

# TEST REPORT

Report No.: BCTC2211148430-1E

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Applicant: ROCKPI TRADING LIMITED

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Product Name: Radxa ROCK 3 Compute Module SODIMM

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Model/Type  
reference: RM117-D2E16W3

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Tested Date: 2022-11-14 to 2022-11-16

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Issued Date: 2023-02-10

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



Product Name: Radxa ROCK 3 Compute Module SODIMM  
Trademark: N/A  
Model/Type reference: RM117-D2E16W3  
RM117-D1E0W0, R117-D1E8W0, RM117-D1E0W3, RM117-D1E8W3,  
RM117-D2E0W0, RM117-D2E8W0, RM117-D2E16W0, RM117-D2E32W0,  
RM117-D2E0W3, RM117-D2E8W3, RM117-D2E16W3, RM117-D2E32W3  
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,  
Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China  
Sample Received Date: 2022-11-14  
Sample tested Date: 2022-11-14 to 2022-11-16  
Issue Date: 2023-02-10  
Report No.: BCTC2211148430-1E  
Test Standards: EN IEC 62311:2020  
Test Results: PASS  
Remark: This is 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.

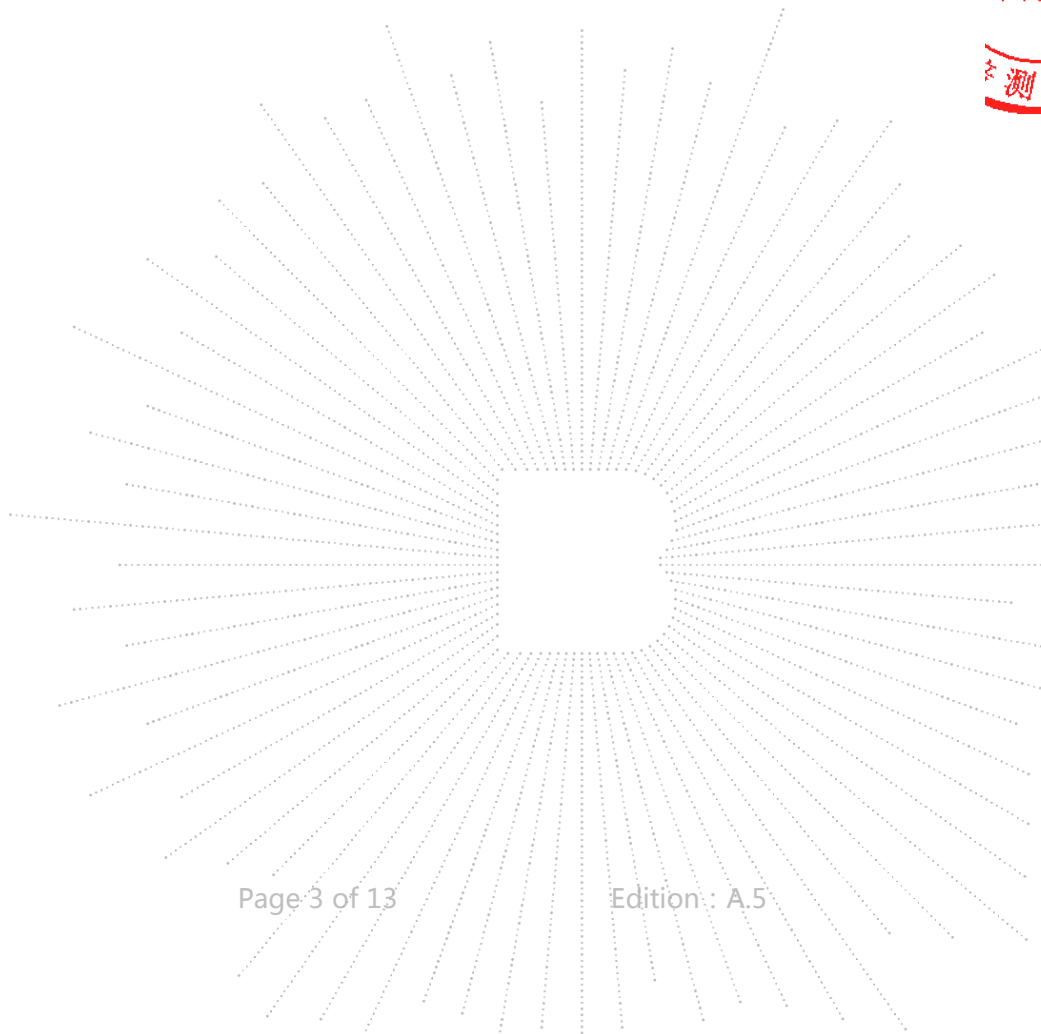


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(Note: N/A Means Not Applicable)

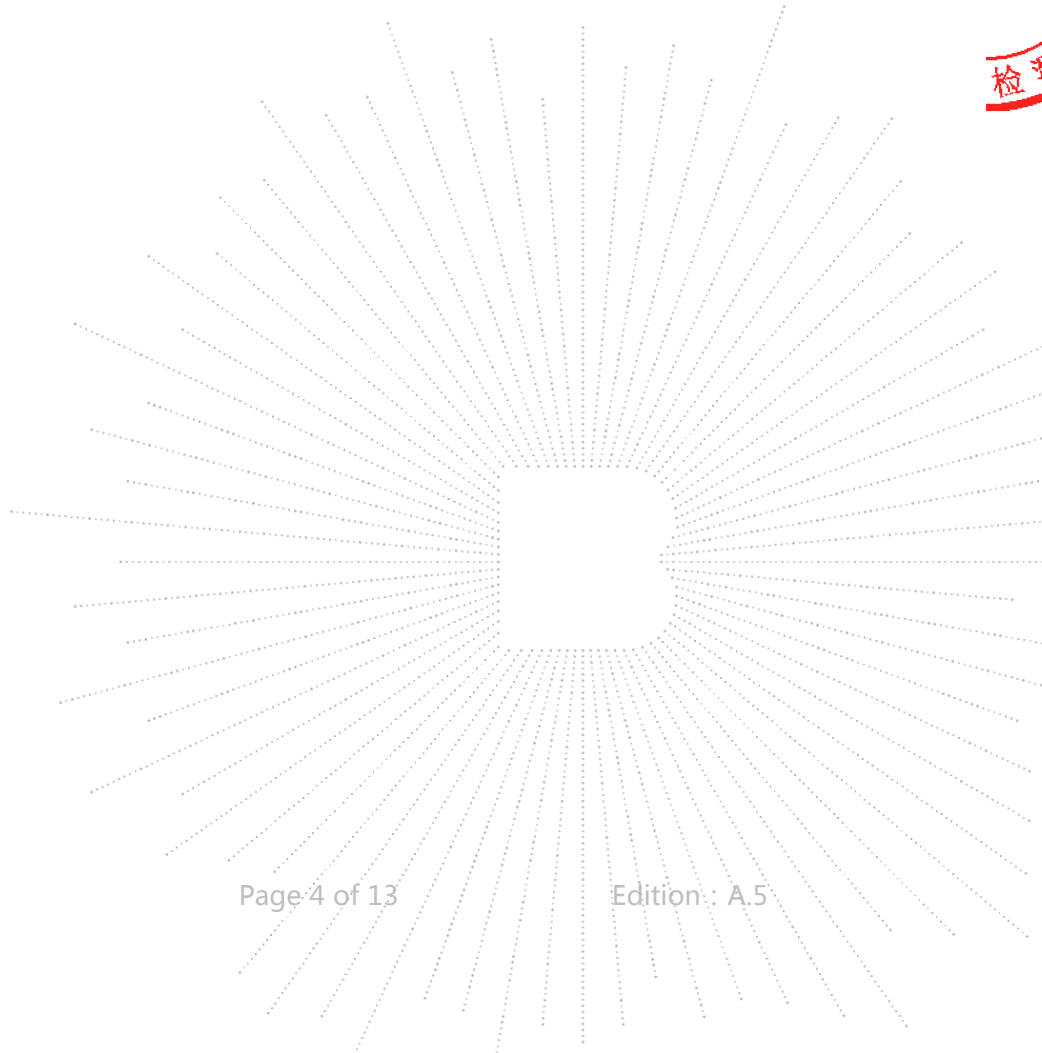
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**1. Version**

