

Prüfbericht-Nr.: <i>Test report no.:</i>	CN22SRMQ 003	Auftrags-Nr.: <i>Order no.:</i>	168379672	Seite 1 von 25 <i>Page 1 of 25</i>
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2022-06-29	
Auftraggeber: <i>Client:</i>	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: <i>Test item:</i>	DJI Mavic 3E, DJI Mavic 3T			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	M3E, M3T (Trademark: DJI)			
Auftrags-Inhalt: <i>Order content:</i>	Test Report			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart E Section 15.407			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2022-07-07	Please refer to photo documents		
Prüfmuster-Nr.: <i>Test sample no.:</i>	A003293964-004~005 A003293964-010, 017, 018			
Prüfzeitraum: <i>Testing period:</i>	2022-07-15 to 2022-08-02			
Ort der Prüfung: <i>Place of testing:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von: <i>tested by:</i>	<u>x Bell Hu</u> <small>Signed by: Bell Hu</small>	genehmigt von: <i>authorized by:</i>	<u>X Lin Lin</u> <small>Signed by: Lin Lin</small>	
Datum: <i>Date:</i>	2022-09-14	Ausstellungsdatum: <i>Issue date:</i>	2022-09-14	
Stellung / Position:	Project Manager	Stellung / Position:	Reviewer	
Sonstiges / Other:	FCC ID: SS3-M3E2206 This report is for 5.8GHz SDR.			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* 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 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/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. <i>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.</i>				

V05

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 FREQUENCY STABILITY

RESULT: Pass

5.1.5 99% BANDWIDTH

RESULT: Pass

5.1.6 6dB BANDWIDTH

RESULT: Pass

5.1.7 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	17
5.1	RADIO TEST REQUIREMENT & TEST SUITES (5GHZ BANDS)	17
5.1.1	<i>Antenna Requirement</i>	<i>17</i>
5.1.2	<i>Maximum output power.....</i>	<i>18</i>
5.1.3	<i>Power Spectral Density.....</i>	<i>20</i>
5.1.4	<i>Frequency Stability.....</i>	<i>21</i>
5.1.5	<i>99% Bandwidth</i>	<i>22</i>
5.1.6	<i>6dB Bandwidth</i>	<i>23</i>
5.1.7	<i>Radiated Spurious Emission.....</i>	<i>24</i>
6.	PHOTOGRAPHS OF THE TEST SET-UP	25
7.	LIST OF TABLES	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 SDR

Appendix B: Photographs of the Test Set-up

2. Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, People's Republic of China

FCC Accreditation Designation No.: CN1260

ISED Wireless Device Testing Laboratory: 25069

A2LA Certificate Number: 5162.01

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	2023-08-02
Signal Analyzer	R&S	FSV 40	101439	2023-08-01
System Controller Interface	R&S	SCI-100	S10010038	N/A
Filterbank	R&S	Wlan	100759	2023-08-01
OSP	R&S	OSP 120	102040	N/A
Pre-amplifier	R&S	SCU08F1	08320031	2023-08-02
Amplifier	R&S	SCU-18F	180070	2023-08-02
Amplifier	R&S	SCU40A	100475	2023-08-02
Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	2023-08-06
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	2023-08-06
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19067	2023-08-08
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	2023-08-06
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 (k=2)
Occupied Channel Bandwidth	± 2.08 %
RF output power, conducted	± 0.99 dB
RF power density, conducted	± 0.99 dB
Unwanted Emissions, conducted	± 0.89 dB
All emissions, radiated	± 4.17 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B 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 Product is DJI Aircraft. It supports 2.4GHz SDR, 5.8GHz SDR and GNSS functions.
*remark: SDR means specific defined radio, and cannot changes radio specification via software/firmware by end-users.

In this report, full test model M3E and partial test model M3T.

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

For details refer to user manual and circuit diagram.

