

# TEST REPORT

Report No.: BCTC2111781408-1E

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Applicant: ROCKPI TRADING LIMITED

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Product Name: Radxa CM3

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Model/Type Ref.: RM116-D8E32W

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Tested Date: 2021-11-03 to 2021-11-15

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Issued Date: 2021-11-23

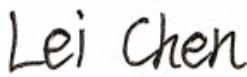
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**Shenzhen BCTC Testing Co., Ltd.**



Product Name: Radxa CM3  
Trademark: N/A  
Model/Type Ref.: RM116-D8E32W  
RM116-D1E0W, RM116-D2E8W, RM116-D4E16W, RM116-D8E16W  
Prepared For: ROCKPI TRADING LIMITED  
Address: Room 11, 27 / f, Ga wah international centre, 191 Javaroad, north point, Hong Kong  
Manufacturer: ROCKPI TRADING LIMITED  
Address: Room 11, 27 / f, Ga wah international centre, 191 Javaroad, north point, Hong Kong  
Prepared By: Shenzhen BCTC Testing Co., Ltd.  
Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Tangwei, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China  
Sample Received Date: 2021-11-03  
Sample tested Date: 2021-11-03 to 2021-11-15  
Issue Date: 2021-11-23  
Report No.: BCTC2111781408-1E  
Test Standards: EN IEC 62311:2020  
Test Results: PASS  
Remark: This is RED Health test report.

Tested by:



Lei Chen/Project Handler

Approved by:



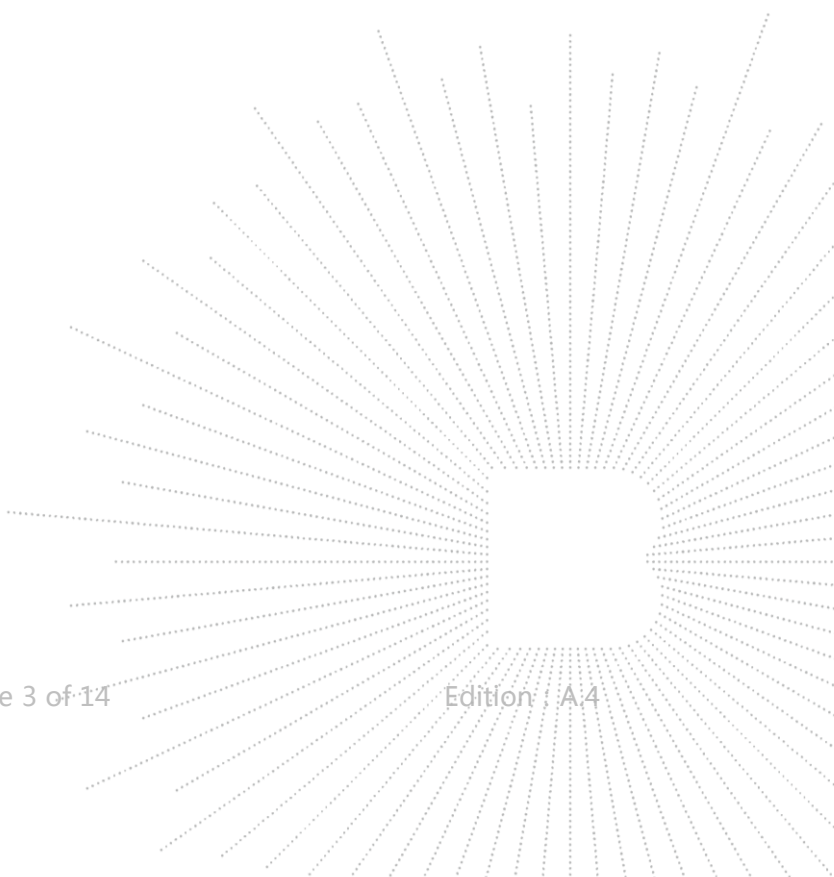
Zero Zhou/Reviewer

The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client.

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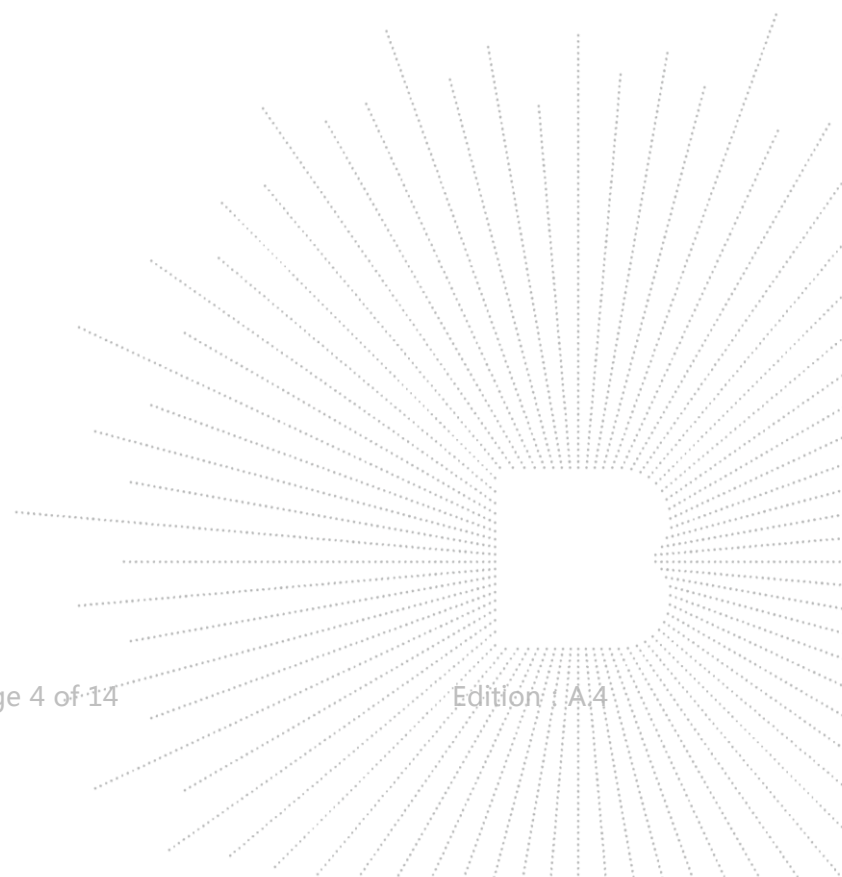
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(Note: N/A Means Not Applicable)



