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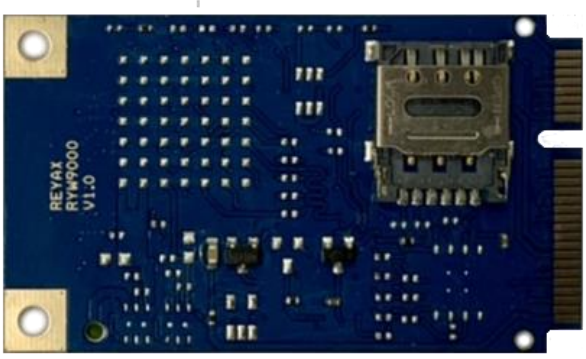
6-July-2021 56312E32

RYT9000 Series

4G CAT4 LTE / GNSS mini PCIe card

Datasheet





Represented by:

first FC components

FIRST Components srl Via Cavour 69, 21020 Buguggiate (VA)

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PRODUCT DESCRIPTION

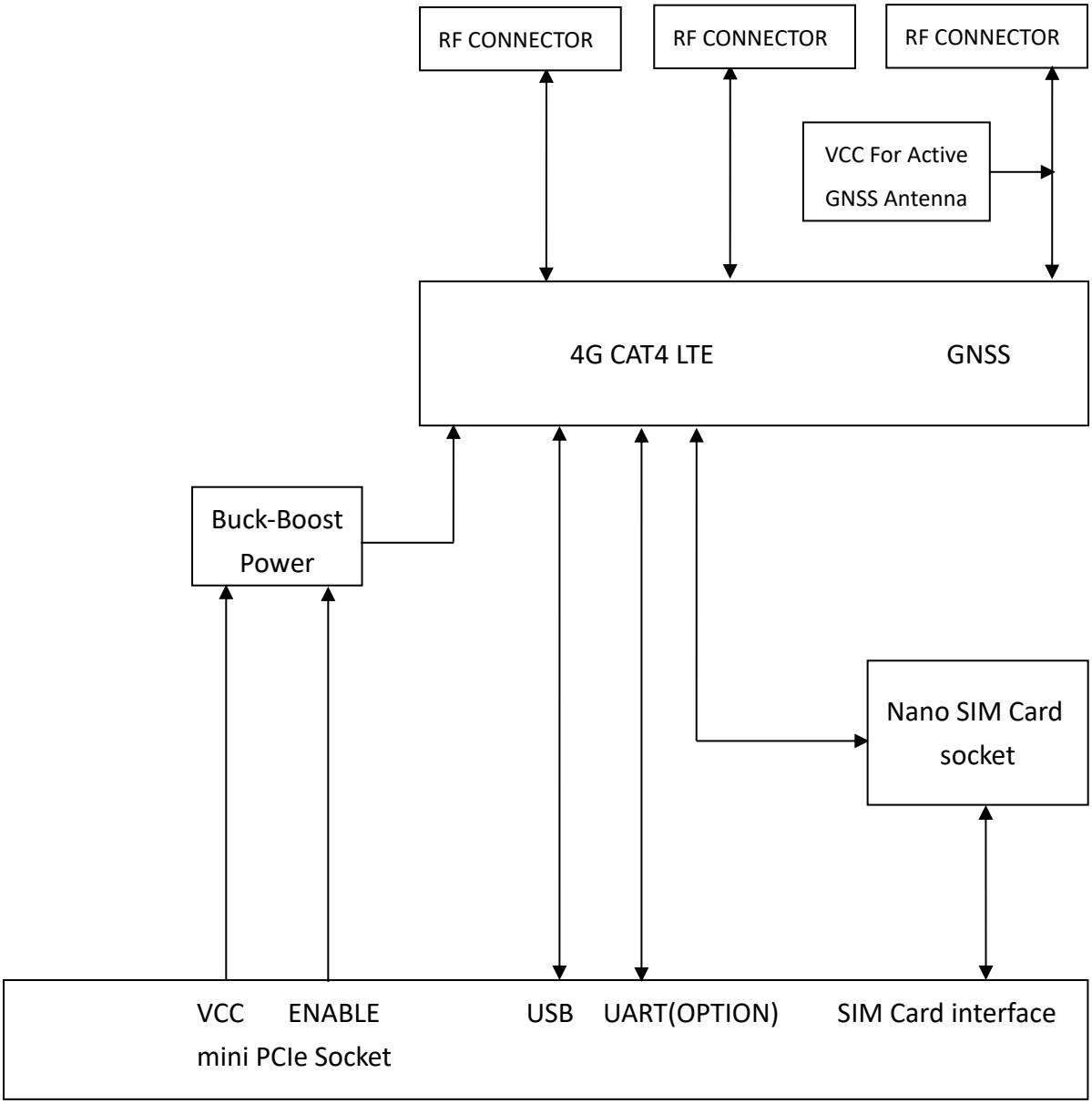
The RYT9000 series is based on the PCI Express Mini Card standard with a USB 2.0 interface.

