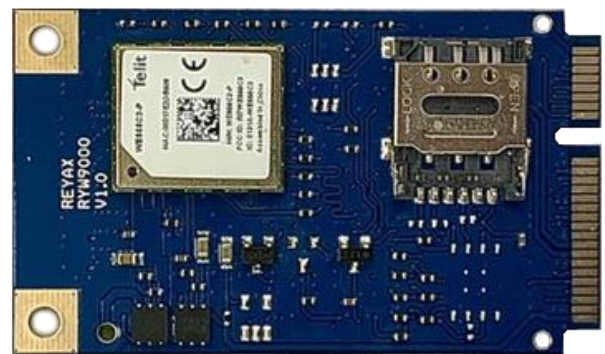


# RYW9000 Series

4G CAT4 LTE / GNSS / Wi-Fi Hotspot Platform

Datasheet



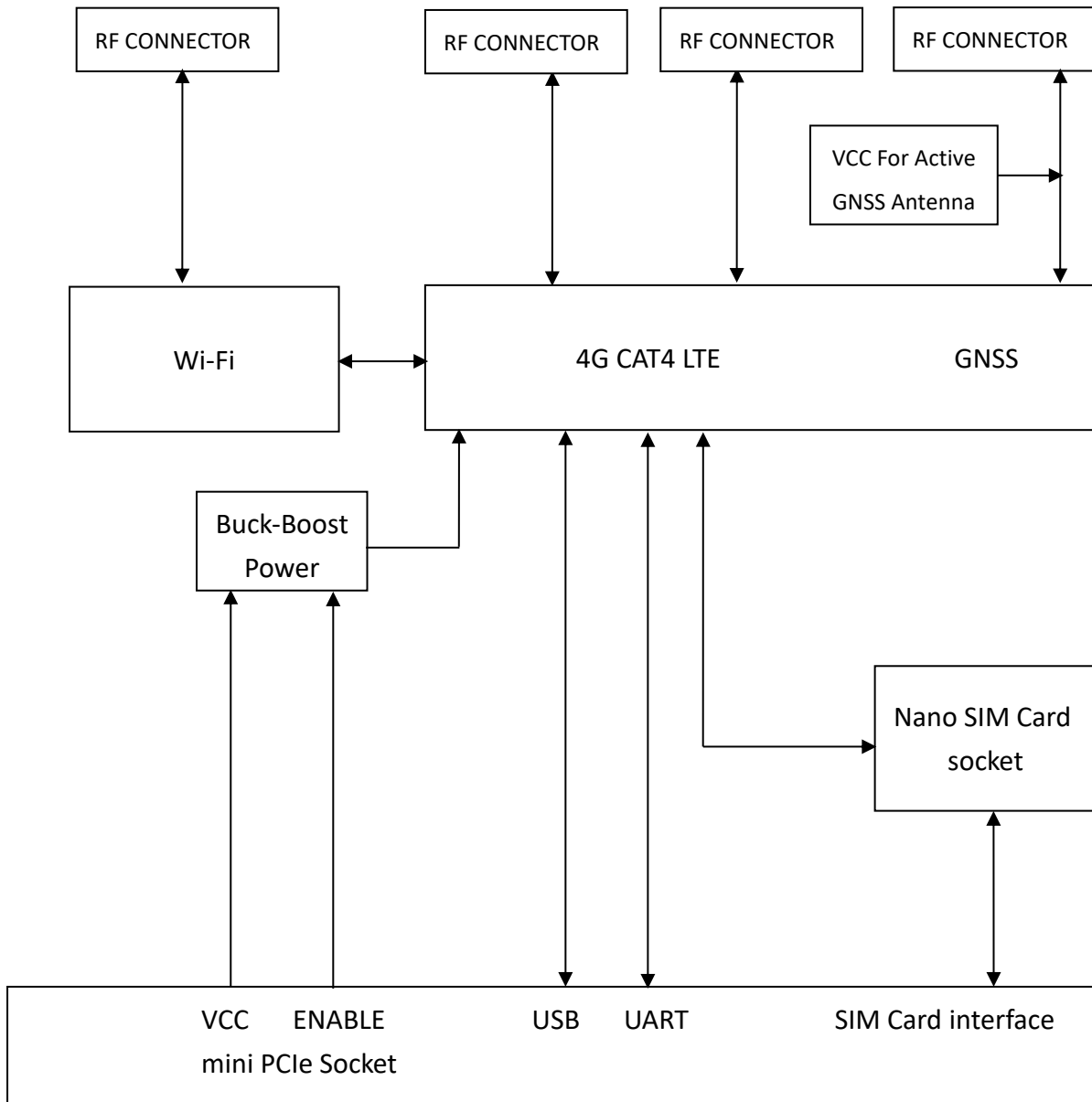
## PRODUCT DESCRIPTION

The REYAX RYW9000 Mobile Hotspot helps you offer a solution to industrial and vehicle tracking needing communication, improved IT administration and support, and security.

