

# **FCC Test Report**

Report No.: AGC02575210901FE03

| FCC ID              | : YAMEHW08                                  |
|---------------------|---|
| APPLICATION PURPOSE | : Original Equipment                        |
| PRODUCT DESIGNATION | : BT Earpiece                               |
| BRAND NAME          | : Hytera                                    |
| MODEL NAME          | : EHW08                                     |
| APPLICANT           | : Hytera Communications Corporation Limited |
| DATE OF ISSUE       | : Sep. 10, 2021                             |
| STANDARD(S)         | : FCC Part 15.247                           |
| REPORT VERSION      | : V1.0                                      |

# Attestation of Global Angliance (Shenzhen) Co., Ltd

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# **REPORT REVISE RECORD**

| Report Version | Revise Time | Issued Date   | Valid Version | Notes           |
|----------------|-------------|---------------|---------------|-----------------|
| V1.0           | . /         | Sep. 10, 2021 | Valid         | Initial Release |

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## **1. VERIFICATION OF CONFORMITY**

| Applicant                | Hytera Communications Corporation Limited  |  |  |
|--------------------------|--|--|--|
| Address                  | Hytera Tower, Hi-Tech Industrial Park North, 9108# Beihuan Road, Nanshan District, Shenzhen, People's Republic of China, P.R.C, P 518057 |  |  |
| Manufacturer             | Hytera Communications Corporation Limited  |  |  |
| Address                  | Hytera Tower, Hi-Tech Industrial Park North, 9108# Beihuan Road, Nanshan District, Shenzhen, People's Republic of China, P.R.C, P 518057 |  |  |
| Factory                  | Hytera Communications Corporation Limited Baolong Branch   |  |  |
| Address                  | Plant No.3, Hytera Hi-Tech Park, Baolong Industrial Area, Longgang,<br>Shenzhen, Guangdong, China  |  |  |
| Product Designation      | BT Earpiece  |  |  |
| Brand Name               | Hytera   |  |  |
| Test Model               | EHW08  |  |  |
| Date of test             | Sep. 02, 2021 to Sep. 10, 2021   |  |  |
| Deviation                | No any deviation from the test method  |  |  |
| Condition of Test Sample | Normal   |  |  |
| Test Result              | Pass   |  |  |
| Report Template          | AGCRT-US-BR/RF   |  |  |

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC PART 15.247.

Prepared By

Then Hunny

Thea Huang (Project Engineer)

Sep. 10, 2021

Max Zhang

Reviewed By

Max Zhang (Reviewer)

Sep. 10, 2021

Approved By

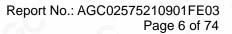
Lowes Forrest Lei

(Authorized Officer)

Sep. 10, 2021

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# 2. GENERAL INFORMATION

# 2.1. PRODUCT DESCRIPTION

The EUT is designed as "BT Earpiece". It is designed by way of utilizing the GFSK,  $\pi$  /4-DQPSK and 8DPSK technology to achieve the system operation.

A major technical description of EUT is described as following

| Operation Frequency         | 2.402 GHz to 2.480 GHz   |
|-----------------------------|--|
| RF Output Power             | 3.481dBm (Max)   |
| Bluetooth Version           | V4.1   |
| Modulation                  | BR ⊠GFSK, EDR ⊠π /4-DQPSK, ⊠8DPSK<br>BLE □GFSK 1Mbps □GFSK 2Mbps |
| Number of channels          | 79   |
| Hardware Version            | E0_V11   |
| Software Version            | E0_EHW08_V01_72  |
| Antenna Designation         | PCB Antenna (Comply with requirements of the FCC part 15.203)    |
| Antenna Gain                | 0dBi   |
| Power Supply                | DC 3.7V by battery or DC 5V by adapter                           |
| Note: The EUT doesn't suppo | rt BLE.  |

## 2.2. TABLE OF CARRIER FREQUENCYS

| Frequency Band | Channel Number | Frequency |
|----------------|----------------|-----------|
|                | 0              | 2402 MHz  |
|                |                | 2403 MHz  |
|                |                |           |
|                | 38             | 2440 MHz  |
| 2402~2480MHz   | 39             | 2441 MHz  |
| C C            | 40             | 2442 MHz  |
|                |                |           |
|                | 77             | 2479 MHz  |
|                | 78             | 2480 MHz  |



## 2.3. RECEIVER INPUT BANDWIDTH

The input bandwidth of the receiver is 1.3MHz, in every connection one Bluetooth device is the master and the other one is slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally, the type of connection (e.g. single of multi slot packet) is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also, the slave of the connection will use these settings. Repeating of a packet has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means, a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

## 2.4. EXAMPLE OF A HOPPING SEQUENCY IN DATA MODE

Example of a hopping sequence in data mode: 40, 21, 44, 23, 04, 15, 66, 56, 19, 78, 07, 28, 69, 55, 36, 45, 05, 13, 43, 74, 57, 35, 67, 76, 02, 34, 54, 63, 42, 11, 30, 06, 64, 25, 75, 48, 17, 33, 58, 01, 29, 14, 51, 72, 03, 31, 50, 61, 77, 18, 10, 47, 12, 68, 08, 49, 20, 00, 73, 09, 16, 60, 71, 41, 24, 53, 38, 26, 46, 37, 65, 32, 70, 52, 27, 59, 22, 62, 39

