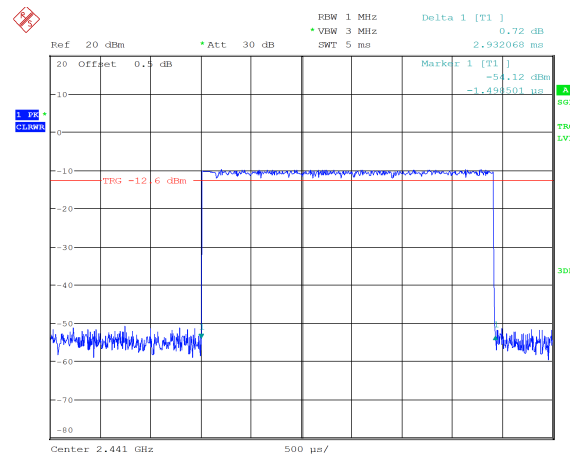
ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 17:14:14

 $\pi/4$ -DQPSK_Hopping_2DH1 0.404ms

ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 17:16:21

 $\pi/4$ -DQPSK_Hopping_2DH3 1.666ms

ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 17:18:04

 $\pi/4$ -DQPSK_Hopping_2DH5 2.932ms

ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 17:20:11

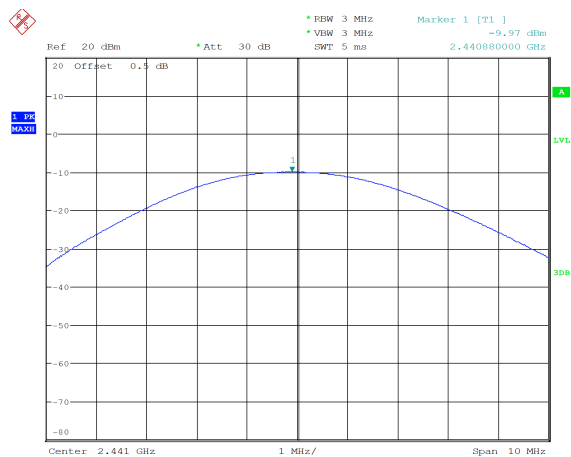
Maximum Conducted Output Power**BDR**

Mode	Value (dBm)	Limit (dBm)	Result
GFSK_Low	-9.79	21.00	Pass
GFSK_Middle	-9.97	21.00	Pass
GFSK_High	-11.03	21.00	Pass

EDR

Mode	Value (dBm)	Limit (dBm)	Result
$\pi/4$ -DQPSK_Low	-8.89	21.00	Pass
$\pi/4$ -DQPSK_Middle	-9.07	21.00	Pass
$\pi/4$ -DQPSK_High	-10.12	21.00	Pass

