



## **Test Summary**

**5.1.1 ANTENNA REQUIREMENT**

*RESULT: Pass*

**5.1.2 MAXIMUM CONDUCTED OUTPUT POWER**

*RESULT: Pass*

**5.1.3 CONDUCTED POWER SPECTRAL DENSITY**

*RESULT: Pass*

**5.1.4 6dB BANDWIDTH**

*RESULT: Pass*

**5.1.5 99% BANDWIDTH**

*RESULT: Pass*

**5.1.6 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHZ BANDWIDTH**

*RESULT: Pass*

**5.1.7 RADIATED SPURIOUS EMISSION**

*RESULT: Pass*

**5.1.8 CONDUCTED EMISSION ON AC MAINS**

*RESULT: Pass*

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# 1 General Remarks

## 1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Test Results of Bluetooth BLE

Appendix B: Test Results of 2.4GHz SDR

Appendix C: Test Results of 2.4GHz Wi-Fi

Appendix D: Photographs of Test Set-up

## 2 Test Sites

### 2.1 Test Facilities

**TÜV Rheinland (Shenzhen) Co., Ltd.**

362 Huanguan Road Middle Longhua District, Shenzhen 518110 People's Republic of China

FCC Registration No.: 694916

ISED wireless device testing laboratory: 25069

### 2.2 List of Test and Measurement Instruments

**Table 1: List of Test and Measurement Equipment**

**TÜV Rheinland (Shenzhen) Co., Ltd.**

<b>Radio Spectrum Testing (SRD-Tonscend)</b>					
<b>Equip. No.</b>	<b>Description</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Serial No.</b>	<b>Calibrated until (DD.MM.YYYY)</b>
9039436	EXA Signal Analyzer, Multi-touch	Keysight	N9010B	MY60241175	28.09.2022
9039437	MXG X-Series RF Vector Signal Generator	Keysight	N5182B	MY61250137	28.09.2022
9039438	EXG X-Series Microwave Analog Signal Generator	Keysight	N5173B	MY61250141	28.09.2022
9039439	DC Power Supply	Keysight	E3642A	MY61276100	28.09.2022
9039440	Wireless Connectivity Tester	R&S	CMW270	102505	28.09.2022
9039441	Power Control Unit	Tonscend	JS0806-4ADC	N/A	28.09.2022
9039442	Automation Control Unit	Tonscend	JS0806-2	21C8060396	28.09.2022
9039443	Test Software	Tonscend	JS1120-3	N/A	N/A
9039444	Control PC	Lenovo	TianYi510S-071MB	YLX23JMF	N/A
<b>Unwanted Emission Testing (TS9975)</b>					
<b>Equip. No.</b>	<b>Description</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Serial No.</b>	<b>Calibrated until (DD.MM.YYYY)</b>
G1826021	EMI Test Receiver	R&S	ESR 7	102021	10.08.2022
G1826023	Signal Analyzer	R&S	FSV 40	101439	09.08.2022
G1826024	System Controller Interface	R&S	SCI-100	S10010038	N/A
G1826025	Filterbank	R&S	Wlan	100759	09.08.2022
G1826026	OSP	R&S	OSP 120	102040	N/A
G1826028	Pre-amplifier	R&S	SCU08F1	08320031	09.08.2022
G1826029	Amplifier	R&S	SCU-18F	180070	09.08.2022
G1826030	Amplifier	R&S	SCU40A	100475	09.08.2022
G1826031	Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	08.08.2022
G1826032	Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	08.08.2022
G1826033	Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19067	08.08.2022

G1826034	Active Loop Antenna	Schwarzbeck	FMZB 1513	302	13.09.2022
G1826036	Test software	R&S	EMC32 (V10.60.10)	N/A	N/A
G1826037	Control PC	Dell	OptiPlex 7050	36NV9P2	N/A
G1826433	3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	22.06.2024

Conducted Emission				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
EMI Test Receiver	R&S	ESR3	102428	2022-08-10
Artificial Mains Network	R&S	ENV216	102333	2022-08-10
EMC32 test software	R&S	EMC32(Ver.10.50.00)	N/A	N/A

