

Prüfbericht-Nr.: Test report no.:	CN2272N8 002	Auftrags-Nr.: Order no.:	168350223	Seite 1 von 25 Page 1 of 25	
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 E Section 15.407				
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:	2022-02-15 to 2022-03-03				
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 5.8GHz SDR and 5.8GHz 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 002
Test Report No.:

Seite 2 von 25
Page 2 of 25

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 MAXIMUM OUTPUT POWER

RESULT: Pass

5.1.3 POWER SPECTRAL DENSITY

RESULT: Pass

5.1.4 99% BANDWIDTH

RESULT: Pass

5.1.5 6dB BANDWIDTH

RESULT: Pass

5.1.6 RADIATED SPURIOUS EMISSION

RESULT: Pass

TABLE OF 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	UNCERTAINTY OF MEASUREMENT.....	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	15
4.3	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT	15
4.4	COUNTERMEASURES TO ACHIEVE ERM COMPLIANCE	15
4.5	TEST SETUP DIAGRAM	16
5.	TEST RESULTS	18
5.1	RADIO TEST REQUIREMENT & TEST SUITES (5GHz BANDS)	18
5.1.1	<i>Antenna Requirement</i>	<i>18</i>
5.1.2	<i>Maximum output power.....</i>	<i>19</i>
5.1.3	<i>Power Spectral Density.....</i>	<i>21</i>
5.1.4	<i>99% Bandwidth</i>	<i>22</i>
5.1.5	<i>6dB Bandwidth</i>	<i>23</i>
5.1.6	<i>Radiated Spurious Emission.....</i>	<i>24</i>
6.	PHOTOGRAPHS OF THE TEST SET-UP	25
7.	LIST OF TABLES	25

Prüfbericht - Nr.: CN2272N8 002
Test Report No.:

Seite 4 von 25
Page 4 of 25

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 5.8GHz Wi-Fi

Appendix B: Test Results of 5.8GHz SDR

Appendix C: Photographs of the 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 Uncertainty of Measurement

The value of the measurement uncertainty of each parameter is listed as below:

Table 2: Measurement Uncertainty

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 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 No. 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 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.

Note: When the EUT is in charging by the adapter, wireless functions will be disabled.

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

3.2 Ratings and System Details

Table 3: Technical Specification

General Information of EUT	Value
Kind of Equipment	DJI Mini 3 Pro
Type Designation	MT3M3VD
Operating Voltage	7.38V DC
Testing Voltage	Full 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 5.8GHz SDR	
Operating Frequency	5728.5-5846.5MHz for 1.4MHz Bandwidth 5730.12-5848.12MHz for 1.4MHz Bandwidth (CA mode) 5727.5-5844.5MHz for 3MHz Bandwidth 5730.2-5847.2MHz for 3MHz Bandwidth (CA mode) 5730.5-5844.5MHz for 10MHz Bandwidth 5735.5-5839.5MHz for 20MHz Bandwidth 5745.5-5829.5MHz for 40MHz Bandwidth
Type of Modulation	OFDM (QPSK, 16QAM, 64QAM)
Channel Number	60 channels for 1.4MHz Bandwidth 60 channels for 1.4MHz Bandwidth (CA mode) 40 channels for 3MHz Bandwidth 40 channels for 3MHz Bandwidth (CA mode) 115 channels for 10MHz Bandwidth 105 channels for 20MHz Bandwidth

Prüfbericht - Nr.: CN2272N8 002

Test Report No.:

Seite 8 von 25

Page 8 of 25

	85 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	The SDR mode employing 4 integral antennas, only 1TX2RX mode supported.
Antenna Gain	Ant 0:3.5 dBi Max; Ant 1:2.5 dBi Max; Ant 2:3.5 dBi Max; Ant 3:3.5 dBi Max;
Technical Specification of 5.8GHz Wi-Fi	
Operating Frequency	5745–5825MHz for 802.11 a/n20/n40/ac20/ac40/ac80
Type of Modulation	OFDM(BPSK/QPSK/16QAM/64QAM/256QAM)
Data Rate	6/9/12/18/24/36/48/54 Mbps for 802.11a MCS 0 ~ MCS 7 for 802.11 n20/n40 VHT-MCS 0 ~ VHT-MCS 8 for 802.11 ac20 VHT-MCS 0 ~ VHT-MCS 9 for 802.11 ac40 VHT-MCS 0 ~ VHT-MCS 9 for 802.11 ac80
Channel Number	5 channels for 802.11a/n20/ac20 2 channels for 802.11n40/ac40 1 channels for 802.11ac80
Channel Separation	20MHz, 40MHz, 80MHz
Antenna System	1 integral Antenna (only the Ant 3 is for BLE and Wi-Fi)
Antenna Gain	3.5dBi

