
RF Test Report

Report No.:AGC00552200705EE04

PRODUCT DESIGNATION : Smartphone
BRAND NAME : CUBOT
MODEL NAME : J8
APPLICANT : Shenzhen Huafurui Technology Co., Ltd.
DATE OF ISSUE : Aug. 13, 2020
STANDARD(S) : ETSI EN 300 328 V2.2.2 (2019-07)
REPORT VERSION : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd



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REPORT REVISE RECORD

| Report Version | Revise Time | Issued Date | Valid Version | Notes |
|----------------|-------------|---------------|---------------|-----------------|
| V1.0 | / | Aug. 13, 2020 | Valid | Initial Release |

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1. TEST RESULT CERTIFICATION

| | |
|---------------------------------|---|
| Applicant | Shenzhen Huafurui Technology Co., Ltd. |
| Address | Unit 1401 &1402, 14/F, Jinqi zhigu mansion (No. 4 building of Chongwen Garden), Crossing of the Liuxian street and Tangling road, Taoyuan street, Nanshan district, Shenzhen,P.R. China |
| manufacturer | Shenzhen Huafurui Technology Co., Ltd. |
| Address | Unit 1401 &1402, 14/F, Jinqi zhigu mansion (No. 4 building of Chongwen Garden), Crossing of the Liuxian street and Tangling road, Taoyuan street, Nanshan district, Shenzhen,P.R. China |
| Factory | Shenzhen Huafurui Technology Co., Ltd. |
| Address | Unit 1401 &1402, 14/F, Jinqi zhigu mansion (No. 4 building of Chongwen Garden), Crossing of the Liuxian street and Tangling road, Taoyuan street, Nanshan district, Shenzhen,P.R. China |
| Product Designation | Smartphone |
| Brand Name | CUBOT |
| Test Model | J8 |
| Date of test | Jul. 29, 2020~Aug. 13, 2020 |
| Deviation | None |
| Condition of Test Sample | Normal |
| Test Result | Pass |
| Report Template | AGCRT-EC-BR/RF |

We (AGC), Attestation of Global Compliance (Shenzhen) Co., Ltd. for compliance with the requirements set forth in the European Standard ETSI EN 300 328 V2.2.2. The results of test in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

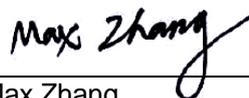
Prepared By



Donjon Huang
(Project Engineer)

Aug. 13, 2020

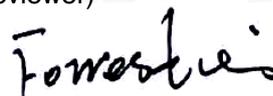
Reviewed By



Max Zhang
(Reviewer)

Aug. 13, 2020

Approved By



Forrest Lei
(Authorized Officer)

Aug. 13, 2020

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2. TECHNICAL INFORMATION

2.1. EUT DESCRIPTION

| | |
|--|---|
| Operating Frequency Range(s) | 2402MHz~2480MHz |
| The type of the equipment | FHSS adaptive equipment with only one antenna |
| Modulation | <input checked="" type="checkbox"/> GFSK , <input checked="" type="checkbox"/> π /4-DQPSK, <input checked="" type="checkbox"/> 8-DPSK |
| Bluetooth Version | V4.2 |
| The number of Hopping Frequencies | 79 |
| Nominal Channel Bandwidth | 1MHz |
| The maximum RF Output Power | 1.52dBm |
| Hardware Version | TE641_MAIN_PCB_V1.0 |
| Software Version | CUBOT_J8_A043C_V03_20200817 |
| Antenna Type | PIFA Antenna |
| Antenna gain | 0dBi |
| Power Supply | DC 3.8V by battery or DC 5V by adapter |
| The extreme operating conditions | Operating temperature range: -10°C~40°C |
| Geo-location capability | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

Note:

1. The above information was declared by the manufacturer.
2. The equipment submitted representative production models.
3. The EUT cannot operated unmodulated.
4. The EUT provides Bluetooth wireless interface operating at 2.4G ISM band (2402MHz-2480MHz).
5. Only the Bluetooth was tested according the standard requirement.
6. The EUT is a stand-alone and portable equipment according to ETSI EN 300 328 V2.2.2.
7. For more details, please refer to the User's manual of the EUT.

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2.2. SUPPORT EQUIPMENT

| Item | Equipment | Mfr/Brand | Model/Type No. | Remark |
|------|-----------|-----------|----------------|--------|
| -- | -- | -- | -- | -- |

2.3. DESCRIPTION OF TEST MODES

| NO. | TEST MODE DESCRIPTION |
|-----|--------------------------------|
| 1 | Low channel TX |
| 2 | Middle channel TX |
| 3 | High channel TX |
| 4 | Normal Hopping |
| 5 | Low channel (Receiver Mode) |
| 6 | Middle channel (Receiver Mode) |
| 7 | High channel (Receiver Mode) |

Note:

- All the transmit mode would tested with each modulation (GFSK, $\pi/4$ -DQPSK, 8-DPSK).
- All modes have been tested and the worst mode test data recording in the test report, if no any other data.

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2.4. OBJECTIVE

Perform Radio Spectrum tests for CE Marking according to the provisions of article 3.2 of the Radio Equipment Directive (2014/53/EU) for the BT function of the EUT.

2.5. TEST ITEMS AND THE RESULTS

The EUT has been tested according to ETSI EN 300 328 V2.2.2(2019-07).

| | |
|---|--|
| ETSI EN 300 328 V2.2.2 (2019-07) | Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum |
|---|--|

Test items and the results are as bellow:

| No | Basic Standard | Test Type | Test Mode | Result |
|----|--------------------------|--|-----------|--------|
| 1 | ETSI EN 300 328 4.3.1.2 | RF Output Power | Mode 4 | Pass |
| 2 | ETSI EN 300 328 4.3.1.3 | Duty Cycle,Tx-sequence,Tx-gap | N/A | N/A |
| 3 | ETSI EN 300 328 4.3.1.4 | Accumulated transmit time, Frequency Occupation and hopping sequence | Mode 4 | Pass |
| 4 | ETSI EN 300 328 4.3.1.5 | Hopping Frequency Separation | Mode 4 | Pass |
| 5 | ETSI EN 300 328 4.3.1.6 | Medium Utilisation | N/A | N/A |
| 6 | ETSI EN 300 328 4.3.1.7 | Adaptivity (Adaptive Frequency Hopping) | N/A | N/A |
| 7 | ETSI EN 300 328 4.3.1.8 | Occupied Channel Bandwidth | Mode 1,3 | Pass |
| 8 | ETSI EN 300 328 4.3.1.9 | Transmitter unwanted emission in the out of band domain | Mode 1,3 | Pass |
| 9 | ETSI EN 300 328 4.3.1.10 | Transmitter unwanted emission in the Spurious domain | Mode 1,3 | Pass |
| 10 | ETSI EN 300 328 4.3.1.11 | Receiver Spurious emissions | Mode 5,7 | Pass |
| 11 | ETSI EN 300 328 4.3.1.12 | Receiver Blocking | Mode 4 | Pass |

Note:

1. N/A means it's not applicable to this item.
2. Owing to the maximum declared RF Output power (e.i.r.p.) less than 10 dBm, so the item 2, 5, 6 are not applicable.

2.6. ENVIRONMENTAL CONDITIONS

- Temperature: 15-35°C
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

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3. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in Measurement” (GUM) published by ISO.

- Uncertainty of Radio Frequency, $U_c = \pm 1 \times 10^{-7}$
- 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, $U_c = \pm 2.7\text{dB}$
- Uncertainty of spurious emissions, radiated, $U_c = \pm 5.4\text{dB}$
- Uncertainty of Temperature: $\pm 0.5^\circ \text{C}$
- Uncertainty of Humidity: $\pm 1 \%$
- Uncertainty of DC and low frequency voltages: $\pm 2\%$

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4. IDENTIFICATION OF THE RESPONSIBLE TESTING LOCATION

| | |
|-----------------|--|
| Site | Attestation of Global Compliance(Shenzhen) Co., Ltd. |
| Location | 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China |

LIST OF EQUIPMENTS USED

| Description | Manufacturer | Model No. | S/N | Calibration Due. | Calibration Due. |
|--------------------------------------|----------------|--------------|---|------------------|------------------|
| MXG X-Series Vector Signal Generator | Agilent | N5182B | MY50140530 | Sep. 09, 2019 | Sep. 08, 2020 |
| Signal Generator | Agilent | N5171B | MY45141029 | Sep. 09, 2019 | Sep. 08, 2020 |
| EXA Signal Analyzer | Agilent | N9020A | MY52090123 | Sep. 09, 2019 | Sep. 08, 2020 |
| Signal Analyzer | Agilent | E4440A | MY44303916 | Feb. 26, 2020 | Feb. 25, 2021 |
| USB Wideband Power Sensor | Agilent | U2021XA | MY54110007 | Sep. 09, 2019 | Sep. 08, 2020 |
| USB Wideband Power Sensor | Agilent | U2021XA | MY54110009 | Sep. 09, 2019 | Sep. 08, 2020 |
| RF Communication Tester | R&S | CMW270 | 1201.0002K75-100528-Tu WIRELESSCO NN.TESTER | Sep. 09, 2019 | Sep. 08, 2020 |
| Attenuator | Warriors | W13 | 11324 | Sep. 09, 2019 | Sep. 08, 2020 |
| Power splitter | Mini-Circuits | ZFRSC-183-s | 3122 | Sep. 09, 2019 | Sep. 08, 2020 |
| 2.4G Band Fliter | EM Electronics | 2400-2500 | N/A | Feb. 26, 2020 | Feb. 25, 2021 |
| Small environment tester | ESPEC | SH-242 | N/A | Oct. 08, 2019 | Oct. 07, 2020 |
| AMPLIFIER | ETS-LINDGREN | 3117PA | 00225134 | Oct. 15, 2019 | Oct. 14, 2020 |
| ANTENNA | SCHWARZBECK | VULB9168 | 494 | Jan. 09, 2019 | Jan. 08, 2021 |
| ANTENNA | ETS-LINDGREN | 3142C | 00060447 | May. 17, 2019 | May. 16, 2021 |
| HORN ANTENNA | ETS-LINDGREN | 3117 | 00154520 | Oct. 21, 2018 | Oct. 20, 2020 |
| HORN ANTENNA | ETS-LINDGREN | 3117 | 00034609 | May. 17, 2019 | May. 16, 2021 |
| RF Cable | Harbour | SHWCB-3000-N | N/A | May. 12, 2020 | May. 11, 2021 |

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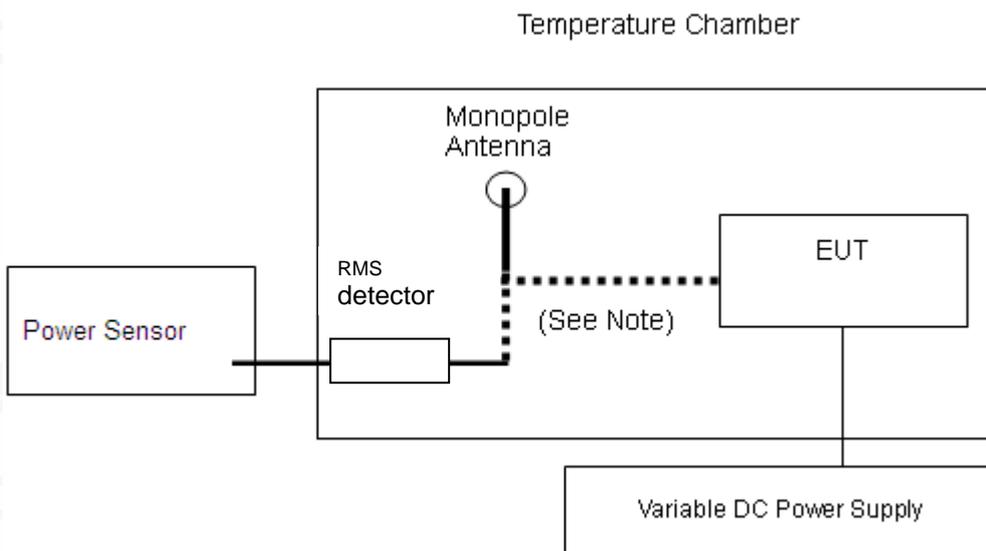
5. ETSI EN 300 328 REQUIREMENTS

5.1. RF OUTPUT POWER

EN 300 328 Clause 4.3.1.2

The maximum RF output power for adaptive Frequency Hopping equipment shall be equal to or less than 20 dBm. The maximum RF output power for non-adaptive Frequency Hopping equipment, shall be declared by the supplier. See clause 5.3.1 m). The maximum RF output power for this equipment shall be equal to or less than the value declared by the supplier. This declared value shall be equal to or less than 20 dBm.

Test Configuration



Remarks:

EUT was direct connected to test equipment through coupling device.

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TEST PROCEDURE

1. Please refer to ETSI EN 300 328 (V2.2.2) clause 5.4.2.1 for the test conditions.
2. Please refer to ETSI EN 300 328 (V2.2.2) clause 5.4.2.2.1 for the measurement method.

