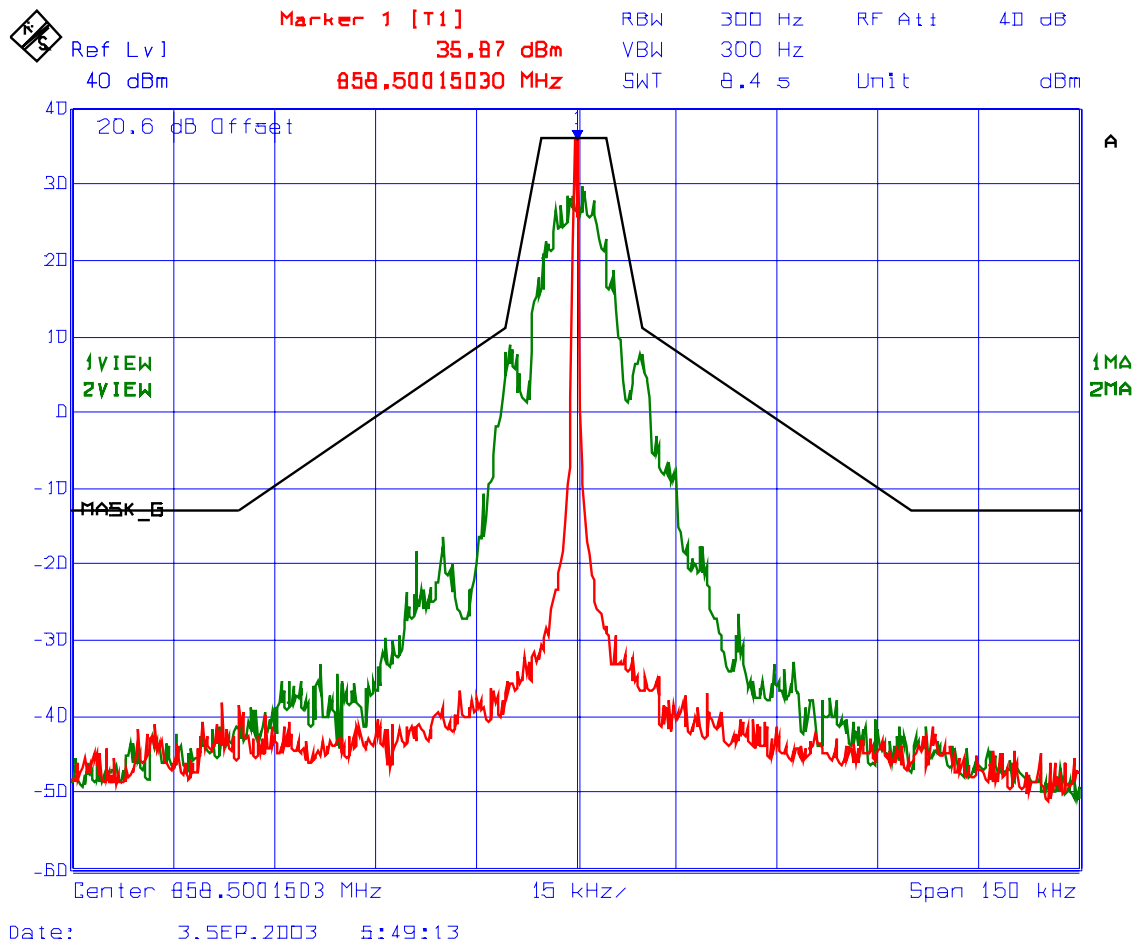


PLOT # 188 Emission Mask G, frequency 851-866 MHz- RF Output
Frequency: 858.5 MHz, 25 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



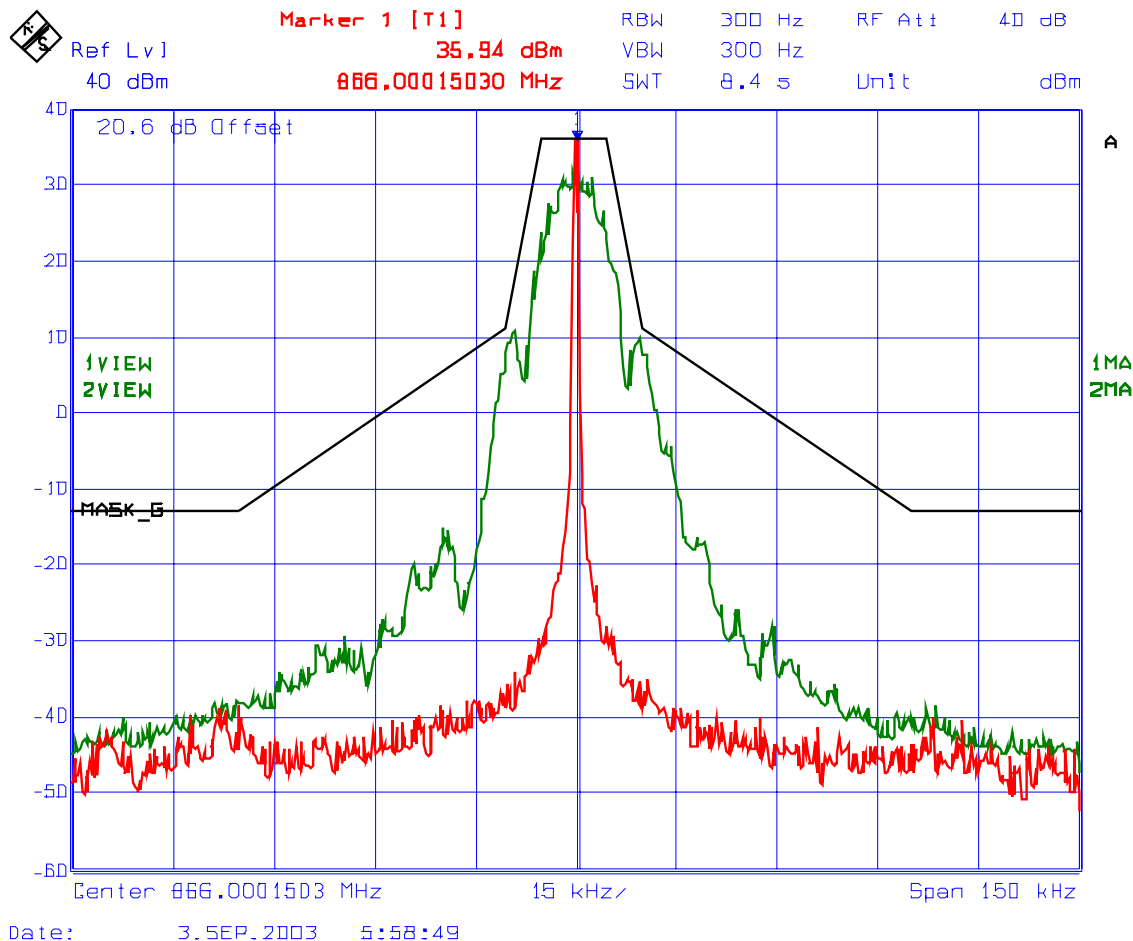
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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Oct. 17, 2003

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PLOT # 189 Emission Mask G, frequency 851-866 MHz- RF Output
Frequency: 866 MHz, 25 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



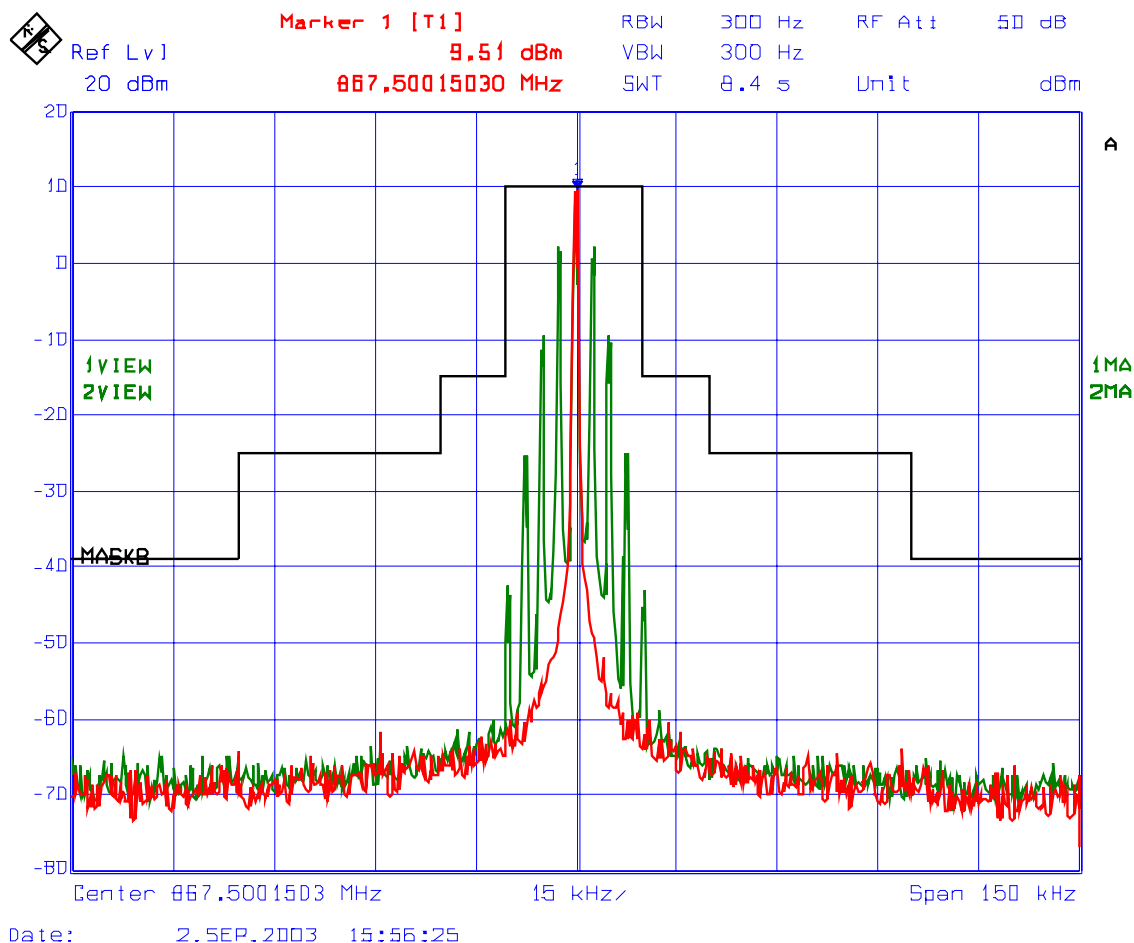
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PLOT # 190 Emission Mask B, frequency 866-869 MHz- RF Input
Frequency: 866 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with 2.5 kHz Sine wave signal



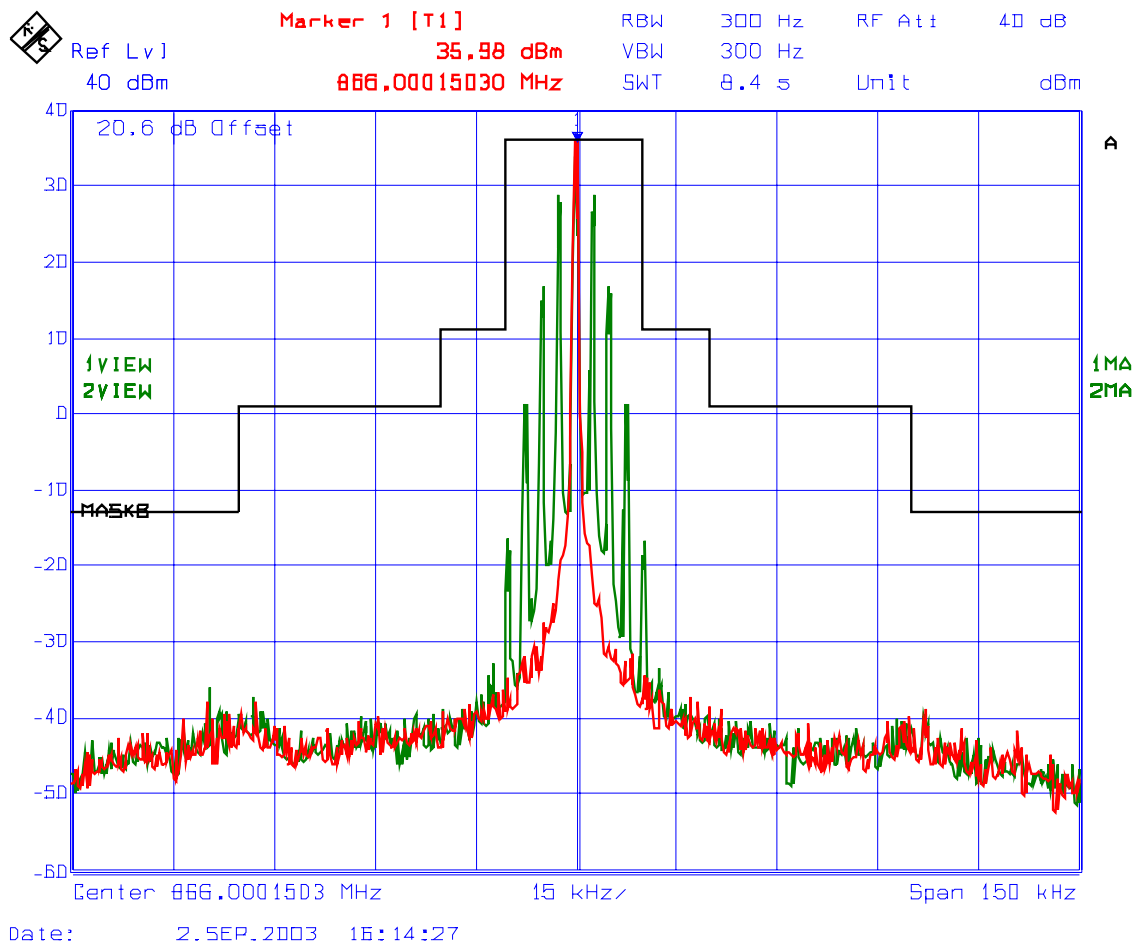
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PLOT # 191 Emission Mask B, frequency 866-869 MHz- RF Output
Frequency: 867.5 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with 2.5 kHz Sine wave signal



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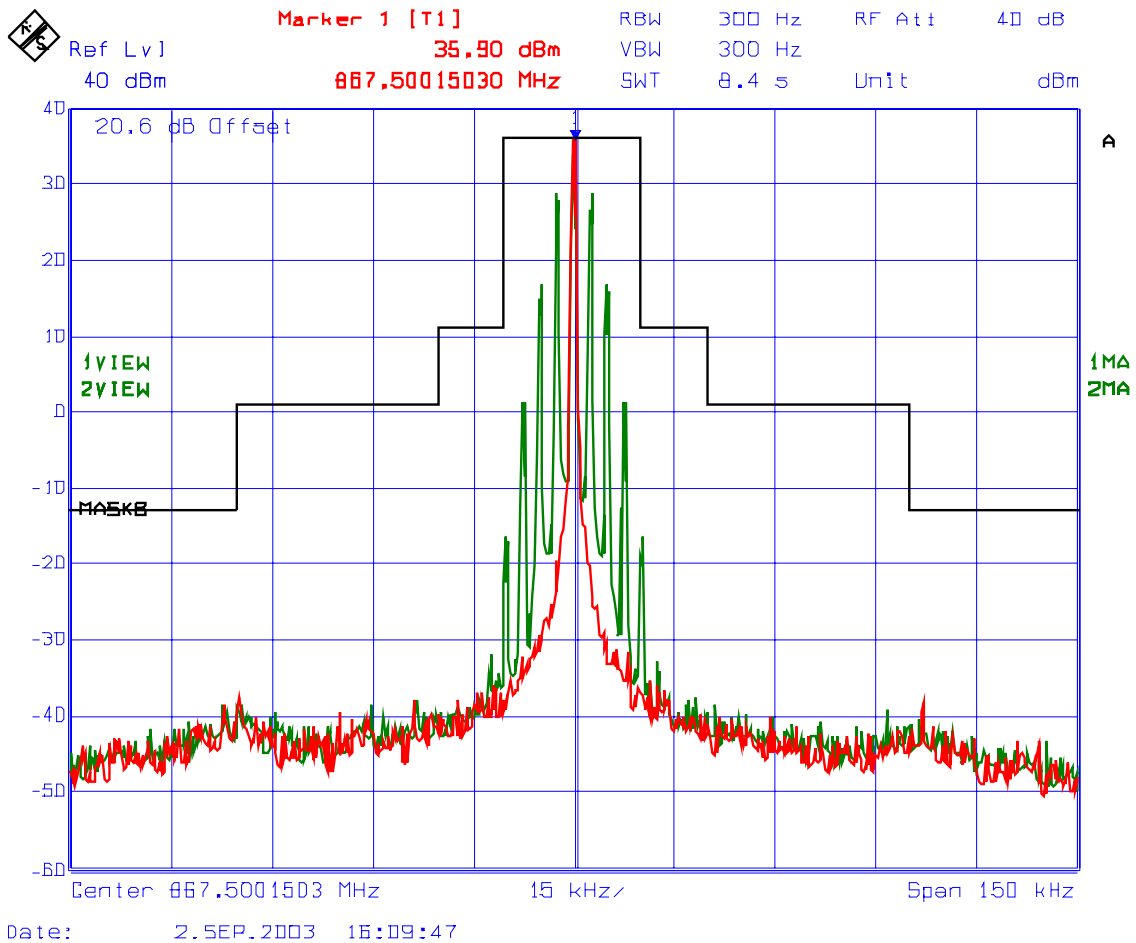
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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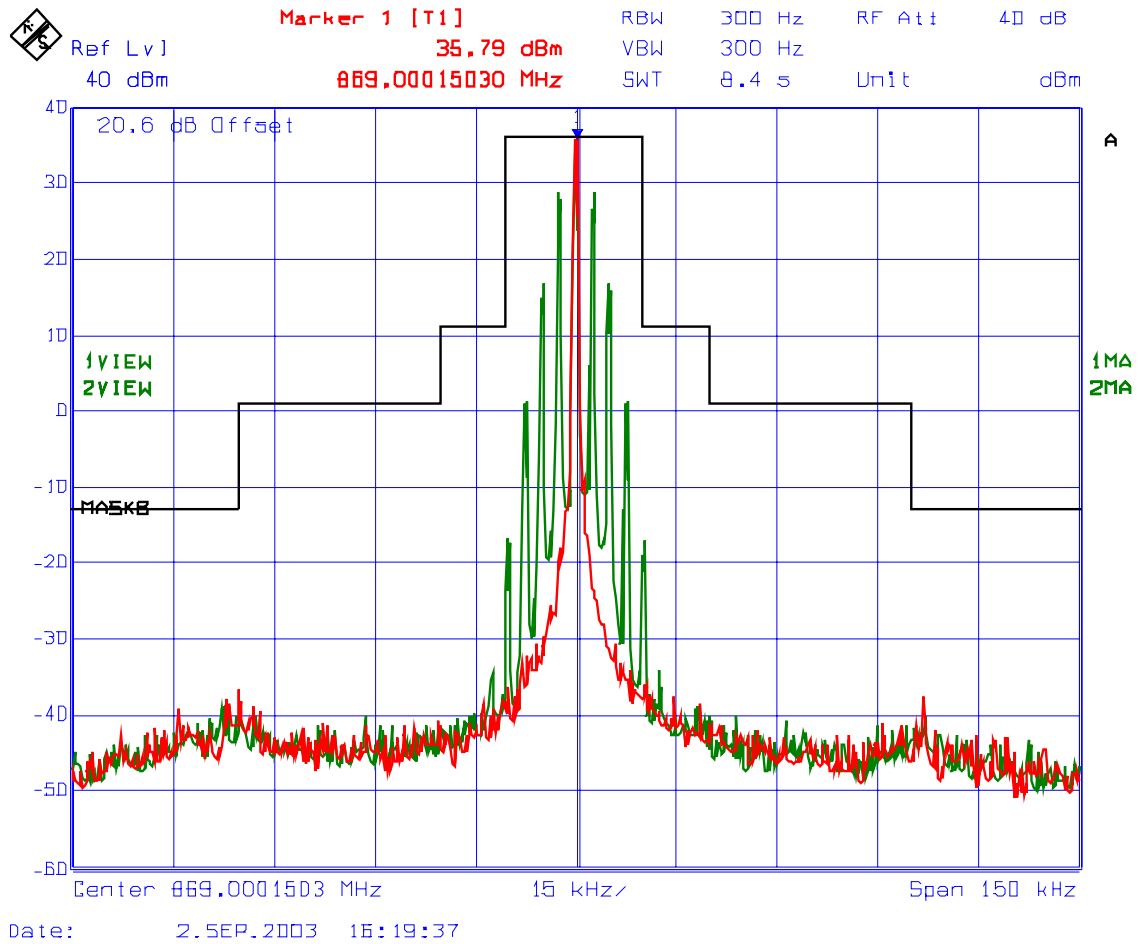
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PLOT # 192 Emission Mask B, frequency 866-869 MHz- RF Output
Frequency: 867.5 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with 2.5 kHz Sine wave signal



PLOT # 193 Emission Mask B, frequency 866-869 MHz- RF Output
Frequency: 869 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with 2.5 kHz Sine wave signal



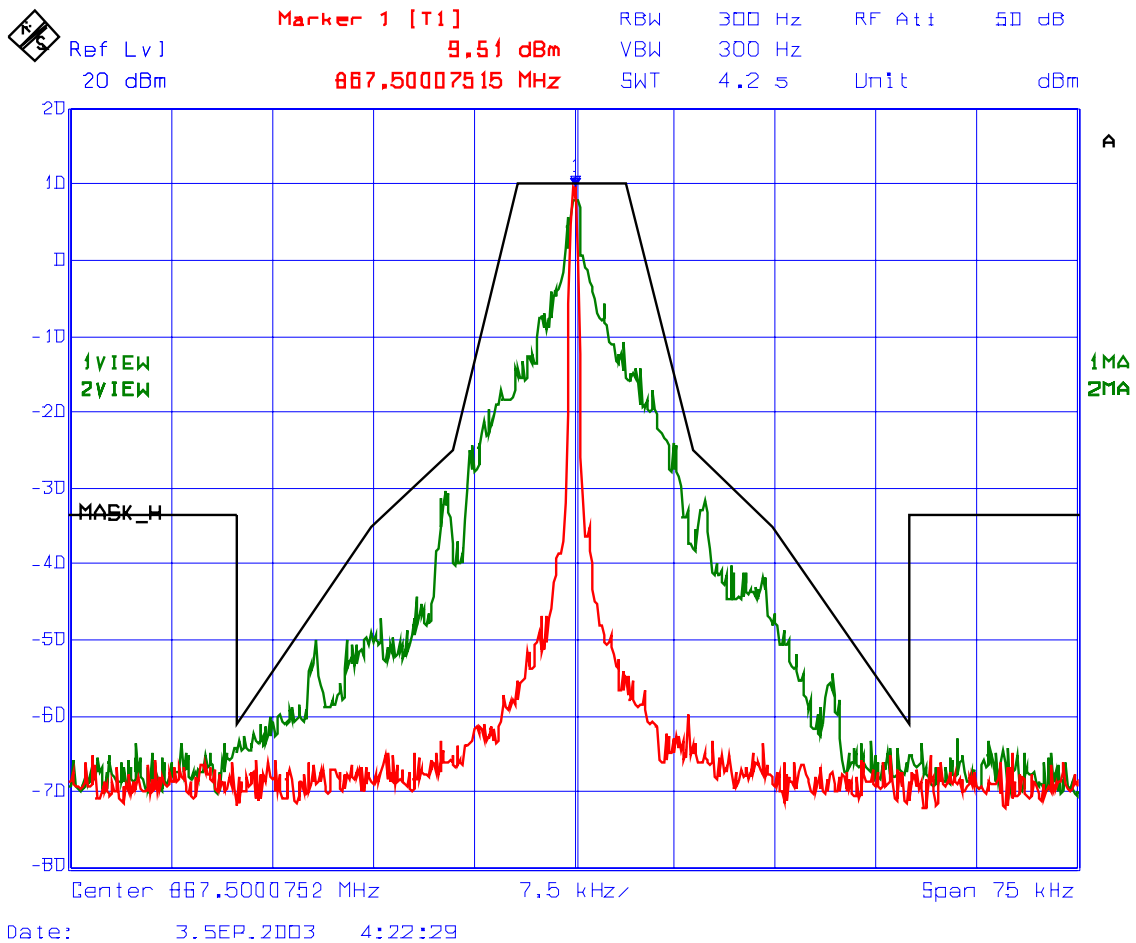
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PLOT # 194 Emission Mask H, frequency 866-869 MHz- RF Input
Frequency: 866 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



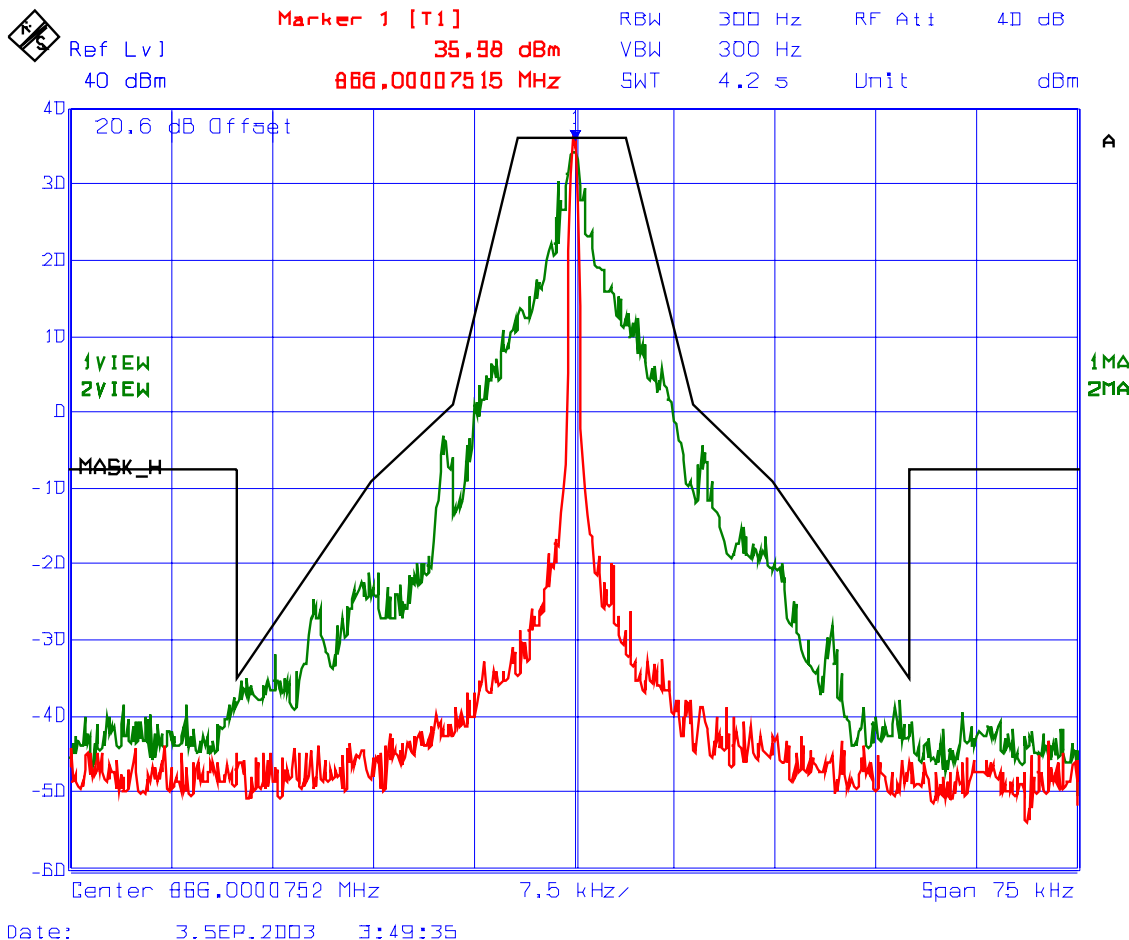
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PLOT # 195 Emission Mask H, frequency 866-869 MHz- RF Output
Frequency: 867.5 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



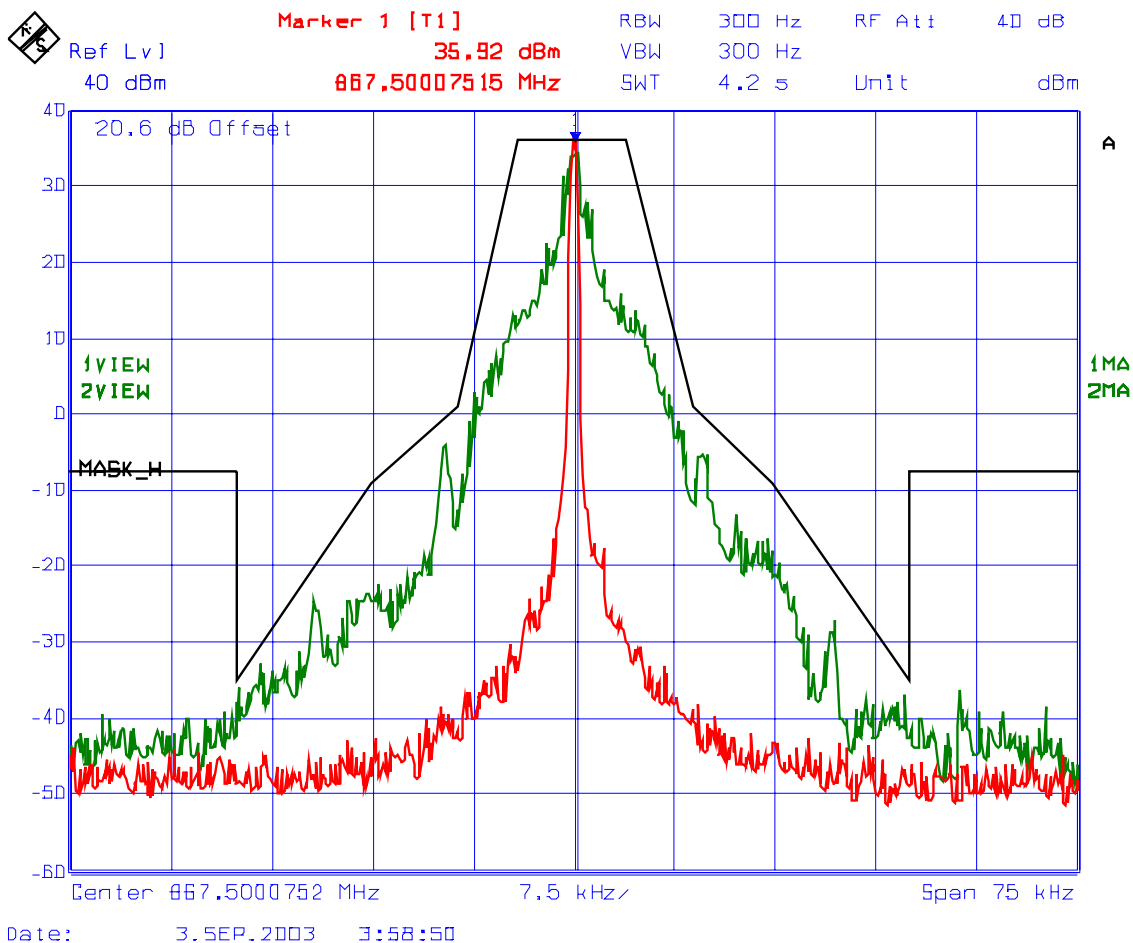
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PLOT # 196 Emission Mask H, frequency 866-869 MHz- RF Output
Frequency: 867.5 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



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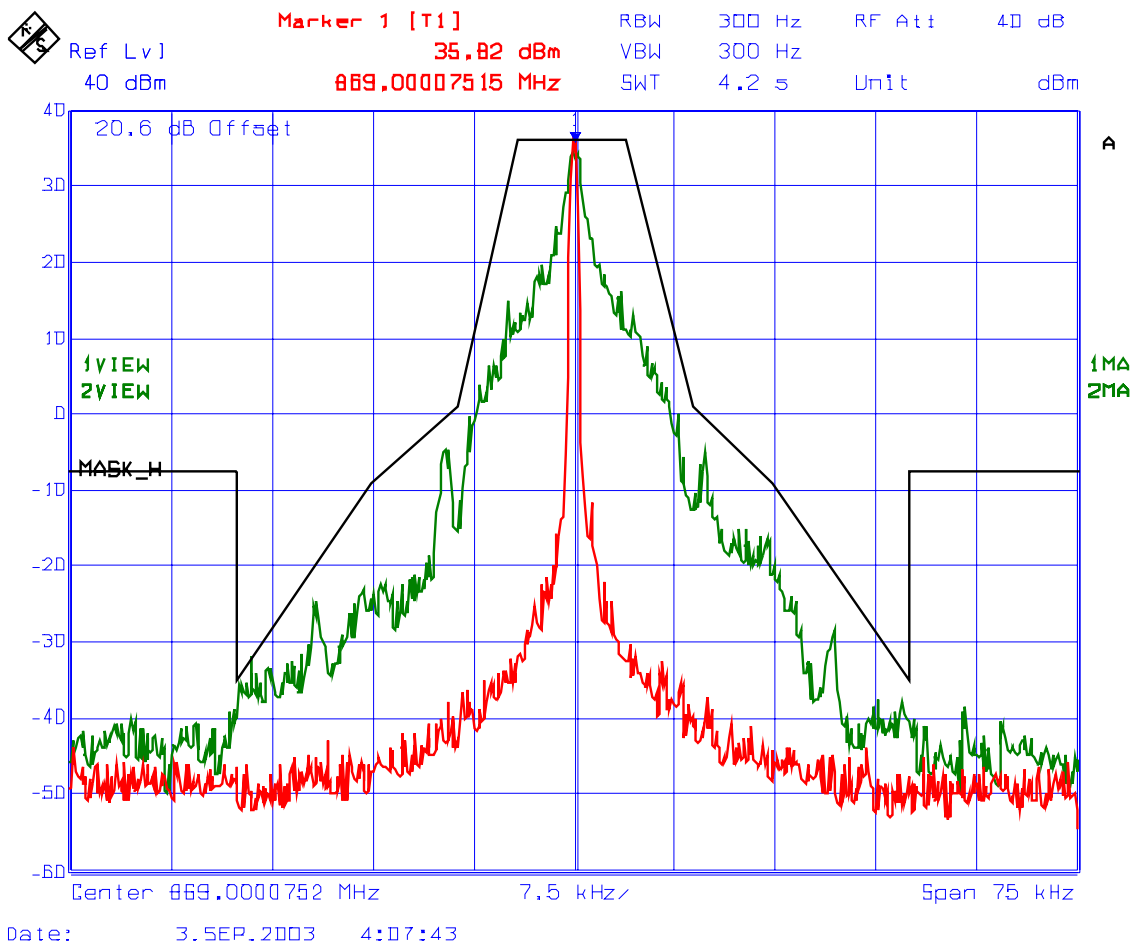
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 197 Emission Mask H, frequency 866-869 MHz- RF Output
Frequency: 869 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



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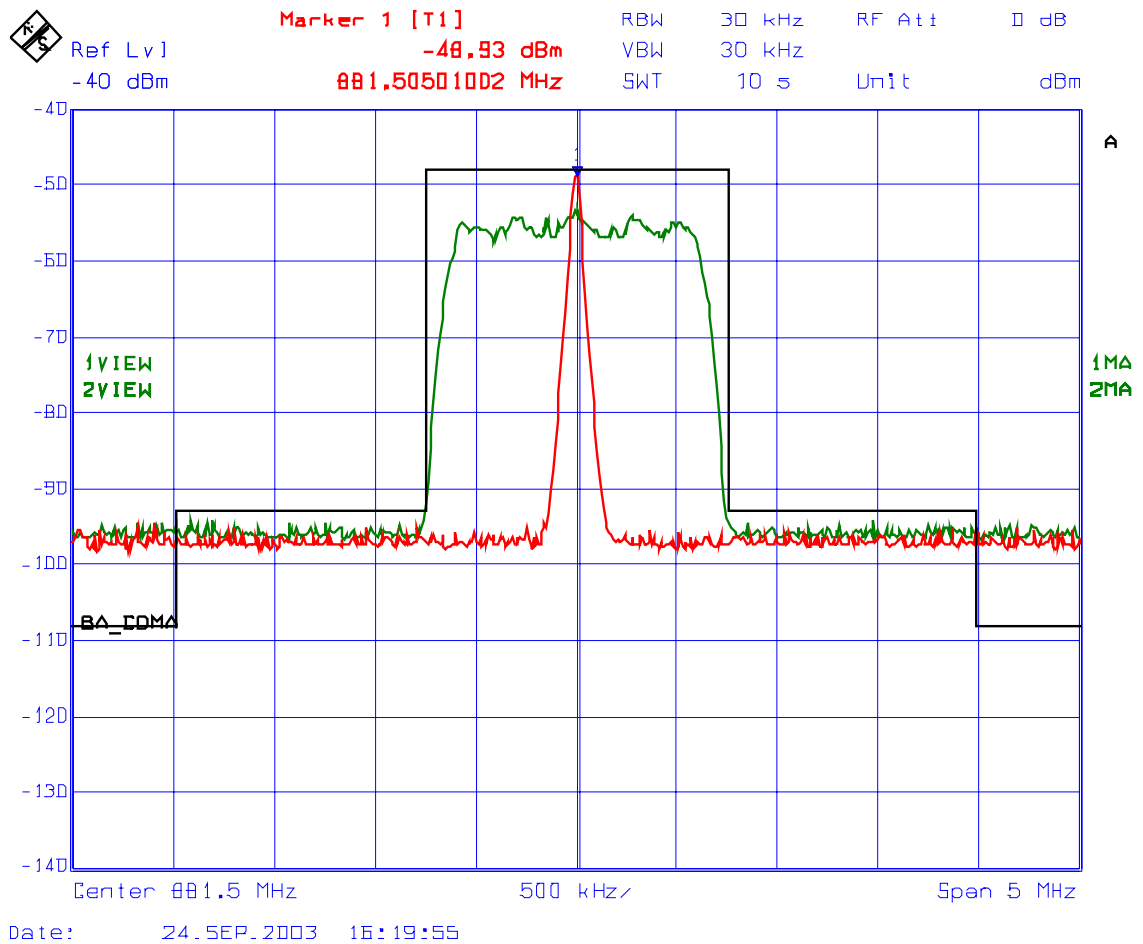
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 198 Base (Downlink) CDMA Mask, frequency 869-894 MHz- RF Input
Frequency: 869 MHz
Modulation: CDMA



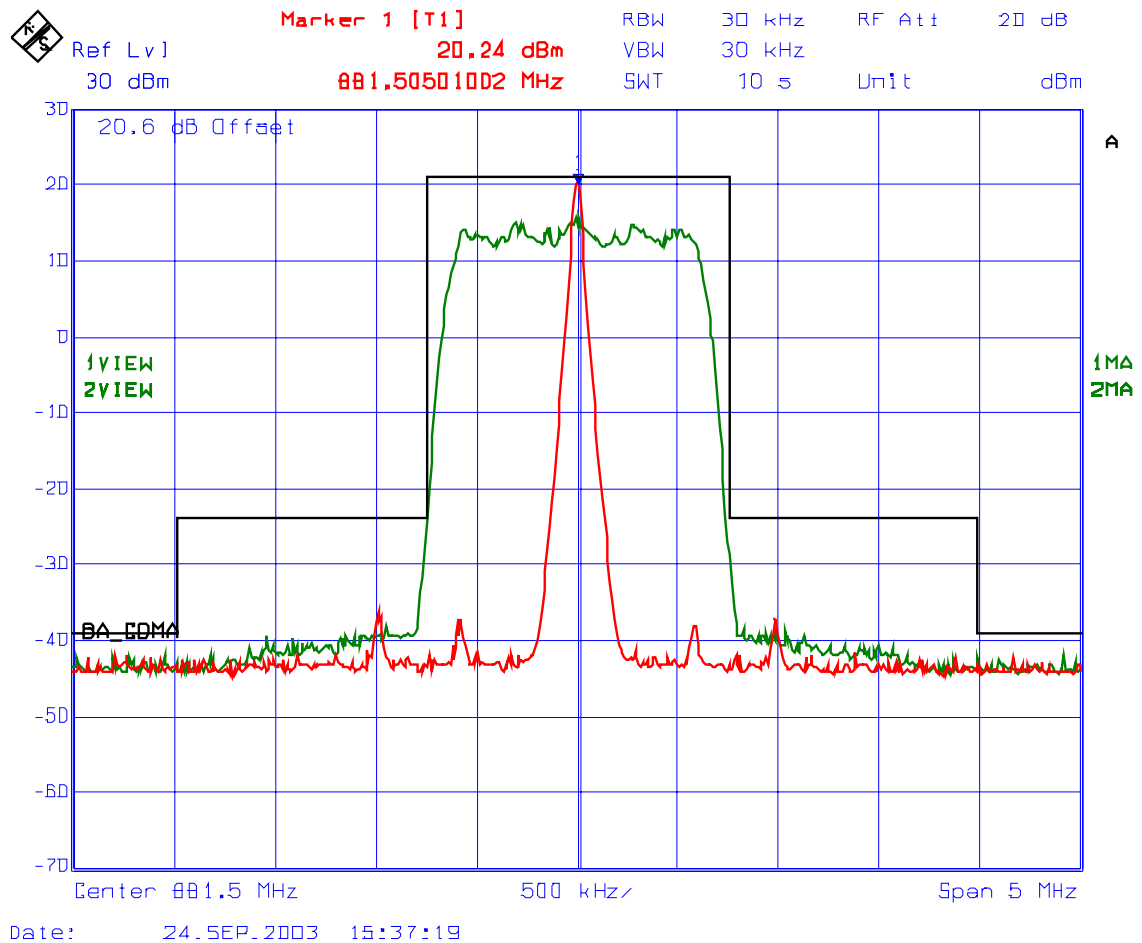
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PLOT # 199 Base (Downlink) CDMA Mask, frequency 869-894 MHz- RF Output
Frequency: 881.5 MHz
Modulation: CDMA



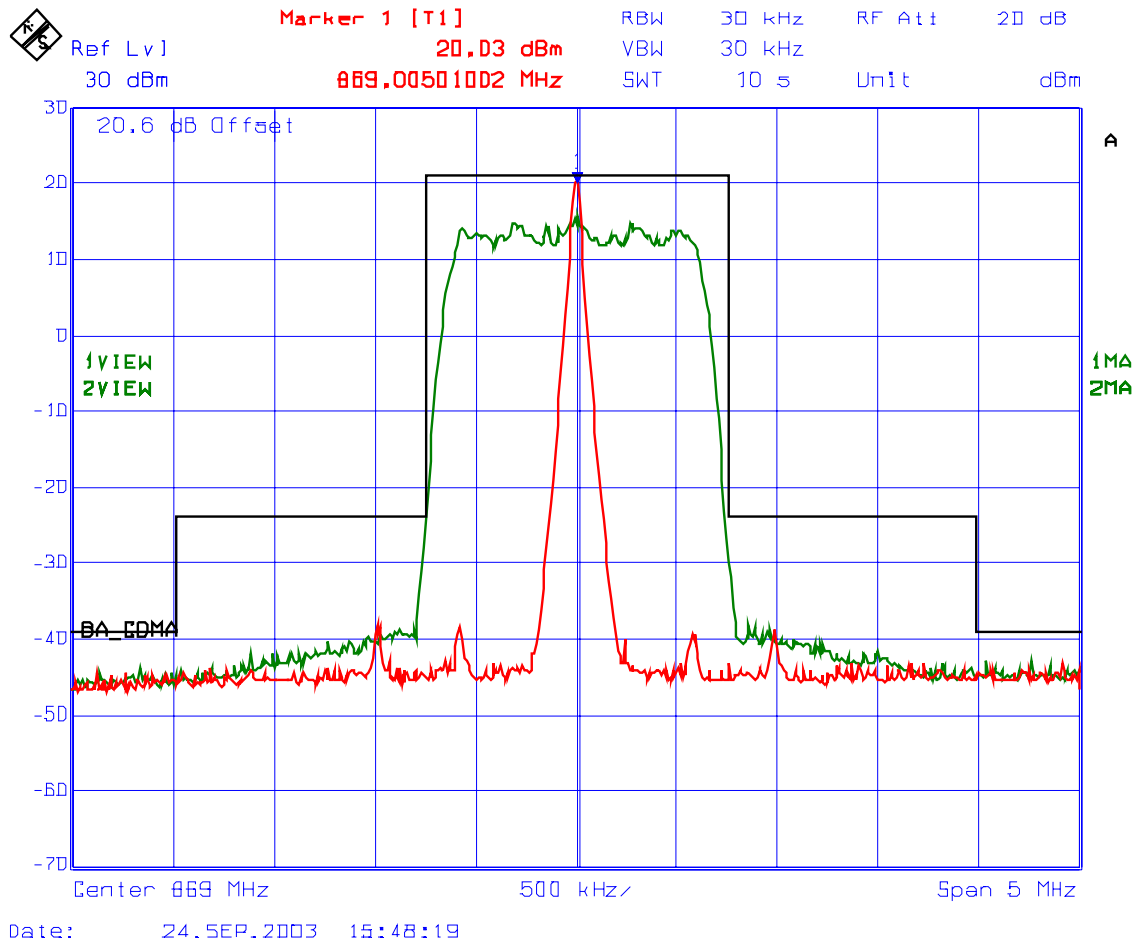
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PLOT # 200 Base (Downlink) CDMA Mask, frequency 869-894 MHz- RF Output
Frequency: 881.5 MHz
Modulation: CDMA
The Spectrum was inside the Mask, because the level was too low therefore higher than limit level



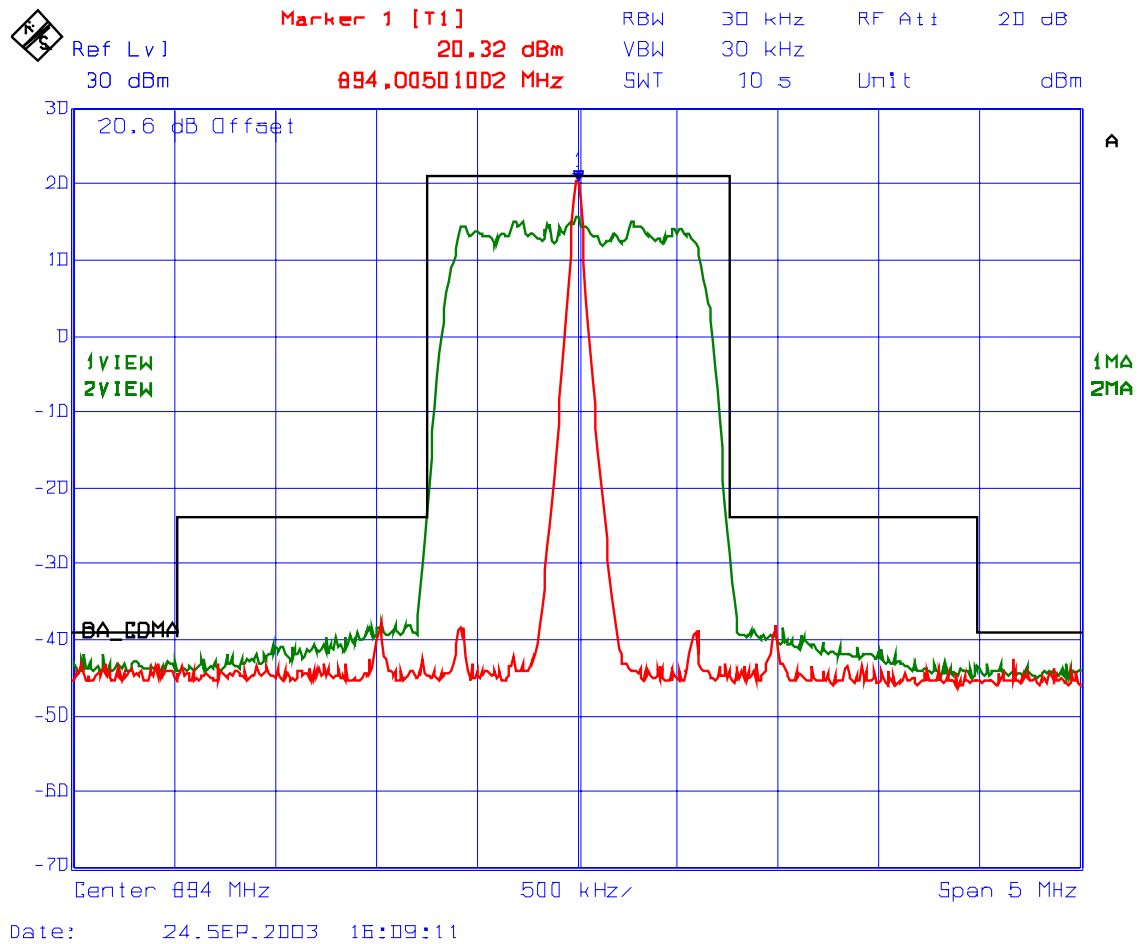
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 201 Base (Downlink) CDMA Mask, frequency 869-894 MHz- RF Output
Frequency: 894 MHz
Modulation: CDMA



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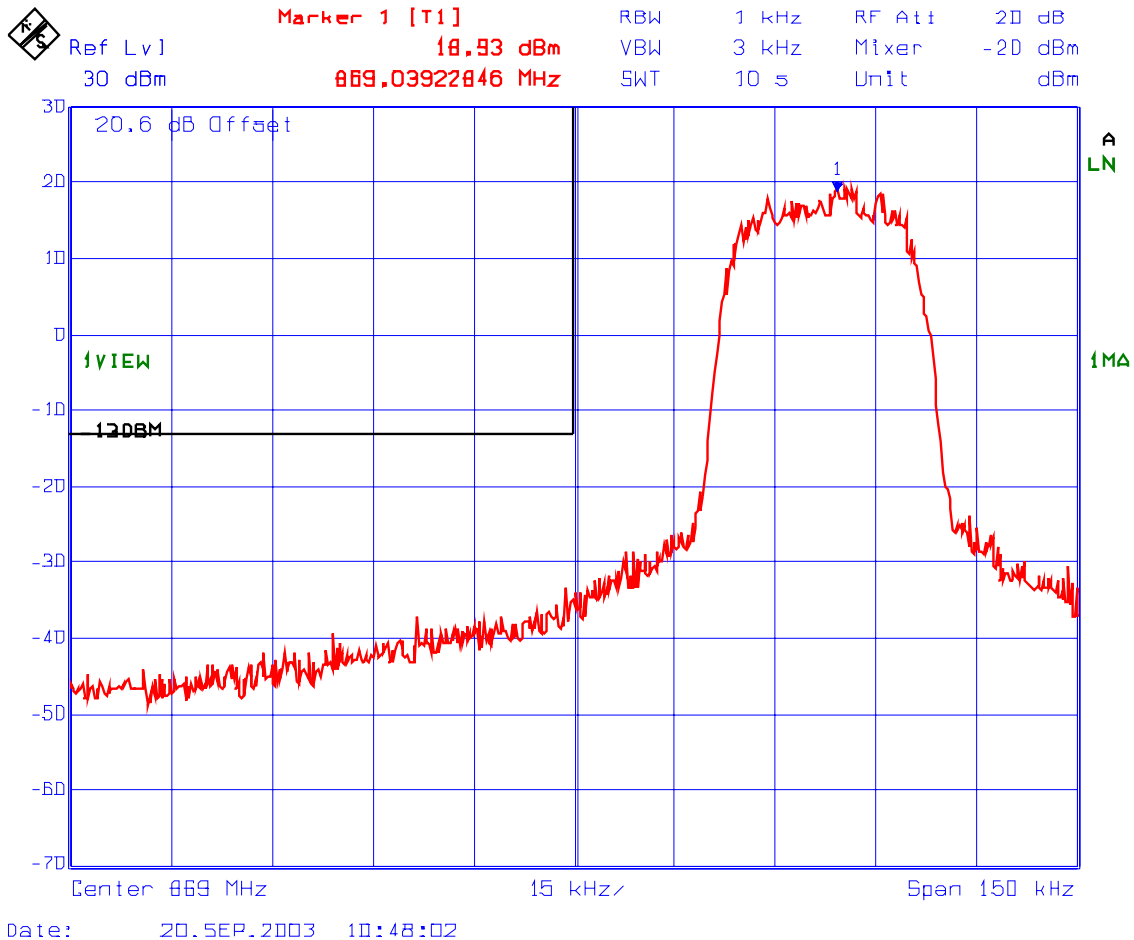
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 202 Lower Band-Edge 869-894 MHz
Frequency: 869 MHz
Modulation: TDMA



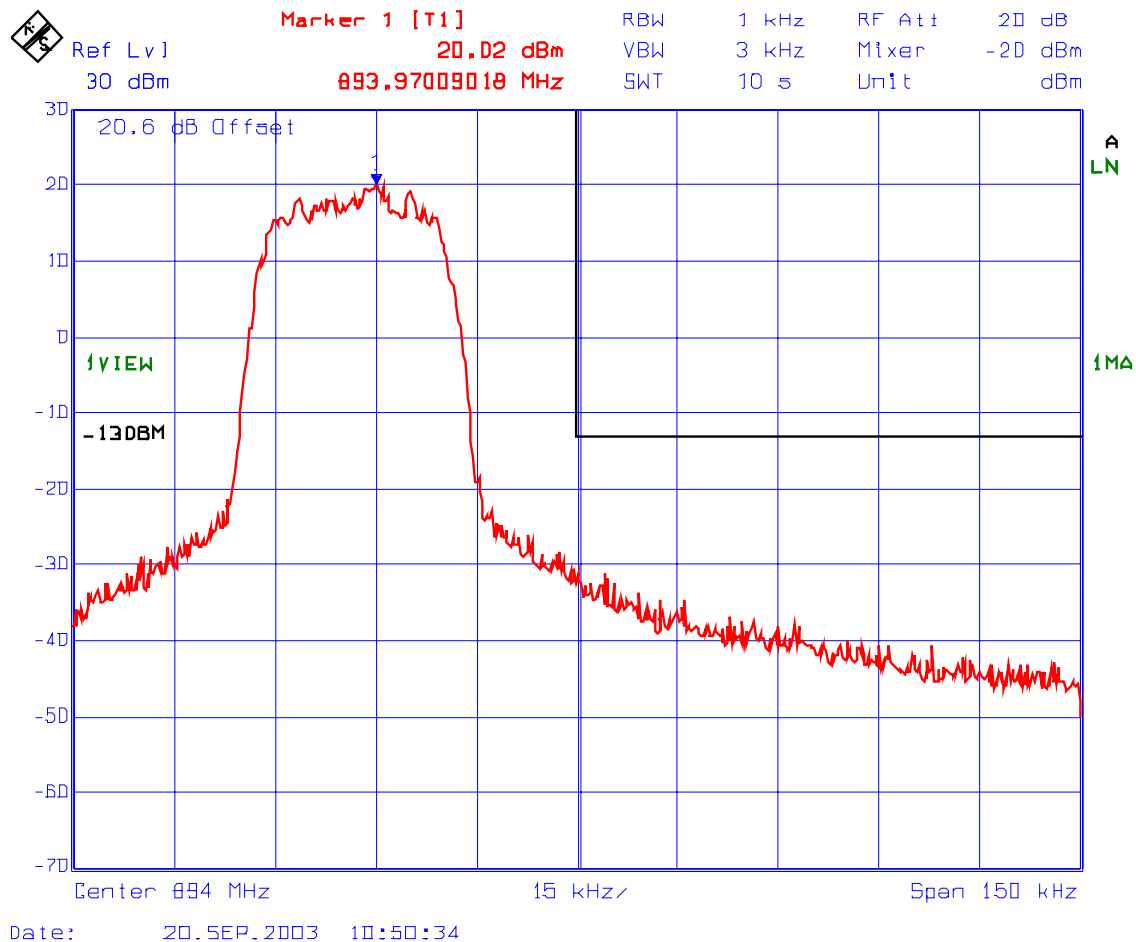
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PLOT # 203 Upper Band-Edge 869-894 MHz
Frequency: 894 MHz
Modulation: TDMA



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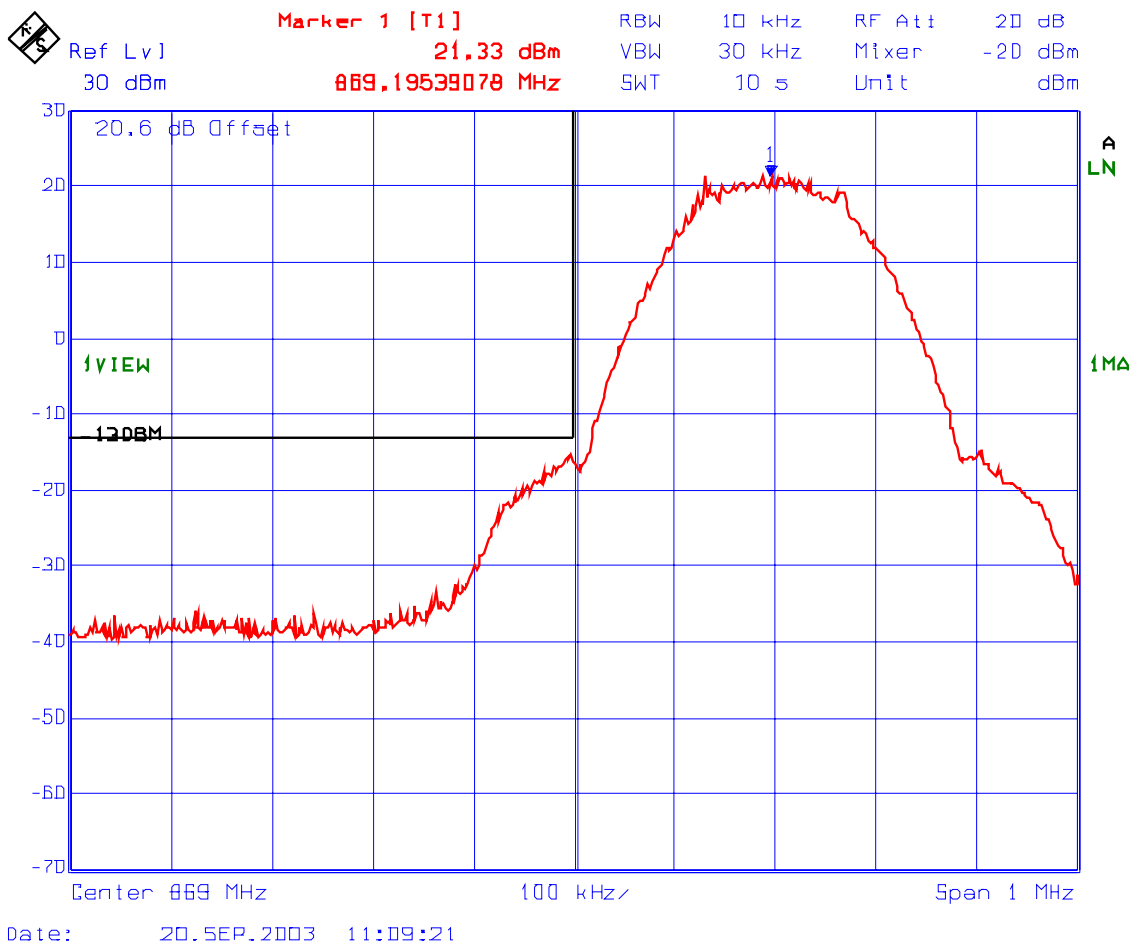
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 204 Lower Band-Edge 869-894 MHz
Frequency: 869 MHz
Modulation: GSM



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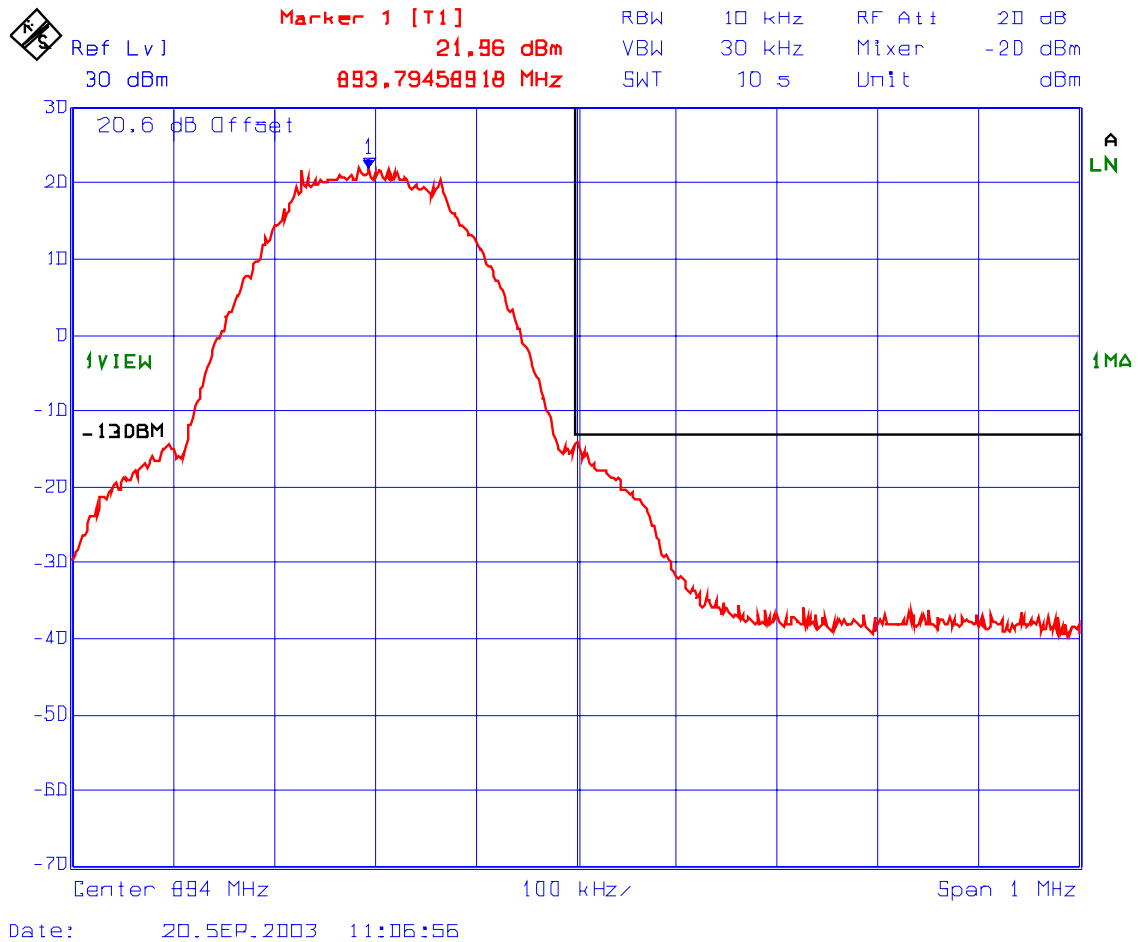
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 205 Upper Band-Edge 869-894 MHz
Frequency: 894 MHz
Modulation: GSM



