

Prüfbericht-Nr.: <i>Test report no.:</i>	CN2387AY 002	Auftrags-Nr.: <i>Order no.:</i>	168405109	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>	2023-01-04	
Auftraggeber: <i>Client:</i>	Hillsdale Technology LLC 3182 Campus Drive, Unit 266, San Mateo, United States			
Prüfgegenstand: <i>Test item:</i>	Jarvisen Translator 2			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	JT-2-BLACK			
Auftrags-Inhalt: <i>Order content:</i>	Test Report			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.247			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2023-01-06	Please refer to Photo Document		
Prüfmuster-Nr.: <i>Test sample no:</i>	A003399272-001~008 A003399272-017~026			
Prüfzeitraum: <i>Testing period:</i>	2023-01-29 - 2023-02-10			
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>	 Lin Lin		genehmigt von: <i>authorized by:</i>	 Hardy Suo
Datum: <i>Date:</i>	2023-02-16		Ausstellungsdatum: <i>Issue date:</i>	2023-02-16
Stellung / Position:	Senior Project Manager		Stellung / Position:	Reviewer
Sonstiges / Other:	FCC ID: 2A94T-JT-2-BLACK This report is for Bluetooth wireless only.			
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 F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	4 = ausreichend N/A = nicht anwendbar
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory F(ail) = failed a.m. test specification(s)	4 = sufficient N/A = not applicable
5 = mangelhaft N/T = nicht getestet				
5 = poor 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>				

Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 MAXIMUM PEAK CONDUCTED OUTPUT POWER

RESULT: Pass

5.1.3 CONDUCTED POWER SPECTRAL DENSITY

RESULT: Pass

5.1.4 6dB BANDWIDTH

RESULT: Pass

5.1.5 99% BANDWIDTH

RESULT: Pass

5.1.6 20dB BANDWIDTH

RESULT: Pass

5.1.7 CARRIER FREQUENCY SEPARATION

RESULT: Pass

5.1.8 NUMBER OF HOPPING FREQUENCY

RESULT: Pass

5.1.9 TIME OF OCCUPANCY

RESULT: Pass

5.1.10 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 kHz BANDWIDTH

RESULT: Pass

5.1.11 RADIATED SPURIOUS EMISSION

RESULT: Pass

5.1.12 CONDUCTED EMISSION

RESULT: Pass

Contents

1	GENERAL REMARKS	4
1.1	COMPLEMENTARY MATERIALS	4
2	TEST SITES	5
2.1	TEST FACILITIES	5
2.2	LIST OF TEST AND MEASUREMENT INSTRUMENTS.....	5
2.3	TRACEABILITY	6
2.4	CALIBRATION	6
2.5	MEASUREMENT UNCERTAINTY.....	6
2.6	LOCATION OF ORIGINAL DATA.....	6
2.7	STATUS OF FACILITY USED FOR TESTING.....	6
3	GENERAL PRODUCT INFORMATION	7
3.1	PRODUCT FUNCTION AND INTENDED USE.....	7
3.2	RATINGS AND SYSTEM DETAILS	7
3.3	INDEPENDENT OPERATION MODES	9
3.4	NOISE GENERATING AND NOISE SUPPRESSING PARTS.....	9
3.5	SUBMITTED DOCUMENTS.....	9
4	TEST SET-UP AND OPERATION MODES	10
4.1	PRINCIPLE OF CONFIGURATION SELECTION	10
4.2	TEST OPERATION AND TEST SOFTWARE.....	10
4.3	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT	10
4.4	COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE	10
4.5	TEST SETUP DIAGRAM	11
5	TEST RESULTS	13
5.1	TRANSMITTER REQUIREMENT & TEST SUITES	13
5.1.1	<i>Antenna Requirement</i>	<i>13</i>
5.1.2	<i>Maximum Peak Conducted Output Power</i>	<i>14</i>
5.1.3	<i>Conducted Power Spectral Density</i>	<i>16</i>
5.1.4	<i>6dB Bandwidth</i>	<i>17</i>
5.1.5	<i>99% Bandwidth</i>	<i>18</i>
5.1.6	<i>20dB Bandwidth</i>	<i>19</i>
5.1.7	<i>Carrier Frequency Separation.....</i>	<i>20</i>
5.1.8	<i>Number of Hopping Frequency.....</i>	<i>21</i>
5.1.9	<i>Time of Occupancy</i>	<i>22</i>
5.1.10	<i>Conducted Spurious Emissions Measured in 100 kHz Bandwidth.....</i>	<i>23</i>
5.1.11	<i>Radiated Spurious Emission.....</i>	<i>24</i>
5.1.12	<i>Conducted Emission</i>	<i>25</i>
6	PHOTOGRAPHS OF THE TEST SET-UP	26
7	LIST OF TABLES.....	26

