

NRSC Occupied spectrum measurement - February 25, 2020

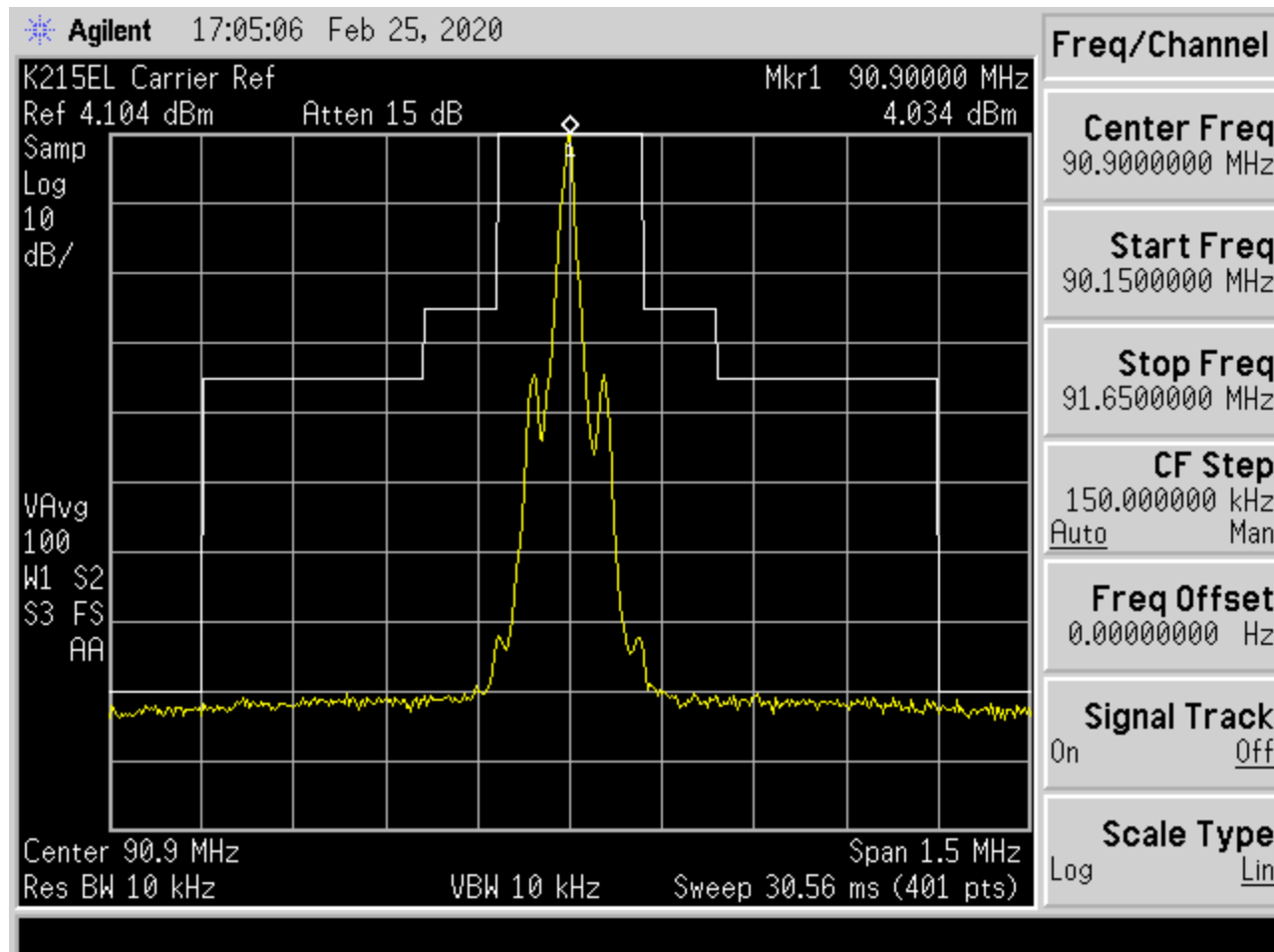
FM Translator K215EL Moab, UT / 90.9 MHz @ 250 Watts ERP