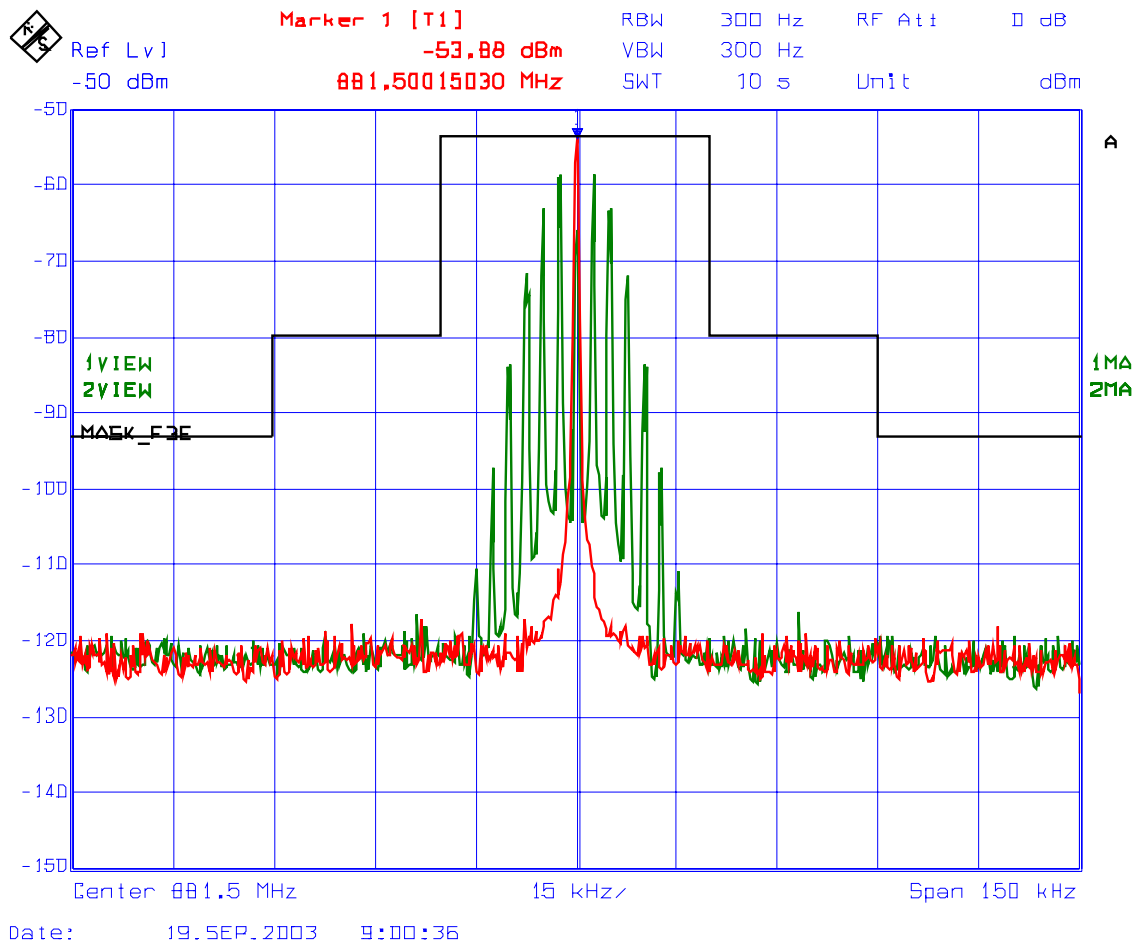
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PLOT # 206 Emission Mask F3E, frequency 869-894 MHz- RF Input
Frequency: 869 MHz
Modulation: FM Modulation with 2.5 kHz Sine Wave Signal



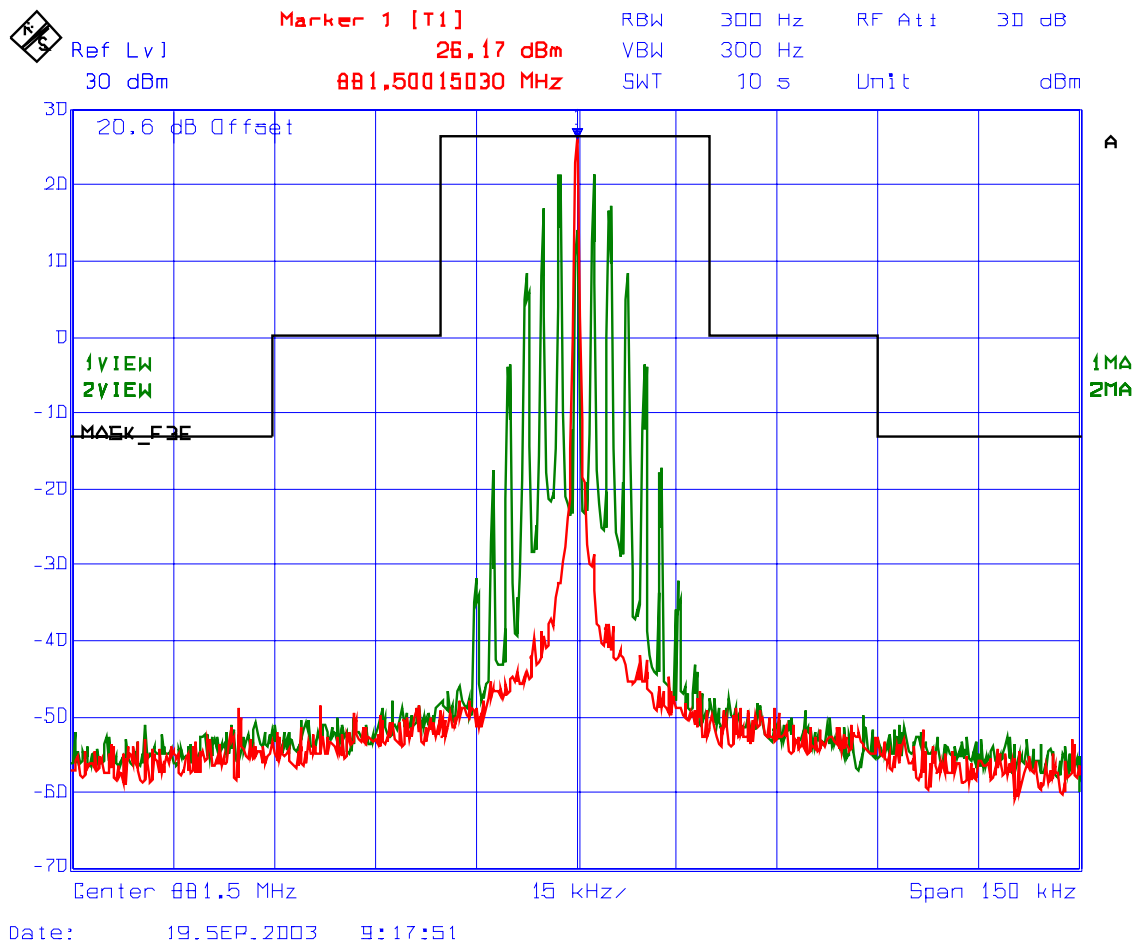
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 207 Emission Mask F3E, frequency 869-894 MHz- RF Output
Frequency: 881.5 MHz
Modulation: FM Modulation with 2.5 kHz Sine Wave Signal



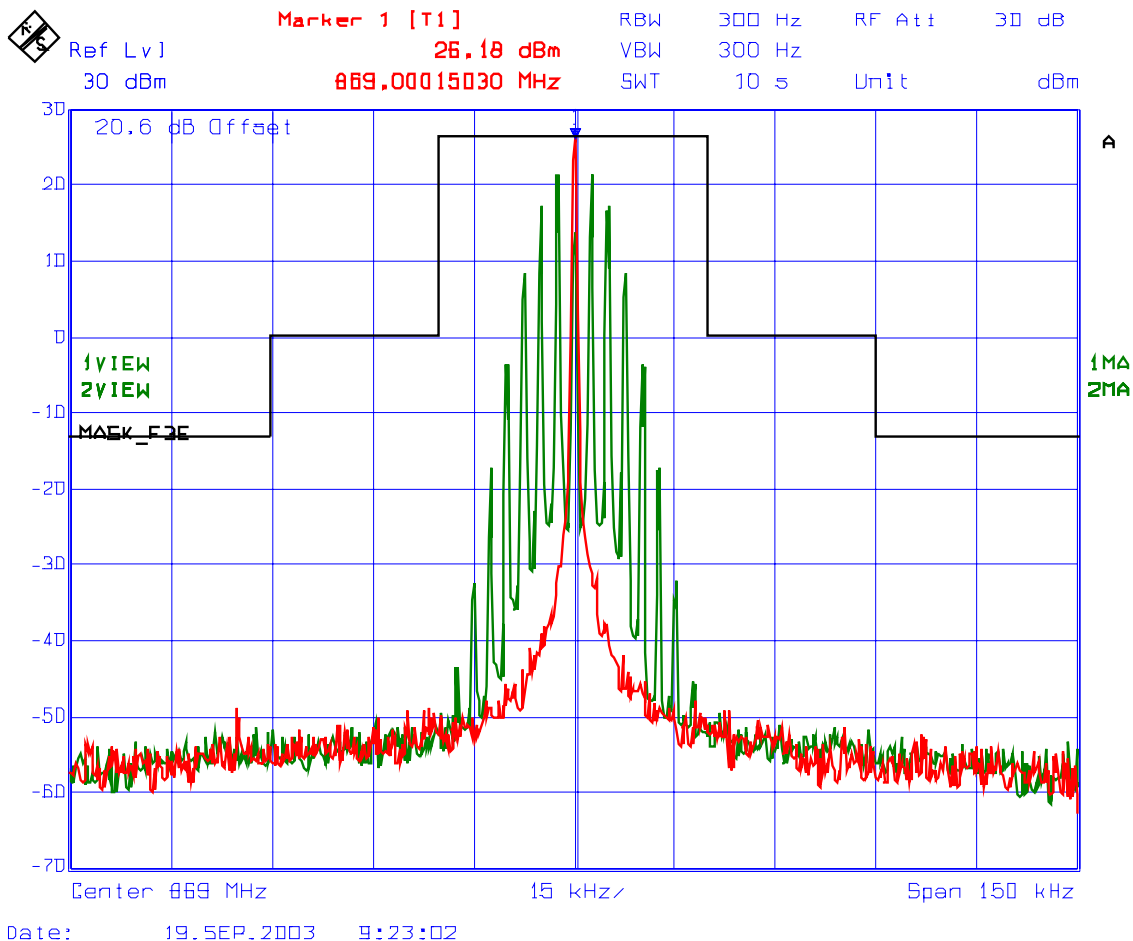
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PLOT # 208 Emission Mask F3E, frequency 869-894 MHz- RF Output
Frequency: 881.5 MHz
Modulation: FM Modulation with 2.5 kHz Sine Wave Signal



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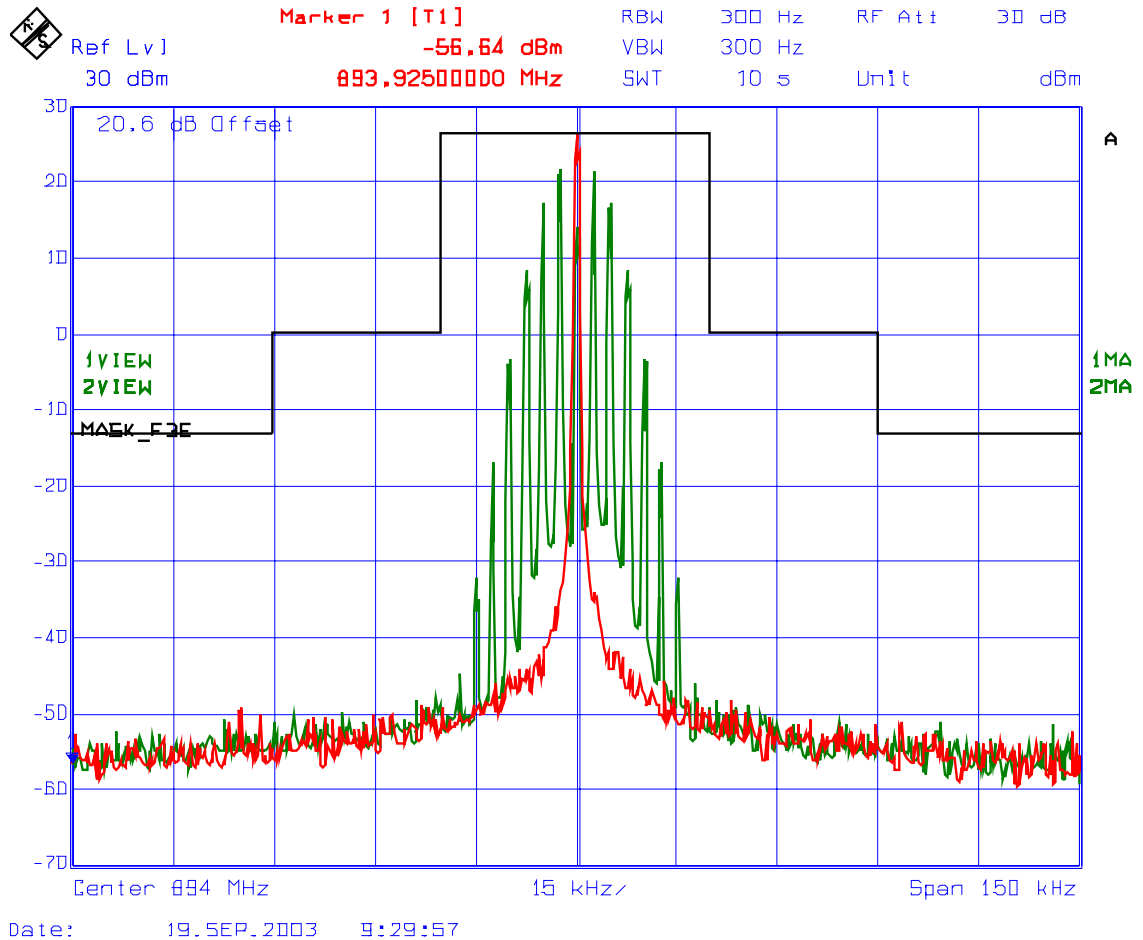
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 209 Emission Mask F3E, frequency 869-894 MHz- RF Output
Frequency: 894 MHz
Modulation: FM Modulation with 2.5 kHz Sine Wave Signal



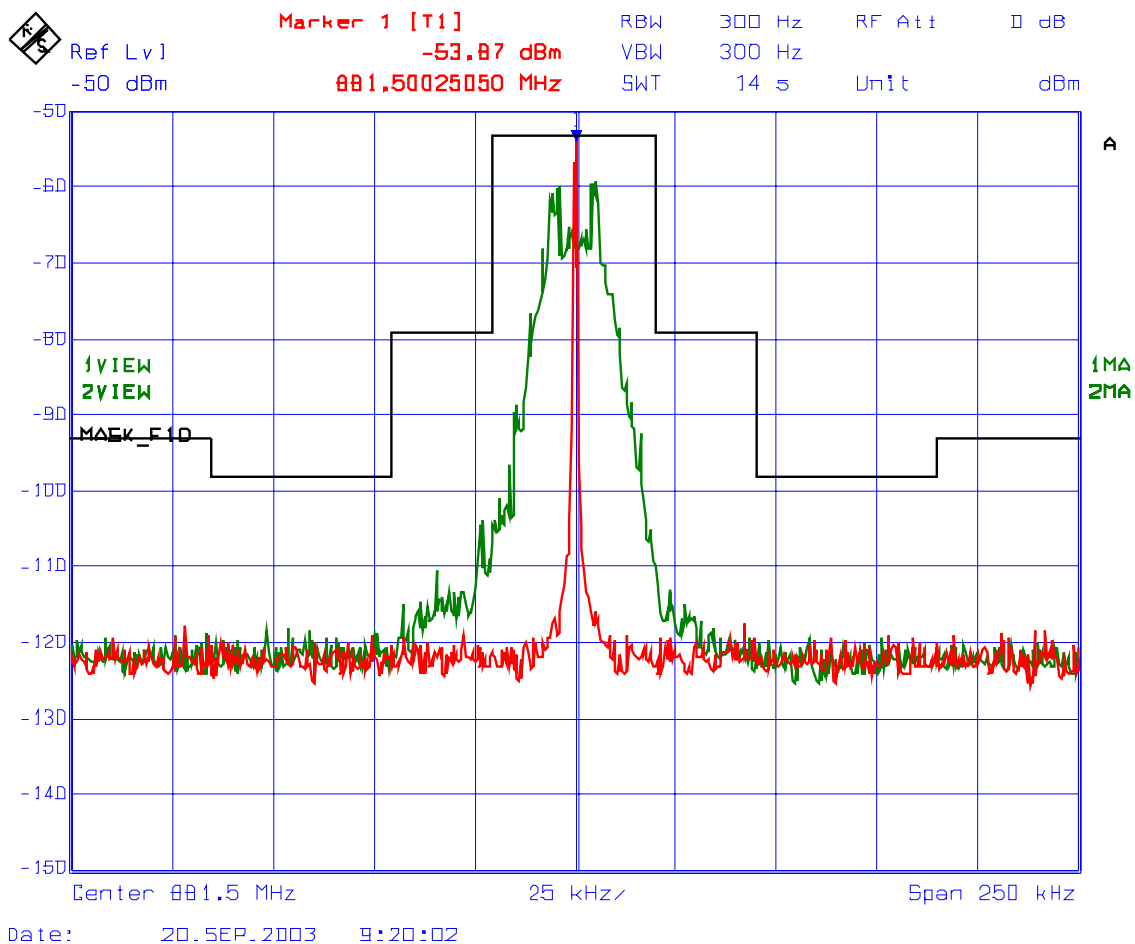
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 210 Emission Mask F1D, frequency 869-894 MHz- RF Input
Frequency: 869 MHz
Modulation: FM Modulation with an external 9600 b/s random data source



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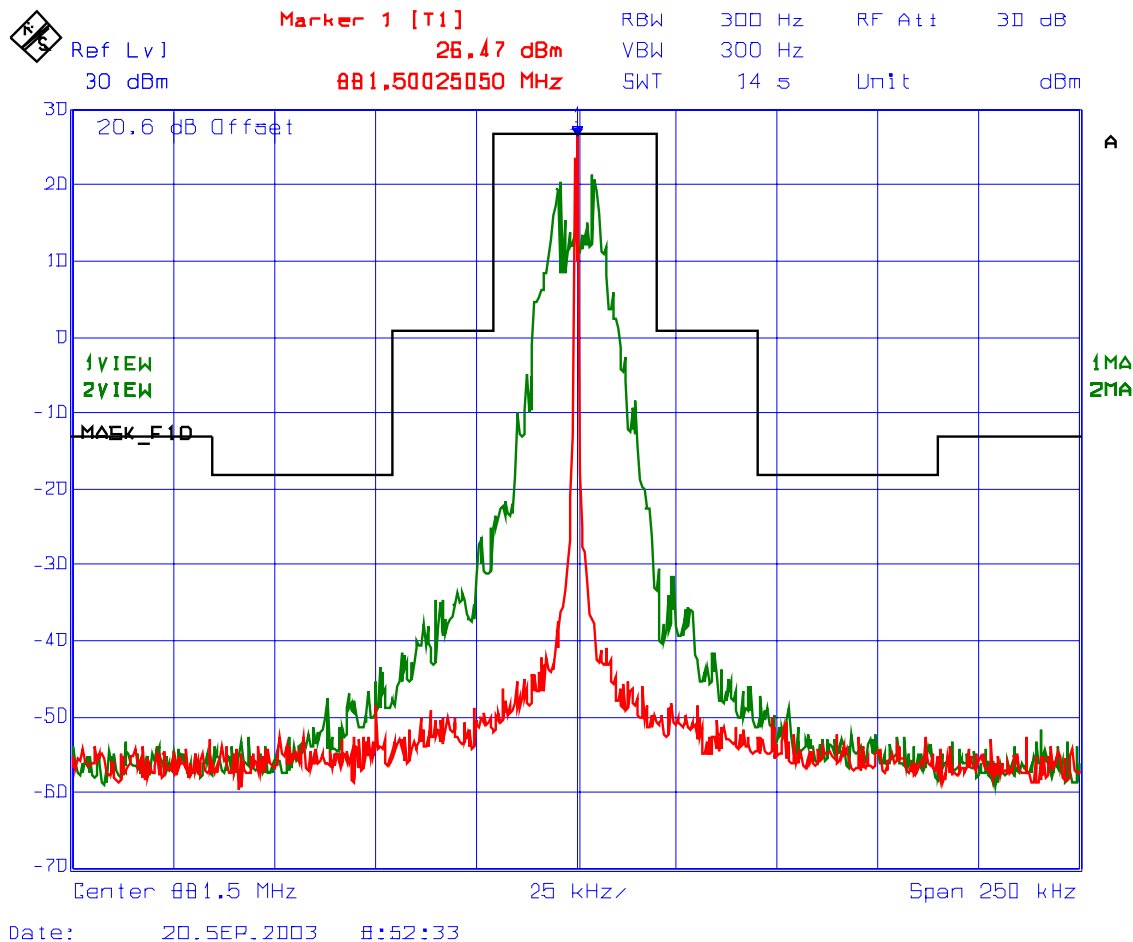
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 211 Emission Mask F1D, frequency 869-894 MHz- RF Output
Frequency: 881.5 MHz
Modulation: FM Modulation with an external 9600 b/s random data source



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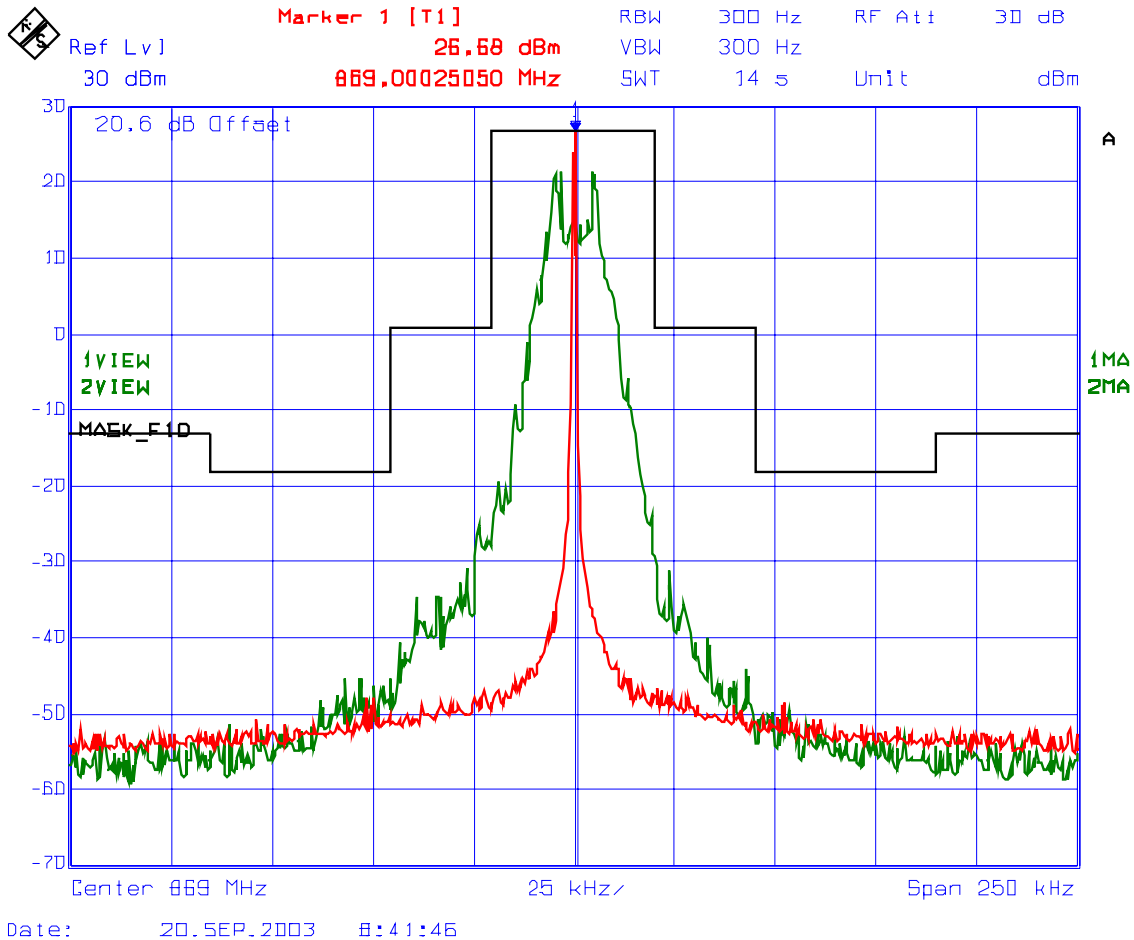
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 212 Emission Mask F1D, frequency 869-894 MHz- RF Output
Frequency: 881.5 MHz
Modulation: FM Modulation with an external 9600 b/s random data source



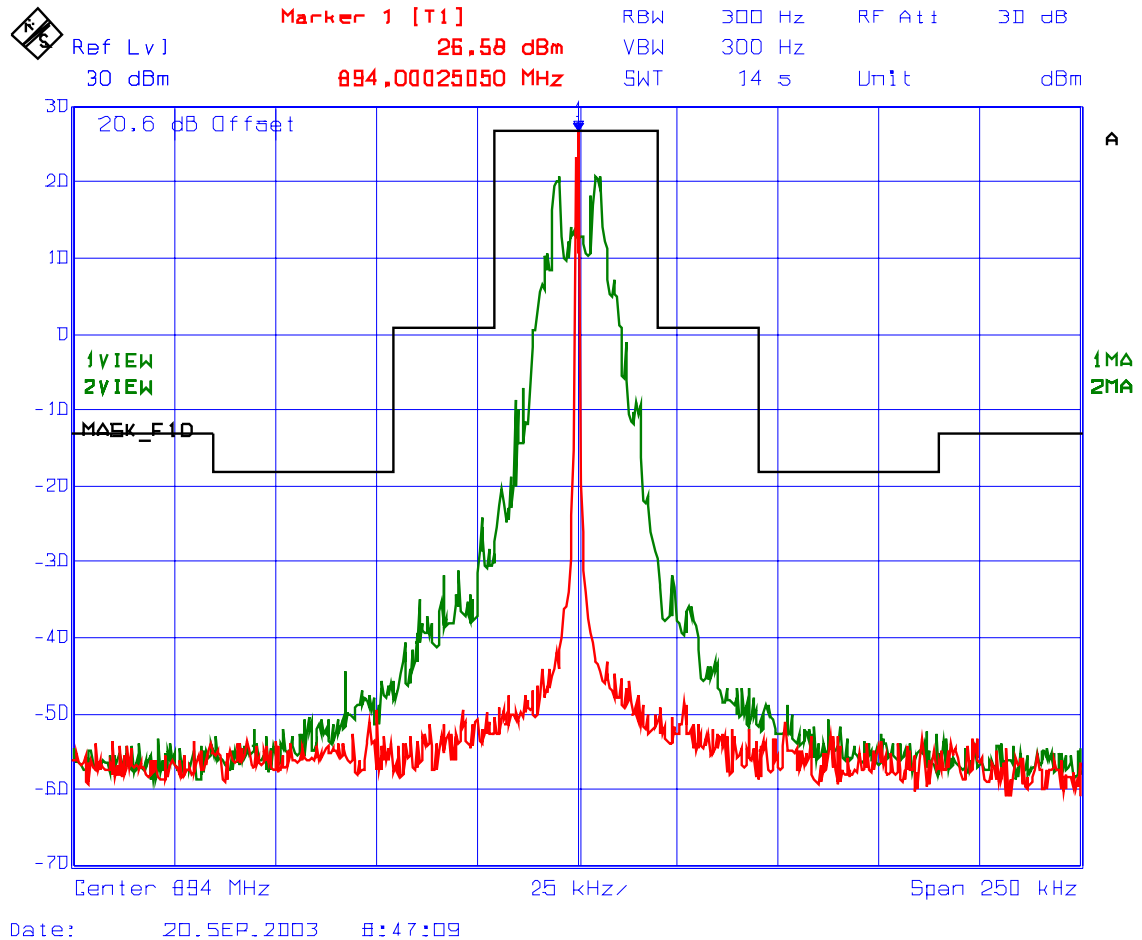
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PLOT # 213 Emission Mask F1D, frequency 869-894 MHz- RF Output
Frequency: 894 MHz
Modulation: FM Modulation with an external 9600 b/s random data source



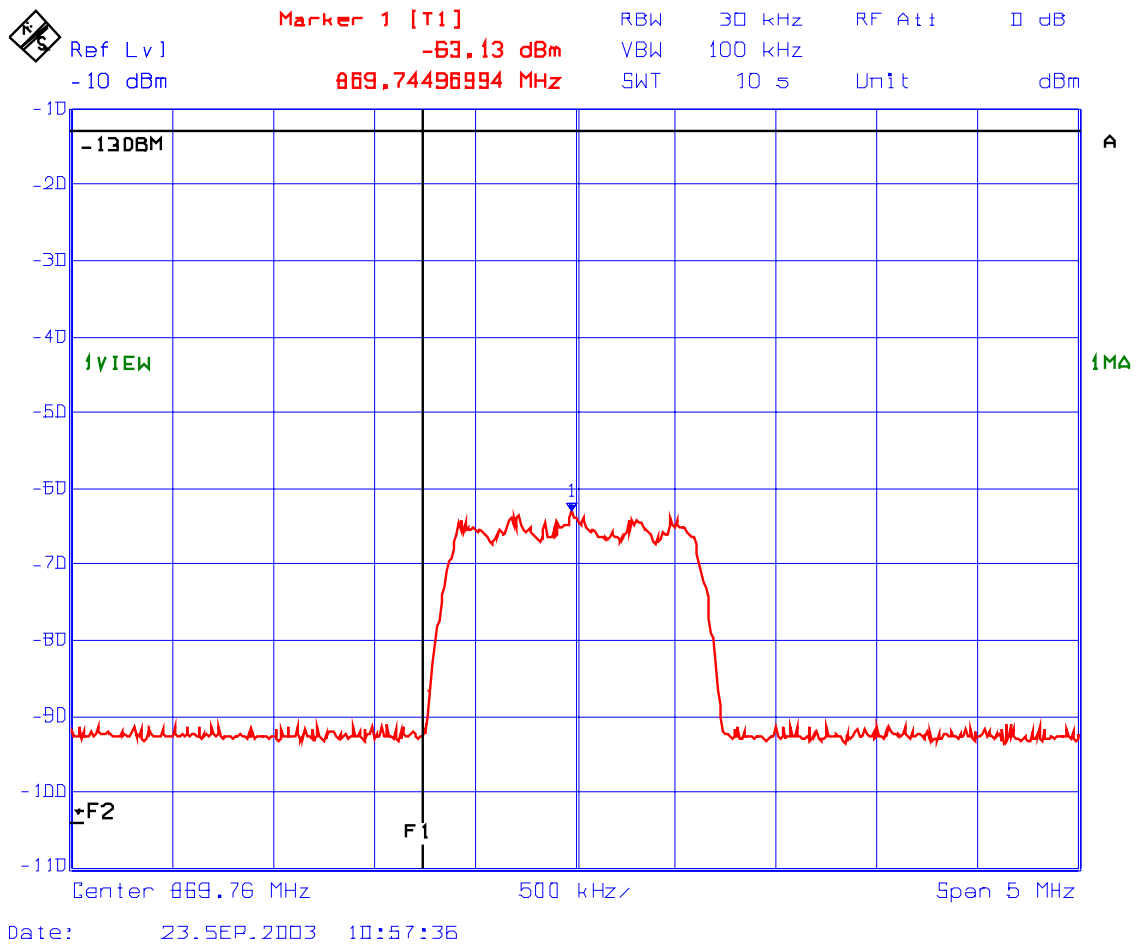
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PLOT # 214 Lower Band-Edge RF Input band 869 - 894 MHz
Fc: 869.76 MHz



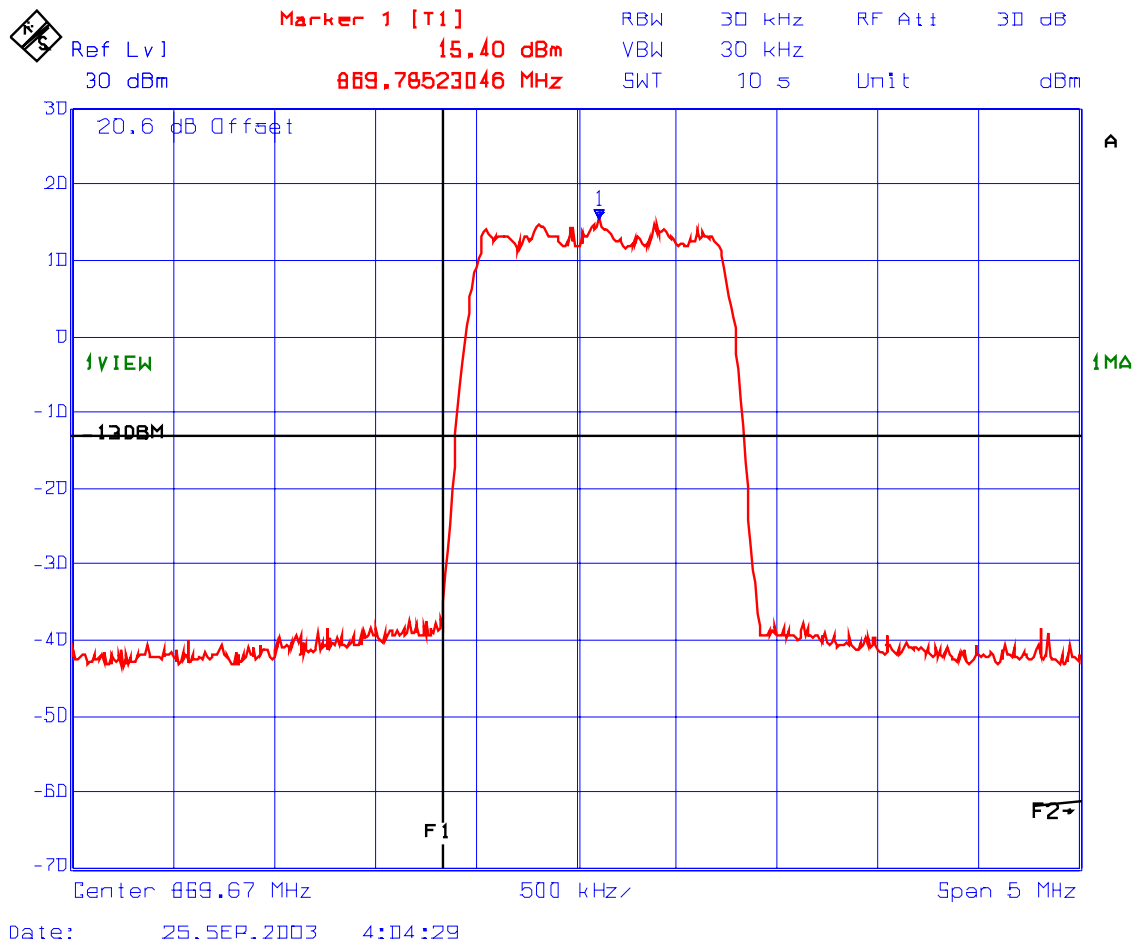
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PLOT # 215 Lower Band-Edge RF Output band 869 - 894 MHz
Fc: 869.76 MHz



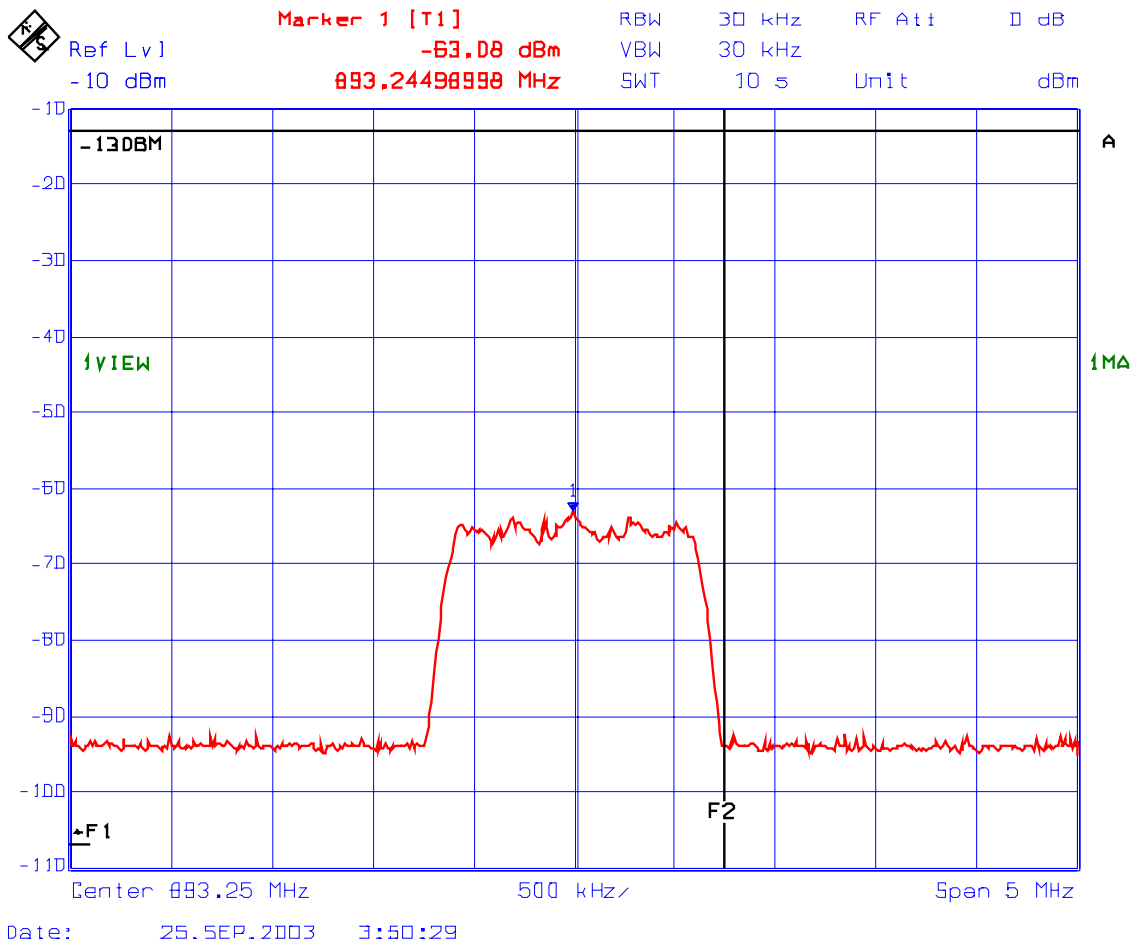
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PLOT # 216 Upper Band-Edge RF Input band 869 - 894 MHz
Fc: 893.25 MHz



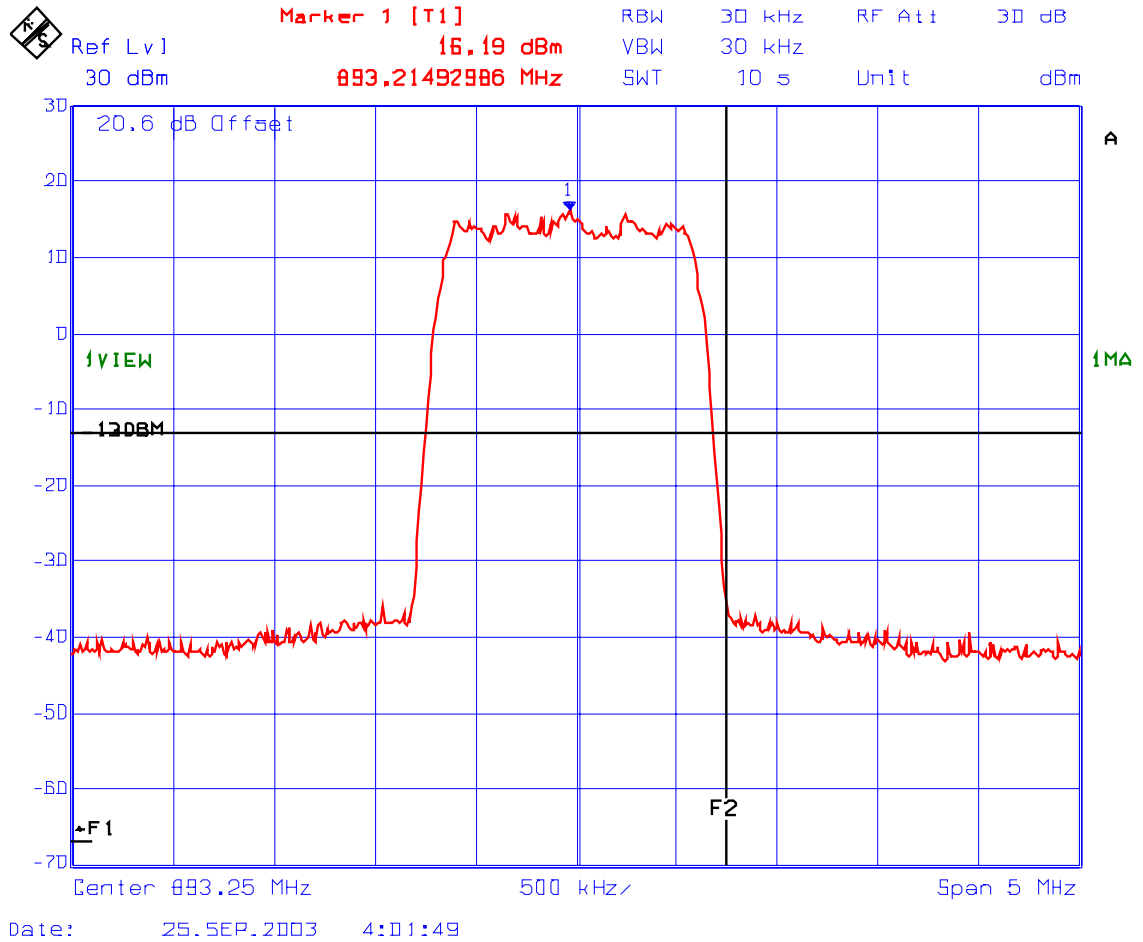
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PLOT # 217 Upper Band-Edge RF Output band 869 - 894 MHz
Fc: 893.25 MHz



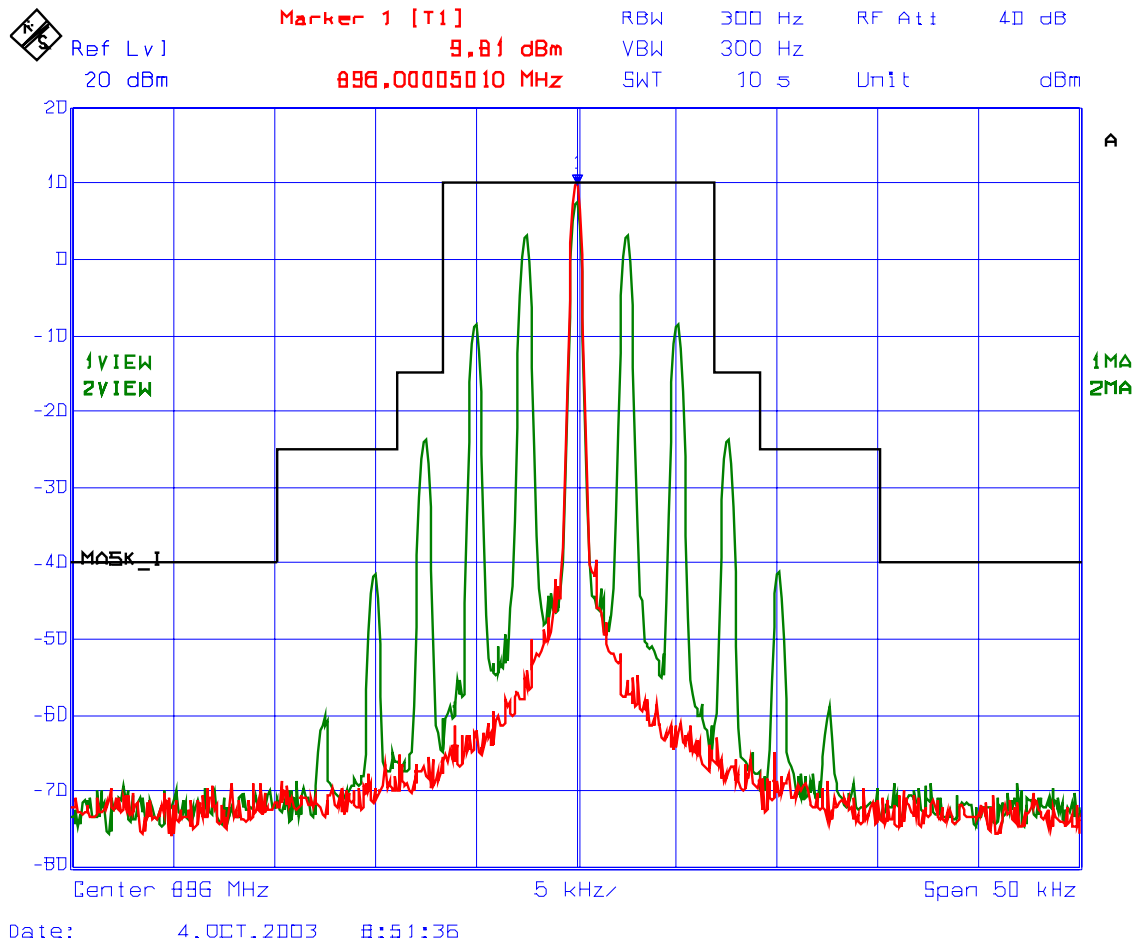
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PLOT # 218 Emission Mask I, frequency 896 & 901 MHz- RF Input
Frequency: 896 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with 2.5 kHz Sine wave signal



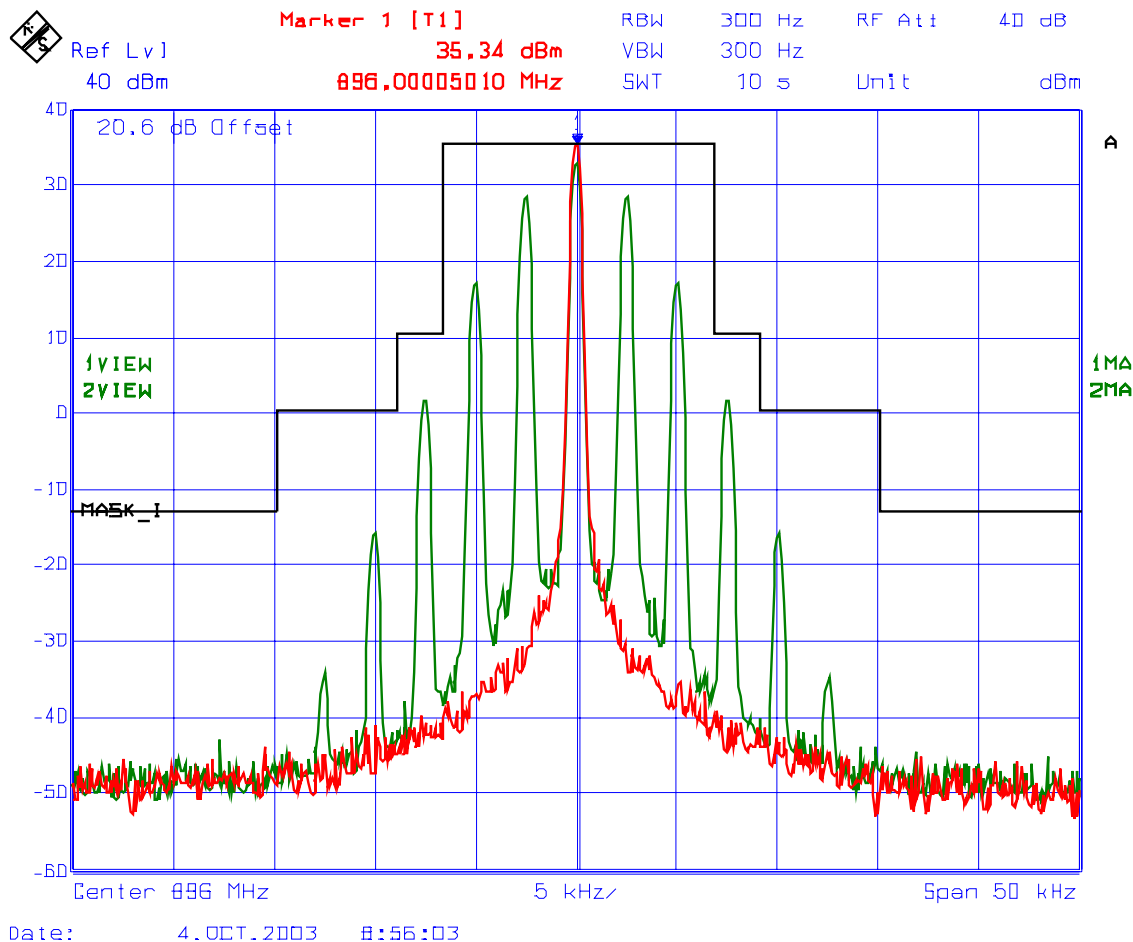
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PLOT # 219 Emission Mask I, frequency 896 & 901 MHz- RF Output
Frequency: 896 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with 2.5 kHz Sine wave signal



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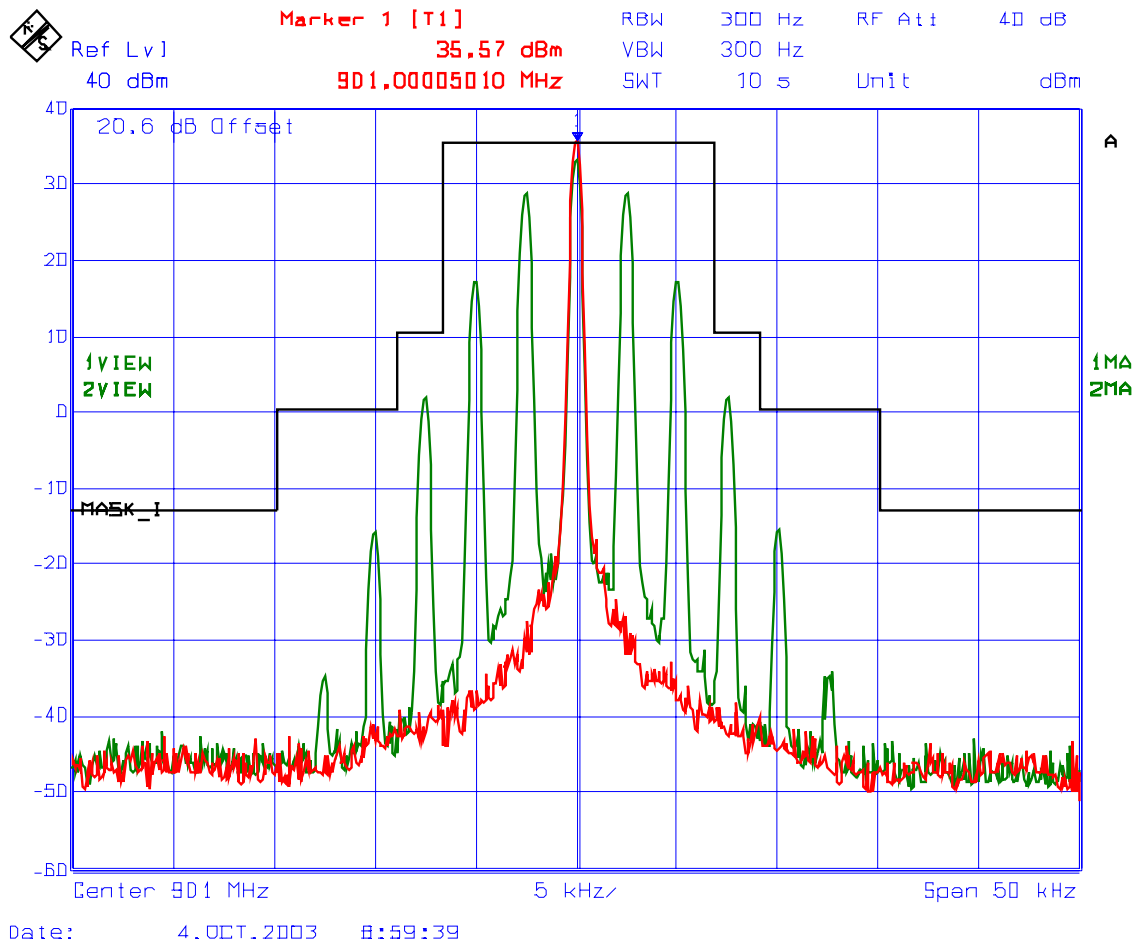
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 220 Emission Mask I, frequency 896 & 901 MHz RF Output
Frequency: 901 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with 2.5 kHz Sine wave signal



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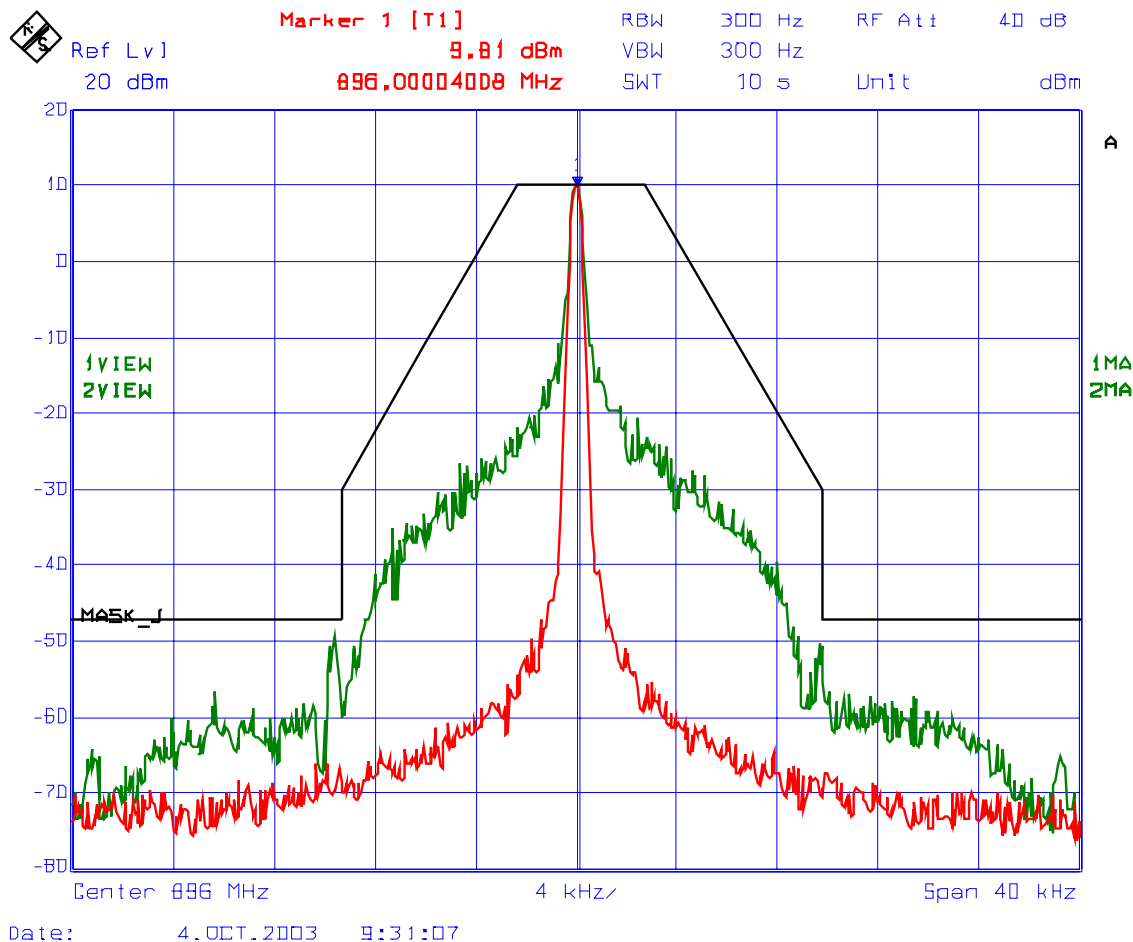
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 221 Emission Mask J, frequency 896 & 901MHz- RF Input
Frequency: 896 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



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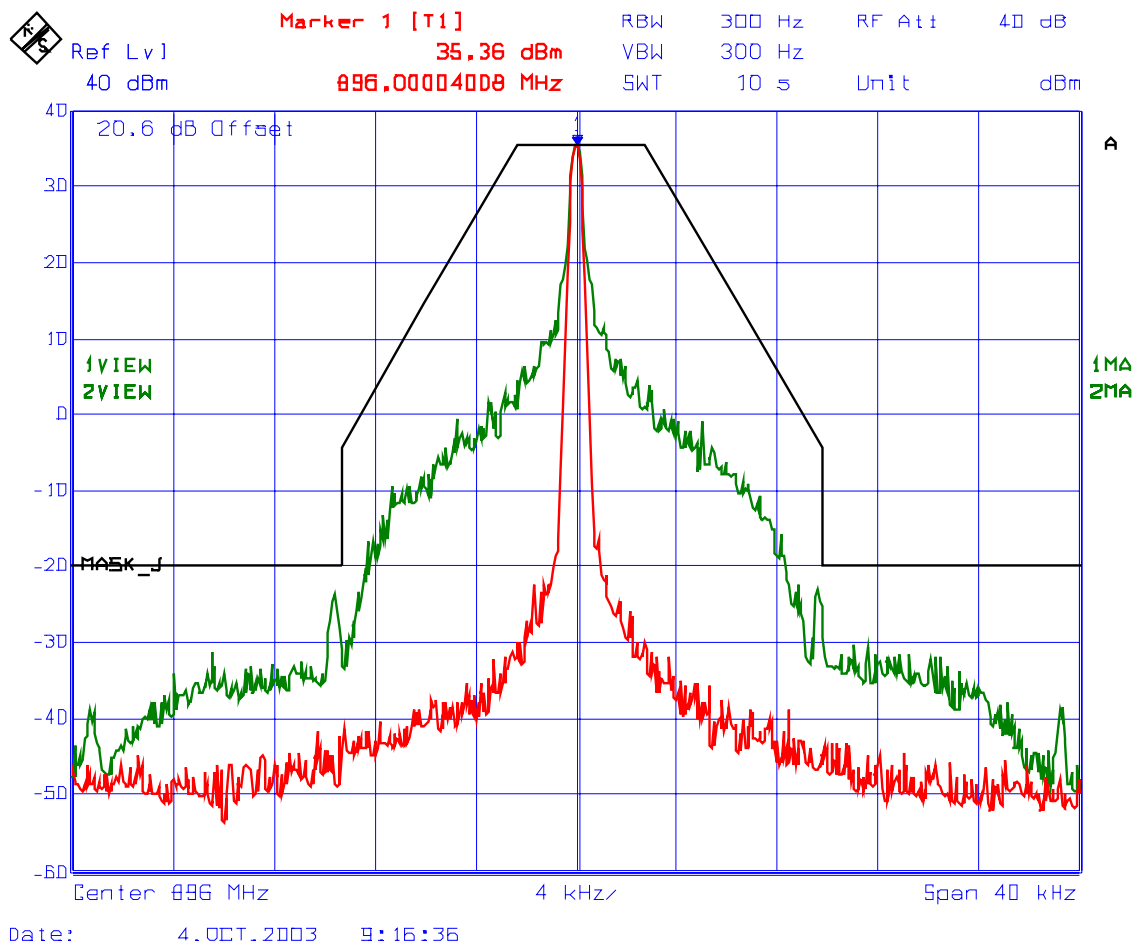
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 222 Emission Mask J, frequency 896 & 901 MHz- RF Output
Frequency: 896 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



ULTRATECH GROUP OF LABS

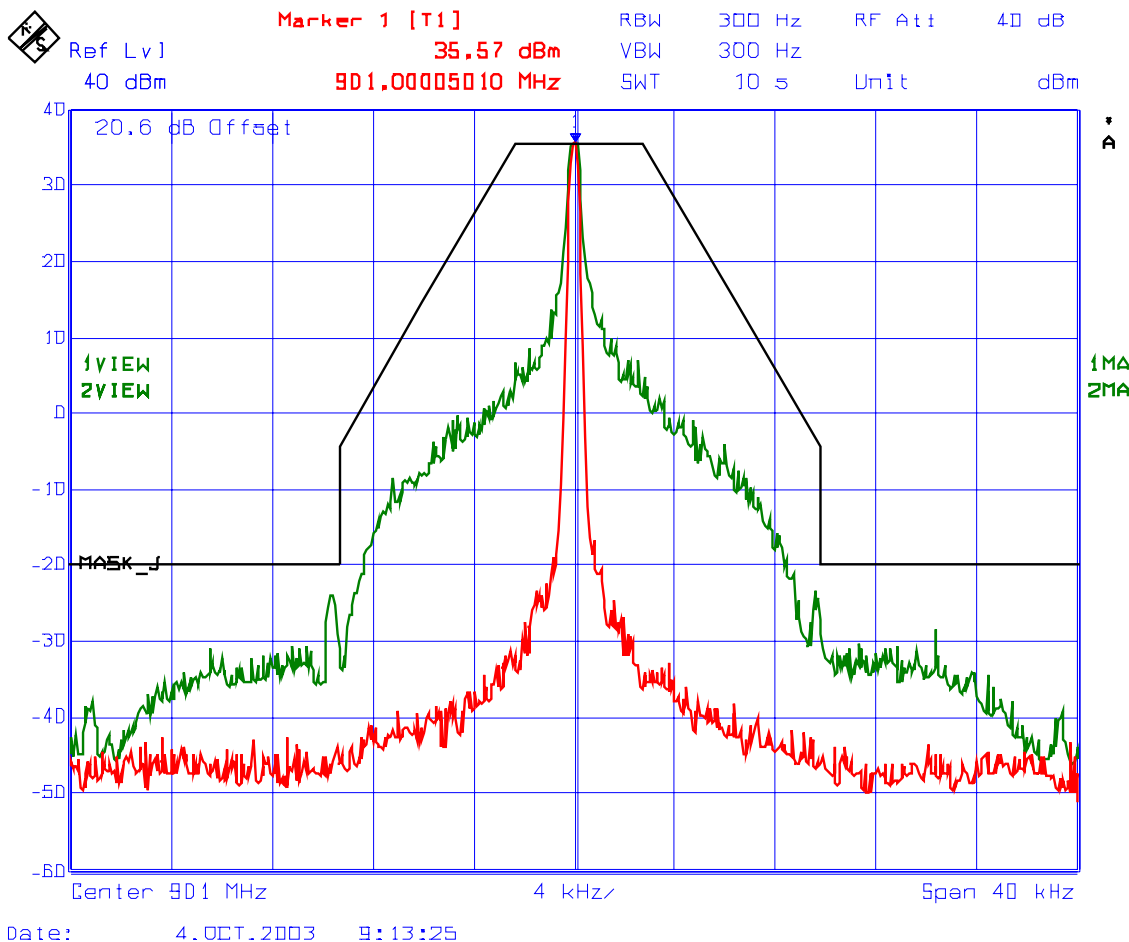
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 223 Emission Mask J, frequency 896 & 901 MHz- RF Output
Frequency: 901 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



