

Pluggable Module Overview

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Supported Cellular PIMs in Routers

Note Always check the IOS-XE release notes to understand the minimum software release supporting a given PIM on a given platform.

Important The Pluggable Module is not hot swappable. The router must be reloaded after a new module is installed.

This section describes which cellular pluggable modules are supported in each router.

ESR6300

- P-LTE-MNA (WP7610)
- P-LTEA-LA (EM7430)
- P-LTEA-EA (EM7455)
- P-LTEAP18-GL (LM960AP18)
- P-5GS6-GL
- P-5GS6-R16SA-GL

IR1101

- P-LTE-VZ (WP7601)
- P-LTE-US (WP7603)
- P-LTE-JN (WP7605)
- P-LTE-GB (WP7607)
- P-LTE-IN (WP7608)
- P-LTE-MNA (WP7610)
- P-LTEA-LA (EM7430)
- P-LTEA-EA (EM7455)
- P-LTEAP18-GL (LM960AP18)
- P-5GS6-GL (FN980)
- P-LTEA7-NA (EM7411)
- P-LTEA7-EAL (EM7421)
- P-LTEA7-JP (EM7431)
- P-5GS6-R16SA-GL (EM9293)
- P-5GS6-RC-GL (EM8695)

IR1800

- P-LTE-VZ (WP7601)
- P-LTE-US (WP7603)
- P-LTE-GB (WP7607)
- P-LTE-IN (WP7608)
- P-LTE-JN (WP7605)
- P-LTE-MNA (WP7610)
- P-LTEA-LA (EM7430)
- P-LTEA-EA (EM7455)
- P-LTEAP18-GL (LM960AP18)
- P-5GS6-GL (FN980)
- P-LTEA7-NA (EM7411)
- P-LTEA7-EAL (EM7421)
- P-LTEA7-JP (EM7431)
- P-5GS6-R16SA-GL (EM9293)

- P-5GS6-RC-GL (EM8695)

IR8140



Note In this section you will see the module names MNA/EA and MNA900/EA900. MNA/EA900 are modules permitting the PIM to be installed in conjunction with a WPAN 902-928MHz Wi-SUN module.

- IRMH-LTE-MNA (WP7610)
- IRMH-LTE-MNA-900 (WP7610)
- IRMH-LTEA-EA (EM7455)
- IRMH-LTEA-EA-900 (EM7455)
- IRMH-LTEA-LA (EM7430)
- IRMH-LTEAP18-GL (LM960AP18)
- IRMH-5GS6-GL (FN980)
- IRMH-LTE7-NA-900 (EM7411)
- IRMH-LTE7-EAL (EM7421)
- IRMH-5GR16SA (EM9293)
- IRMH-5GS6-RC-GL (EM8695)

IR8340

- P-LTE-MNA (WP7610)
- P-LTEA-LA (EM7430)
- P-LTEA-EA (EM7455)
- P-LTEAP18-GL (LM960)
- P-5GS6-GL (FN980)
- P-LTEA7-NA (EM7411)
- P-LTEA7-EAL (EM7421)
- P-LTEA7-JP (EM7431)
- P-5GS6-R16SA-GL (EM9293)

ISR1000

- ISR1100-4GLTENA (WP7610)
- ISR1100-4GLTEGB (WP7610)

- P-LTEAP18-GL (LM960A18)
- P-LTEA-EA (EM7455)
- P-LTEA-LA (EM7430)
- P-LTE-MNA (WP7610)
- P-LTE-GB (WP7607)
- P-LTE-US (WP7603)
- P-LTE-VZ (WP7601)
- P-LTE-IN (WP7608)
- P-LTE-JN (WP7605)

8200 Series

- P-5GS6-GL (FN980)
- P-LTEA-LA (EM7430)
- P-LTEA-EA (EM7455)
- P-LTEAP18-GL (LM960)

8300 Series

- P-5GS6-GL (FN980)
- P-LTEAP18-GL (LM960)
- P-LTEA-EA (EM7455)
- P-LTEA-LA (EM7430)

8200 UCPE

- P-LTEAP18-GL (LM960)
- P-LTEA-LA (EM7430)
- P-LTEA-EA (EM7455)

Supported Modem Technology

This section describes the details of each modem used in the cellular pluggable modules.

