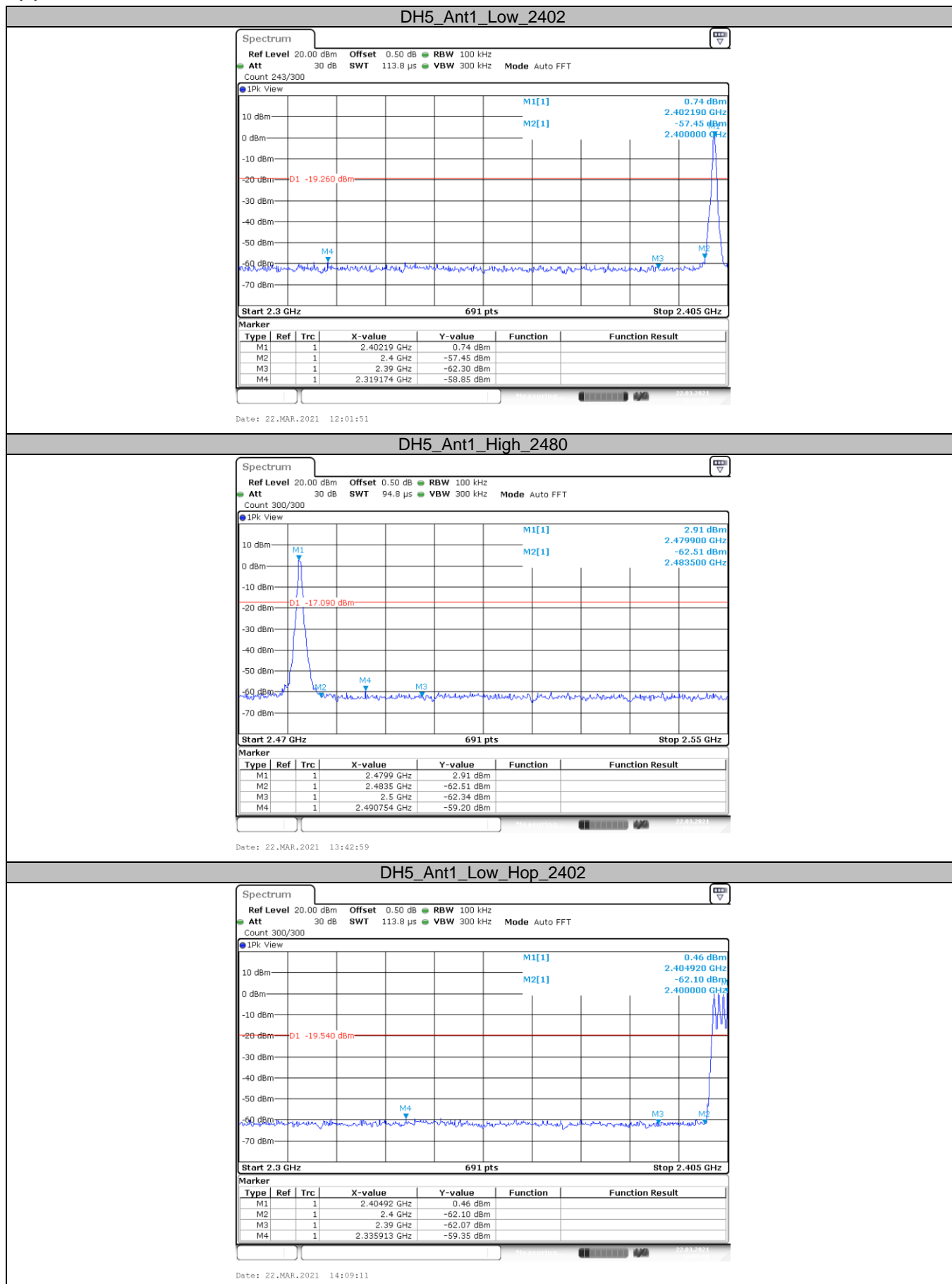




(2) Conducted Test



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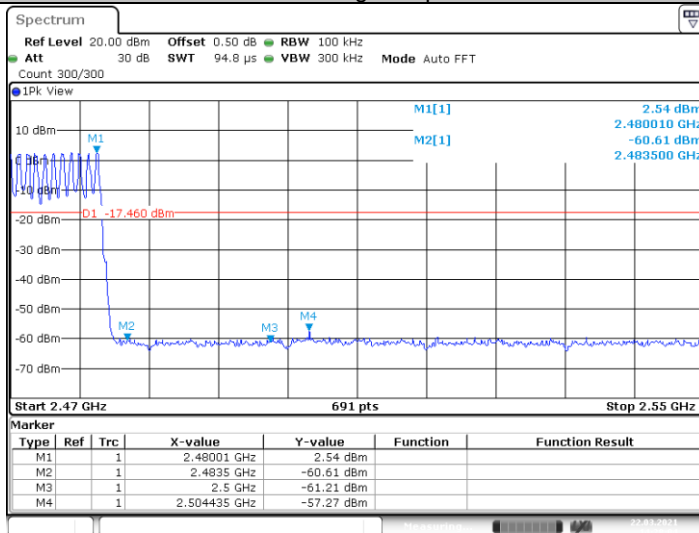
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

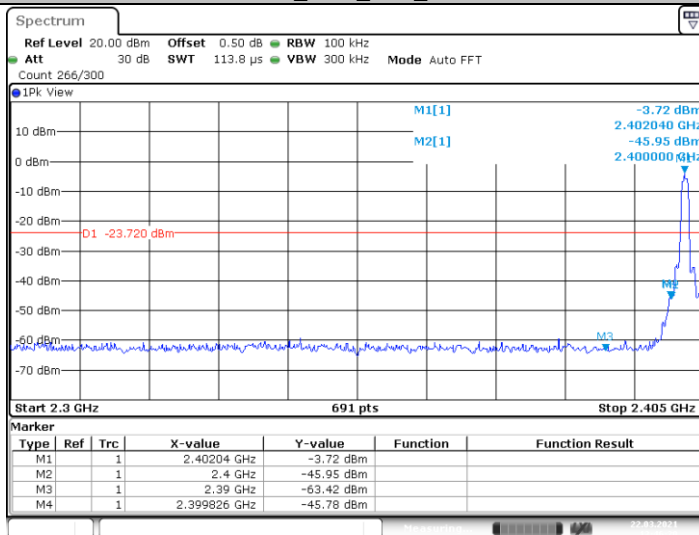
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



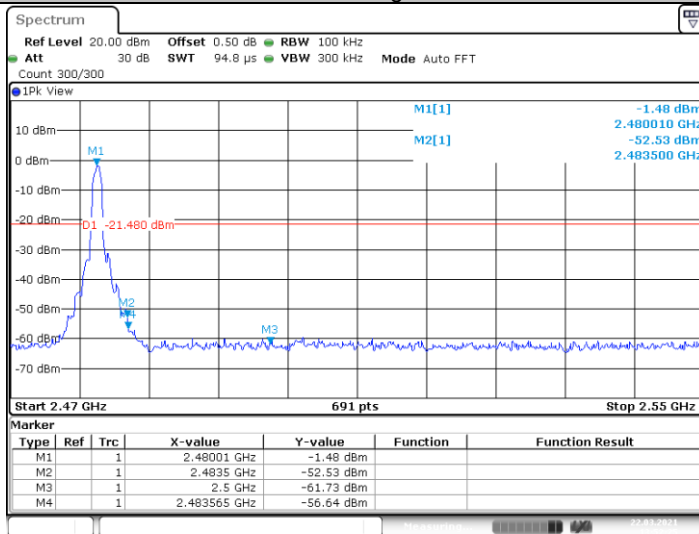
DH5_Ant1_High_Hop_2480



2DH5_Ant1_Low_2402



2DH5_Ant1_High_2480



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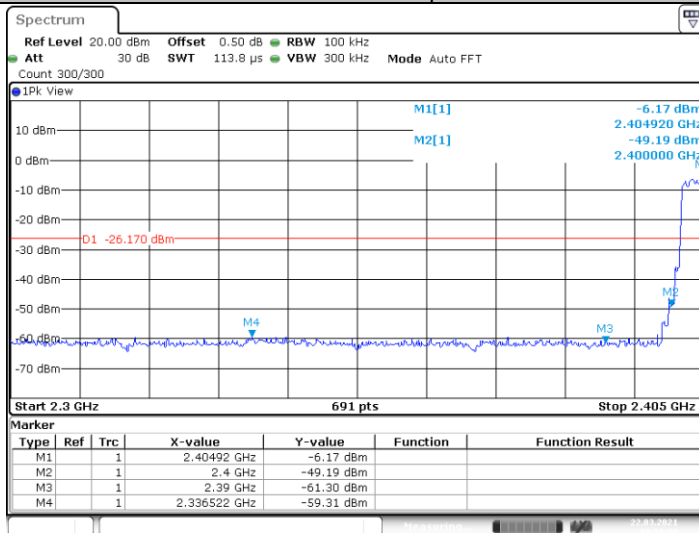
Fax: (86)755-27521011

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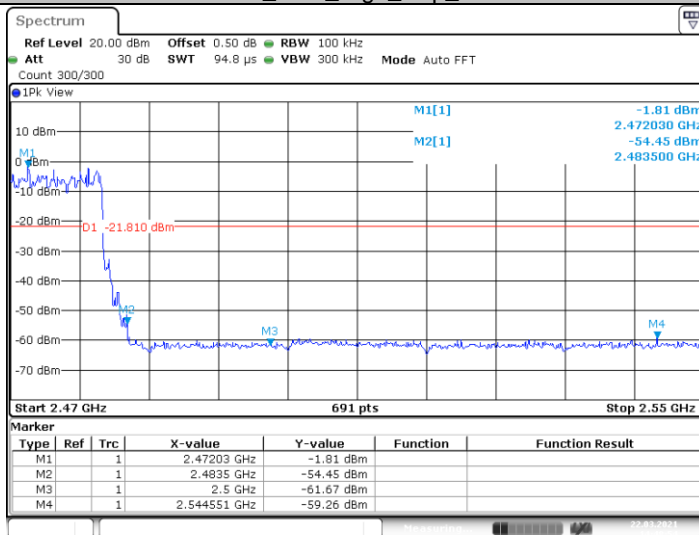


2DH5_Ant1_Low_Hop_2402



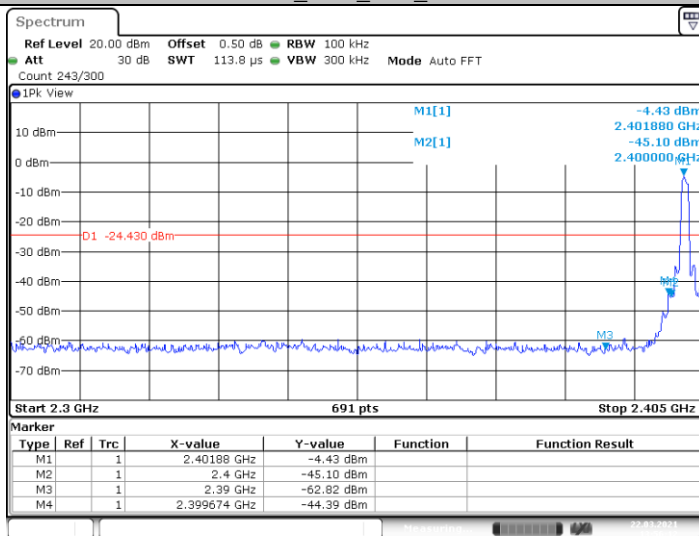
Date: 22.MAR.2021 14:31:37

2DH5_Ant1_High_Hop_2480



Date: 22.MAR.2021 14:48:53

3DH5_Ant1_Low_2402



Date: 22.MAR.2021 13:56:12

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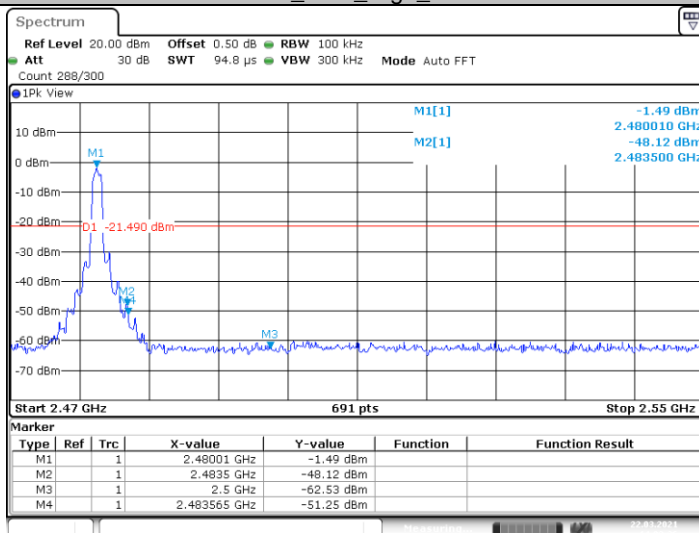
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn

