

User Manual

PRODUCT NAME : RF Module

MODEL NAME : ETWFAEWC01

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1. Features

ETWFAEWC01 is the module for IEEE 802.11b/g/n wireless LAN.

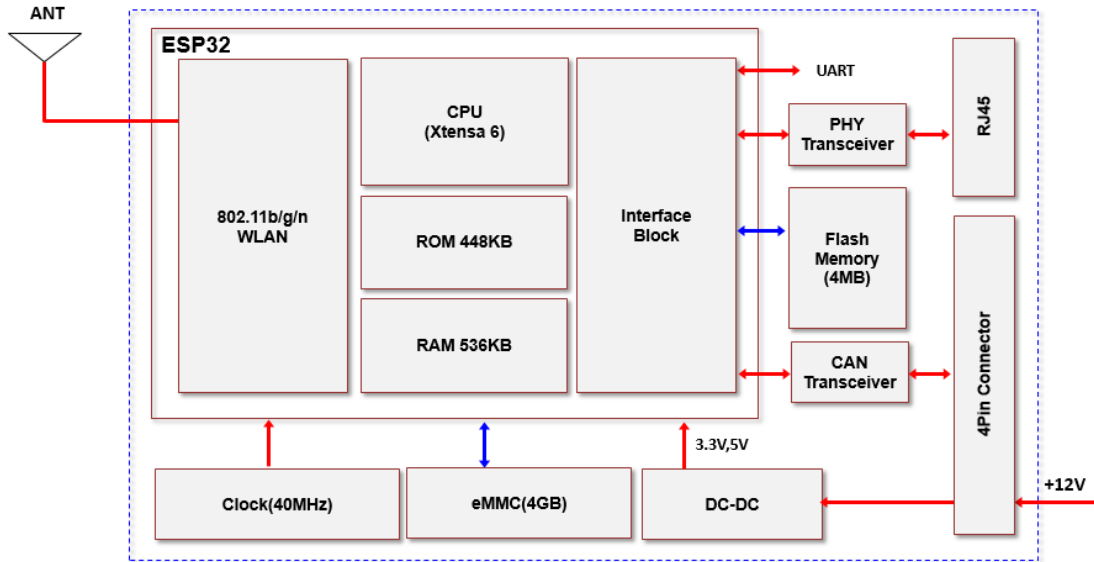
ETWFAEWC01 is based on ESP32-D0WDQ6 solution.

- IEEE 802.11 b/g/n single band WLAN infrastructure
- Size : 70mm x 70mm x 15mm
- 802.11n, up to 150Mbps PHY rate
- CAN 2.0 interface
- Ethernet, 10 Mbps and 100 Mbps rates
- 4Gbyte eMMC Flash Memory
- Security : WFA, WPA, WPA2, WAPI
- Application : Home Appliance

2. Picture of Product



3. Block Diagram



4. Absolute Maximum Ratings

Parameter	Min	Max	Unit
Storage Temperature	-40	+85	°C
Storage Humidity (@ 40°C)	-	90	%

Caution : The specifications above the Table define levels at which permanent damage to the device can occur. Function operation is not guaranteed under these conditions. Operating at absolute maximum conditions for extend periods can adversely affect the long-term reliability of the device.

- Other conditions

- Do not use or store modules in the corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are contained.
Also, avoid exposure to moisture.
- Store the modules where the temperature and relative humidity do not exceed 5 to 40°C and 20 to 60%.
- Assemble the modules within 6 months.
Check the soldering ability in case of 6 months over.

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5. Operating Test Conditions

Parameter	Min	Typ	Max	Unit
Operating Temperature ¹⁾	-20	-	+70	°C
Operating Humidity (40°C)	-	-	85	%
Supply Voltage ¹⁾	10.8	12	13.2	Vdc

¹⁾ It can be operated from 8V to 16V, but this voltage range shouldn't be guaranteed

6. Standard Test Conditions

The Test for electrical specification shall be performed under the following condition
Otherwise this following conditions, not guaranteed this performance.

