

**FCC Part 15.247****Test Information:**

<b>Serial No.:</b>	2KOL-1	<b>Test Date:</b>	2024/04/29
<b>Test Site:</b>	RF	<b>Test Mode:</b>	Transmitting
<b>Tester:</b>	Arthur Su	<b>Test Result:</b>	Pass

**Environmental Conditions:**

<b>Temperature:</b> (°C)	25.8	<b>Relative Humidity:</b> (%)	61	<b>ATM Pressure:</b> (kPa)	100.1
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	100147	2024/04/01	2025/03/31
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).

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

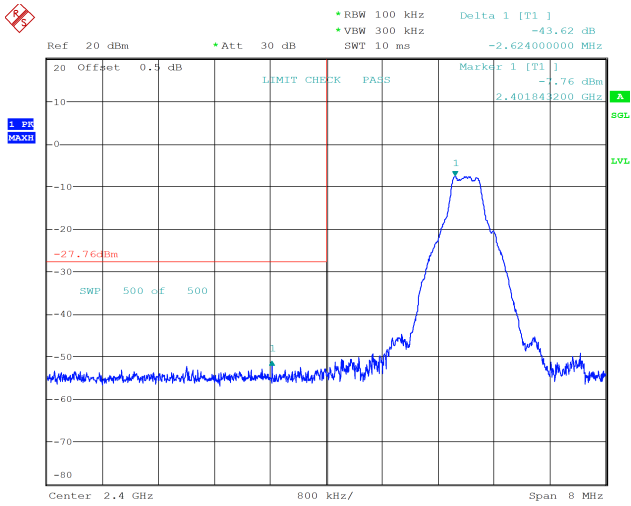
<b>Mode</b>	<b>Value (dB)</b>	<b>Limit (dB)</b>	<b>Result</b>
GFSK_Low	43.62	20.00	Pass
GFSK_High	42.46	20.00	Pass
GFSK_Hopping_Lower	41.98	20.00	Pass
GFSK_Hopping_Upper	42.10	20.00	Pass

**EDR**

<b>Mode</b>	<b>Value (dB)</b>	<b>Limit (dB)</b>	<b>Result</b>
$\pi/4$ -DQPSK_Low	42.74	20.00	Pass
$\pi/4$ -DQPSK_High	42.30	20.00	Pass
$\pi/4$ -DQPSK_Hopping_Lower	42.00	20.00	Pass
$\pi/4$ -DQPSK_Hopping_Upper	41.74	20.00	Pass
8DPSK_Low	42.20	20.00	Pass
8DPSK_High	41.76	20.00	Pass
8DPSK_Hopping_Lower	42.15	20.00	Pass
8DPSK_Hopping_Upper	41.36	20.00	Pass

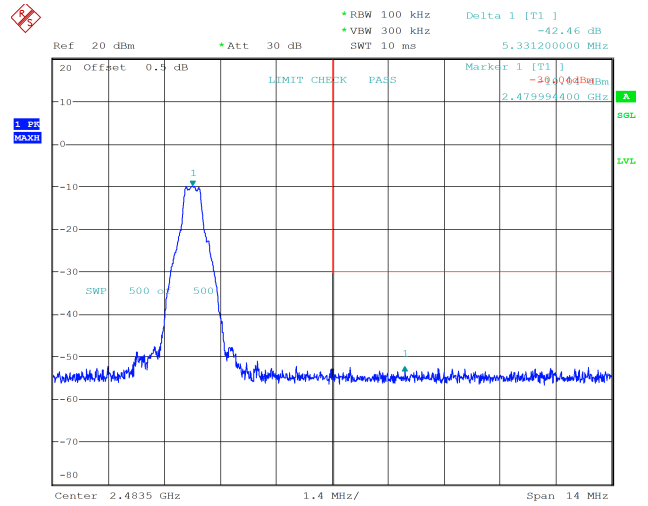
BDR

GFSK\_Low 43.62 dB



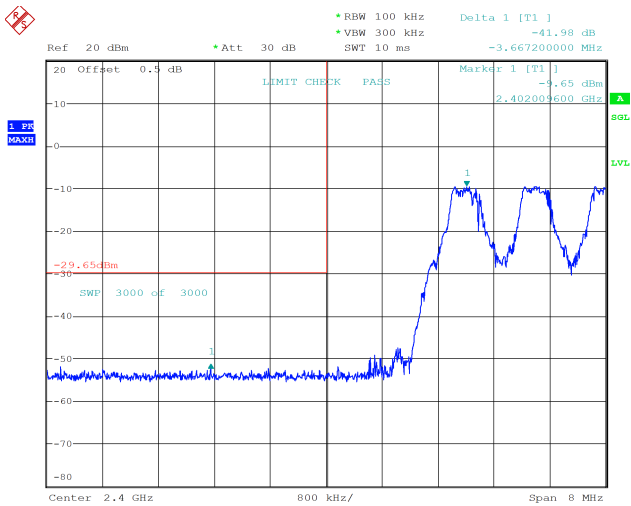
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:11:26

GFSK\_High 42.46 dB



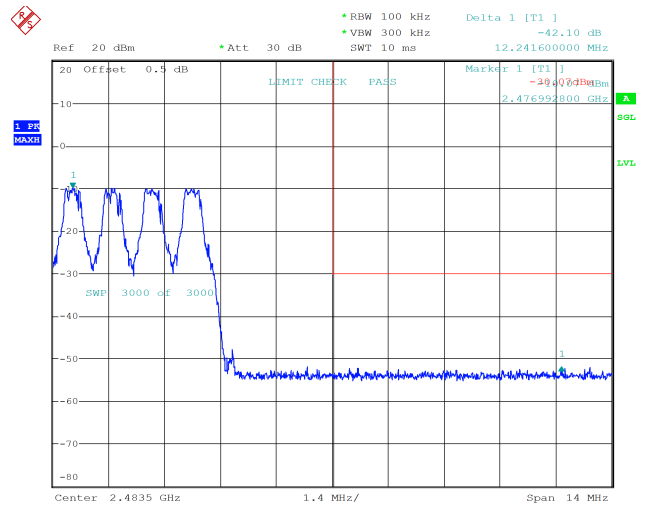
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:17:24

