GENERAL INFORMATION REQUIREMENTS

Paragraph 2.983(a)

Name of Applicant: Samson Technologies

Address of Applicant: 575 Underhill Blvd.
Syosset, NY 11791

Name of Manufacturer: Samson Technologies

Paragraph 2.983(b)

Equipment Identification: **FCC ID: CCRAH1M**

Paragraph 2.02(c)(1)

Necessary Bandwidth Determination:

The necessary bandwidth was calculated utilizing the following formula:

$B_n = 2M + 2D$ M = 32.8 kHz
D = 15 kHz

$B_n = 2(32.8) + 2(15) = 95.6$ kHz

Paragraph 2.1046

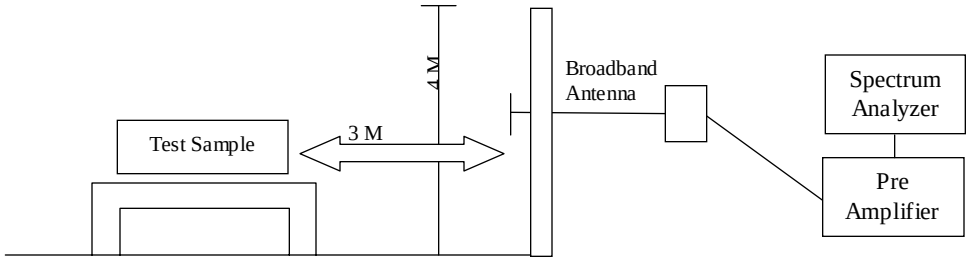
Power Output, Effective Radiated Power

POWER OUTPUT, EFFECTIVE RADIATED POWER (Para. 2.1046)

A. Measurement Procedure:

The transmitter under test was placed on an 80 cm. high non metallic table on the Open Air Test Site with its antenna polarized vertically. A receive dipole antenna was placed three meters away from the transmitter. The turntable was rotated 360 degrees and the receive antenna was raised and lowered from 1 to 4 meters until a maximum reading was obtained. This reading was recorded. The transmitter under test was replaced with a dipole and signal generator. The signal generator was set to the frequency of the transmitter under test. The level of the signal generator was increased until the level was equal to that previously measured. The required input level from the signal generator in dBm was recorded and converted into milliwatts. This was the Effective Radiated Power of the transmitter.

Setup of the test is shown below:



B. Test Results:

The results for the above test are submitted as a separate attachment named ERP.pdf.

Paragraph 2.1047

Modulation Characteristics

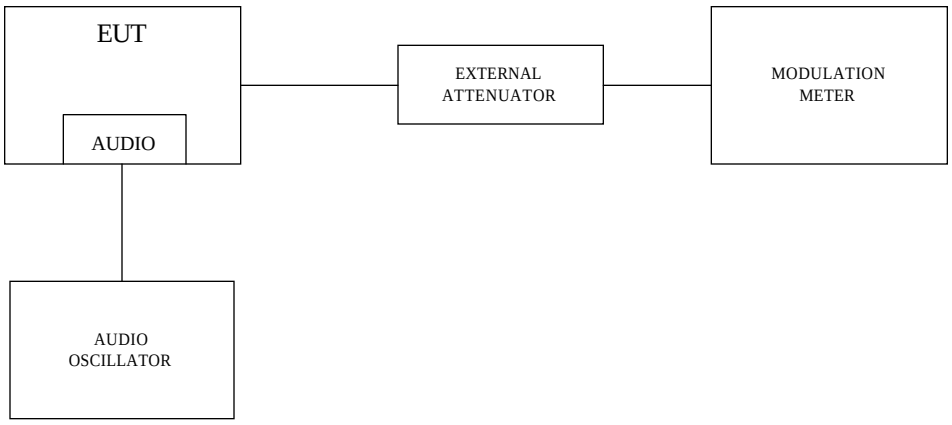
MODULATION CHARACTERISTICS (2.1047)

A. Measurement Procedure:

An Audio Oscillator was directly coupled to the audio input of the transmitter under test. The RF Output at the antenna terminals was loosely coupled to a modulation meter as shown below.

The audio level applied to the input was adjusted from –50dBm to +10dBm at each frequency listed herein. At each test frequency and level, the FM modulation was recorded.