## 2.5. EQUALLY AVERAGE USE OF FREQUENCIES AND BEHAVIOUR

The generation of the hopping sequence in connection mode depends essentially on two input values:

1. LAP/UAP of the master of the connection.

2. Internal master clock.

The LAP (lower address part) are the 24 LSB's of the 48 BD\_ADDRESS. The BD\_ADDRESS is an unambiguous number of every Bluetooth unit. The UAP (upper address part) are the 24MSB's of the 48BD\_ADDRESS

The internal clock of a Bluetooth unit is derived from a free running clock which is never adjusted and is never turned off. For behavior action with other units only offset is used. It has no relation to the time of the day. Its resolution is at least half the RX/TX slot length of 312.5us. The clock has a cycle of about one day(23h30). In most case it is implemented as 28 bits counter. For the deriving of the hopping sequence the entire. LAP (24 bits),4LSB's(4bits) (Input 1) and the 27MSB's of the clock (Input 2) are used. With this input values different mathematical procedures (permutations, additions, XOR-operations) are performed to generate the Sequence. This will be done at the beginning of every new transmission.

Regarding short transmissions the Bluetooth system has the following behavior:

The first connection between the two devices is established, a hopping sequence was generated. For Transmitting the wanted data the complete hopping sequence was not used. The connection ended.



The second connection will be established. A new hopping sequence is generated. Due to the fact the Bluetooth clock has a different value, because the period between the two transmission is longer (and it Cannot be shorter) than the minimum resolution of the clock(312.5us). The hopping sequence will always differ from the first one.

## 2.6. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: YAMEHW08** filing to comply with the FCC PART 15.247 requirements.

## 2.7. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013). Radiated testing was performed at an antenna to EUT distance 3 meters.

## 2.8. SPECIAL ACCESSORIES

Refer to section 5.2.

## 2.9. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

## 2.10. ANTENNA REQUIREMENT

This intentional radiator is designed with a permanently attached antenna of an antenna to ensure that no antenna other than that furnished by the responsible party shall be used with the device. For more information of the antenna, please refer to the APPENDIX B: PHOTOGRAPHS OF EUT.

# **3. MEASUREMENT UNCERTAINTY**

The reported uncertainty of measurement y  $\pm$ U, where expended uncertainty U is based on a standard

uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

| Item  | Measurement Uncertainty    |  |
|---|----------------------------|--|
| Uncertainty of Conducted Emission for AC Port | $U_c = \pm 3.1 \text{ dB}$ |  |
| Uncertainty of Radiated Emission below 1GHz   | $U_c = \pm 4.0 \text{ dB}$ |  |
| Uncertainty of Radiated Emission above 1GHz   | $U_c = \pm 4.8 \text{ dB}$ |  |
| Uncertainty of total RF power, conducted      | $U_c = \pm 0.8 \text{ dB}$ |  |
| Uncertainty of RF power density, conducted    | $U_c = \pm 2.6 \text{ dB}$ |  |
| Uncertainty of spurious emissions, conducted  | $U_{c} = \pm 2 \%$         |  |
| Uncertainty of Occupied Channel Bandwidth     | $U_c = \pm 2 \%$           |  |



## **4. DESCRIPTION OF TEST MODES**

| NO. | TEST MODE DESCRIPTION    |  |  |
|-----|--------------------------|--|--|
| 1   | Low channel GFSK         |  |  |
| 2   | Middle channel GFSK      |  |  |
| 3   | High channel GFSK        |  |  |
| 4   | Low channel π/4-DQPSK    |  |  |
| 5   | Middle channel π/4-DQPSK |  |  |
| 6   | High channel π/4-DQPSK   |  |  |
| 7   | Low channel 8DPSK        |  |  |
| 8   | Middle channel 8DPSK     |  |  |
| 9   | High channel 8DPSK       |  |  |
| 10  | Hopping mode GFSK        |  |  |
| 11  | Hopping mode π/4-DQPSK   |  |  |
| 12  | Hopping mode 8DPSK       |  |  |

Note:

1. Only the result of the worst case was recorded in the report, if no other cases.

2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.

3. For Conducted Test method, a temporary antenna connector is provided by the manufacture.

#### Software Setting

| Test Commands<br>CFG IQ TRIM<br>CFG TX TRIM<br>CFG LD LVL<br>CFG TX FA ATTEN<br>CFG HOFFING SEQ<br>CFG TX FOWER<br>DEEF SLEEP<br>PCM LB<br>FCM EXT LB                        | •   | Test Arguments<br>Power target<br>(dBm) | Close<br>Help<br>Execute<br>Cold Reset |
|--|---|---|--|
| Test Results   |   |   | Warm Reset                             |
| adio Test CFG TX P<br>adio Test TXDATAI<br>adio Test CFG PKT<br>(adio Test CFG TX P<br>(adio Test TXDATAI<br>adio Test CFG TX P<br>(adio Test CFG TX P<br>(adio Test TXDATA) | OWER succ<br>successful<br>OWER succ<br>successful<br>successful<br>OWER succ | l<br>1<br>essful<br>1<br>2<br>essful    | rappiog txt                            |

