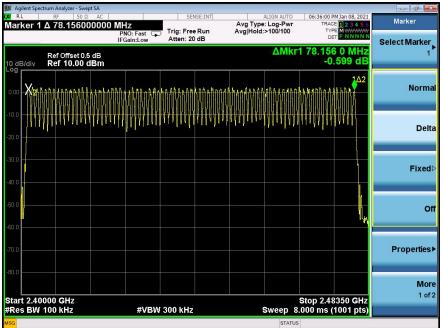


13.4 Test Result

Test Plots:

79 Channels in total GFSK



Pi/4 DQPSK

| 🗊 Agilent Spectrum Analyzer - Swept SA | | | | | | | | | | | |
|--|-------------------------|-----------|----------|--|---------------|-----------------|----------------|---|------------------------|--|---------------|
| LXI RI | | RF 50 | | | SE | NSE:INT | | ALIGN AUTO | 06:36:48 F | M Jan 08, 2021 | Marker |
| Mar | ker 1 | Δ 77.989 | | PNO: Fast IFGain:Low | Trig: Fre | e Run) dB | Avg Hold: | | TYP | E 1 2 3 4 5 6 M WWWW T P N N N N | Select Marker |
| | AMbr1 77 999 0 MUz | | | | | | | | | | |
| 10 dE Log | 10 dB/div Ref 10.00 dBm | | | | | | | | 0 | .190 dB | 1 |
| 3 | v | | | | | | | | | 1Δ2 | |
| 0.00 | A A, | ahla Lakh | halanna) | LANDAN DAAN | hAAAAMAA MA A | Aletholiana | (Alta o an hai | AL MANDA | AALAANAA | hhink | Normal |
| -10.0 | 1444 | kundhalla | AN LAAAN | AAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | ed ha bhadh | and sales and a | MAN I. | a selle se ha s | LA A A AL M | u Yu Yi | |
| -10.0 | | | | | | | 2 | | | | Delta |
| -20.0 | | | | | | | - | | | | Dena |
| | | | | | | | | | | | |
| -30.0 | ſ | | | | | | | | | | Fixed⊳ |
| -40.0 | ļ | | | | | | | | | \ | |
| | | | | | | | | | | | |
| -50.0 | | | | | | | - 5 | | | | Off |
| -60.0 | | | | | | | | | | <u>}</u> | |
| .00.0 | | | | | | | | | | 12 | |
| -70.0 | | | | | | | | | | | Properties► |
| | | | | | | | | | | | |
| -80.0 | | | | | | | | | | | More |
| C (| | | | | | | | | 2 4 0 44 | | 1 of 2 |
| Start 2.40000 GHz Stop 2.48350 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 8.000 ms (1001 pts) | | | | | | | | | | | |
| MSG STATUS | | | | | | | | | | | |
| | 10 | 10 T | | | | | | | | | |



| | | | | FOR | 00 | | | | | | |
|-------------------|---|------------------------|---------|--|-------------|---|----------------|-----------|-----------------------------|----------------|----------|
| | | | | | uner as cel | | | | Analyzer - Swep | | Agil RL |
| Marker | M Jan 08, 2021 E 1 2 3 4 5 6 E M WWWWW T P N N N N N | TRAC | | Avg Type Avg Hold: | Run | Trig: Free | IZ NO: Fast | | ε <u>50 Ω</u> 78.15600 | | |
| Select Marker | | DE 78.156 | | 0 | | Atten: 20 | Gain:Low | | | | _ |
| 1 | 280 dB | -0. | ΔΙΨΙΚΙ | | | | | dB IBm | of Offset 0.5 of 10.00 d | Bidiv R |) dB |
| Norm | 102 WW | $\langle \psi \rangle$ | | haine an | WWWW | : //////////////////////////////////// | | kny M | Huyyayiyi | XPHY | .00 - |
| Del | | | | | | | | | | | .0 - |
| Fixe | | | | | | | | | | | .0 .0 |
| (| | | | | | | | | | | .0 - |
| Propertie | | | | | | | | | | | 0 |
| M c 1 c | 350 GHz | Stop 2.48 | | | | | | | GHz | t 2.4000 | art |
| | 1001 pts) | 000 ms (* | Sweep 8 | | | 300 kHz | #VBW | | kHz | 5 BW 10 | Res |
| | | | STATUS | | | | | | | | G |

8DPSK



14. DWELL TIME

14.1 Block Diagram Of Test Setup



14.2 Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

14.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set spectrum analyzer span = 0. Centred on a hopping channel;

3. Set RBW = 1MHz and VBW = 3MHz.Sweep = as necessary to capture the entire dwell time per hopping channel. Set the EUT for DH5, DH3 and DH1 packet transmitting.