GFSK\_Hopping\_Lower 41.98 dB



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 18:20:20

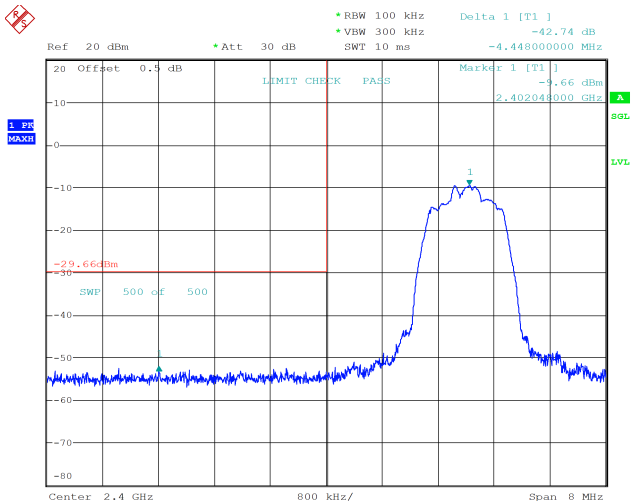
GFSK\_Hopping\_Upper 42.10 dB



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 18:24:08

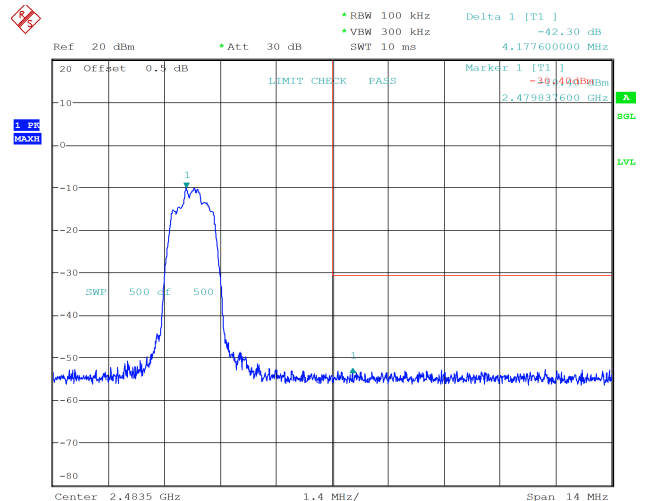
EDR

$\pi/4$ -DQPSK\_Low 42.74 dB



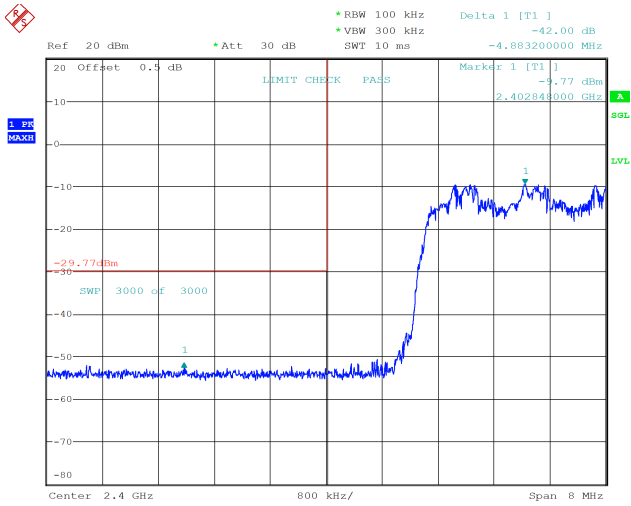
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:20:42

$\pi/4$ -DQPSK\_High 42.30 dB



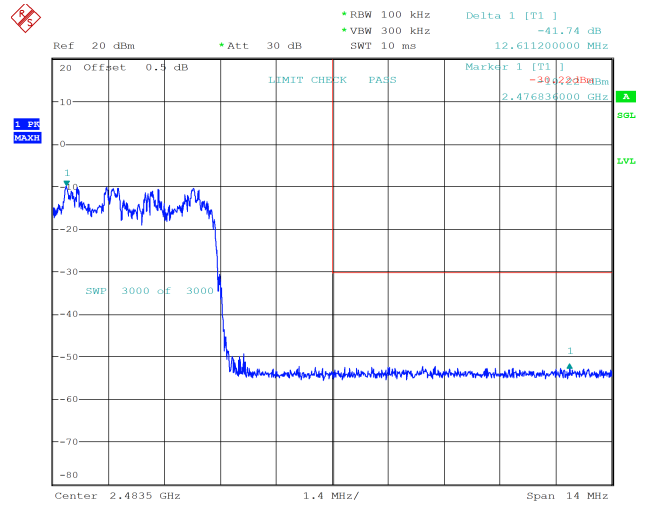
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:26:40

$\pi/4$ -DQPSK\_Hopping\_Lower 42.00 dB



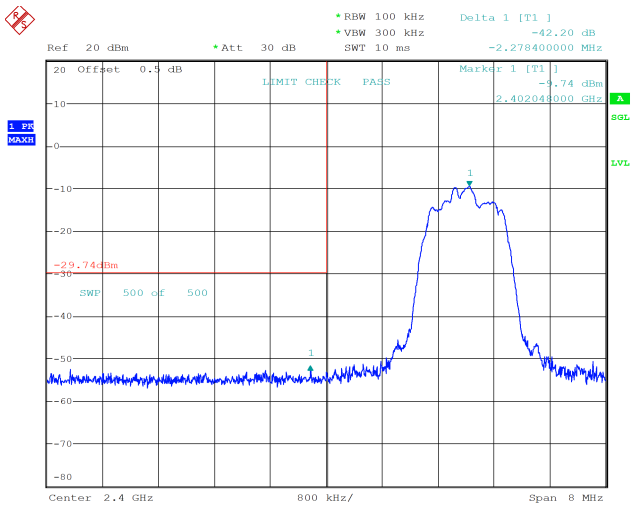
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 18:27:22

$\pi/4$ -DQPSK\_Hopping\_Upper 41.74 dB



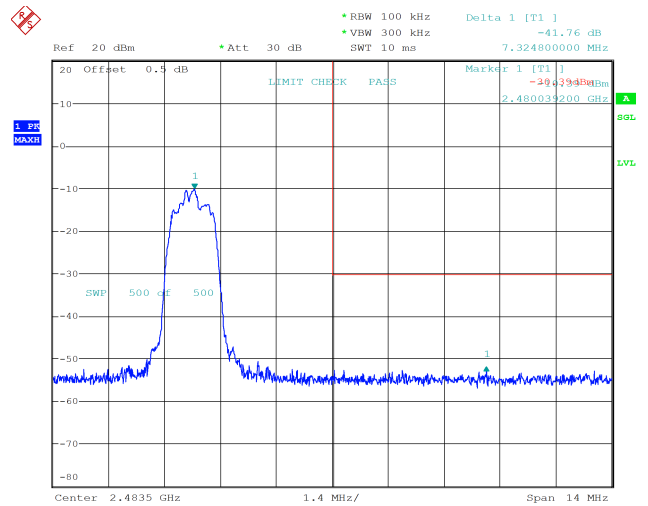
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 18:31:09

8DPSK\_Low 42.20 dB



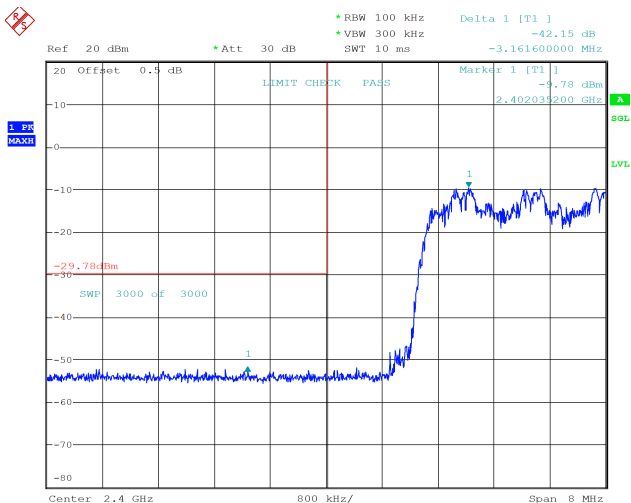
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:30:33

8DPSK\_High 41.76 dB



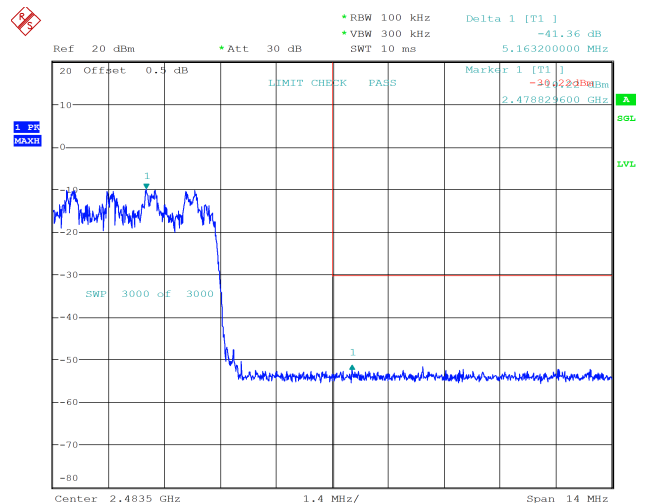
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:36:09

