

Test Report No.: <i>Prüfbericht-Nr.:</i>	US24RQPY.001 Rev.01	Order No.: <i>Auftrags-Nr.:</i>	234207130 P01051904	Page 1 of 8 Seite 1 von 8
Client Reference No.: <i>Kunden-Referenz-Nr.:</i>	2503932	Order date: <i>Auftragsdatum:</i>	04/17/2023	
Client: <i>Auftraggeber:</i>	Omnifi Inc. 6801 Koll Center Pkwy. Ste. 145 Pleasanton, CA 94566 U.S.A.			
Test item: <i>Prüfgegenstand:</i>	Omnifi Wi-Fi Node			
Identification/ Type No.: <i>Bezeichnung / Typ-Nr.</i>	OWI2GB-55			
Order content: <i>Auftrags-Inhalt:</i>	RF Exposure Report			
Test specification: <i>Prüfgrundlage:</i>	FCC Part 2.1091			
Date of sample receipt: <i>Wareneingangsdatum:</i>	September 27th, 2023			
Test sample No: <i>Prüfmuster-Nr.:</i>	Om0003, OM0011			
Evaluation period: <i>Prüfzeitraum:</i>	March 7, 2024			
Place of testing: <i>Ort der Prüfung:</i>	5015 Brandin Ct. Fremont, CA 94538			
Testing laboratory: <i>Prüflaboratorium:</i>	TUV Rheinland of North America			
Test result*: <i>Prüfergebnis*:</i>	Pass			
compiled by: zusammengestellt von:	Osvaldo Casorla	authorized by: genehmigt von:	Isaac Aguilar	
Date: November 5, 2024 Datum:		Date: November 5, 2024 Ausstellungsdatum:		
Position / Stellung:	Expert	Position / Stellung:	Expert	
Others / <i>Sonstiges:</i>				
Condition of the test item at delivery: <i>Zustand des Prüfgegenstandes bei Anlieferung:</i>		Test item complete and undamaged		
* 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
* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
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>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>				

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Remarks
Anmerkungen

1	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>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.</i> <i>Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.</i>
2	As contractually agreed, this document has been signed digitally only. TÜV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TÜV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged. <i>Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben.</i>
3	Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report. Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report. <i>Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben.</i> <i>Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.</i>
4	Electromagnetic Compatibility Test Report. The above product was found to be Compliant to the above test standard(s).

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Remarks
Anmerkungen

1	Product details: <i>Produktdetails:</i>	Wi-Fi Access Point functionality in a strip
2	Dimensions / Weight: <i>Maße / Gewicht:</i>	43 mm x 19.1 mm x 454.5 mm / 3 kg
3	Operating elements: <i>Bedienelemente:</i>	12 VDC-60 VDC: 1.25 A at 12V, 250 mA at 60 V, 15 W
4	Equipment / Accessories: <i>Ausstattung / Zubehör:</i>	None
5	Used materials: <i>Verwendete Materialien:</i>	AC/DC Power Supply model: SDI65-24-U was provided to comply with AC Conducted Emissions requirements.
6	Other: <i>Sonstiges:</i>	Test sample(s), as well sample information, description, product details and intended usage was provided by customer.
7	Test sample obtaining: <i>Prüfmusterbereitstellung:</i>	☒ Sending by customer ☐ Sampling by TÜV Rheinland Group ☐ others:

Revisions

Revision No.	Date MM/DD/YYYY	Reason for Change	Author
1	11/05/2024	Original Report	OC

Note: Latest revision report will replace all previous reports.

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1 Product Specifications

1.1 Product Description

1.2 Product Specifications

EUT Specifications	
Exposure Type	☒ General Population / Uncontrolled ☐ Occupational / Controlled
Multiple Antenna Feeds:	☒ Yes and how many 2 : 2 for the wi-fi antennas. ☐ No Note: 2.4 GHz with 2 multiple RF ports, 5GHz Low 5150 – 5350 MHz with 2 multiple RF ports, 5GHz High: 5470 – 5850 MHz with 2 multiple RF ports.
Hardware Version	2023
Software Version	6.5.3ga
Note:	

1.3 Air Interfaces

Air Interface	Supported Capabilities	Modulation	Maximum Duty Cycle	Band	Frequency Range (MHz)	Maximum Output Power Including Tolerance (dBm)
WLAN: 802.11	• b mode • g mode • n mode, HT20 • ax mode, HE20 • ac mode, VHT20 • n mode, HT40 • ax mode, HE40 • ac mode, VHT40	• DSSS • OFDM	73.95	2.4GHz	2400 – 2483.5	29.90
WLAN: 802.11	• a mode • n mode, HT20 • ax mode, HE20 • ac mode, VHT20 • n mode, HT40 • ax mode, HE40 • ac mode, VHT40 • ax mode, HE80 • ac mode, VHT80 • ax mode, HE160 • ac mode, VHT160	• DSSS • OFDM	79.88	UNII-1	5150 – 5250	29.48
				UNII-3	5725 – 5825	29.67

2 RF Exposure Evaluation

2.1 Purpose

This report will demonstrate the compliance of RF exposure to the human body of the OWI2GB-55 according to FCC rule part 2.1091. All transmitters, regardless if it is categorically excluded, are assessed to ensure the product can operate in manners that meet or exceed the minimum test separation distance as required by KDB 447498.

2.2 Categorical Exclusion Assessment

Air Interface	Band	Frequency Range (MHz)	FCC Rule Part	Categorically Excluded according to FCC 1.1307 (b)(1)
WLAN: 802.11	2.4GHz	2400 – 2483.5	15.247	Yes
	UNII-1	5150 – 5250	15.407	Yes
	UNII-3	5725 – 5825	15.407	Yes

2.3 Maximum Permissible Exposure Limit

The Maximum Permissible Exposure (MPE) limits according to FCC rule part 1.1310 for general population/uncontrolled exposure is as follows:

Frequency Range (MHz)	E-field strength (V/m)	H-field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
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
300-1,500	-	-	f/1500	30
1,500-100,000	-	-	1.0	30

* = Plane-wave equivalent power density

2.4 Assessment Methods

The power density is calculated according to the following equation

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

Where

S = Power Density (mW/cm²)

EIRP = Effective Isotropic Radiated Power (mW)

R = Minimum distance between the human body and antenna (cm)

When the calculated power density exceeds the MPE limits, the power density is measured.

2.5 Assessment Calculation

The maximum output power and antenna gain is declared by the manufacturer and used in this assessment. The minimum RF exposure distance during normal operation is 20 cm.

Stand Alone Analysis

Frequency Band	Max. Conducted Power (mW)	Numeric Antenna Gain	EIRP (mW)	Power Density (mW/cm ²)	Power Density Limit (mW/cm ²)	Percentage of Limit
5150 – 5250	887.16	3.72	3296.10	0.656	1	65.574
5725 – 5825	926.83	3.89	3605.79	0.717	1	71.735
2400 – 2483.5	977.24	2.00	1949.84	0.388	1	38.791

Note: Calculations for this report are based on highest power measurement and its antenna gain.

2.6 Conclusion

The EUT was found to be compliant to the requirements of FCC part 1.1310 and part 2.1091 with a minimum distance of 20 cm.