

C-DOT Long Distance Wi-Fi



Salient Features

Operates in dual ISM bands of 2.4 and 5GHz

Automatic Beam forming which reduces the need for stringent antenna alignment

Supports 802.11s Mesh standard for reducing the necessity of line of sight requirement

Configuration and control either through Web GUI or C-DOT EMS/NMS



C-DOT long range Wi-Fi combines three unique benefits of three technologies into one, viz. long reach of optical fiber to take the high speed signal feed to 60 kms, spectrum sensing Wi-Fi solution to take the signal reliably beyond a great distance further; and Mesh technology which enables the signal to reach beyond Line of Sight as well as provides redundancy; ensuring reliable operations even in case of break of some links.

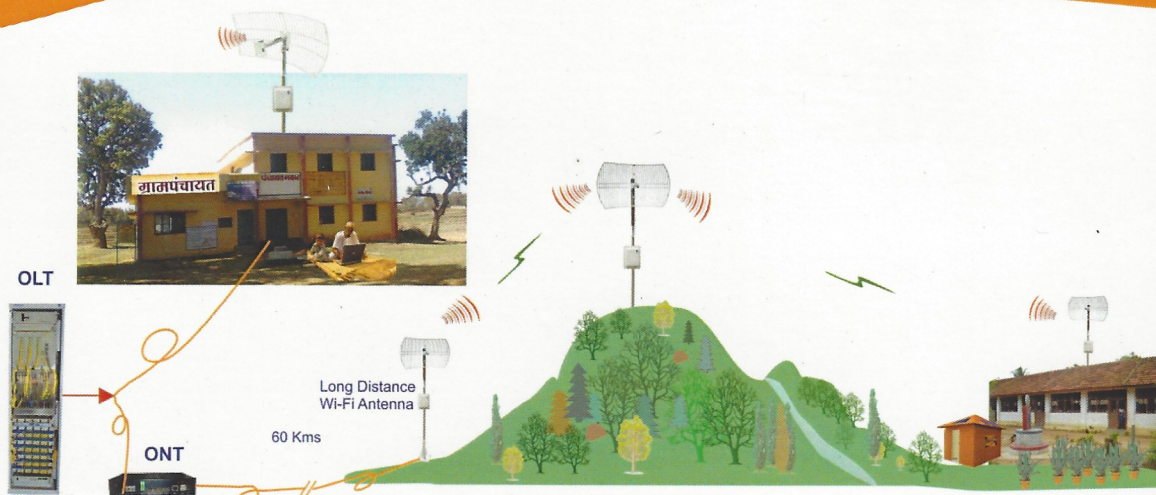
Thus this solution is ideal for increasing the penetration of broadband services in difficult and inaccessible terrains (e.g. hilly areas, dense vegetation, islands, unconnected villages, disaster sites, border areas).

Major Benefits

- ✓ Dual power feed ensuring reliability of system
- ✓ Supports operator sharing as system supports 3 radio interfaces, with different radios assigned for different operators
- ✓ Power feeding from C-DOT Green power source, which works using solar power
- ✓ Uses POE (Power Over Ethernet) thus saving the cost of running a separate power cable to terminal
- ✓ Uses spectrum sensing to choose from channel with minimum interference
- ✓ Uses Orthogonal Frequency Division Multiplexing (OFDM) technique for high spectral efficiency
- ✓ Encryption on per link basis
- ✓ Supports direct optical interface for GPON connectivity
- ✓ GPS enabled for tracking and monitoring purposes
- ✓ Support to hardened proprietary encryption for defense and standard Encryption for civilian applications
- ✓ IP67 compliant; thus suitable for all weather conditions

C-DOT's Long Distance WiFi differentiates itself with the following unique attributes

- ✓ Operator sharing
- ✓ Support to link redundancy in case of failure of one radio/link
- ✓ Optical WAN interface enabling high speed connectivity
- ✓ Mesh technology, which makes connectivity possible without need of line of sight & to provide more reliable operation
- ✓ Hardened proprietary encryption for defense applications.



Use cases

- ✓ Dense vegetation and hilly terrain
- ✓ Emergency situations
- ✓ Urban areas with high Wi-Fi penetration
- ✓ Long tunnels, highways
- ✓ Battlefield surveillance

Configurations

- ✓ Long distance Back haul
- ✓ Point to Multi Point with Three Grid antenna
- ✓ Relay/Repeater with Grid antenna
- ✓ Mesh topology for hilly/NLOS terrains

Technical Specifications

- ✓ No of radio interfaces: 3 for three direction operation; or in one direction with link redundancy with 3 radios operating in any of 2.4 to 5GHz ISM bands
- ✓ Power supply: Dual power. One through POE and second directly from solar panel or C-DOT Green power source
- ✓ Network Standard: IEEE 802.11a, 802.11b, 802.11g, 802.11n
- ✓ Uplink: Optical interface thru SFP or 10/100/1000Mbps
- ✓ Maximum throughput of the system: 600Mbps with all three radios operating in 802.11n mode
- ✓ Standard and customized on air encryptions
- ✓ Support operator sharing



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