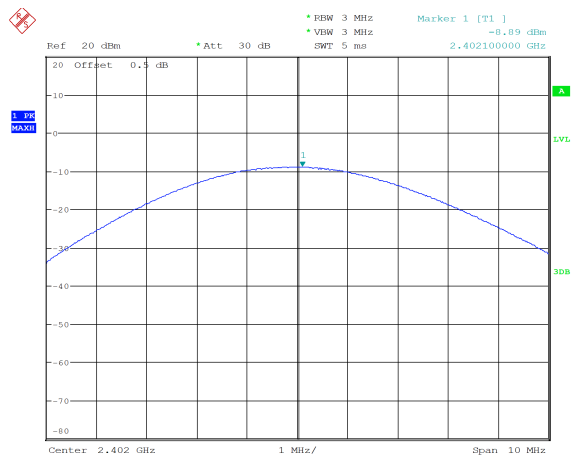
GFSK Middle -9.97 dBm



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:27:01

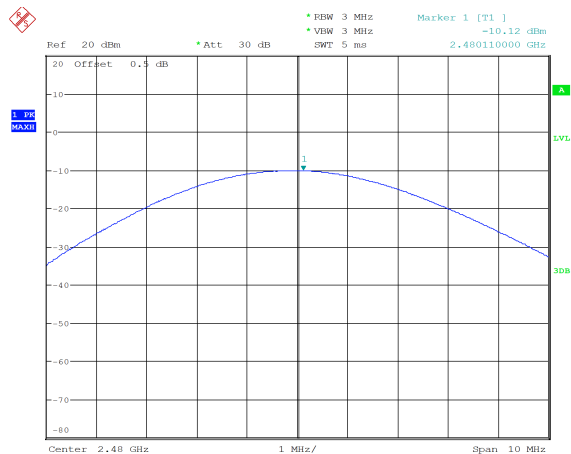
EDR

$\pi/4$ -DQPSK Low -8.89 dBm



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:36:31

$\pi/4$ -DQPSK_High -10.12 dBm



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:43:59

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

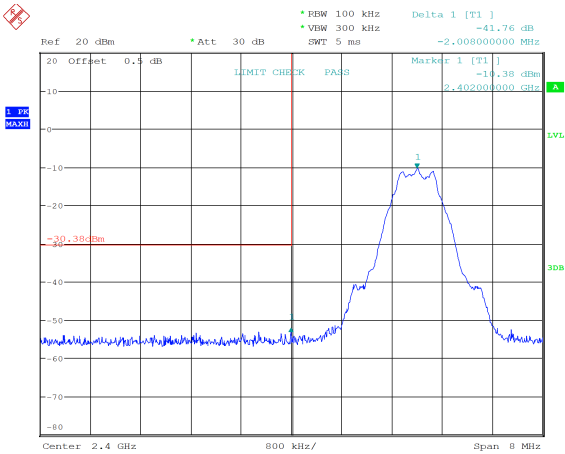
Mode	Value (dB)	Limit (dB)	Result
GFSK_Low	41.76	20.00	Pass
GFSK_High	41.61	20.00	Pass
GFSK_Hopping_Lower	42.32	20.00	Pass
GFSK_Hopping_Upper	41.59	20.00	Pass

EDR

Mode	Value (dB)	Limit (dB)	Result
$\pi/4$ -DQPSK_Low	42.61	20.00	Pass
$\pi/4$ -DQPSK_High	41.31	20.00	Pass
$\pi/4$ -DQPSK_Hopping_Lower	42.43	20.00	Pass
$\pi/4$ -DQPSK_Hopping_Upper	41.89	20.00	Pass

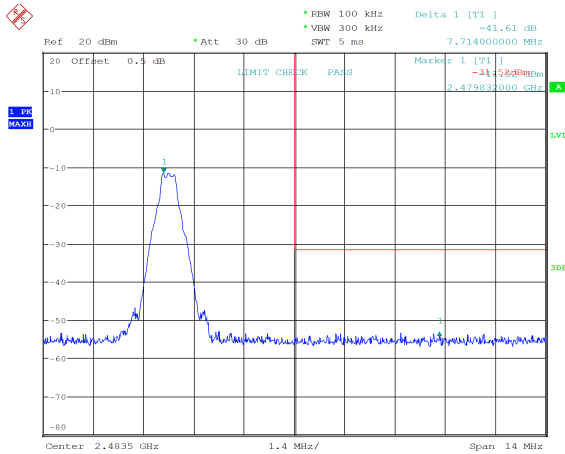
BDR

GFSK_Low 41.76 dB



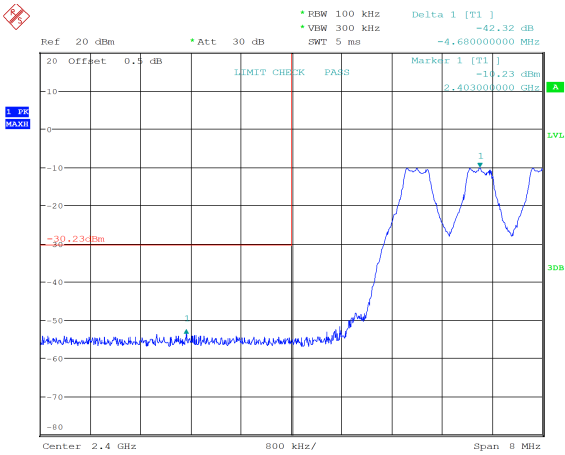
ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 15:59:31

GFSK_High 41.61 dB



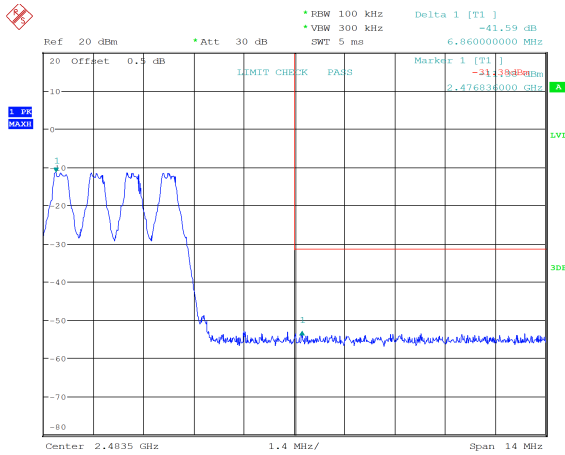
ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:30:38