## 2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

## 2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

## 2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-7}$
RF Power (conducted)	$\pm 2.5$ dB
Radiated Emission of Transmitter, valid up to 26.5 GHz	$\pm 6$ dB
Radiated Emission of Receiver, valid up to 26.5 GHz	$\pm 6$ dB
Conducted Emission, (9kHz to 150kHz)/(150kHz to 30MHz)	$\pm 3.70$ dB / $\pm 3.30$ dB
Radiated Emission (3m SAC), 30MHz to 1000MHz	$\pm 4.52$ dB
Radiated Emission (3m SAC), above 1000MHz	$\pm 4.37$ dB
Temperature	$\pm 1$ °C
Humidity	$\pm 5$ %
Voltage (DC)	$\pm 1$ %
Voltage (AC, <10kHz)	$\pm 2$ %

## 2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B & C & D of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

## **2.7 Status of Facility Used for Testing**

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at 362 Huanguan Road Middle Longhua District, Shenzhen 518110 People's Republic of China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

### 3 General Product Information

#### 3.1 Product Function and Intended Use

The EUT (Equipment Under Test) is a DJI Goggles 2. It supports Bluetooth, 2.4GHz SDR, 2.4GHz Wi-Fi, 5.2/5.8GHz Wi-Fi and 5.8GHz SDR functions.

\*remark: SDR means specific defined radio, and cannot changes radio specification via software/firmware by end-users.

According to the declaration of the applicant, the electrical circuit design and PCB layout are identical, only the model no. is different for market strategy.

For details refer to the User Manual, Technical Description and Circuit Diagram.

#### 3.2 Ratings and System Details

**Table 2: Technical Specification of EUT**

General Information of EUT	Value
Kind of Equipment	DJI Goggles 2
Type Designation	RCDS18, RCDS18B
Operating Voltage	External Battery operated (Max 9V, 1800 mAh)
Extreme Temperature Range	0°C ~ 40 °C
Radiofrequency operating mode:	1) Bluetooth: operating within 2400-2483.5MHz, Bluetooth BLE, 1Mbps&2Mbps 2) 2.4GHz SDR: operating within 2400-2483.5MHz, supports 1.4MHz/3MHz/10MHz/20MHz/40MHz Bandwidth 3) 2.4GHz Wi-Fi: operating within 2400-2483.5MHz, supports 20MHz/40MHz Bandwidth and IEEE 802.11 b/g/n20/n40 4) 5.2GHz Wi-Fi: operating with 5150-5250MHz, supports 20MHz/40MHz/80MHz Bandwidth and IEEE 802.11 a/n20/n40/ac20/ac40/ac80 5) 5.8GHz SDR: operating within 5725-5850MHz, supports 1.4MHz/3MHz/10MHz/20MHz/40MHz Bandwidth 6) 5.8GHz Wi-Fi: operating within 5725-5850MHz, supports 20MHz/40MHz/80MHz Bandwidth and IEEE 802.11 a/n20/n40/ac20/ac40/ac80
Technical Specification of Bluetooth	
Operating Frequency	2402-2480MHz
Type of Modulation	GFSK
Data Rate	1Mbps, 2Mbps
Channel Number	40 channels for Bluetooth BLE
Channel Separation	1MHz and 2MHz
Antenna Type	Integral Antenna
Antenna Number	1Tx1Rx
Antenna Gain	1 dBi
The type of wideband data transmission equipment	Non-FHSS for Bluetooth BLE



