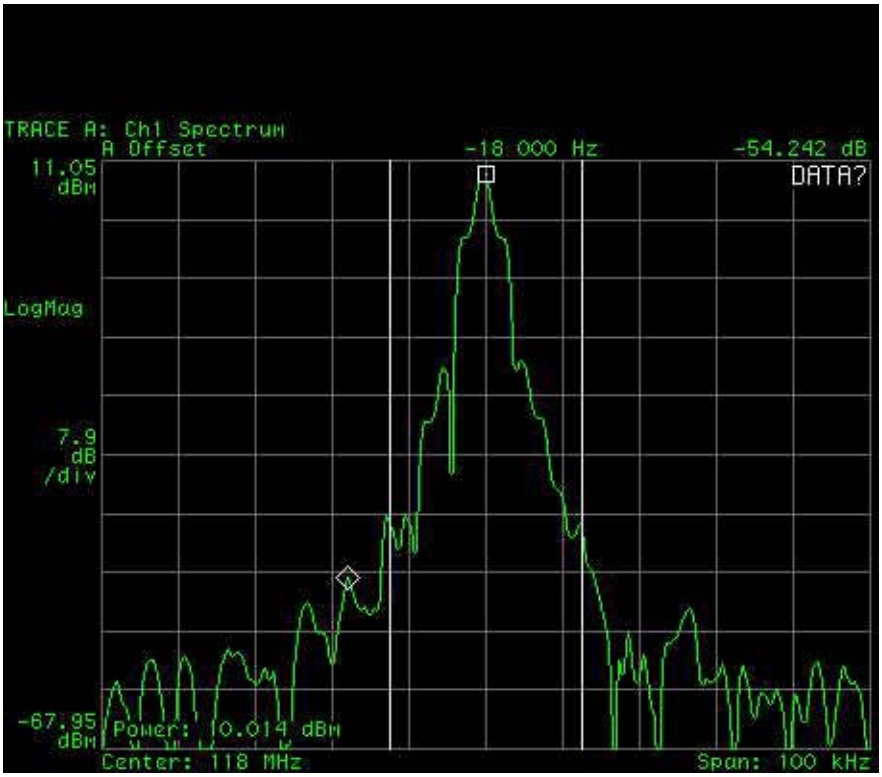
POWER

RF Power Test Data

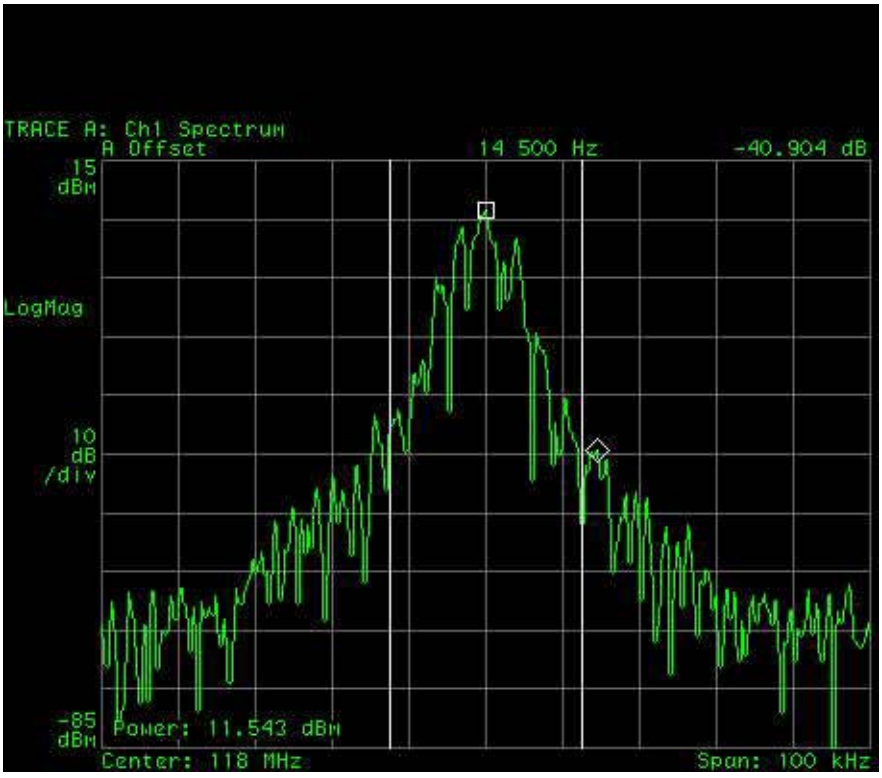
Mode	Frequency (in MHz)	Power (in dBm)	Power in watts
0	118	40.014	10
2	118	41.543	14.0181
0	131.55	40.65	11.017
2	131.55	42.469	17.8
0	136.95	41.11	13
2	136.975	42.075	18.8

