

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

| | | | |
|---------------------|--|------------|---------|
| Test Method: | Modulation Limiting | | |
| Customer: | DTC Communications, Inc. | Job No: | R-4090N |
| Test Sample: | Low Power Audio Transmitter | | |
| Model No: | T-2070 | Serial No: | ENG1 |
| Test Specification: | Fcc Part 2 Paragraph: 2.1047 (b) | | |
| Operating Mode: | Transmitting Modulated Signal at 170 MHz | | |
| Technician: | T. Firkowski | Date: | 2/11/03 |
| Notes: | Wide Band Mode | | |

| Audio Input Frequency | Input Level | FM deviation | | | | | | | |
|-----------------------|-------------|--------------|--|--|--|--|--|--|--|
| Hz | dBm | kHz | | | | | | | |
| 1000 | -50 | 0.09 | | | | | | | |
| I | -40 | 0.12 | | | | | | | |
| I | -30 | 0.20 | | | | | | | |
| I | -20 | 0.47 | | | | | | | |
| I | -10 | 1.32 | | | | | | | |
| I | 0 | 2.78 | | | | | | | |
| 1000 | 10 | 3.05 | | | | | | | |
| 2500 | -50 | 0.11 | | | | | | | |
| I | -40 | 0.18 | | | | | | | |
| I | -30 | 0.39 | | | | | | | |
| I | -20 | 1.09 | | | | | | | |
| I | -10 | 1.64 | | | | | | | |
| I | 0 | 2.86 | | | | | | | |
| 2500 | 10 | 3.04 | | | | | | | |
| 3000 | -50 | 0.12 | | | | | | | |
| I | -40 | 0.2 | | | | | | | |
| I | -30 | 0.46 | | | | | | | |
| I | -20 | 1.32 | | | | | | | |
| I | -10 | 1.86 | | | | | | | |
| I | 0 | 2.92 | | | | | | | |
| 3000 | 10 | 3.04 | | | | | | | |
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RETLIF TESTING LABORATORIES