8DPSK\_Hopping\_Lower 42.15 dB



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 18:34:26

8DPSK\_Hopping\_Upper 41.36 dB



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 18:38:13

**20 dB Emission Bandwidth****BDR**

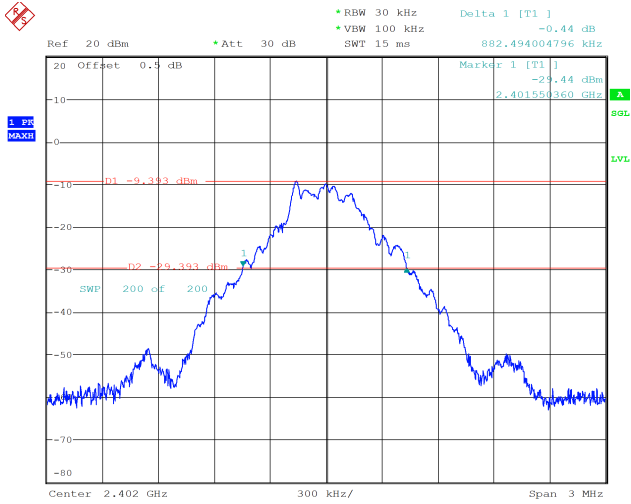
<b>Mode</b>	<b>Value (MHz)</b>
GFSK_Low	0.882
GFSK_Middle	0.882
GFSK_High	0.887

**EDR**

<b>Mode</b>	<b>Value (MHz)</b>
$\pi/4$ -DQPSK_Low	1.269
$\pi/4$ -DQPSK_Middle	1.266
$\pi/4$ -DQPSK_High	1.283
8DPSK_Low	1.269
8DPSK_Middle	1.269
8DPSK_High	1.269

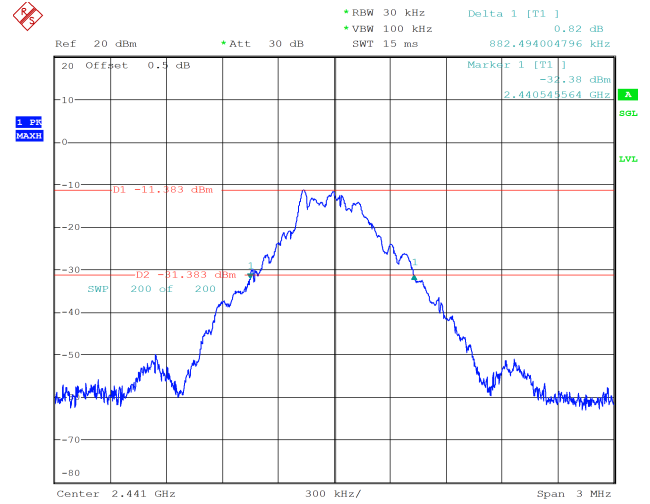
BDR

GFSK\_Low 0.882 MHz



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:05:19

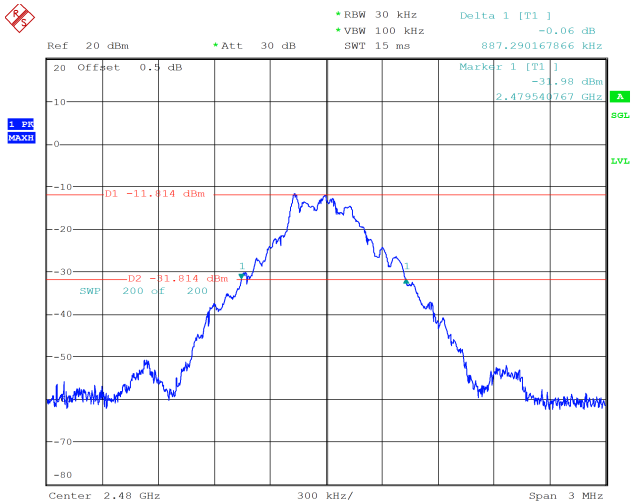
GFSK\_Middle 0.882 MHz



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:14:15

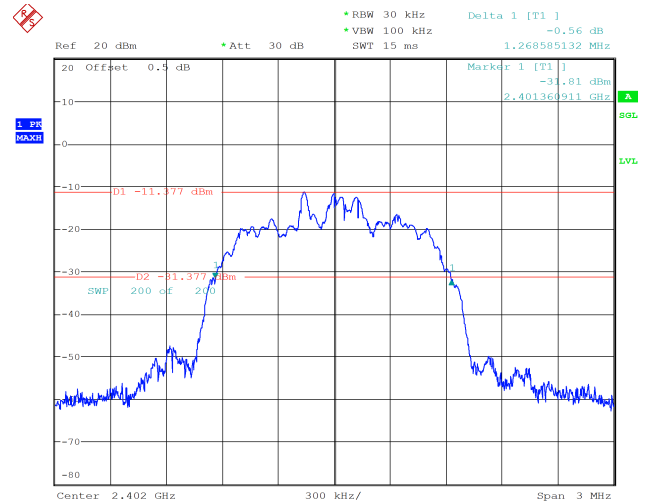
EDR

GFSK\_High 0.887 MHz



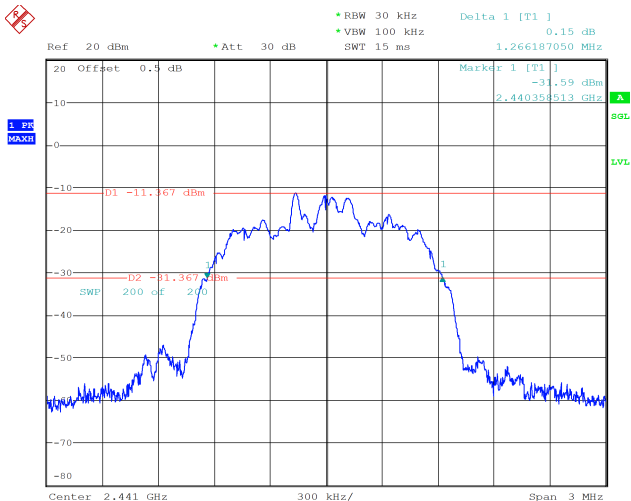
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:16:36

$\pi/4$ -DQPSK\_Low 1.269 MHz



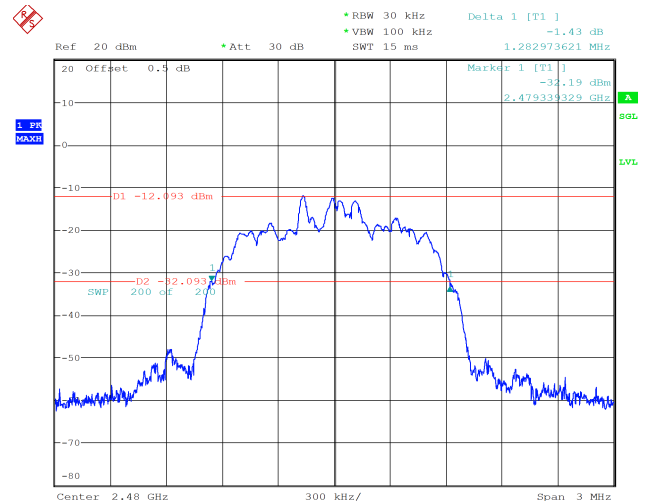
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:19:59

$\pi/4$ -DQPSK\_Middle 1.266 MHz



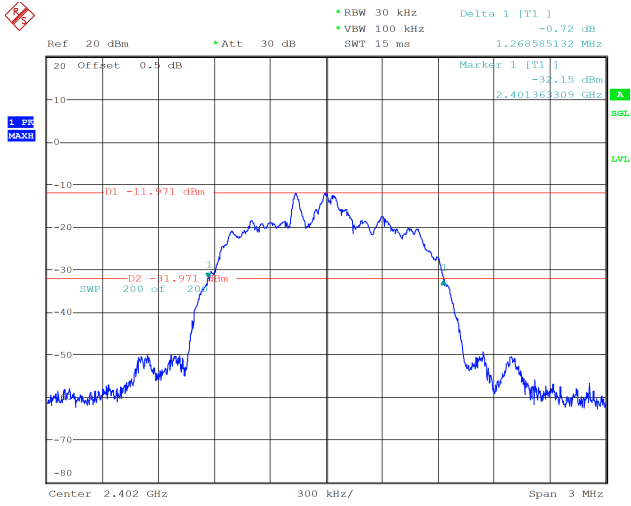
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:23:18

