



SZEMC-TRF-01 Rev. A/1 Report No.: SZCR240900343903

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TEST REPORT

Application No.: SZCR2409003439AT **Applicant:** Anker Innovations Limited

Address of Applicant: Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong

Kong, China

Manufacturer: Anker Innovations Limited

Address of Manufacturer: Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong

Kong, China

Factory: Ten Pao Electronics (Huizhou) Co., Ltd.

Address of Factory: Dongjiang Industrial Area, Shuikou Town, Huizhou City, Guangdong

Province, P.R.China

Equipment Under Test (EUT):

EUT Name: Anker SOLIX Solarbank 2 E1600 AC

Model No.: A17C2, A17C6 ♣

Please refer to section 2 of this report which indicates which model was

actually tested and which were electrically identical.

Standard(s): EN 300 328 V2.2.2

Date of Receipt: 2024-09-05

Date of Test: 2024-09-20 to 2024-09-25

Date of Issue: 2024-09-29

Test Result: Pass*

* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu EMC Laboratory Manager

Ceny. Ku



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	Revision Record					
Version	Version Chapter Date Modifier Remark					
01		2024-09-29		Original		

Authorized for issue by:		
	Charle Doi	
	Charlie Dai/Project Engineer	
	Exic Fu	
	Eric Fu/Reviewer	



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Test Summary 2

Radio Spectrum Matter Part							
Item	Standard	Method	Requirement	Result			
Transmitter unwanted emissions in the spurious domain		EN 300 328 Clause 5.4.9.2	EN 300 328 Clause 4.3.2.9.3	Pass			
Receiver spurious emissions	EN 300 328 V2.2.2	EN 300 328 Clause 5.4.10.2	EN 300 328 Clause 4.3.2.10.3	Pass			
RF Output Power		EN 300 328 Clause 5.4.2.2.1.2	EN 300 328 Clause 4.3.2.2.3	Pass			
Power Spectral Density		EN 300 328 Clause 5.4.3.2.1	EN 300 328 Clause 4.3.2.3.3	Pass			

Remark:

Model No.: A17C2, A17C6

Only the model A17C2 was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used, internal wiring and functions were identical for all the above models, with only difference on output power of the AC output grid-connected port.

This test report (Ref. No.: SZCR240900343903) is only valid with the modular test report

(Ref. No.: RSHD200323002-01C)

According to the declaration from the applicant, the WIFI module used in this report and the one in original report were identical (WIFI & Bluetooth Internet of Things Module, model No.: ESP32-WROOM-32UE).

Therefore in this report the section 2 items were fully retested on model and shown the data in this report, other tests please refer to modular test report RSHD200323002-01C.



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General Information

Details of E.U.T. 4.1

4.1	Details of E.U.T.					
	Power supply:	PV terminal:				
		Max. PV input voltage: 60Vd.c., Max. PV input current: 16Ad.c.(per channel)				
		Max. Isc. PV: 20Ad.c., Max. PV input power: 1200W				
		Operation voltage range: 16-60Vdc				
		Rechargable Li-ion Battery: 16Vdc 75Adc 800W 100Ah				
		AC input:				
		Max. AC input power: 2000W				
		Max. AC input: 10Aac, 230Vac				
		AC output (On-grid terminal):				
		AC output power: 800W, AC rated output: 220/230/240Va.c. 50/60Hz				
		Max. AC output current: 3.5Aa.c. 230Va.c.				
		Off-grid terminal:				
		Max. AC output power: 2000W, AC rated output: 220/230/240Va.c. 50/60Hz				
		Max. AC output: 10Aa.c. 230Va.c.				
		Battery terminal:				
		Battery rated voltage: 16Vd.c., Max. charge current: 75Ad.c.				
		Max. discharge current: 75Ad.c., Rated power: 800W, Rated capacity:100Ah				
	Cable(s):	PV cable 299cm *4				
		Grid AC cable 498cm *1				
	Bluetooth Version:	V5.0 LE				
	Operation Frequency:	2402MHz to 2480MHz				
	Modulation Type:	GFSK				
	Data Rate:	1Mbps				
	Channel Spacing:	2MHz				
	Number of Channels:	40				
	Antenna Type:	Integral Antenna				
	Antenna Gain:	5.64dBi				
	Cable Loss (for RF conducted test):	0.9dB				

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.



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4.2 Environment Parameter

Environment Parameter	Selected Values During	Selected Values During Tests		
Relative Humidity	Ambient			
Value	Temperature(°C)	Voltage(V)		
NTNV	25	DC 3.3V		
NTLV	-20	DC 3.3V		
HTNV	55	55 DC 3.3V		

Note:

NV:Normal Voltage NT:Normal Temperature LT:Low Extreme Test Temperature

HT:High Extreme Test Temperature

4.3 Description of Support Units

Description	Manufacturer	Model No.	Serial No.			
The EUT has been tested as an independent unit.						