Report No.	Issue Date	Description	Approved
BCTC2211148430-1E	2023-02-10	Original	Valid

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## 2. Product Information And Test Setup

### 2.1 Product Information

Model/Type reference:	RM117-D2E16W3 RM117-D1E0W0, R117-D1E8W0, RM117-D1E0W3, RM117-D1E8W3, RM117-D2E0W0, RM117-D2E8W0, RM117-D2E16W0, RM117-D2E32W0, RM117-D2E0W3, RM117-D2E8W3, RM117-D2E16W3, RM117-D2E32W3
Model differences:	All the model are the same circuit and RF module, except model names.
Hardware Version:	N/A
Software Version:	N/A
Operation Frequency:	Bluetooth(EDR): 2402-2480MHz WiFi (2.4G): IEEE 802.11b/g/n HT20: 2412-2472MHz
Max. RF output power:	Bluetooth(EDR): -7.64 dBm WiFi (2.4G): 5.65 dBm
Type of Modulation:	Bluetooth(EDR): GFSK, $\pi/4$ DQPSK, 8DPSK WiFi (2.4G): DSSS, OFDM
Antenna installation:	FPC antenna
Antenna Gain:	-7.23dBi
Ratings:	DC 12V



### 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 ( $\mu\text{T}$ )	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:

- f as indicated in the frequency range column.
- 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.
- 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)  $P \text{ (Watts)} = (10^{(\text{dBm} / 10)}) / 1000$

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

3) Duty factor=1.0

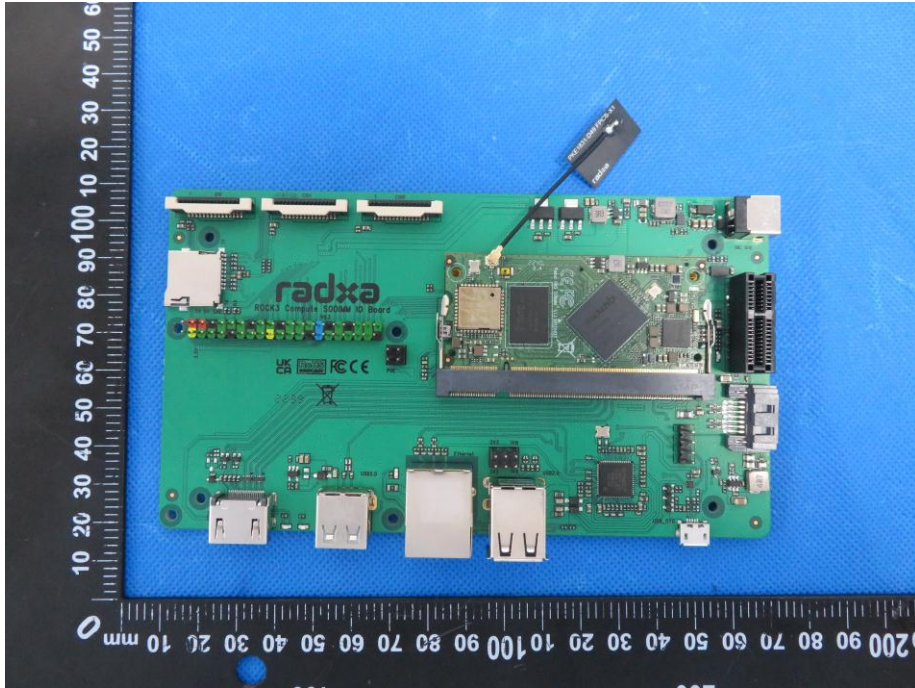
4)  $\pi = 3.142$

	Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (W)	Duty factor	Calculated RF Exposure (W/ m <sup>2</sup> )	Limit (W/ m <sup>2</sup> )
EDR	-7.23	0.19	-7.64	0.00017	1.00	0.0001	10
WiFi (2.4G)	-7.23	0.19	5.65	0.00367	1.00	0.0014	10

