Datasheet

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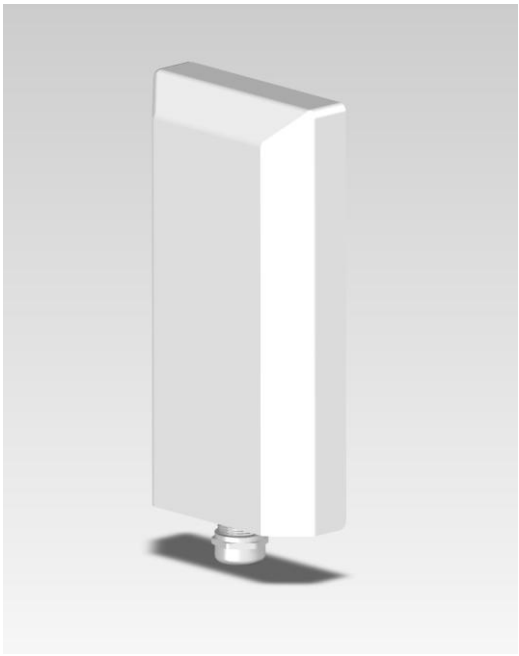
CableFree
Wireless Excellence

Emerald Cellular Product Range (4G & 5G)

Carrier Grade Outdoor Connectorised 5G-CPE - 4G & 5G

Overview

5G Bands n77/n78 & 4G Band 42/43 - Category 12



About Wireless Excellence

Founded in 1996 and with headquarters in Oxford UK, Wireless Excellence Limited is a leading designer and supplier of outdoor and indoor Broadband Wireless communication products.

With a complete range of solutions including Radio, Microwave, Millimeter-Wave, Free Space Optics, WiFi and 4G/5G/LTE, customers in over 80 countries have chosen Wireless Excellence as the "one stop shop" solution of choice for dependable wireless networking.

About 4G & 5G Solutions

Using the latest Software Defined Radio and RF technology, our cellular 4G & 5G solutions operate in all the common cellular bands from 380MHz-4400MHz, including Base Station and CPE devices for high performance mission-critical applications.
Our advanced Cellular CPE platform with IP/Ethernet interfaces also supports VOIP with analogue RJ11 connections to ensure simplicity of installation.
Flexibility, performance and low cost of ownership are ensured.

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Advanced 4G & 5G CPE solution (5G-NR & LTE Cat12)

Wireless Excellence offers high performance 4G & 5G-NR CPE solutions for a wide variety of applications. Covering all common 4G & 5G-NR bands of the base stations which enables great flexibility of operation and future upgrade path.

4G & 5G-NR networks using CableFree Emerald CPEs enjoys great flexibility, high performance as well as very low cost of operation and ownership. "Stand Alone" operation is possible which enables the 4G Base station to connect remote terminals without need for external network elements.. This is ideal for closed network type applications such as CCTV, campus sites and disaster recovery scenarios, where there is no centralised infrastructure or Network Operations Centre.

System Features

- Compact, 4G & 5G-NR CPE solution, 5G-SA & LTE Category 12 compliant
- Connects to 4G and/or 5G networks
- Spectrally Efficient, Software-Defined Radio
- 5G-SA "Stand Alone" capable
- Supports both TDD LTE and supports MIMO 2x2, optional 4x4 & Carrier Aggregation natively

Applications

- Internet Service Providers (ISPs)
- 4G LTE & 5G Operators
- Point-to-Multipoint Point Wireless networking
- CCTV connection for multiple cameras
- Oil & Gas Utilities
- Fast Roll-out & Temporary Deployment

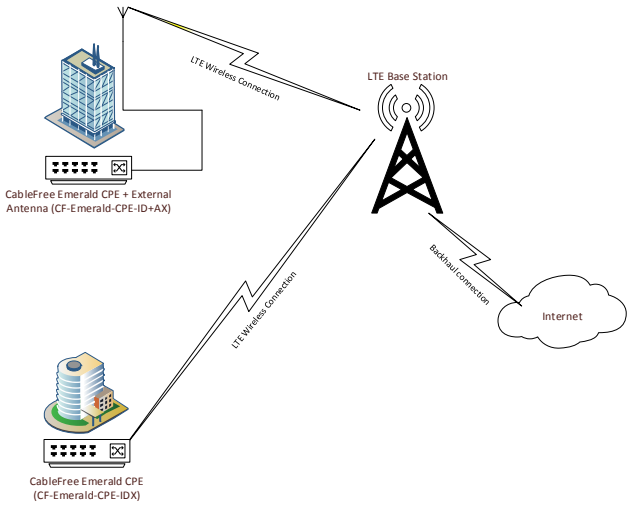
Enhanced Performance, Flexibility & Features