**1. Version**

<b>Report No.</b>	<b>Issue Date</b>	<b>Description</b>	<b>Approved</b>
BCTC2111781408-1E	2021-11-23	Original	Valid



## 2. Product Information And Test Setup

### 2.1 Product Information

Model/Type Ref.:	RM116-D8E32W RM116-D1E0W, RM116-D2E8W, RM116-D4E16W, RM116-D8E16W
Model differences:	All the model are the same circuit and RF module, except model names and color.
Bluetooth Version:	BT5.0
Hardware Version:	N/A
Software Version:	N/A
Operation Frequency:	Bluetooth(EDR): 2402-2480MHz Bluetooth(BLE): 2402-2480MHz WiFi(2.4G): IEEE 802.11b/g/n HT20: 2412-2472MHz WiFi(5.1G) :5180-5240MHz,
Max. RF output power:	Bluetooth(EDR):3.82 dBm Bluetooth(BLE): 5.70 dBm WiFi (2.4G): 9.03 dBm WiFi (5.1G): 6.73 dBm
Type of Modulation:	Bluetooth(EDR): GFSK, $\pi/4$ DQPSK, 8DPSK Bluetooth(BLE): GFSK WiFi (2.4G): DSSS, OFDM WiFi (5.1G): DSSS, OFDM
Antenna installation:	External antenna
Antenna Gain:	2dBi
Ratings:	DC 5V from USB

Cable of Product

No.	Cable Type	Quantity	Provider	Length (m)	Shielded	Note
1	--	--	Applicant	---	Yes/No	--
2	--	--	BCTC	--	Yes/No	--

### 3. Health Requirements

#### 3.1 Limits

According to Council Recommendation: the criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation.

Reference levels for electric, magnetic and electromagnetic fields (0Hz to 300GHz,

unperturbed RMS values)

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field ( $\mu$ T)	Equivalent plane wave power density Seq (W/m <sup>2</sup> )
0-1 Hz	-	$3.2 \times 10^4$	$4 \times 10^4$	-
1-8 Hz	10000	$3.2 \times 10^4 / f^2$	$4 \times 10^4 / f^2$	-
8-25 Hz	10000	$4000 / f$	$5000 / f$	-
0.025-0.8 kHz	$250 / f$	$4 / f$	$5 / f$	-
0.8-3 kHz	$250 / f$	5	6.25	-
3-150 kHz	87	5	6.25	-
0.15-1 MHz	87	$0.73 / f$	$0.92 / f$	-
1-10 MHz	$87 / f^{1/2}$	$0.73 / f$	$0.92 / f$	-
10-400 MHz	28	0.073	0.095	2
400-2000 MHz	$1.375 f^{1/2}$	$0.0037 f^{1/2}$	$0.0046 f^{1/2}$	$f / 200$
2-300 GHz	61	0.16	0.2	10

Note:

1. f as indicated in the frequency range column.
2. For frequencies between 100 kHz and 10 GHz, Seq, E<sup>2</sup>, H<sup>2</sup> and B<sup>2</sup> are to be averaged over any six-minute period.
3. For frequencies exceeding 10 GHz, Seq, E<sup>2</sup>, H<sup>2</sup> and B<sup>2</sup> are to be averaged over any  $68 / f^{1.05}$  minute period (f in GHz).

### 3.2 Exposure Evaluation

From Council Recommendation 1999/519/EC table 2, the maximum power density is 10 W/m<sup>2</sup>.

Power density (S) is calculated by the following formula:

$$S = PG * \text{Duty factor} / 4\pi R^2$$

P = Peak Power Input to antenna (Watts)

G =Antenna Gain (numeric)

R = distance to the center of radiation of antenna (in meter) = 0.20 m

Note:

1)  $P \text{ (Watts)} = (10^{(dBm / 10)}) / 1000$

2)  $G \text{ (Antenna gain in numeric)} = 10^{(Antenna gain in dBi / 10)}$

3) Duty factor=1.0

4)  $\pi = 3.142$

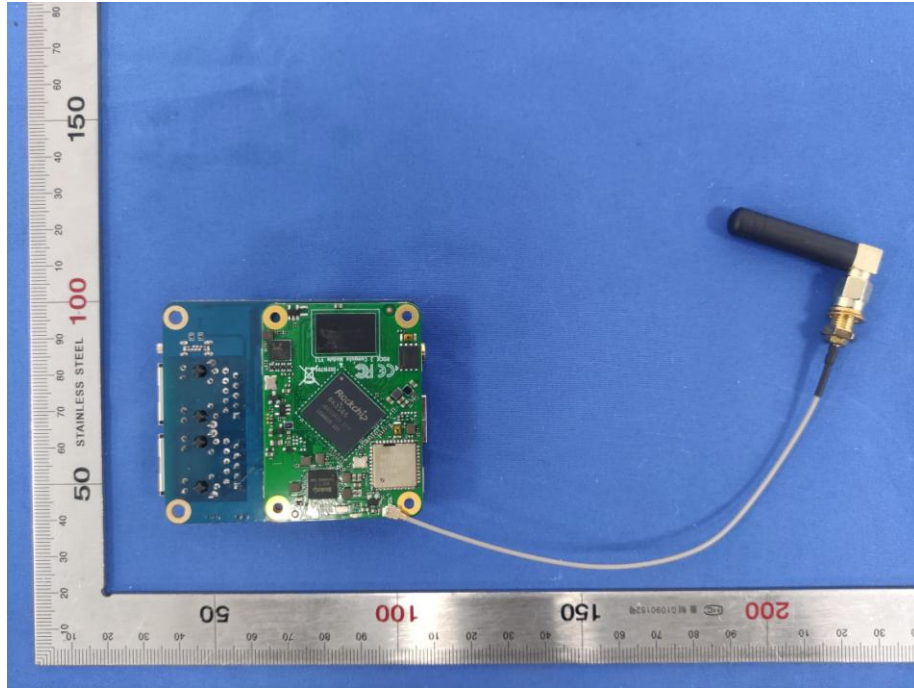
2.4GHz WIFI:

Test Mode	Total Antenna Gain (dBi)	Total Antenna Gain (numeric)	Max. Total Output Power (dBm)	Max. Total Output Power (W)	Duty factor	Calculated RF Exposure (W/ m <sup>2</sup> )	Limit (W/ m <sup>2</sup> )
BT	2.00	1.585	3.82	0.002	1.00	0.0076	10
BLE	2.00	1.585	5.70	0.004	1.00	0.0117	10
2.4G WiFi	2.00	1.585	9.03	0.008	1.00	0.0252	10
5.1G WiFi	2.00	1.585	6.73	0.005	1.00	0.0148	10

