

Prüfbericht-Nr.: <i>Test report no.:</i>	CN22G058 002	Auftrags-Nr.: <i>Order no.:</i>	168350235	Seite 1 von 26 <i>Page 1 of 26</i>
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2022-01-04	
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 RC			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	RM330 (Trademark: DJI)			
Auftrags-Inhalt: <i>Order content:</i>	Test Report			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart E Section 15.407		RSS-247 Issue 2	
Wareneingangsdatum: <i>Date of sample receipt:</i>	202-02-15			
Prüfmuster-Nr.: <i>Test sample no.:</i>	A003211905-001~004			
Prüfzeitraum: <i>Testing period:</i>	2022-02-16 to 2022-03-09			
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><i>x Bell Hu</i></u>		genehmigt von: <i>authorized by:</i>	<u><i>X Lin Lin</i></u>
Datum: <i>Date:</i>	2022-05-10 <small>Signed by: Bell Hu</small>		Ausstellungsdatum: <i>Issue date:</i>	2022-05-10 <small>Signed by: Lin Lin</small>
Stellung / Position:	Project Manager		Stellung / Position:	Reviewer
Sonstiges / Other:	FCC ID: SS3- RM33022, IC: 11805A- RM33022, HVIN: RM330 This report is for 5.2GHz Wi-Fi, 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. Model: RM330			
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 99% BANDWIDTH

RESULT: Pass

5.1.5 6dB BANDWIDTH

RESULT: Pass

5.1.6 RADIATED SPURIOUS EMISSION

RESULT: Pass

5.1.7 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 5.2 / 5.8GHz Wi-Fi

Appendix B: Test Results of 5.8GHz SDR

Appendix D: 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

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

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 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
Conducted Emission, (9kHz to 150kHz)/(150kHz to 30MHz)	± 3.70 dB / ± 3.30 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 (**E**quipment **U**nder **T**est) is a DJI RC. It supports Bluetooth, 2.4GHz SDR, 2.4GHz Wi-Fi, 5.2/5.8GHz 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.

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 RC
Type Designation	RM330
Operating Voltage	AC 100-240V, 50/60Hz input via AC/DC adapter or Li-ion Battery operated (DC 3.6V 2600mA*2)
Extreme Temperature Range	-10 °C ~ 40 °C
Radiofrequency operating mode	1) Bluetooth: operating within 2400-2483.5MHz, supports Bluetooth Classic and BT 4.2@BLE, 1Mbps 2) 2.4GHz SDR: operating within 2400-2483.5MHz, supports 1.4MHz/3MHz/10MHz/20MHz 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 W-Fi: operating with 5150-5250MHz, supports 20MHz/40MHz Bandwidth and IEEE 802.11 a/n20/n40 5) 5.8GHz SDR: operating within 5725-5850MHz, supports 1.4MHz/3MHz/10MHz/20MHz Bandwidth 6) 5.8GHz Wi-Fi: operating within 5725-5850MHz, supports 20MHz/40MHzBandwidth and IEEE 802.11 a/n20/n40 7) GPS & BDS (receiver): operating within 1559-1610MHz
Technical Specification of 5.2GHz Wi-Fi	
Operating Frequency	5180-5240MHz, 802.11a/n20/n40
Type of Modulation	OFDM(BPSK/QPSK/16QAM/64QAM)
Data Rate	6/9/12/18/24/36/48/54 Mbps for 802.11a MCS0 ~ MCS7 for 802.11 n20/n40
Channel Number	4 channels for 802.11a/n20 2 channels for 802.11n40
Channel Separation	20MHz, 40MHz
Antenna Type	Integral Antenna
Antenna Number	1Tx1Rx
Antenna Gain	4dBi
Technical Specification of 5.8GHz SDR	