6-1. Ambient condition

Temperature	25 ± 2°C
Humidity	65 ± 5%

6-2. Power supply voltages

Input power(VDD)	Supply Voltage
+12V	+12V ± 10%

6-4. ESD Information

Human Body Model (HBM)	Min.	Max.	Unit
Contact	-	± 6	kV
Air	-	± 12	

Note 1 : IEC 61000-4-2 (150pF, 330R)

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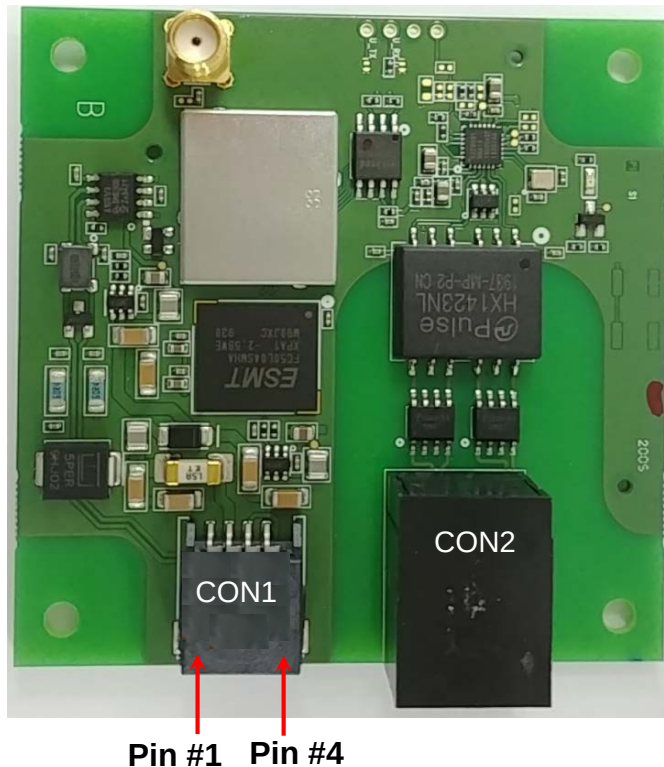
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7. Pin Description

Connector	Pin No.	Pin Name	I/O	Pin Description
CON1	1	GND	P	Ground
	2	12V	P	Power Supply
	3	CAN_L	I/O	Low-level CAN bus line
	4	CAN_H	I/O	High-level CAN bus line
CON2	-	R45	-	Ethernet Connector

< Top View >



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8. Outline Drawing

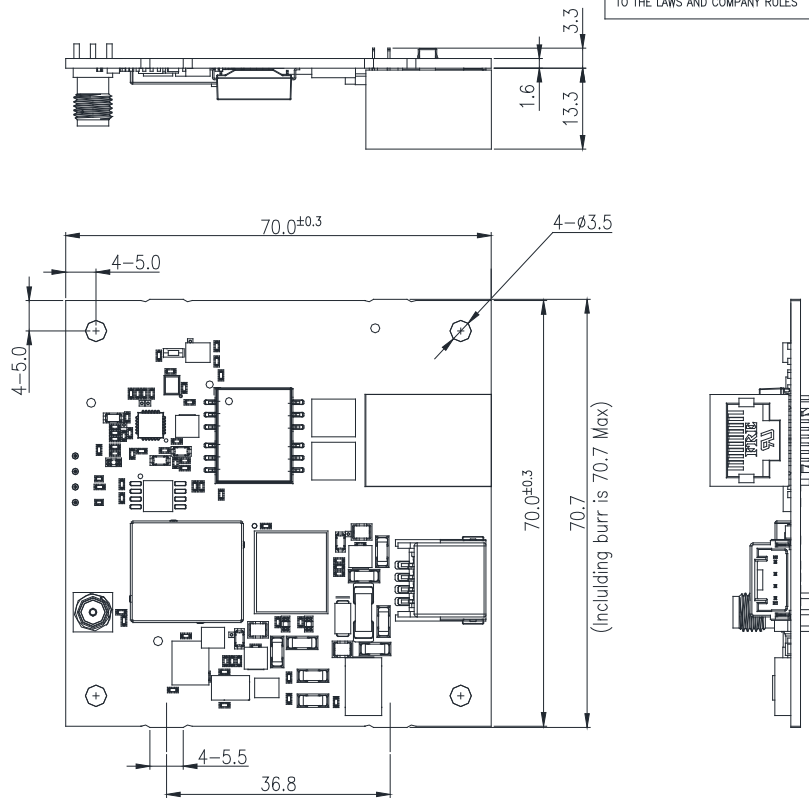
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DIMENSIONAL TOLERANCE		CHANGES	REV NO.	DATE (YY MM DD)	SIGNATURE	CHANGE CONTENTS
~ up to 6	±0.5				A	
over 6 up to 30	±0.5				B	
over 30 up to 120	±0.5				C	
UNLESS OTHERWISE SPECIFIED						