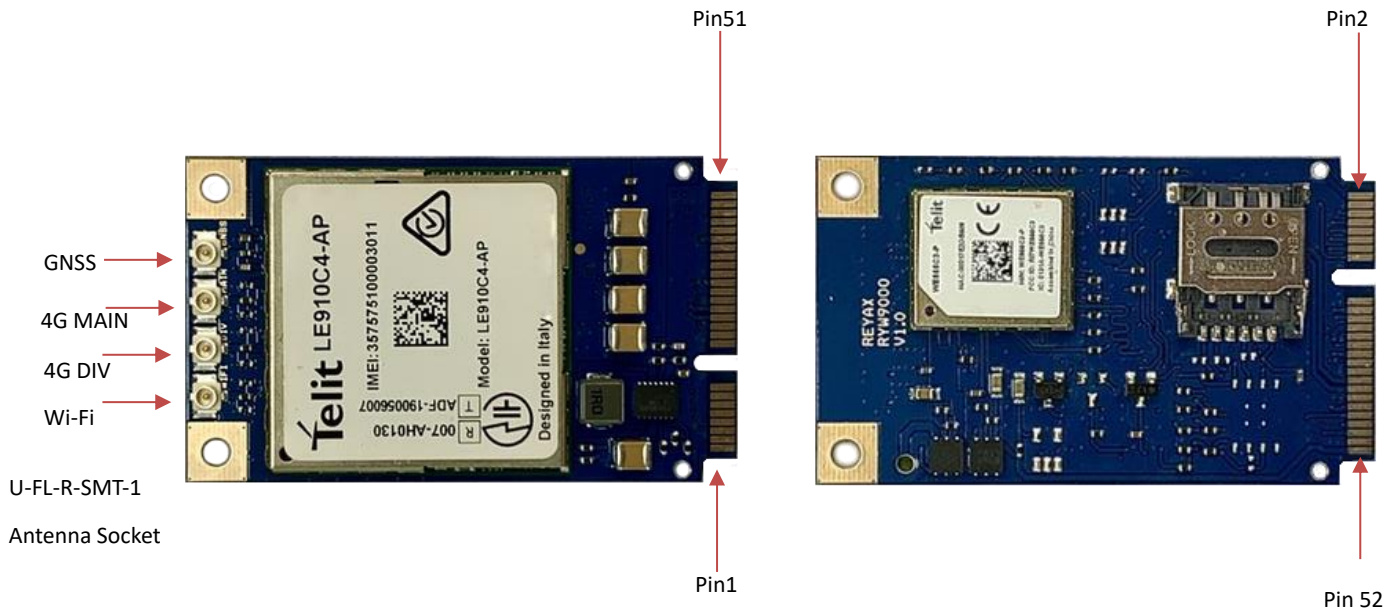
## FEATURES

- TELIT LE910C4 4G CAT4 LTE & GNSS engine.
- TELIT WE866C6-P 2.4GHz Wi-Fi engine.
- Wi-Fi Function: Access point / Client mode.
- Build-in nano SIM card holder.
- HIROSE U.FL-R-SMT-1 RF CONNECTOR.
- Standard mini PCIe and plug PCB design.
- Mini PCIe Signal Type USB2.0.
- eSIM support option.