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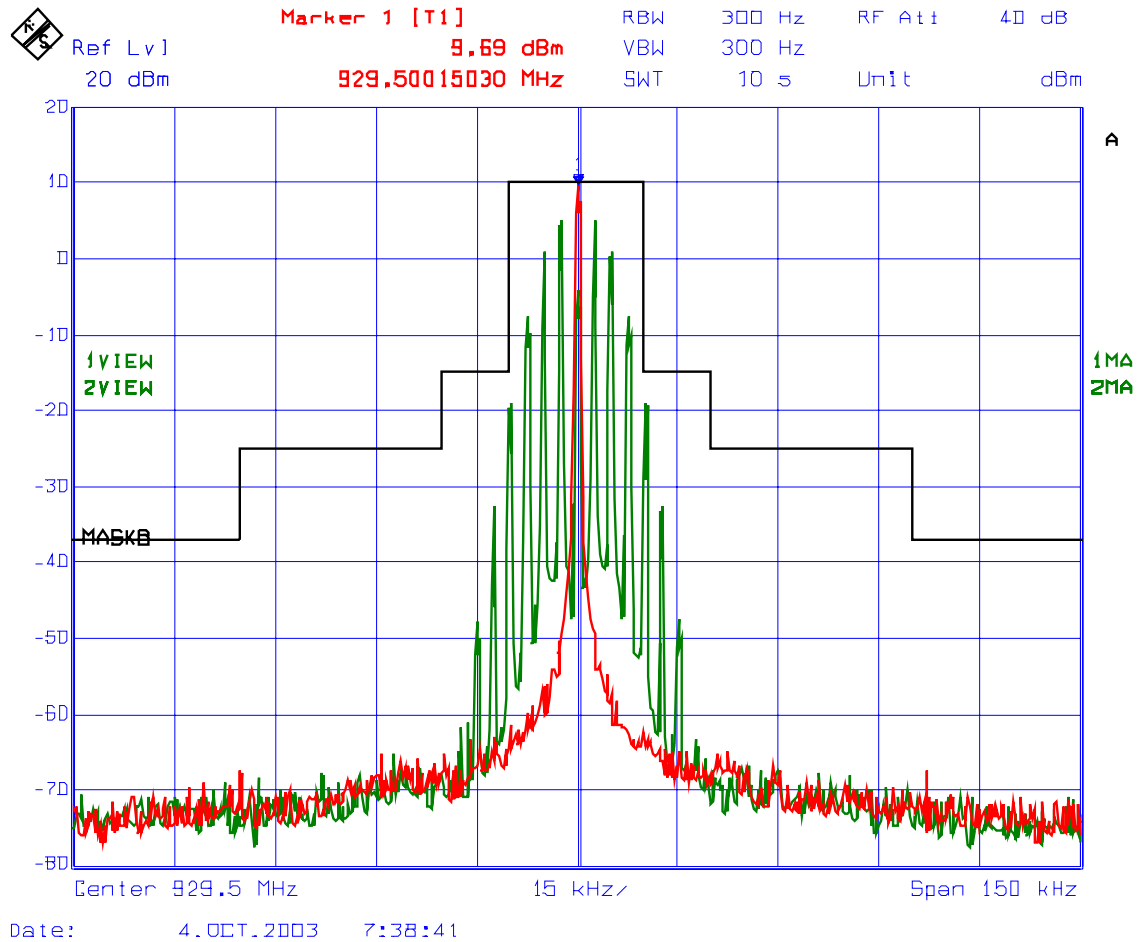
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 224 Emission Mask B- RF Input
Frequency: 929.5 MHz, 25 kHz Channel Spacing
Modulation: FM modulation with 2.5 kHz Sine wave signal



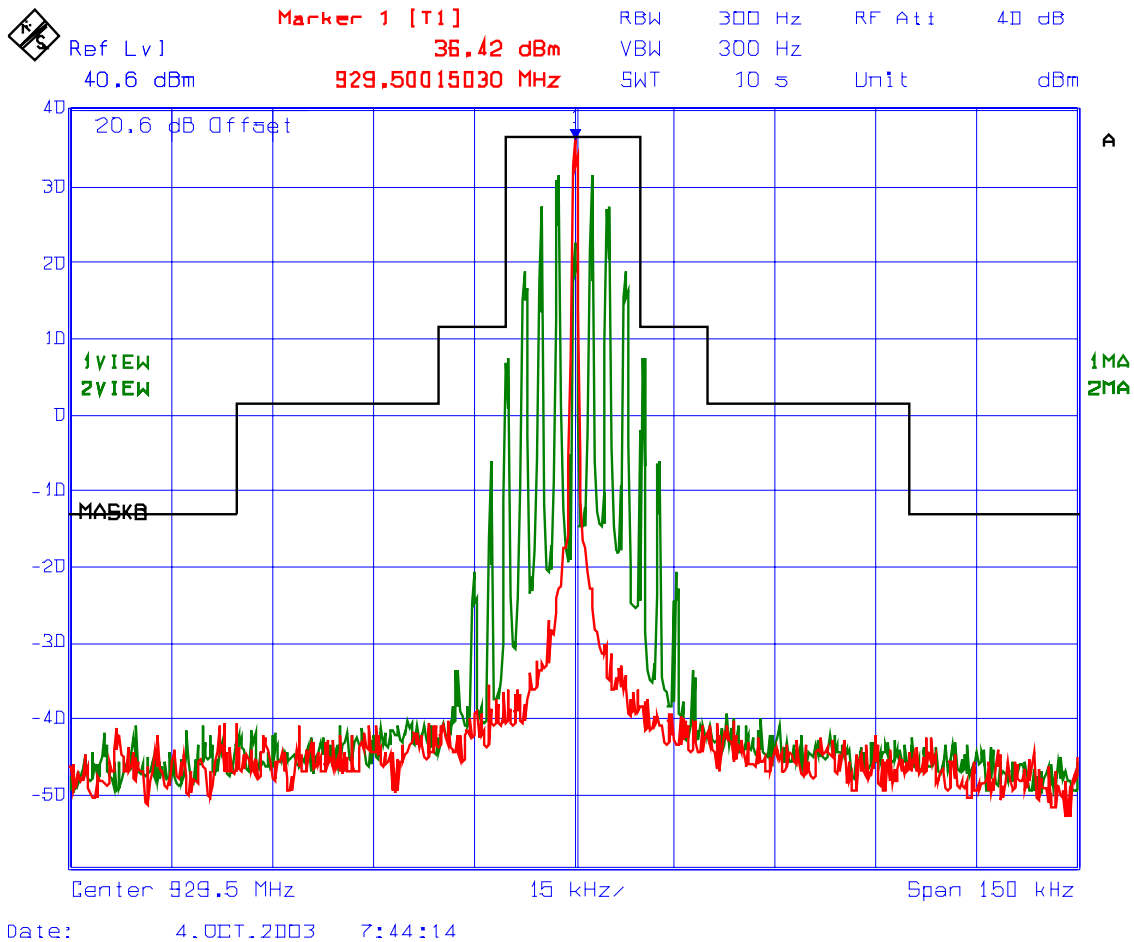
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KI-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 225 Emission Mask B, RF Output
Frequency: 929.5 MHz, 25 kHz Channel Spacing
Modulation: FM modulation with 2.5 kHz Sine wave signal



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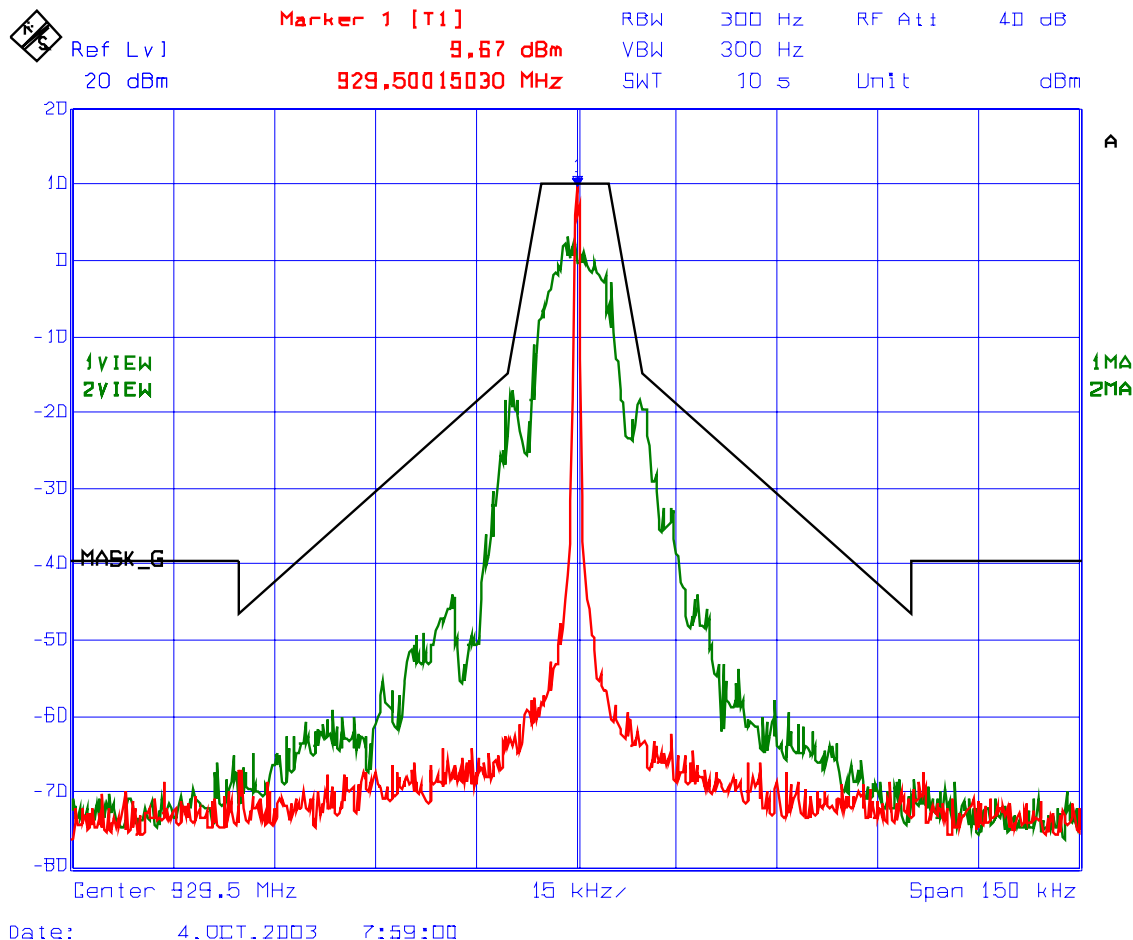
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 226 Emission Mask G, RF Input
Frequency: 929.5 MHz, 25 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



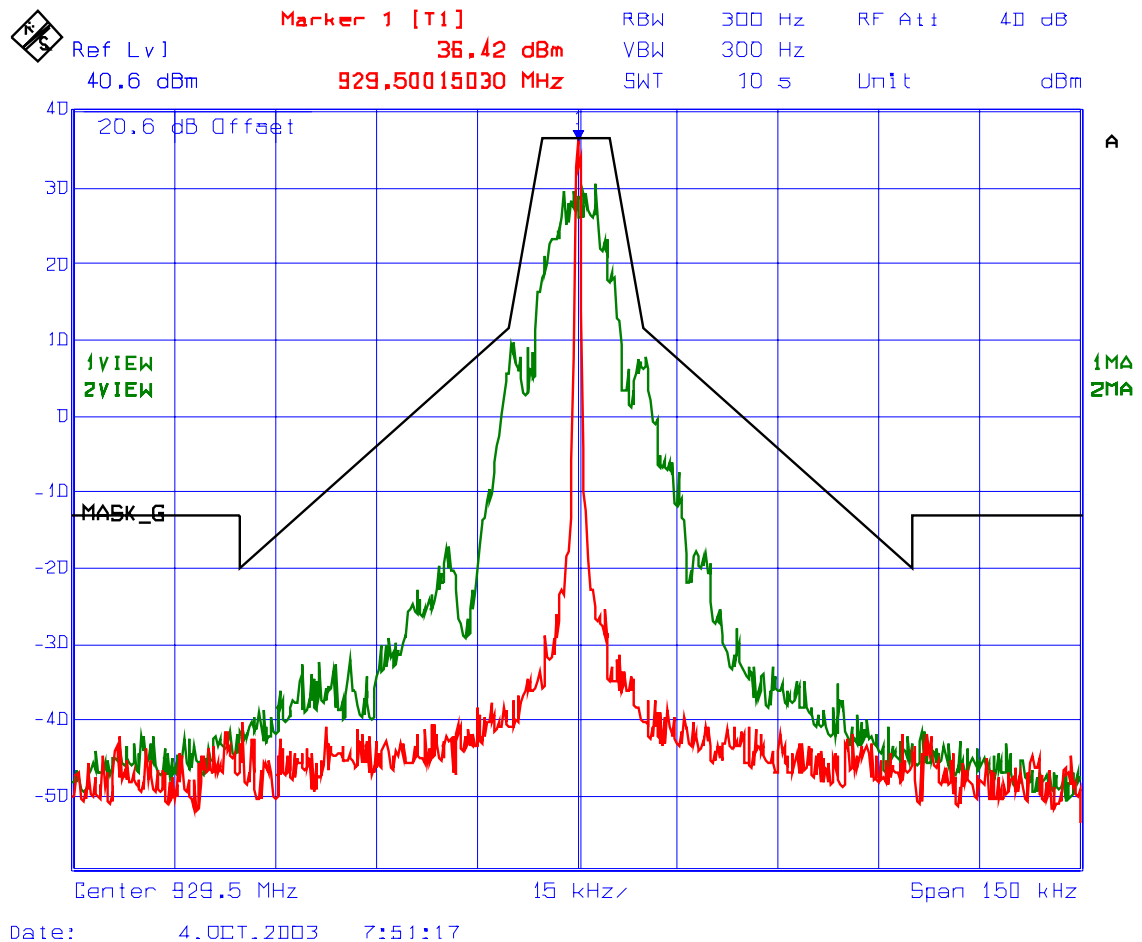
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 227 Emission Mask G, RF Output
Frequency: 929.5 MHz, 25 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



ULTRATECH GROUP OF LABS

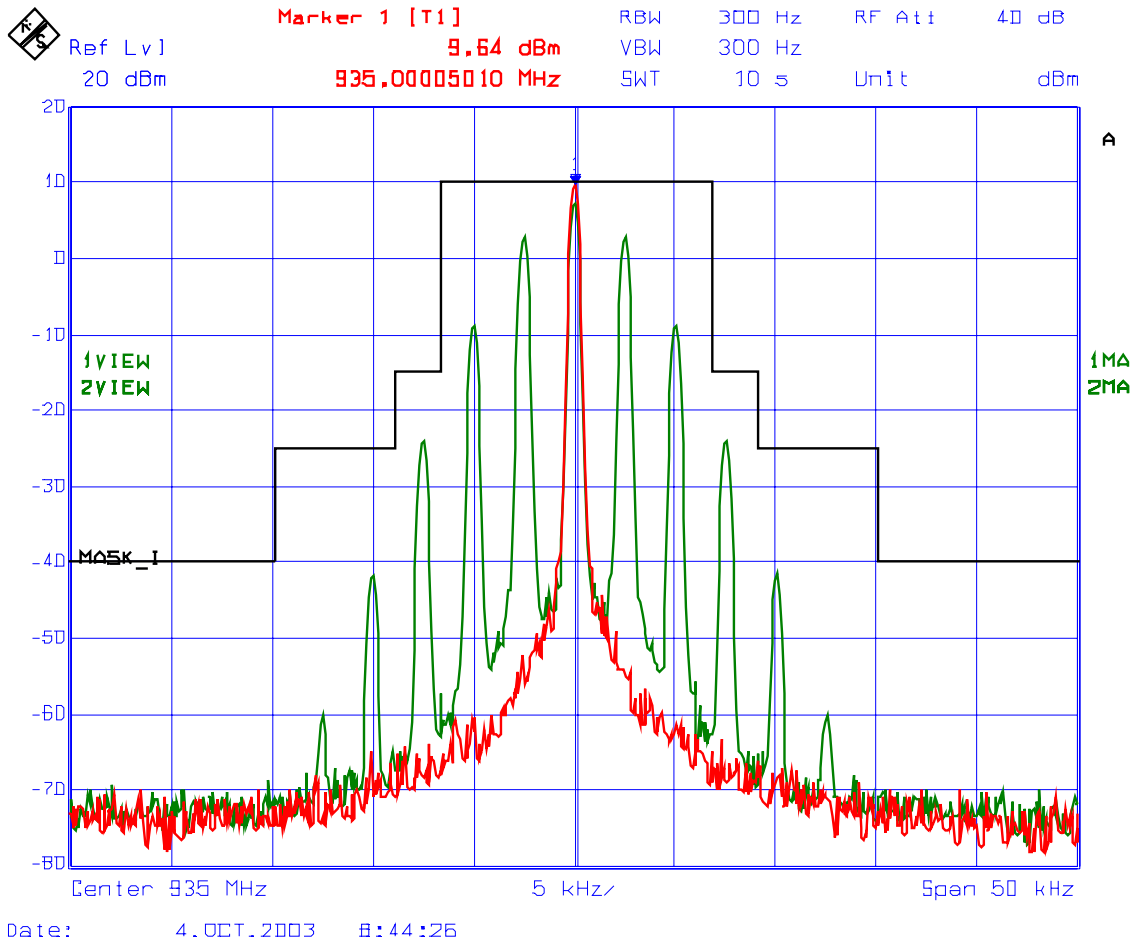
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 228 Emission Mask I, RF Input
Frequency: 935 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with 2.5 kHz Sine wave signal



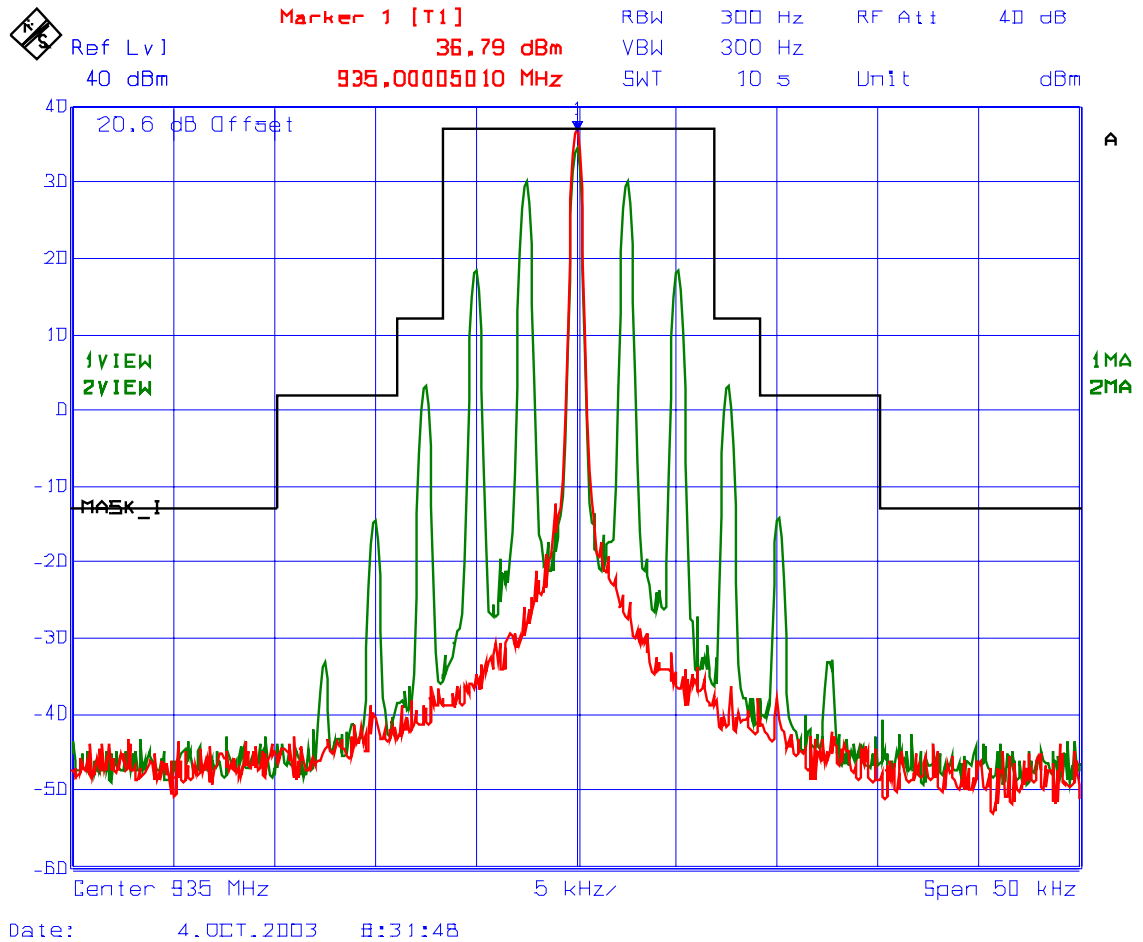
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 229 Emission Mask I, RF Output
Frequency: 935 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with 2.5 kHz Sine wave signal



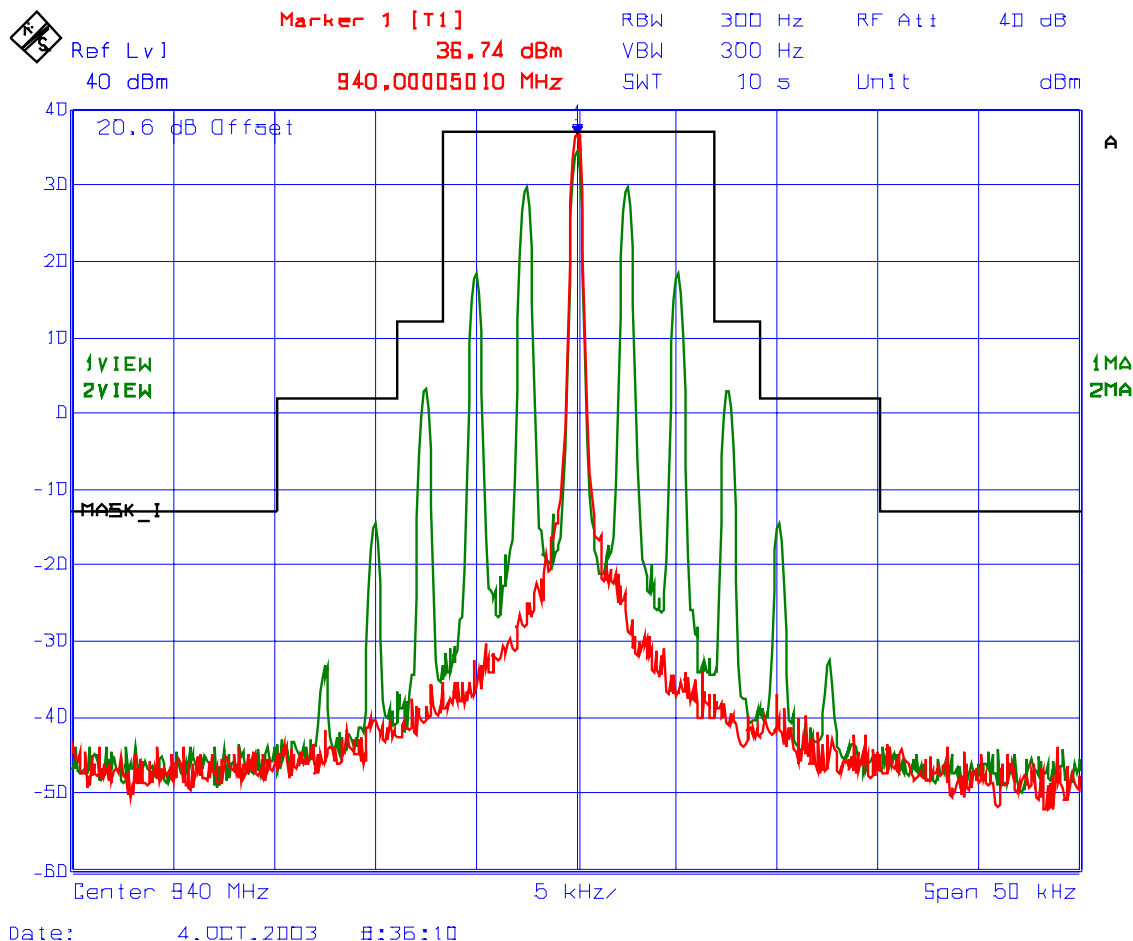
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90
Oct. 17, 2003

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PLOT # 230 Emission Mask I, RF Output
Frequency: 940 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with 2.5 kHz Sine wave signal



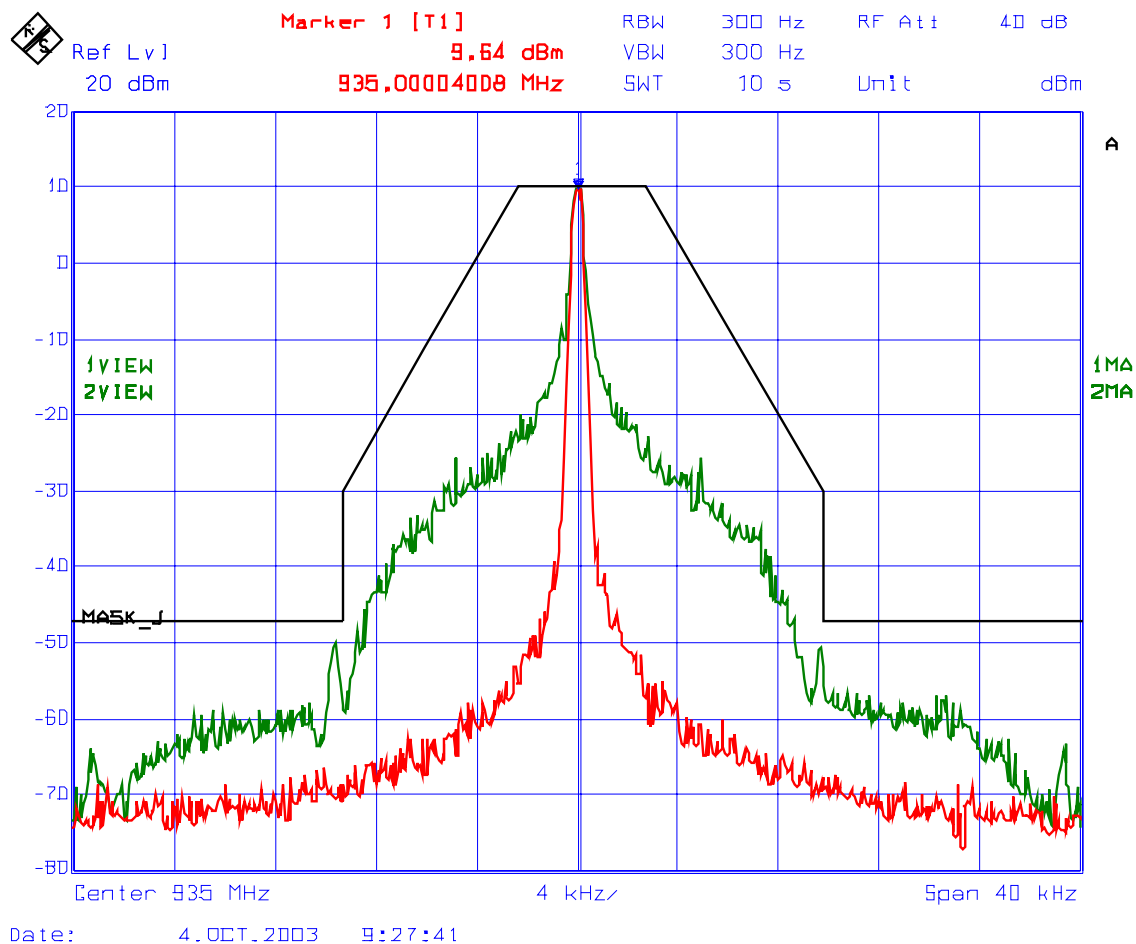
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 231 Emission Mask J, RF Input
Frequency: 935 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



ULTRATECH GROUP OF LABS

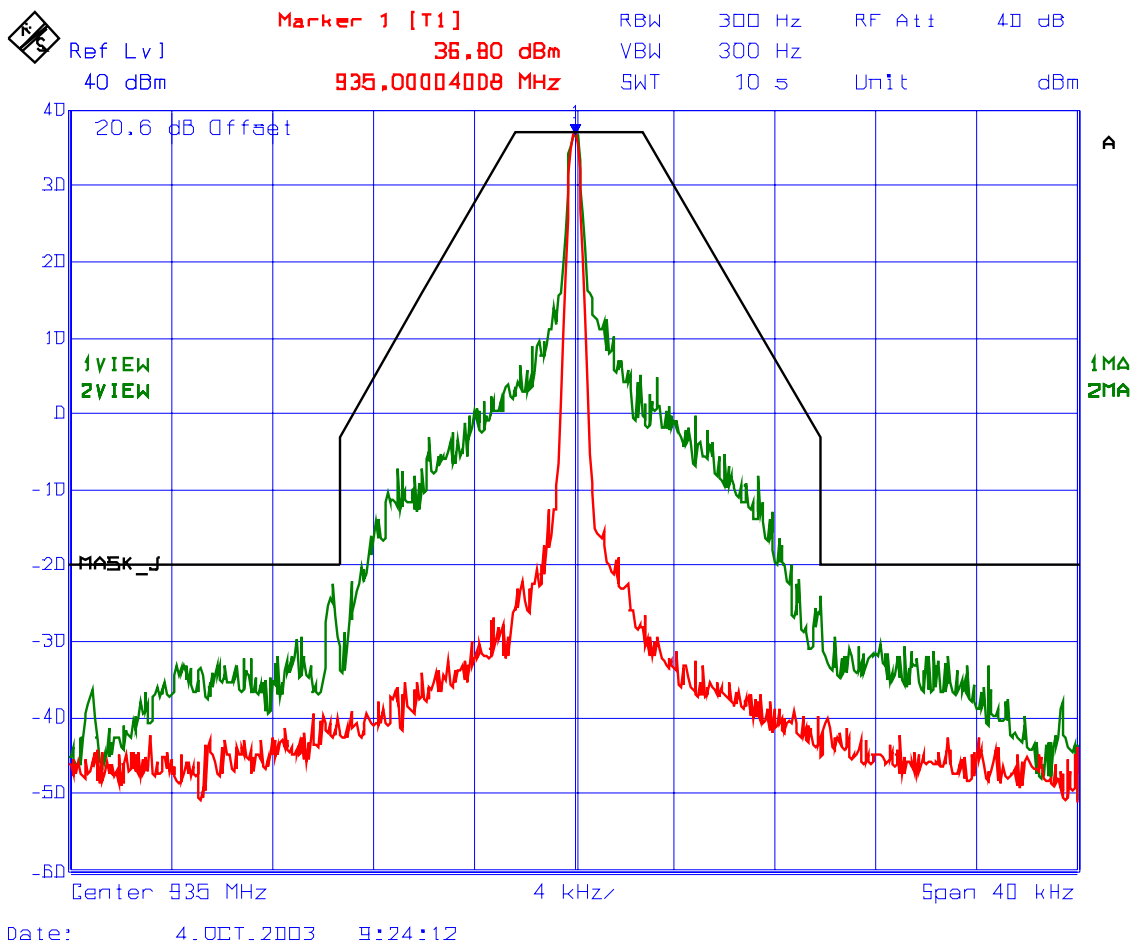
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 232 Emission Mask J, RF Output
Frequency: 935 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



ULTRATECH GROUP OF LABS

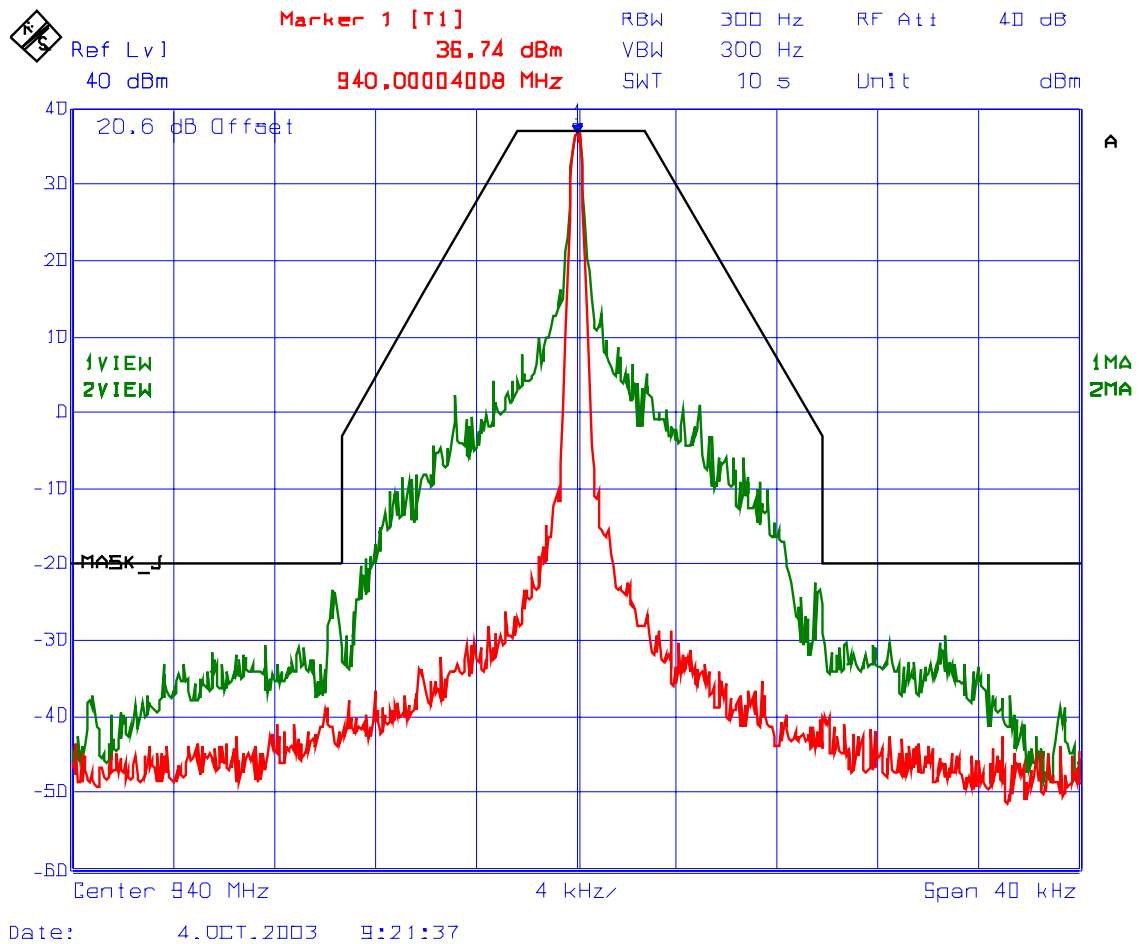
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 233 Emission Mask J, RF Output
Frequency: 940 MHz, 12.5 kHz Channel Spacing
Modulation: FM modulation with an external 9600 b/s random data source



ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

6.9. TRANSMITTER ANTENNA POWER SPURIOUS/HARMONIC CONDUCTED EMISSIONS @ 22.917(A), (B), (C) & (D), 90.208 & 90.210

6.9.1. Limits

The most stringent limit of $50+10*\log(P \text{ in Watts}) \text{ dBc}$ is applied for all sub-bands for worst case.

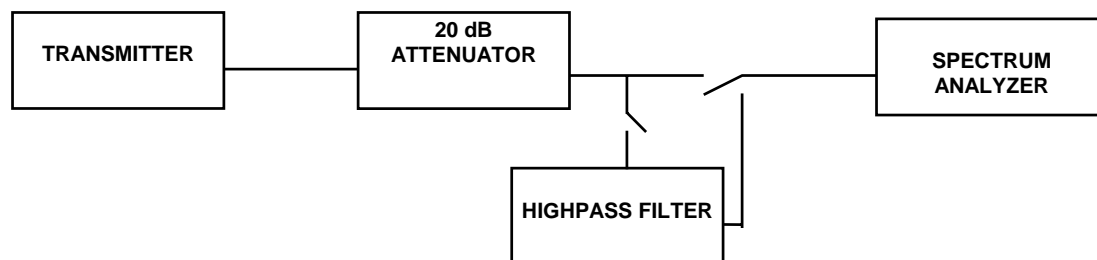
6.9.2. Method of Measurements

Refer to Exhibit 8 § 8.5 of this report for measurement details

6.9.3. Test Equipment List

| Test Instruments | Manufacturer | Model No. | Serial No. | Frequency Range |
|------------------------------------|-----------------|-----------|-------------|---|
| Spectrum Analyzer/ EMI Receiver | Hewlett Packard | HP 8593EM | 3412A00103 | 9 kHz – 26.5 GHz |
| Attenuator(s) | Bird | .. | ... | DC – 22 GHz |
| Audio Oscillator | Hewlett Packard | HP 204C | 0989A08798 | DC to 1.2 MHz |
| Highpass Filter, Microphase | Microphase | CR220HID | IITI11000AC | Cut-off Frequency at 600 MHz, 1.3 GHz or 4 GHz |

6.9.4. Test Arrangement



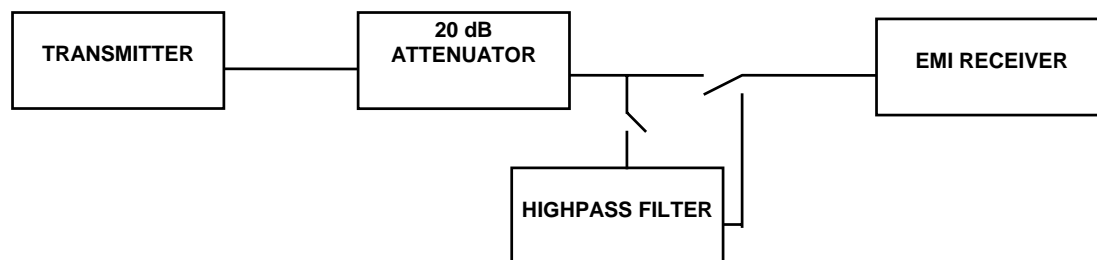
6.9.5. Method of Measurements

Refer to Exhibit 8 § 8.5 of this report for measurement details

6.9.6. Test Equipment List

| Test Instruments | Manufacturer | Model No. | Serial No. | Frequency Range |
|--------------------------------|-----------------|-----------|-------------|---|
| EMI Receiver/ EMI Receiver | Hewlett Packard | HP 8593EM | 3412A00103 | 9 kHz – 26.5 GHz |
| Attenuator(s) | Bird | .. | ... | DC – 22 GHz |
| Audio Oscillator | Hewlett Packard | HP 204C | 0989A08798 | DC to 1.2 MHz |
| Highpass Filter, Microphase | Microphase | CR220HID | IIT111000AC | Cut-off Frequency at 600 MHz, 1.3 GHz or 4 GHz |

6.9.7. Test Arrangement



6.9.8. Test Data

Notes:

- (1) The most stringent limit of $50+10*\log(P \text{ in Watts}) \text{ dBc}$ is applied for all sub-bands for worst case.
- (2) The rf emissions were scanned with all different modulations and there are no difference emissions were found; therefore, the final tests were only performed without modulation and it shall represent for all different modulations required.

6.9.8.1. Uplink Band 806-824 MHz

| Fundamental Frequency: 806 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 35.5 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 1612 | -56.9 | -92.4 | -55.5 | -36.9 | PASS |
| 2418 | -46.2 | -81.7 | -55.5 | -26.2 | PASS |
| 4030 | -20.2 | -55.7 | -55.5 | -0.20 | PASS |
| 7258 | -53.4 | -88.9 | -55.5 | -33.4 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 234-235 for Spurious emissions outside the Permitted Band 806-824 MHz | | | | | |

| Fundamental Frequency: 806 & 806.0125 MHz (2 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 31.9 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2407 | -53.4 | -85.3 | -51.9 | -33.4 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 236-237 for Spurious emissions outside the Permitted Band 806-824 MHz | | | | | |

| Fundamental Frequency: 806, 806.0125, 806.0250 (3 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 32.8 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2407 | -53.8 | -86.6 | -52.8 | -33.8 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 238-239 for Spurious emissions outside the Permitted Band 806-824 MHz | | | | | |

| Fundamental Frequency: 815 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 35.5Bm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 1631 | -55.5 | -91.0 | -55.5 | -35.5 | PASS |
| 2443 | -48.1 | -83.6 | -55.5 | -28.1 | PASS |
| 4066 | -21.3 | -56.8 | -55.5 | -1.3 | PASS |
| 7331 | -43.2 | -78.7 | -55.5 | -23.2 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 240-241 for Spurious emissions outside the Permitted Band 806-824 MHz | | | | | |

| Fundamental Frequency: 815, 815.0125 MHz, (2 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 32.7 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2443 | -54.0 | -86.7 | -52.7 | -34 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 242-243 for Spurious emissions outside the Permitted Band 806-824 MHz | | | | | |

| Fundamental Frequency: 815, 814.9875 & 815.0125, (3 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 32.7 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2443 | -56.1 | -88.8 | -52.7 | -36.1 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 244-245 for Spurious emissions outside the Permitted Band 806-824 MHz | | | | | |

| Fundamental Frequency: 824 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 35.5 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 1649 | -55.8 | -91.3 | -55.5 | 35.8 | PASS |
| 2461 | -54.2 | -89.7 | -55.5 | -34.2 | PASS |
| 4120 | -28.9 | -64.4 | -55.5 | -8.9 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 246-247 for Spurious emissions outside the Permitted Band 806-824 MHz | | | | | |

| Fundamental Frequency: 824, 823.9875 MHz, (2 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 31.8 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2461 | --60.2 | -92.0 | -51.8 | -40.2 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 248-249 for Spurious emissions outside the Permitted Band 806-824 MHz | | | | | |

| Fundamental Frequency: 824, 823.9875 & 823.9750 (3 channel inputs/outputs) | | | | | |
|---|---|-------|----------------|----------------|---------------|
| RF Output Power: 32.2 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTE CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6591 | -58.1 | -90.3 | -52.2 | -38.1 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 250-251 for Spurious emissions outside the Permitted Band 806-824 MHz | | | | | |

6.9.8.2. Uplink Band 824-849 MHz

| Fundamental Frequency: 824 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: FM modulation with 2.5 kHz Sine Wave Signal | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6591.2 | -58.1 | -85.2 | -47.1 | -38.1 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 252-253 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 836.5 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: FM modulation with 2.5 kHz Sine Wave Signal | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2497.0 | -58.9 | -86.0 | -47.1 | -38.9 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 254-255 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 849 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: FM modulation with 2.5 kHz Sine Wave Signal | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6699.4 | -57.3 | -84.4 | -47.1 | -37.3 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 256-257 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 824 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: FM Modulation with an external 9600 b/s random data source | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6717.4 | -58.8 | -85.9 | -47.1 | -38.8 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 258-259 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 836.5 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: FM Modulation with an external 9600 b/s random data source | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2497.0 | -59.3 | -86.4 | -47.1 | -39.3 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 260-261 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 849 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: FM Modulation with an external 9600 b/s random data source | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2533.1 | -57.7 | -84.8 | -47.1 | -37.7 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 262-263 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 824 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: CDMA | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6879.8 | -58.2 | -85.3 | -47.1 | -38.2 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 264-265 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 836.5 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: CDMA | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6681.4 | -58.2 | -85.2 | -47.0 | -38.2 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 266-267 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 849 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: CDMA | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6988.0 | -57.7 | -84.8 | -47.1 | -37.7 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 268-269 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 824 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.2 dBm (conducted) | | | | | |
| Modulation: TDMA | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6555.1 | -58.5 | -85.7 | -47.2 | -38.5 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 270-271 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 836.5 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.2 dBm (conducted) | | | | | |
| Modulation: TDMA | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6663.3 | -58.6 | -85.8 | -47.2 | -38.6 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 272-273 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 849 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: TDMA | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6988.0 | -57.0 | -84.0 | -47.0 | -37.0 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 274-275 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 824 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: GSM | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6699.4 | -58.5 | -85.5 | -47.0 | -38.5 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 276-277 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 836.5 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: GSM | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6952.0 | -58.2 | -85.2 | -47.0 | -38.2 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 278-279 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 849 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: GSM | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6717.4 | -58.3 | -85.4 | -47.1 | -38.3 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 280-281 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 824, 824.030 MHz, 2 RF Signal inputs/outputs | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6609.2 | -58.4 | -85.4 | -47.0 | -38.4 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 282-283 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 824, 824.030, 824.060 MHz, 3 RF Signal inputs/outputs | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6988.0 | -58.3 | -85.3 | -47.0 | -38.3 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 284-285 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 836.5, 836.530 MHz, 2 RF Signal inputs/outputs | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6591.2 | -58.3 | -85.4 | -47.1 | -38.3 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 286-287 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 836.5, 836.47, 836.530 MHz, 3 RF Signal inputs/outputs | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6699.4 | -58.0 | -85.0 | -47.0 | -38.0 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 288-289 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

| Fundamental Frequency: 849, 848.970 MHz, 2 RF Signal inputs/outputs | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6933.9 | -58.3 | -85.3 | -47.0 | -38.3 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 290-291 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

| Fundamental Frequency: 849, 848.970, 848.400 MHz, 3 RF Signal inputs/outputs | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6988.0 | -57.5 | -84.5 | -47.0 | -37.5 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 292-293 for Spurious emissions outside the Permitted Band 824-849 MHz | | | | | |

6.9.8.3. Downlink Band 851-869 MHz

| Fundamental Frequency: 851 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 36.6 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 1703 | -59.4 | -96.0 | -56.6 | -39.4 | PASS |
| 2551 | -43.3 | -79.9 | -56.6 | -23.3 | PASS |
| 3399 | -57.6 | -94.2 | -56.6 | -37.6 | PASS |
| 4246 | -55.0 | -91.6 | -56.6 | -35.0 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 294-295 for Spurious emissions outside the Permitted Band 851-869 MHz | | | | | |

| Fundamental Frequency: 851, 851.0125 MHz, (2 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 31.8 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2551 | -53.1 | -84.9 | -51.8 | -33.1 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 296-297 for Spurious emissions outside the Permitted Band 851-869 MHz | | | | | |

| Fundamental Frequency: 851, 851.0125 & 851.0250 (3 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 32.3 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2551 | -52.5 | -84.8 | -52.3 | -32.5 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 298-299 for Spurious emissions outside the Permitted Band 851-869 MHz | | | | | |

| Fundamental Frequency: 860 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 36.4 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 1721 | -59.0 | -95.4 | -56.4 | -39.0 | PASS |
| 2569 | -43.6 | -80.0 | -56.4 | -23.6 | PASS |
| 3434 | -52.1 | -88.5 | -56.4 | -32.1 | PASS |
| 4301 | -41.3 | -77.7 | -56.4 | -21.3 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 300-301 for Spurious emissions outside the Permitted Band 851-869 MHz | | | | | |

| Fundamental Frequency: 860, 860.0125 (2 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 32.1 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2570 | -53.3 | -85.4 | -52.1 | -33.3 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 302-303 for Spurious emissions outside the Permitted Band 851-869 MHz | | | | | |

| Fundamental Frequency: 860, 860.0125 & 859.9875 (3 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 32.6 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2569 | -52.8 | -85.4 | -52.6 | -32.8 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 304-305 for Spurious emissions outside the Permitted Band 851-869 MHz | | | | | |

| Fundamental Frequency: 869 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 36.4 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 1721 | -57.7 | -94.1 | -56.4 | -37.7 | PASS |
| 2605 | -48.6 | -85.0 | -56.4 | -28.6 | PASS |
| 3471 | -45.0 | -81.4 | -56.4 | -25.0 | PASS |
| 4337 | -37.8 | -74.2 | -56.4 | -17.8 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 306-307 for Spurious emissions outside the Permitted Band 851-869 MHz | | | | | |

| Fundamental Frequency: 869, 868.9875 (2 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 31.9 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2605 | --57.5 | -89.4 | -51.9 | -37.5 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 308-309 for Spurious emissions outside the Permitted Band 851-869 MHz | | | | | |

| Fundamental Frequency: 869, 868.9875 & 869.9750 (3 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 31.4 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2605 | -58.1 | -89.5 | -51.4 | -38.1 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 310-311 for Spurious emissions outside the Permitted Band 851-869 MHz | | | | | |

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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

6.9.8.4. Downlink Band 869-894 MHz

| Fundamental Frequency: 869 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: FM modulation with 2.5 kHz Sine Wave Signal | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6645.3 | -58.6 | -85.7 | -47.1 | -38.6 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 312-313 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 881.5 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: FM modulation with 2.5 kHz Sine Wave Signal | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2641.3 | -56.9 | -84.0 | -47.1 | -36.9 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 314-315 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 894 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: FM modulation with 2.5 kHz Sine Wave Signal | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6573.1 | -57.9 | -85.0 | -47.1 | -37.9 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 316-317 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

6.9.8.5. Downlink Band 869-894 MHz

| Fundamental Frequency: 869 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: FM Modulation with an external 9600 b/s random data source | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6645.3 | -58.6 | -85.7 | -47.1 | -38.6 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 318-319 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 881.5 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: FM Modulation with an external 9600 b/s random data source | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2641.3 | -56.8 | -83.9 | -47.1 | -36.8 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 320-321 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 894 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: FM Modulation with an external 9600 b/s random data source | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6970.0 | -57.4 | -84.5 | -47.1 | -37.4 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 322-323 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 869 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: CDMA | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6609.2 | -57.8 | -84.8 | -47.0 | -37.8 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 324-325 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 881.5 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: CDMA | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6645.3 | -57.4 | -84.5 | -47.1 | -37.4 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 326-327 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 894 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: CDMA | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6735.5 | -58.3 | -85.3 | -47.0 | -38.3 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 328-329 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 869 MHz, 1 RF signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: TDMA | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6645.3 | -58.0 | -85.1 | -47.1 | -38.0 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 330-331 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 881.5 MHz, 1 RF signal input/output | | | | | |
|--|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: TDMA | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6681.4 | -58.4 | -85.4 | -47.0 | -38.4 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 3332-333 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 894 MHz, 1 RF signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.2 dBm (conducted) | | | | | |
| Modulation: TDMA | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6970.0 | -58.5 | -85.7 | -47.2 | -38.5 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 334-335 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 869 MHz, 1 RF signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.1 dBm (conducted) | | | | | |
| Modulation: GSM | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6645.3 | -57.9 | -85.0 | -47.1 | -37.9 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 336-337 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 881.5 MHz, 1 RF signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: GSM | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6573.1 | -58.5 | -85.5 | -47.0 | -38.5 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 338-339 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 894 MHz, 1 RF signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: GSM | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6988.0 | -57.7 | -84.7 | -47.0 | -37.7 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 340-341 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 869, 869.030 MHz, 2 RF signal inputs/outputs | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6591.2 | -57.9 | -84.9 | -47.0 | -37.9 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 342-343 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 869, 869.030, 869.060 MHz, 3 RF signal inputs/outputs | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6591.2 | -58.0 | -85.0 | -47.0 | -38.0 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 344-345 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 881.5, 881.530 MHz, 2 RF signal inputs/outputs | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6627.3 | -57.9 | -84.9 | -47.0 | -37.9 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 346-347 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 881.5, 881.470, 881.530 MHz, 3 RF signal inputs/outputs | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6573.1 | -58.0 | -85.0 | -47.0 | -38.0 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 348-349 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

6.9.8.6. Downlink Band 869-894 MHz, Test Frequency: 894 MHz

| Fundamental Frequency: 894, 893.970 MHz, 2 RF signal inputs/outputs | | | | | |
|--|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6988.0 | -58.5 | -85.5 | -47.0 | -38.5 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots #350-351 for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 894, 893.970, 893.94 MHz, 3 RF signal inputs/outputs | | | | | |
|--|--|-------|----------------|----------------|---------------|
| RF Output Power: 27.0 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 6555.1 | -58.1 | -85.1 | -47.0 | -38.1 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 352-353for Spurious emissions outside the Permitted Band 869-894 MHz | | | | | |

| Fundamental Frequency: 896.0 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 35.9 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 1793.6 | -54.2 | -90.1 | -55.9 | -34.2 | PASS |
| 2677.4 | -48.6 | -84.2 | -55.9 | -28.3 | PASS |
| 8070.1 | -59.5 | -95.4 | -55.9 | -39.5 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 354-355 for Spurious emissions outside the Permitted Band 896-902 MHz | | | | | |

| Fundamental Frequency: 896, 896.0125 MHz (2 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 32.1dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2677.4 | -56.6 | -88.7 | -52.1 | -36.6 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 356-357 for Spurious emissions outside the Permitted Band 896-902 MHz | | | | | |

| Fundamental Frequency: 896, 896.0125, 896.0250 (3 channel inputs/outputs) | | | | | |
|--|--|-------|----------------|----------------|---------------|
| RF Output Power: 32.2 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2677.4 | -56.1 | -88.3 | -52.2 | -36.1 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots #358-359 for Spurious emissions outside the Permitted Band 896-902 MHz | | | | | |

6.9.8.7. Uplink Band 896-902 MHz

| Fundamental Frequency: 902 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 35.8 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 1793.6 | -57.0 | -92.8 | -55.8 | -37.0 | PASS |
| 2695.4 | -44.6 | -80.4 | -55.8 | -24.6 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 360-361 for Spurious emissions outside the Permitted Band 896-902 MHz | | | | | |

| Fundamental Frequency: 902, 901.9875 MHz (2 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 32.2 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2695.4 | -52.4 | -84.6 | -52.2 | -32.4 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 362-363 for Spurious emissions outside the Permitted Band 896-902 MHz | | | | | |

| Fundamental Frequency: 902, 901.9875, 901.9750 MHz (3 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 32.3 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2695.4 | -53.4 | -85.7 | -52.3 | -33.4 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 364-365 for Spurious emissions outside the Permitted Band 896-902 MHz | | | | | |

| Fundamental Frequency: 928 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 36.7 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 1847.7 | -56.1 | -92.8 | -56.7 | -36.1 | PASS |
| 2785.6 | -45.7 | -82.4 | -56.7 | -25.7 | PASS |
| 4643.3 | -45.2 | -81.9 | -56.7 | -25.2 | PASS |
| 7420.8 | -52.2 | -88.9 | -56.7 | -32.2 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 366-367 for Spurious emissions outside the Permitted Band 928-941 MHz | | | | | |

| Fundamental Frequency: 928, 928.0125 MHz (2 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2785.6 | -54.0 | -86.9 | -52.9 | -34.0 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 368-369 for Spurious emissions outside the Permitted Band 928-941 MHz | | | | | |

| Fundamental Frequency: 928, 928.0125, 928.0250 MHz (3 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 32.9 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2785.6 | -54.7 | -87.6 | -52.9 | -34.7 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 370-371 for Spurious emissions outside the Permitted Band 928-941 MHz | | | | | |

| Fundamental Frequency: 934.5 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 37.4 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 1865.7 | -54.6 | -92.0 | -57.4 | -34.6 | PASS |
| 2803.6 | -42.6 | -80.0 | -57.4 | -22.6 | PASS |
| 3741.5 | -55.2 | -92.6 | -57.4 | -35.2 | PASS |
| 7474.9 | -48.7 | -86.1 | -57.4 | -28.7 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 372-373 for Spurious emissions outside the Permitted Band 928-941 MHz | | | | | |

| Fundamental Frequency: 934.5, 934.5125 MHz (2 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 33.6 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2803.6 | -51.1 | -84.7 | -53.6 | -31.1 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 374-375 for Spurious emissions outside the Permitted Band 928-941 MHz | | | | | |

| Fundamental Frequency: 934.5, 934.5125, 934.4875 MHz (3 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 33.8 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2803.6 | -53.0 | -86.8 | -53.8 | -33.0 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 376-377 for Spurious emissions outside the Permitted Band 928-941 MHz | | | | | |

| Fundamental Frequency: 941 MHz, 1 RF Signal input/output | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 37.2 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 1883.8 | -51.4 | -88.6 | -57.2 | -31.4 | PASS |
| 2821.6 | -49.1 | -86.3 | -57.2 | -29.1 | PASS |
| 3759.5 | -48.3 | -85.5 | -57.2 | -28.3 | PASS |
| 8466.9 | -49.7 | -86.9 | -57.2 | -29.7 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 378-379 for Spurious emissions outside the Permitted Band 928-941 MHz | | | | | |

| Fundamental Frequency: 941, 940.9875 MHz (2 channel inputs/outputs) | | | | | |
|--|--|-------|----------------|----------------|---------------|
| RF Output Power: 33.4 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2821.6 | -57.5 | -90.9 | -53.4 | -37.5 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots #380-381 for Spurious emissions outside the Permitted Band 928-941 MHz | | | | | |

| Fundamental Frequency: 941, 940.9875, 940.9750 MHz (3 channel inputs/outputs) | | | | | |
|---|--|-------|----------------|----------------|---------------|
| RF Output Power: 33.7 dBm (conducted) | | | | | |
| Modulation: Unmodulated | | | | | |
| FREQUENCY (MHz) | TRANSMITTER CONDUCTED ANTENNA EMISSIONS | | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
| | (dBm) | (dBc) | | | |
| 2821.6 | -57.0 | -90.7 | -53.7 | -37.0 | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 10 MHz to 10 GHz and all emissions within 20 dB below the limits were recorded. Refer to Plots # 382-383 for Spurious emissions outside the Permitted Band 928-941 MHz | | | | | |

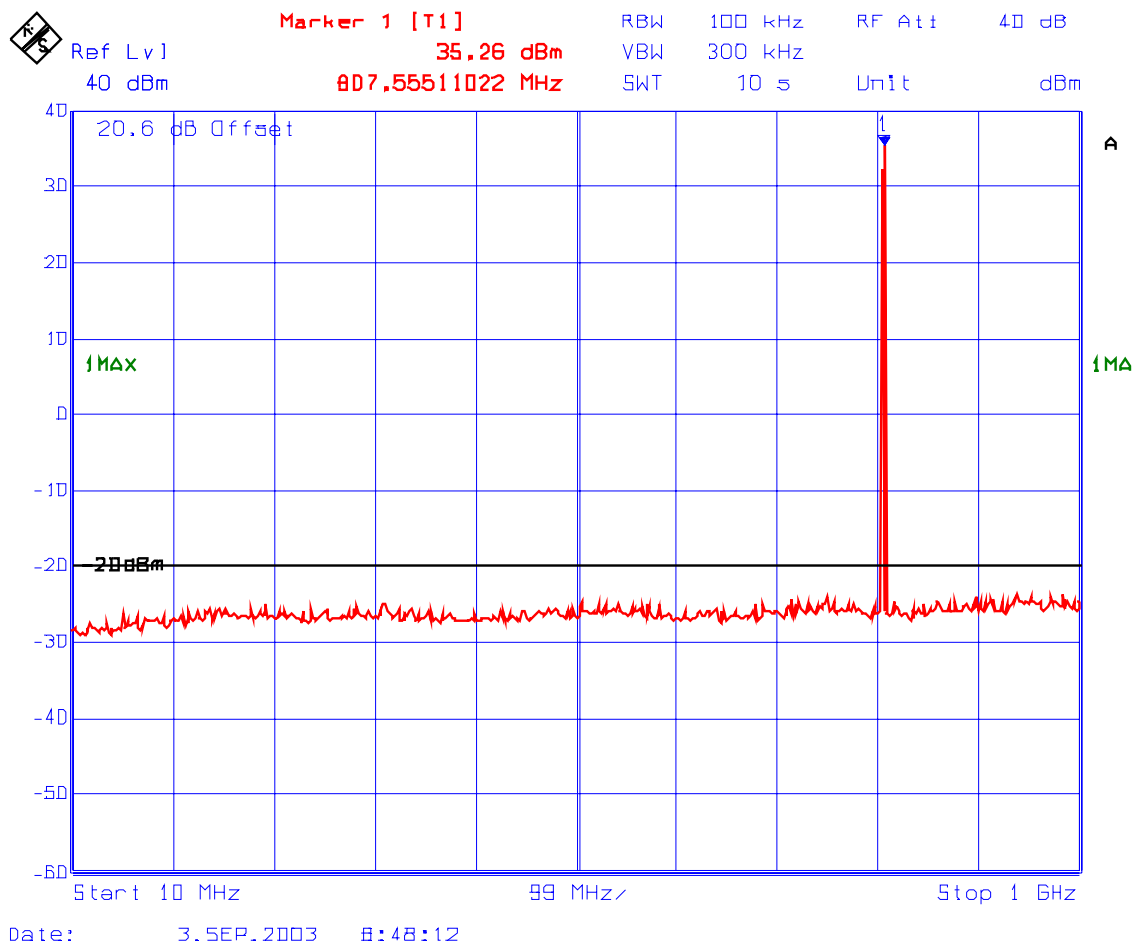
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**PLOT # 234 Spurious Emissions Conducted with 1 RF signal input/output
Fc: 806 MHz**



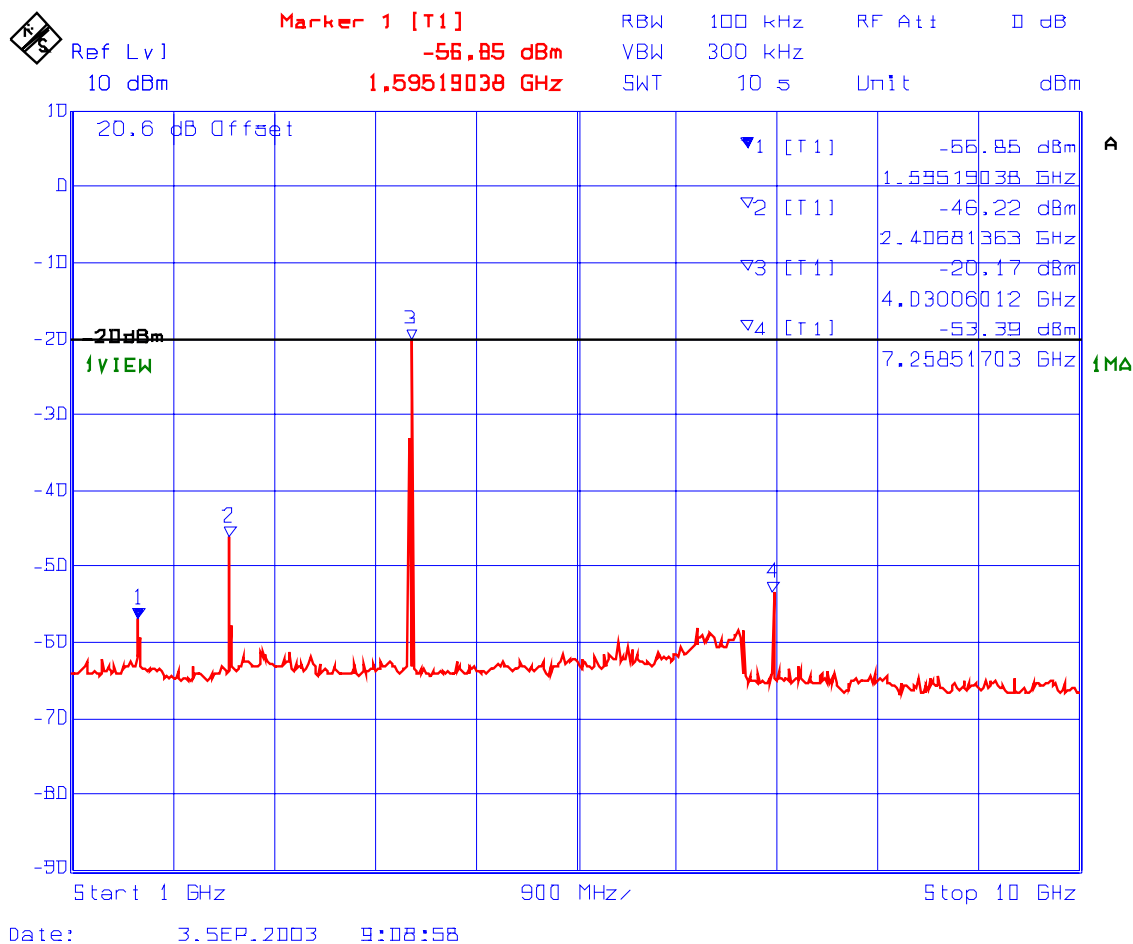
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**PLOT # 235 Spurious Emissions Conducted with 1 RF signal input/output
 Fc: 806 MHz**