$\pi/4$ -DQPSK\_High 1.283 MHz



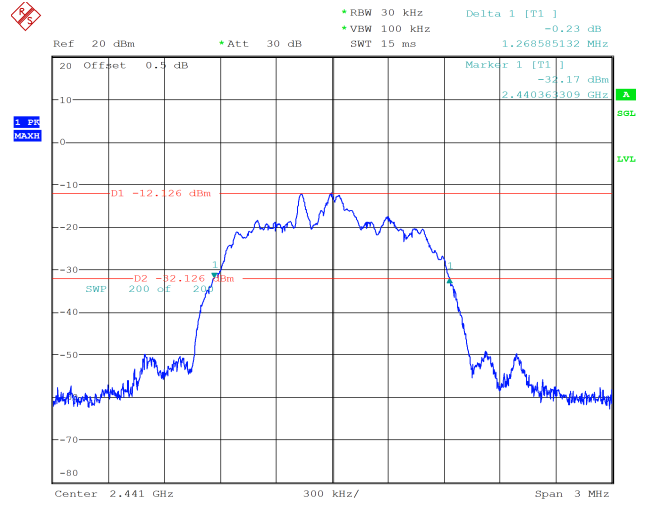
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:25:51

### 8DPSK\_Low 1.269 MHz



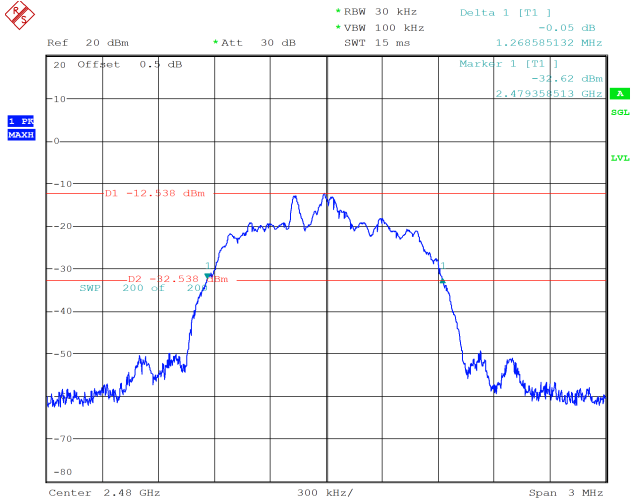
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:29:51

### 8DPSK\_Middle 1.269 MHz



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:33:09

### 8DPSK\_High 1.269 MHz



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:35:21

**Channel Separation****BDR**

Mode	Value (MHz)	Limit (MHz)	Result
GFSK_Low	1.005	0.591	Pass
GFSK_Middle	1.000	0.588	Pass
GFSK_High	1.002	0.591	Pass

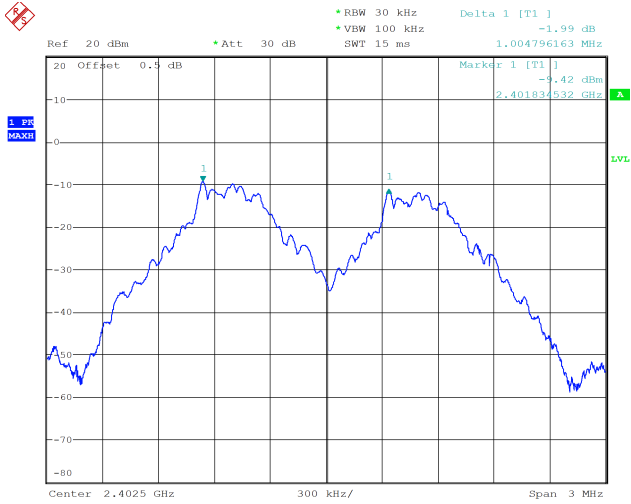
**EDR**

Mode	Value (MHz)	Limit (MHz)	Result
$\pi/4$ -DQPSK_Low	1.002	0.846	Pass
$\pi/4$ -DQPSK_Middle	1.002	0.844	Pass
$\pi/4$ -DQPSK_High	1.002	0.855	Pass
8DPSK_Low	1.002	0.846	Pass
8DPSK_Middle	1.005	0.846	Pass
8DPSK_High	1.002	0.846	Pass



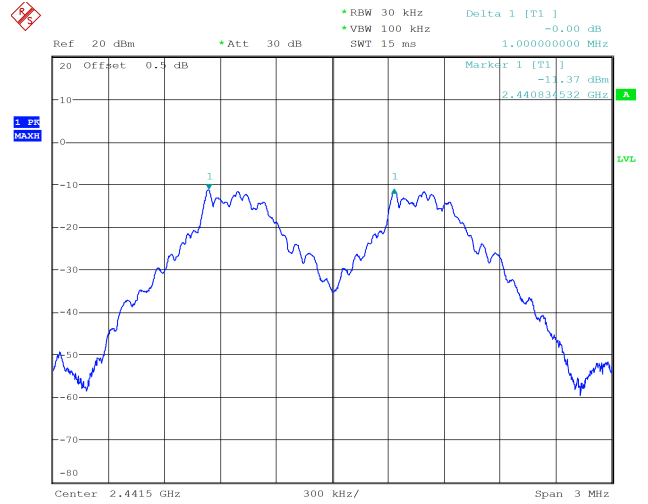
**BDR**

**GFSK\_Low 1.005 MHz**



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:13:28

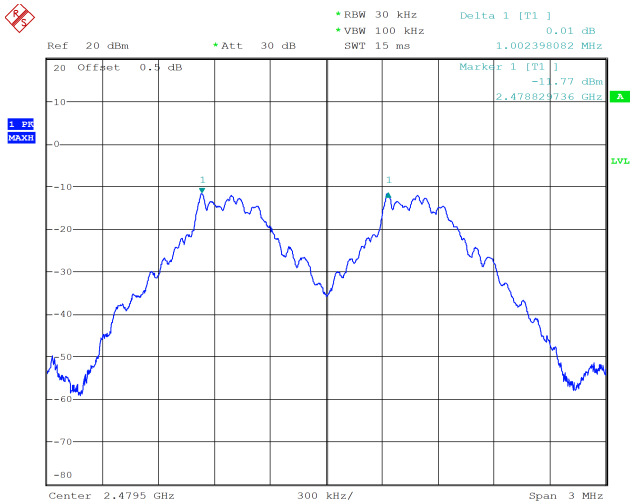
**GFSK\_Middle 1.000 MHz**



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:16:05

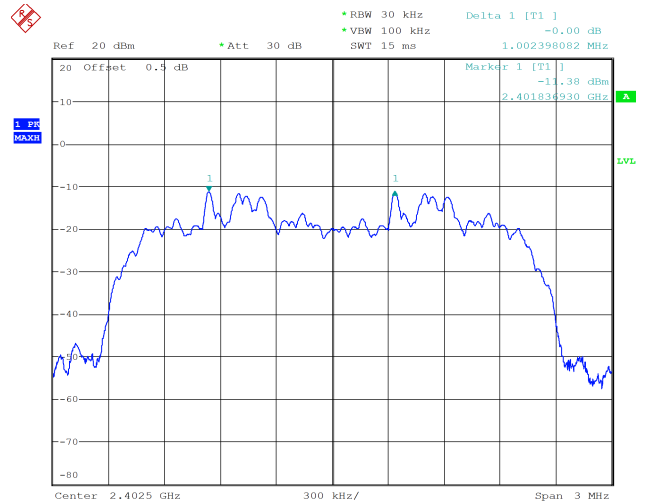
**EDR**

**GFSK\_High 1.002 MHz**



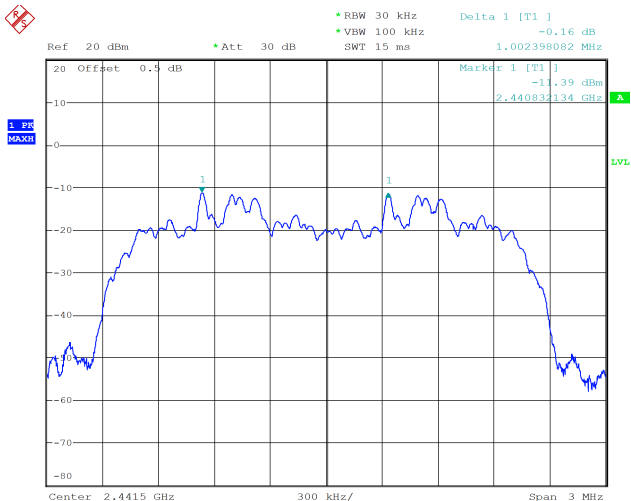
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:19:18

