

RETLIF TESTING LABORATORIES

REPORT OF MEASUREMENTS

FOR

DTC COMMUNICATIONS, INC.

AUDIO SURVEILLANCE TRANSMITTER

MODEL: T-2071-M

FCC ID: H25T2071

Test Report No. R-4144N
FCC ID: H25T2071

CERTIFICATION INFORMATION

Applicant/Manufacturer: **DTC Communications, Inc.
486 Amherst Street
Nashua, NH 03062**

Equipment under Test (EUT): **The EUT is an Audio Surveillance Transmitter used in Law Enforcement Applications in portable applications.**

Model: **T-2071-M**

FCC ID Number: **FCC ID: H25T2071**

Applicable Test Standard: **FCC Parts 2 & 90**

EUT Frequency Range: **150 To 174MHz**

Emission Designator: **11K0F3E**

Measured Power Output **.742 Watts**

Channel Spacing **12.5kHz**

Transmit Modes: **Wideband and Narrowband Deviation**

Antenna Connector Type: **MMCX Male**

Antenna Type: **Noodle**

Input Power: **9.0VDC (Battery)**

RF Exposure: **See Attached Installation/Users Manual and MPE Evaluation.
Unit is exempt from routine evaluation per 2.1093 (c) as it does not operate in the specified services listed.**

Measurements Required by FCC: **See Report Section 1 (Summary of Test Program) and the following Test Report Data Attachments:**

**-2.1046 RF Power Output (performed by DTC)
-2.1047 Modulation Characteristics (performed by DTC)
-2.1049 Occupied Bandwidth (performed by DTC)
-2.1051 Spurious Emissions @ Ant. Port (performed by DTC)
-2.1053 ERP of Spurious Radiation (performed by Retlif)
-2.1055 Frequency Stability (Performed by DTC)
-90.214Transient Frequency (Performed by Retlif)**

SECTION 1

SUMMARY OF TEST METHODS PERFORMED BY RETLIF (DTC TEST METHODS PROVIDED IN SEPARATE ATTACHMENTS)

TRANSIENT FREQUENCY BEHAVIOR 90.214

Measurement Procedure:

The difference between the actual transmitter frequency to the assigned transmitter frequency was measured, as a function of time, when the transmitter RF output was switched on or off. Using the method of measurement described in TIA/EIA-603, 2.2.19 the transient frequency behavior was measured and compared to the limit specified in 90.214 for equipment operating in the 150 to 174MHz band designed to operate on 12.5kHz channels.

For complete test data, see electronic Test Report Attachment, **Transient Frequency Behavior**

EFFECTIVE RADIATED POWER OF SPURIOUS RADIATION 2.1053/TIA/EIA-603

Measurement Procedure:

The test sample was placed on a 80cm high wooden test stand which was located 3 meters from the test antenna on an FCC listed test site. A shielded load of proper impedance was connected to the RF output connector of the test sample. The test sample was evaluated in both wideband and narrowband deviation modes and the worst case data was recorded. The effective radiated power of each out of band spurious emission was measured using the substitution method specified in TIA/EIA-603. The frequency range of the test was 30MHz – 1.74GHz. The limit for out of band spurious emissions is -20dBm as specified in Part 90.210 (d). Testing was performed at three transmit frequencies within the operational band.

For complete test data, see electronic Test Report Attachment, **Spurious Radiated Emissions Data.**

SECTION 2

EQUIPMENT LISTS

Spurious Radiated Emissions

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
3001	Tuned Dipole Antenna	Empire Devices	200 MHz - 400 MHz	T2	8/8/00	8/8/03
3002	Tuned Dipole Antenna	Empire Devices	400 MHz - 1 GHz	T3	8/8/00	8/8/03
3258	Double Ridge Guide	EMCO	1 - 18 GHz	3115	5/14/03	5/14/04
4029	Test Site Attenuation	Retlif	3 / 10 Meters	RNH	8/8/02	8/8/03
4202	Biconilog	EMCO	26 MHz - 2 GHz	3142	7/25/02	7/25/03
4995	Signal Generator	Marconi Instru.	10 kHz - 1 GHz	2022	11/5/02	11/5/03
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESI26	1/29/03	1/29/04

Transient Frequency Behavior

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
073	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-25	1/27/03	1/27/04
3129	6.0 dB Attenuator	Weinschel	DC - 18 GHz	2	1/8/03	1/8/04
4001	Oscilloscope	Tektronix	N/A	TDS 520A	5/12/03	5/12/04
4961	Attenuator	Narda	DC - 18 GHz	757C-30dB	11/6/02	11/6/03
4999	50 ohm Adapter	Boonton Electronics	.01 - 1200 MHz	952002	12/10/02	12/10/03
5006	RF Millivoltmeter	Boonton Electronics	10 kHz - 1.2 GHz	9200	11/8/02	11/8/03
5017	RF Probe	Boonton Electronics	10 kHz - 1.2 GHz	91-12F	12/10/02	12/10/03
5020	Capacitor	MTK	10uf, 50 amp	M1549	3/25/03	3/25/04
530A	AM/FM Signal Generator	Marconi Instru.	10 kHz - 1.2 GHz	2023	7/10/02	7/10/03
532	High Power Dir Coupler	Werlatone Inc.	.01 - 1000 MHz	C2630	1/3/03	1/3/04