4.4 Measurement Uncertainty

Test Item	Measurement Uncertainty
Transmitter unwanted emissions in the spurious domain	± 4.5dB (Below 1GHz), ± 4.8dB (Above 1GHz)
Receiver spurious emissions	± 4.5dB (Below 1GHz), ± 4.8dB (Above 1GHz)
RF Output Power	± 0.75dB
Power Spectral Density	± 2.84dB

The U_{lab} (lab Uncertainty) is less than U_{cispr/ETSI} (CISPR/ETSI Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC -Designation Number: CN1336

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

• Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None



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Equipment List 5

Transmitter unwanted emissions in the spurious domain						
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	
3m Fully-Anechoic Chamber	AUDIX	N/A	SEM001-02	2024-05-11	2027-05-10	
Signal Analyzer	Rohde & Schwarz	FSV40	SEM008-04	2024-03-15	2025-03-14	
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2023-07-23	2025-07-22	
Microwave system amplifier	Agilent	83017A	SEM005-25	2024-09-14	2025-09-13	
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A	
Coaxial Cable	SGS	N/A	SEM026-01	2024-07-06	2025-07-05	

Receiver spurious emissions						
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	
3m Fully-Anechoic Chamber	AUDIX	N/A	SEM001-02	2024-05-11	2027-05-10	
Signal Analyzer	Rohde & Schwarz	FSV40	SEM008-04	2024-03-15	2025-03-14	
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2023-07-23	2025-07-22	
Microwave system amplifier	Agilent	83017A	SEM005-25	2024-09-14	2025-09-13	
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A	
Coaxial Cable	SGS	N/A	SEM026-01	2024-07-06	2025-07-05	

RF Conducted Test					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Shielding Room	AUDIX	N/A	SEM001-08	2022-05-14	2025-05-13
EXA Signal Analyzer	KEYSIGHT	N9010A	SEM004-09	2024-03-27	2025-03-26
DC Power Supply	KEYSIGHT	E3642A	SEM011-07	2024-03-19	2025-03-18
Manual Step Attenuator	KEYSIGHT	8494B	SEM021-05	2024-03-27	2025-03-26
Manual Step Attenuator	KEYSIGHT	8496B	SEM021-06	2024-03-27	2025-03-26
Power Sensor	TST PASS	TSPS2023R	SEM009-26	2024-03-27	2025-03-26
Power Sensor	TST PASS	TSPS2023R	SEM009-27	2024-03-27	2025-03-26
Power Sensor	TST PASS	TSPS2023R	SEM009-28	2024-03-27	2025-03-26
Power Sensor	TST PASS	TSPS2023R	SEM009-29	2024-03-27	2025-03-26
Programmable Temperature&Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2024-03-19	2025-03-18



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Measurement Software	TST PASS	TST PASS V2.0	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM028-01	2024-07-06	2025-07-05
Signal Generator	KEYSIGHT	N5171B	SEM006-13	2024-03-14	2025-03-13
Universal Radio Communication Tester	Rohde&Schwarz	CMW500	SEM010-08	2024-03-14	2025-03-13

General used equipment						
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	
Humidity/ Temperature Indicator	deli	8838	SEM002-32	2024-07-24	2025-07-23	
Humidity/ Temperature Indicator	deli	8838	SEM002-33	2024-07-24	2025-07-23	
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2024-03-18	2025-03-17	



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Radio Spectrum Matter Test Results

6.1 Transmitter unwanted emissions in the spurious domain

Test Requirement EN 300 328 Clause 4.3.2.9.3 Test Method: EN 300 328 Clause 5.4.9.2

Measurement Distance: 3m

Limit:

Table 1: Transmitter limits for spurious emissions

	Maximum power,	
Frequency range	e.r.p. (≤ 1 GHz)	Bandwidth
	e.i.r.p. (> 1 GHz)	
30 MHz to 47 MHz	-36dBm	100 kHz
47 MHz to 74 MHz	-54dBm	100 kHz
74 MHz to 87,5 MHz	-36dBm	100 kHz
87,5 MHz to 118 MHz	-54dBm	100 kHz
118 MHz to 174 MHz	-36dBm	100 kHz
174 MHz to 230 MHz	-54dBm	100 kHz
230 MHz to 470 MHz	-36dBm	100 kHz
470 MHz to 694 MHz	-54dBm	100 kHz
694 MHz to 1 GHz	-36dBm	100 kHz
1 GHz to 12,75 GHz	-30dBm	1MHz

