



## Antenna and LTE Signal Guide

Ensure Antenna separation and installation requirements as per [ASE Installation Guidelines](#) are met. Noting when using higher gain antennas, more separation is required.

### Moving antennas to outside

- Removes structure from obstructing or absorbing signal
- Achieves elevation to clear obstructions
- Use of TV antenna style mounts is acceptable

### Checking nearest Telco sites

- Can use search site <https://www.rfnsa.com.au/?first=1>
- Use "Near Address" Search
  - On a mobile device the site will prompt to use current location.
- List will display nearby Cellular sites nearest to furthest.
- Map view will show on map in relation to searched address.

### Signal Obstructions & Absorption

Physical obstructions such as buildings and trees are the typical culprits and may act in a similar manner to terrain depending on the material's level of penetrability.

Physical objects also cause signals to bounce off objects and cause signal reflections called multipath signals. Having travelled a further distance than a straight line transmission, these signals are delayed and can create interference.

Dense or metal-based building materials can reflect or absorb RF signals, reducing the level of signal that reaches indoors.

### Satellite Installation Requirements (remote areas without Optus Cellular coverage only)

#### *Indoor*

Comms/Network rack - 6-9RU min 450mm deep

Reliable Mains Power - UPS Preferred if possible.

Accessible cable path for min. 25mm conduit to location of external equipment

#### *Outdoor*

Rooftop or equiv. clear space with clear view of sky in N-NE Aspect

1200-1200mm footprint for 1.2m satellite dish.

Accessible cable path for min. 25mm conduit to location of indoor rack (adjacent FIP/ASE or within data cable distance)

## Checking & Reseating SIMs in ASE modems.

This should only be done on the advice of an ASE Support technician observing appropriate anti-static precautions.



The symptom for this would be a modem stuck in the “SIM” state and is best determined using the remote support access to read the modem SIM status.

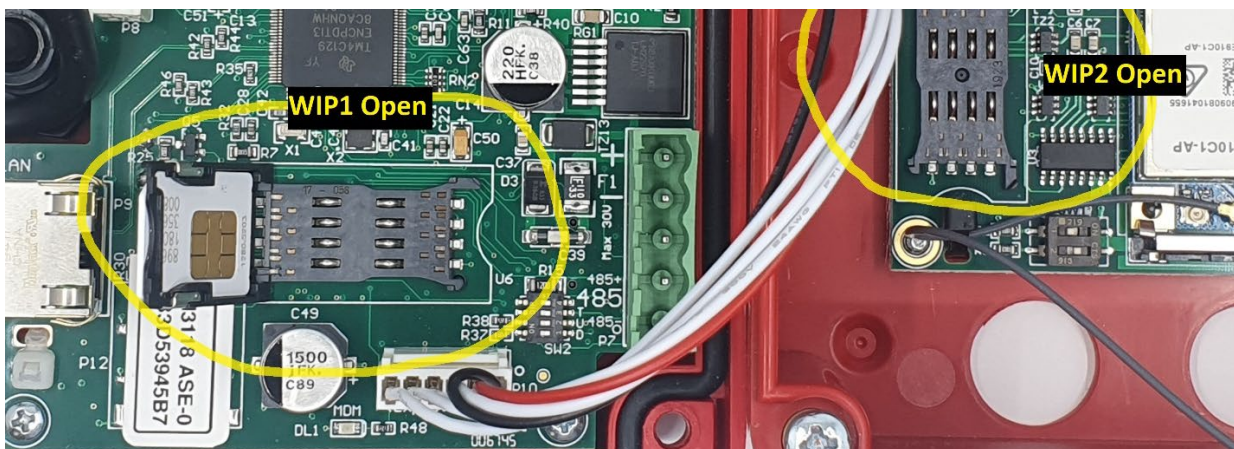
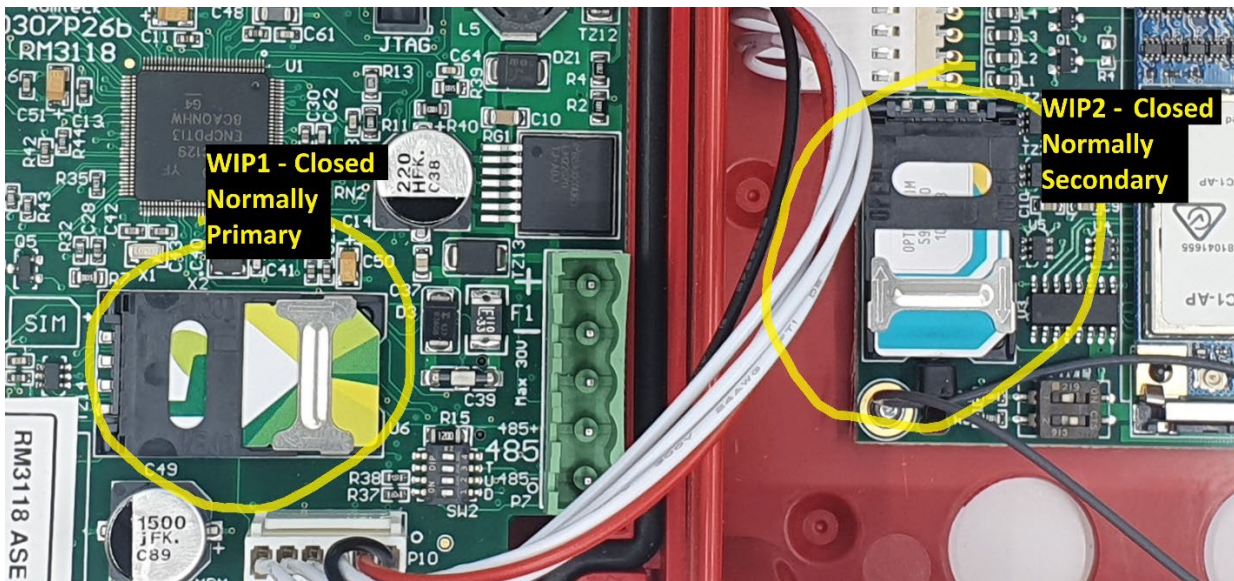
Note: WIP1 is normally primary, WIP2 Secondary unless they have been swapped for carrier issues.

