

Prüfbericht-Nr.: Test report no.:	CN25GP9P 004	Auftrags-Nr.: Order no.:	168512858	Seite 1 von 12 Page 1 of 12
Kunden-Referenz-Nr.: Client reference no.:	N/A	Auftragsdatum: Order date:	2024-11-11	
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 Matrice 4D, DJI Matrice 4TD			
Bezeichnung / Typ-Nr.: Identification / Type no.:	M4D, M4TD (Trademark: DJI)			
Auftrags-Inhalt: Order content:	Test Report			
Prüfgrundlage: Test specification:	CFR Title 47 FCC Part 2.1091			
Wareneingangsdatum: Date of sample receipt:	2024-12-13	Please refer to Photo Document		
Prüfmuster-Nr.: Test sample no.:	A003882058-003~005 A003882058-009~010, 021			
Prüfzeitraum: Testing period:	2025-01-09 - 2025-01-17			
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:	<u>X Bell Hu</u>		genehmigt von: authorized by:	<u>X Lin Lin</u>
Datum: Date:	2025-02-19	Ausstellungsdatum: Issue date:		2025-02-19
Signed by: Bell Hu		Signed by: Lin Lin		
Stellung / Position:	Sachverständige(r)/Expert	Stellung / Position:	Sachverständige(r)/Expert	
Sonstiges / Other:	FCC ID: SS3-M4D2411			
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>				

Prüfbericht-Nr.: CN25GP9P 004
Test report no.:

Seite 2 von 12
Page 2 of 12

Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. <i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i>
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3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. <i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i> <i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i>
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. <i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i>

Test Summary

3.1.1 RF EXPOSURE COMPLIANCE
RESULT: *Pass*

Contents

1.	TEST SITES.....	5
1.1	TEST FACILITIES	5
1.2	TRACEABILITY	5
1.3	CALIBRATION.....	5
1.4	LOCATION OF ORIGINAL DATA	5
1.5	STATUS OF FACILITY USED FOR TESTING	5
2.	GENERAL PRODUCT INFORMATION	6
2.1	PRODUCT FUNCTION AND INTENDED USE	6
2.2	RATING AND SYSTEM DETAILS	6
3.	TEST RESULTS	10
3.1	TRANSMITTER REQUIREMENTS & TEST SUITES.....	10
3.1.1	<i>RF Exposure Compliance.....</i>	10
4.	LIST OF TABLES.....	12

1. Test Sites

1.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

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

FCC Accreditation Designation No.: 694916

ISED wireless device testing laboratory: 25069

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, 518110, Shenzhen, P. R. China. is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

2. General Product Information

2.1 Product Function and Intended Use

The Product is DJI Matrice which supports Wireless charging (ISM, Power Receiver), Bluetooth, 2.4GHz SDR, 2.4GHz Wi-Fi, 5.2GHz 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 Matrice 4D, DJI Matrice 4TD
Type Designation	M4D, M4TD (They are identical on circuitry design, PCB layout, electrical components used and internal wiring, the only difference is that M4TD camera Infrared Imaging function which not supported by M4D camera.)
Trademark	DJI
FCC ID	SS3-M4D2411
Operating Voltage	22.14V DC, powered by battery
Testing Voltage	DC 22.14V by battery
Extreme Temperature Range	-20°C ~ +45°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/5MHz/10MHz/20MHz/40MHz/60MHz Bandwidth 3) 2.4GHz Wi-Fi 802.11g: operating within 2437MHz 4) 5.2GHz SDR: operating within 5150-5250MHz, supports 1.4MHz/3MHz/5MHz/10MHz/20MHz/40MHz/60MHz/80MHz Bandwidth 5) 5.8GHz SDR: operating within 5725-5850MHz, supports 1.4MHz/3MHz/5MHz/10MHz/20MHz/40MHz/60MHz/80MHz Bandwidth 6) GNSS(receiver), ADS-B (receiver) 7) Wireless charging: 80-90kHz (Power Receiver. Energy Receiver only, incapable of transmitting any form of intelligent communication wirelessly)

Table 2: Technical Specification of EUT

Technical Specification of Bluetooth Low Energy	
Operating Frequency	2402-2480MHz
Type of Modulation	GFSK
Data Rate	1Mbps, 2Mbps

