



BridgeWave
COMMUNICATIONS

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BRIDGEWAVE COMMUNICATIONS

**Application for FCC Radio Experimental License
(Response to Question 10a)**

Program of Experimentation

Refer to our application:

1. Location in Santa Clara, California
2. Transmitter Frequency is 10GHz.



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Specific Objectives for Experimental Test

There are two specific objectives.

3. The first objective is to verify that radio meets its published specifications without creating interference to other air transmissions.
4. The second objective is to prove the point to multi-point capabilities of broadband technology over microwave radios.



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Contribution to Radio Technology

The demand for wide area networking is mushrooming due to the advent of data communications, which includes wide area private networking, the Internet and intranets networks, and multimedia communications. The demand in bandwidth for data has surpassed that the voice telephony. These new emerging datacom applications rely on frame relay and on ATM services.

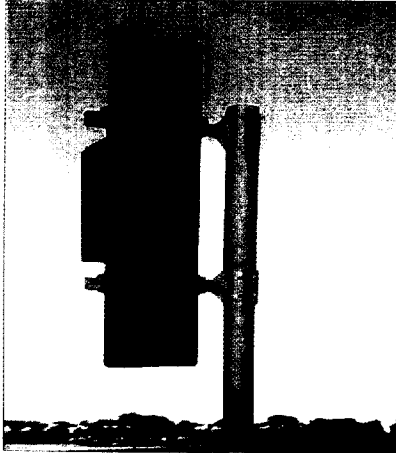
BridgeWave product point to multi-point wireless product will provide access to these broadband services for small to medium size businesses. It will increase the envelop of capabilities radio already provides. By allowing a wider use of the wireless technology many business users can take advantage of these services quickly and with utmost reliability for the latest voice, data, and multimedia applications.



BridgeWaveTM
COMMUNICATIONS

TransparenceTM model CE10

**Broadband Wireless Access System
10 GHz Frequency Band
DOCSIS®/EuroDOCSIS® Interface**



Transparence Central Radio (10 GHz)

Product Description

The BridgeWave Transparence is a revolutionary broadband wireless access system that breaks from conventional architectures. The first broadband wireless system that is fully interoperable with DOCSIS/EuroDOCSIS network equipment, the Transparence utilizes a single coaxial cable interface. No proprietary broadband aggregation devices or customer premise equipment is needed, allowing operators to source equipment such as broadband routers and integrated access devices (IADs) from any DOCSIS vendor.

The Transparence is a point-to-multipoint (PMP) radio system consisting of two primary components, the Central Radio (CR) and the Subscriber Radio (SR). The CR is deployed as a wireless hub that extends DOCSIS/EuroDOCSIS broadband capacity (30/38 Mbps per downstream channel) using licensed millimeter wave radio frequencies.

BridgeWave's radio link provides physical layer transparency for all DOCSIS traffic; in other words, no media conversion or demodulation of the DOCSIS interface is needed. This enables seamless integration of wireless and wired broadband network elements.

The Transparence product family operates in the 10-42 GHz licensed millimeter wave bands for best quality of service.

Features and Benefits

Transparent Network Integration

- Leverages existing HFC networks and headend equipment
- Interoperable with all DOCSIS equipment
- Cost effective transmission and infrastructure

Advanced Design Features

- Link provides network transparency and RF robustness
- Single coaxial cable interface
- Compact design improves reliability, lowers cost
- All outdoor integrated unit provides ease of installation and best system performance

Operates in Millimeter Wave Frequencies

- Licensed protection against interference
- Incremental scalability to meet deployment economics



Transparence Subscriber Radio (10 GHz)

Specifications

Frequency Range

10.2 to 10.6 GHz, per CEPT/ERC/REC 12-05E

Modulation

Downstream: 64QAM
Upstream: QPSK, 16QAM

Occupied Bandwidth

Downstream: 8 MHz EuroDOCSIS / 6 MHz DOCSIS
Upstream: 3.2 MHz

Channel Bitrate

Downstream: 38 Mbps EuroDOCSIS / 30 Mbps DOCSIS
Upstream: 10 Mbps

Duplex

Frequency Division Duplex (FDD)

Power

Input: (CR) +48 VDC
(SR) +12 VDC

Consumption:
(CR) 1.2 A
(SR) 600 mA

Transmit Power

CR: +22 dBm
SR: +10 dBm

Receiver Sensitivity

CR: -81 dBm
SR: -75 dBm EuroDOCSIS / -77 dBm DOCSIS

Antenna

Type: (CR) Flat-panel Sector
(SR) Flat-panel Directional

Polarization: Vertical or Horizontal

Gain: (CR) 17 dBi
(SR) 20 dBi

Beam Width (3 dB):
(Azimuth): (CR) 90 degrees
(SR) <20 degrees
(Elevation): (CR) <20 degrees
(SR) <20 degrees

Environmental

Operating Temperature: -20 to +55 deg C
Operational Wind Loading: 145 Km/hr
Altitude: to 4500 m

Weight

CR: 20 Kg
SR: 2.5 Kg

Dimensions

CR: 50 H x 35 W x 35 D cm
SR: 21 H x 22 W x 5 D cm

Network Interfaces

CR / SR: (Cable) RG-6 or equivalent
(Connector) F-Type female jack
IDU: Any DOCSIS/EuroDOCSIS-compatible CPE

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EuroDOCSIS and DOCSIS are registered trademarks of CableLabs, Inc.

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Specifications subject to change without notice. Performance specifications are for optimum conditions, and may be affected by location, environment, and other operating considerations. Regulations require that these devices be professionally installed by a person trained in the correct installation of this equipment.