


# TEST REPORT

of

## FCC MPE REQUIREMENT

**Product :** AIoT Module  
**Brand Name:** Winstec  
**Model:** SM35B02  
**Model Difference:** N/A  
**FCC ID:** 2AOAOSM35B02  
**Applicant:** Winstec Corporation  
**Address:** 9F.-2, No.160, Sec. 6, Minguan E. Rd., Neihu Dist., Taipei 114, Taiwan

Test Performed by:

**International Standards Laboratory Corp. LT Lab.**  
TEL: +886-3-263-8888 FAX: +886-3-263-8899  
 No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist., Tao Yuan City 325, Taiwan

Report No.: **ISL-23LR0158FMPE**  
Issue Date :**March 29, 2024**



Test results given in this report apply only to the specific sample(s) tested and are traceable to national or international standard through calibration of the equipment and evaluating measurement uncertainty herein.

The uncertainty of the measurement does not include in consideration of the test result unless the customer required the determination of uncertainty via the agreement, regulation or standard document specification.

This test report shall not be reproduced except in full, without the written approval of International Standards Laboratory Corp.

## VERIFICATION OF COMPLIANCE

**Applicant:** Winstec Corporation  
**Product Description:** AIoT Module  
**Brand Name:** Winstec  
**Model No.:** SM35B02  
**Model Difference:** N/A  
**FCC ID:** 2AOAOSM35B02  
**Date of test:** October 26, 2023 ~ March 29, 2024  
**Date of EUT Received:** October 26, 2023

### We hereby certify that:

All the tests in this report have been performed and recorded in accordance with the standards described above and performed by an independent electromagnetic compatibility consultant, International Standards Laboratory Corp.

The test results contained in this report accurately represent the measurements of the characteristics and the energy generated by sample equipment under test at the time of the test. The sample equipment tested as described in this report is in compliance with the limits of above standards.

**Test By:** Bill Huang **Date:** March 29, 2024  
*Bill Huang / Senior Engineer*

**Prepared By:** Gigi Yeh **Date:** March 29, 2024  
*Gigi Yeh / Senior Engineer*

**Approved By:** Jerry Liu **Date:** March 29, 2024  
*Jerry Liu / Manager*

## Table of Contents

1. Description of Equipment under Test (EUT).....	4
2. Maximum Permissible Exposure (MPE) .....	6
3. Evaluation Result: .....	7

## 1. Description of Equipment under Test (EUT)

General Information	
Product Name:	AIoT Module
Brand Name:	Winstec
Model Name:	SM35B02
Model Difference:	N/A
Temperature Range:	-20°C to +60°C
Power Supply:	5VdC from USB
WiFi Information	
WLAN Modular	RTL8735BDM N2CE7E8 GN12AA4
Frequency Range:	WLAN 2.4GHz Band 802.11b/g 2412MHz-2462MHz 802.11n(HT20) 2412MHz-2462MHz  WLAN 5GHz Band U-NII-1 5180MHz-5240MHz
Max Output Power:	2412MHz ~ 2462MHz: 18.98 dBm 5150MHz ~ 5240MHz: 8.86 dBm
Channel number:	WLAN 2.4GHz Band 802.11b/g : 11 802.11n(HT20) : 11  WLAN 5GHz Band 802.11a U-NII-1 : 4 802.11n(HT20) U-NII-1 : 4 802.11ac(VHT20) U-NII-1 : 4
Product HW Version:	2V2
Product SW Version:	N/A
Product FW Version:	9.4c MP
Test SW Version:	1v9.6
RF power setting:	Refer power table
Bluetooth Information	
BT Modular:	SM35B02
Bluetooth Version:	V5.1

Frequency Range:	2402 – 2480MHz
Max Output Power:	6.95 dBm
Channel number:	40 channels
Modulation type:	GFSK
Product HW Version:	2V2
Product SW Version:	N/A
Product FW Version:	9.4c MP
Test SW Version:	5.2.3.54
RFpower setting:	Refer power table

	<b>Antenna Type</b>	<b>Brand</b>	<b>Model</b>	<b>Peak Gain</b>	<b>Frequency Range</b>	<b>Connector Type</b>
1	PCB	ShenZhen Powerful Technology CO., Limited	YL1360-WIFI-V1-L60	3.12.dBi	2400-2500 MHz	i-pex
2	PCB	ShenZhen Powerful Technology CO., Limited	YL1360-WIFI-V1-L60	4.54dBi	5150-5850 MHz	i-pex

## 2. Maximum Permissible Exposure (MPE)

### 2.1 Standard Applicable

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

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissive Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	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
1500-15000	/	/	1.0	30

F = frequency in MHz

\* = Plane-wave equipment power density

The MPE was calculated at 20 cm to show compliance with the power density limit

The following formula was used to calculate the Power Density.

$$S = PG / 4 \pi R^2$$

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

### 3. Evaluation Result:

Frequency Band (MHz)	Conducted power (dBm)	Antenna gain (dBi)	Tune-Up Tolerance (dB)	EIRP (dBm)	MPE (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2412 - 2462	18.98	3.12	1	23.100	0.04062	1
5180 - 5240	8.86	4.54	1	14.400	0.00548	1

Note: There will be not synchronized transmission between BLE and WLAN.

~ End ~