

MRT Technology (Taiwan) Co., Ltd

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RF Exposure Evaluation Declaration

FCC ID: 2ALTTCT1200

APPLICANT: i3-TECHNOLOGIES NV

Application Type: Certification

Product: i3SYNC

Model No.: i3SYNC RX40

Serial Model: CT1200,CT1210

Trademark:

FCC Rule Part(s): Part 2.1091 (Mobile)

Test Procedure(s): KDB 447498 D01v06

Test Date: May 31~ June 29, 2018

Reviewed By

(Paddy Chen)

Approved By

(Chenz Ker)





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The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

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	Note
1909TW1202-U3	1.0	Original Report	2019-09-24	

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1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	i3SYNC			
Model No.	i3SYNC RX40			
Serial Model	CT1200,CT1210			
Trademark	*			
Supports Radios Spec.	WLAN: 2.4G: 802.11b/g/n-20/n-40			
Wi-Fi Specification	802.11 b/g/n (2TX / 2RX)			
	<u>2.4GHz:</u>			
Frequency Range	For 802.11b/g/n-20M: 2412 ~ 2462 MHz			
	For 802.11n-40M: 2422 ~ 2452 MHz			
Turn of Madulation	802.11b: DSSS, DBPSK, DQPSK, CCK			
Type of Modulation	802.11g/n-20M/n-40M: OFDM, BPSK, QPSK, 16QAM, 64QAM			

Note:

(1)There are two appearances of this product, one with internal antenna for HDMI Transmitter(Tx) Box, another with external antenna for HDMI Receiver(Rx) Box. The RF circuits of these two appearances are the same.

(2) Model Difference: The difference of model is only for marketing different, the other is the same.

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1.2. Antenna Description

i3SYNC RX40 (Internal Antenna)

Ν	0.	Manufacturer Part No.		Antenna Type	Peak Gain	
,	1	Auden Techno Corp.	AUD17-003	PIFA	2.68dBi	

i3SYNC RX40 (External Antenna)

No.	Manufacturer	Part No.	Antenna Type	Peak Gain	
1	Auden Techno Corp.	AUD17-001	Dipole	2.64dBi	

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2. RF Exposure Evaluation

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/cm²)		(mW/cm ²)	(Minutes)			
	(A) Limits for Occupational/ Control Exposures						
300-1500	-		f/300	6			
1500-100,000			5	6			
	(B) Limits for General Population/ Uncontrolled Exposures						
300-1500			f/1500	30			
1500-100,000	-		1.0	30			

f= Frequency in MHz

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

Pd is the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

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2.2. Test Result of RF Exposure Evaluation

For 2.4GHz ISM Band (802.11b/g/n-HT20/n-HT40):

Mode	Frequency Band (MHz)	Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm²)	Limit (mW/cm²)
(TX) Internal Antenna	2412~2462	21.75	334.2	2.68	20	0.1232	1
(RX) External Antenna	2412~2462	21.75	334.2	2.64	20	0.1221	1

———— The End ————	
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