



# Pegasus Wireless Products, LLC

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## PWP-GW-L21-x

### Gateway for IoT/M2M-optimized LTE Cat 1



#### General Features

|                         |                 |   |
|-------------------------|-----------------|---|
| Frequency Bands         | PWP-GW-L21-E    | LTE FDD: B1/B3/B5/B7/B8/B20<br>WCDMA: B1/B5/B8<br>GSM: B3/B8                                |
|                         | PWP-GW-L21-A    | LTE FDD: B2/B4/B12<br>WCDMA: B2/B4/B5   |
|                         | PWP-GW-L21-V    | LTE FDD: B4/B13   |
|                         | PWP-GW-L21-AUT  | LTE FDD: B1/B3/B5/B7/B28<br>WCDMA: B1/B5  |
|                         | PWP-GW-L21-AUTL | LTE FDD: B3/B7/B28  |
|                         | PWP-GW-L21-AUV  | LTE FDD: B1/B3/B5/B8/B28<br>WCDMA: B1/B5/B8   |
|                         | PWP-GW-L21-J    | LTE FDD: B1/B3/B8/B18/B19/B26   |
|                         | PWP-GW-L21-KL   | LTE FDD: B1/B3/B5/B7/B8   |
|                         | PWP-GW-L21-AU   | LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28<br>LTE TDD: B40<br>WCDMA: B1/B2/B5/B8<br>GSM: B2/B3/B5/B8 |
|                         | EC21-CT         | LTE FDD: B1/B3/B5   |
| LTE Version             |                 | 3GPP E-UTRA Release 11  |
| Bandwidth               |                 | 1.4/3/5/10/15/20MHz   |
| Antenna                 |                 | Supports Rx-diversity   |
| Supply Voltage Range    |                 | 4.5-6V 5V Typ.  |
| Operation Temperature   |                 | -40°C ~ +85°C   |
| Dimensions              |                 | 75.5mm × 31.0mm × 7.0mm   |
| Control via AT Commands |                 | 3GPP TS27.007 and enhanced AT Commands  |

#### Specifications

|           |                    |  |
|-----------|--------------------|--|
| Data      | LTE                | LTE FDD: Max 10Mbps (DL) Max 5Mbps (UL)<br>LTE TDD: Max 8.96Mbps (DL) Max 3.1Mbps (UL) |
|           | DC-HSPA+           | Max 42Mbps (DL) Max 5.76Mbps (UL)  |
|           | UMTS               | Max 384Kbps (DL) Max 384Kbps (UL)  |
|           | EDGE               | Max 236.8Kbps (DL) Max 236.8Kbps (UL)  |
|           | GPRS               | Max 85.6Kbps (DL) Max 85.6Kbps (UL)  |
| Voice     | Speech Codec Modes | HR, FR, EFR, AMR, AMR-WB   |
|           | Echo Arithmetic    | Echo Cancellation<br>Noise Reduction   |
| eCall*    |                    | Accident, Emergency Services   |
| VoLTE     |                    | Digital Audio and VoLTE (Voice over LTE) (Optional)                                    |
| Protocols |                    | TCP/ UDP/ PPP/ FTP/ HTTP/ NTP/ PING/ QMI/<br>HTTPS/ SMTP*/ MMS*/ FTPS*/ SMTSP*/ SSL*   |

#### Interfaces

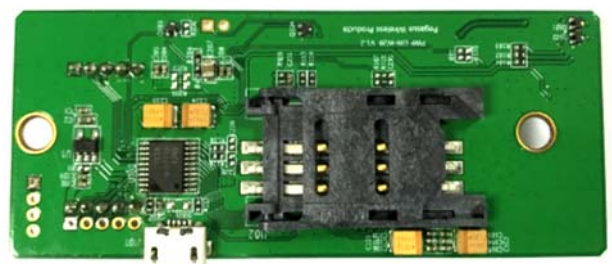
|                |   |
|----------------|---|
| USB 2.0 Device | High Speed, 480Mbps Micron USB          |
| USIM           | 1.8V/3V                                 |
| NETLIGHT       | × 2, NET_STATUS and NET_MODE            |
| UART           | × 1, UART / 3.3V/1.8V                   |
| PWRKEY         | Active High                             |
| Antenna        | UFL. for Primary, Rx-diversity and GNSS |