## BLOCK DIAGRAM



## PIN CONNECTOR



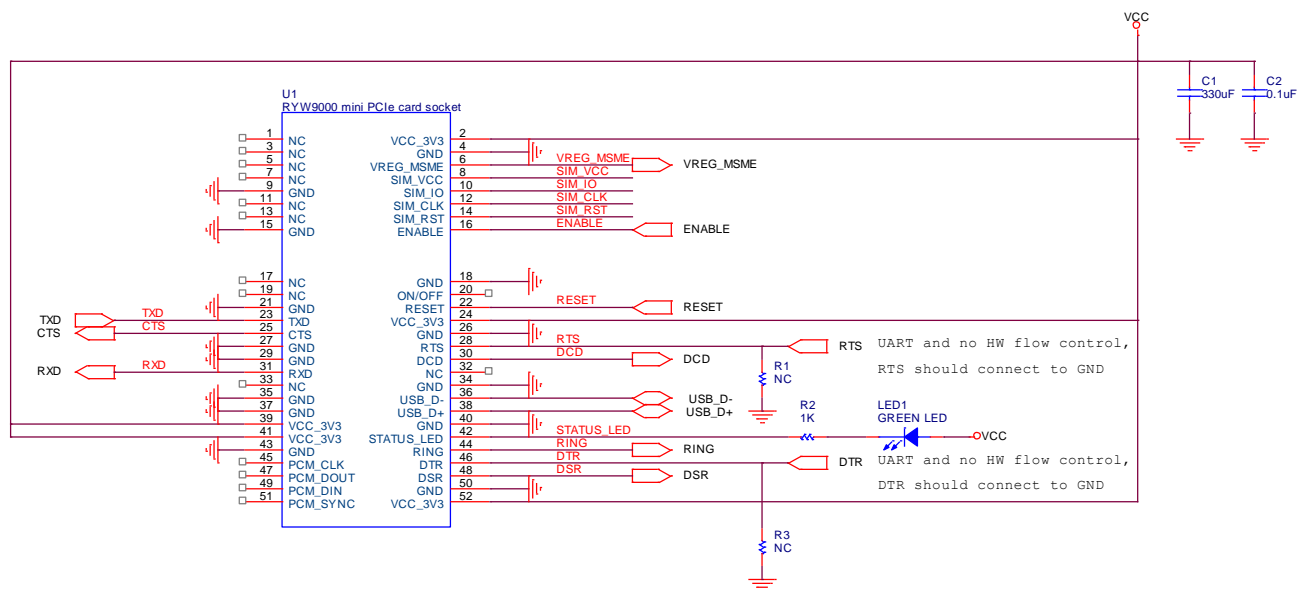
## PIN DESCRIPTION

Pin	Name	Input/Output	Description
1	NC		Not connected
2	VCC	Power	Power Input
3	NC		Not connected
4	GND		Power Ground
5	NC		Not connected
6	VREG_MSME	Output	The pin is always HI while RYW9000 is working.
7	NC		Not connected
8	SIM_VCC		External SIM signal – Power supply for the SIM
9	GND		Power Ground
10	SIM_IO	Input/Output	External SIM signal – Data I/O
11	NC		Not connected
12	SIM_CLK	Output	External SIM signal – Clock
13	NC		Not connected
14	SIM_RST	Output	External SIM signal – Reset

15	GND		Power Ground
16	ENABLE	Input	H : Enable L : Disable Internal pull up resistor.
17	NC		Not connected
18	GND		Power Ground
19	NC		Not connected
20	NC		Not connected
21	GND		Power Ground
22	RESET	Input	Keep Hi over 1 second to reset.
23	TXD	Input	Serial data input (TXD) from DTE
24	VCC	Power	Power Input
25	CTS	Output	Output for Clear to send signal (CTS) to DTE
26	GND		Power Ground
27	GND		Power Ground
28	RTS	Input	Input for Request to send signal (RTS) from DTE
29	GND		Power Ground
30	DCD	Output	Output for Data Carrier Detect (DCD) to DTE
31	RXD	Output	Serial data Output (RXD) from DTE
32	NC		Not connected
33	NC		Not connected
34	GND		Power Ground
35	GND		Power Ground
36	USB_DN	Input/Output	USB Data Negative
37	GND		Power Ground
38	USB_DP	Input/Output	USB Data Positive
39	VCC	Power	Power Input
40	GND		Power Ground
41	VCC	Power	Power Input
42	STATUS_LED	Output	Status indicator LED, Open drain output.
43	GND		Power Ground
44	RING	Output	Output for Ring Indication (RI) to DTE
45	NC		Not connected

