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LTE CPE Portfolio

Telrad Networks has a comprehensive portfolio of LTE products designed to deliver extended coverage and high data throughput for virtually any deployment scenario. Our high performance CPEs are simple to install, maintain and operate – helping to reduce CAPEX and OPEX. All models support high spectral efficiency which deliver the highest data rates, enabling end users to enjoy uninterrupted downloads and streaming.



CPE8100

The CPE8100 LTE series leverages years of field experience and expertise. Telrad fulfills the requirements of service providers with reliable connectivity and extended coverage. Our CPE8100 is ideal for delivering high-speed data to almost any environment in the 3.3-3.8 GHz band (B42, 43, 48).

LTE Specifications

LTE Interface	
Standard Compliance	3GPP E-UTRA
LTE UE Category	Cat 4 / 5 (Telrad BS only)
Duplex Mode	TDD, 2Rx, 1Tx/D
Frequency Bands	3.3-3.8 GHz (3.3 GHz, B42, B43, B48)
Channel bandwidth	5 MHz, 10 MHz, 15 MHz, 20 MHz
Downlink Modulation	QPSK, 16QAM, 64QAM
Uplink Modulation	QPSK, 16QAM, 64QAM (Telrad BS Only)
L1	MIMO
L2 & L3	Multiple APN PLMN and Cell Selection
Authentication	USIM SIM function (1.8V and 3.3V SIM and USIM card)
QoS	Non-GBR, GBR



CPE Specifications

CPE8100 Outdoor	
Dimensions (HxWxD)	203 x 203 x 76 mm 8.0 x 8.0 x 3.0 in
Weight	1.5 Kg 3.3 lb
User Interface	1 RJ45 10/100M ETH LED Indicators: Power, System, LAN, SIM, RF(5) SIM card slot
Maximum Transmit Power	27 dBm
Antenna	15±1 dBi 1TX/2RX, Azimuth/Elevation: 24° x 24°
Power Source	100-240 VAC
Environmental	IP67
Operating Temperature	-40° to 55° C -40° to 131° F



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CPE9000

The CPE9000 offers deployment flexibility. The high throughput and transmit power of the CPEs combine with the small tower footprint and high capacity of our flagship BreezeCOMPACT base stations - reducing the density of base stations in a network and enabling faster, more affordable LTE deployments.

LTE Specifications

LTE Interface	
Standard Compliance	3GPP Release 10/11
LTE UE Category	Cat 6
Duplex Mode	TDD
Frequency Bands	3.4-3.8 GHz (B42, B43, B48), 2.3-2.7 GHz (B40, B41)
Channel bandwidth	5 MHz, 10 MHz, 15 MHz, 20 MHz,
Carrier Aggregation	Contiguous / Noncontiguous
Downlink Modulation	QPSK, 16QAM, 64QAM
Uplink Modulation	QPSK, 16QAM, 64QAM (Telrad BS Only)
L1	DL MIMO 2x2
L2 & L3	Multiple APN PLMN and Cell Selection
Authentication	USIM SIM function (1.8V and 3.3V SIM and USIM card)
QoS	Non-GBR, GBR



CPE Specifications

CPE9000 Outdoor	
Dimensions (HxWxD)	260 x 250 x 80 mm 10.2 x 9.8 x 3.1 in
Weight	1.2 Kg 2.6 lbs
User Interface	LAN - 1x100M/1Gb Base-T USIM Optional indoor WiFi Gateway: LAN - 2x100/1000Mb Base-T Voice - 1xRJ11 Embedded WiFi AP
Maximum Transmit Power	23 dBm
Antenna	1TX/2RX, 15 dBi in 3.5 GHz, 14 dBi in 2.5 GHz
Power Source	100~240VAC
Environmental	IP67
Operating Temperature	-40° to 55 C -40° to 131° F



CPE12000

The CPE12000 is a 256QAM Cat 12 UE, designed to meet the challenging connectivity demands. Supporting Carrier Aggregation technologies and achieving high throughput, the CPE12000 provides quality performance. These units provide a seamless wireless experience that keeps homes and businesses connected.