Prüfbericht - Nr.: CN25GP9P 004
Test Report No.:

Seite 7 von 12
Page 7 of 12

Channel Number	40 channels
Channel Separation	2MHz
Antenna Type	Integral Antenna
Antenna Number	1
Antenna Gain	3.3 dBi (Provided by the Client)
The type of wideband data transmission equipment	DTS
Technical Specification of 2.4GHz SDR	
Operating Frequency	2403.5-2469.12MHz for 1.4MHz Bandwidth 2405.5-2468.2MHz for 3MHz Bandwidth 2404.5-2469.5MHz for 5MHz Bandwidth 2407.5-2467.5MHz for 10MHz Bandwidth 2412.5-2462.5MHz for 20MHz Bandwidth 2422.5-2452.5MHz for 40MHz Bandwidth 2432.5-2442.5MHz for 60MHz Bandwidth
Type of Modulation	OFDM (QPSK, 16QAM, 64QAM)
Channel Number	108 channels for 1.4MHz Bandwidth 64 channels for 3MHz Bandwidth 130 channels for 5MHz Bandwidth 155 channels for 10MHz Bandwidth 97 channels for 20MHz Bandwidth 31 channels for 40MHz Bandwidth 11 channels for 60MHz Bandwidth
Antenna Type	Integral Antenna
Antenna Number	1Tx4Rx for SISO mode (ANT0 or ANT1 or ANT2 or ANT3 or ANT4 or ANT5 or ANT6 or ANT7) 2Tx4Rx for MIMO mode (ANT0+ANT1, or ANT0+ANT3, or ANT0+ANT5, or ANT0+ANT7, or ANT2+ANT1, or ANT2+ANT3, or ANT2+ANT5, or ANT2+ANT7, or ANT4+ANT1, or ANT4+ANT3, or ANT4+ANT5, or ANT4+ANT7, or ANT6+ANT1, or ANT6+ANT3, or ANT6+ANT5, or ANT6+ANT7)
Antenna Gain	3 dBi for ANT0, 2.7 dBi for ANT1, 2.2 dBi for ANT2, 2.5 dBi for ANT3/ANT7, 2.0 dBi for ANT4, 2.8 dBi for ANT5/ANT6 (Provided by the Client)
The type of wideband data transmission equipment	DTS
Technical Specification of 2.4GHz Wi-Fi (2437MHz only)	
Operating Frequency	2437-2437MHz
Type of Modulation	OFDM
Channel Number	1 channel
Antenna Type	Integral Antenna
Antenna Number	1
Antenna Gain	2.5 dBi (Provided by the Client)
The type of wideband data transmission equipment	DTS
Technical Specification of 5.2GHz SDR	
Operating Frequency	5154-5248MHz for 1.4MHz Bandwidth 5154-5247MHz for 3MHz Bandwidth 5155-5246.24MHz for 5MHz Bandwidth 5157-5245MHz for 10MHz Bandwidth

Prüfbericht - Nr.: CN25GP9P 004
Test Report No.:

Seite 8 von 12
Page 8 of 12

	5161-5240MHz for 20MHz Bandwidth 5170-5230MHz for 40MHz Bandwidth 5180-5220MHz for 60MHz Bandwidth 5190-5210MHz for 80MHz Bandwidth
Type of Modulation	OFDM (QPSK, 16QAM, 64QAM)
Channel Number	110 channels for 1.4MHz Bandwidth 68 channels for 3MHz Bandwidth 189 channels for 5MHz Bandwidth 247 channels for 10MHz Bandwidth 202 channels for 20MHz Bandwidth 103 channels for 40MHz Bandwidth 41 channels for 60MHz Bandwidth 21 channels for 80MHz Bandwidth
Antenna Type	Integral Antenna
Antenna Number	1Tx4Rx for SISO mode (ANT0 or ANT1 or ANT2 or ANT3 or ANT4 or ANT5 or ANT6 or ANT7) 2Tx4Rx for MIMO mode (ANT0+ANT1, or ANT0+ANT3, or ANT0+ANT5, or ANT0+ANT7, or ANT2+ANT1, or ANT2+ANT3, or ANT2+ANT5, or ANT2+ANT7, or ANT4+ANT1, or ANT4+ANT3, or ANT4+ANT5, or ANT4+ANT7, or ANT6+ANT1, or ANT6+ANT3, or ANT6+ANT5, or ANT6+ANT7)
Antenna Gain	4 dBi for ANT0, 1.3 dBi for ANT1, 2.5 dBi for ANT2/ANT3/ANT4 1.7 dBi for ANT5, 2.4 dBi for ANT6, 3.5 dBi for ANT7 (Provided by the Client)
The type of wideband data transmission equipment	DTS
Technical Specification of 5.8GHz SDR	
Operating Frequency	5728.5-5846.12MHz for 1.4MHz Bandwidth 5727.5-5847.2MHz for 3MHz Bandwidth 5732.5-5842.5MHz for 5MHz Bandwidth 5730.5-5844.5MHz for 10MHz Bandwidth 5735.5-5839.5MHz for 20MHz Bandwidth 5745.5-5829.5MHz for 40MHz Bandwidth 5755.5-5819.5MHz for 60MHz Bandwidth 5765.5-5809.5MHz for 80MHz Bandwidth
Type of Modulation	OFDM (QPSK, 16QAM, 64QAM)
Channel Number	194 channels for 1.4MHz Bandwidth 126 channels for 3MHz Bandwidth 229 channels for 5MHz Bandwidth 317 channels for 10MHz Bandwidth 259 channels for 20MHz Bandwidth 147 channels for 40MHz Bandwidth 65 channels for 60MHz Bandwidth 45 channels for 80MHz Bandwidth
Antenna Type	Integral Antenna
Antenna Number	1Tx4Rx for SISO mode (ANT0 or ANT1 or ANT2 or ANT3 or ANT4 or ANT5 or ANT6 or ANT7) 2Tx4Rx for MIMO mode (ANT0+ANT1, or ANT0+ANT3, or ANT0+ANT5, or ANT0+ANT7, or ANT2+ANT1, or ANT2+ANT3, or ANT2+ANT5, or ANT2+ANT7, or ANT4+ANT1, or ANT4+ANT3, or ANT4+ANT5, or ANT4+ANT7, or ANT6+ANT1, or ANT6+ANT3, or ANT6+ANT5, or ANT6+ANT7)
Antenna Gain	4 dBi for ANT0/ANT7, 2 dBi for ANT1/ANT5, 1.7 dBi for ANT2,

Prüfbericht - Nr.: CN25GP9P 004
Test Report No.:

Seite 9 von 12
Page 9 of 12

	3.5 dBi for ANT3, 2.7 dBi for ANT4, 3.8 dBi for ANT6 (Provided by the Client)
The type of wideband data transmission equipment	DTS

3. Test Results

3.1 Transmitter Requirements & Test Suites

3.1.1 RF Exposure Compliance

RESULT:**Pass**

Test standard : CFR Title 47 FCC Part 2.1091
Limit : Table 1 of CFR Title 47 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 RF Exposure Compliance Requirement for FCC

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

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

Operating Mode	Max. EIRP incl. tune-up (dBm)	Distance (cm)	MPE (mW/cm ²)	Limit (mW/cm ²)	Verdict
Bluetooth	8.5	20	0.001	1.0	Pass
2.4GHz SDR	30.5	20	0.223	1.0	Pass
2437MHz	29.5	20	0.177	1.0	Pass
5.2GHz SDR	19.5	20	0.018	1.0	Pass
5.8GHz SDR	31.5	20	0.281	1.0	Pass

Note: Simultaneous transmissions not supported when in normal use.

Table 4: Test Results of RF Exposure Calculations for FCC, Simultaneous mode

Co-location Mode	Sum of the MPE Ratios	Limit	Verdict
Bluetooth + 2437MHz + 5GHz SDR	0.001/1+0.177/1+0.281/1=0.459	1.0	Pass

➤ Conclusion

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

4. List of Tables

Table 1: Rating of EUT	6
Table 2: Technical Specification of EUT	6
Table 3: Test Results of RF Exposure Calculations for FCC, Stand-alone mode	11
Table 4: Test Results of RF Exposure Calculations for FCC, Simultaneous mode	11