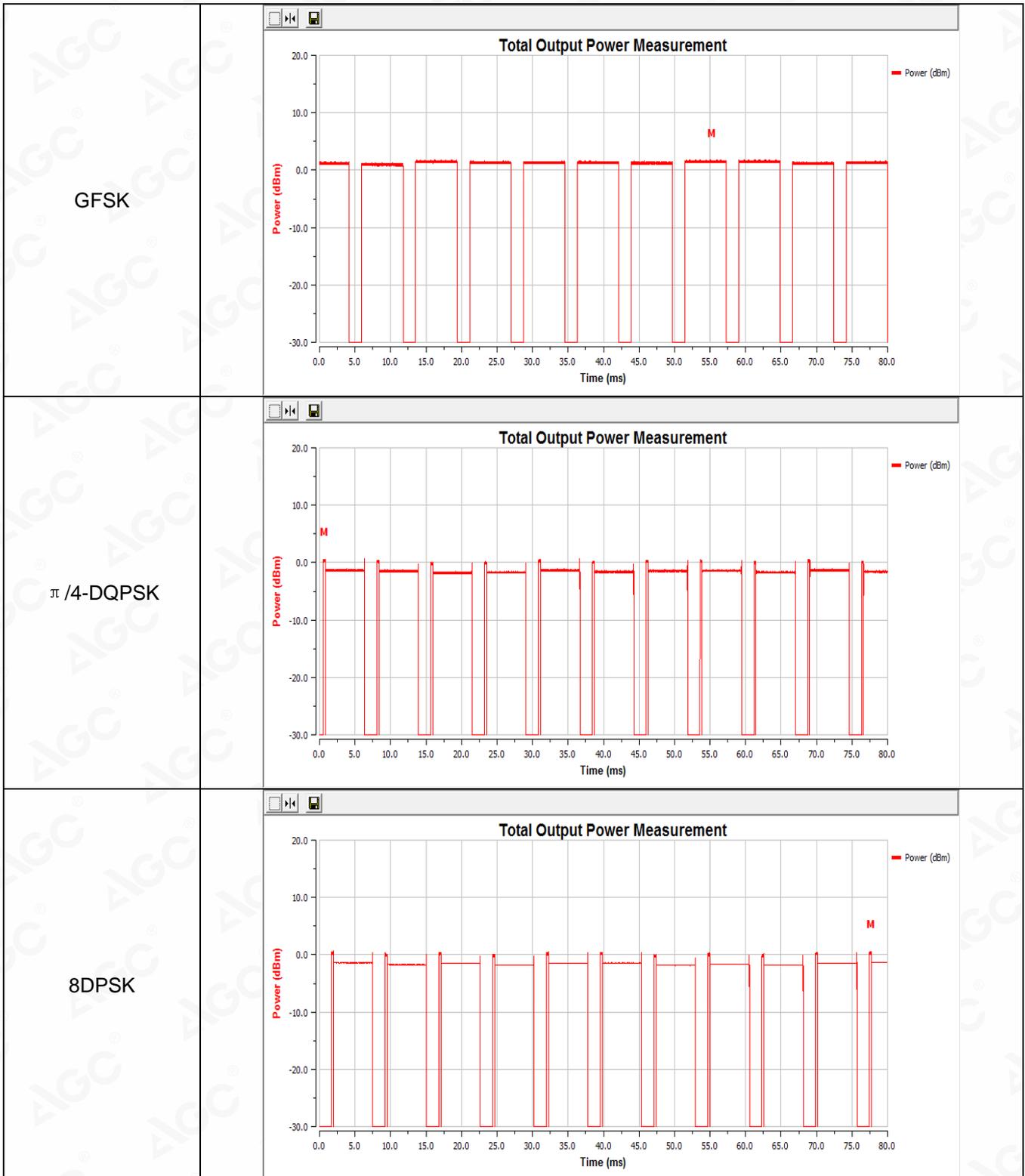
TEST RESULTS

| | | | |
|------------------|--------------|------------|---------------|
| Operation Mode: | Hopping mode | Test Date: | Aug. 03, 2020 |
| Temperature: | 25°C | Tested by: | Donjon |
| Humidity: | 55 % RH | | |
| Number of Burst | = 13 | | |
| Measurement Time | = 50ms | | |

| TEST CONDITIONS | RF OUTPUT POWER MEASUREMENT RESULT (dBm) | | |
|-----------------------|--|--------------|-------------|
| | Temp (25)°C | Temp (-10)°C | Temp (40)°C |
| FOR GFSK MOUDULATION | 1.52 | 1.44 | 1.39 |
| Π/4-DQPSK MOUDULATION | 0.39 | 0.28 | 0.17 |
| 8DPSK MOUDULATION | 0.36 | 0.21 | 0.26 |
| Limit | 20dBm | | |

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Note: Result=Reading+ Ant. Gain
Only the worst case recorded in the test report.

Conclusion: PASS

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5.2. ACCUMULATED TRANSMIT TIME, FREQUENCY OCCUPIATION AND HOPPING SEQUENCE

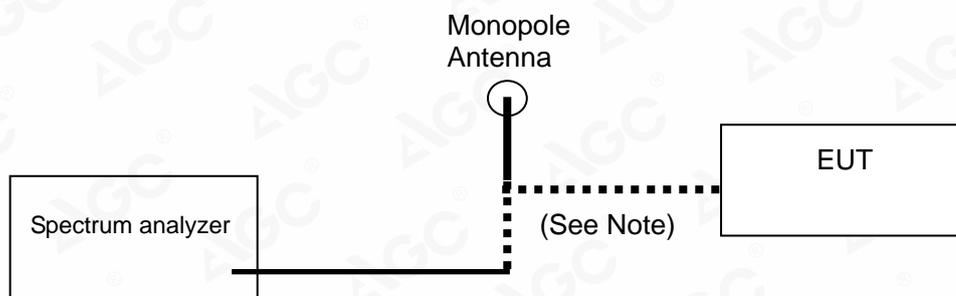
ETSI EN 300 328 SUBCLAUSE 4.3.1.4

| ACCUMULATED TRANSMIT TIME | |
|--|----------|
| CONDITION | LIMIT |
| <input type="checkbox"/> Non-adaptive frequency hopping systems | ≤ 15 ms |
| <input checked="" type="checkbox"/> Adaptive frequency hopping systems | ≤ 400 ms |

| FREQUENCY OCCUPATION | |
|--|---|
| CONDITION | LIMIT(OPTION 1) |
| <input type="checkbox"/> Non-adaptive frequency hopping systems | Each hopping frequency of the hopping sequence shall be occupied at least once within a period not exceeding four times the product of the dwell time and the number of hopping frequencies in use. |
| <input checked="" type="checkbox"/> Adaptive frequency hopping systems | |

| HOPPING SEQUENCE(S) | |
|--|---|
| CONDITION | LIMIT |
| <input type="checkbox"/> Non-adaptive frequency hopping systems | ≥5 hopping frequencies or 5/minimum Hopping Frequency Separation in MHz , whichever is the greater. |
| <input checked="" type="checkbox"/> Adaptive frequency hopping systems | Operating frequency band ≥58.45MHz (Operating over a minimum of 70 % of the operating in the band 2,4 GHz to 2,4835 GHz) |
| | ≥15 hopping frequencies or 15/minimum Hopping Frequency Separation in MHz , whichever is the greater. |

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN300328 V2.2.2 Section 5.4.4

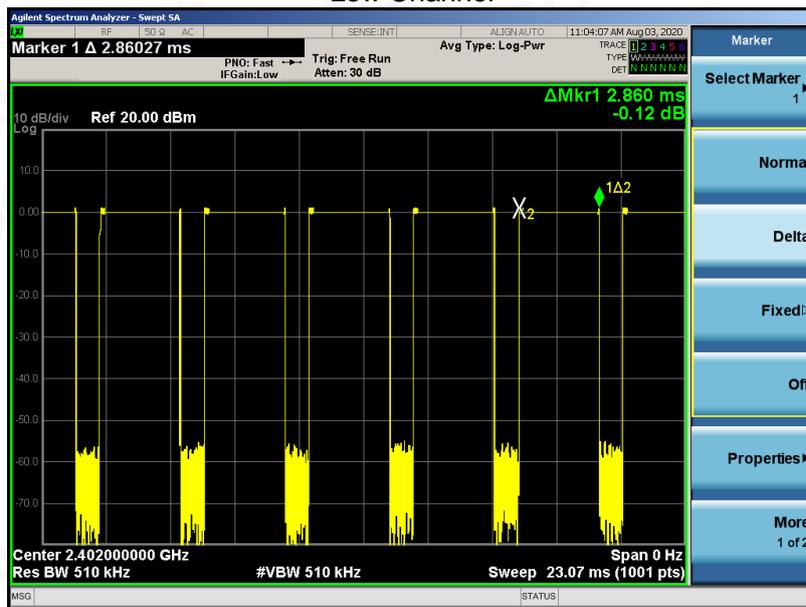
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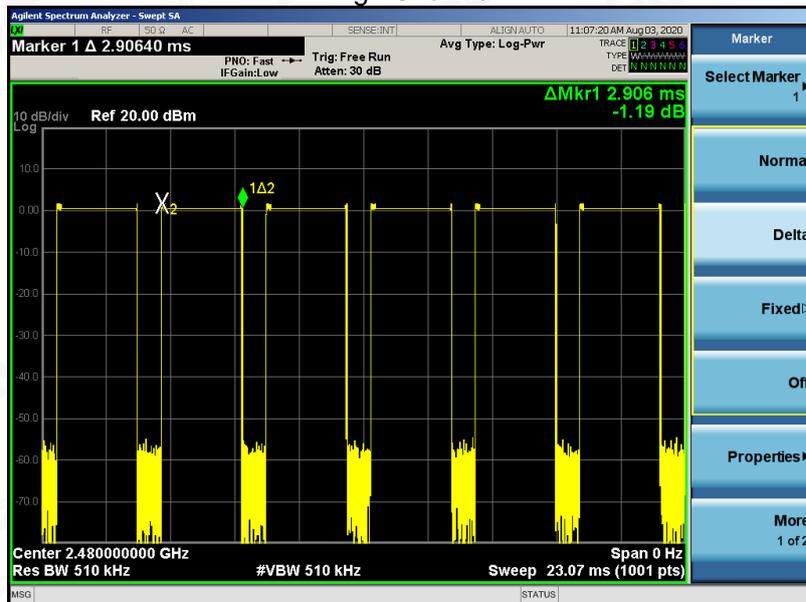
TEST RESULT FOR ACCUMULATED TRANSMIT TIME
Bluetooth 1Mbps(DH5) Test Result

| Channel | Pulse time(ms) | Accumulated Transmit Time (ms) | Limit (ms) |
|---------|----------------|--------------------------------|------------|
| Low | 2.860 | 305.162 | 400 |
| High | 2.906 | 310.070 | 400 |

Low Channel



High Channel



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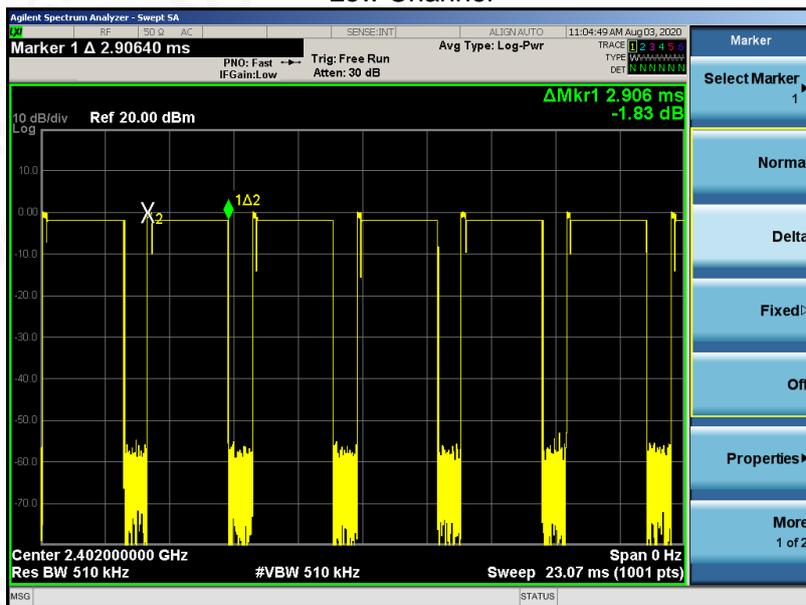
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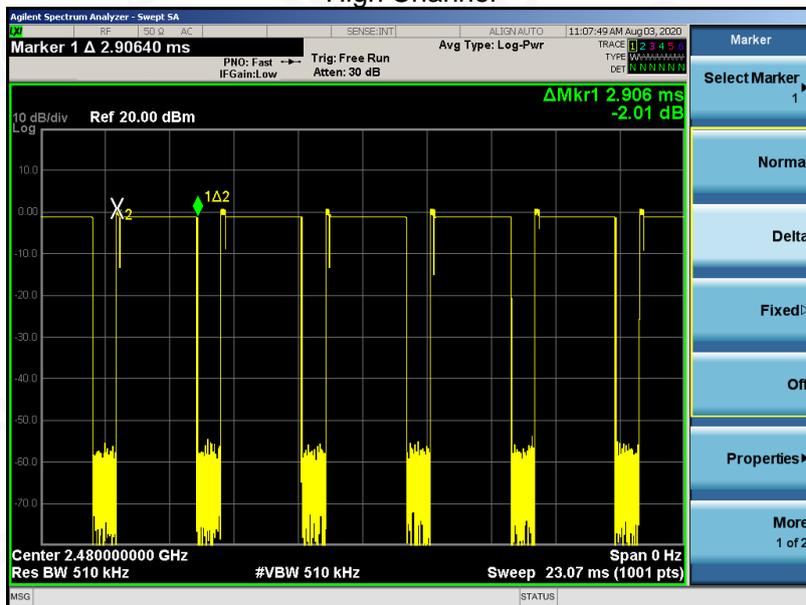
Bluetooth 2Mbps(DH5) Test Result

| Channel | Pulse time(ms) | Accumulated Transmit Time (ms) | Limit (ms) |
|---------|----------------|--------------------------------|------------|
| Low | 2.906 | 310.070 | 400 |
| High | 2.906 | 310.070 | 400 |

