

Annex B: Document # 156-90000-892

NAME OF TEST:	Transmitter's spurious emissions at antenna terminals
RULE PART NUMBER:	2.1051, 90.543(c)
UNIT UNDER TEST	Prototype Gemini 3.5 700/800 MHz
SERIAL NUMBER (S):	C10-prototype 16-level FSK Gemini GCU III modem MAC ID#- NA 6085-102 S/N 15120 pilot MDP transceiver – spurious products
TEST CONDITIONS:	RF voltage measured at antenna terminals. Standard Test Conditions, 25 C.

NAME OF TEST: Transmitter Spurious and Harmonic Outputs

RULE PART NUMBER: 2.1051, 90.543(c), 27.53(d) (3)

MINIMUM STANDARD: For 30 Watts:
 $43 + 10\log_{10}(30 \text{ Watts}) = 57.8 \text{ dBc}$
or 70 dBc whichever is the lesser attenuation.

For 10 Watts:
 $43 + 10\log_{10}(10 \text{ Watts}) = 53 \text{ dBc}$
or 70 dBc whichever is the lesser attenuation.

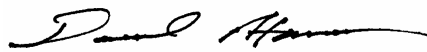
TEST RESULTS: Meets minimum standard (see data on the following page)

TEST CONDITIONS: Standard Test Conditions, 25 C
RF voltage measured at antenna terminals

TEST PROCEDURE: TIA/EIA - 603, 2.2.13

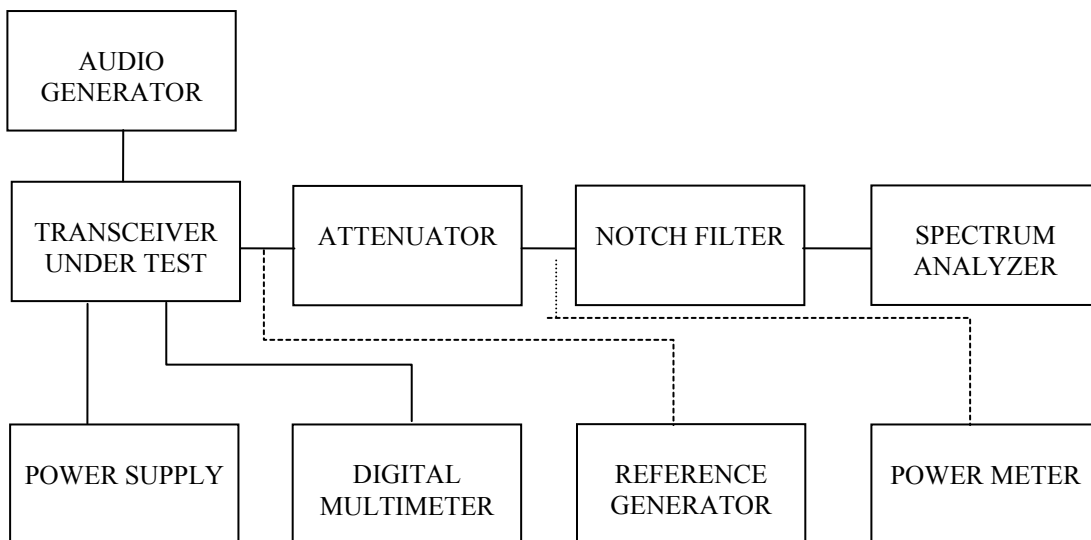
TEST EQUIPMENT: Attenuator, BIRD Model / 50-A-MFN-20 / 20 dB / 50 Watt
Attenuator, BIRD Model / 10-A-MFN-10 / 10 dB / 10 Watt
Digital Voltmeter, Fluke Model 8012A
DC Power Source, Model HP6024A
Spectrum Analyzer, Model HP8563E
Reference Generator, Model Agilent E8257D
Power Meter, Model HP437B
Audio Generator, Model HP8903B

PERFORMED BY:



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Date: 3/28/06



NAME OF TEST: Transmitter Spurious and Harmonic Outputs
(Continued)

MEASUREMENT PROCEDURE:

1. The transmitter carrier output frequency is 800 MHz. The reference oscillator frequency is 17.5000 MHz.
2. After carrier reference was established on spectrum analyzer, the notch filter was adjusted to null the carrier F_c to extend the range of the spectrum analyzer for harmonic measurements.
3. At each spurious frequency, Generator substitution was used to establish the true spurious level.
4. The spectrum was scanned to the 10th harmonic.

TEST DATA: See following page.

NAME OF TEST:

Transmitter Spurious and Harmonic Outputs
(Continued)

Frequency:	800	MHz	Minimum Spec:	57.8	dBc
Power:	30	Watts	Worst Case:	68.3	dBc
	44.8	dBm			
Spurious Frequency (MHz)	Spec An Spurious Level (dBm)	Path Loss (dB)	Actual Spurious Lvl (dBm)	Spurious Attenuation (dBc)	
1600	-62.7	-7.5	-55.2	-99.9	
2400	-70.2	-7.0	-63.2	-107.9	
3200	-67.8	-8.5	-59.3	-104.1	
4000	-56.8	-10.8	-46.0	-90.8	
4800	-32.0	-8.5	-23.5	-68.3	
5600	-37.5	-9.3	-28.2	-72.9	
6400	-48.8	-9.0	-39.8	-84.6	
7200	-39.5	-9.3	-30.2	-74.9	
8000	-50.8	-18.2	-32.7	-77.4	

Frequency:	800	MHz	Minimum Spec:	53.0	dBc
Power:	10	Watts	Worst Case:	75.5	dBc
	40.0	dBm			
Spurious Frequency (MHz)	Spec An Spurious Level (dBm)	Path Loss (dB)	Actual Spurious Lvl (dBm)	Spurious Attenuation (dBc)	
1600	-77.7	-7.5	-70.2	-110.2	
2400	-70.2	-7.0	-63.2	-103.2	
3200	-75.7	-8.5	-67.2	-107.2	
4000	-79.5	-10.8	-68.7	-108.7	
4800	-57.7	-8.5	-49.2	-89.2	
5600	-67.7	-9.3	-58.3	-98.3	
6400	-73.8	-9.0	-64.8	-104.8	
7200	-67.8	-9.3	-58.5	-98.5	
8000	-53.7	-18.2	-35.5	-75.5	