Owned and operated by KUER-FM / University of Utah, Salt Lake City, UT

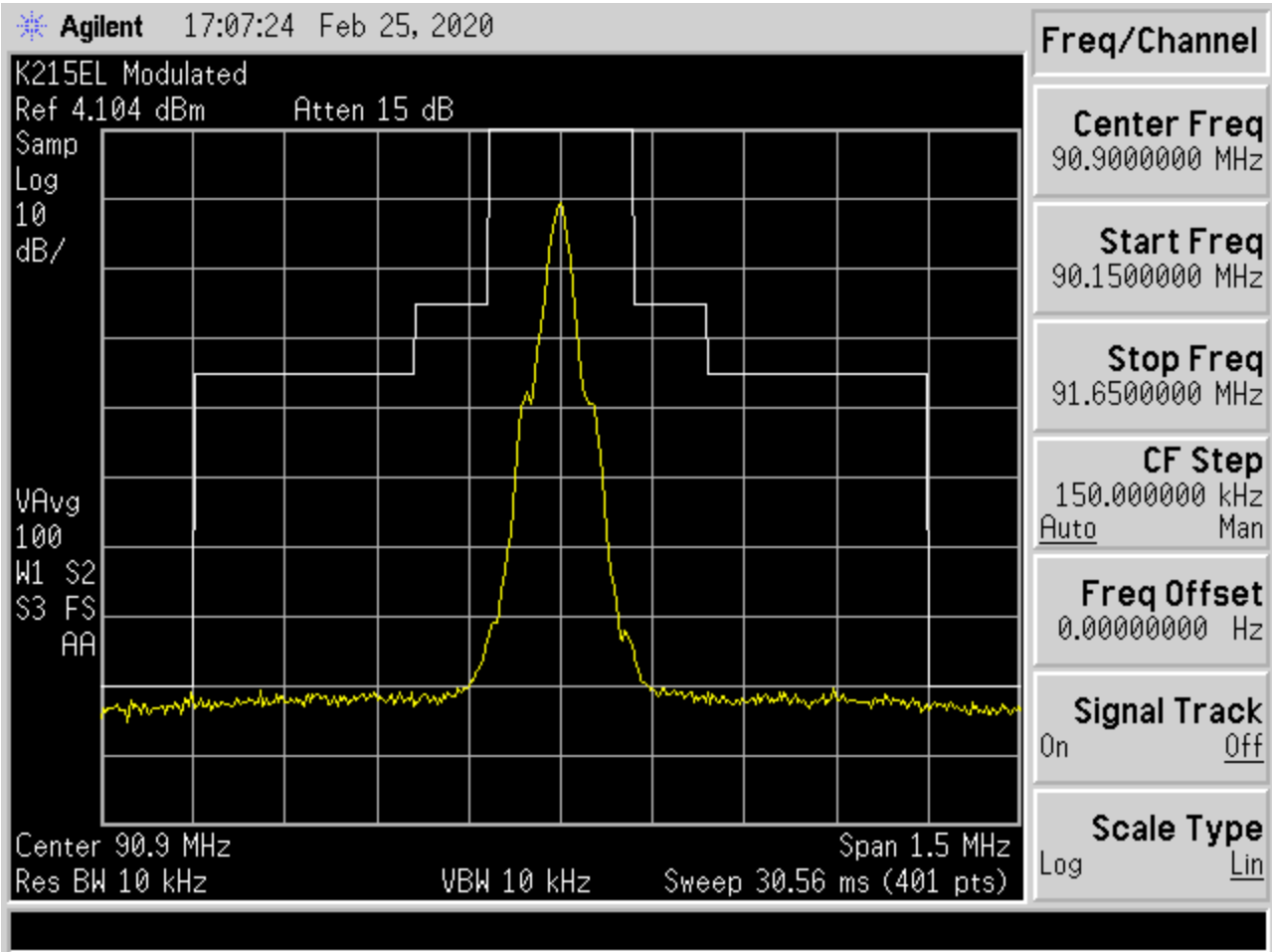
Calculated emission limit for frequencies in excess of 600 kilohertz from the center frequency:

$$10 \log(250 \text{ Watts}) + 43 \text{ dB} = 67 \text{ dB below the carrier reference}$$

Item 1 - Reference level of the unmodulated carrier, shown with the mask requirements stated in Title 47 Code of Federal Regulations Part 73.317.

