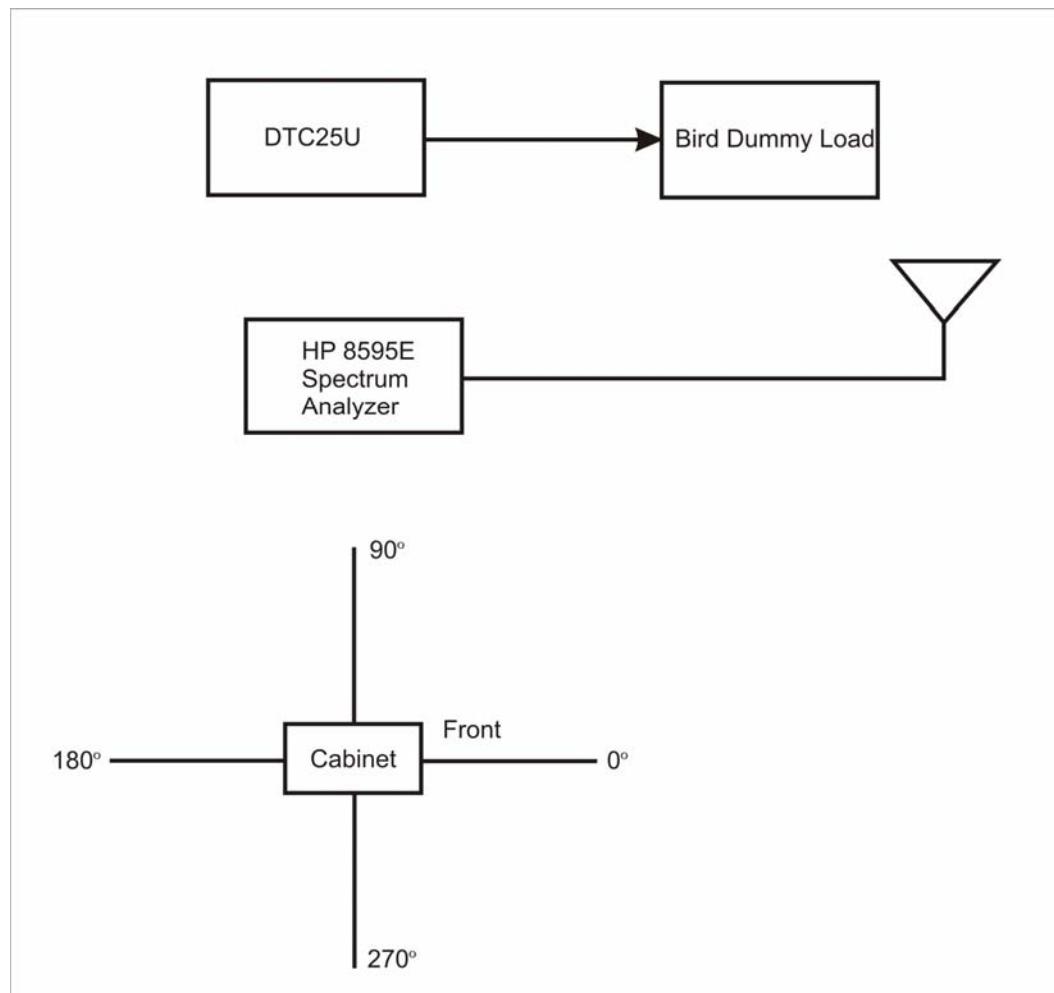


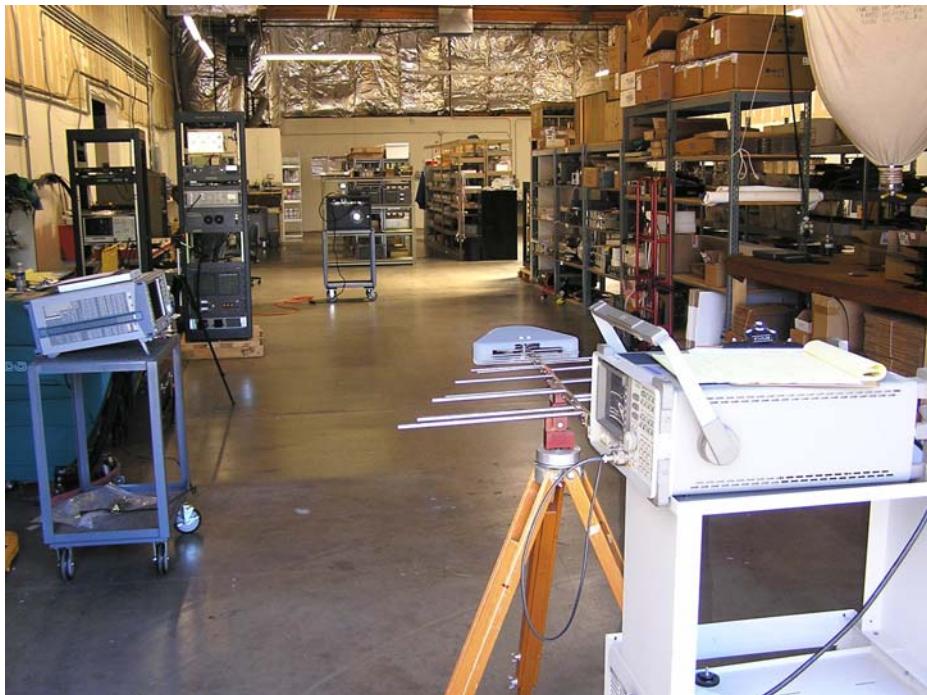
## Cabinet Radiation

The transmitter and test equipment were configured as shown below including the angles of measurement with respect to the transmitter cabinet. The photo on the subsequent page also shows the physical set-up of the test equipment and equipment under test. The transmitter was operated at 25W average power. The free space path loss, cable loss and antenna gain characteristics were obtained at the fundamental frequency and at each of the harmonics of the center frequency of channel 33 (587 MHz) in order to accurately assess the level of the signal radiated from the cabinet. Radiation from the cabinet was measured at a distance of 30 feet in 4 different physical rotation angles: 0, 90, 180 and 270 degrees (0 degrees being the front of the cabinet). All spectral components above the noise floor (-92 dBm in a 500 kHz bandwidth) referenced to average power radiated from the cabinet were recorded. The values are tabulated in the table on the next page following the photo.



## PHYSICAL CABINET RADIATION TEST CONFIGURATION

This photograph shows the actual laboratory environment in which the cabinet radiation tests were conducted. The log periodic antenna, cable and spectrum analyzer are shown in the foreground and the DTC25U is shown in the background. The transmitter was rotated 90 degrees for each of the measurement orientations.