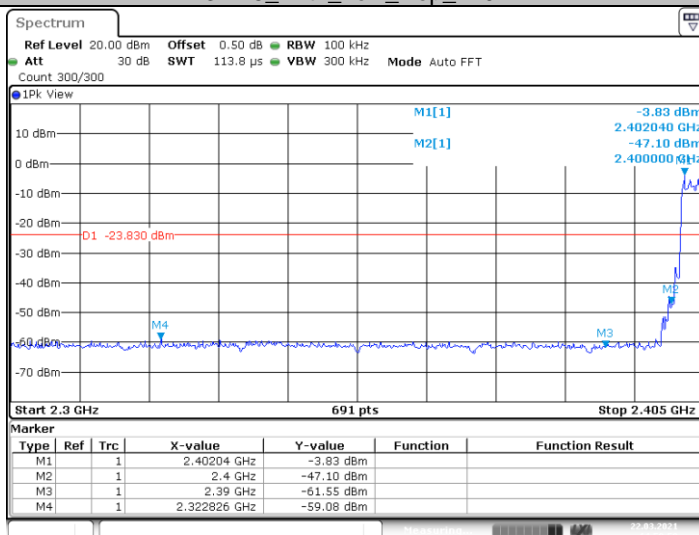


3DH5_Ant1_High_2480



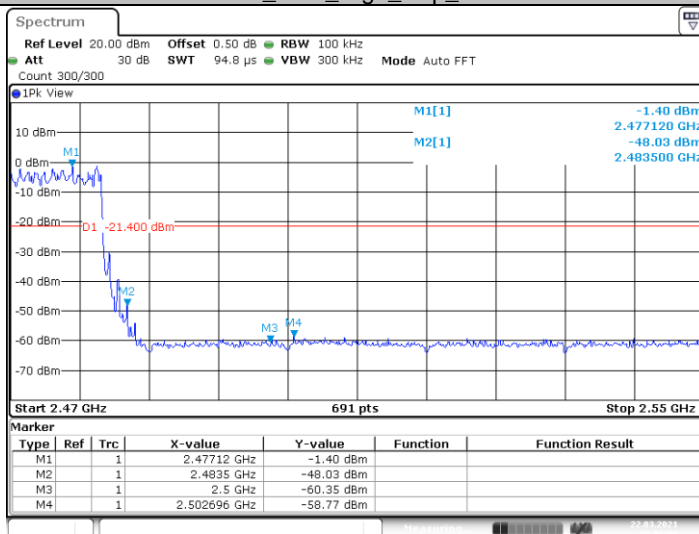
Date: 22.MAR.2021 14:02:36

3DH5_Ant1_Low_Hop_2402



Date: 22.MAR.2021 14:50:58

3DH5_Ant1_High_Hop_2480



Date: 22.MAR.2021 15:06:09

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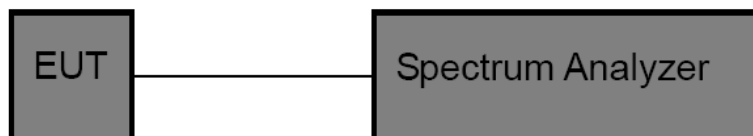


3.4. Occupied Channel Bandwidth and 20DB Bandwidth

Limit

N/A

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. OCB and 20dB Spectrum Setting:
 - (1) Set RBW = 1% ~ 5% occupied bandwidth.
 - (2) Set the video bandwidth (VBW) ≥ 3 RBW.
 - (3) Detector = Peak.
 - (4) Trace mode = Max hold.
 - (5) Sweep = Auto couple.

Note: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

Test Mode

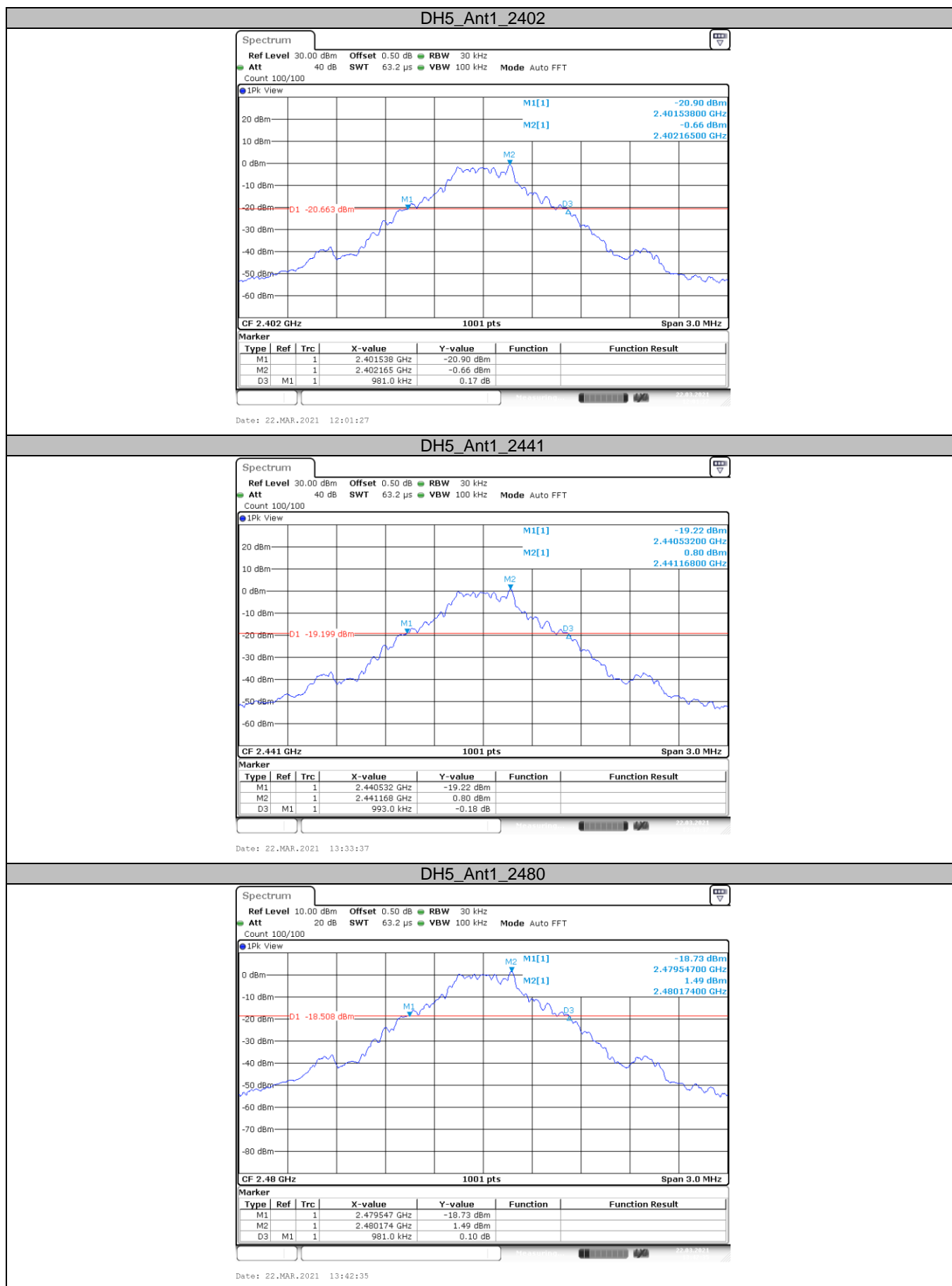
Please refer to the clause 2.3.

Test Results

Modulation type	Channel	99% Bandwidth (MHz)	20dB Bandwidth (MHz)	20dB Bandwidth *2/3 (MHz)
GFSK	00	0.896	0.981	0.654
	39	0.905	0.993	0.662
	78	0.899	0.981	0.654
$\pi/4$ -DQPSK	00	1.217	1.356	0.904
	39	1.217	1.356	0.904
	78	1.217	1.359	0.906
8-DPSK	00	1.205	1.311	0.874
	39	1.205	1.311	0.874
	78	1.208	1.314	0.876



20dB Bandwidth



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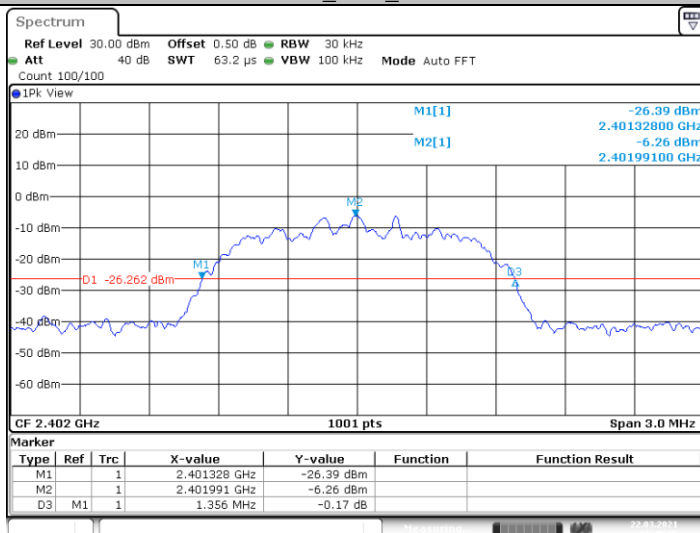
Fax: (86)755-27521011

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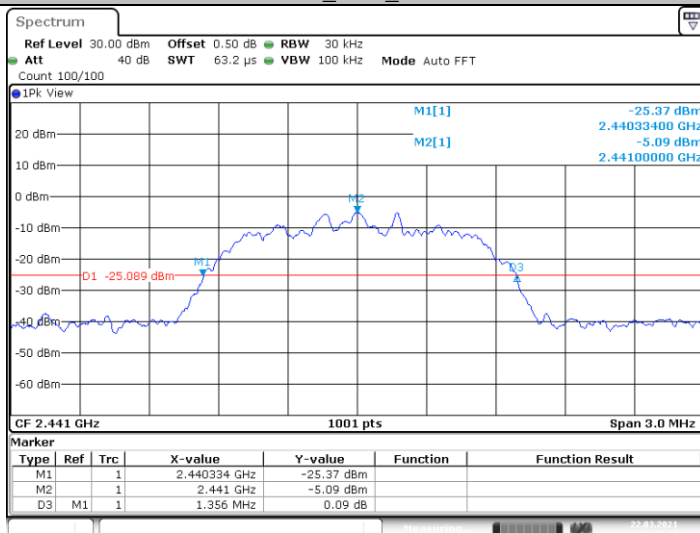


