

GX4000 E-Band Radio



Featuring patented Fujitsu impulse radio technology, this system offers a compact footprint; speedy, simple deployment; and high-speed transmission.

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Multigigabit Wireless Transport

A Simple, Powerful E-Band Solution

Traditional microwave frequency bands are increasingly congested. Since the bands have been largely used up to enhance mobile backhaul networks, it is becoming difficult to find available spectrum.

At the same time, as Radio Access Network (RAN) technology evolves towards LTE/LTE-Advanced, much higher capacity is going to be required in mobile backhaul and fronthaul networks. Hence, the growing importance of the 70/80 GHz frequency band, called E-band.

E-band is an ideal spectrum to deliver multigigabit capacity transport in future networks, for the following reasons:

- Wideband spectrum availability (71–76 GHz and 81–86 GHz)
- The acceptance of shorter reach hops for small-cell mobile networks
- Virtually no interference between links
- Flexible network engineering
- Quick, low-cost frequency licensing process (light license policy)
- Gigabit Ethernet port supports Power over Ethernet (PoE)



Cell Site



Home

The Fujitsu Advantage

Fujitsu, one of the world's leading microwave radio providers, has developed an innovative, patented impulse radio technology for millimeter-wave radio transmission. This technology, incorporated in highly compact outdoor radio equipment, makes it possible to achieve the ultra-high data rate of >3 Gbps for a wireless link.

Impulse radio is a breakthrough technology that provides real advantages over traditional carrier-based transmission. Just a few of these advantages are: reduced power demand, allowing the units to be solar powered; reduced size and weight, due to a reduced number of components used; low latency, due to direct data to impulse modulation. These advantages make the GX4000 platform a perfect fit for systems that need to be mounted on small poles to provide latency-sensitive traffic such as CPRI.

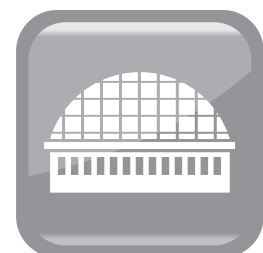
All GX4000 systems operating in the E-band frequency feature Fujitsu impulse radio technology, and thus provide quick and easy solutions for building multigigabit wireless networks.

Meanwhile, thanks to their simple architecture, GX4000 systems offer both high-speed transmission and low power consumption—so you can establish and maintain a green network.

A Fujitsu GX4000 E-band radio solution will redefine your network for tomorrow.



Mall



Event Hall

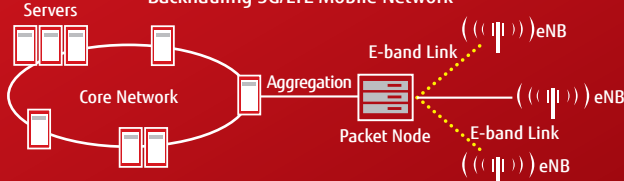
Backhaul in Mobile and Fixed Broadband Networks

To deliver various types of content-rich services over a 3G/4G mobile network or fixed broadband network, the choice of backhaul solution is the key to success. An E-band link is an ideal complement to wired backhaul technology, as it provides sufficient transmission capacity to support radically increased data traffic demands within a short timeframe.

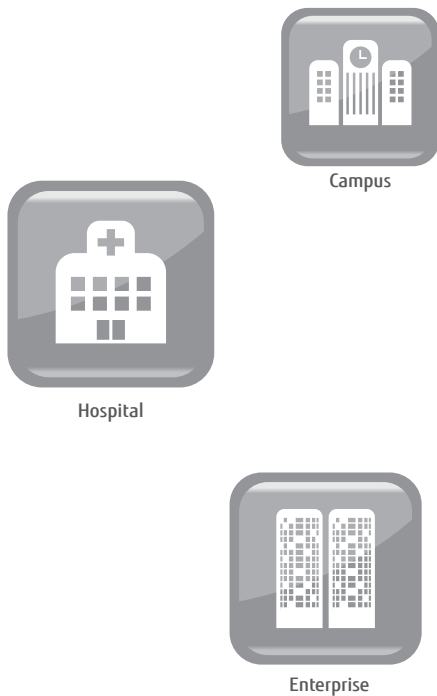
Backhauling Fixed Broadband Network



Backhauling 3G/LTE Mobile Network

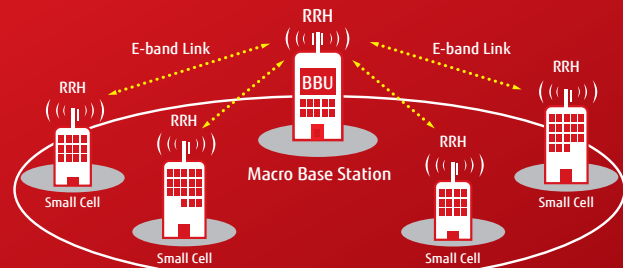


Versatile, Portable, Efficient Interconnections



Fronthaul in Future Mobile Networks (CPRI Transport)