Low Channel



High Channel



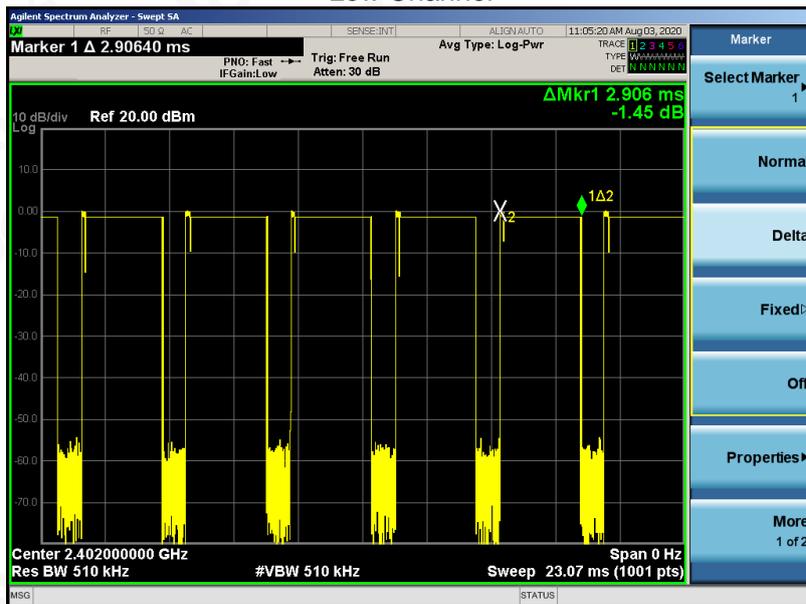
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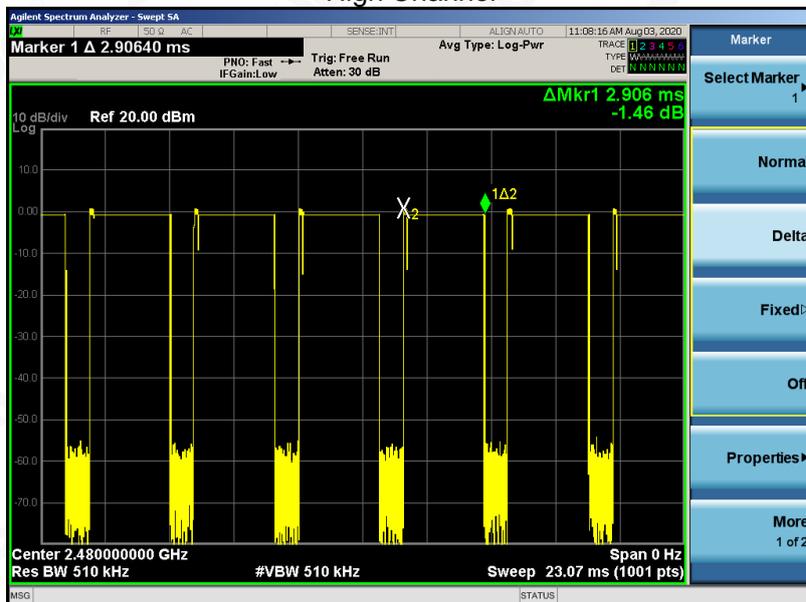
Bluetooth 3Mbps (DH5) Test Result

| Channel | Pulse time(ms) | Accumulated Transmit Time (ms) | Limit (ms) |
|---------|----------------|--------------------------------|------------|
| Low | 2.906 | 310.070 | 400 |
| High | 2.906 | 310.070 | 400 |

Low Channel



High Channel



Note: Accumulated Transmit Time=pulse time*hopping numbers,
Hopping numbers={1000/[(0.625*time slot+0.625)*79]}*31.6
Time slot(DH1,DH3,DH5)

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TEST RESULT FOR HOPPING SEQUENCE

| Channel | Frequency (GHz) | Channel | Frequency (GHz) |
|---------|-----------------|---------|-----------------|
| 01 | 2.402 | 42 | 2.443 |
| 02 | 2.403 | 43 | 2.444 |
| 03 | 2.404 | 44 | 2.445 |
| 04 | 2.405 | 45 | 2.446 |
| 05 | 2.406 | 46 | 2.447 |
| 06 | 2.407 | 47 | 2.448 |
| 07 | 2.408 | 48 | 2.449 |
| 08 | 2.409 | 49 | 2.450 |
| 09 | 2.410 | 50 | 2.451 |
| 10 | 2.411 | 51 | 2.452 |
| 11 | 2.412 | 52 | 2.453 |
| 12 | 2.413 | 53 | 2.454 |
| 13 | 2.414 | 54 | 2.455 |
| 14 | 2.415 | 55 | 2.456 |
| 15 | 2.416 | 56 | 2.457 |
| 16 | 2.417 | 57 | 2.458 |
| 17 | 2.418 | 58 | 2.459 |
| 18 | 2.419 | 59 | 2.460 |
| 19 | 2.420 | 60 | 2.461 |
| 20 | 2.421 | 61 | 2.462 |
| 21 | 2.422 | 62 | 2.463 |
| 22 | 2.423 | 63 | 2.464 |
| 23 | 2.424 | 64 | 2.465 |
| 24 | 2.420 | 65 | 2.466 |
| 25 | 2.426 | 66 | 2.467 |
| 26 | 2.427 | 67 | 2.468 |
| 27 | 2.428 | 68 | 2.469 |
| 28 | 2.429 | 69 | 2.470 |
| 29 | 2.430 | 70 | 2.471 |
| 30 | 2.431 | 71 | 2.472 |
| 31 | 2.432 | 72 | 2.473 |
| 32 | 2.433 | 73 | 2.474 |
| 33 | 2.434 | 74 | 2.475 |
| 34 | 2.435 | 75 | 2.476 |
| 35 | 2.436 | 76 | 2.477 |
| 36 | 2.437 | 77 | 2.478 |
| 37 | 2.438 | 78 | 2.479 |
| 38 | 2.439 | 79 | 2.480 |
| 39 | 2.440 | | |
| 40 | 2.441 | | |
| 41 | 2.442 | | |

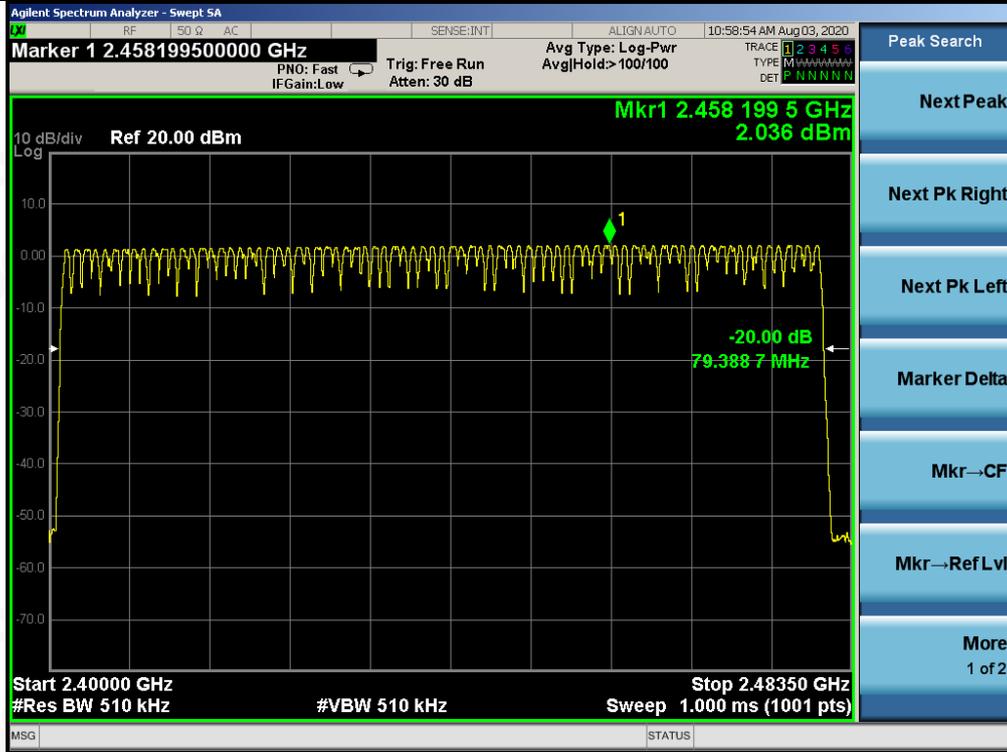
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Hopping Channel Test Plot

| | |
|------------------------|---------|
| Hopping Sequence (MHz) | 79.3887 |
| Hopping Number | 79 |



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5.3. HOPPING FREQUENCY SEPARATION

ETSI EN 300 328 SUBCLAUSE 4.3.1.5

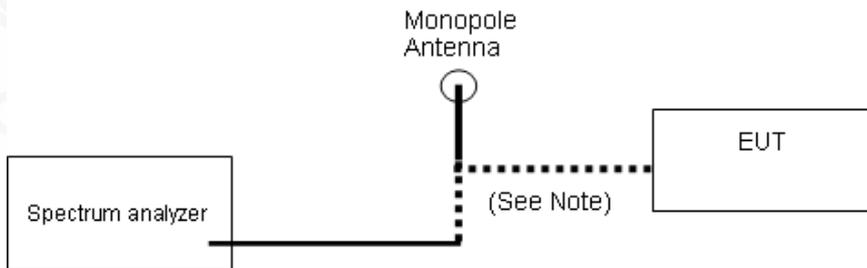
For Non-adaptive frequency hopping systems:

The minimum Hopping Frequency Separation shall be equal to Occupied Channel Bandwidth (see clause 4.3.1.7) of a single hop, with a minimum separation of 100 kHz.

For Adaptive frequency hopping systems:

The minimum Hopping Frequency Separation shall be 100 kHz.

CONFIGURATION



TEST PROCEDURE

Test Procedure please refer to clause 5.4.5.2.1

TEST RESULT

Hopping Frequency Separation (MHz) 1.000



Note: The modulation used during test is 8DPSK and this is the worst case.

Conclusion: PASS

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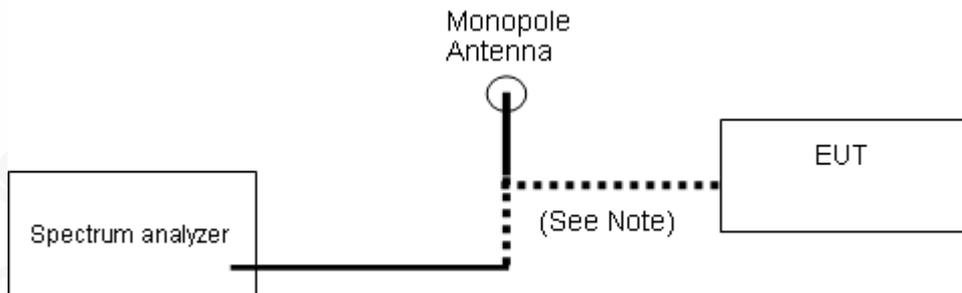


5.4. OCCUPIED CHANNEL BANDWIDTH

EN300328 4.3.1.4 OCCUPIED CHANNEL BANDWIDTH

The Occupied Channel Bandwidth is the bandwidth that contains 99 % of the power of the signal.