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 Bluetooth BR/EDR

Appendix B: Test Results of Bluetooth Low Energy

Appendix C: 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, 518110, Shenzhen, P. R. China.

FCC Accreditation Designation No.: CN1260

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	2023-10-10
MXG X-Series RF Vector Signal Generator	Keysight	N5182B	MY61250137	2023-10-10
EXG X-Series Microwave Analog Signal Generator	Keysight	N5173B	MY61250141	2023-10-10
DC power supply	Keysight	E3642A	MY61276100	2023-10-10
Power Control Unit	Tonscend	JS0806-4ADC	N/A	2023-10-10
Automation Control Unit	Tonscend	JS0806-2	21C8060396	2023-10-10
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	2023-08-02
Signal Analyzer	R&S	FSV 40	101439	2023-08-01
System Controller Interface	R&S	SCI-100	S10010038	N/A
Filterbank	R&S	Wlan	100759	2023-08-01
OSP	R&S	OSP 120	102040	N/A
Pre-amplifier	R&S	SCU08F1	08320031	2023-08-02
Amplifier	R&S	SCU-18F	180070	2023-08-02
Amplifier	R&S	SCU40A	100475	2023-08-02
Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	2024-08-06
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	2024-08-06
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19067	2024-08-27
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	2023-08-06
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	102680	2023-02-27
Artificial Mains Network	R&S	ENV216	101445	2023-02-27
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 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

Parameter	Uncertainty (k=2)
RF output power, conducted	± 0.99 dB
Occupied Channel Bandwidth	± 2.08 %
RF power density, conducted	± 0.99 dB
Unwanted Emissions, conducted	± 0.89 dB
All emissions, radiated	±4.17 dB
Conducted Emission, (9kHz to 150kHz)/(150kHz to 30MHz)	± 3.70 dB / ± 3.30 dB

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, 518110, Shenzhen, P. R. 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 is a Jarvisen Translator 2 which supports Bluetooth (dual mode), 2.4GHz Wi-Fi, 5GHz Wi-Fi, WCDMA and LTE functions.

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

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

General Information of EUT	Value
Product Name:	Jarvisen Translator 2
Model No.:	JT-2-BLACK
FCC ID:	2A94T-JT-2-BLACK
Operating Voltage:	Internal battery operated (3.85Vdc, 2000mAh) or USB operated (Adapter input voltage 120Vac, 60Hz)
Testing Voltage:	AC 120V, 60Hz or Fully charged battery
Operating Temperature Range:	-10 °C ~ 45 °C
AC/DC Adapter:	Model: ES019C-U120150XYC Input: 100-240V, 50/60Hz Output: 9V/3A or 9V/2A or 12V/1.5A
Battery:	Model: LD200A Rated Capacity: 3.85V, 2000mAh, 7.7Wh
HW Version:	HW_LD_MB_V01
SW Version:	1600
Technical Specification of Bluetooth (dual mode)	
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, 3Mbps) Low Energy mode: (1Mbps, 2Mbps)
Antenna Type:	Internal Antenna
Antenna Gain of Bluetooth:	1.65 dBi