As calculated from the spreadsheet data on the following page, the worst case measurement was 63 dB at the second harmonic (The photo above shows this particular measurement). The measurement tables for the remaining views of the transmitter are shown on the following pages.

# CABINET RADIATION MEASURED DATA

## TEST INPUTS

## CONDITIONS & PARAMETERS

**TEST DATE:** > 6/30/2006  
**TEST ENGINEER:** > R. ARTIGO  
**TRANSMITTER MODEL NO:** > DTC25U UHF TRANSCODER  
**OPERATING POWER OUTPUT LEVEL** > 44 dBm  
**OPERATING FREQUENCY IN GHz** > 0.587 GHz  
**ANTENNA MODEL NUMBER** > ETS 3147 S/N 9112-1053  
**SPECTRUM ANALYZER MODEL** > 8595E  
**DISTANCE TO TRANSMITTER IN METERS** > 10 METERS

Signal levels measured in 30 kHz RBW and scaled to 500 kHz bandwidth

## FRONT VIEW

Harmonic	Frequency GHz	SIGNAL LEVEL dBm	CABLE LOSS dB	ANTENNA GAIN dB	PATH LOSS dB	ADJ LEVEL dBm	MAXIMUM LEVEL dBm	STATUS P=PASS
Fc*2	1.174	-69	0.9	5.7	53.89336	-19.9066	-16	P
Fc*3	1.761	-92	1.3	5.55	57.41519	-38.8348	-16	P
Fc*4	2.348	-92	1.65	5.2	59.91396	-35.636	-16	P
Fc*5	2.935	-92	1.8	4.85	61.85216	-33.1978	-16	P
Fc*6	3.522	-92	1.9	5	63.43579	-31.6642	-16	P
Fc*7	4.109	-92	2	3.4	64.77472	-28.6253	-16	P
Fc*8	4.696	-92	2.3	3.2	65.93456	-26.9654	-16	P
Fc*9	5.283	-92	2.8	2.7	66.95761	-24.9424	-16	P
Fc*10	5.87	-92	3	3.2	67.87276	-24.3272	-16	P