Setup of the above test is shown below:



B. Test Results:

The test data for this method are being submitted as a separate attachment, named modchar.pdf.

Paragraph 2.1049

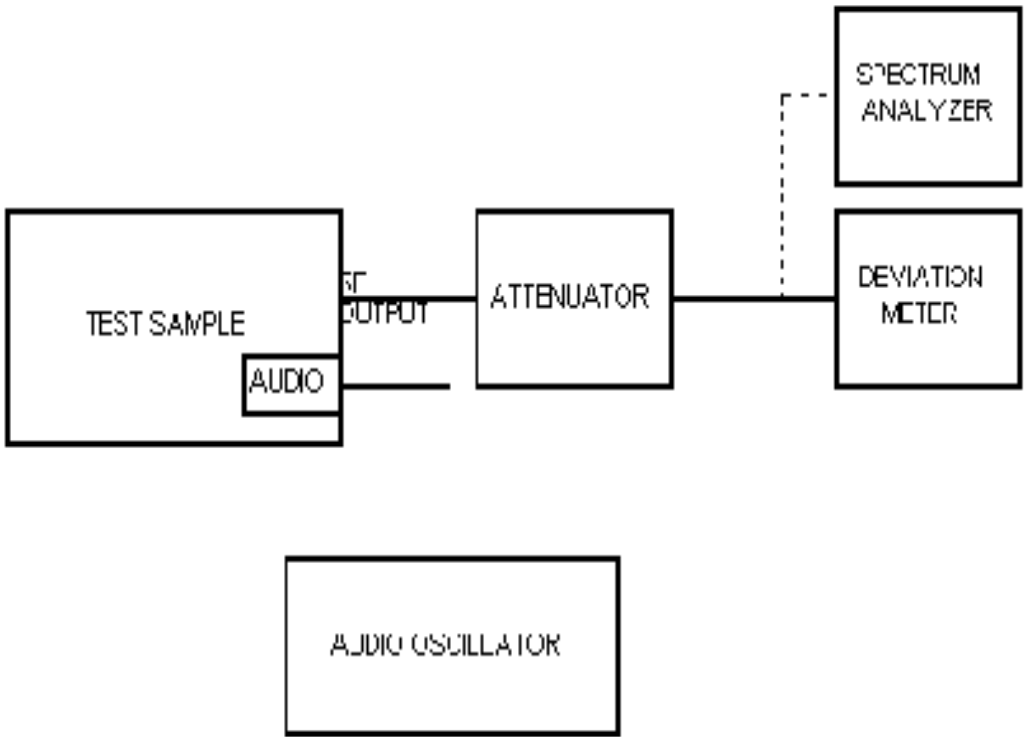
Occupied Bandwidth

OCCUPIED BANDWIDTH (PARA.2.1049)

A. Measurement Procedure:

An audio signal was directly coupled to the audio input of the test sample. The RF output was monitored using a deviation meter. The audio input level was increased to produce a 50% deviation +16dB. The RF output was then loosely coupled through external attenuators to a spectrum analyzer. The occupied bandwidth of the RF carrier, modulated at 50% deviation +16dB, was then measured. The above procedure was performed with the audio input frequencies of 1000, 2500, and 15000 Hz. The modulated signal must be within the template as specified by the applicable paragraph in Part 74.

Setup of the test is shown below:



B. Test Results:

The results for the above test are submitted as a separate attachment named occbw.pdf.

Para. 2.1053

Field Strength of Spurious Radiation

FIELD STRENGTH OF SPURIOUS RADIATION (PARA 2.1053)

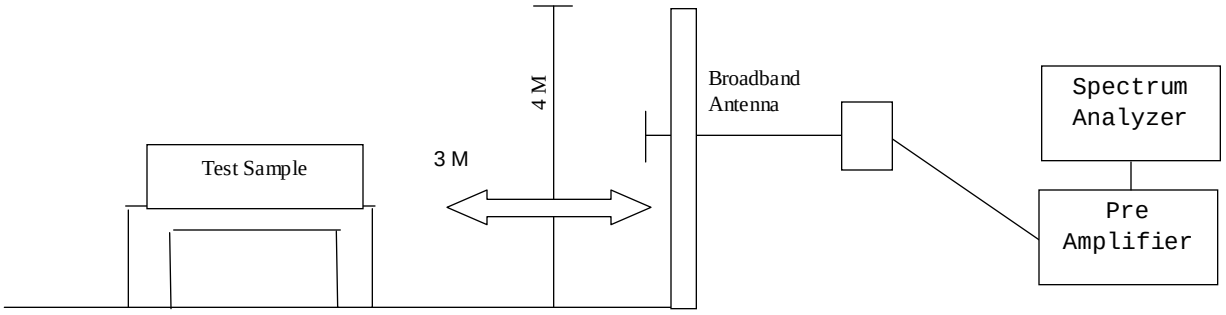
A. Measurement Procedure:

The test sample was then placed on an 80cm high wooden test stand, which was located three meters from the test antenna on an FCC listed test site. The frequency range scanned was from the lowest frequency generated by the test sample to its tenth harmonic. In order to maximize the level of each emission observed from the test sample, the broadband antenna was tuned to the frequency of each emission and the test sample was rotated 360 degrees. To further maximize the each emission observed, the test antenna was both horizontally and vertically polarized, and then was raised and lowered from one to four meters from the ground plane. The limits for all of the spurious emissions was calculated utilizing the measured output power and the following equation:

Limit <dB:V/M> = $20 \log [\{(49.2 \times P_T)^{½}/3\} \times 10^6] - (43 + 10 \log P_T)$

The above procedure was performed at the lower, middle and upper frequencies of the device's range.

Setup of the test is shown below:



B. Test Results:

The results for the above test are submitted as a separate attachment named spurious case.pdf.

Paragraph 2.1055

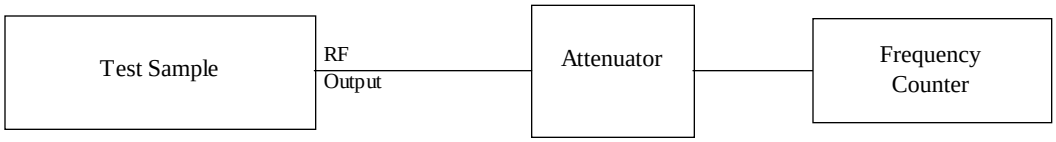
Frequency Stability

FREQUENCY STABILITY MEASUREMENTS

A. Measurement Procedure (Frequency vs. Voltage):

The RF output of the test sample was coupled to a frequency counter through external attenuation. Using a Variable power supply and voltmeter, the input voltage was varied. Measurements were taken with the device being supplied with 85, 100, and 115 percent of its rated input voltage and set to transmit the unmodulated carrier frequency.

Setup of the test is shown below:



B. Test Results:

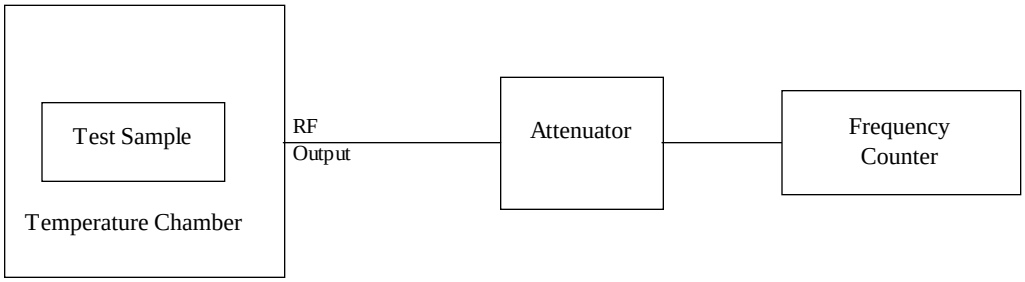
The results for the above test are submitted as a separate attachment named freq voltage.pdf.

FREQUENCY STABILITY MEASUREMENTS (PARA 2.995)

A. Measurement Procedure (Frequency vs. Temperature)

The RF output of the test sample was coupled to a frequency counter through external attenuators. With the counter connected, the test sample was activated and placed into a temperature chamber. The temperature was then programmed to start at -30 degrees Celsius and reach +50 degrees Celsius in 10 degrees increments. Each increment was held for 30 minutes in order to let the test sample stabilize at that temperature.

Setup of the test is shown below:



B. Test Results:

The results for the above test are submitted as a separate attachment named freq temp.pdf.

This device contains a thermal switch, which shuts the transmitter off below -10°C.