Table 3: RF Channel and Frequency of Bluetooth BR/EDR

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	2402.00	20	2422.00	40	2442.00	60	2462.00
1	2403.00	21	2423.00	41	2443.00	61	2463.00
2	2404.00	22	2424.00	42	2444.00	62	2464.00
3	2405.00	23	2425.00	43	2445.00	63	2465.00
4	2406.00	24	2426.00	44	2446.00	64	2466.00
5	2407.00	25	2427.00	45	2447.00	65	2467.00
6	2408.00	26	2428.00	46	2448.00	66	2468.00
7	2409.00	27	2429.00	47	2449.00	67	2469.00
8	2410.00	28	2430.00	48	2450.00	68	2470.00
9	2411.00	29	2431.00	49	2451.00	69	2471.00
10	2412.00	30	2432.00	50	2452.00	70	2472.00
11	2413.00	31	2433.00	51	2453.00	71	2473.00
12	2414.00	32	2434.00	52	2454.00	72	2474.00
13	2415.00	33	2435.00	53	2455.00	73	2475.00
14	2416.00	34	2436.00	54	2456.00	74	2476.00
15	2417.00	35	2437.00	55	2457.00	75	2477.00
16	2418.00	36	2438.00	56	2458.00	76	2478.00
17	2419.00	37	2439.00	57	2459.00	77	2479.00
18	2420.00	38	2440.00	58	2460.00	78	2480.00
19	2421.00	39	2441.00	59	2461.00		

Test frequencies are lowest channel: 2402 MHz, middle channel: 2441 MHz and highest channel: 2480 MHz for Bluetooth BR/EDR

Table 4: RF Channel and Frequency of Bluetooth LE

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

Test frequencies are lowest channel: 2402 MHz, middle channel: 2440 MHz and highest channel: 2480 MHz for Bluetooth LE

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Bluetooth transmitting mode (BR & EDR mode)
 - 1) Low Channel
 - 2) Middle Channel
 - 3) High Channel
- B. On, Bluetooth transmitting mode (Bluetooth LE mode)
 - 1) Low Channel
 - 2) Middle Channel
 - 3) High Channel
- C. On, Transmitting on Hopping channel
- D. On, Normal operation +Bluetooth
- E. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- | | |
|-------------------------|------------------------------|
| - Application Form | - User Manual |
| - Operation Description | - Block Diagram |
| - PCB Layout | - ID Label and Location Info |

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.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10: 2013.

According to clause 3.1, all tests were performed on model JT-2-BLACK in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 5: Auxiliary Equipment Used during Test

Description	Manufacturer	Model	S/N
Portable Laptop	Lenovo	ThinkPad L470	SPP0M92508
Mobile phone	HUAWEI	STK-AL00	7PRNW20721000279

