

Prüfbericht-Nr.: Test report no.:	CN2272N8 001	Auftrags-Nr.: Order no.:	168350223	Seite 1 von 27 Page 1 of 27	
Kunden-Referenz-Nr.: Client reference no.:	N/A	Auftragsdatum: Order date:	2022-02-07		
Auftraggeber: Client:	SZ DJI TECHNOLOGY CO., LTD. 14th Floor, West Wing, Skyworth Semiconductor Design Building No.18 Gaoxin South 4th Ave Nanshan District, Shenzhen, P.R. China				
Prüfgegenstand: Test item:	DJI Mini 3 Pro				
Bezeichnung / Typ-Nr.: Identification / Type no.:	MT3M3VD (Trademark: DJI)				
Auftrags-Inhalt: Order content:	Test Report				
Prüfgrundlage: Test specification:	CFR47 FCC Part 15: Subpart C Section 15.247				
Wareneingangsdatum: Date of sample receipt:	2022-02-11	Please refer to Photo Document			
Prüfmuster-Nr.: Test sample no:	A003205772-001~002 A003205772-010~011				
Prüfzeitraum: Testing period:	2022-02-16 to 2022-03-08				
Ort der Prüfung: Place of testing:	TÜV Rheinland (Shenzhen) Co., Ltd.				
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.				
Prüfergebnis*: Test result*:	Pass				
geprüft von: tested by:			genehmigt von: authorized by:		
Datum: Date:	2022-03-16 Signed by: Bell Hu		Ausstellungsdatum: Issue date:	2022-03-16 Signed by: Lin Lin	
Stellung / Position:	Project Manager		Stellung / Position:	Reviewer	
Sonstiges / Other:	FCC ID: SS3- MT3M3VD, IC: 11805A-MT3M3VD, HVIN: MT3M3VD, PMN: DJI Mini 3 Pro This report is for Bluetooth BLE, 2.4GHz SDR and 2.4GHz Wi-Fi. Applicant & Manufacturer: SZ DJI TECHNOLOGY CO., LTD, 14th Floor, West Wing, Skyworth Semiconductor Design Building No.18 Gaoxin South 4th Ave Nanshan District, Shenzhen, P.R. China. Mode: MT3M3VD				
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged				
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend N/A = nicht anwendbar	4 = ausreichend 4 = sufficient	5 = mangelhaft N/T = nicht getestet
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory N/A = not applicable	4 = sufficient N/A = not applicable	5 = poor N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.					

Prüfbericht - Nr.: CN2272N8 001
Test Report No.:

Seite 2 von 27
Page 2 of 27

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

Contents

1	GENERAL REMARKS	4
1.1	COMPLEMENTARY MATERIALS	4
2	TEST SITES	5
2.1	TEST FACILITIES	5
2.2	LIST OF TEST AND MEASUREMENT INSTRUMENTS.....	5
2.3	TRACEABILITY	6
2.4	CALIBRATION	6
2.5	MEASUREMENT UNCERTAINTY.....	6
2.6	LOCATION OF ORIGINAL DATA.....	6
2.7	STATUS OF FACILITY USED FOR TESTING.....	6
3	GENERAL PRODUCT INFORMATION	7
3.1	PRODUCT FUNCTION AND INTENDED USE.....	7
3.2	RATINGS AND SYSTEM DETAILS	7
3.3	INDEPENDENT OPERATION MODES	14
3.4	NOISE GENERATING AND NOISE SUPPRESSING PARTS	14
3.5	SUBMITTED DOCUMENTS.....	14
4	TEST SET-UP AND OPERATION MODES	15
4.1	PRINCIPLE OF CONFIGURATION SELECTION	15
4.2	TEST OPERATION AND TEST SOFTWARE.....	15
4.3	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT	15
4.4	COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE	15
4.5	TEST SETUP DIAGRAM	16
5	TEST RESULTS	18
5.1	TRANSMITTER REQUIREMENT & TEST SUITES	18
5.1.1	<i>Antenna Requirement</i>	<i>18</i>
5.1.2	<i>Maximum Conducted Output Power</i>	<i>19</i>
5.1.3	<i>Conducted Power Spectral Density</i>	<i>22</i>
5.1.4	<i>6dB Bandwidth</i>	<i>23</i>
5.1.5	<i>99% Bandwidth</i>	<i>24</i>
5.1.6	<i>Conducted Spurious Emissions Measured in 100 kHz Bandwidth</i>	<i>25</i>
5.1.7	<i>Radiated Spurious Emission</i>	<i>26</i>
6	PHOTOGRAPHS OF THE TEST SET-UP	27
7	LIST OF TABLES.....	27