FEATURES

- TELIT LE910C4 4G CAT4 LTE & GNSS engine.
- Build-in nano SIM card holder.
- HIROSE U.FL-R-SMT-1 RF CONNECTOR.
- Standard mini PCIe .
- Mini PCIe Signal Type USB2.0.

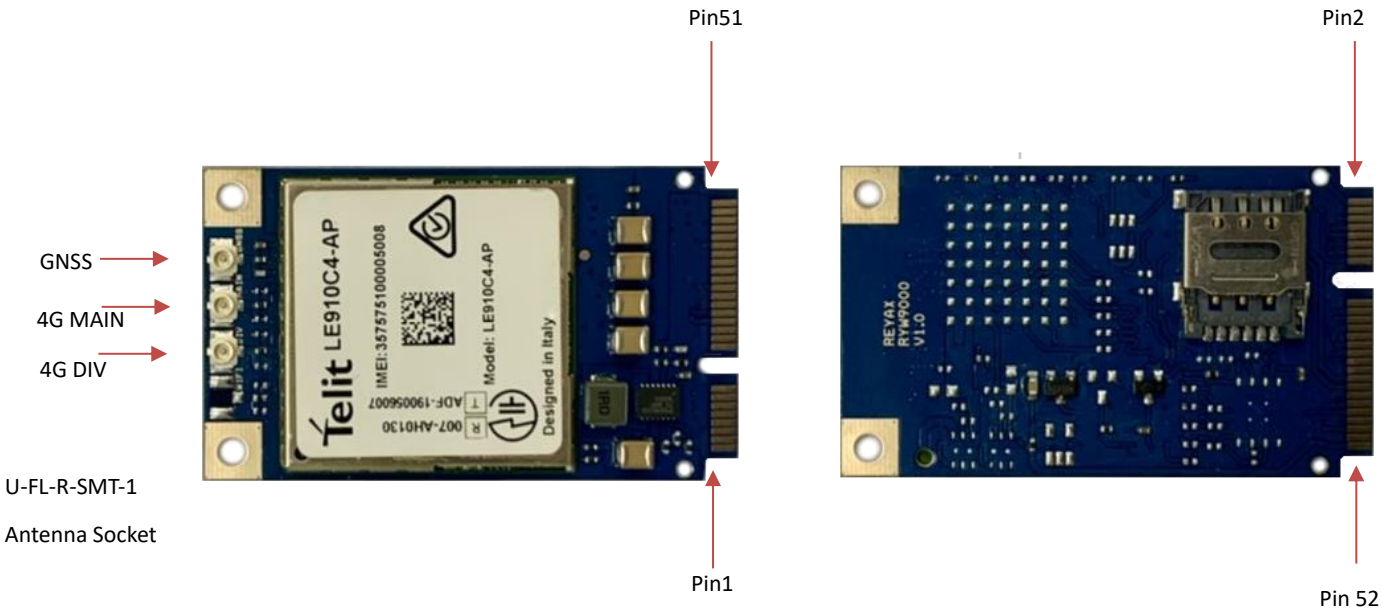
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BLOCK DIAGRAM



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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 RYT9000 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

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15	GND		Power Ground
16	NC		Not connected
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 (UART Version only)
24	VCC	Power	Power Input
25	CTS	Output	Output for Clear to send signal (CTS) to DTE (UART Version only)
26	GND		Power Ground
27	GND		Power Ground
28	RTS	Input	Input for Request to send signal (RTS) from DTE (UART Version only)
29	GND		Power Ground
30	DCD	Output	Output for Data Carrier Detect (DCD) to DTE (UART Version only)
31	NC		Not connected
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