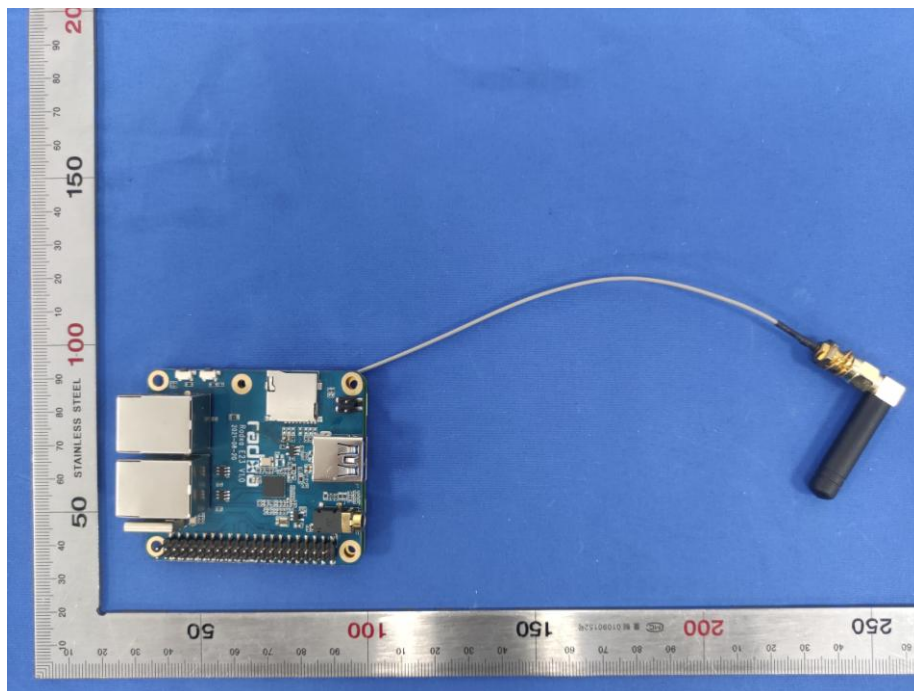


#### 4. EUT Photographs

EUT Photo 1

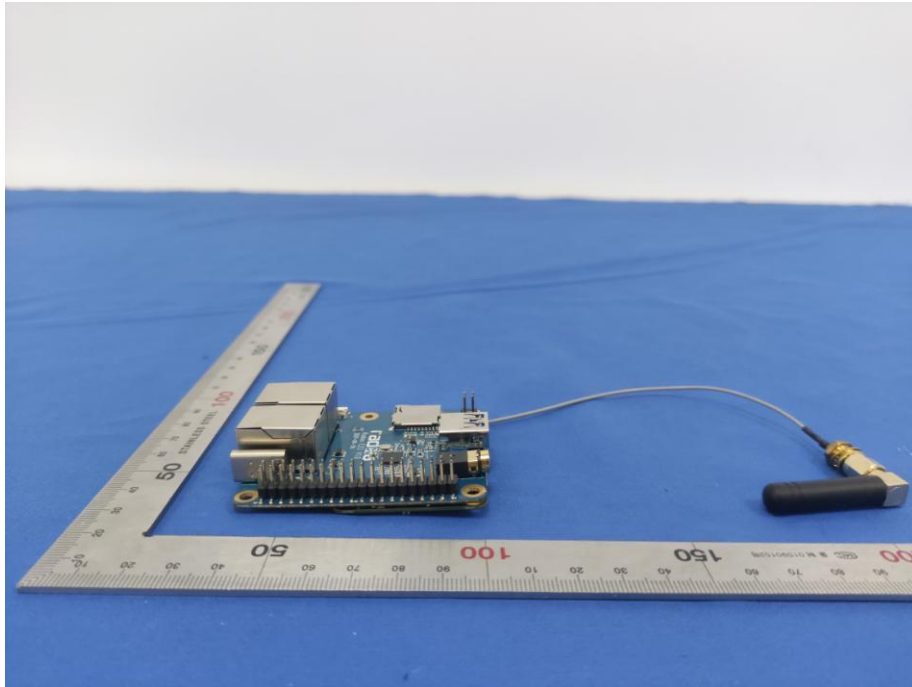


EUT Photo 2

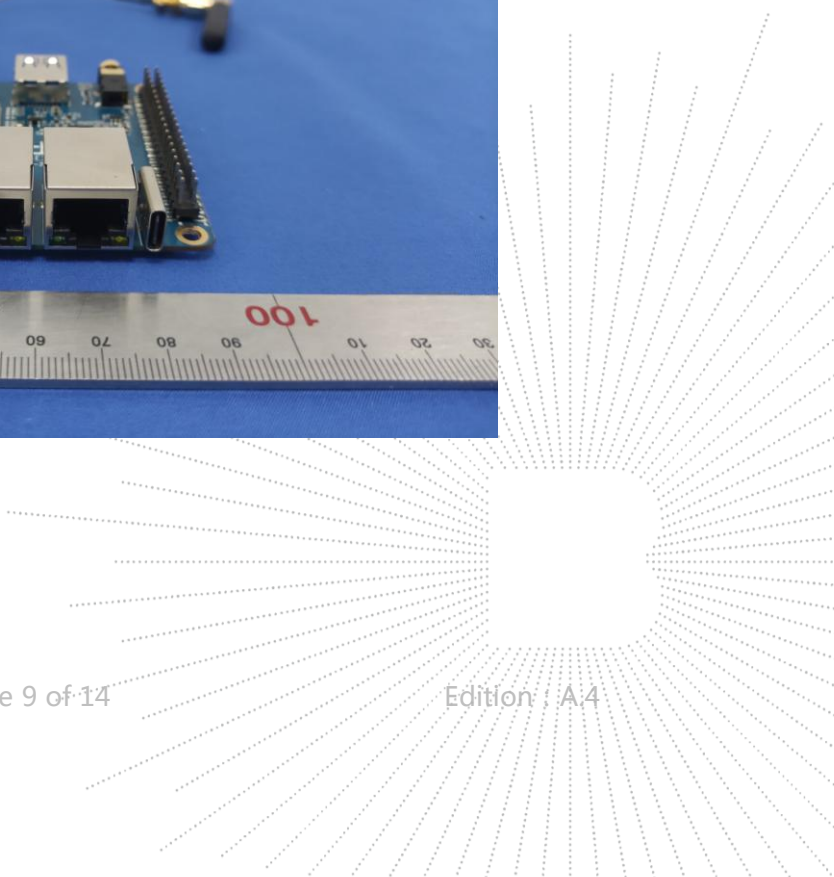
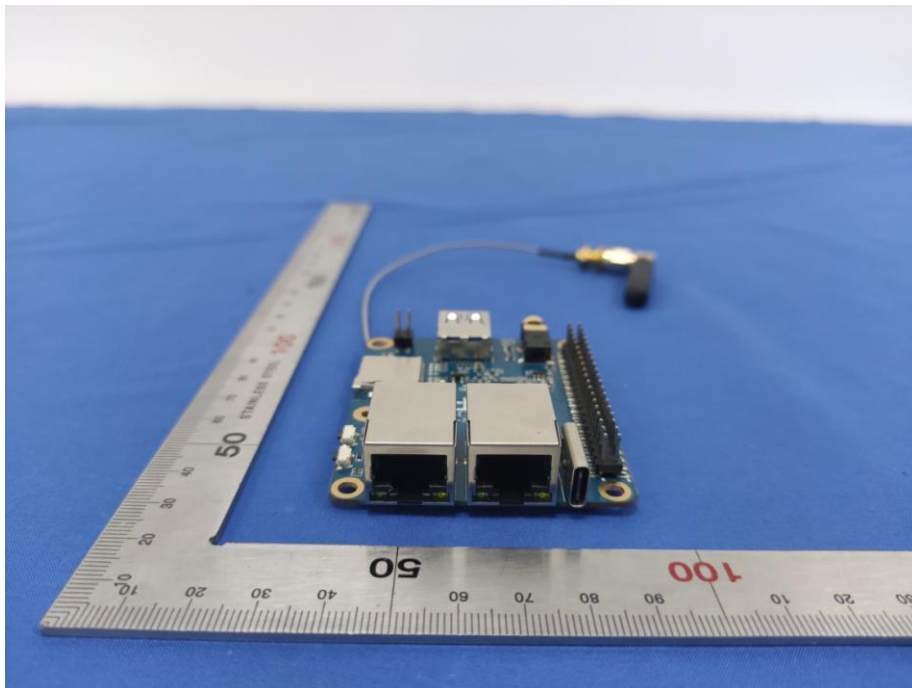