CONFIGURATION



TEST PROCEDURE

1. Please refer to ETSI EN 300 328 (V2.2.2) clause 5.4.7.1 for the test conditions.
2. Please refer to ETSI EN 300 328 (V2.2.2) clause 5.4.7.2 the measurement method.
3. The Test equipment information as following
Centre frequency: 2402MHz,2480MHz
Resolution bandwidth: 20kHz
Video bandwidth: 62kHz
Detector mode :RMS
Trace mode :Max Hold

TEST RESULTS

| Modulation | Channel | OBW [MHz] | FL@OBW | FH@OBW | Verdict |
|---------------|---------|-----------|----------|----------|---------|
| GFSK | LCH | 0.47105 | 2401.766 | --- | PASS |
| GFSK | HCH | 0.47904 | --- | 2480.240 | PASS |
| $\pi/4$ DQPSK | LCH | 0.77969 | 2401.161 | --- | PASS |
| $\pi/4$ DQPSK | HCH | 0.77123 | --- | 2480.382 | PASS |
| 8DPSK | LCH | 0.71827 | 2401.624 | --- | PASS |
| 8DPSK | HCH | 0.74072 | --- | 2480.352 | PASS |

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Graphs

GFSK/LCH



GFSK/HCH



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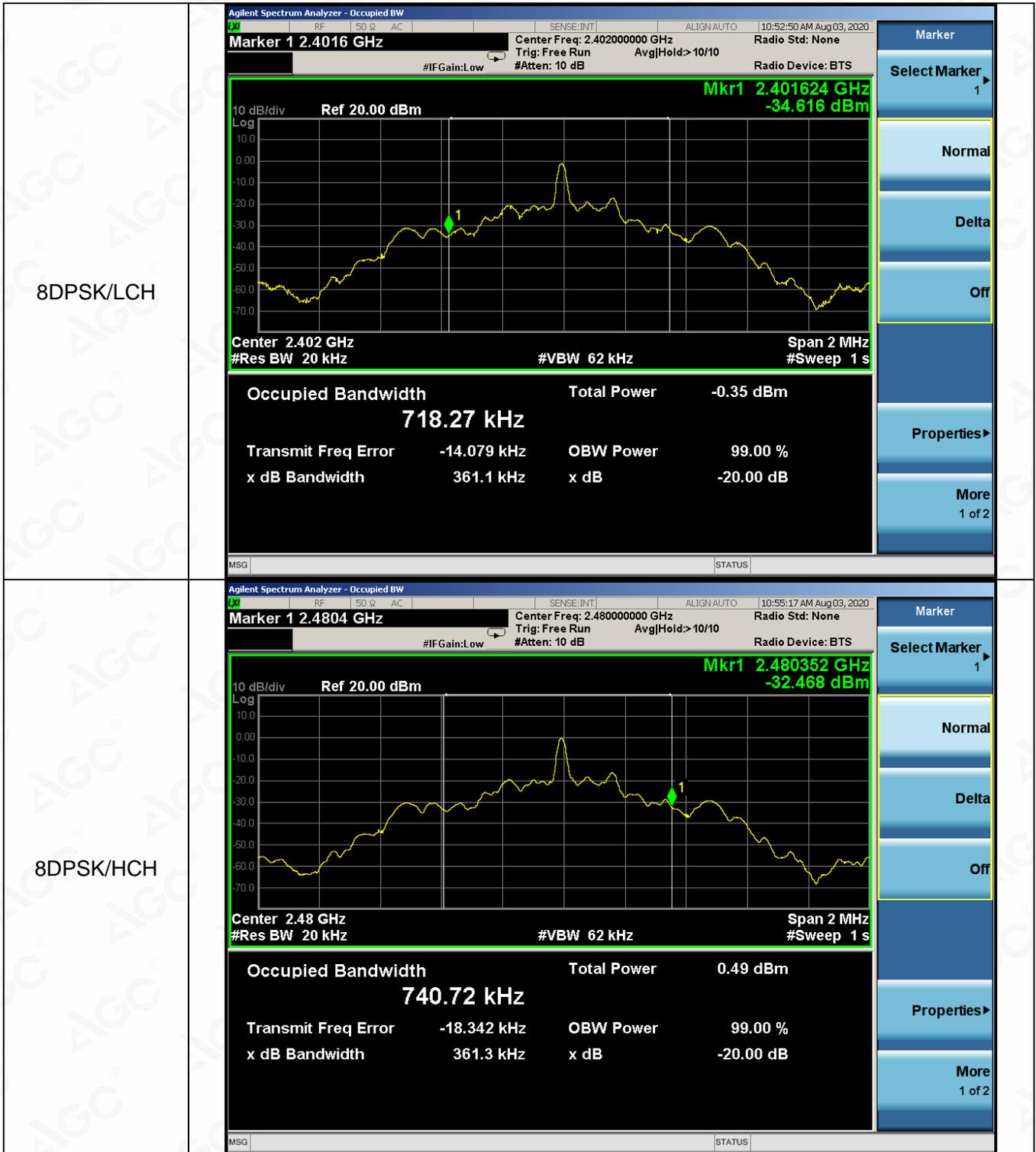




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5.5. TRANSMITTER UNWANTED EMISSIONS IN THE OUT OF BAND DOMAIN

EN300328 4.3.1.9 TRANSMITTER UNWANTED EMISSIONS IN THE OUT OF BAND DOMAIN

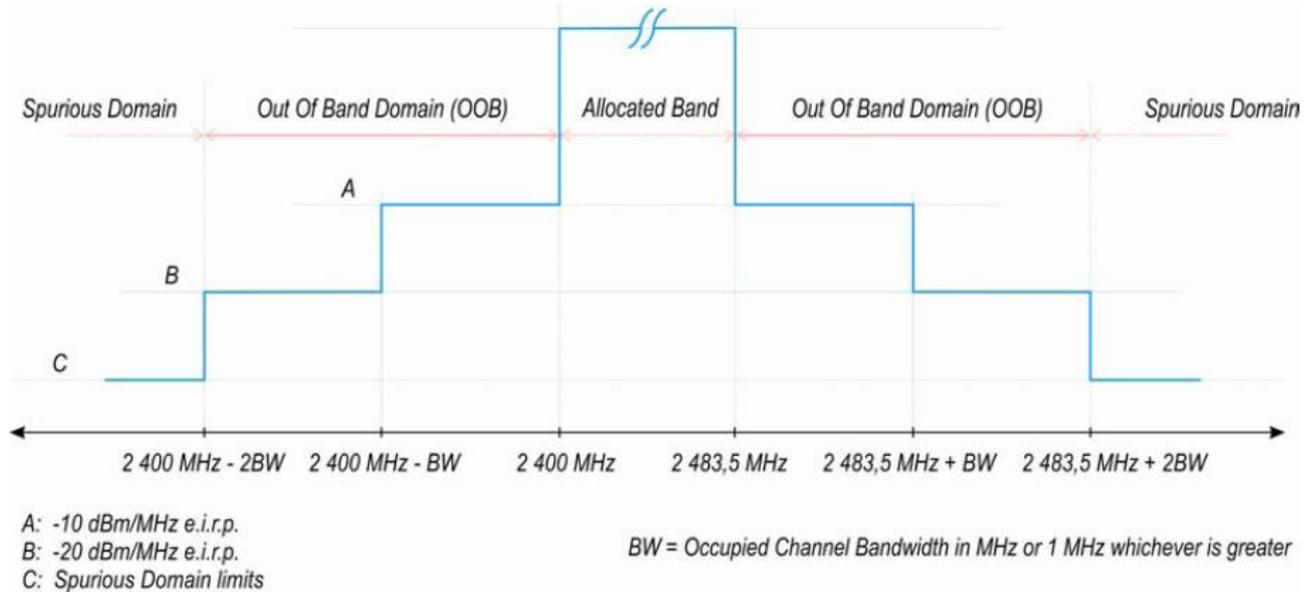
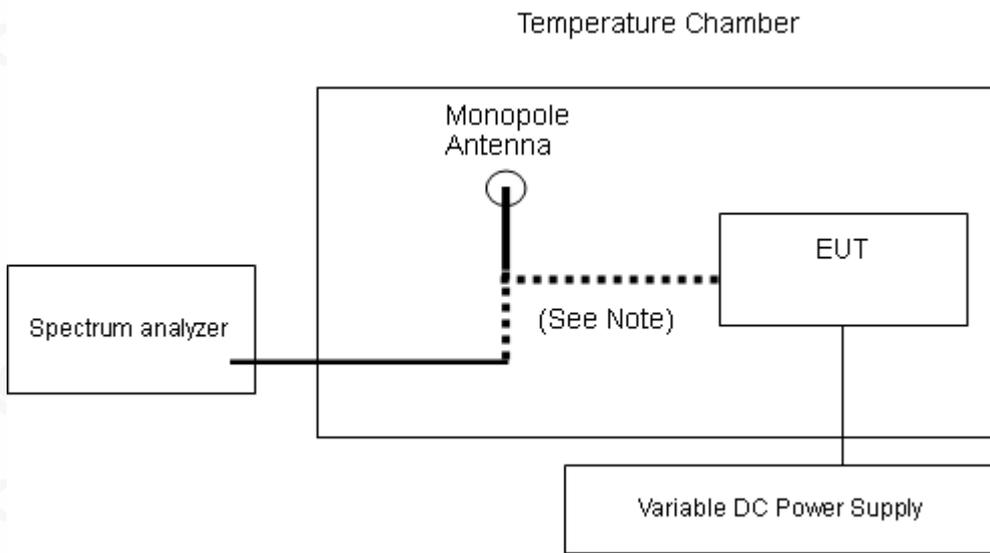


Figure 1: Transmit mask

TEST CONFIGURATION



For have temporary antenna connector product

TEST PROCEDURE

Test Procedure Please refer to ETSI EN 300 328 (V2.2.2) Clause 5.4.8.2.1

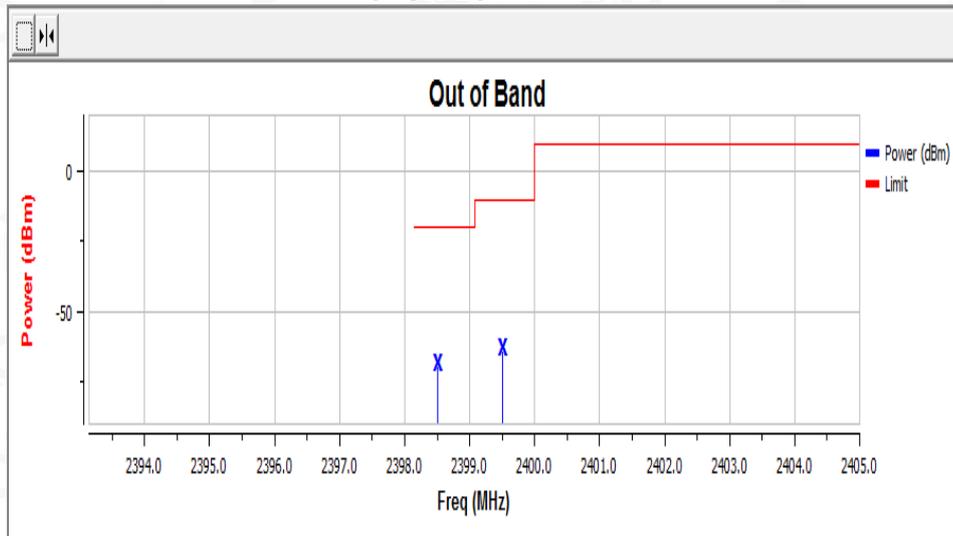
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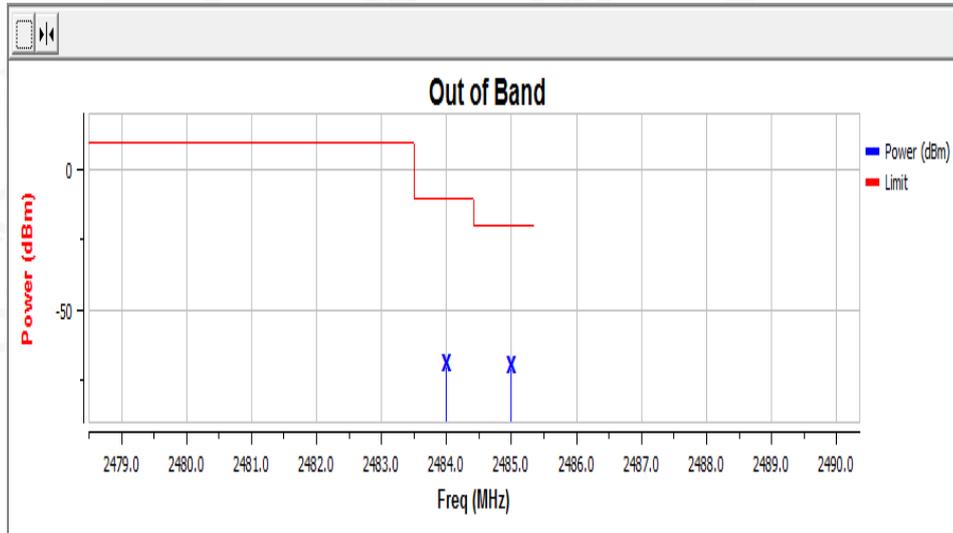
TEST RESULT

| TEST CONDITIONS | Hopping mode | | |
|-----------------------|--------------|--------------|-------------|
| | Temp (25)°C | Temp (-10)°C | Temp (40)°C |
| GFSK MOUDULATION | PASS | PASS | PASS |
| Π/4-DQPSK MOUDULATION | PASS | PASS | PASS |
| 8DPSK MOUDULATION | PASS | PASS | PASS |

GFSK-LOW BAND



GFSK-HIGH BAND



Note: All the modes had been tested, but only the worst data recorded in the report.
Conclusion: PASS

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5.6. TRANSMITTER SPURIOUS EMISSIONS

Spurious emissions are emissions outside the frequency range(s) of the equipment as defined in Clause 4.3.1.10.