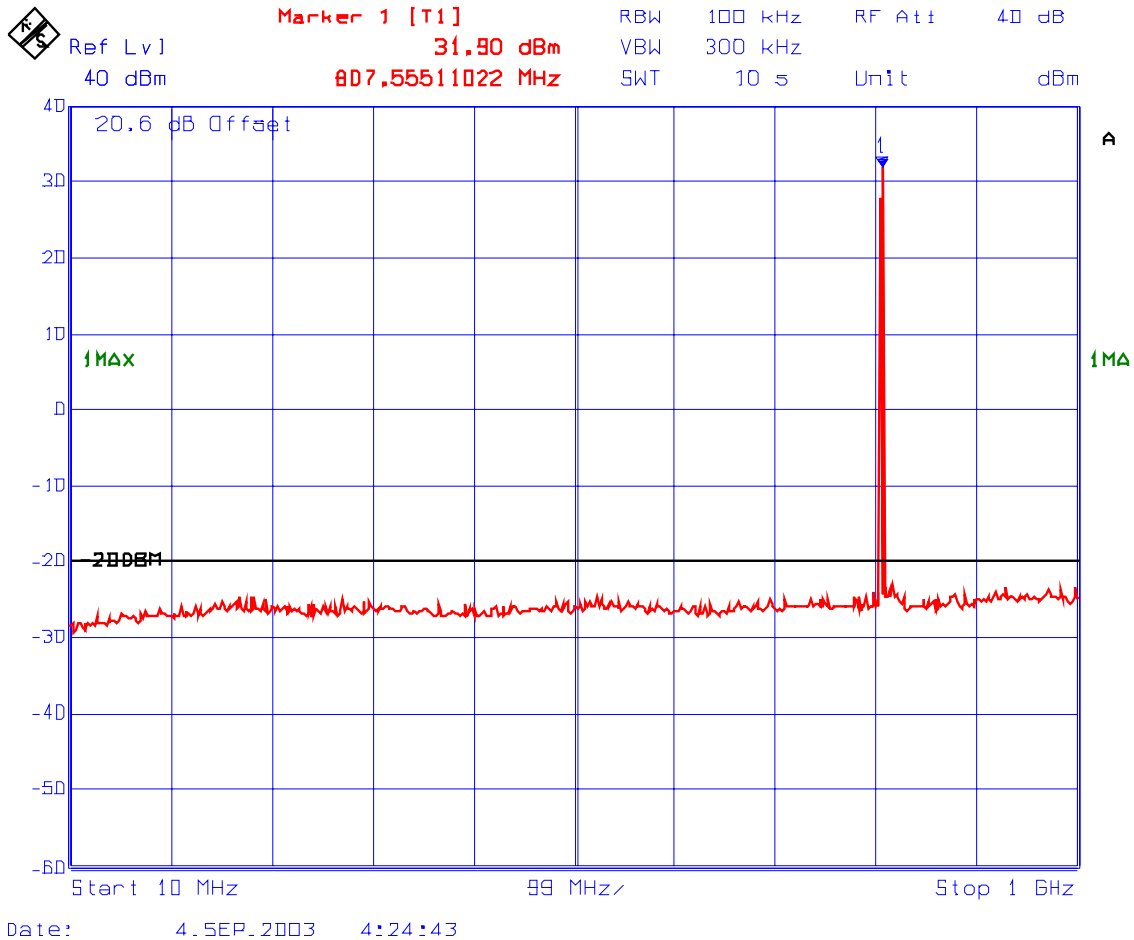
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
 Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90
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PLOT # 236 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 806 MHz, Fc + 12.5 kHz



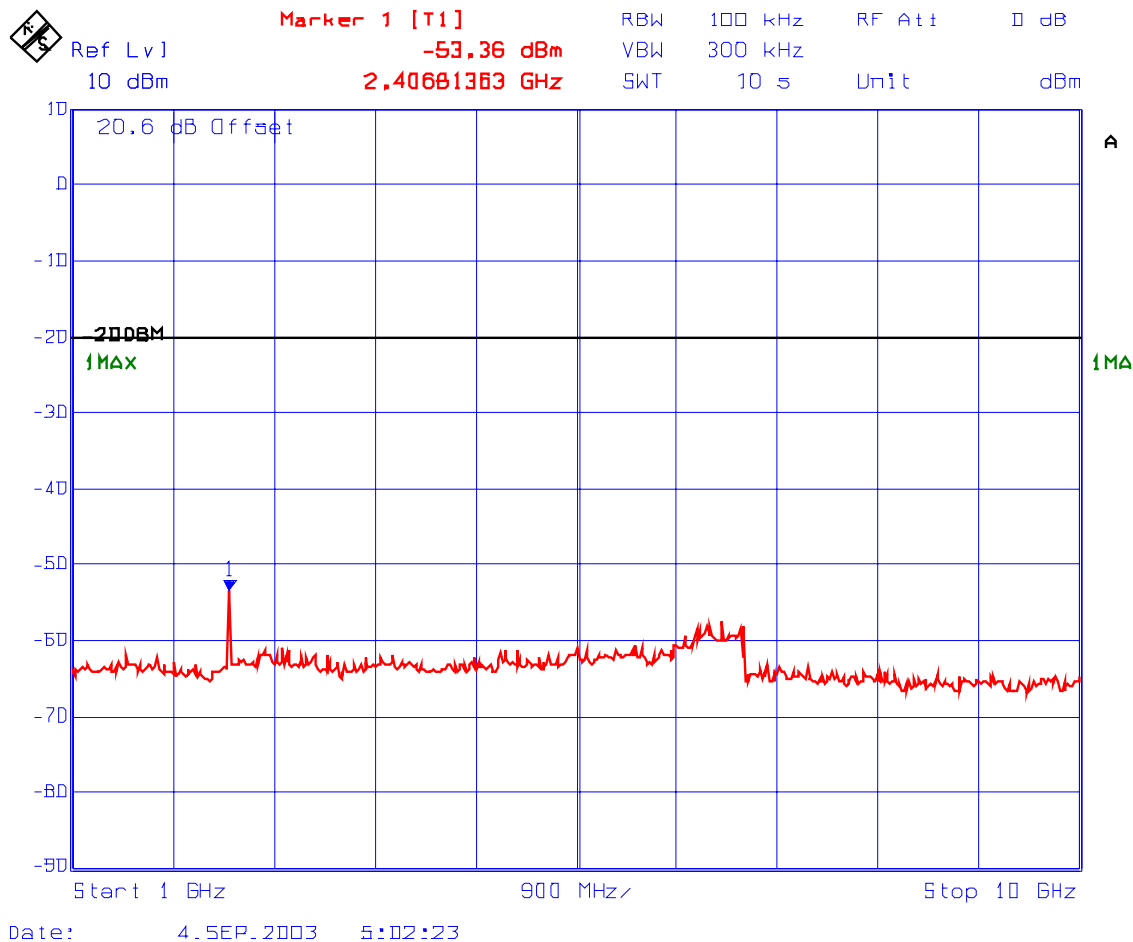
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Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 237 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 806 MHz, Fc + 12.5 kHz



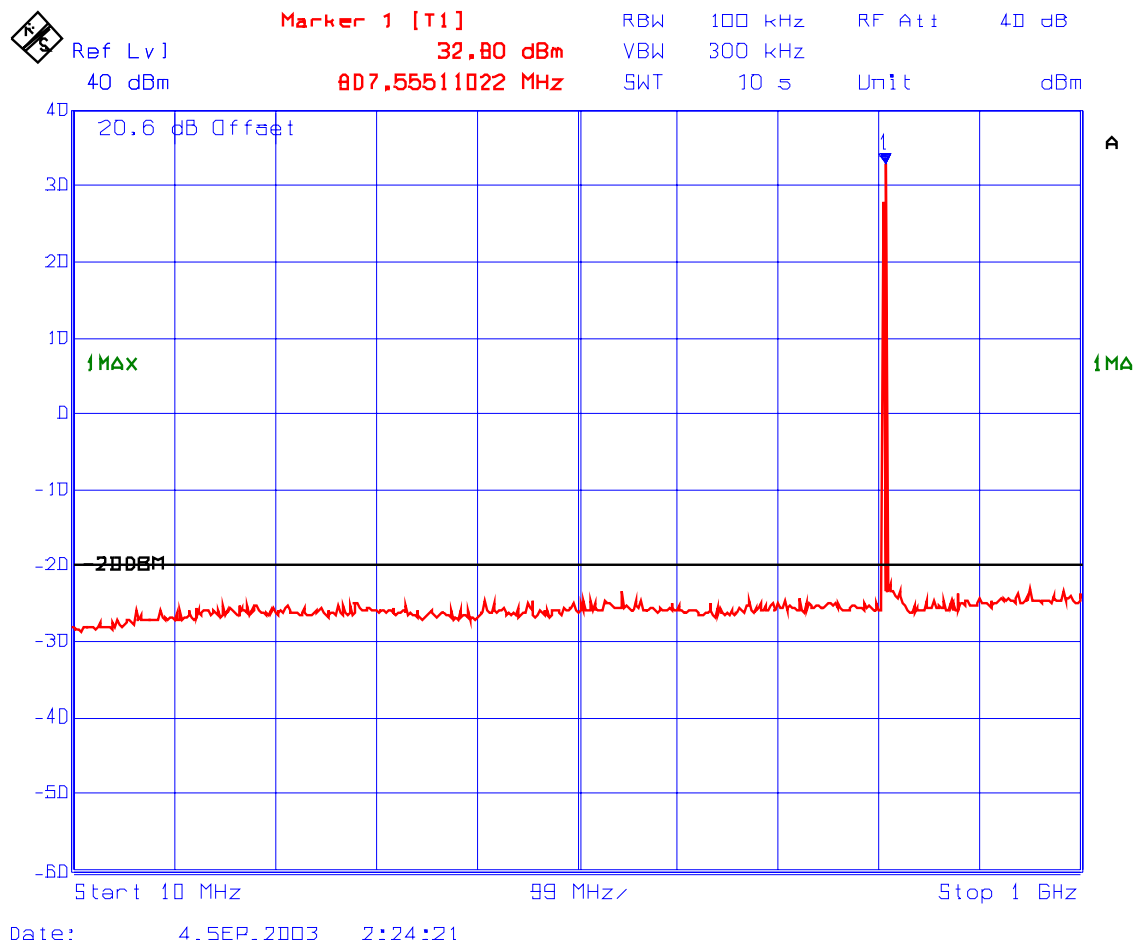
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PLOT # 238 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 806 MHz, Fc + 12.5 kHz & Fc + 25 kHz



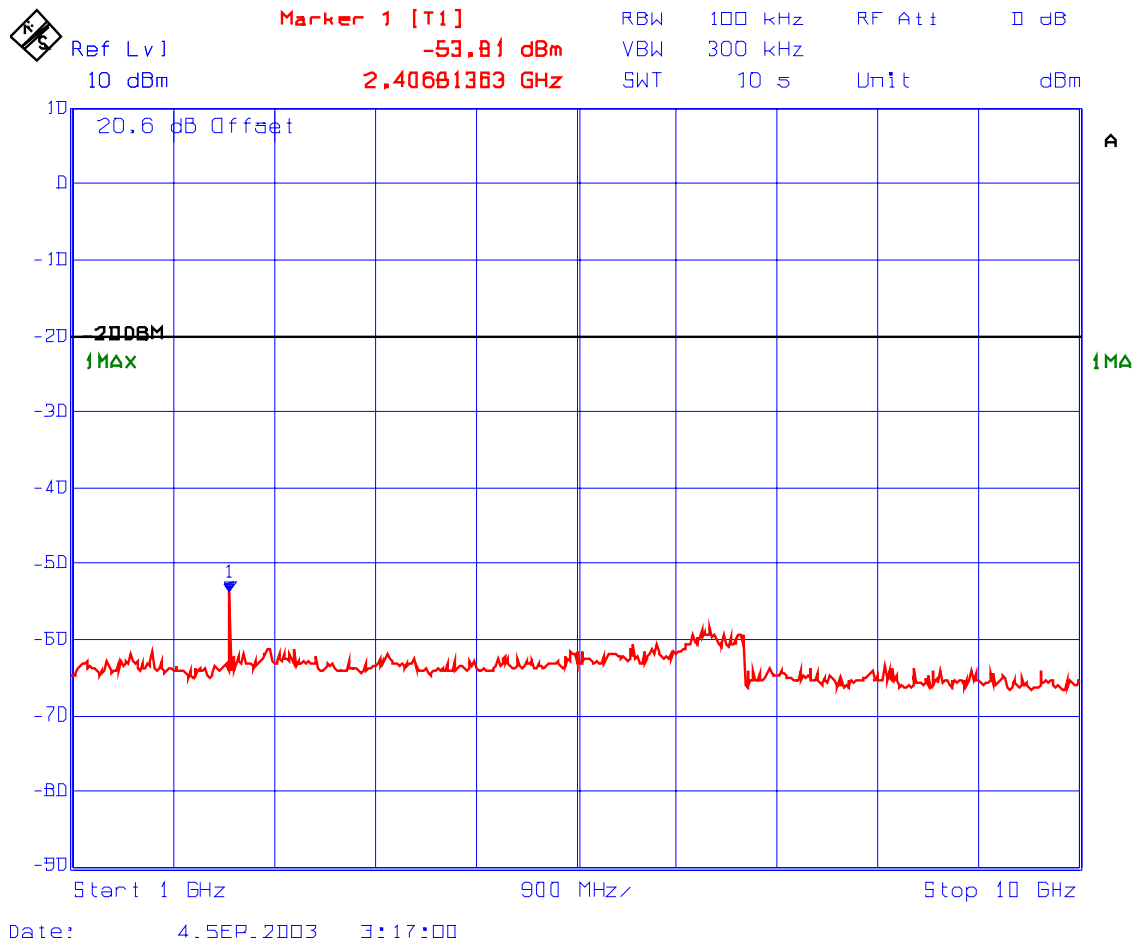
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

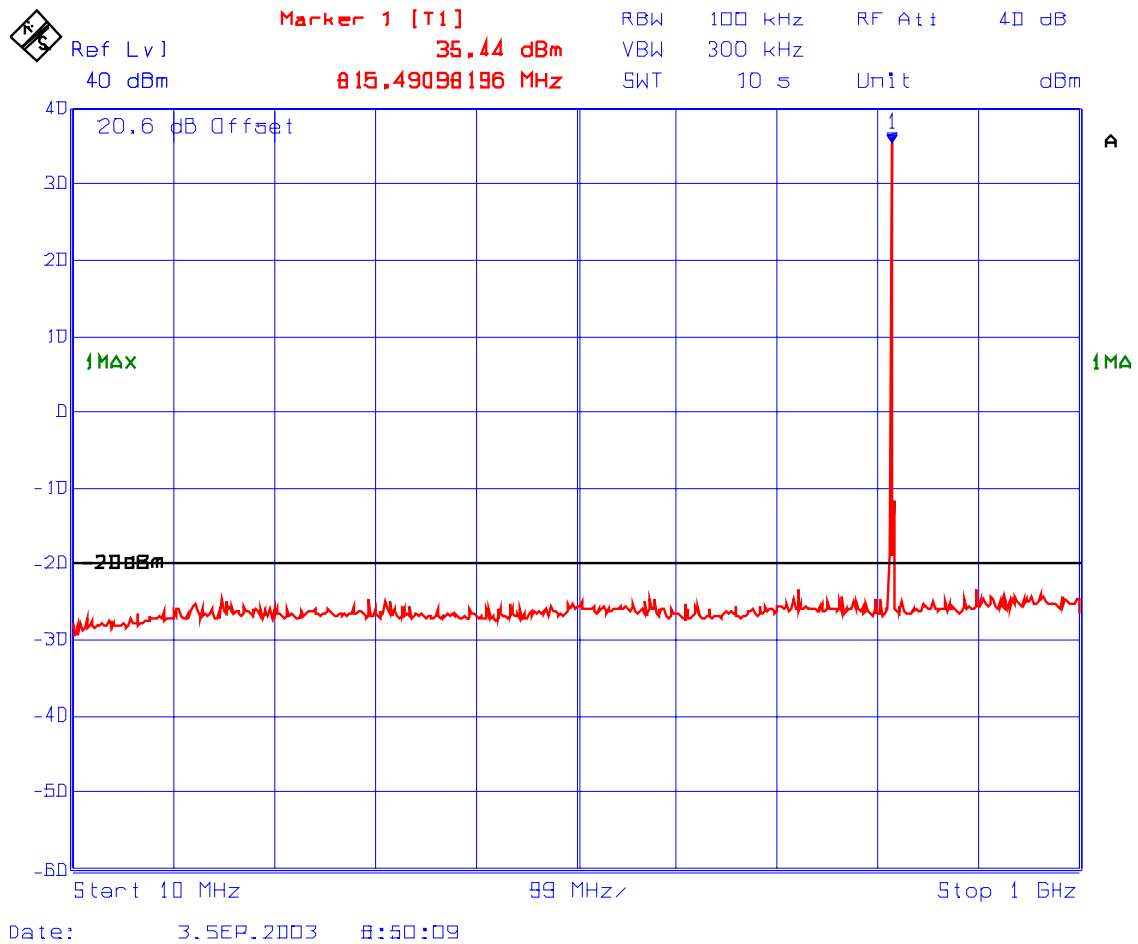
File #: KTI-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 239 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 806 MHz, Fc + 12.5 kHz & Fc + 25 kHz



**PLOT # 240 Spurious Emissions Conducted with 1 RF signal input/output
Fc: 815 MHz**



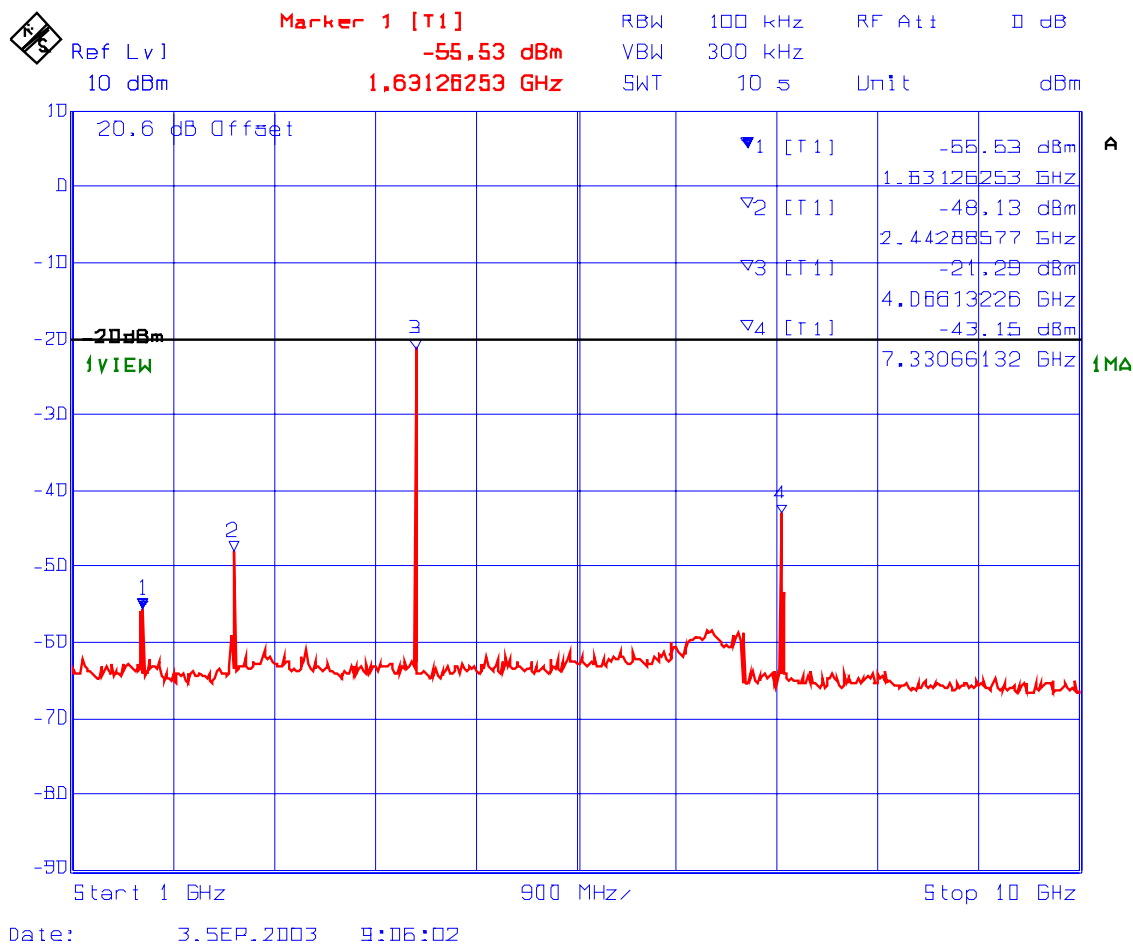
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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**PLOT # 241 Spurious Emissions Conducted with 1 RF signal input/output
 Fc: 815 MHz**



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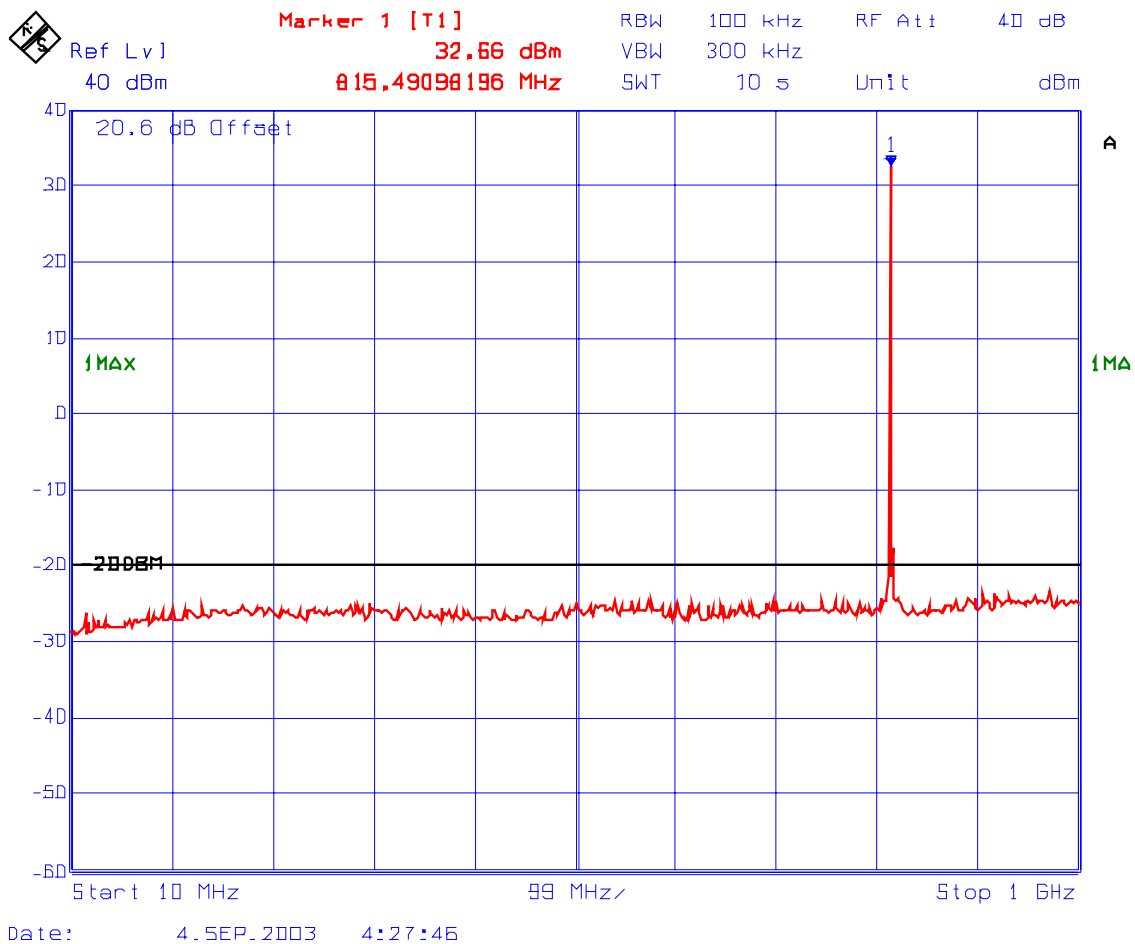
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
 Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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Oct. 17, 2003

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**PLOT # 242 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 815 MHz, Fc + 12.5 kHz**



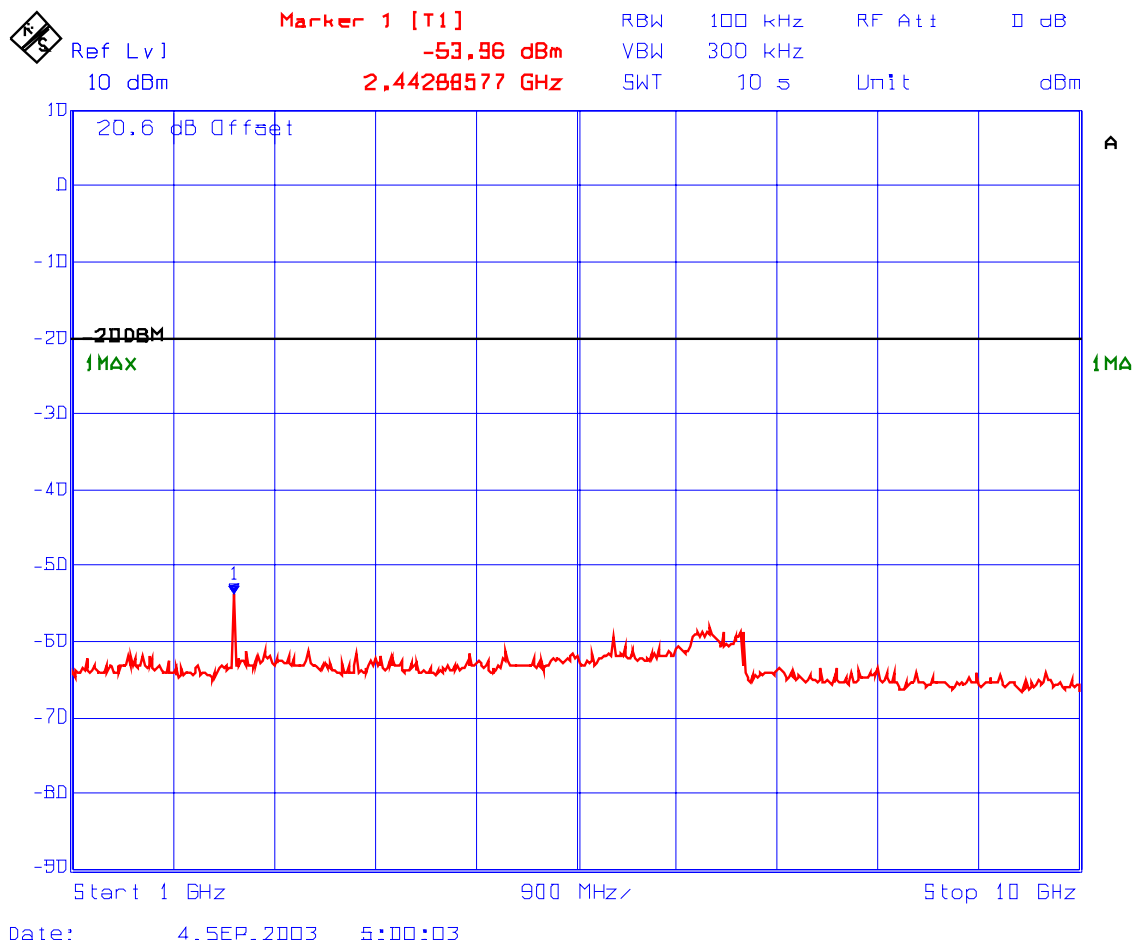
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 243 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 815 MHz, Fc + 12.5 kHz



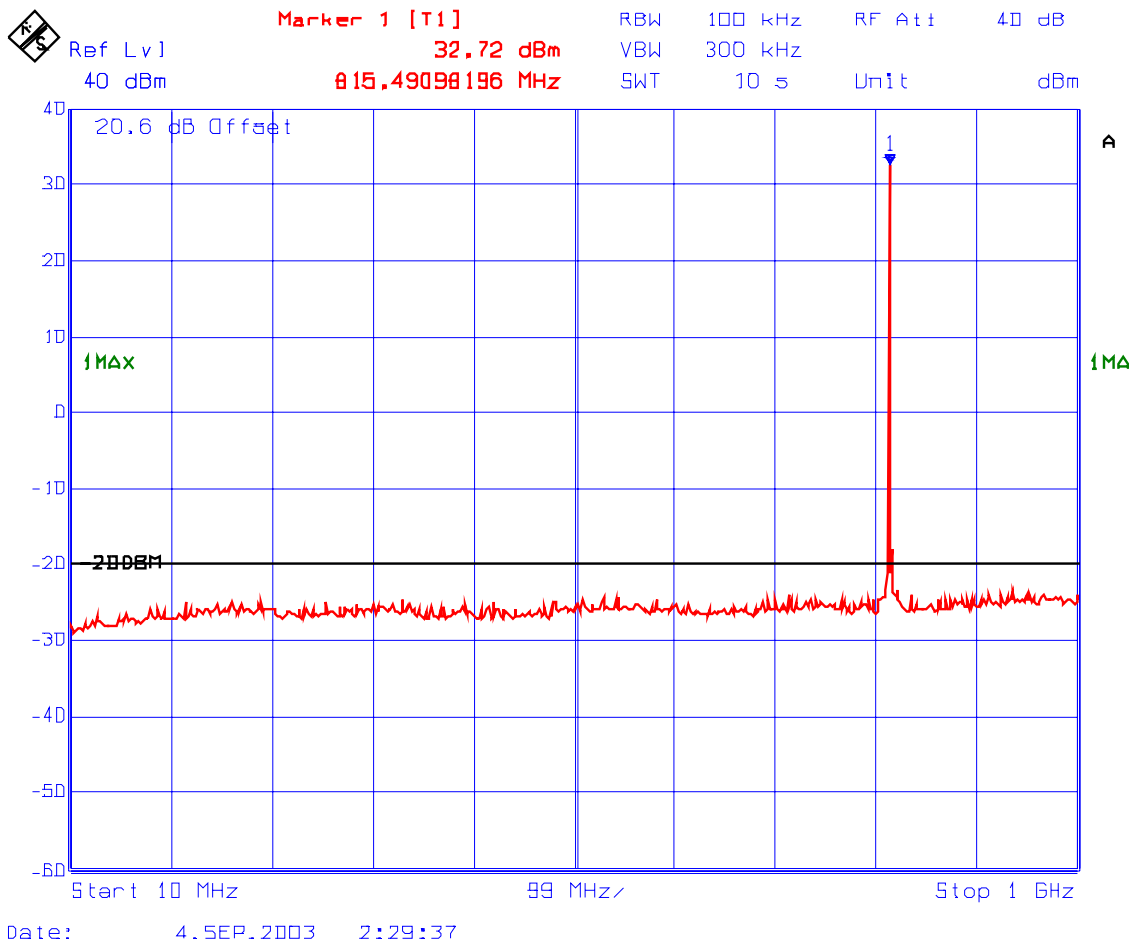
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PLOT # 244 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 815 MHz, Fc - 12.5 kHz & Fc + 12.5 kHz



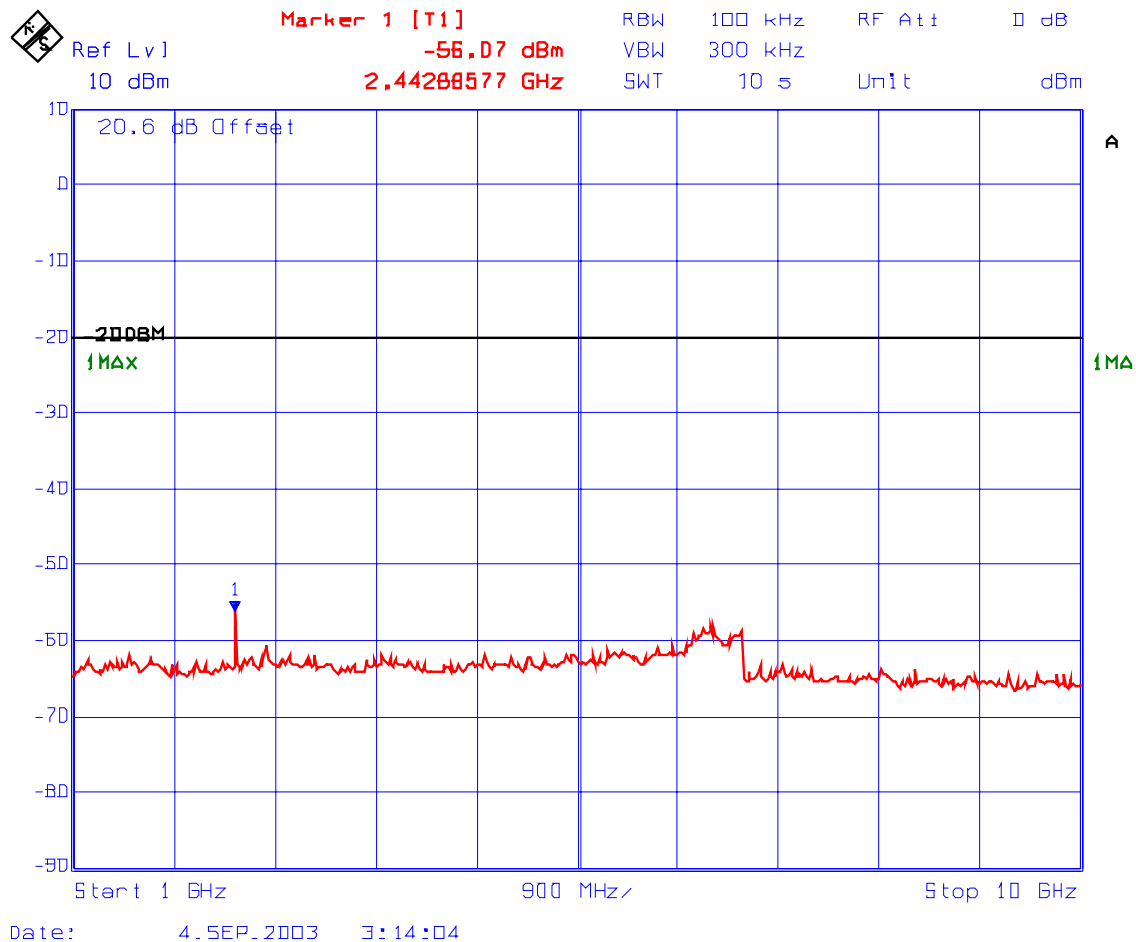
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PLOT # 245 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 815 MHz, Fc - 12.5 kHz & Fc + 12.5 kHz



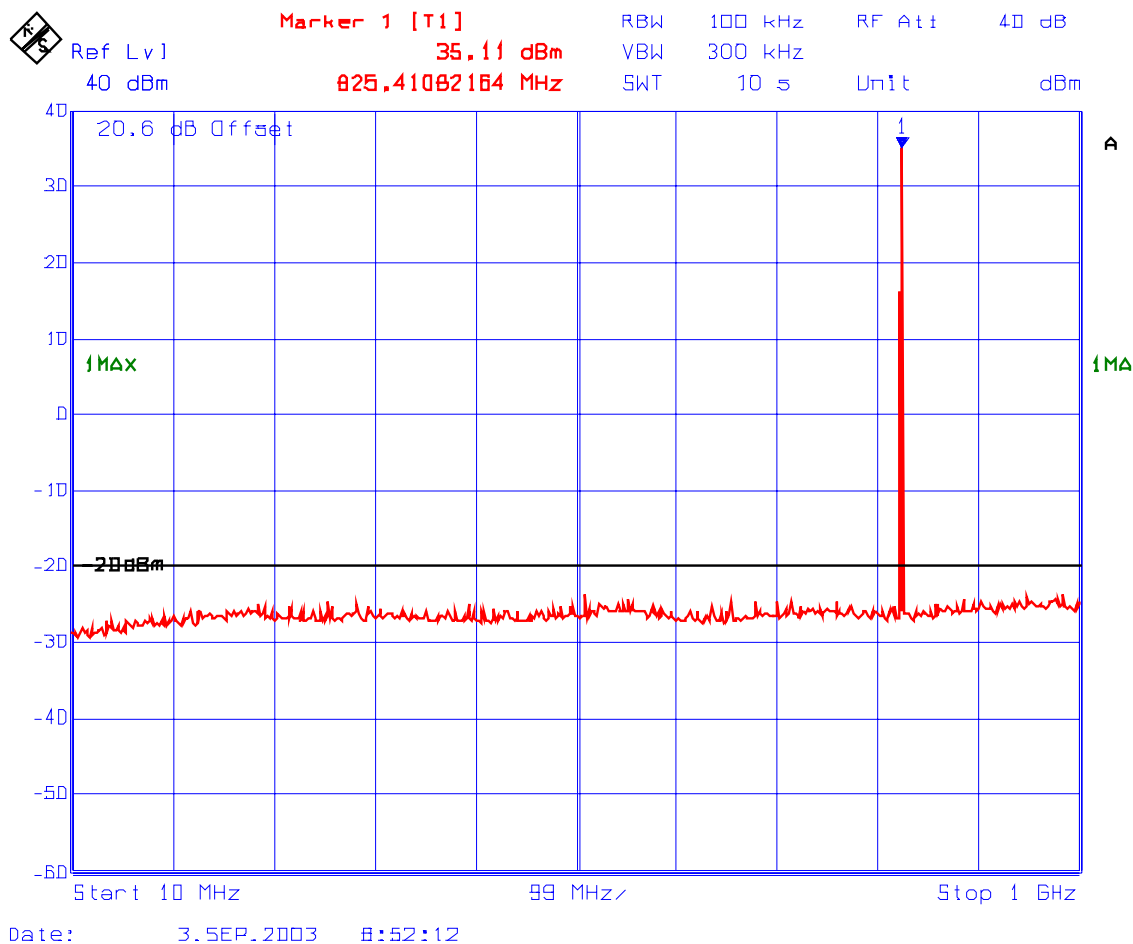
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**PLOT # 246 Spurious Emissions Conducted with 1 RF signal input/output
Fc: 824 MHz**



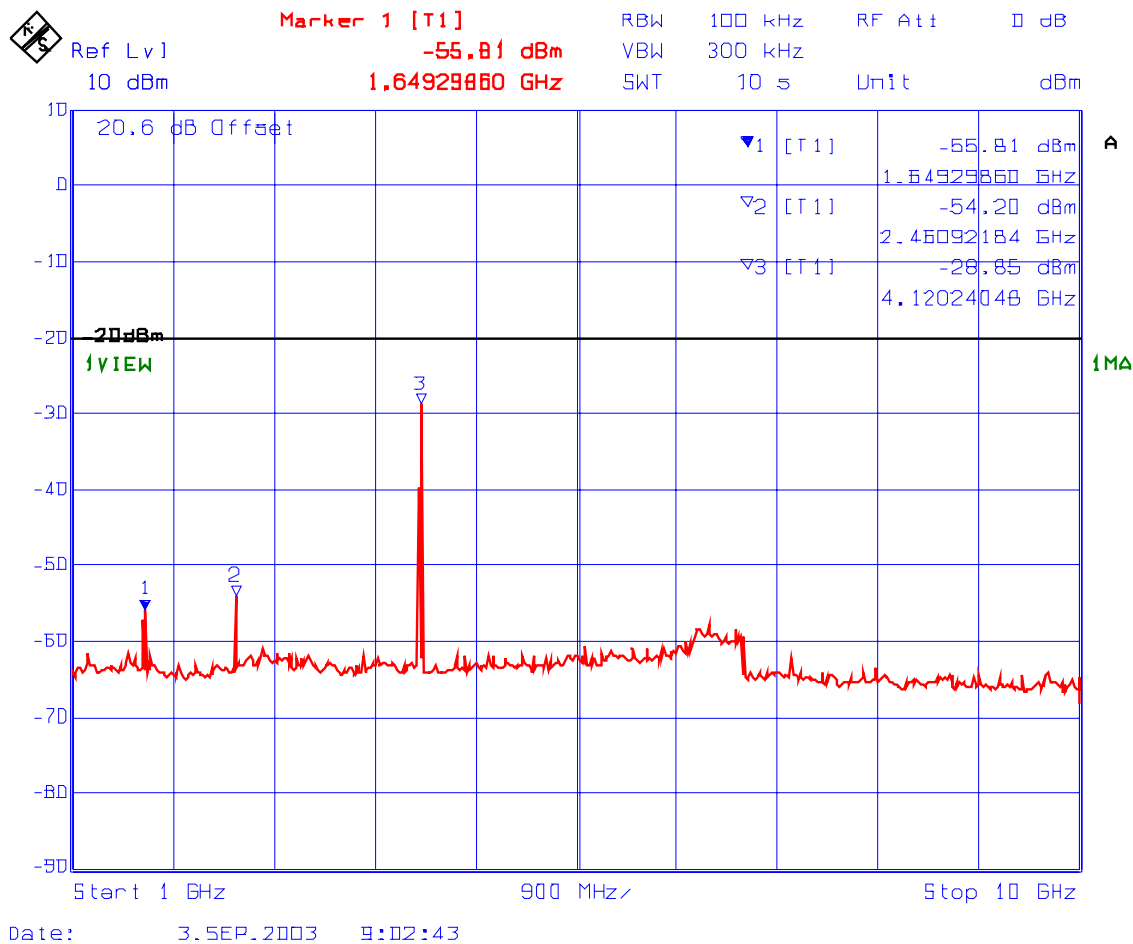
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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Oct. 17, 2003

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**PLOT # 247 Spurious Emissions Conducted with 1 RF signal input/output
 Fc: 824 MHz**



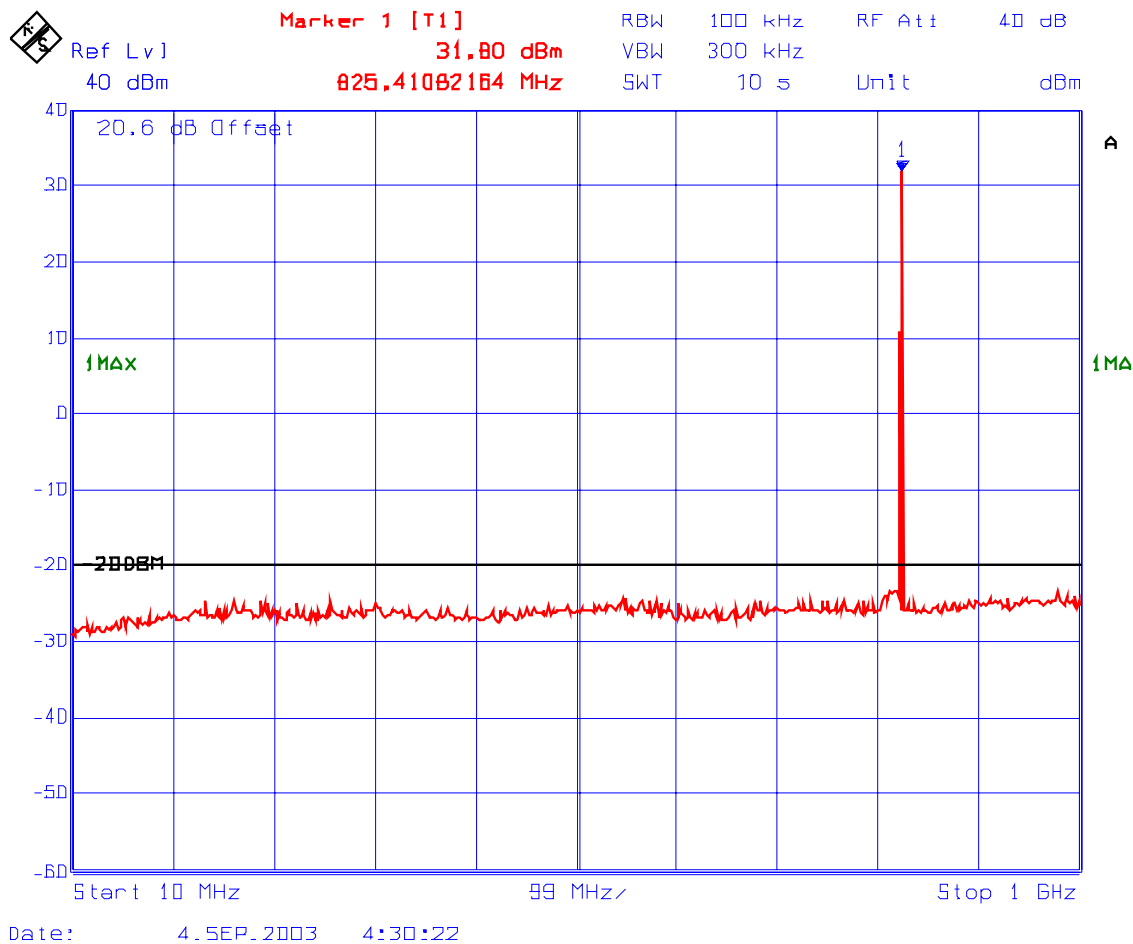
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
 Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 248 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 824 MHz, Fc - 12.5 kHz



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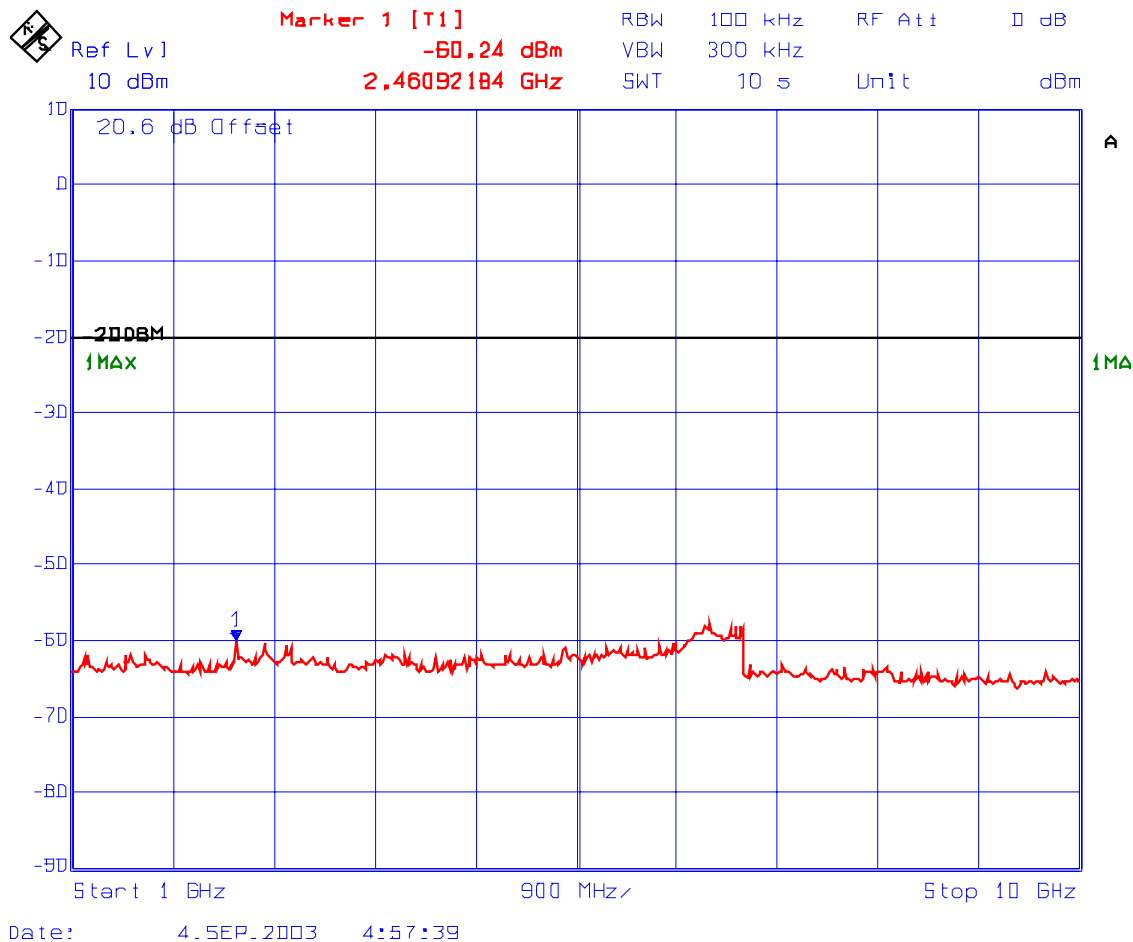
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 249 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 824 MHz, Fc - 12.5 kHz



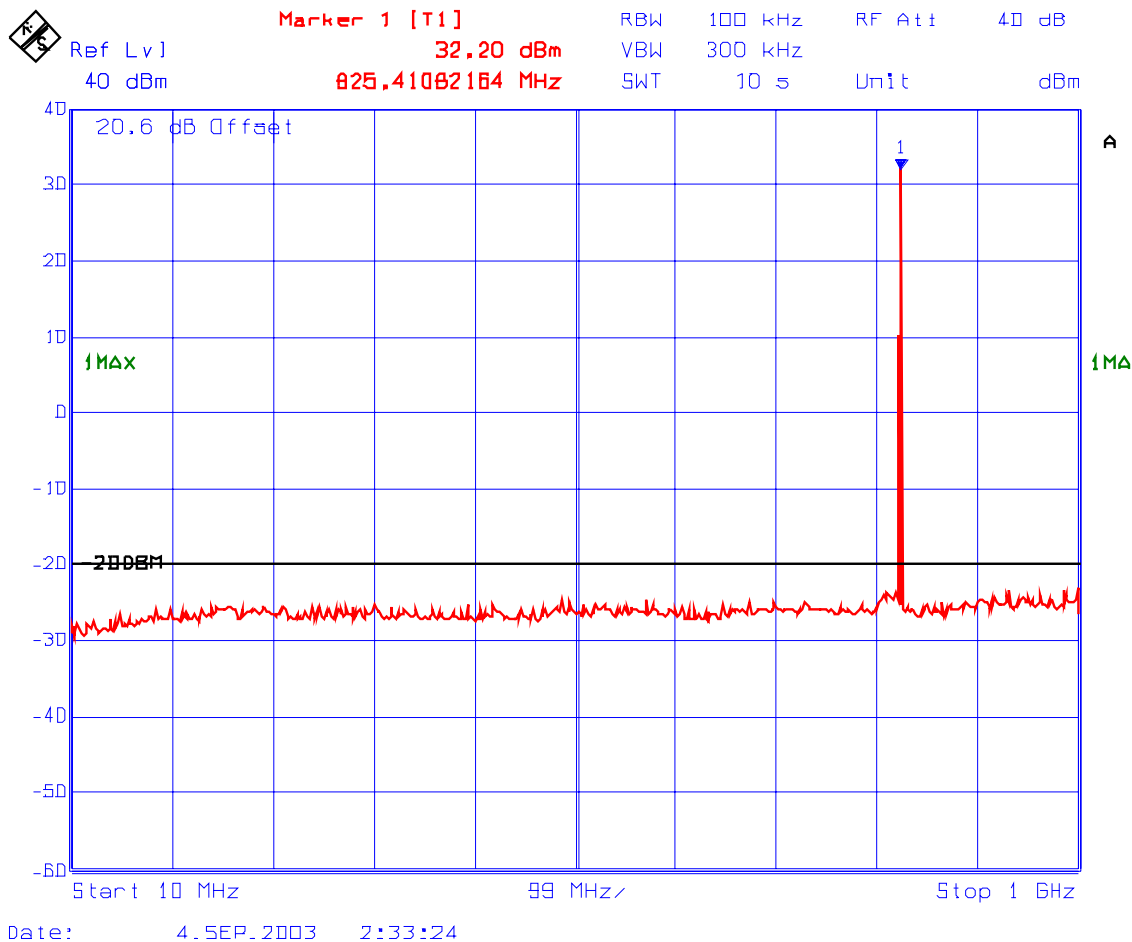
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PLOT # 250 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 824 MHz, Fc - 12.5 kHz & Fc - 25 kHz



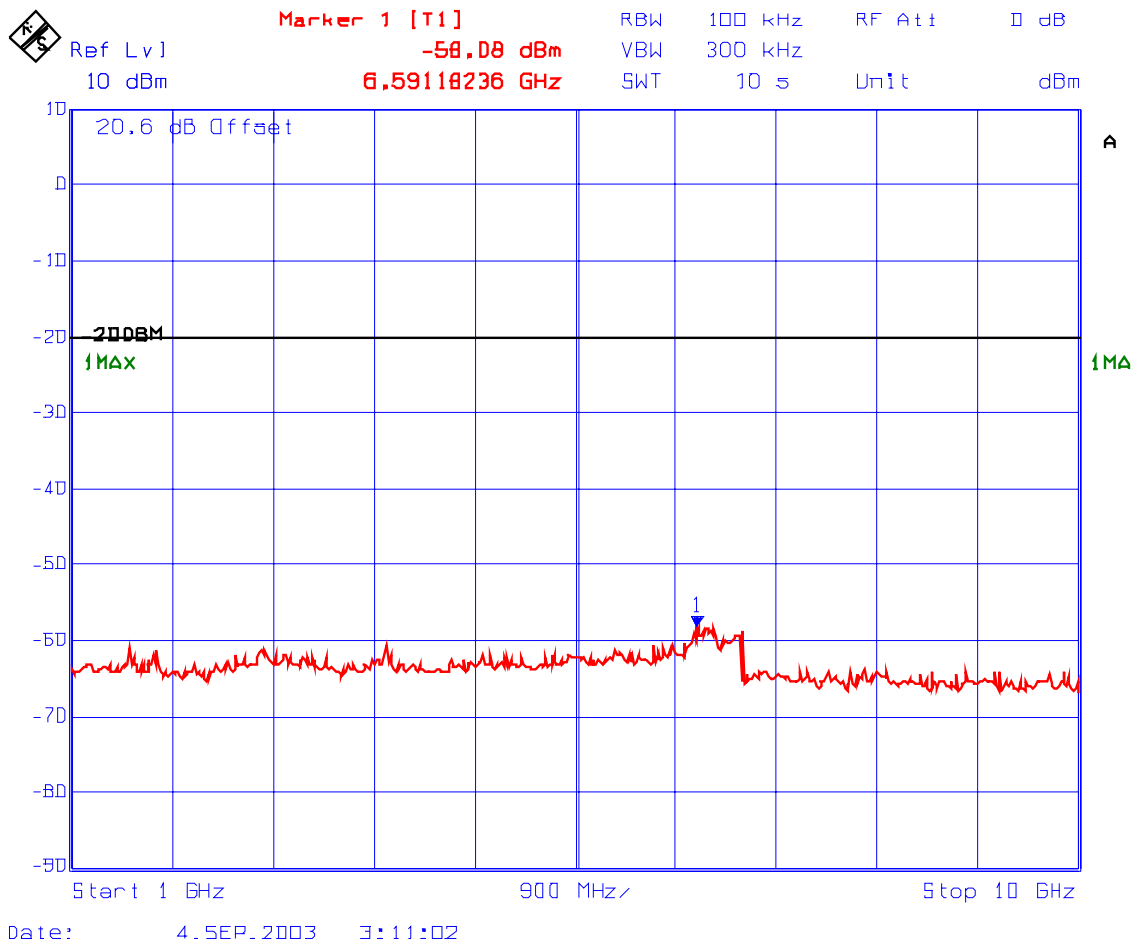
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PLOT # 251 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 824 MHz, Fc - 12.5 kHz & Fc - 25 kHz



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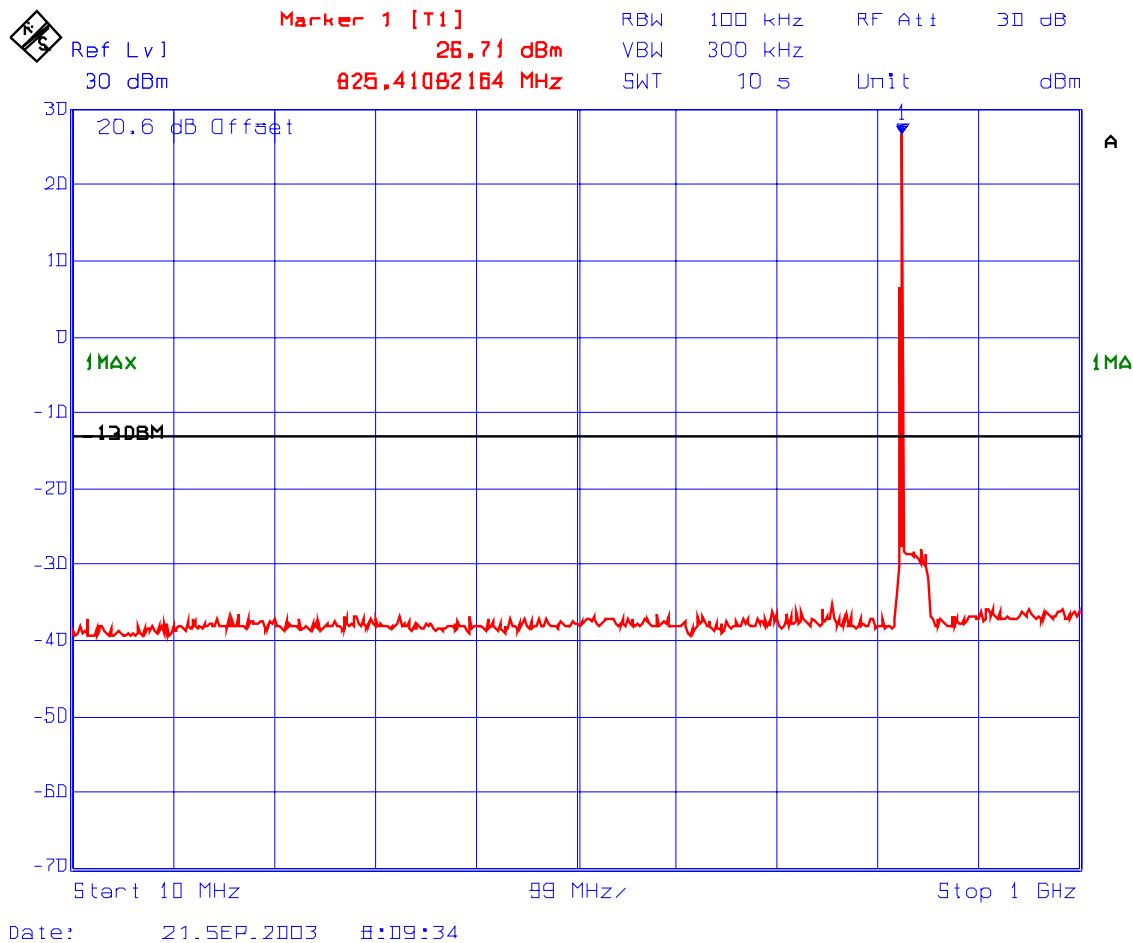
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 252 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with 2.5 kHz Sine Wave signal
Fc: 824 MHz



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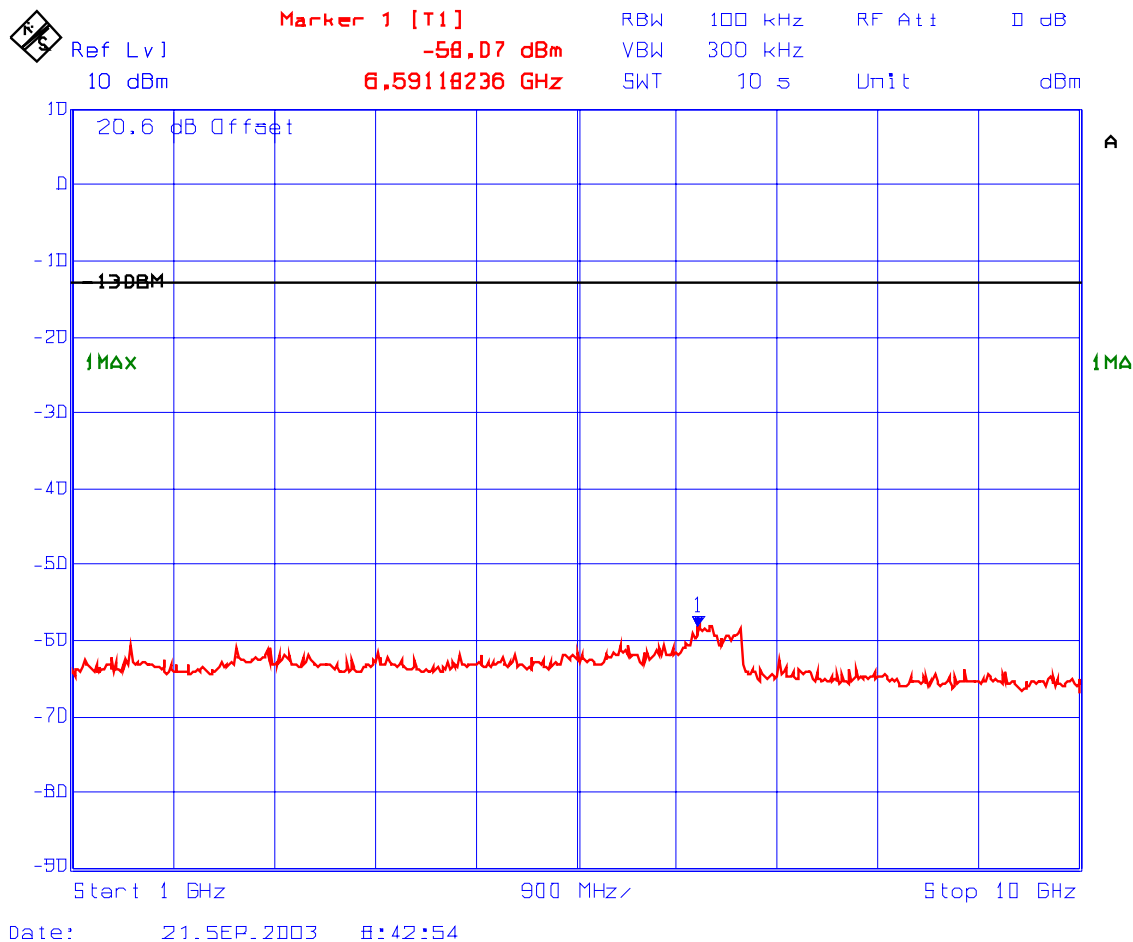
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 253 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with 2.5 kHz Sine Wave signal
Fc: 824 MHz