2DH5_Ant1_2402



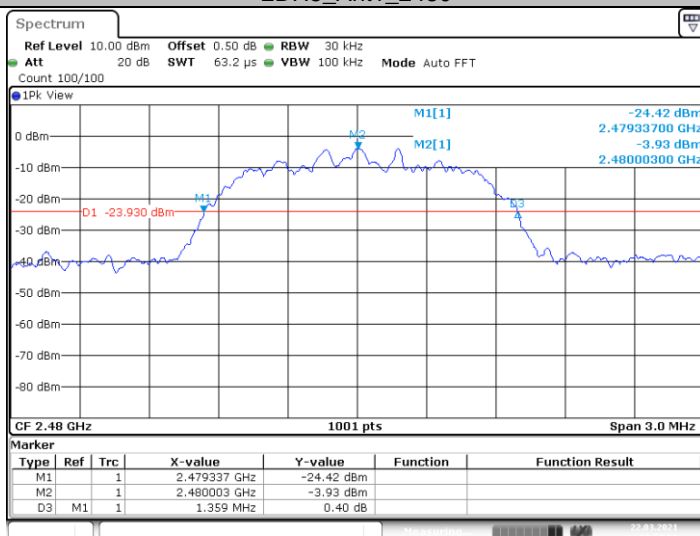
Date: 22.MAR.2021 13:45:55

2DH5_Ant1_2441



Date: 22.MAR.2021 13:49:39

2DH5_Ant1_2480



Date: 22.MAR.2021 13:52:00

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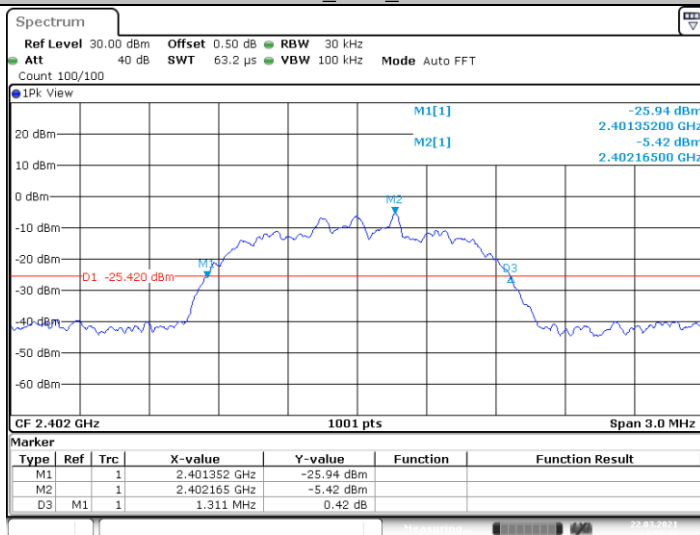
Fax: (86)755-27521011

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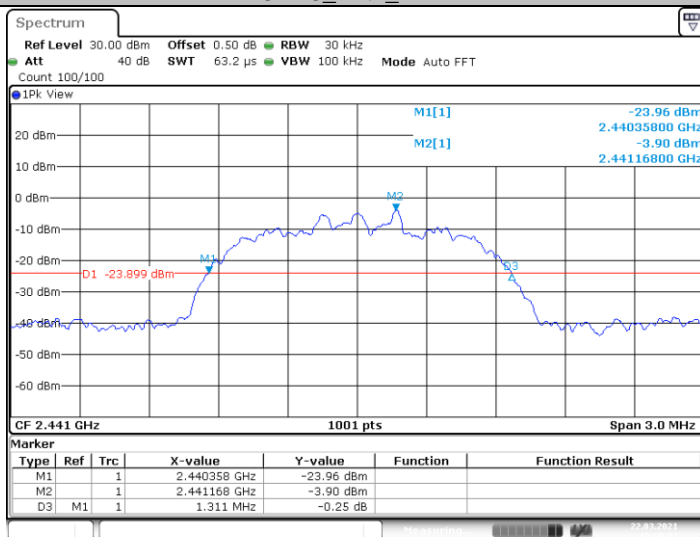
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



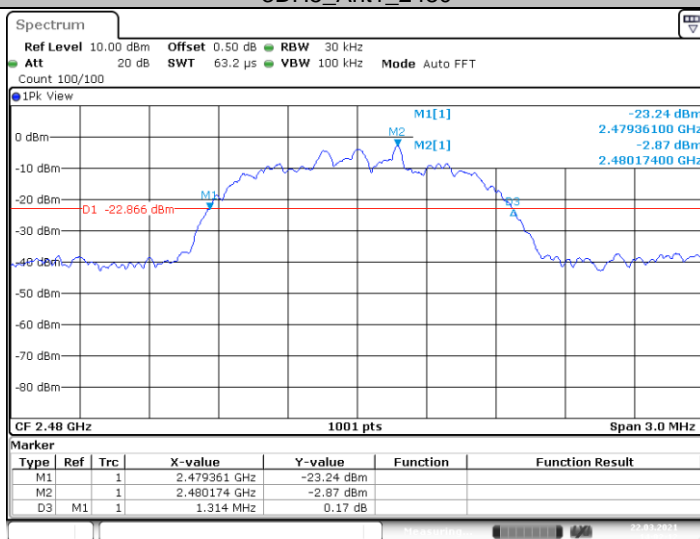
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



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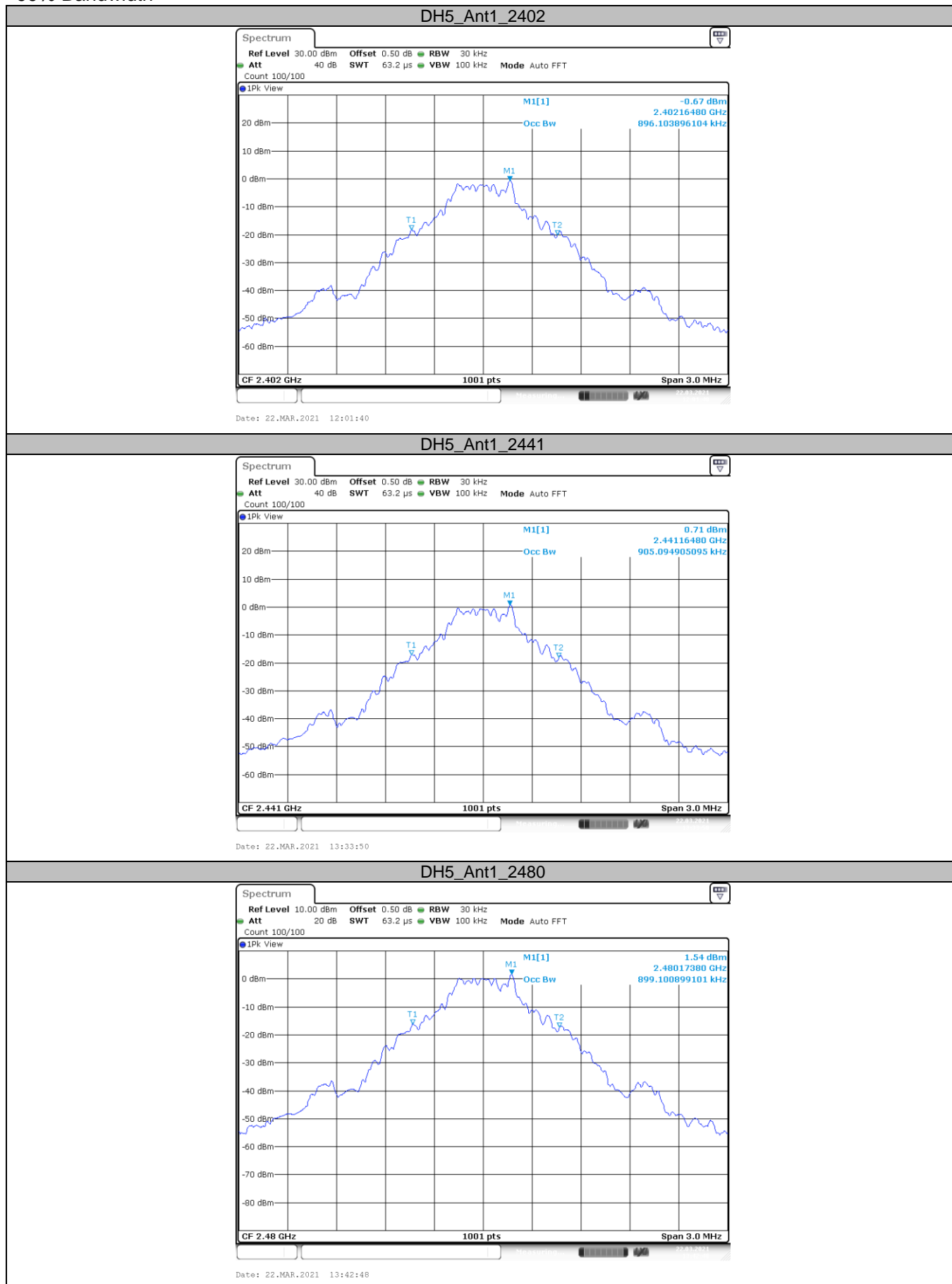
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99% Bandwidth



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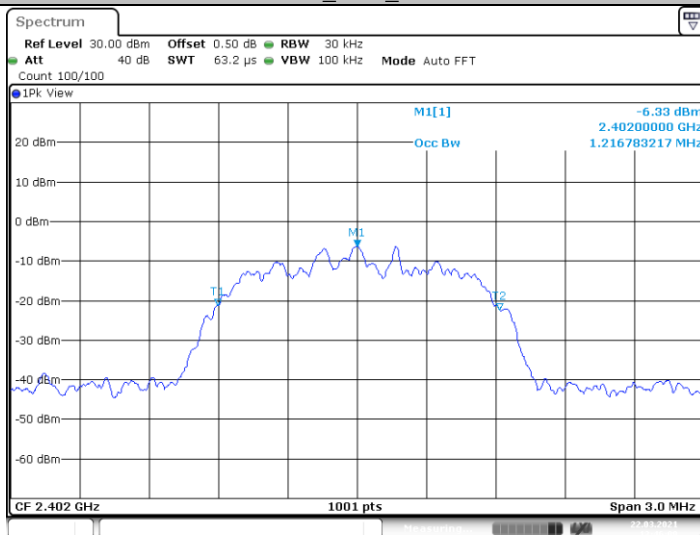
Http://www.sz-ctc.org.cn



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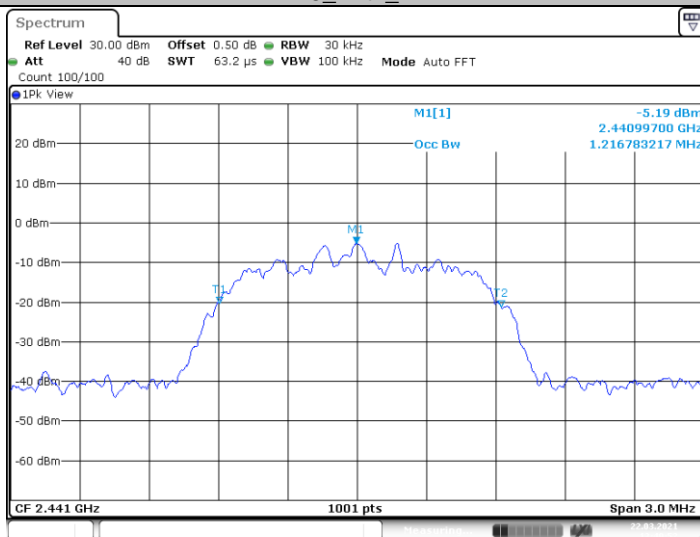