<b>Technical Specification of 2.4GHz SDR</b>	
Operating Frequency	2409.5-2464.5MHz for 1.4MHz Bandwidth 2411.12-2465.12MHz for 1.4MHz Bandwidth (CA mode) 2410.5-2461.5MHz for 3MHz Bandwidth 2413.2-2464.2MHz for 3MHz Bandwidth (CA mode) 2405.5-2476.5MHz for 10MHz Bandwidth 2410.5-2472.5MHz for 20MHz Bandwidth 2422.5-2452.5MHz for 40MHz Bandwidth
Type of Modulation	OFDM (QPSK, 16QAM, 64QAM)
Channel Number	28 channels for 1.4MHz Bandwidth 28 channels for 1.4MHz Bandwidth (CA mode) 18 channels for 3MHz Bandwidth 18 channels for 3MHz Bandwidth (CA mode) 72 channels for 10MHz Bandwidth 63 channels for 20MHz Bandwidth 31 channels for 40MHz Bandwidth
Channel Separation	2MHz for 1.4MHz Bandwidth 2MHz for 1.4MHz Bandwidth (CA mode) 3MHz for 3MHz Bandwidth 3MHz for 3MHz Bandwidth (CA mode) 1MHz for 10MHz Bandwidth 1MHz for 20MHz Bandwidth 1MHz for 40MHz Bandwidth
Antenna Type	Two Integral Antennas, and Two External Antennas
Antenna Number	1Tx4Rx for SISO mode (ANT0 or ANT1 only) 2Tx4Rx for MIMO mode (ANT0+ANT1 only)
Antenna Gain	2.5dBi for ANT0 2.5dBi for ANT1
The type of wideband data transmission equipment	DTS
<b>Technical Specification of 2.4GHz Wi-Fi</b>	
Operating Frequency	2412 - 2462MHz for 802.11b/g/n(HT20) 2422 - 2452MHz for 802.11n(HT40)
Type of Modulation	DSSS(DBPSK/DQPSK/CCK) OFDM(BPSK/QPSK/16QAM/64QAM)
Data Rate	1/2/5.5/11 Mbps for 802.11b 6/9/12/18/24/36/48/54 Mbps for 802.11g MCS0 ~ MCS7 for 802.11n
Channel Number	11 channels for 802.11b/g/n(HT20) 7 channels for 802.11n(HT40)
Channel Separation	5 MHz
Antenna Type	Integral Antenna
Antenna Number	1Tx1Rx
Antenna Gain	1dBi
The type of wideband data transmission equipment	DTS

**Table 3: RF Channel and Frequency of BLE**

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

**Table 4: RF Channel and Frequency of 2.4GHz SDR**

2.4GHz 1.4MHz Bandwidth (2409.5MHz-2463.5MHz)			
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	2409.5	15	2437.5
2	2411.5	16	2439.5
3	2413.5	17	2441.5
4	2415.5	18	2443.5
5	2417.5	19	2445.5
6	2419.5	20	2447.5
7	2421.5	21	2449.5
8	2423.5	22	2451.5
9	2425.5	23	2453.5
10	2427.5	24	2455.5
11	2429.5	25	2457.5
12	2431.5	26	2459.5
13	2433.5	27	2461.5
14	2435.5	28	2463.5

2.4GHz 1.4MHz Bandwidth (CA Mode) (2411.12MHz-2465.12MHz)			
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	2411.12	15	2439.12
2	2413.12	16	2441.12
3	2415.12	17	2443.12
4	2417.12	18	2445.12
5	2419.12	19	2447.12
6	2421.12	20	2449.12
7	2423.12	21	2451.12
8	2425.12	22	2453.12
9	2427.12	23	2455.12

10	2429.12	24	2457.12
11	2431.12	25	2459.12
12	2433.12	26	2461.12
13	2435.12	27	2463.12
14	2437.12	28	2465.12

2.4GHz 3MHz Bandwidth (2410.5MHz-2461.5MHz)			
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	2410.5	10	2437.5
2	2413.5	11	2440.5
3	2416.5	12	2443.5
4	2419.5	13	2446.5
5	2422.5	14	2449.5
6	2425.5	15	2452.5
7	2428.5	16	2455.5
8	2431.5	17	2458.5
9	2434.5	18	2461.5

2.4GHz 3MHz Bandwidth (CA mode) (2413.2MHz-2464.2MHz)			
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	2413.2	10	2440.2
2	2416.2	11	2443.2
3	2419.2	12	2446.2
4	2422.2	13	2449.2
5	2425.2	14	2452.2
6	2428.2	15	2455.2
7	2431.2	16	2458.2
8	2434.2	17	2461.2
9	2437.2	18	2464.2