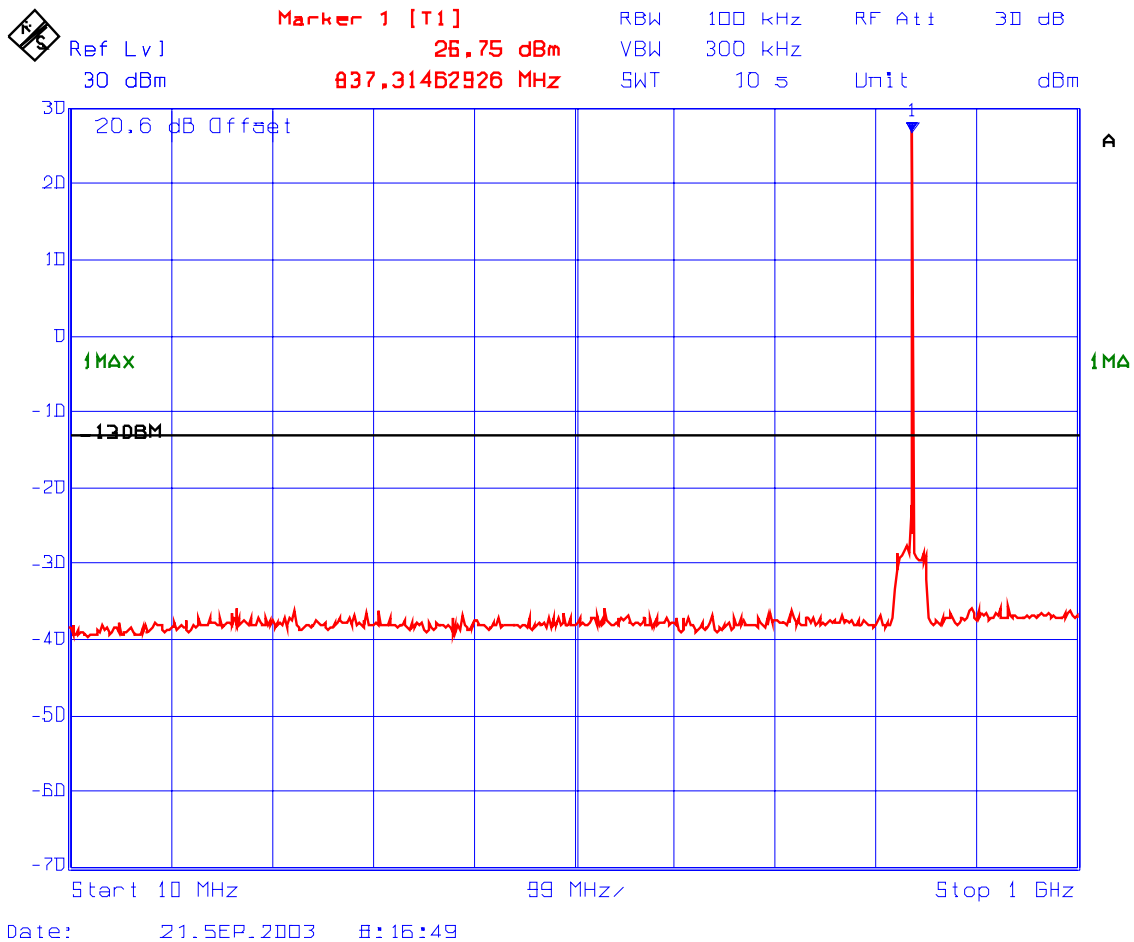
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 254 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with 2.5 kHz Sine Wave signal
Fc: 836.5 MHz



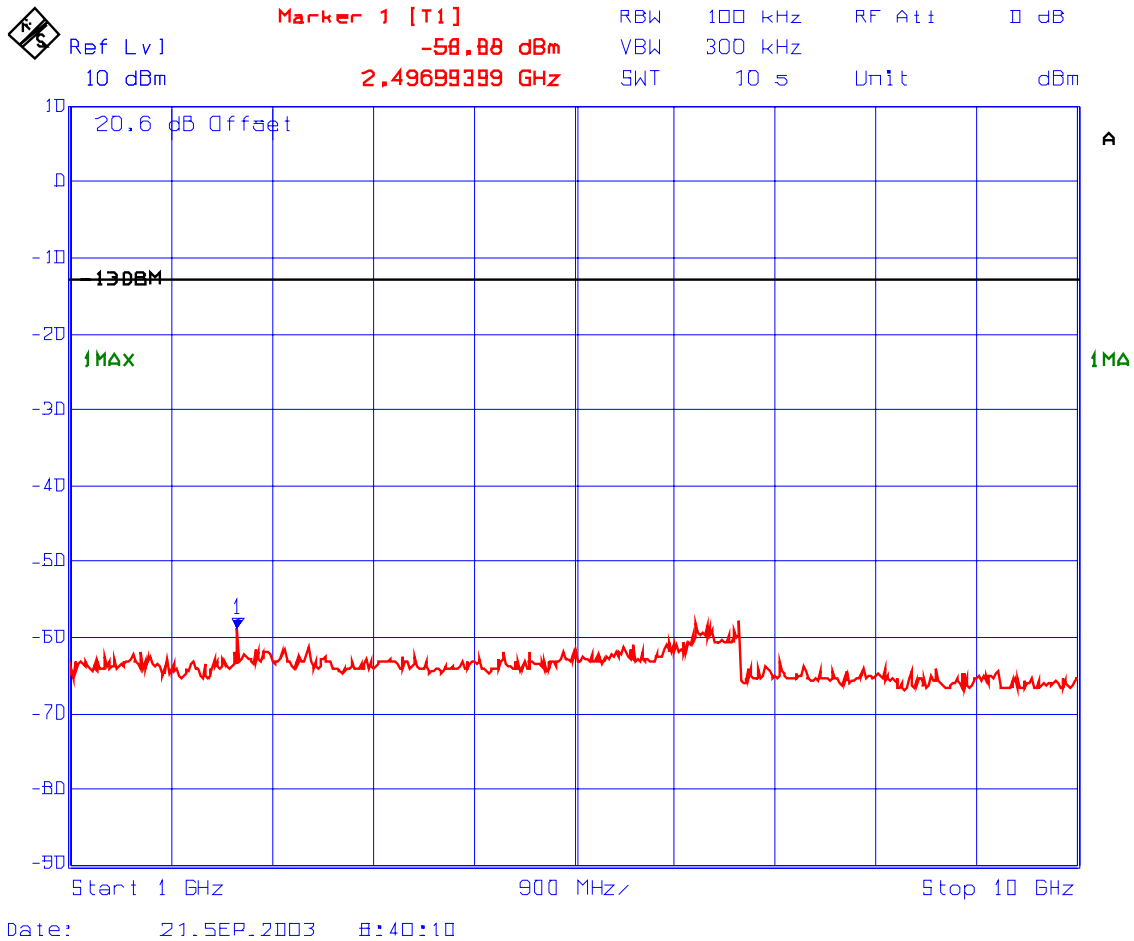
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PLOT # 255 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with 2.5 kHz Sine Wave signal
Fc: 836.5 MHz



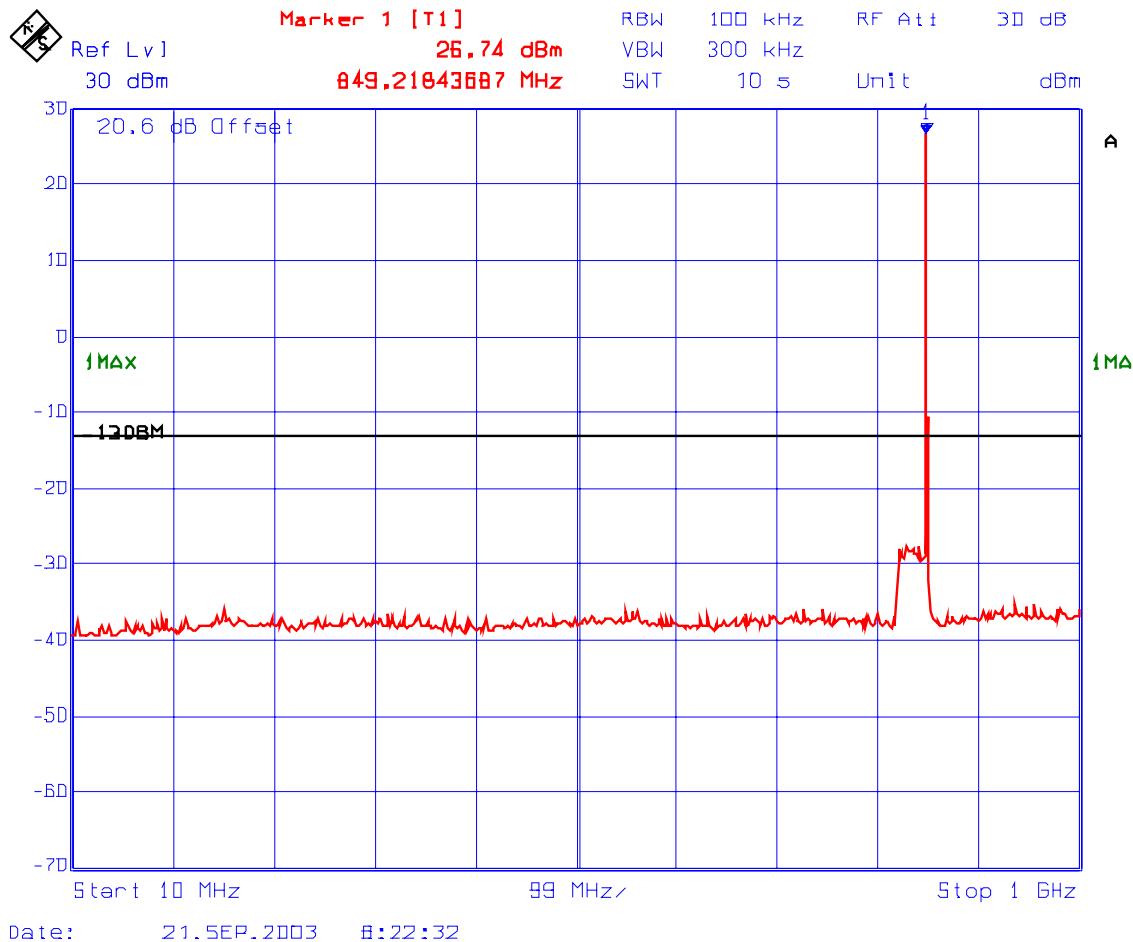
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 256 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with 2.5 kHz Sine Wave signal
Fc: 849 MHz



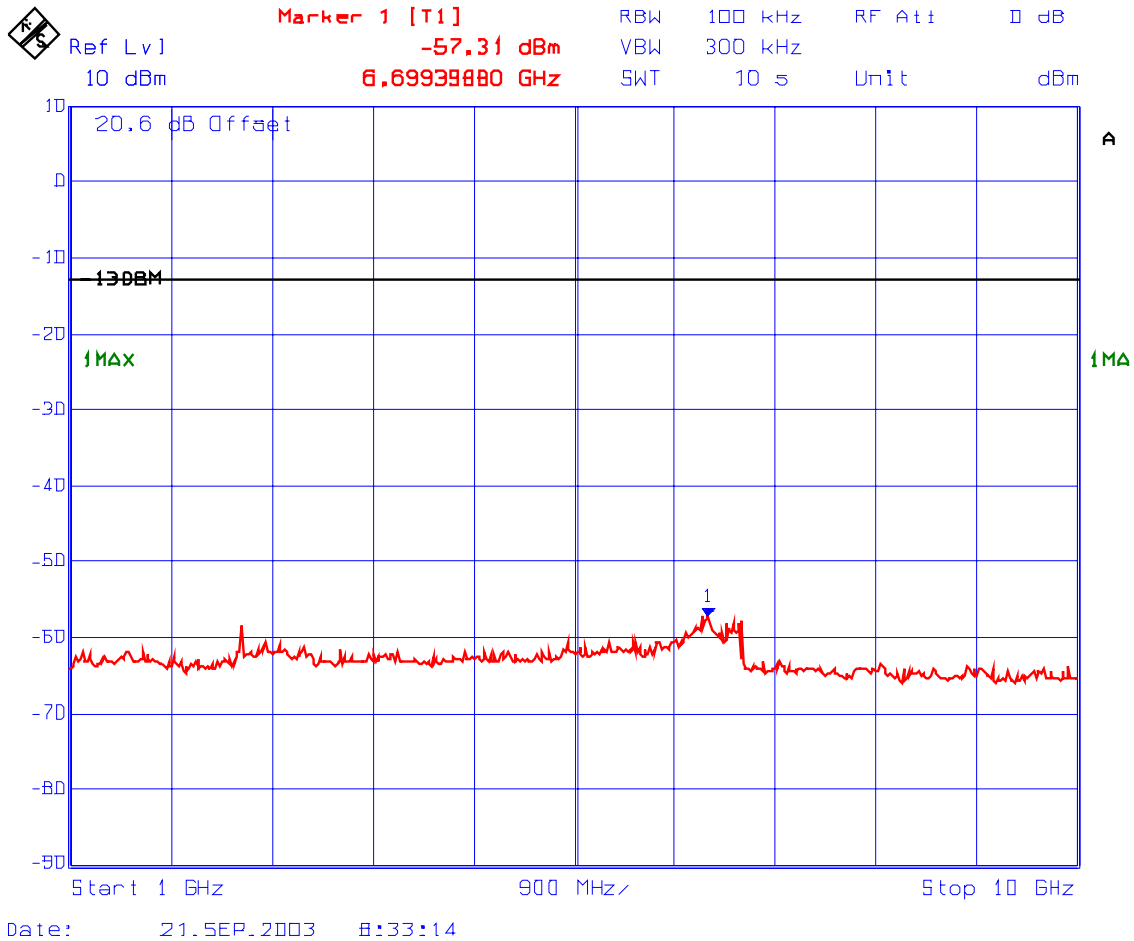
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 257 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with 2.5 kHz Sine Wave signal
Fc: 849 MHz



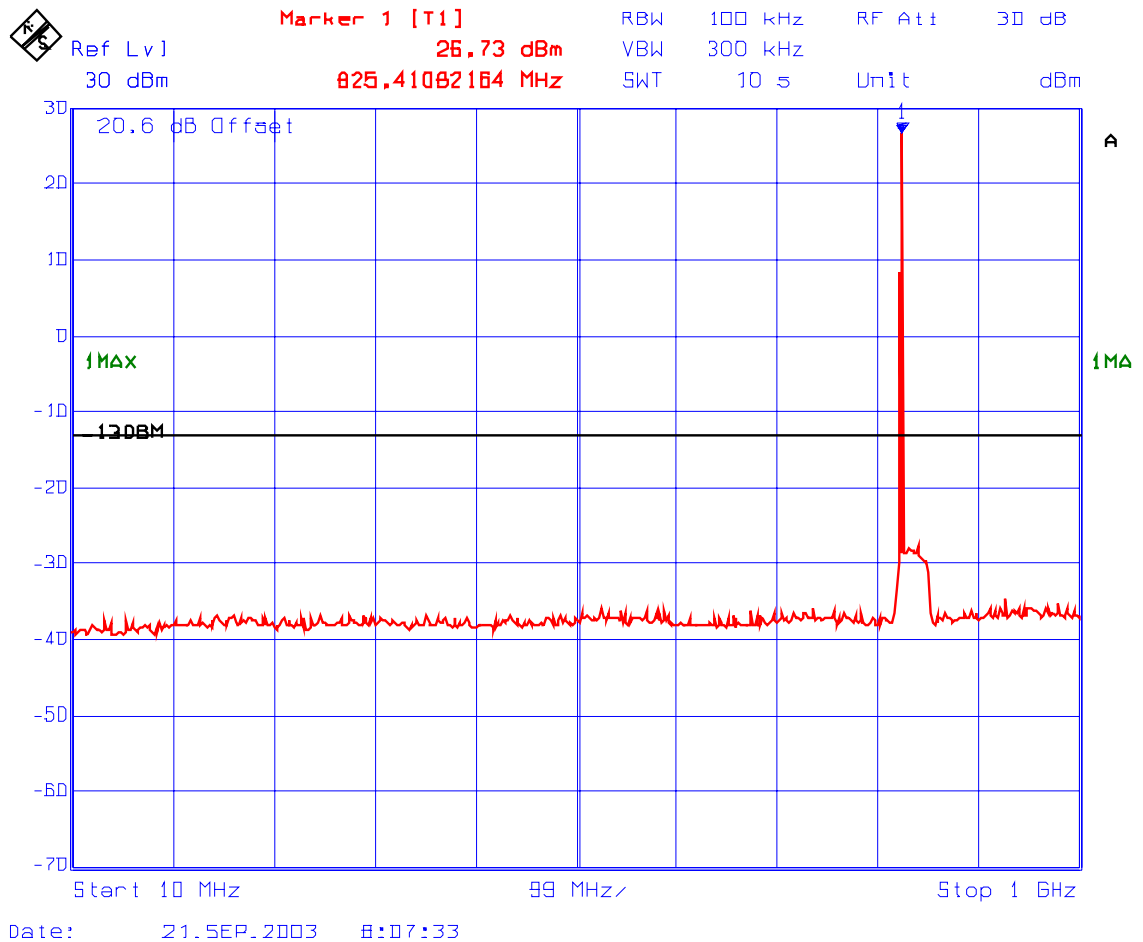
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 258 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with an external 9600 b/s random data source
Fc: 824 MHz



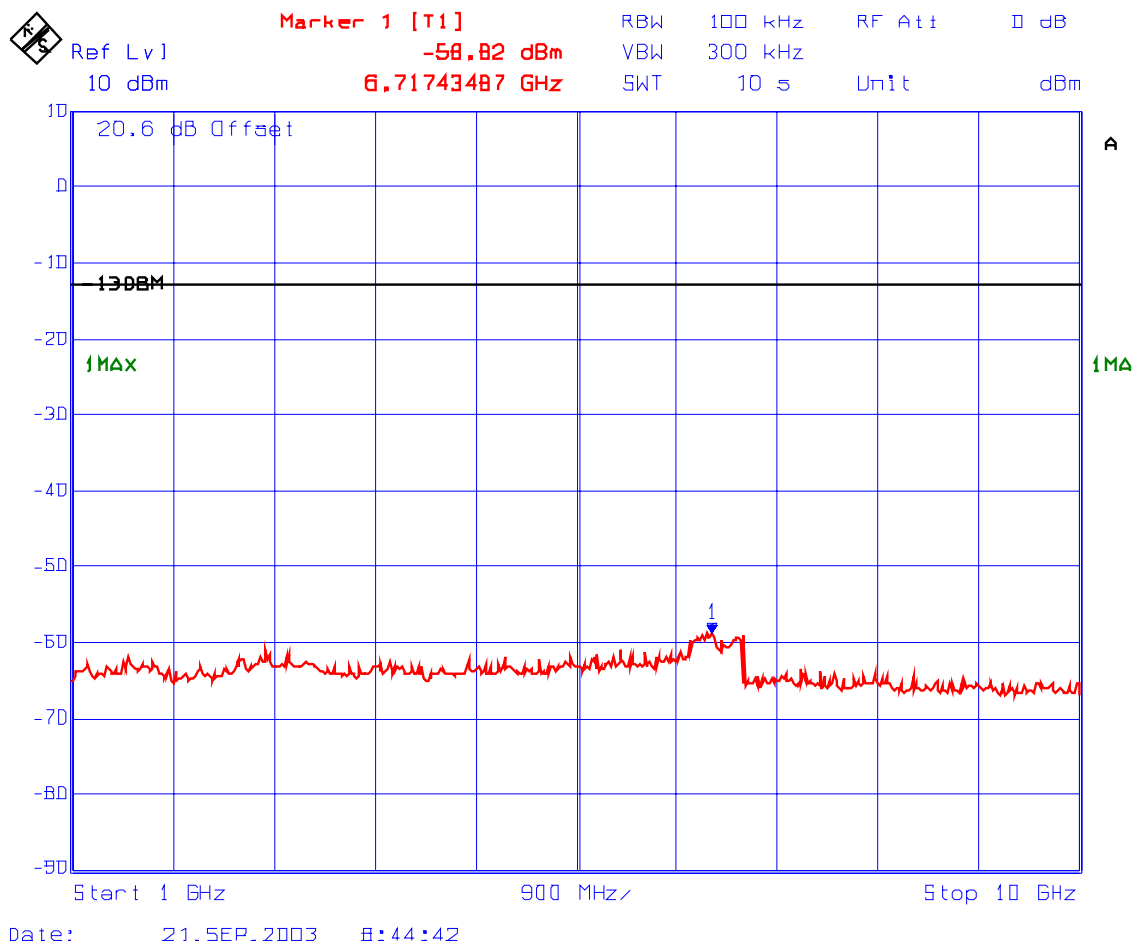
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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Oct. 17, 2003

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PLOT # 259 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with an external 9600 b/s random data source
Fc: 824 MHz



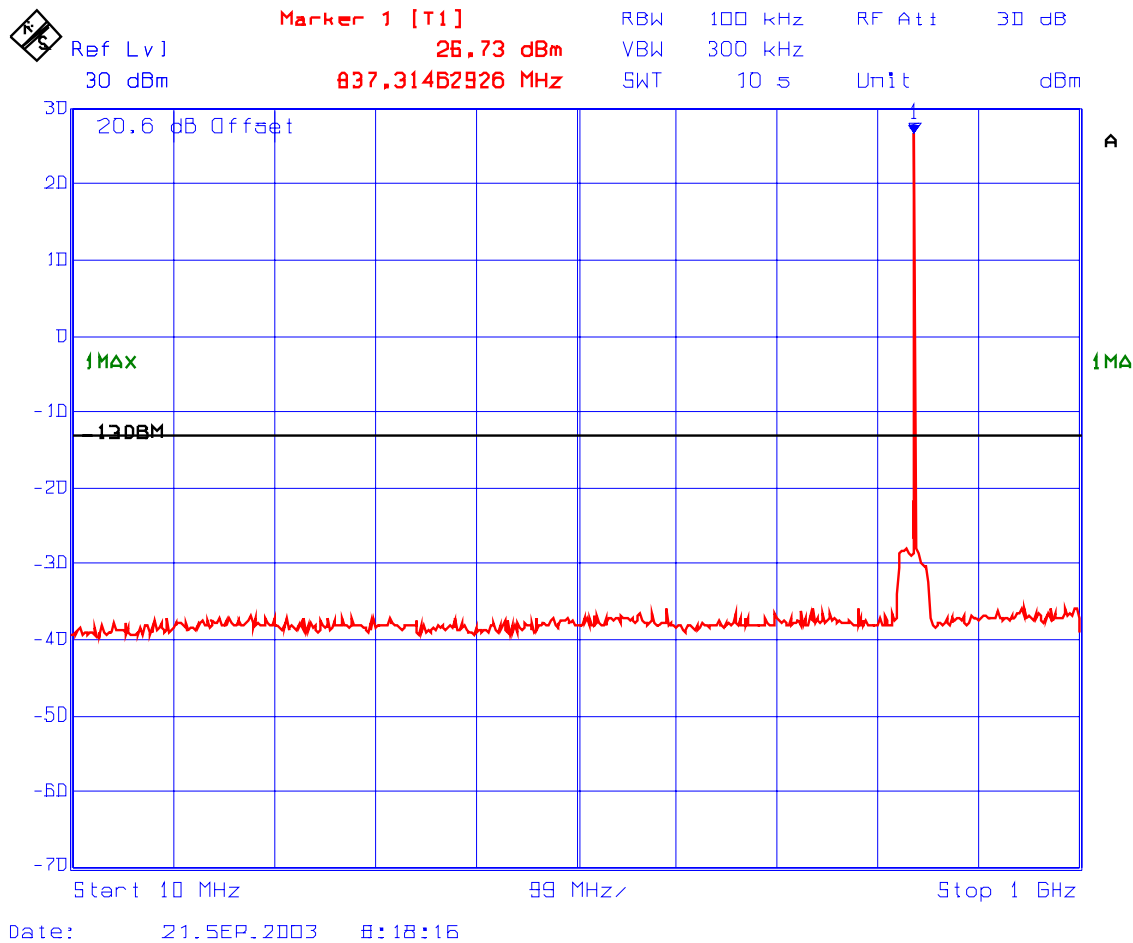
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PLOT # 260 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with an external 9600 b/s random data source
Fc: 836.5 MHz



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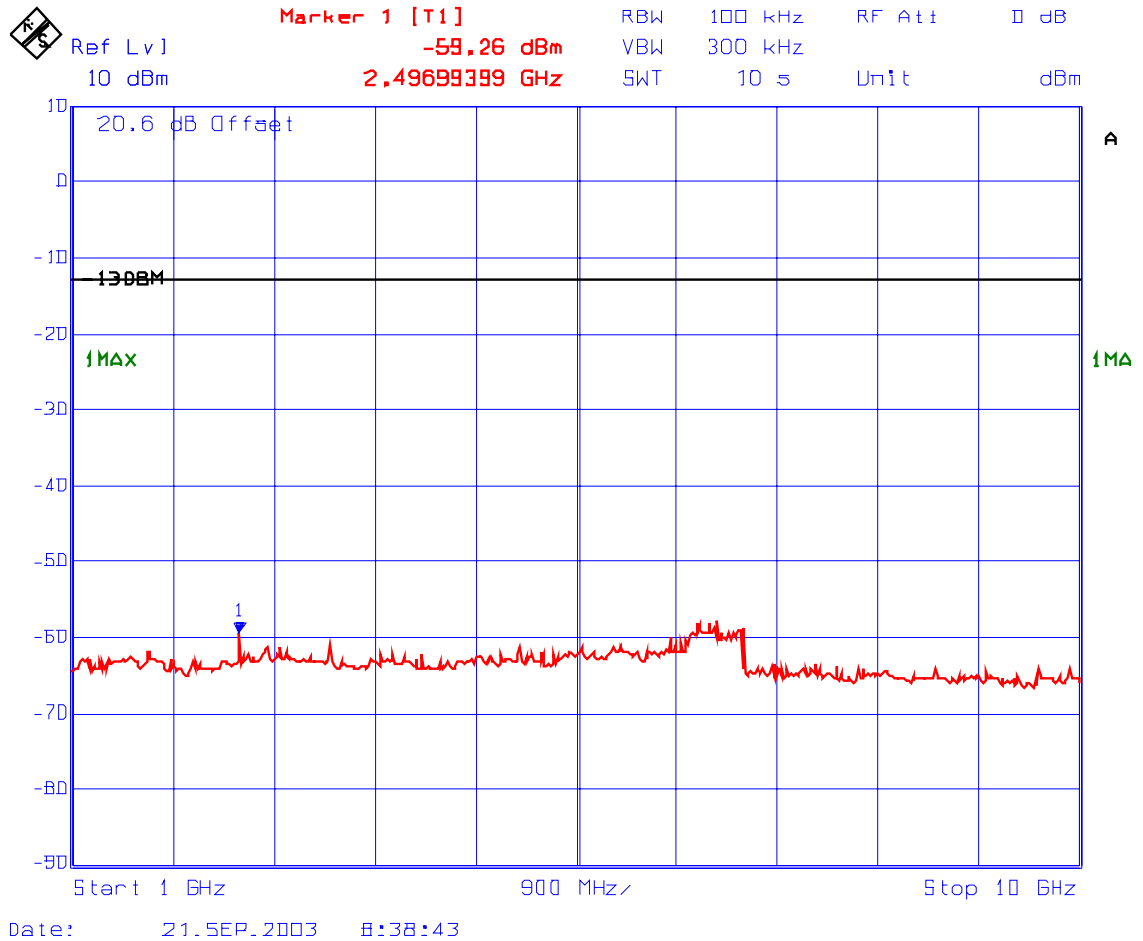
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 261 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with an external 9600 b/s random data source
Fc: 836.5 MHz



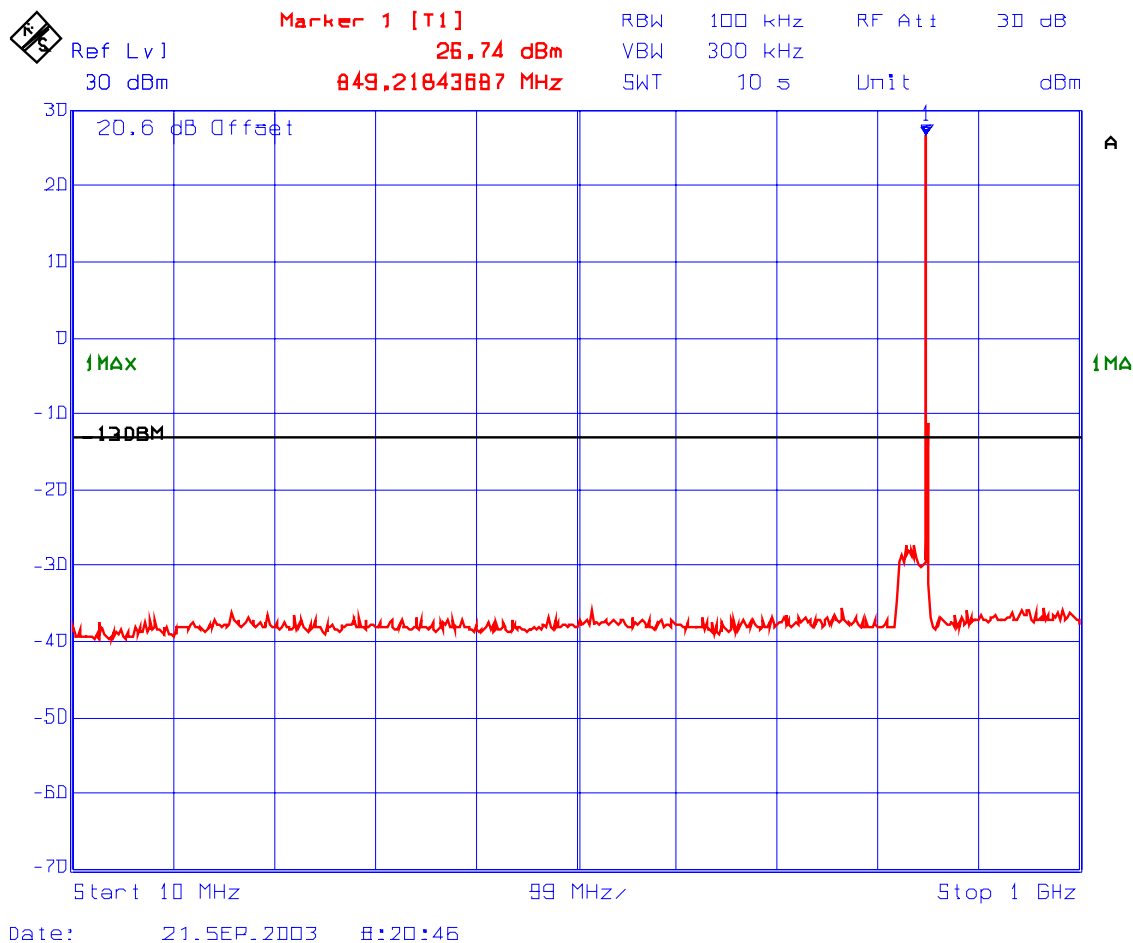
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PLOT # 262 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with an external 9600 b/s random data source
Fc: 849 MHz



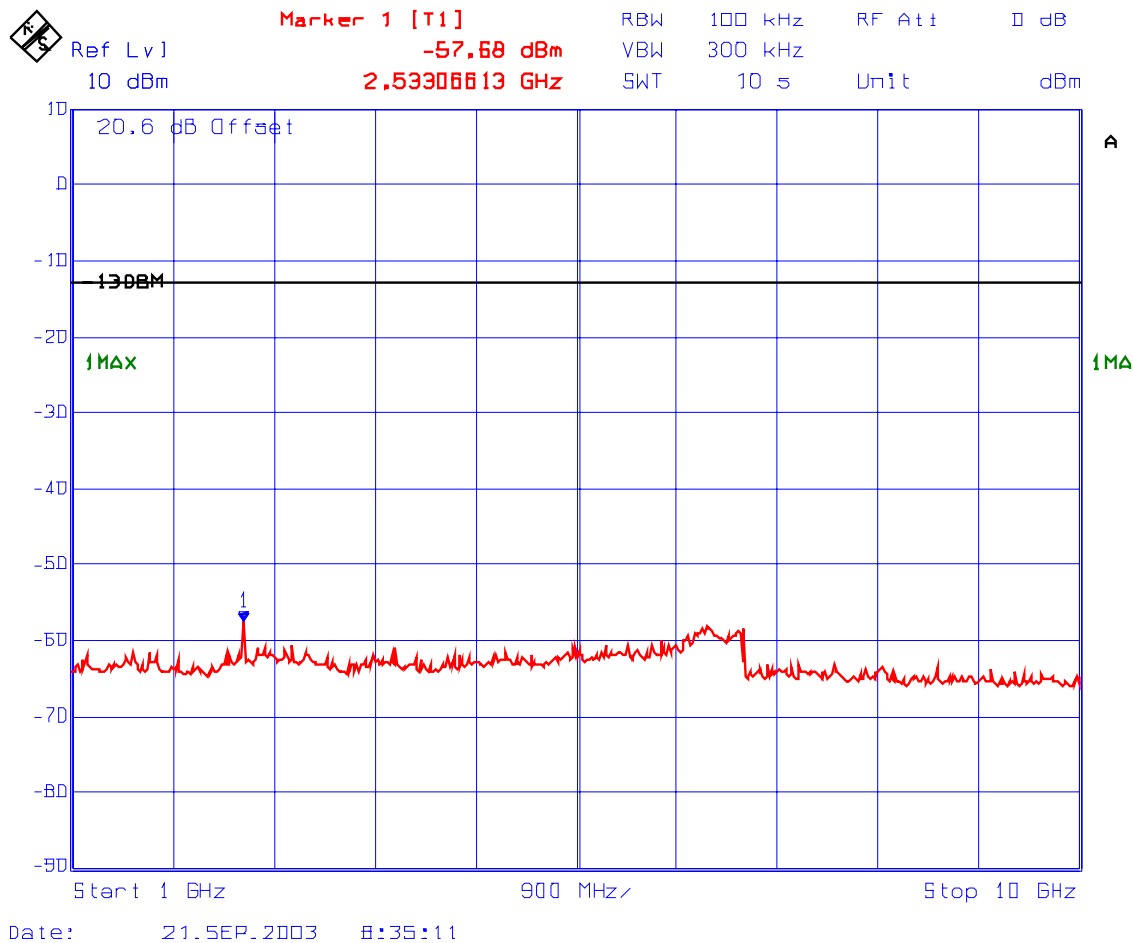
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KI-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 263 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with an external 9600 b/s random data source
Fc: 849 MHz



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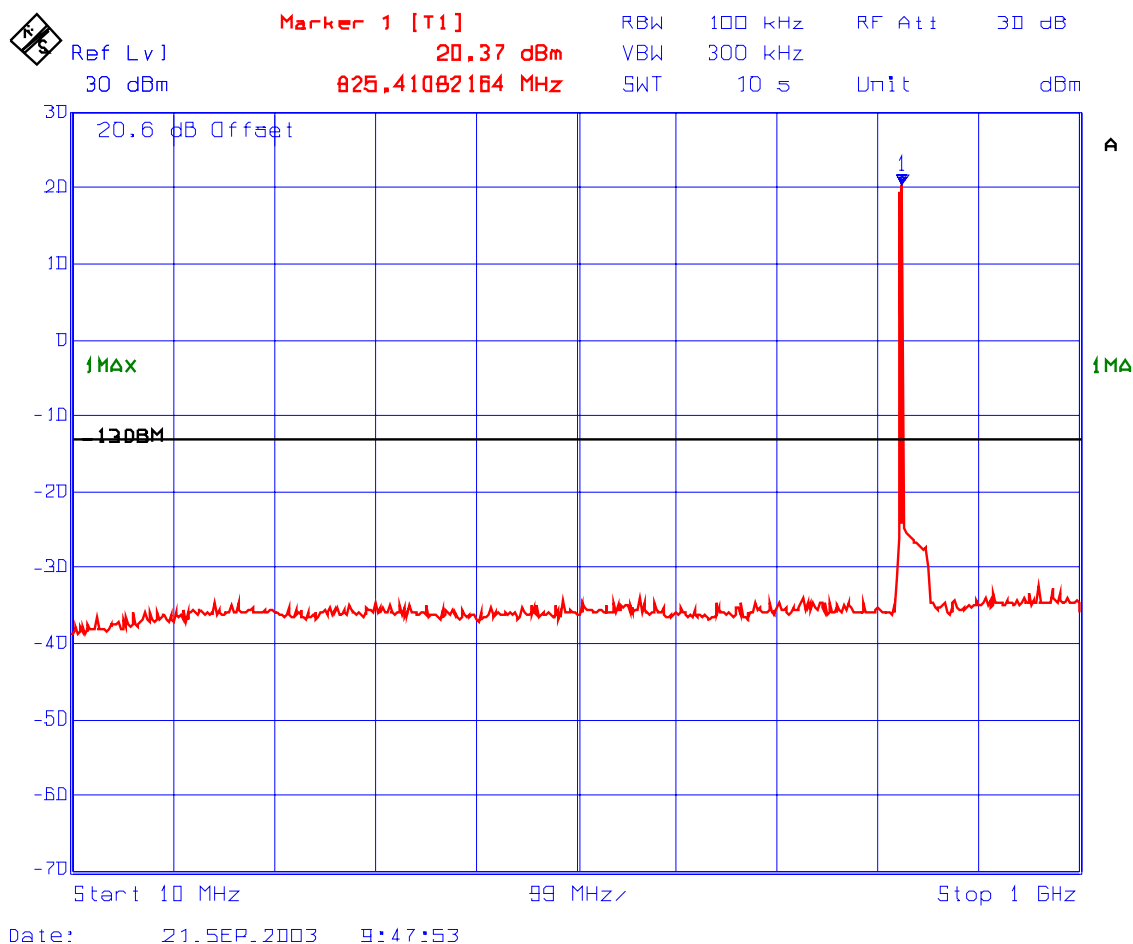
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 264 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: CDMA
Fc: 824 MHz



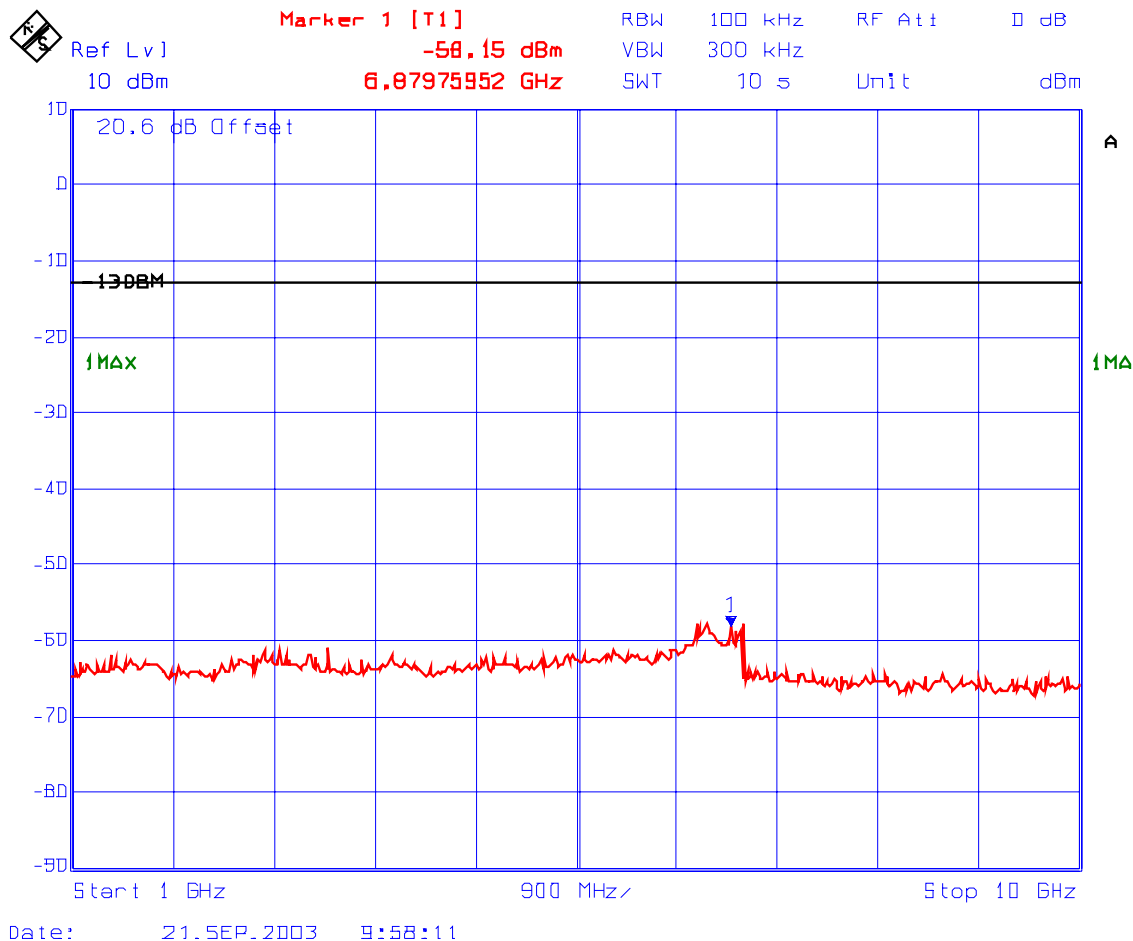
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Oct. 17, 2003

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PLOT # 265 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: CDMA
Fc: 824 MHz



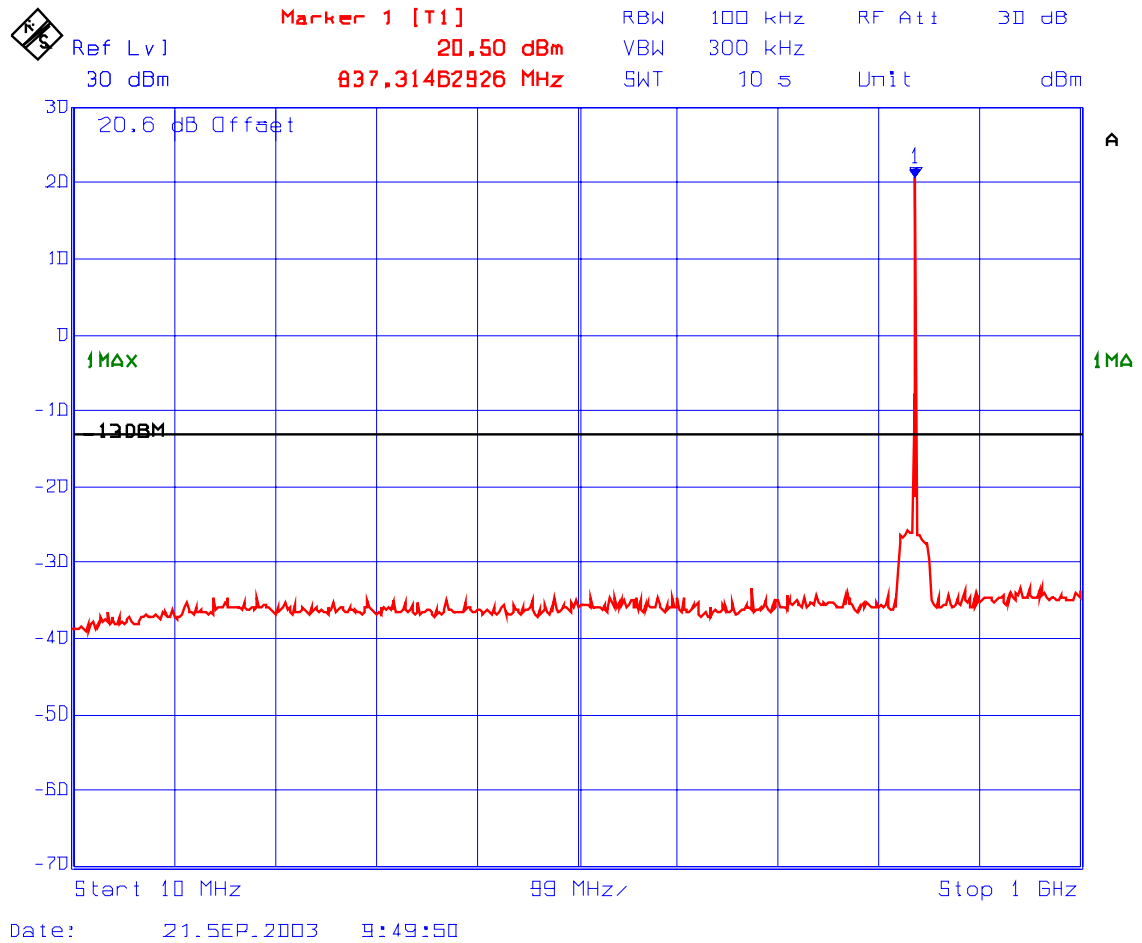
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
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PLOT # 266 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: CDMA
Fc: 836.5 MHz



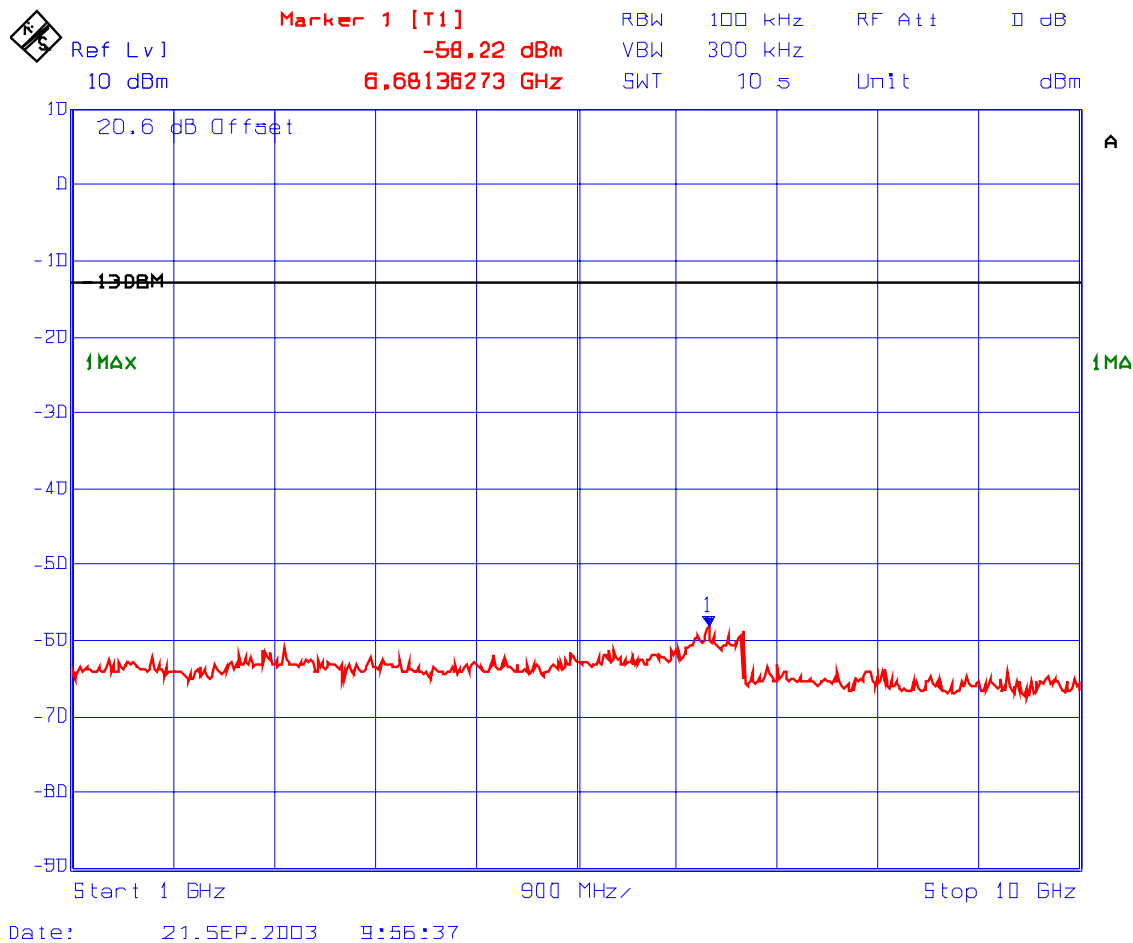
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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Oct. 17, 2003

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PLOT # 267 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: CDMA
Fc: 836.5 MHz



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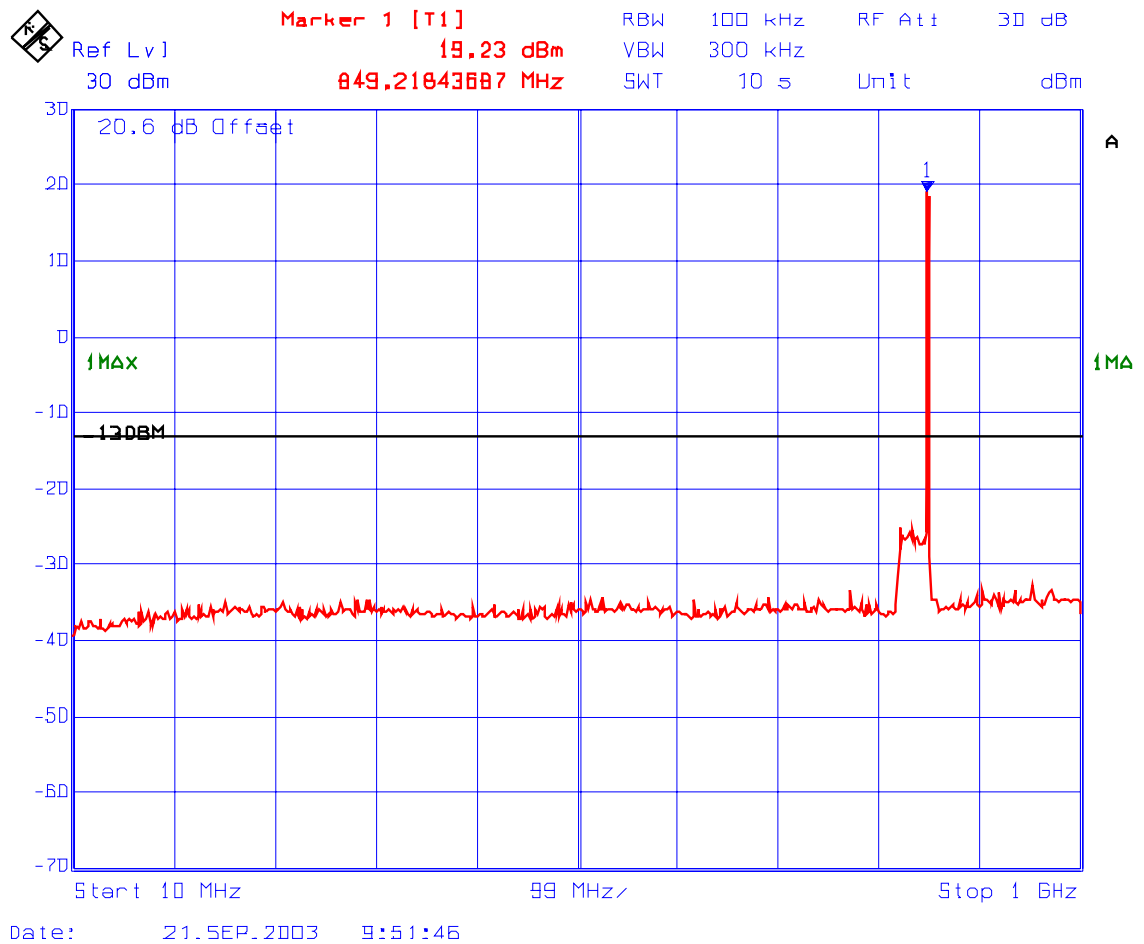
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90

Oct. 17, 2003

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PLOT # 268 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: CDMA
Fc: 849 MHz



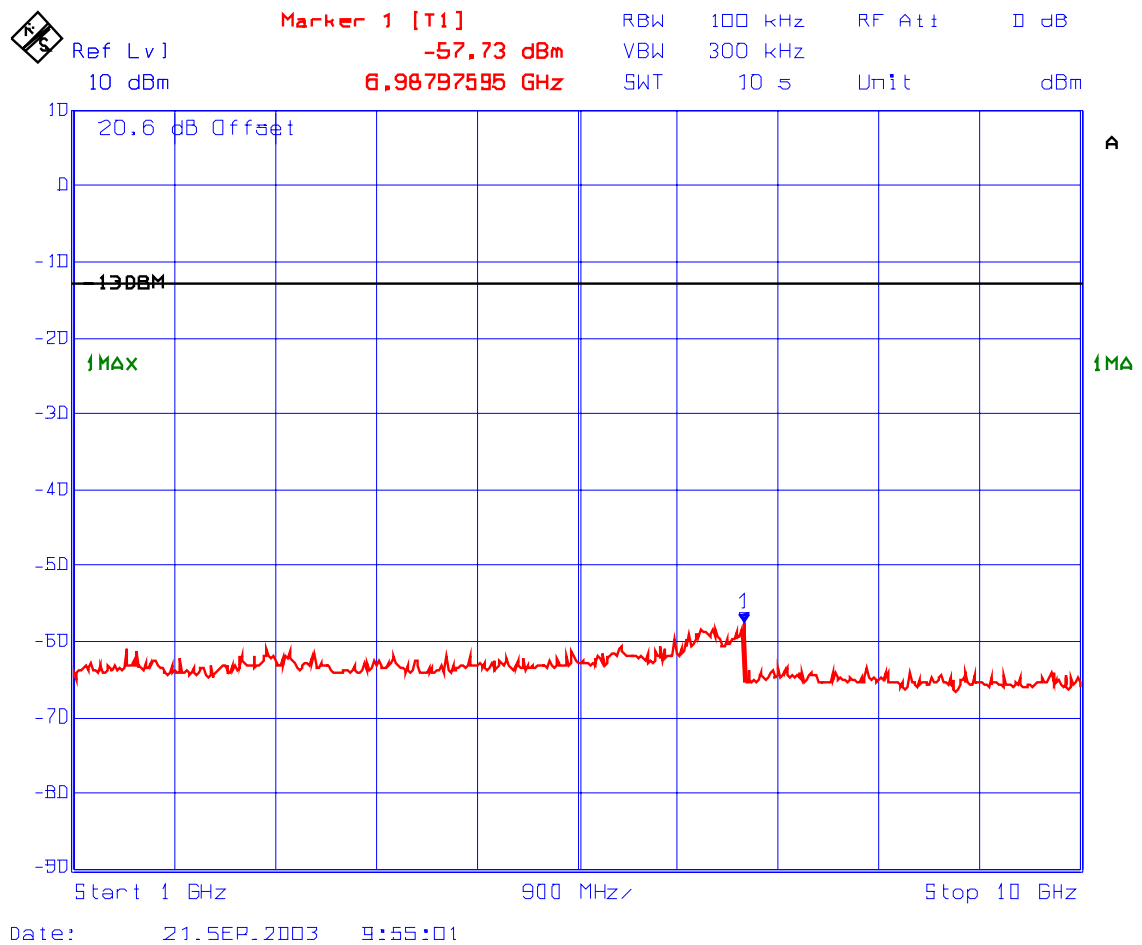
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 269 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: CDMA
Fc: 849 MHz



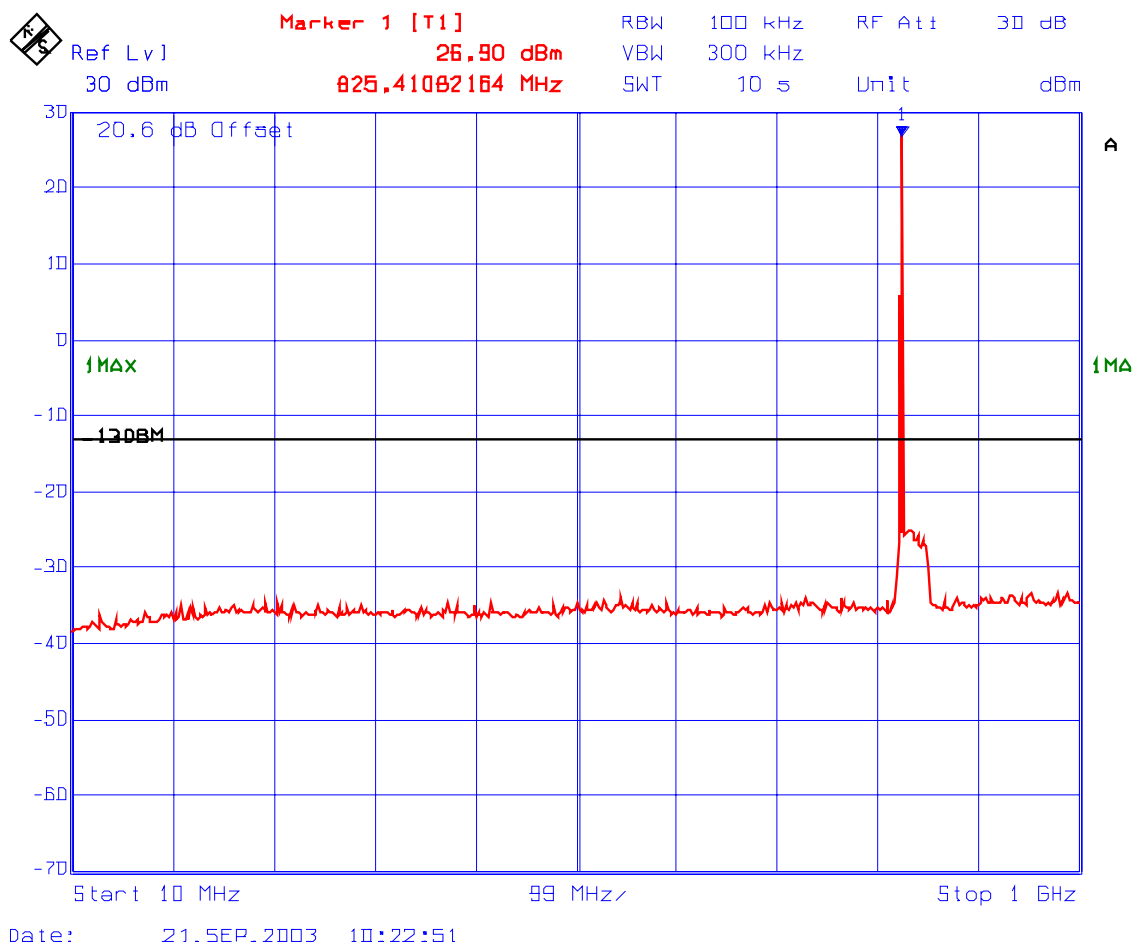
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 270 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: TDMA
Fc: 824 MHz



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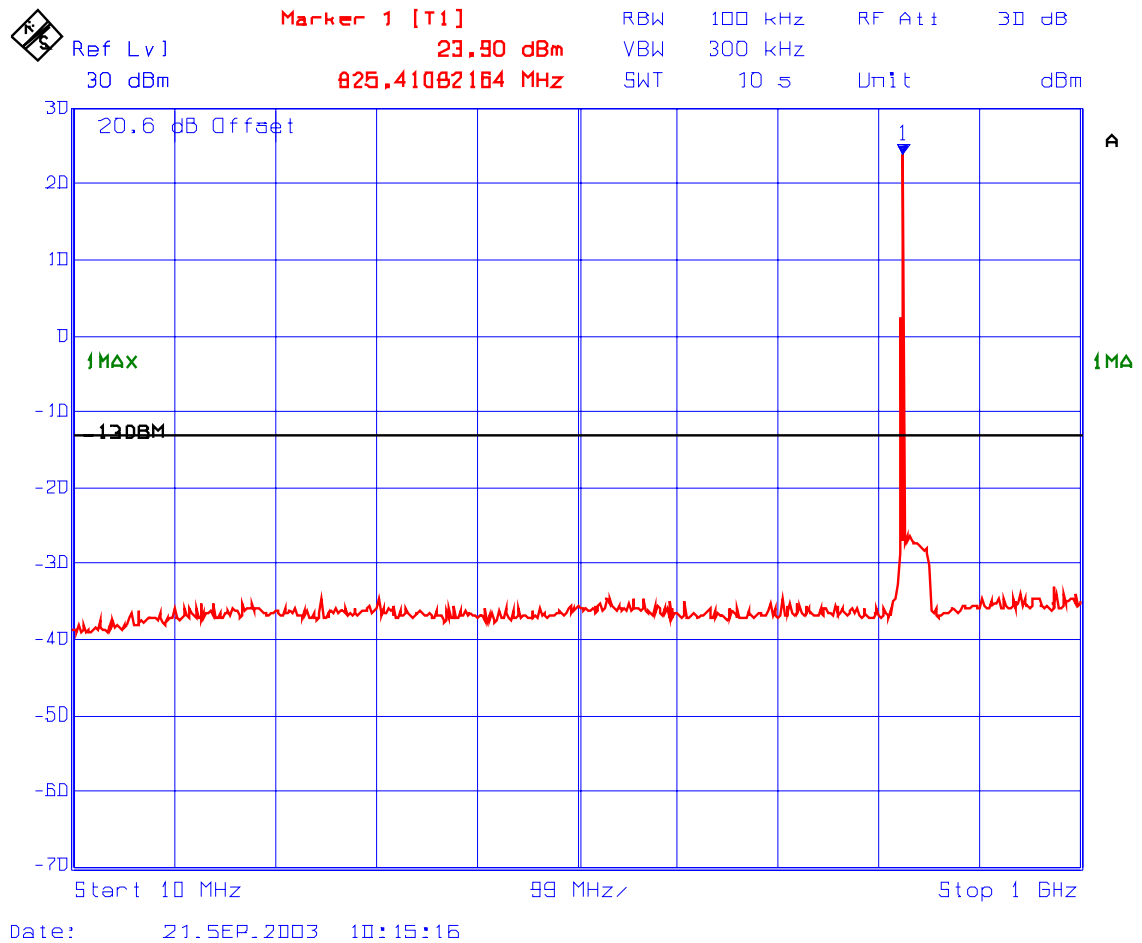
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KI-034FCC22-90

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PLOT # 271 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: TDMA
Fc: 824 MHz