Operating Frequency	5728.5-5844.5MHz for 1.4MHz Bandwidth 5730.12-5846.12MHz for 1.4MHz Bandwidth (CA mode) 5730.5-5844.5MHz for 3MHz Bandwidth 5732.5-5844.5MHz for 10MHz Bandwidth 5735.5-5839.5MHz for 20MHz Bandwidth
Type of Modulation	OFDM (QPSK, 16QAM, 64QAM)
Channel Number	59 channels for 1.4MHz Bandwidth 59 channels for 1.4MHz Bandwidth (CA mode) 39 channels for 3MHz Bandwidth 113 channels for 10MHz Bandwidth 105 channels for 20MHz Bandwidth
Channel Separation	2MHz for 1.4MHz Bandwidth 2MHz for 1.4MHz Bandwidth (CA mode) 3MHz for 3MHz Bandwidth 1MHz for 10MHz Bandwidth 1MHz for 20MHz Bandwidth
Antenna Type	Two Integral Antennas, only 1Tx2Rx supported.
Antenna Gain	2.5dBi
Technical Specification of 5.8GHz Wi-Fi	
Operating Frequency	5745–5825MHz for 802.11 a/n20/n40
Type of Modulation	OFDM(BPSK/QPSK/16QAM/64QAM)
Data Rate	1) 6/9/12/18/24/36/48/54 Mbps for 802.11a 2) MCS0 ~ MCS7 for 802.11 20/n40
Channel Number	5 channels for 802.11a/n20 2 channels for 802.11n40
Channel Separation	20MHz, 40MHz
Antenna Type	Integral Antenna
Antenna Number	1Tx1Rx
Antenna Gain	4.5dBi

Table 4: RF Channel and Frequency of 5.2GHz Wi-Fi

U-NII-1			
20MHz Bandwidth		40MHz Bandwidth	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190
40	5200	46	5230
44	5220		
48	5240		

Table 5: RF Channel and Frequency of 5.8GHz SDR

5.8GHz 1.4MHzBandwidth (5728.5MHz-5844.5MHz)					
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

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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		

5.8GHz 1.4MHz Bandwidth (CA Mode)
(5730.12MHz-5846.12MHz)

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		

5.8GHz 3MHz Bandwidth
(5730.5MHz-5844.5MHz)

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

5.8GHz 10MHzBandwidth (5732.5MHz-5844.5MHz)					
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	5732.5	39	5770.5	77	5808.5
2	5733.5	40	5771.5	78	5809.5
3	5734.5	41	5772.5	79	5810.5
4	5735.5	42	5773.5	80	5811.5
5	5736.5	43	5774.5	81	5812.5
6	5737.5	44	5775.5	82	5813.5
7	5738.5	45	5776.5	83	5814.5
8	5739.5	46	5777.5	84	5815.5
9	5740.5	47	5778.5	85	5816.5
10	5741.5	48	5779.5	86	5817.5
11	5742.5	49	5780.5	87	5818.5
12	5743.5	50	5781.5	88	5819.5
13	5744.5	51	5782.5	89	5820.5
14	5745.5	52	5783.5	90	5821.5
15	5746.5	53	5784.5	91	5822.5
16	5747.5	54	5785.5	92	5823.5
17	5748.5	55	5786.5	93	5824.5
18	5749.5	56	5787.5	94	5825.5
19	5750.5	57	5788.5	95	5826.5
20	5751.5	58	5789.5	96	5827.5
21	5752.5	59	5790.5	97	5828.5
22	5753.5	60	5791.5	98	5829.5
23	5754.5	61	5792.5	99	5830.5
24	5755.5	62	5793.5	100	5831.5
25	5756.5	63	5794.5	101	5832.5

26	5757.5	64	5795.5	102	5833.5
27	5758.5	65	5796.5	103	5834.5
28	5759.5	66	5797.5	104	5835.5
29	5760.5	67	5798.5	105	5836.5
30	5761.5	68	5799.5	106	5837.5
31	5762.5	69	5800.5	107	5838.5
32	5763.5	70	5801.5	108	5839.5
33	5764.5	71	5802.5	109	5840.5
34	5765.5	72	5803.5	110	5841.5
35	5766.5	73	5804.5	111	5842.5
36	5767.5	74	5805.5	112	5843.5
37	5768.5	75	5806.5	113	5844.5
38	5769.5	76	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

Table 6: RF Channel and Frequency of 5.8GHz Wi-Fi

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

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, 5.2GHz Wi-Fi wireless transmitting mode
 - 1) Low Channel
 - 2) Middle Channel
 - 3) High Channel
- B. On, 5.8GHz SDR wireless transmitting mode
 - 1) Low Channel
 - 2) Middle Channel
 - 3) High Channel
- C. On, 5.8GHz Wi-Fi 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 the Circuit Diagram.