46	DTR	Input	Input for Data Terminal Ready (DTR) from DTE
47	NC		Not connected
48	DSR	Output	Output for Data Set Ready (DSR) to DTE
49	NC		Not connected
50	GND		Power Ground
51	NC		Not connected
52	VCC	Power	Power Input

## UART INTERFACE APPLICATION SCHEMATIC REFERENCE : MINI PCIE CARD



## SPECIFICATION

Mode	4G & GNSS Engine	2G	HSPA+	LTE FDD
RYW94AP	LE910C4-AP		1, 5, 6, 8, 19	1, 3, 5, 8, 9, 18, 19, 26, 28
RYW94EU	LE910C4-EU	3, 8	1, 3, 8	1, 3, 7, 8, 20, 28A
RYW94NF	LE910C4-NF		2, 4, 5	2, 4, 5, 12, 13, 14, 66, 71
RYW94LA	LE910C4-LA	2, 3, 5, 8	1, 2, 4, 5	1, 2, 3, 4, 5, 7, 28
RYW94CN	LE910C4-CN	3, 8	1, 8	1, 3, 5, 8, 38, 39, 40, 41M

Item	Min.	Typ	Max.	Unit	Description
<b>TELIT LE910C4 Series</b>					
LTE FDD Category		4			
Downlink Speed		150		Mbps	
Uplink Speed		50		Mbps	
<b>GNSS</b>					
GNSS Center Frequency		1575.42 1602.5625		MHz	GPS Glonass
Navigation Update Rate		1		Hz	
Accuracy	0.8			M	CEP
Cold Start	30			Sec.	
Warm Start	23			Sec.	
Hot Start	1.1			Sec.	
Tracking Sensitivity		-160		dBm	
Cold Starts Sensitivity		-145		dBm	
Hot Starts Sensitivity		-147		dBm	
<b>Wi-Fi</b>					
Wi-Fi IEEE802.11 version	a/b/g/n/ac				
Supported Data Rate	802.11a (5GHz): 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11b (2.4GHz): 1, 2, 5.5, 11Mbps 802.11g (2.4GHz): 6, 9, 12, 18, 24, 36, 48, 54Mbps				

	802.11n (2.4GHz/5GHz): <ul style="list-style-type: none"> <li>• 20Mhz BW: Up to 72.2Mbps using short GI (MCS0-7)</li> <li>• 40Mhz BW: Up to 144.4Mbps using short GI (MCS0-7)</li> </ul> 802.11ac (5GHz): HT20 (MCS0-8), VHT40 (MCS0-9), VHT80 (MCS0-9)
Transmission Power	802.11a / 54Mbps: 14 dbm 802.11b / 11Mbps: 18 dbm 802.11g / 54Mbps: 15 dbm 802.11n / HT20 (MCS7): 15 dbm 802.11ac / HT20 (MCS0): 15.5 dbm 802.11ac / VHT40 (MCS9): 11 dbm 802.11ac / VHT80 (MCS9): 10.5 dbm

General					
Item	Min.	Typ	Max.	Unit	Description
Operating Voltage Power Input	3	3.3	5.5	V	VCC
VIH	1.25	1.8	1.95	V	High level input voltage
VIL			0.6	V	Low-level input voltage
VOH	1.4	1.8		V	High level output voltage
VOL			0.45	V	Low level output voltage
USB Interface					V2.0
Operating Temperature Range	-40 -30	25	+85 +85	°C	4G LTE Wi-Fi
Dimension					mini PCIe Standard 50.95mm*30mm
Antenna Connector		4			U.FL-R-SMT-1
Weight		11		g	



