

RF TEST REPORT

Report No.....: 20260702W26299X-W2
Product Name.....: Smart Watch
Model No.....: U3
Applicant.....: Shenzhen Huafurui Technology Co., Ltd.
Applicant Address.....: Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology Building,
No. 993 Jiaxian Road,Xiangjiaotang Community, Bantian Street,
Longgang District, Shenzhen, P.R. China
Dates of Testing.....: 2026-05-25 to 2026-06-09
Issued by.....: CCIC Southern Testing Co., Ltd.
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Test Report

Product Name.....: Smart Watch
Trade Name.....: CUBOT
Applicant.....: Shenzhen Huafurui Technology Co., Ltd.
Applicant Address.....: Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology Building,
 No. 993 Jiaxian Road,Xiangjiaotang Community, Bantian Street,
 Longgang District, Shenzhen, P.R. China
Manufacturer.....: Shenzhen Huafurui Technology Co., Ltd.
Manufacturer Address.....: Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology Building,
 No. 993 Jiaxian Road,Xiangjiaotang Community, Bantian Street,
 Longgang District, Shenzhen, P.R. China
Test Standards.....: 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 Result.....: Pass

Tested by.....: Chuiwang Zhang 2026-07-13
 Chuiwang Zhang, Test Engineer

Reviewed by.....: Sun Jiaohui 2026-07-13
 Sun Jiaohui, Senior Engineer

Approved by.....: Wang Shijie 2026-07-13
 Wang Shijie, Manager



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Change History		
Issue	Date	Reason for change
1.0	2026-07-13	First edition



1. General Information

1.1. Description of EUT

Product Name	Smart Watch	
Power Supply	Li-ion Battery DC 3.8 V/300 mAh	
Temperature operating range	0°C~+55°C	
EUT supports Radios application	Bluetooth BR/EDR/LE	
Modulation technology	Bluetooth BR/EDR	FHSS
Modulation Type	Bluetooth BR/EDR	GFSK, $\pi/4$ -DQPSK, 8DPSK
	BLE	GFSK
Transfer Rate	Bluetooth BR/EDR	1/2/3Mbps
	BLE	1/2Mbps
Number of channel	Bluetooth	79
	BLE	40
Frequency Range	Bluetooth BR/EDR/BLE	2402~2480MHz
Max. EIRP	Bluetooth BR/EDR	3.76dBm
	BLE	5.92Bm
Antenna Type	Internal antenna	
Antenna Gain	0.17dBi	

Note 1: The information of antenna gain and cable loss is provided by the manufacturer and our lab is not responsible for the accuracy of the antenna gain and cable loss information.

Note 2:Based on Report 20260502W19520X-W2 ,the applicant, manufacturer, trade name and model have been changed.In addition, the samples remain unchanged.According to these changes, no test is required.



1.2. Test Standards and Results

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

No.	Identity	Document Title
1	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:

Bluetooth BR/EDR

EN Reference		EN 300 328 V2.2.2	Result
No.	Sub clause	Test Items	
1	4.3.1.2	RF Output Power	PASS
2	4.3.2.3	Power Spectral Density	N/A ^{Note 2}
3	4.3.1.3	Duty cycle, Tx-sequence, Tx-gap	N/A ^{Note 1}
4	4.3.1.4	Accumulated Transmit Time, Frequency Occupation & Hopping Sequence	PASS
5	4.3.1.5	Hopping Frequency Separation	PASS
6	4.3.1.6	Medium Utilization	N/A ^{Note 1}
7	4.3.1.7	Adaptivity	N/A ^{Note 3}
8	4.3.1.8	Occupied Channel Bandwidth	PASS
9	4.3.1.9	Transmitter unwanted emissions in the OOB domain	PASS
10	4.3.1.10	Transmitter unwanted emissions in the spurious domain	PASS
11	4.3.1.11	Receiver spurious emissions	PASS
12	4.3.1.12	Receiver Blocking	PASS
13	4.3.1.13	Geo-location capability	N/A ^{Note 4}

Note 1: The EUT is an adaptive frequency hopping equipment and can't work in a non-adaptive mode.

Note 2: The EUT is using FHSS modulation.

Note 3: This requirement does not apply for equipment with a maximum RF Output power level of less than 10 dBm e.i.r.p.

Note 4: EUT without Geo-location capability.

Bluetooth LE

EN Reference		EN 300 328 V2.2.2	Result
No.	Sub clause	Test Items	
1	4.3.2.2	RF Output Power	PASS
2	4.3.2.3	Power Spectral Density	PASS
3	4.3.2.4	Duty cycle, Tx-sequence, Tx-gap	N/A ^{Note 1}
4	4.3.1.4	Accumulated Transmit Time, Frequency Occupation & Hopping Sequence	N/A ^{Note 2}
5	4.3.1.5	Hopping Frequency Separation	N/A ^{Note 2}
6	4.3.2.5	Medium Utilisation	N/A ^{Note 1}
7	4.3.2.6	Adaptivity	N/A ^{Note 3}
8	4.3.2.7	Occupied Channel Bandwidth	PASS
9	4.3.2.8	Transmitter unwanted emissions in the OOB domain	PASS
10	4.3.2.9	Transmitter unwanted emissions in the spurious domain	PASS
11	4.3.2.10	Receiver spurious emissions	PASS
12	4.3.2.11	Receiver Blocking	PASS
13	4.3.1.13	Geo-location capability	N/A ^{Note 4}

Note 1: The EUT is an adaptive Equipment using Modulations Other Than FHSS and can't work in a non-adaptive mode.

Note 2: The EUT is using other types of wide band modulation (DSSS, OFDM).

Note 3: This requirement does not apply for equipment with a maximum RF Output power level of less than 10 dBm e.i.r.p.

Note 4: EUT without Geo-location capability.



1.3. Description of test modes

79 channels are provided for Bluetooth BR/EDR.

Channel	Frequency(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)
0	2402	27	2429	54	2456
1	2403	28	2430	55	2457
2	2404	29	2431	56	2458
3	2405	30	2432	57	2459
4	2406	31	2433	58	2460
5	2407	32	2434	59	2461
...	...	...	...	...	...
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454	/	/
26	2428	53	2455	/	/

Note 1: $F(\text{MHz}) = 2402 + 1 \cdot n$ ($0 \leq n \leq 78$).

Note 2: Channels 0, 39 and 78 were selected for GFSK as the low, mid and high channels for testing.

40 channels are provided for Bluetooth LE.

Channel	Frequency(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)
0	2402	14	2430	28	2458
1	2404	15	2432	29	2460
2	2406	16	2434	30	2462
3	2408	17	2436	31	2464
4	2410	18	2438	32	2466
5	2412	19	2440	33	2468
6	2414	20	2442	34	2470
7	2416	21	2444	35	2472
8	2418	22	2446	36	2474
9	2420	23	2448	37	2476
10	2422	24	2450	38	2478
11	2424	25	2452	39	2480
12	2426	26	2454	/	/
13	2428	27	2456	/	/

Note: Channels 0, 19 and 39 were selected for GFSK as the low, mid and high channels for testing.

1.4. Test Equipments Utilized

☒ CCIC-SET Lab 3

List of Test and Measurement Equipment (Conducted)

WCS-WCN Test System						
No.	Equipment Name	Serial No.	Model No.	Manufacturer	Cal Date	Due Date
1	Spectrum Analyzer	A240604409	N9020A	KEYSIGHT	2025.08.20	2026.08.19
2	Vector Signal Generator	A140801889	SMU200A	R&S	2025.07.14	2026.07.13
3	Signal Generator	A240604410	83630L	HP	2025.07.15	2026.07.14
4	Wideband radio communication tester	A130101034	CMW500	R&S	2026.04.14	2027.04.13
5	Automatic Control Unit	A240604416	SMU-1003	CS	2025.08.19	2026.08.18

Climate Chamber

No.	Equipment Name	Serial No.	Model No.	Manufacturer	Cal. Date	Due Date
1	Constant Temperature Humidity Chamber	A240504364	GZ-UHA-80 E	ZHONG ZHI	2026.01.05	2027.01.04

List of Test and Measurement Equipment (Radiation)

No.	Equipment Name	Serial No.	Model No.	Manufacturer	Cal. Date	Due Date
1	EMI Test Receiver	A240504211	ESR26	R&S	2025.10.09	2026.10.08
2	Broadband Antenna (30MHz~1GHz)	A241104528	VULB9163	SCHWARZBECK	2025.12.06	2026.12.05
3	Horn Antenna (1G-18GHz)	A241104529	BBHA9120D	SCHWARZBECK	2026.01.06	2027.01.05

Note 1: Equipments listed above have been calibrated and are in the period of validation.

1.5. Environmental Conditions

Ambient temperature:	Normal: 15°C ~ 35°C, Extreme: 0°C~+55°C
Relative humidity:	20% to 75%
Atmosphere pressure:	86 kPa to 106 kPa
Operating Voltage:	Nominal: 3.8V DC

Note: “NTNV” means Normal Temperature Normal Voltage, “LTNV” means Low Temperature Normal Voltage, “HTNV” means High Temperature Normal Voltage.

1.6. Measurement Uncertainty

PARAMETER	UNCERTAINTY
Radio Frequency	$\pm 1 \times 10^{-5}$ Hz
RF Output Power, conducted	± 0.8 dB
Power Spectral Density, conducted	± 0.8 dB
Spurious Emissions, conducted	± 2.7 dB
Spurious Emissions, Radiated	± 2.8 dB
Occupied channel bandwidth	$\pm 1.5\%$
Duty Cycle	$\pm 3\%$
Humidity	$\pm 3\%$
Temperature	$\pm 0.8^{\circ}\text{C}$
DC and low frequency voltages	$\pm 2.5\%$
Time	$\pm 1\%$

For the test methods, according to the present document, the measurement uncertainty figures shall be calculated in according with TR 100 028-1[2] and shall correspond to an expansion to expansion factor (coverage factor) $k=1.96$ or $k=2$ (which provide confidence levels of respectively 95% and 95.45% in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).



1.7. Accreditation Certificate

☐ CCIC-SET Lab 1

Address: Electronic Testing Building, No.43, Shahe Road, Xili Street, Nanshan District, Shenzhen, Guangdong, China

ISED Registration: 11185A, CAB number: CN0064

CCIC Southern Testing Co., Ltd. EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 11185A.

A2LA Code: 5721.01

CCIC-SET is a third party testing organization accredited by A2LA according to ISO/IEC 17025. The accreditation certificate number is 5721.01.

CNAS L1659

CCIC Southern Testing Co., Ltd. CCIC is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

☒ CCIC-SET Lab 3

Address: No.125, Hongmei Section, Wangsha Road, Hongmei Town, Dongguan City, Guangdong Province, China

CNAS L1659

CCIC Southern Testing Co., Ltd. CCIC is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.



2. Transmitter Parameters (For Bluetooth BR/EDR)

2.1. EN 300 328 §4.3.1.2 - RF Output power

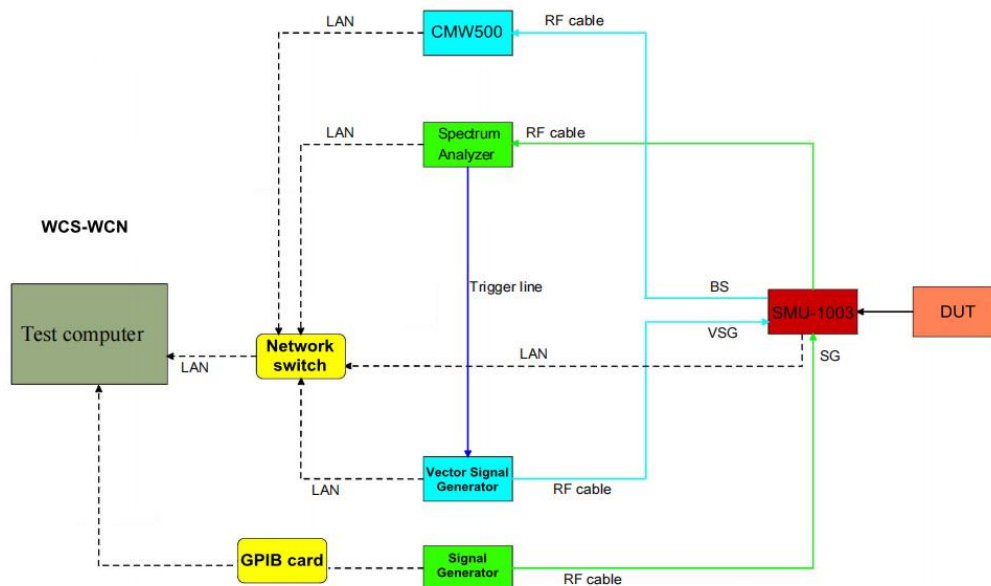
2.1.1. Definition

The RF output power is defined as the mean equivalent isotropic radiated power (e.i.r.p.) of the equipment during a transmission burst.

2.1.2. Limits

For adaptive equipment using wide band modulations other than FHSS, the maximum RF output power shall be 20 dBm.

2.1.3. Test Configuration



2.1.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.2 for the measurement method.

2.1.5. Test Result

Please refer to Annex C for Bluetooth BR/EDR test result for detail.

2.2. EN 300 328 §4.3.1.4 - Accumulated Transmit Time, Frequency Occupation and Hopping Sequence

2.2.1. Definition

The Accumulated Transmit Time is the total of the transmitter 'on' times, during an observation period, on a particular hopping frequency.

The Frequency Occupation is the number of times that each hopping frequency is occupied within a given period. A hopping frequency is considered to be occupied when the equipment selects that frequency from the hopping sequence.

The equipment may be transmitting, receiving or stay idle during the Dwell Time spent on that hopping frequency.

The Hopping Sequence of a Frequency Hopping system is the unrepeated pattern of the hopping frequencies used by the equipment.

2.2.2. Limits

Adaptive Frequency Hopping systems shall be capable of operating over a minimum of 70 % of the band specified in clause 1.

The Accumulated Transmit Time on any hopping frequency shall not be greater than 400 ms within any observation period of 400 ms multiplied by the minimum number of hopping frequencies (N) that have to be used.

In order for the equipment to comply with the Frequency Occupation requirement, it shall meet either of the following two options:

Option 1: 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.

Option 2: The occupation probability for each frequency shall be between $((1 / U) \times 25 \%)$ and 77 % where U is the number of hopping frequencies in use.

The hopping sequence(s) shall contain at least N hopping frequencies at all times, where N is 15 or 15 divided by the minimum Hopping Frequency Separation in MHz, whichever is the greater.

2.2.3. Test Configuration

Please refer to 2.1.3.

2.2.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.4 for the measurement method.

2.2.5. Test Result

Please refer to Annex C for Bluetooth BR/EDR test result for detail.



2.3. EN 300 328 §4.3.1.5 - Hopping Frequency Separation

2.3.1. Definition

The Hopping Frequency Separation is the frequency separation between 2 adjacent hopping frequencies.

2.3.2. Limits

Adaptive frequency hopping systems: The minimum Hopping Frequency Separation shall be 100 kHz.

2.3.3. Test Configuration

Please refer to 2.1.3.

2.3.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.5 for the measurement method.

2.3.5. Test Result

Please refer to Annex C for Bluetooth BR/EDR test result for detail.



2.4. EN 300 328 §4.3.1.7 - Adaptivity

2.4.1. Adaptive FHSS using DAA

2.4.1.1. Definition

Adaptive FHSS using DAA is a mechanism by which a given hopping frequency is made 'unavailable' because an interfering signal was reported after transmissions on that frequency. This mechanism shall operate as intended in the presence of an unwanted signal on frequencies other than those of the operating band.

2.4.1.2. Limits

Adaptive FHSS equipment using DAA, shall comply with the following minimum set of requirements:

- 1) During normal operation, the equipment shall evaluate the presence of a signal for each of its hopping frequencies. If it is determined that a signal is present with a level above the detection threshold defined in step 5 the hopping frequency shall be marked as 'unavailable'.
- 2) The hopping frequency shall remain unavailable for a minimum time equal to 1 second or 5 times the actual number of hopping frequencies in the current (adapted) channel map used by the equipment, multiplied with the Channel Occupancy Time whichever is greater. There shall be no transmissions during this silent period on this hopping frequency. After this, the hopping frequency may be considered again as an 'available' frequency.
- 3) The total time during which an equipment has transmissions on a given hopping frequency without re-evaluating the availability of that hopping frequency is defined as the Channel Occupancy Time.

The Channel Occupancy Time for a given hopping frequency shall be less than 40 ms. For equipment using a dwell time > 40 ms that wants to have other transmissions during the same hop (dwell time) an Idle Period (no transmissions) of minimum 5 % of the Channel Occupancy Period with a minimum of 100 μ s shall be implemented.

After the Idle Period has expired, the equipment may continue its normal operation as explained in step 1.

EXAMPLE: An equipment with a dwell time of 400 ms can have 9 transmission sequences of 40 ms each, separated with an Idle Period of 2 ms.

For FHSS equipment using DAA with a dwell time < 40 ms, the maximum Channel Occupancy Time may be non-contiguous, i.e. spread over a number of Hopping Sequences (equal to 40 ms divided by the dwell time [ms]).

