

# Solution Overview

## 6 GHz Capacity Expansion Using 5 GHz Overlay

Applicable Products: EX-5i, EX-5i-16, EX-5i-DS3

### The Problem

Tens of thousands of 6 GHz FCC Part 101 links have been deployed in the U.S. In many cases, these systems are near or at their operational capacity and are often TDM-only systems. If operators require additional capacity, they may choose to replace the existing radio systems with new, higher capacity systems. While this approach may clearly be desirable in some cases, it does entail a delay associated with obtaining license renewal as well as significant capital costs, especially when replacing existing high capacity OC-3 and DS3 circuits.

Operators thus need an alternative to full system replacement that allows them to add incremental capacity to any legacy system and/or Ethernet capability to existing TDM-based radio systems.

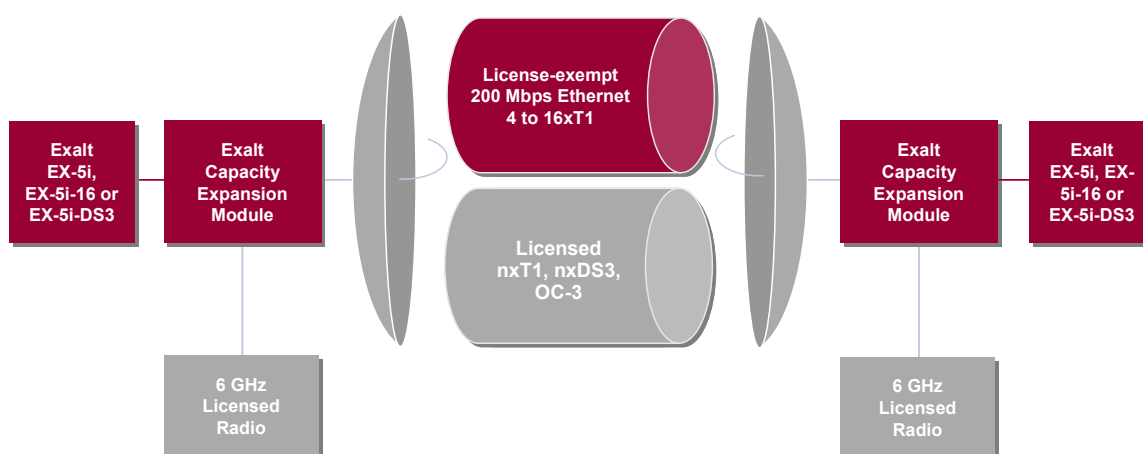
### The Solution

Exalt provides a unique solution to enable incremental TDM and Ethernet capacity expansion for existing 6 GHz FCC Part 101 microwave links. By making use of the adjacent 5 GHz license-exempt band, the capacity expansion solution can instantly and cost-effectively deliver up to an additional 200 Mbps of Ethernet capacity and up to 16xT1 and 1xDS3. This solution leverages the existing transmission infrastructure and antenna systems with minimal impact to the licensed system, requiring no additional FCC licenses.

### Solution Description

The 6 GHz capacity expansion solution can be used in conjunction with any existing licensed radio system operating between 5925 and 6875 MHz. The solution entails use of two primary elements: an Exalt tri-band license exempt radio system and the Exalt Capacity Expansion Module.

Depending upon the TDM capacity required, the EX-5i, EX-5i-16, or EX-5i-DS3 radio systems may be used, supporting 4xT1, 16xT1 and 1xDS3, respectively. All three systems support 200 Mbps aggregate Ethernet throughput.



Configuration Overview

In addition to the Capacity Expansion Module, operators may add optional waveguide adapters for CPR-137 (two per end) and standard RF interconnect cables as required.

An entire installation of the Capacity Expansion Solution requires between 1 to 1.5 rack spaces and typically can be installed in less than one hour per end. The system gain impact to the existing licensed radio is less than 1 dB.