Table 4: RF Channel and Frequency of 5.8GHz SDR

5.8GHz 1.4MHzBandwidth					
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	5728.5	21	5768.5	41	5808.5
2	5730.5	22	5770.5	42	5810.5
3	5732.5	23	5772.5	43	5812.5
4	5734.5	24	5774.5	44	5814.5
5	5736.5	25	5776.5	45	5816.5
6	5738.5	26	5778.5	46	5818.5
7	5740.5	27	5780.5	47	5820.5
8	5742.5	28	5782.5	48	5822.5
9	5744.5	29	5784.5	49	5824.5
10	5746.5	30	5786.5	50	5826.5
11	5748.5	31	5788.5	51	5828.5
12	5750.5	32	5790.5	52	5830.5
13	5752.5	33	5792.5	53	5832.5
14	5754.5	34	5794.5	54	5834.5
15	5756.5	35	5796.5	55	5836.5
16	5758.5	36	5798.5	56	5838.5
17	5760.5	37	5800.5	57	5840.5
18	5762.5	38	5802.5	58	5842.5
19	5764.5	39	5804.5	59	5844.5
20	5766.5	40	5806.5	60	5846.5

5.8GHz 1.4MHz Bandwidth (CA Mode)					
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	5730.12	21	5770.12	41	5810.12
2	5732.12	22	5772.12	42	5812.12
3	5734.12	23	5774.12	43	5814.12
4	5736.12	24	5776.12	44	5816.12
5	5738.12	25	5778.12	45	5818.12
6	5740.12	26	5780.12	46	5820.12
7	5742.12	27	5782.12	47	5822.12
8	5744.12	28	5784.12	48	5824.12
9	5746.12	29	5786.12	49	5826.12
10	5748.12	30	5788.12	50	5828.12
11	5750.12	31	5790.12	51	5830.12
12	5752.12	32	5792.12	52	5832.12
13	5754.12	33	5794.12	53	5834.12
14	5756.12	34	5796.12	54	5836.12
15	5758.12	35	5798.12	55	5838.12
16	5760.12	36	5800.12	56	5840.12
17	5762.12	37	5802.12	57	5842.12

Prüfbericht - Nr.: CN2272N8 002
Test Report No.:
Seite 10 von 25
Page 10 of 25

18	5764.12	38	5804.12	58	5844.12
19	5766.12	39	5806.12	59	5846.12
20	5768.12	40	5808.12	60	5848.12

5.8GHz 3MHz Bandwidth					
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	5727.5	15	5769.5	29	5811.5
2	5730.5	16	5772.5	30	5814.5
3	5733.5	17	5775.5	31	5817.5
4	5736.5	18	5778.5	32	5820.5
5	5739.5	19	5781.5	33	5823.5
6	5742.5	20	5784.5	34	5826.5
7	5745.5	21	5787.5	35	5829.5
8	5748.5	22	5790.5	36	5832.5
9	5751.5	23	5793.5	37	5835.5
10	5754.5	24	5796.5	38	5838.5
11	5757.5	25	5799.5	39	5841.5
12	5760.5	26	5802.5	40	5844.5
13	5763.5	27	5805.5	/	/
14	5766.5	28	5808.5	/	/

5.8GHz 3MHz Bandwidth CA Mode					
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	5730.2	15	5772.2	29	5814.2
2	5733.2	16	5775.2	30	5817.2
3	5736.2	17	5778.2	31	5820.2
4	5739.2	18	5781.2	32	5823.2
5	5742.2	19	5784.2	33	5826.2
6	5745.2	20	5787.2	34	5829.2
7	5748.2	21	5790.2	35	5832.2
8	5751.2	22	5793.2	36	5835.2
9	5754.2	23	5796.2	37	5838.2
10	5757.2	24	5799.2	38	5841.2
11	5760.2	25	5802.2	39	5844.2
12	5763.2	26	5805.2	40	5847.2
13	5766.2	27	5808.2	/	/
14	5769.2	28	5811.2	/	/