3.5 Submitted Documents

- Application Form
- Circuit Diagram
- Instruction Manual
- Photo Documents
- Technical Description
- Bill of Material
- Rating Label

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 and ANSI C63.4: 2014.

According to clause 3.1, all tests were performed on model RM330 in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 7: 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)

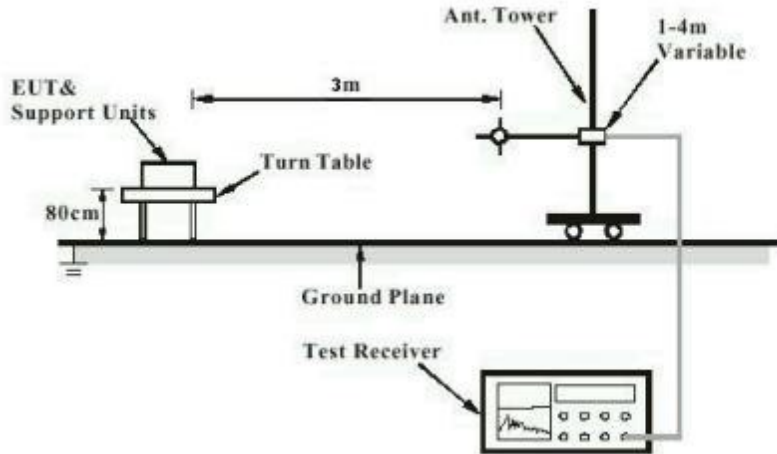


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

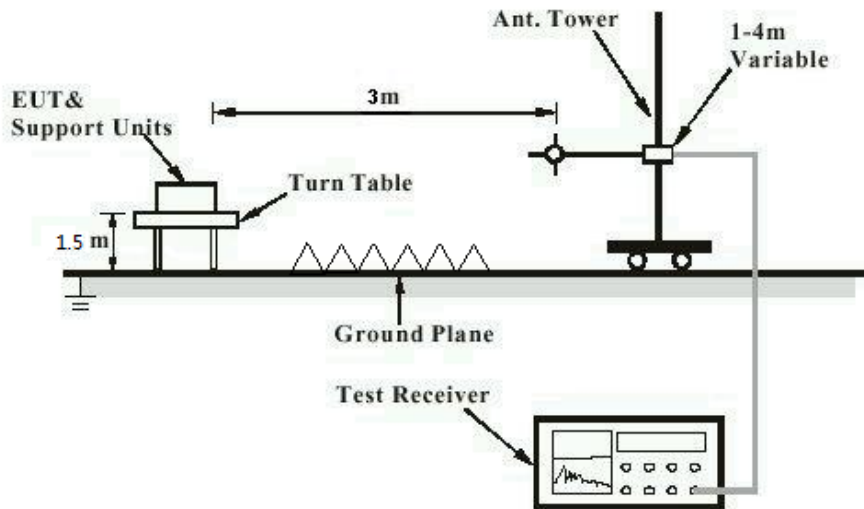


Diagram of Measurement Configuration for Mains Conduction Measurement

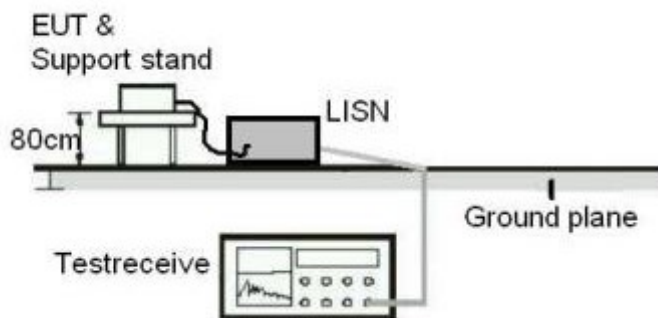


Diagram of Measurement Configuration for Conducted Transmitter Measurement

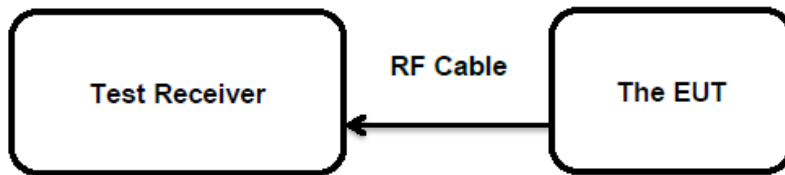
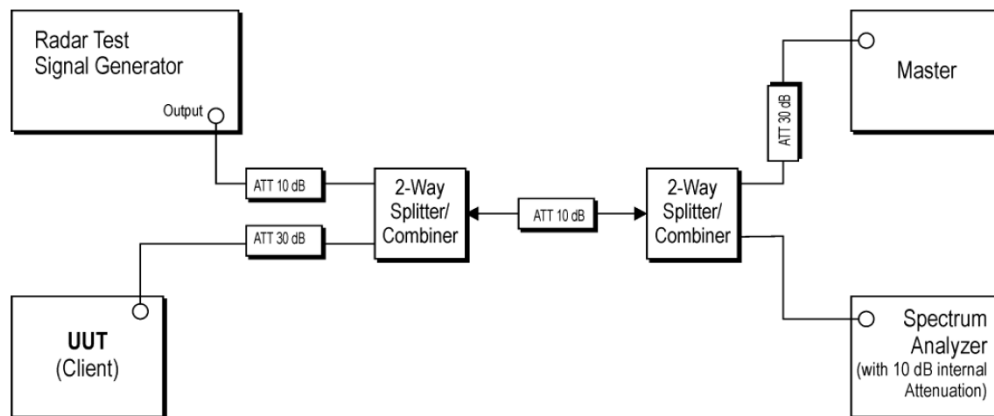


Diagram of Measurement Configuration for Dynamic Frequency Selection (DFS)



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 max. antenna gain is 4.0dBi for 5,2GHz Wi-Fi, 2.5dBi for 5.8GHz SDR and 4.5dBi for 5,8GHz Wi-Fi, 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.

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
 FCC:
 <250mW (24dBm) (5150-5250MHz)
 *<250mW (24dBm) (5250-5350MHz, 5470-5725MHz)
 *250 mW (24dBm) or 11 dBm + 10 log B, where B is the 26 dB emission
 bandwidth in MHz, where is lesser.
 <1W (30dBm) (5725-5850MHz)

Limits

IC:
 * Max e.i.r.p.<200mW (23dBm) (5150-5250MHz)
 : *200 mW (23dBm) or 10 dBm + 10 logB, where B is the 99% emission