**$\pi/4$ -DQPSK\_Low 1.002 MHz**



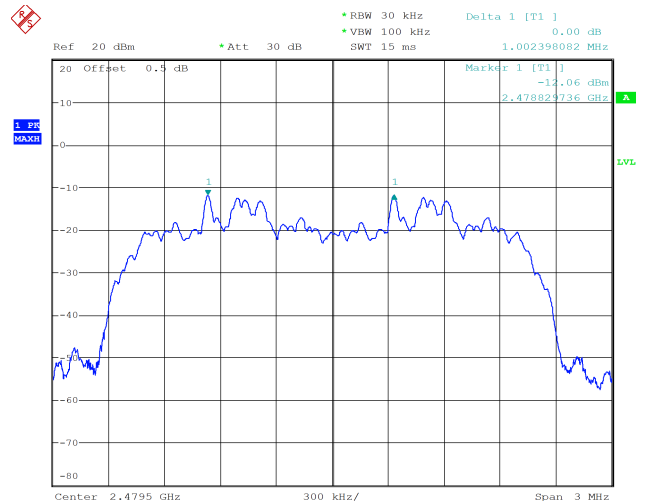
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:22:42

**$\pi/4$ -DQPSK\_Middle 1.002 MHz**



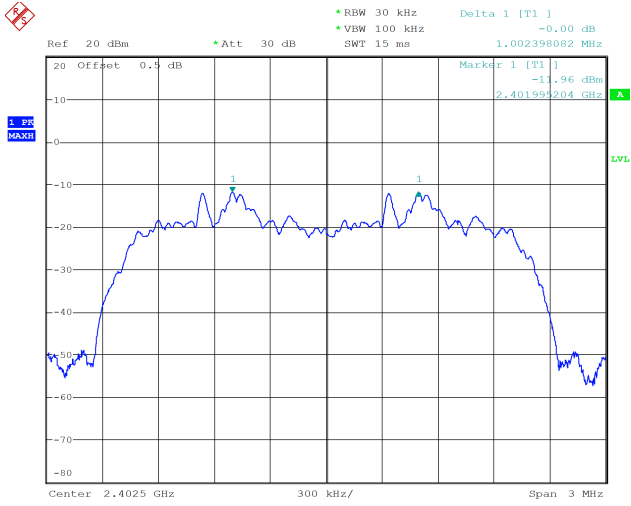
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:25:13

**$\pi/4$ -DQPSK\_High 1.002 MHz**



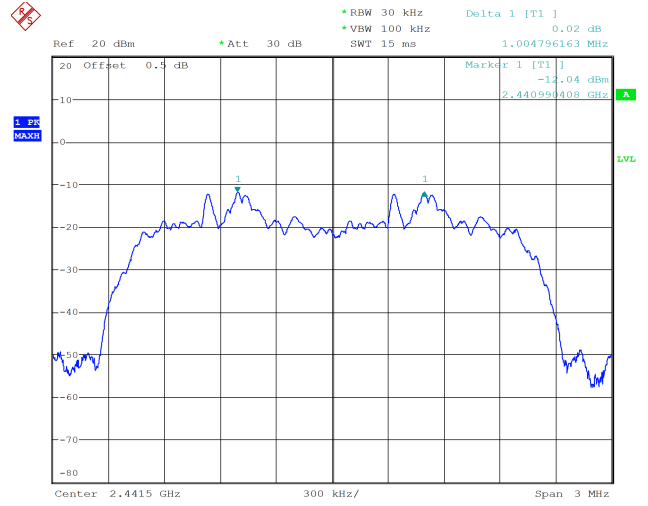
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:29:07

### 8DPSK\_Low 1.002 MHz



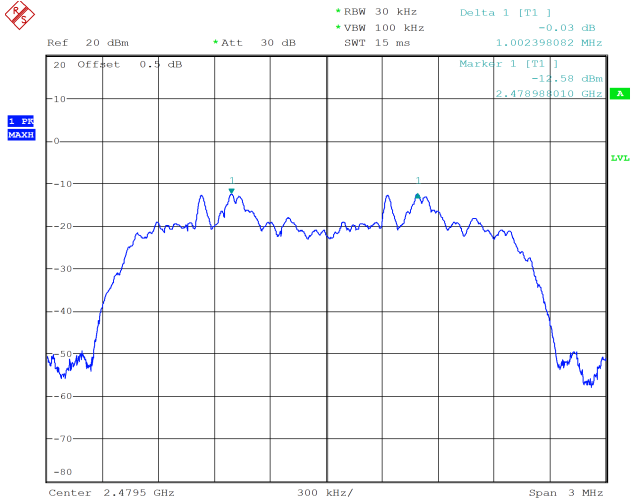
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:32:24

### 8DPSK\_Middle 1.005 MHz



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:34:48

### 8DPSK\_High 1.002 MHz



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:37:58

**Maximum Conducted Output Power****BDR**

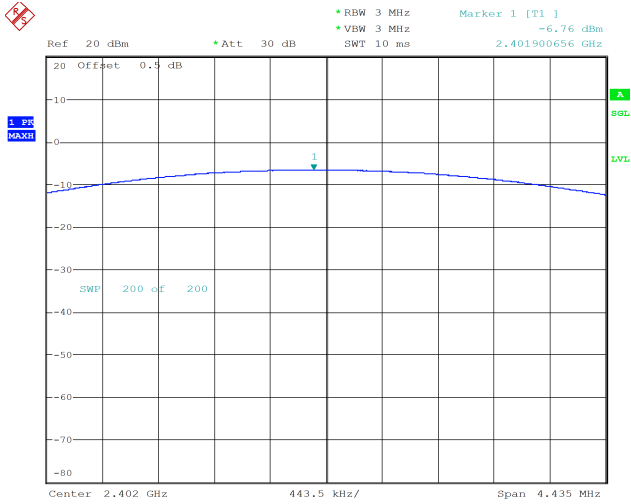
<b>Mode</b>	<b>Value (dBm)</b>	<b>Limit (dBm)</b>	<b>Result</b>
GFSK_Low	-6.76	21.00	Pass
GFSK_Middle	-8.45	21.00	Pass
GFSK_High	-8.87	21.00	Pass

**EDR**

<b>Mode</b>	<b>Value (dBm)</b>	<b>Limit (dBm)</b>	<b>Result</b>
$\pi/4$ -DQPSK_Low	-6.78	21.00	Pass
$\pi/4$ -DQPSK_Middle	-6.74	21.00	Pass
$\pi/4$ -DQPSK_High	-7.47	21.00	Pass
8DPSK_Low	-6.55	21.00	Pass
8DPSK_Middle	-6.68	21.00	Pass
8DPSK_High	-7.18	21.00	Pass

