# About Allgon Microwave


Allgon Microwave is part of the Advantech AMT Group and is a supplier of digital microwave point-to-point transmission solutions in the 4-38 GHz frequency bands. The solutions, which are of carrier class quality, deploy some of the most value-adding features on the market. Our Ethernet solution, featuring an integrated Ethernet/E1 interface, was the first on the market when launched in 1999. AMR Ethernet Radio is the only radio available that handles true end-to-end flow control.

Allgon Microwave also supplies one of the most preferred solutions for SDH/SONET high-speed, high-capacity backhaul applications. The SDH/SONET solution operates seamlessly with SDH/SONET Fiber networks and offers best-in-class carrier grade availability and performance

Allgon Microwave is the only supplier of fully seamless IP/Ethernet microwave solutions. We have the longest in-field experience of IP based backbone transport and offer the most complete solutions. Take advantage of our excellence and experience for an effortless roll-out of your UMTS TDD network!

Member Of: global UMTS TDD alliance

ALLGON MICROWAVE
An Advantech AMT Company

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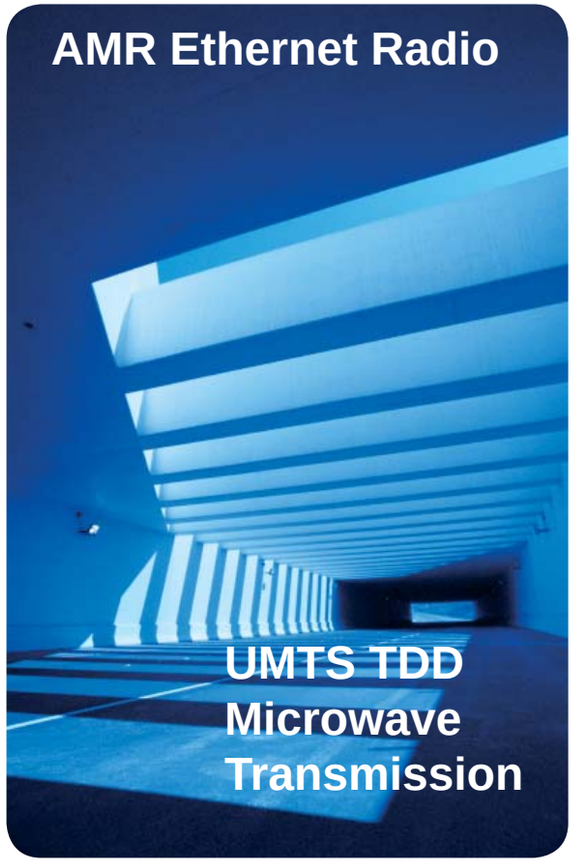
# AMR Ethernet Radio




SEAMLESS WIRELESS IP BACKBONE

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# AMR Ethernet Radio outperforms the rest

AMR Ethernet Radio is **proven** in the largest UMTS TDD network in the world since 2003:

*"After testing digital microwave radios from a few different suppliers, it was obvious that Allgon Microwave's AMR Ethernet Radio was the best choice as it has **superior throughput and latency**. The fact that AMR has an integrated VLAN aware switch with four ports meant that we will not need a switch on what we called tail sites, and we can build a microwave based backhaul network*
*with less components. We are using microwave radio where sub-milliseconds delay and jitter does matter, and getting the most out of 28 MHz of bandwidth is important using PDH technology.*

*Installing and configuring the AMR radios was simple, especially if you come from an IP background. **Everything is done the way an IP engineer expects it to be** and there was no need for any special applications except what every laptop already comes with. With other systems, it took us weeks to find the right cable, the right application running the right software version on a compatible platform. Our network engineers simply felt at home with the AMR Microwave Radio that outperformed the rest."*

Ahmad Saeed, Engineering Development Manager,
Woosh Wireless

Woosh

# Compliant to IPWireless™ technology

AMR Ethernet Radio is compliant to the leading IPWireless technology for mobile broadband, a packet data implementation of the international 3GPP UMTS standard:

*"The Allgon microwave radio has been commercially deployed in one of IPWireless' largest UMTS TDD networks for years now. Allgon Microwave's unique IP/Ethernet-based products ensure truly seamless wireless transmissions, giving our operators the highest reliability."*

Malcolm Gordon, Vice President Product Management, IPWireless

IPWireless

# The obvious solution for UMTS TDD transmission

### Direct Ethernet Iub interface with four switched ports

A direct Ethernet NodeB-INC connection is the most cost efficient implementation of the transport network. The Ethernet technology eliminates the need for costly PDH/SDH multiplexers/interface cards. The AMR Ethernet Radio offers four Ethernet ports that allow the operator to connect three NodeB's per site and use one port to inter-connect the backbone without adding any external equipment on site.

### Sub-millisecond latency for VoIP services

In order to deliver high quality Voice over IP (VoIP) service to the customers, it is essential to minimize the end-to-end latency in the network. Each network element adds to the total latency so it is important to select equipment with very low latency, especially due to the speech conversion and the Radio Access Network (RAN) consume most of the latency budget. The AMR Ethernet Radio has such low latency that the contribution to the total amount is neglectable. By eliminating the need for external switches on site, the latency of these switches is also eliminated.

### Full VLAN support to separate NodeB connections

Each NodeB requires a separated connection to the INC. In order to use the same backbone for all NodeB's in a cost effective way, VLAN separation is the solution. The AMR Ethernet Radio has the ability to tag/untag the incoming/outgoing packets, which eliminates the need for external VLAN equipment on the sites. Higher up in the trans-mission path, VLAN trunking is used to transparently forward all the different VLAN tagged traffic to the INC without any limitations.

### Full support for IEEE 802.1p and high level QoS

The AMR Ethernet Radio has full support for prioritization and Quality of Service (QoS), which is of interest in a network where the NodeB-INC traffic is mixed with other types of traffic such as management traffic. Also, the burst capability is outstanding on the market, which is highly important for TDD traffic that by nature is based on bursts.

### Superior throughput supporting 6/12 NodeB's

The AMR Ethernet Radio is the only microwave radio equipment on the market that offers the same throughput for all packet sizes. The total throughput allows transport for 12 NodeB's operating with QPSK and 6 NodeB's operating with 16QAM.