Prüfbericht - Nr.: CN2272N8 002
Test Report No.:
Seite 11 von 25
Page 11 of 25

5.8GHz 10MHzBandwidth					
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	5730.5	40	5769.5	79	5808.5
2	5731.5	41	5770.5	80	5809.5
3	5732.5	42	5771.5	81	5810.5
4	5733.5	43	5772.5	82	5811.5
5	5734.5	44	5773.5	83	5812.5
6	5735.5	45	5774.5	84	5813.5
7	5736.5	46	5775.5	85	5814.5
8	5737.5	47	5776.5	86	5815.5
9	5738.5	48	5777.5	87	5816.5
10	5739.5	49	5778.5	88	5817.5
11	5740.5	50	5779.5	89	5818.5
12	5741.5	51	5780.5	90	5819.5
13	5742.5	52	5781.5	91	5820.5
14	5743.5	53	5782.5	92	5821.5
15	5744.5	54	5783.5	93	5822.5
16	5745.5	55	5784.5	94	5823.5
17	5746.5	56	5785.5	95	5824.5
18	5747.5	57	5786.5	96	5825.5
19	5748.5	58	5787.5	97	5826.5
20	5749.5	59	5788.5	98	5827.5
21	5750.5	60	5789.5	99	5828.5
22	5751.5	61	5790.5	100	5829.5
23	5752.5	62	5791.5	101	5830.5
24	5753.5	63	5792.5	102	5831.5
25	5754.5	64	5793.5	103	5832.5
26	5755.5	65	5794.5	104	5833.5
27	5756.5	66	5795.5	105	5834.5
28	5757.5	67	5796.5	106	5835.5
29	5758.5	68	5797.5	107	5836.5
30	5759.5	69	5798.5	108	5837.5
31	5760.5	70	5799.5	109	5838.5
32	5761.5	71	5800.5	110	5839.5
33	5762.5	72	5801.5	111	5840.5
34	5763.5	73	5802.5	112	5841.5
35	5764.5	74	5803.5	113	5842.5
36	5765.5	75	5804.5	114	5843.5
37	5766.5	76	5805.5	115	5844.5
38	5767.5	77	5806.5	/	/
39	5768.5	78	5807.5	/	/

5.8GHz 20MHz Bandwidth					
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	5735.5	36	5770.5	71	5805.5
2	5736.5	37	5771.5	72	5806.5
3	5737.5	38	5772.5	73	5807.5
4	5738.5	39	5773.5	74	5808.5
5	5739.5	40	5774.5	75	5809.5
6	5740.5	41	5775.5	76	5810.5
7	5741.5	42	5776.5	77	5811.5
8	5742.5	43	5777.5	78	5812.5
9	5743.5	44	5778.5	79	5813.5
10	5744.5	45	5779.5	80	5814.5
11	5745.5	46	5780.5	81	5815.5
12	5746.5	47	5781.5	82	5816.5
13	5747.5	48	5782.5	83	5817.5
14	5748.5	49	5783.5	84	5818.5
15	5749.5	50	5784.5	85	5819.5
16	5750.5	51	5785.5	86	5820.5
17	5751.5	52	5786.5	87	5821.5
18	5752.5	53	5787.5	88	5822.5
19	5753.5	54	5788.5	89	5823.5
20	5754.5	55	5789.5	90	5824.5
21	5755.5	56	5790.5	91	5825.5
22	5756.5	57	5791.5	92	5826.5
23	5757.5	58	5792.5	93	5827.5
24	5758.5	59	5793.5	94	5828.5
25	5759.5	60	5794.5	95	5829.5
26	5760.5	61	5795.5	96	5830.5
27	5761.5	62	5796.5	97	5831.5
28	5762.5	63	5797.5	98	5832.5
29	5763.5	64	5798.5	99	5833.5
30	5764.5	65	5799.5	100	5834.5
31	5765.5	66	5800.5	101	5835.5
32	5766.5	67	5801.5	102	5836.5
33	5767.5	68	5802.5	103	5837.5
34	5768.5	69	5803.5	104	5838.5
35	5769.5	70	5804.5	105	5839.5