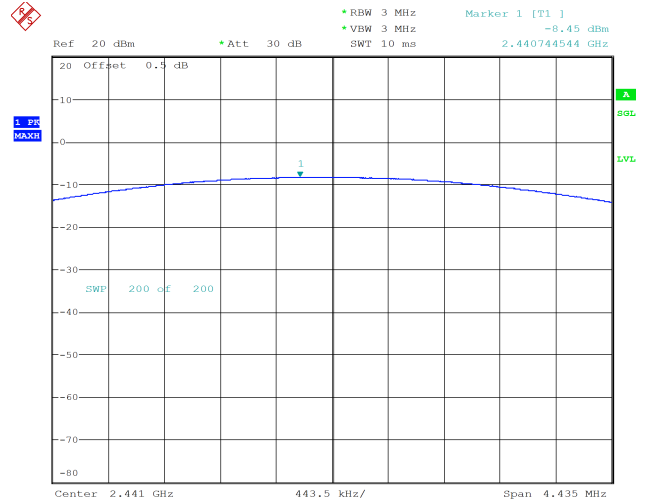
**BDR**

**GFSK\_Low -6.76 dBm**



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:11:48

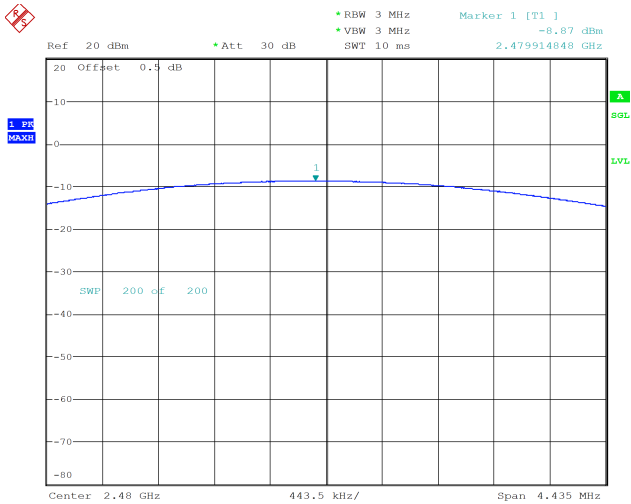
**GFSK\_Middle -8.45 dBm**



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:14:36

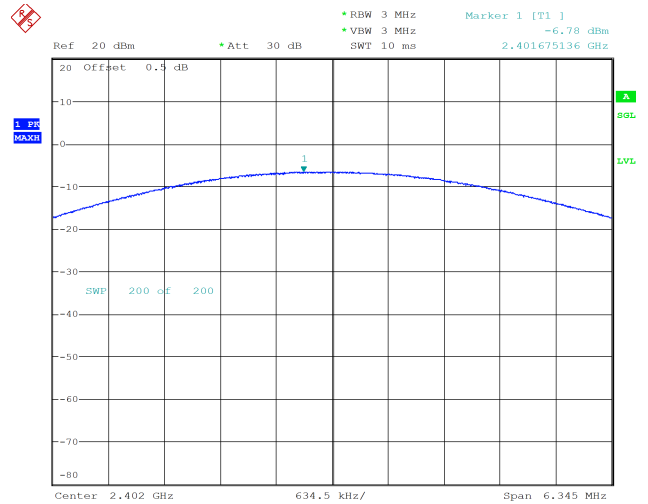
**EDR**

**GFSK\_High -8.87 dBm**



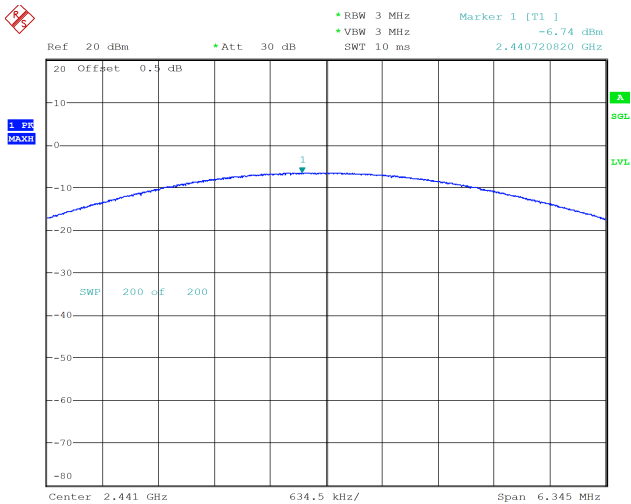
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:17:49

**$\pi/4$ -DQPSK\_Low -6.78 dBm**



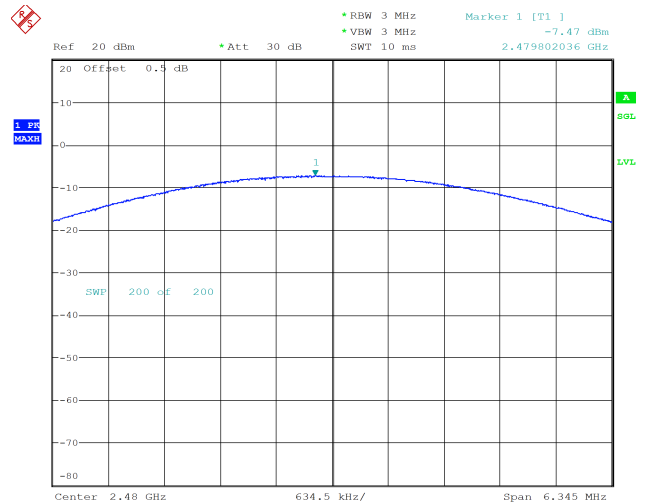
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:21:03

**$\pi/4$ -DQPSK\_Middle -6.74 dBm**



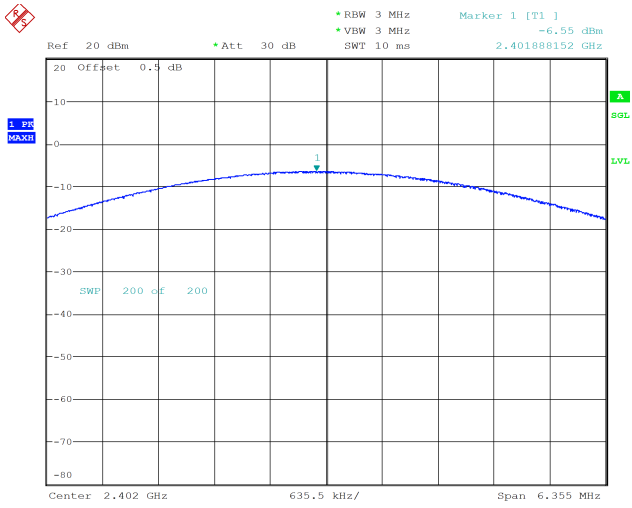
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:23:45

**$\pi/4$ -DQPSK\_High -7.47 dBm**



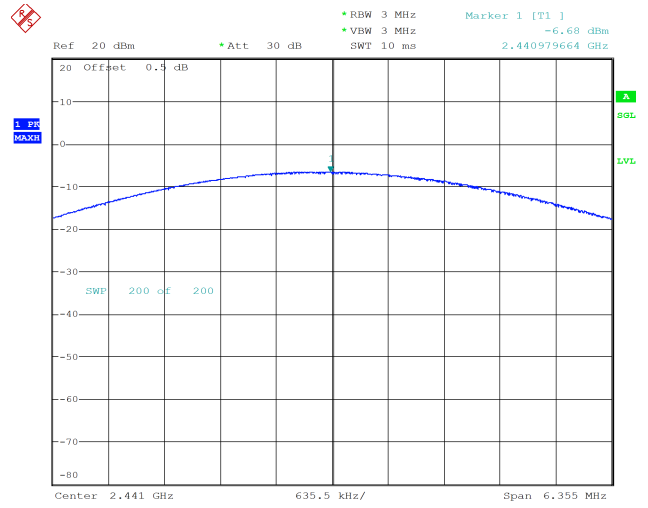
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:27:25

### 8DPSK\_Low -6.55 dBm



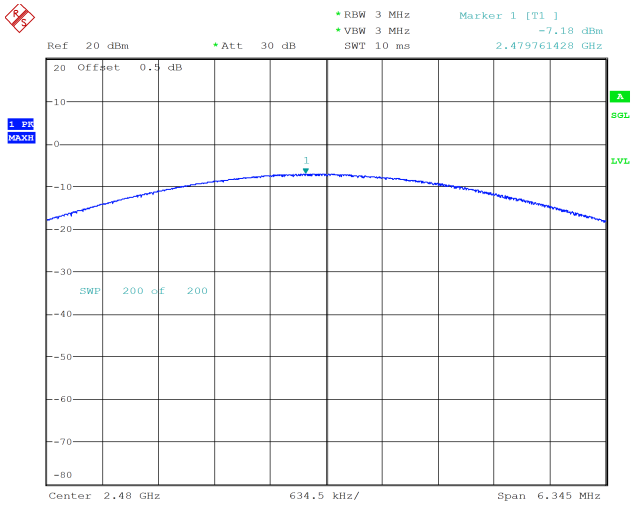
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:30:56