The cellular PIMs use Sierra Wireless series modems and Telit modems. The minimum Cisco IOS XE software requirement for all PIMs is version 17.15.4 (applicable to SD-WAN deployments only).

Software download page:

https://software.cisco.com/download/navigator.html?mdfid=286288566&flowid=76082

Table 1: Modem Technology Supported

SKU ID	Modem Used	Description	Cellular Technology Supported	GPS Support
P-LTE-VZ	WP7601-G	U.S. (Verizon)	LTE CAT4: B4, B13	Yes
P-LTE-US	WP7603-G	North America (AT&T)	LTE CAT4:B2,B4,B5,B12 3G UMTS DC-HSPA+, HSPA+, HSPA, WCDMA: B2,B4, B5	Yes
P-LTE-JN	WP7605-G	Japan	LTE CAT4: B1, B3, B8, B11, B18, B19, B21 3G UMTS HSPA+	Yes
P-LTE-GB	WP7607-G	Europe	LTE CAT4: B1,B3, B7, B8, B20, B28 3G UMTS DC-HSPA+, HSPA+, HSPA, WCDMA GPRS/EDGE: 900/1800	Yes
P-LTE-IN	WP7608-G	India and China	LTE CAT4: B1, B3, B5, B8, B40, B41* 3G UMTS DC-HSPA+ * B41 supported frequency range: (2535–2655 MHz)	No
P-LTE-MNA	WP7610-G	North America	LTE CAT4: B2, B4, B5, B12, B13, B14, B17, B66 3G UMTS DC-HSPA+, HSPA+, HSPA, WCDMA	Yes
P-LTEA-LA	EM7430	APAC	LTE CAT6 LTE: B1, B3, B5, B7, B8, B18, B19, B21, B28, B38-B41 Carrier Aggregation: 1+(8,18,19,21); 3+(5,7,19,28); 7+(5,7,28); 19+21, 38+38, 39+39,40+40, and 41+41 3G: B1, B5, B6, B8, B9, B19	Yes

SKU ID	Modem Used	Description	Cellular Technology Supported	GPS Support
P-LTEA-EA	EM7455	USA, Canada, Europe, Latin America	LTE CAT6 LTE: bands 1-5, 7, 12, 13, 20, 25, 26, 29, 30, and 41 Carrier Aggregation: 1+8; 2+(2,5,12,13,29); 3+(7,20); 4+(4,5,12,13,29); 7+(7,20); 12+30, 5+30, and 41+41 3G: B1, B2, B3, B4, B5, B8	Yes
P-LTEAP18-GL, Cisco LTE Advanced Pro Pluggable 3GPP Category 18	LM960AP18	United States, Europe, Canada, Japan, Australia, and New Zealand.	LTE CAT18 LTE FDD: B1, B3, B25(B2), B66(B4), B26(B5/B18/B19), B7, B8, B12(17), B13, B14(FirstNet), B20, B28, B29, B30, B32, B7 LTE TDD: B38, B39, B40, LB41, B42, B43, B46, B48 (CBRS) UMTS:B1, B2, B4, B5(B19), B8	No
P-5GS6-GL	FN980	United States, Europe, Canada, APJC, Japan, Australia, and New Zealand.	5G FR1 - n1, n2, n3, n5, n7, n8, n12, n20, n25, n28, n38, n40, n41, n48, n66, n71, n77, n78, n79 LTE bands 1-5, 7-8, 12-14, 17-20, 25, 26, 28-30, 32, 34, 38-43, 46(LAA), 48(CBRS), 66 and 71 3G WCDMA bands 1,2,3,4,5,6,8,9,19 **Note** 3G is not available on all region's firmware.	Yes
P-LTEA7-NA	EM7411	North America	LTE CAT 7: B2, B4, B5, B7, B12, B13, B14, B25, B26, B41, B42, B43, B48, B66, B71 3G UMTS, WCDMA: B2, B4, B5	Yes
IRMH-LTE7-NA-900				No
P-LTEA7-EAL	EM7421	Canada, Europe, Latin America, US	LTE CAT 7: B1, B3, B7, B8, B20, B28, B32, B38, B40, B41, B42, B43 3G UMTS, WCDMA: B1, B5, B8	Yes
IRMH-LTE7-EAL				No
P-LTEA7-JP	EM7431	Japan	LTE CAT 7: B1, B3, B5, B8, B18, B19, B39, B41, B42, B43 3G UMTS, WCDMA: B1, B5, B6, B19	Yes