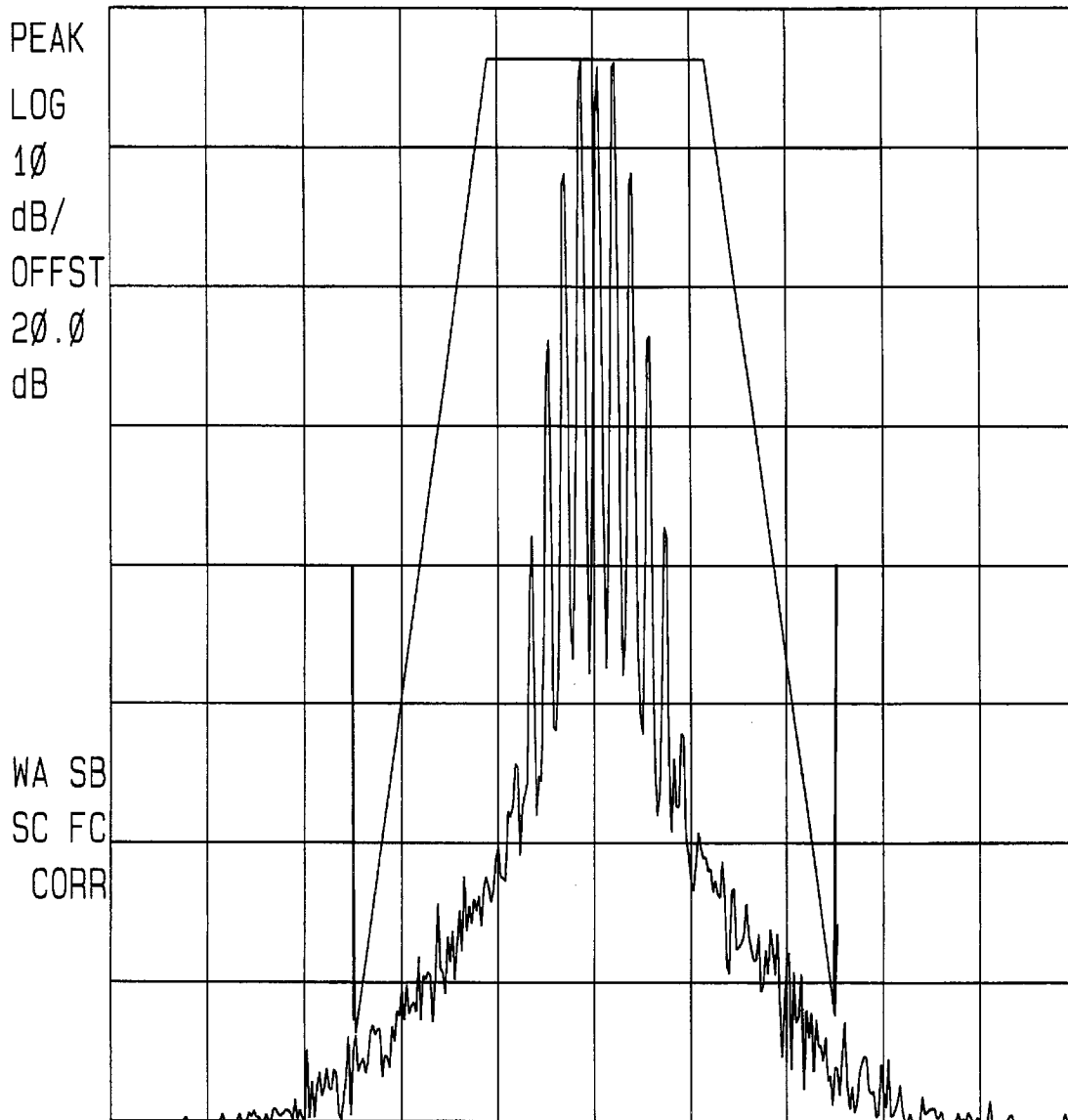
EMISSIONS DATA SHEET

| | | | |
|----------------------------|---|-------------------|---------|
| Test Method: | Modulation Limiting | | |
| Customer: | DTC Communications, Inc. | Job No: | R-4090N |
| Test Sample: | Low Power Audio Transmitter | | |
| Model No: | T-2070 | Serial No: | ENG1 |
| Test Specification: | Fcc Part 2 <p style="text-align: right;">Paragraph: 2.1047 (b)</p> | | |
| Operating Mode: | Transmitting Modulated Signal at 170 MHz | | |
| Technician: | T. Firkowski | Date: | 2/11/03 |
| Notes: | Narrow Band Mode | | |

| Audio Input Frequency | Input Level | FM deviation | | | | | | | | |
|--------------------------|----------------|-----------------|--|--|--|--|--|--|--|--|
| Hz | dBm | kHz | | | | | | | | |
| 1000 | -50 | 0.08 | | | | | | | | |
| | -40 | 0.09 | | | | | | | | |
| | -30 | 0.13 | | | | | | | | |
| | -20 | 0.26 | | | | | | | | |
| | -10 | 0.66 | | | | | | | | |
| | 0 | 1.10 | | | | | | | | |
| 1000 | 10 | 1.47 | | | | | | | | |
| 2500 | -50 | 0.09 | | | | | | | | |
| | -40 | 0.12 | | | | | | | | |
| | -30 | 0.22 | | | | | | | | |
| | -20 | 0.56 | | | | | | | | |
| | -10 | 0.89 | | | | | | | | |
| | 0 | 1.1 | | | | | | | | |
| 2500 | 10 | 1.5 | | | | | | | | |
| 3000 | -50 | 0.1 | | | | | | | | |
| | -40 | 0.13 | | | | | | | | |
| | -30 | 0.26 | | | | | | | | |
| | -20 | 0.66 | | | | | | | | |
| | -10 | 1.12 | | | | | | | | |
| | 0 | 1.32 | | | | | | | | |
| 3000 | 10 | 1.51 | | | | | | | | |

08:24:34 FEB 10, 2003

REF 20.0 dBm AT 10 dB



CENTER 170.00000 MHz

SPAN 50.00 kHz

#RES BW 100 Hz

VBW 300 Hz

SWP 15.0 sec

| | |
|--------------|---|
| Customer: | DTC Communications, Inc. |
| Test Sample: | Low Power Audio Transmitter |
| Model No.: | T-2070 |
| Test Method: | Occupied Bandwidth, FCC Part 2, para 2.1049 |
| Notes: | Modulated Narrow Band Mode - 2500Hz @16dB above 50% |