### 8DPSK\_Middle -6.68 dBm



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:33:30

### 8DPSK\_High -7.18 dBm



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:36:32

**Number of Hopping Frequency****BDR**

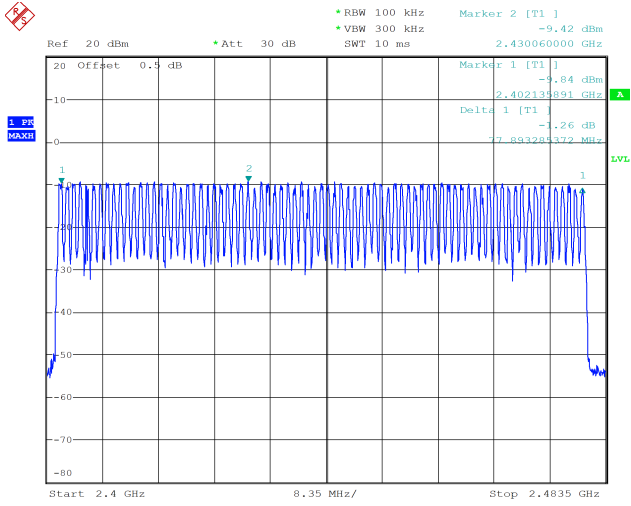
Mode	Value	Limit	Result
GFSK_Hopping	79	15	Pass

**EDR**

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

**BDR**

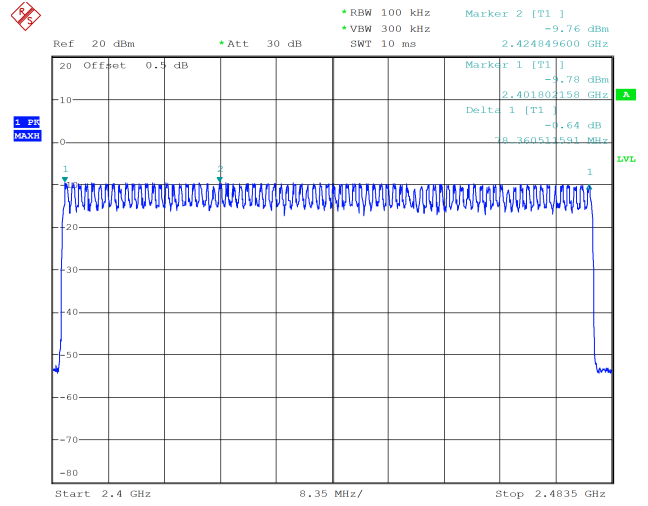
**GFSK\_Hopping 79**



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:47:53

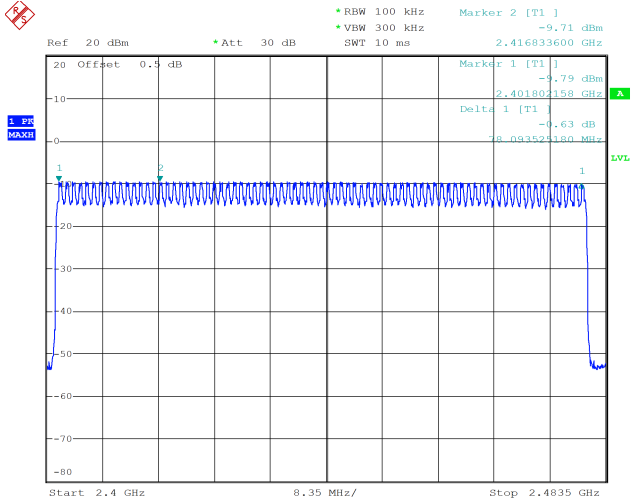
**EDR**

**$\pi/4$ -DQPSK\_Hopping 79**



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:54:55

**8DPSK\_Hopping 79**



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 18:14:55

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

Mode	Pulse width (ms)	Dwell time (s)	Limit (s)	Result
GFSK_Hopping_DH1	0.421	0.135	0.400	Pass
GFSK_Hopping_DH3	1.683	0.269	0.400	Pass
GFSK_Hopping_DH5	2.938	0.313	0.400	Pass

**EDR**

Mode	Pulse width (ms)	Dwell time (s)	Limit (s)	Result
$\pi/4$ -DQPSK_Hopping_2DH1	0.432	0.138	0.400	Pass
$\pi/4$ -DQPSK_Hopping_2DH3	1.688	0.270	0.400	Pass
$\pi/4$ -DQPSK_Hopping_2DH5	2.942	0.314	0.400	Pass
8DPSK_Hopping_3DH1	0.432	0.138	0.400	Pass
8DPSK_Hopping_3DH3	1.688	0.270	0.400	Pass
8DPSK_Hopping_3DH5	2.946	0.314	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

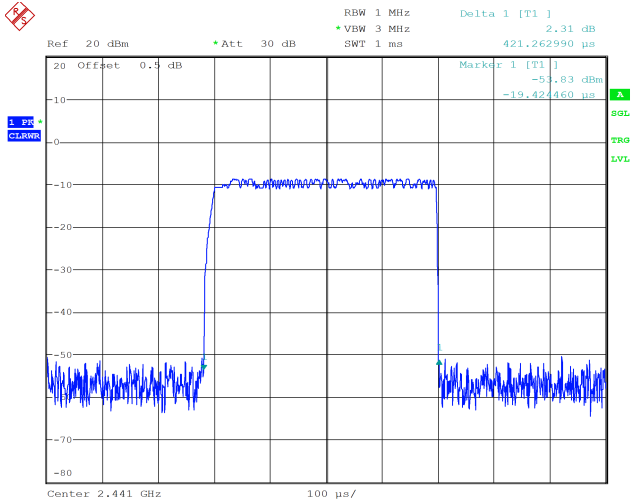
**3DH3:** Dwell time=Pulse time (ms)  $\times$  (1600/4/79)  $\times$ 31.6 s