LTE Specifications

LTE Interface	
Standard Compliance	3GPP Release 12
LTE UE Category	Cat 12
Duplex Mode	TDD
Frequency Bands	3.4-3.8 GHz (B42, B43, B48), 2.3-2.4 GHz (B40), 2.5-2.7 (B38, B41)
Channel bandwidth	5 MHz, 10 MHz, 15 MHz, 20 MHz
Carrier Aggregation	Contiguous / Noncontiguous
Uplink Modulation	QPSK, 16QAM, 64QAM
Downlink Modulation	QPSK, 16QAM, 64QAM, 256QAM
L1	DL MIMO 4x4
L2 & L3	Multiple APN; PLMN and Cell Selection
Authentication	USIM SIM function (1.8V and 3.3V SIM and USIM card)
QoS	Non-GBR, GBR



CPE Specifications

CPE12000 Outdoor	
Dimensions (HxWxD)	260 x 250 x 80 mm 10.2 x 9.8 x 3.1 in
Weight	1.2 Kg 2.6 lbs
User Interface	LAN - 1x100M/1Gb Base-T USIM
Maximum Transmit Power	23 dBm
Antenna	2TX/4RX, 13 dBi in 3.5 GHz, 11 dBi in 2.5 GHz
Power Source	100~240VAC
Environmental	IP67
Operating Temperature	-40° to 55° C -40° to 131° F



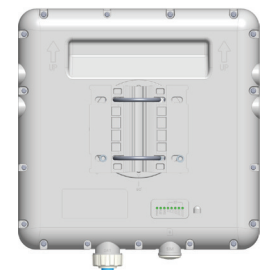
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CPE12000U

The CPE12000U Series consists of flexible CPE units, designed to deliver extended coverage and high data throughput in the 5 GHz unlicensed band. The CPE12000U units are designed to operate on license-free bands, enabling a more cost-effective non- or near-LOS operation.

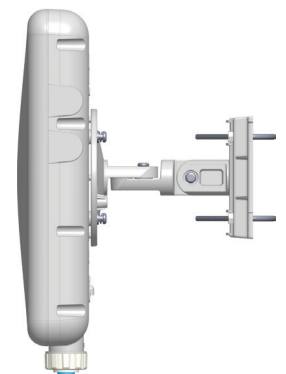
LTE Specifications

LTE Interface	
Standard Compliance	3GPP Release 12
LTE UE Category	Cat 12
Duplex Mode	TDD
Frequency Bands	5.150-5.950 GHz
Channel bandwidth	5 MHz, 10 MHz, 15 MHz, 20 MHz
Uplink Modulation	QPSK, 16QAM, 64QAM
Downlink Modulation	QPSK, 16QAM, 64QAM, 256QAM
L1	DL MIMO 4x4
L2 & L3	Multiple APN PLMN and Cell Selection
Authentication	USIM SIM function (1.8V and 3.3V SIM and USIM card)
QoS	Non-GBR, GBR



CPE Specifications

CPE12000U Outdoor	
Dimensions (HxWxD)	330 x 330 x 72 mm 12.9 x 12.9 x 2.8 in
Weight	< 3.5 Kg 7.7 lb
User Interface	1 RJ45 10/100M ETH LED - System, LAN, SIM, RF(4) SIM Support - SIM card slot
Maximum Transmit Power	21 dBm
Antenna	2TX/4RX, 20 dBi
Power Source	100~240 VAC
Environmental	IP67
Operating Temperature	-40° to 55° C -40° to 131° F



CPE8101

The CPE8101 LTE outdoor CPE offers flexibility and high-power performance. This integrated fixed wireless CPE provides an ultra rugged platform with advanced, yet simple to setup, features. Get high-speed connectivity in the 2.3-2.7 GHz and the 3.3-3.8 GHz bands.

LTE Specifications

LTE Interface	
Standard Compliance	3GPP E-UTRA Release 9
LTE UE Category	Cat 4
Duplex Mode	TDD, 2Rx, 1Tx, DL MIMO
Frequency Bands	3.3-3.8 GHz (B42,B43), 2.3-2.7 GHz (B38, B40, B41)
Channel bandwidth	5 MHz, 10 MHz, 15 MHz, 20 MHz, CA 20+20 MHz
Downlink Modulation	QPSK, 16QAM, 64QAM
Uplink Modulation	QPSK, 16QAM, 64QAM (Telrad BS Only)
L1	MIMO
L2 & L3	Multiple APN PLMN and Cell Selection
Authentication	USIM SIM function (1.8V and 3.3V SIM and USIM card)
QoS	Non-GBR, GBR