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

Radio Spectrum Testing (SRD-Tonscend)				
Equipment	Manufacturer	Model	Serial No.	Cal. until
EXA Signal Analyzer, Multi-touch	Keysight	N9010B	MY60241175	2022-09-28
MXG X-Series RF Vector Signal Generator	Keysight	N5182B	MY61250137	2022-09-28
EXG X-Series Microwave Analog Signal Generator	Keysight	N5173B	MY61250141	2022-09-28
DC power supply	Keysight	E3642A	MY61276100	2022-09-28
Power Control Unit	Tonscend	JS0806-4ADC	N/A	2022-09-28
Automation Control Unit	Tonscend	JS0806-2	21C8060396	2022-09-28
Test Software	Tonscend	JS1120-3	N/A	N/A
Control PC	Lenovo	TianYi510S-071MB	YLX23JMF	N/A
Shielding Room 8#	Albatross	SR8	APC17151-SR8	2024-06-22
Unwanted Emission Testing (TS9975)				
Equipment	Manufacturer	Model	Serial No.	Cal. until
EMI Test Receiver	R&S	ESR 7	102021	2022-08-10
Signal Analyzer	R&S	FSV 40	101439	2022-08-09
System Controller Interface	R&S	SCI-100	S10010038	N/A
Filterbank	R&S	Wlan	100759	2022-08-09
OSP	R&S	OSP 120	102040	N/A
Pre-amplifier	R&S	SCU08F1	08320031	2022-08-09
Amplifier	R&S	SCU-18F	180070	2022-08-09
Amplifier	R&S	SCU40A	100475	2022-08-09
Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	2022-08-08
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	2022-08-08
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19067	2022-08-08
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	2022-09-13
Test software	R&S	EMC32 (V10.60.10)	N/A	N/A
Control PC	Dell	OptiPlex 7050	36NV9P2	N/A
3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	2024-06-22

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)	± 2.5 dB
Radiated Emission of Transmitter, valid up to 26.5 GHz	± 6 dB
Radiated Emission of Receiver, valid up to 26.5 GHz	± 6 dB
Temperature	± 1 °C
Humidity	± 5 %
Voltage (DC)	± 1 %
Voltage (AC, <10kHz)	± 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 (**E**quipment **U**nder **T**est) is DJI Mini 3 Pro. It supports Bluetooth, 2.4GHz SDR, 2.4GHz Wi-Fi, 5.8GHz Wi-Fi, 5.8GHz SDR and GNSS functions.

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

When the product in charging, the wireless function will be disabled.

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 Mini 3 Pro
Type Designation	MT3M3VD
Operating Voltage	7.38V DC
Testing Voltage	Fully charged battery
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) 5.8GHz SDR: operating within 5725-5850MHz, supports 1.4MHz/3MHz/10MHz/20MHz/40MHz Bandwidth 5) 5.8GHz Wi-Fi: operating within 5725-5850MHz, supports 20MHz/40MHz/80MHz Bandwidth and IEEE 802.11 a/n20/n40/ac20/ac40/ac80
Adapter	Model: PD-30US Input: AC 100-240V, 50/60Hz, 0.8A Max USB-C Output: DC 3.3-11V, 2.72A or DC 9.0V, 3.0A or DC 12.0V, 2.5A
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 System	1 integral Antenna (only the Ant 3 is for BLE and Wi-Fi)
Antenna Gain	2.0 dBi
The type of wideband data transmission equipment	DTS for Bluetooth BLE
Technical Specification of 2.4GHz SDR	
Operating Frequency	2403.5MHz-2469.5MHz for 1.4MHz Bandwidth 2405.12MHz-2471.12MHz for 1.4MHz Bandwidth (CA mode)