5.8GHz 40MHz Bandwidth					
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	5745.5	30	5774.5	59	5803.5
2	5746.5	31	5775.5	60	5804.5
3	5747.5	32	5776.5	61	5805.5
4	5748.5	33	5777.5	62	5806.5
5	5749.5	34	5778.5	63	5807.5
6	5750.5	35	5779.5	64	5808.5
7	5751.5	36	5780.5	65	5809.5
8	5752.5	37	5781.5	66	5810.5
9	5753.5	38	5782.5	67	5811.5
10	5754.5	39	5783.5	68	5812.5
11	5755.5	40	5784.5	69	5813.5
12	5756.5	41	5785.5	70	5814.5
13	5757.5	42	5786.5	71	5815.5
14	5758.5	43	5787.5	72	5816.5
15	5759.5	44	5788.5	73	5817.5
16	5760.5	45	5789.5	74	5818.5
17	5761.5	46	5790.5	75	5819.5
18	5762.5	47	5791.5	76	5820.5
19	5763.5	48	5792.5	77	5821.5
20	5764.5	49	5793.5	78	5822.5
21	5765.5	50	5794.5	79	5823.5
22	5766.5	51	5795.5	80	5824.5
23	5767.5	52	5796.5	81	5825.5
24	5768.5	53	5797.5	82	5826.5
25	5769.5	54	5798.5	83	5827.5
26	5770.5	55	5799.5	84	5828.5
27	5771.5	56	5800.5	85	5829.5
28	5772.5	57	5801.5	/	/
29	5773.5	58	5802.5	/	/

Table 5: RF Channel and Frequency of 5.8GHz Wi-Fi

U-NII-3							
20MHz Bandwidth		40MHz Bandwidth		80MHz Bandwidth			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)		
149	5745	151	5755	155	5775		
153	5765	159	5795				
157	5785						
161	5805						
165	5825						

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, 5.8GHz SDR wireless transmitting mode
 - 1) Low Channel
 - 2) Middle Channel
 - 3) High Channel
- B. On, 5.8GHz Wi-Fi wireless transmitting mode
 - 1) Low Channel
 - 2) Middle Channel
 - 3) High Channel
- C. On, Normal Operation
- D. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

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

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: List of Accessories and Auxiliary Equipment

