



“SAMPLE PROCEDURE”

ABC Company	Doc T/ 1234	Revision 1	Rev. Date 4/27/2016
EMC Test System Pre-Amplifier Checks			
Originator:		Last Revision Date:	4/27/2016

Appendices

Appendix A: Measured Data Fill-in Sheet

Appendix B: Recorded Pre-amplifier Performance Data

Introduction

This test procedure describes how the small signal performance data of an amplifier is gathered and checked against previously recorded data. This is a fault finding step that establishes the health of the preamplifier. Data is gathered over 5 predetermined spot frequencies. The data is compared with the data in Appendix A

Definitions

Small-Signal Input Level: The small signal level is defined here as the input power level required to achieve 1dB amplifier gain compression **minus** 10dB. For example, if from the amplifier data sheet the input power to achieve 1dB gain compression is established as -5dBm, this level is backed off by a further 10 dB (to -15dBm) to ensure the amplifier is within it’s small signal range.

Small-Signal Range: An amplifier is operating within it’s small signal range when it is operating in a backed off condition far away from the onset of gain compression.

P1dB Gain Compression: The P1dB gain compression point of an amplifier is a figure of merit stated on the amplifier data sheet. It is the measured output power when the small-signal gain has compressed by 1dB.

Required Equipment

The test set-up is shown at Figure A.

The pre-amplifier being tested (AH Systems Model PAM-0202, 20MHz – 2GHz)

Signal Generator

Attenuator Type N (10dB, 5 watts)

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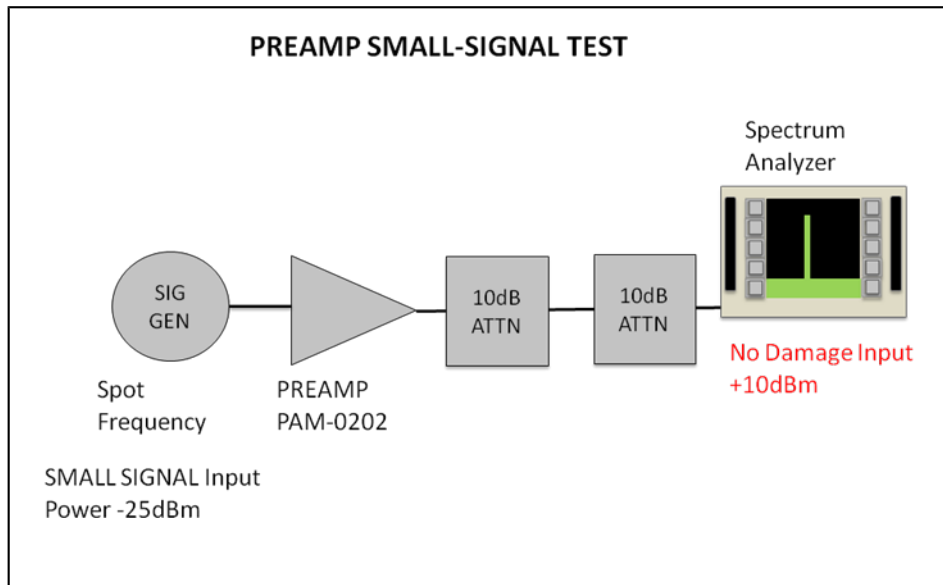
Connecting cables

Spectrum Analyzer





FIGURE A



Procedure

NOTE: Set signal generator output level to -30dBm BEFORE connecting it to the input of the preamplifier.

The five spot frequencies are 100MHz, 300MHz, 500MHz, 700MHz and 900MHz

Note: In all cases, the input signal is unmodulated, that is, the 80% AM modulation is OFF.

With the signal generator output set at -30dBm and the output set to OFF, set up the test equipment as shown in Figure A.

Set the frequency to the first spot frequency on the fill-in sheet (Appendix A)

Adjust the signal generator output to -20dBm

Set the signal generator output to ON

Measure the preamplifier output power on the spectrum analyzer (in dBm)

Repeat for all spot frequencies

Compare the measured data with the previously recorded data (Appendix B). If the data is within +/- 1dB, the preamplifier is healthy.

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