	2405.5MHz-2468.5MHz for 3MHz Bandwidth 2408.2MHz-2471.2MHz for 3MHz Bandwidth (CA mode) 2407.5-2467.5MHz for 10MHz Bandwidth 2412.5-2462.5MHz for 20MHz Bandwidth 2422.5-2452.5MHz for 40MHz Bandwidth
Type of Modulation	OFDM (QPSK, 16QAM, 64QAM)
Channel Number	34 channels for 1.4MHz Bandwidth 34 channels for 1.4MHz Bandwidth (CA mode) 22 channels for 3MHz Bandwidth 22 channels for 3MHz Bandwidth (CA mode) 61 channels for 10MHz Bandwidth 51 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 system	4 integral antennas used for 2.4GHz SDR, only 1TX2RX supported.
Antenna Gain	Ant 0:1.5 dBi Max; Ant 1:1.5 dBi Max; Ant 2:2.5 dBi Max; Ant 3:2.0 dBi Max;
The type of wideband data transmission equipment	DTS
Technical Specification of 2.4GHz Wi-Fi	
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 System	1 integral Antenna (only the Ant 3 is for BLE and Wi-Fi)
Antenna Gain	2.0 dBi
The type of wideband data transmission equipment	DTS

Table 3: RF Channel and Frequency of Bluetooth LE

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	2402	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	19	2440	29	2460	39	2480

Table 4: RF Channel and Frequency of 2.4GHz SDR

2.4GHz 1.4MHz Bandwidth			
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	2403.5	18	2437.5
2	2405.5	19	2439.5
3	2407.5	20	2441.5
4	2409.5	21	2443.5
5	2411.5	22	2445.5
6	2413.5	23	2447.5
7	2415.5	24	2449.5
8	2417.5	25	2451.5
9	2419.5	26	2453.5
10	2421.5	27	2455.5
11	2423.5	28	2457.5
12	2425.5	29	2459.5
13	2427.5	30	2461.5
14	2429.5	31	2463.5
15	2431.5	32	2465.5
16	2433.5	33	2467.5
17	2435.5	34	2469.5

2.4GHz 1.4MHz Bandwidth (CA Mode)			
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	2405.12	18	2439.12
2	2407.12	19	2441.12
3	2409.12	20	2443.12
4	2411.12	21	2445.12
5	2413.12	22	2447.12
6	2415.12	23	2449.12
7	2417.12	24	2451.12
8	2419.12	25	2453.12
9	2421.12	26	2455.12
10	2423.12	27	2457.12
11	2425.12	28	2459.12
12	2427.12	29	2461.12
13	2429.12	30	2463.12
14	2431.12	31	2465.12
15	2433.12	32	2467.12
16	2435.12	33	2469.12
17	2437.12	34	2471.12

2.4GHz 3MHz Bandwidth			
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	2405.5	12	2438.5
2	2408.5	13	2441.5
3	2411.5	14	2444.5
4	2414.5	15	2447.5
5	2417.5	16	2450.5
6	2420.5	17	2453.5
7	2423.5	18	2456.5
8	2426.5	19	2459.5
9	2429.5	20	2462.5
10	2432.5	21	2465.5
11	2435.5	22	2468.5