Date: 2/10/03 Tech: T. Firkowski Sheet 1 of 2

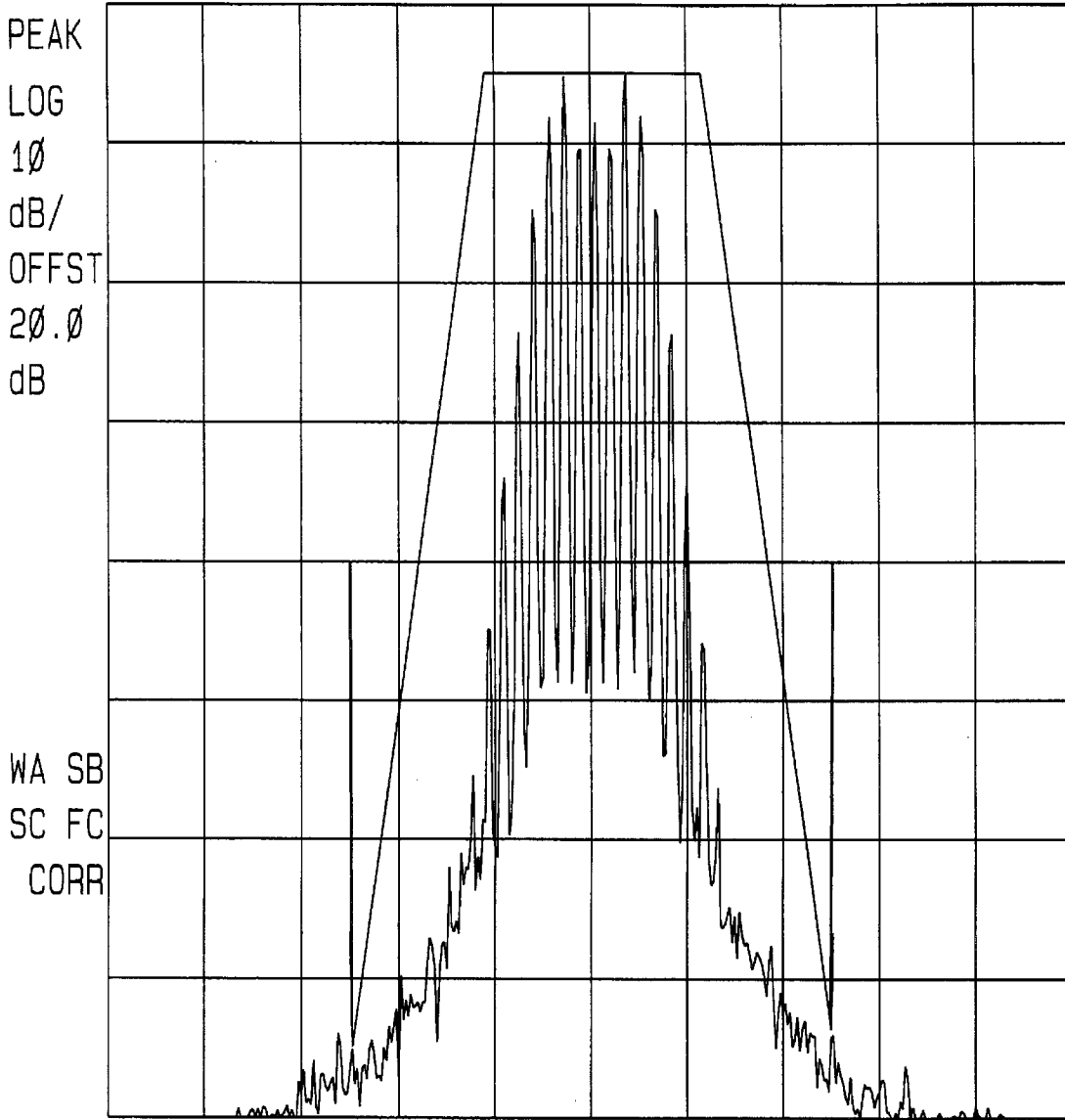


Retlif Testing Laboratories

Report No R-4090N

08:57:02 FEB 10, 2003

REF 20.0 dBm AT 10 dB



CENTER 170.00000 MHz

SPAN 50.00 kHz

#RES BW 100 Hz

VBW 300 Hz

SWP 15.0 sec

| | |
|--------------|---|
| Customer: | DTC Communications, Inc. |
| Test Sample: | Low Power Audio Transmitter |
| Model No: | T-2070 |
| Test Method: | Occupied Bandwidth, FCC Part 2, para 2.1049 |
| Notes: | Modulated Wide Band Mode - 2500Hz @16dB above 50% |