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44	RING	Output	Output for Ring Indication (RI) to DTE (UART Version only)
45	NC		Not connected
46	DTR	Input	Input for Data Terminal Ready (DTR) from DTE (UART Version only)
47	NC		Not connected
48	DSR	Output	Output for Data Set Ready (DSR) to DTE (UART Version only)
49	NC		Not connected
50	GND		Power Ground
51	NC		Not connected
52	VCC	Power	Power Input

SPECIFICATION

Mode	4G & GNSS Engine	2G	HSPA+	LTE FDD
RYT94AP	LE910C4-AP		1, 5, 6, 8, 19	1, 3, 5, 8, 9, 18, 19, 26, 28
RYT94EU	LE910C4-EU	3, 8	1, 3, 8	1, 3, 7, 8, 20, 28A
RYT94NF	LE910C4-NF		2, 4, 5	2, 4, 5, 12, 13, 14, 66, 71
RYT94LA	LE910C4-LA	2, 3, 5, 8	1, 2, 4, 5	1, 2, 3, 4, 5, 7, 28
RYT94CN	LE910C4-CN	3, 8	1, 8	1, 3, 5, 8, 38, 39, 40, 41M
RYT94WX	LE910C4-WWX	2, 3, 5, 8	1, 2, 4, 5, 8, 19	1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 26, 19, 20, 28

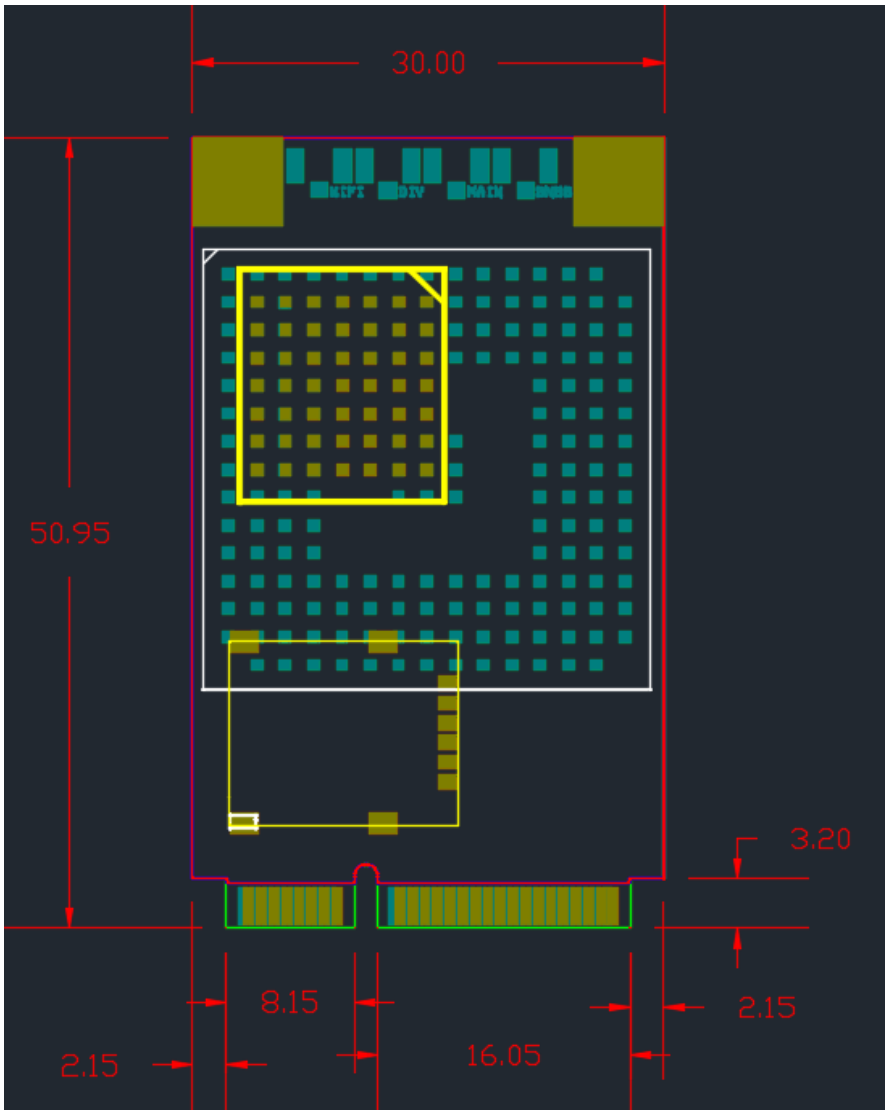
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Item	Min.	Typ	Max.	Unit	Description
TELIT LE910C4 Series					
LTE FDD Category		4			
Downlink Speed		150		Mbps	
Uplink Speed		50		Mbps	
GNSS					
GNSS Center Frequency		1575.42 1602.5625		MHz	GPS Glonass
Navigation Update Rate		1		Hz	
Accuracy	0.8			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	