2.4GHz 3MHz Bandwidth CA Mode			
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	2408.2	12	2441.2
2	2411.2	13	2444.2
3	2414.2	14	2447.2
4	2417.2	15	2450.2
5	2420.2	16	2453.2
6	2423.2	17	2456.2
7	2426.2	18	2459.2
8	2429.2	19	2462.2
9	2432.2	20	2465.2
10	2435.2	21	2468.2
11	2438.2	22	2471.2

2.4GHz 10MHz Bandwidth							
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	2407.5	17	2423.5	33	2439.5	49	2455.5
2	2408.5	18	2424.5	34	2440.5	50	2456.5
3	2409.5	19	2425.5	35	2441.5	51	2457.5
4	2410.5	20	2426.5	36	2442.5	52	2458.5
5	2411.5	21	2427.5	37	2443.5	53	2459.5
6	2412.5	22	2428.5	38	2444.5	54	2460.5
7	2413.5	23	2429.5	39	2445.5	55	2461.5
8	2414.5	24	2430.5	40	2446.5	56	2462.5
9	2415.5	25	2431.5	41	2447.5	57	2463.5
10	2416.5	26	2432.5	42	2448.5	58	2464.5
11	2417.5	27	2433.5	43	2449.5	59	2465.5
12	2418.5	28	2434.5	44	2450.5	60	2466.5
13	2419.5	29	2435.5	45	2451.5	61	2467.5
14	2420.5	30	2436.5	46	2452.5		
15	2421.5	31	2437.5	47	2453.5		
16	2422.5	32	2438.5	48	2454.5		

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

2.4GHz 40MHz Bandwidth (2422.5MHz-2452.5MHz)					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	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) (MHz)	802.11 n(HT40) (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 | - User Manual |
| - | - |

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.

According to clause 3.1, all tests were performed on model MT3M3VD in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 6: Auxiliary Equipment Used during Test

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

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)

