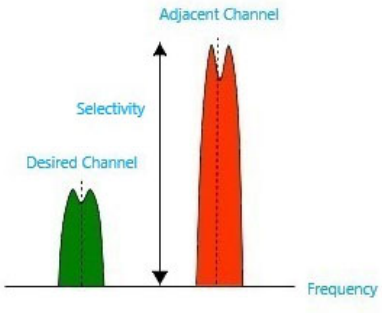
XetaWave Radios Outperform Next Generation FreeWave Radios

Importance of Receiver Selectivity

XetaWave measured the Receiver Selectivity of its Xeta9 radio and compared it to FreeWave's legacy radio, the FGR2, and next generation, the FGR3. A radio's Receiver Selectivity, or adjacent channel selectivity, is an important parameter that determines the receiver's ability to detect and decode the desired signal in the presence of unwanted interfering signals.



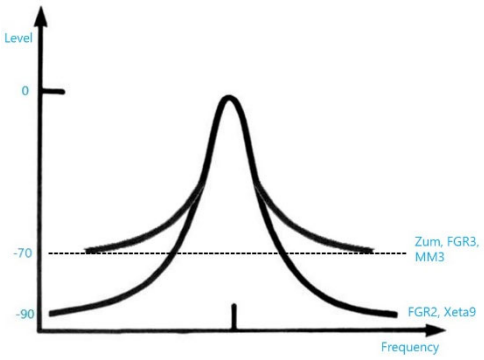
In areas that have many transmitters, the RF spectrum is highly congested with desired and undesired signals. The receiver selectivity defines the difference in signal level between the desired signal and the adjacent signal that can be rejected.

A receiver selectivity of 90 dB means that unwanted signal levels up to 90 dB above the noise floor of the receiver can be tolerated. For example, if the receiver's noise floor is -100 dBm, unwanted signals up to -90 dBm can be rejected.

Radio Design Architecture is Critical to Performance

Similar to all XetaWave radios, the FreeWave FGR2 and MM2 radio families were designed using a superheterodyne architecture and have excellent receiver selectivity and thus perform very well in noisy environments. This type of architecture, though costly and difficult to implement, produces the highest performance compared to other approaches in radio design. It requires engineers to perform many calculations and be aware of many subtleties to design a successful product.

Due to obsolete components, the FGR2 and MM2 have reached their end of life. The next generation FreeWave ZumLink, FGR3, and MM3 radio families were designed using a direct conversion chipset. This approach, commonly used in consumer grade equipment, is very inexpensive and very easy to design. The downside is that the performance level, particularly receiver selectivity, is limited and far inferior to that of the superheterodyne design used for all XetaWave radios.



Below is a chart of receiver selectivity for FreeWave's products as well as the XetaWave Xeta9 radio series *(details of testing available upon request)*:

Manufacturer	Product Family	Selectivity (dB)
FreeWave	Zum	70
FreeWave	FGR3	70
FreeWave	MM3	70
FreeWave	FGR2	90
XetaWave	XETA9	90

Risk of Operating in Highly Congested RF Spectrum

When operating in an area where the RF spectrum is highly congested, the FreeWave ZumLink, FGR3, and MM3 radios will experience more packet errors, an increase in packet rebroadcasts, and possibly an inability to maintain reliable communications based on their degraded receiver selectivity.

If you have radio networks in such an environment, then deploying a ZumLink, FGR3, or MM3 radio may not be a reliable solution. This applies to existing FGR2 networks where FGR3 radios are being installed for expansion or as a replacement for faulty units. The FGR3 radio may not communicate as well as the FGR2 radio it has replaced or as well as the other existing FGR2 radios in the network.

Cost Effective Migration Path - XetaWave Intelligent Network Synchronizer (INS)

The XetaWave Intelligent Network Synchronizer (INS) allows co-location and operation of a XetaWave network alongside a legacy FreeWave network providing the ability to replace inoperable FreeWave radios and then ultimately transition to a higher performing XetaWave network that that will be supported for years to come.

Higher Receiver Selectivity Ensures Reliability & Success of Networks

XetaWave continues to pursue the best in RF design by offering products that have superior performance and advanced capabilities achievable only through use of the superheterodyne architecture. If you can no longer obtain obsolete FGR2 radios and are considering replacing all the radios or deploying FreeWave's next generation of FGR3, ZumLink, or MM3 radios, you should strongly consider XetaWave radios to ensure the reliability and success of your networks.

Details on all XetaWave products can be accessed on the XetaWave website @ www.xetawave.com.