SKU ID	Modem Used	Description	Cellular Technology Supported	GPS Support
P-5GS6-R16SA-GL	EM9293	United States, Europe, Canada, Japan, Australia and New Zealand	5G FR1 NR: n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n66, n70, n71, n75, n76, n77, n78, n79 LTE bands: FDD LTE: B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18,B19, B20, B25, B26, B28, B29,B30, B32, B66, and B71 TDD LTE: B34, B38, B39, B40, B41, B42, B43, B46, B48 3G UMTS, WCDMA: B1, B2, B4, B5, B8	Yes
IRMH-5GR16SA				No
P-5GS6-RC-GL	EM8695	United States, Europe, Canada, Japan, Australia and New Zealand	**5G RedCap NR:** n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n30, n38, n40, n41, n48, n66, n70, n71, n77, n78, n79 **LTE bands:** B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B30, B34, B38, B39, B40, B41, B42, B43, B48, B66, B70, B71, B106	Yes
IRMH-5GS6-RC-GL				

LTE Bands

The following table shows a snapshot of LTE Bands when deploying Globally.

Table 2: LTE Bands

Band	Uplink/Downlink (MHz)	Pluggable Support
1	UL:1920-1980 DL: 2110-2170	P-LTExx
2	UL:1850-1910 DL:1930-1990	P-LTExx

Band	Uplink/Downlink (MHz)	Pluggable Support
3	UL:1710-1785 DL:1805-1880	P-LTExx
4	UL:1710-1755 DL:2110-2155	P-LTExx
5	UL: 824-849 DL: 869-894	P-LTExx
7	UL:2500-2570 DL:2620-2690	P-LTExx
8	UL:880-915 DL:925-960	P-LTExx
12	UL:699-716 DL:729-746	P-LTExx
13	UL:777-787 DL:746-756	P-LTExx
14 (Firstnet)	UL:788-798 DL:758-768	P-LTEA-MNA P-LTEAP18-GL
17	UL:704-716 DL:734-746	P-LTEA-MNA
18	UL:815-830 DL:860-875	P-LTExx
19	UL:830-845 DL:875-890	P-LTExx
20	UL:832- 862 DL:791-821	P-LTExx
21	UL:1447.9-1462.9 DL:1495.9-1510.9	P-LTExx
25	UL:1850-1915 DL:1930-1995	P-LTExx
26	UL:1850-1915 DL:1930-1995	P-LTExx

Band	Uplink/Downlink (MHz)	Pluggable Support
28	UL:703-748 DL:758-803	P-LTExx
29	DL only DL:717-728	P-LTExx
30	UL:2305- 2315 DL:2350-2360	P-LTExx
31 (450 MHz)	UL:452.5-457.5 DL:462.5-467.5	Unsupported
32	DL only DL:1452-1496	P-LTEAP18-GL
38	TDD 2570-2620	P-LTExx
39	TDD 1880-1920	P-LTExx
40	TDD 2300-2400	P-LTExx
41	TDD 2496-2690	P-LTExx
42	TDD 3400-3600	P-LTEAP18-GL
43 (P-LTE)	TDD 3600-3800	P-LTEAP18-GL
46	TDD unlicensed 5150-5925	P-LTEAP18-GL
48 (CBRS)	TDD 3550-3700	P-LTEAP18-GL
66	UL:1710-1780 DL:2110-2200	P-LTEAP18-GL P-LTEA-MNA
71	UL:663-698 DL:617-652	P-LTEAP18-GL

Band	Uplink/Downlink (MHz)	Pluggable Support
72	UL: 451-456 DL: 461-466	Unsupported

5G Bands

The following table shows a snapshot of 5G Bands when deploying Globally.