2DH5_Ant1_2402



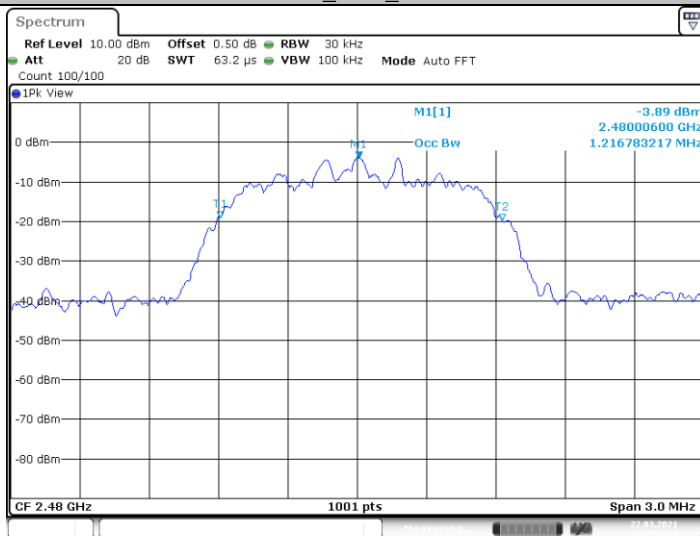
Date: 22.MAR.2021 13:46:08

2DH5_Ant1_2441



Date: 22.MAR.2021 13:49:52

2DH5_Ant1_2480



Date: 22.MAR.2021 13:52:14

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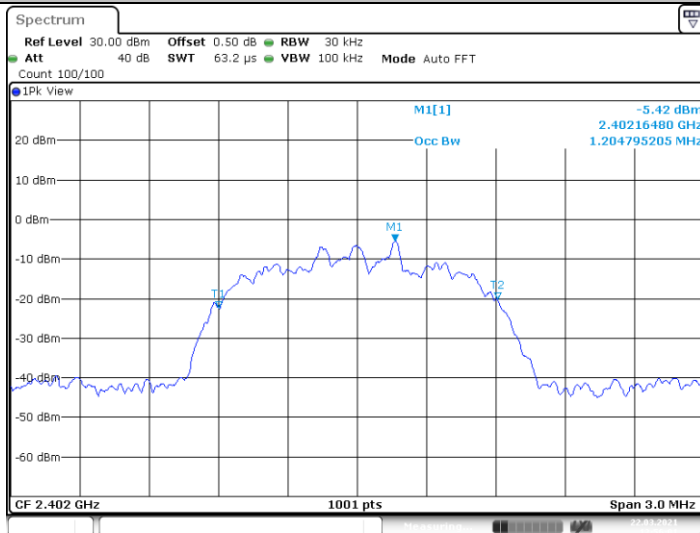
Fax: (86)755-27521011

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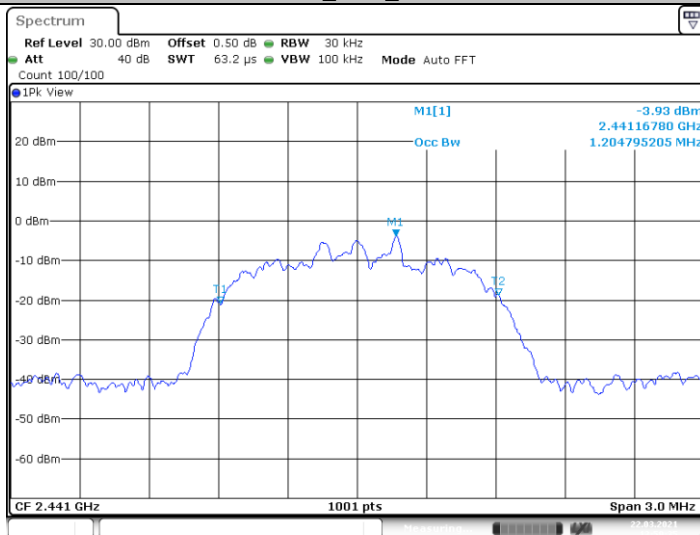


3DH5_Ant1_2402



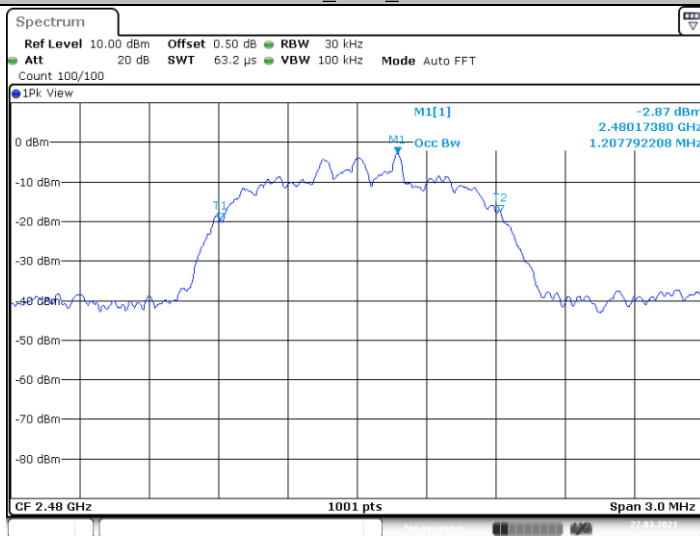
Date: 22.MAR.2021 13:56:01

3DH5_Ant1_2441



Date: 22.MAR.2021 13:59:35

3DH5_Ant1_2480



Date: 22.MAR.2021 14:02:25

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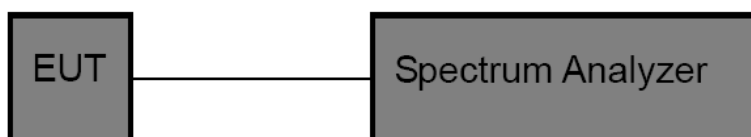
3.5. Channel Separation

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(1):

Test Item	Limit	Frequency Range(MHz)
Channel Separation	>25KHz or >two-thirds of the 20 dB bandwidth Which is greater	2400~2483.5

Test Configuration



Test Procedure

3. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
4. Spectrum Setting:
 - (1) Set RBW = 100 kHz.
 - (2) Set the video bandwidth (VBW) ≥ 3 RBW.
 - (3) Detector = Peak.
 - (4) Trace mode = Max hold.
 - (5) Sweep = Auto couple.

Test Mode

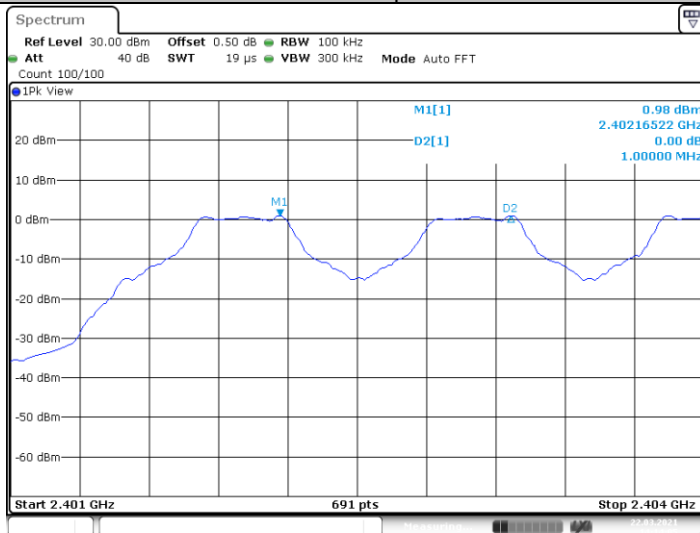
Please refer to the clause 2.3.

**Test Results**

Modulation type	Channel	Carrier Frequencies Separation (MHz)	Limit (MHz)	Result
GFSK	00	1.000	0.993	Pass
	39	1.004	0.993	
	78	1.004	0.993	
$\pi/4$ -DQPSK	00	1.004	0.906	Pass
	39	1.000	0.906	
	78	1.004	0.906	
8-DPSK	00	1.004	0.876	Pass
	39	1.000	0.876	
	78	1.004	0.876	

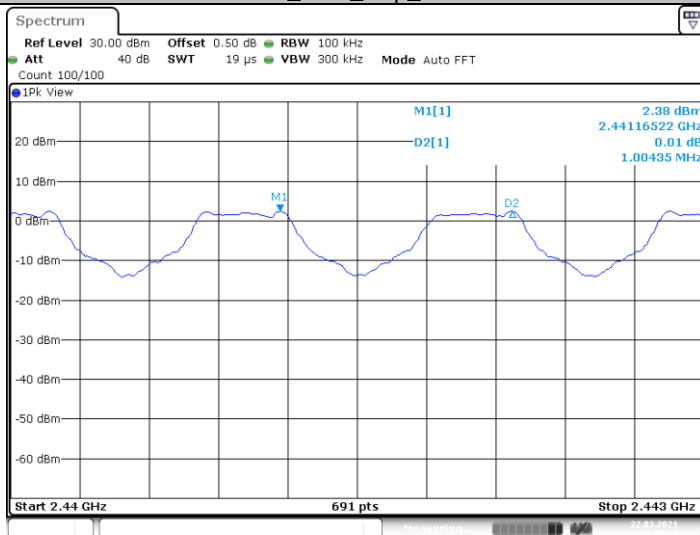


DH5_Ant1_Hop_2402



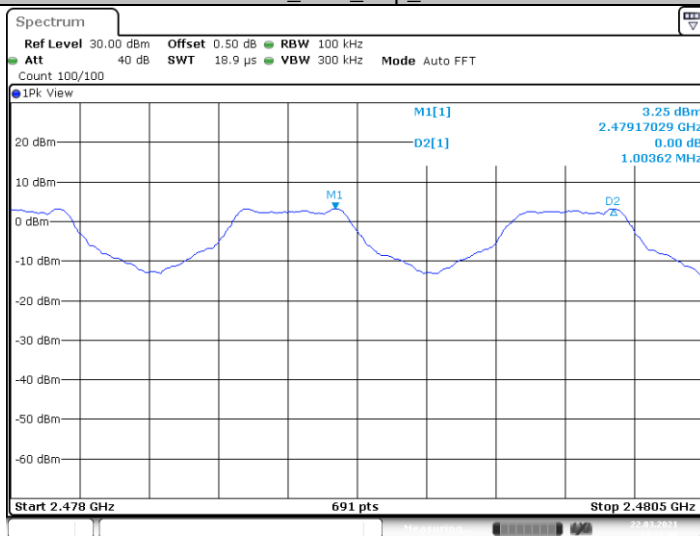
Date: 22.MAR.2021 14:14:05

DH5_Ant1_Hop_2441



Date: 22.MAR.2021 14:15:19

DH5_Ant1_Hop_2480



Date: 22.MAR.2021 14:16:05

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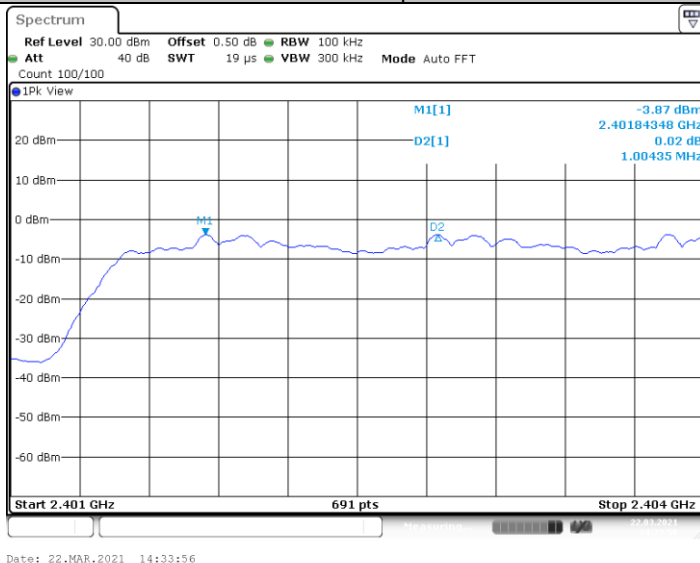
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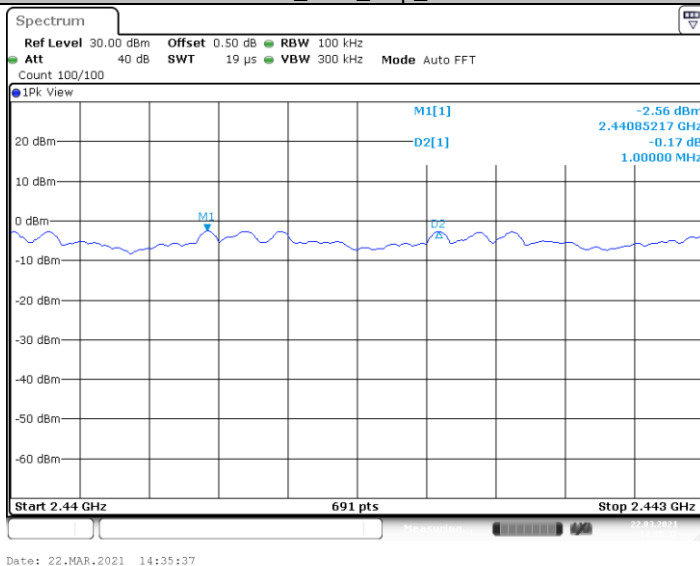
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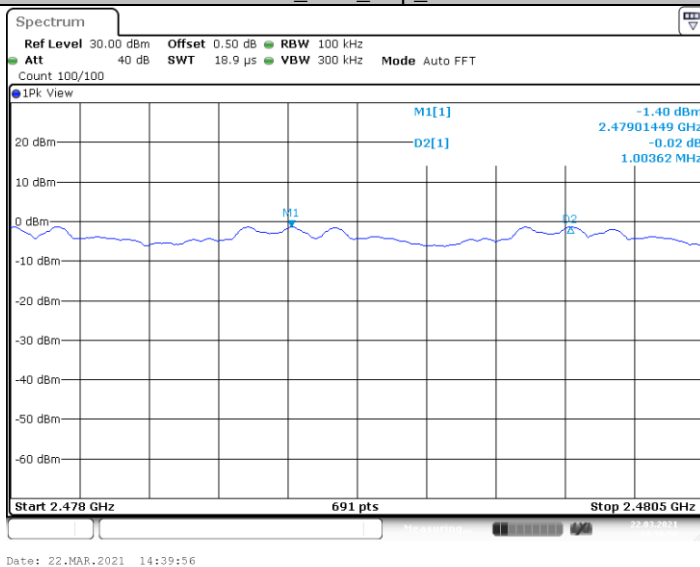
2DH5_Ant1_Hop_2402