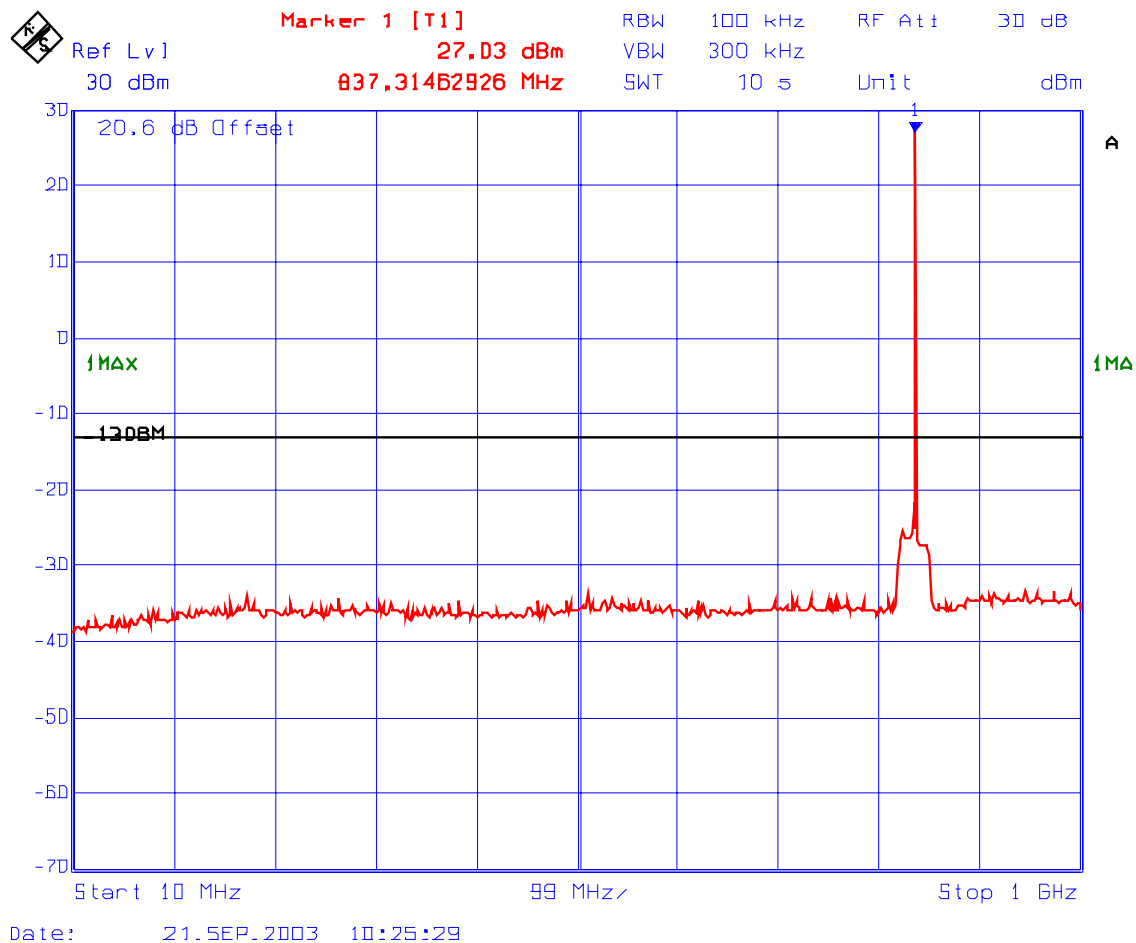
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90
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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 272 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: TDMA
Fc: 836.5 MHz



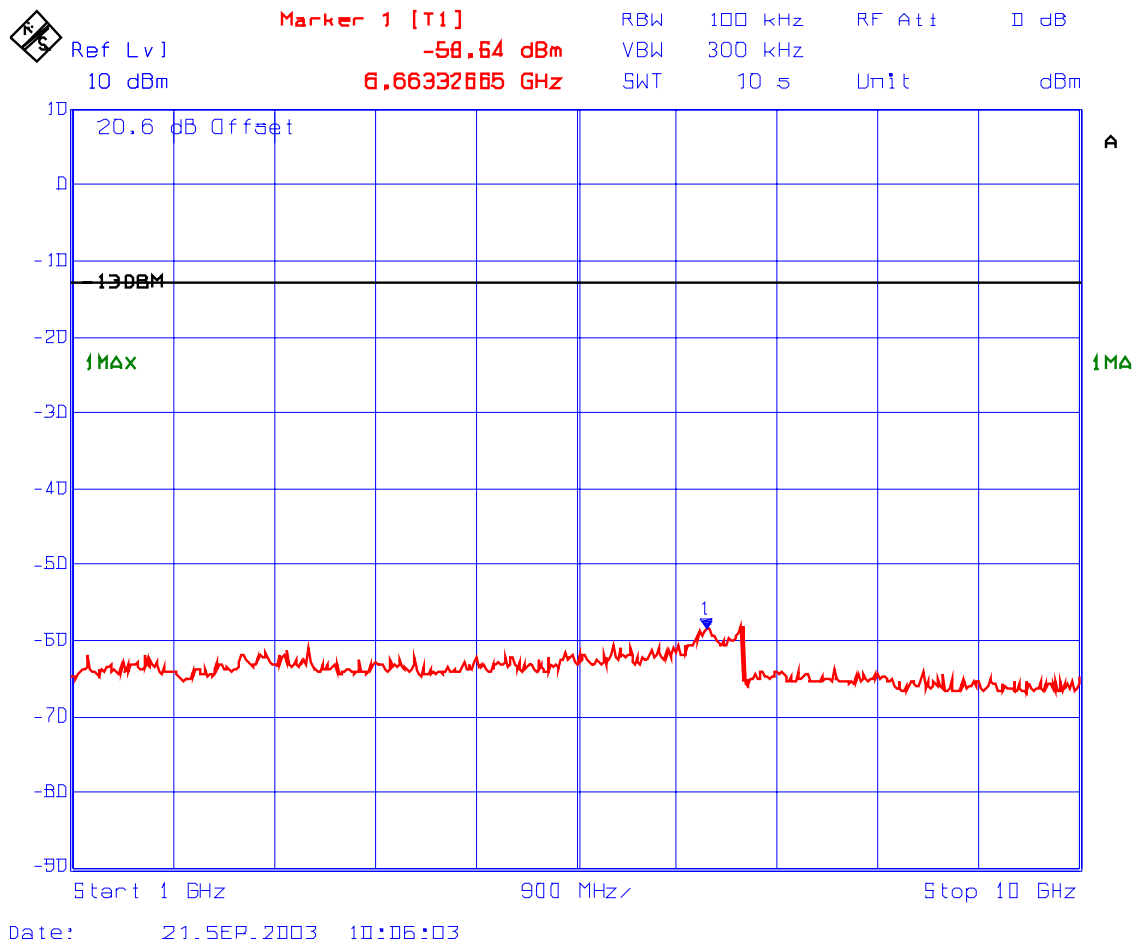
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 273 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: TDMA
Fc: 836.5 MHz



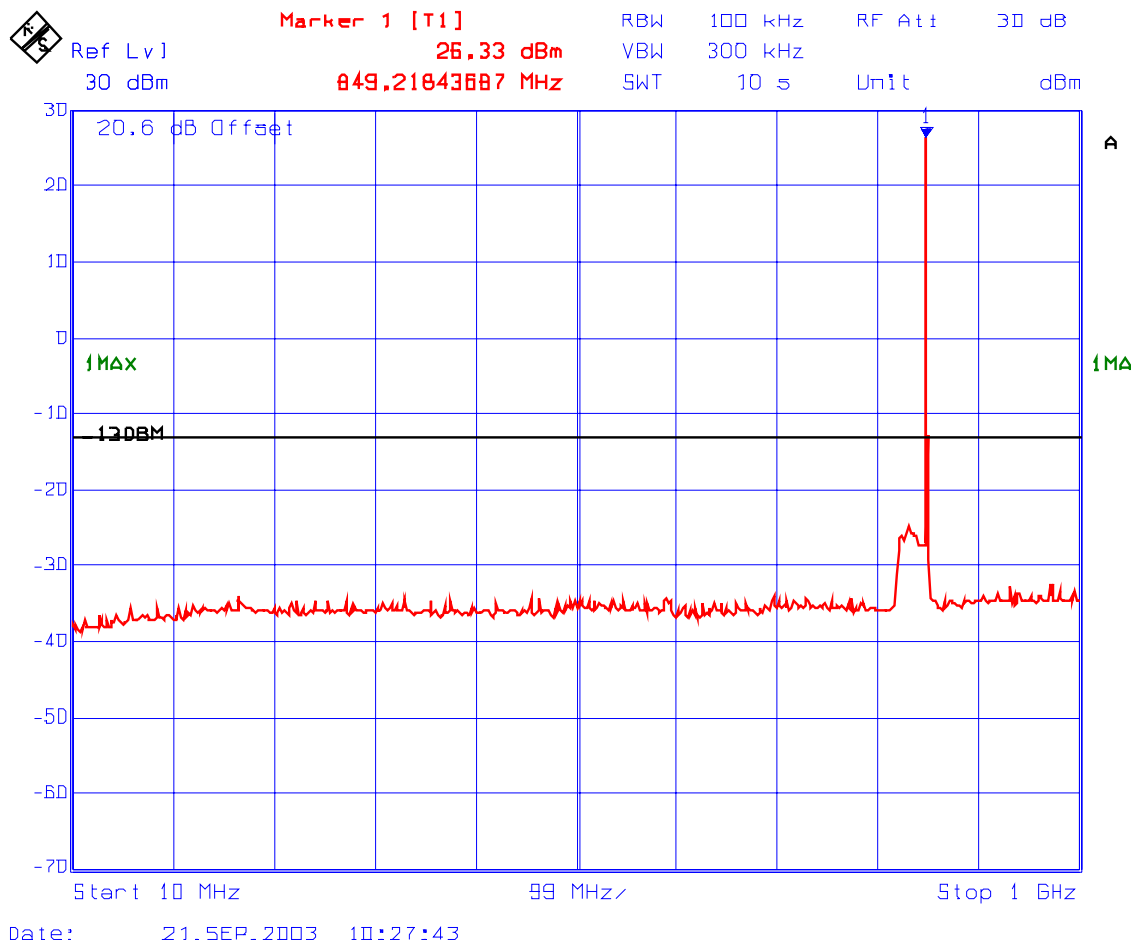
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90
Oct. 17, 2003

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PLOT # 274 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: TDMA
Fc: 849 MHz



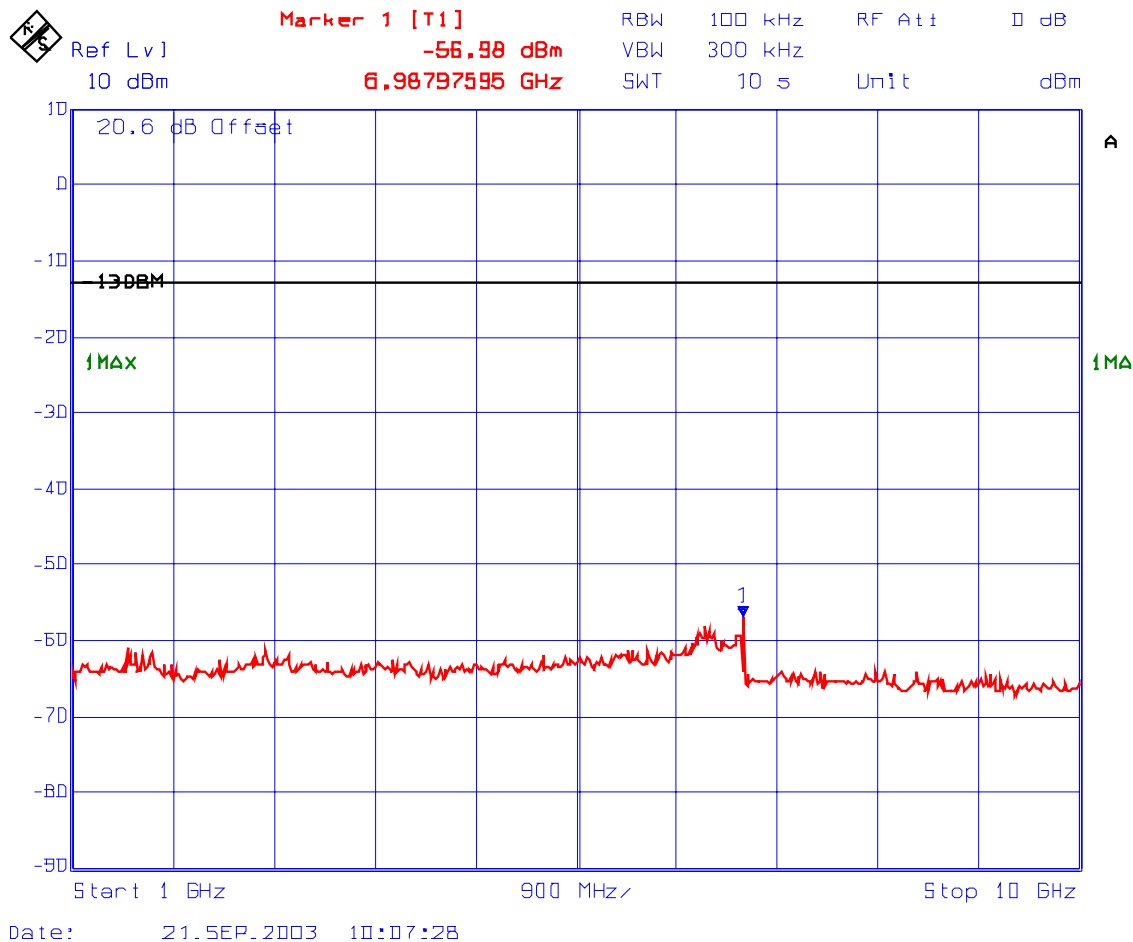
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
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PLOT # 275 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: TDMA
Fc: 849 MHz



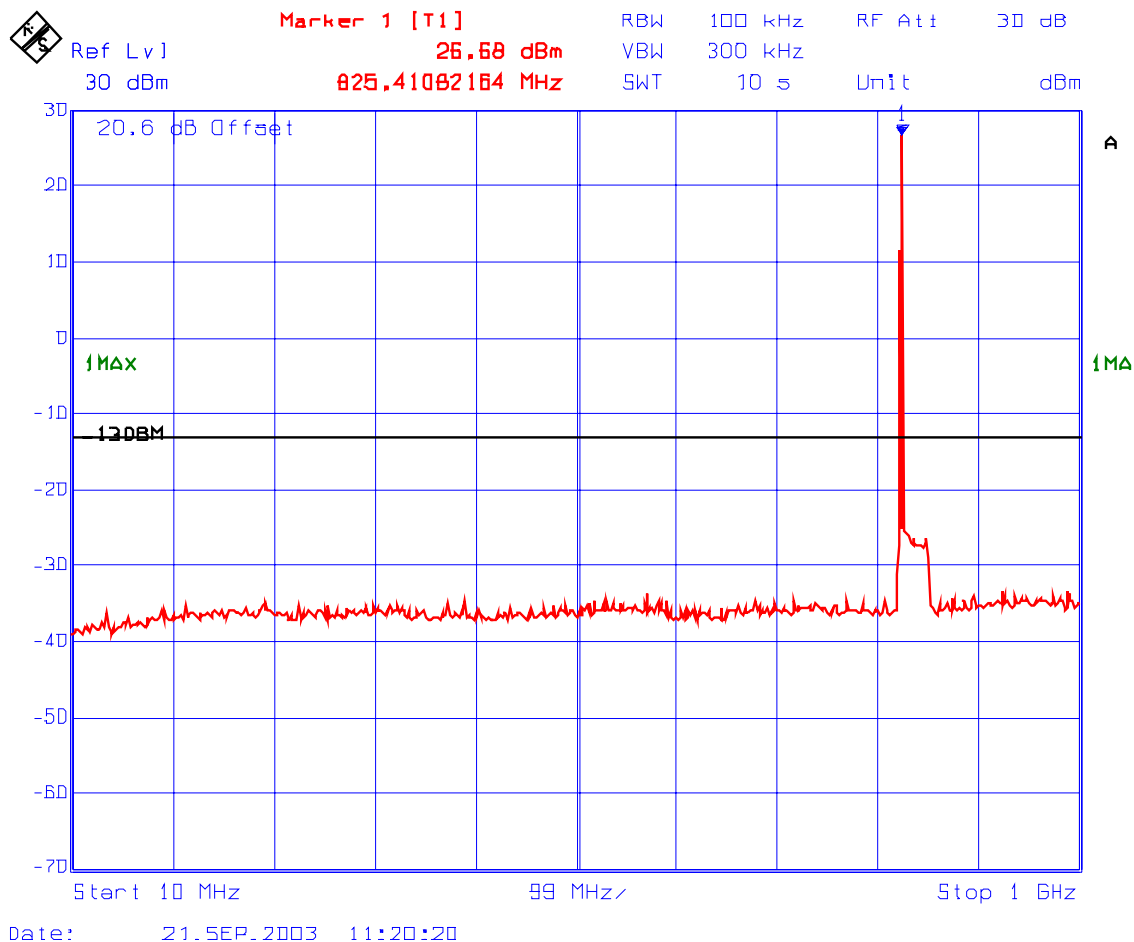
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 276 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: GSM
Fc: 824 MHz



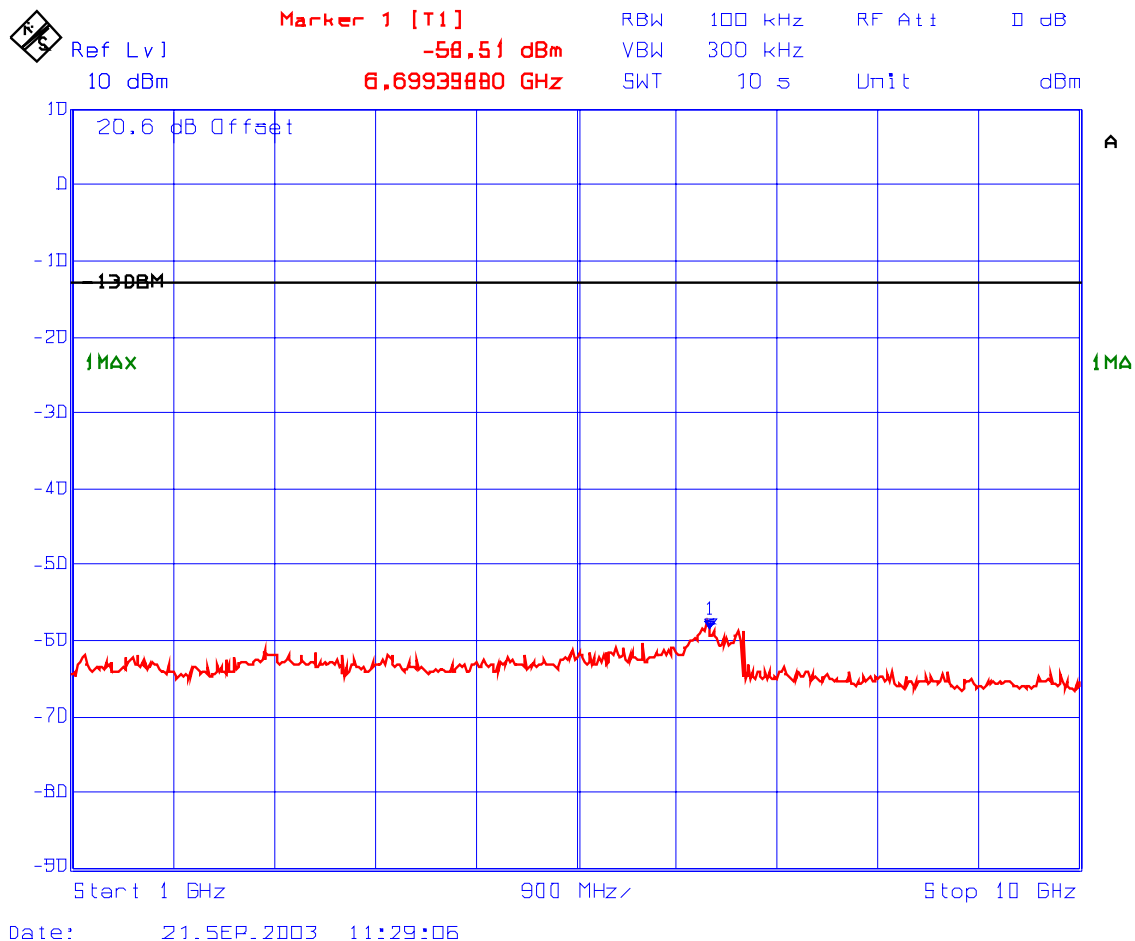
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 277 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: GSM
Fc: 824 MHz



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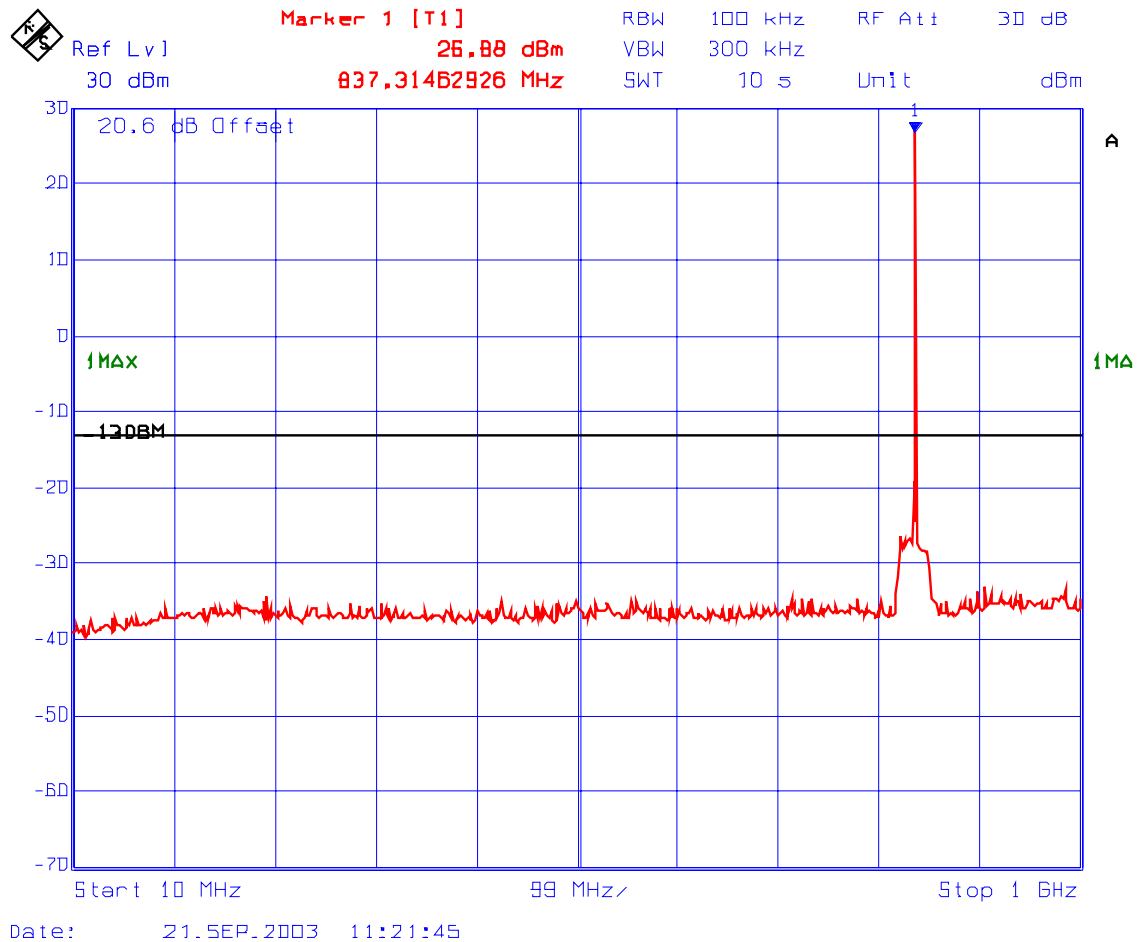
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 278 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: GSM
Fc: 836.5 MHz



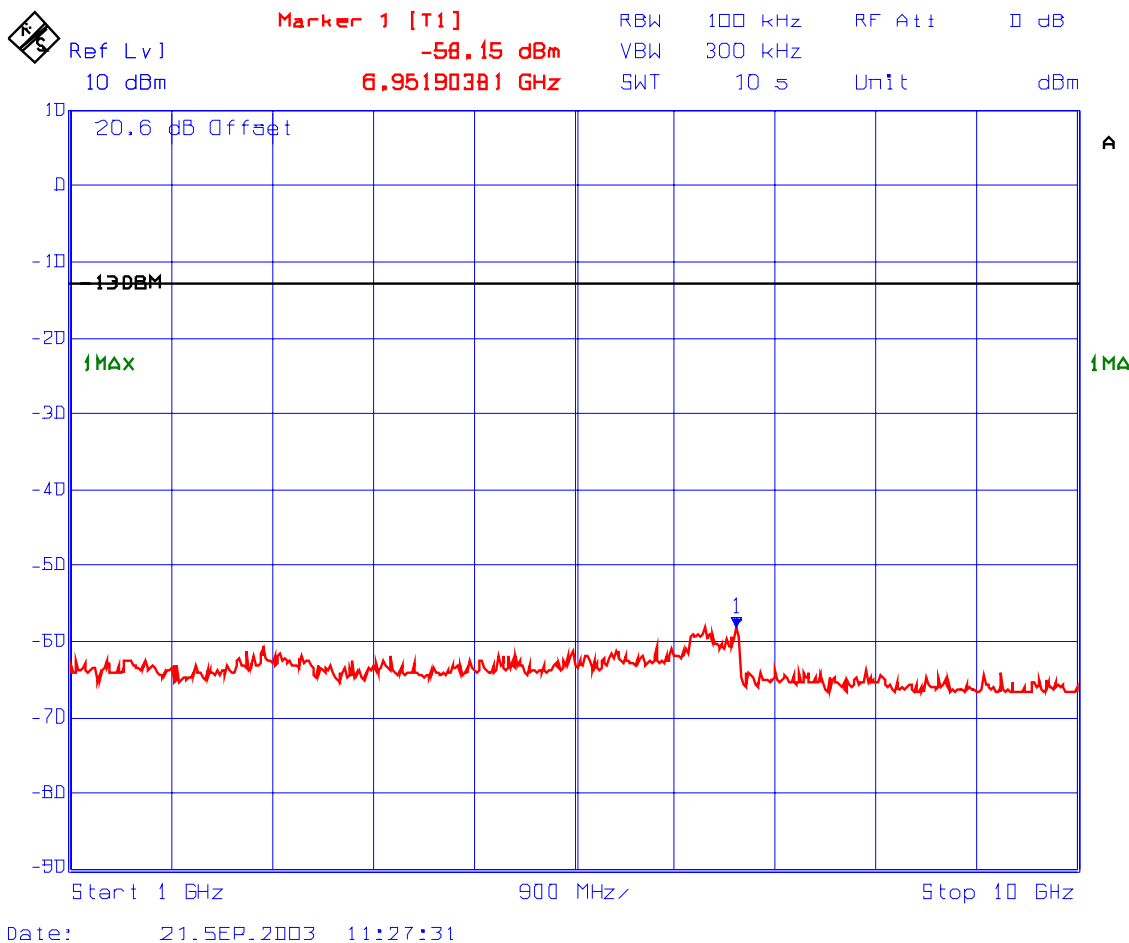
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 279 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: GSM
Fc: 836.5 MHz



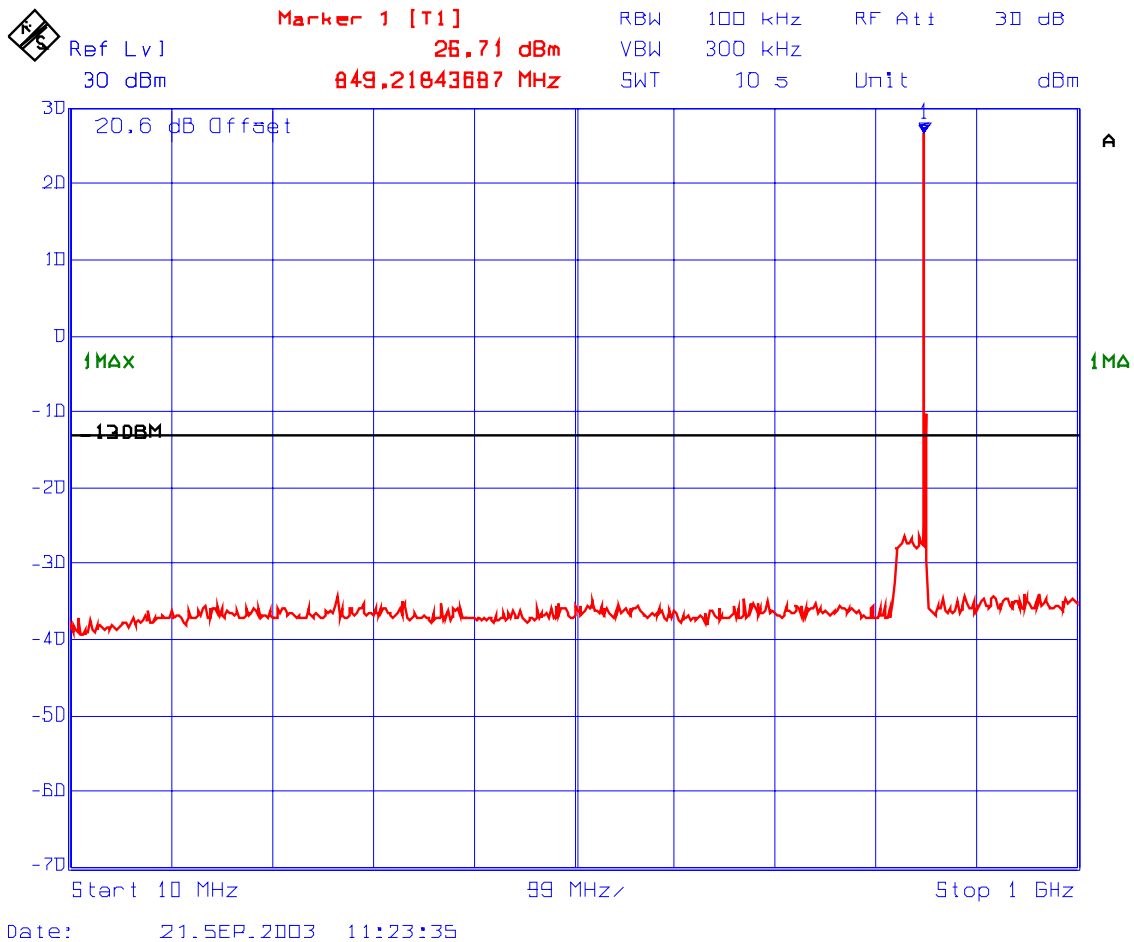
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 280 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: GSM
Fc: 849 MHz



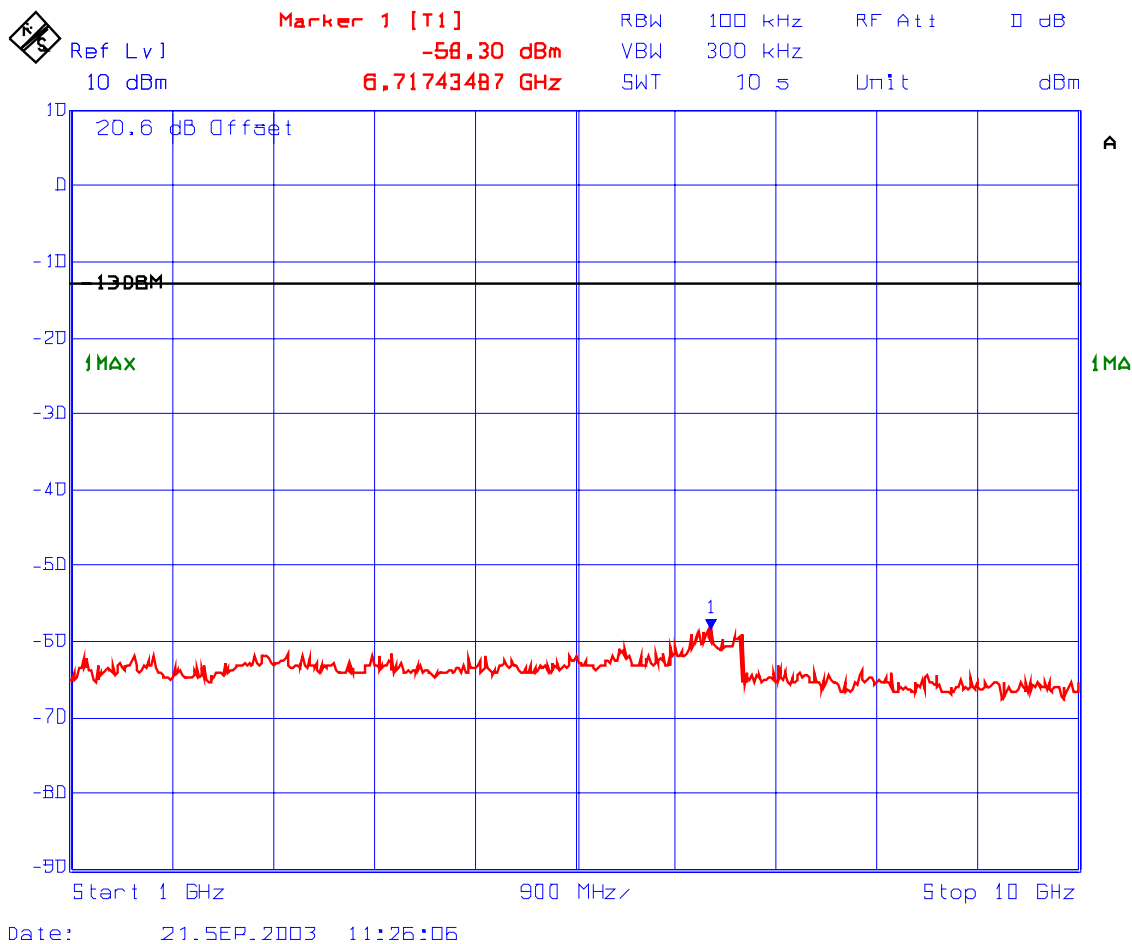
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 281 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: GSM
Fc: 849 MHz



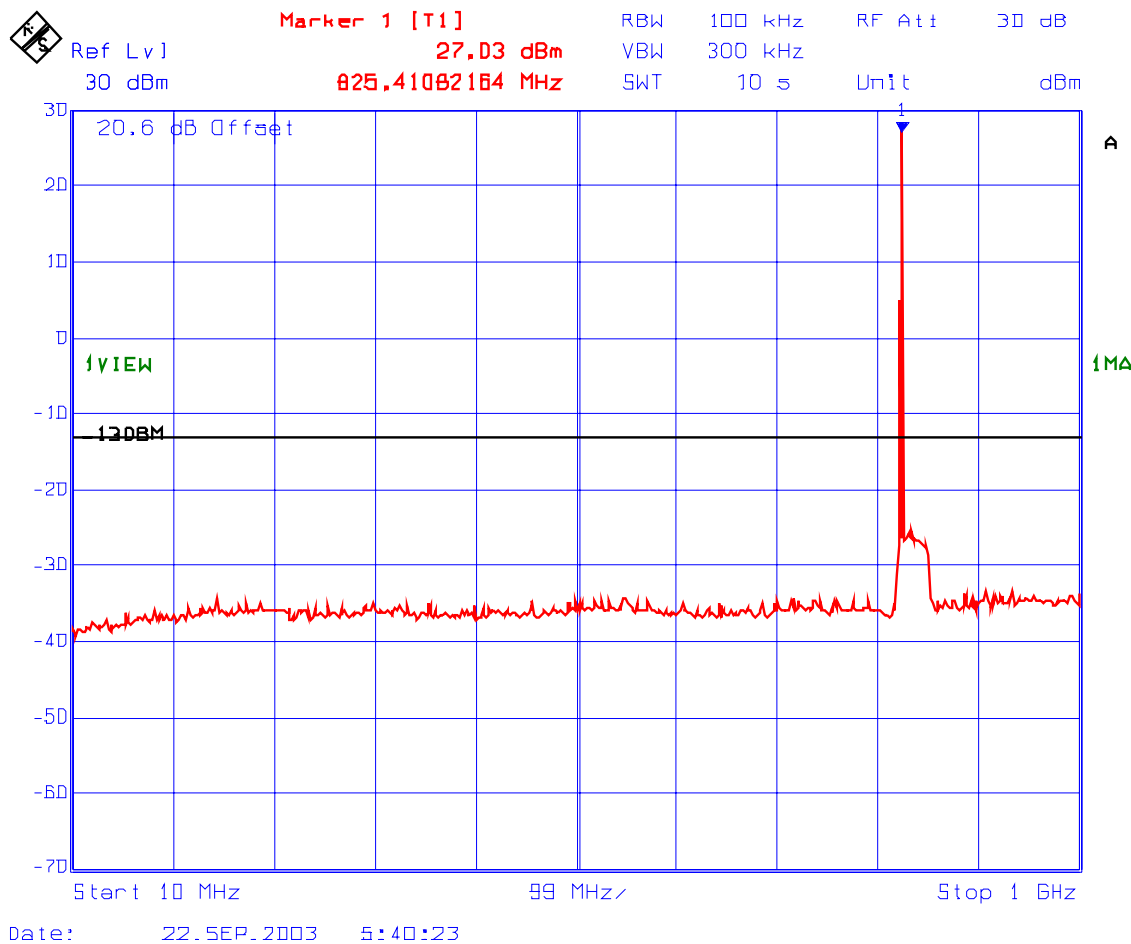
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

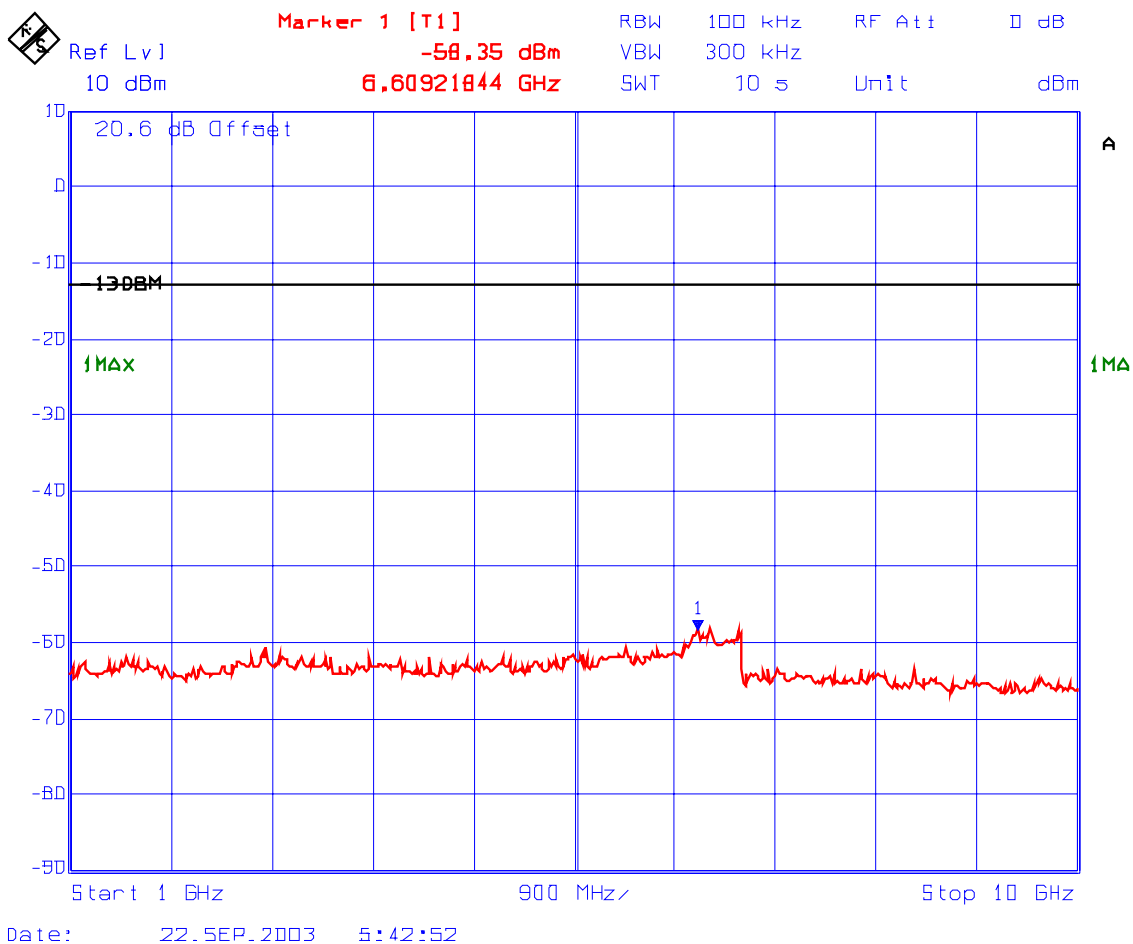
File #: KTI-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

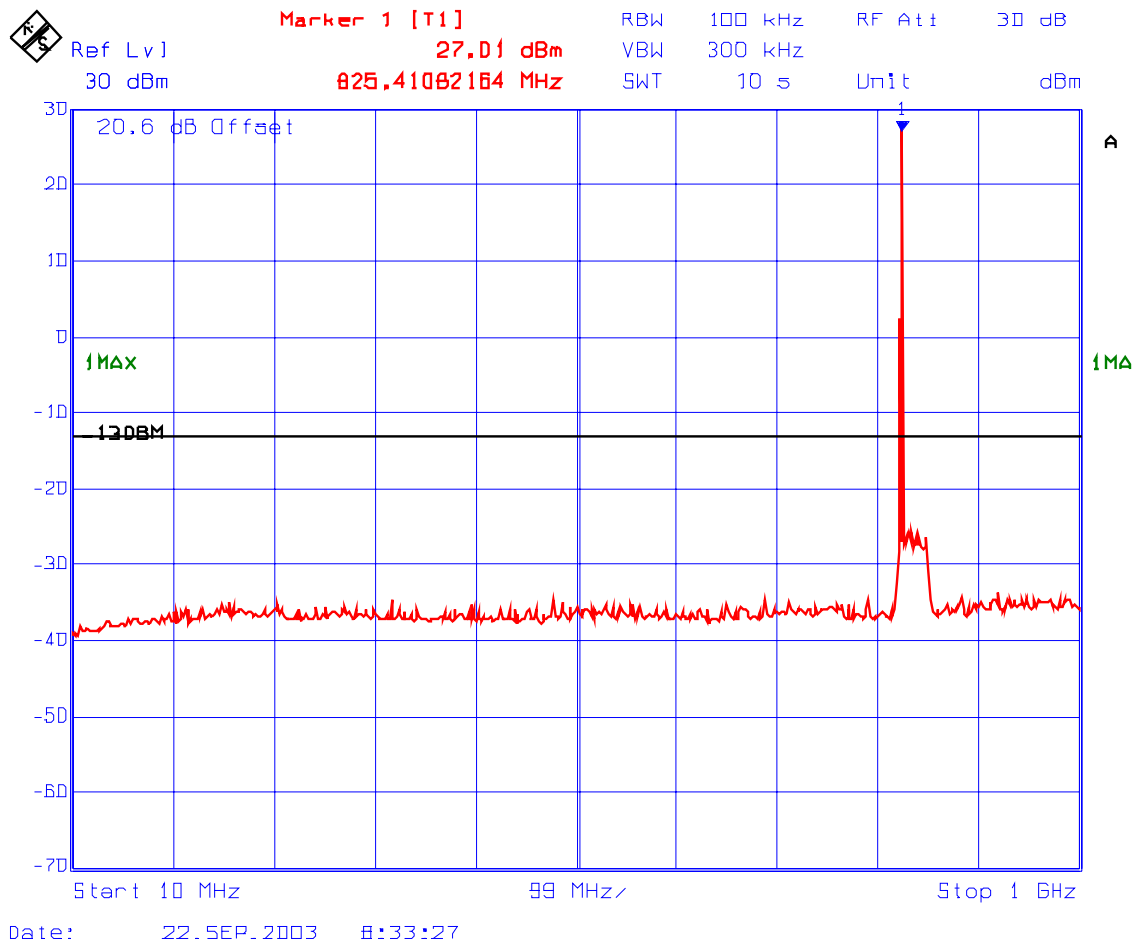
PLOT # 282 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 824 MHz, Fc + 30 kHz



PLOT # 283 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 824 MHz, Fc + 30 kHz



PLOT # 284 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 824 MHz, Fc + 30 kHz, Fc + 60 kHz



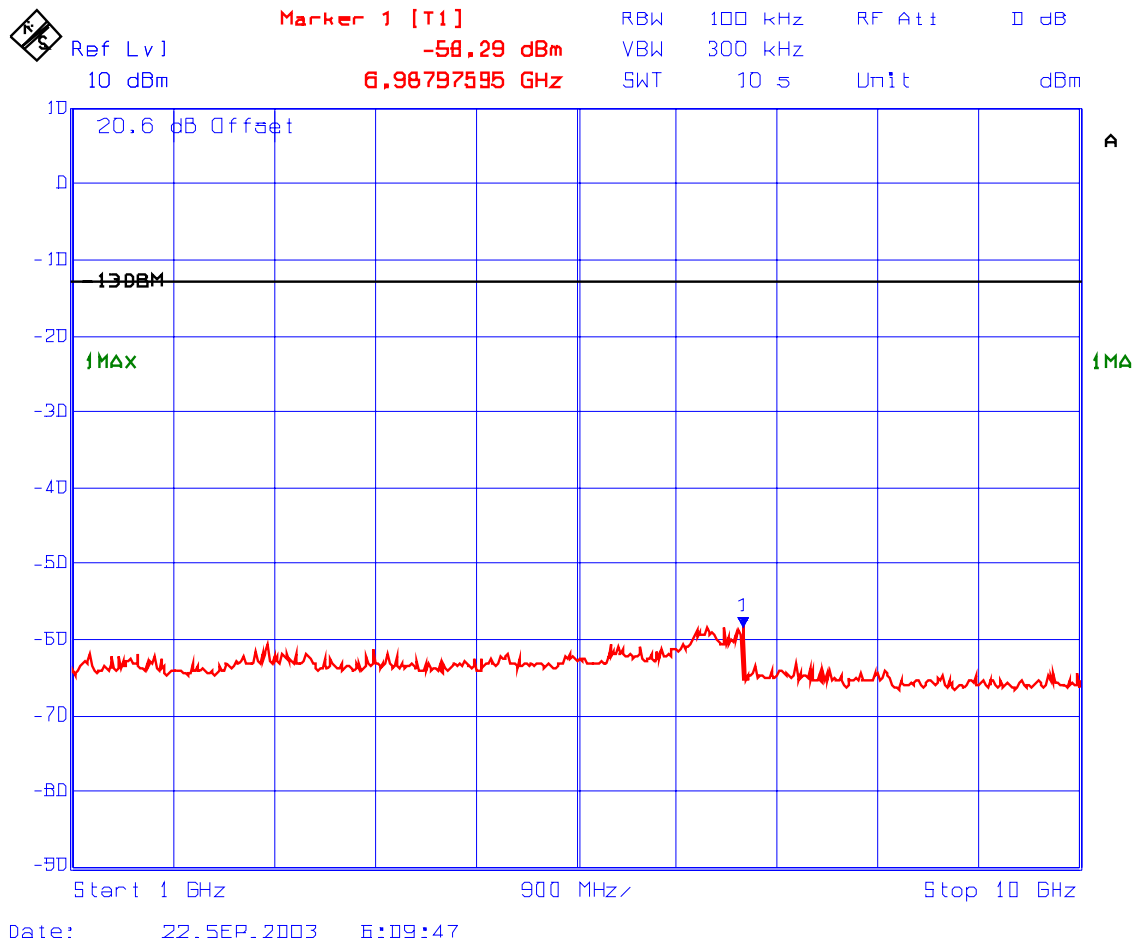
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

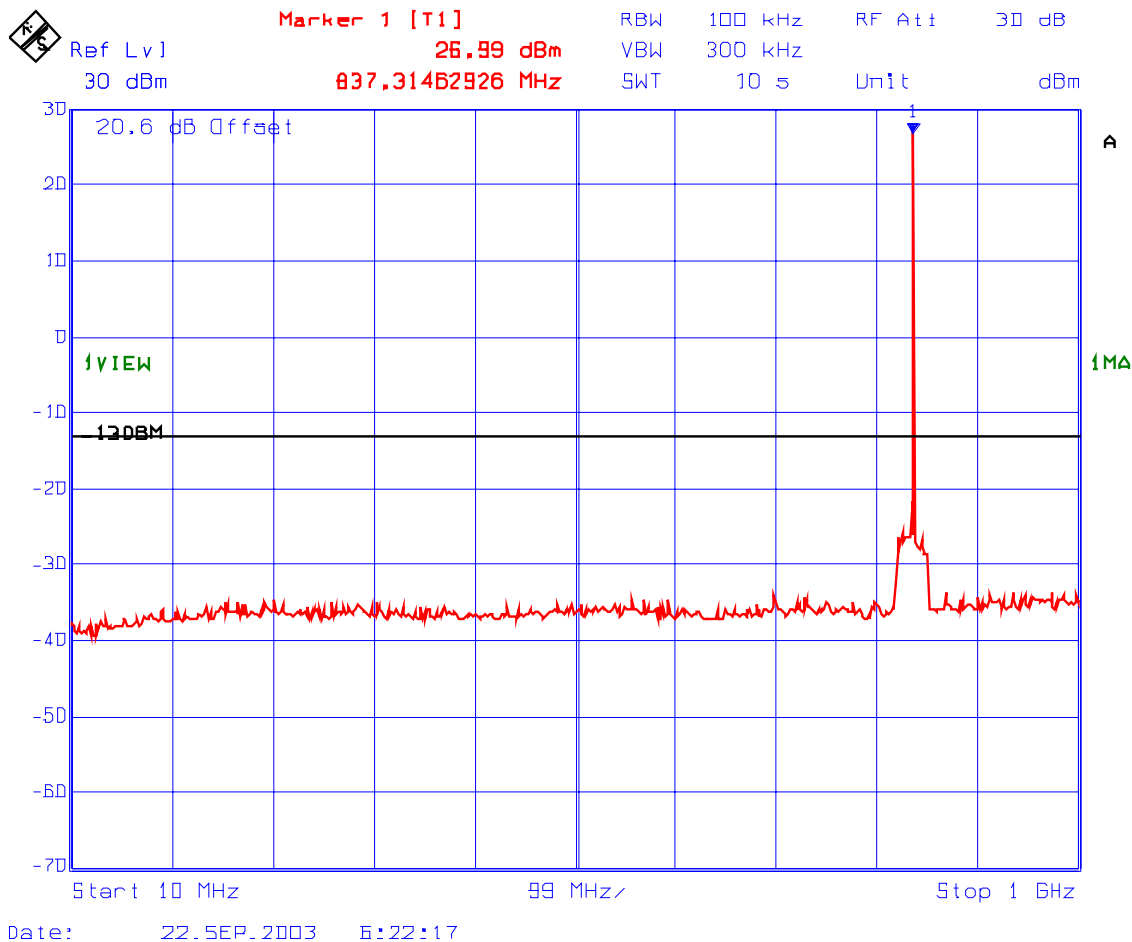
File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 285 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 824 MHz, Fc + 30 kHz, Fc + 60 kHz



PLOT # 286 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 836.5 MHz, Fc + 30 kHz



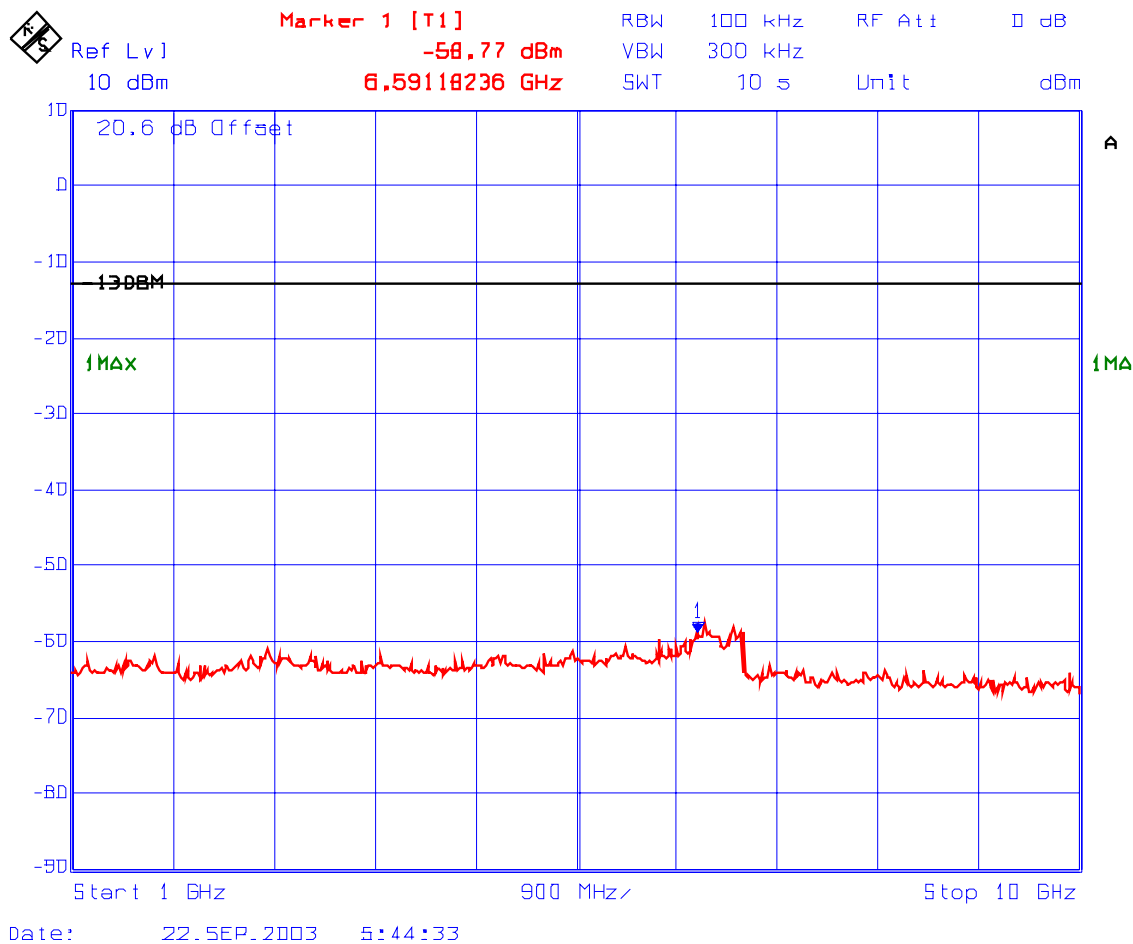
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PLOT # 287 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 836.5 MHz, Fc + 30 kHz



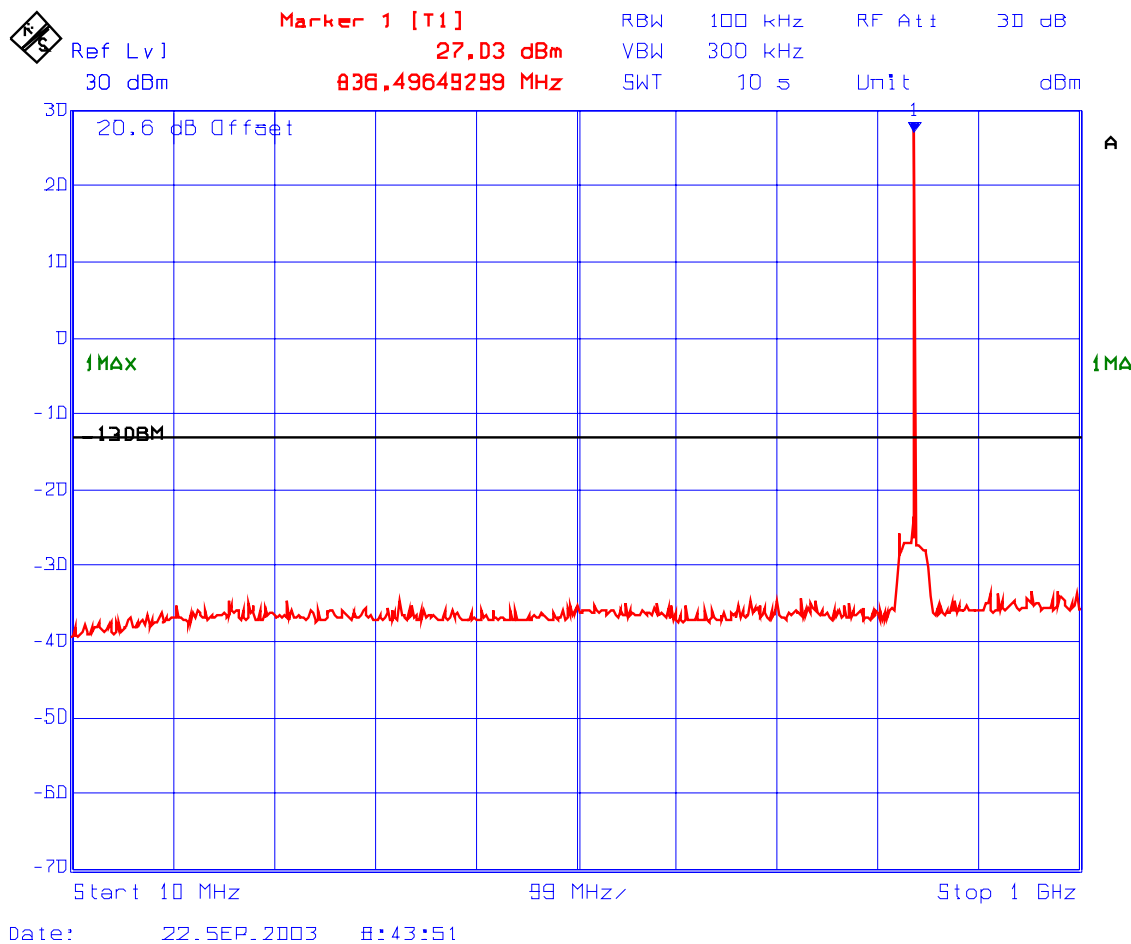
ULTRATECH GROUP OF LABS

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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

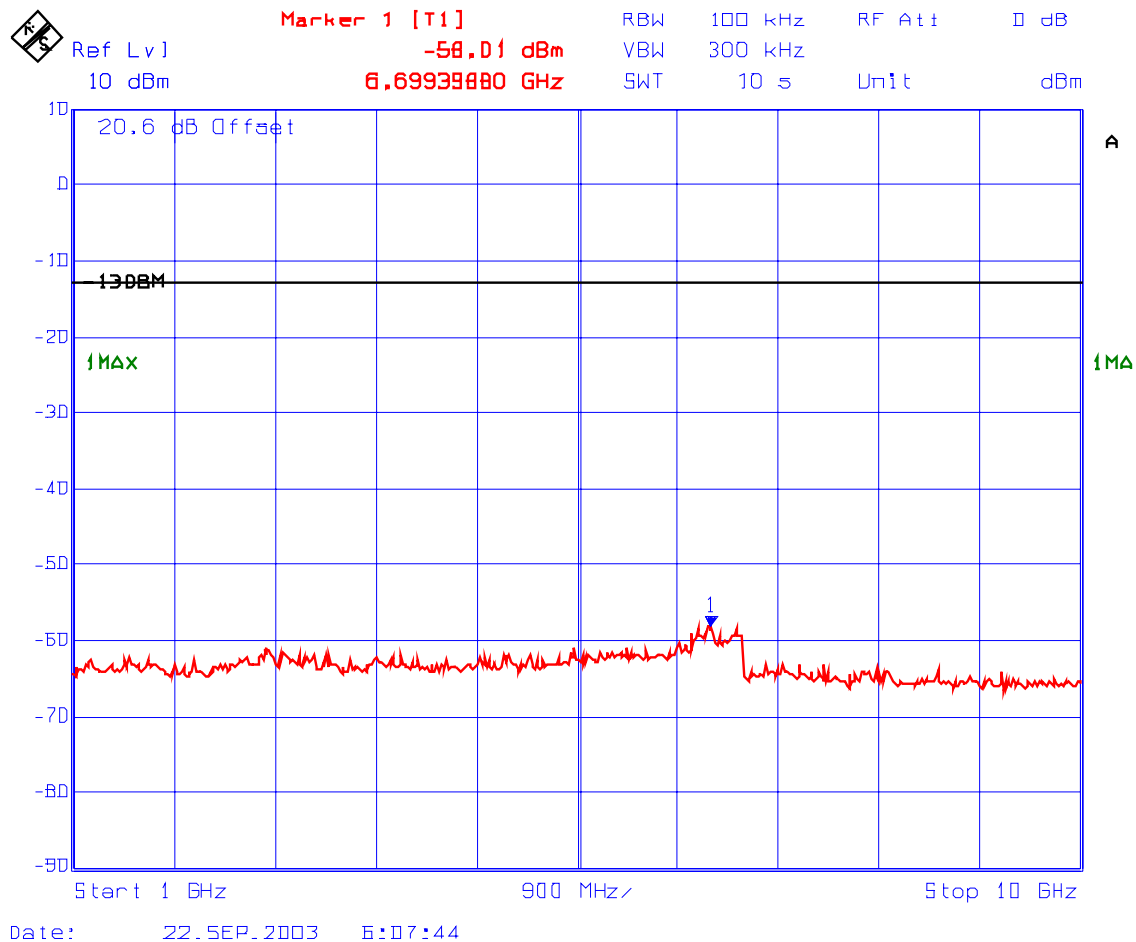
File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 288 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 836.5 MHz, Fc - 30 kHz, Fc + 30 kHz



PLOT # 289 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 836.5 MHz, Fc - 30 kHz, Fc + 30 kHz



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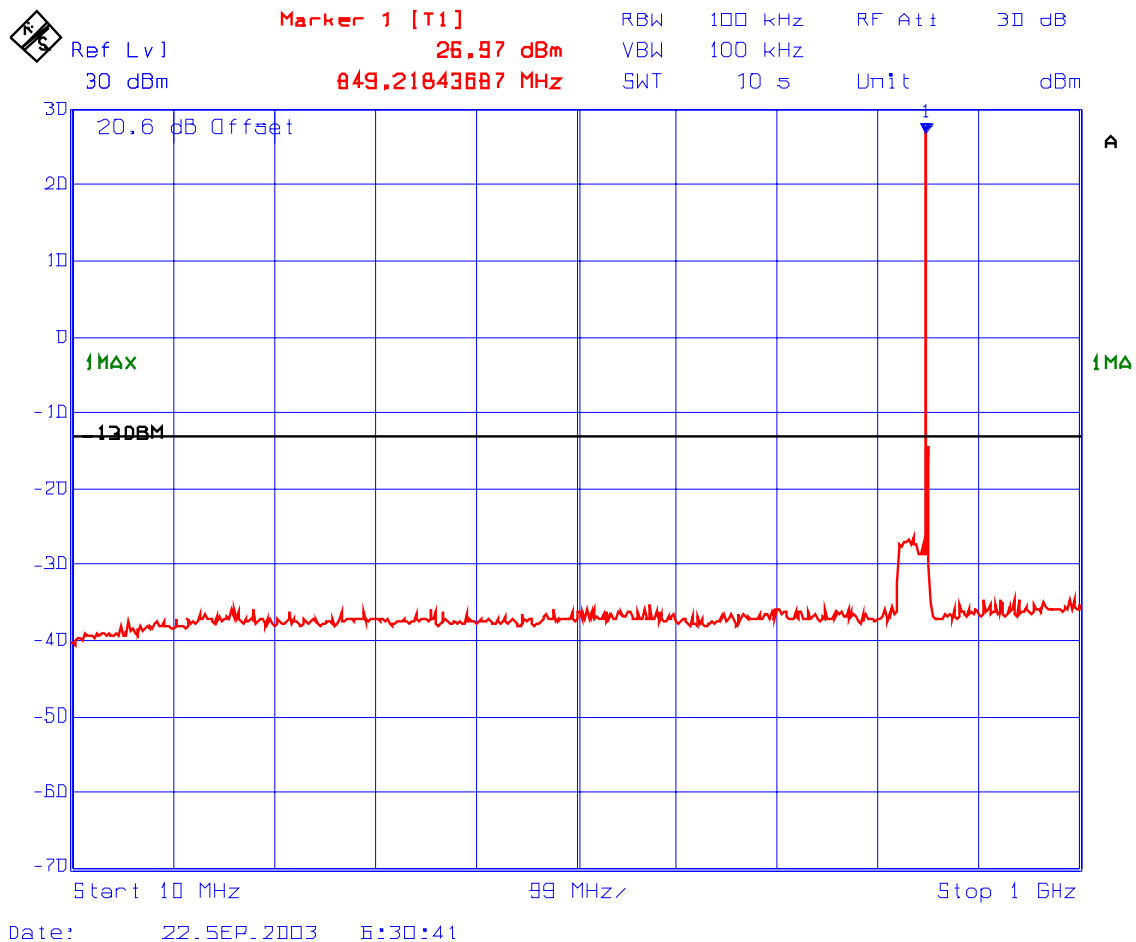
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 290 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 849 MHz, Fc - 30 kHz