- 4) In case the 'unavailable' channels remain in the Hopping Sequence, apart from the Short

Control Signalling Transmissions referred to in clause 4.3.1.7.4, there shall be no transmissions on these 'unavailable' channels. In case the 'unavailable channels' are removed from the Hopping Sequence, a minimum of N hopping frequencies as defined in clause 4.3.1.4.3.2 shall always be maintained.

- 5) The detection threshold shall be proportional to the transmit power of the transmitter: for a 20 dBm e.i.r.p. transmitter the detection threshold level (TL) shall be equal to or less than -70 dBm/MHz at the input to the receiver assuming a 0 dBi (receive) antenna assembly. This threshold level (TL) may be corrected for the (receive) antenna assembly gain (G); however, beamforming gain (Y) shall not be taken into account. For power levels below 20 dBm e.i.r.p., the detection threshold level may be relaxed to:

$$TL = -70 \text{ dBm/MHz} + 10 \times \log_{10} (100 \text{ mW} / P_{out}) \quad (P_{out} \text{ in mW e.i.r.p.})$$

- 6) The equipment shall comply with the requirements defined in step 1 to step 4 of the present clause in the presence of an unwanted CW signal as defined in table 3.

Table 3: Unwanted Signal parameters

Wanted signal mean power from companion device (dBm)	Unwanted signal frequency (MHz)	Unwanted CW signal power (dBm)
-130 (see note 2)	2395 or 2488.5 (see note 1)	-34 (see note 2)
NOTE 1: The highest frequency shall be used for testing operating channels within the range 2 400 MHz to 2 442 MHz, while the lowest frequency shall be used for testing operating channels within the range 2 442 MHz to 2 483,5 MHz. See clause 5.4.6.1.		
NOTE 2: 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 in front of the UUT antenna (see example below).		

2.4.2. Short Control Signalling Transmissions

2.4.2.1. Definition

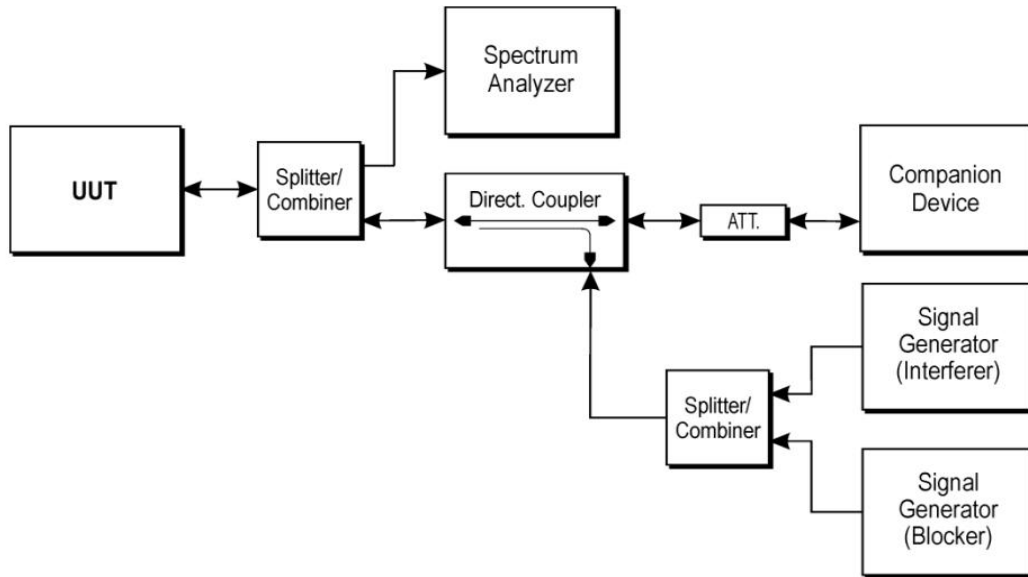
Short Control Signalling Transmissions are transmissions used by Adaptive FHSS equipment to send management and control signals without sensing the hopping frequency for the presence of other signals.

Adaptive equipment may have Short Control Signalling Transmissions.

2.4.2.2. Limits

If implemented, Short Control Signalling Transmissions shall have a maximum TxOn / (TxOn + TxOff) ratio of 10 % within any observation period of 50 ms or within an observation period equal to the dwell time, whichever is less.

2.4.3. Test Configuration



2.4.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.6.2.1.2 for the measurement method.

2.4.5. Support Unit used in test configuration

Item	Instrument	Manufacturer	Model No.
1	Mobile phone	ZTE	ZTE 9100N

2.4.6. Test Result

Not applicable.

2.5. EN 300 328 §4.3.1.8 - Occupied Channel Bandwidth

2.5.1. Definition

The Occupied Channel Bandwidth is the bandwidth that contains 99 % of the power of the signal when considering a single hopping frequency.

2.5.2. Limits

The Occupied Channel Bandwidth for each hopping frequency shall fall completely within the band given in clause 1(2.4 GHz to 2.4835 GHz).

2.5.3. Test Configuration

Please refer to 2.1.3.

2.5.4. Test procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.7 for the measurement method.

2.5.5. Test Result

Please refer to Annex C for Bluetooth BR/EDR test result for detail.



2.6. EN 300 328 §4.3.1.9 - Transmitter unwanted emissions in the out-of-band domain

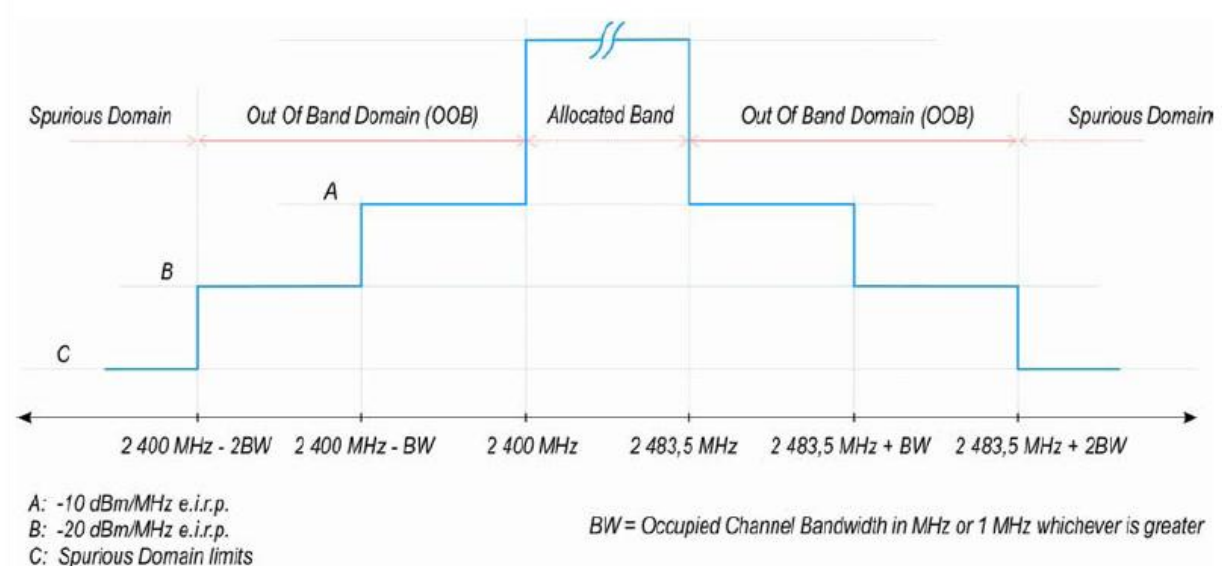
2.6.1. Definition

Transmitter unwanted emissions in the out-of-band domain are emissions when the equipment is in Transmit mode, on frequencies immediately outside the necessary bandwidth which results from the modulation process, but excluding spurious.

2.6.2. Limits

The transmitter unwanted emissions in the out-of-band domain but outside the allocated band, shall not exceed the values provided by the mask in figure 1.

NOTE: Within the 2 400 MHz to 2 483,5 MHz band, the Out-of-band emissions are fulfilled by compliance with the Occupied Channel Bandwidth requirement in §2.4 in this report.



2.6.3. Test Configuration

Please refer to 2.1.3.

2.6.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.8 for the measurement method.

2.6.5. Test Results

Please refer to Annex C for Bluetooth BR/EDR test result for detail.

2.7. EN 300 328 §4.3.1.10 - Transmitter unwanted emissions in the spurious domain

2.7.1. Definition

Transmitter unwanted emissions in the spurious domain are emissions outside the allocated band and outside the out-of-band domain as indicated in figure 1 when the equipment is in Transmit mode.

2.7.2. Limits

The transmitter unwanted emissions in the spurious domain shall not exceed the values given in table 4.

In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are e.r.p. for emissions up to 1 GHz and as e.i.r.p. for emissions above 1 GHz.

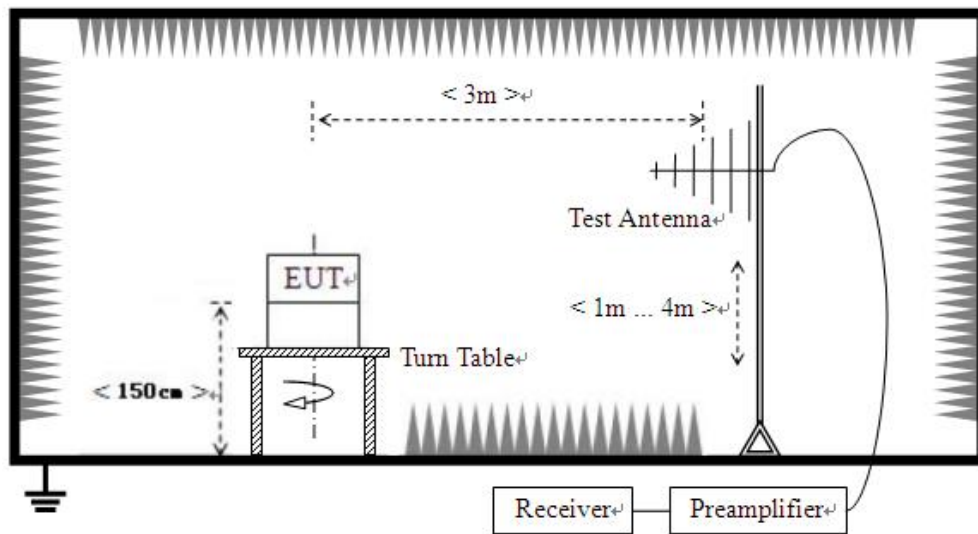
Table 4: Transmitter limits for spurious emissions

Frequency range	Maximum power	Bandwidth
30 MHz to 47 MHz	-36 dBm	100 kHz
47 MHz to 74 MHz	-54 dBm	100 kHz
74 MHz to 87.5 MHz	-36 dBm	100 kHz
87.5 MHz to 118 MHz	-54 dBm	100 kHz
118MHz to 174 MHz	-36 dBm	100 kHz
174 MHz to 230 MHz	-54 dBm	100 kHz
230 MHz to 470 MHz	-36 dBm	100 kHz
470 MHz to 694 MHz	-54 dBm	100 kHz
694 MHz to 1 GHz	-36 dBm	100 kHz
1 GHz to 12.75 GHz	-30 dBm	1 MHz

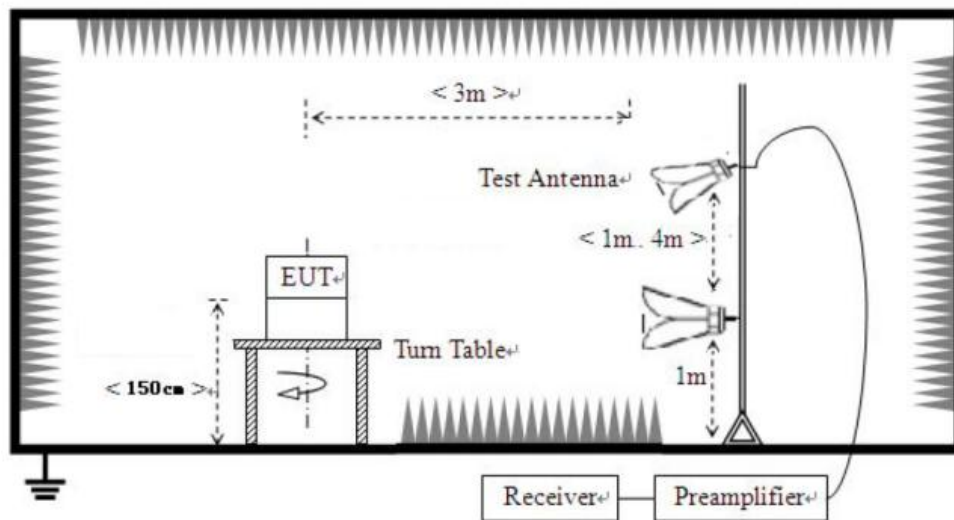
2.7.3. Test Configuration

For conducted emissions please refer to 2.1.3.

For radiated emissions from 30MHz to 1GHz:



For radiated emissions above 1GHz:



2.7.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.9 for the measurement method.

2.7.5. Test Results

Please refer to Annex C for Bluetooth BR/EDR test result for detail.

2.8. EN 300 328 §4.3.1.11 - Receiver spurious emissions

2.8.1. Definition

Receiver spurious emissions are emissions at any frequency when the equipment is in receive mode.

2.8.2. Limits

The spurious emissions of the receiver shall not exceed the values given in table 5.

In case of FHSS equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or for emissions radiated by integral antenna equipment (without antenna connectors), these limits are e.r.p. for emissions up to 1 GHz and e.i.r.p. for emissions above 1 GHz.

Table 5: Spurious emission limits for receivers

Frequency range	Maximum power	Bandwidth
30 MHz to 1 GHz	-57 dBm	100 kHz
1 GHz to 12.75 GHz	-47 dBm	1 MHz

2.8.3. Test Configuration

Please refer to 2.6.3.

2.8.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.10 for the measurement method.

2.8.5. Test Results

Please refer to Annex C for Bluetooth BR/EDR test result for detail.

2.9. EN 300 328 §4.3.1.12 - Receiver Blocking

2.9.1. Definition

Receiver blocking is a measure of the ability of the equipment to receive a wanted signal on its operating channel without exceeding a given degradation due to the presence of an unwanted input signal (blocking signal) on frequencies other than those of the operating band and spurious responses.

2.9.2. Limits

While maintaining the minimum performance criteria as defined in clause 4.3.1.12.3, the blocking levels at specified frequency offsets shall be equal to or greater than the limits defined for the applicable receiver category provided in table 6, table 7 or table 8.

Table 6: 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 2 504	-34	CW
(-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 $P_{\min} + 26 \text{ dB}$ 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 $P_{\min} + 20 \text{ dB}$ 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.

Table 7: 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
$(-139 \text{ dBm} + 10 \times \log_{10}(\text{OCBW}) + 10 \text{ dB})$ or $-74 \text{ dBm} + 10 \text{ dB}$ whichever is less (see note 2)	2380 2504 2300 2584	-34	CW

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 $P_{\min} + 26 \text{ dB}$ 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.

Table 8: Receiver blocking parameters for Receiver Category 3 equipment

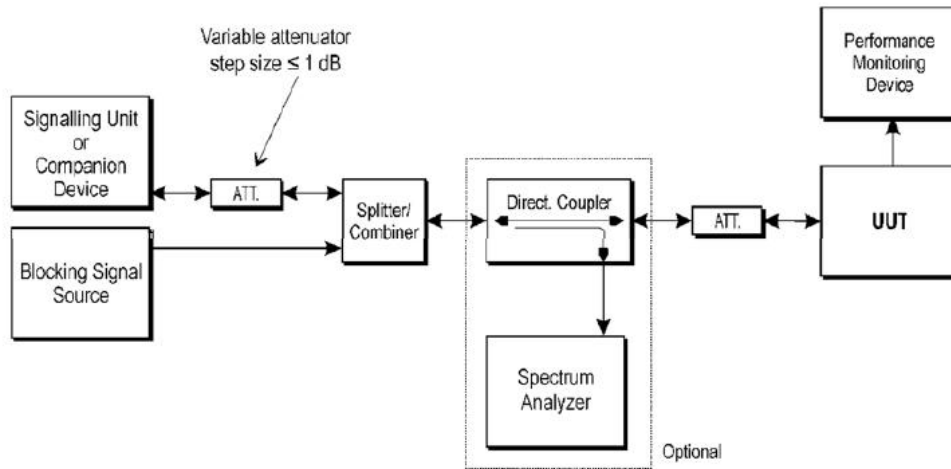
Wanted signal mean power from companion device (dBm) (see notes 1 and 3)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 3)	Type of blocking Signal
$(-139 \text{ dBm} + 10 \times \log_{10}(\text{OCBW}) + 20 \text{ dB})$ or $-74 \text{ dBm} + 20 \text{ dB}$ whichever is less (see note 2)	2380 2504 2300 2584	-34	CW

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 $P_{\min} + 30 \text{ dB}$ 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.

2.9.3. Test Configuration



2.9.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) clause 5.4.11.1 for the test conditions.

Please refer to ETSI EN 300 328 (V2.2.2) clause 5.4.11.2 for the measurement method.

2.9.5. Test Results

Please refer to Annex C for Bluetooth BR/EDR test result for detail.