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Report No R-4090N

Date: 2/10/03

Tech: T. Firkowski

Sheet 2 of 2

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method: Spurious Emissions @ Antenna Terminals 30 MHz to 1.8 GHz

Customer: DTC Communications, Inc. **Job No:** R-4090N

Test Sample: Low Power Audio Transmitter

Model No: T-2070 **Serial No:** ENG1

Test Specification: FCC Part 2
Paragraph: 2.1051

Operating Mode: Transmitting Modulated Signal

Technician: T. Firkowski **Date:** 2/10/03

Notes: Wide Band Mode - Modulation with 2500Hz @ 16dB above 50%
Peak Detector

| Test Frequency | Reading | Spurious Limit | | | | | | | | |
|----------------|---------|----------------|--|--|--|--|--|--|--|--|
| MHz | dBm | dBm | | | | | | | | |
| 30.00 | - | -20.00 | | | | | | | | |
| | - | | | | | | | | | |
| 340.00 | -30.0 | | | | | | | | | |
| 510.00 | -32.0 | | | | | | | | | |
| 680.00 | -47.0 | | | | | | | | | |
| 850.00 | -47.0 | | | | | | | | | |
| | - | | | | | | | | | |
| | - | | | | | | | | | |
| | - | | | | | | | | | |
| 1800.00 | - | -20.00 | | | | | | | | |

EUT emissions observed throughout the given frequency spectrum were recorded & evaluated. Emission levels closest to the limit are listed on this data sheet.

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

| | | | |
|---------------------|---|------------|---------|
| Test Method: | Spurious Emissions @ Antenna Terminals 30 MHz to 1.8 GHz | | |
| Customer: | DTC Communications, Inc. | Job No: | R-4090N |
| Test Sample: | Low Power Audio Transmitter | | |
| Model No: | T-2070 | Serial No: | ENG1 |
| Test Specification: | FCC Part 2 Paragraph: 2.1051 | | |
| Operating Mode: | Transmitting Modulated Signal | | |
| Technician: | T. Firkowski | Date: | 2/10/03 |
| Notes: | Narrow Band Mode - Modulation with 2500Hz @ 16dB above 50% Peak Detector | | |

| Test Frequency | Reading | Spurious Limit | | | | | | |
|----------------|---------|----------------|--|--|--|--|--|--|
| MHz | dBm | dBm | | | | | | |
| 30.00 | - | -20.00 | | | | | | |
| | - | | | | | | | |
| 340.00 | -30.0 | | | | | | | |
| 510.00 | -32.0 | | | | | | | |
| 680.00 | -47.0 | | | | | | | |
| 850.00 | -47.0 | | | | | | | |
| | - | | | | | | | |
| | - | | | | | | | |
| | - | | | | | | | |
| | - | | | | | | | |
| 1800.00 | - | -20.00 | | | | | | |

EUT emissions observed throughout the given frequency spectrum were recorded & evaluated. Emission levels closest to the limit are listed on this data sheet.

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

| | | |
|---------------------|---|-----------------|
| Test Method: | Spurious Radiated Emissions (ERP) 30 MHz to 1.8 GHz | |
| Customer: | DTC Communications, Inc. | Job No: R-4090N |
| Test Sample: | Low Power Audio Transmitter | |
| Model No: | T-2070 | Serial No: ENG1 |
| Test Specification: | FCC Part 2 Paragraph: 2.1053 | |
| Operating Mode: | Transmitting Carrier Signal only | |
| Technician: | T. Firkowski | Date: 2/10/03 |
| Notes: | Peak Detector | |