Table 3: 5G Bands sub-6GHz (FR1)

FR1 Band	Uplink/Downlink (MHz)	Pluggable Support
n1	UL:1920-1980 DL: 2110-2170	P-5GS6-GL
n2	UL:1850-1910 DL:1930-1990	P-5GS6-GL
n3	UL:1710-1785 DL:1805-1880	P-5GS6-GL
n5	UL: 824-849 DL: 869-894	P-5GS6-GL
n7	UL:2500-2570 DL:2620-2690	P-5GS6-GL
n8	UL:880-915 DL:925-960	P-5GS6-GL
n12	UL:699-716 DL:729-746	P-5GS6-GL
n13	UL:777-787 DL:746-756	Unsupported
n14	UL:788-798 DL:758-768	Unsupported
n18	UL:815-830 DL:860-875	Unsupported
n20	UL:832- 862 DL:791-821	P-5GS6-GL

FR1 Band	Uplink/Downlink (MHz)	Pluggable Support
n25	UL: 1850 – 1915 DL: 1930 – 1995	P-5GS6-GL
n28	UL: 703 – 748 DL: 758 – 803	P-5GS6-GL
n38	2570 – 2620	P-5GS6-GL
n40	2300 – 2400	P-5GS6-GL
n41	2496 – 2690	P-5GS6-GL
n48	3550 – 3700	P-5GS6-GL
n66	UL: 1710 – 1780 DL: 2110 – 2200	P-5GS6-GL
n71	UL: 663 – 698 DL: 617 – 652	P-5GS6-GL
n77	3300 – 4200	P-5GS6-GL
n78	3300 – 3800	P-5GS6-GL
n79	4400 – 5000	P-5GS6-GL

Cisco pluggable modules do not support mmW (FR2) bands at this time.

Cellular Pluggable Module Firmware

The following command is the most common one used for updating the modem firmware.

```
Router#microcode reload cellular <subinterface> <slot> modem-provision flash:<modem firmware
 version>
```

Note This command may not be appropriate for your particular modem. Consult the Cisco Firmware Upgrade Guide for 4G LTE and 5G Cellular Modems before updating.

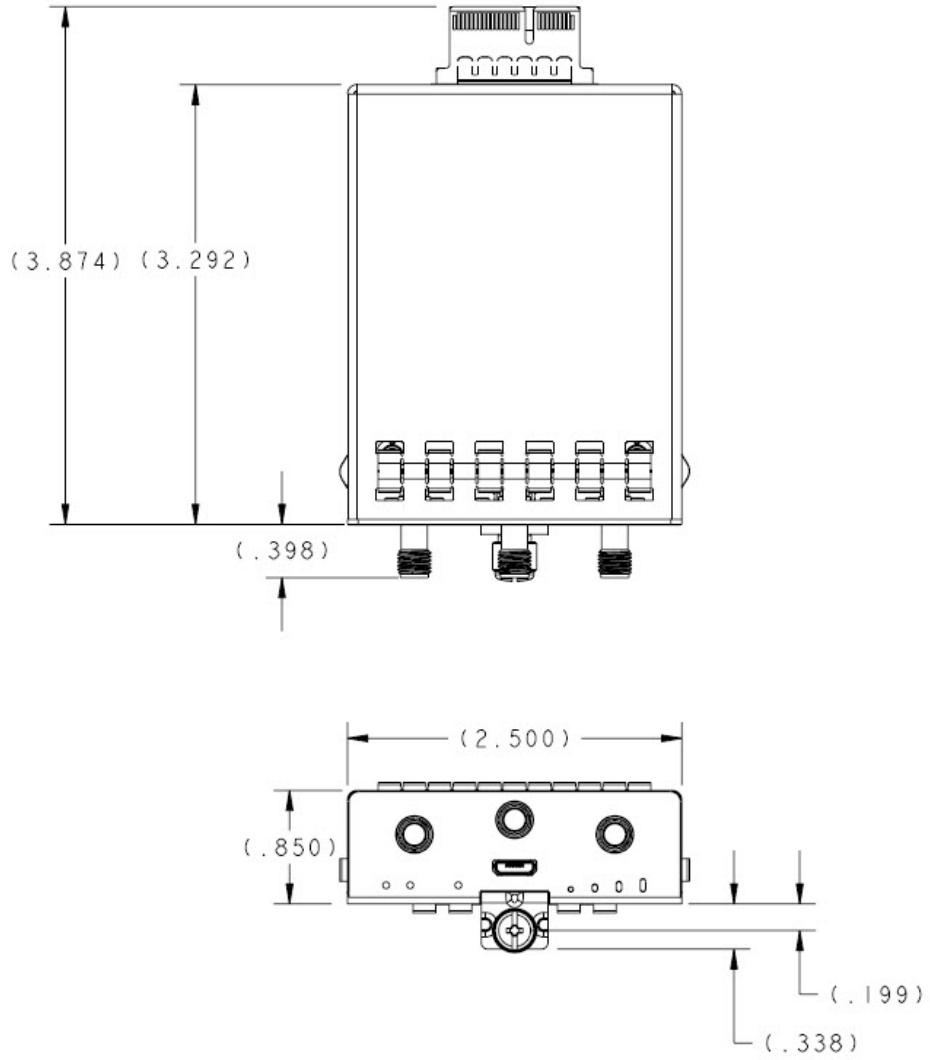
The following table lists the modem and firmware for the pluggable modules.