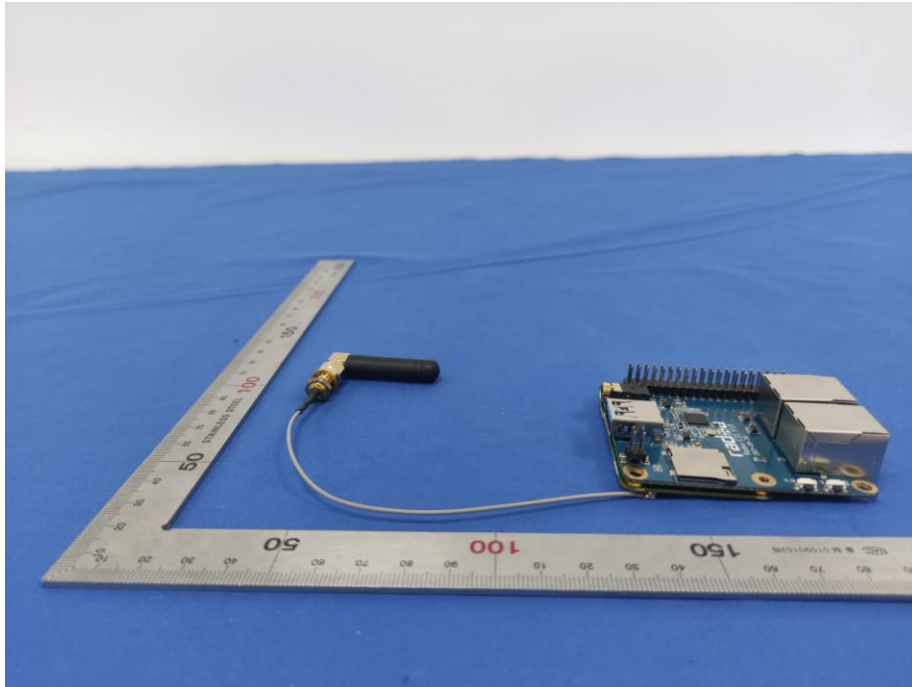
**EUT Photo 3**



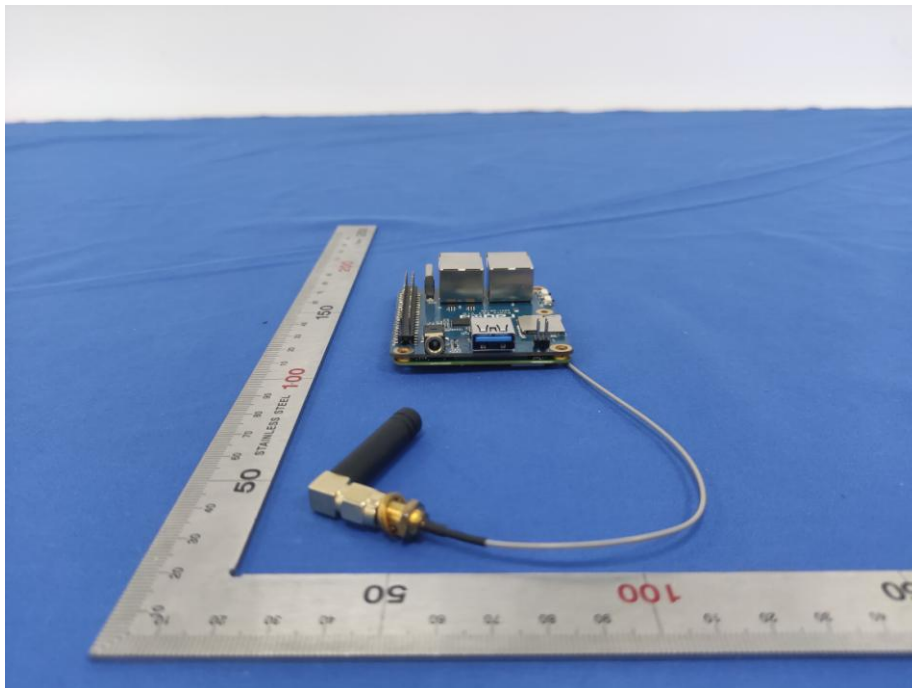
**EUT Photo 4**



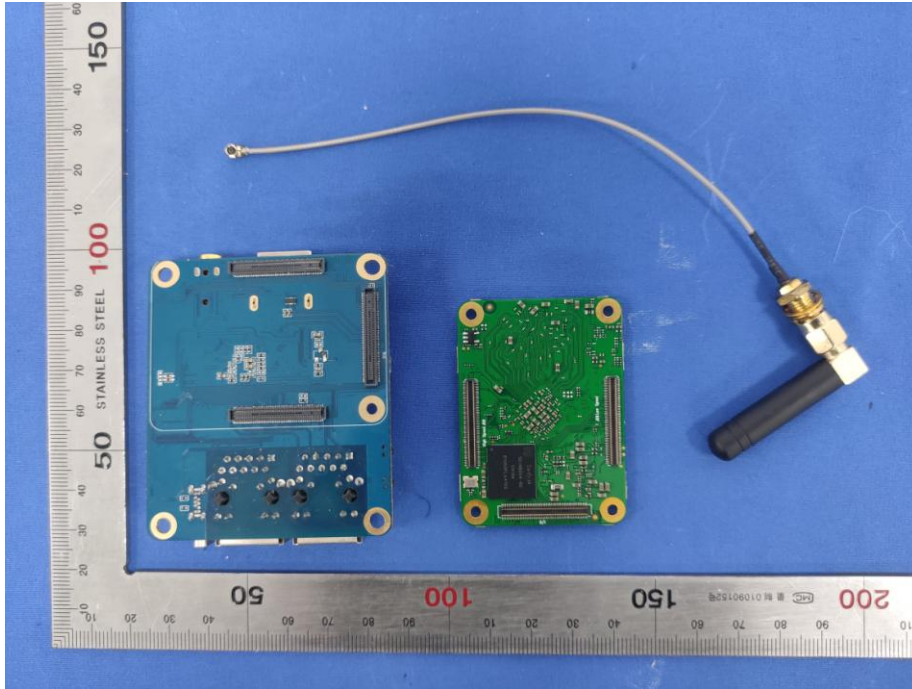