Summary: The minimum power output in Mode 0 is 10 watts. The minimum power output in Mode 2 is 14.0181. The minimum output requirement for Mode 0 is 9 watts. The minimum output requirement for Mode 2 is 14 watts. The maximum output power requirement for both modes is 25 watts.

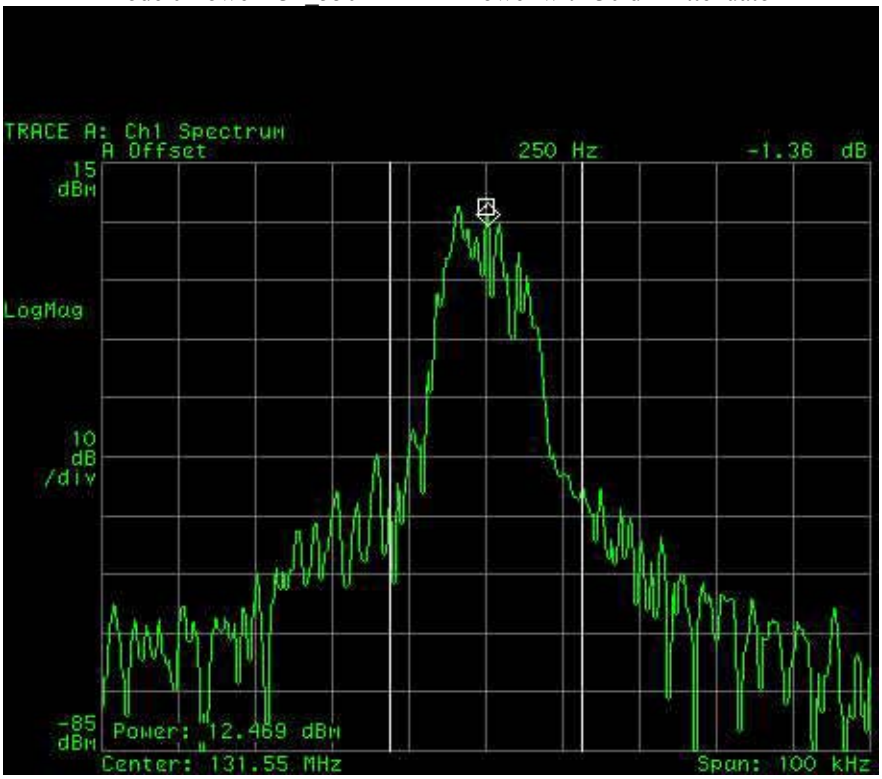
Mode O Power 118 MHz RF Power with 30 dB Attenuator



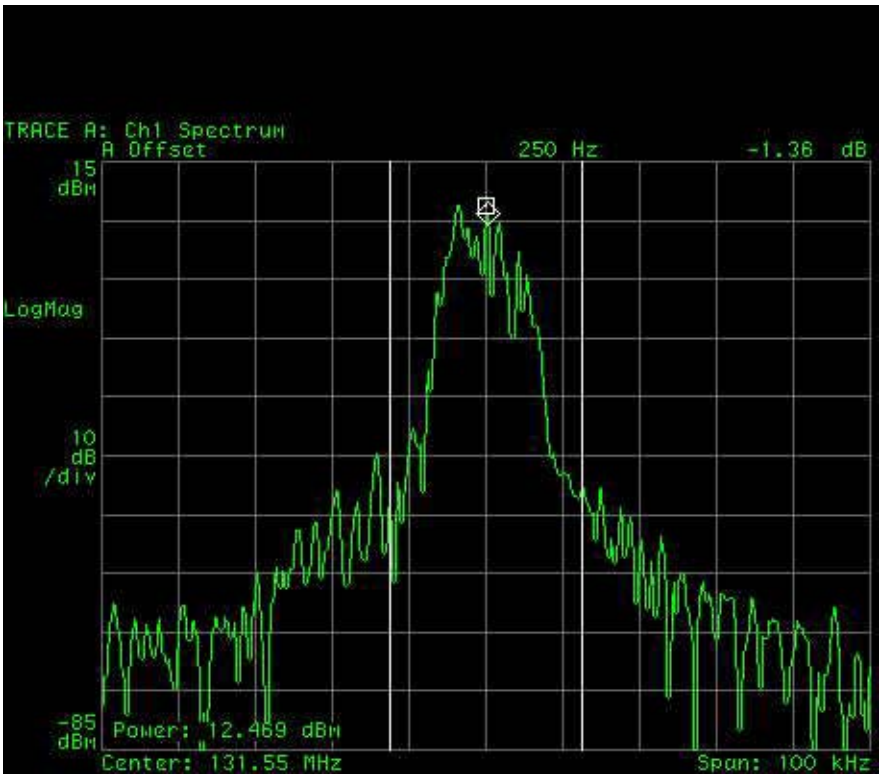
Mode 2 Power 118 MHz RF Power with 30 dB Attenuator



