

1. **Part 2.1049 Measurements Required: Occupied bandwidth**

The Anritsu MT 8803G Globalstar User Terminal Tester was used to set up a link with the Telital SAT 550. The Anritsu MT8803G was set to 'Service option 2001' for these measurements with the maximum data rate (9600 bits/s). This produces maximum power and maximum modulation.

Its upper and lower frequencies will be +/- 1.23 MHz off the carrier frequency (e.g. for Globalstar Channel 1 at 1610.73 MHz, Lower Frequency =1609.5 MHz and Upper Frequency = 1611.96 MHz).

0.5 Percent of the mean carrier power is -23.01dBc.

A 1.23 MHz bandwidth was not possible on the Rohde and Schwarz FSEM 20 Spectrum Analyser used in the testing so 100 kHz was used. Using a Resolution Bandwidth of 100 kHz requires a bandwidth conversion to 1.23 MHz. This would be $10\log_{10}(100k/1.23M) = -10.9\text{dB}$ conversion.

Occupied Bandwidth Limit = 0.5 Percent of mean carrier power +bandwidth conversion
-23.01+(-10.9)
-33.91 dBc

Measurements were made 5 MHz either side of the centre frequency.

Globalstar Channel 1 at 1610.73 MHz the limit would be

Frequency (MHz)	Limit (dBc)
1605.73 to 1609.5	-33.91
1609.5 to 1611.96	No Requirement
1611.96 to 1615.73	-33.91

Globalstar Channel 7 at 1618.11 MHz the limit would be

Frequency (MHz)	Limit (dBc)
1613.11 to 1616.88	-33.91
1616.88 to 1619.34	No Requirement
1619.34 to 1623.11	-33.91

Globalstar Channel 13 at 1625.49 MHz the limit would be

Frequency (MHz)	Limit (dBc)
1620.49 to 1624.26	-33.91
1624.26 to 1626.72	No Requirement
1626.72 to 1630.49	-33.91

Plots were produced of the 2.1049 Occupied Bandwidth results as follows:-

Plot Filename	Details
P1.PCX	Globalstar Channel 1
P2.PCX	Globalstar Channel 7
P3.PCX	Globalstar Channel 13

See attached plot files for details.