YUNEEC International (China) Co., Ltd.

Smart Transmitter

Main Model: ST24
Serial Model: N/A

June 17, 2014
Report No.: 14050003-FCC-H

(This report supersedes none)

Modifications made to the product : None		
This Test Report is Issued Under the Authority of:		
Deon Dai	Alex Liu	
Deon Dai **Compliance Engineer**	**Alex Liu** **Technical Manager**	

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Test result presented in this test report is applicable to the representative sample only.

RF Exposure Evaluation Report

To: §15.247 (i), §2.1093

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Laboratory Introduction

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Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC , RF/Wireless , Telecom
Canada	EMC, RF/Wireless , Telecom
Taiwan	EMC, RF, Telecom , Safety
Hong Kong	RF/Wireless ,Telecom
Australia	EMC, RF, Telecom , Safety
Korea	EMI, EMS, RF , Telecom, Safety
Japan	EMI, RF/Wireless, Telecom
Singapore	EMC , RF , Telecom
Europe	EMC, RF, Telecom , Safety

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CONTENTS

1 EXECUTIVE SUMMARY & EUT INFORMATION

The purpose of this test programme was to demonstrate compliance of the YUNEEC International (China) Co., Ltd., Smart Transmitter and model: ST24 against the current Stipulated Standards. The Smart Transmitter has demonstrated compliance with the § 15.247 (i), §2.1093.

EUT Information

EUT Description	**Smart Transmitter**
Main Model	**ST24**
Serial Model	**N/A**
Antenna Gain	**5.8G: 0 dBi** **2.4G: 1 dBi**
Input Power	**AC Adapter** **Model Name: A31-501000** **Input: 100 ~ 240Vac, 0.2A Max** **Output: 5.0Vdc, 1A** **Li-ion Battery:** **Capacity: 3.7V 8700mAh 3.89Wh**
Classification Per Stipulated Test Standard	**§ 15.247 (i), §2.1093**

2 TECHNICAL DETAILS

Purpose	**Compliance testing of Smart Transmitter with stipulated standard**
Applicant / Client	**YUNEEC International (China) Co., Ltd. No.388, Zhengwei Road, Jinxi Town, Kunshan, Jiangsu， China**
Manufacturer	**YUNEEC International (China) Co., Ltd. No.388, Zhengwei Road, Jinxi Town, Kunshan, Jiangsu， China**
Laboratory performing the tests	**SIEMIC (Nanjing-China) Laboratories NO.2-1,Longcang Dadao, Yuhua Economic Development Zone, Nanjing, China Tel: +86(25)86730128/86730129 Fax: +86(25)86730127 Email: China@siemic.com.cn**
Test report reference number	**14050003-FCC-H**
Date EUT received	**February 18, 2014**
Standard applied	**§ 15.247 (i), §2.1093**
Dates of test (from – to)	**March 13 to June 16, 2014**
No of Units :	**#1**
Equipment Category :	**DTS**
Trade Name :	**YUNEEC**
RF Operating Frequency (ies)	**5.8G: 5745MHz 2.4G: 2405-2480 MHz**
Number of Channels	**5.8G: 1 2.4G: 16**
Modulation	**5.8G: OFDM 2.4G:FSK**
Port	**HDMI Port, Micro USB Port, SD Card Port, Earphone Port**
FCC ID	**2ABB5-ST24**

3 MODIFICATION

NONE

4 TEST SUMMARY

The product was tested in accordance with the following specifications.
All testing has been performed according to below product classification:

Test Results Summary

FCC Rules	Description of Test	Result
§15.247 (i), §2.1093	RF Exposure	Compliance

5 MEASUREMENTS, EXAMINATION AND DERIVED RESULTS

5.1 §15.247 (i) and §2.1093/ – RF Exposure

Standard Requirement:

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

[(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] · [$\sqrt{f_{(GHz)}}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,[16] where

- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation[17]
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

2.4G:

One antenna is available for the EUT (2.4G product).The minimum separation distances is 5 mm.
The maximum average output power(turn-up power) in low channel of 2.4G is 9.76 dBm=9.46 mW
The calculation results= 9.46/5* √2405=2.93<3
The maximum average output power(turn-up power) in middle channel of 2.4G is 8.40 dBm=6.92 mW
The calculation results= 6.92/5* √2440=2.16<3
The maximum average output power(turn-up power) in high channel of 2.4G is 6.63 dBm=4.60 mW
The calculation results= 4.60/5* √2480=1.45<3

5.8G:

One antenna is available for the EUT (5.8G product).The minimum separation distances is 5 mm.
The maximum average output power(turn-up power) in a channel of 5.8G is 6.8 dBm=4.79 mW
The calculation results= 4.79/5* √5745=2.30<3

According to KDB 447498, no stand-alone required for DTS antenna, and no simultaneous SAR measurement is required .

Test Result: Pass