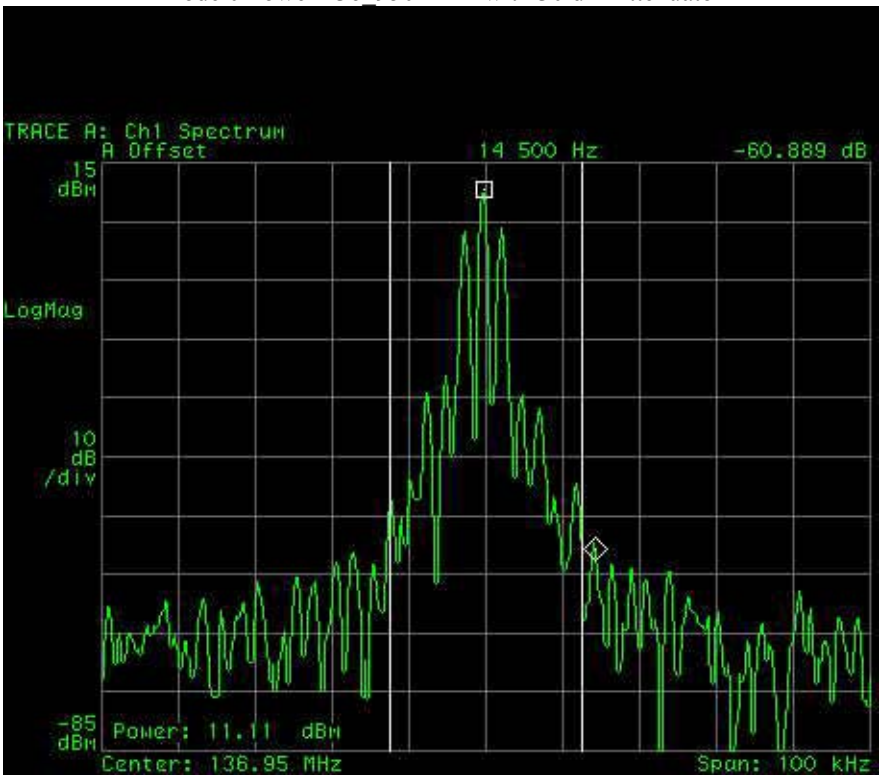
Mode 0 Power 131_550 MHz RF Power with 30 dB Attenuator