If this occurs, it is likely only the result of vibration of movement from shipping and installation.

### Romteck RM3118

The RM3118 Dual SIM ASE uses Standard size SIMs in captive folding SIM carriages.

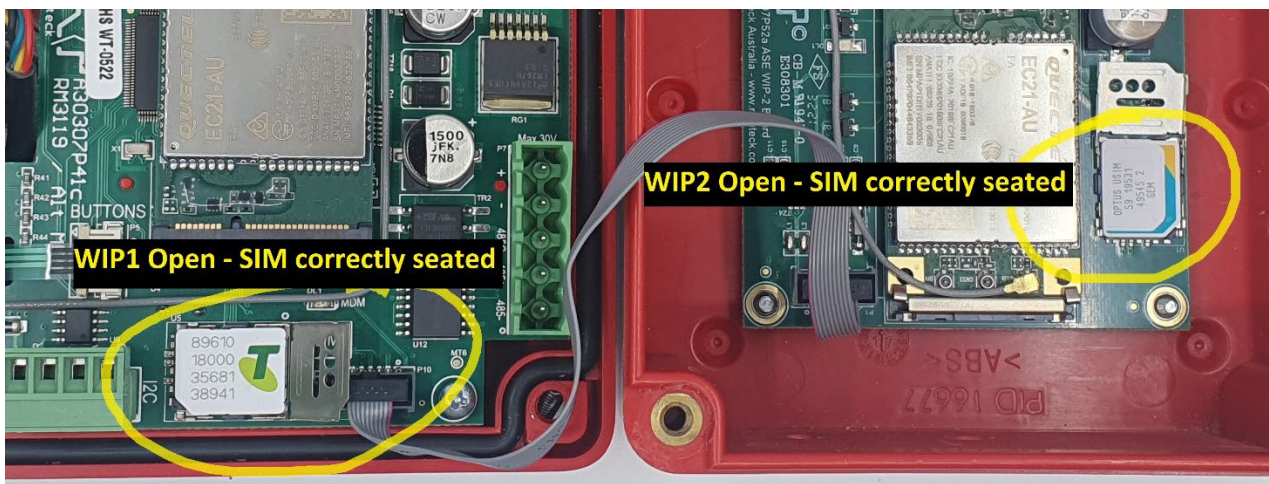
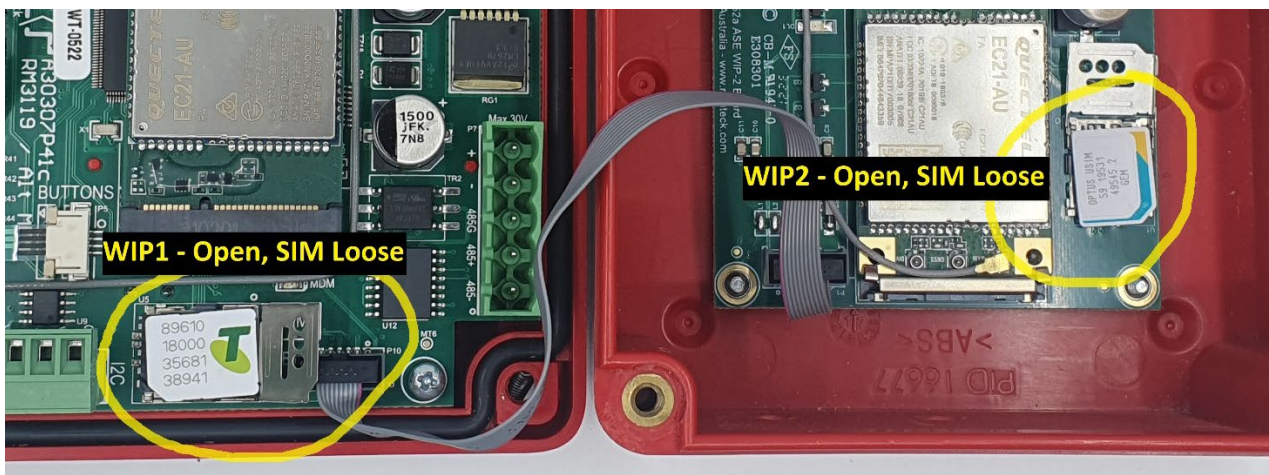
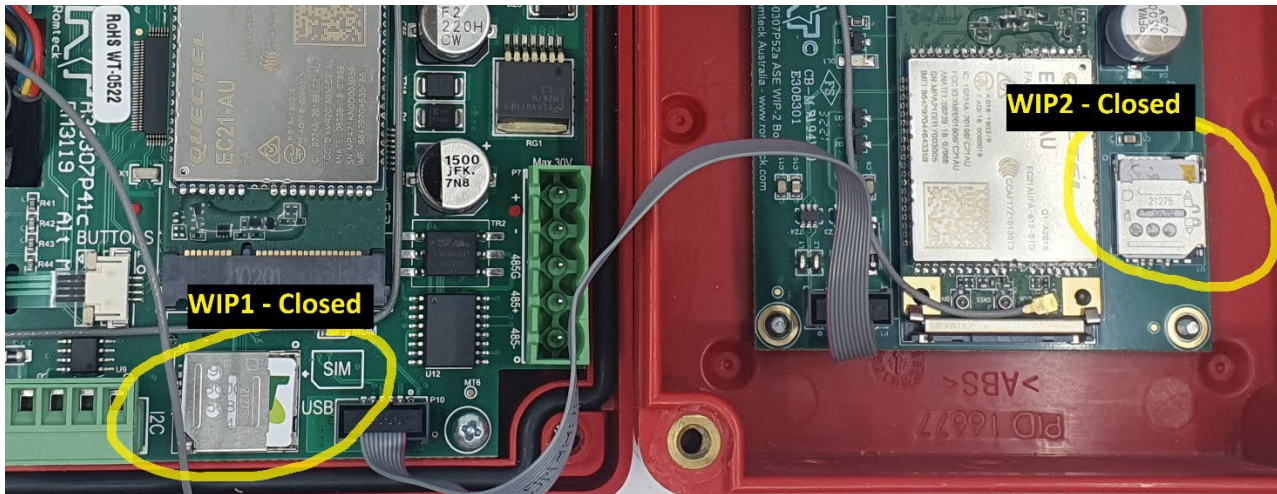
The SIM will stay in the carriage when unlocked and hinged away from the modem. To reset just close back down & slide the tray to lock. ENSURE the tray locks.