| Test Frequency | Polarity/Axis | Reference Reading | Signal Gen Level | Reference Ant Gain | | | | Corrected Reading | Spurious Limit |
|----------------|---------------|-------------------|------------------|--------------------|--|--|--|-------------------|----------------|
| MHz | | dBm | dBm | dBi | | | | dBm | dBm |
| 30.00 | - | - | - | - | | | | - | -20.00 |
| | - | - | - | - | | | | - | |
| | - | - | - | - | | | | - | |
| | - | - | - | - | | | | - | |
| 510.00 | V/X | -80.46 | -48.59 | 1.64 | | | | -46.95 | |
| | - | - | - | - | | | | - | |
| | - | - | - | - | | | | - | |
| | - | - | - | - | | | | - | |
| 1800.00 | - | - | - | - | | | | - | -20.00 |
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EUT emissions observed throughout the given frequency spectrum were recorded & evaluated. Emission levels closest to the limit are listed on this data sheet.

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

| | | | |
|---------------------|---|------------|---------|
| Test Method: | Spurious Radiated Emissions (ERP) 30 MHz to 1.8 GHz | | |
| Customer: | DTC Communications, Inc. | Job No: | R-4090N |
| Test Sample: | Low Power Audio Transmitter | | |
| Model No: | T-2070 | Serial No: | ENG1 |
| Test Specification: | FCC Part 2 Paragraph: 2.1053 | | |
| Operating Mode: | Modulated Narrow Band Signal | | |
| Technician: | T. Firkowski | Date: | 2/10/03 |
| Notes: | Peak Detector | | |

| Test Frequency | Polarity/Axis | Reference Reading | Signal Gen Level | Reference Ant Gain | | | | Corrected Reading | Spurious Limit |
|----------------|---------------|-------------------|------------------|--------------------|--|--|--|-------------------|----------------|
| MHz | | dBm | dBm | dBI | | | | dBm | dBm |
| 30.00 | - | - | - | - | | | | - | -20.00 |
| | - | - | - | - | | | | - | |
| | - | - | - | - | | | | - | |
| | - | - | - | - | | | | - | |
| | - | - | - | - | | | | - | |
| 510.00 | V/X | -82.89 | -51.02 | 1.64 | | | | -49.38 | |
| | - | - | - | - | | | | - | |
| | - | - | - | - | | | | - | |
| | - | - | - | - | | | | - | |
| 1800.00 | - | - | - | - | | | | - | -20.00 |
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EUT emissions observed throughout the given frequency spectrum were recorded & evaluated. Emission levels closest to the limit are listed on this data sheet.