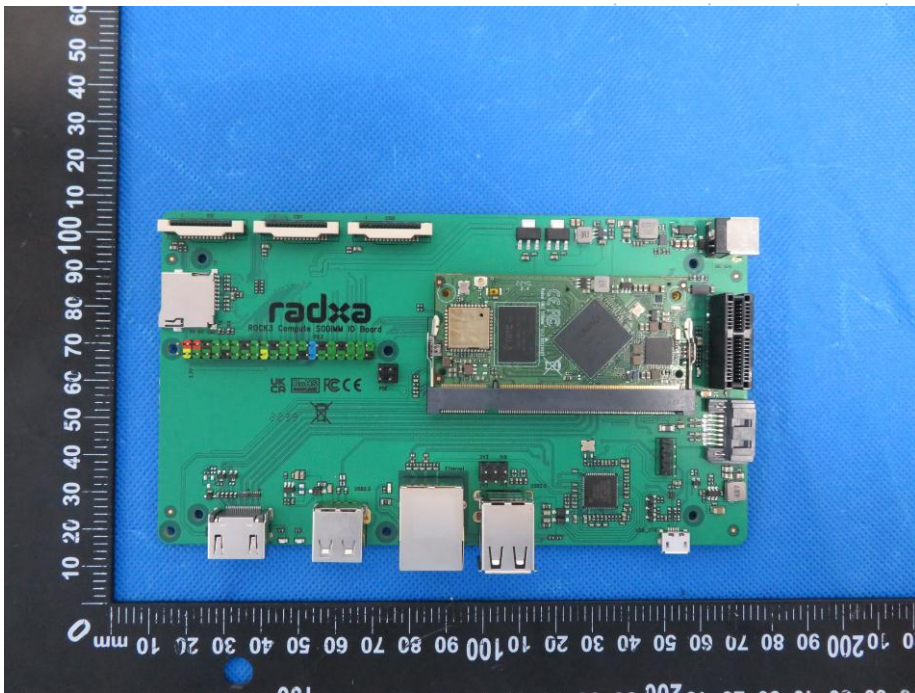


#### 4. EUT Photographs

EUT Photo 1

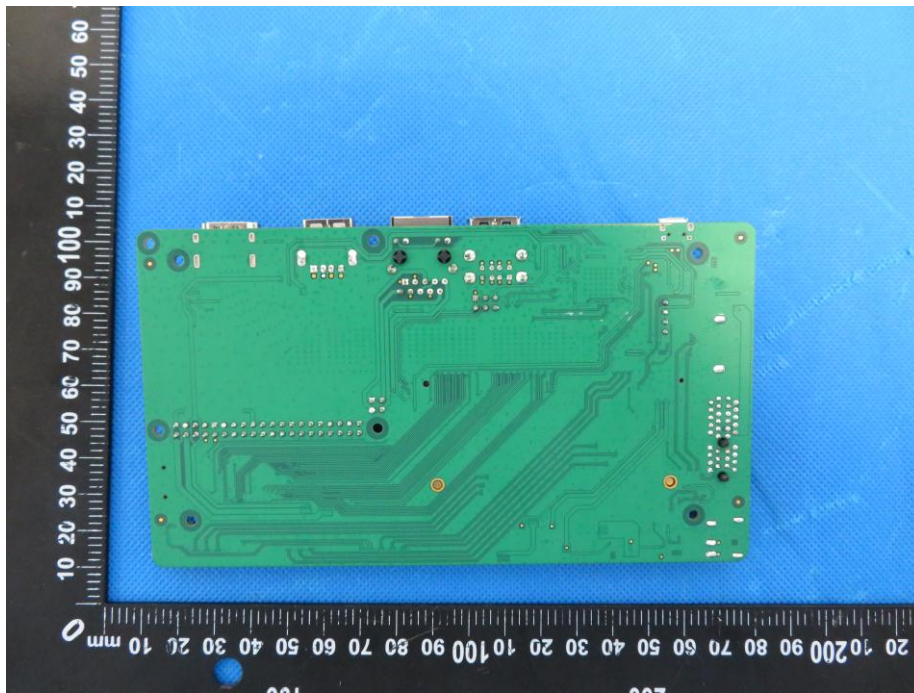


EUT Photo 2

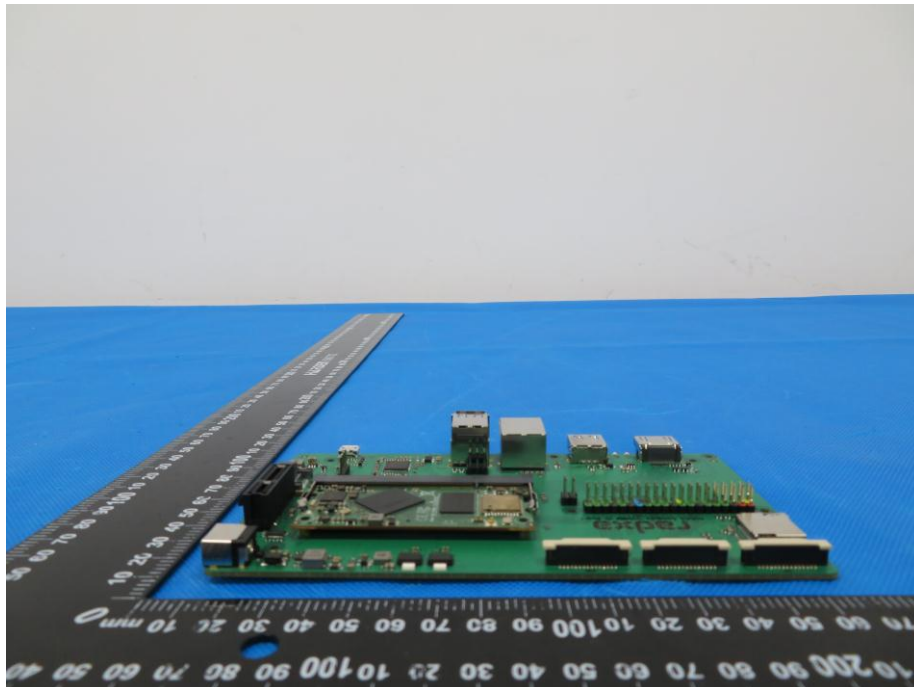




EUT Photo 3

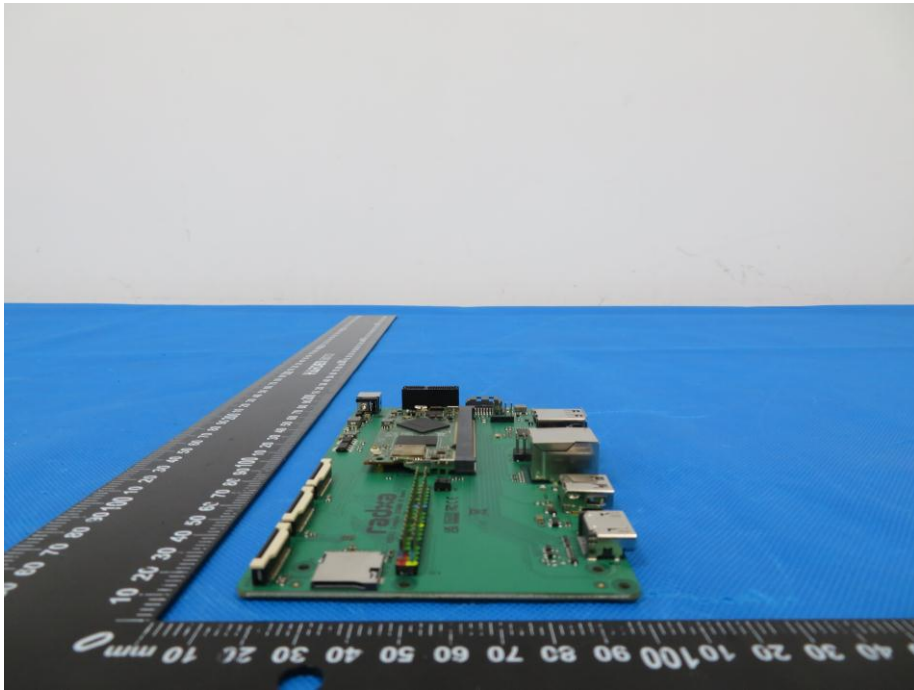


EUT Photo 4

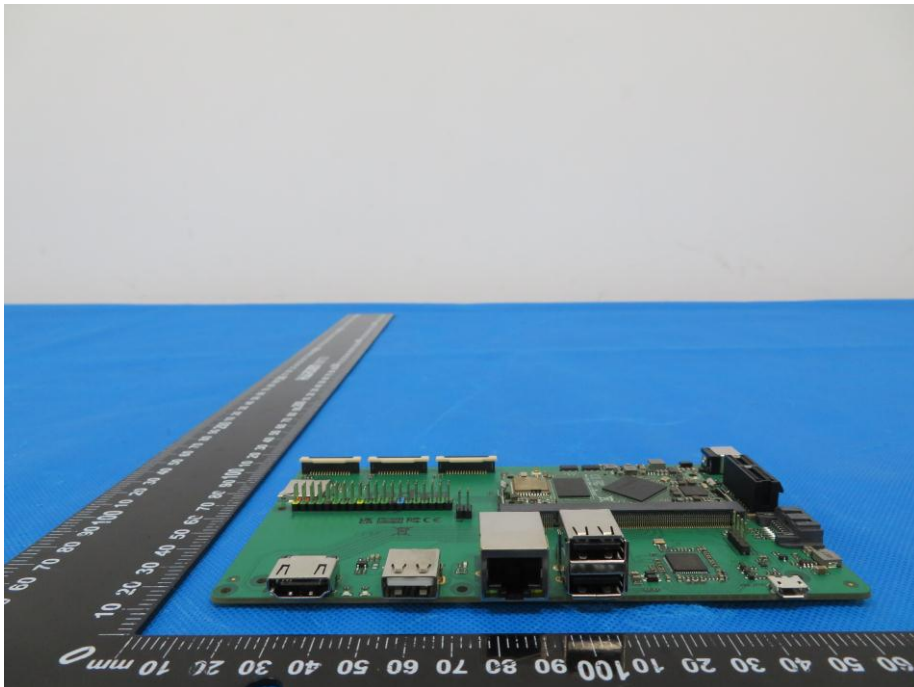