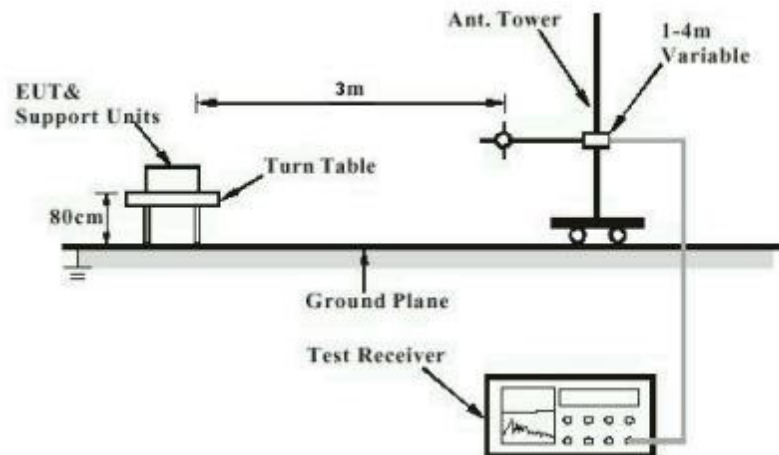


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

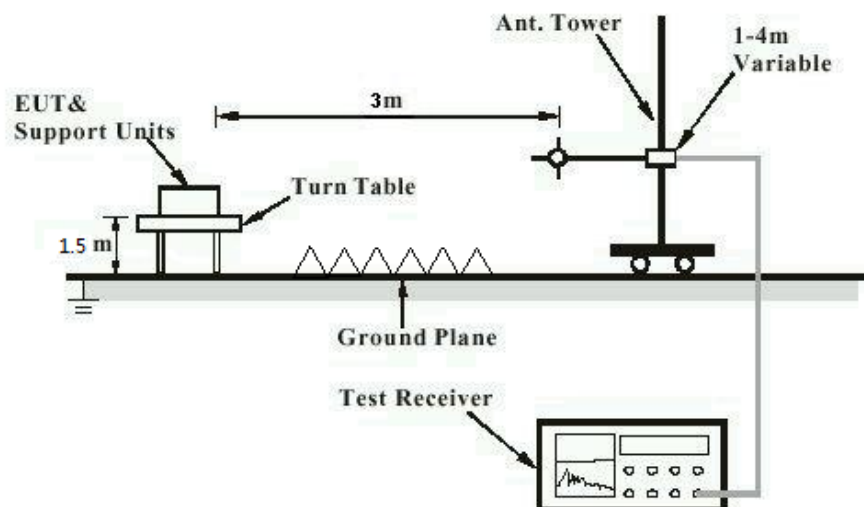


Diagram of Measurement Configuration for Mains Conduction Measurement

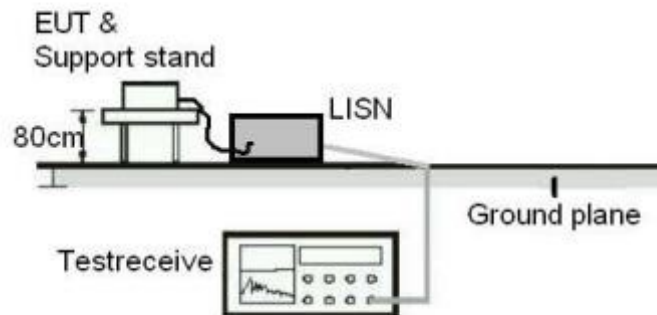
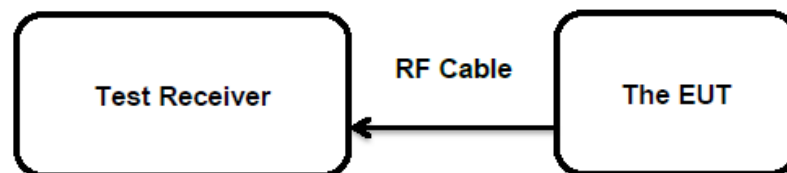


Diagram of Measurement Configuration for Conducted Transmitter Measurement



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 internal antennas, the maximum antenna gain is 2.5dBi for 2.4GHz SDR and 2.0dBi for 2.4GHz Wi-Fi & BLE, and the antenna connector is designed with permanent attachment and no consideration of replacement.

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

Refer to EUT Photo for further details.

Prüfbericht - Nr.: CN2272N8 001
Test Report No.:

Seite 19 von 27
Page 19 of 27

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 : 1.0 Watts

Kind of test site : Shielded Room

Test Setup

Date of testing : 2022-02-17 to 2022-03-03

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, Bluetooth LE

Test Mode	Data Rate	Test Channel (MHz)	Measured Peak Power		Limit (W)
			(dBm)	(W)	
GFSK (BLE)	1 Mbps	2402	5.98	0.0040	< 1.0
		2440	6.03	0.0040	
		2480	6.96	0.0050	
	2 Mbps	2402	6.76	0.0047	
		2440	6.06	0.0040	
		2480	6.65	0.0046	
Max. e.i.r.p.=6.96dBm+2.0dBi=8.96dBm, 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	11.67	0.0147	< 1.0
		2417	13.69	0.0234	
		2437	15.89	0.0388	
		2457	13.58	0.0228	
		2462	11.39	0.0138	
802.11g	6 Mbps	2412	12.16	0.0164	
		2417	14.24	0.0265	
		2437	15.96	0.0394	
		2457	14.31	0.0270	
		2462	12.19	0.0166	
802.11n (HT20)	MCS0	2412	11.63	0.0146	
		2417	13.72	0.0236	
		2437	15.56	0.0360	
		2457	13.66	0.0232	
		2462	11.87	0.0154	
802.11n (HT40)	MCS0	2422	10.65	0.0116	
		2432	12.83	0.0192	
		2437	14.75	0.0299	
		2442	12.79	0.0190	
		2452	10.73	0.0118	

Note: 1. Max. e.i.r.p. = 15.96dBm + 2.0dBi = 17.96dBm, which is less than 36dBm = 4W.
2. A duty cycle greater than 98% for 802.11b/g/n20 and a duty cycle of greater than 96.95% n40 used when in testing, the DC factors have been considered for test results as well.

