

Prüfbericht-Nr.: Test report no.:	CN233GYW 003	Auftrags-Nr.: Order no.:	168386953	Seite 1 von 10 Page 1 of 10	
Kunden-Referenz-Nr.: Client reference no.:	N/A	Auftragsdatum: Order date:	2022-08-17		
Auftraggeber: Client:	SZ DJI TECHNOLOGY CO., LTD. Lobby of T2, DJI Sky City, No. 53 Xianyuan Road, Xili Community, Xili Street, Nanshan District, Shenzhen, China				
Prüfgegenstand: Test item:	DJI DOCK				
Bezeichnung / Typ-Nr.: Identification / Type no.:	DOCK-01 (Trademark: DJI)				
Auftrags-Inhalt: Order content:	Test Report				
Prüfgrundlage: Test specification:	FCC Part 2: Section 2.1091				
Wareneingangsdatum: Date of sample receipt:	2023-02-13	Please refer to photo documents			
Prüfmuster-Nr.: Test sample no.:	A003433343-002 A003412839-001~002				
Prüfzeitraum: Testing period:	2023-02-17 - 2023-03-28				
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:	2023-05-08	Signed by: Breeze Jiang		Ausstellungsdatum: Issue date:	2023-05-08
Stellung / Position:		Sachverständige(r)/Expert		Stellung / Position:	
Sachverständige(r)/Expert		Sachverständige(r)/Expert			
Sonstiges / Other:	FCC ID: SS3-DOCK2212				
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:			Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
* Legende: P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet * Legend: P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable 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 above mentioned 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>					

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TEST SUMMARY

3.1.1 RF EXPOSURE COMPLIANCE

RESULT: Pass

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1. TEST SITES

1.1 TEST FACILITIES

TÜV Rheinland (Shenzhen) Co., Ltd.

Address: No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, P.R. China

FCC Registration No.: 694916

ISED Wireless Device Testing Laboratory: 25069

A2LA certification number: 5162.01

1.2 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

1.3 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.

1.4 Location of Original Data

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

1.5 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. facility located at No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

2. GENERAL PRODUCT INFORMATION

2.1 GENERAL DESCRIPTION

The EUT (Equipment Under Test) is a aircraft dock. 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.

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

2.2 RATING AND SYSTEM DETAILS

Table 1: Rating of EUT

General Information of EUT	Value
Kind of Equipment	DJI DOCK
Type Designation	DOCK-01
Trademark	DJI
Operating Temperature Range	-35 °C ~ +50 °C
Operating Voltage	AC 100-240V, 50/60Hz, 1500W
Testing Voltage	AC 120V, 60Hz
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) GPS & BDS & Galileo & Glonass (receiver): operating within 1215-1300MHz, 1559-1610MHz

Table 2: Technical Specification of EUT

Technical Specification of 2.4GHz SDR	
Operating Frequency	2409.5-2463.5MHz for 1.4MHz Bandwidth 2411.12-2465.12MHz for 1.4MHz Bandwidth (CA mode) 2410.5-2461.5MHz for 3MHz Bandwidth 2413.2-2464.2MHz for 3MHz Bandwidth (CA mode) 2405.5-2467.5MHz for 10MHz Bandwidth 2410.5-2472.5MHz for 20MHz Bandwidth 2422.5-2452.5MHz for 40MHz Bandwidth
Type of Modulation	OFDM (QPSK, 16QAM, 64QAM)
Channel Number	28 channels for 1.4MHz Bandwidth 28 channels for 1.4MHz Bandwidth (CA mode) 18 channels for 3MHz Bandwidth 18 channels for 3MHz Bandwidth (CA mode) 63 channels for 10MHz Bandwidth 63 channels for 20MHz Bandwidth

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	31 channels for 40MHz Bandwidth
Channel Separation	2MHz for 1.4MHz Bandwidth 2MHz for 1.4MHz Bandwidth (CA mode) 3MHz for 3MHz Bandwidth 3MHz for 3MHz Bandwidth (CA mode) 1MHz for 10MHz Bandwidth 1MHz for 20MHz Bandwidth 1MHz for 40MHz Bandwidth
Antenna Type	Integral Antenna
Antenna Number	1Tx4Rx for SISO mode (ANT0 or ANT1 or ANT2 or ANT3) 2Tx4Rx for MIMO mode (ANT0+ANT1 or ANT0+ANT3 or ANT2+ANT1 or ANT2+ANT3), Un-correlated signals.
Antenna Gain	4.0dBi for ANT0 4.0dBi for ANT1 4.0dBi for ANT2 4.0dBi for ANT3
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	1Tx4Rx for SISO mode (ANT0 or ANT1 or ANT2 or ANT3) 2Tx4Rx for MIMO mode (ANT0+ANT1 or ANT0+ANT3 or ANT2+ANT1 or ANT2+ANT3), Un-correlated signals.
Antenna Gain	2.0dBi for ANT0 2.0dBi for ANT1 2.0dBi for ANT2 2.0dBi for ANT3

3. Test Results

3.1 Transmitter Requirements & Test Suites

3.1.1 RF Exposure Compliance

RESULT:**Pass**

Test standard : FCC Part 1.1091
KDB 447498 D01 General RF Exposure Guidance v06
Limit : Table 1 of 47 CFR FCC Part 1.1310
Kind of test site : Shielded room

This device is mobile device, and the applicant declares that the minimum separation distance is greater than 20cm. Therefore MPE measurement or computational modelling should be used to determine compliance.

MPE Calculation is based on the conducted power, and considering maximum power and Antenna gain. The following formula is used to MPE evaluation.

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density (in appropriate units, e.g. mW/cm²)
P = power input to the antenna (in appropriate units, e.g., mW)
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

or:

$$S = \frac{EIRP}{4\pi R^2}$$

where: EIRP = equivalent (or effective) isotropically radiated power

3.1.1.1 FCC Part 1.1310, Part 2.1091

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The EUT has 4 (ANT0, ANT1, ANT2, ANT3) antennas for 2.4G/5.8GHz SDR for transmitting, the details as below table:

2.4GHz SDR and ANT Gain			
ANT0	ANT1	ANT2	ANT3
4.0dBi	4.0dBi	4.0dBi	4.0dBi
5.8GHz SDR and ANT Gain			
ANT0	ANT1	ANT2	ANT3
2.0dBi	2.0dBi	2.0dBi	2.0dBi

ANT ID and Tx combinations	2.4GHz SDR	5.8GHz SDR
ANT0	☒	☒
ANT1	☒	☒
ANT2	☒	☒
ANT3	☒	☒
ANT0+ANT1	☒	☒
ANT0+ANT3	☒	☒
ANT2+ANT1	☒	☒
ANT2+ANT3	☒	☒

Table 3: Test Results of RF Exposure Calculations for FCC, Stand-alone mode

Operating Mode	Measured RF Output Power (dBm)	Antenna Gain (dBi)	Max. EIRP incl. tune-up (dBm)	Distance (cm)	MPE (mW/cm ²)	Limit (mW/cm ²)	Verdict
2.4GHz SDR	26.48	4.0	30.48	20	0.222	1.0	Pass
5.8GHz SDR	26.54	2.0	28.54	20	0.142	1.0	Pass

Note: Simultaneous transmissions not supported when in normal use.

Therefore the maximum calculations result of above are meet the requirement of Radio Frequency Exposure (MPE) limit.

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