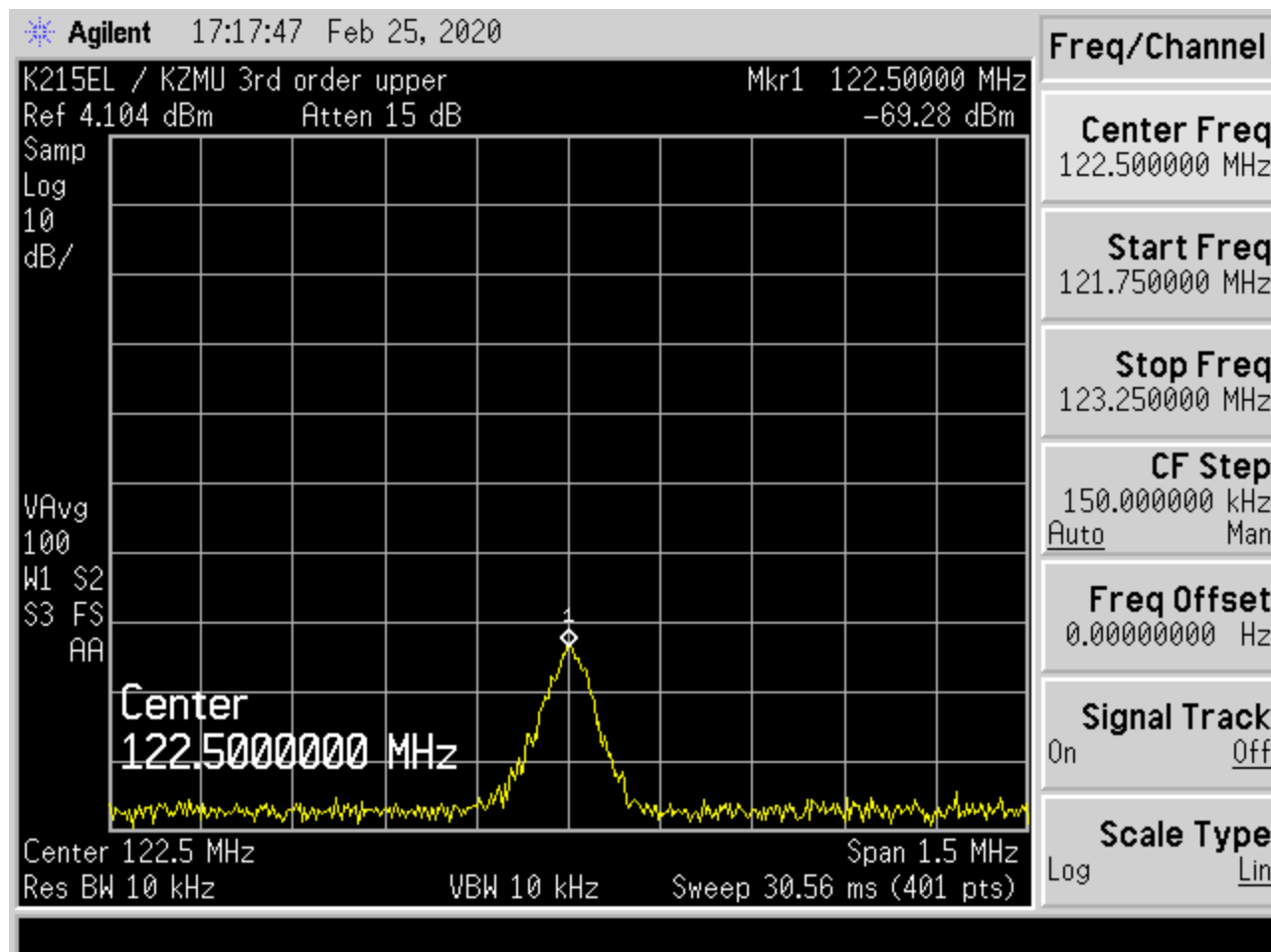


Item 2 – Fully modulated monophonic carrier with RDS, shown within mask limits.



