

“Based on past (very positive) experience with the SAF hardware, I was confident that the Integra radios would provide the solution I needed, despite being new to the market. The whole upgrade was handled very well by the SAF Australia team, and the increased throughput of the new radios has significantly improved the end user experience.”

Stewart Littleford, Manager - Information Services, Ballina Shire Council

### Requirements and Challenges

Ballina Shire Council previously upgraded their microwave radio WAN in 2011. The requirement at the time was minimum 100Mbps speed or, preferably, faster. Licensed SAF CFIP Lumina 18GHz 366Mbps radios were chosen and installed.

With data usage growing over the years, the Council identified a need to upgrade to even faster data speeds in 2016. At this stage SAF had a new Integra radio available in 18GHz with increased 472Mbps throughput, however, even this speed wasn't sufficient to cover the Council's requirements.

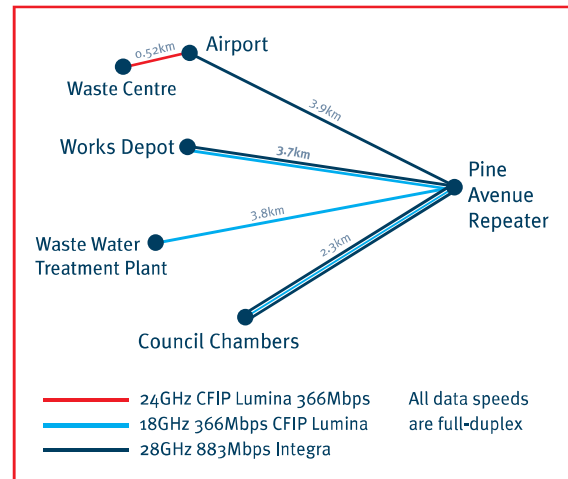
### Solution & Equipment

Following the release of a new 28GHz licensed frequency band from ACMA, SAF developed a new radio in this frequency utilising the large 112MHz channel size available. This was double of the previously largest 56MHz channel size and allowed to achieve 883Mbps full-duplex speed with a single radio. Another advantage of this solution was excellent spectrum availability- the new 28GHz links installed for Ballina Shire Council in 2017 were, in fact, the first 28GHz links licensed in Australia.

A dual 28GHz link was deployed between the Council Chambers and the Pine Avenue Repeater site adding up to 1.766Gbps full-duplex. The Council also chose to continue using their existing CFIP Lumina equipment as it had proven to be extremely reliable over the years. This older equipment now provides additional redundancy in the network as well as extra speed resulting in over 2+Gbps speed in total for the main link.

Another two 28GHz 883Mbps links were installed linking Ballina Airport and Council Works Depot sites to the Pine Avenue Repeater. The original 366Mbps Depot link is still in use, and the original 366Mbps Airport link has been re-deployed to connect a new Waste Water Treatment Plant site.

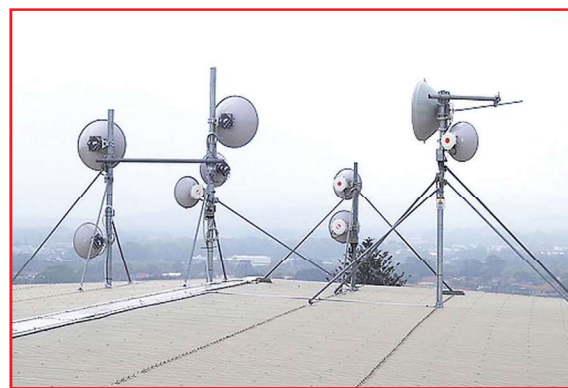
A new class-licensed 24GHz 366Mbps link has also been implemented as part of the project to connect a new Waste Centre site.



### Outcome

Ballina Shire Council network now operates at very fast data speeds ranging from 366Mbps to 2+Gbps full-duplex. Overall network availability is 100%.

SAF Australia also provides ongoing maintenance and support services to the Council, including remote monitoring and dedicated spares.



Pine Avenue Repeater