2.4GHz 10MHz Bandwidth (2405.5MHz-2476.5MHz)							
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	2405.5	19	2423.5	37	2441.5	55	2459.5
2	2406.5	20	2424.5	38	2442.5	56	2460.5
3	2407.5	21	2425.5	39	2443.5	57	2461.5
4	2408.5	22	2426.5	40	2444.5	58	2462.5
5	2409.5	23	2427.5	41	2445.5	59	2463.5
6	2410.5	24	2428.5	42	2446.5	60	2464.5
7	2411.5	25	2429.5	43	2447.5	61	2465.5
8	2412.5	26	2430.5	44	2448.5	62	2466.5
9	2413.5	27	2431.5	45	2449.5	63	2467.5

10	2414.5	28	2432.5	46	2450.5	64	2468.5
11	2415.5	29	2433.5	47	2451.5	65	2469.5
12	2416.5	30	2434.5	48	2452.5	66	2470.5
13	2417.5	31	2435.5	49	2453.5	67	2471.5
14	2418.5	32	2436.5	50	2454.5	68	2472.5
15	2419.5	33	2437.5	51	2455.5	69	2473.5
16	2420.5	34	2438.5	52	2456.5	70	2474.5
17	2421.5	35	2439.5	53	2457.5	71	2475.5
18	2422.5	36	2440.5	54	2458.5	72	2476.5

2.4GHz 20MHz Bandwidth (2410.5MHz-2472.5MHz)					
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	2410.5	22	2431.5	43	2452.5
2	2411.5	23	2432.5	44	2453.5
3	2412.5	24	2433.5	45	2454.5
4	2413.5	25	2434.5	46	2455.5
5	2414.5	26	2435.5	47	2456.5
6	2415.5	27	2436.5	48	2457.5
7	2416.5	28	2437.5	49	2458.5
8	2417.5	29	2438.5	50	2459.5
9	2418.5	30	2439.5	51	2460.5
10	2419.5	31	2440.5	52	2461.5
11	2420.5	32	2441.5	53	2462.5
12	2421.5	33	2442.5	54	2463.5
13	2422.5	34	2443.5	55	2464.5
14	2423.5	35	2444.5	56	2465.5
15	2424.5	36	2445.5	57	2466.5
16	2425.5	37	2446.5	58	2467.5
17	2426.5	38	2447.5	59	2468.5
18	2427.5	39	2448.5	60	2469.5
19	2428.5	40	2449.5	61	2470.5
20	2429.5	41	2450.5	62	2471.5
21	2430.5	42	2451.5	63	2472.5

2.4GHz 40MHz Bandwidth (2422.5MHz-2452.5MHz)					
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	2422.5	12	2433.5	23	2444.5
2	2423.5	13	2434.5	24	2445.5
3	2424.5	14	2435.5	25	2446.5
4	2425.5	15	2436.5	26	2447.5
5	2426.5	16	2437.5	27	2448.5
6	2427.5	17	2438.5	28	2449.5

7	2428.5	18	2439.5	29	2450.5
8	2429.5	19	2440.5	30	2451.5
9	2430.5	20	2441.5	31	2452.5
10	2431.5	21	2442.5		
11	2432.5	22	2443.5		

**Table 5: RF Channel and Frequency of 2.4GHz Wi-Fi 802.11 b/g/n**

RF Channel	802.11 b/g/n(HT20)	802.11 n(HT40)
	Frequency (MHz)	Frequency (MHz)
01	2412	
02	2417	
03	2422	2422
04	2427	2427
05	2432	2432
06	2437	2437
07	2442	2442
08	2447	2447
09	2452	2452
10	2457	
11	2462	

### 3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Bluetooth BLE wireless transmitting mode
  - 1) Low Channel
  - 2) Middle Channel
  - 3) High Channel
- B. On, 2.4GHz SDR wireless transmitting mode
  - 1) Low Channel
  - 2) Middle Channel
  - 3) High Channel
- C. On, Wi-Fi 802.11 b/g/n wireless transmitting mode
  - 1) Low Channel
  - 2) Middle Channel
  - 3) High Channel
- D. On, Normal Operation
- E. Off

### 3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

### 3.5 Submitted Documents

- Application Form

## 4 Test Set-up and Operation Modes

### 4.1 Principle of Configuration Selection

**Radio Spectrum:** The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

**Emission:** The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

### 4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10: 2013 and ANSI C63.4: 2014.

According to clause 3.1, all tests were performed on model RCDS18 in this report.

