

Prüfbericht-Nr.: <i>Test report no.:</i>	CN256260 003	Auftrags-Nr.: <i>Order no.:</i>	168514196	Seite 1 von 7 Page 1 of 7
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2024-11-18	
Auftraggeber: <i>Client:</i>	BlueAnt Wireless Suite 6, 861 Doncaster Road, Doncaster East, Victoria 3109, Australia			
Prüfgegenstand: <i>Test item:</i>	Bluetooth Speaker			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	X4i (Trademark: BlueAnt)			
Auftrags-Inhalt: <i>Order content:</i>	Test Report			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 2: Section 2.1093			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2024-12-06	Please refer to Photo Document		
Prüfmuster-Nr.: <i>Test sample no.:</i>	A003863179-001~003			
Prüfzeitraum: <i>Testing period:</i>	2024-12-23 - 2025-01-06			
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>	 Hardy Suo		genehmigt von: <i>authorized by:</i>	 Lin Lin
Datum: <i>Date:</i>	2025-04-28		Ausstellungsdatum: <i>Issue date:</i>	2025-04-28
Stellung / Position:	Sachverständige(r)/Expert		Stellung / Position:	Sachverständige(r)/Expert
Sonstiges / <i>Other:</i>	FCC ID: VHF-BLUEANT-X4I			
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: 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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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>

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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.

2-3F, 101 & 102, No.2, Nuclear Power Industrial Park, Fuming Community, Fucheng Street, Longhua District, Shenzhen 518000, People's Republic of China

A2LA Certificate 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. Test facility located at 2-3F, 101 & 102, No.2, Nuclear Power Industrial Park, Fuming Community, Fucheng Street, Longhua District, Shenzhen 518000, People's Republic of 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 a Bluetooth Speaker which supports Bluetooth dual mode function and has two Bluetooth chips that one is for Bluetooth dual mode and one is for Bluetooth LE.

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

2.2 Rating and System Details

Table 1: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment:	Bluetooth Speaker
Type Designation:	X4i
Trademark:	BlueAnt
FCC ID:	VHF-BLUEANT-X4I
Operating Voltage:	AC 100-240V, 50/60Hz, or Built-in battery
Testing Voltage:	AC 120V, 60Hz or fully charged battery
Operating Temperature Range:	0°C ~ +40 °C
Radiofrequency operating mode:	Bluetooth: operating within 2400-2483.5MHz, Classic Bluetooth (BR&EDR), Bluetooth BLE (1Mbps&2Mbps)
Technical Specification of Bluetooth (dual mode)-Bluetooth Chip1	
Operating Frequency:	2402 MHz to 2480 MHz
Type of Modulation:	GFSK, $\pi/4$ -DQPSK, 8DPSK
Channel Number:	BR & EDR mode: 79 channels, Low Energy mode: 40 channels
Channel Separation:	BR & EDR mode: 1MHz, Low Energy mode: 2MHz
Data Rate:	BR & EDR mode: 1Mbps, 2Mbps, 3Mbps Low Energy mode: 1Mbps, 2Mbps
Antenna Type:	Integral Antenna
Antenna Number:	1
Antenna Gain:	-0.68 dBi (Provided by the Client)
Technical Specification of Bluetooth LE-Bluetooth Chip2	
Operating Frequency:	2402 MHz to 2480 MHz
Type of Modulation:	GFSK
Channel Number:	Low Energy mode: 40 channels
Channel Separation:	Low Energy mode: 2MHz
Data Rate:	Low Energy mode: 1Mbps, 2Mbps
Antenna Type:	Integral Antenna
Antenna Number:	1
Antenna Gain:	-0.68 dBi (Provided by the Client)
Remark: Bluetooth (dual mode)-Bluetooth Chip1 and Bluetooth LE-Bluetooth Chip2 have different transmitter antennas.	

3. Test Results

3.1 Radio Frequency Exposure Compliance

3.1.1 RF Exposure Compliance

RESULT:**Pass**

Test standard : CFR47 FCC Part 2: Section 2.1093
FCC KDB 447498 D01 General RF Exposure Guidance v06

Measurement Record:

The minimum distance for the EUT is less than 5mm.

For Bluetooth Chip1 stand-alone:

Since maximum peak output power of the transmitter is 4.07 dBm $\approx 2.55 \text{ mW} < \frac{3 \cdot d}{\sqrt{f}} = 9.52 \text{ mW}$.

Hence the EUT is excluded from SAR evaluation according to FCC KDB Publication 447498 D01 General RF Exposure Guidance v06.

For Bluetooth Chip2 stand-alone:

Since maximum peak output power of the transmitter is 7.54 dBm $\approx 5.68 \text{ mW} < \frac{3 \cdot d}{\sqrt{f}} = 9.52 \text{ mW}$.

Hence the EUT is excluded from SAR evaluation according to FCC KDB Publication 447498 D01 General RF Exposure Guidance v06.

For Bluetooth Chip1 and Bluetooth Chip2 working simultaneously:

Since sum maximum peak output power of the transmitter for Bluetooth Chip1 and Bluetooth Chip2 is

$2.55 \text{ mW} + 5.68 \text{ mW} = 8.23 \text{ mW} < \frac{3 \cdot d}{\sqrt{f}} = 9.52 \text{ mW}$.

Hence the EUT is excluded from SAR evaluation according to FCC KDB Publication 447498 D01 General RF Exposure Guidance v06.