4.4 Countermeasures to Achieve EMC 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)

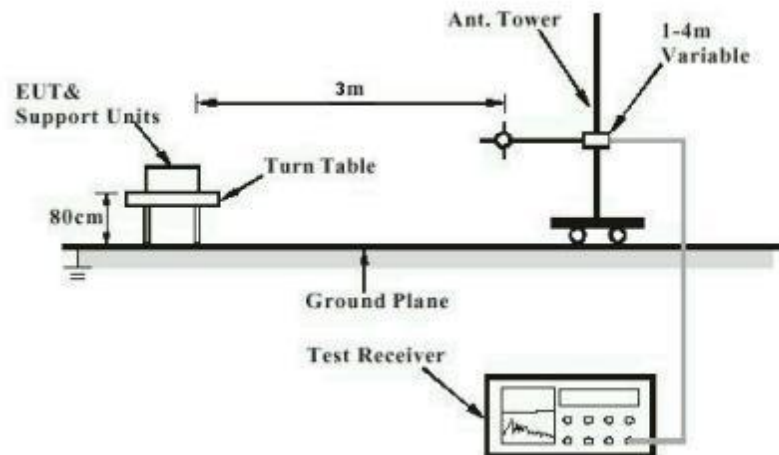


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

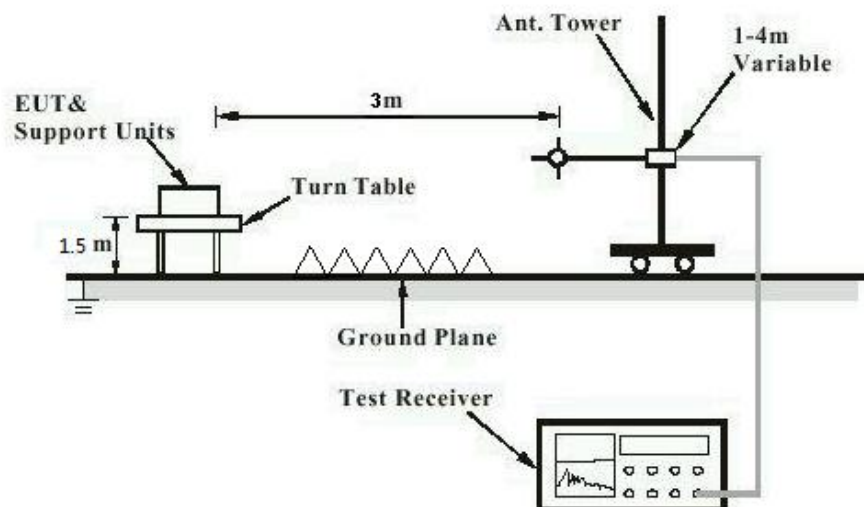


Diagram of Measurement Configuration for Mains Conduction Measurement

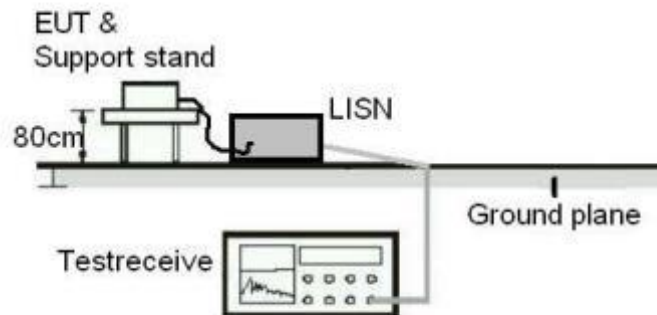
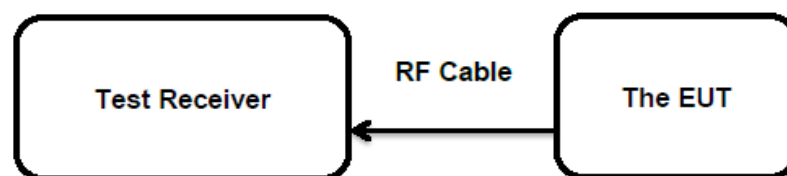


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:

Pass

Test Specification

Test standard : FCC Part 15.247(b)(4) and Part 15.203

According to the manufacturer declared, the EUT has an Integral antenna, the directional gain of antenna is 1.65 dBi, and the antenna connector is designed with 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.

Prüfbericht - Nr.: CN2387AY 002

Test Report No.:

Seite 14 von 26

Page 14 of 26

5.1.2 Maximum Peak Conducted Output Power

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(b)(1)&(3)
Basic standard	: ANSI C63.10: 2013
Limits	: FHSS < 0.125 Watts, DSSS < 1.0 Watts
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2023-02-03 to 2023-02-10
Input voltage	: Fully charged battery
Operation mode	: A, B
Test channel	: Low / Middle / High
Ambient temperature	: 24.3 °C
Relative humidity	: 45 %
Atmospheric pressure	: 101 kPa

For details refer to following test result.