GFSK_Hopping_Lower 42.32 dB



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:34:02

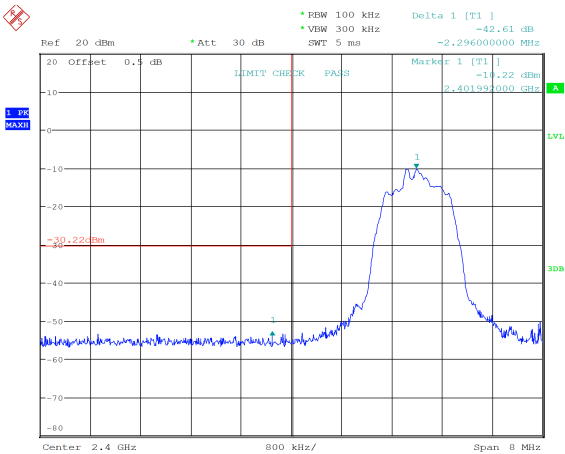
GFSK_Hopping_Upper 41.59 dB



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:35:49

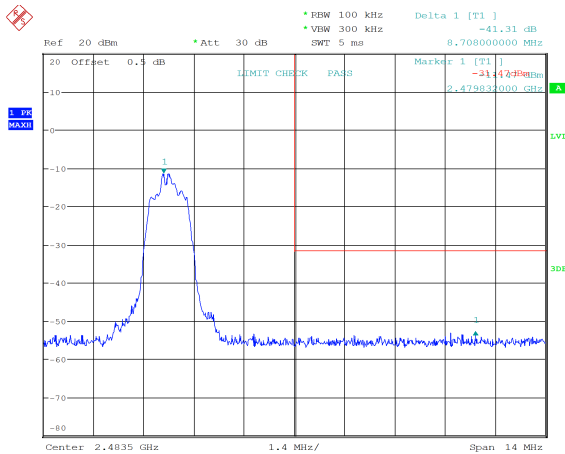
EDR

$\pi/4$ -DQPSK_Low 42.61 dB



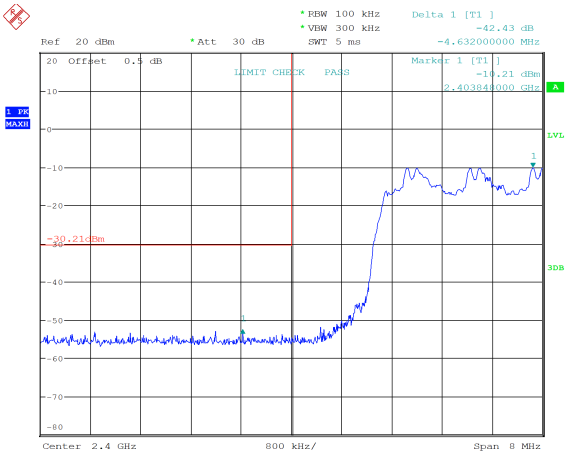
ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:37:24

$\pi/4$ -DQPSK_High 41.31 dB



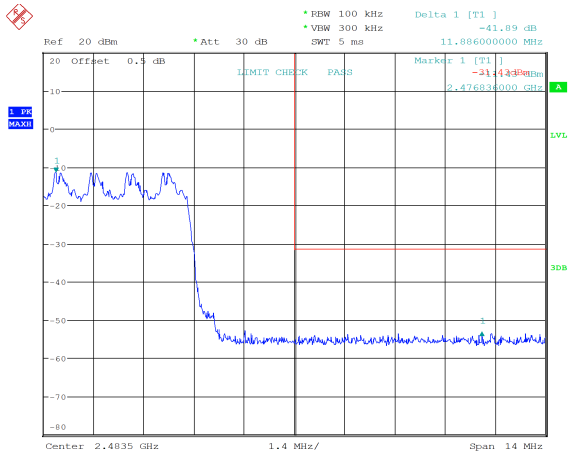
ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:44:56

$\pi/4$ -DQPSK_Hopping_Lower 42.43 dB



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:48:53

$\pi/4$ -DQPSK_Hopping_Upper 41.89 dB



ProjectNo.:CR240104515-RF Tester:Chin
Date: 2.FEB.2024 16:50:21