6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 23.4 °C Humidity: 64.5 % RH Atmospheric Pressure: 1020 mbar

6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation



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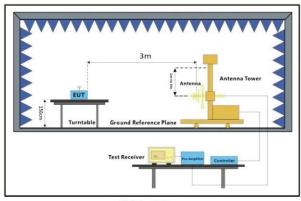


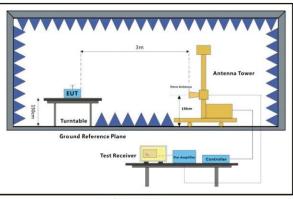
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6.1.3 Test Setup Diagram





30MHz-1GHz

Above 1GHz

6.1.4 Measurement Procedure and Data

- 1. Using test software to set up the lowest channel, the middle channel and the highest channel.
- 2. Scan from 30MHz to 12.75GHz, find the maximum radiation frequency to measure. No Standby Mode apply for the EUT.
- 3. The technique used to find the Spurious Emissions of the transmitter was a pre-calibration method which is measure the path loss from the measurement antenna to the substitution antenna and subtract this from the signal generator level to reach the measurement result. The method was performed to determine the actual ERP/EIRP emission levels of the EUT.

Test procedure as below:

- 1) The EUT was powered ON and placed on a table in the chamber. The antenna of the transmitter was extended to its maximum length. Receiver mode and the measuring receiver shall be tuned to the frequency of the transmitter under test.
- 2) The disturbance of the transmitter was maximized on the test receiver display by raising and lowering the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.
- 3) The test antenna shall be raised or lowered again, if necessary, through the specified height range until a maximum is obtained. This level shall be recorded.
- 4) This measurement shall be repeated for horizontal and vertical polarization.

Remark:

The disturbance below 1GHz was very low and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.



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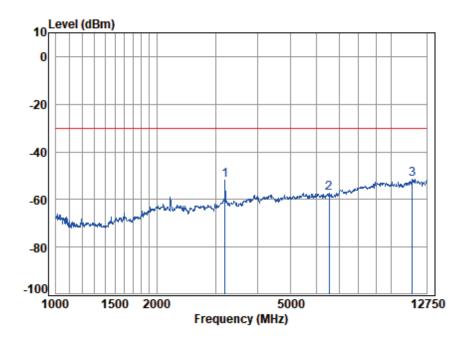


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Test Mode: 02; Polarity: Horizontal; Modulation: GFSK; Channel:Low



Condition: 3m HORIZONTAL

11545.04

Job No: 03439AT

Test mode: 2402 TX RSE

Note: BLE Note:

Level Limit Over Limit Freq. dBm dBm Marker MHz dB 1 -52.11 -30.00 -22.113200.50 2 6527.71 -57.35 -30.00 -27.35

-51.62



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-30.00

-21.62

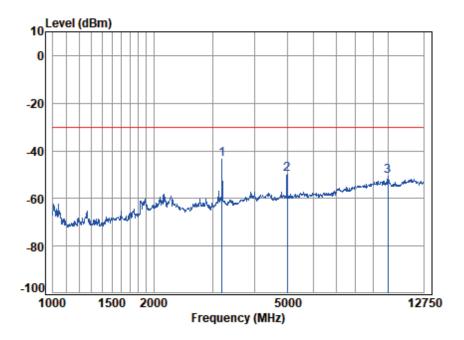


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Test Mode: 02; Polarity: Vertical; Modulation:GFSK; Channel:Low



Condition: 3m VERTICAL

Job No: 03439AT

Test mode: 2402 TX RSE

Note: BLE Note:

Marker	Freq. MHz	Level dBm	Limit dBm	Over Limit dB
-				
1	3200.50	-43.44	-30.00	-13.44
2	4996.69	-49.77	-30.00	-19.77
3	9985.76	-50.63	-30.00	-20.63



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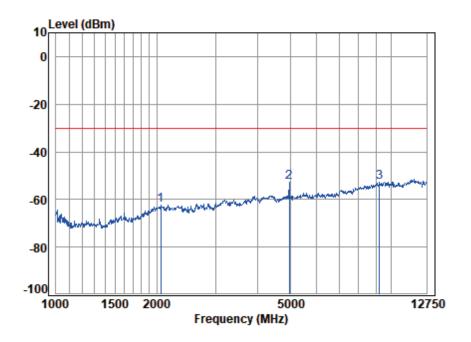


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Test Mode: 02; Polarity: Horizontal; Modulation: GFSK; Channel: High



Condition: 3m HORIZONTAL

Job No: 03439AT

Test mode: 2480 TX RSE

Note: BLE Note:

Marker	Freq. MHz	Level dBm	Limit dBm	Over Limit dB
-				
1	2055.23	-62.16	-30.00	-32.16
2	4958.68	-52.59	-30.00	-22.59
3	9228.06	-52.65	-30.00	-22.65



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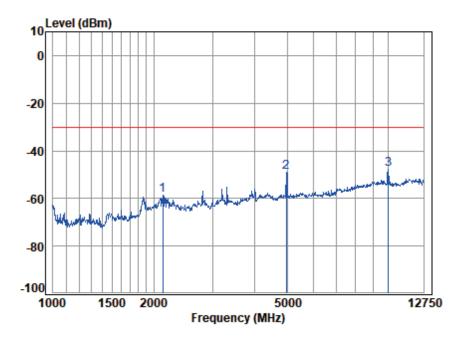


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Test Mode: 02; Polarity: Vertical; Modulation: GFSK; Channel: High



Condition: 3m VERTICAL

Job No: 03439AT

Test mode: 2480 TX RSE

Note: BLE

Note:

Freq. Marker MHz		Level dBm	Limit dBm	Over Limit dB
1	2129.79	-58.76	-30.00	-28.76
2	4958.68	-48.84	-30.00	-18.84
3	10011.21	-47.82	-30.00	-17.82



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6.2 Receiver spurious emissions

Test Requirement EN 300 328 Clause 4.3.2.10.3 Test Method: EN 300 328 Clause 5.4.10.2

Measurement Distance: 3m

Limit:

The spurious emissions of the receiver shall not exceed the values in tables in the indicated bands:

Frequency Range	Limit
30 MHz to 1 GHz	2nW(-57dBm)
Above 1GHz	20nW(-47dBm)

6.2.1 E.U.T. Operation

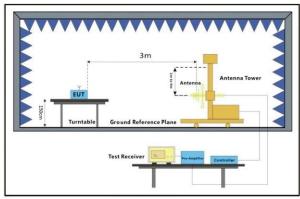
Operating Environment:

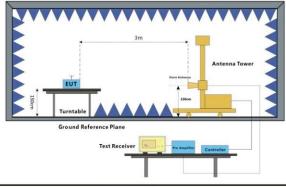
Humidity: 65.1 % RH 23.3 °C Atmospheric Pressure: 1020 mbar Temperature:

6.2.2 Test Mode Description

Tool mode Boompton					
Pre-scan / Final test	Mode Code	Description			
Final test	00	RX(1Mbps)_Keep the EUT in receiving mode with GFSK modulation.			

6.2.3 Test Setup Diagram





30MHz-1GHz

Above 1GHz



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6.2.4 Measurement Procedure and Data

- 1. Using test software to set up the lowest channel, the middle channel and the highest channel.
- 2. Scan from 30MHz to 12.75GHz, find the maximum radiation frequency to measure. No Standby Mode apply for the EUT.
- 3. The technique used to find the Spurious Emissions of the transmitter was a pre-calibration method which is measure the path loss from the measurement antenna to the substitution antenna and subtract this from the signal generator level to reach the measurement result. The method was performed to determine the actual ERP/EIRP emission levels of the EUT.

Test procedure as below:

- 1) The EUT was powered ON and placed on a table in the chamber. The antenna of the transmitter was extended to its maximum length. Receiver mode and the measuring receiver shall be tuned to the frequency of the transmitter under test.
- 2) The disturbance of the transmitter was maximized on the test receiver display by raising and lowering the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.
- 3) The test antenna shall be raised or lowered again, if necessary, through the specified height range until a maximum is obtained. This level shall be recorded.
- 4) This measurement shall be repeated for horizontal and vertical polarization.

Remark:

The disturbance below 1GHz was very low and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.



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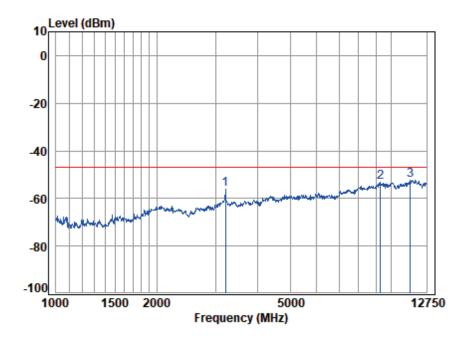


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Test Mode: 00; Polarity: Horizontal; Modulation: GFSK; Channel:Low



Condition: 3m HORIZONTAL

Job No: 03439AT

Test mode: 2402 RX RSE

Note: BLE Note:

Marker	Freq. MHz	Level dBm	Limit dBm	Over Limit dB
1	3208.66	-56.26	-47.00	-9.26
2	9298.80	-53.34	-47.00	-6.34
3	11399.03	-52.29	-47.00	-5.29



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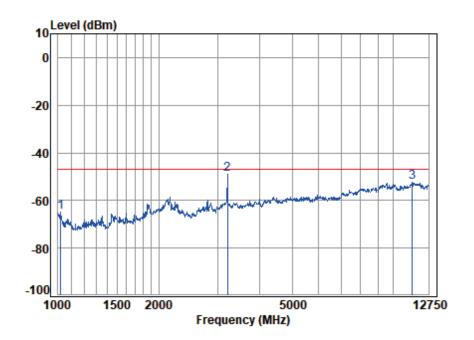


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Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:Low



Condition: 3m VERTICAL

Job No: 03439AT

Test mode: 2402 RX RSE

Note: BLE Note:

Marker	Freq. MHz	Level dBm	Limit dBm	Over Limit dB
1	1017.98	-64.90	-47.00	-17.90
2	3208.66	-49.08	-47.00	-2.08
3	11399.03	-52.23	-47.00	-5.23



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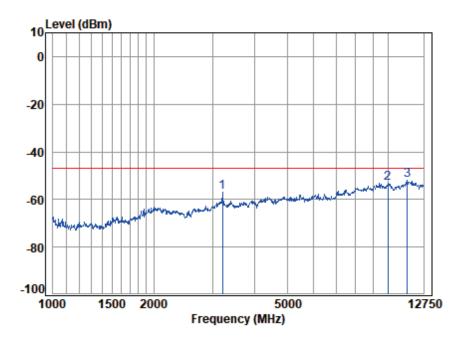


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Test Mode: 00; Polarity: Horizontal; Modulation: GFSK; Channel: High



Condition: 3m HORIZONTAL

Job No: 03439AT

Test mode: 2480 RX RSE

Note: BLE Note:

Marker	Freq. MHz	Level dBm	Limit dBm	Over Limit dB
1	3208.66	-57.00	-47.00	-10.00
2	9985.76	-53.06	-47.00	-6.06
3	11399.03	-51.89	-47.00	-4.89



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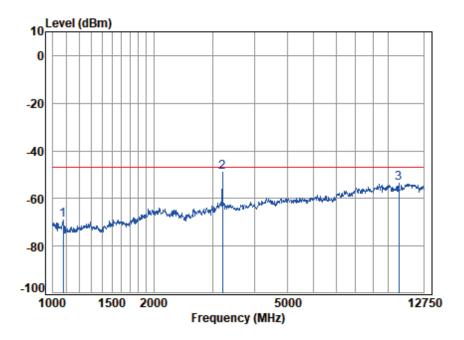


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Test Mode: 00; Polarity: Vertical; Modulation: GFSK; Channel: High



Condition: 3m VERTICAL

Job No: 03439AT

Test mode: 2480 RX RSE

Note: BLE Note:

Marker	Freq. MHz	Level dBm	Limit dBm	Over Limit dB
1	1073.88	-68.99	-47.00	-21.99
2	3208.66	-49.05	-47.00	-2.05
3	10750.81	-53.64	-47.00	-6.64



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6.3 RF Output Power

Test Requirement EN 300 328 Clause 4.3.2.2.3 Test Method: EN 300 328 Clause 5.4.2.2.1.2

Limit:

Frequency band(MHz)	Limit
2400-2483.5	20dBm/(100mw) (e.i.r.p)

6.3.1 E.U.T. Operation

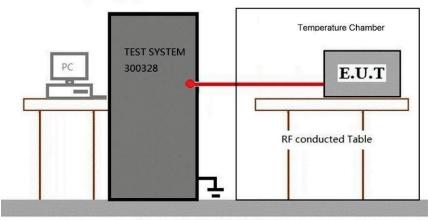
Operating Environment:

Temperature: 24.5 °C Humidity: 48.4 % RH Atmospheric Pressure: 1020 mbar

6.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation

6.3.3 Test Setup Diagram



Ground Reference Plane

6.3.4 Measurement Procedure and Data

Please Refer to Appendix for Details



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6.4 Power Spectral Density

Test Requirement EN 300 328 Clause 4.3.2.3.3 Test Method: EN 300 328 Clause 5.4.3.2.1

Limit:

Frequency band(MHz)		Limit
	2400-2483.5	≤10dBm per MHz

6.4.1 E.U.T. Operation

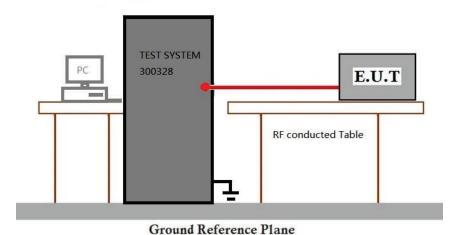
Operating Environment:

Temperature: 24.5 °C Humidity: 48.4 % RH Atmospheric Pressure: 1020 mbar

6.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation

6.4.3 Test Setup Diagram



6.4.4 Measurement Procedure and Data

Please Refer to Appendix for Details



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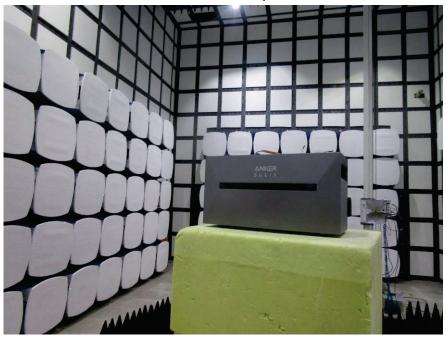


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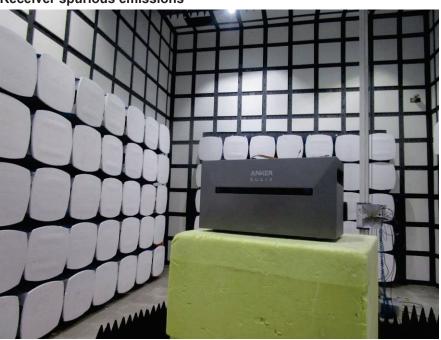
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Test Setup Photo

Transmitter unwanted emissions in the spurious domain



Receiver spurious emissions





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EUT Constructional Details (EUT Photos) 8

Refer to Appendix - Photographs of EUT Constructional Details for SZCR2409003439AT



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Appendix

1. RF Output Power

1.1 Test Result

1.1.1 Power

ENV	Mode	TX Type	Frequency (MHz)	ANT	Gain (dBi)	Power (dBm)	EIRP (dBm)	Limit (dBm)	Verdict
			2402	1	5.64	2.01	7.65	<=20	Pass
NTNV	1M	SISO	2440	1	5.64	2.39	8.03	<=20	Pass
			2480	1	5.64	2.96	8.60	<=20	Pass
		SISO	2402	1	5.64	2.01	7.65	<=20	Pass
HTNV	1M		2440	1	5.64	2.38	8.02	<=20	Pass
			2480	1	5.64	2.96	8.60	<=20	Pass
		SISO	2402	1	5.64	2.00	7.64	<=20	Pass
LTNV	1M		2440	1	5.64	2.38	8.02	<=20	Pass
			2480	1	5.64	2.95	8.59	<=20	Pass
Note1: E	Note1: E.I.R.P = Measured Power + Antenna Gain								



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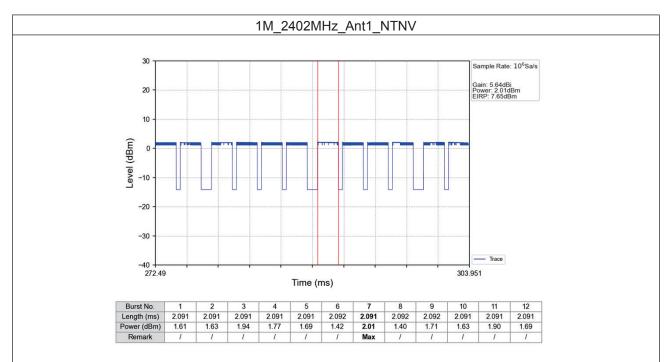
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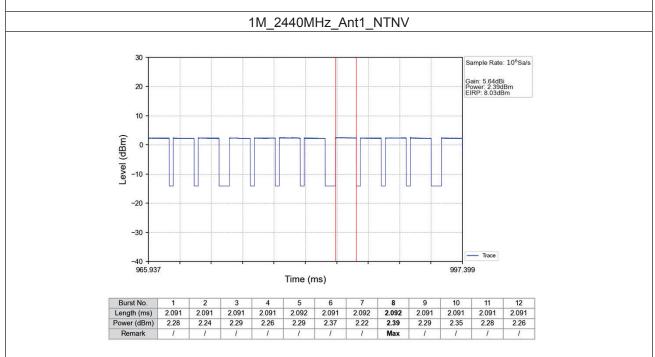
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1.2 Test Graph