Table 6: Test Result of Maximum Peak Conducted Output Power, Bluetooth BR & EDR

Test Mode	Test Channel (MHz)	Measured Peak Power		Limit (W)
		(dBm)	(W)	
GFSK (BR)	2402.0	5.23	0.0033	< 0.125
	2441.0	5.12	0.0033	
	2480.0	4.95	0.0031	
Maximum Measured Value		5.23	0.0033	

Test Mode	Test Channel (MHz)	Measured Peak Power		Limit (W)
		(dBm)	(W)	
8DPSK (EDR)	2402.0	4.03	0.0025	< 0.125
	2441.0	4.24	0.0027	
	2480.0	4.21	0.0026	
Maximum Measured Value		4.24	0.0027	

Table 7: Test Result of Maximum Peak Conducted Output Power, Bluetooth LE

Test Mode	Test Channel (MHz)	Measured Peak Power		Limit (W)
		(dBm)	(W)	
Bluetooth LE (1 Mbps)	2402	-1.39	0.0007	< 1.0
	2440	-1.30	0.0007	
	2480	-1.72	0.0007	
Max. Measured Value		-1.30	0.0007	

Test Mode	Test Channel (MHz)	Measured Peak Power		Limit (W)
		(dBm)	(W)	
Bluetooth LE (2 Mbps)	2402	-1.40	0.0007	< 1.0
	2440	-1.48	0.0007	
	2480	-1.84	0.0007	
Max. Measured Value		-1.40	0.0007	

Note:

- 1) The cable loss is taken into account in results.
- 2) Antenna gain(G): 1.65 dBi

Prüfbericht - Nr.: CN2387AY 002

Test Report No.:

Seite 16 von 26

Page 16 of 26

5.1.3 Conducted Power Spectral Density

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(e)
Basic standard	: ANSI C63.10: 2013
Limits	: < 8 dBm / 3kHz
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2023-02-07
Input voltage	: Fully charged battery
Operation mode	: B
Test channel	: Low / Middle / High
Ambient temperature	: 24.3 °C
Relative humidity	: 45 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix B.

Prüfbericht - Nr.: CN2387AY 002

Test Report No.:

Seite 17 von 26

Page 17 of 26

5.1.4 6dB Bandwidth

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(a)(2)
Basic standard	: ANSI C63.10: 2013
Limits	: > 500 kHz
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2023-02-07
Input voltage	: Fully charged battery
Operation mode	: B
Test channel	: Low / Middle / High
Ambient temperature	: 24.3 °C
Relative humidity	: 45 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix B.

Prüfbericht - Nr.: CN2387AY 002

Test Report No.:

Seite 18 von 26

Page 18 of 26

5.1.5 99% Bandwidth

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(a)
Basic standard	: ANSI C63.10: 2013
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2023-02-03 to 2023-02-10
Input voltage	: Fully charged battery
Operation mode	: A, B
Test channel	: Low / Middle / High
Ambient temperature	: 24.3 °C
Relative humidity	: 45 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A & B.

Prüfbericht - Nr.: CN2387AY 002

Test Report No.:

Seite 19 von 26

Page 19 of 26

5.1.6 20dB Bandwidth

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.247(a)(1)
Basic standard	: ANSI C63.10: 2013
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2023-02-03 to 2023-02-10
Input voltage	: Fully charged battery
Operation mode	: A
Test channel	: Low / Middle / High
Ambient temperature	: 24.3 °C
Relative humidity	: 45 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A.