3. Transmitter Parameters (For Bluetooth LE)

3.1. EN 300 328 §4.3.2.2 - RF Output power

3.1.1. Definition

The RF output power is defined as the mean equivalent isotropic radiated power (e.i.r.p.) of the equipment during a transmission burst.

3.1.2. Limits

For adaptive equipment using wide band modulations other than FHSS, the maximum RF output power shall be 20 dBm.

3.1.3. Test Configuration

Please refer to 2.1.3.

3.1.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.2 for the measurement method.

3.1.5. Result

Please refer to Annex D for Bluetooth LE test result for detail.



3.2. EN 300 328 §4.3.2.3 - Power Spectral Density

3.2.1. Definition

The Power Spectral Density is the mean equivalent isotropically radiated power (e.i.r.p.) spectral density in a 1 MHz bandwidth during a transmission burst.

3.2.2. Limits

For equipment using wide band modulations other than FHSS, the maximum Power Spectral Density is limited to 10 dBm per MHz.

3.2.3. Test Configuration

Please refer to 2.1.3.

3.2.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.3 for the measurement method.

3.2.5. Test Results

Please refer to Annex D for Bluetooth LE test result for detail.

3.3. EN 300 328 §4.3.2.7 - Occupied Channel Bandwidth

3.3.1. Definition

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

3.3.2. Limits

The Occupied Channel Bandwidth for each hopping frequency shall fall completely within the band 2400MHz to 2483.5MHz.

3.3.3. Test Configuration

Please refer to 2.1.3.

3.3.4. Test procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.7 for the measurement method.

3.3.5. Test Result

Please refer to Annex D for Bluetooth LE test result for detail.



3.4. EN 300 328 §4.3.2.8 - Transmitter unwanted emissions in the out-of-band domain

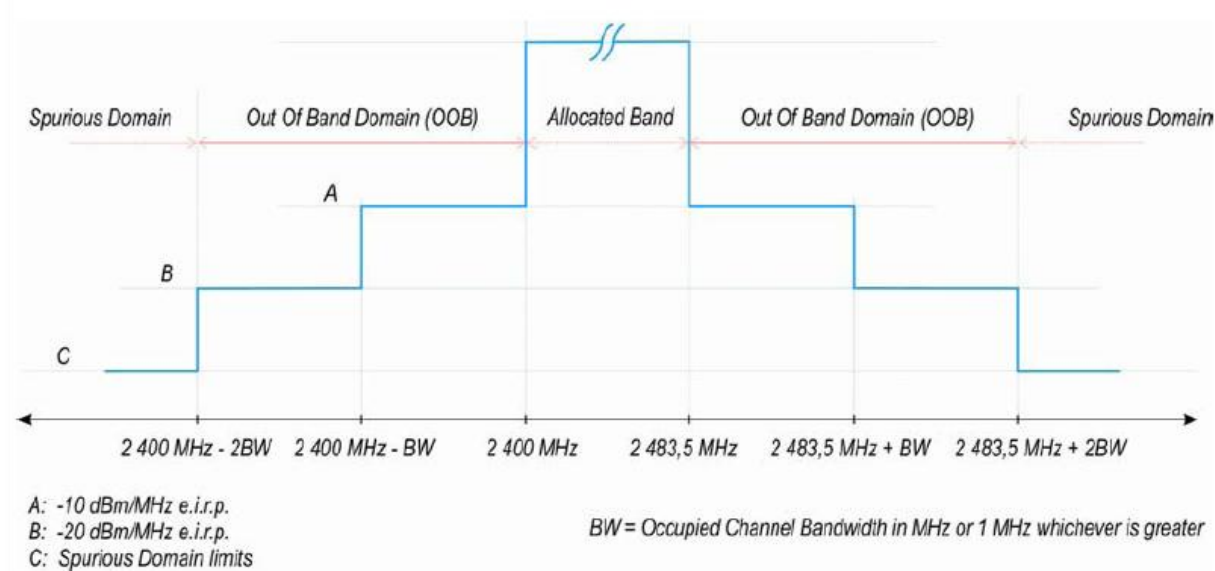
3.4.1. Definition

Transmitter unwanted emissions in the out-of-band domain are emissions when the equipment is in Transmit mode, on frequencies immediately outside the necessary bandwidth which results from the modulation process, but excluding spurious.

3.4.2. Limits

The transmitter unwanted emissions in the out-of-band domain but outside the allocated band, shall not exceed the values provided by the mask in figure 1.

NOTE: Within the 2 400 MHz to 2 483,5 MHz band, the Out-of-band emissions are fulfilled by compliance with the Occupied Channel Bandwidth requirement.



3.4.3. Test Configuration

Please refer to 2.1.3.

3.4.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.8 for the measurement method.

3.4.5. Test Results

Please refer to Annex D for Bluetooth LE test result for detail.

3.5. EN 300 328 §4.3.2.9 - Transmitter unwanted emissions in the spurious domain

3.5.1. Definition

Transmitter unwanted emissions in the spurious domain are emissions outside the allocated band and outside the out-of-band domain as indicated in figure 1 when the equipment is in Transmit mode.

3.5.2. Limits

The transmitter unwanted emissions in the spurious domain shall not exceed the values given in table 12.

In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are e.r.p. for emissions up to 1 GHz and as e.i.r.p. for emissions above 1 GHz.

Table 12: Transmitter limits for spurious emissions

Frequency range	Maximum power	Bandwidth
30 MHz to 47 MHz	-36 dBm	100 kHz
47 MHz to 74 MHz	-54 dBm	100 kHz
74 MHz to 87.5 MHz	-36 dBm	100 kHz
87.5 MHz to 118 MHz	-54 dBm	100 kHz
118MHz to 174 MHz	-36 dBm	100 kHz
174 MHz to 230 MHz	-54 dBm	100 kHz
230 MHz to 470 MHz	-36 dBm	100 kHz
470 MHz to 694 MHz	-54 dBm	100 kHz
694 MHz to 1 GHz	-36 dBm	100 kHz
1 GHz to 12.75 GHz	-30 dBm	1 MHz

3.5.3. Test Configuration

Please refer to 2.7.3.

3.5.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.9 for the measurement method.

3.5.5. Test Results

Please refer to Annex D for Bluetooth LE test result for detail.

3.6. EN 300 328 §4.3.2.10 - Receiver spurious emissions

3.6.1. Definition

Receiver spurious emissions are emissions at any frequency when the equipment is in receive mode.

3.6.2. Limits

The spurious emissions of the receiver shall not exceed the values given in table 13.

In case of non-FHSS equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or for emissions radiated by integral antenna equipment (without antenna connectors), these limits are e.r.p. for emissions up to 1 GHz and e.i.r.p. for emissions above 1 GHz.

Table 13: Spurious emission limits for receivers

Frequency range	Maximum power	Bandwidth
30 MHz to 1 GHz	-57 dBm	100 kHz
1 GHz to 12.75 GHz	-47 dBm	1 MHz

3.6.3. Test Configuration

Please refer to 2.7.3.

3.6.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) Sub-clause 5.4.10 for the measurement method.

3.6.5. Test Results

Please refer to Annex D for Bluetooth LE test result for detail.

3.7. EN 300 328 §4.3.2.11 - Receiver Blocking

3.7.1. Definition

Receiver blocking is a measure of the ability of the equipment to receive a wanted signal on its operating channel without exceeding a given degradation due to the presence of an unwanted input signal (blocking signal) at frequencies other than those of the operating band and spurious responses.

3.7.2. Limits

While maintaining the minimum performance criteria as defined in clause 4.3.2.11.3, the blocking levels at specified frequency offsets shall be equal to or greater than the limits defined for the applicable receiver category provided in table 14, table 15 or table 16.

Table 14: 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 2 504	-34	CW
(-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 $P_{\min} + 26 \text{ dB}$ 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 $P_{\min} + 20 \text{ dB}$ 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.

Table 15: 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
$(-139 \text{ dBm} + 10 \times \log_{10}(\text{OCBW}) + 10 \text{ dB})$ or $-74 \text{ dBm} + 10 \text{ dB}$ whichever is less (see note 2)	2380 2504 2300 2584	-34	CW

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 $P_{\min} + 26 \text{ dB}$ 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.

Table 16: Receiver blocking parameters for Receiver Category 3 equipment

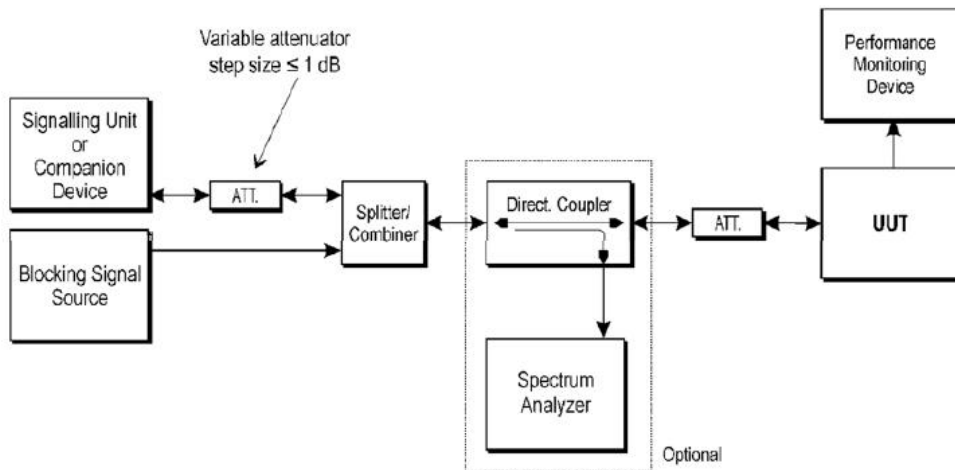
Wanted signal mean power from companion device (dBm) (see notes 1 and 3)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 3)	Type of blocking Signal
$(-139 \text{ dBm} + 10 \times \log_{10}(\text{OCBW}) + 20 \text{ dB})$ or $-74 \text{ dBm} + 20 \text{ dB}$ whichever is less (see note 2)	2380 2504 2300 2584	-34	CW

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 $P_{\min} + 30 \text{ dB}$ 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.

3.7.3. Test Configuration



3.7.4. Test Procedure

Please refer to ETSI EN 300 328 (V2.2.2) clause 5.4.11.1 for the test conditions.

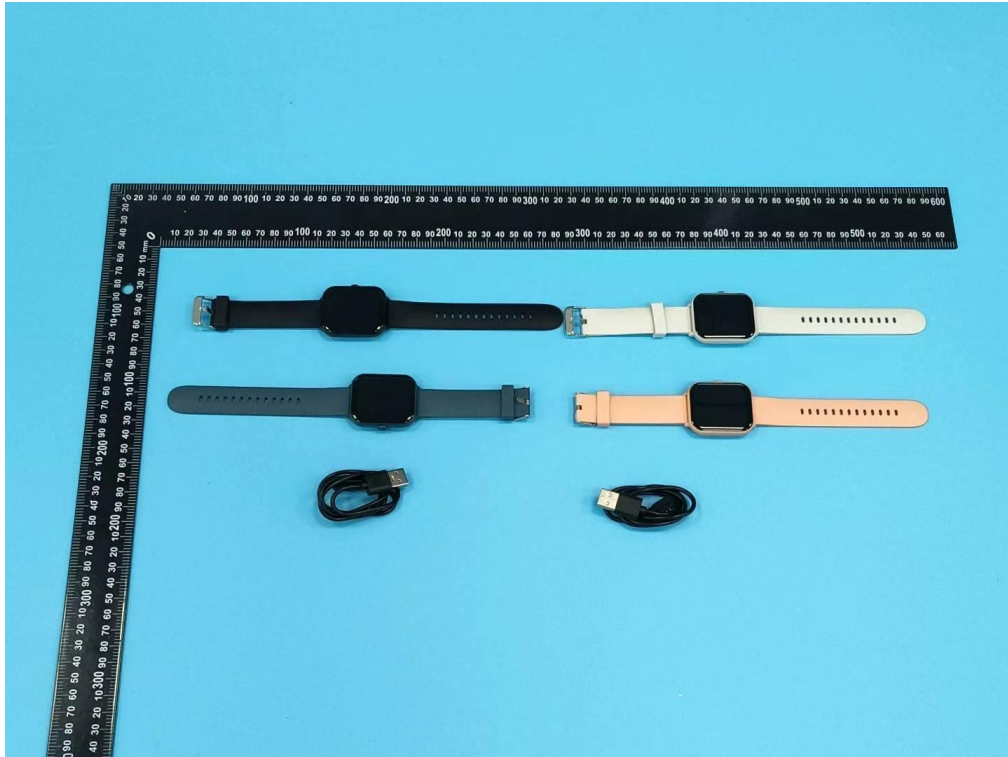
Please refer to ETSI EN 300 328 (V2.2.2) clause 5.4.11.2 for the measurement method.

3.7.5. Test Results

Please refer to Annex D for Bluetooth LE test result for detail.

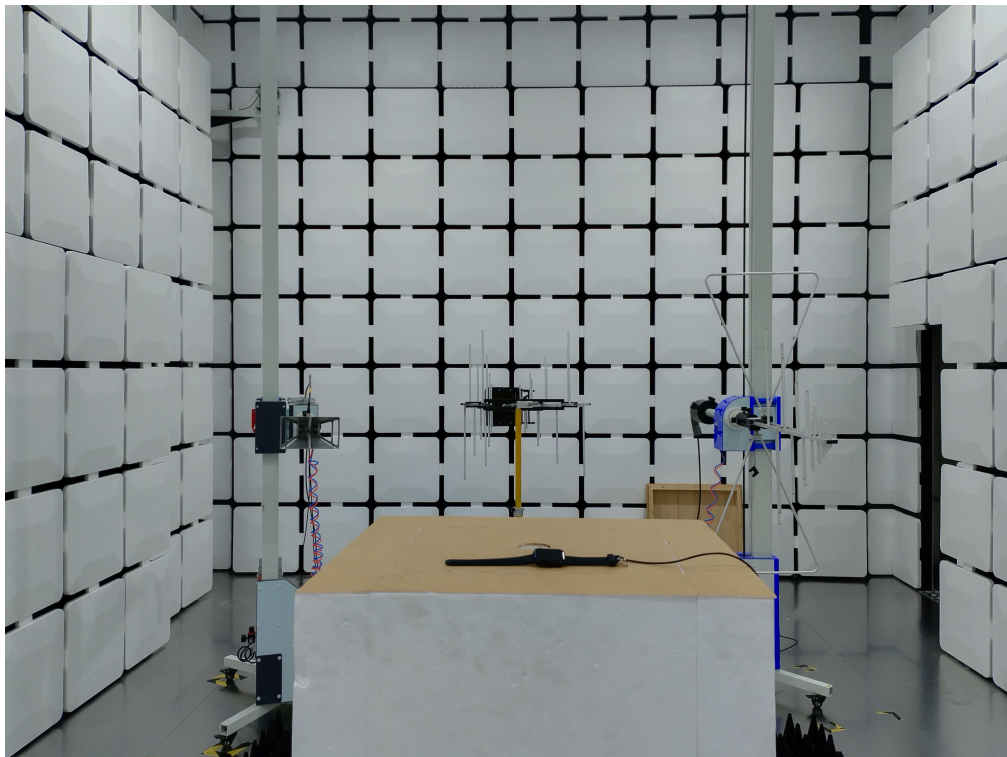
Annex A Photos of The EUT







Annex B Photos of Test Setup



Annex C Bluetooth BR/EDR TEST RESULT

RF Output Power

Test Result and Data

Condition	Modulation	Packet Type	Channel	Max Burst RMS Power (dBm)	Max EIRP (dBm)	Limit (dBm)	Number of Burst	Result
NT/NV	GFSK	DH5	Hopping	3.58	3.75	20	20	PASS
	$\pi/4$ DQPSK	2-DH5		0.97	1.14		22	PASS
	8DPSK	3-DH5		0.96	1.13		20	PASS
				0.27	0.44		17	PASS
LT/NV	GFSK	DH5		3.59	3.76		18	PASS
	$\pi/4$ DQPSK	2-DH5		0.96	1.13		24	PASS
	8DPSK	3-DH5		0.96	1.13		16	PASS
HT/NV	GFSK	DH5		3.58	3.75		21	PASS
	$\pi/4$ DQPSK	2-DH5		0.95	1.12		22	PASS
	8DPSK	3-DH5		0.97	1.14		25	PASS

Accumulated Transmit Time, Min Frequency Occupation and Hopping Sequence Test Result and Data

Accumulated Transmit Time

Modulation	Packet Type	Channel	Dwell Time (ms)	Number of data points	Acc. Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	0	2.89	96	277.44	400	PASS
		78	2.89	100	289.0		PASS
$\pi/4$ DQPSK	2-DH5	0	2.9	101	292.9		PASS
		78	2.9	103	298.7		PASS
8DPSK	3-DH5	0	2.9	106	307.4		PASS
		78	2.9	99	287.1		PASS

Note:

Test Period: 400ms * Minimum number of hopping frequencies (N)

Accumulated Transmit Time = Time slot length (Dwell Time) * Number of data points within a test period