**EUT Photo 5**



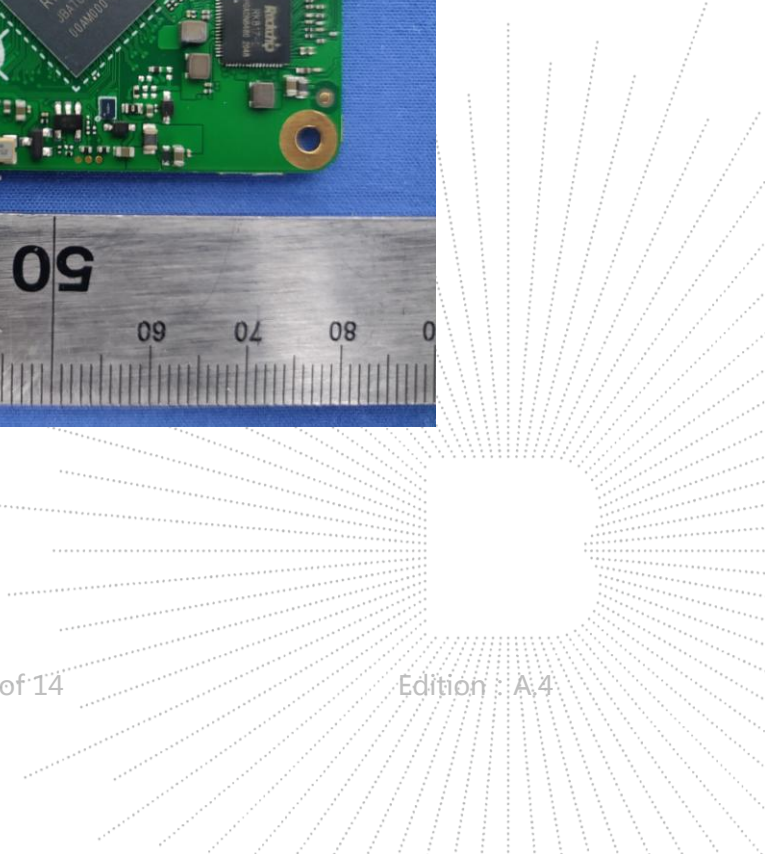
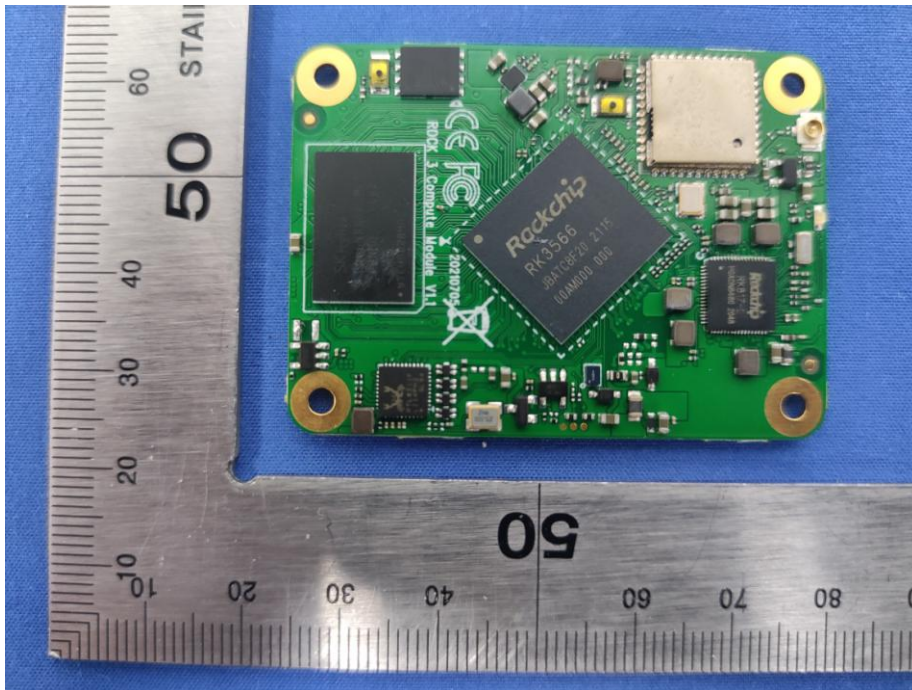
**EUT Photo 6**