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EUT Photo 5

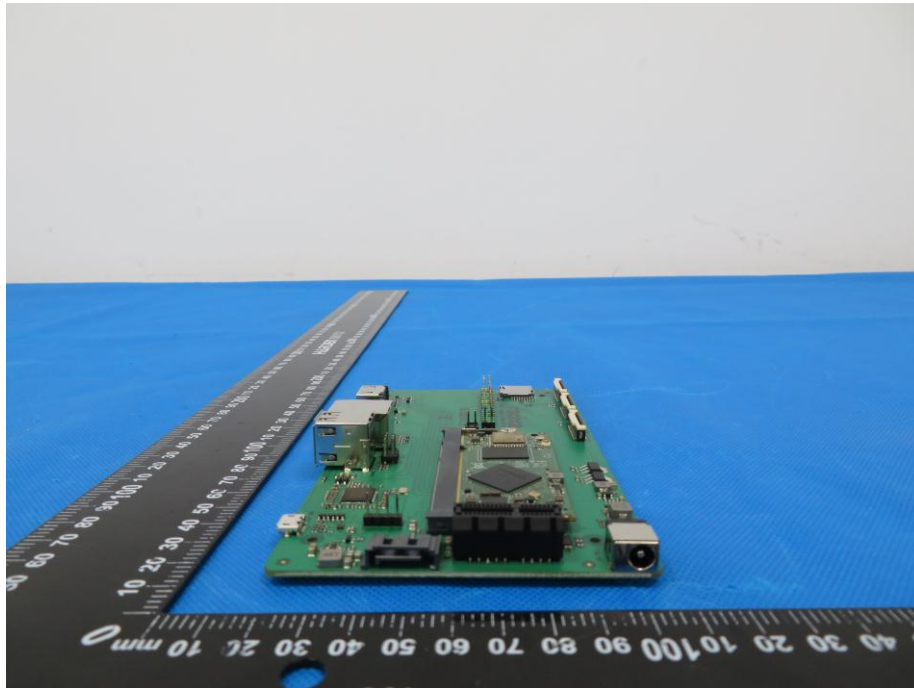


EUT Photo 6

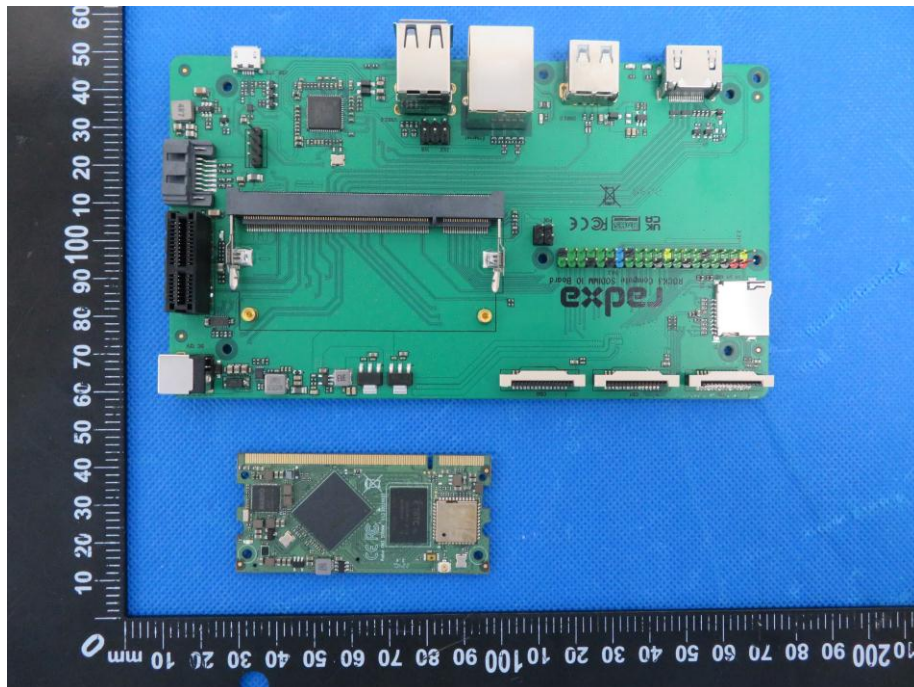


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EUT Photo 7

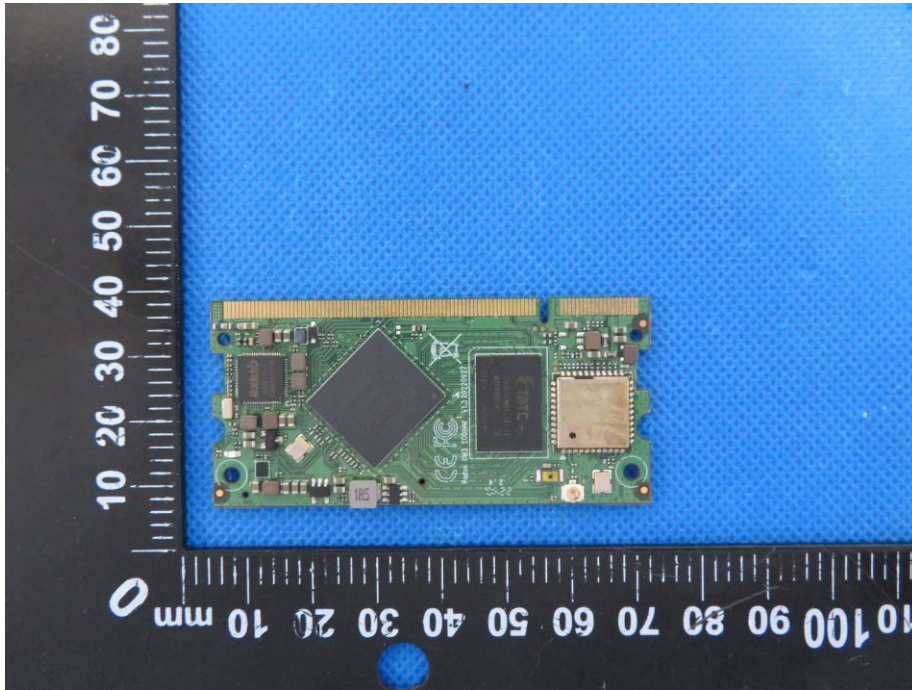


EUT Photo 8

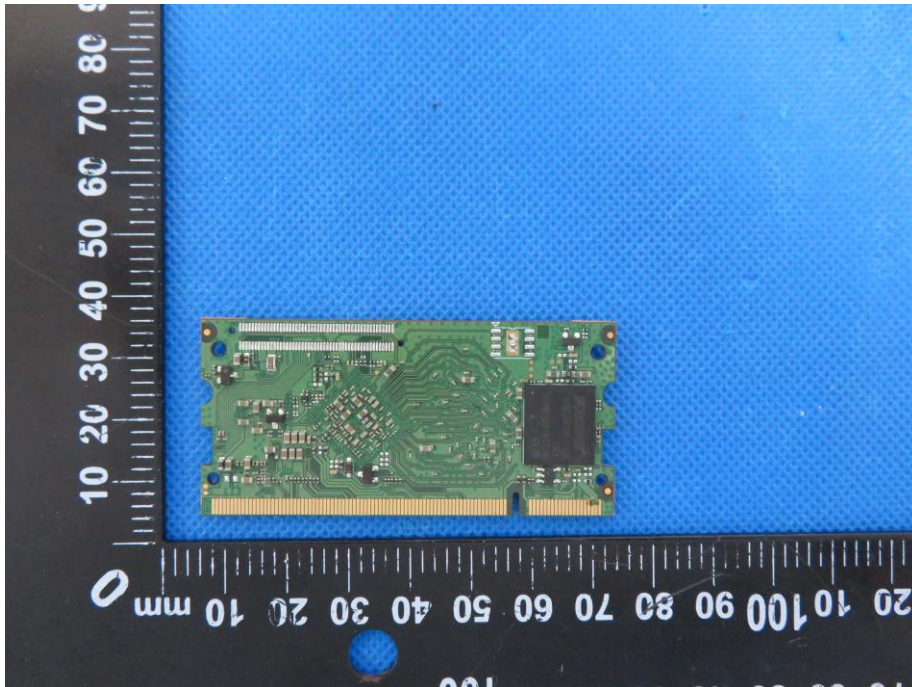


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EUT Photo 9



EUT Photo 10



## 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 the "special seal for inspection and testing".
4. The test report is invalid without the signature of the approver.
5. The test process and test result is only related to the Unit Under Test.
6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.
7. The test report without CMA mark is only used for scientific research, teaching, enterprise product development and internal quality control purposes.
8. The quality system of our laboratory is in accordance with ISO/IEC17025.
9. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:

1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL : 400-788-9558

P.C.: 518103

FAX : 0755-33229357

Website : <http://www.chnbctc.com>

E-Mail : [bctc@bctc-lab.com.cn](mailto:bctc@bctc-lab.com.cn)

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

CO., LTD.