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



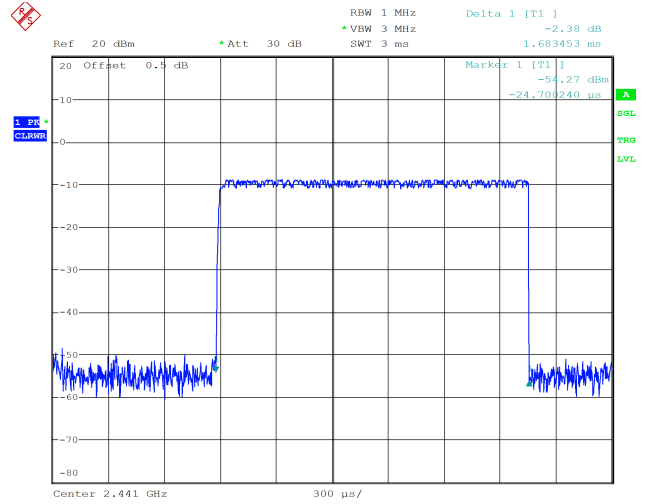
**BDR**

GFSK\_Hopping\_DH1 0.421ms



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:39:56

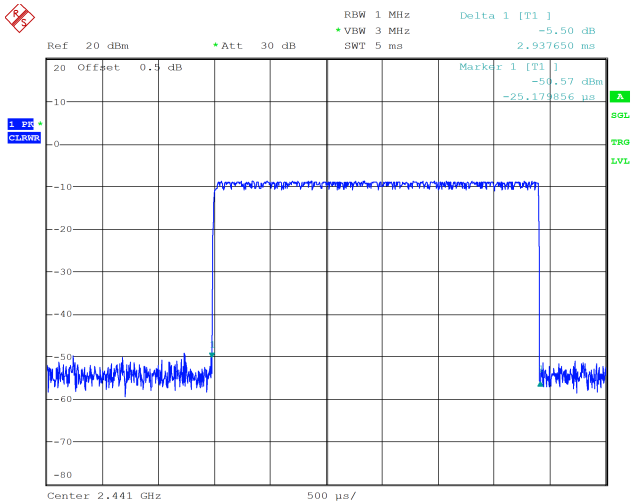
GFSK\_Hopping\_DH3 1.683ms



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:40:32

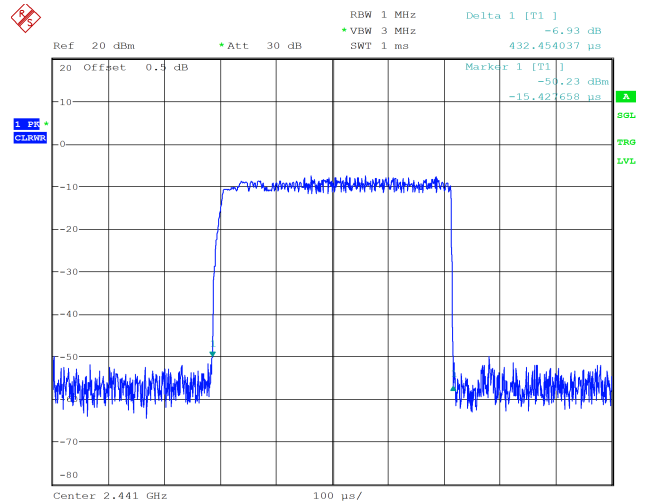
**EDR**

GFSK\_Hopping\_DH5 2.938ms



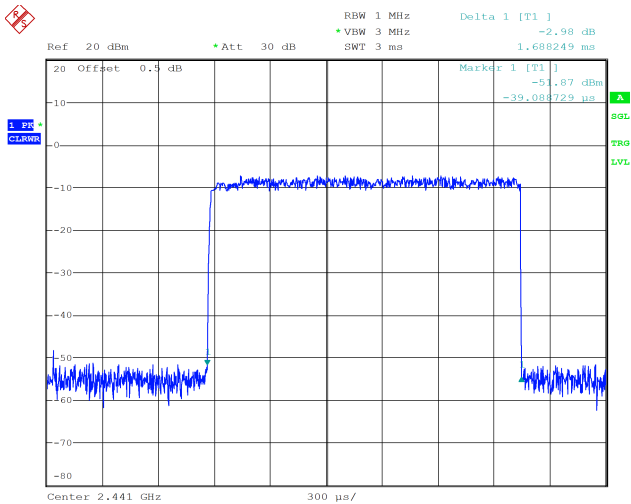
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:41:04

$\pi/4$ -DQPSK\_Hopping\_2DH1 0.432ms



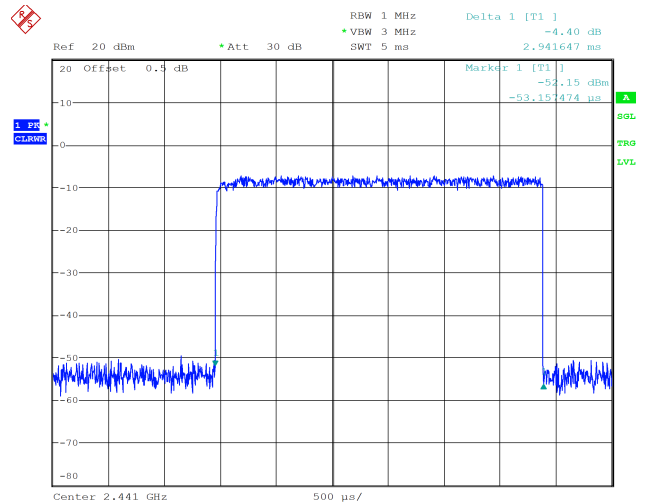
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:41:41

$\pi/4$ -DQPSK\_Hopping\_2DH3 1.688ms



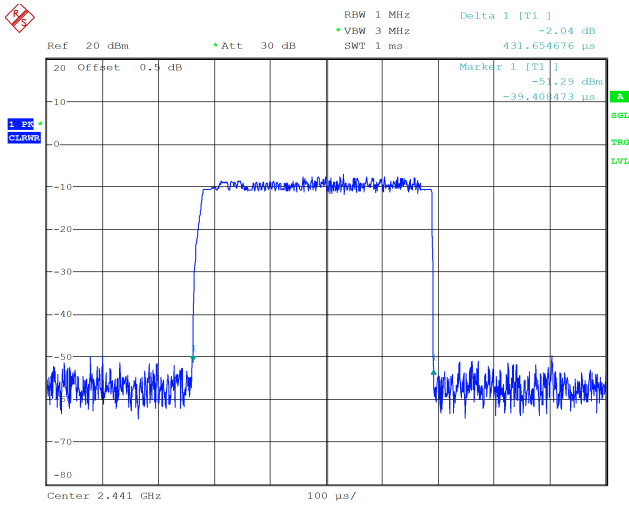
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
Date: 29.APR.2024 17:42:18

$\pi/4$ -DQPSK\_Hopping\_2DH5 2.942ms



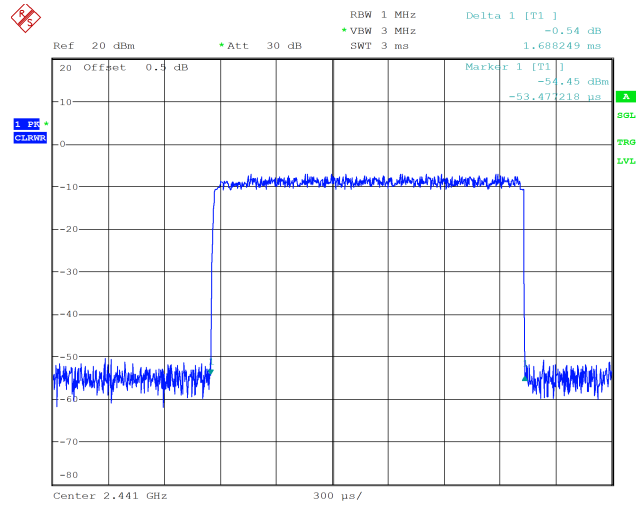
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Date: 29.APR.2024 17:42:52

### 8DPSK\_Hopping\_3DH1 0.432ms



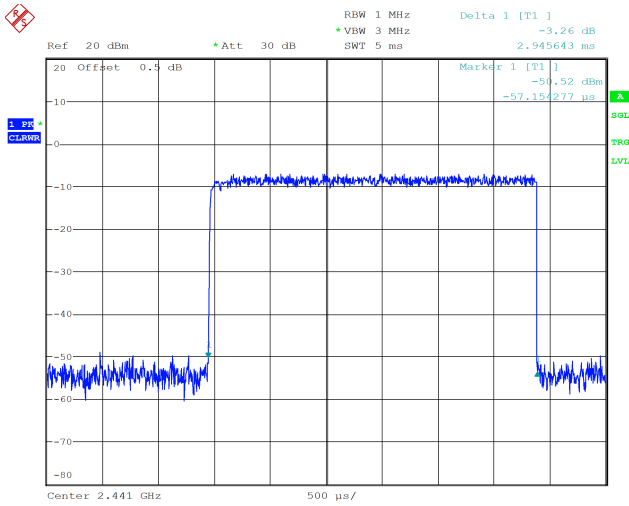
Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:43:41

### 8DPSK\_Hopping\_3DH3 1.688ms



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:44:15

### 8DPSK\_Hopping\_3DH5 2.946ms



Comment: ProjectNo.:2403S52639E-RF Tester:Arthur Su  
 Date: 29.APR.2024 17:44:50