## Romteck RM3119

The RM3119 Dual SIM ASE uses Micro size SIMs in loose tray SIM carriers.

The SIM is not retained in the carriage once unlocked and hinged open. To reset, check the SIM is positioned within the recessed part of the tray. Close back down & slide the tray to lock, ENSURE the tray locks.




## Suitable/Current ASE Antennas

This guide is intended to provide confirmation as to suitable antennas for use with the new Romteck ASE 4G (dual sim). It includes historically issued antennas in addition to the currently issued antennas. Please note the currently issued antennas are subject to change.

<i>Image</i>	<i>Identify</i>	<i>Mobile</i>	<i>Frequencies (MHz)</i>	<i>Gain (dBi)</i>	<i>Cable (M)</i>	<i>Notes</i>	<i>Suitable ?</i>
	Benelec 024584	2G, 3G & 4G	690-960 1710-2700	2.54	3	Omni Directional  Length = 186mm Width = 45mm Depth = 17.6mm	Yes
	CSM500	2G, 3G & 4G	698-960 1710-2170 2500-2700	3	5	Omni Directional	Yes
	CSM700	2G, 3G & 4G	698-960 1710-2170 2300-2700	5	5	Omni Directional Ground plane dependent	Yes
	COL7195/ COL7199	2G, 3G & 4G	698-960 1710-2170 2300-2700	5/ 9	10/20	Omni Directional	Yes
	LPDA7030	2G, 3G & 4G	700-1000 1500-3000	11	10	Directional  This antenna must be aimed at the nearest mobile tower	Yes
	LPDA7040	3G/4G	1710 - 2170, 2300 - 2700, 3300 - 3800, 698 - 960	11	10	Directional  This antenna must be aimed at the nearest mobile tower	Yes

## Old and unsuitable ASE Antennas

<i>Image</i>	<i>Identify</i>	<i>Mobile</i>	<i>Frequencies (MHz)</i>	<i>Gain (dBi)</i>	<i>Cable (M)</i>	<i>Notes</i>	<i>Suitable ?</i>
	GSM Antenna	2G & 3G	890-960 1710-1880	0	3	Omni Directional Antenna is a grey cylinder, 210mm in length.	No
	Benelec 02458/ 024581	3G	820-960 1710-2200	3	3	Omni Directional Smaller in all dimensions compared to the Benelec 024584	No
	Stub Antenna	2G & 3G	890-960 1710-1880	0	0	Omni Directional	No