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

4.4 Countermeasures to Achieve ERM 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)

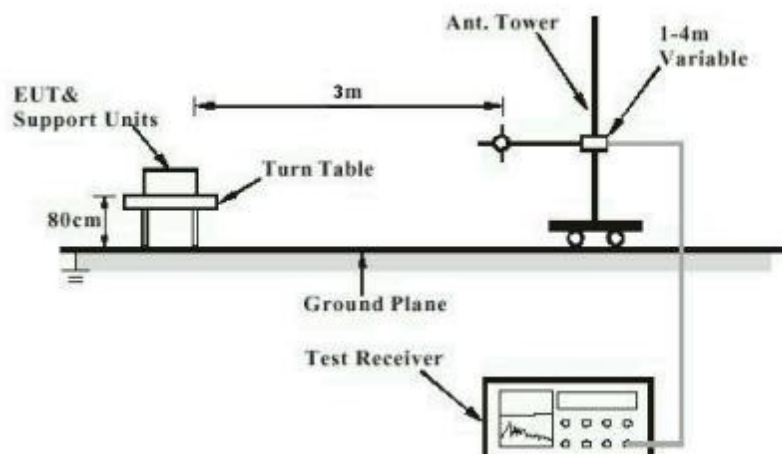


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

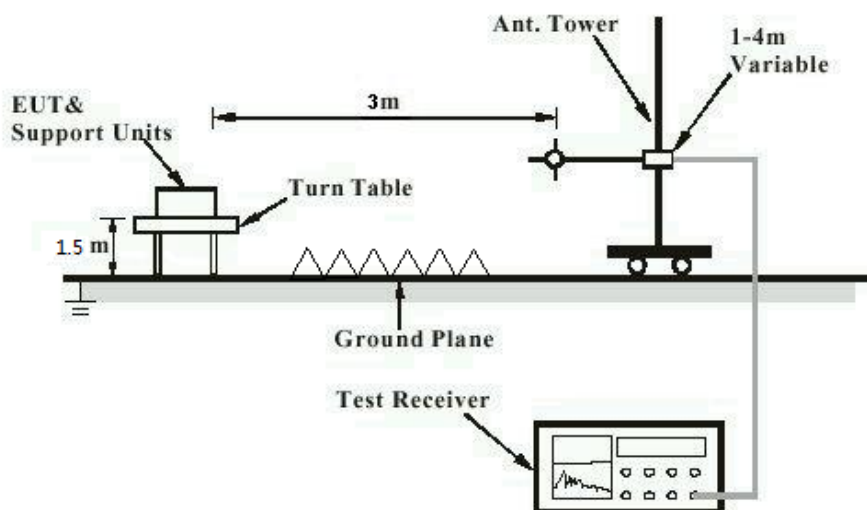


Diagram of Measurement Configuration for Mains Conduction Measurement

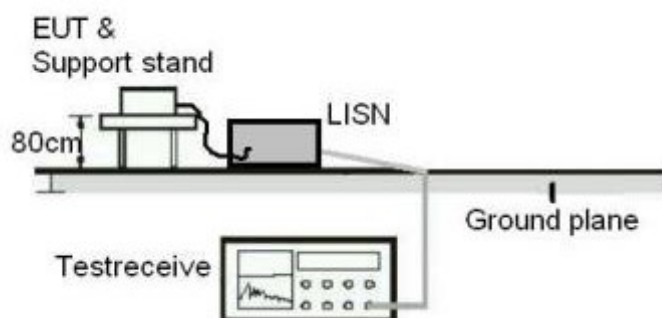
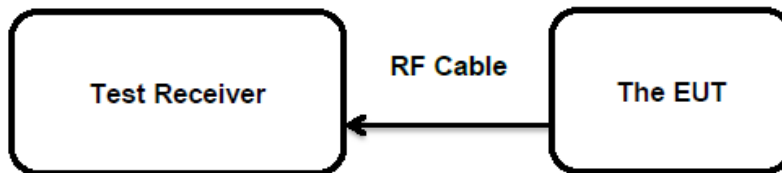


Diagram of Measurement Configuration for Conducted Transmitter Measurement



Prüfbericht - Nr.: CN2272N8 002
Test Report No.:

Seite 18 von 25
Page 18 of 25

5. Test Results

5.1 Radio Test Requirement & Test Suites (5GHz Bands)

5.1.1 Antenna Requirement

RESULT:

Pass

Test Specification

Test standard : FCC Part 15.203

According to the manufacturer declared, the EUT has internal antennas, the Maximum antenna gain is 3.5dBi, 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 002

Test Report No.:

Seite 19 von 25

Page 19 of 25

5.1.2 Maximum output power
RESULT:
Pass
Test Specification

Test standard	: FCC Part 15.407 (a)
	: RSS-247 clause 6.2
Basic standard	: ANSI C63.10:2013
Limits	: Max conducted output power <1W (30dBm) (5725-5850MHz)
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
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, 5.8GHz SDR

Test Mode	Test Channel (MHz)	Measured Power		Limit (W)
		(dBm)	(W)	
1.4MHz BW	5728.5	10.56	0.0114	< 1.0
	5786.5	10.65	0.0116	
	5846.5	10.14	0.0103	
1.4MHz BW CA	5730.12	10.19	0.0104	
	5788.12	10.52	0.0113	
	5848.12	10.25	0.0106	
3MHz BW	5727.5	10.30	0.0107	
	5784.5	10.73	0.0118	
	5844.5	10.39	0.0109	
3MHz BW CA	5730.2	10.45	0.0111	
	5787.2	10.86	0.0122	
	5847.2	10.74	0.0119	
10MHz BW	5730.5	23.17	0.2075	
	5787.5	23.11	0.2046	
	5844.5	23.38	0.2178	
20MHz BW	5735.5	23.08	0.2032	
	5787.5	23.01	0.2000	
	5839.5	23.42	0.2198	
40MHz BW	5745.5	20.59	0.1146	
	5787.5	23.08	0.2032	
	5829.5	20.58	0.1143	

1. Max. e.i.r.p.= 23.42dBm+3.5dBi=26.92dBm, which is less than 36dBm=4W.
2. All Ant ports tested, only the worst-case (Ant 2) reported.
3. A duty cycle of greater than 98% used in testing, the DC factors have been considered for test results as well.