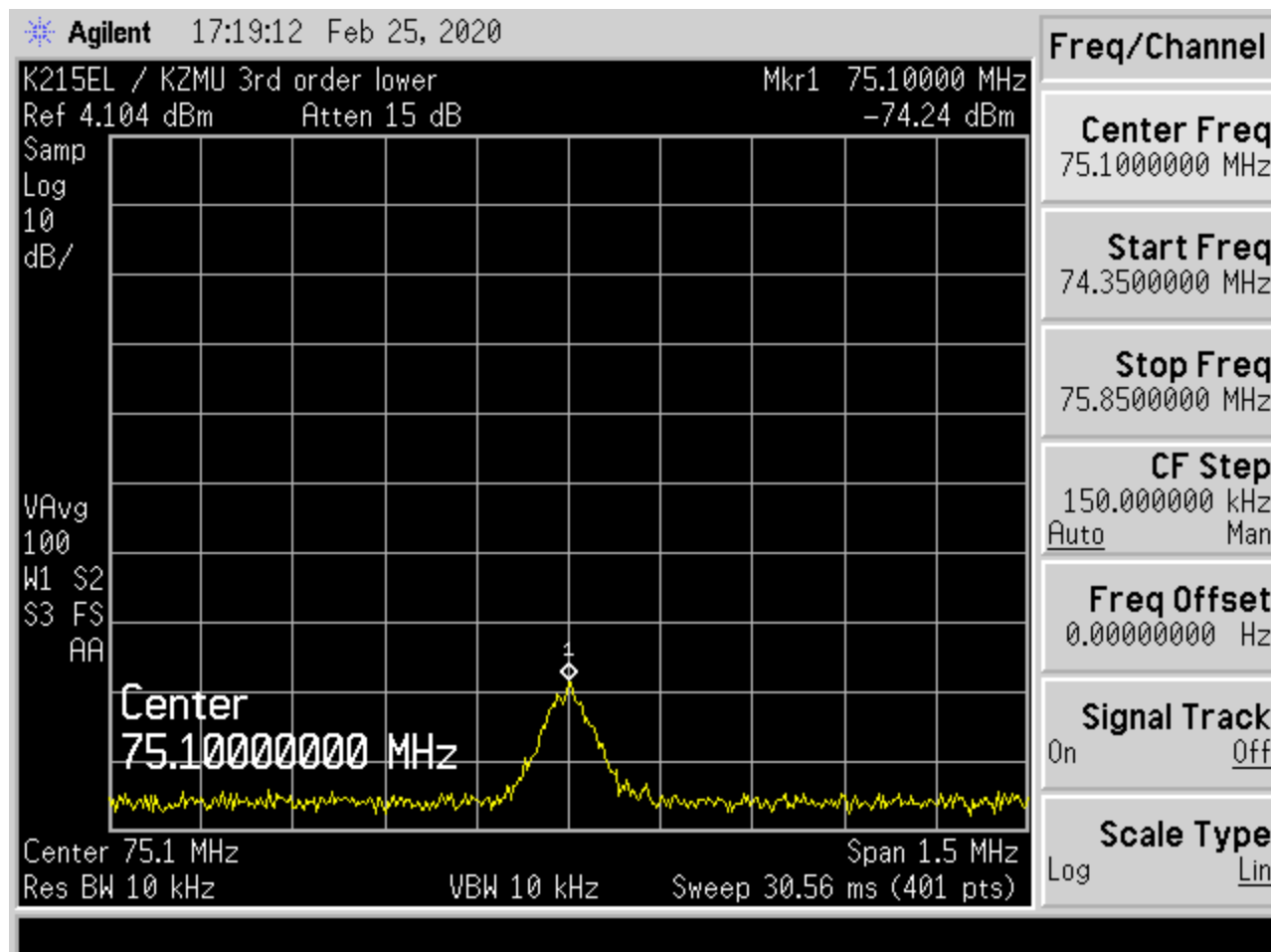
Item 3 – Upper third order inter-modulation product of K215EL and KZMU measured from the common transmission line to the common 2 bay antenna, via directional coupler.

The emission shown is 73.4 dB below the carrier reference, exceeding the 67 dB limit value.