EQUIPMENT LISTS

FCC 2.1046 ERP, 804.7MHz

EN	Type	Manufacturer	Description.	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3 Meter	RNY	10/15/1997	10/15/2000
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	03/20/2000	09/20/2000
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	03/20/2000	09/20/2000
3002	Tuned Dipole Antenna	Empire Devices	400 MHz - 1 GHz	T3	08/01/1997	08/01/2000
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	10/22/1998	05/22/2000
530	AM/FM Signal Generator	Marconi Instru.	10 kHz - 1.2 GHz	2023	05/01/2000	05/01/2001

FCC 74.861(e)(3) Frequency Response and Modulation Characteristics

EN	Type	Manufacturer	Description.	Model No.	Cal Date	Due Date
091	Shielded Enclosure	Retlif	10 kHz - 1 GHz	Room 6	07/14/1999	07/14/2000
159	Frequency Counter	Leader	10 Hz - 1 GHz	LDC-825	09/15/1999	09/15/2000
419	Modulation Meter	Boonton Electronics	.01 - 1.2 GHz	82AD	05/03/2000	05/03/2001
488	HP Test Oscillator	Hewlett Packard	10 Hz - 10 MHz	654A	05/02/2000	05/02/2001

Frequency Stability versus Input Voltage (85% to 115%)

EN	Type	Manufacturer	Description.	Model No.	Cal Date	Due Date
091	Shielded Enclosure	Retlif	10 kHz - 1 GHz	Room 6	07/14/1999	07/14/2000
159	Frequency Counter	Leader	10 Hz - 1 GHz	LDC-825	09/15/1999	09/15/2000
520F	Digital Multimeter	Wavetek	N/A	DM25XT	01/06/2000	07/06/2000
696	DC Power Supply	BK Precision	30V/3A	1730	08/20/1999	08/20/2000

Frequency Stability versus Temperature (-30 degrees C. to 50 degrees C.)

EN	Type	Manufacturer	Description.	Model No.	Cal Date	Due Date
159	Frequency Counter	Leader	10 Hz - 1 GHz	LDC-825	09/15/1999	09/15/2000
520F	Digital Multimeter	Wavetek	N/A	DM25XT	01/06/2000	07/06/2000
612	Temperature Chamber	Thermotron Corp.	N/A	SE-1000L	01/18/2000	01/18/2001
696	DC Power Supply	BK Precision	30V/3A	1730	08/20/1999	08/20/2000

FCC 74.861(e)(5) Occupied Bandwidth

EN	Type	Manufacturer	Description.	Model No.	Cal Date	Due Date
091	Shielded Enclosure	Retlif	10 kHz - 1 GHz	Room 6	07/14/1999	07/14/2000
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	03/08/2000	03/08/2001
488	HP Test Oscillator	Hewlett Packard	10 Hz - 10 MHz	654A	05/02/2000	05/02/2001
544	EMC Analyzer	Hewlett Packard	9.0 kHz - 1.8 GHz	8591EM	08/25/1999	08/25/2000

FCC Part 2 Radiated Emissions; Spurious, 30MHz to 9GHz

EN	Type	Manufacturer	Description.	Model No.	Cal Date	Due Date
061	High Gain Horn Antenna	Microlab/FXR	1 GHz - 1.7 GHz	L638A	01/25/2000	01/25/2001
062	High Gain Horn Antenna	Microlab/FXR	1.7 GHz - 2.6 GHz	R638A	01/25/2000	01/25/2001
063	High Gain Horn Antenna	Microlab/FXR	2.6 GHz-3.95 GHz	S638A	01/26/2000	01/26/2001
064	High Gain Horn Antenna	Microlab/FXR	3.95 GHz - 5.85 GHz	H638A	01/26/2000	01/26/2001
065	High Gain Horn Antenna	Microlab/FXR	5.85 GHz - 8.2 GHz	C638A	01/26/2000	01/26/2001
067	Open Area Test Site	Retlif	3 Meter	RNY	10/15/1997	10/15/2000
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	06/22/1999	06/22/2000
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	03/20/2000	09/20/2000
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	03/08/2000	03/08/2001
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	03/20/2000	09/20/2000
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	06/22/1999	06/22/2000
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	10/22/1998	05/22/2000
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	06/16/1999	06/16/2001