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# **5. SYSTEM TEST CONFIGURATION**

**5.1. CONFIGURATION OF EUT SYSTEM** 

Radiated Emission Configure:

EUT

Conducted Emission Configure:

| EUT | C A | AE |
|-----|-----|----|
|     |     |    |

## 5.2. EQUIPMENT USED IN TESTED SYSTEM

| Item | Equipment   | Model No. | ID or Specification | Remark |
|------|-------------|-----------|---------------------|--------|
| 1    | BT Earpiece | EHW08     | YAMEHW08            | EUT    |
| 2    | Control Box | USB-TTL   | N/A                 | AE     |

## **5.3. SUMMARY OF TEST RESULTS**

| FCC RULES          | DESCRIPTION OF TEST         | RESULT         |
|--------------------|-----------------------------|----------------|
| 15.247 (b)(1)      | Peak Output Power           | Compliant      |
| 15.247 (a)(1)      | 20 dB Bandwidth             | Compliant      |
| 15.247 (d)         | Conducted Spurious Emission | Compliant      |
| 15.209             | Radiated Emission           | Compliant      |
| 15.247 (a)(1)(iii) | Number of Hopping Frequency | Compliant      |
| 15.247 (a)(1)(iii) | Time of Occupancy           | Compliant      |
| 15.247 (a)(1)      | Frequency Separation        | Compliant      |
| 15.207             | Conducted Emission          | Not applicable |

Note: The BT function cannot transmit when charging.



# 6. TEST FACILITY

| Test Site                            | Attestation of Global Compliance (Shenzhen) Co., Ltd  |  |  |  |  |  |  |
|--------------------------------------|---|--|--|--|--|--|--|
| Location                             | 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Communit<br>Fuhai Street, Bao'an District, Shenzhen, Guangdong, China |  |  |  |  |  |  |
| Designation Number                   | CN1259  |  |  |  |  |  |  |
| FCC Test Firm<br>Registration Number | 975832  |  |  |  |  |  |  |
| A2LA Cert. No.                       | 5054.02   |  |  |  |  |  |  |
| Description                          | Attestation of Global Compliance (Shenzhen) Co., Ltd is accredited by A2LA  |  |  |  |  |  |  |

## TEST EQUIPMENT OF RADIATED EMISSION TEST

| Equipment                            | Manufacturer   | Model                | S/N        | Cal. Date     | Cal. Due      |
|--------------------------------------|----------------|----------------------|------------|---------------|---------------|
| TEST<br>RECEIVER                     | R&S            | ESCI                 | 10096      | May 15,2021   | May 14,2022   |
| EXA Signal<br>Analyzer               | Aglient        | N9010A               | MY53470504 | Dec. 07, 2020 | Dec. 06, 2021 |
| 2.4GHz Filter                        | EM Electronics | 2400-2500MHz         | N/A        | Mar. 23, 2020 | Mar. 22, 2022 |
| Attenuator                           | ZHINAN         | E-002                | N/A        | Sep. 03, 2020 | Sep. 02, 2022 |
| Horn antenna                         | SCHWARZBECK    | BBHA 9170            | #768       | Sep. 21, 2019 | Sep. 20, 2021 |
| Active loop<br>antenna<br>(9K-30MHz) | ZHINAN         | ZN30900C             | 18051      | May 22, 2020  | May 21, 2022  |
| Double-Ridged<br>Waveguide Horn      | ETS LINDGREN   | 3117                 | 00034609   | Apr. 23, 2021 | Apr. 22, 2023 |
| Broadband<br>Preamplifier            | ETS LINDGREN   | 3117PA               | 00225134   | Sep. 03, 2020 | Sep. 02, 2022 |
| ANTENNA                              | SCHWARZBECK    | VULB9168             | 494        | Jan. 08, 2021 | Jan. 07, 2023 |
| Test software                        | Tonscend       | JS32-RE<br>(Ver.2.5) | N/A        | N/A           | N/A           |



# 7. PEAK OUTPUT POWER

## 7.1. MEASUREMENT PROCEDURE

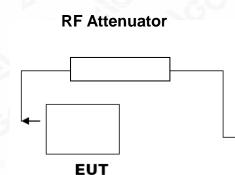
For peak power test:

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Span: Approximately five times the 20 dB bandwidth, centered on a hopping channel.
- 3. RBW > 20 dB bandwidth of the emission being measured.
- 4. VBW  $\geq$ RBW.
- 5. Sweep: Auto.
- 6. Detector function: Peak.
- 7. Trace: Max hold.

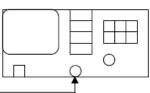
Allow trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power, after any corrections for external attenuators and cables.

