

# Supra-D

Superior 802.16d system solution

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## Why WiMAX is better?

Wireless broadband systems have been in use for several years, but the development of WiMAX 802.16 standard marks the maturation of the industry and a new level of competitiveness for wireless broadband services.

It is the leading standardized broadband wireless access (BWA) technology and has been the hottest topic since 2004 while Wireless LAN 802.11 was widely accepted and deployed as hot-spot, hot-zone and hot-city all over the world. Because WLAN was designed for unwiring the local area network, not for metro-access applications, WiMAX was expected and defined to fill in the last-mile, long-range and to offer QoS and to support backhaul connectivity.

WiMAX is an effective metropolitan area access technology, supplying wireless coverage over an area of several kilometers. The WiMAX Forum has identified several frequency bands for the 802.16 products, notably in both licensed (2.5 and 3.5 GHz) and unlicensed spectrum (5.8 GHz). By utilizing several kinds of physical layer modulation methods (SC/OFDM/OFDMA), it can provide data rates as high as 75 Mbps approximately per channel (in a 20 MHz channel using 64QAM  $\frac{3}{4}$  code rate). The maximum coverage area could be up around 30 to 50 kilometers, much better than the existing coverage barrier in wireless wideband access.

Field experiments in various countries confirm that WiMAX can dramatically improve the wireless network in terms of coverage, performance and usage scenarios. Test applications include such different services as fast Internet access, high quality audio and video communications, education and entertainment, tele-medicine, tele-metering, surveillance and other highly interactive services. Reference scenarios also prove that WiMAX can be equally well integrated in fixed or mobile networks, and that it makes an excellent complement to Wireless LAN both as hot-zone backbone and for indoor/outdoor coverage.

Depending upon the specific market situation and regulation, full worldwide interoperability and technological evolution, WiMAX equipment cost is also expected to well below those of any alternative technology available today. Nowadays, hundreds of companies have launched standard-compliant products for this technology. Further, as the standard evolves from nomadicity to mobility support, WiMAX could indeed become the key to fixed/mobile convergence.

With advantages of scalable architecture, high-performance throughput, low-cost of deployment and wide industry support, WiMAX will play the major role in the evolution of future broadband wireless access networks in the world. It is believed that WiMAX will foster fixed/mobile convergence, eliminate digital gap, and effectively support economic growth and people welfare in developed and developing countries.

\*Reference from WiMAX forum\*

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# BROWAN

Your Wireless Broadband Partner

# Supra-D

Superior 802.16d system solution

BROWAN



BI5100



S-300

S-4600



BI2100

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## Supra-D Broadband Wireless Access System

BROWAN Supra-D product family is fully compliant with the 802.16d standard, offering comprehensive solution that is of high performance, cost-effective and easy to deployment, expanding the wireless broadband deployment extremely fast and relatively inexpensive.

Supra-D supports both LOS and NLOS connections and suitable for ubiquitous service in rural and urban areas. High-speed and symmetrical bandwidth can satisfy the needs- voice, video and data, all considered broadband applications- for individual customers, public administrations, and enterprises of all sizes.

### Extended coverage over inaccessible area

Designed with latest OFDM technology and operating in the 5.8GHz frequency band, Supra-D eliminates the effects of multi-path signal fading and enhances performance in NLOS conditions, especially for the application of point-to-point and point-to-multi-point connectivity, in urban and rural areas.

### Improved user experience and multi-play services

The Supra-D delivers remarkable performance in capacity, functionality, sensitivity and power consumption. It not only helps broadband network service operator to designing, implementing, and managing the networks, but also empowers service providers to offer dynamic value-added services such as home networking, security, Voice over IP, the so-called "multi-play" Internet services.

### Flexible management and provisioning

Built-in enhanced remote management mechanism, the Supra-D supports a variety of functionalities, including auto-configuration and dynamic service provisioning, software/firmware image management, status and performance monitoring, diagnostics and etc. The Supra-D is easy to configure to fit the deployment requirements, eliminating the need of costly labor and maintenance fee. It also gives service providers the flexibility to offer different service classes for home and business applications.

### High security and QoS

The Supra-D supports advanced data encryption mechanism and provides subscribers with privacy and security across the wireless interface. In order to support end-to-end QoS for delay sensitive, bandwidth intensive applications such as VoIP, video transmission, large volume file download, the Supra-D is designed with cutting-edge QoS technology, able to be dynamically optimized for the mix of traffic, supporting real-time data streams and automatically prioritizing voice, data and video.

