



TEST REPORT

Product Name: ROCK Pi 4
 Trademark: N/A
 Model Number: ROCK Pi 4 MODEL B
 Model Number: ROCK Pi 4 MODEL A, ROCK Pi 4 MODEL A+, ROCK Pi 4 MODEL B+
 Prepared For: ROCKPI TRADING LIMITED
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 Manufacturer: ROCKPI TRADING LIMITED
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 Sample Received Date: Feb. 25, 2019
 Sample tested Date: Feb. 25, 2019 to Mar. 11, 2019
 Issue Date: Mar. 11, 2019
 Report No.: BCTC-FY190200673-1E
 Test Standards EN 62311:2008
 Test Results PASS
 Remark: This is RED Health test report.

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TABLE OF CONTENT

Test Report Declaration	Page
1. VERSION	3
2. PRODUCT INFORMATION AND TEST SETUP	4
2.1 Product Information	4
3. HEALTH REQUIREMENTS	5
3.1 Limits	5
3.2 Exposure Evaluation	6
4. EUT PHOTOGRAPHS	7

(Note: N/A means not applicable)



1. VERSION

Report No.	Issue Date	Description	Approved
BCTC-FY190200673-1E	Mar. 11, 2019	Original	Valid



2. PRODUCT INFORMATION AND TEST SETUP

2.1 Product Information

Model(s):	ROCK Pi 4 MODEL B ROCK Pi 4 MODEL A, ROCK Pi 4 MODEL A+, ROCK Pi 4 MODEL B+
Model Description:	The product is different for model number and outlook color
Wi-Fi Specification:	IEEE 802.11a/b/g/n/ac
Bluetooth Version:	Bluetooth v4.0 with BLE
Hardware Version:	N/A
Software Version:	N/A
Operation Frequency:	WiFi: IEEE 802.11b/g/n HT20: 2412-2472MHz IEEE 802.11a/n/ac HT20/HT40/HT80 5180-5240MHz Bluetooth: 2402-2480MHz
Max. RF output power:	WiFi (2.4G) : 9.04dBm WiFi (5.2G) : 8.53dBm Bluetooth: 6.97dBm
Type of Modulation:	WiFi: DSSS, OFDM Bluetooth: GFSK, Pi/4 DQPSK, 8DPSK
Antenna installation:	WiFi/Bluetooth: External antenna with RP-SMA connector
Antenna Gain:	WiFi : 1dBi Bluetooth: 1dBi
Ratings:	DC5V From Adaptor



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 (μ T)	Equivalent plane wave power density Seq (W/m ²)
0-1 Hz	-	3.2×10^4	4×10^4	-
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, E², H² and B² are to be averaged over any six-minute period.
3. For frequencies exceeding 10 GHz, Seq, E², H² and B² 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/m².