 bandwidth in MHz, where is lesser.
 *Max conducted output power < 250mW (24dBm) (5250-
 5350MHz)
 *250 mW (24dBm) or 11 dBm + 10 logB, where B is the 99% emission
 bandwidth in MHz, where is lesser.
 *Max e.i.r.p.<1W (30dBm) (5250-5350MHz)
 *1 W (30dBm) or 17 dBm + 10 log B, where B is the 99% emission
 bandwidth in MHz, where is lesser.
 Max conducted output power <1W (30dBm) (5725-
 5850MHz)

Kind of test site

: Shielded Room

Test Setup

Date of testing : 2022-02-16 to 2022-03-02
 Input voltage : Fully charged battery
 Operation mode : A, B, C
 Test channel : Low / Middle / High
 Ambient temperature : 25 °C
 Relative humidity : 56 %
 Atmospheric pressure : 101 kPa

Table 8: Test Result of Maximum Conducted Output Power, 5.2GHz Wi-Fi

Test Mode	Data Rate	Test Channel	Measured conducted Power		FCC Limit Conducted Power (W)	IC limit	Verdict
			(dBm)	(W)			
802.11a	6Mbps	5180	16.50	0.0447	0.250	200 mW (23dBm) or 10 dBm + 10 log B, which is less	Pass
		5200	16.58	0.0455			
		5240	16.19	0.0416			
802.11n (HT20)	MCS0	5180	15.34	0.0342			
		5200	15.42	0.0348			
		5240	15.48	0.0353			
802.11n (HT40)	MCS0	5190	14.52	0.0283			
		5230	14.78	0.0301			

1. Max. e.i.r.p.=16.58dBm+4.0dBi=20.58dBm.
2. *IC e.i.r.p. limit is 200 mW (23dBm) or 10 dBm + 10 log B, the minimum B=16.360MHz, hence the e.i.r.p. limit=22.14dBm=0.1636W
3. A duty cycle greater than 87% for 802.11a/n20 and a duty cycle of greater than 76% for 802.11n40 used when in testing, the DC factors have been considered for test results as well.