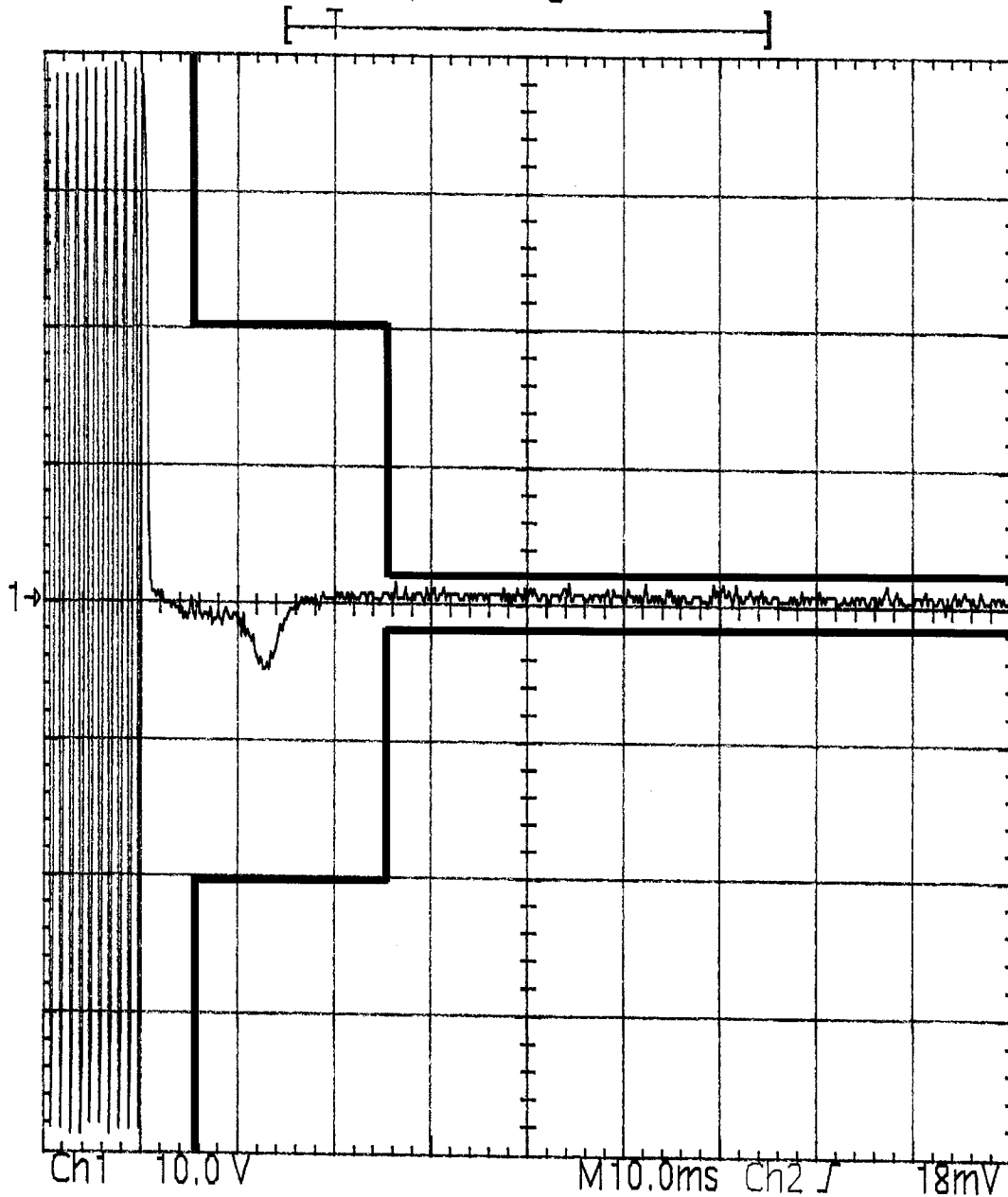
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

| | | |
|---------------------|-------------------------------------|-----------------|
| Test Method: | Frequency Stability | |
| Customer: | DTC Communications, Inc. | Job No: R-4090N |
| Test Sample: | Low Power Audio Transmitter | |
| Model No: | T-2070 | Serial No: ENG1 |
| Test Specification: | Fcc Part 2 Paragraph: 2.1055 | |
| Operating Mode: | Transmitting Carrier Signal only | |
| Technician: | T. Firkowski | Date: 2/11/03 |
| Notes: | Nominal Input Voltage: 4.5 VDC | |

| Temp | Test Frequency | Frequency at 3.5 VDC | Frequency at 4.5 VDC | | | | | | |
|------|----------------|----------------------|----------------------|--|--|--|--|--|--|
| C | MHz | MHz | MHz | | | | | | |
| -30 | 170 | 170.00013 | 170.00013 | | | | | | |
| -20 | | 170.00013 | 170.00013 | | | | | | |
| -10 | | 170.00013 | 170.00013 | | | | | | |
| 0 | | 170.00013 | 170.00013 | | | | | | |
| 10 | | 170.00013 | 170.00013 | | | | | | |
| 20 | | 170.00013 | 170.00013 | | | | | | |
| 30 | | 170.00013 | 170.00013 | | | | | | |
| 40 | | 170.00000 | 170.00000 | | | | | | |
| 50 | 170 | 170.00000 | 170.00000 | | | | | | |
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Tek Run: 5.00kS/s Sample Trig?