Frequency Occupation

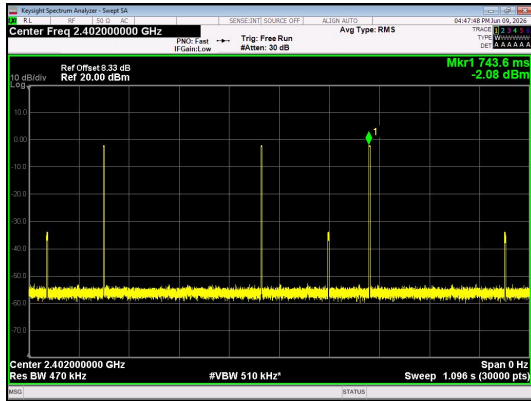
Modulation	Channel	Result [Num.]	Limit [Num.]	Result
GFSK	0	3	1	True
	78	2	1	True
$\pi/4$ DQPSK	0	2	1	True
	78	2	1	True
8DPSK	0	2	1	True
	78	1	1	True

Hopping Sequence

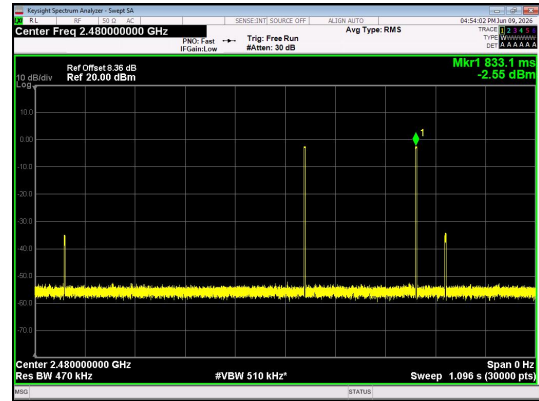
Modulation	Frequency Band	Number of Hopping Frequencies (N)	Limit	-20dB Points Occupied Bandwidth	Limit	Result
GFSK	2400 MHz to 2483.5 MHz	79	15	79.76	58.45MHz = 70% * 83.5MHz	PASS
$\pi/4$ DQPSK		79		80.18		PASS
8DPSK		79		80.18		PASS

The figure displays eight Keysight Spectrum Analyzer screenshots arranged in a 4x2 grid. The left column represents Channel 0 and the right column represents Channel 78. The rows correspond to different modulation schemes: GFSK(DH5), $\pi/4$ DQPSK(2-DH5), and 8DPSK(3-DH5). Each screenshot shows a spectrum plot with a reference level of 8.33 dB and 20.00 dBm. The top row shows GFSK(DH5) signals, the second row shows $\pi/4$ DQPSK(2-DH5) signals, the third row shows 8DPSK(3-DH5) signals, and the bottom row shows 8DPSK(3-DH5) signals. The left column is for Channel 0 and the right column is for Channel 78. Each plot includes a title bar with 'Center Freq 2.402000000 GHz' and 'Sweep 31.60 s (30000 pts)'.

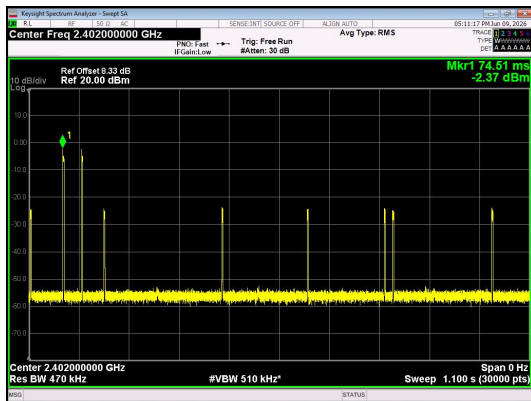
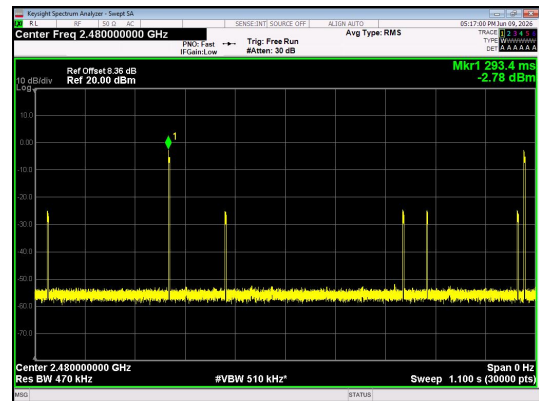
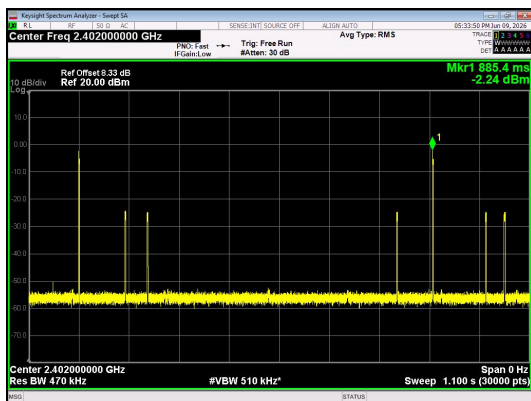
Frequency Occupation



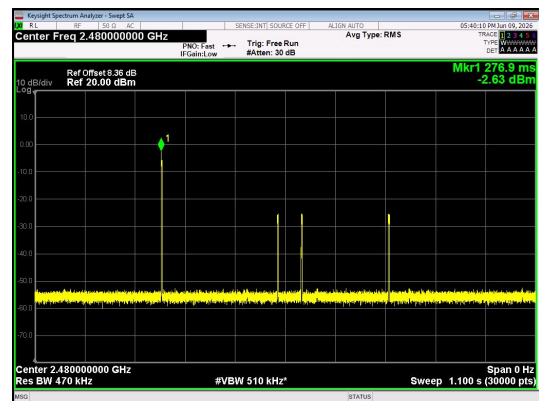
GFSK(DH5)_Channel 0



GFSK(DH5)_Channel 78

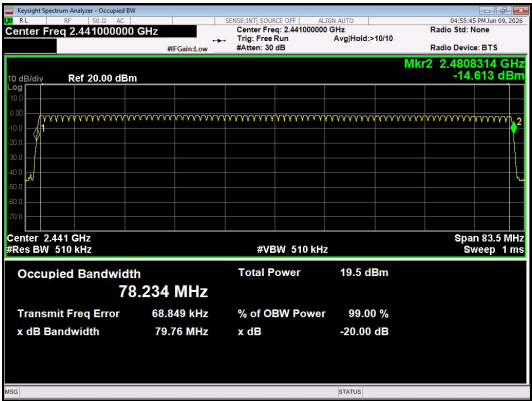
 $\pi/4$ DQPSK(2-DH5)_Channel 0 $\pi/4$ DQPSK(2-DH5)_Channel 78

8DPSK(3-DH5)_Channel 0

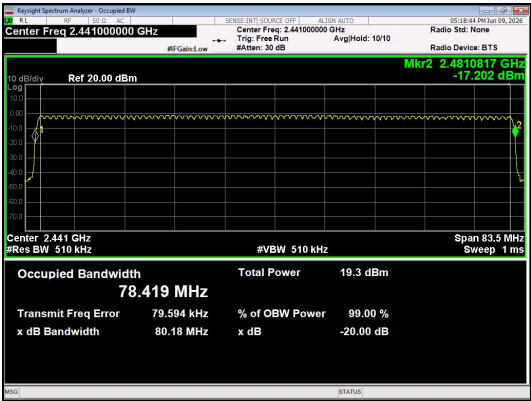


8DPSK(3-DH5)_Channel 78

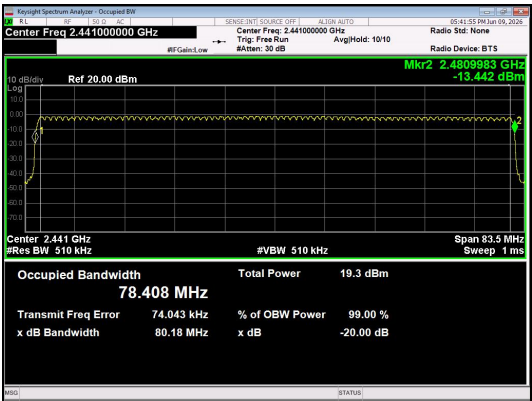
Hopping Sequence



GFSK_Channel 78



$\pi/4$ DQPSK_Channel 78



8DPSK_Channel 78



Hopping Frequency Separation

Test Result and Data

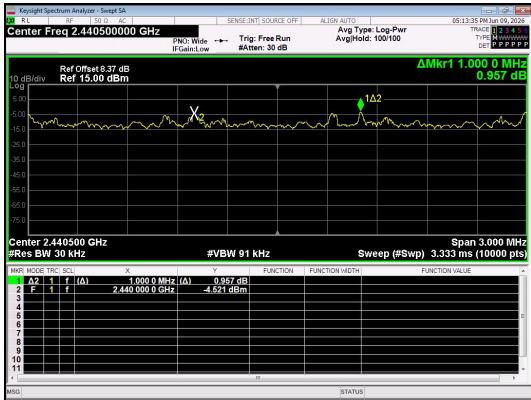
Modulation	Packet	Test Frequency (MHz)	Adjacent Frequency (MHz)	Channel Separation(MHz)	Limit (MHz)	Result
GFSK	DH5	2402	2440.99	0.99	≥ 0.1	PASS
$\pi/4$ DQPSK	2-DH5	2402	2441.0	1.0	≥ 0.1	PASS
8DPSK	3-DH5	2402	2441.0	1.01	≥ 0.1	PASS



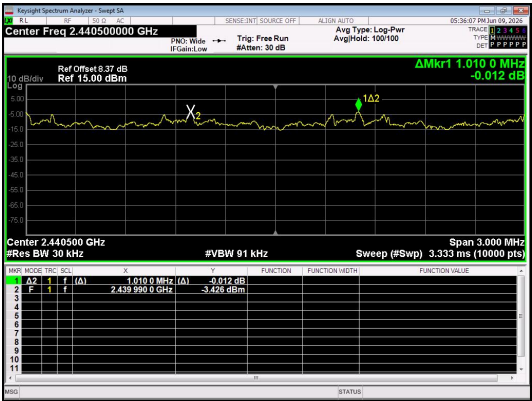
Test Graphs



GFSK



$\pi/4$ DQPSK



8DPSK

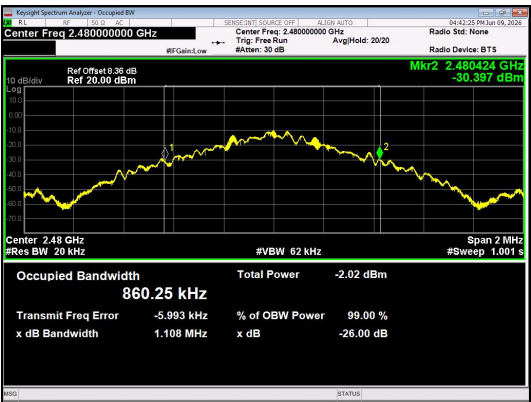
Occupied Channel Bandwidth**Test Result and Data**

Mode	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	FL (MHz)	FH (MHz)	Limit	Result
GFSK_DH5	0	2402	0.86210	2401.562	2402.424	2400 MHz to 2483.5 MHz	PASS
	78	2480	0.86030	2479.5638	2480.424		PASS
$\pi/4$ DQPSK_2-DH5	0	2402	1.1818	2401.4048	2402.5864		PASS
	78	2480	1.1855	2479.4044	2480.5898		PASS
8DPSK_3-DH5	0	2402	1.1954	2401.3946	2402.59		PASS
	78	2480	1.1960	2479.3946	2480.5904		PASS

