

MRT Technology (Taiwan) Co., Ltd

Phone: +886-3-3288388 Fax: +886-3-3288918 Web: www.mrt-cert.com Report No.: 2003TW1201-U6 Report Version: 1.0 Issue Date: 2020-05-15

Maximum Permissible Exposure

FCC ID: 2ALTTCT1800

APPLICANT: i3-Technologies N.V.

Application Type: Certification

Product: i3ALLSYNC

Model No.: i3ALLSYNC RX45

Trademark:

FCC Rule Part(s): Part 2.1091

Received Date: December 23, 2019

Test Date: April 10, 2020

Tested By : Fran Chen

(Fran Chen)

Reviewed By: Paddy Chen

(Paddy Chen)

Approved By: any ker

(Chenz Ker)



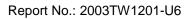


 $m_{\rm H_{II}}$

The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report. Test results reported herein relate only to the item(s) tested. The test report shall not be reproduced except in full without the written approval of MRT Technology (Taiwan) Co., Ltd.

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Revision History

Report No.	Version	Description	Issue Date
2003TW1201-U6	1.0	Original Report	2020-05-15

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1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	i3ALLSYNC	
Model No.	i3ALLSYNC RX45	
Brand Name		
	2.4G: 802.11b/g/n-20/n-40	
Supports Radios Spec.	5G: 802.11a/n-20/ac-20n/n-40/ac-40/ac-80, Band 1, 4	
	Bluetooth Dual Mode: V2.1+EDR/ V4.0 LE	

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1.2. Antenna Description

2.4GHz		
Antenna Type	FPCB	
Antenna M/N	RF11C00762S	
Antenna Gain	4.16dBi	
5.0GHz		
Antenna Type	FPCB	
Antenna M/N	RF11C00762S	
Antenna Gain	4.0dBi	

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2. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range	Electric Field	Magnetic Field	Power Density	Average Time
(MHz)	Strength (V/m)	Strength (A/m)	(mW/cm ²)	(Minutes)
(A) Limits for Occupational/ Control Exposures				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/ Uncontrolled Exposures				
0.3-1.4	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

Note: (1) f= Frequency in MHz, (2) * = Plane-wave equivalent power density

Calculation Formula: $Pd = (Pout*G)/(4*pi*r^2)$

Where

Pd = power density in mW/cm²

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

r = distance between observation point and center of the radiator in cm

Under normal use condition, is at least 20cm away from the body of the user .

So, this device is classified as Mobile Device.

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2.2. Test Result

Mode	Frequency Band (MHz)	Maximum Output Power (dBm)	Gain (dBi)	Power Density at $R = 20 \text{ cm}$ (mW/cm^2)	Limit (mW/cm²)
ВТ	2402~2480	4.849	4.16	0.0016	1
BLE	2402~2480	7.977	4.16	0.0033	1
WiFi 2.4G	2412~2462	24.010	4.16	0.1305	1
WiFi 5G (Band1)	5150~5250	16.050	4.00	0.0201	1
WiFi 5G (Band4)	5725~5850	16.200	4.00	0.0208	1

Conclusion:

 $CPD1/LPD1 + CPD2/LPD2 + ... + CPDN/LPDN \leq 1$

CPD : Calculation Power Density LPD : Limit of Power Density

Mode	Power Density	Limit	Conclusion	Result (≦ 1)	
WiFi 2.4G	0.1305	1	0.1512 Page	Door	
WiFi 5G (Band4)	0.0208	1	0.1513	Pass	

Therefore, the Max Power Density at R (20 cm) = 0.1513mW/cm ² .
So, device can comply with FCC radiation exposure requirement specified in the FCC Rule 2.1091.
The End

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