## 7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

# PEAK POWER TEST SETUP







**RF** Cable



#### 7.3. LIMITS AND MEASUREMENT RESULT

| Test Data of Conducted Output Power |                       |                     |                 |              |  |  |  |
|-------------------------------------|-----------------------|---------------------|-----------------|--------------|--|--|--|
| Test Mode                           | Test Channel<br>(MHz) | Peak Power<br>(dBm) | Limits<br>(dBm) | Pass or Fail |  |  |  |
| - 0                                 | 2402                  | 1.055               | \$21            | Pass         |  |  |  |
| GFSK                                | 2441                  | 3.029               | \$21            | Pass         |  |  |  |
|                                     | 2480                  | 3.481               | \$21            | Pass         |  |  |  |
| · C · · · ·                         | 2402                  | -0.143              | \$21            | Pass         |  |  |  |
| π /4-DQPSK                          | 2441                  | 1.844               | \$21            | Pass         |  |  |  |
|                                     | 2480                  | 2.536               | \$21            | Pass         |  |  |  |
| e<br>B                              | 2402                  | 0.340               | \$21            | Pass         |  |  |  |
| 8DPSK                               | 2441                  | 2.105               | \$21            | Pass         |  |  |  |
| NO .                                | 2480                  | 2.566               | \$21            | Pass         |  |  |  |

## **Test Graphs of Conducted Output Power**



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## Test\_Graph\_BR\_ANT1\_2441\_1Mbps\_Peak Power



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#### Test\_Graph\_EDR\_ANT1\_2402\_2Mbps\_Peak Power



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#### Test\_Graph\_EDR\_ANT1\_2480\_2Mbps\_Peak Power



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#### Test\_Graph\_EDR\_ANT1\_2441\_3Mbps\_Peak Power



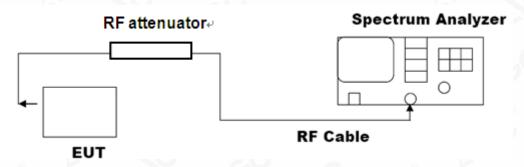


## 8. 20DB BANDWIDTH

## **8.1. MEASUREMENT PROCEDURE**

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set Span = approximately 2 to 5 times the 20 dB bandwidth, centered on a hoping channel The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW; Sweep = auto; Detector function = peak
- 4. Set SPA Trace 1 Max hold, then View.

## 8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

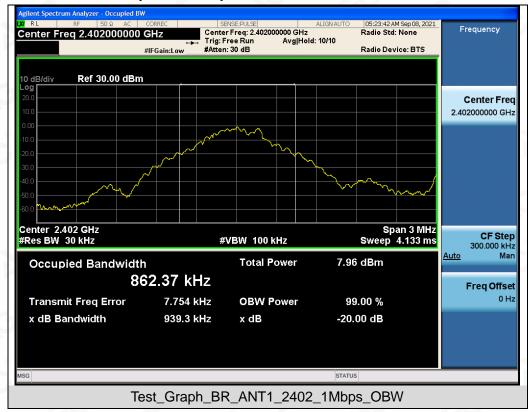




| Test Data of Occupied Bandwidth and -20dB Bandwidth |                       |                                 |                          |        |              |  |  |  |
|---|-----------------------|---------------------------------|--------------------------|--------|--------------|--|--|--|
| Test Mode   | Test Channel<br>(MHz) | 99% Occupied<br>Bandwidth (MHz) | -20dB<br>Bandwidth (MHz) | Limits | Pass or Fail |  |  |  |
| -9  | 2402                  | 0.862                           | 0.939                    | N/A    | Pass         |  |  |  |
| GFSK  | 2441                  | 0.854                           | 0.937                    | N/A    | Pass         |  |  |  |
|   | 2480                  | 0.854                           | 0.938                    | N/A    | Pass         |  |  |  |
| 6   | 2402                  | 1.165                           | 1.257                    | N/A    | Pass         |  |  |  |
| π/4-DQPSK   | 2441                  | 1.164                           | 1.228                    | N/A    | Pass         |  |  |  |
|   | 2480                  | 1.161                           | 1.229                    | N/A    | Pass         |  |  |  |
| 6   | 2402                  | 1.158                           | 1.269                    | N/A    | Pass         |  |  |  |
| 8DPSK   | 2441                  | 1.153                           | 1.255                    | N/A    | Pass         |  |  |  |
|   | 2480                  | 1.154                           | 1.256                    | N/A    | Pass         |  |  |  |

#### 8.3. LIMITS AND MEASUREMENT RESULTS

#### Test Graphs of Occupied Bandwidth and -20 Bandwidth





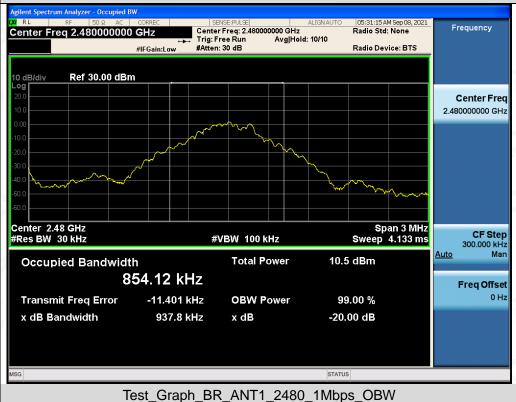
Report No.: AGC02575210901FE03 Page 21 of 74

ce df

the test report.