Table 9: Test Result of Maximum Conducted Output Power, 5.8GHz SDR

Test Mode	Test Channel (MHz)	Measured Average Power		Limit (W)
		(dBm)	(W)	
1.4MHz BW	5728.5	24.04	0.2535	< 1.0
	5784.5	23.74	0.2366	
	5844.5	24.29	0.2685	
1.4MHz BW CA	5730.12	24.19	0.2624	
	5786.12	24.01	0.2518	
	5846.12	24.25	0.2661	
3MHz BW	5730.5	24.33	0.2710	
	5784.5	24.23	0.2649	
	5844.5	24.40	0.2754	
10MHz BW	5732.5	14.08	0.0256	
	5788.5	13.95	0.0248	
	5844.5	14.20	0.02630	
20MHz BW	5735.5	13.99	0.0251	
	5787.5	13.85	0.0243	
	5839.5	14.14	0.0259	

- Max. e.i.r.p.=24.4dBm+2.5dBi=26.9dBm, which is less than 36dBm=4W.
 A duty cycle greater than 98% used when in testing, the DC factors have been considered for test results as well.

Table 10: Test Result of Maximum Conducted Output Power, 5.8GHz Wi-Fi

Test Mode	Data Rate	Test Channel	Measured Peak Power		Limit (W)
			(dBm)	(W)	
802.11a	1 Mbps	5745	16.60	0.0457	< 1.0
		5785	16.51	0.0448	
		5825	16.93	0.0493	
802.11n (HT20)	MCS0	5745	16.75	0.0473	
		5785	16.35	0.0432	
		5825	16.46	0.0443	
802.11n (HT40)	MCS0	5755	16.09	0.0406	
		5795	16.10	0.0407	

Max. e.i.r.p.=16.93dBm+4.5dBi=21.43dBm, which is less than 36dBm=4W.
 A duty cycle greater than 87% for 802.11a/n20 and a duty cycle of greater than 76% for 802.11n40 used when in testing, 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) of 5.2GHz Wi-Fi: 4.0dBi
 Antenna gain(G) of 5.8GHz SDR: 2.5dBi
 Antenna gain(G) of 5.8GHz Wi-Fi: 4.5dBi
 e.i.r.p.=P_(conducted power)+ G, which is far below the 4 W

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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:
	:	<11dBm/MHz (5150-5250MHz 5250-5350MHz, 5470-5725MHz)
	:	<30dBm/500KHz (5725-5850MHz)
Limits	:	IC:
	:	e.i.r.p. spectral density <10dBm/MHz (5150-5250MHz)
	:	<11dBm/1MHz (5250-5350MHz)
	:	<30dBm/500KHz (5725-5850MHz)
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2022-02-16 to 2022-03-02
Input voltage	:	Fully charged battery
Operation mode	:	A, B, C
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.: CN22G058 003
Test Report No.:Seite 22 von 26
Page 22 of 26**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	:	2022-02-16 to 2022-03-02
Input voltage	:	Fully charged battery
Operation mode	:	A, B, C
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.: CN22G058 003
Test Report No.:Seite 23 von 26
Page 23 of 26**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	:	2022-02-16 to 2022-03-02
Input voltage	:	Fully charged battery
Operation mode	:	A, B, C
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

- 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.

- Limits :
- 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 : 2022-03-01 to 2022-03-07

Input voltage : Fully charged battery

Operation mode : A, B, C

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.

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5.1.7 Conducted Emission on AC Mains**RESULT:****Pass****Test Specification**

Test standard	:	FCC Part 15.207
	:	RSS-GEN clause 8.8
Basic standard	:	ANSI C63.10:2013
Frequency range	:	0.15 - 30MHz
Limits	:	FCC Part 15.207
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2022-02-22
Input voltage	:	AC 120V, 60Hz
Operation mode	:	A, B, C
Earthing	:	Not connected
Ambient temperature	:	25 °C
Relative humidity	:	56 %
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.

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