CPE Specifications

CPE8101 Outdoor	
Dimensions (HxWxD)	300 x 120 x 75 mm 11.8 x 4.7 x 2.9 in
Weight	1.5 Kg 3.3 lbs
User Interface	Data Interface: 1 RJ45 (10/100Mbps, 24V PoE) LED Indicators: SYS, SIM, ETH, RF(4) SIM Support SIM card slot (#2FF)
Maximum Transmit Power	23 dBm
Antenna	12+1 dBi (B42/43) 10+1 dBi (B38/43)
Power Source	24V /0.5A DC (Passive PoE)
Environmental	IP67
Operating Temperature	-40° C to 55° C -40° F to 131° F

CPE8102

The CPE8102 is an indoor LTE CPE. The small and attractive unit offers quick and easy plug-and-play connectivity. Featuring Wi-Fi, Ethernet and Telephony functionality, the small unit offers flexibility and operates on multiple LTE bands. Paired with Telrad's BreezeCOMPACT base stations, the CPE8102 offers consistent and reliable service that is ideal for residential or small business end-users.

Specifications

LTE Interface

Standard Compliance	3GPP TD-LTE Release 9
LTE UE Category	Cat 5
Duplex Mode	TDD, 2Rx, 1Tx, DL MIMO
Frequency Bands	SKU1: B40 (2.3-2.4 GHz), B41 (2.5-2.7 GHz) SKU2: B42 (3.4-3.6 GHz), B43 (3.6-3.8 GHz) & 3.3-3.4 GHz
Channel bandwidth	5, 10, 15, 20 MHz
Modulation	DL: QPSK, QAM16, QAM64 UL: QPSK, QAM16, QAM64
Maximum Transmit Power	23 dBm
Antenna	4-5 dBi (B40, B41); 5-6 dBi (B42, B43, 3.3 GHz)
L1	MIMO
L2 & L3	Multiple APN PLMN and Cell Selection
Authentication	USIM SIM function (1.8V and 3.3V SIM and USIM card)
QoS	Non-GBR and GBR
Device Management	Web GUI and TR-069



Wi-Fi Interface

Radio Access	802.11 b/g/n (2x2)
Antenna	3 dBi built-in antenna
Connected Users	32+
Security	64/128 bit WEP, WPA/WPA2





CPE8102 Indoor

Dimensions (HxWxD)	190 x 162 x 36 mm 7.4 x 6.3 x 1.4 in
Weight	0.35 kg 0.7 lbs
User Interface	LAN - 2 RJ45 10/100M ETH Ports Voice - 1 RJ11 Port (optional) SIM card slot (2FF)
Power Source	12V/1.0A DC Adapter
Environmental	Indoor
Operating Temperature	-15° to 55° C 5° to 131° F
Humidity	90% max non-condensing



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CPE Comparison Table

	CPE8100	CPE9000	CPE12000	CPE12000U	CPE8101	CPE8102
						
Band (GHz)	3.3-3.8 GHz (3.3 GHz, B42, B43, B48)	3.4-3.8 GHz (B42, B43, B48) 2.3-2.7 GHz (B40, B41)	3.4-3.8 GHz (B42, B43, B48); 2.3-2.4 GHz (B40); 2.5-2.7 (B38, B41)	5.150-5.950 GHz	3.3-3.8 GHz (B42, B43) 2.3-2.7 GHz (B38, B40, B41)	3.3-3.8 GHz (B42, B43) 2.3-2.7 GHz (B40, B41)
LTE Category	5	6	12	12	4	5
Form Factor	Outdoor Unit	Outdoor Unit	Outdoor Unit	Outdoor Unit	Outdoor Unit	Indoor Unit
Uplink Modulation	64QAM (Telrad BS only)	64QAM (Telrad BS only)	64QAM	64QAM	64QAM (Telrad BS only)	64QAM (Telrad BS only)
Data	✓	✓	✓	✓	✓	✓
WiFi + Voice w/ indoor (Residential Gateway)	Optional	Optional	Optional	Optional	Optional	Included
Integrated Ant Gain	15 dBi	15 dBi (3.5 GHz) 14 dBi (2.5 GHz)	13 dBi (3.5 GHz) 11 dBi (2.5 GHz)	20 dBi	13 dBi (3.5 GHz) 11 dBi (2.5 GHz)	4-6 dBi
IP Rating	IP-67	IP-67	IP-67	IP-67	IP-67	IP-67

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