

CAT[®] PRODUCT LINK[™] TECHNOLOGY

PRODUCT LINK HARDWARE

Cat[®] Product Link[™] PL542

The Cat[®] PL542 Radio allows you to collect and monitor the information to maximize the performance of your Cat and non-Cat assets and proactively identify issues that may affect your operations so so you can quickly respond to any events that may occur. With the report by exception capability, you define what information is most valuable to you and receive alerts in real time.

To transmit the data to Cat applications, the PL542 uses built in cellular and Wi-Fi capabilities.

KeyFeatures

As part of the Product Link[™] Pro Series, PL542 offers great value with a full suite of health data, low latency, rugged construction, and low cost. PL542 offers a very simple installation via service port as both an antenna and radio are included within the unit. Its battery backup feature allows hours and location data of the asset to report for up to 5 days without external power. The device supports real time remote troubleshooting via cellular connection, to get you up and running faster with fewer site visits.

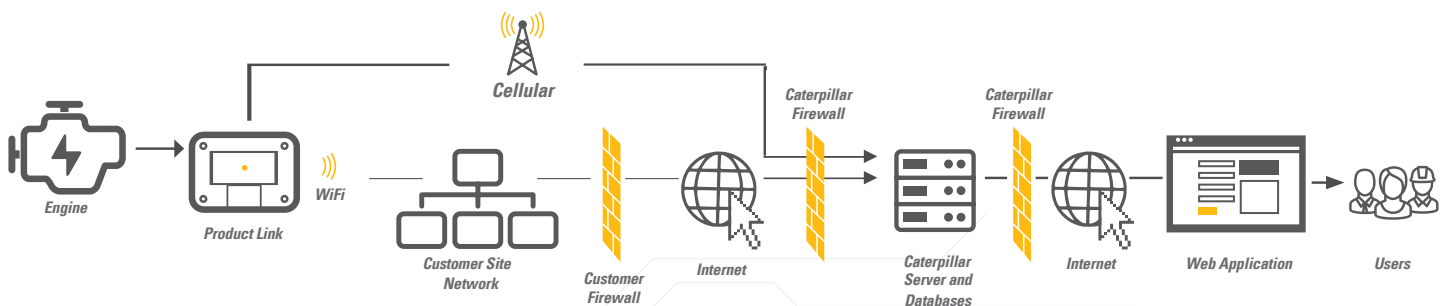
[+] DATA PRIVACY

Caterpillar's commitment to Data Privacy is reflected in the following statements. Visit Cat.com to view Caterpillar's "Data Principles" and "Data Governance" statements.

- [+] We Are Transparent About the Collection and Use of Your Data.
- [+] We Protect Your Data.
- [+] We Use Your Data to Create Value and Improve Products for Our Customers.

Note: Not all information is available on every asset. The reporting frequency of the information is determined by the subscription.

END-TO-END ARCHITECTURE



PL542 4G LTE RADIO TECHNICAL SPECIFICATIONS

HOW IT WORKS

The PL542 integrates a GNSS receiver with a 4G LTE cellular communication system. If 4G is not present, it will automatically search for a 3G or 2G signal to connect to that cellular communication system. It will relay hours, location and other asset data to an information storage database to be viewed and analyzed through Cat equipment management software.

INPUT VOLTAGE

Voltage Range	+ 9.0V to 32.0V DC
Protection	+ Reverse polarity

CURRENT CONSUMPTION (TYPICAL)

Sleep Current	+ <5mA @ 12V/24V
Idle Current	+ 180-110mA @ 12V/24V
Transmitting Current	+ 850-225mA @ 12/24V
Inrush Current	+ <5 A @ 12V/24V

INTERNAL BATTERY

Battery Voltage	+ 6V DC
Technology	+ Rechargeable NiMH
Capacity	+ 500 mAh

PHYSICAL SPECIFICATIONS

Enclosure Material	+ Plastic
Dimensions (LxWxH) mm	+ 171.61 x 74 x 40
Weight	+ <370 grams
Interface Connectors	+ 14 pin GTC
LEDs	+ Orange (GNSS), Yellow (Cellular), White (WiFi), Blue (CDL/CAN)

ENVIRONMENT

Operating/Storage Temp	+ -40°C to +85°C
Ingress Protection	+ IP68
Vibration	+ 4.41 grms (6 hours, 3 planes) 24Hz @ 0.0082g ² /Hz 60Hz @ 0.1025g ² /Hz 100Hz @ 0.1015g ² /Hz 300Hz @ 0.0051g ² /Hz 2,000Hz @ 0.0051g ² /Hz

REGULATORY COMPLIANCE

FCC Parts 15, 22 and 24, Industry Canada (IC), CE, RoHS, REACH, IEC60950-1

For specific information regarding country certifications, please contact your local Cat dealer.

CELLULAR COMMUNICATIONS

Quad Band GSM (across all modes)

4G LTE Cat 1	+ 1, 2, 3, 4, 5, 7, 8, 12 (17), 18, 19, 20, 28
3G	+ 1, 2, 4, 5, 8, 9, 19
2G	+ Quad Bands – 850 / 900 / 1800 / 1900 MHz
Output Power	+ 0.5W typical (2W max)
Operating Temperature	+ -30°C to +70°C
Antenna	+ Internal

NOTE: In the case of an extended outage, the capacity of the message queue can be exceeded and some data will be lost as older messages are overwritten.

POSITIONING (GNSS)

Receiver	+ GPS / QZSS / GLONASS
Tracking Channels	+ 50
Update Rate Position	+ 1 Hz
Acquisition	+ <15s Warm Start, <45s Cold Start (no initialization assistance, open sky)
Accuracy	+ <15 m @ 95% Confidence
Sensitivity	+ -164 dBm tracking, -160 dBm reacquisition
Antenna	+ Internal

BLUETOOTH LOW ENERGY

Version	+ BLE 4.1
Band	+ 2.4GHz (2.4-2.48GHz)
Output Power (Typical)	+ +7.5 dBm, GFSK
Sensitivity	+ -94 dBm, GFSK
Range	+ <50 m
Antenna	+ Internal

WiFi

Bands	+ 802.11 b/g/n
Output Power (Typical)	+ +17.5 dBm, 11 Mbps, CCK (b) +14.0 dBm, 54 Mbps, OFDM (g) +12.5 dBm, HT20 MCS7 (n)
Range	+ <300 m
Antenna	+ Internal

HIGH LEVEL SECURITY OVERVIEW

Product Link's end-to-end system is designed with multilayer security controls and safeguards to protect against unauthorized access and disclosure. High-level security safeguards include, but are not limited to:

- [+] Cryptographically secured to protect against unauthorized Product Link device software changes.
- [+] Encrypted and authenticated remote connection.
- [+] Caterpillar IT infrastructure secured utilizing generally accepted information security principles and practices.
- [+] Only outbound remote connection, initiated by the Product Link device, is allowed. Device does not participate in or respond to general Internet traffic.
- [+] Secure Cat Connect web application connection with user login authentication and role-based access controls.

LET'S DO THE WORK.™

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