### 4.3 Special Accessories and Auxiliary Equipment

Table 6: Auxiliary Equipment Used during Test

Description	Manufacturer	Model	S/N	Rating
Laptop	Lenovo	T480	PF-16A6N8	N/A

### 4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

## 4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

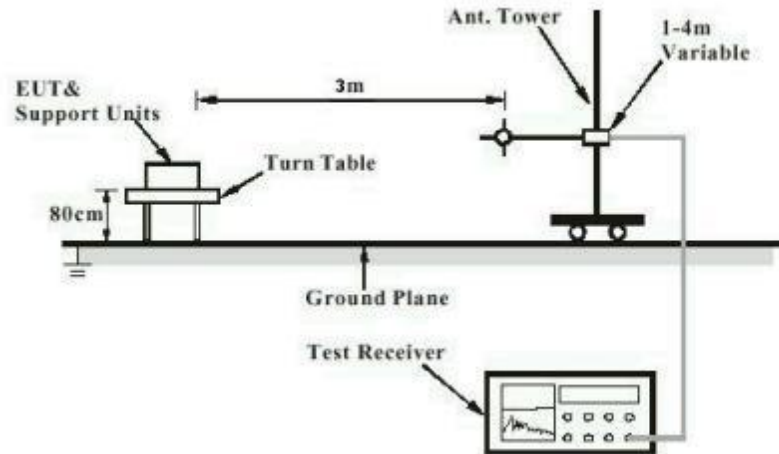


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

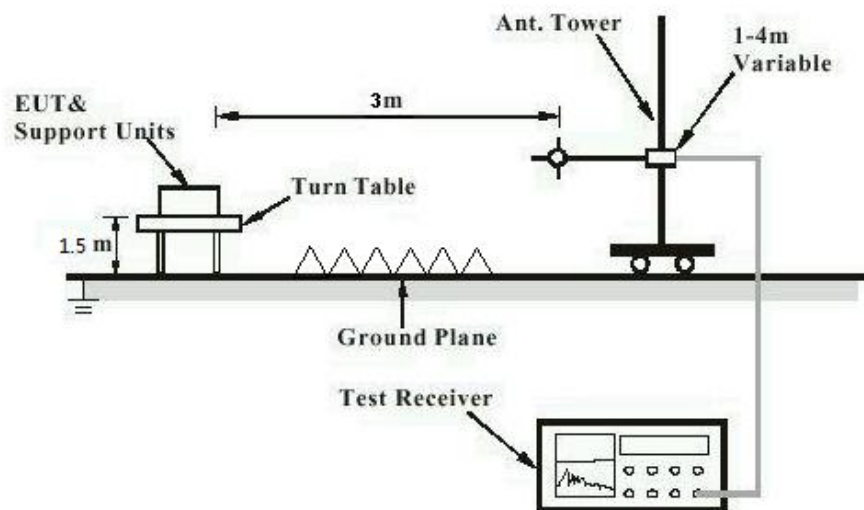




Diagram of Measurement Configuration for Mains Conduction Measurement

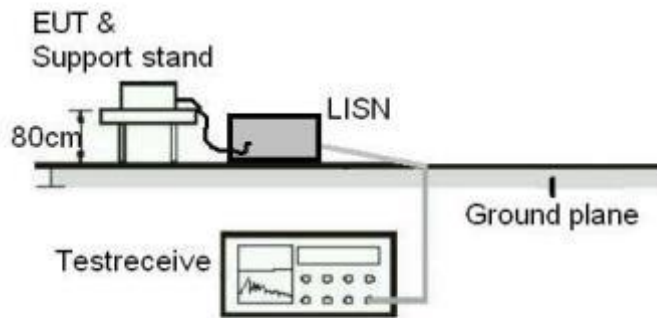
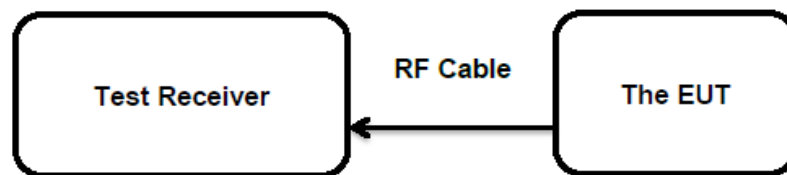


Diagram of Measurement Configuration for Conducted Transmitter Measurement



## 5 Test Results

### 5.1 Transmitter Requirement & Test Suites

#### 5.1.1 Antenna Requirement

RESULT:

Pass

**Test Specification**

Test standard : FCC Part 15.247(b)(4) and Part 15.203

According to the manufacturer declared, the EUT has one internal antenna for Bluetooth and 2.4GHz Wi-Fi, has two external antennas and two internal antennas (receiving only) for 2.4GHz SDR, the max. uncorrelated antenna gain antenna is 1dBi for Bluetooth BLE, 1dBi for 2.4GHz Wi-Fi, 2.5dBi for 2.4GHz SDR, permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

## 5.1.2 Maximum Conducted Output Power

**RESULT:**
**Pass**
**Test Specification**

Test standard	:	FCC Part 15.247(b)(3) RSS-247 Clause 5.4(d)
Basic standard	:	ANSI C63.10: 2013
Limits	:	0.125W, 1.0 Watts
Kind of test site	:	Shielded Room

**Test Setup**

Date of testing	:	2021-12-17 to 2021-01-20