Modem	Download Link
7430	Wireless WAN 7430 Cellular Interface
7430 for Australia Telstra	Wireless WAN 7430 Cellular Interface for Australia Telstra
7430 for Japan	Wireless WAN 7430 Cellular Interface for Japan

Modem	Download Link
7455	Wireless WAN 7455 Cellular Interface
7455 for Canada	Wireless WAN 7455 Cellular Interface for Canada
7455 for Europe	Wireless WAN 7455 Cellular Interface for Europe
7455 for North America ATT	Wireless WAN 7455 Cellular Interface for North America ATT
7455 for North America Sprint	Wireless WAN 7455 Cellular Interface for North America Sprint
7455 for North America Verizon	Wireless WAN 7455 Cellular Interface for North America Verizon
7455 for US Cellular	Wireless WAN 7455 Cellular Interface for US Cellular
FN980	Wireless WAN FN980 Cellular Interface
LM960 for Global Carriers	Wireless WAN LM960 Cellular Interface for Global Carriers
LM960 for North America	Wireless WAN LM960 Cellular Interface for North America
WP7502 for Europe	Wireless WAN WP7502 Cellular Interface for Europe
WP7504 for North America	Wireless WAN WP7504 Cellular Interface for North America
WP7601	Wireless WAN WP7601 Cellular Interface for North America Verizon
WP7603	Wireless WAN WP7603 Cellular Interface for North America ATT
WP7605	Wireless WAN WP7605 Cellular Interface for Japan
WP7607	Wireless WAN WP7607 Cellular Interface for Europe
WP7608	Wireless WAN WP7608 Cellular Interface for India and Asia
WP7609	Wireless WAN WP7609 Cellular Interface for Australia and Brazil
WP7610	Wireless WAN WP7610 Cellular Interface for North America
EM7411	LTE CAT7 Module for North America
EM7421	LTE CAT7 Module for EMEA, APAC, Latin America
EM7431	LTE CAT7 Module for Japan
EM9293	5G Sub-6 SA Module - Global
EM8695	5G EM8695 Cellular Interface

Cellular Pluggable Module Dimensions

The physical dimensions of the PIM are shown in the following graphic. All values are in inches.