## Test\_Graph\_BR\_ANT1\_2441\_1Mbps\_OBW



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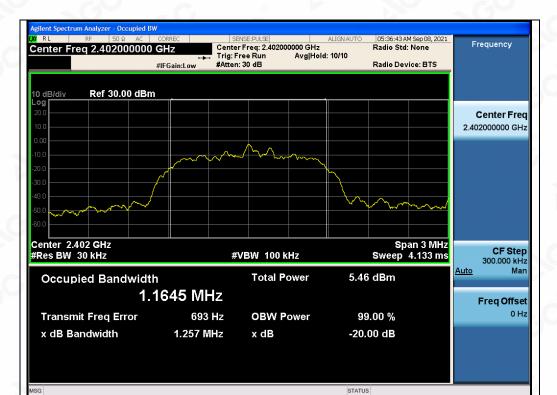
presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after

Attestation of Global Compliance(Shenzhen)Co., Ltd Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/

Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



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## Test\_Graph\_EDR\_ANT1\_2402\_2Mbps\_OBW



#### Test\_Graph\_EDR\_ANT1\_2441\_2Mbps\_OBW



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## Test\_Graph\_EDR\_ANT1\_2480\_2Mbps\_OBW



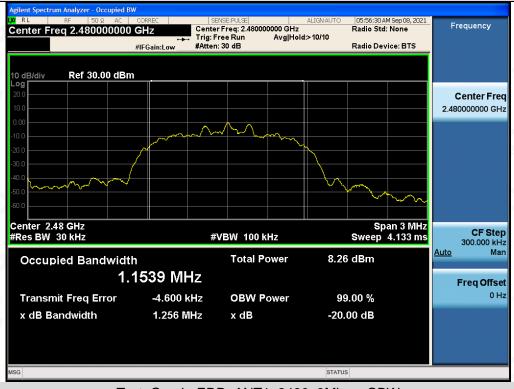
#### Test\_Graph\_EDR\_ANT1\_2402\_3Mbps\_OBW



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#### Test\_Graph\_EDR\_ANT1\_2441\_3Mbps\_OBW



#### Test\_Graph\_EDR\_ANT1\_2480\_3Mbps\_OBW



# 9. CONDUCTED SPURIOUS EMISSION

## 9.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Set the EUT Work on the top, the Middle and the bottom operation frequency individually.
- 3. Set the Span = wide enough to capture the peak level of the in-band emission and all spurious emissions from the lowest frequency generated in the EUT up through the 10th harmonic.
   RBW = 100 kHz; VBW= 300 kHz; Sweep = auto; Detector function = peak.
- 4. Set SPA Trace 1 Max hold, then View.

## 9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 8.2

## 9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6

## 9.4. LIMITS AND MEASUREMENT RESULT

| LIMITS AND MEASUREMENT RESULT   |  |          |  |  |  |  |  |
|---|--|----------|--|--|--|--|--|
| Applicable Limite   | Measurement Result   |          |  |  |  |  |  |
| Applicable Limits   | Test Data  | Criteria |  |  |  |  |  |
| In any 100 kHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency   | At least -20dBc than the limit<br>Specified on the BOTTOM<br>Channel | PASS     |  |  |  |  |  |
| power that is produce by the intentional radiator shall<br>be at least 20 dB below that in 100KHz bandwidth<br>within the band that contains the highest level of the<br>desired power.<br>In addition, radiation emissions which fall in the<br>restricted bands, as defined in §15.205(a), must also<br>comply with the radiated emission limits specified<br>in§15.209(a)) | At least -20dBc than the limit<br>Specified on the TOP Channel       | PASS     |  |  |  |  |  |





## Test Graphs of Spurious Emissions in Non-Restricted Frequency Bands

## Test\_Graph\_BR\_ANT1\_2402\_1Mbps\_Reference Level

| Center Freq 1.210000000 C | PNO: Fast ↔ T                                   | rig: Free Run<br>Atten: 30 dB                                       | Avg Type:<br>Avg Hold: 1 |   | TYPE M   | 23456<br>NNNNN    | Frequency                        |
|---------------------------|---|---|--------------------------|---|--|-------------------|----------------------------------|
| 0 dB/div Ref 20.00 dBm    |   |   |                          | Mkr1                                      | 2.246 04<br>-53.552                                      | dBm               | Auto Tu                          |
| 10.0                      |   |   |                          |   |  |                   | Center Fr<br>1.210000000 G       |
| 0.00                      |   |   |                          |   |  |                   | <b>Start Fi</b><br>30.000000 N   |
| 30.0                      |   |   |                          |   |  | <u>-19.21 dBm</u> | <b>Stop F</b> i<br>2.390000000 0 |
|                           |   |   |                          |   |  | <u>1</u>          | CF Si<br>236.000000 M<br>Auto M  |
| 50.0                      | g der gehanden standen för at bestanden stratet | a na kara panikaké na finang kara kara kara kara kara kara kara kar |                          | n a sa a sa | L (man provi se miliori ni s<br>Den Kan (den kalantini s |                   | Freq Off<br>0                    |
| 70.0 <b>Start 30 MHz</b>  |   |   |                          |   | Stop 2.39  | 90 GHz            |                                  |
| Res BW 100 kHz            | #VBW 30   | 00 kHz  | S₩                       | veep 226                                  | .0 ms (300   |                   |                                  |