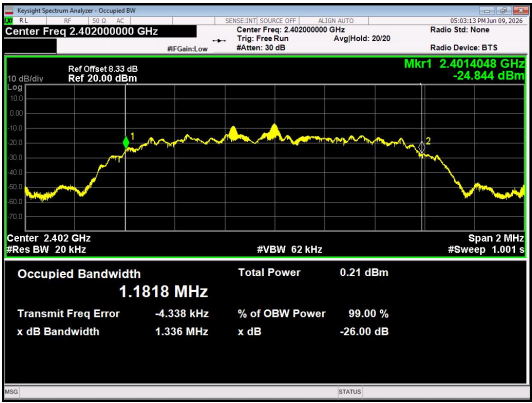
Test Graphs



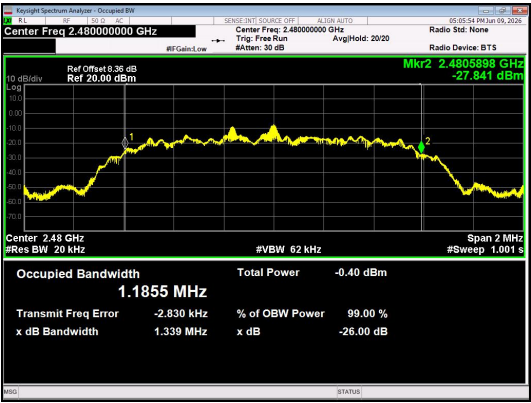
GFSK_DH5_Channel 0



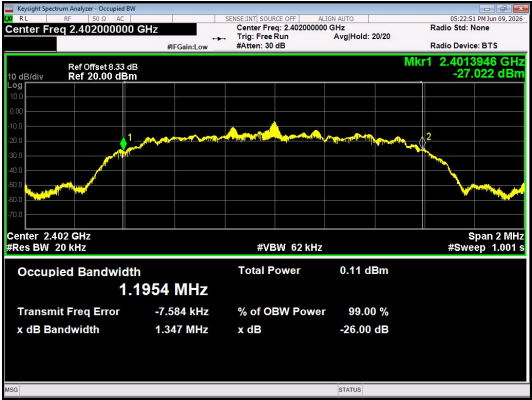
GFSK_DH5_Channel 78



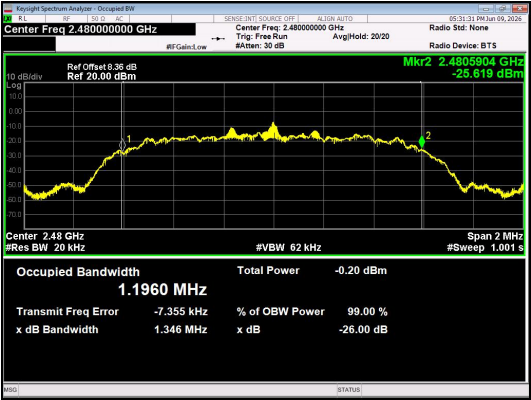
$\pi/4$ DQPSK_2-DH5_Channel 0



$\pi/4$ DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



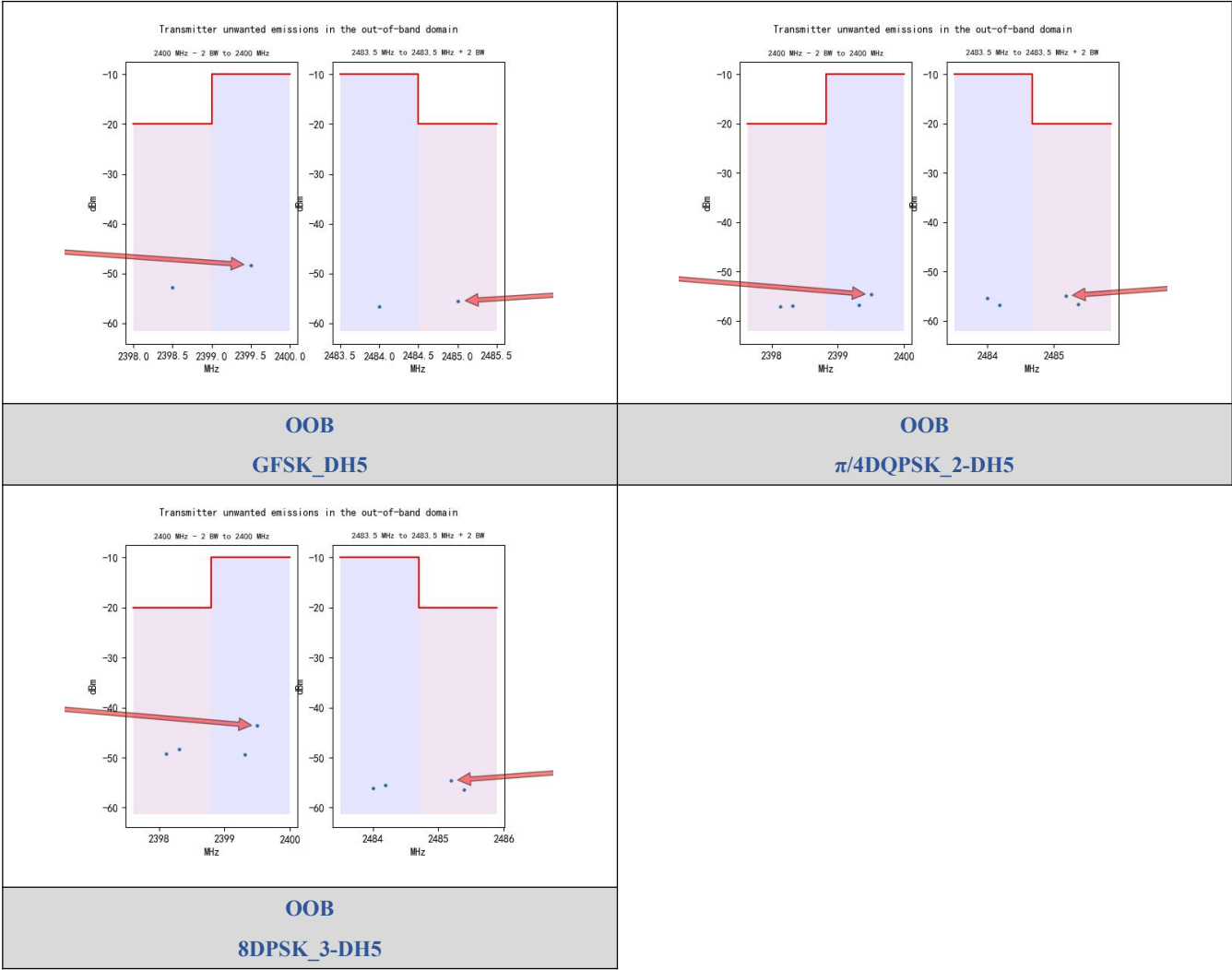
8DPSK_3-DH5_Channel 78

Transmitter unwanted emissions in the out-of-band domain**Test Result and Data**

Mode	Channel	Test Freq. (MHz)	OOB Emission (dBm)	Segments	Limit (dBm)	Margin (dB)	Result
GFSK_DH5	Hopping	2399.5	-48.305	2 400 MHz - BW to 2 400 MHz	-10	-38.3	PASS
		2398.5	-52.811	2 400 MHz - 2 BW to 2 400 MHz - BW	-20	-32.81	PASS
		2484	-56.616	2 483,5 MHz to 2 483,5 MHz + BW	-10	-46.62	PASS
		2485	-55.569	2 483,5 MHz + BW to 2 483,5 MHz + 2 BW	-20	-35.57	PASS
$\pi/4$ DQPSK_2-DH5		2399.5	-54.7	2 400 MHz - BW to 2 400 MHz	-10	-44.7	PASS
		2398.3182	-57.001	2 400 MHz - 2 BW to 2 400 MHz - BW	-20	-37.0	PASS
		2484	-55.471	2 483,5 MHz to 2 483,5 MHz + BW	-10	-45.47	PASS
		2485.1818	-54.937	2 483,5 MHz + BW to 2 483,5 MHz + 2 BW	-20	-34.94	PASS
8DPSK_3-DH5		2399.5	-43.653	2 400 MHz - BW to 2 400 MHz	-10	-33.65	PASS
		2398.3046	-48.356	2 400 MHz - 2 BW to 2 400 MHz - BW	-20	-28.36	PASS
		2484.1954	-55.501	2 483,5 MHz to 2 483,5 MHz + BW	-10	-45.5	PASS
		2485.1954	-54.588	2 483,5 MHz + BW to 2 483,5 MHz + 2 BW	-20	-34.59	PASS



Test Graphs



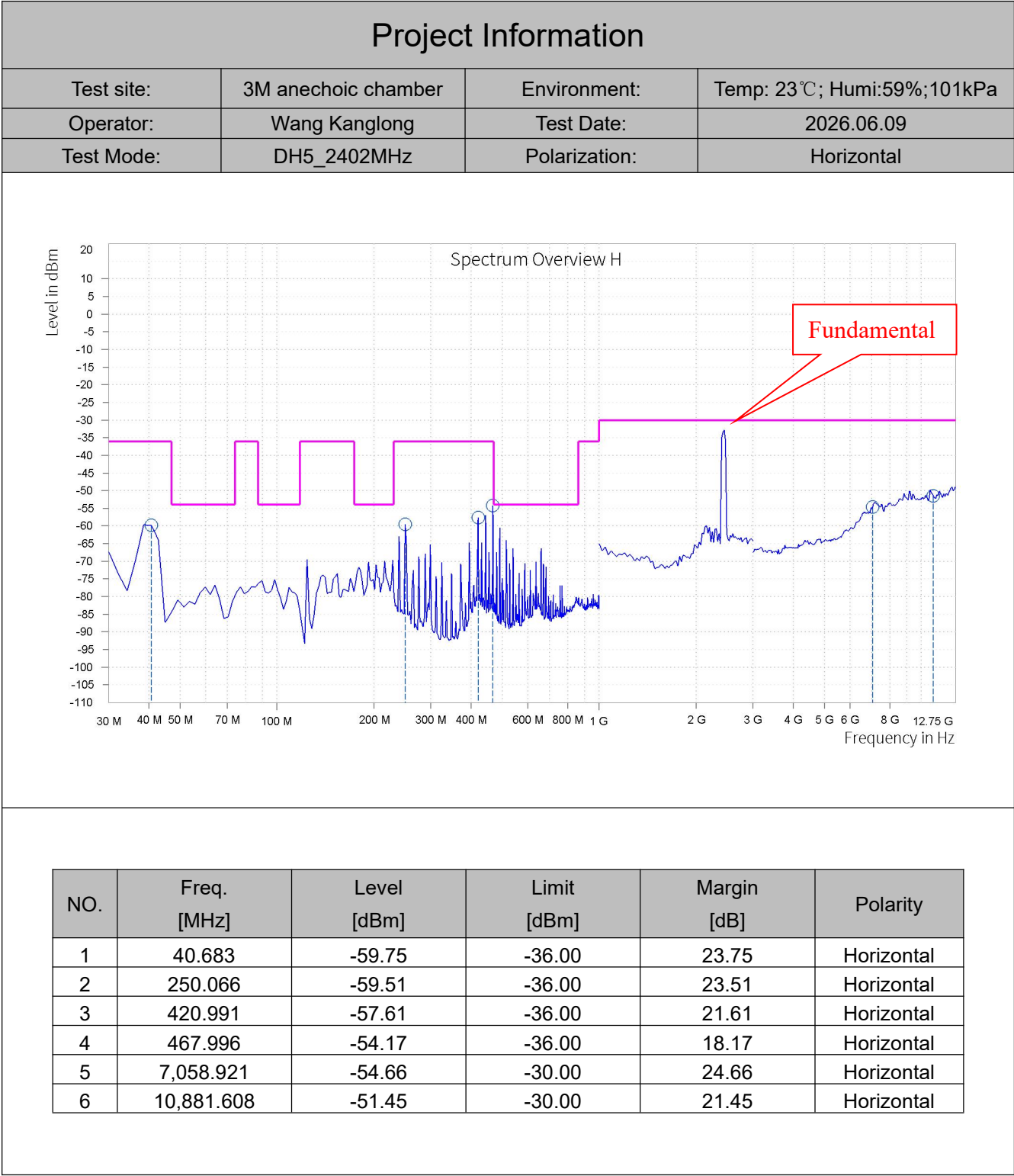
Transmitter unwanted emissions in the spurious domain**Test Result and Data**

Test Mode	Antenna	Frequency[MHz]	Verdict
DH5	Ant1	2402	PASS
DH5	Ant1	2480	PASS
2DH5	Ant1	2402	PASS
2DH5	Ant1	2480	PASS
3DH5	Ant1	2402	PASS
3DH5	Ant1	2480	PASS

Note: All of the EUT Configure mode were tested and found DH5 mode is the worst mode, the worst case is recorded in this report.

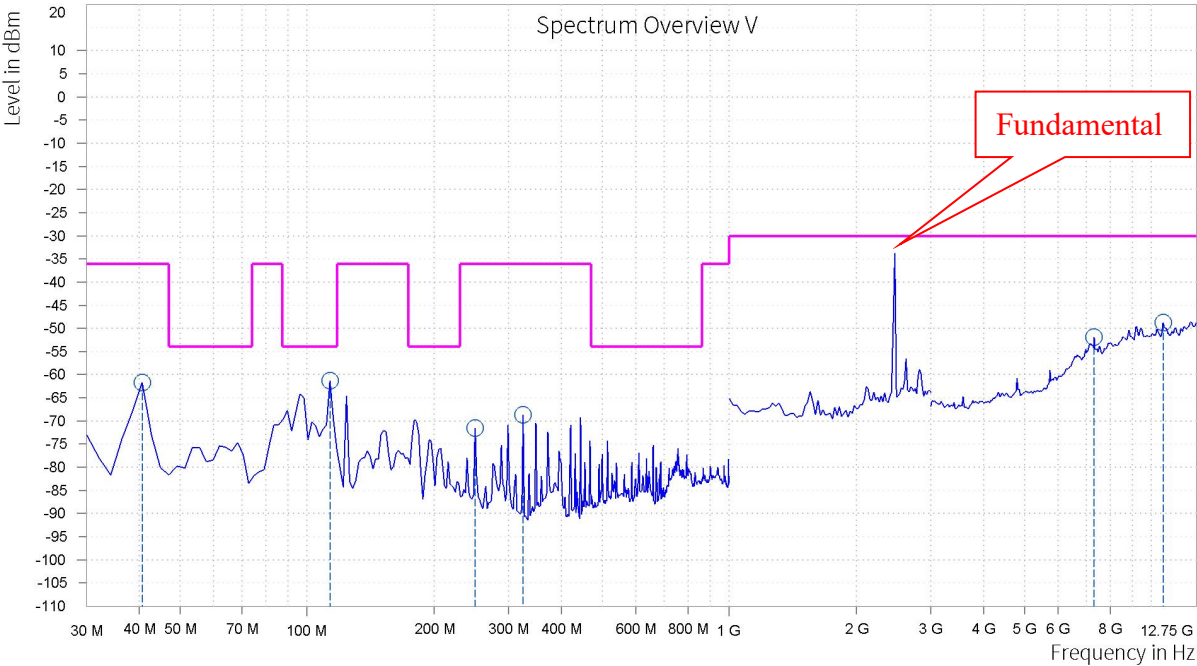


Test Graphs



Project Information

Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	DH5_2402MHz	Polarization:	Vertical

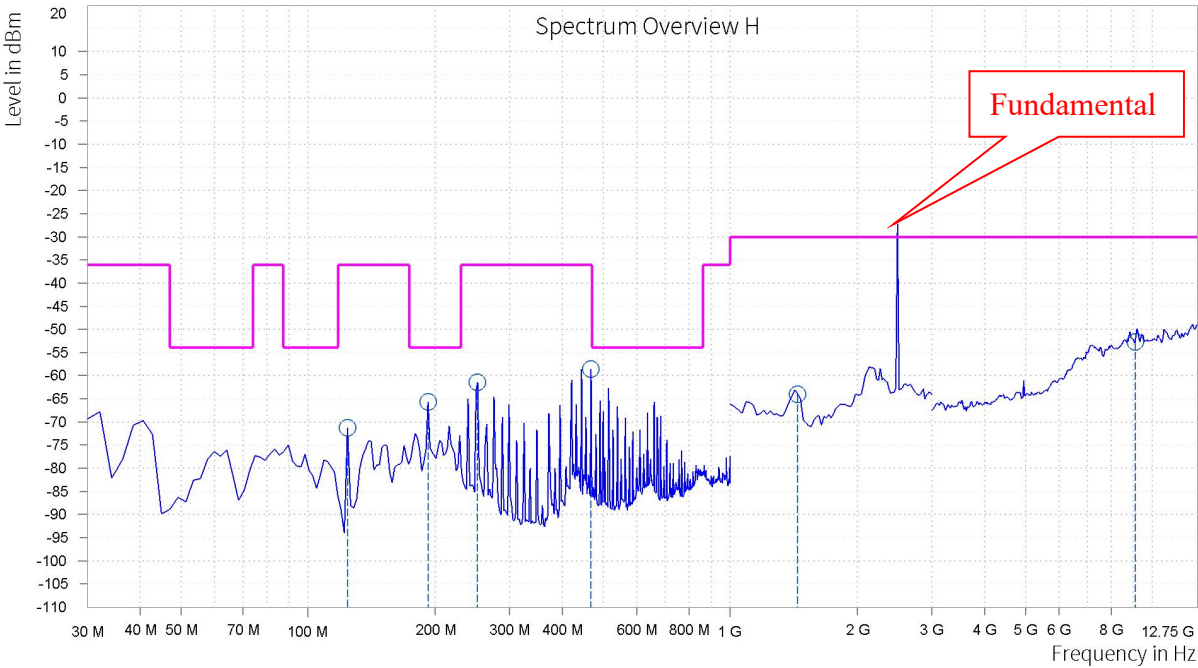


NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	40.683	-61.68	-36.00	25.68	Vertical
2	113.326	-61.35	-54.00	7.35	Vertical
3	250.066	-71.49	-36.00	35.49	Vertical
4	324.846	-68.66	-36.00	32.66	Vertical
5	7,316.630	-51.91	-30.00	21.91	Vertical
6	10,666.850	-48.71	-30.00	18.71	Vertical



Project Information

Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	DH5_2480MHz	Polarization:	Horizontal

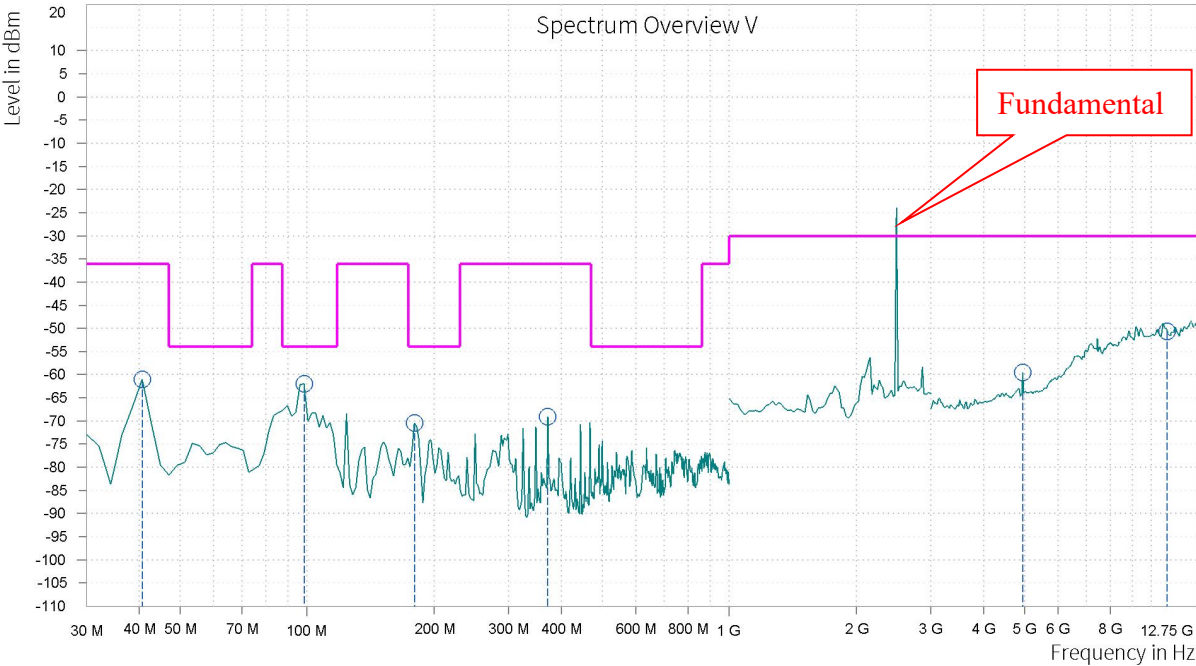


NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	124.009	-71.24	-36.00	35.24	Horizontal
2	192.379	-65.73	-54.00	11.73	Horizontal
3	252.203	-61.49	-36.00	25.49	Horizontal
4	467.996	-58.57	-36.00	22.57	Horizontal
5	1,444.444	-63.97	-30.00	33.97	Horizontal
6	9,099.119	-52.66	-30.00	22.66	Horizontal



Project Information

Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	DH5_2480MHz	Polarization:	Vertical



NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	40.683	-61.00	-36.00	25.00	Vertical
2	98.370	-62.01	-54.00	8.01	Vertical
3	179.559	-70.49	-54.00	16.49	Vertical
4	371.850	-69.04	-36.00	33.04	Vertical
5	4,954.295	-59.48	-30.00	29.48	Vertical
6	10,881.608	-50.63	-30.00	20.63	Vertical

Receiver spurious emissions**Test Result and Data**

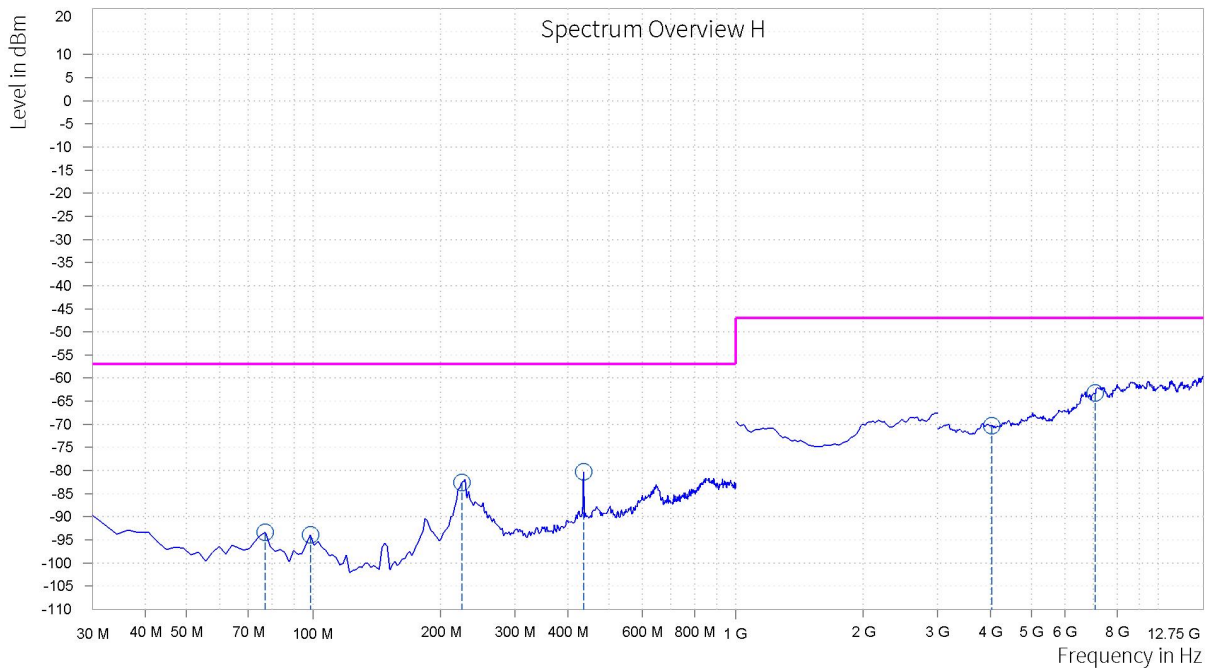
Test Mode	Antenna	Frequency[MHz]	Verdict
DH5	Ant1	2402	PASS
DH5	Ant1	2480	PASS
2DH5	Ant1	2402	PASS
2DH5	Ant1	2480	PASS
3DH5	Ant1	2402	PASS
3DH5	Ant1	2480	PASS

Note: All of the EUT Configure mode were tested and found DH5 mode is the worst mode, the worst case is recorded in this report.