The spurious emissions of the transmitter shall not exceed the values in tables in the indicated bands:

| Frequency Range | Maximum Power e.r.p(<=1GHz)/e.i.r.p(>1GHz) | Bandwidth |
|-------------------|---|-----------|
| 30MHz to 47MHz | -36dBm | 100kHz |
| 47MHz to 74MHz | -54dBm | 100kHz |
| 74MHz to 87.5MHz | -36dBm | 100kHz |
| 87.5MHz to 118MHz | -54dBm | 100kHz |
| 118MHz to 174MHz | -36dBm | 100kHz |
| 174 MHz to 230MHz | -54dBm | 100kHz |
| 230 MHz to 470MHz | -36dBm | 100kHz |
| 470 MHz to 694MHz | -54dBm | 100kHz |
| 694 MHz to 1GHZ | -36dBm | 100kHz |
| 1 GHZ to 12.75GHZ | -30dBm | 1MHz |

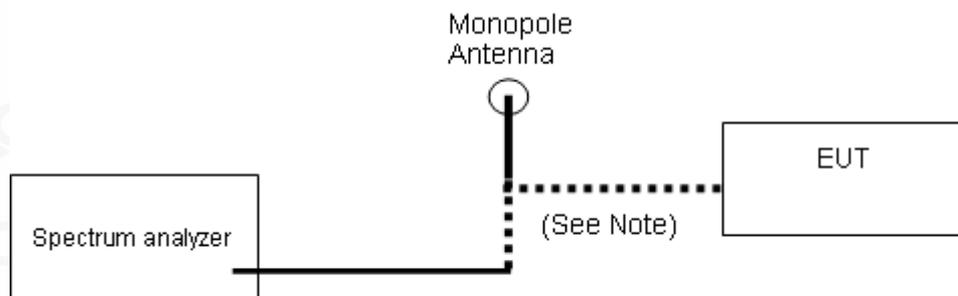
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TEST PROCEDURE

- 1) The emissions over the range 30 MHz to 1 000 MHz shall be identified.
- 2) Spectrum analyzer settings:
Resolution bandwidth: 100 kHz
Video bandwidth: 300 kHz
Detector mode: Peak
Sweep Points: $\geq 19\ 400$
Trace Mode: Max Hold
- 3) Allow the trace to stabilize. Any emissions identified during the sweeps above and that fall within the 6 dB range below the applicable limit or above, shall be individually measured using RMS detector and compared to the limits.
- 4) The emissions over the range 1 GHz to 12,75 GHz shall be identified.
- 5) Resolution bandwidth: 1 MHz
Video bandwidth: 3 MHz
Detector mode: Peak
Trace Mode: Max Hold
Sweep Points: $\geq 23\ 500$
- 6) Allow the trace to stabilize. Any emissions identified during the sweeps above and that fall within the 6 dB range below the applicable limit or above, shall be individually measured using RMS detector and compared to the limits.
- 7) For radiated method, the applicable measurement procedures as described in the EN 300 328 V2.2.2 annex C.2 and C.4 are used.

Test Configuration

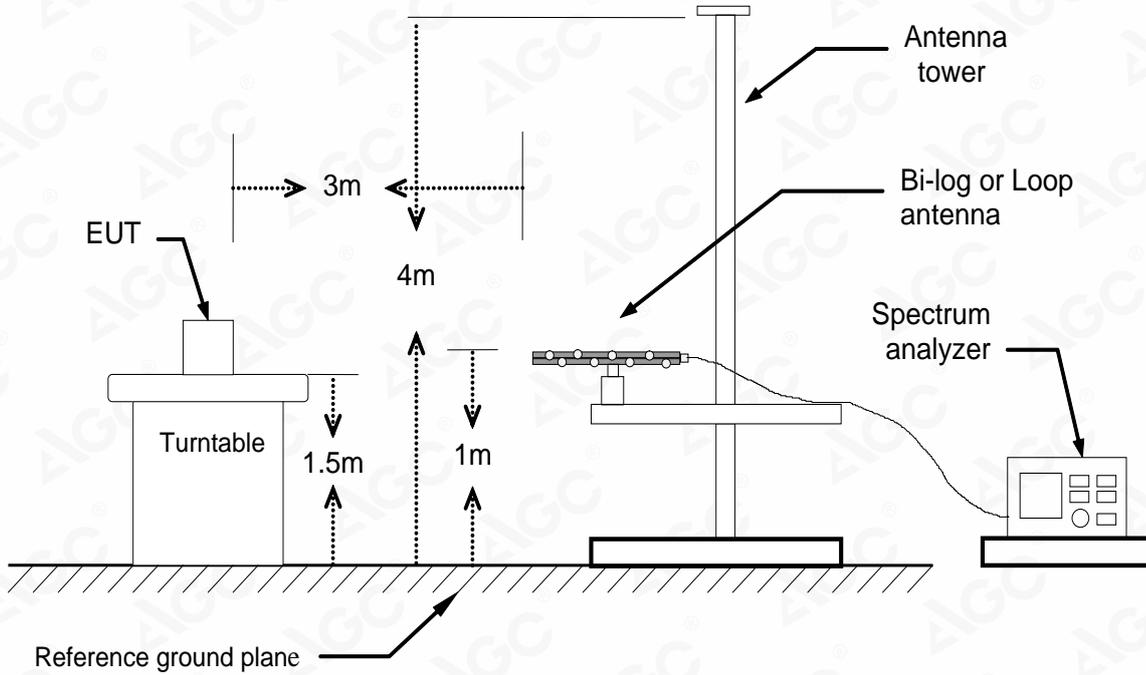


Conducted Method

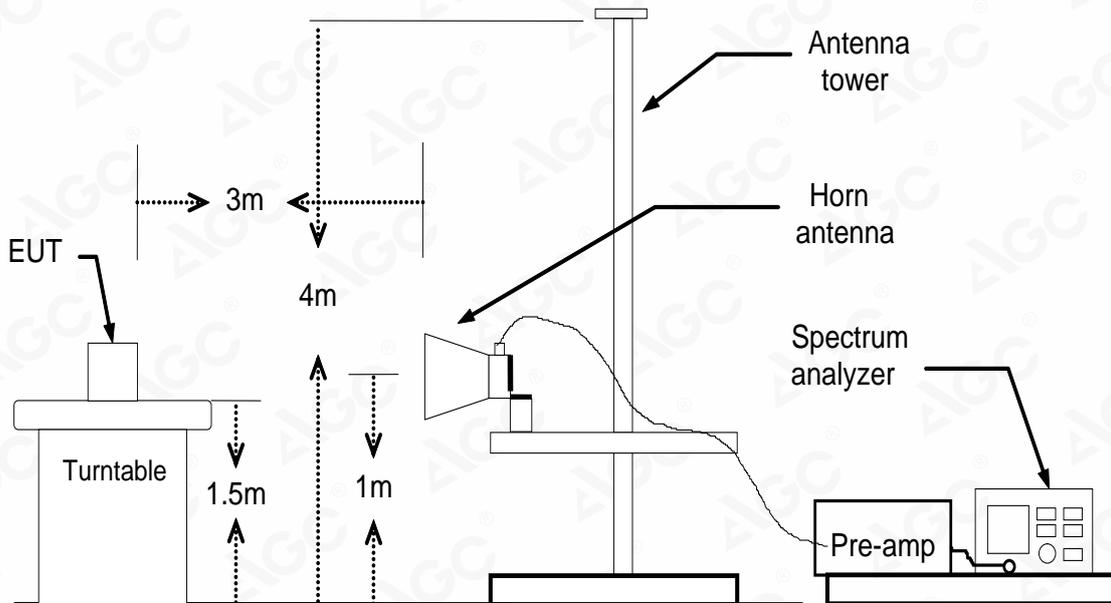
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Below 1GHz



Above 1GHz



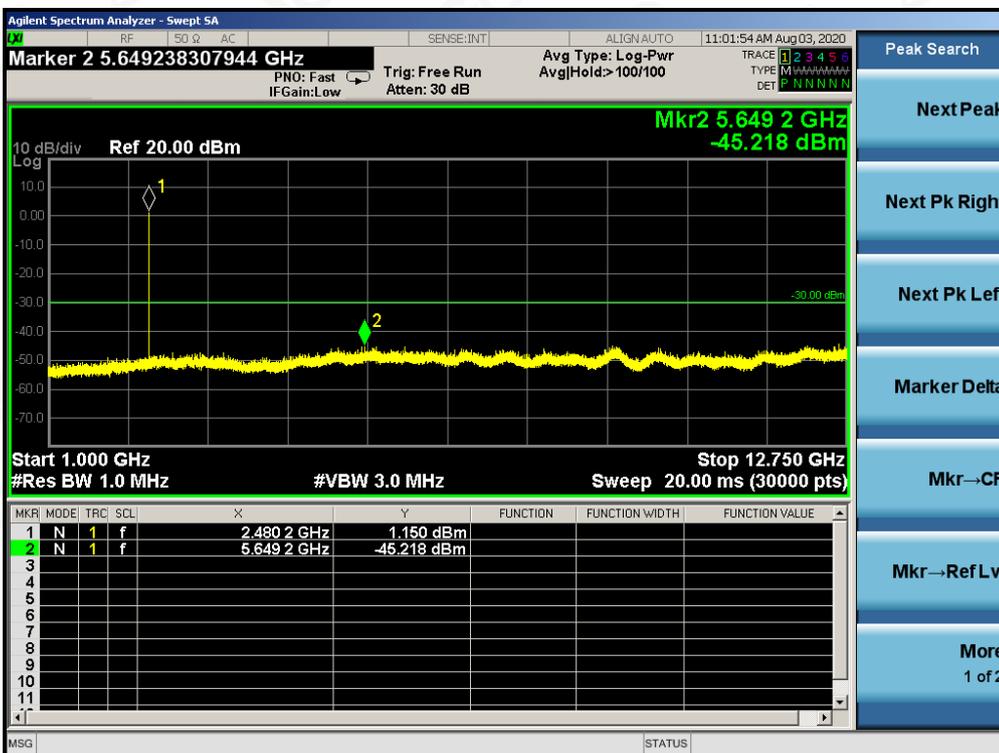
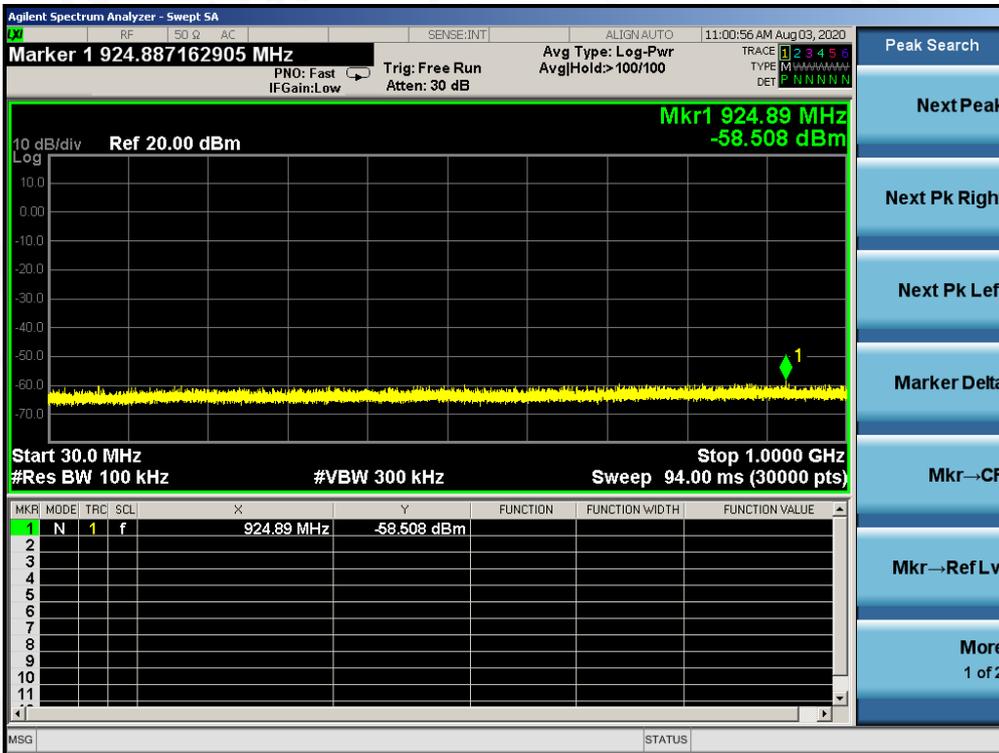
Radiated Method

