



MacroMAXe

Main Features

- Supports 802.16e-2005 SOFDMA
- Supports 2.3GHz and 2.5GHz bands
- All-in-one single outdoor unit minimizes site OPEX
- Dual 40dBm radios
 - 60dBm EIRP with integrated antennas
- STC and MIMO support
 - Matrix A
 - Matrix B
- Supports 5/10/20MHz channel size
 - 2x5MHz
 - 2x10MHz
 - 1x20MHz
- Supports interoperable reference points defined by NRM
 - Supports interoperable R6 reference point
- Supports 512, 1024, 2048 FFT SOFDMA
- Compact and light form factor

MacroMAXe Base Station

- Fully integrated macro-cell Base Station with 2x2 MIMO
- Compact and light-weight form factor for optimum OPEX performance
- Support for 2x10MHz or 1x20MHz channels
- Advanced RF features for optimized coverage and throughput

MacroMAXe is a class-leading 2nd generation Mobile WiMAX base station which employs the software defined radio (SDR) technology first developed for HiperMAX, together with dual radio transceivers, antennas and GPS receiver all in a highly integrated, physically small and light, all outdoor package.

MacroMAXe has been primarily developed for the 2.3GHz and 2.5GHz Mobile WiMAX bands and will be Wave 2 certified in these bands. The product has been designed to address the markets needs thru to 2011 and beyond by supporting the current and future air interfaces thanks to its SDR technology.

MacroMAXe is a remarkable base station product bringing together state-of-the-art technologies in a compact all outdoor package. Thanks to its small footprint MacroMAXe minimizes site OPEX expenditure. MacroMAXe is small in size but big in performance. Thanks to the efficient power amplifier technology employed in its RF implementation, MacroMAXe implements dual 40dBm (10W) radios for 2x2MIMO delivering up to 60dBm EIRP with the integrated antennas.

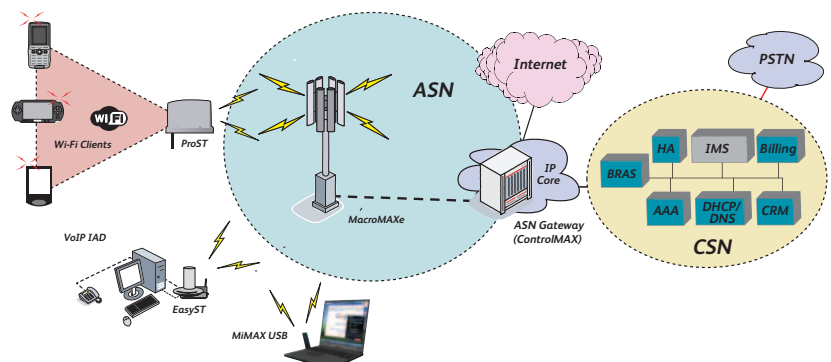
MacroMAXe initially supports 5MHz and 10MHz channel sizes. However, the product is capable of supporting

20MHz channels (Mobile WiMAX profile Rel. 1.5) as well. MacroMAXe has been designed to support either 2x10MHz (using dual PHY/MAC) or 1x20MHz channel.

MacroMAXe has been conceived for deployment in 3-sector configuration, which is the optimum configuration for Mobile WiMAX deployments. MacroMAXe design also incorporates an Ethernet switch which enables the traffic from 3 sectors to be aggregated for backhaul and network interfacing. MacroMAXe fully supports the interoperable R6 reference point for interworking with ASN Gateways either in a distributed or centralized network configuration.

In licensed band deployments available spectrum is a scarce and valuable resource. Therefore it must be used efficiently. In order to achieve frequency reuse factor of one (N=1) the best balance between spectral efficiency and interference mitigation must be achieved. This is realized through Fractional Frequency Reuse for which MacroMAXe has been optimized. Fractional Frequency Reuse controls co-channel interference to support frequency reuse of one with minimal degradation in spectral efficiency. MacroMAXe can also be deployed using traditional frequency reuse plans.

Network Architecture



MacroMAXe Base Station Technical Summary

	MacroMAXe
Mobile WiMAX	Yes
Fixed WiMAX	No
Standards Compliance	IEEE802.16e-2005
Form Factor	All Outdoor
Frequency Bands	2.3GHz, 2.5GHz (700MHz - Future)
Channel Size	20MHz, 2x10MHz, 10MHz, 5MHz
FFT	2048, 1024, 512
Duplex Method	TDD (FDD - Future)
Tx Power (Frequency band dependant)	2x +40dBm
Maximum EIRP per sector	+60dBm
GPS Synchronization	8hr holdover, Integrated
STC	Yes
MRC	Yes
MIMO	2x2
MIMO Matrix Type	Matrix A, Matrix B
CSM	Yes
Beamforming	No
Uplink Sub-Channelization	Yes
PUSC	Yes
Fractional Frequency Reuse	Yes
Dynamic Frequency Selection (DFS)	No
Ethernet CS	Yes (Future)
IP CS	Yes
IP version support	IPv6, IPv4
Network Interface	1000bT Ethernet / R6
End to End VLAN (802.1Q)	No
Network VLAN Traffic Segregation	Yes
ASN Profile	Profile C
Supported Usage Scenarios	Mobile, Portable, Nomadic, Fixed
Handover Supported	Yes
Encryption	AES
Authentication	PKM, PKMv2, EAP-TLS, EAP-AKA, EAP-SIM
Environmental (outdoor elements)	ETS 300 019-1-4 Class 4.1E
Environmental (indoor elements)	-

Note: Specifications are subject to change without notice and are for information purposes only.



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