RELEASING THIS DRAWING WITHOUT PERMISSION OF LG Innotek SHOULD BE ACCUSED ACCORDING TO THE LAWS AND COMPANY RULES



Note
1. Conformal coating thickness : Min 150um

A	RELATED P/N	 THIRD ANGLE PROJECT	SCALE 2:1	UNIT mm	DESIGN 2020.02.03 Kap Soul.Lee	TITLE Outline Drawing	A
					CHECKED 2020.02.03 Jin Kuk.Lee	PART NO	
					APPROVED 2020.02.03 Seok Dong.Choi	MODEL ETWFAEWC01	
						DWG NO	

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9. Packing Information

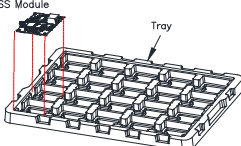
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DIMENSIONAL TOLERANCE		CHANGES	2	3	4	
~ up to 6	±0.3		REV NO.	DATE (YY MM DD)	SIGNATURE	CHANGE CONTENTS
over 6 up to 30	±0.5				A	
over 30 up to 120	±0.5				B	
UNLESS OTHERWISE SPECIFIED				C		

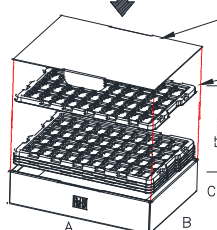
ESS Module



Tray

- o 1 Tray Packing Q'ty : 20EA
- o Size : W X D X H : 503 * 355 * 27.7
- o 1 Tray Packing Weight : 0.8±0.2kg (1 Module Weight : 30.0±3.0g)

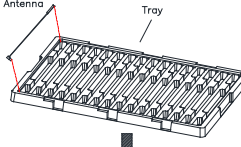
Cap Corrugated Paper



A empty tray is on top

5Trays (Zigzag stack)

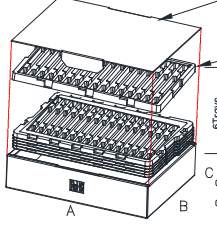
Antenna



Tray

- o 1 Tray Packing Q'ty : 16EA
- o Size : W X D X H : 503 * 355 * 24.2
- o 1 Tray Packing Weight : 0.3±0.2kg (1 Module Weight : 6.5±0.6g)

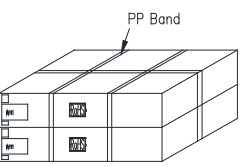
Cap Corrugated Paper



A empty tray is on top

6Trays (Zigzag stack)

Cap Box

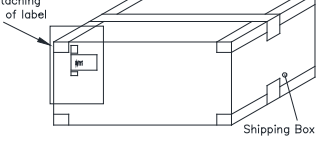


PP Band

ESS Module

Antenna

Refer the attaching specification of label



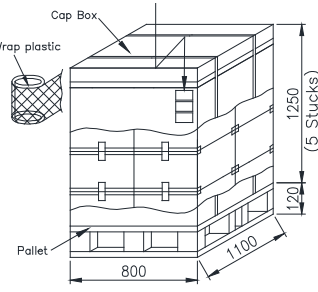
Shipping Box

- o Carton Box Packing Q'ty : 80EA (ESS Module:80EA, Antenna:80EA)
- o Size : W X D X H : 514 * 394 * 248
- o 1 Carton Box Packing Weight : 6.9±0.7kg

– Attached shipping information label



Cap Box



Wrap plastic

Pallet

1250 (5 Strucks)

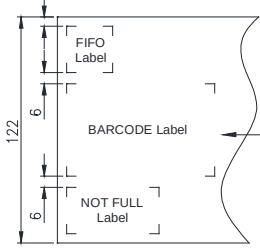
800

1100

(CARTON BOX : 20EA)

- o Box Material : Corrugated Paper
- o Total Packing Q'TY : 1,600EA
- o Total Packing Weight : 158±15kg

< Attaching specification of label >



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FIFO Label

BARCODE Label

NOT FULL Label

Attached inner box label and FIFO label



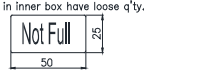
25

25

50

80

NOT FULL label attached in inner and outer box if in inner box have loose q'ty.