Cellular PIM LEDs

Cellular PIM LED status can be obtained through the show led CLI, or visually on the pluggable modem card. The following is an example of the **show led** CLI from an IR1800:

```
Router#show led
SYSTEM LED : Green

GigabitEthernet0/0/0 LED : On
GigabitEthernet0/1/0 LED : Off
GigabitEthernet0/1/1 LED : Off
GigabitEthernet0/1/2 LED : Off
GigabitEthernet0/1/3 LED : Off

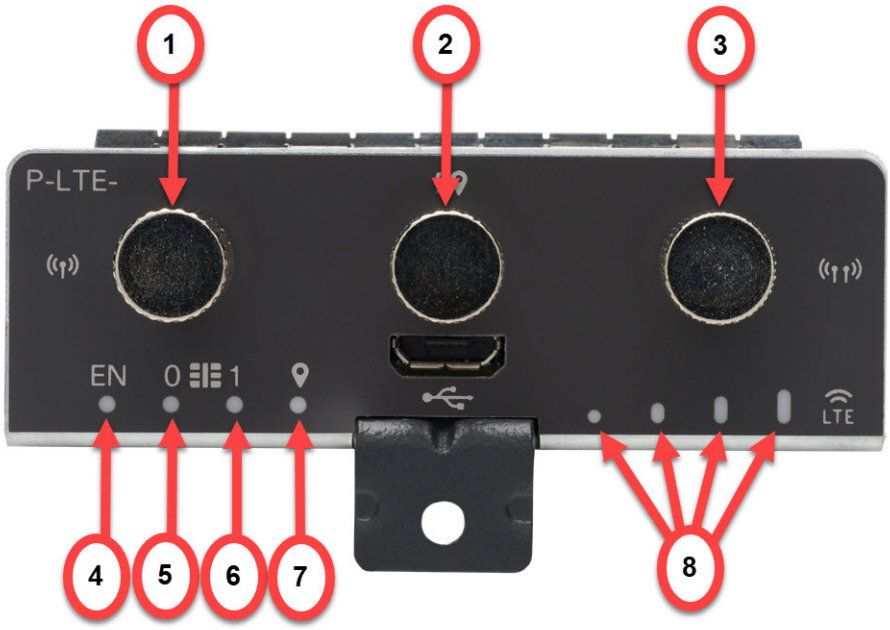
*Cellular 0/4*
LTE module Enable LED : Green
```

```
LTE module SIM 0 LED : Green
LTE module SIM 1 LED : Yellow
LTE module GPS LED : Off
LTE module RSSI 0 LED : On
LTE module RSSI 1 LED : On
LTE module RSSI 2 LED : On
LTE module RSSI 3 LED : On

*Cellular 0/5*
LTE module Enable LED : Green
LTE module SIM 0 LED : Green
LTE module SIM 1 LED : Off
LTE module GPS LED : Off
LTE module RSSI 0 LED : On
LTE module RSSI 1 LED : On
LTE module RSSI 2 LED : On
LTE module RSSI 3 LED : Off
```

P-LTE-x Pluggable Interface Module

Figure 1: P-LTE-x Pluggable Interface Module



Item	Description
1	Cellular-Main SMA
2	GPS SMA
3	Cellular-Div SMA

Item	Description
4	Enable LED
5	SIM 0 LED
6	SIM 1 LED
7	GPS LED
8	RSSI LEDs

The following table describes the LED behavior on the pluggable module.

Table 4: LED Indicators

LED	Color/Bar and Description	
Cellular SIM(0) & SIM(1)	Green (Solid)	Modem up, SIM installed and active
	Off	No SIM is present
	Amber (Solid)	Modem up, SIM installed but not active
EN	Off	Pluggable is powered off.
	Amber (Solid)	Module power is on, but the module is not functioning correctly.
	Green (Solid)	Module power is on
RSSI - Uses Bars for LED Indication	See the RSSI LED description in the next table.	
GPS	Green (Solid)	GPS coordinates are obtained.
	Off	GPS is disabled, GPS is enabled without GPS mode and NMEA configuration, or GPS is acquiring

Table 5: RSSI LED Description

Color	RSSI	Service
Off	No Service	No Service
One Green	< -110 dBm	LTE
Two Green	-99dBm <> -90dBm	LTE
Three Green	-89dBm <> -70dBm	LTE
Four Green	>= -69dBm	LTE

Color	RSSI	Service
One Yellow	< -110 dBm	3G
Two Yellow	-99dBm <> -90dBm	3G
Three Yellow	-89dBm <> -70dBm	3G
Four Yellow	>= -69dBm	3G