3.2 Ratings and System Details

Table 3: Technical Specification

General Information of EUT	Value
Kind of Equipment	DJI Mavic 3E, DJI Mavic 3T
Type Designation	M3E, M3T(They are identical in circuitry design, PCB layout, electrical components and internal wiring, the only difference is that M3T camera supports thermal Imaging function, which not supported by M3E camera)
FCC ID	SS3-M3E2206
Operating Temperature Range	-10°C ~ 40 °C
Operating Voltage	AC 100-240V, 50/60Hz input via AC/DC adapter` or Battery operated (DC 15.4V)
Kind of Equipment	DJI Mavic 3E, DJI Mavic 3T
Radiofrequency operating mode	1) 2.4GHz SDR: operating within 2400-2483.5MHz, supports 1.4MHz/3MHz/10MHz/20MHz/40MHz Bandwidth 2) 5.8GHz SDR: operating within 5725-5850MHz, supports 1.4MHz/3MHz/10MHz/20MHz/40MHz Bandwidth 3) GNSS: 1559 to 1610 MHz
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 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 Type	Integral Antenna
Antenna Number	4 Integral Antennas assembled, only SISO and 2X2MIMO modes supported. 1Tx1Rx for SISO mode (ANT0 or ANT1 or ANT2 or ANT3) 2Tx2Rx for MIMO mode (ANT0+ANT1 or ANT0+ANT3 or ANT2+ANT1 or ANT2+ANT3) As for MIMO mode, The Directional gain = $G_{ANT} + 10 \log(N_{ANT})$ dBi, G_{ANT} is the highest antenna gain among all antennas.
Antenna Gain	3.0 dBi for Ant 0 & Ant 3 2.5 dBi for Ant 1 & Ant 2
The type of wideband data transmission equipment	Non-FHSS

Table 4: RF Channel and Frequency of 5.8GHz SDR

5.8GHz 1.4MHzBandwidth (5728.5MHz-5846.5MHz)					
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) (5730.12MHz-5848.12MHz)					
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
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 (5727.5MHz-5844.5MHz)					
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) (5730.2MHz-5847.2MHz)					
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		

5.8GHz 10MHzBandwidth (5730.5MHz-5844.5MHz)					
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 (5735.5MHz-5839.5MHz)					
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 (5745.5MHz-5829.5MHz)					
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		

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, Normal Operation
- C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Application Form
- Block Diagram
- User Manual
- ID Label and Location Info

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.

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 M3E and M3T in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 5: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N
Laptop	Lenovo	T480	PF-16A6N8
Remote Control	DJI	RM510B	5YSZK66001003D

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)