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CONDUCTED RESULTS:

(Worst Case:Low channel, 1Mbps)

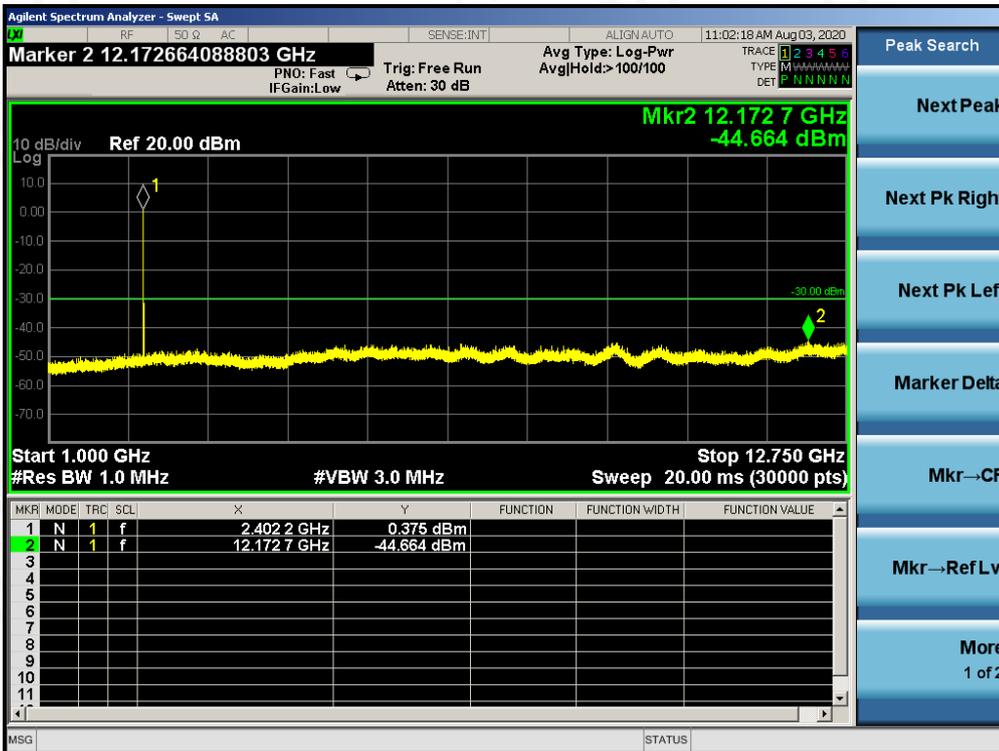
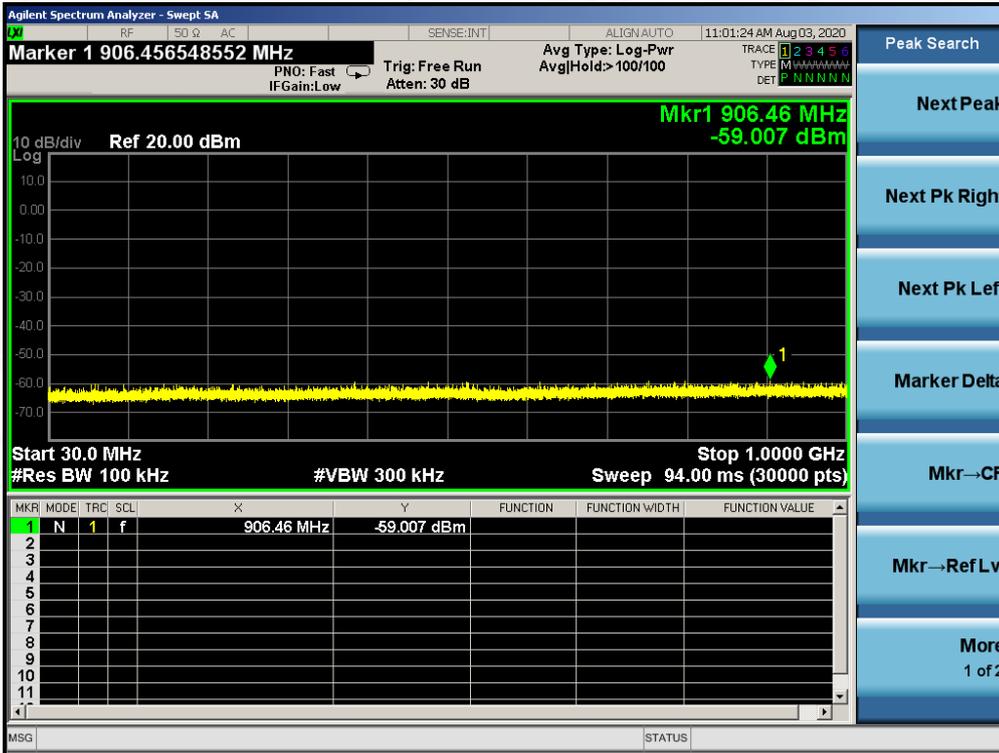


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(Worst Case: High channel, 1Mbps)



Note: 1. All the modes had been test but only the worst data record in the report.

2. The 2.4G fundamental frequency is not considered to compare with the limit.

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RADIATED RESULTS:

(Worst Case: Low channel, 1Mbps)

Transmitter Spurious Emission below 1GHz (30MHz-1GHz)

| Frequency | Reading Level | Antenna | S.G. | Cable Loss | Ant.Gain | Emission Level | Limit | Margin |
|----------------|---------------|--------------|--------|------------|----------|----------------|---------------|--------|
| (MHz) | (dBuV/m) | Polarization | (dBm) | (dB) | (dBi) | (dBm) | (dBm) | (dB) |
| 79.13 | 27.75 | V | -64.16 | 0.04 | -0.30 | -64.50 | -36.00 | 28.50 |
| 235.03 | 30.54 | V | -69.23 | 0.11 | 6.60 | -62.74 | -36.00 | 26.74 |
| 378.77 | 28.69 | V | -70.52 | 0.28 | 6.52 | -64.27 | -36.00 | 28.27 |
| 388.95 | 30.44 | V | -69.34 | 0.29 | 6.42 | -63.21 | -36.00 | 27.21 |
| 426.67 | 28.05 | V | -71.52 | 0.33 | 6.98 | -64.88 | -36.00 | 28.88 |
| 827.61 | 30.23 | V | -68.12 | 0.66 | 6.45 | -62.33 | -36.00 | 26.33 |
| Other(30-1000) | -- | V | -- | -- | -- | -- | -36.00/-54.00 | -- |
| 141.48 | 30.91 | H | -62.53 | 0.05 | 0.06 | -62.52 | -36.00 | 26.52 |
| 339.85 | 31.66 | H | -67.72 | 0.23 | 5.74 | -62.22 | -36.00 | 26.22 |
| 399.07 | 29.68 | H | -70.63 | 0.30 | 6.58 | -64.35 | -36.00 | 28.35 |
| 460.18 | 29.25 | H | -69.37 | 0.37 | 6.70 | -63.05 | -36.00 | 27.05 |
| 615.68 | 32.01 | H | -66.99 | 0.50 | 6.70 | -60.79 | -54.00 | 6.79 |
| 769.24 | 31.63 | H | -67.86 | 0.62 | 6.87 | -61.61 | -36.00 | 25.61 |
| Other(30-1000) | -- | H | -- | -- | -- | -- | -36.00/-54.00 | -- |

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Transmitter Spurious Emission above 1GHz (1GHz-12.75GHz)

| Frequency | Reading Level | Antenna | S.G. | Cable Loss | Ant.Gain | Emission Level | Limit | Margin |
|-------------------|---------------|--------------|--------|------------|----------|----------------|--------|--------|
| (MHz) | (dBuV/m) | Polarization | (dBm) | (dB) | (dBi) | (dBm) | (dBm) | (dB) |
| 4804 | 58.67 | V | -40.38 | 2.64 | 9.30 | -33.72 | -30.00 | 3.72 |
| 7206 | 56.54 | V | -44.52 | 3.14 | 11.28 | -36.38 | -30.00 | 6.38 |
| Other(1000-12750) | -- | V | -- | -- | -- | -- | -30.00 | -- |
| 4804 | 59.42 | H | -41.09 | 2.64 | 9.30 | -34.42 | -30.00 | 4.42 |
| 7206 | 56.13 | H | -45.06 | 3.14 | 11.28 | -36.92 | -30.00 | 6.92 |
| Other(1000-12750) | -- | H | -- | -- | -- | -- | -30.00 | -- |

Note: 1. The margins of the other spectrum are not exceeding the minimum value of margin, and this part of the results without recording in the test report.

2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "--" remark, if no specific emission from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

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(Worst Case: High channel, 1Mbps)

Transmitter Spurious Emission below 1GHz (30MHz-1GHz)

| Frequency | Reading Level | Antenna | S.G. | Cable Loss | Ant.Gain | Emission Level | Limit | Margin |
|----------------|---------------|--------------|--------|------------|----------|----------------|---------------|--------|
| (MHz) | (dBuV/m) | Polarization | (dBm) | (dB) | (dBi) | (dBm) | (dBm) | (dB) |
| 76.95 | 28.39 | V | -64.64 | 0.04 | -0.90 | -65.58 | -36.00 | 29.58 |
| 236.81 | 28.74 | V | -70.06 | 0.11 | 6.60 | -63.57 | -36.00 | 27.57 |
| 382.79 | 27.80 | V | -71.00 | 0.28 | 6.48 | -64.80 | -36.00 | 28.80 |
| 384.91 | 30.13 | V | -68.99 | 0.28 | 6.46 | -62.82 | -36.00 | 26.82 |
| 423.97 | 27.40 | V | -72.94 | 0.33 | 7.04 | -66.23 | -36.00 | 30.23 |
| 827.93 | 30.13 | V | -68.12 | 0.66 | 6.45 | -62.32 | -36.00 | 26.32 |
| Other(30-1000) | -- | V | -- | -- | -- | -- | -36.00/-54.00 | -- |
| 138.58 | 31.98 | H | -60.23 | 0.05 | 0.00 | -60.28 | -36.00 | 24.28 |
| 338.58 | 32.65 | H | -66.64 | 0.23 | 5.78 | -61.09 | -36.00 | 25.09 |
| 398.58 | 29.25 | H | -70.34 | 0.30 | 6.56 | -64.09 | -36.00 | 28.09 |
| 457.44 | 27.96 | H | -72.28 | 0.37 | 6.61 | -66.04 | -36.00 | 30.04 |
| 617.73 | 30.60 | H | -69.70 | 0.51 | 6.78 | -63.43 | -54.00 | 9.43 |
| 765.77 | 29.95 | H | -68.51 | 0.61 | 6.75 | -62.37 | -36.00 | 26.37 |
| Other(30-1000) | -- | H | -- | -- | -- | -- | -36.00/-54.00 | -- |

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Transmitter Spurious Emission above 1GHz (1GHz-12.75GHz)

| Frequency | Reading Level | Antenna | S.G. | Cable Loss | Ant.Gain | Emission Level | Limit | Margin |
|-------------------|---------------|--------------|--------|------------|----------|----------------|--------|--------|
| (MHz) | (dBuV/m) | Polarization | (dBm) | (dB) | (dBi) | (dBm) | (dBm) | (dB) |
| 4960 | 58.74 | V | -41.21 | 2.75 | 9.62 | -34.34 | -30.00 | 4.34 |
| 7440 | 53.25 | V | -48.78 | 3.09 | 11.62 | -40.25 | -30.00 | 10.25 |
| Other(1000-12750) | -- | V | -- | -- | -- | -- | -30.00 | -- |
| 4960 | 57.68 | H | -41.84 | 2.75 | 9.62 | -34.97 | -30.00 | 4.97 |
| 7440 | 52.16 | H | -49.20 | 3.09 | 11.62 | -40.67 | -30.00 | 10.67 |
| Other(1000-12750) | -- | H | -- | -- | -- | -- | -30.00 | -- |

Note: 1.The margins of the other spectrum are not exceeding the minimum value of margin, and this part of the results without recording in the test report.

2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "--" remark, if no specific emission from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Conclusion: PASS

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5.7. RECEIVER SPURIOUS EMISSIONS
ETSI EN300328 SUBCLAUSE 4.3.1.11

Receiver spurious emissions are emissions at any frequency when the equipment is in receive mode. The spurious emissions of the receiver shall not exceed the values given in table.

| Frequency Range | Maximum Power e.r.p(<=1GHz)/e.i.r.p(>1GHz) | Measurement Bandwidth |
|------------------|---|-----------------------|
| 30MHz to 1000MHz | -57dBm | 100kHz |
| 1GHz to 12.75GHz | -47dBm | 1MHz |

Test Configuration

Same as 5.6.