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	25	+85	˚C	4G LTE
Dimension					mini PCIe Standard 50.95mm*30mm
Antenna Connector		3			U.FL-R-SMT-1
Weight		11		g	

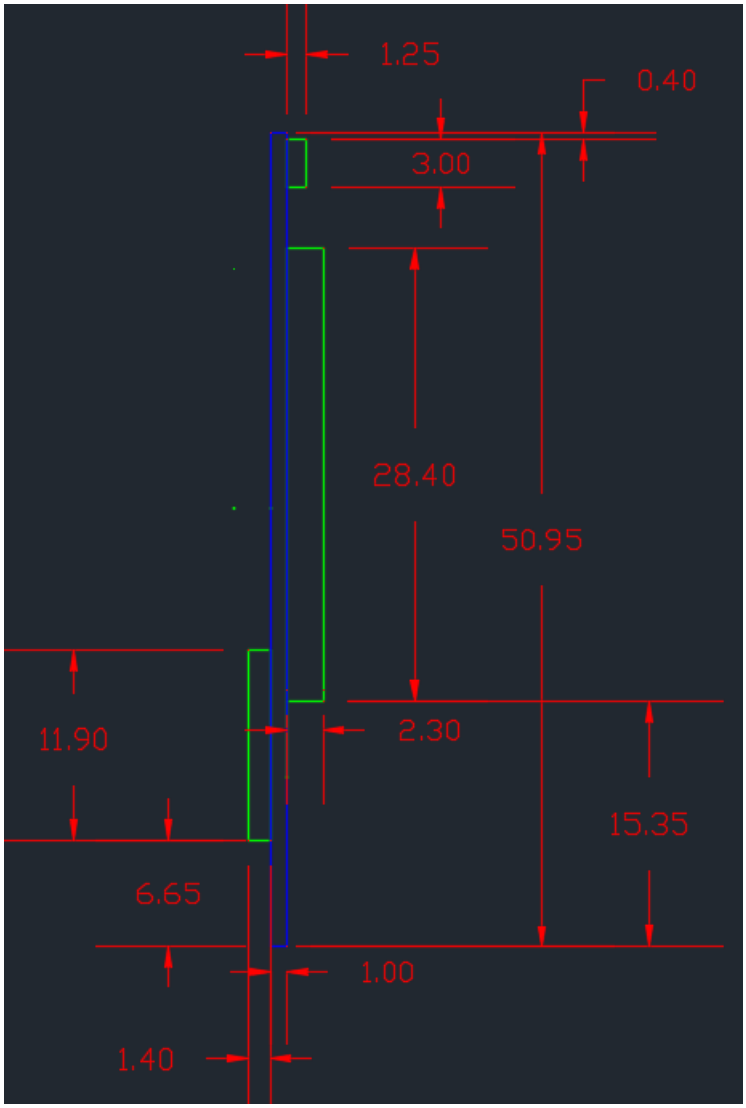
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DIMENSIONS



Unit:mm

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Unit:mm

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ORDER INFORMATION

Ordering No.	4G & GNSS Engine	UART Interface
RYT94AP	LE910C4-AP	Not connected
RYT94EU	LE910C4-EU	Not connected
RYT94NF	LE910C4-NF	Not connected
RYT94LA	LE910C4-LA	Not connected
RYT94CN	LE910C4-CN	Not connected
RYT94WX	LE910C4-WWX	Not connected
RYT94AP_UART	LE910C4-AP	Connected
RYT94EU_UART	LE910C4-EU	Connected
RYT94NF_UART	LE910C4-NF	Connected
RYT94LA_UART	LE910C4-LA	Connected
RYT94CN_UART	LE910C4-CN	Connected
RYT94WX_UART	LE910C4-WWX	Connected

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