## HOTSPOT BASIC AT COMMAND

4G :

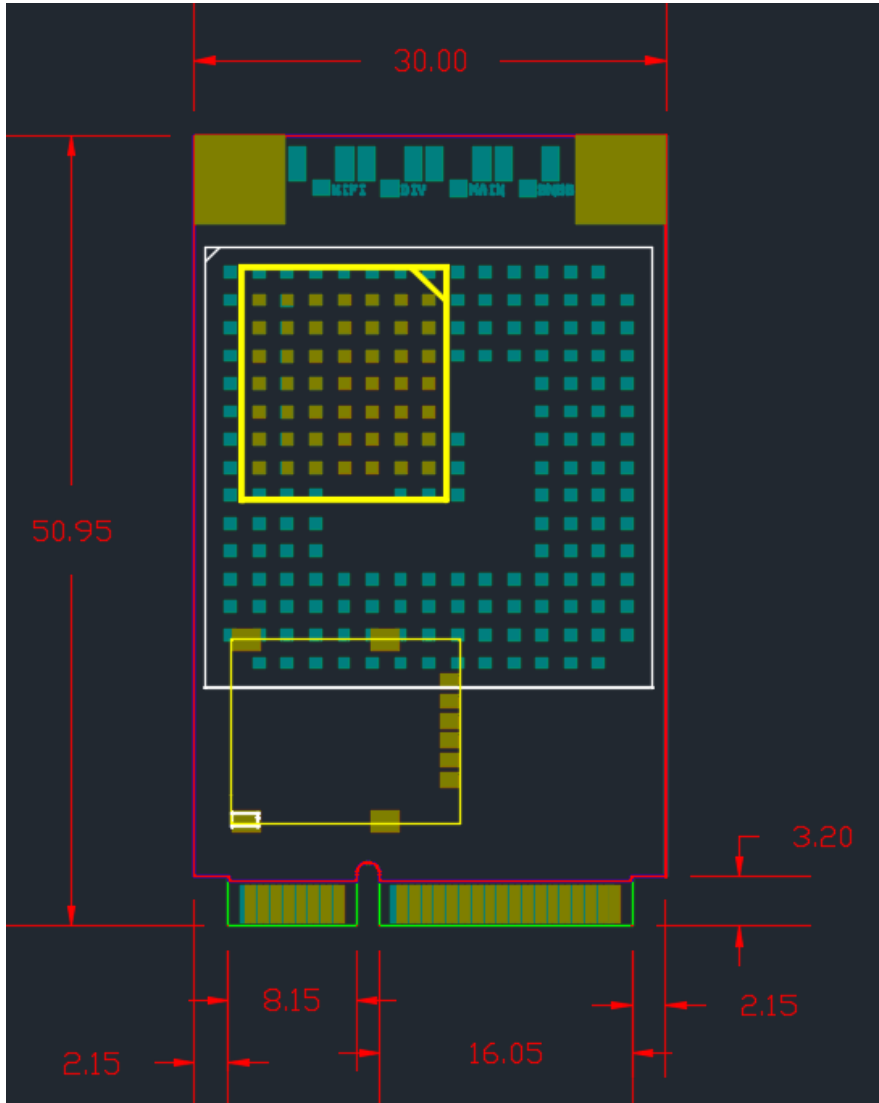
AT+COPS?	
AT+CIREG?	'Confirm the MT's IMS registration information
AT+CGDCONT?	'Confirm current settings for each defined context
AT+CGCONTRDP=	'PDP Context Read Dynamic Parameters
AT#SGACT=1,1	'Context Activation
AT#PING=8.8.8.8	'Send PING request

Wi-Fi :

