IPM2 Features

TDMA token based MAC provides reliable low latency link ideal for IP video streams.

Automatic network formation. Point to point, Point to multipoint, Relay meshing, Adhoc.

Multiple bi-directional IP streams over a single channel.

Secure IP end to end (RJ45). Treat as smart Ethernet cable. UDP, TCP etc.

4 user selectable radio channels. (subject to availability and licensing).

Wide dynamic range 'Deafen' feature allowing operation in same room and up to 18km with appropriate antennas.

Supports network isolation privacy and AES hardware Encryption.

Integrated fast charger and intelligent battery management supporting different battery chemistries.

Remote wake up from sleep with "Hide and Sleep" feature.

OEM Module is highly adaptable for customer integration with flexible pre-configured I/O and LCD support.

Designed and Manufactured In The United Kingdom

IPM2 Specifications

RADIO
COFDM, 768 Carriers, adaptive modulation
Modulation bandwidth: 10MHz
RF output power 500mW (+27dBm).
TCP/IP Data throughput up to 25Mbits/sec (good S/N link)
Approved to EN 302 064-1 (Wireless Video Links)

ETHERNET
Connector: RJ-45 X 1
Standards supported: IEEE 802.3, IEEE 802.3u
10/100 BaseT Auto-sense and MDI/MDX support
IEE 802.1D Spanning Tree Protocol (STP)
Packet Prioritisation
Device Prioritisation

SECURITY
Administration Password
Isolation using Network Name
Encryption AES 128/256/NONE (Subject to export control)

POWER SUPPLY
Outdoor Unit: POE Class 0 PD 802.3af/at (15.4W +)
24V AC/DC 13W or 12VDC via pigtail.
All other models: 9.5V DC to 17V DC 13W (Device Only).
Versions with Battery Charger: 12V @ 2.5A Charging.

OPERATING TEMPERATURE
IPM2B (Internal Battery) : 0°C to +35°C
All Other Models: -10°C to +55°C

adaptiveRF
expertise in wireless design

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IPM2 COFDM IP Radios

IPM2 Typical Applications

- **Overt and Covert Surveillance links for security services.**
- **Fire Service/First Responder/Blue Light emergency incidents.**
- **Remote operated vehicles (ROVs/UGVs).**
- **Command and control relay for emergency services.**
- **Rapidly deployed links for temporary works, exhibitions and stadiums.**
- **Wireless multi-camera CCTV systems.**

About adaptiveRF

adaptiveRF Ltd is an independent British company with our design offices in Botley near Southampton, Hampshire, England.

Our engineers have years of experience designing wireless products for the communications market.

We design and manufacture a range of innovative COFDM IP wireless transceivers known as the 'IPM2' as well as other radio products which are in use within the professional security/surveillance/CCTV industries.

IPM2 Overview

Our IMP2 product range comprises OEM module, Portable and IP67 Outdoor (ODU) models. These devices use adaptive COFDM modulation techniques to deliver industry-leading bi-directional IP wireless links capable of delivering secure video and control data (TCP or UDP) to/from one or several IP destinations/sources over extended range of up to 20kM line-of sight.

Standard product for the UK market operates in the 10MHz wide unlicensed 1394MHz band. This is suitable for general video streaming applications. Other L band frequencies can also be provided subject to engineering confirmation and local licensing.

The TDM token based MAC allows multiple IPM2 devices to share the available bandwidth conflict free and with low latency.

A key aim during the design process is to make our products easy to use. IPM2 devices are 'plug and play'. Plug an IP device into to the Ethernet connector of the local and remote IPM2 radios and power on. The radios automatically create a self forming, resilient and rapidly deployable mesh network with other in-range IPM2 devices.

Additionally, each PM2 radio can be managed and configured remotely using our Configurator tool, or locally via an on board console port.

All IPM2 models are based on the same hardware platform, hence can be interchanged according to the

IPM2 Portable Unit

Portable units are available in two versions:

IPM2N — Externally powered unit which is suitable for use in vehicles, or other portable applications where an external supply is always available.

IPM2B — A unique and fully portable unit which incorporates a high quality low self-discharge rechargeable NiMh/Lithium battery pack, allowing it to be used completely stand-alone for up to 2.5/5 hours on a full charge. These units recharge the internal battery in approximately 1.5/3hrs when a 12Volt dc power source is connected.

Both versions provide switched +12V and +5V auxiliary power outputs for powering IP cameras or similar. They also have RJ45 connector, serial console port, channel selection, RSSI, link, LAN and status indication. They are supplied with a tilt and swivel dipole

IPM2 OEM Module

OEM modules are available in two versions. Both have been designed for easy integration into vendor equipment.

IPM2C — This module provides on-board support for charging and management of compatible Lithium or NiMH battery packs.

IPM2O — This module provides the same features, but without support for rechargeable batteries.

These modules only require connection of a 9.5V to 17V DC supply, the supplied antenna and Ethernet cable in order to be operational. A number of I/O connections allow addition of a user interface by the integrator to best suite the application. This includes the direct addition of switches for navigation and LEDs and/or LCD display for status indication.

IPM2 Outdoor Unit

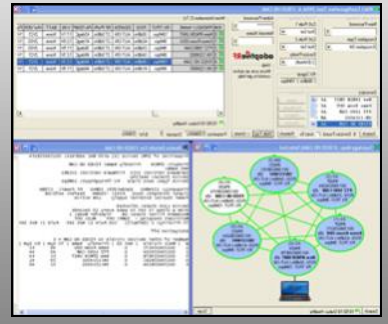
The IP67 rated outdoor unit is ready for use in an outdoor environment. The base is made from a robust die-cast Al-Si-Mg based alloy providing excellent corrosion resistance. A Gore-Tex vent is fitted to the rear side of the unit for pressure equalisation purposes and an N type antenna connector is also fitted. These units are supplied with a pole mounting bracket.

Indicators provide LAN, LINK, RSSI, TX/RX and CHANNEL status. The indicators can be disabled for more discreet use. Audible RSSI is provided for help with antenna alignment in sunlight.
These units can be supplied with different powering options, supporting POE 802.3af/at Class 0 compliant Power Source Equipment or 12V-24V AC/DC power supplies.

IPM2 Configurator

The IPM2 Configurator is a Windows™ based application, which can be used to configure and manage the COFDM IPM2 devices remotely. A network connection to one 'local' device allows all other 'remote' devices to be viewed and securely configured over-the-air.

The tool searches for linked IPM2 devices and builds a topology map of all directly and indirectly visible devices.



Detailed information is also extracted and displayed in tabular and textual formats.

Selected IPM2 devices can then be configured to set security features and modify key operating parameters.