2DH5_Ant1_Hop_2441



2DH5_Ant1_Hop_2480



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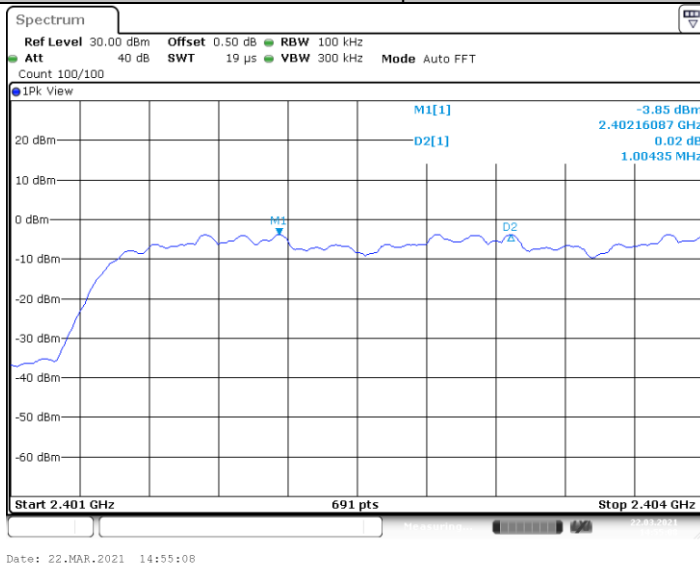
Http://www.sz-ctc.org.cn



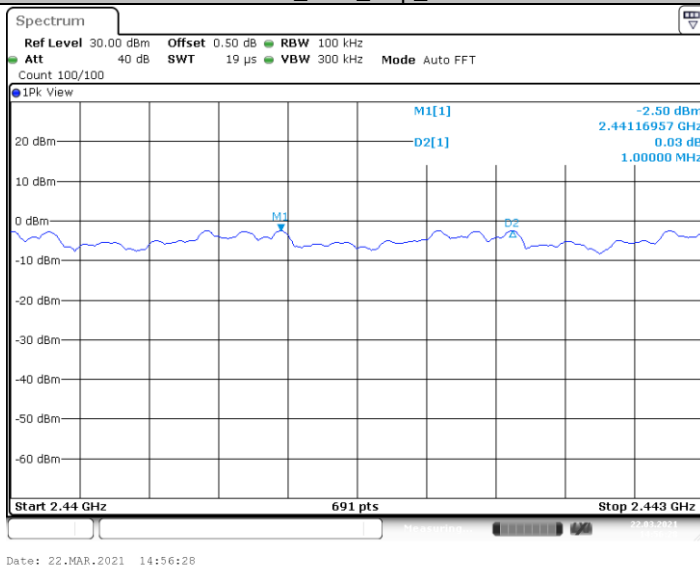
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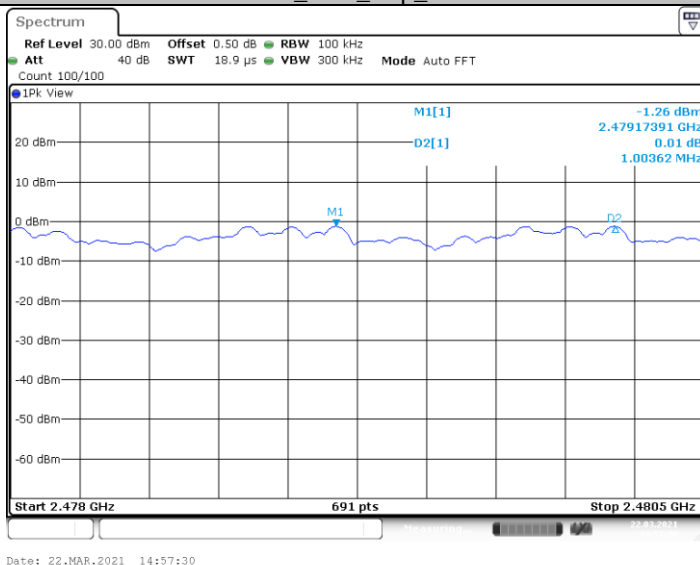
3DH5_Ant1_Hop_2402



3DH5_Ant1_Hop_2441



3DH5_Ant1_Hop_2480



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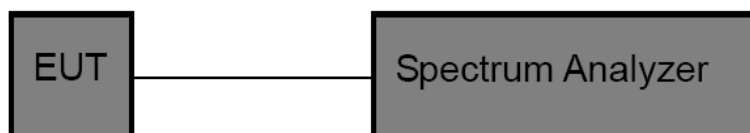
3.6. Number of Hopping Channel

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(iii):

Section	Test Item	Limit
15.247 (a)(iii)	Number of Hopping Channel	>15

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. Spectrum Setting:
 - (1) Peak Detector: RBW=100 kHz, VBW \geq RBW, Sweep time= Auto.

Test Mode

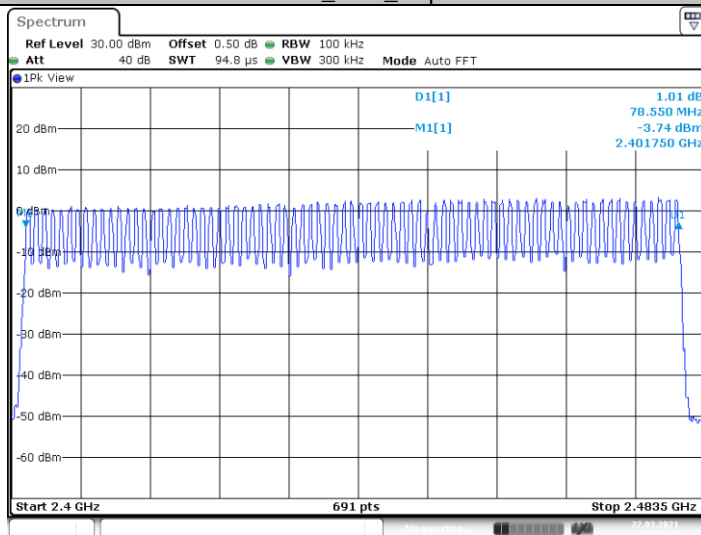
Please refer to the clause 2.3.

Test Result

Modulation type	Channel number	Limit	Result
GFSK	79	≥ 15.00	Pass
$\pi/4$ -DQPSK	79		
8DPSK	79		

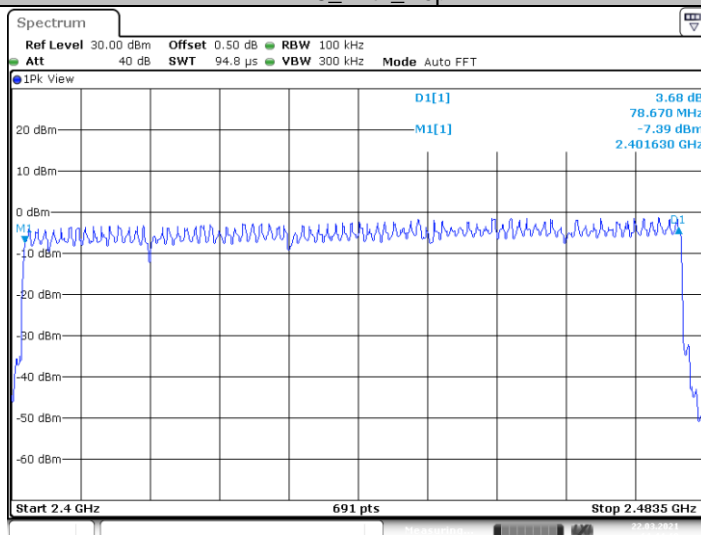


DH5_Ant1_Hop



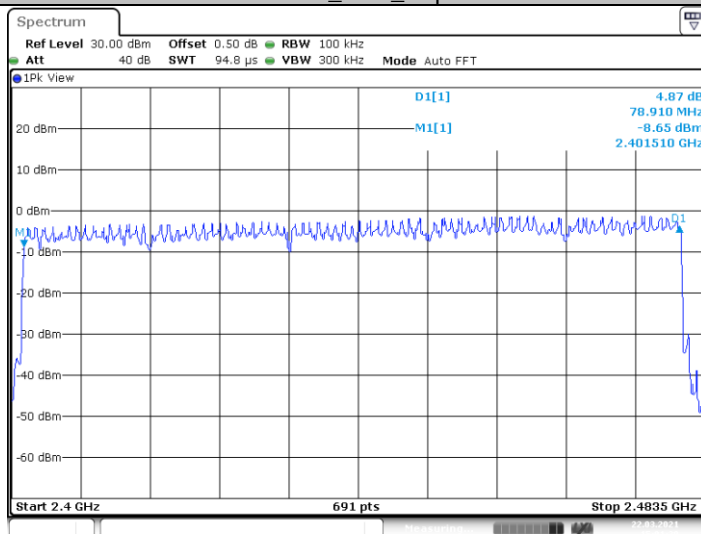
Date: 22.MAR.2021 14:18:42

2DH5_Ant1_Hop



Date: 22.MAR.2021 14:44:17

3DH5_Ant1_Hop



Date: 22.MAR.2021 15:01:31

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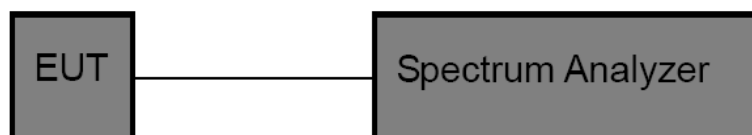


3.7. Dwell Time

Limit

Section	Test Item	Limit
15.247(a)(iii)	Average Time of Occupancy	0.4 sec

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. Spectrum Setting:
 - (1) Spectrum Setting: RBW=1MHz, VBW \geq RBW.
 - (2) Use video trigger with the trigger level set to enable triggering only on full pulses.
 - (3) Sweep Time is more than once pulse time.
 - (4) Set the center frequency on any frequency would be measure and set the frequency span to zero.
 - (5) Measure the maximum time duration of one single pulse.
 - (6) Set the EUT for packet transmitting.

Test Mode

Please refer to the clause 2.3.