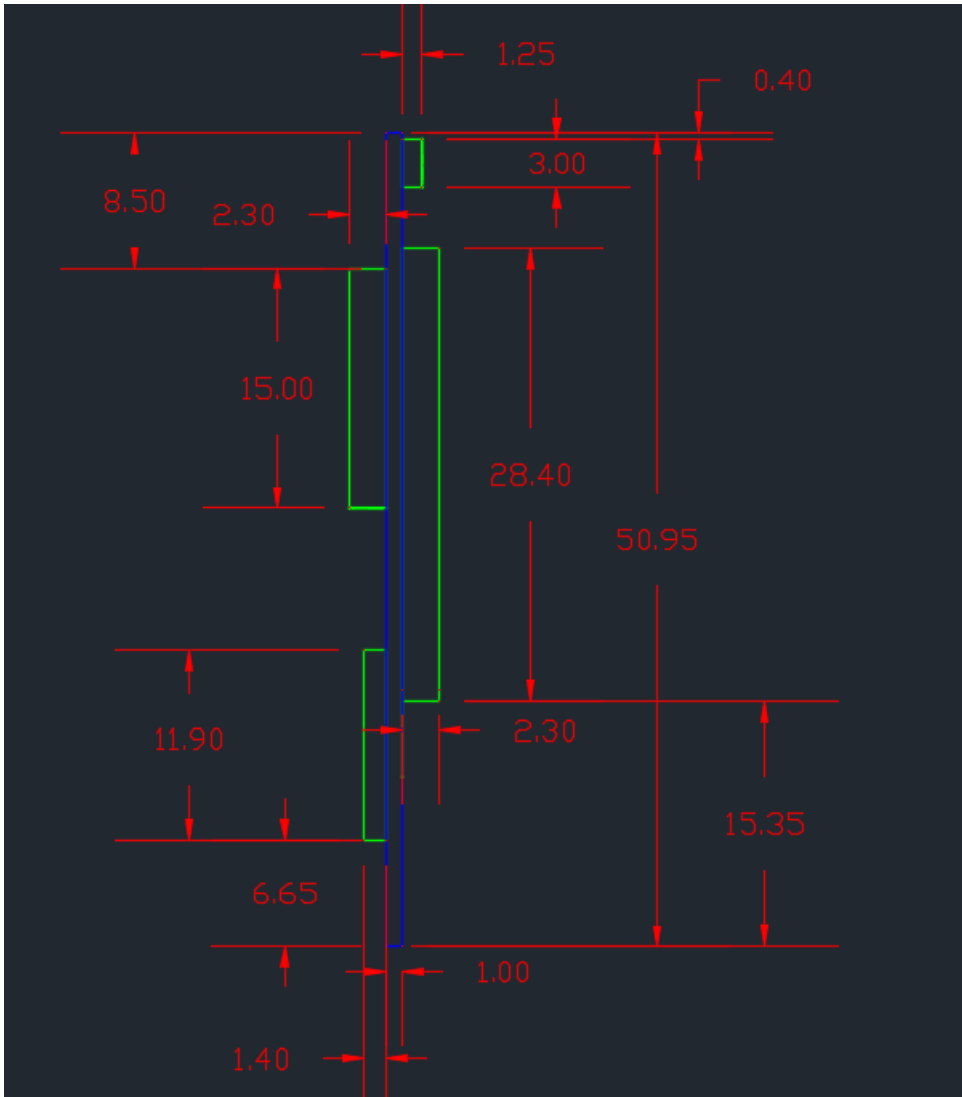
AT#SGACT=1,0	
AT#WLANSTART=0	'Disable Wi-Fi
AT#WLANMODE=0	'Set command change WLAN mode
AT#WLANSSID="REYAX"	'Set SSID
AT#WLANSECURITY=2,0,2,1234567890	'Set WLAN security parameters
AT#WLANSTART=1	'Enable Wi-Fi
AT#WLANAPCLIST	'Return Wi-Fi Client Information

\*Please refer to the TELIT AT Commands Manual

## DIMENSIONS



Unit:mm



Unit:mm

## ORDER INFORMATION

Ordering No.	4G & GNSS Engine	Wi-Fi Engine
RYW94AP	LE910C4-AP	WE866C6-P
RYW94EU	LE910C4-EU	WE866C6-P
RYW94NF	LE910C4-NF	WE866C6-P
RYW94LA	LE910C4-LA	WE866C6-P
RYW94CN	LE910C4-CN	WE866C6-P