P-LTEA18-GL Cellular PIM

Figure 2: P-LTEA18-GL Pluggable Interface Module

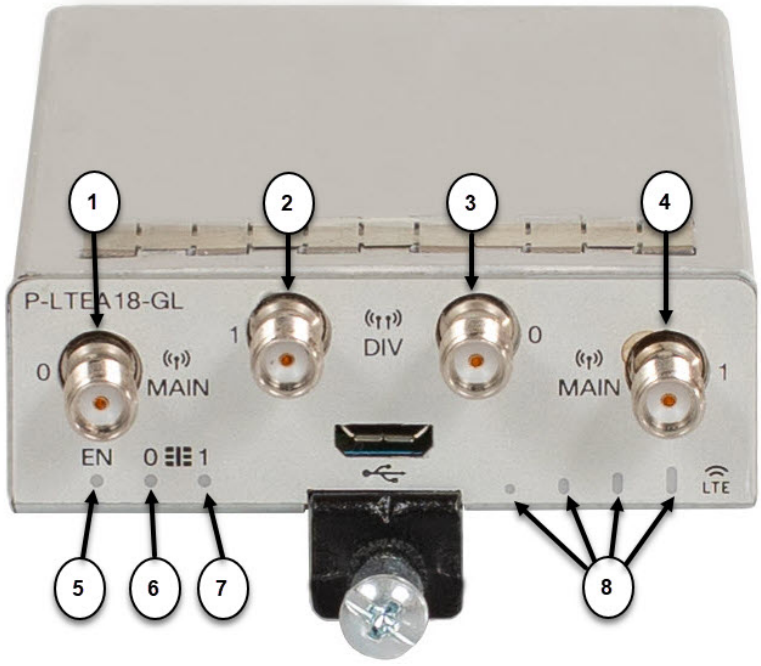


Table 6:

Item	Description
1	Main 0 Antenna
2	Diversity 1 Antenna
3	Diversity 0 Antenna
4	Main 1 Antenna
5	Enable LED
6	SIM 0 LED
7	SIM 1 LED

Item	Description
8	RSSI LEDs

The following table describes the LED behavior on the pluggable module.

Table 7: LED Indicators

LED	Color/Bar and Description	
Cellular SIM(0) & SIM(1)	Green (Solid)	Modem up, SIM installed and active
	Off	No SIM is present
	Amber (Solid)	Modem up, SIM installed but not active
EN	Off	Pluggable is powered off.
	Amber (Solid)	Module power is on, but the module is not functioning correctly.
	Green (Solid)	Module power is on
RSSI - Uses Bars for LED Indication	See the RSSI LED description in the next table.	

Table 8: RSSI LED Description

Color	RSSI	Service
Off	No Service	No Service
One Green	< -110 dBm	LTE
Two Green	-99dBm <> -90dBm	LTE
Three Green	-89dBm <> -70dBm	LTE
Four Green	>= -69dBm	LTE
One Yellow	< -110 dBm	3G
Two Yellow	-99dBm <> -90dBm	3G
Three Yellow	-89dBm <> -70dBm	3G
Four Yellow	>= -69dBm	3G

Verifying the Cellular Pluggable Interface Module Information on the Router

You can verify the configuration by using the following show commands:



Note These examples are from an IR1831 router

show version

```
Router#show version
Cisco IOS XE Software, Version 17.08.01
Cisco IOS Software [Cupertino], ISR Software (ARMV8EL_LINUX_IOSD-UNIVERSALK9_IOT-M), Version
 17.8.1, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2022 by Cisco Systems, Inc.
Compiled Sat 09-Apr-22 00:42 by mcpre


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GPL code under the terms of GPL Version 2.0. For more details, see the
documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.


ROM: 4.1(REL)

IR1831 uptime is 2 days, 15 hours, 35 minutes
Uptime for this control processor is 2 days, 15 hours, 37 minutes
System returned to ROM by reload at 13:48:15 UTC Tue Apr 19 2022
System restarted at 17:52:26 UTC Sun Apr 24 2022
System image file is "bootflash:ir1800-universalk9.17.08.01.SPA.bin"
Last reload reason: Critical software exception, check
bootflash:IR1831_crashinfo_RP_00_00_20220424-174335-UTC



This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html

If you require further assistance please contact us by sending email to
export@cisco.com.
```

```
Technology Package License Information:

-----------------------------------------------------------------
Technology Type Technology-package Technology-package
Current Next Reboot
-----------------------------------------------------------------
Smart License Perpetual network-advantage network-advantage
Smart License Subscription None None

The current throughput level is 250000 kbps


Smart Licensing Status: Smart Licensing Using Policy

cisco IR1831-K9 (1RU) processor with 425374K/6147K bytes of memory.
Processor board ID FCW2530P5BJ
Router operating mode: Autonomous
MCU bootloader version: 0x23
MCU application version: 0x4d
1 Virtual Ethernet interface
6 Gigabit Ethernet interfaces
2 Serial interfaces
1 terminal line
4 Cellular interfaces
32768K bytes of non-volatile configuration memory.
3987572K bytes of physical memory.
2887679K bytes of Bootflash at bootflash:.

Configuration register is 0x2102
```