Input voltage	:	Full Battery
Operation mode	:	A, B, C
Test channel	:	Low / Middle / High
Ambient temperature	:	25 °C
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

**Table 7: Test Result of Maximum Conducted Output Power, BLE**

Test Mode	Data Rate	Test Channel (MHz)	Measured Peak Power		Limit (W)
			(dBm)	(W)	
GFSK (BLE)	1 Mbps	2402	<b>4.09</b>	<b>0.0026</b>	< 1.0
		2440	3.90	0.0025	
		2480	3.15	0.0021	
<b>Maximum Measured Value</b>			4.09	0.0026	
Test Mode	Data Rate	Test Channel (MHz)	Measured Peak Power		Limit (W)
			(dBm)	(W)	
GFSK (BLE)	2 Mbps	2402	<b>4.08</b>	<b>0.0026</b>	< 1.0
		2440	3.86	0.0024	
		2480	3.21	0.0021	
<b>Maximum Measured Value</b>			4.08	0.0026	
Max. e.i.r.p.=4.09dBm+1dBi=5.09dBm, which is less than 36dBm=4W.					

**Table 8: Test Result of Maximum Conducted Output Power, Wi-Fi 802.11 b/g/n**

Test Mode	Data Rate	Test Channel (MHz)	Measured Average Power		Limit (W)
			(dBm)	(W)	
802.11b	1 Mbps	2412	12.65	0.0184	< 1.0
		2417	14.19	0.0262	
		2437	16.46	0.0443	
		2457	14.06	0.0255	
		2462	11.86	0.0153	
802.11g	6 Mbps	2412	12.71	0.0187	< 1.0
		2417	14.89	0.0308	
		2437	16.14	0.0411	

		2457	14.79	0.0301	
		2462	13.03	0.0201	
802.11n (HT20)	MCS0	2412	12.93	0.0196	
		2417	14.56	0.0286	
		2437	<b>16.58</b>	<b>0.0455</b>	
		2457	14.54	0.0284	
		2462	12.49	0.0177	
802.11n (HT40)	MCS0	2422	11.27	0.0134	
		2427	12.09	0.0162	
		2437	14.00	0.0251	
		2447	12.21	0.0166	
		2452	11.32	0.0136	
Max. e.i.r.p.=16.58dBm+1dBi=17.58dBm, which is less than 36dBm=4W.					