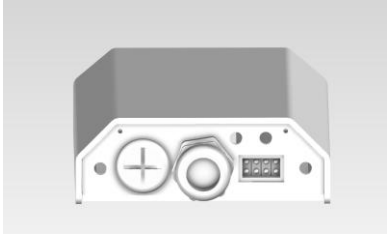
The CableFree Emerald CPE is available as a 'Carrier Grade' full outdoor unit, with or without a wireless AP built in & optional High Gain versions. There is an option of a full turnkey solution for volume orders, including specific branding for a project or customer. All units are highly versatile in deployment, with full support for LTE in both Band 42 & 43 as well as multi-mode wireless capabilities.

Key Features:

- TR-069 and OMA-DM network management protocols
- 5G Band n77 & n78, LTE Bands 42 & 43. Some other bands are available also - please contact us.
- Full Wireless AP Support or direct network connection models
- Simple, elegant and suitable for multiple locations

Schematic of options:





Emerald 5G Outdoor CPE - Connectorised Version

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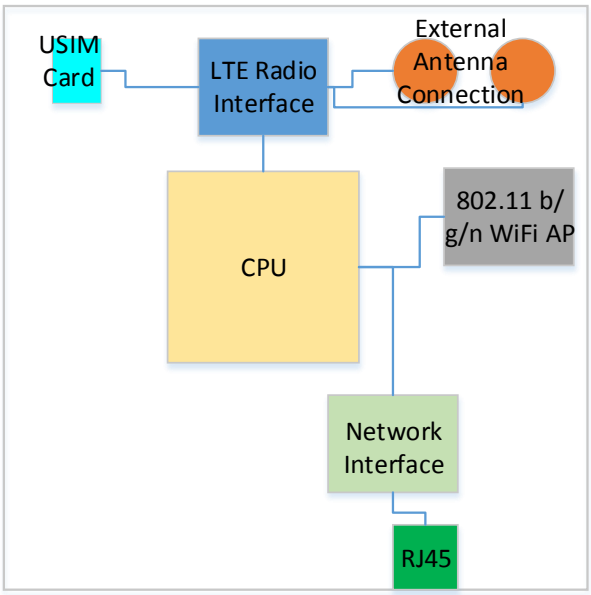
CableFree Emerald Outdoor CPE Block Diagram:



System Variant	CF-Emerald-OD-n77-88-B4243-CPE-C12-ODC
System Parameters	
Max. Nb Carriers per TX/RX LTE	1 (5,10, 15, 20, 50, 100MHz) TDD with CA options
Supported Bands	Supports 5G in n77/n78 and 4G in Band 42 & 43, plus other bands (please ask)
Modulation	Receive QPSK/16QAM/64QAM/256QAM, Send QPSK/16QAM/64QAM
Modes	2x2, optional 4x4 capable
VPN	Server or Client
SIM Card	Support for 1.8V/3.3V USIM cards
WiFi AP (integrated)	Built in, 802.11 b/g/n WiFi Access Point, integrated antenna
LTE Antenna	SMA connectors: Connect to a choice of External Antennas available
Management	Web Interface, TR069 & OMA-DM
Interfaces	1x RJ45 (Gigabit Ethernet, PoE), 1x USIM, 2x SMA 4x connectors for antennas
Power Supply	DC 12-48 V PoE Injector (standard)
Wattage	12W
LED	LED indicators, power, SIM, LAN, System, Signal
Operating Temperature	-10°C to +50°C
IP Rating	IP65/IP67
Dimensions	244 x 130 x 45 mm (Standard version)
Regulatory	
LTE Compliancy	ETSI TS 136 104 cat B Opt2
Electrical safety	UL 60950 - Ed.3 2000, EN 60950 Ed.2001, CSA C22.2 No 60950
Environmental Conditions	ETSI EN 300 019-1, ETSI EN 300 019-1, ETSI EN 300 019-3, IP67

Product codes

Product Code	Description
CF-Emerald-OD-n77/78-B42/43-CPE-C12-ODC	Emerald LTE CPE Band n77/78 & B42/43 Outdoor Unit Connectorised
CF-Emerald-ID-Surge	Surge Arrestor – Advised Accessory

Note – precise product code depends on frequency, band, antennas, resilience and other options. Please contact Wireless Excellence for more information

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