TEST PROCEDURE

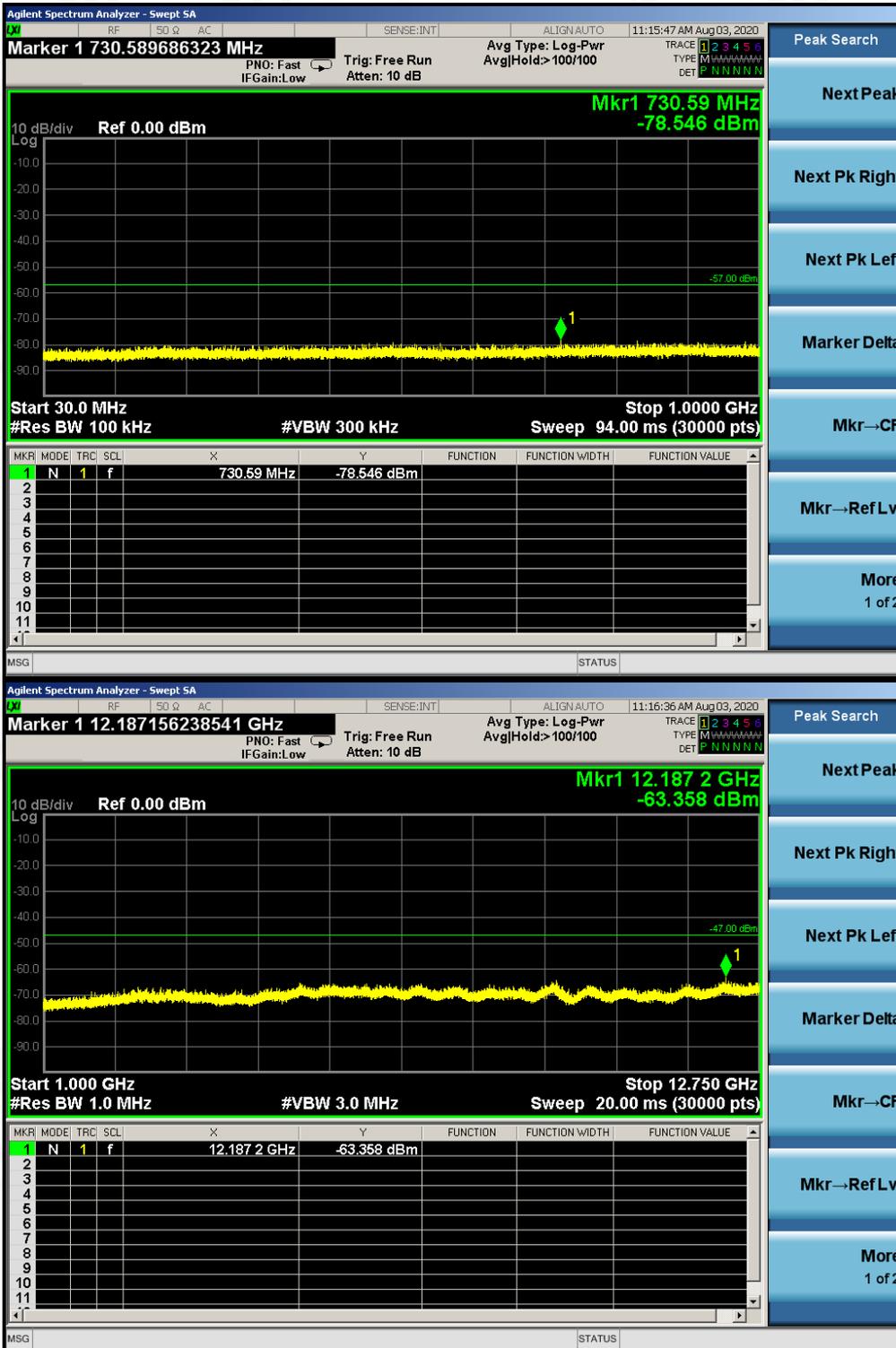
- 1) The emissions over the range 30 MHz to 1 000 MHz shall be identified.
- 2) Spectrum analyzer settings:
Resolution bandwidth: 100 kHz
Video bandwidth: 300 kHz
Detector mode: Peak
Sweep Points: $\geq 19\ 400$
Trace Mode: Max Hold
- 3) Allow the trace to stabilize. Any emissions identified during the sweeps above and that fall within the 6 dB range below the applicable limit or above, shall be individually measured using RMS detector and compared to the limits.
- 4) The emissions over the range 1 GHz to 12,75 GHz shall be identified.
- 5) Resolution bandwidth: 1 MHz
Video bandwidth: 3 MHz
Detector mode: Peak
Trace Mode: Max Hold
Sweep Points: $\geq 23\ 500$
- 6) Allow the trace to stabilize. Any emissions identified during the sweeps above and that fall within the 6 dB range below the applicable limit or above, shall be individually measured using RMS detector and compared to the limits.
- 7) For radiated method, the applicable measurement procedures as described in the EN 300 328 V2.2.2 annex C.2 and C.4 are used.

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TEST RESULTS FOR CONDUCTED METHOD

RECEIVER MODE (Worst Case: Low channel, 1Mbps)

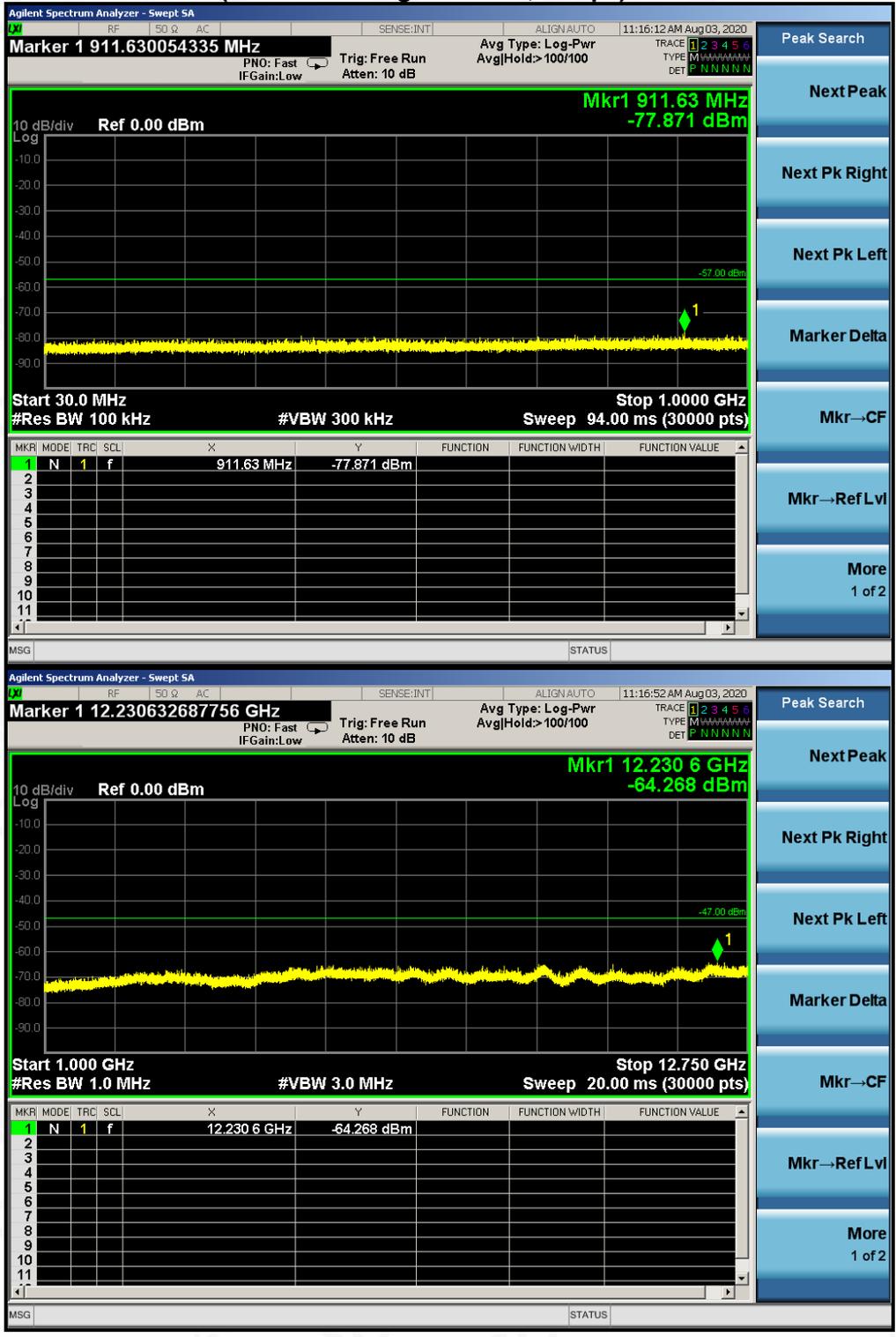


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RECEIVER MODE (Worst Case:High channel, 1Mbps)



Note: 1. All the modes had been test but only the worst data record in the report.

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**TEST RESULTS FOR RADIATED METHOD
(Worst Case: Low channel, 1Mbps)**

Receiver Spurious Emission below 1GHz (30MHz-1GHz)

| Frequency | Reading Level | Antenna | S.G. | Cable Loss | Ant.Gain | Emission Level | Limit | Margin |
|----------------|---------------|--------------|--------|------------|----------|----------------|--------|--------|
| (MHz) | (dBuV/m) | Polarization | (dBm) | (dB) | (dBi) | (dBm) | (dBm) | (dB) |
| 93.59 | 27.96 | V | -67.64 | 0.04 | 1.64 | -66.04 | -57.00 | 9.04 |
| 240.73 | 30.32 | V | -69.83 | 0.12 | 6.60 | -63.35 | -57.00 | 6.35 |
| 313.11 | 28.13 | V | -70.31 | 0.20 | 6.31 | -64.20 | -57.00 | 7.20 |
| 385.56 | 29.06 | V | -70.72 | 0.29 | 6.45 | -64.56 | -57.00 | 7.56 |
| 479.23 | 27.63 | V | -71.56 | 0.40 | 6.89 | -65.06 | -57.00 | 8.06 |
| 832.15 | 29.92 | V | -69.44 | 0.66 | 6.44 | -63.66 | -57.00 | 6.66 |
| Other(30-1000) | -- | V | -- | -- | -- | -- | -57.00 | -- |
| 140.09 | 28.41 | H | -65.07 | 0.05 | 0.00 | -65.12 | -57.00 | 8.12 |
| 332.37 | 29.52 | H | -68.95 | 0.22 | 6.02 | -63.16 | -57.00 | 6.16 |
| 394.93 | 30.38 | H | -69.70 | 0.30 | 6.48 | -63.52 | -57.00 | 6.52 |
| 567.33 | 29.68 | H | -70.55 | 0.47 | 6.83 | -64.19 | -57.00 | 7.19 |
| 617.61 | 27.63 | H | -71.45 | 0.51 | 6.78 | -65.17 | -57.00 | 8.17 |
| 815.78 | 28.43 | H | -71.22 | 0.65 | 6.95 | -64.92 | -57.00 | 7.92 |
| Other(30-1000) | -- | H | -- | -- | -- | -- | -57.00 | -- |

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Receiver Spurious Emission above 1GHz (1GHz-12.75GHz)

| Frequency | Reading Level | Antenna | S.G. | Cable Loss | Ant.Gain | Emission Level | Limit | Margin |
|-------------------|---------------|--------------|--------|------------|----------|----------------|--------|--------|
| (MHz) | (dBuV/m) | Polarization | (dBm) | (dB) | (dBi) | (dBm) | (dBm) | (dB) |
| 1831.32 | 32.19 | V | -67.08 | 1.26 | 7.15 | -61.19 | -47.00 | 14.19 |
| -- | -- | V | -- | -- | -- | -- | -- | -- |
| Other(1000-12750) | -- | V | -- | -- | -- | -- | -47.00 | -- |
| 1786.37 | 30.74 | H | -68.72 | 1.23 | 6.93 | -63.02 | -47.00 | 16.02 |
| -- | -- | H | -- | -- | -- | -- | -- | -- |
| Other(1000-12750) | -- | H | -- | -- | -- | -- | -47.00 | -- |

Note: 1.The margins of the other spectrum are not exceeding the minimum value of margin, and this part of the results without recording in the test report.