1.2.1 Power







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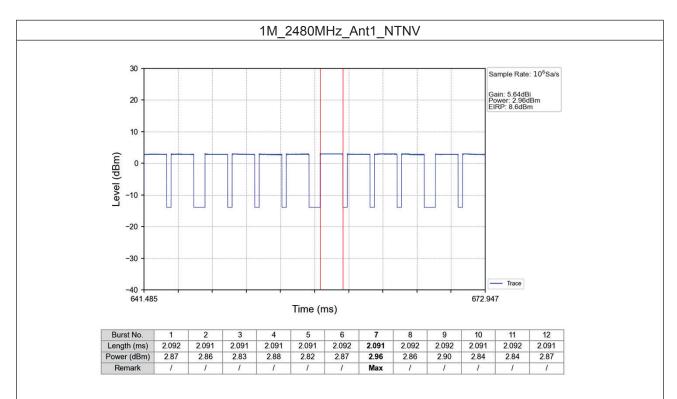
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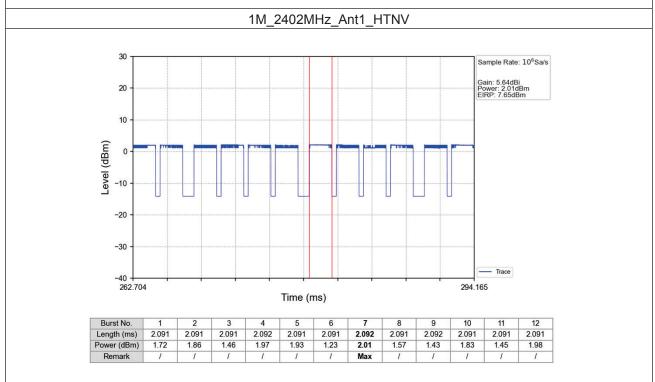


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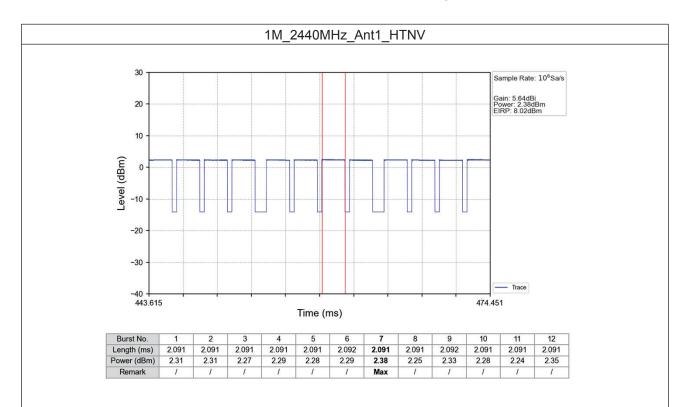
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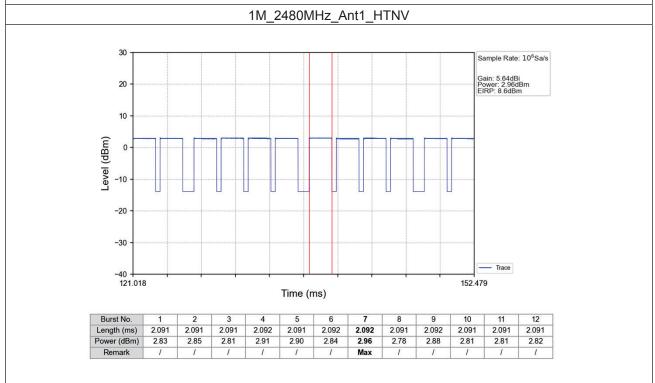


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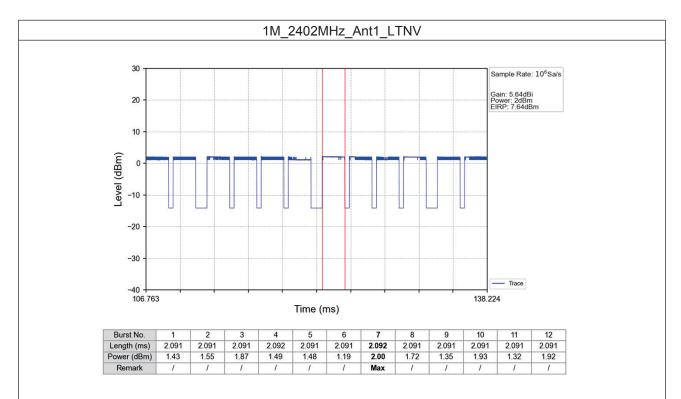
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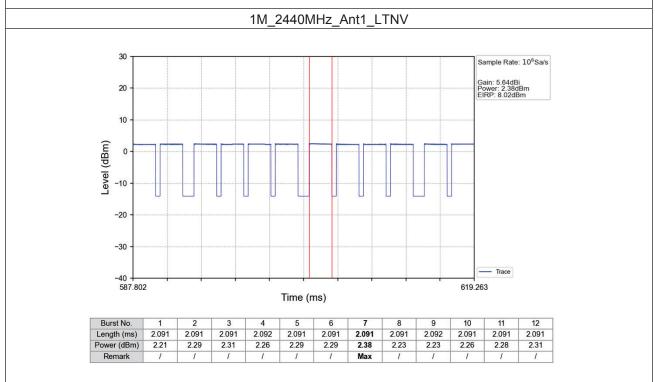