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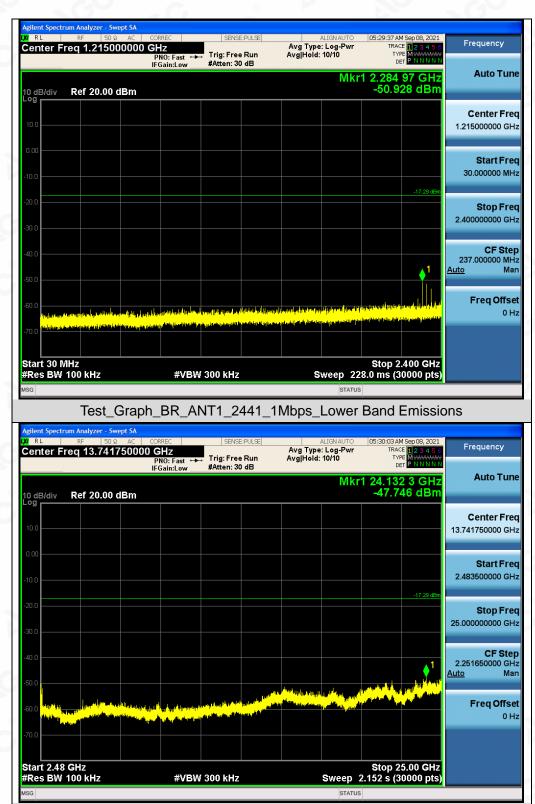






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Test\_Graph\_BR\_ANT1\_2441\_1Mbps\_Higher Band Emissions

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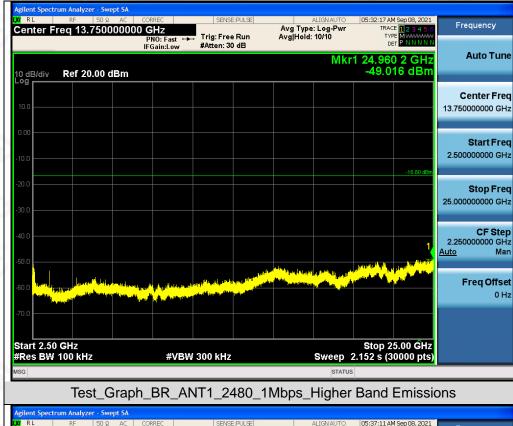
## Test\_Graph\_BR\_ANT1\_2480\_1Mbps\_Reference Level

| Center Freq 1.215000000 (   | PNO: Fast +++ Trig: Free Run | ALIGN AUTO<br>Avg Type: Log-Pwr<br>Avg Hold: 10/10   | 05:31:51 AM Sep 08, 2021<br>TRACE 12 3 4 5 6<br>TYPE M | Frequency                              |
|---|------------------------------|--|--|--|
| 0 dB/div Ref 20.00 dBm  | IFGain:Low #Atten: 30 dB     | Mkı  | 1 2.324 16 GHz<br>-50.433 dBm                          | Auto Tu                                |
| 10.0  |                              |  |  | <b>Center Fr</b><br>1.215000000 G      |
| 0.00  |                              |  | -16.80 dBm   | Start Fr<br>30.000000 M                |
| 30.0  |                              |  |  | <b>Stop Fr</b><br>2.400000000 G        |
| 40.0  |                              |  |  | CF St<br>237.000000 M<br><u>Auto</u> M |
| 60.0<br>natiful and the gratient of the second state of the second st |                              | a la parte de la constante de<br>La constante de la constante de |  | Freq Offs<br>0                         |
|   |                              |  |  |  |
| Start 30 MHz<br>¢Res BW 100 kHz<br>ss   | #VBW 300 kHz                 | Sweep 22   | Stop 2.400 GHz<br>28.0 ms (30000 pts)<br>s             |  |

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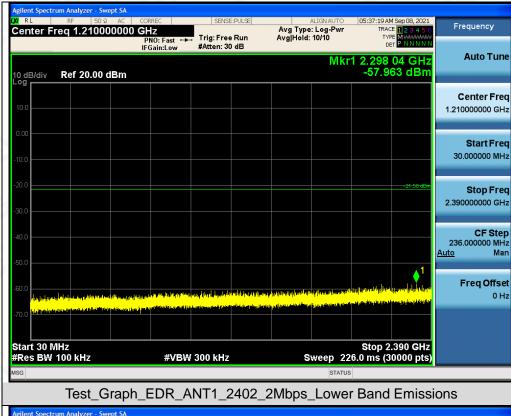






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#### ım Analyzer - Swept SA RL Frequency Avg Type: Log-Pw Avg|Hold: 10/10 Center Freq 13.741750000 GHz Trig: Free Run #Atten: 30 dB PNO: Fast IFGain:Lov Auto Tune Mkr1 23.991 2 GHz -48.385 dBm I0 dB/div Ref 20.00 dBm Center Frea 13.741750000 GHz Start Freq 2.483500000 GHz Stop Freq 25.00000000 GHz CF Step 2.251650000 GHz Mar Auto hall been **Freq Offset** 0 Hz Start 2.48 GHz #Res BW 100 kHz Stop 25.00 GHz Sweep 2.152 s (30000 pts) #VBW 300 kHz Test\_Graph\_EDR\_ANT1\_2402\_2Mbps\_Higher Band Emissions