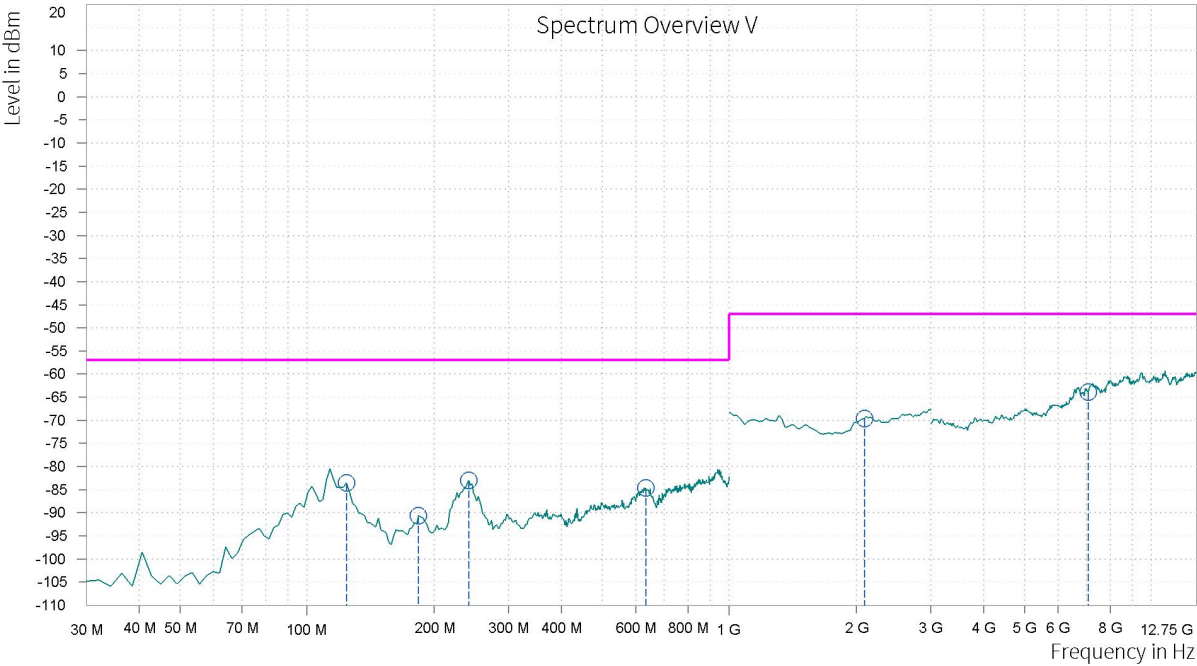
Test Graphs

Project Information			
Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	DH5_2402MHz	Polarization:	Horizontal



NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	224.427	-82.54	-57.00	25.54	Horizontal
2	77.004	-93.35	-57.00	36.35	Horizontal
3	98.370	-93.95	-57.00	36.95	Horizontal
4	435.947	-80.26	-57.00	23.26	Horizontal
5	7,080.396	-63.21	-47.00	16.21	Horizontal
6	4,030.837	-70.28	-47.00	23.28	Horizontal

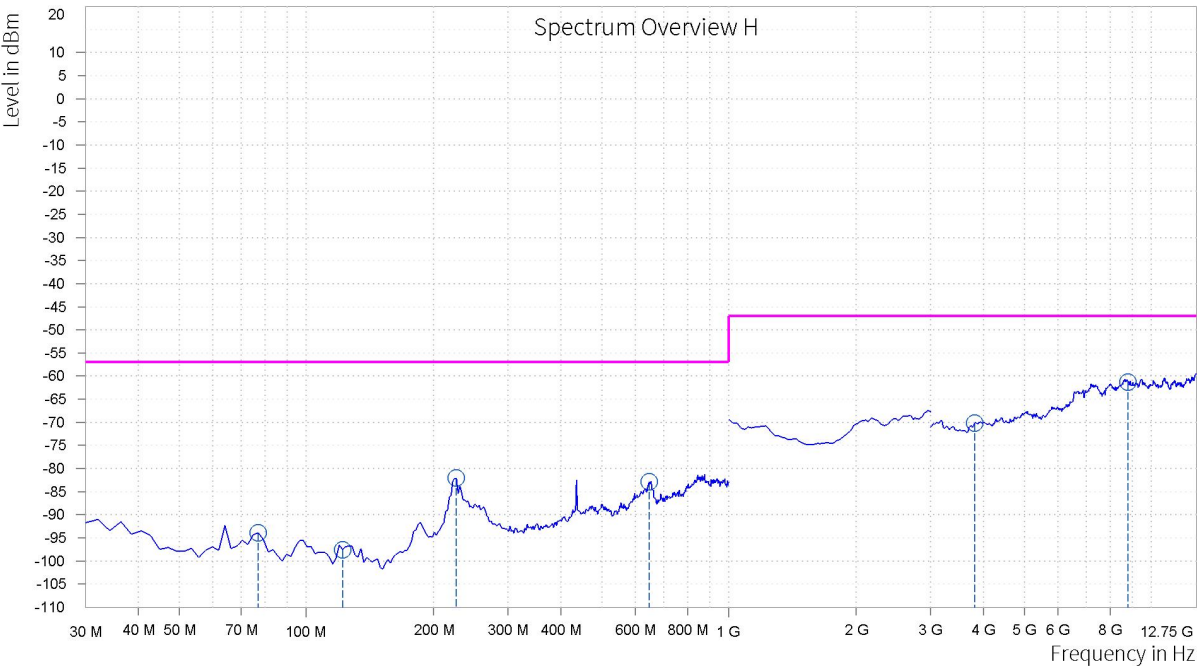
Project Information			
Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	DH5_2402MHz	Polarization:	Vertical



NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	241.520	-82.92	-57.00	25.92	Vertical
2	183.833	-90.66	-57.00	33.66	Vertical
3	634.648	-84.67	-57.00	27.67	Vertical
4	124.009	-83.50	-57.00	26.50	Vertical
5	2,088.889	-69.56	-47.00	22.56	Vertical
6	7,080.396	-63.90	-47.00	16.90	Vertical

Project Information

Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	DH5_2480MHz	Polarization:	Horizontal

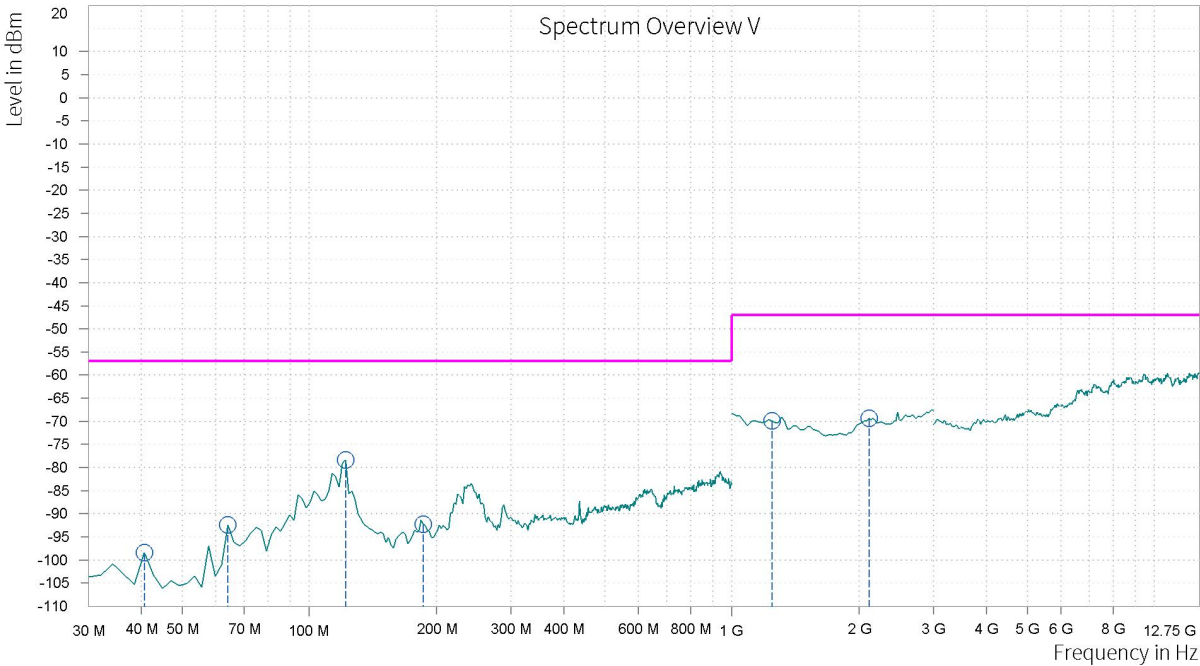


NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	8,798.458	-61.34	-47.00	14.34	Horizontal
2	3,816.079	-70.12	-47.00	23.12	Horizontal
3	647.467	-82.90	-57.00	25.90	Horizontal
4	226.564	-82.07	-57.00	25.07	Horizontal
5	121.872	-97.56	-57.00	40.56	Horizontal
6	77.004	-93.90	-57.00	36.90	Horizontal



Project Information

Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	DH5_2480MHz	Polarization:	Vertical



NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	40.683	-98.35	-57.00	41.35	Vertical
2	64.185	-92.42	-57.00	35.42	Vertical
3	121.872	-78.31	-57.00	21.31	Vertical
4	185.969	-92.26	-57.00	35.26	Vertical
5	2,111.111	-69.31	-47.00	22.31	Vertical
6	1,244.444	-69.91	-47.00	22.91	Vertical

Receiver Blocking**Test Result and Data**

Test Mode	Antenna	Frequency [MHz]	Wanted Signal [dBm]	Freq[MHz]	CW[dBm]	PER [%]	Limit [%]	Verdict
DH5	Ant1	Hop	-69.48	2300	-33.83	0.80	≤10	PASS
DH5	Ant1	Hop	-69.48	2380	-33.83	0.70	≤10	PASS
DH5	Ant1	Hop	-69.48	2504	-33.83	0.50	≤10	PASS
DH5	Ant1	Hop	-69.48	2584	-33.83	0.50	≤10	PASS



Annex D Bluetooth LE TEST RESULT

RF Output Power

Test Result and Data

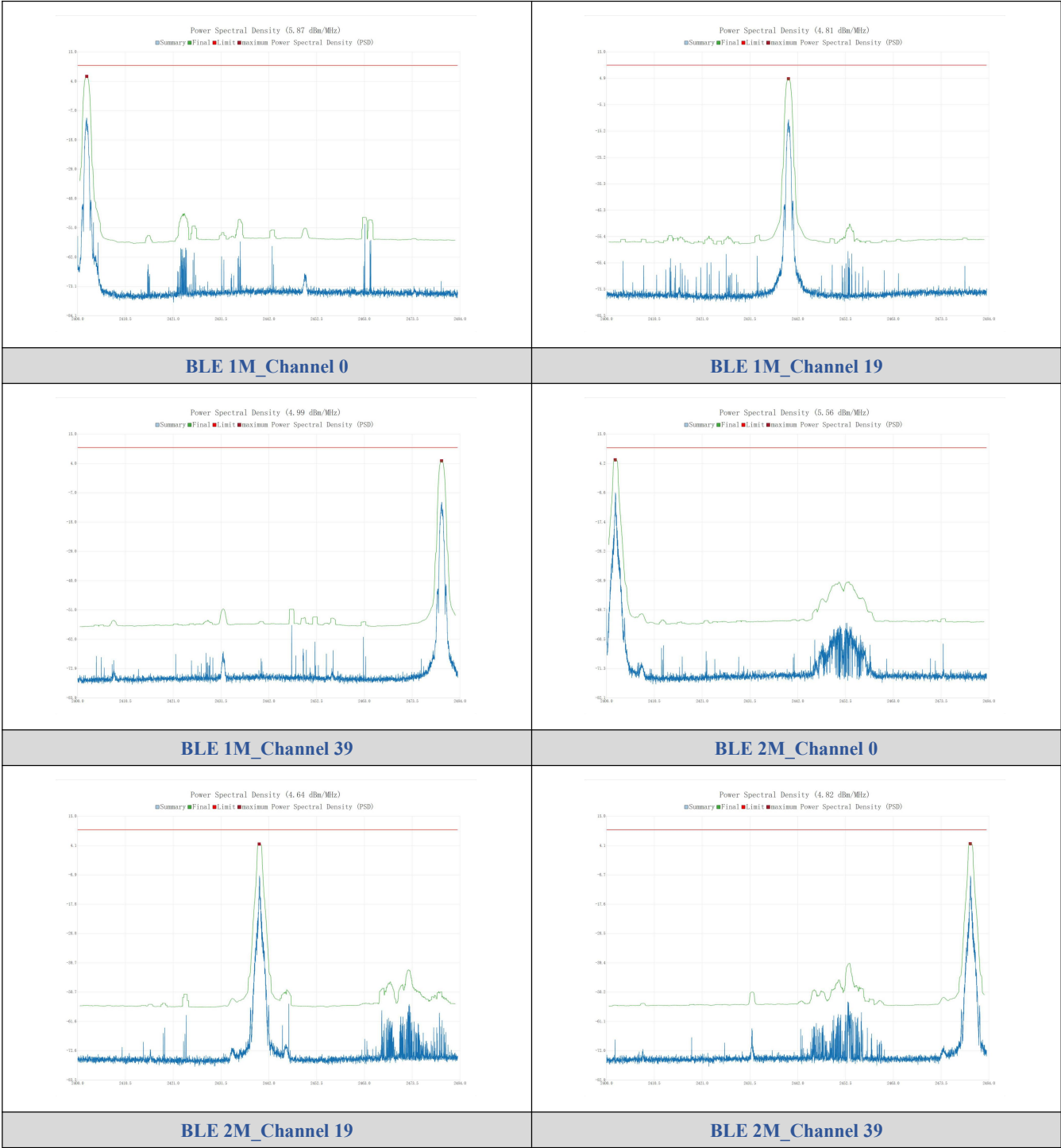
Condition	Mode	Channel	Max Burst RMS Power (dBm)	Max EIRP (dBm)	Limit (dBm)	Number of Burst	Result
NT/NV	BLE 1M	0	5.75	5.92	≤ 20	121	PASS
		19	4.69	4.86		121	PASS
		39	4.87	5.04		121	PASS
	BLE 2M	0	5.49	5.66		121	PASS
		19	4.57	4.74		121	PASS
		39	4.75	4.92		120	PASS
LT/NV	BLE 1M	0	5.65	5.82		120	PASS
		19	4.71	4.88		121	PASS
		39	4.86	5.03		121	PASS
	BLE 2M	0	5.50	5.67		120	PASS
		19	4.57	4.74		120	PASS
		39	4.73	4.90		121	PASS
HT/NV	BLE 1M	0	5.65	5.82		121	PASS
		19	4.69	4.86		121	PASS
		39	4.85	5.02		120	PASS
	BLE 2M	0	5.51	5.68		120	PASS
		19	4.56	4.73		120	PASS
		39	4.73	4.90		121	PASS

Power Spectral Density**Test Result and Data**

Mode	Channel	PSD Ant. 0 (dBm/MHz)	Limit (dBm/MHz)	Result
BLE 1M	0	5.87	10	PASS
	19	4.81		PASS
	39	4.99		PASS
BLE 2M	0	5.56		PASS
	19	4.64		PASS
	39	4.82		PASS