EUT Photo 7

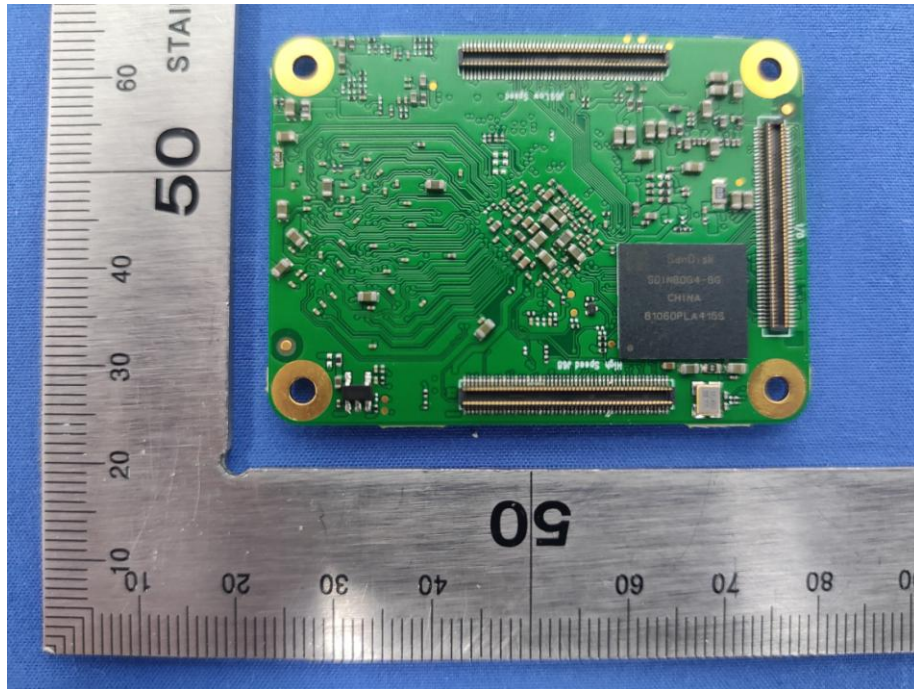


EUT Photo 8

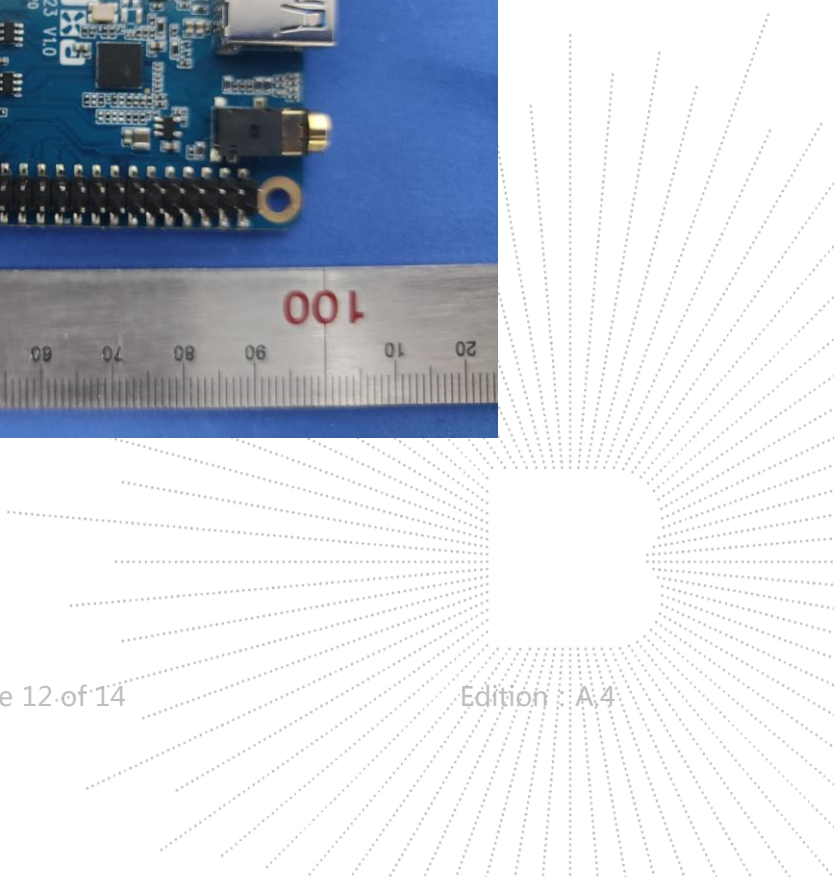
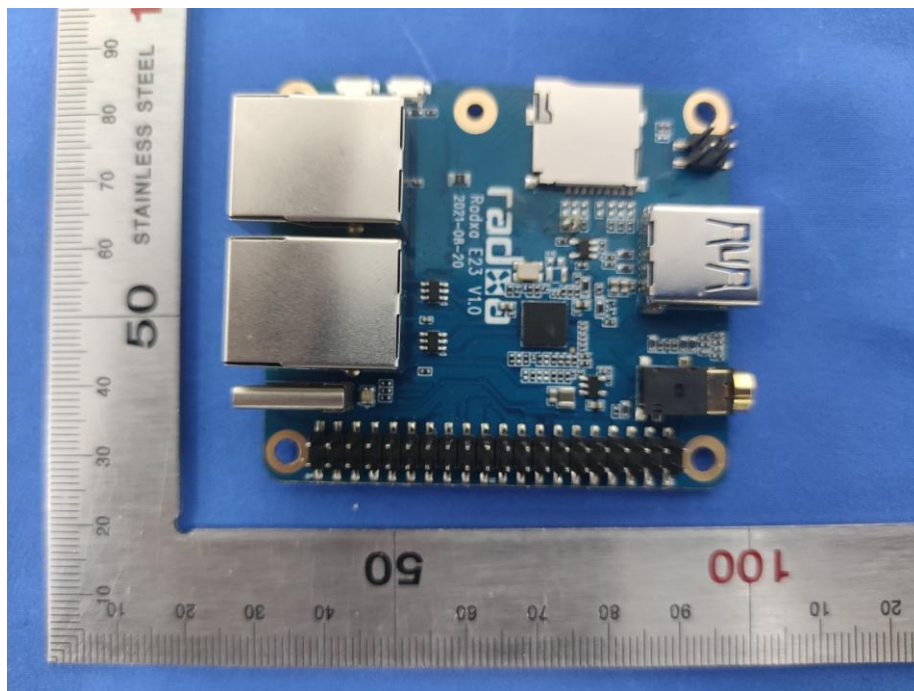