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

All the Ant ports tested, only the worst-case reported.

Test Mode	Test Channel (MHz)	Measured Average Power		Limit (W)
		(dBm)	(W)	
1.4MHz BW	2403.5	12.69	0.0186	< 1.0
	2435.5	12.67	0.0185	
	2469.5	12.53	0.0179	
1.4MHz BW CA	2405.12	12.77	0.0189	
	2437.12	12.73	0.0187	
	2471.12	12.55	0.0180	
3MHz BW	2405.5	12.78	0.0190	
	2435.5	12.69	0.0186	
	2468.5	12.51	0.0178	
3MHz BW CA	2408.2	12.82	0.0191	
	2438.2	12.75	0.0188	
	2471.2	12.54	0.0179	
10MHz BW	2407.5	21.39	0.1377	
	2437.5	23.01	0.2000	
	2467.5	20.42	0.1102	
20MHz BW	2412.5	13.62	0.0230	
	2415.5	16.97	0.0498	
	2418.5	18.77	0.0753	
	2422.5	20.78	0.1197	
	2437.5	20.94	0.1242	
	2440.5	20.89	0.1227	
	2454.5	20.91	0.1233	
	2455.5	18.61	0.0726	
40MHz BW	2462.5	12.26	0.0168	
	2422.5	9.54	0.0090	
	2427.5	14.44	0.0278	
	2432.5	18.02	0.0634	
	2437.5	18.16	0.0655	
	2440.5	18.06	0.0640	
	2445.5	17.25	0.0531	
	2452.5	9.76	0.0095	

Note: 1. Max. e.i.r.p. =23.01dBm+2.5dBi=25.51dBm, which is less than 36dBm=4W.
2. A duty cycle greater than 98% used when in testing, the DC factors have been considered for test results as well.
3. All Ant ports tested, only the worst-case (Ant 2) reported.

Note:

- 1) The cable loss is taken into account in results.
- 2) Antenna gain(G) : 2.5dBi
e.i.r.p.=P_(Conducted power)+ G, which is far below the 4 W

Prüfbericht - Nr.: CN2272N8 001
Test Report No.:Seite 22 von 27
Page 22 of 27

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	: 2022-02-17 to 2022-03-03
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.

Prüfbericht - Nr.: CN2272N8 001
Test Report No.:Seite 23 von 27
Page 23 of 27

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	:	2022-02-17 to 2022-03-03
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.

Prüfbericht - Nr.: CN2272N8 001
*Test Report No.:*Seite 24 von 27
Page 24 of 27**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	: 2022-02-17 to 2022-03-03
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.

Prüfbericht - Nr.: CN2272N8 001
*Test Report No.:*Seite 25 von 27
Page 25 of 27**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	: 2022-02-17 to 2022-03-03
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.

Prüfbericht - Nr.: CN2272N8 001
*Test Report No.:*Seite 26 von 27
Page 26 of 27

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	: 2022-02-25 to 2022-03-02
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.

6 Photographs of the Test Set-Up

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

7 List of Tables

Table 1: List of Test and Measurement Equipment.....	5
Table 2: Technical Specification of EUT	7
Table 3: RF Channel and Frequency of Bluetooth LE	9
Table 4: RF Channel and Frequency of 2.4GHz SDR.....	9
Table 5: RF Channel and Frequency of 2.4GHz Wi-Fi 802.11 b/g/n	13
Table 6: Auxiliary Equipment Used during Test	15
Table 7: Test Result of Maximum Conducted Output Power, Bluetooth LE	19
Table 8: Test Result of Maximum Conducted Output Power, Wi-Fi 802.11 b/g/n.....	20
Table 9: Test Result of Maximum Conducted Output Power, 2.4GHz SDR	21