5 Feb 2003
14:20:22

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|--------------|---|
| Customer: | DTC Communications, Inc. |
| Test Sample: | Low Power Audio Transmitter |
| Model No: | T-2070 |
| Test Method: | Transient Frequency Behavior(On), FCC Part 90.214 |
| Notes: | |
| Date: | 2/5/03 |
| Tech: | T. Firkowski |
| Sheet: | 1 of 2 |

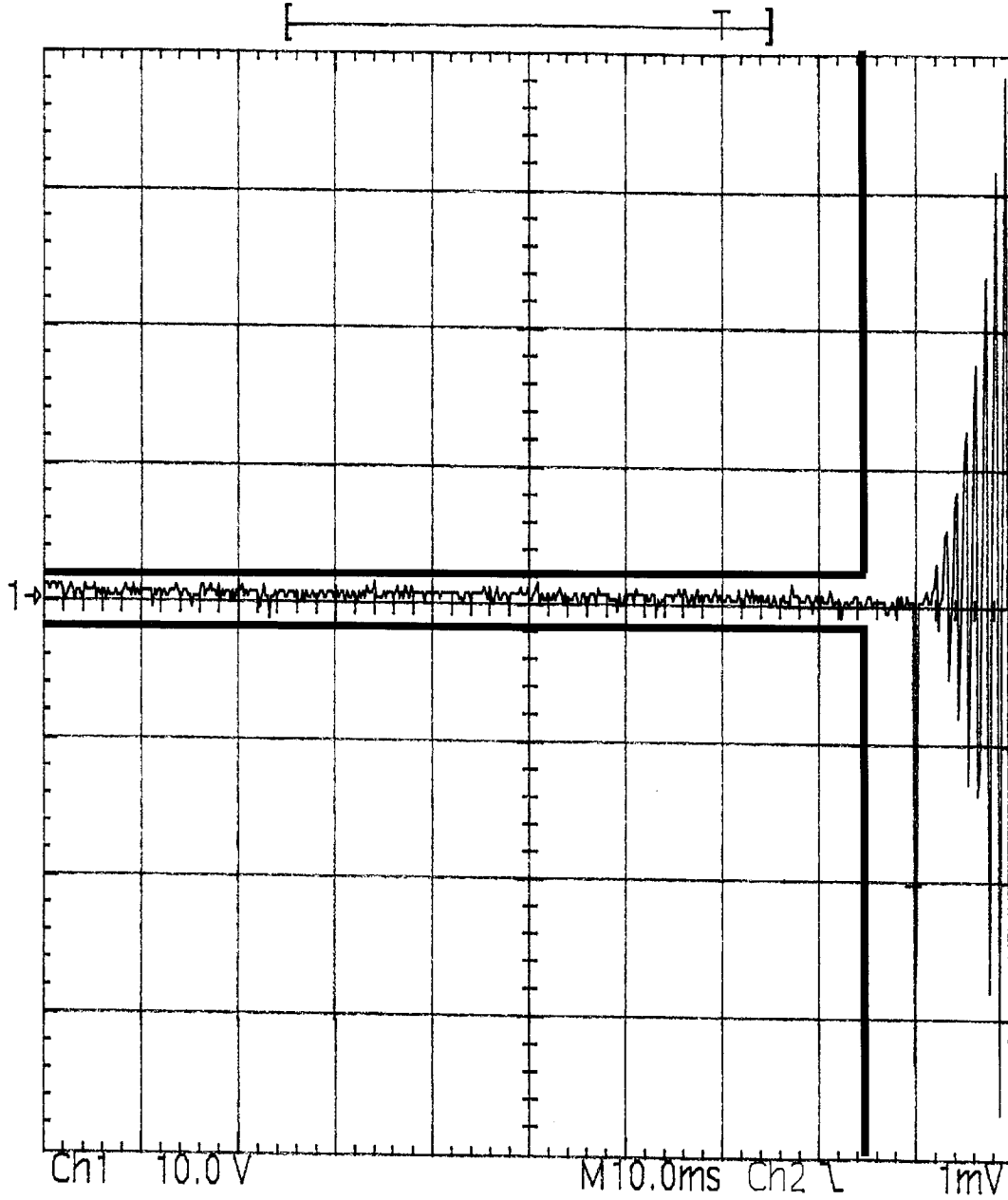


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Report No R-4090N

Tek Stop: 5.00kS/s

1 Acqs



5 Feb 2003
14:29:36

| | |
|--------------|--|
| Customer: | DTC Communications, Inc. |
| Test Sample: | Low Power Audio Transmitter |
| Model No: | T-2070 |
| Test Method: | Transient Frequency Behavior(Off), FCC Part 90.214 |
| Notes: | |

Date: Tech: Sheet of



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Report No R-4090N