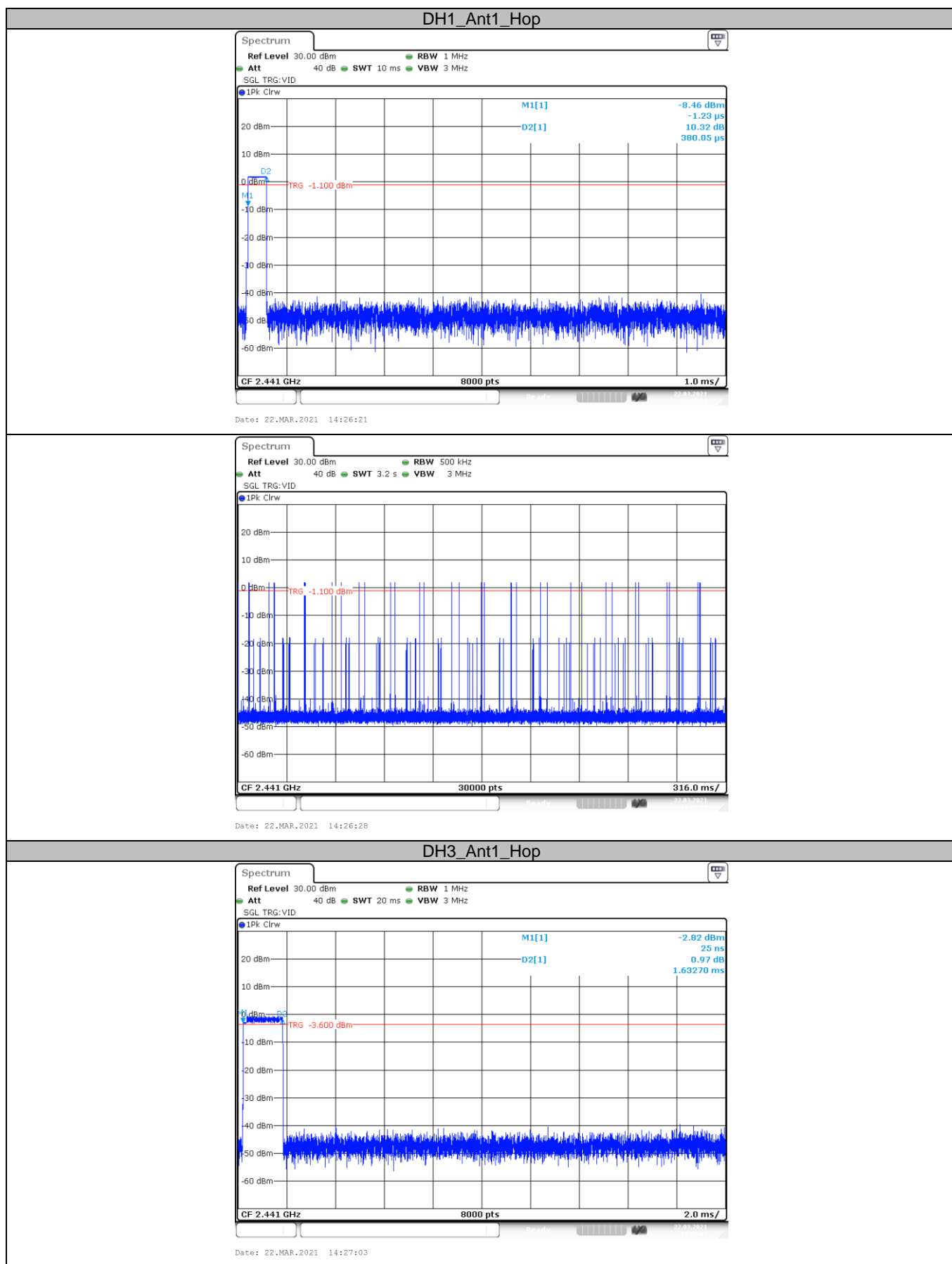
**Test Result**

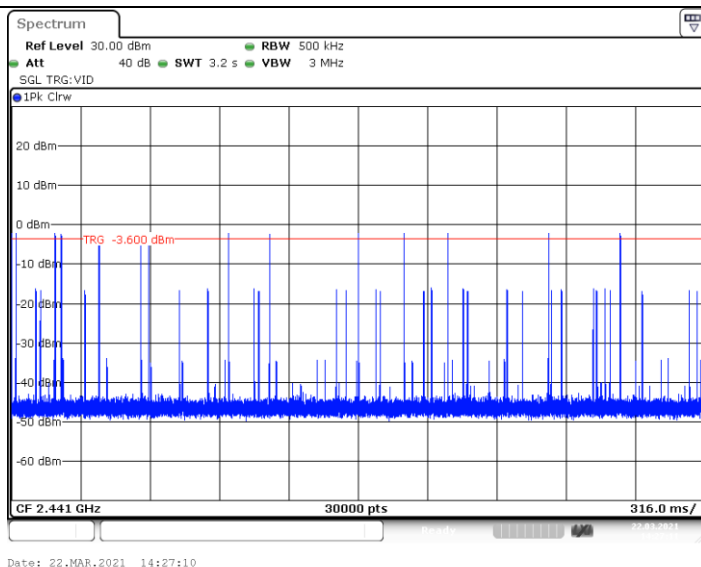
Modulation type	Channel	Channel (MHz)	Pulse Time (ms)	Total of Dwell (ms)	Period Time (ms)	Limit (Second)	Result
GFSK	DH1	2441	0.38	121.6	31.60	≤ 0.40	Pass
	DH3	2441	1.63	260.8	31.60		
	DH5	2441	2.91	310.4	31.60		
$\pi/4$ -DQPSK	2DH1	2441	0.39	124.8	31.60	≤ 0.40	Pass
	2DH3	2441	1.63	260.8	31.60		
	2DH5	2441	2.88	307.2	31.60		
8-DPSK	3DH1	2441	0.39	124.8	31.60	≤ 0.40	Pass
	3DH3	2441	1.63	260.8	31.60		
	3DH5	2441	2.88	307.2	31.60		

Note: 1DH1/2DH1/3DH1 Total of Dwell= Pulse Time*(1600/2)*31.6/79

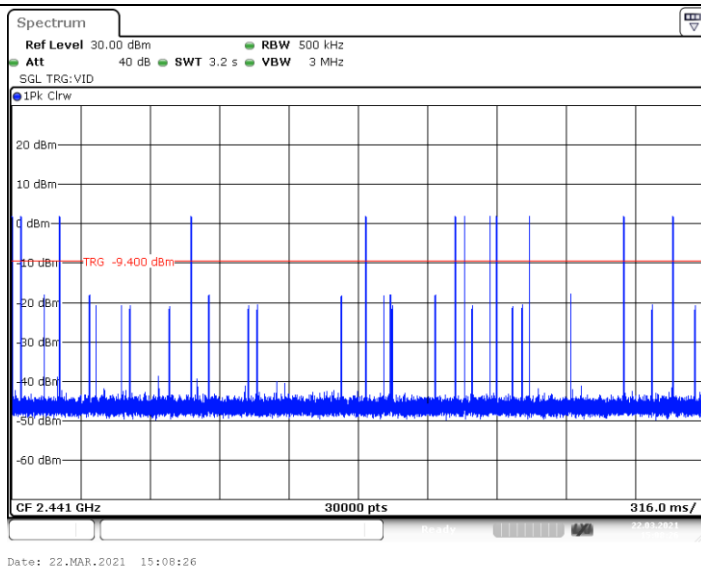
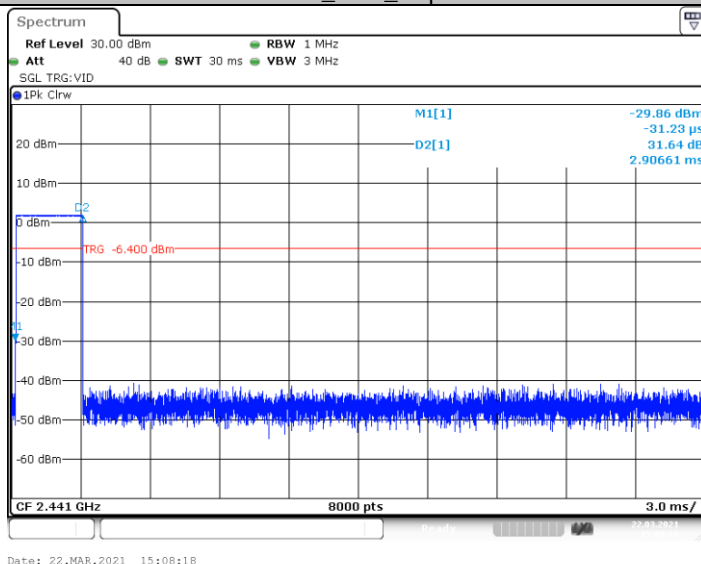
1DH3/2DH3/3DH3 Total of Dwell= Pulse Time*(1600/4)*31.6/79