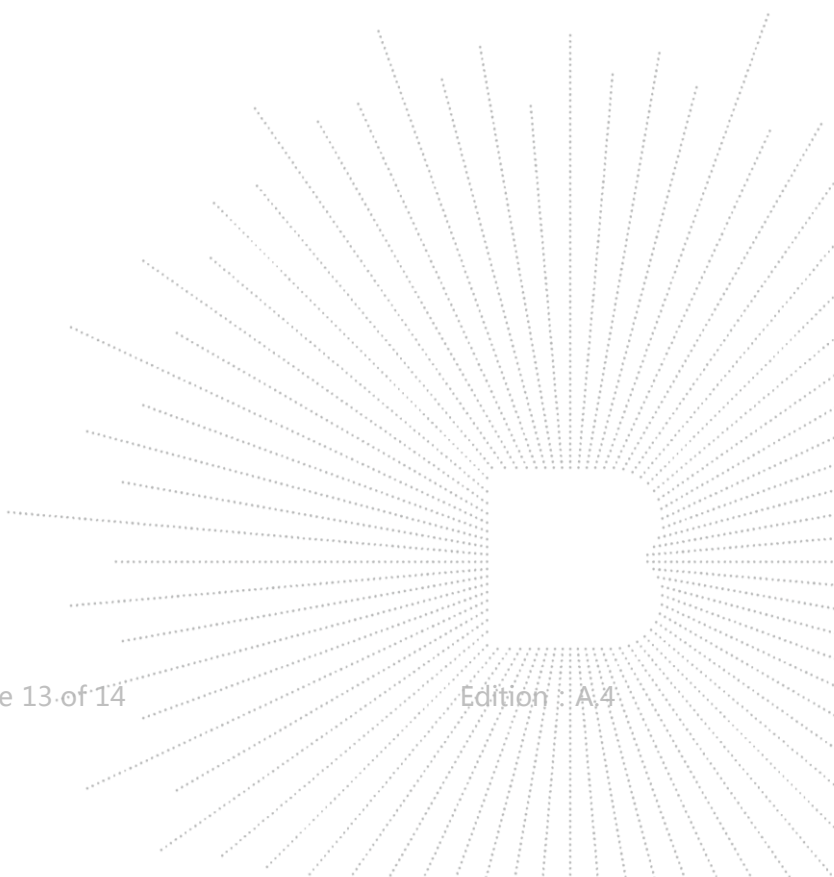
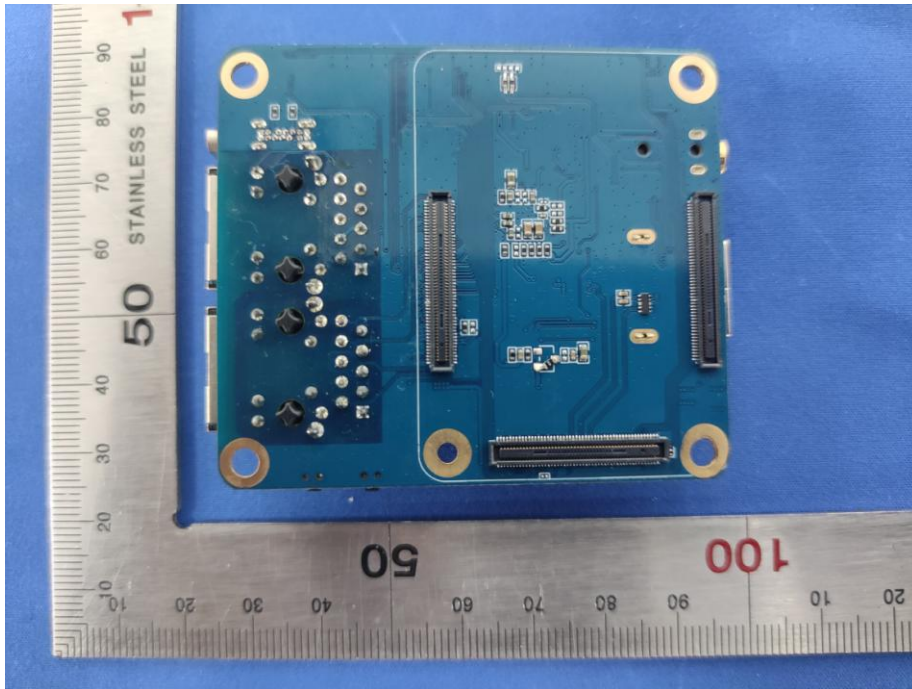
EUT Photo 9



EUT Photo 10



EUT Photo 11



## STATEMENT

- 1.The equipment lists are traceable to the national reference standards.
- 2.The test report can not be partially copied unless prior written approval is issued from our lab.
- 3.The test report is invalid without stamp of laboratory.
- 4.The test report is invalid without signature of person(s) testing and authorizing.
- 5.The test process and test result is only related to the Unit Under Test.
- 6.The quality system of our laboratory is in accordance with ISO/IEC17025.
- 7.If there is any objection to report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

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\*\*\*\*\* END \*\*\*\*\*