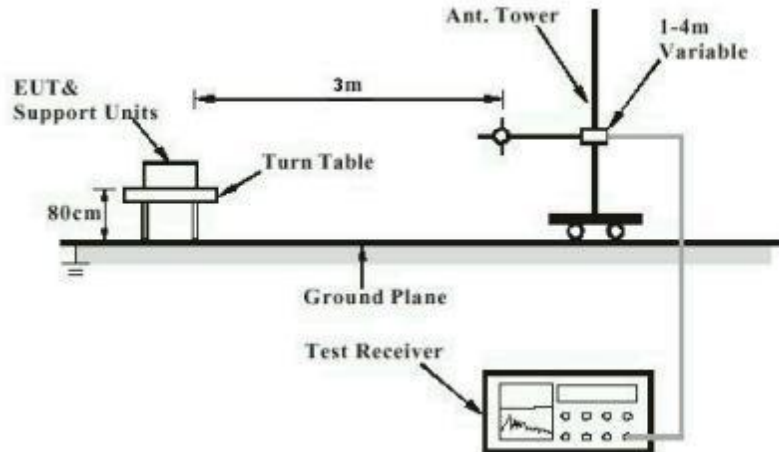


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

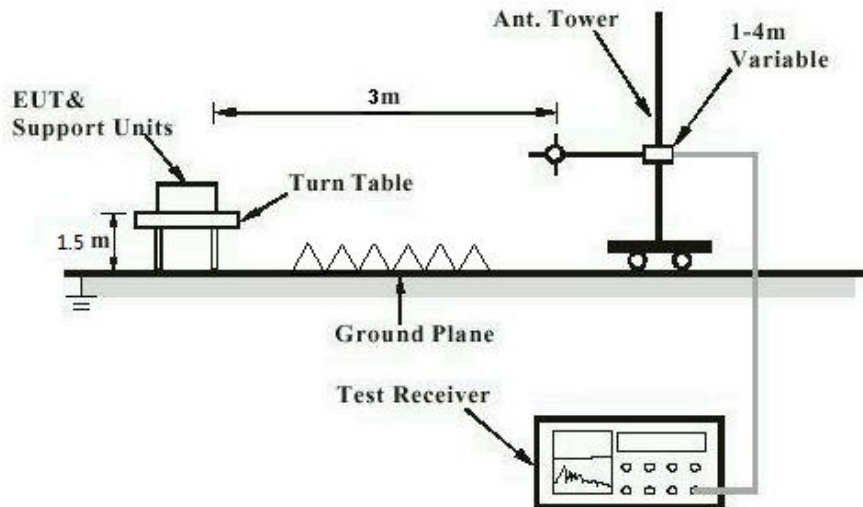
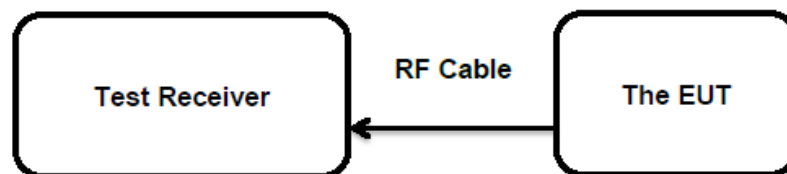


Diagram of Measurement Configuration for Conducted Transmitter Measurement



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 Integral Antennas, permanent attached and no consideration of replacement. Details as listed on section 3.2 table 2.

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

Refer to EUT Photo for further details.

5.1.2 Maximum output power
RESULT:
Pass
Test Specification

Test standard : FCC Part 15.407 (a)
 Basic standard : ANSI C63.10:2013
 Limits : <1W (30dBm) (5725-5850MHz)
 Kind of test site : Shielded Room

Test Setup

Date of testing : 2022-07-15 to 2022-07-20
 Input voltage : Fully charged battery
 Operation mode : A
 Test channel : Low / Middle / High
 Ambient temperature : 25.6 °C
 Relative humidity : 55 %
 Atmospheric pressure : 101 kPa

Table 6: Test Result of Maximum Conducted Output Power, 5.8GHz SDR

Worst case for SISO mode Ant 0

Test Mode	Test Channel (MHz)	Measured Power		Limit (W)
		(dBm)	(W)	
1.4MHz BW	5728.5	16.37	0.0434	< 1.0
	5786.5	16.86	0.0485	
	5846.5	16.94	0.0494	
1.4MHz BW CA	5730.12	17.06	0.0508	
	5788.12	16.89	0.0489	
	5848.12	16.85	0.0484	
3MHz BW	5727.5	16.63	0.0460	
	5784.5	16.47	0.0444	
	5844.5	16.43	0.0440	
3MHz BW CA	5730.2	16.64	0.0461	
	5787.2	16.50	0.0447	
	5847.2	16.00	0.0398	
10MHz BW	5730.5	24.66	0.2924	
	5787.5	25.16	0.3281	
	5844.5	24.35	0.2723	
20MHz BW	5735.5	24.80	0.3020	
	5787.5	25.14	0.3266	
	5839.5	24.30	0.2692	
40MHz BW	5745.5	21.96	0.1570	
	5756.5	23.75	0.2371	
	5762.5	24.44	0.2780	
	5763.5	25.04	0.3192	
	5787.5	25.38	0.3451	
	5805.5	24.72	0.2965	
	5806.5	24.01	0.2518	
5829.5	21.14	0.1300		

