

MRT Technology (Taiwan) Co., Ltd

Phone: +886-3-3288388 Fax: +886-3-3288918 Web: www.mrt-cert.com Report No.: 2408TWU101-U4 Report Version: 1.0 Issue Date: 2024-11-20

# **Maximum Permissible Exposure**

FCC ID: INGSIEM-121T

APPLICANT: JTS PROFESSIONAL CO., LTD.

**Application Type: Certification** 

Product: In-Ear Monitoring System

Model No.: SIEM-121T

Brand Name: JTS

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

Received Date: August 30, 2024

Tested By : Fran Chen

(Fran Chen)

Reviewed By : Paddy Chen

(Paddy Chen)

Approved By : Am her

(Chenz Ker)





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.



## **Revision History**

Report No.	Version	Description	Issue Date	
2408TWU101-U4	1.0	Original Report	2024-11-20	

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## 1. PRODUCT INFORMATION

## 1.1. Equipment Description

Product Name	In-Ear Monitoring System
Model No.	SIEM-121T
Brand Name	JTS
Operating Frequency	SRD 2.4GHz: 2412.05 ~ 2424.05MHz
Operating Frequency	UHF: 470MHz ~ 608MHz
M 11.0	SRD 2.4GHz: FSK
Modulation	UHF: FM

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## 1.2. Antenna Description

SRD 2.4GHz			
Antenna Type	Chip Antenna		
Antenna M/N	AT3216-B2R7HAA		
Antenna Gain	0.5dBi		
UHF			
Antenna Type	Dipole Antenna		
Antenna M/N	AN0500-13M01BBN, AN0570-13M01BBN		
Antenna Gain	0.8dBi, 1.50dBi		



### 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 <sup>2</sup> )	(Minutes)
	(A) Limits for	Occupational/ Contr	ol Exposures	
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f <sup>2</sup>	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 <sup>2</sup>	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/cm<sup>2</sup>

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.



### 2.2. Test Result

Mode	Frequency (MHz)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm²)	Limit (mW/cm²)
SRD 2.4G	2412.05~2424.05	-6.48	20	0.000045	1
UHF	470~608	6.94	20	0.000983	0.3133

Note: dBm = dBuV/m@3m - 95.23.

### **Conclusion:**

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

**CPD : Calculation Power Density LPD : Limit of Power Density** 

Mode	Power Density	Limit	Conclusion	Result (≦ 1)
SRD 2.4G	0.000045	1	0.003183	Door
UHF	0.000983	0.3133	0.003163	Pass

So, device can comply with FCC radiation ex	posure requ	irement specified in the FCC Rule 2.1091.
	The End	