In the age of LTE and LTE-Advanced, the architecture of radio access networks will be quite different from today's. In that age, small cells will be widely deployed on a macrocell layer for overall network operations efficiency. Thus, the most serious challenge for mobile network operators will no longer be the backhaul, but rather the fronthaul, i.e., how to secure interconnections between a centralized BBU and multiple RRHs in the most efficient way. With GX4000 technology from Fujitsu, you can meet that challenge—while at the same time reducing capex—with a flexible, environmentally friendly wireless solution.



Portable Networks for Disaster Recovery and Latency-Sensitive Applications

Wireless transport solutions can be extremely important if a communications network is heavily damaged by disaster and infrastructure must be quickly restored. With its compact body and user-friendly operation, the GX4000 represents a flexible, powerful solution for emergency recovery of data traffic. The GX4000 is also an ideal solution for latency-sensitive but capacity-demanding applications like HDTV transport.



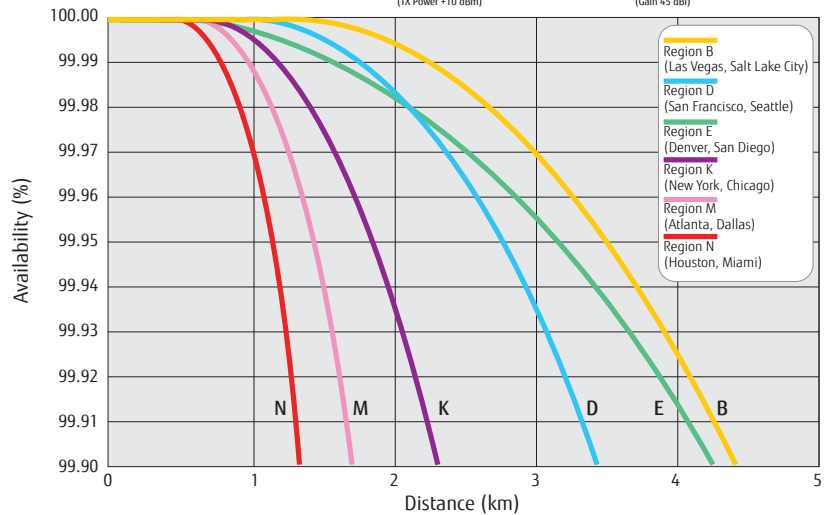
GX4000 E-Band Radio

Specifications

Frequency	71–76/81–86 GHz, FDD
Channel Size	4,500 MHz
Modulation	Impulse radio method
Ethernet Throughput	3.2 Gbps
CPRI Throughput	Option 3: 2.45 Gbps Option 4: 3.07 Gbps
Traffic Interface	Optical: 10 GbE/CPRI-2.4576G, 3.0720G Optical pluggable SFP: 10G-BaseLR = 1310 nm SMF CPRI = 1310 nm SMF; 1550 nm SMF Electrical: 1 GbE
Latency (one way)	Less than 50 μ s (Ethernet) Less than 20 μ s (CPRI)
Antenna Size	Parabolic antenna 1 ft (30 cm) or 2 ft (60 cm)
TX Output Power	0 to +10 dBm (ATPC, MTPC)
Temperature	–27 to 131 °F (–33 to +55 °C)
Humidity	4 to 100%
Power Supply	DC: –48 V DC/PoE (LTPoE++ PD) AC: 100–240 V AC (50/60 Hz)
Power Consumption	25 W
EMC, EMI	FCC compliant ETSI EN 301 489-1, 4
Dimensions	9 × 9 × 2.2" (23 × 23 × 5.6 cm)
Weight	7.7 lb (3.5 kg)
Management	NETSMART 1500, SNMP, HTTP, in-band management

Link Budget Simulation – GX4000

Equipment Parameters : Fujitsu GX4000 for 3 Gbps with 30 cm antenna
(TX Power +10 dBm) (Gain 45 dBi)



(Region category based on ITU-R PN.837)



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