Worst case for MIMO mode

Test Mode	Test Channel (MHz)	Measured Power		Limit (W)
		(dBm)	(W)	
1.4MHz BW	5728.5	17.13	0.0516	< 1.0
	5786.5	16.65	0.0462	
	5846.5	16.51	0.0448	
1.4MHz BW CA	5730.12	16.90	0.0490	
	5788.12	16.91	0.0491	
	5848.12	16.76	0.0474	
3MHz BW	5727.5	16.67	0.0465	
	5784.5	16.50	0.0447	
	5844.5	16.42	0.0439	
3MHz BW CA	5730.2	16.94	0.0494	
	5787.2	16.70	0.0468	
	5847.2	16.42	0.0439	
10MHz BW	5730.5	25.13	0.3258	
	5787.5	23.65	0.2317	
	5844.5	23.58	0.2280	
20MHz BW	5735.5	24.98	0.3148	
	5787.5	23.34	0.2158	
	5839.5	23.28	0.2128	
40MHz BW	5745.5	21.73	0.1489	
	5756.5	22.90	0.1950	
	5762.5	23.68	0.2333	
	5763.5	25.48	0.3532	
	5787.5	26.18	0.4150	
	5799.5	25.78	0.3784	
	5800.5	24.24	0.2655	
5829.5	21.27	0.1340		

Note:

- 1) The cable loss and duty cycle are taken into account in results.
- 2) Max. Antenna gain(G) of 5.8GHz SDR: 3.0dBi
- 3) Both SISO and MIMO tested for all RF ports, only the worst-case reported.

Prüfbericht - Nr.: CN22SRMQ 003
Test Report No.:Seite 20 von 25
Page 20 of 25**5.1.3 Power Spectral Density****RESULT:****Pass****Test Specification**

Test standard : FCC Part 15.407 (a)
Basic standard : ANSI C63.10:2013
Limits : <30dBm/500KHz (5725-5850MHz)
Kind of test site : Shielded Room

Test Setup

Date of testing : 2022-07-15 to 2022-07-18
Input voltage : Fully charged battery
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : 25.6 °C
Relative humidity : 55 %
Atmospheric pressure : 101 kPa

Refer to attached Appendix A for details of test data.

Prüfbericht - Nr.: CN22SRMQ 003
Test Report No.:

Seite 21 von 25
Page 21 of 25

5.1.4 Frequency Stability

RESULT:

N/A

Test Specification

Test standard	: FCC Part 15.407 (g)
Basic standard	: ANSI C63.10:2013
Limits	: Within assigned bands
Kind of test site	: Shielded Room

As declared, the device will be maintained within assigned bands under all conditions of normal operation as Specified.

Prüfbericht - Nr.: CN22SRMQ 003
Test Report No.:Seite 22 von 25
Page 22 of 25**5.1.5 99% Bandwidth****RESULT:****Pass****Test Specification**

Test standard : FCC Part 15.407
Basic standard : ANSI C63.10:2013
Limits : N/A
Kind of test site : Shielded Room

Test Setup

Date of testing : 2022-07-15 to 2022-07-18
Input voltage : Fully charged battery
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : 25.6 °C
Relative humidity : 55 %
Atmospheric pressure : 101 kPa

Refer to attached Appendix A for details of test data.

Prüfbericht - Nr.: CN22SRMQ 003
Test Report No.:Seite 23 von 25
Page 23 of 25**5.1.6 6dB Bandwidth****RESULT:****Pass****Test Specification**

Test standard : FCC Part 15.407 (e)
Basic standard : ANSI C63.10:2013
Limits : At least 500KHz (5725-5850MHz)
Kind of test site : Shielded Room

Test Setup

Date of testing : 2022-07-15 to 2022-07-18
Input voltage : Fully charged battery
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : 25.6 °C
Relative humidity : 55 %
Atmospheric pressure : 101 kPa

Refer to attached Appendix A for details of test data.

5.1.7 Radiated Spurious Emission**RESULT:****Pass****Test Specification**

Test standard : FCC Part 15.407(b) & FCC Part 15.205 & FCC Part 15.209
Basic standard : ANSI C63.10:2013

Limits :
• 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 increasing linearly to a level of 27 dBm/MHz at the band edge.

Kind of test site :
3m Semi-Anechoic Chamber (below 1GHz)
3m Anechoic Chamber (above 1GHz)

Test Setup

Date of testing : 2022-07-24 to 2022-08-02
Input voltage : Fully charged battery
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : Refer to test result
Relative humidity : Refer to test result
Atmospheric pressure : 101 kPa

Refer to attached Appendix A for details of test data.

6. Photographs of the Test Set-Up

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

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	8
Table 5: List of Accessories and Auxiliary Equipment	15
Table 6: Test Result of Maximum Conducted Output Power, 5.8GHz SDR	18