Supra-D is the ideal solution for the following fixed and nomadic deployment applications:

- ▼ Last-mile high-speed broadband connections (SMB, Residential and SOHO)
- ▼ Cost-effective building-to-building connectivity (PtP, PtMP)
- ▼ Broadband access extension in licensed and/or unlicensed bands to suburban, rural, off-shore areas
- ▼ Backhaul applications for mobile networks
- ▼ Private network or proprietary applications for police or military as far as security is concerned
- ▼ Disaster recovery, mobile emergency station or distant health-care
- ▼ Video surveillance

## Specification



	BI2100-T58 Pico Base Station	BI5100-T58 CPE
<b>Radio</b>	<ul style="list-style-type: none"> <li>Standard: IEEE802.16-2004</li> <li>RF Power: +17 dBm</li> <li>Frequency Band: 5.725~5.850GHz</li> <li>Channel Bandwidth: 5 MHz/10 MHz/15 MHz/20 MHz</li> <li>Transmission Scheme: 256 FFT OFDM</li> <li>Modulation: BPSK, QPSK, 16QAM, 64QAM</li> <li>Duplexing: TDD</li> <li>Throughput: 60 Mbps@20MHz</li> <li>Coverage: Non-Line-of-Sight</li> <li>External Antenna: N-type</li> </ul>	<ul style="list-style-type: none"> <li>Standard: IEEE802.16-2004</li> <li>RF Power: +17 dBm</li> <li>Frequency Band: 5.725~5.850GHz</li> <li>Channel Bandwidth: 5 MHz/10 MHz/15 MHz/20 MHz</li> <li>Transmission Scheme: 256 FFT OFDM</li> <li>Modulation: BPSK, QPSK, 16QAM, 64QAM</li> <li>Duplexing: TDD</li> <li>Throughput: 60 Mbps@20MHz</li> <li>Coverage: Non-Line-of-Sight</li> <li>External Antenna: N-type</li> </ul>
<b>Networking</b>	<ul style="list-style-type: none"> <li>LAN: 10/100Base-T</li> <li>VLAN: 802.1q passthrough</li> <li>Burst mode: Yes</li> <li>Bridge mode: Yes</li> <li>Filter: MAC and IP-based</li> <li>QoS: Based-on IEEE802.16-2004, UGS, rtPS, nrtPS, BE</li> <li>Application: Point-to-point (PtP), Point-to-multi-point (PtMP)</li> </ul>	<ul style="list-style-type: none"> <li>LAN: 10/100Base-T</li> <li>VLAN: 802.1q passthrough</li> <li>Burst mode: Yes</li> <li>Bridge mode: Yes</li> <li>Filter: MAC and IP-based</li> <li>QoS: Based-on IEEE802.16-2004, UGS, rtPS, nrtPS, BE</li> <li>Application: Point-to-point (PtP), Point-to-multi-point (PtMP)</li> </ul>
<b>Security</b>	<ul style="list-style-type: none"> <li>Device Authentication: PKMv1/ X.509</li> <li>Wireless encryption: DES/AES</li> </ul>	<ul style="list-style-type: none"> <li>Device Authentication: PKMv1/ X.509</li> <li>Wireless encryption: DES/AES</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>Remote Management: SNMP, WEB http</li> <li>Upgrading: LAN, over-the-air</li> <li>Power consumption: 18 W (maximum)</li> <li>Power supply: PoE</li> </ul>	<ul style="list-style-type: none"> <li>Remote Management: SNMP, WEB http</li> <li>Upgrading: LAN, over-the-air</li> <li>Power consumption: 10 W (maximum)</li> <li>Power supply: PoE</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>Dimension: 203×203×70(mm)</li> <li>Weight: 1.35 kg</li> <li>Operating temperature: -30°C ~70°C</li> <li>Operating humidity: 0~95%</li> <li>Enclosure: Water-proof, IP68</li> </ul>	<ul style="list-style-type: none"> <li>Dimension: 203×203×70(mm)</li> <li>Weight: 1.35 kg</li> <li>Operating temperature: -30°C ~70°C</li> <li>Operating humidity: 0~95%</li> <li>Enclosure: Water-proof, IP68</li> </ul>

## Application