#### ectrum Analyzer - Swept SA RL Frequency Avg Type: Log-Pw Avg|Hold: 10/10 Center Freq 1.215000000 GHz Trig: Free Run #Atten: 30 dB PNO: Fast IFGain:Lov Auto Tune Mkr1 2. GHz -53.414 dBm 10 dB/div Ref 20.00 dBm Center Frea 1.215000000 GHz Start Freq 30.000000 MHz Stop Freq 2.40000000 GHz CF Step 237.000000 MHz Auto Mar **Freq Offset** 0 Hz Start 30 MHz #Res BW 100 kHz Stop 2.400 GHz Sweep 228.0 ms (30000 pts) #VBW 300 kHz Test\_Graph\_EDR\_ANT1\_2441\_2Mbps\_Lower Band Emissions

Test\_Graph\_EDR\_ANT1\_2441\_2Mbps\_Reference Level

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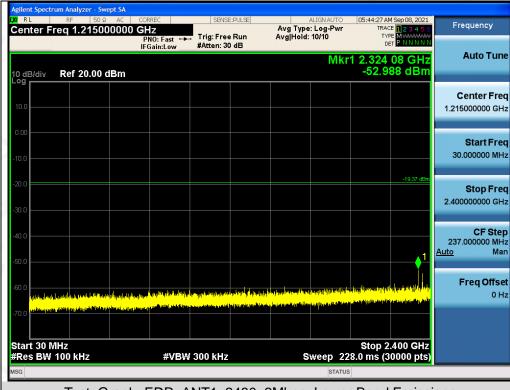




Test\_Graph\_EDR\_ANT1\_2480\_2Mbps\_Reference Level

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#### ım Analyzer - Swept SA RL Frequency Avg Type: Log-Pw Avg|Hold: 10/10 Center Freq 13.750000000 GHz Trig: Free Run #Atten: 30 dB PNO: Fast IFGain:Lov Auto Tune Mkr1 24.025 7 GHz -48.691 dBm I0 dB/div Ref 20.00 dBm Center Freq 13.750000000 GHz Start Freq 2.50000000 GHz Stop Freq 25.00000000 GHz CF Step 2.25000000 GHz Mar Auto **Freq Offset** 0 Hz Start 2.50 GHz #Res BW 100 kHz Stop 25.00 GHz Sweep 2.152 s (30000 pts) #VBW 300 kHz Test\_Graph\_EDR\_ANT1\_2480\_2Mbps\_Higher Band Emissions

Test\_Graph\_EDR\_ANT1\_2480\_2Mbps\_Lower Band Emissions



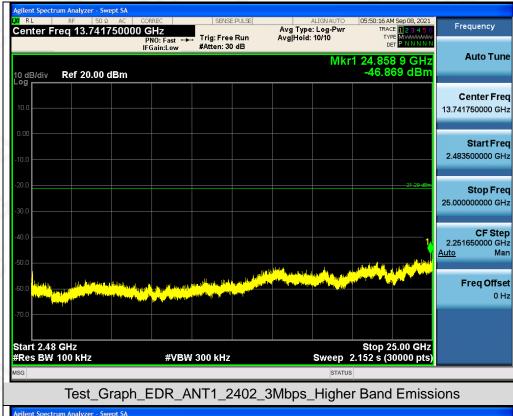


|                           | n Analyzer - Swept SA       |                       |  |  |                              |  |  |   |
|---------------------------|-----------------------------|-----------------------|--|--|------------------------------|--|--|---|
| Center Fre                | RF 50 Ω AC<br>eq 1.21000000 | OO GHz<br>PNO: Fast ↔ | Trig: Free Run   | Avg Type: Lo<br>Avg Hold: 10/1   |                              | TRACE  | Sep 08, 2021<br>123456<br>MWWWWWW<br>PNNNN | Frequency                                 |
| 10 dB/div                 | Ref 20.00 dBm               | IFGain:Low            | #Atten: 30 dB  |  | Mkr1                         | 2.297  |  | Auto Tune                                 |
| 10.0                      |                             |                       |  |  |                              |  |  | Center Free<br>1.210000000 GH             |
| -10.0                     |                             |                       |  |  |                              |  |  | Start Fre<br>30.000000 MH                 |
| -20.0                     |                             |                       |  |  |                              |  | 21.29 dBm                                  | <b>Stop Fre</b><br>2.390000000 GH         |
| -40.0                     |                             |                       |  |  |                              |  |  | CF Ste<br>236.000000 M⊢<br><u>Auto</u> Ma |
| -60.0                     |                             |                       | n 1 (m la line) y gelaster et som blir poor fabraard<br>1 a gelaster fabraard poor begelatiere oor | an the stand of th | anterallalari<br>Repondental | nan a minaraina an<br>La manana ang ang ang ang ang ang ang ang an |  | Freq Offse<br>0 H                         |
| -70.0                     |                             |                       |  |  |                              |  |  |   |
| Start 30 MH<br>#Res BW 10 |                             | #VBW                  | / 300 kHz  | Swe  | ep 226                       | Stop 2.<br>5.0 ms (30  | 390 GHz<br>)000 pts)                       |   |
| SG                        | Test Grad                   | oh EDR A              | NT1_2402_  | 3Mbps L  |                              | Band   | Emissi                                     | ons                                       |