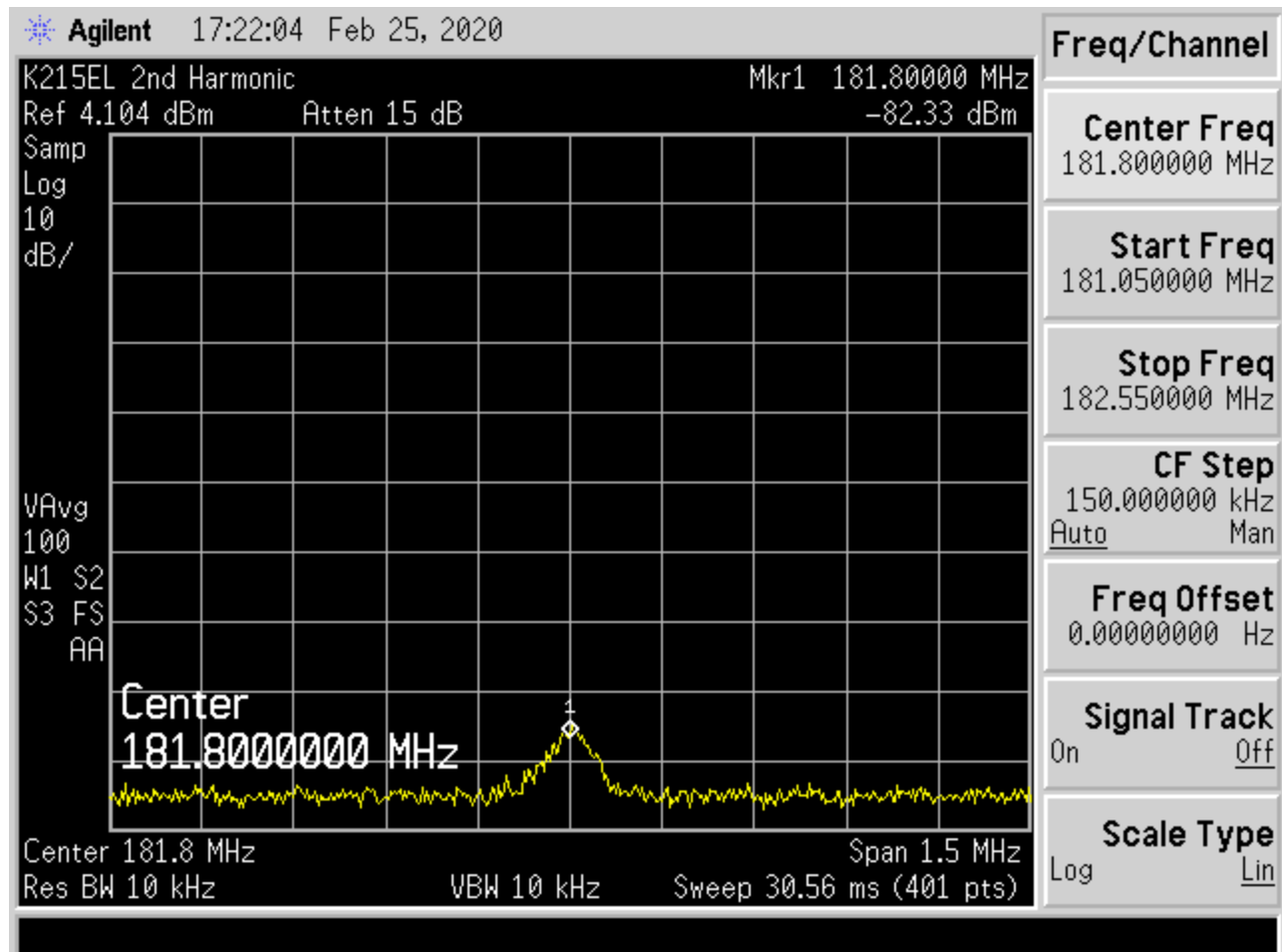
Item 4 - Lower third order inter-modulation product of K215EL and KZMU measured from the common transmission line to the common 2 bay antenna, via directional coupler.

The emission shown is 78.3 dB below the carrier reference, exceeding the 67 dB limit value.