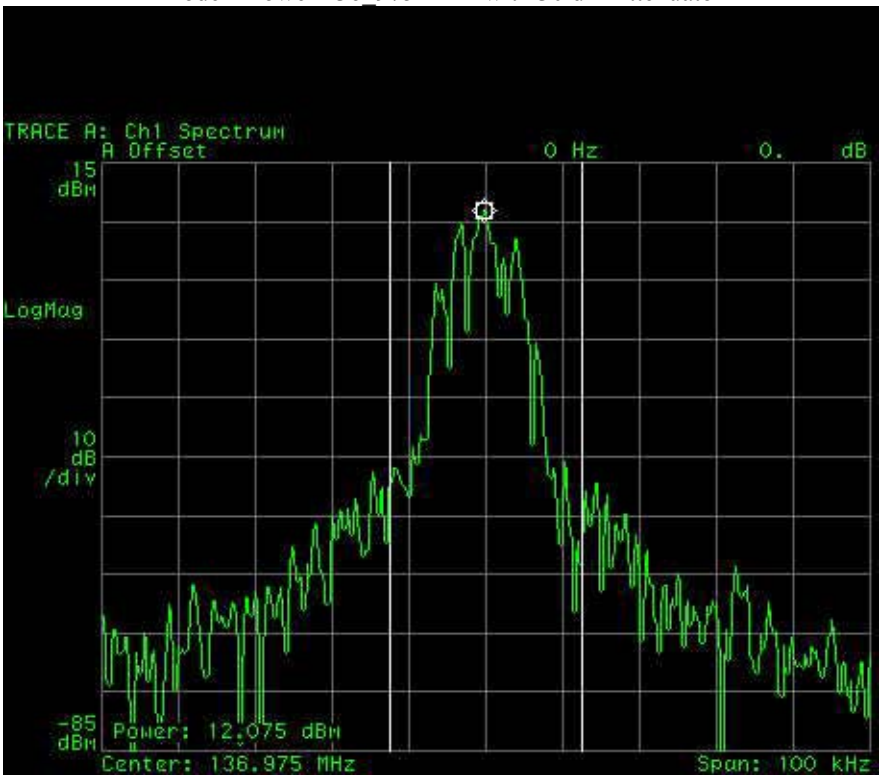
Mode 2 Power 131.550 MHz with 30 dB Attenuator



Mode 0 Power 136_950 MHz with 30 dB Attenuator



Mode 2 Power 136_975 MHz with 30 dB Attenuator



1.1 Test Procedure for RF Power, Conducted Spurious Emissions and Occupied Bandwidth

1.1.1 Test Setup

Connect the DLink+ to the RF input port on and 30dB attenuator and connect the output of the attenuator to the Agilent Vector Signal Analyzer (VSA). Connect the DLink's Ethernet port to a laptop computer which has the DLink+ ground station software. Set up the VSA to trigger on IF and establish the power band markers for 25 KHz bandwidth. Connect 28 Vdc to the DLink.

1.1.2 Procedure

Energize the DLink+. Establish communications with the DLink+ from the laptop using the ground station tool. From the laptop, command the DLink+ into the ground station mode.

1.1.3 Mode 0

Command the DLink+ into mode 0 modulation. Set the ground station frequency to 118 MHz. Send a GSIF. Verify that the VSA captured the spectrum. Perform the following measurements:

Power: Displayed in dBm in the lower left of the window. Convert to watts and record.

Conducted Spurious Emissions: Verify that all spurs decrease with respect to distance from center frequency. Set the cursor on the peak of the first, maximum spur and record the dBc relative to the center frequency.

Occupied Bandwidth: Using the cursor, move it along the spectrum until you are as close as possible to –20 dBc. Read the frequency offset from the center frequency. Multiply by 2. This is the occupied bandwidth.

Repeat this procedure at 131.550 MHz.

Repeat this procedure at 136.950 MHz.

1.1.4 Mode 2

Command the DLink+ into mode 2 modulation. Set the ground station frequency to 118 MHz. Send a GSIF. Verify that the VSA captured the spectrum. Perform the following measurements:

Power: Displayed in dBm in the lower left of the window. Convert to watts and record.

Conducted Spurious Emissions: Verify that all spurs decrease with respect to distance from center frequency. Set the cursor on the peak of the first, maximum spur and record the dBc relative to the center frequency.

Occupied Bandwidth: Using the cursor, move it along the spectrum until you are as close as possible to –20 dBc. Read the frequency offset from the center frequency. Multiply by 2. This is the occupied bandwidth.

Repeat this procedure at 131.550 MHz.

Repeat this procedure at 136.975 MHz.

Conducted Spurious Emissions, RF Power, Occupied Bandwidth,
List of Test Equipment

Vector Spectrum Analyzer
Agillent Model 89441A
S/N 3416A01908/3509A01607
Calibration Date: 3/29/04
Calibration Due: 3/29/05

Laptop with Windows Operating System and DLink+ Ground Station Software

RF Attenuator (30 dB)
Pasternak Model 7021-30
No Calibration Required (measured prior to use at 30.1 dB)

DC Power Supply
Topward Model 3306D
SN 665496
No Calibration Required