4. Use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).



14.4 Test Result

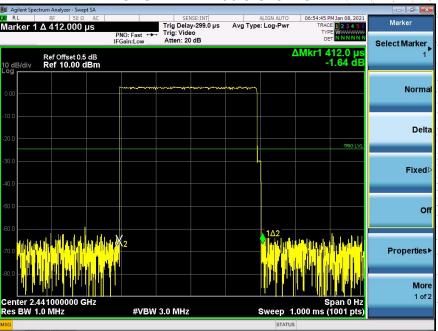
DH5 Packet permit maximum 1600 / 79 / 6 hops per second in each channel (5 time slots RX, 1 time slot TX).

DH3 Packet permit maximum 1600 / 79 / 4 hops per second in each channel (3 time slots RX, 1 time slot TX).

DH1 Packet permit maximum 1600 / 79 /2 hops per second in each channel (1 time slot RX, 1 time slot TX). So, the Dwell Time can be calculated as follows:

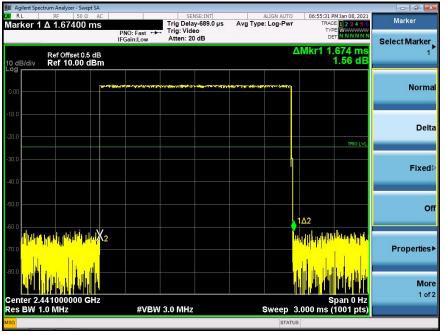
DH5:1600/79/6*0.4*79*(MkrDelta)/1000 DH3:1600/79/4*0.4*79*(MkrDelta)/1000 DH1:1600/79/2*0.4*79*(MkrDelta)/1000 Remark: Mkr Delta is once pulse time.

| Modulation | Channel Data | Packet | pulse time(ms) | Dwell Time(s) | Limits(s) |
|------------|-----------------|--------|-------------------|------------------|-----------|
| | | DH1 | 0.412 | 0.132 | 0.4 |
| GFSK | Middle | DH3 | 1.674 | 0.268 | 0.4 |
| | | DH5 | 2.930 | 0.313 | 0.4 |
| | | 2DH1 | 0.421 | 0.135 | 0.4 |
| Pi/4DQPSK | Middle | 2DH3 | 1.686 | 0.270 | 0.4 |
| | | 2DH5 | 2.930 | 0.313 | 0.4 |
| | | 3DH1 | 0.422 | 0.135 | 0.4 |
| 8DPSK | Middle | 3DH3 | 1.686 | 0.270 | 0.4 |
| | | 3DH5 | 2.950 | 0.315 | 0.4 |