25

50

RELATED P/N	THIRD ANGLE PROJECT	SCALE	UNIT	DESIGN	TITLE
			mm	20. 03. 06 Lee Kap Soul.	EXP. Packing Specification
				CHECKED 20. 03. 06 Lee Jin Kuk.	PART NO
				APPROVED 20. 03. 06 Choi Seok Dong.	MODEL ETWFAEWC01
					DWG NO

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10. FCC/IC Statement

FCC Part 15.19 Statements:	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
FCC Part 15.21 statement	Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
<Regulatory notice to host manufacturer according to KDB 996369 D03 OEM Manual v01>	
List of applicable FCC rules	This module has been granted modular approval as below listed FCC rule parts. -FCC Rule parts 15C(15.247)
Summarize the specific operational use conditions	-The OEM integrator should use equivalent antennas which is the same type and equal or less gain than an antenna listed in this instruction manual
RF exposure considerations The module has been certified for integration into products only by OEM integrators under the following condition: ※1,2 Conditions of RF exposure considerations should be included in OEM manual and it should be informed to an end-user.	1. The antenna(s) must be installed such that a minimum separation distance of at least 20 cm is maintained between the radiator (antenna) and all persons at all times. -2. The transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures. -Mobile use As long as the three conditions above are met, further transmitter testing will not be required. OEM integrators should provide the minimum separation distance to end users in their end-product manuals. l'exposition aux RF L'antenne (ou les antennes) doit être installée de façon à maintenir à tout instant une distance minimum de au moins 20 cm entre la source de radiation (l'antenne) et toute personne physique. Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment. Attention: Les changements ou modifications de cet appareil non expressément approuvé par le fabricant peuvent annuler votre droit à utiliser cet équipement.

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10. FCC/IC Statement

Antennas list

This radio transmitter [ETWFAEWC01] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device. This module is certified with the following integrated antenna.

-Type: External PCB Antenna

-Max. peak Antenna gain: 1.50dBi

Frequency Band	WLAN(2.4GHz)(ETWFAEWC01)
WLAN(2.4GHz)	1.50dBi

Any new antenna type, higher gain than listed antenna should be met the requirements of FCC rule 15.203 and 2.1043 as permissive change procedure. The use of a different trace layout other than approved requires a Class II Permissive Change or a New Grant as appropriate.

End Product Labeling

The module is labeled with its own FCC ID. If the FCC ID is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following:

-Contains FCC ID: YZP-ETWFAEWC01

-Contains IC: 7414C-ETWFAEWC01

Le module ETWFAEWC01 est étiqueté avec sa propre identification FCC et son propre numéro de certification IC. Si l'identification FCC et le numéro de certification IC ne sont pas visibles lorsque le module est installé à l'intérieur d'un autre dispositif, la partie externe du dispositif dans lequel le module est installé devra également présenter une étiquette faisant référence au module inclus. Dans ce cas, le produit final devra être étiqueté sur une zone visible avec les informations suivantes : « Contient module émetteur identification FCC ID : YZP-ETWFAEWC01-« Contient module émetteur IC : 7414C-ETWFAEWC01

Information on test modes and additional testing requirements

OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, additional transmitter in the host, etc.).

Additional testing, Part 15 Subpart B disclaimer

The final host product also requires Part 15 subpart B compliance testing with the modular transmitter installed to be properly authorized for operation as a Part 15 digital device.

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10. FCC/IC Statement**Professional Installation**

This device and antenna can only be installed by professionally trained personnel. Antenna should be used the same type and lower gain antenna described below.

- External PCB Antenna
- Max. antenna gain: 1.50 dBi

Any new antenna type, higher gain than listed antenna should be met the requirements of FCC rule 15.203 and 2.1043 as permissive change procedure