1DH5/2DH5/3DH5 Total of Dwell= Pulse Time*(1600/6)*31.6/79



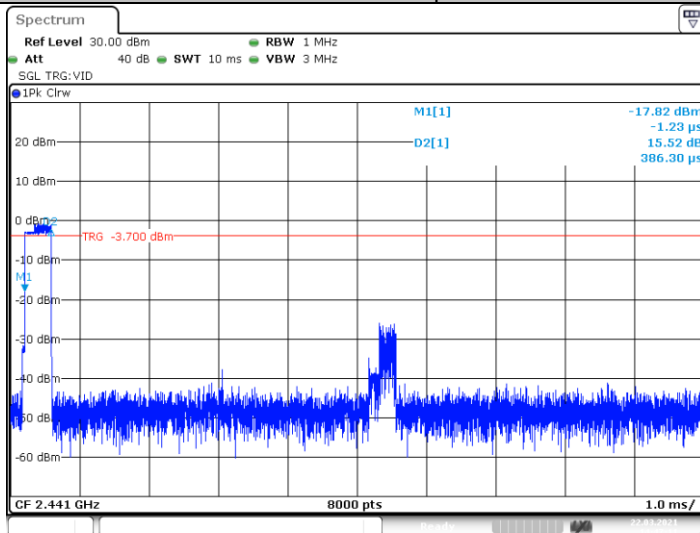


DH5_Ant1_Hop



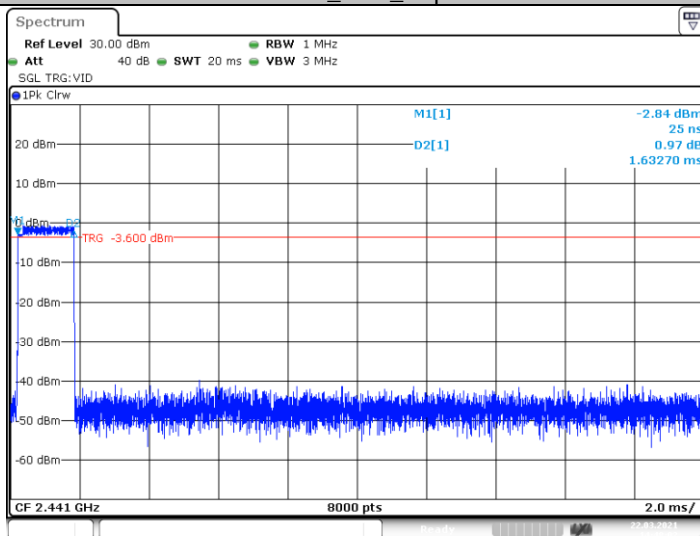


2DH1_Ant1_Hop



Date: 22.MAR.2021 14:47:11

2DH3_Ant1_Hop



Date: 22.MAR.2021 14:48:02

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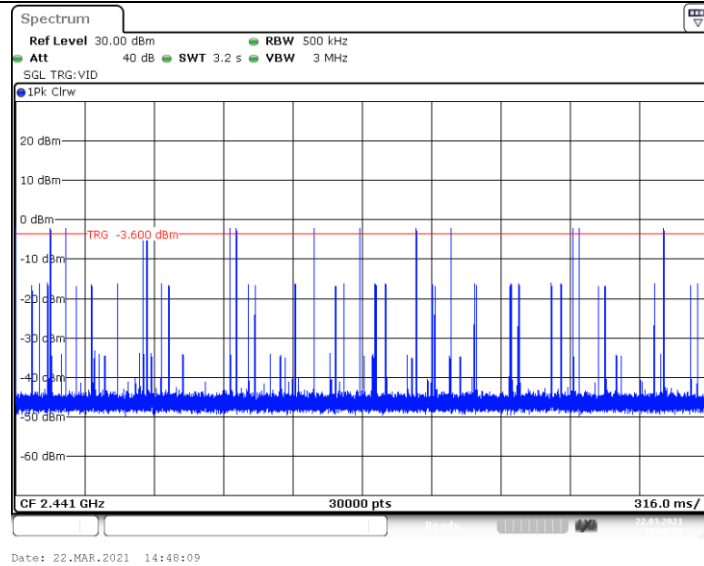
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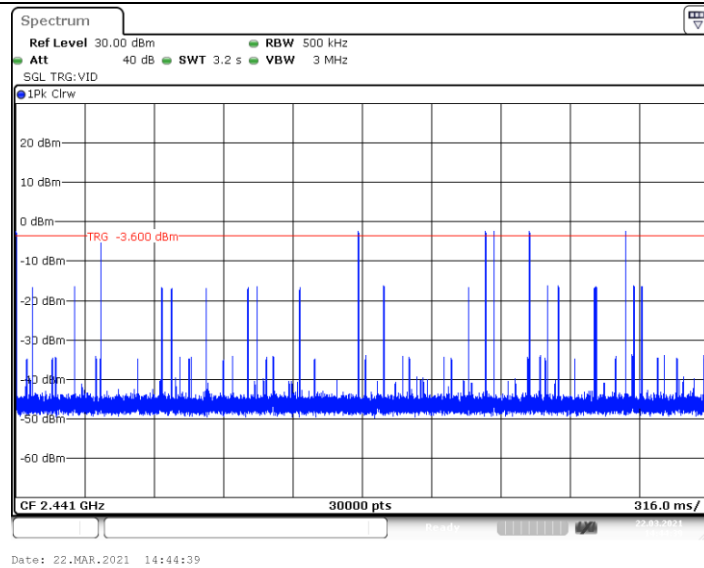
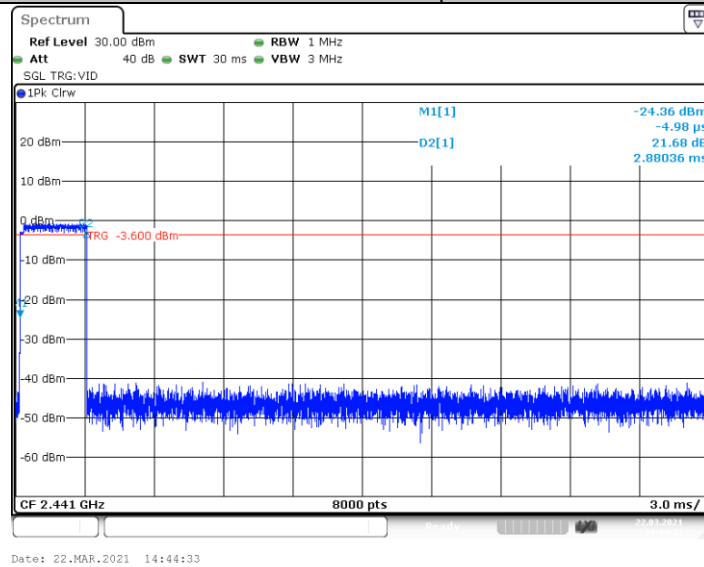
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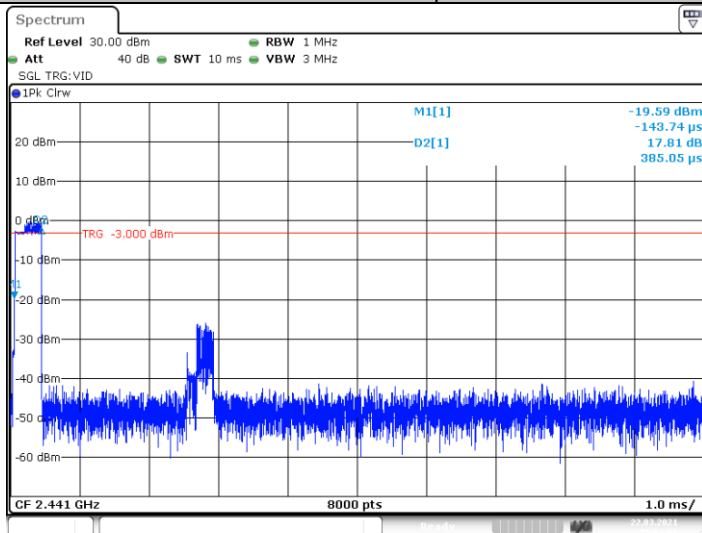


2DH5_Ant1_Hop



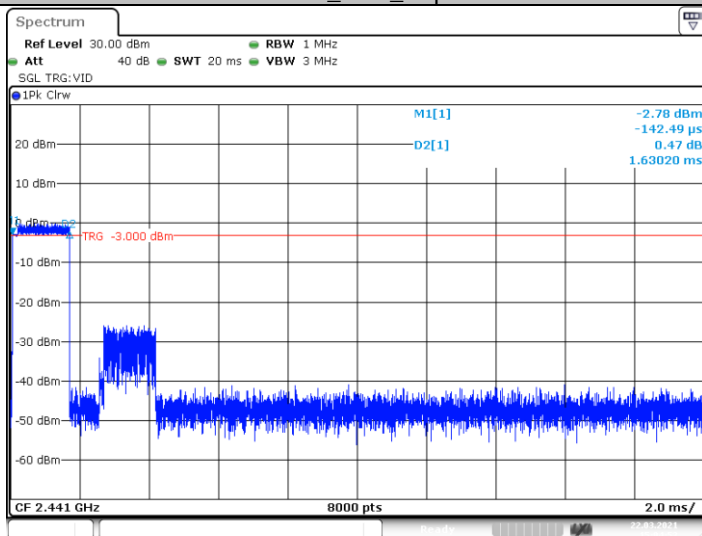


3DH1_Ant1_Hop



Date: 22.MAR.2021 15:04:01

3DH3_Ant1_Hop



Date: 22.MAR.2021 15:04:52

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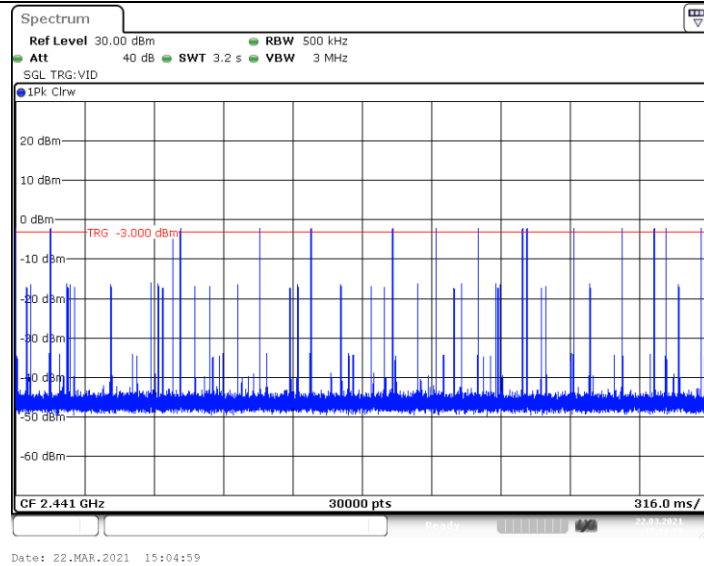
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Tel.: (86)755-27521059

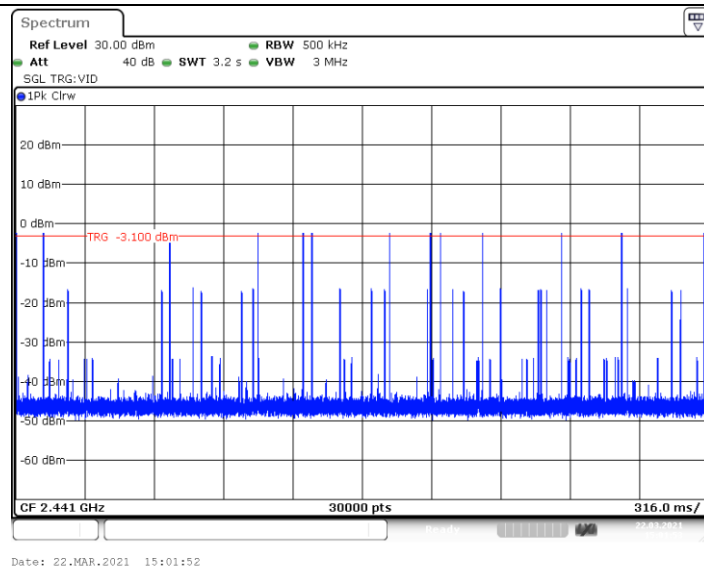
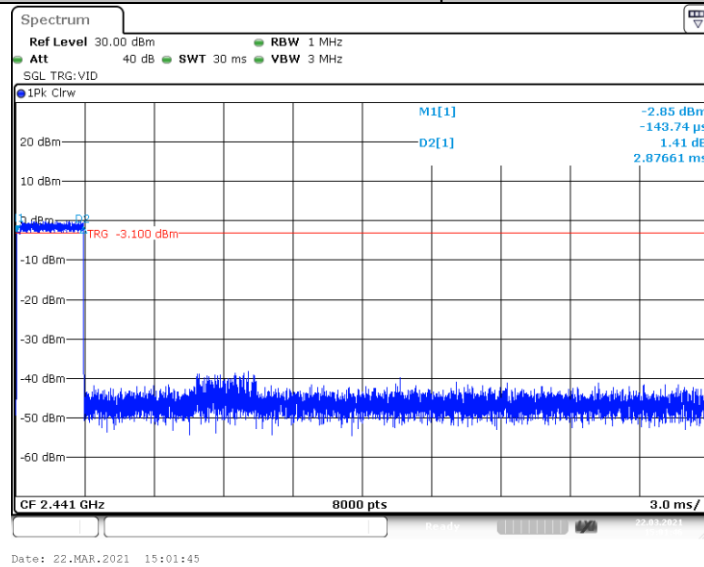
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3DH5_Ant1_Hop





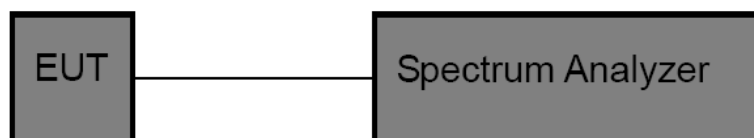
3.8. Peak Output Power

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(1)

Test Item	Limit	Frequency Range(MHz)
Peak Output Power	Hopping Channels>75 Power<1W(30dBm) Other <125mW(21dBm)	2400~2483.5

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. Spectrum Setting:
Peak Detector: RBW=1 MHz, VBW=3 MHz for bandwidth less than 1MHz.
RBW=3 MHz, VBW=3 MHz for bandwidth more than 1MHz.

Test Mode

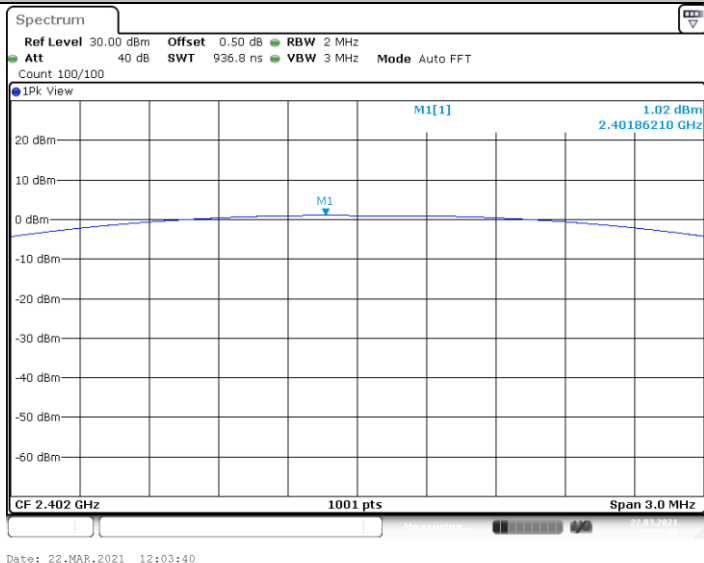
Please refer to the clause 2.3.