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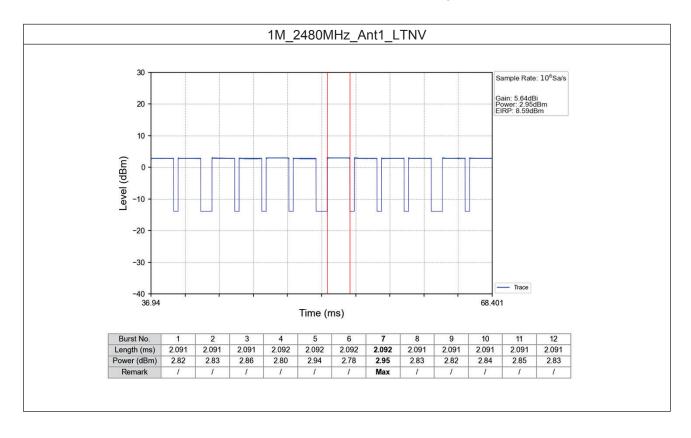
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2. Power Spectral Density

2.1 Test Result

2.1.1 PSD

ENV	Mode	TX Type	Frequency (MHz)	ANT	E.I.R.PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
		SISO	2402	1	7.47	<=10	Pass
NTNV	1M		2440	1	7.85	<=10	Pass
			2480	1	8.47	<=10	Pass



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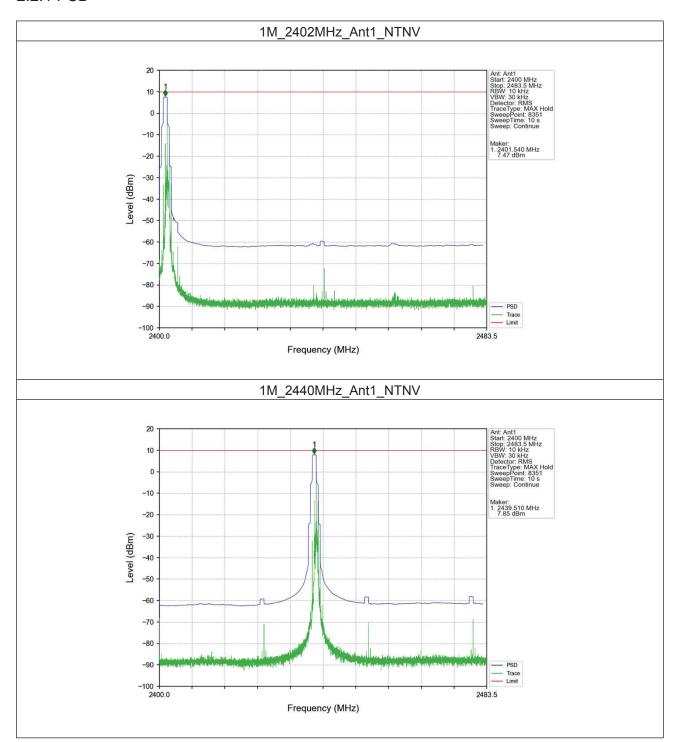
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2.2 Test Graph

2.2.1 PSD





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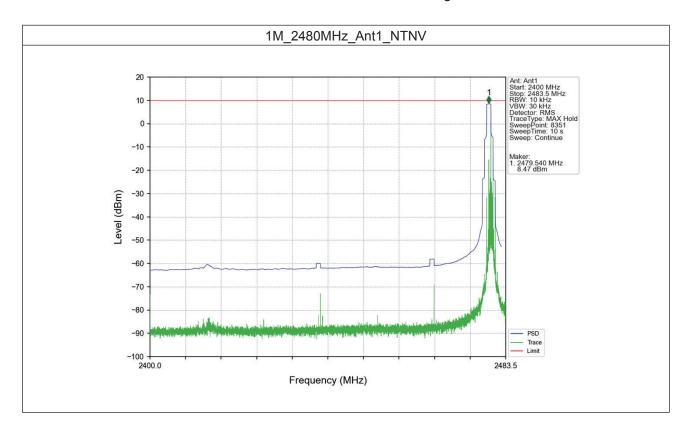
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