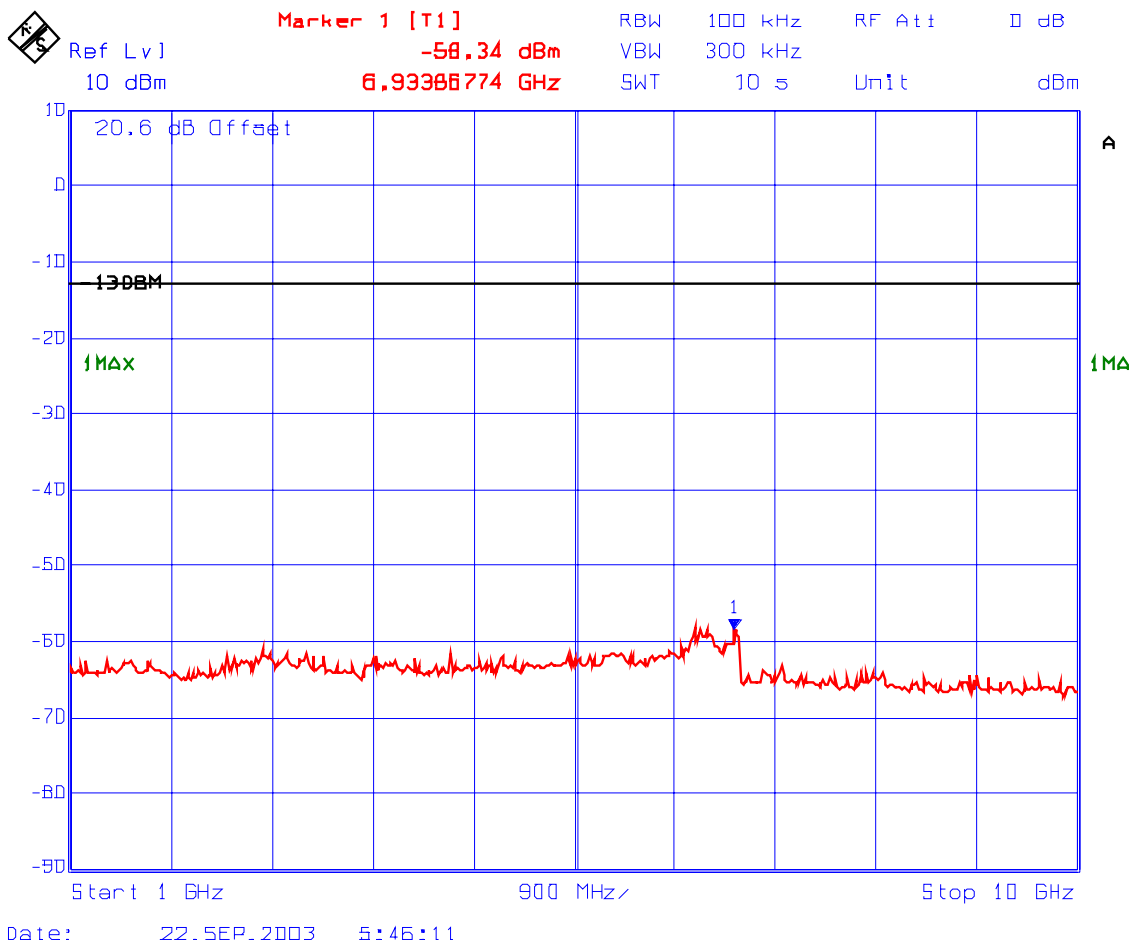
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

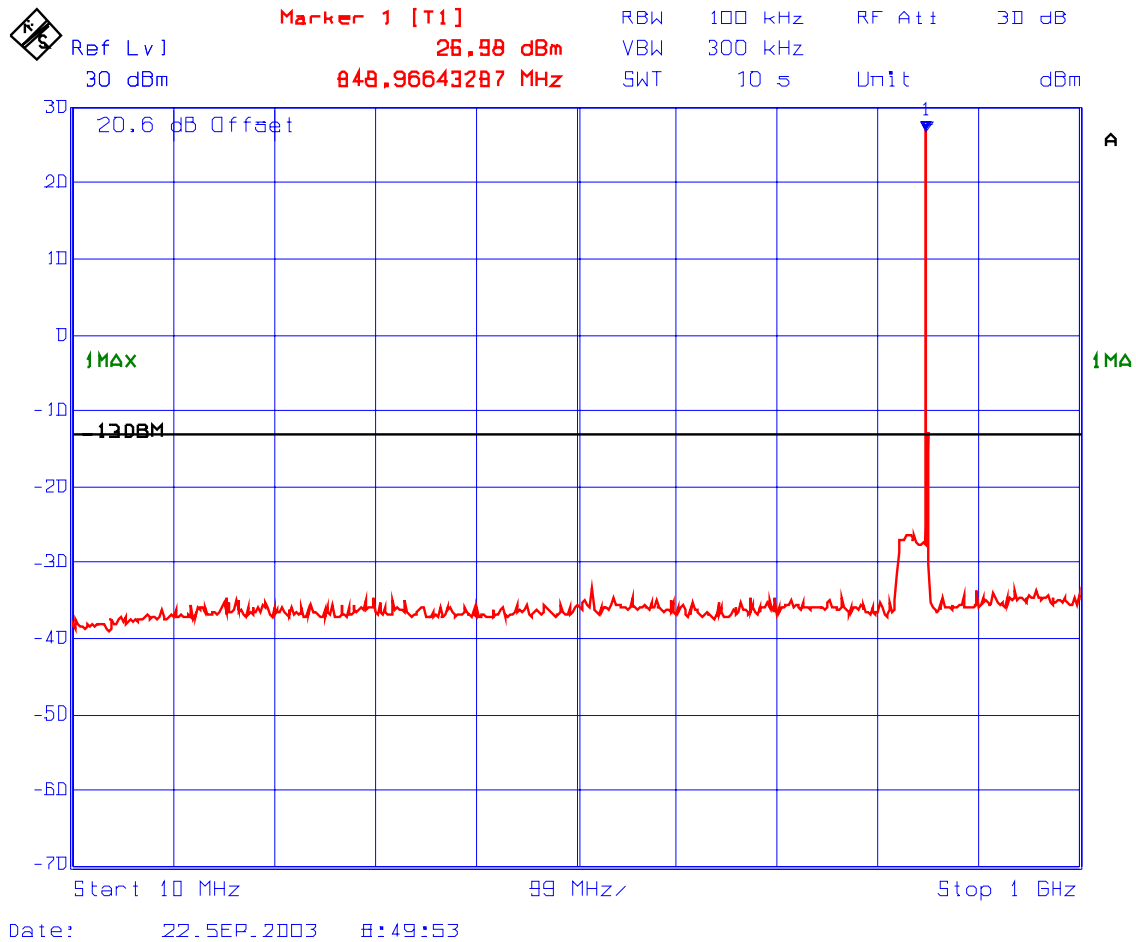
File #: KT1-034FCC22-90
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PLOT # 291 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 849 MHz, Fc - 30 kHz



PLOT # 292 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 849 MHz, Fc - 30 kHz, Fc - 60 kHz



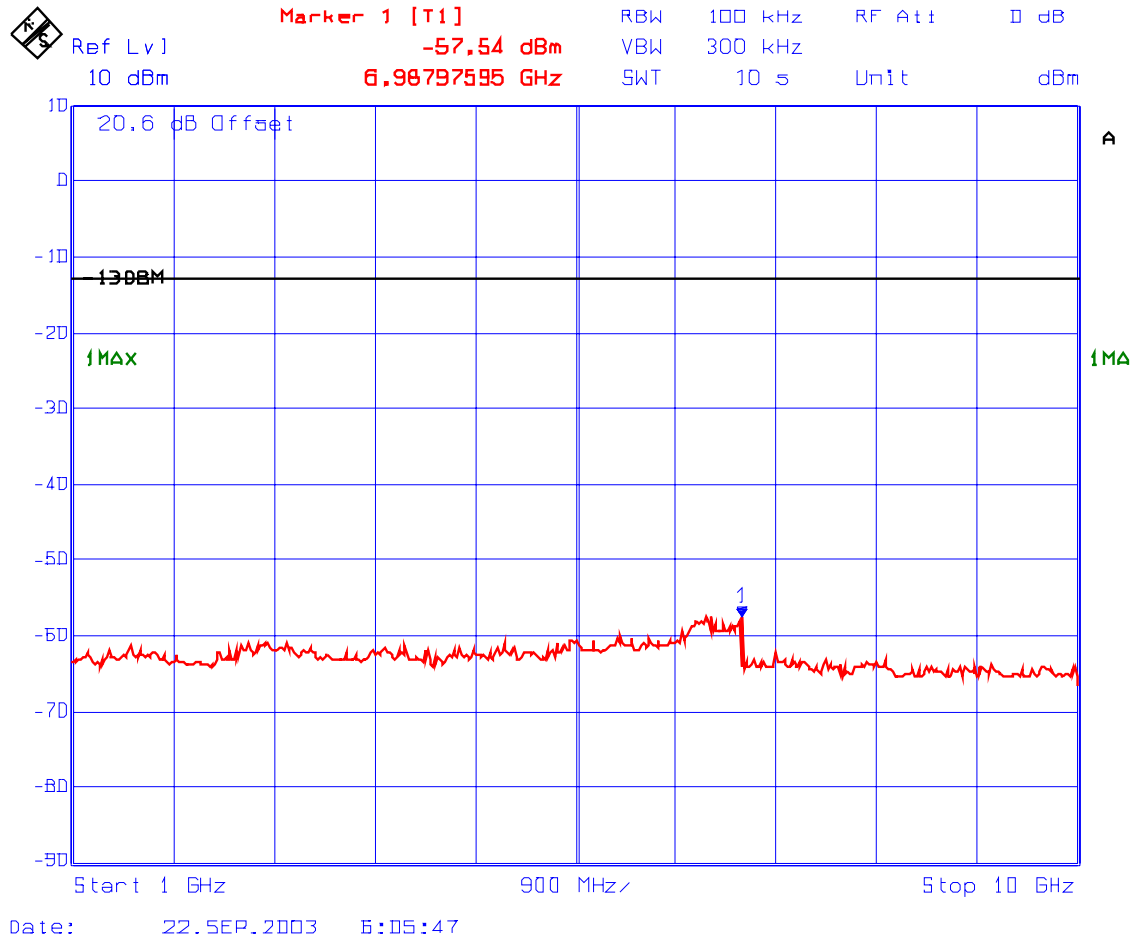
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PLOT # 293 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 849 MHz, Fc - 30 kHz, Fc - 60 kHz



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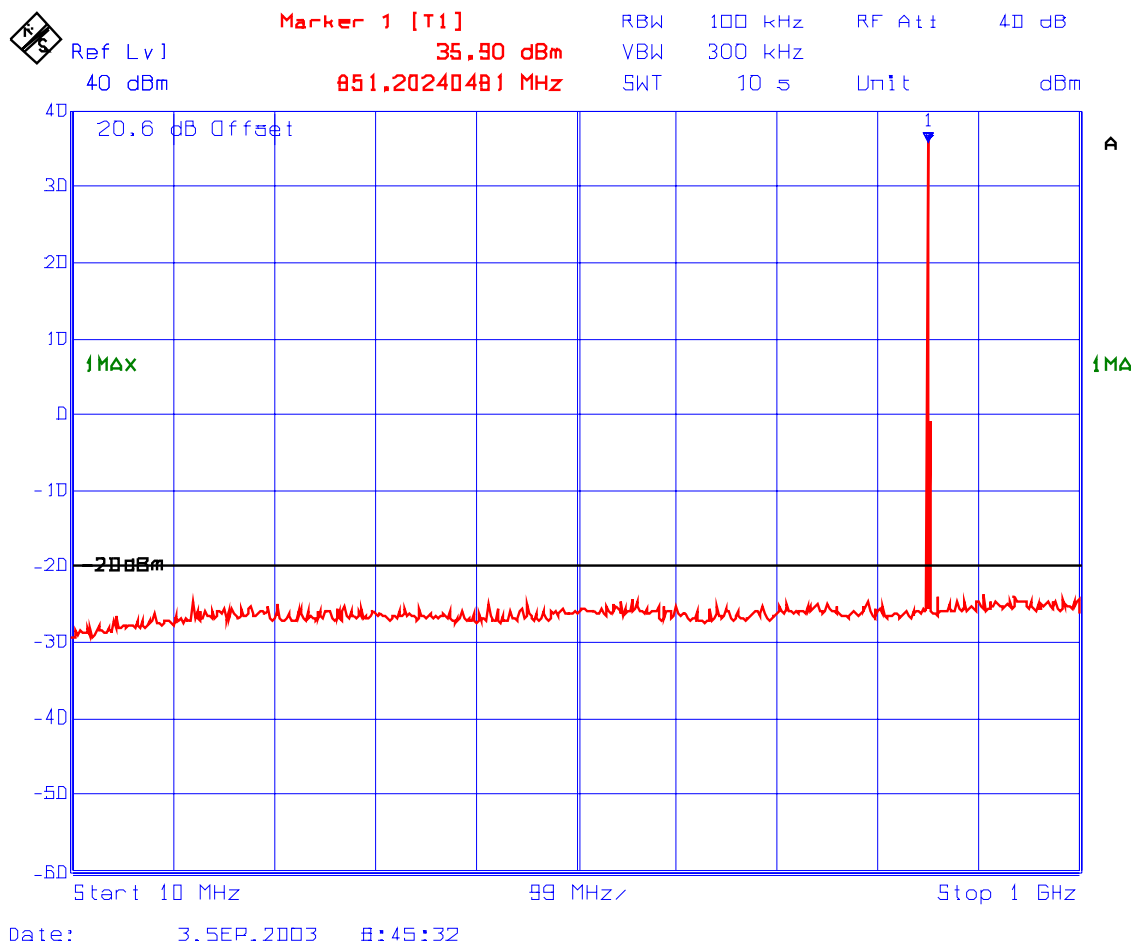
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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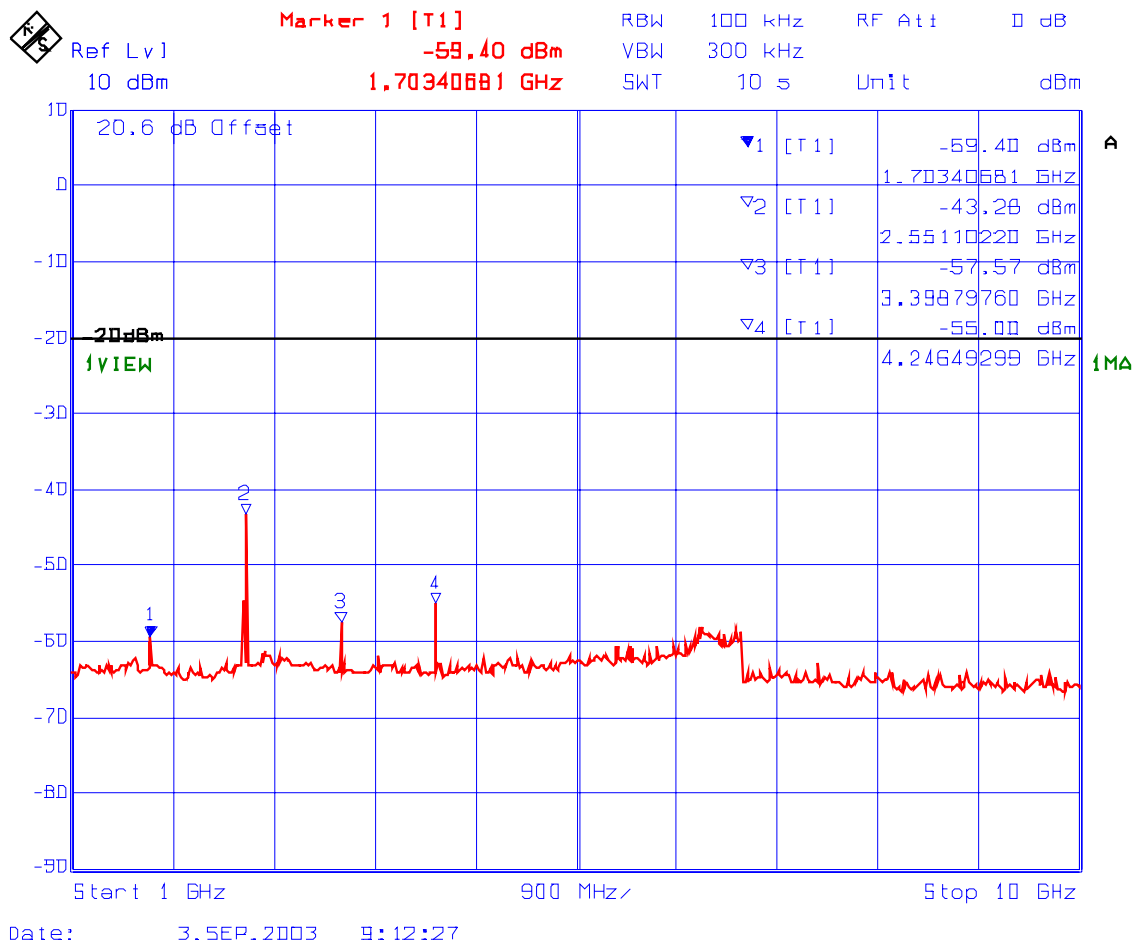
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**PLOT # 294 Spurious Emissions Conducted with 1 RF signal input/output
Fc: 851 MHz**



**PLOT # 295 Spurious Emissions Conducted with 1 RF signal input/output
 Fc: 851 MHz**



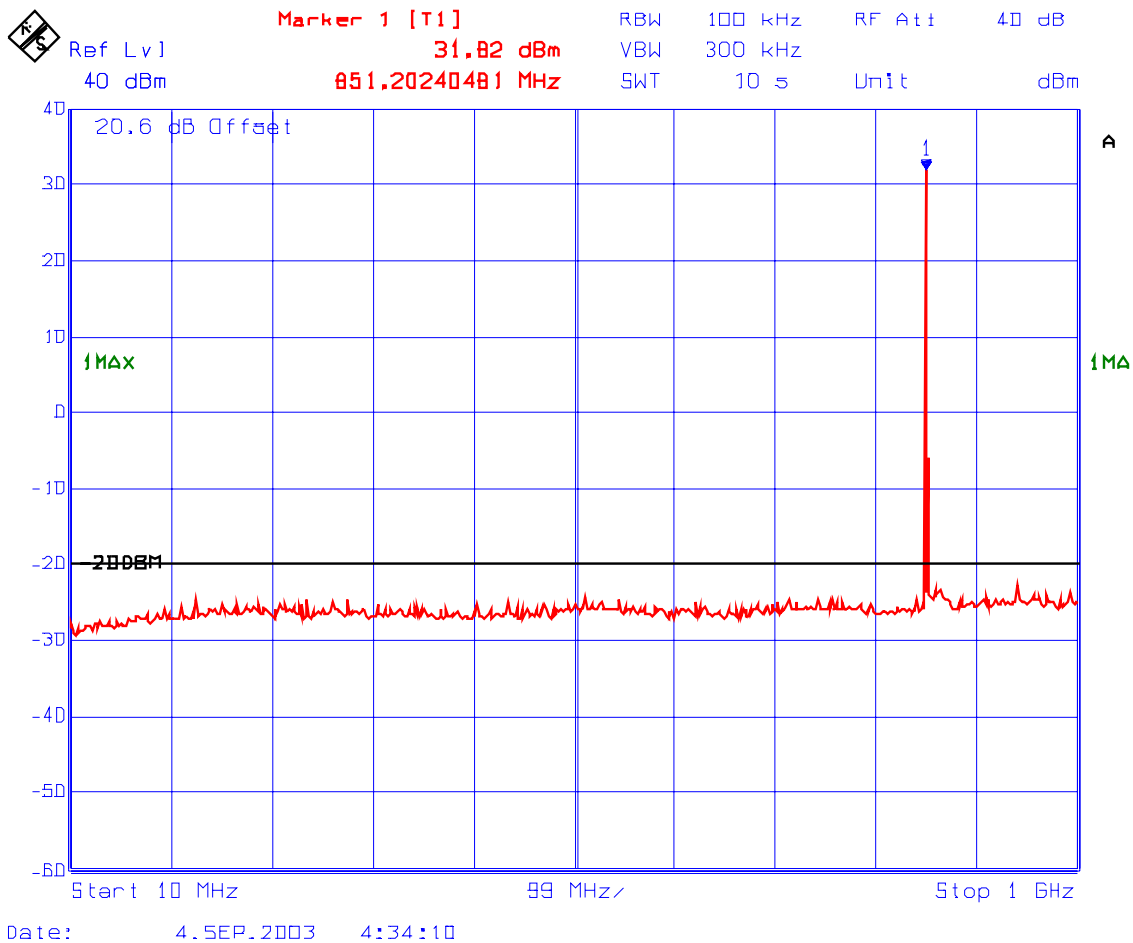
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PLOT # 296 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 851 MHz, Fc + 12.5 kHz



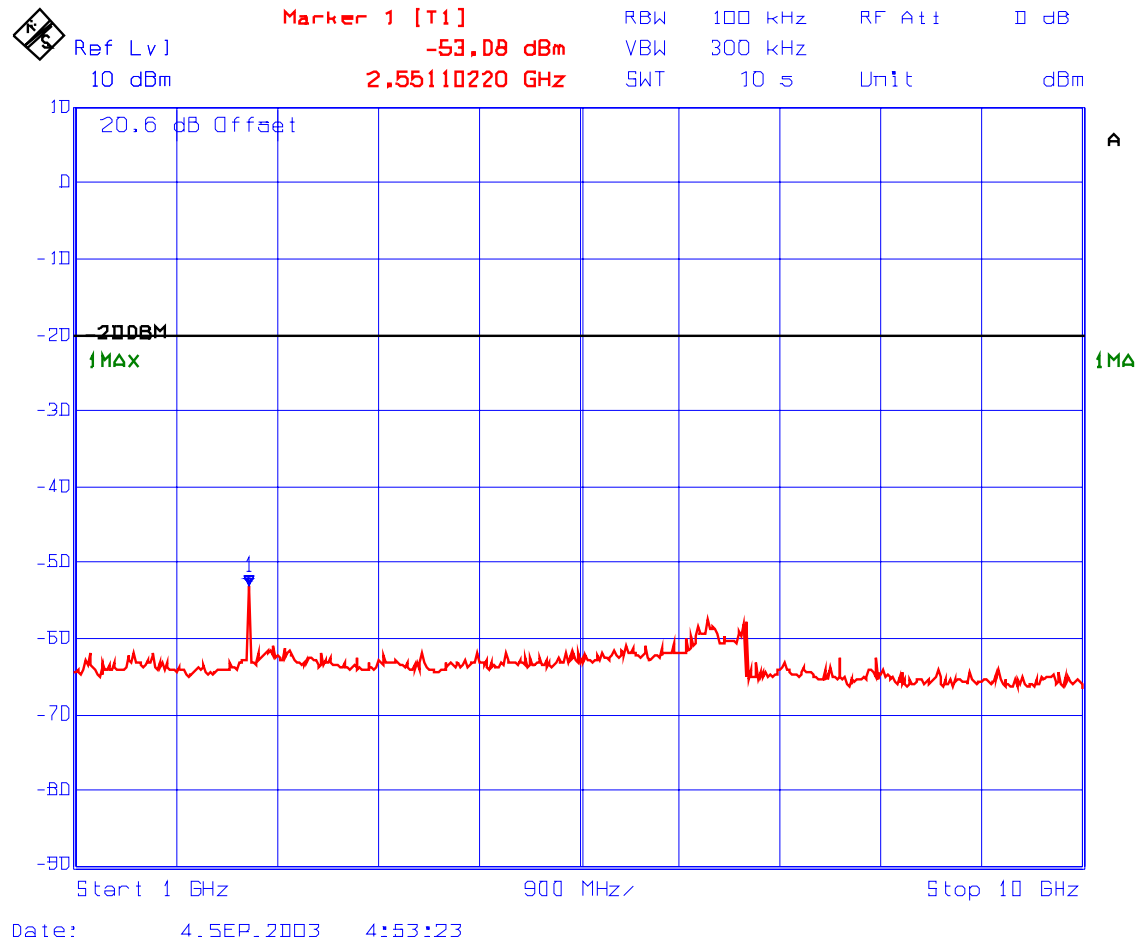
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PLOT # 297 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 851 MHz, Fc + 12.5 kHz



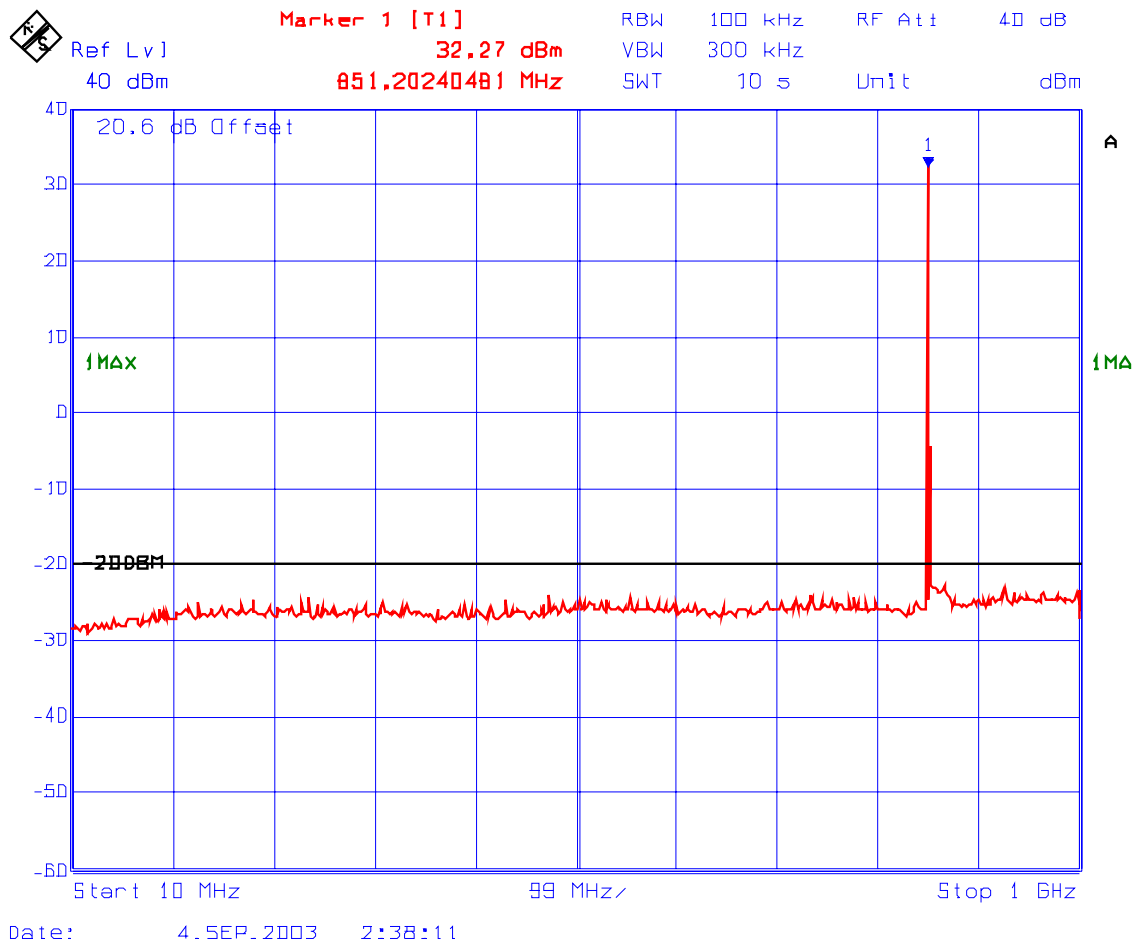
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PLOT # 298 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 851 MHz, Fc + 12.5 kHz & Fc + 25 kHz



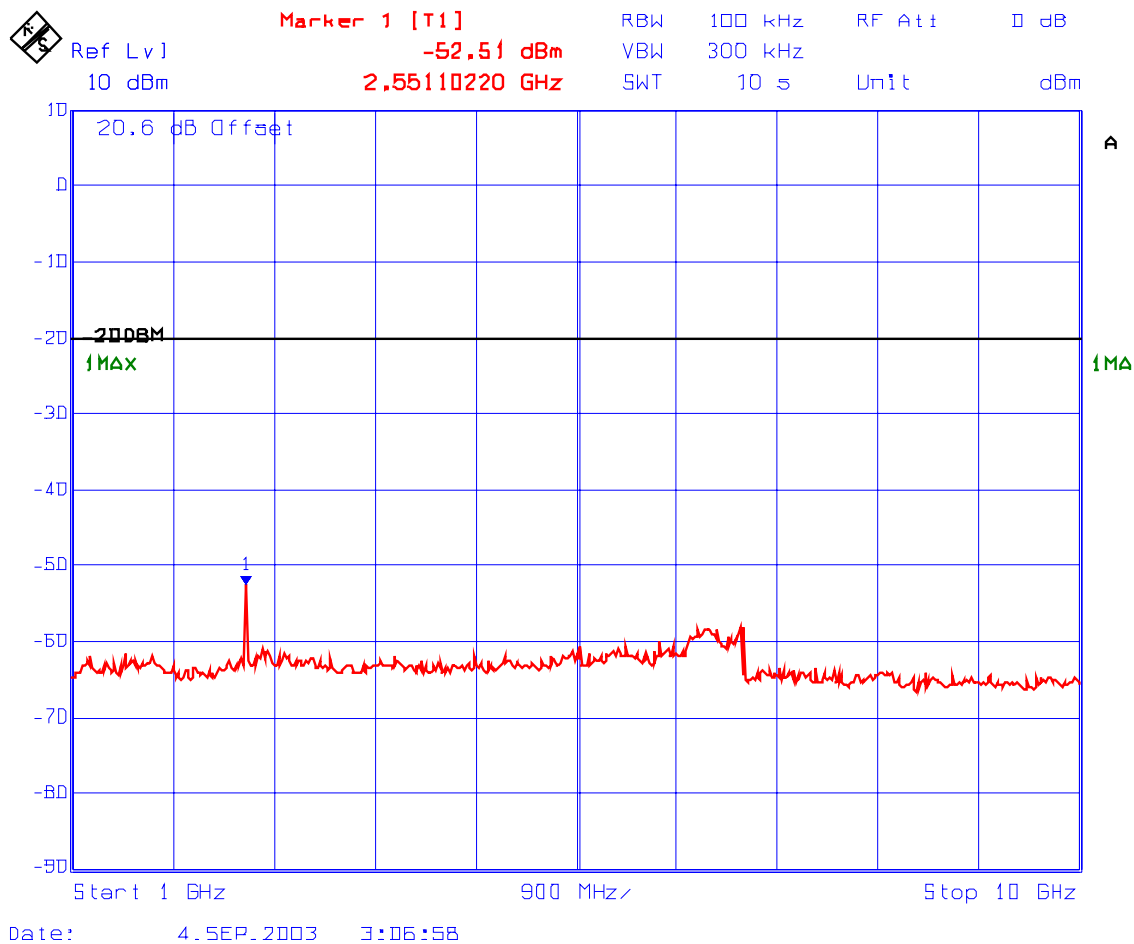
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

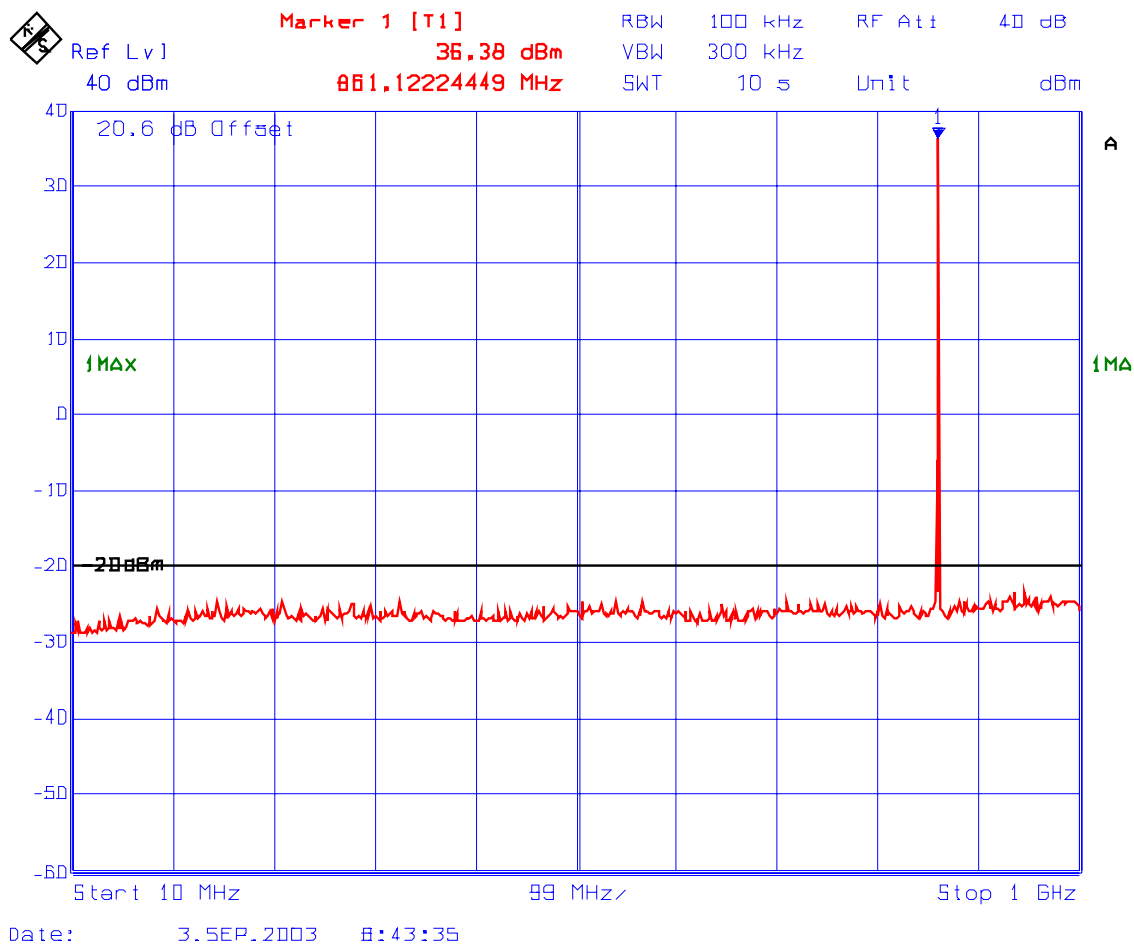
File #: KTI-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

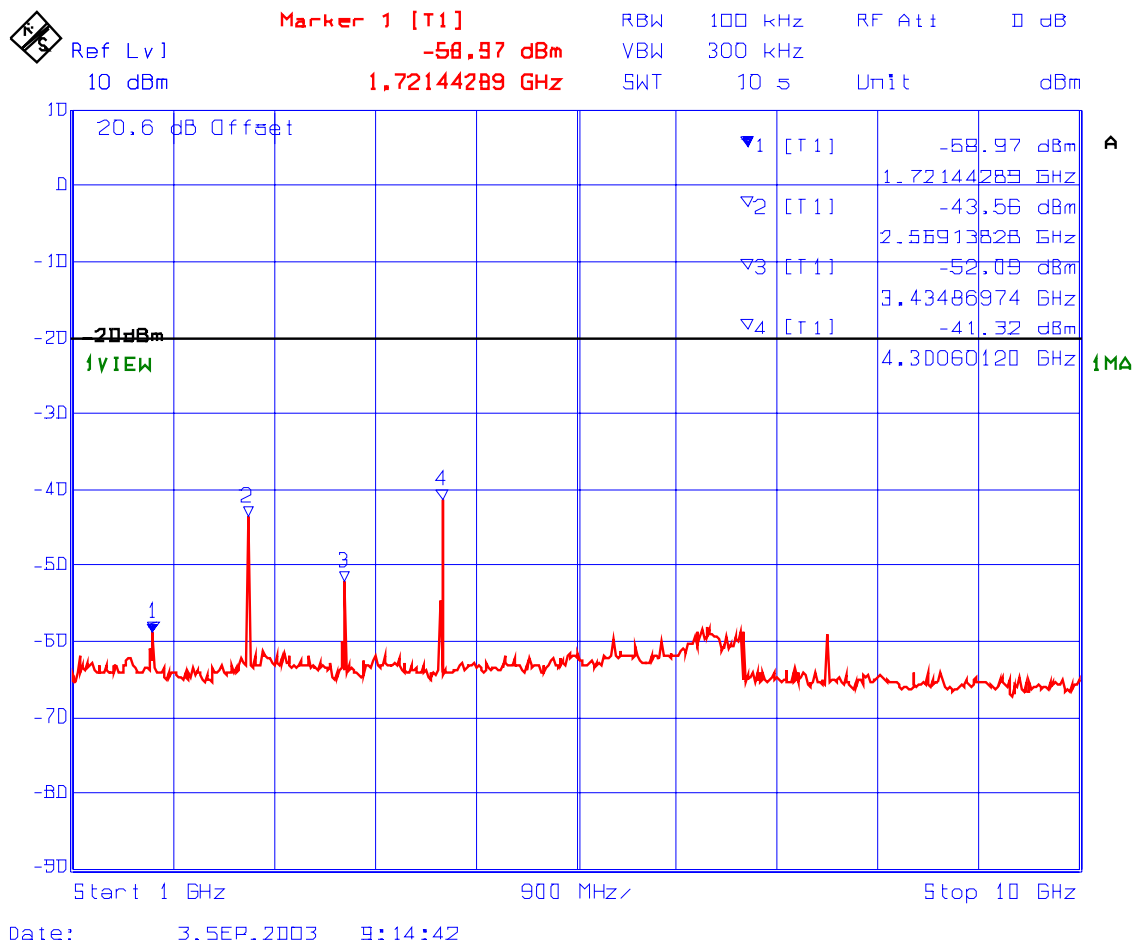
PLOT # 299 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 851 MHz, Fc + 12.5 kHz & Fc + 25 kHz



**PLOT # 300 Spurious Emissions Conducted with 1 RF signal input/output
Fc: 860 MHz**



**PLOT # 301 Spurious Emissions Conducted with 1 RF signal input/output
 Fc: 860 MHz**



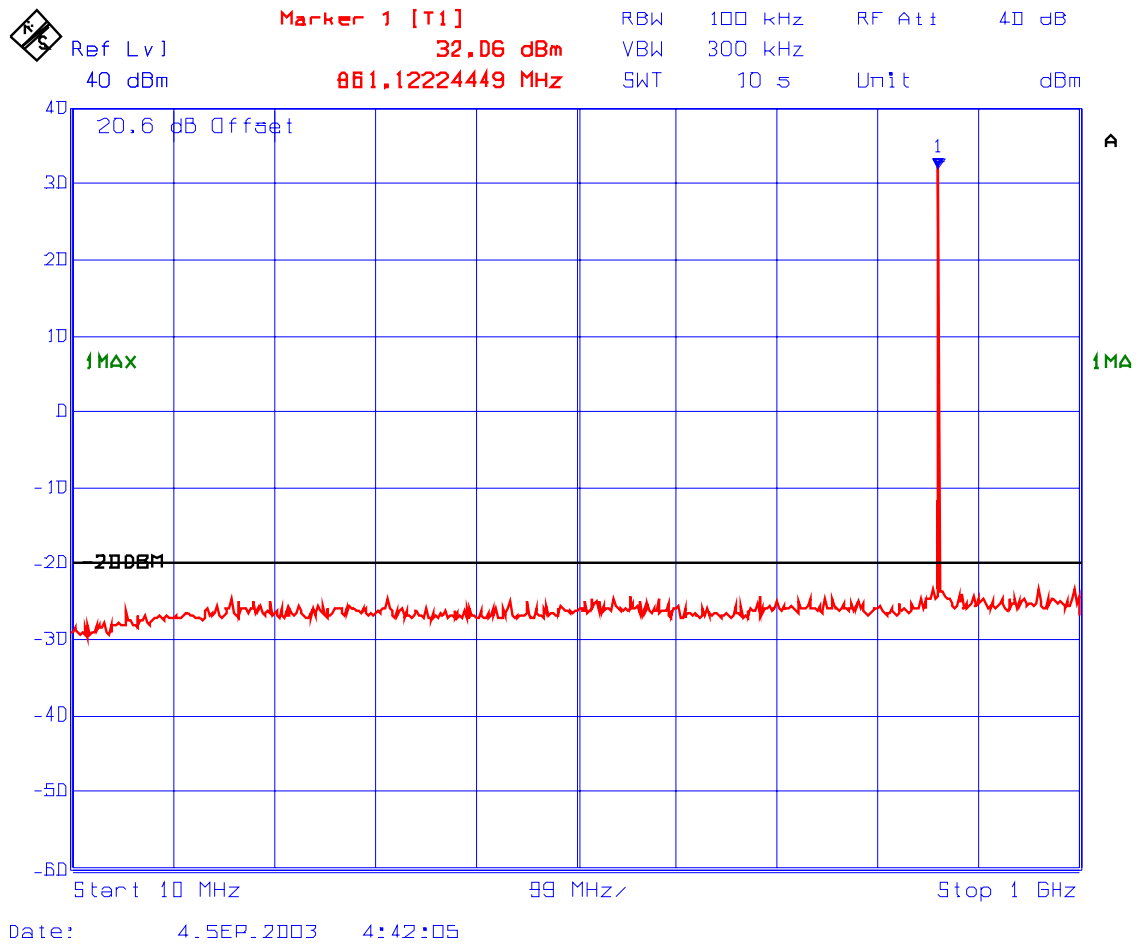
ULTRATECH GROUP OF LABS

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 Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 302 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 860 MHz, Fc + 12.5 kHz



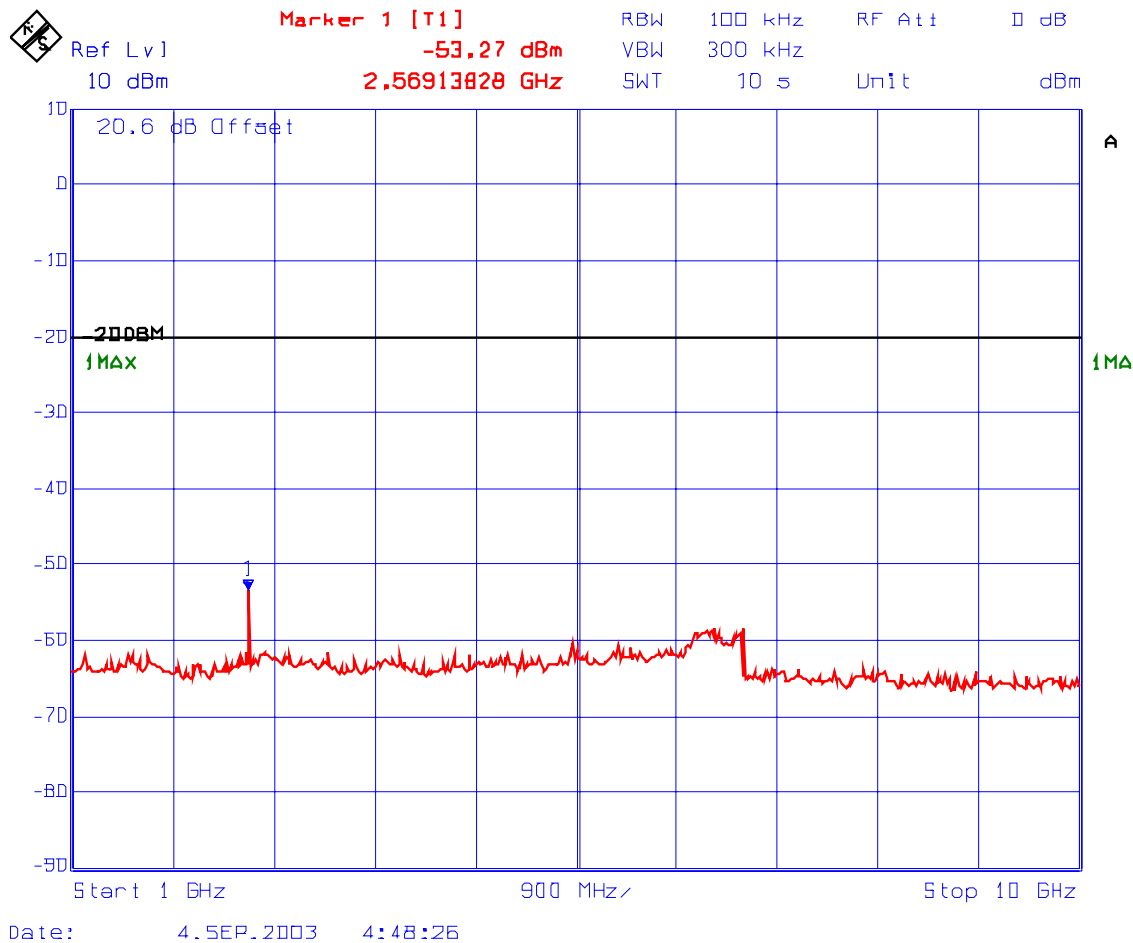
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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Oct. 17, 2003

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PLOT # 303 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 860 MHz, Fc + 12.5 kHz



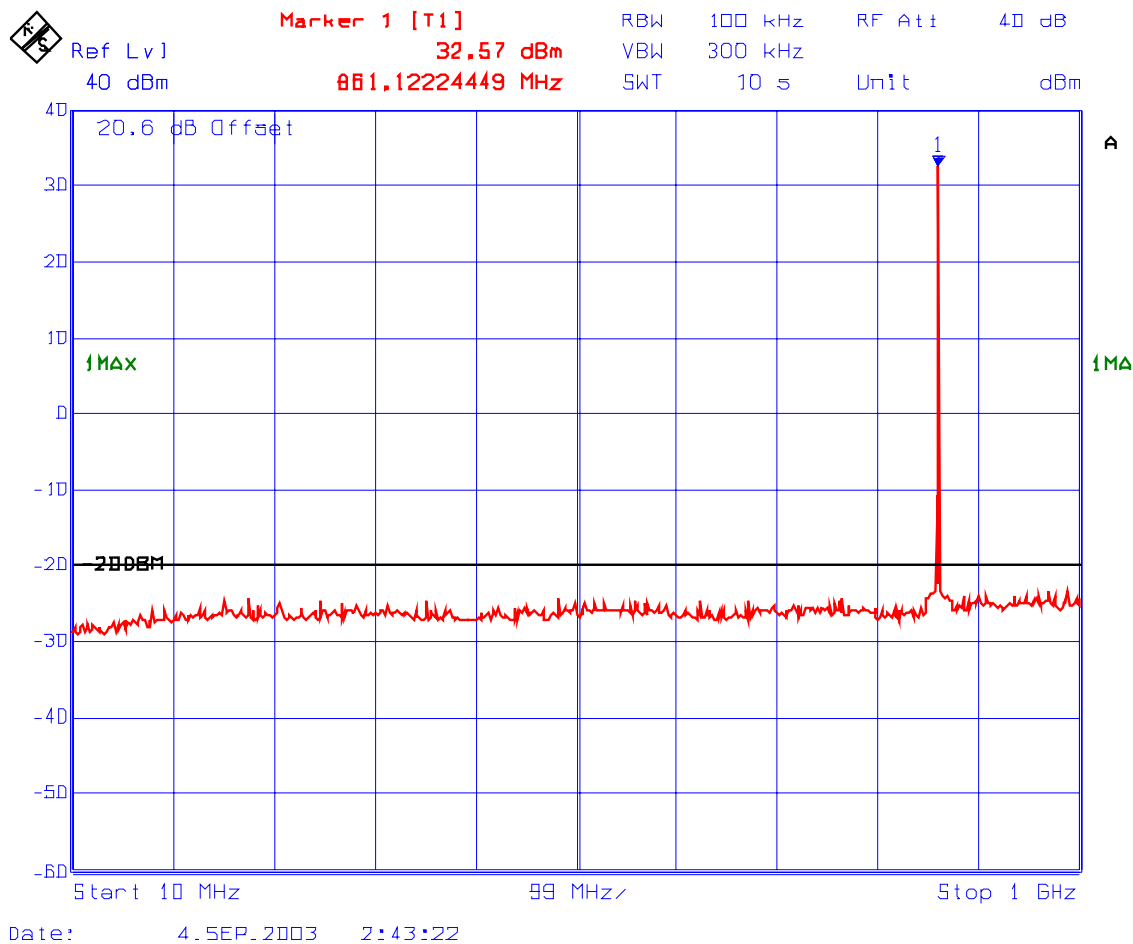
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

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PLOT # 304 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 860 MHz, Fc + 12.5 kHz & Fc - 12.5 kHz



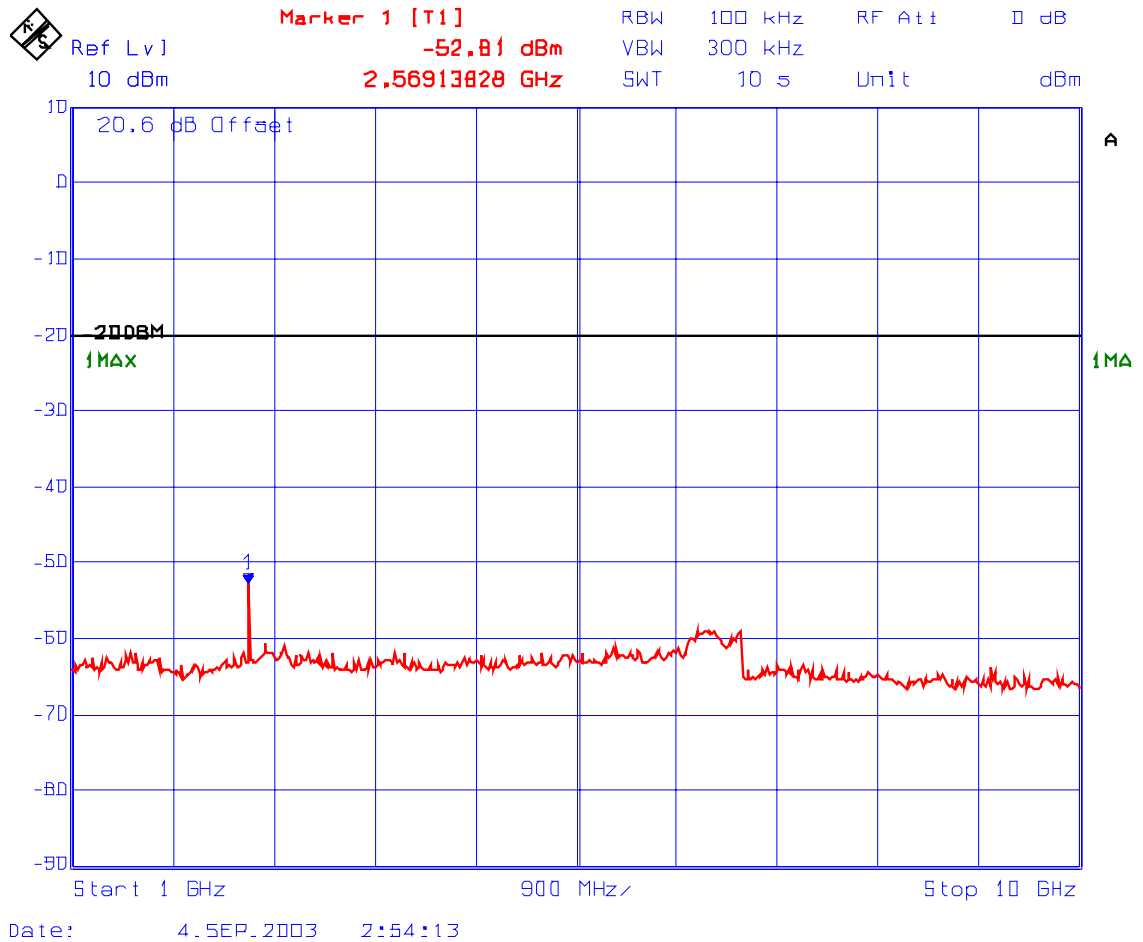
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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Oct. 17, 2003

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PLOT # 305 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 860 MHz, Fc + 12.5 kHz & Fc - 12.5 kHz



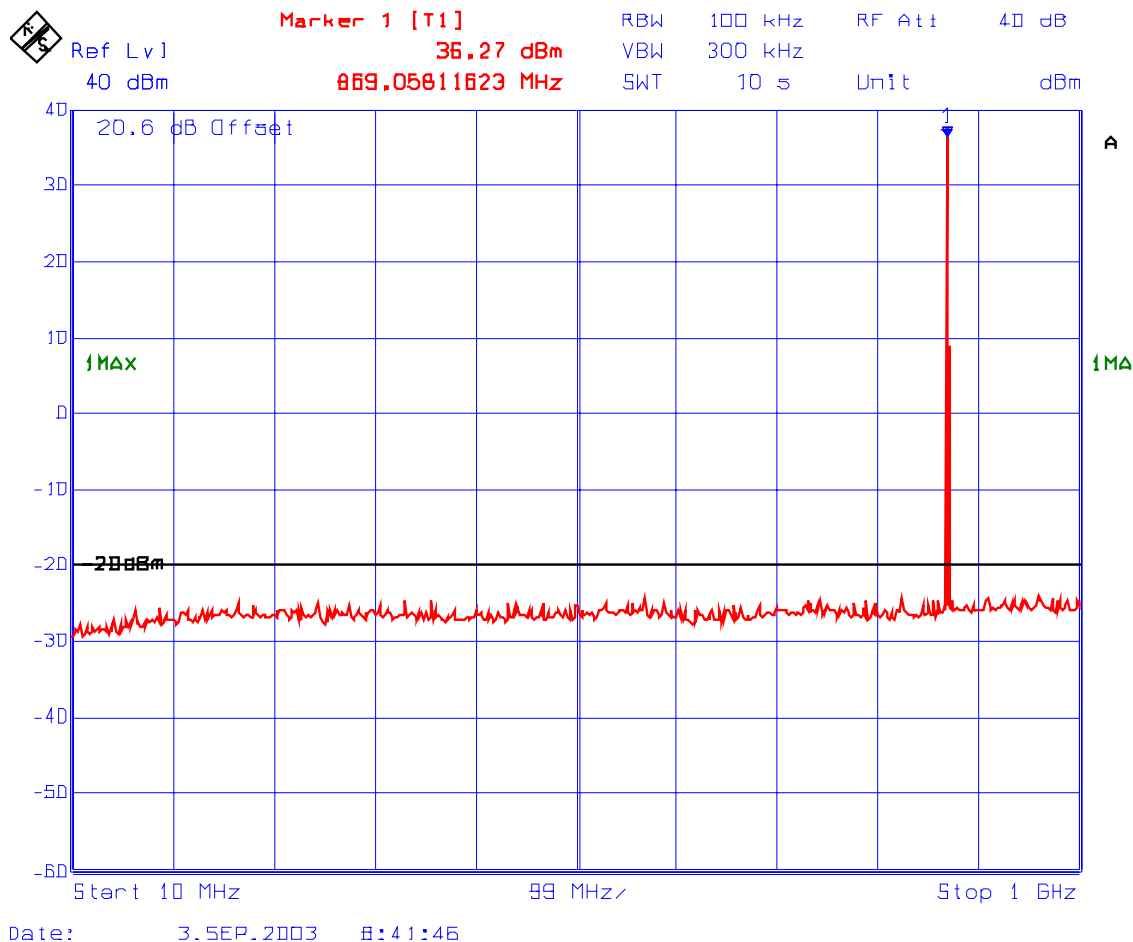
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**PLOT # 306 Spurious Emissions Conducted with 1 RF signal input/output
Fc: 869 MHz**



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**PLOT # 307 Spurious Emissions Conducted with 1 RF signal input/output
 Fc: 869 MHz**



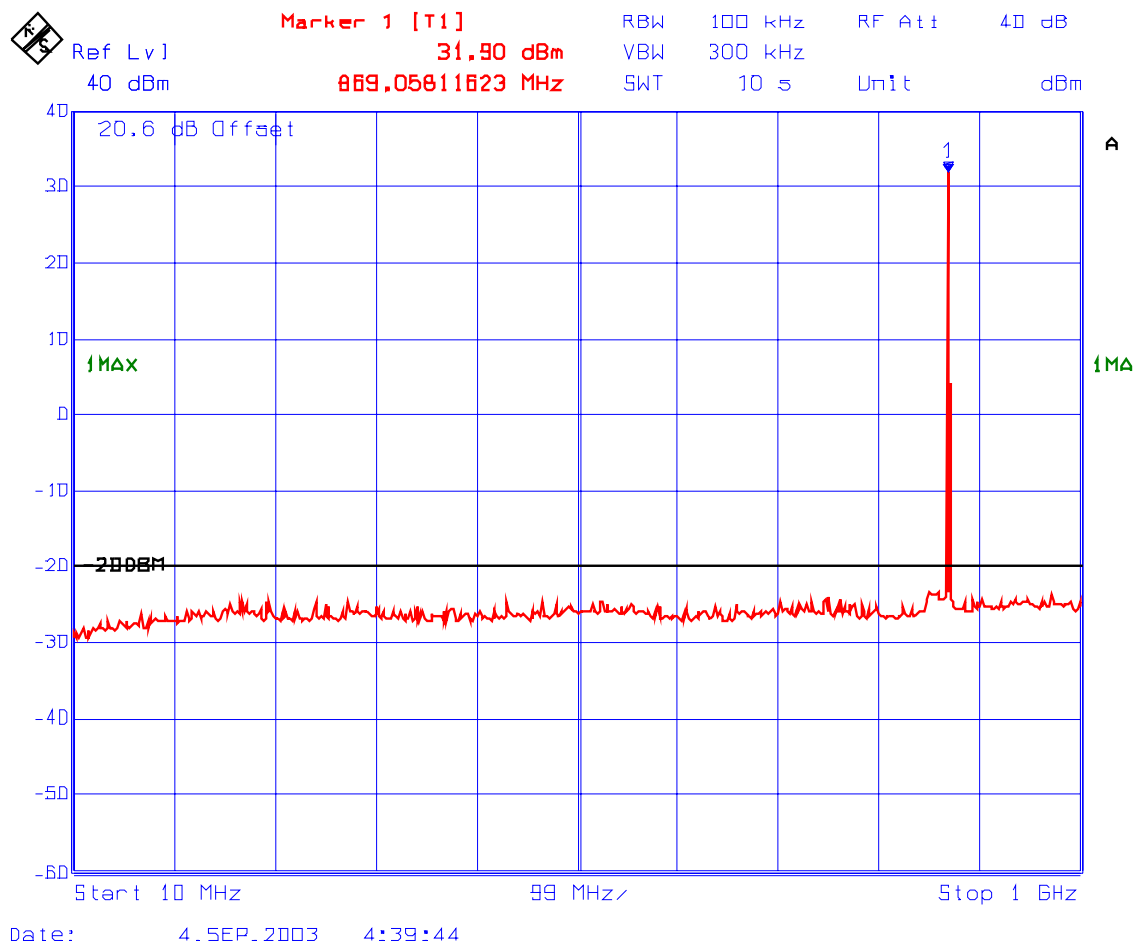
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PLOT # 308 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 869 MHz, Fc - 12.5 kHz



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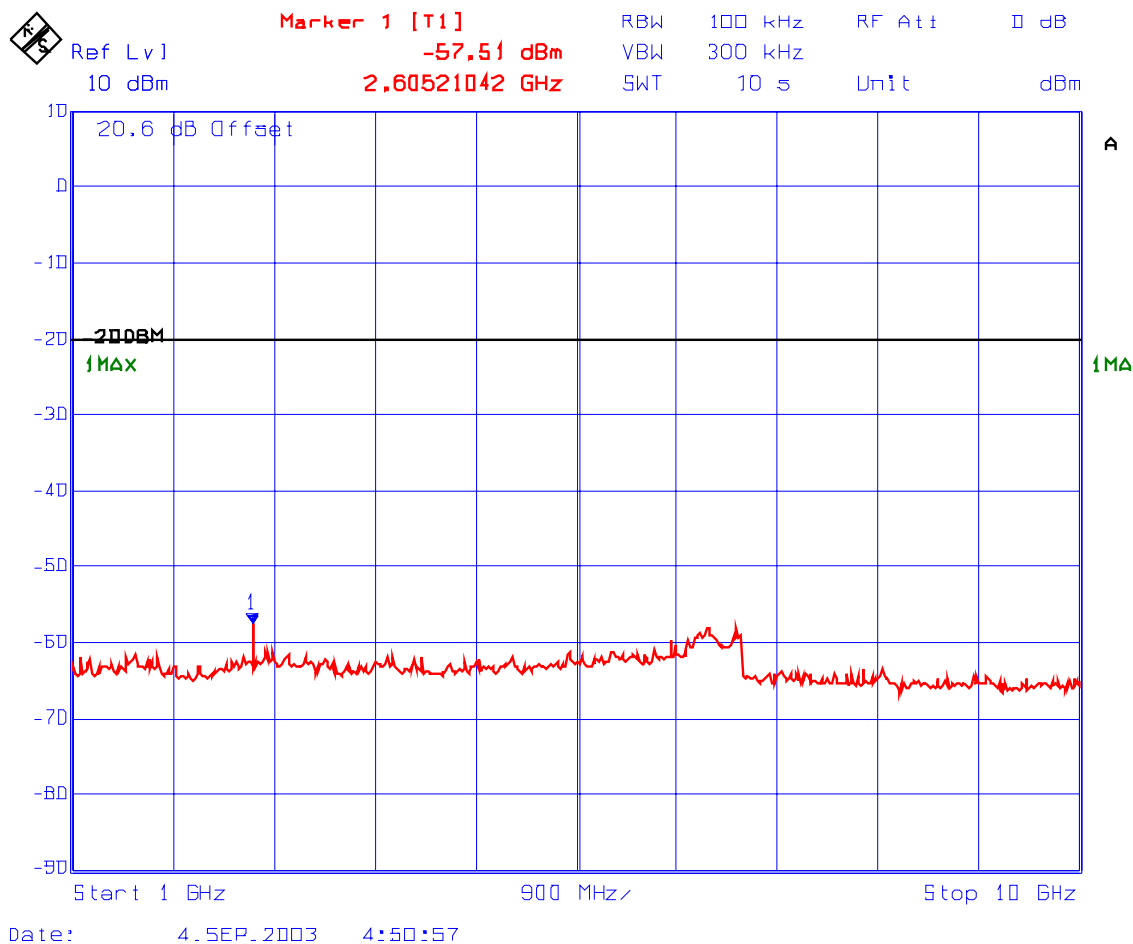
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 309 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 869 MHz, Fc - 12.5 kHz