## Test\_Graph\_EDR\_ANT1\_2402\_3Mbps\_Reference Level

#### Report No.: AGC02575210901FE03 Page 36 of 74

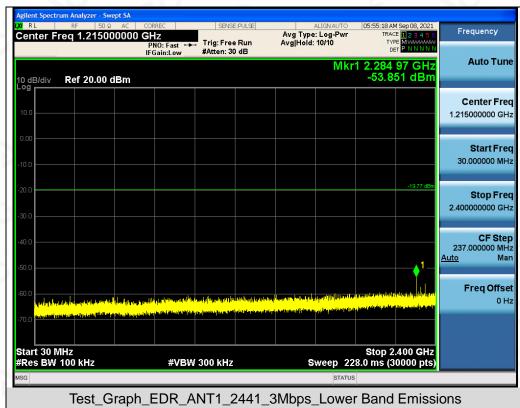




#### um Analyzer - Swept SA RI Frequency Avg Type: Log-Pw Avg|Hold: 10/10 Center Freq 2.441000000 GHz Trig: Free Run #Atten: 30 dB PNO: Wide IFGain:Lov Auto Tune Mkr1 2.440 837 6 GHz 0.227 dBm I0 dB/div Ref 20.00 dBm Center Frea 2.441000000 GHz 1 Start Freq 2.439500000 GHz Stop Freq 2.442500000 GHz **CF** Step 300.000 kHz Auto Mar **Freq Offset** 0 Hz Center 2.441000 GHz #Res BW 100 kHz Span 3.000 MHz Sweep 2.000 ms (30000 pts) #VBW 300 kHz Test\_Graph\_EDR\_ANT1\_2441\_3Mbps\_Reference Level

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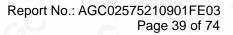
#### ım Analyzer - Swept SA RI Frequency Avg Type: Log-Pw Avg|Hold: 10/10 Center Freq 13.741750000 GHz Trig: Free Run #Atten: 30 dB PNO: Fast IFGain:Lov Auto Tune Mkr1 24.983 5 GHz -46.550 dBm I0 dB/div Ref 20.00 dBm Center Frea 13.741750000 GHz Start Freq 2.483500000 GHz Stop Freq 25.00000000 GHz CF Step 2.251650000 GHz Mar Auto **Freq Offset** 0 Hz Start 2.48 GHz #Res BW 100 kHz Stop 25.00 GHz Sweep 2.152 s (30000 pts) #VBW 300 kHz Test\_Graph\_EDR\_ANT1\_2441\_3Mbps\_Higher Band Emissions



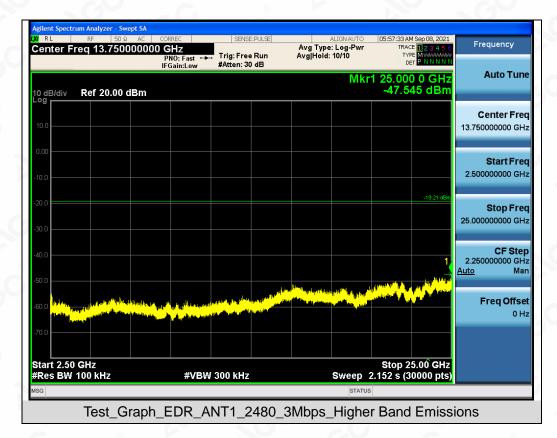


| Center Freq 1.215000000   | PNO: East +++  | SENSE:PULSE  | ALIGN AUT<br>Avg Type: Log-Pv<br>Avg Hold: 10/10 |  | Frequency                                 |
|---|--|--|--|--|---|
| 10 dB/div Ref 20.00 dBm   |  |  | М  | kr1 2.324 08 GHz<br>-53.427 dBm  | Auto Tune                                 |
| 10.0  |  |  |  |  | Center Fred<br>1.215000000 GH             |
| -10.0   |  |  |  |  | Start Fre<br>30.000000 MH                 |
| -20.0   |  |  |  | -19.21 dBm   | <b>Stop Fre</b><br>2.400000000 GH         |
| -40.0   |  |  |  |  | CF Ste<br>237.000000 MH<br><u>Auto</u> Ma |
| -60.0<br>Terro International March March March 1997 (1997)<br>-70.0 History and March 1997 (1997) | ayı yılı tirki ile ayı ayılı ile ile ayı<br>Ayı yılı tirki ile ayı | yay kapalasya dalami katalika ta jikuwa sani dalam<br>nanya nanga na manga na na matalika ta | en anna an San Ann Anna an Anna Anna Anna        | na na kata na k<br>Kata na kata na | Freq Offse<br>0 H                         |
| -70.0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1   |  |  |  |  |   |
| start 30 MHz<br>#Res BW 100 kHz<br>Msg  | #VBW 3   | 800 kHz  |  | Stop 2.400 GHz<br>228.0 ms (30000 pts)   |   |

Test\_Graph\_EDR\_ANT1\_2480\_3Mbps\_Reference Level







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