Table 8: Test Result of Maximum Conducted Output Power, 5.8GHz Wi-Fi

Test Mode	Data Rate	Test Channel	Measured Power		Limit (W)
			(dBm)	(W)	
802.11a	6 Mbps	149	16.00	0.0398	< 1.0
		157	15.69	0.0371	
		165	15.72	0.0373	
802.11n (HT20)	MCS0	149	16.42	0.0439	
		157	16.09	0.0406	
		165	16.2	0.0417	
802.11n (HT40)	MCS0	151	16.45	0.0442	
		159	16.39	0.0436	
802.11ac (HT20)	MCS0	149	16.20	0.0417	
		157	16.24	0.0421	
		165	16.22	0.0419	
802.11ac (HT40)	MCS0	151	16.41	0.0438	
		159	16.56	0.0453	
802.11ac (HT80)	MCS0	155	16.55	0.0452	

Max. e.i.r.p. =16.56dBm+3.5dBi=20.06dBm, which is less than 36dBm=4W.
A duty cycle of greater than 98% used in testing for all modes except for 802.11ac80 (92.42%), and the DC factors have been considered for test results as well.

Note:

- 1) The cable loss is taken into account in results.
- 2) Antenna gain(G): 3.5dBi
e.i.r.p.=P_(Peak power)+ G, which is far below the 4 W

Prüfbericht - Nr.: CN2272N8 002

Test Report No.:

Seite 21 von 25

Page 21 of 25

5.1.3 Power Spectral Density**RESULT:****Pass****Test Specification**

Test standard	:	FCC Part 15.407 (a)
	:	RSS-247 clause 6.2
Basic standard	:	ANSI C63.10:2013
	:	FCC:
	:	<30dBm/500KHz (5725-5850MHz)
Limits	:	
	:	IC:
	:	<30dBm/500KHz (5725-5850MHz)
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
Test channel	:	Low / Middle / High
Ambient temperature	:	25 °C
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to attached Appendix A, B for details of test data.

Prüfbericht - Nr.: CN2272N8 002
Test Report No.:

Seite 22 von 25
Page 22 of 25

5.1.4 99% Bandwidth

RESULT:

Pass

Test Specification

Test standard	:	FCC Part 15.407
	:	RSS-Gen Clause 6.6
Basic standard	:	ANSI C63.10:2013
Limits	:	N/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
Test channel	:	Low / Middle / High
Ambient temperature	:	25 °C
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to attached Appendix A, B for details of test data.

Prüfbericht - Nr.: CN2272N8 002
Test Report No.:

Seite 23 von 25
Page 23 of 25

5.1.5 6dB Bandwidth

RESULT:

Pass

Test Specification

Test standard	:	FCC Part 15.407 (e)
	:	RSS-247 clause 6.2.4.1
Basic standard	:	ANSI C63.10:2013
Limits	:	At least 500KHz (5725-5850MHz)
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
Test channel	:	Low / Middle / High
Ambient temperature	:	25 °C
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to attached Appendix A, B for details of test data.

5.1.6 Radiated Spurious Emission

RESULT:

Pass

Test Specification

Test standard

: FCC Part 15.407(b) & FCC Part 15.205 & FCC Part 15.209
RSS-247 clause 6.2 & RSS-GEN clause 8.9 and 8.10

Basic standard

: ANSI C63.10:2013

Limits

- For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- Emissions outside the band 5470-5600 MHz and 5650-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p.
- For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- Restricted Bands meet the requirement of 15.209 limit and RSS-GEN

Kind of test site

: 3m Semi-Anechoic Chamber (below 1GHz)
3m Anechoic Chamber (above 1GHz)

Test Setup

Date of testing

: 2022-02-20 to 2022-03-04

Input voltage

: Full Battery

Operation mode

: A, B

Test channel

: Low / Middle / High

Ambient temperature

: 23 °C

Relative humidity

: 48 %

Atmospheric pressure

: 101 kPa

Refer to attached Appendix A, B for details of test data.

6. Photographs of the Test Set-Up

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

7. List of Tables

Table 1: List of Test and Measurement Equipment	5
Table 2: Measurement Uncertainty	6
Table 3: Technical Specification	7
Table 4: RF Channel and Frequency of 5.8GHz SDR	9
Table 5: RF Channel and Frequency of 5.8GHz Wi-Fi	13
Table 6: List of Accessories and Auxiliary Equipment	15
Table 7: Test Result of Maximum Conducted Output Power, 5.8GHz SDR	19
Table 8: Test Result of Maximum Conducted Output Power, 5.8GHz Wi-Fi	20