Test Graphs



Occupied Channel Bandwidth**Test Result and Data**

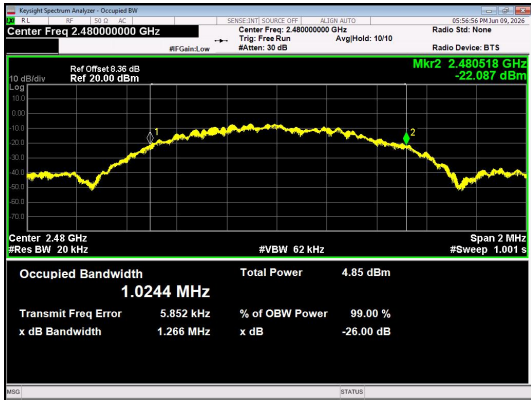
Mode	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	FL (MHz)	FH (MHz)	Limit	Result
BLE 1M	0	2402	1.0237	2401.4946	2402.5182	2400 MHz to 2483.5 MHz	PASS
	39	2480	1.0244	2479.4936	2480.518		PASS
BLE 2M	0	2402	1.3502	2401.3028	2402.6528		PASS
	39	2480	1.3463	2479.3044	2480.6508		PASS



Test Graphs



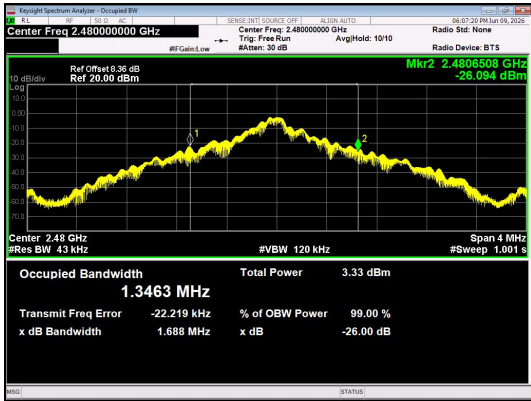
BLE 1M_Channel 0



BLE 1M_Channel 39



BLE 2M_Channel 0



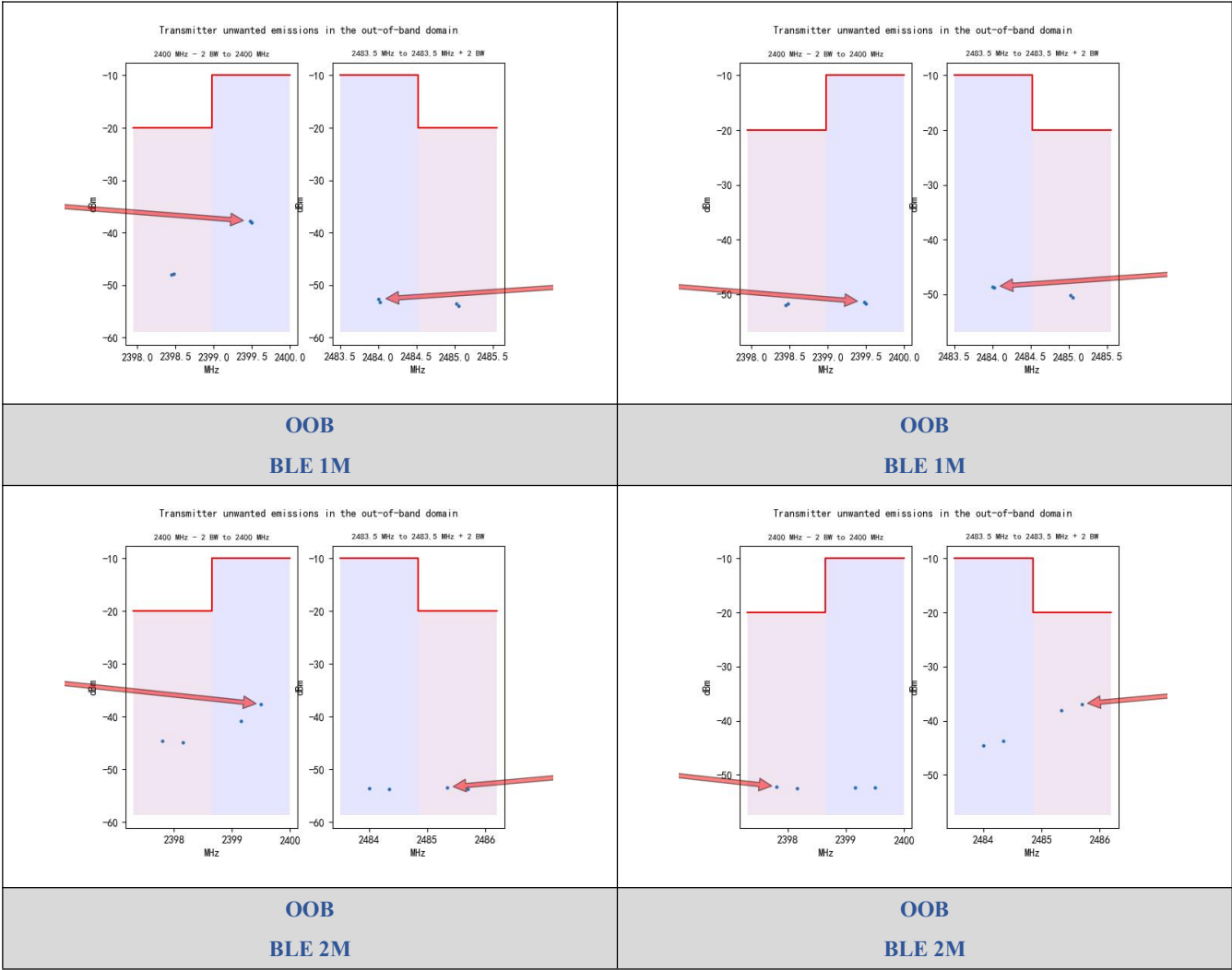
BLE 2M_Channel 39

Transmitter unwanted emissions in the out-of-band domain

Test Result and Data

Mode	Channel	Test Freq. (MHz)	OOB Emission (dBm)	Segments	Limit (dBm)	Margin (dB)	Result
BLE 1M	0	2399.4763	-37.781	2 400 MHz - BW to 2 400 MHz	-10	-27.78	PASS
		2398.4763	-47.776	2 400 MHz - 2 BW to 2 400 MHz - BW	-20	-27.78	PASS
		2484	-52.683	2 483,5 MHz to 2 483,5 MHz + BW	-10	-42.68	PASS
		2485.0237	-53.596	2 483,5 MHz + BW to 2 483,5 MHz + 2 BW	-20	-33.6	PASS
	39	2399.4756	-51.349	2 400 MHz - BW to 2 400 MHz	-10	-41.35	PASS
		2398.4756	-51.755	2 400 MHz - 2 BW to 2 400 MHz - BW	-20	-31.76	PASS
		2484	-48.601	2 483,5 MHz to 2 483,5 MHz + BW	-10	-38.6	PASS
		2485.0244	-50.225	2 483,5 MHz + BW to 2 483,5 MHz + 2 BW	-20	-30.23	PASS
BLE 2M	0	2399.5	-37.612	2 400 MHz - BW to 2 400 MHz	-10	-27.61	PASS
		2397.7996	-44.528	2 400 MHz - 2 BW to 2 400 MHz - BW	-20	-24.53	PASS
		2484	-53.622	2 483,5 MHz to 2 483,5 MHz + BW	-10	-43.62	PASS
		2485.3502	-53.364	2 483,5 MHz + BW to 2 483,5 MHz + 2 BW	-20	-33.36	PASS
	39	2399.5	-52.349	2 400 MHz - BW to 2 400 MHz	-10	-42.35	PASS
		2397.8074	-52.171	2 400 MHz - 2 BW to 2 400 MHz - BW	-20	-32.17	PASS
		2484.3463	-43.716	2 483,5 MHz to 2 483,5 MHz + BW	-10	-33.72	PASS
		2485.6926	-36.88	2 483,5 MHz + BW to 2 483,5 MHz + 2 BW	-20	-16.88	PASS

Test Graphs

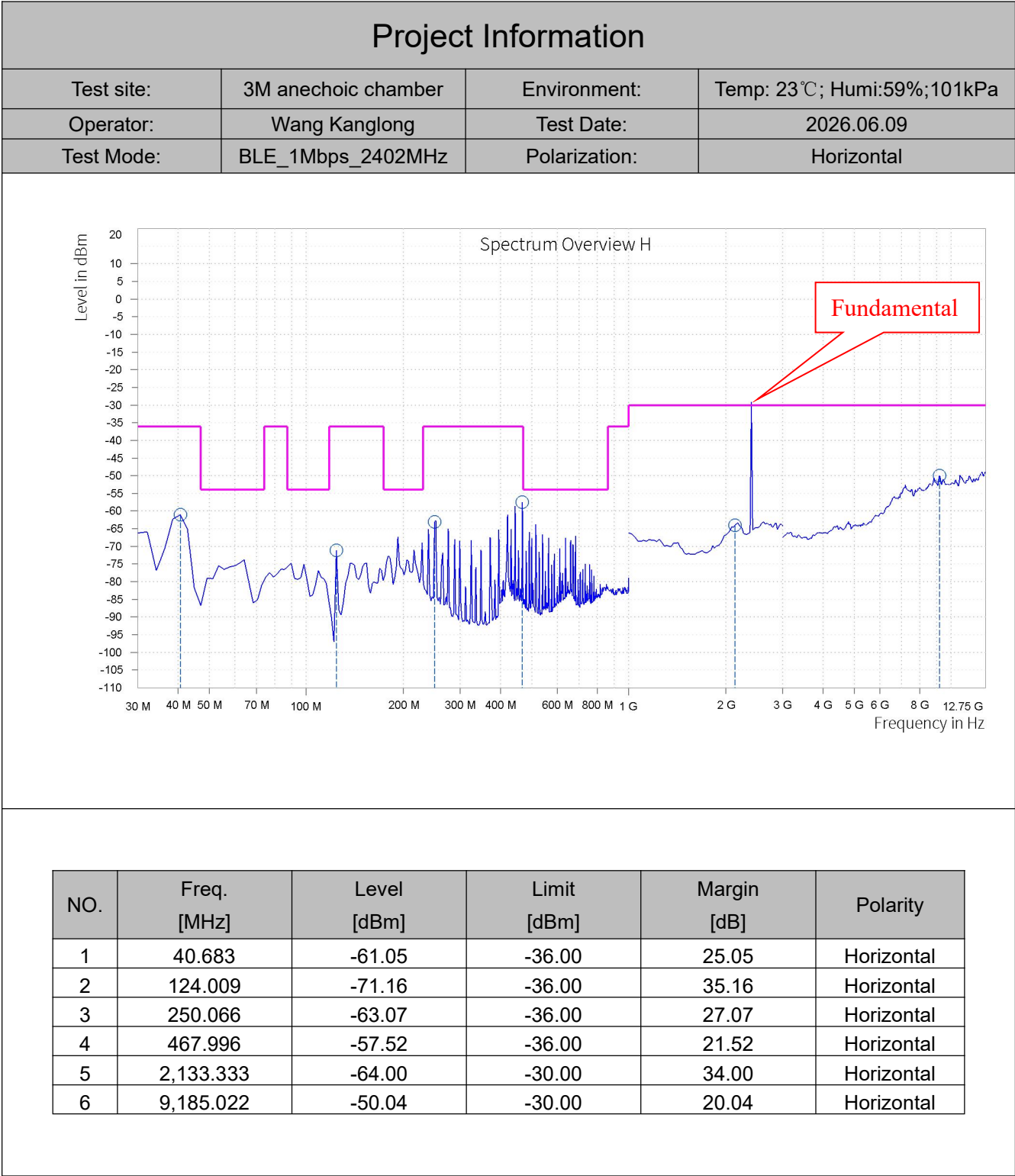


Transmitter unwanted emissions in the spurious domain**Test Result and Data**

Test Mode	Antenna	Frequency[MHz]	Verdict
BLE_1M	Ant1	2402	PASS
BLE_1M	Ant1	2480	PASS
BLE_2M	Ant1	2402	PASS
BLE_2M	Ant1	2480	PASS

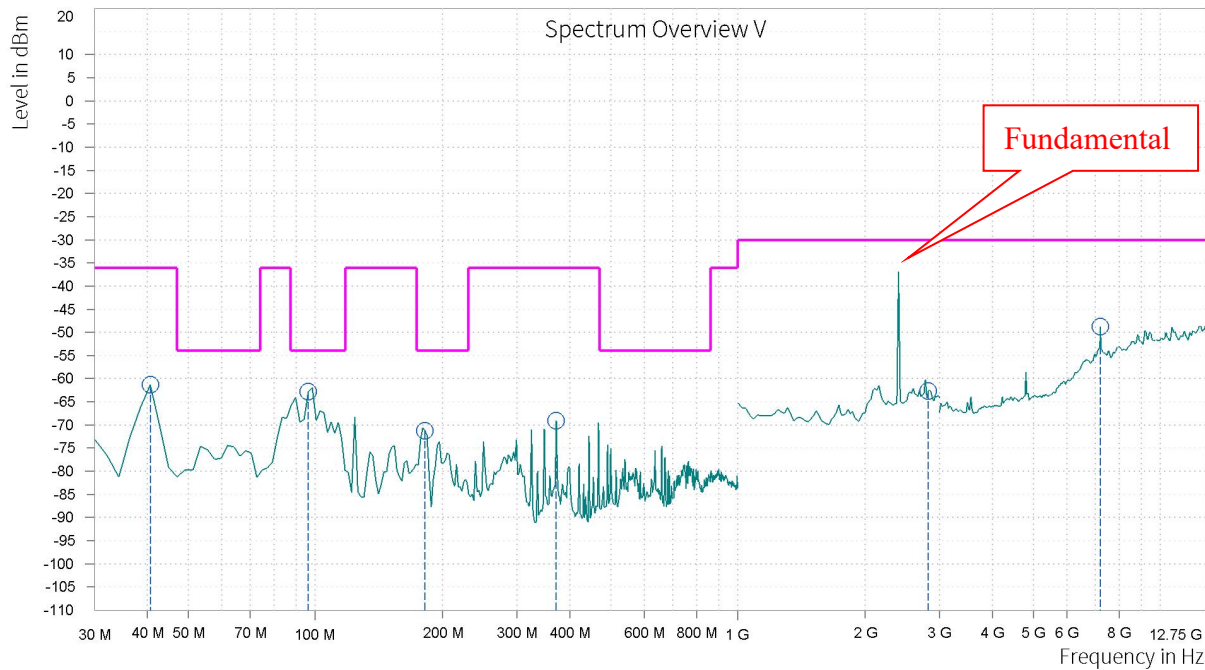
Note: All of the EUT Configure mode were tested and found 1Mbps is the worst mode, the worst case is recorded in this report.

Test Graphs



Project Information

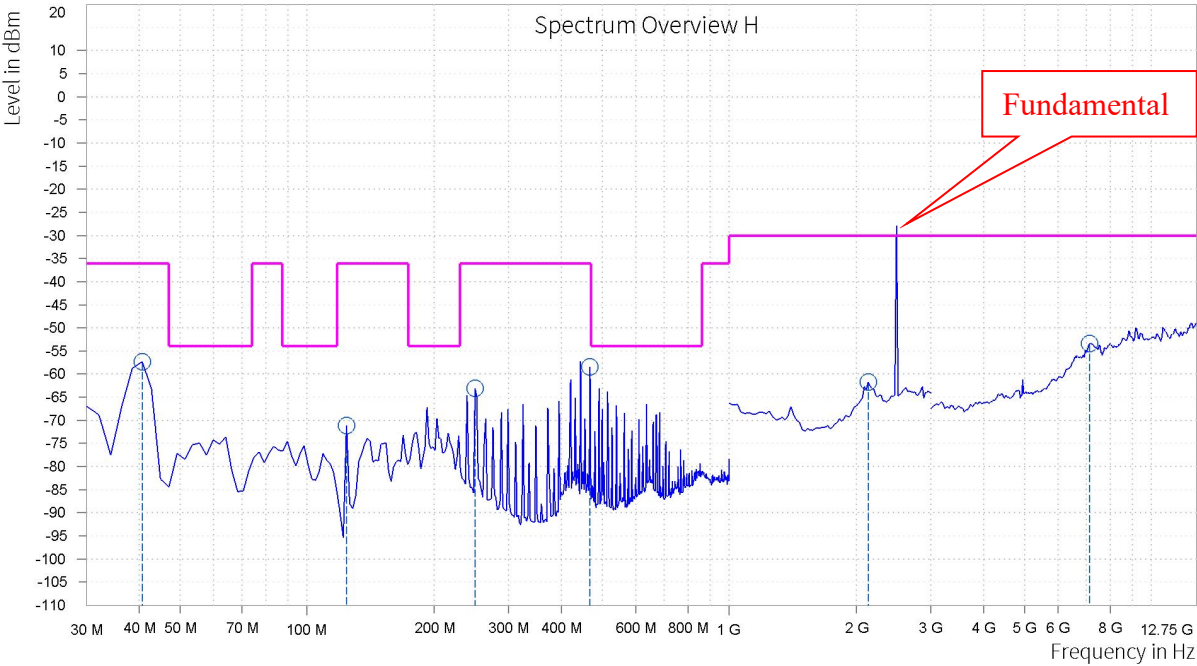
Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	BLE_1Mbps_2402MHz	Polarization:	Vertical



NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	40.683	-61.32	-36.00	25.32	Vertical
2	96.233	-62.85	-54.00	8.85	Vertical
3	181.696	-71.20	-54.00	17.20	Vertical
4	371.850	-69.02	-36.00	33.02	Vertical
5	2,822.222	-62.71	-30.00	32.71	Vertical
6	7,209.251	-48.80	-30.00	18.80	Vertical



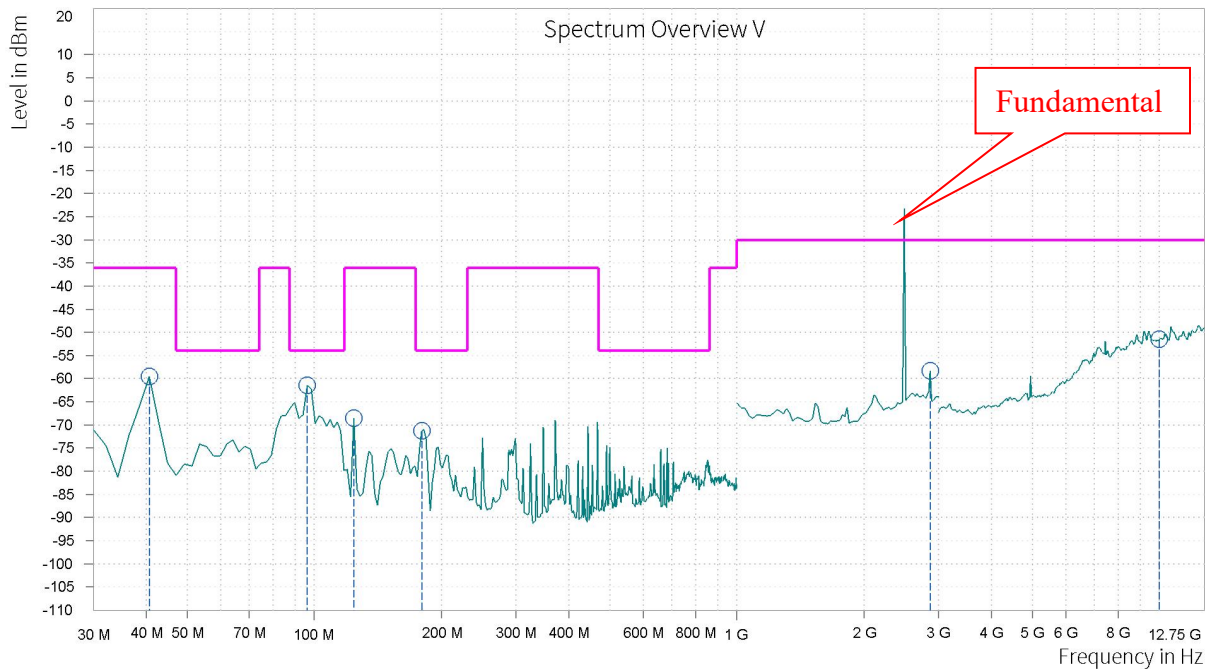
Project Information			
Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	BLE_1Mbps_2480MHz	Polarization:	Horizontal



NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	40.683	-57.31	-36.00	21.31	Horizontal
2	124.009	-71.16	-36.00	35.16	Horizontal
3	250.066	-63.09	-36.00	27.09	Horizontal
4	467.996	-58.44	-36.00	22.44	Horizontal
5	2,133.333	-61.75	-30.00	31.75	Horizontal
6	7,123.348	-53.43	-30.00	23.43	Horizontal

Project Information

Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	BLE_1Mbps_2480MHz	Polarization:	Vertical



NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	40.683	-59.52	-36.00	23.52	Vertical
2	96.233	-61.47	-54.00	7.47	Vertical
3	124.009	-68.53	-36.00	32.53	Vertical
4	179.559	-71.28	-54.00	17.28	Vertical
5	2,866.667	-58.35	-30.00	28.35	Vertical
6	10,001.101	-51.42	-30.00	21.42	Vertical

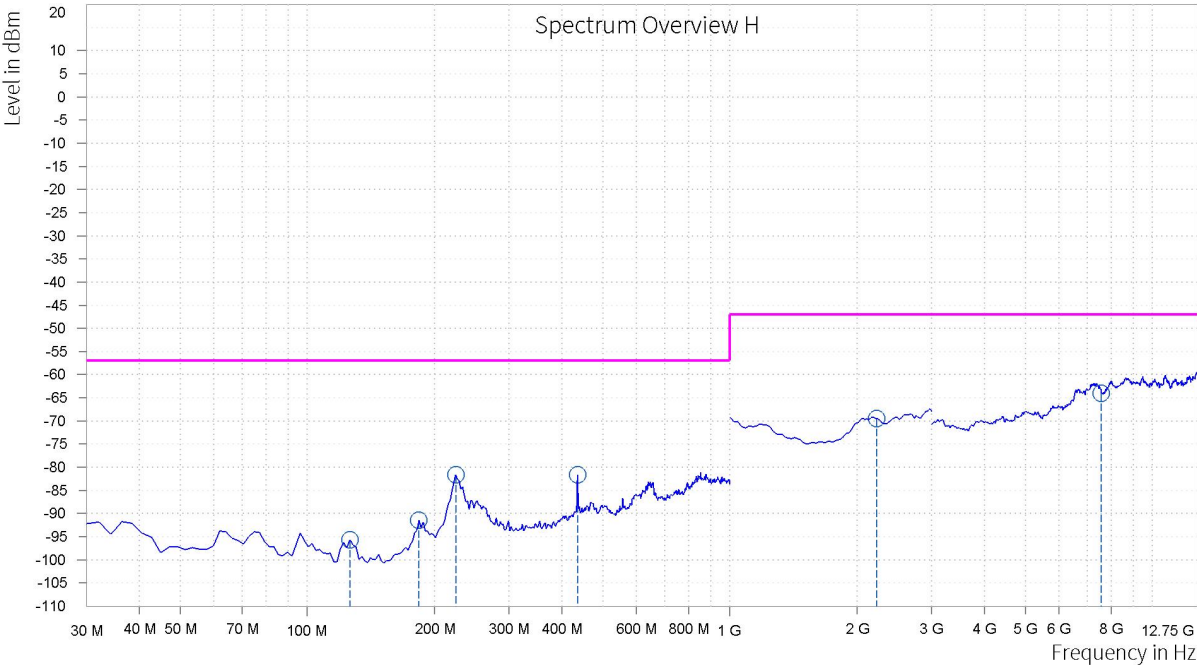
Receiver spurious emissions**Test Result and Data**

Test Mode	Antenna	Frequency[MHz]	Verdict
BLE_1M	Ant1	2402	PASS
BLE_1M	Ant1	2480	PASS
BLE_2M	Ant1	2402	PASS
BLE_2M	Ant1	2480	PASS

Note: All of the EUT Configure mode were tested and found 1Mbps is the worst mode, the worst case is recorded in this report.

Test Graphs

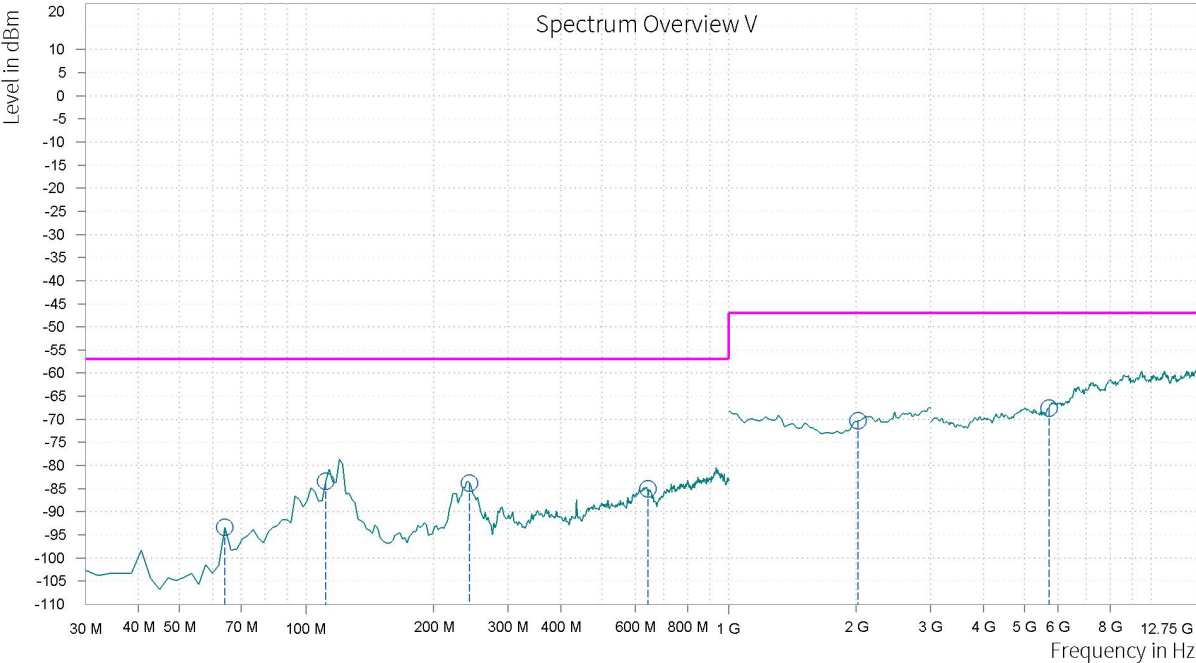
Project Information			
Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	BLE_1Mbps_2402MHz	Polarization:	Horizontal



NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	435.947	-81.60	-57.00	24.60	Horizontal
2	126.145	-95.63	-57.00	38.63	Horizontal
3	183.833	-91.45	-57.00	34.45	Horizontal
4	224.427	-81.56	-57.00	24.56	Horizontal
5	2,222.222	-69.45	-47.00	22.45	Horizontal
6	7,574.339	-64.08	-47.00	17.08	Horizontal

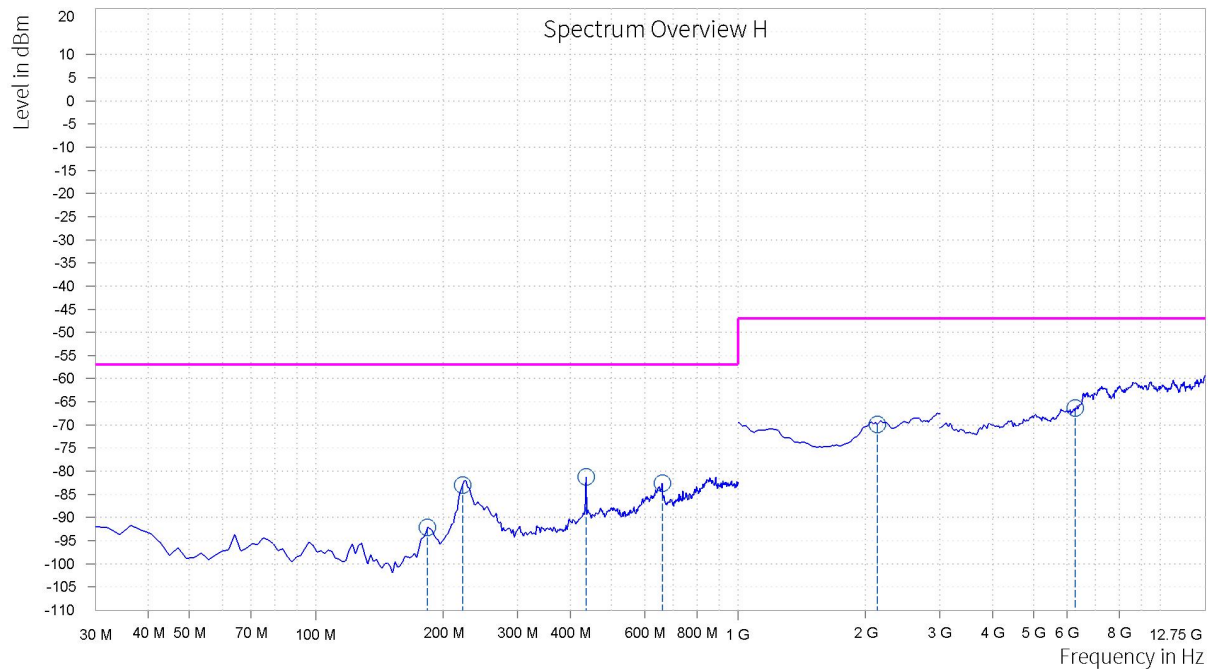
Project Information

Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	BLE_1Mbps_2402MHz	Polarization:	Vertical



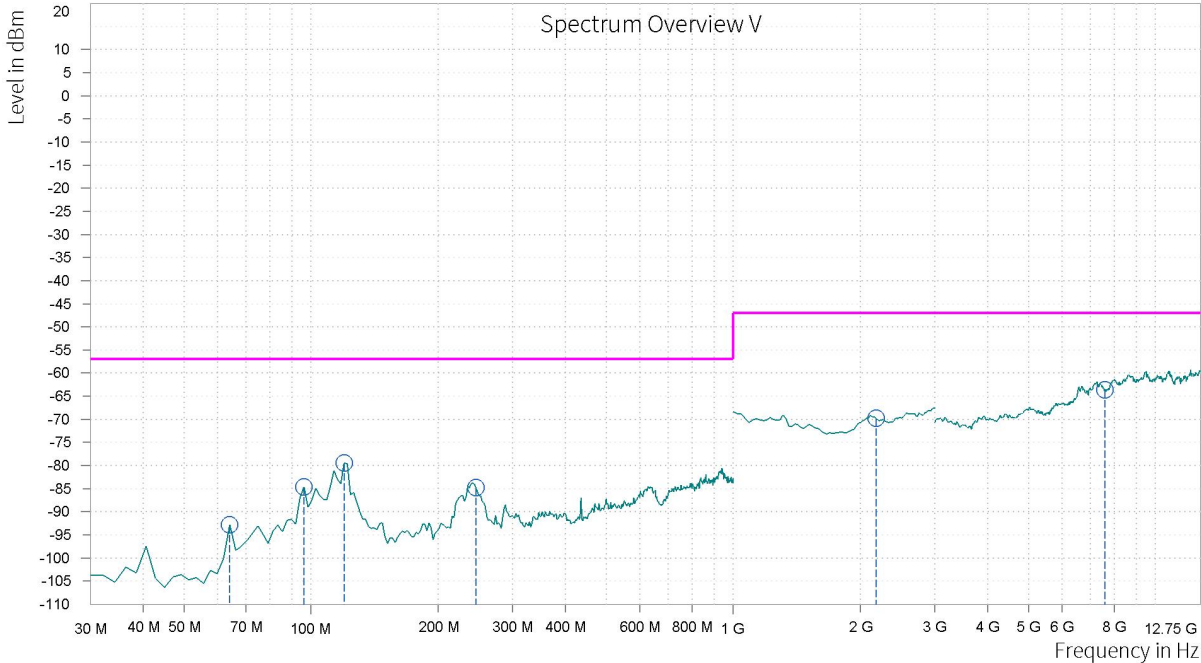
NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	243.656	-83.79	-57.00	26.79	Vertical
2	643.194	-85.04	-57.00	28.04	Vertical
3	111.189	-83.37	-57.00	26.37	Vertical
4	64.185	-93.42	-57.00	36.42	Vertical
5	2,022.222	-70.37	-47.00	23.37	Vertical
6	5,727.423	-67.55	-47.00	20.55	Vertical

Project Information			
Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	BLE_1Mbps_2480MHz	Polarization:	Horizontal



NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	2,133.333	-69.92	-47.00	22.92	Horizontal
2	6,285.793	-66.29	-47.00	19.29	Horizontal
3	660.286	-82.55	-57.00	25.55	Horizontal
4	435.947	-81.28	-57.00	24.28	Horizontal
5	222.291	-83.01	-57.00	26.01	Horizontal
6	183.833	-92.09	-57.00	35.09	Horizontal

Project Information			
Test site:	3M anechoic chamber	Environment:	Temp: 23℃; Humi:59%;101kPa
Operator:	Wang Kanglong	Test Date:	2026.06.09
Test Mode:	BLE_1Mbps_2480MHz	Polarization:	Vertical



NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	96.233	-84.56	-57.00	27.56	Vertical
2	64.185	-92.75	-57.00	35.75	Vertical
3	245.793	-84.82	-57.00	27.82	Vertical
4	119.736	-79.47	-57.00	22.47	Vertical
5	2,177.778	-69.79	-47.00	22.79	Vertical
6	7,595.815	-63.63	-47.00	16.63	Vertical



Receiver Blocking**Test Result and Data**

Test Mode	Antenna	Frequency [MHz]	Wanted Signal [dBm]	Freq[MHz]	CW[dBm]	PER [%]	Limit [%]	Verdict
BLE_1M	Ant1	2402	-69.48	2300	-33.83	0.80	≤10	PASS
BLE_1M	Ant1	2402	-69.48	2380	-33.83	0.70	≤10	PASS
BLE_1M	Ant1	2480	-69.48	2504	-33.83	0.60	≤10	PASS
BLE_1M	Ant1	2480	-69.48	2584	-33.83	0.40	≤10	PASS

****END OF REPORT****