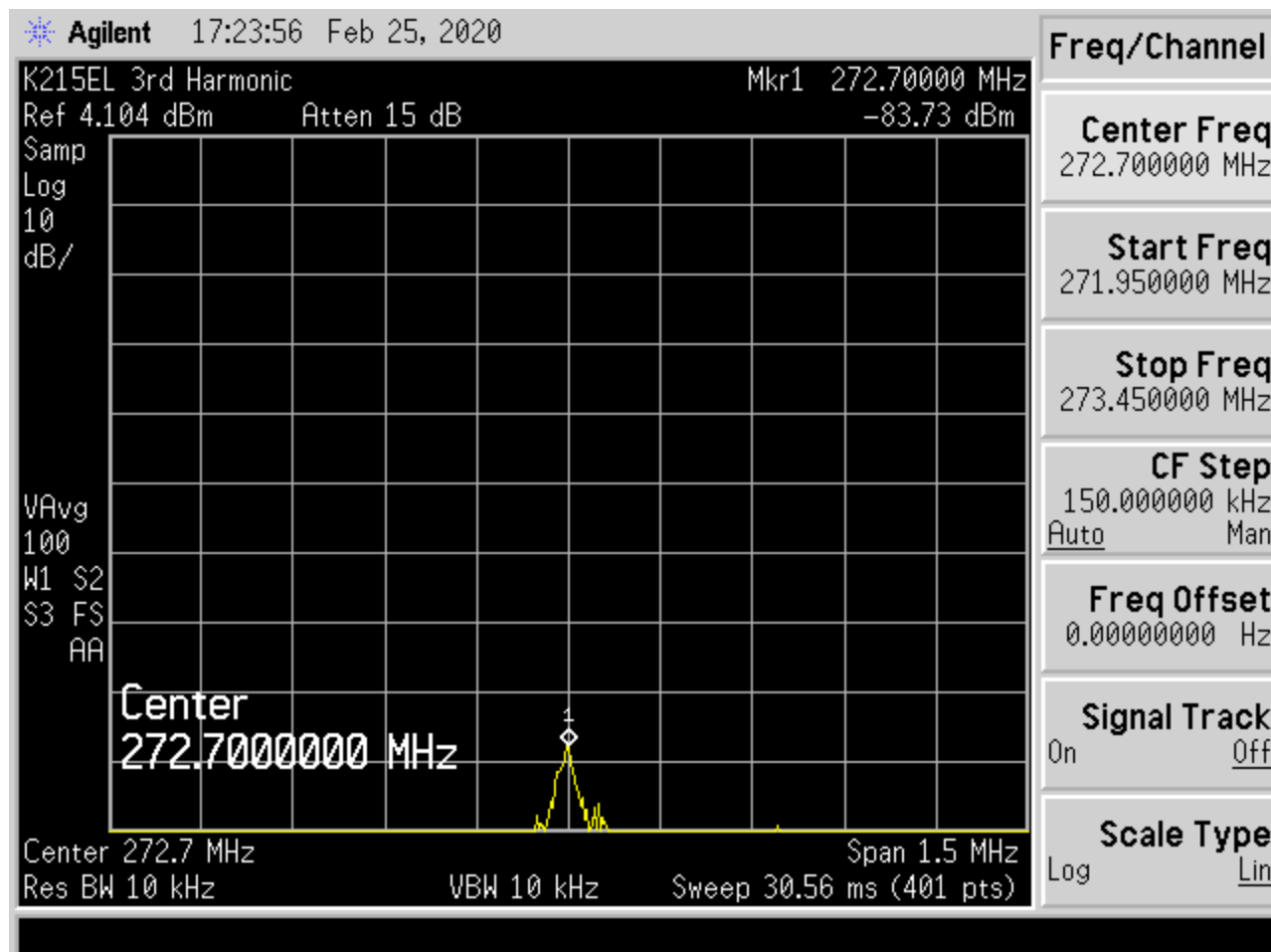
Item 5 – K215EL second harmonic @ 181.8 MHz

The emission shown is 86.4 dB below the carrier reference, exceeding the 67 dB limit value.



Item 6 – K215EL third harmonic @ 272.7 MHz

The emission shown is 87.8 dB below the carrier, exceeding the 67 dB limit value.



All measurements performed by William H Gillman using an Agilent model E4401B spectrum analyzer with recent calibration.

Questions may be directed to:

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