

LTE Modem Module

The Cloud Services Gateway (CSG) 3000 series appliances LTE modem module is a high-performance Cat-12 4G/LTE Advanced Pro global modem that can be used as a primary or backup WAN access link for the branch and remote sites. Enterprise customers can deploy CSG3000 series appliances with up to two built-in and two additional attached LTE links simultaneously for wireless WAN access from the branch to provide active—active connectivity to two active LTE access links.

Each LTE modem provides download speeds of up to 600 Mbps and upload speeds of up to 100 Mbps. The LTE modem supports multiple carriers, and it has been certified by major global carriers.

The LTE Advanced Pro firmware-driven modem module provides the following capabilities:

- Two internal modems with built-in eSIM capabilities that can deploy up to four LTE WAN connections.
- Two externally accessible SIM cards, one for each embedded LTE Advanced Pro modem. If you configure the appliance with two modems, each SIM card is used to control one LTE radio.
- Two external USB slots that can connect to an LTE dongle.
- Connects to most global carrier's network depending on the SIM card inserted.
- Global navigation satellite system (GNSS) receiver enables tracking and location-based services.
- Stores up to three firmware versions, thereby allowing the modem to switch to other networks.
- Firmware can be upgraded over the air.
- Secure boot provides secure connectivity by preventing unauthorized code on target devices.

LTE modem connections are metered connections, and the Versa Operating System™ (VOS™) software ensures that the LTE service is charged only when needed. Policies and scenarios that determine the use of LTE interfaces are set by network operators and implemented using the VOS software.

Table 1 lists the supported LTE specifications.

Table 1: LTE Specifications

Features	Specification Summary
Modem	Sub-6 FR1 (3GPP Release 15) with CAT-20/CAT-18 LTE-A Pro, HSPA+ support
Regional	Global
5G category	Sub-6, FR1

Features	Specification Summary
5G bands (NSA and SA)	n1, n2, n3, n5, n7, n8, n12, n20, n25, n28, n38, n40, n41, n48, n66, n77, n78, n79
LTE category	CAT20
LTE bands (FDD and TDD combined)	B1, B2, B3, B4, B5, B6, B7, B8, B9, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B34, B38, B39, B40, B41, B42, B43, B46 (LAA), B48, B66, B71
UMTS/WCDMA bands	B1, B2, B3, B4, B5, B6, B8, B19
5G maximum speeds	DL—5 Gbps UL—650 Mbps
LTE maximum speeds	DL—2 Gbps UL—200 Mbps
Antenna	4x4 MIMO
LTE carrier aggregation	DL—Up to 7CC UL—Up to 2CC
Secure boot	Yes
Global positioning	Multiconstellation support with BeiDou, Galileo, GLOSNAS, and GPS
Transmit power	Up to 26 dBm

You can order CSG3000 series appliances with one or two optional LTE modem modules. The LTE modem modules have one SIM slot. For CSG3000 with one LTE module, you insert the SIM card into the SIM1 slot, which is on the front of the appliance. For CSG3000 with two LTE modules, you insert a SIM card into each of the two SIM slots, which are labeled SIM1 and SIM2.

Note: If the appliance has two SIM card slots, use SIM slot 1 and vni-0/100 port for bootstrapping when you upgrade the software.