Prüfbericht - Nr.: CN2387AY 002

Test Report No.:

Seite 20 von 26

Page 20 of 26

5.1.7 Carrier Frequency Separation

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(a)(1)
Basic standard	: ANSI C63.10: 2013
Limits	: $\geq 25\text{kHz}$ or 2/3 of 20dB bandwidth, whichever is greater
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2023-02-03 to 2023-02-10
Input voltage	: Fully charged battery
Operation mode	: C
Test channel	: Low / Middle / High
Ambient temperature	: 24.3 °C
Relative humidity	: 45 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A.

Prüfbericht - Nr.: CN2387AY 002

Test Report No.:

Seite 21 von 26

Page 21 of 26

5.1.8 Number of Hopping Frequency

RESULT:

Pass

Test Specification

Test standard	: FCC part 15.247(a)(1)(iii)
Basic standard	: ANSI C63.10: 2013
Limits	: ≥ 15 non-overlapping channels
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2023-02-03 to 2023-02-10
Input voltage	: Fully charged battery
Operation mode	: C
Ambient temperature	: 24.3 °C
Relative humidity	: 45 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A.

Prüfbericht - Nr.: CN2387AY 002

Test Report No.:

Seite 22 von 26

Page 22 of 26

5.1.9 Time of Occupancy

RESULT:

Pass

Test Specification

Test standard	: FCC part 15.247(a)(1)(iii)
Basic standard	: ANSI C63.10: 2013
Limits	: < 0.4s
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2023-02-03 to 2023-02-10
Input voltage	: Fully charged battery
Operation mode	: C
Test channel	: Low / Middle / High
Ambient temperature	: 24.3 °C
Relative humidity	: 45 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A.

Prüfbericht - Nr.: CN2387AY 002

Test Report No.:

Seite 23 von 26

Page 23 of 26

5.1.10 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(d)
Basic standard	: ANSI C63.10: 2013
Limits	: 20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2023-02-03 to 2023-02-10
Input voltage	: Fully charged battery
Operation mode	: A, B
Test channel	: Low / Middle / High
Ambient temperature	: 24.3 °C
Relative humidity	: 45 %
Atmospheric pressure	: 101 kPa

Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to test plots, and compliance is achieved as well.

For the measurement records, refer to the appendix A & B.

Prüfbericht - Nr.: CN2387AY 002

Test Report No.:

Seite 24 von 26

Page 24 of 26

5.1.11 Radiated Spurious Emission

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(d) & FCC Part 15.205
Basic standard	: ANSI C63.10: 2013
Limits	: Refer to 15.209(a) of FCC part 15.247(d)
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: 2023-01-30 to 2023-02-01
Input voltage	: Fully charged battery
Operation mode	: A, B
Test channel	: Low / Middle / High
Ambient temperature	: Refer to test result
Relative humidity	: Refer to test result
Atmospheric pressure	: 101 kPa

Remark:

Testing was carried out within frequency range 9kHz to the tenth harmonics. Only the worst case spurious emissions configuration of the each mode were reported.

For the measurement records, refer to the appendix A & B.

Prüfbericht - Nr.: CN2387AY 002

Test Report No.:

Seite 25 von 26

Page 25 of 26

5.1.12 Conducted Emission

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.207(a)
Basic standard	: ANSI C63.10: 2013
Frequency range	: 0.15 – 30MHz
Limits	: FCC Part 15.207(a)
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2023-02-02
Input voltage	: AC 120V, 60Hz
Operation mode	: D
Earthing	: Not connected
Ambient temperature	: 23.2 °C
Relative humidity	: 50.6 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix B.

6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix C.

7 List of Tables

Table 1: List of Test and Measurement Equipment.....	5
Table 2: Technical Specification of EUT	7
Table 3: RF Channel and Frequency of Bluetooth BR/EDR.....	8
Table 4: RF Channel and Frequency of Bluetooth LE.....	8
Table 5: Auxiliary Equipment Used during Test	10
Table 6: Test Result of Maximum Peak Conducted Output Power, Bluetooth BR & EDR	15
Table 7: Test Result of Maximum Peak Conducted Output Power, Bluetooth LE	15