

NAME OF TEST:

Transmitter Spurious and Harmonic Outputs

RULE PART NUMBER: 2.1033 c (14), 2.1041, 2.1051, 90.210 (d)(3)

MINIMUM STANDARD: For 27 Watt:
 $50 + 10 \log_{10}(27 \text{ Watts}) = 64.3 \text{ dBc}$
 or 70 dBc whichever is the lesser attenuation.
 For 10 Watt:
 $50 + 10 \log_{10}(5 \text{ Watts}) = 60 \text{ dBc}$
 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

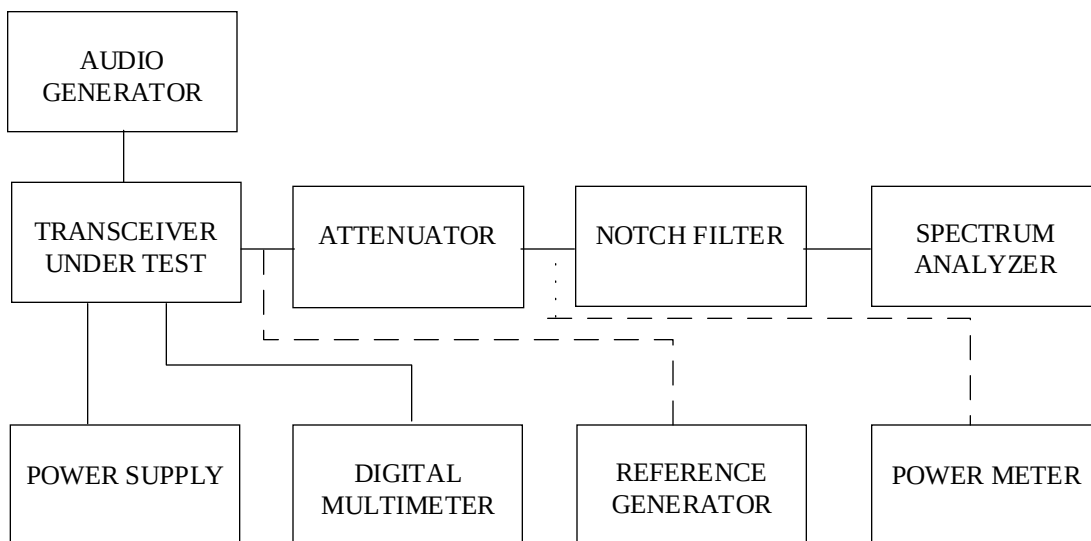
TEST EQUIPMENT: Attenuator, BIRD Model / 100-A-MFN-20 / 20 dB / 100 Watt
 Attenuator, BIRD Model / 50-A-MFN-03 / 3 dB / 50 Watt
 Digital Voltmeter, Fluke Model 8012A
 DC Power Source, Model HP6552A
 Spectrum Analyzer, Model HP8563E
 Reference Generator, Model HP83732B
 Power Meter, Model HP 8901B
 Audio Generator, Model HP8903B

PERFORMED BY:

Allen Frederick

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Date:07/02/02



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MEASUREMENT PROCEDURE:

1. The transmitter carrier output frequency is 899 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.

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(Continued)

Tuned Freq	899	MHz	Minimum Spec	64.3	dBc
Power (W)	27	Watts	Worse Case	76.3	dBc
Power (dBm)	44.3	dBm			
Relation to Fo	Freq (MHz)	Path Loss (dB)	Spurious Level (dBm)	Substitution Generator (dBm)	Spurious Level (dBc)
2	1798	31	-66.7	-35.7	80.0
3	2697	31	-65.7	-34.7	79.0
4	3596	35	-77	-42	86.3
5	4495	35	-72.5	-37.5	81.8
6	5394	59	-100	-41	85.3
7	6293	53	-100	-47	91.3
8	7192	68	-100	-32	76.3
9	8091	67	-118	-51	95.3
10	8990	80	-118	-38	82.3

Tuned Freq	899	MHz	Minimum Spec	60.0	dBc
Power (W)	10	Watts	Worse Case	72.0	dBc
Power (dBm)	40.0	dBm			
Relation to Fo	Freq (MHz)	Path Loss (dB)	Spurious Level (dBm)	Substitution Generator (dBm)	Spurious Level (dBc)
2	1798	31	-72	-41	81.0
3	2697	31	-74	-43	83.0
4	3596	35	-95	-60	100.0
5	4495	35	-75	-40	80.0
6	5394	59	-100	-41	81.0
7	6293	53	-100	-47	87.0
8	7192	68	-100	-32	72.0
9	8091	67	-118	-51	91.0
10	8990	80	-118	-38	78.0