show platform

```
router# sh platform
Chassis type: IR1833-K9

Slot       Type               State                 Insert time (ago)
---------  -----------------  --------------------  -----------------
0          IR1833-K9          ok                    00:04:03
0/0        IR1833-1x1GE       ok                    00:01:22
0/1        IR1833-ES-4        ok                    00:01:22
0/3        WP-WIFI6-B         ok                    00:01:22
0/4        P-LTEA-LA          ok                    00:01:21
0/5        P-LTEA-LA          ok                    00:01:21
R0         IR1833-K9          ok, active            00:04:03
F0         IR1833-K9          ok, active            00:04:03
P0         PWR-12V            ok                    00:02:00
GE-POE     IR1800-I-POE       ok                    00:02:00
```

show interfaces

```
router#sh interface cellular 0/4/0
Cellular0/4/0 is up, line protocol is up
  Hardware is LTE Adv CAT6 - Europe/North America Multimode LTE/DC-HSPA+/HSPA+/HSPA/UMTS/
  Internet address is 10.14.162.11/32
  MTU 1500 bytes, BW 50000 Kbit/sec, DLY 20000 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation HDLC, loopback not set
  Keepalive not supported
  DTR is pulsed for 1 seconds on reset
```

```
  Last input never, output 00:00:42, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/375/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     5 packets input, 460 bytes, 0 no buffer
     Received 0 broadcasts (0 IP multicasts)
     0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
     21 packets output, 1692 bytes, 0 underruns
     0 output errors, 0 collisions, 8 interface resets
     0 unknown protocol drops
     0 output buffer failures, 0 output buffers swapped out
     0 carrier transitions
router#
```

show inventory

```
router# show inventory
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
INFO: Please use "show license UDI" to get serial number for licensing.
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

NAME: "Chassis", DESCR: "Cisco Catalyst IR1833 Rugged Series Router"
PID: IR1833-K9 , VID: V00 , SN: FCW2447P0EB

NAME: "Power Supply Module 0", DESCR: "Cisco IR1800 DC Power Supply"
PID: PWR-12V , VID: , SN:

NAME: "GE-POE Module", DESCR: "POE Module for On Board GE for Cisco IR183X"
PID: IR1800-I-POE , VID: V00 , SN: FOC24382K4W

NAME: "module 0", DESCR: "Cisco IR-1833-K9 Built-In NIM controller"
PID: IR1833-K9 , VID: , SN:

NAME: "NIM subslot 0/3", DESCR: "Cisco Wide Pluggable Form Factor WIFI6 AP Module"
PID: WP-WIFI6-B , VID: V00 , SN: FOC24490FEP

NAME: "NIM subslot 0/4", DESCR: "P-LTEA-LA Module"
PID: P-LTEA-LA , VID: V01 , SN: FOC22287JMC

NAME: "Modem on Cellular0/4/0", DESCR: "Sierra Wireless EM7430"
PID: EM7430 , VID: 1.0 , SN: 355813070165276

NAME: "NIM subslot 0/5", DESCR: "P-LTEA-LA Module"
PID: P-LTEA-LA , VID: V01 , SN: FOC22287JLZ

NAME: "Modem on Cellular0/5/0", DESCR: "Sierra Wireless EM7430"
PID: EM7430 , VID: 1.0 , SN: 355813070165524

NAME: "NIM subslot 0/0", DESCR: "Front Panel 1 port Gigabitethernet Module"
PID: IR1833-1x1GE , VID: V01 , SN:

NAME: "NIM subslot 0/1", DESCR: "IR1833-ES-4"
PID: IR1833-ES-4 , VID: V01 , SN:

NAME: "module R0", DESCR: "Cisco IR1833-K9 motherboard"
PID: IR1833-K9 , VID: V00 , SN: FOC24384177

NAME: "module F0", DESCR: "Cisco IR1833-K9 Forwarding Processor"
PID: IR1833-K9 , VID: , SN:
```