## RIGHT VIEW

Harmonic	Frequency GHz	SIGNAL LEVEL dBm	CABLE LOSS dB	ANTENNA GAIN dB	PATH LOSS dB	ADJ LEVEL dBm	MAXIMUM LEVEL dBm	STATUS
Fc*2	1.174	-68	0.9	5.7	53.89336	-18.9066	-16	P
Fc*3	1.761	-92	1.3	5.55	57.41519	-38.8348	-16	P
Fc*4	2.348	-92	1.65	5.2	59.91396	-35.636	-16	P
Fc*5	2.935	-92	1.8	4.85	61.85216	-33.1978	-16	P
Fc*6	3.522	-92	1.9	5	63.43579	-31.6642	-16	P
Fc*7	4.109	-92	2	3.4	64.77472	-28.6253	-16	P
Fc*8	4.696	-92	2.3	3.2	65.93456	-26.9654	-16	P
Fc*9	5.283	-92	2.8	2.7	66.95761	-24.9424	-16	P
Fc*10	5.87	-92	3	3.2	67.87276	-24.3272	-16	P

LEFT      VIEW

Harmonic	Frequency GHz	SIGNAL LEVEL dBm	CABLE LOSS dB dB	ANTENNA GAIN dB dB	PATH LOSS dB dB	ADJ LEVEL dBm	MAXIMUM LEVEL dBm	STATUS
Fc*2	1.174	-68	0.9	5.7	53.89336	-18.9066	-16	P
Fc*3	1.761	-92	1.3	5.55	57.41519	-38.8348	-16	P
Fc*4	2.348	-92	1.65	5.2	59.91396	-35.636	-16	P
Fc*5	2.935	-92	1.8	4.85	61.85216	-33.1978	-16	P
Fc*6	3.522	-92	1.9	5	63.43579	-31.6642	-16	P
Fc*7	4.109	-92	2	3.4	64.77472	-28.6253	-16	P
Fc*8	4.696	-92	2.3	3.2	65.93456	-26.9654	-16	P
Fc*9	5.283	-92	2.8	2.7	66.95761	-24.9424	-16	P
Fc*10	5.87	-92	3	3.2	67.87276	-24.3272	-16	P

REAR      VIEW

Harmonic	Frequency GHz	SIGNAL LEVEL dBm	CABLE LOSS dB dB	ANTENNA GAIN dB dB	PATH LOSS dB dB	ADJ LEVEL dBm	MAXIMUM LEVEL dBm	STATUS
Fc*2	1.174	-68	0.9	5.7	53.89336	-18.9066	-16	P
Fc*3	1.761	-72	1.3	5.55	57.41519	-18.8348	-16	P
Fc*4	2.348	-92	1.65	5.2	59.91396	-35.636	-16	P
Fc*5	2.935	-92	1.8	4.85	61.85216	-33.1978	-16	P
Fc*6	3.522	-92	1.9	5	63.43579	-31.6642	-16	P
Fc*7	4.109	-92	2	3.4	64.77472	-28.6253	-16	P
Fc*8	4.696	-92	2.3	3.2	65.93456	-26.9654	-16	P
Fc*9	5.283	-92	2.8	2.7	66.95761	-24.9424	-16	P
Fc*10	5.87	-92	3	3.2	67.87276	-24.3272	-16	P

All cabinet radiation measurements indicate the FCC rule has been met.

**Final Amplifier Voltage and Current Measurements**

Final amplifier voltage and current measurements were made with the transmitter operating at 25 watts power and at 6.25 watts power. Voltage and current measurements were made using a Fluke 77 meter.

Output Power =25 Watts

Voltage = 32 volts

Current = 6.0 amps

Final amplifier power input = 192 watts

Output Power =6.25 Watts

Voltage = 32 volts

Current = 4.0 amps

Final amplifier power input = 128 watts

## Equipment List

The following test equipment was used in the various test equipment configurations or to create calibration of equipment at various frequencies. All equipment was known to be in good working order and was within the calibration period.

EQUIPMENT MODEL	SERIAL NUMBER
HP435 Power Meter	2702A17274
HP8481 Sensor	3318A99176
R & S EFA Demodulator	100041
Agilent 8753D Network analyzer	3410A04800
Madell Corp. Variac	000784
MFC stopband filter	N/A
Minicircuits Highpass filter NHP1000	10427
Agilent HP8595E Spectrum Analyzer	3523A01399
ETS 3147 Log Periodic Antenna	9112-1053
Weinschel Model 53-40-43 Dummy Load	LL772