2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "--" remark, if no specific emission from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

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(Worst Case: High channel, 1Mbps)

Receiver Spurious Emission below 1GHz (30MHz-1GHz)

| Frequency | Reading Level | Antenna | S.G. | Cable Loss | Ant.Gain | Emission Level | Limit | Margin |
|----------------|---------------|--------------|--------|------------|----------|----------------|--------|--------|
| (MHz) | (dBuV/m) | Polarization | (dBm) | (dB) | (dBi) | (dBm) | (dBm) | (dB) |
| 89.21 | 28.16 | V | -65.71 | 0.04 | 1.26 | -64.49 | -57.00 | 7.49 |
| 239.25 | 29.22 | V | -69.67 | 0.12 | 6.60 | -63.18 | -57.00 | 6.18 |
| 314.87 | 28.14 | V | -71.42 | 0.20 | 6.28 | -65.35 | -57.00 | 8.35 |
| 384.15 | 29.96 | V | -68.71 | 0.28 | 6.46 | -62.54 | -57.00 | 5.54 |
| 478.14 | 28.44 | V | -70.33 | 0.39 | 6.88 | -63.85 | -57.00 | 6.85 |
| 830.31 | 30.95 | V | -68.46 | 0.66 | 6.30 | -62.82 | -57.00 | 5.82 |
| Other(30-1000) | -- | V | -- | -- | -- | -- | -57.00 | -- |
| 136.06 | 29.98 | H | -63.63 | 0.05 | 0.00 | -63.68 | -57.00 | 6.68 |
| 332.55 | 30.23 | H | -69.10 | 0.22 | 6.02 | -63.30 | -57.00 | 6.30 |
| 395.17 | 30.23 | H | -68.77 | 0.30 | 6.50 | -62.56 | -57.00 | 5.56 |
| 567.39 | 28.90 | H | -70.35 | 0.47 | 6.83 | -63.99 | -57.00 | 6.99 |
| 613.52 | 27.84 | H | -72.16 | 0.50 | 6.62 | -66.04 | -57.00 | 9.04 |
| 815.62 | 29.11 | H | -69.81 | 0.65 | 6.95 | -63.51 | -57.00 | 6.51 |
| Other(30-1000) | -- | H | -- | -- | -- | -- | -57.00 | -- |

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Receiver Spurious Emission above 1GHz (1GHz-12.75GHz)

| Frequency | Reading Level | Antenna | S.G. | Cable Loss | Ant.Gain | Emission Level | Limit | Margin |
|-------------------|---------------|--------------|--------|------------|----------|----------------|--------|--------|
| (MHz) | (dBuV/m) | Polarization | (dBm) | (dB) | (dBi) | (dBm) | (dBm) | (dB) |
| 1835.33 | 31.49 | V | -68.18 | 1.26 | 7.15 | -62.29 | -47.00 | 15.29 |
| -- | -- | V | -- | -- | -- | -- | -- | -- |
| Other(1000-12750) | -- | V | -- | -- | -- | -- | -47.00 | -- |
| 1786.72 | 30.69 | H | -68.77 | 1.23 | 6.93 | -63.07 | -47.00 | 16.07 |
| -- | -- | H | -- | -- | -- | -- | -- | -- |
| Other(1000-12750) | -- | H | -- | -- | -- | -- | -47.00 | -- |

Note: 1.The margins of the other spectrum are not exceeding the minimum value of margin, and this part of the results without recording in the test report.

2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "--" remark, if no specific emission from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Conclusion: PASS

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5.8. RECEIVER BLOCKING

Receiver Blocking parameters for Receiver Category 1 equipment

| Wanted signal mean power from companion device (dBm) (see notes 1 and 4) | Blocking signal frequency (MHz) | Blocking signal power (dBm) (see note 4) | Type of blocking signal |
|---|---------------------------------|---|-------------------------|
| (-133 dBm + 10 × log ₁₀ (OCBW)) or -68 dBm whichever is less (see note 2) | 2 380 | -34 | CW |
| | 2 504 | | |
| (-139 dBm + 10 × log ₁₀ (OCBW)) or -74 dBm whichever is less (see note 3) | 2 300 | | |
| | 2 330 | | |
| | 2 360 | | |
| | 2 524 | | |
| | 2 584 | | |
| | 2 674 | | |

NOTE 1: OCBW is in Hz.

NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to $P_{min} + 26$ dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

NOTE 3: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to $P_{min} + 20$ dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

NOTE 4: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.

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Receiver Blocking parameters for Receiver Category 2 equipment

| Wanted signal mean power from companion device (dBm) (see notes 1 and 3) | Blocking signal frequency (MHz) | Blocking signal power (dBm) (see note 3) | Type of blocking signal |
|--|---------------------------------|---|-------------------------|
| (-139 dBm + 10 × log ₁₀ (OCBW) + 10 dB) or (-74 dBm + 10 dB) whichever is less (see note 2) | 2 380 | -34 | CW |
| | 2 504 | | |
| | 2 300 | | |
| | 2 584 | | |

NOTE 1: OCBW is in Hz.

NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 26 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.

Receiver Blocking parameters for Receiver Category 3 equipment

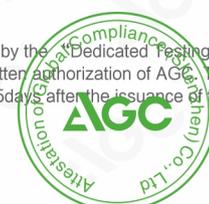
| Wanted signal mean power from companion device (dBm) (see notes 1 and 3) | Blocking signal frequency (MHz) | Blocking signal power (dBm) (see note 3) | Type of blocking signal |
|--|---------------------------------|---|-------------------------|
| (-139 dBm + 10 × log ₁₀ (OCBW) + 20 dB) or (-74 dBm + 20 dB) whichever is less (see note 2) | 2 380 | -34 | CW |
| | 2 504 | | |
| | 2 300 | | |
| | 2 584 | | |

NOTE 1: OCBW is in Hz.

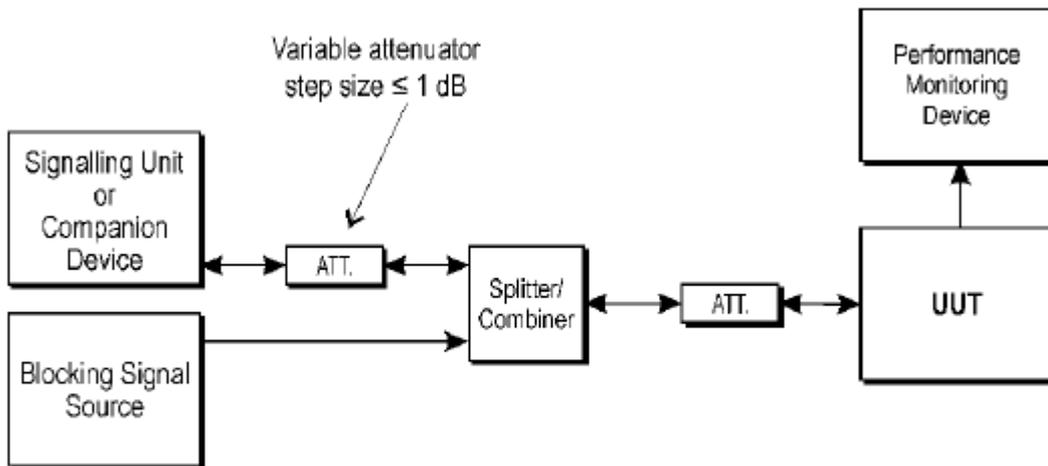
NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 30 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.

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TEST CONFIGURATION



Test Set-up for receiver blocking

TEST PROCEDURE

The simplified conducted measure procedures are as follows:

- 1) The UUT shall be set to hopping mode.
- 2) The blocking signal generator is set to the first frequency as defined in the appropriate table corresponding to the receiver category and type of equipment.
- 3) With the blocking signal generator switched off, a communication link is established between the UUT and the associated companion device using the test setup. The level of the wanted signal shall be set to the value provided in the table corresponding to the receiver category and type of equipment. This level may be measured directly at the output of the companion device and a correction is made for the coupling loss into the UUT. The actual level for the wanted signal shall be recorded in the test report.
- 4) The blocking signal at the UUT is set to the level provided in the table corresponding to the receiver category and type of equipment. It shall be verified and recorded in the test report that the performance criteria is met.
- 5) Repeat step 4 for each remaining combination of frequency and level for the blocking signal as provided in the table corresponding to the receiver category and type of equipment.

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TEST RESULT

| Test Condition | Blocking Signal Frequency(MHz) | Blocking Signal Power(dBm) | Wanted signal mean power from companion device(dBm) | Performance PER | Limit PER | Result |
|-------------------|--------------------------------|----------------------------|---|-----------------|-----------|--------|
| GFSK Hopping Mode | 2 300 | -34.00 | -72.27 | 1.02% | 10% | Pass |
| | 2 380 | -34.00 | -72.27 | 1.11% | 10% | |
| | 2 504 | -34.00 | -72.20 | 1.25% | 10% | |
| | 2 584 | -34.00 | -72.20 | 1.22% | 10% | |

| Test Condition | Blocking Signal Frequency(MHz) | Blocking Signal Power(dBm) | Wanted signal mean power from companion device(dBm) | Performance PER | Limit PER | Result |
|-----------------------------|--------------------------------|----------------------------|---|-----------------|-----------|--------|
| π /4-DQPSK Hopping Mode | 2 300 | -34.00 | -70.08 | 1.13% | 10% | Pass |
| | 2 380 | -34.00 | -70.08 | 1.36% | 10% | |
| | 2 504 | -34.00 | -70.13 | 1.51% | 10% | |
| | 2 584 | -34.00 | -70.13 | 1.56% | 10% | |

| Test Condition | Blocking Signal Frequency(MHz) | Blocking Signal Power(dBm) | Wanted signal mean power from companion device(dBm) | Performance PER | Limit PER | Result |
|---------------------|--------------------------------|----------------------------|---|-----------------|-----------|--------|
| 8-DPSK Hopping Mode | 2 300 | -34.00 | -70.44 | 1.25% | 10% | Pass |
| | 2 380 | -34.00 | -70.44 | 1.63% | 10% | |
| | 2 504 | -34.00 | -70.30 | 2.00% | 10% | |
| | 2 584 | -34.00 | -70.30 | 1.12% | 10% | |

Note: The levels of the blocking signal and wanted signal have to be corrected for the (in-band) antenna assembly gain.

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APPENDIX A: PHOTOGRAPHS OF THE TEST SETUP

RADIATED SPURIOUS EMISSION TEST SETUP



RADIATED SPURIOUS EMISSION ABOVE 1G TEST SETUP



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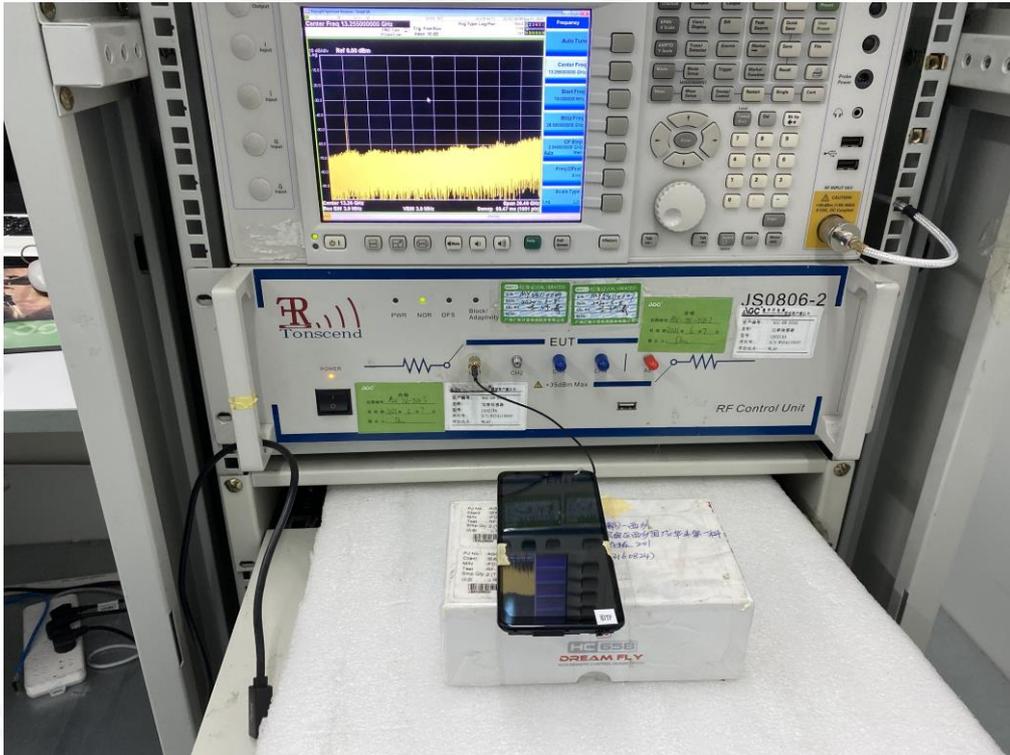
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CONDUCTED TEST SETUP



----END OF REPORT----

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

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Conditions of Issuance of Test Reports

1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd (the “Company”) solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the “Clients”).
2. Any report issued by Company as a result of this application for testing services (the “Report”) shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. The non-CMA report issued by AGC is only permitted to be used by the client as internal reference use and shall not be used for public demonstration purpose.
5. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
6. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
7. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
8. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
9. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
10. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

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