**Table 9: Test Result of Maximum Conducted Output Power, 2.4GHz SDR**

Worst case for SISO mode

Test Mode	Test Channel (MHz)	Measured Average Power		Limit (W)
		(dBm)	(W)	
1.4MHz BW	2409.5	24.85	0.3055	< 1.0
	2437.5	24.95	0.3126	
	2463.5	25.08	0.3221	
1.4MHz BW CA	2411.12	<b>25.23</b>	<b>0.3334</b>	
	2439.12	25.07	0.3214	
	2465.12	24.96	0.3133	
3MHz BW	2410.5	24.78	0.3006	
	2437.5	24.75	0.2985	
	2461.5	25.07	0.3214	
3MHz BW CA	2413.2	24.76	0.2992	
	2437.2	24.85	0.3055	
	2464.2	25.01	0.3170	
10MHz BW	2405.5	14.68	0.0294	
	2440.5	14.71	0.0296	
	2455.5	14.72	0.0296	
	2456.5	13.64	0.0231	
	2457.5	13.48	0.0223	
	2460.5	11.72	0.0149	
	2465.5	9.98	0.0100	
	2470.5	-0.28	0.0009	
20MHz BW	2410.5	14.92	0.0310	
	2441.5	15.11	0.0324	
	2446.5	12.13	0.0163	
	2450.5	10.52	0.0113	
	2452.5	9.91	0.0098	
	2455.5	8.64	0.0073	
	2460.5	6.77	0.0048	
	2465.5	-0.44	0.0009	
	2468.5	-0.48	0.0009	
40MHz BW	2422.5	14.91	0.0310	
	2437.5	15.38	0.0345	
	2452.5	15.07	0.0321	
Max. e.i.r.p.=25.23dBm+2.5dBi=27.73dBm, which is less than 36dBm=4W.				

Worst case for MIMO mode

Test Mode	Test Channel (MHz)	Measured Average Power		Limit (W)
		(dBm)	(W)	
1.4MHz BW	2409.5	24.70	0.2951	< 1.0
	2437.5	24.72	0.2965	
	2463.5	24.81	0.3027	
1.4MHz BW CA	2411.12	24.65	0.2917	
	2439.12	24.79	0.3013	
	2465.12	24.95	0.3126	
3MHz BW	2410.5	24.90	0.3090	
	2437.5	25.06	0.3206	
	2461.5	24.65	0.2917	
3MHz BW CA	2413.2	<b>25.15</b>	<b>0.3273</b>	
	2437.2	24.69	0.2944	
	2464.2	24.68	0.2938	
10MHz BW	2405.5	15.29	0.0338	
	2440.5	14.79	0.0301	
	2455.5	15.16	0.0328	
	2456.5	14.33	0.0271	
	2457.5	12.65	0.0184	
	2460.5	11.66	0.0147	
	2465.5	9.73	0.0094	
	2470.5	-0.51	0.0009	
20MHz BW	2476.5	-1.81	0.0007	
	2410.5	14.99	0.0316	
	2441.5	15.06	0.0321	
	2446.5	13.15	0.0207	
	2450.5	11.36	0.0137	
	2452.5	10.54	0.0113	
	2455.5	8.58	0.0072	
	2460.5	6.56	0.0045	
	2465.5	1.86	0.0015	
40MHz BW	2468.5	0.61	0.0012	
	2472.5	-1.84	0.0007	
	2422.5	15.23	0.0333	
	2437.5	14.98	0.0315	
	2452.5	15.07	0.0321	

Max. e.i.r.p.=25.15dBm+2.5dBi=27.65dBm, which is less than 36dBm=4W.