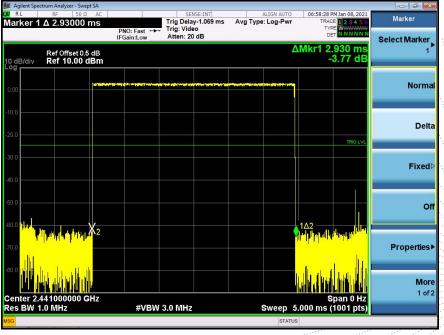
Test Plots GFSK DH1 Middle Channel



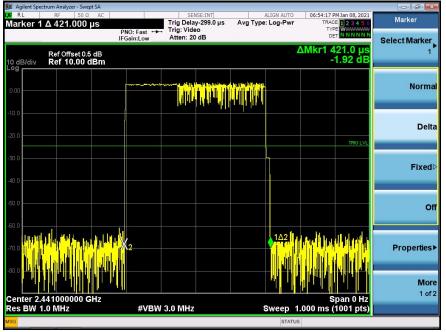


GFSK DH3 Middle Channel

GFSK DH5 High Middle Channel

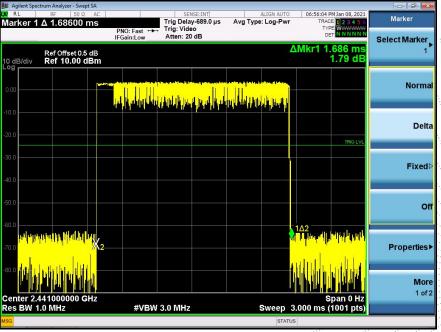




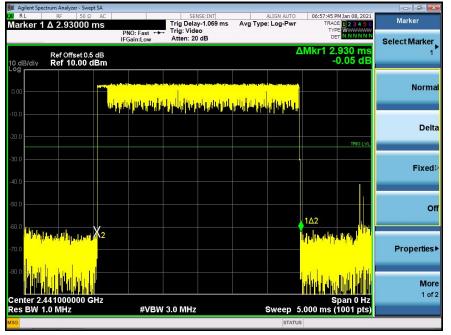


Pi/4DQPSK DH1 Middle Channel

Pi/4DQPSK DH3 Middle Channel

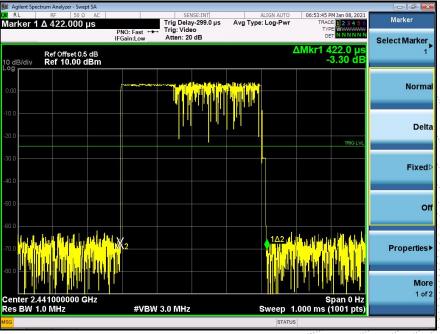




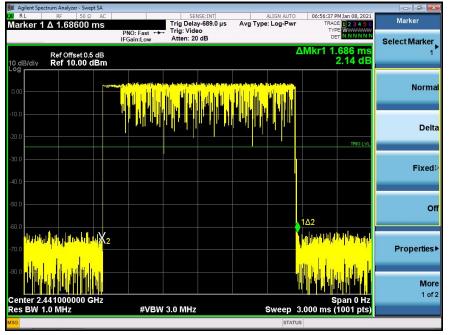


Pi/4DQPSK DH5 Middle Channel

8DPSK DH1 Middle Channel

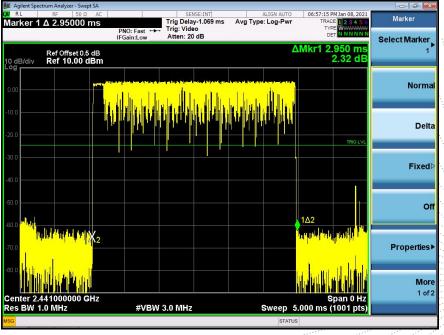






8DPSK DH3 Middle Channel

8DPSK DH5 Middle Channel





15. ANTENNA REQUIREMENT

15.1 Limit

15.203 requirement: For intentional device, according to 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.

15.2 Test Result

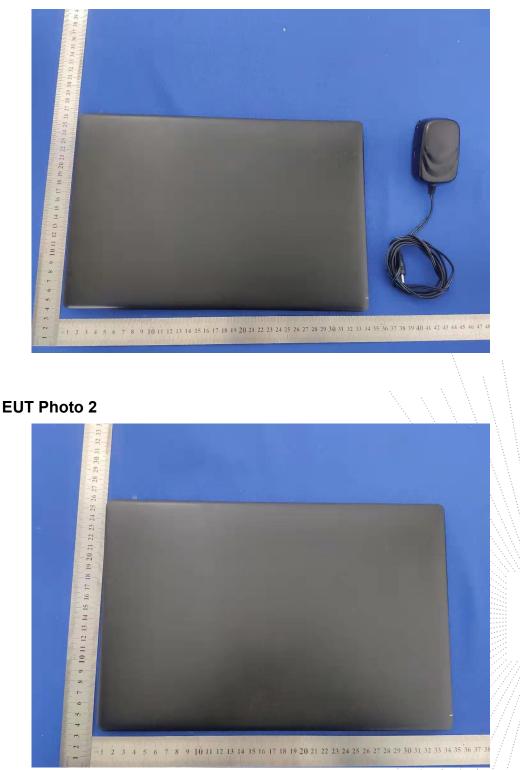
The EUT antenna is FPCB antenna, antenna Gain is 0.5dBi, fulfill the requirement of this section.

Page: 66 of 71 Edition: A.3



16. EUT PHOTOGRAPHS

EUT Photo 1

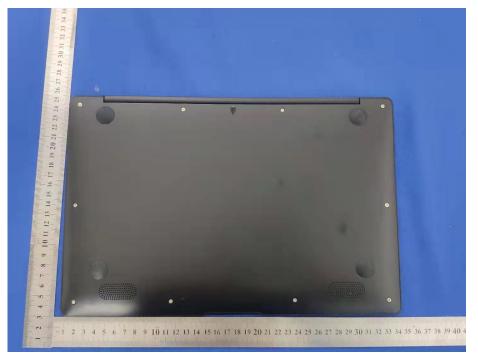


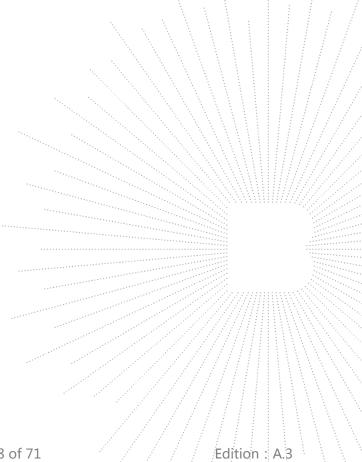
Page: 67 of 71



Report No.: BCTC2012278034-1E

EUT Photo 3





No.: BCTC/RF-EMC-005



17. EUT TEST SETUP PHOTOGRAPHS

Conducted emissions



<section-header>

Page: 69 of 71



Report No.: BCTC2012278034-1E





Report No.: BCTC2012278034-1E

STATEMENT

1. The equipment lists are traceable to the national reference standards.

2. The test report can not be partially copied unless prior written approval is issued from our lab.

3. The test report is invalid without stamp of laboratory.

4. The test report is invalid without signature of person(s) testing and authorizing.

5. The test process and test result is only related to the Unit Under Test.

6. The quality system of our laboratory is in accordance with ISO/IEC17025.

7.If there is any objection to report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:

1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Tangwei, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL: 400-788-9558

P.C.: 518103

FAX: 0755-33229357

Website : http://www.bctc-lab.com

E-Mail : <u>bctc@bctc-lab.com.cn</u>

***** END *****

No. : BCTC/RF-EMC-005

Page: 71 of 71