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

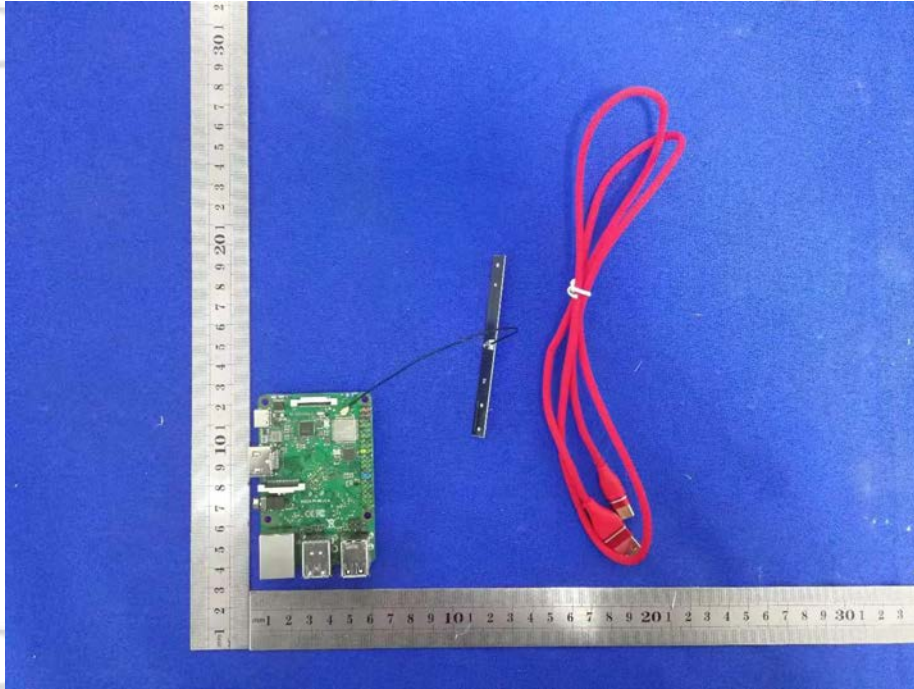
3) Duty factor=1.0

4) $\pi = 3.142$

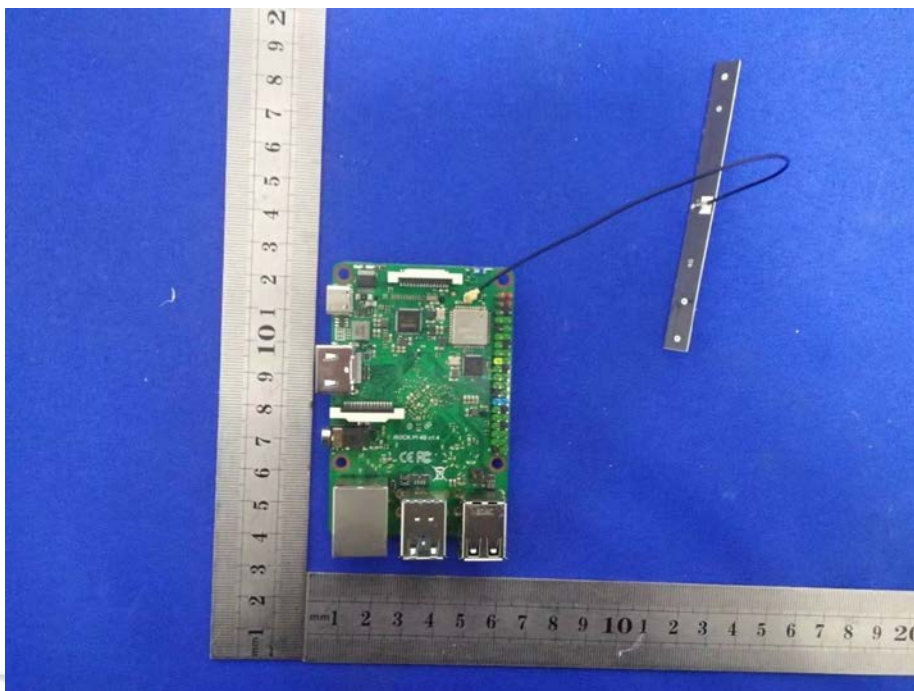
Mode	Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (W)	Duty factor	Calculate d RF Exposure (W/m ²)	Limit (W/m ²)
2.4G EDR	1	1.259	6.97	0.0050	1	0.0125	10
2.4G BLE	1	1.259	5.99	0.0040	1	0.0099	10
2.4G WIFI	1	1.259	9.04	0.0080		0.0201	10
5.2G WIFI	1	1.259	8.53	0.0071	1	0.0179	10

4. EUT PHOTOGRAPHS

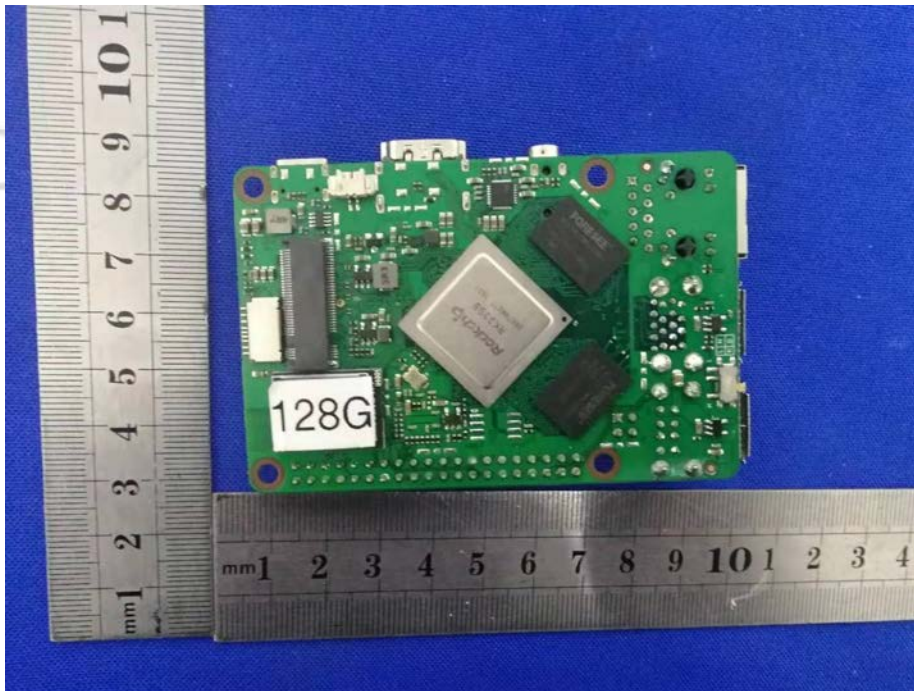
EUT Photo 1



EUT Photo 2



EUT Photo 3



EUT Photo 4



***** END OF REPORT *****