Test Result

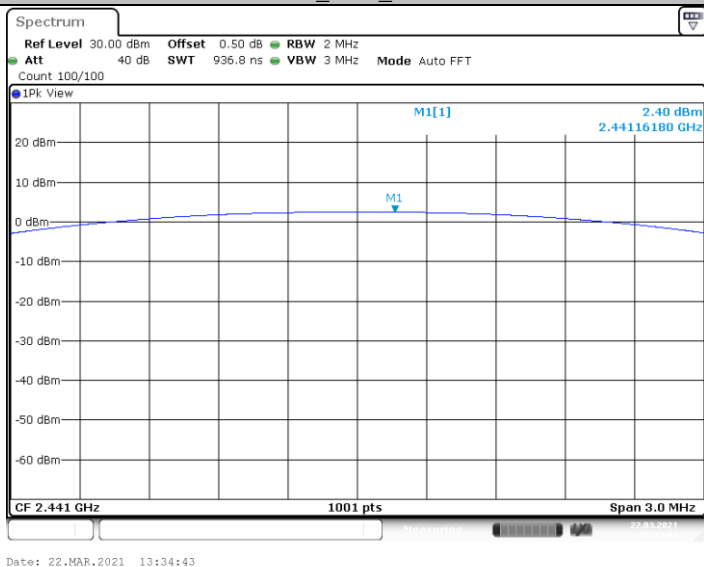
Modulation type	Channel	Output power (dBm)	Limit (dBm)	Result
GFSK	00	1.02	≤ 30.00	Pass
	39	2.40		
	78	3.25		
π/4-DQPSK	00	-0.83	≤ 21.00	Pass
	39	0.11		
	78	1.28		
8-DPSK	00	-0.66	≤ 21.00	Pass
	39	0.76		
	78	1.57		



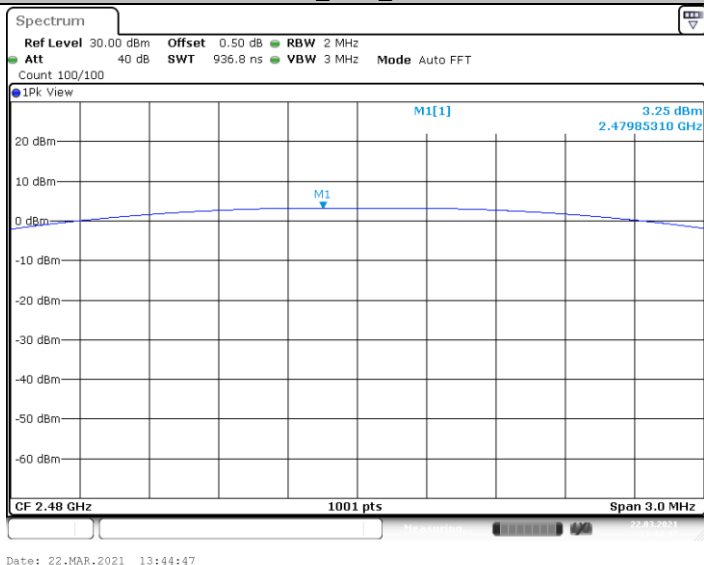
DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480



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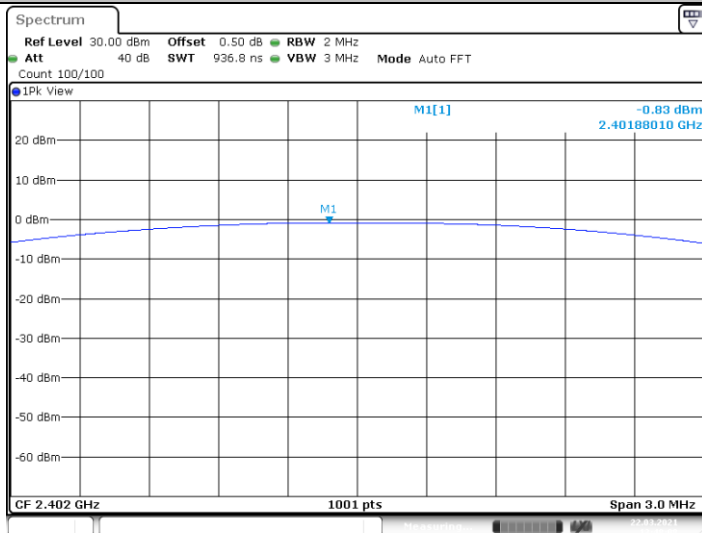
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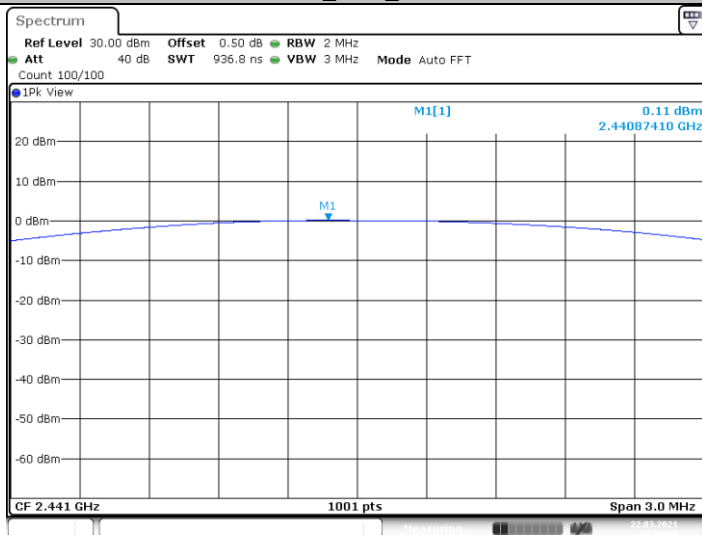


2DH5_Ant1_2402



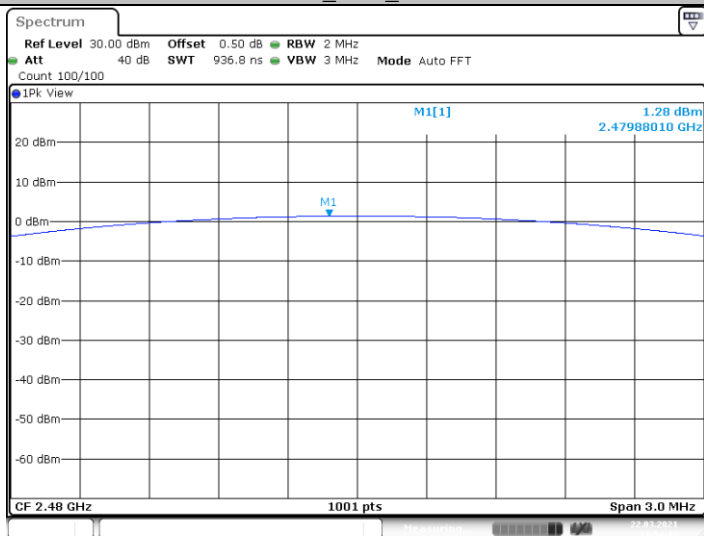
Date: 22.MAR.2021 13:48:08

2DH5_Ant1_2441



Date: 22.MAR.2021 13:50:45

2DH5_Ant1_2480



Date: 22.MAR.2021 13:54:13

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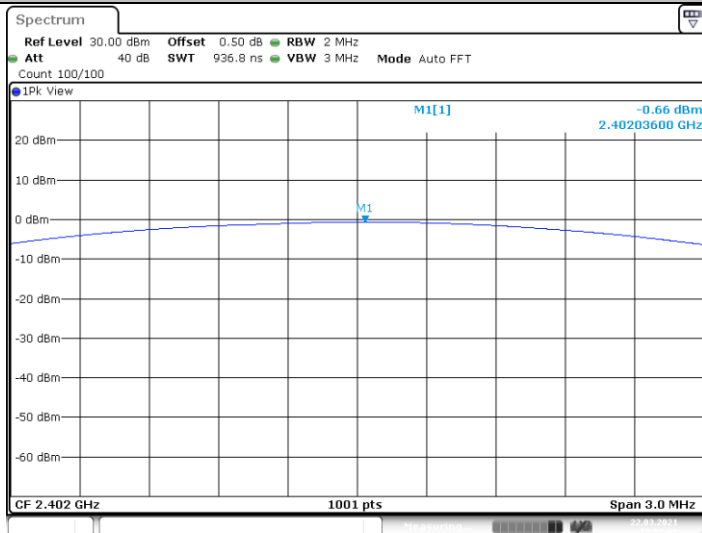
Fax: (86)755-27521011

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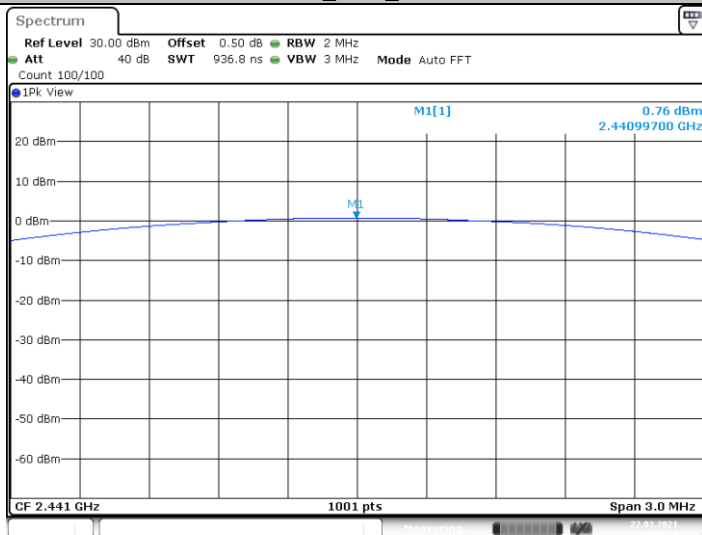


3DH5_Ant1_2402



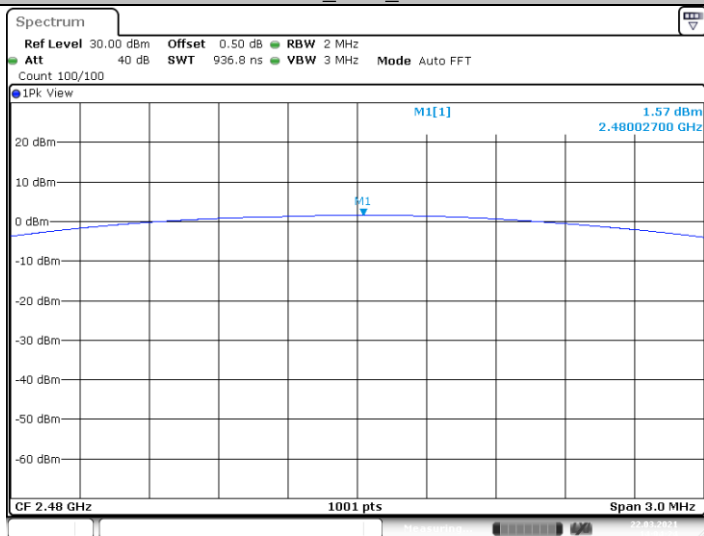
Date: 22.MAR.2021 13:58:01

3DH5_Ant1_2441



Date: 22.MAR.2021 14:00:28

3DH5_Ant1_2480



Date: 22.MAR.2021 14:04:24

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3.9. Antenna requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i):

(i) Systems operating in the 2400~2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

Test Result

The directional gain of the antenna less than 6dBi, please refer to the EUT internal photographs antenna photo.

*****THE END*****