

Spectrum measurements to detect unwanted intermodulation products were made on the combined FM antenna system located north of Rock Springs. These measurements were made using an Anritsu spectrum analyzer on March 12, 2013, with both stations (KXJW 270A North Rock Springs and KWXR 254A Reliance) operating at full power via the combined antenna.

Sweeps of the entire FM band were performed both with the two subject stations OFF and with the two subject stations operating through the combiner system. As can be seen on the following spectrum analyzer plot, no spurious emissions were observed from the combined operation of KXJW and KWXR.

On the attached plot, markers 1 through 6 correspond to the following:

Marker 1	KWXR 98.7 MHz
Marker 2	KXJW 101.9 MHz
Marker 3	$92.3 \text{ MHz} = (3 \times 98.7) - (2 \times 101.9)$
Marker 4	$95.5 \text{ MHz} = (2 \times 98.7) - (1 \times 101.9)$
Marker 5	$105.1 \text{ MHz} = (2 \times 101.9) - (1 \times 98.7)$
Marker 6	$108.3 \text{ MHz} = (3 \times 101.9) - (2 \times 98.7)$

Any products on these frequencies are down in the noise floor.

The spike at 90.5 MHz is KUWZ 213C0 Rock Springs, which operates in the vicinity.

Therefore, it is believed that operation of KXJW and KWXR is compliant in that there are no undesired harmonic or mix products.

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March 28, 2013

Spectrum Analyzer Plot

KXJW & KWRX Operating