#### Special Features

|         |                                 |  |
|---------|---------------------------------|--|
| Drivers | USB Serial                      | Windows XP, Windows Vista, Windows 7, Windows 8/8.1, Windows 10, Linux 2.6 or later, Android 4.0/4.2/4.4/5.0/5.1/6.0 |
|         | RIL                             | Android 4.0/4.2/4.4/5.0/5.1/6.0  |
|         | NIDS                            | Windows XP, Windows Vista, Windows 7, Windows 8/8.1, Windows 10  |
|         | ECM                             | Linux 2.6 or later   |
|         | Gobinet                         | Linux 2.6 or later   |
|         | Linux qmi wwan                  | Linux 3.4 or later   |
|         | DFOTA*                          | Delta firmware upgrade over the air  |
| GNSS    | GPS/GLONASS/BeiDou/Galileo/QZSS |  |

#### Electrical Characteristics

|              |  |  |
|--------------|--|--|
| Output Power | Class 3 (23dBm±2dB) for LTE FDD<br>Class 3 (23dBm±2dB) for LTE TDD<br>Class 3 (24dBm+1/-3dB) for UMTS<br>Class E2 (27dBm±3dB) for EDGE 850/900MHz<br>Class E2 (26dBm+3/-4dB) for EDGE 1800/1900MHz<br>Class 4 (33dBm±2dB) for GSM 850/900MHz<br>Class 1 (30dBm±2dB) for GSM 1800/1900MHz |  |
| Sensitivity  | LTE B1: -101.5dBm (10M)<br>LTE B2: -101dBm (10M)<br>LTE B3: -101.5dBm (10M)<br>LTE B4: -101dBm (10M)<br>LTE B5: -101dBm (10M)<br>LTE B7: -99.5dBm (10M)<br>LTE B8: -101dBm (10M)<br>LTE B12: -101dBm (10M)<br>LTE B13: -100dBm (10M)   | LTE B20: -102.5dBm (10M)<br>LTE B28: -102dBm (10M)<br>UMTS B1: -110dBm<br>UMTS B2: -110dBm<br>UMTS B4: -110dBm<br>UMTS B5: -110.5dBm<br>UMTS B8: -110.5dBm<br>GSM: -109dBm<br>DCS: -109dBm |



Preliminary Specification

Agency Certs Pending



# PWP-GW-L21-x

## Gateway for IoT/M2M-optimized LTE cat 1

### Additional Support:

**On board LNA for GPS/GNSS**

**On Board support for Active Antenna**

### Antenna Requirements

*The following table shows the requirements on main antenna, Rx-diversity antenna and GNSS antenna.*

**GSM/WCDMA/LTE**

VSWR:  $\leq 2$   
 Gain (dBi): 1  
 Max input power (W): 50  
 Input impedance (ohm): 50  
 Polarization type: Vertical  
 Cable insertion loss:  $< 1\text{dB}$   
 (GSM850, GSM900, WCDMA B5/B6/B8/B19,  
 LTE B5/B8/B12/B13/B18/B20/B26/B28)  
 Cable insertion loss:  $< 1.5\text{dB}$   
 (GSM1800, GSM1900, WCDMA B1/B2/B4, LTE B1/B2/B3/B4)  
 Cable insertion loss  $< 2\text{dB}$  (LTE B7/B38/B40/B41)

**GNSS**

Frequency range: 1561~1615MHz  
 Polarization: RHCP or linear  
 VSWR:  $< 2$  (Typ.)  
 Passive antenna gain:  $> 0\text{dBi}$   
 Active antenna noise figure:  $< 1.5\text{dB}$   
 Active antenna gain:  $> -2\text{dBi}$   
 Active antenna embedded LNA gain: 20dB (Typ.)  
 Active antenna total gain:  $> 18\text{dBi}$  (Typ.)

**Antenna requirements must be met to utilize the PWP-GW-L25-X Certifications and to avoid the need to certify your equipment separately.**

### Connections and Connector PIN Definitions