Note:

- 1) The cable loss is taken into account in results.
- 2) Antenna gain(G) of Bluetooth BLE: 1dBi  
 Antenna gain(G) of 2.4GHz SDR: 2.5dBi (uncorrelated antenna gain)  
 Antenna gain(G) of 2.4GHz Wi-Fi: 1dBi  
 e.i.r.p.=P<sub>(Conducted power)</sub>+ G, which is far below the 4 W

### 5.1.3 Conducted Power Spectral Density

**RESULT:****Pass****Test Specification**

Test standard	: FCC Part 15.247(e) RSS-247 Clause 5.2(b)
Basic standard	: ANSI C63.10: 2013
Limits	: < 8 dBm / 3kHz
Kind of test site	: Shielded Room

**Test Setup**

Date of testing	: 2021-12-17 to 2021-01-20
Input voltage	: Full Battery
Operation mode	: A, B, C
Test channel	: Low / Middle / High
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A, B, C.

### 5.1.4 6dB Bandwidth

**RESULT:****Pass****Test Specification**

Test standard	:	FCC Part 15.247(a)(2) RSS-247 Clause 5.2(a)
Basic standard	:	ANSI C63.10: 2013
Limits	:	> 500 KHz
Kind of test site	:	Shielded Room

**Test Setup**

Date of testing	:	2021-12-17 to 2021-01-20
Input voltage	:	Full Battery
Operation mode	:	A, B, C
Test channel	:	Low / Middle / High
Ambient temperature	:	25 °C
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix A, B, C.

### 5.1.5 99% Bandwidth

**RESULT:****Pass****Test Specification**

Test standard	:	RSS-Gen Clause 6.6
Basic standard	:	ANSI C63.10: 2013
Kind of test site	:	Shielded Room

**Test Setup**

Date of testing	:	2021-12-17 to 2021-01-20
Input voltage	:	Full Battery
Operation mode	:	A, B, C
Test channel	:	Low / Middle / High
Ambient temperature	:	25 °C
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix A, B, C.



## 5.1.6 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

**RESULT:****Pass****Test Specification**

Test standard	: FCC Part 15.247(d) RSS-247 Clause 5.5
Basic standard	: ANSI C63.10: 2013
Limits	: 20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	: Shielded Room

**Test Setup**

Date of testing	: 2021-12-17 to 2021-01-20
Input voltage	: Full Battery
Operation mode	: A, B, C
Test channel	: Low / Middle / High
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to test plots, and compliance is achieved as well.

For the measurement records, refer to the appendix A, B, C.

## 5.1.7 Radiated Spurious Emission

**RESULT:****Pass****Test Specification**

Test standard	:	FCC Part 15.247(d) & FCC Part 15.205 RSS-247 Clause 3.3
Basic standard	:	ANSI C63.10: 2013
Limits	:	Refer to 15.209(a) of FCC part 15.247(d) RSS-Gen Table 5
Kind of test site	:	3m Semi-anechoic Chamber

**Test Setup**

Date of testing	:	2021-12-17 to 2021-01-20
Input voltage	:	Full Battery
Operation mode	:	A, B, C
Test channel	:	Low / Middle / High
Ambient temperature	:	Refer to test result
Relative humidity	:	Refer to test result
Atmospheric pressure	:	101 kPa

**Remark:**

Testing was carried out within frequency range 9kHz to the tenth harmonics. Only the worst case spurious emissions configuration of the each mode were reported.

For the measurement records, refer to the appendix A, B, C.

## 5.1.8 Conducted Emission on AC Mains

**RESULT:****Pass****Test Specification**

Test standard	:	FCC Part 15.207(a) RSS-Gen Clause 8.8
Basic standard	:	ANSI C63.10: 2013
Frequency range	:	0.15 – 30MHz
Limits	:	FCC Part 15.207(a) RSS-Gen Table 3
Kind of test site	:	Shielded Room

**Test Setup**

Date of testing	:	2021-12-17 to 2021-01-20
Input voltage	:	Full Battery
Operation mode	:	D
Earthing	:	Not connected
Ambient temperature	:	22 °C
Relative humidity	:	64 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix A, B, C.

## 6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix D.

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