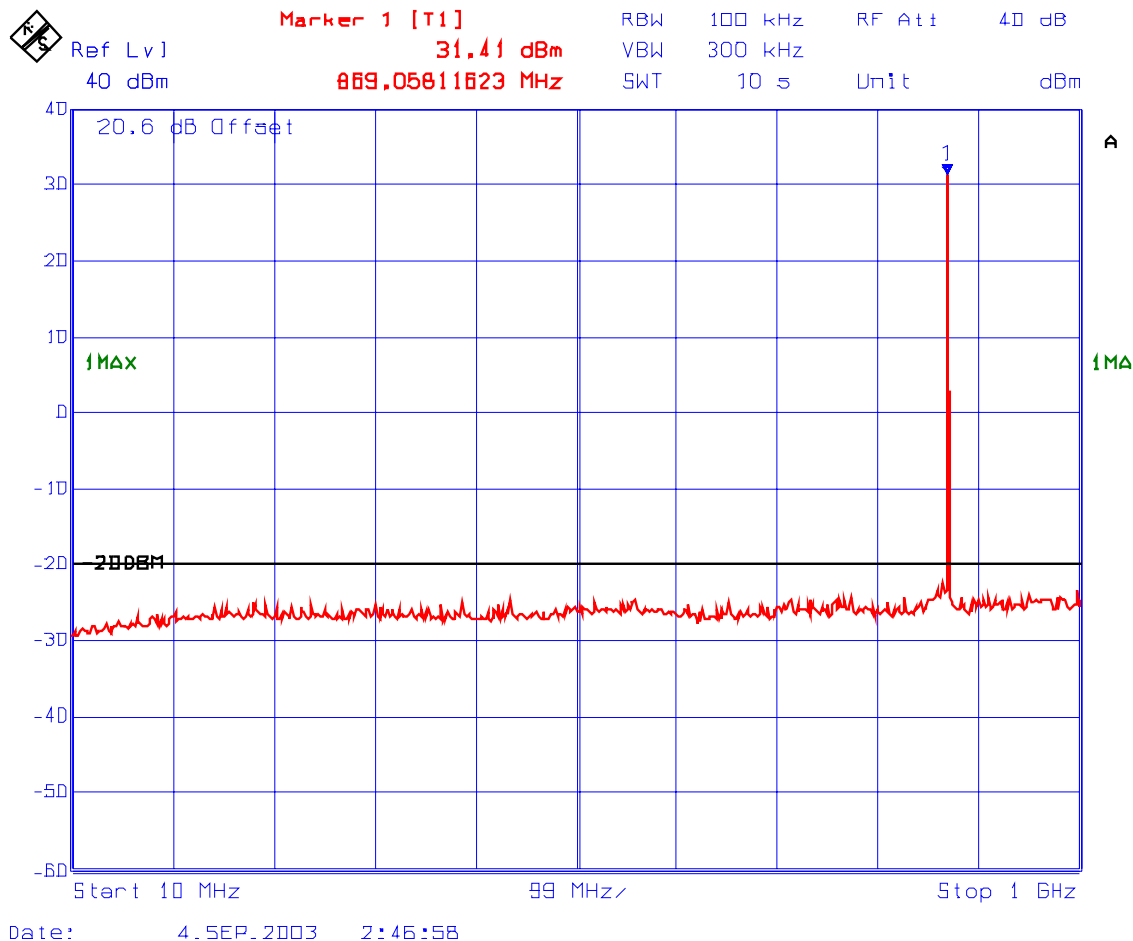
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

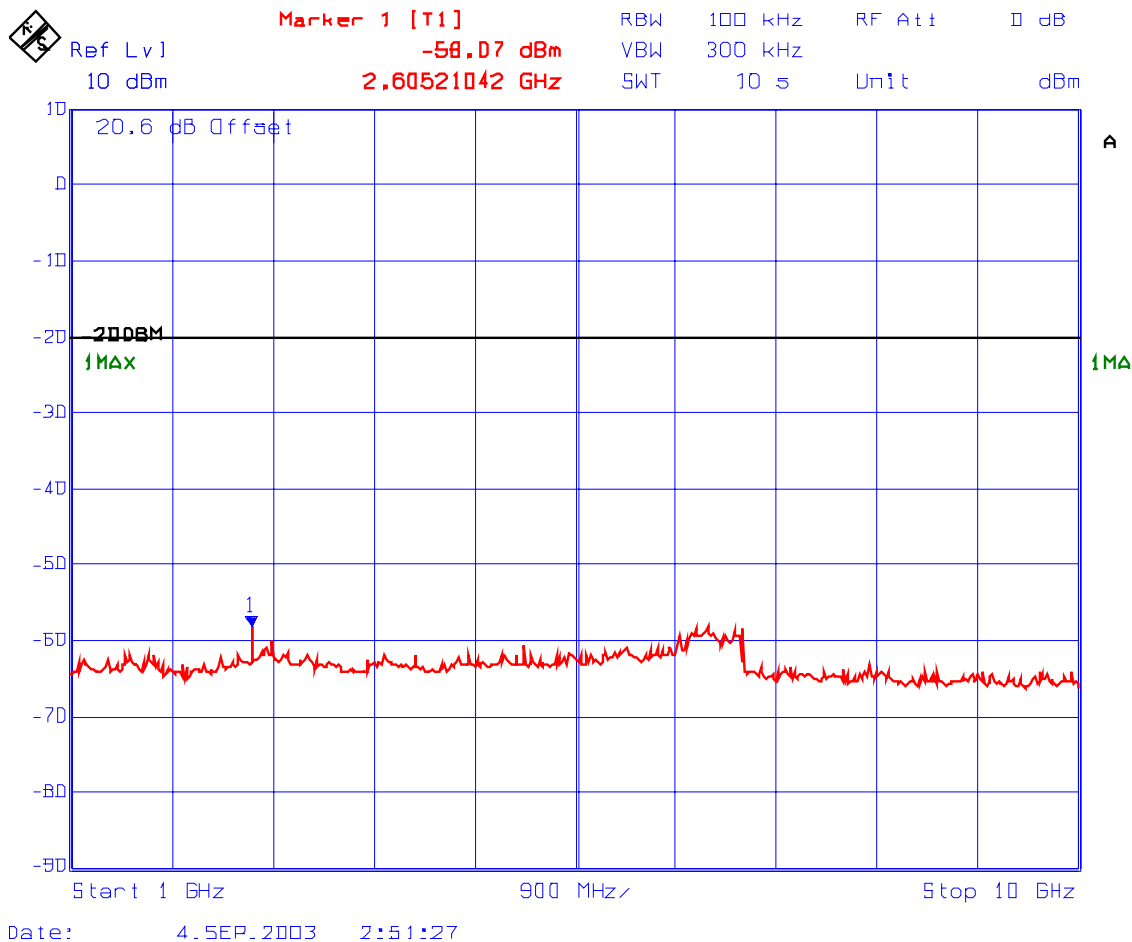
File #: KTI-034FCC22-90
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PLOT # 310 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 869 MHz, Fc - 12.5 kHz & Fc - 25 kHz



PLOT # 311 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 869 MHz, Fc - 12.5 kHz & Fc - 25 kHz



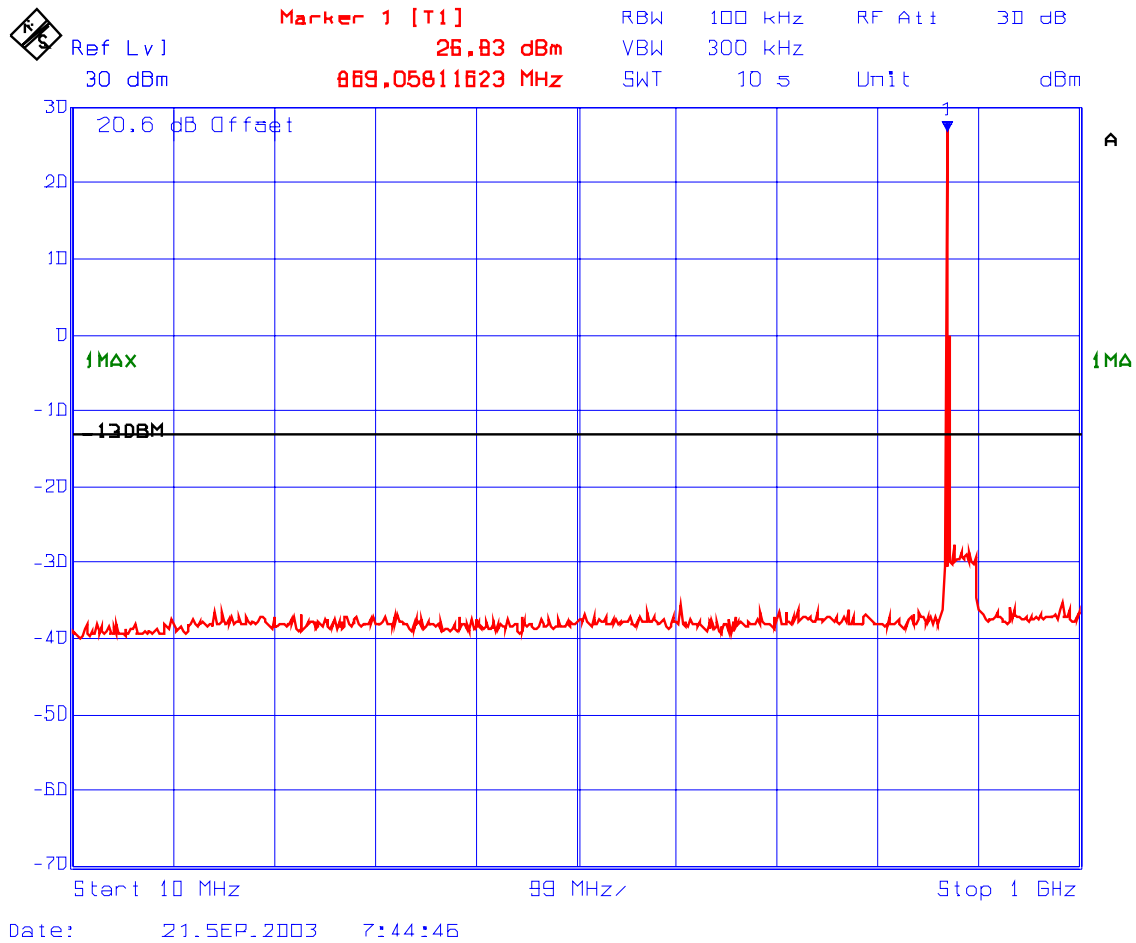
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PLOT # 312 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with 2.5 kHz Sine Wave signal
Fc: 869 MHz



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PLOT # 313 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with 2.5 kHz Sine Wave signal
Fc: 869 MHz



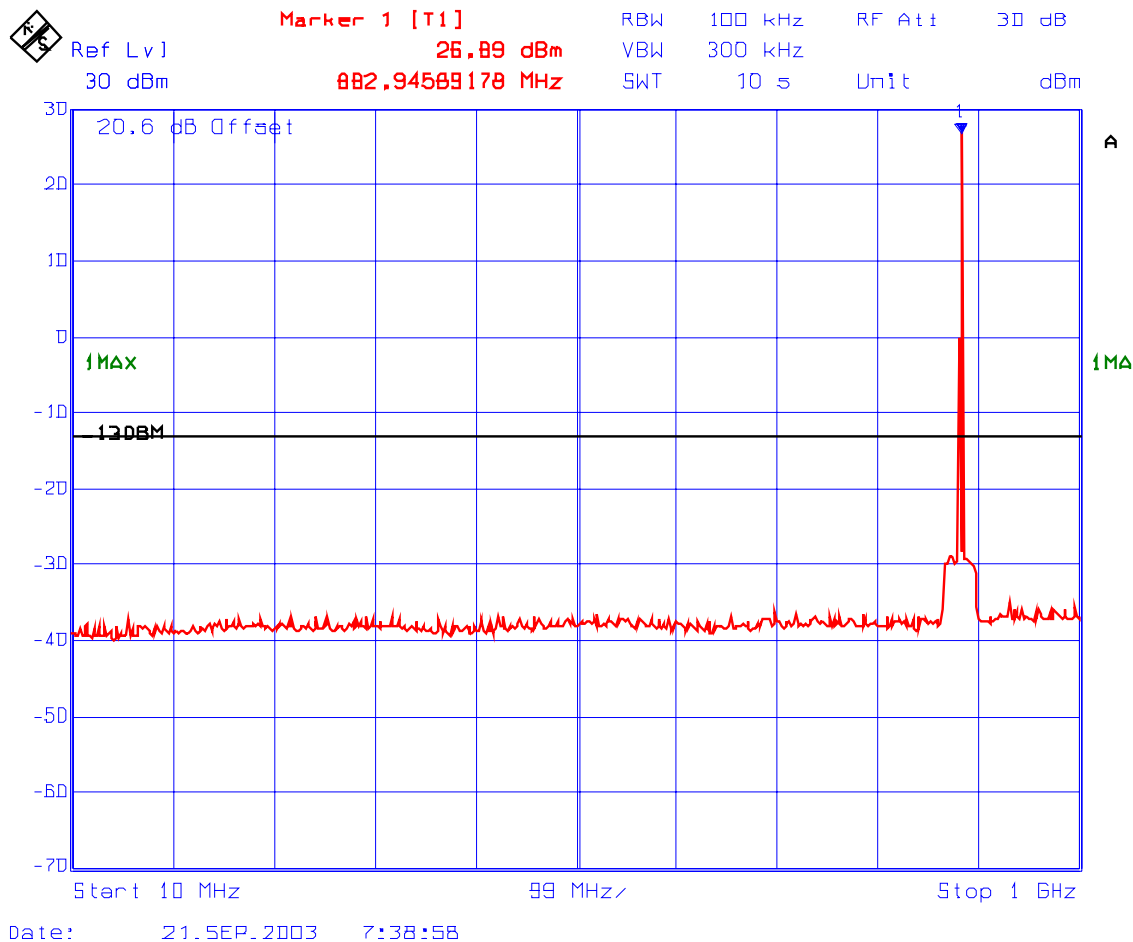
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PLOT # 314 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with 2.5 kHz Sine Wave signal
Fc: 881.5 MHz



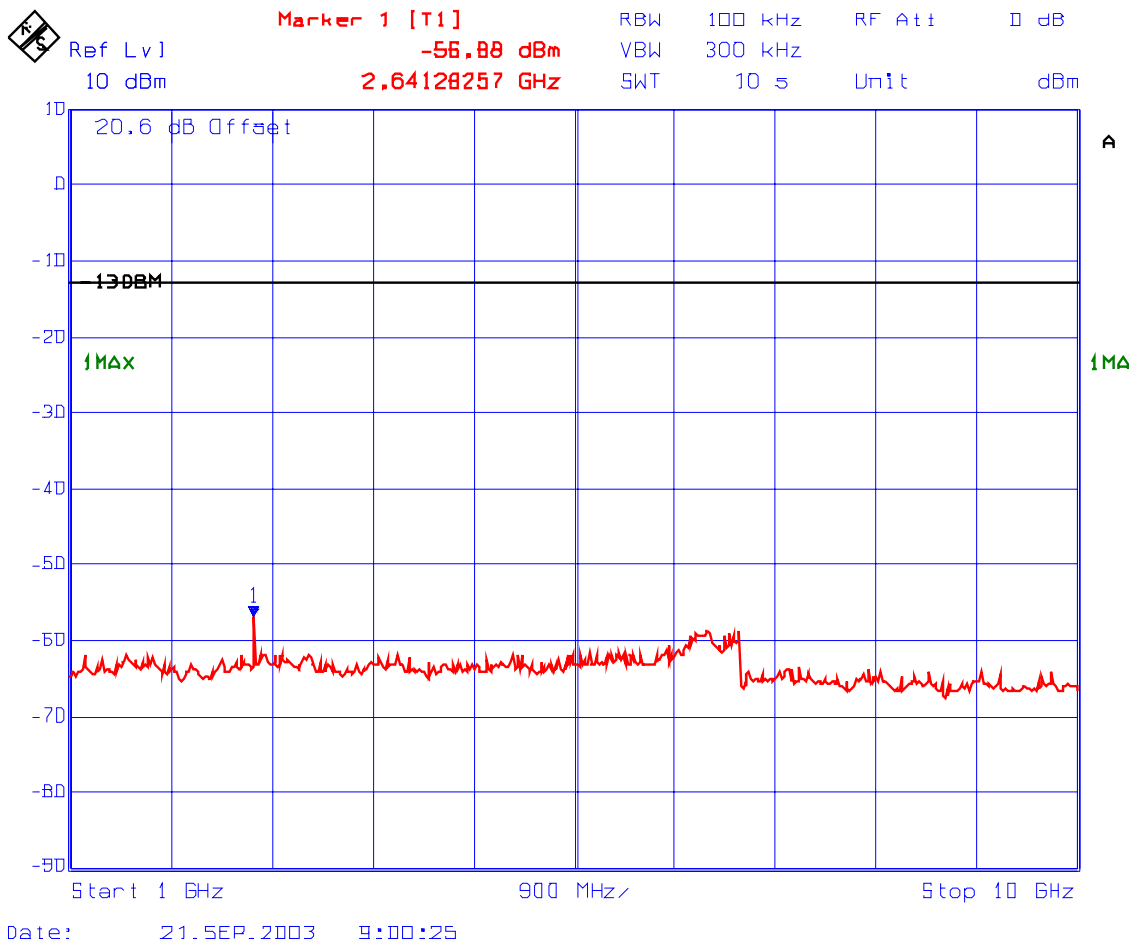
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PLOT # 315 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with 2.5 kHz Sine Wave signal
Fc: 881.5 MHz



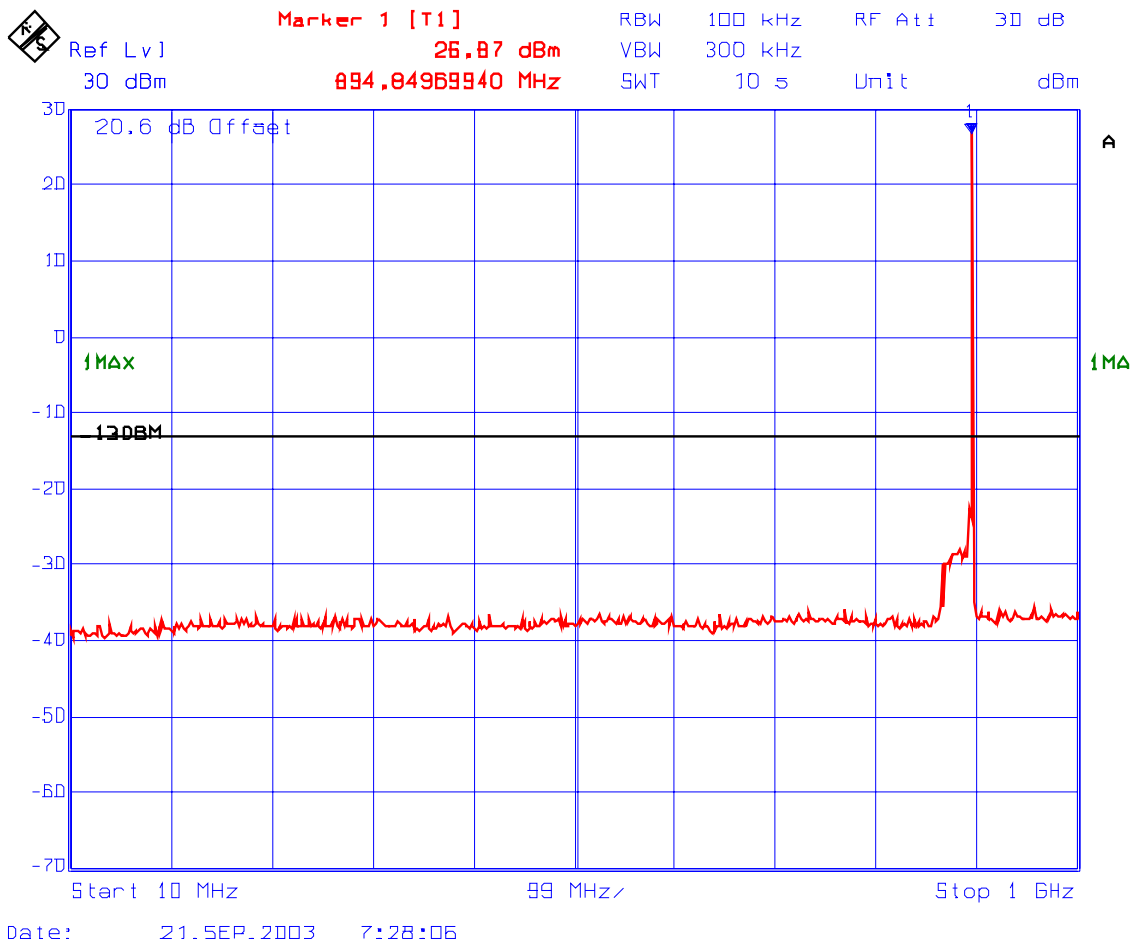
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PLOT # 316 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with 2.5 kHz Sine Wave signal
Fc: 894 MHz



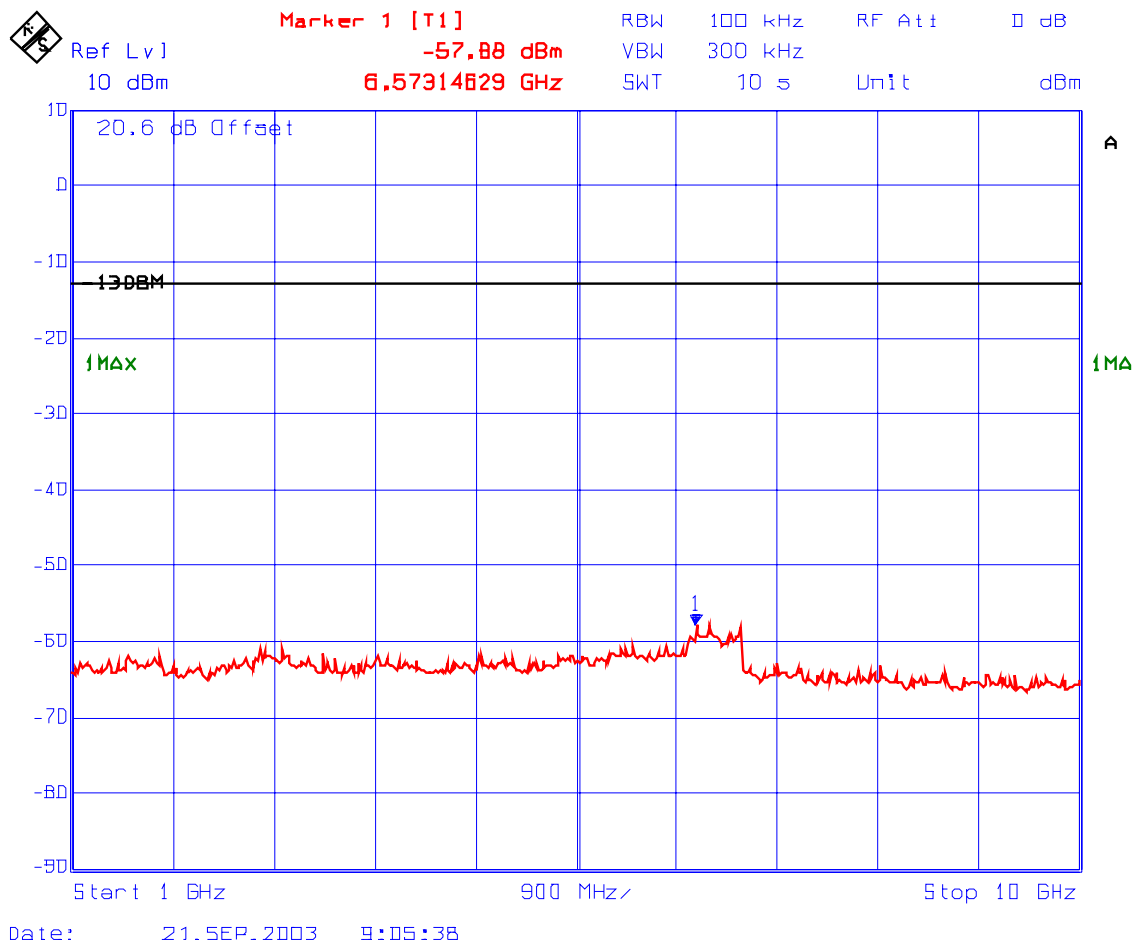
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PLOT # 317 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with 2.5 kHz Sine Wave signal
Fc: 894 MHz



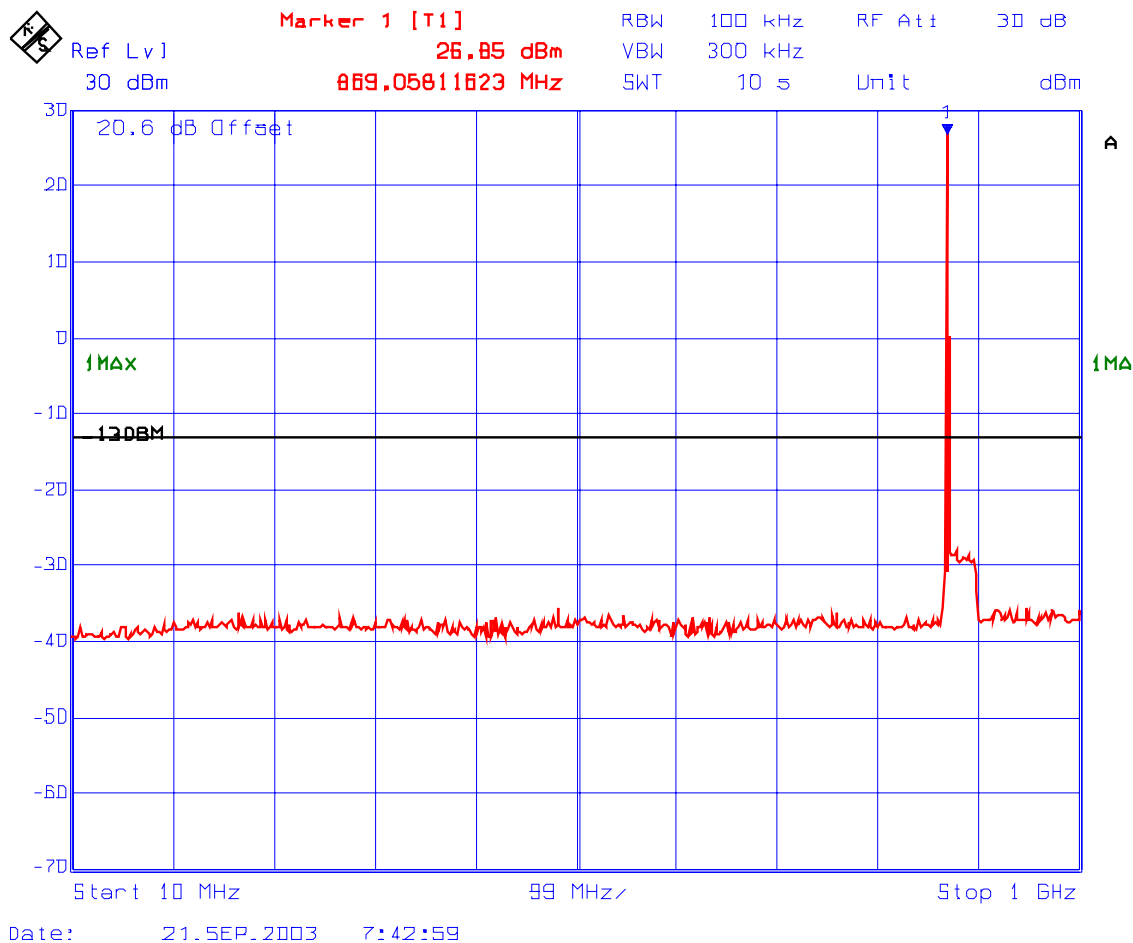
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PLOT # 318 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with an external 9600 b/s random data source
Fc: 869 MHz



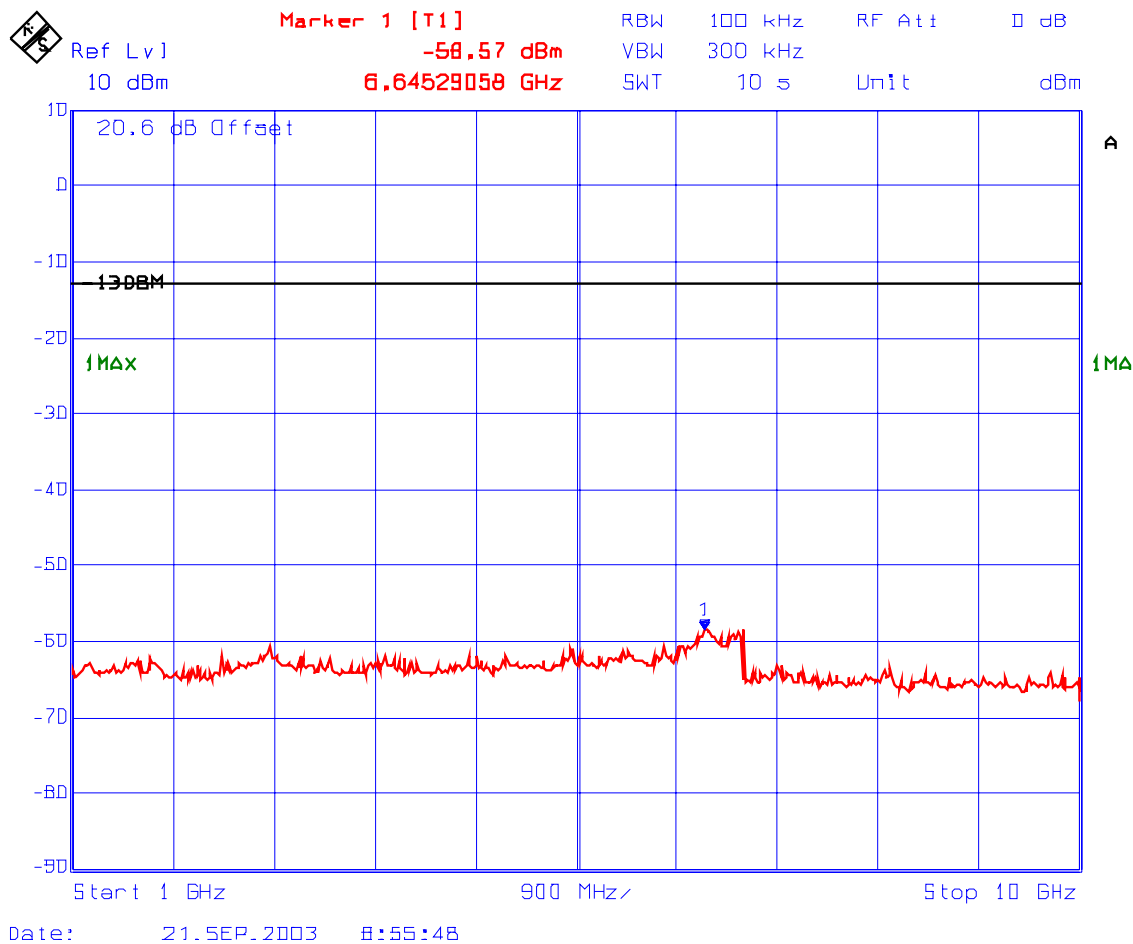
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PLOT # 319 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with an external 9600 b/s random data source
Fc: 869 MHz



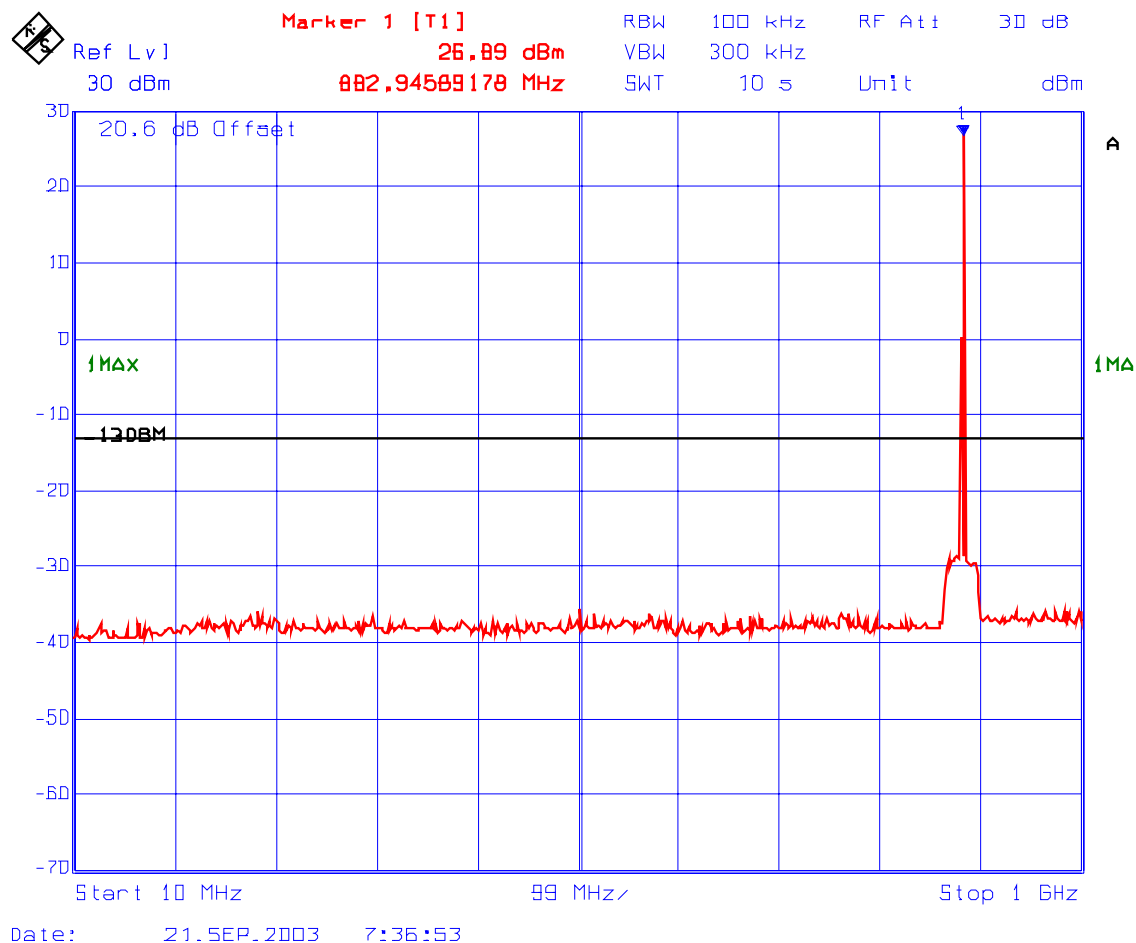
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PLOT # 320 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with an external 9600 b/s random data source
Fc: 881.5 MHz



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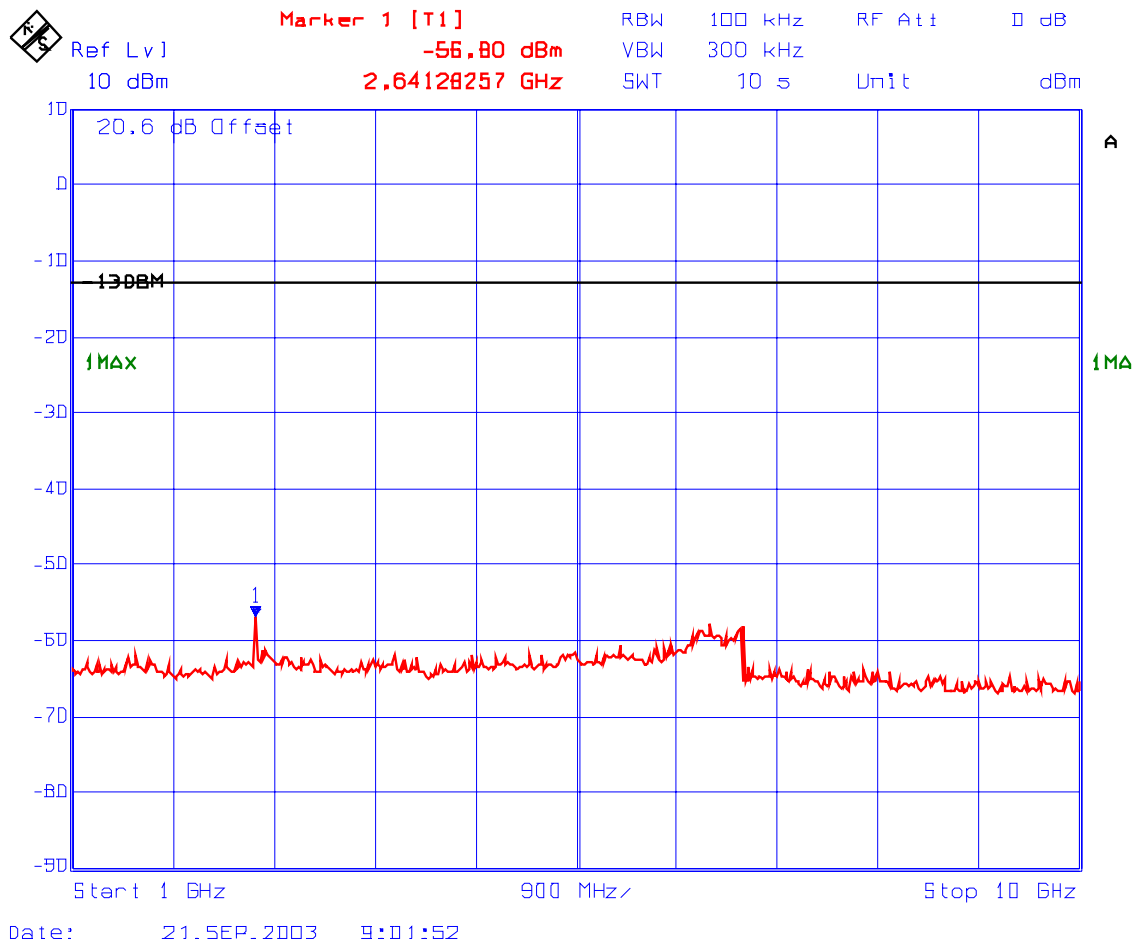
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 321 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with an external 9600 b/s random data source
Fc: 881.5 MHz



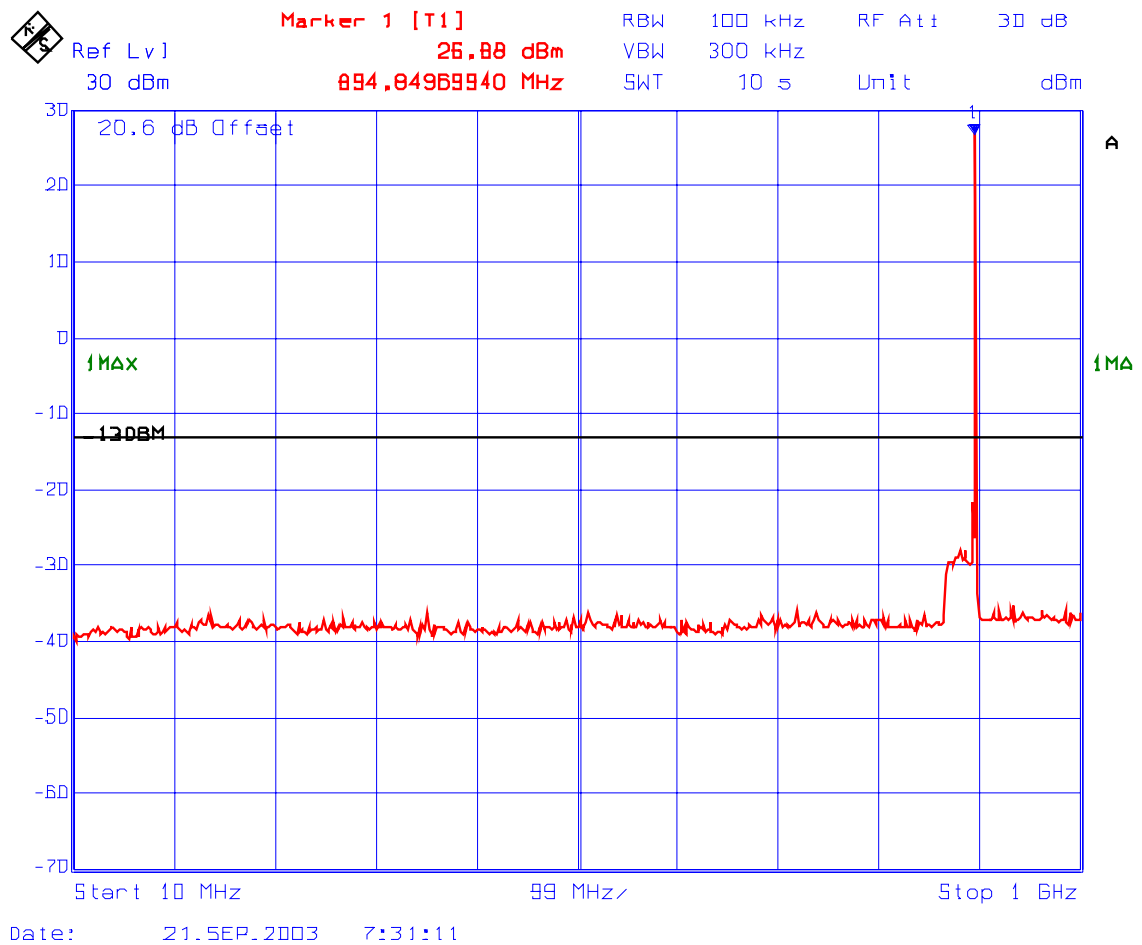
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PLOT # 322 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with an external 9600 b/s random data source
Fc: 894 MHz



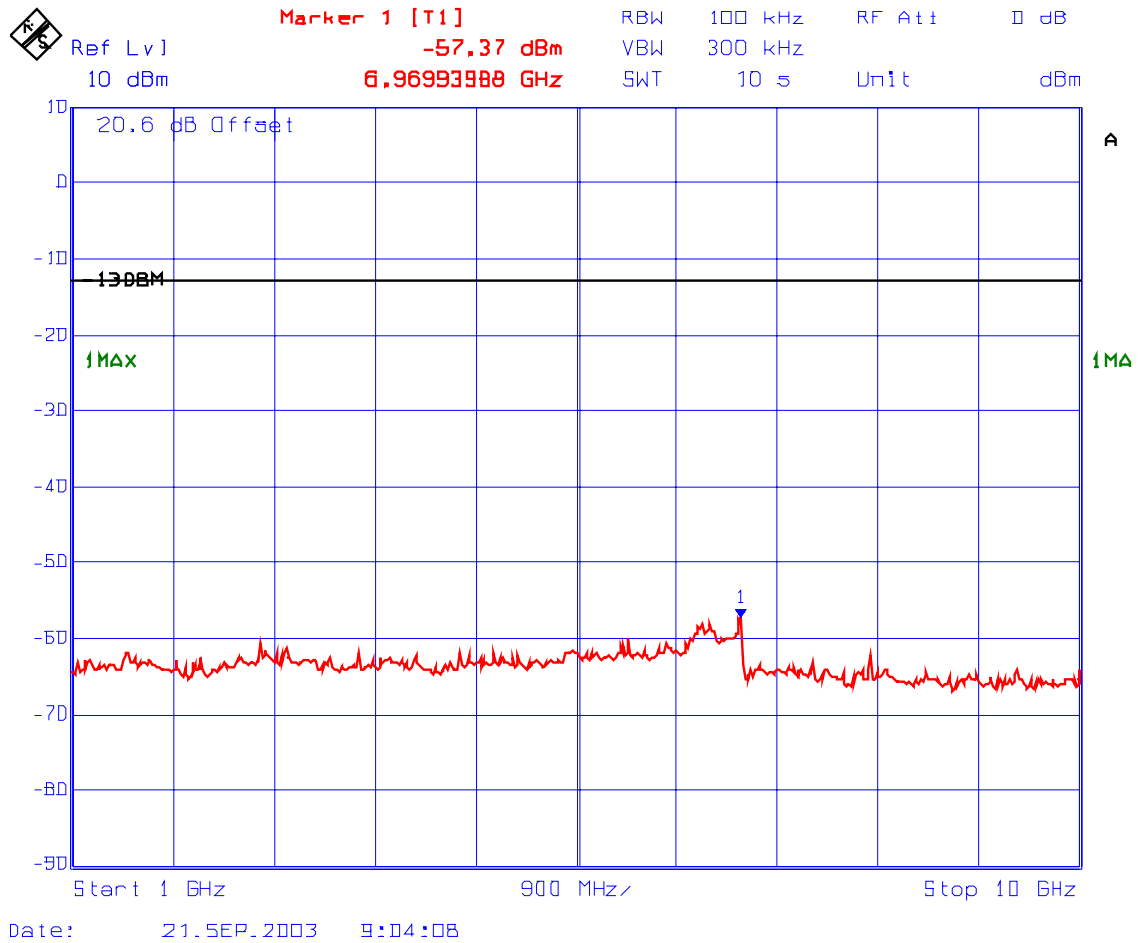
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 323 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: FM modulation with an external 9600 b/s random data source
Fc: 894 MHz



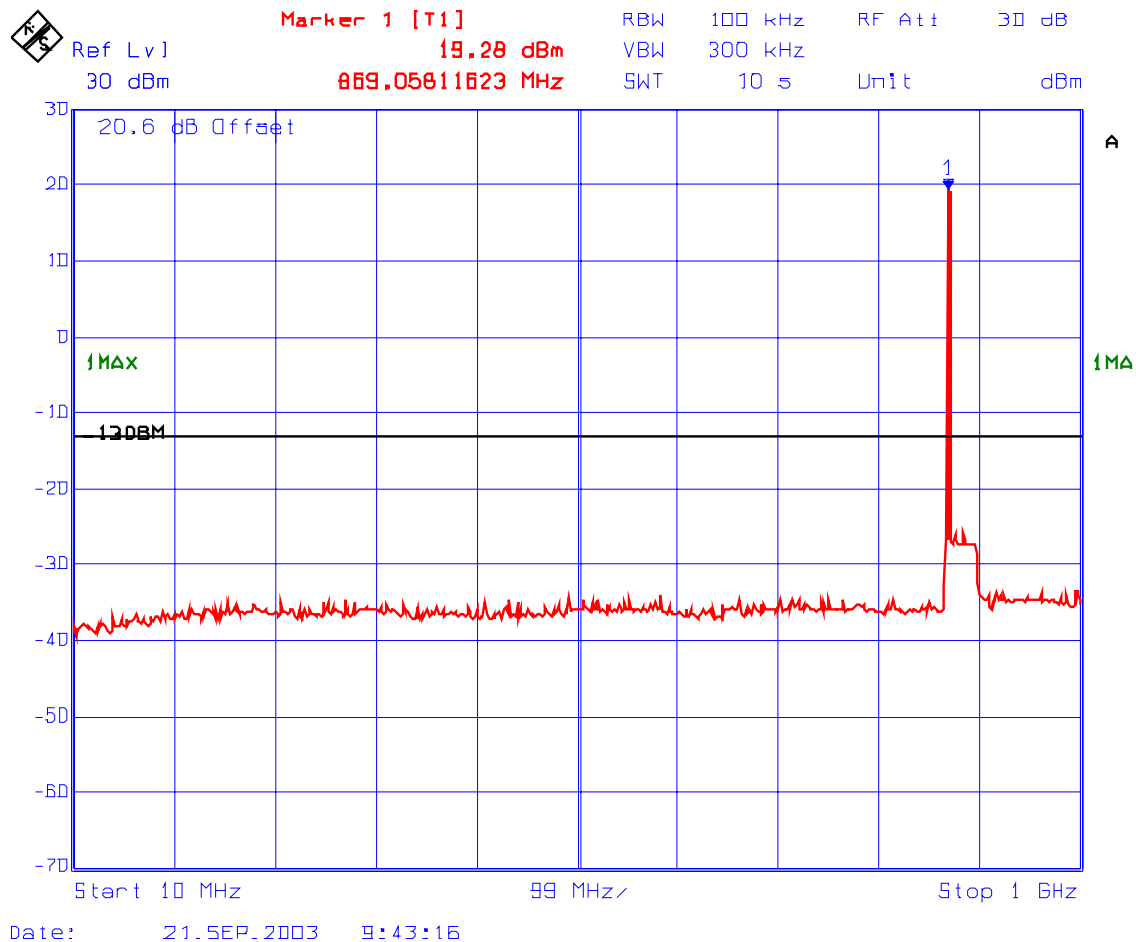
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PLOT # 324 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: CDMA
Fc: 869 MHz



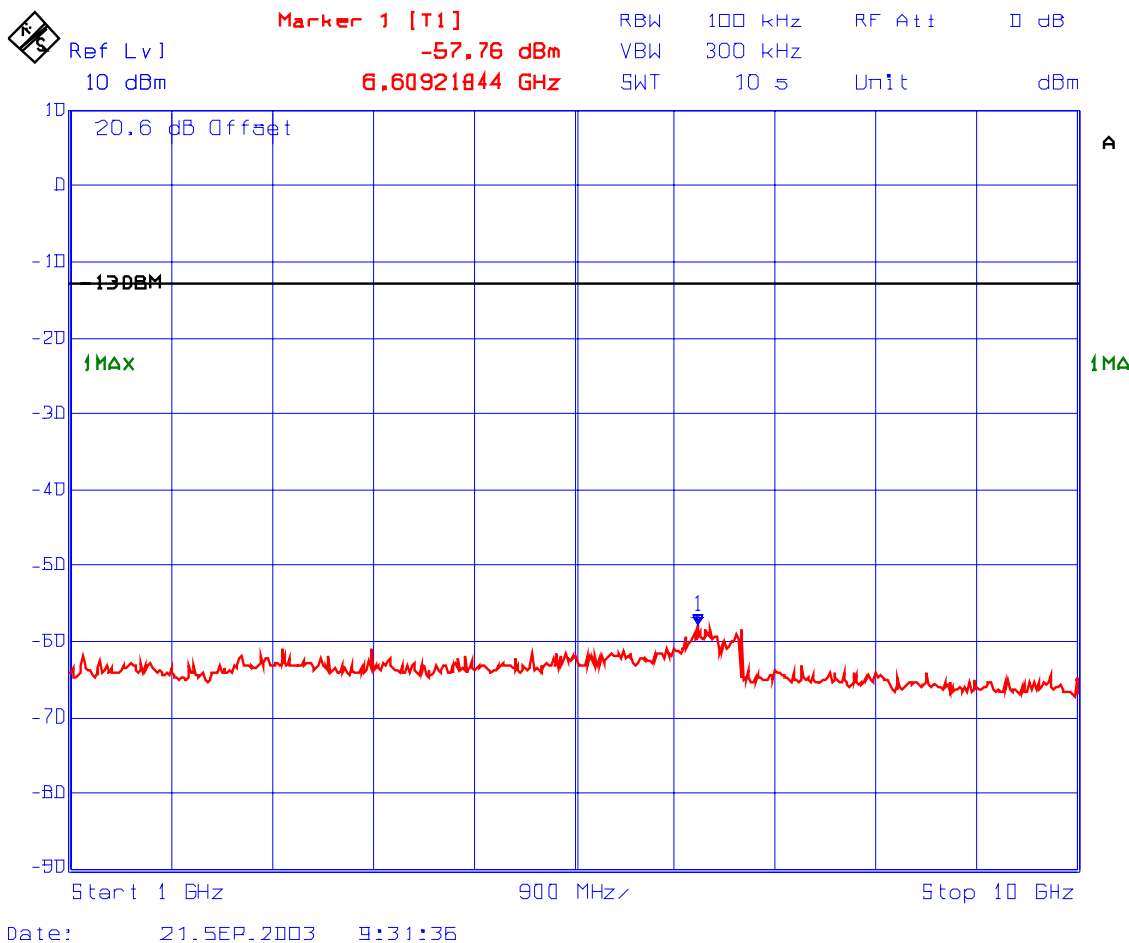
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PLOT # 325 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: CDMA
Fc: 869 MHz



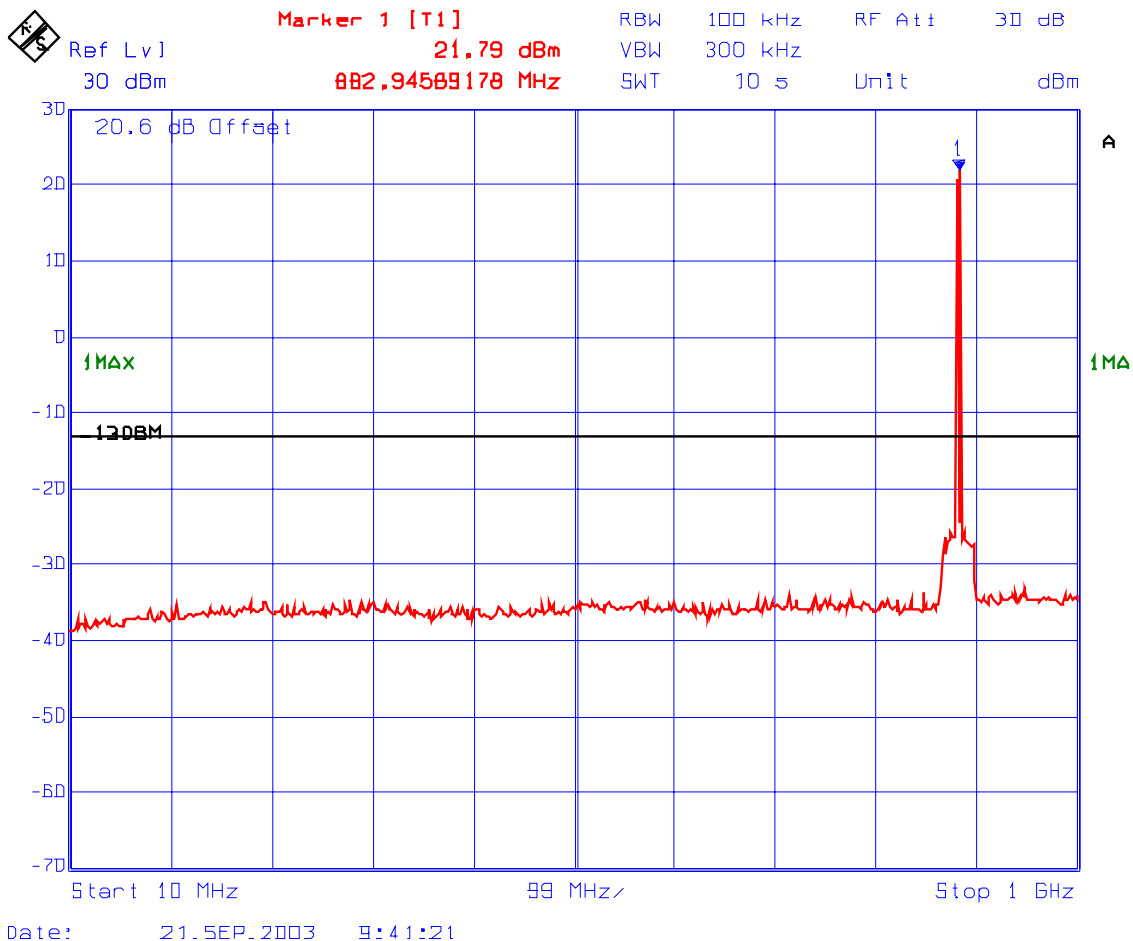
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PLOT # 326 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: CDMA
Fc: 881.5 MHz



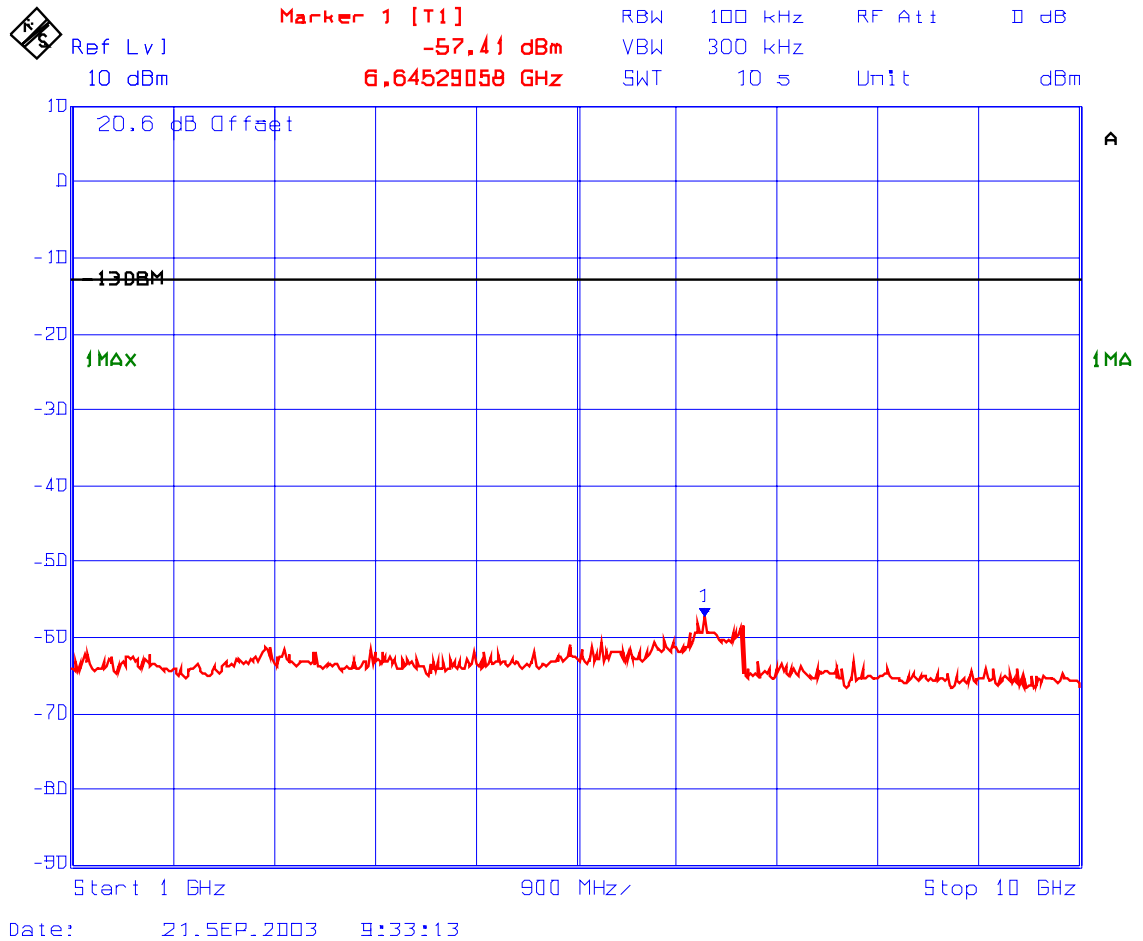
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PLOT # 327 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: CDMA
Fc: 881.5 MHz



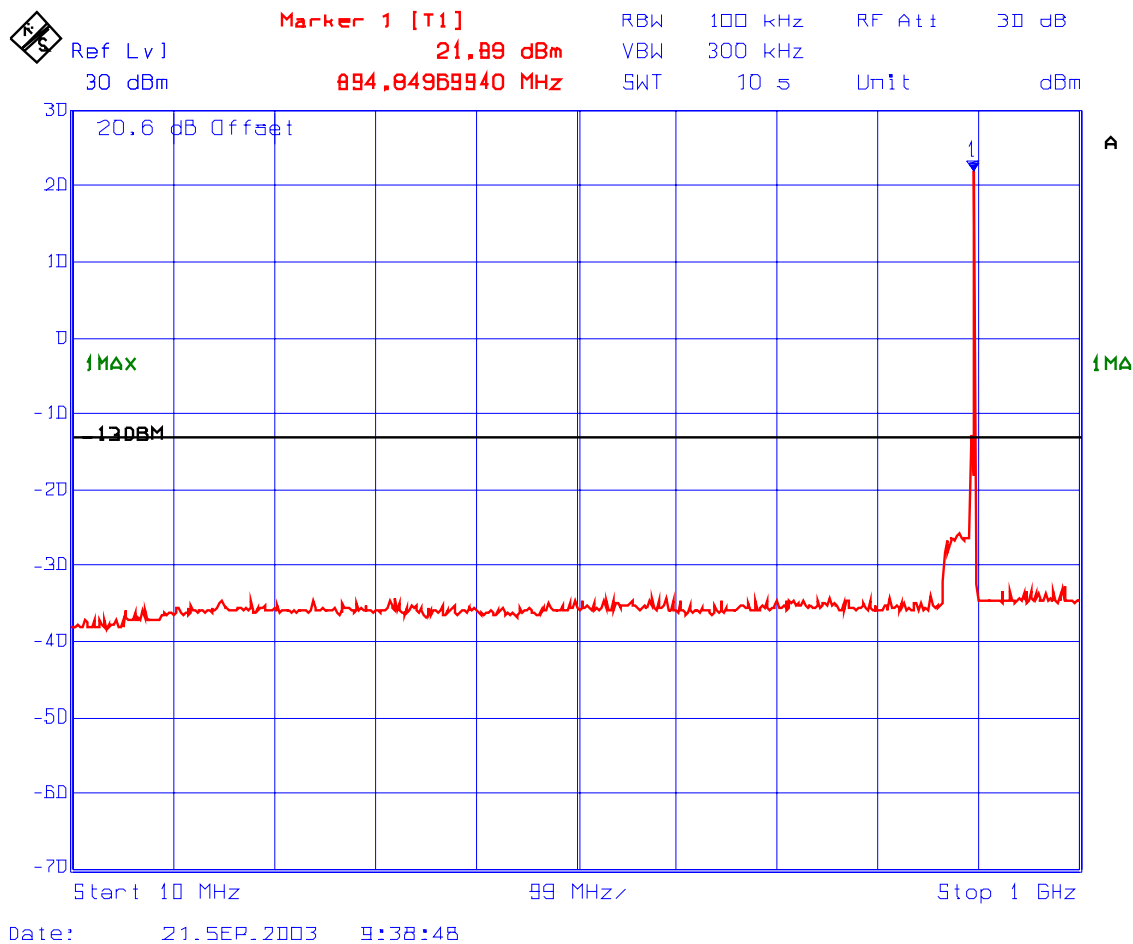
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PLOT # 328 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: CDMA
Fc: 894 MHz



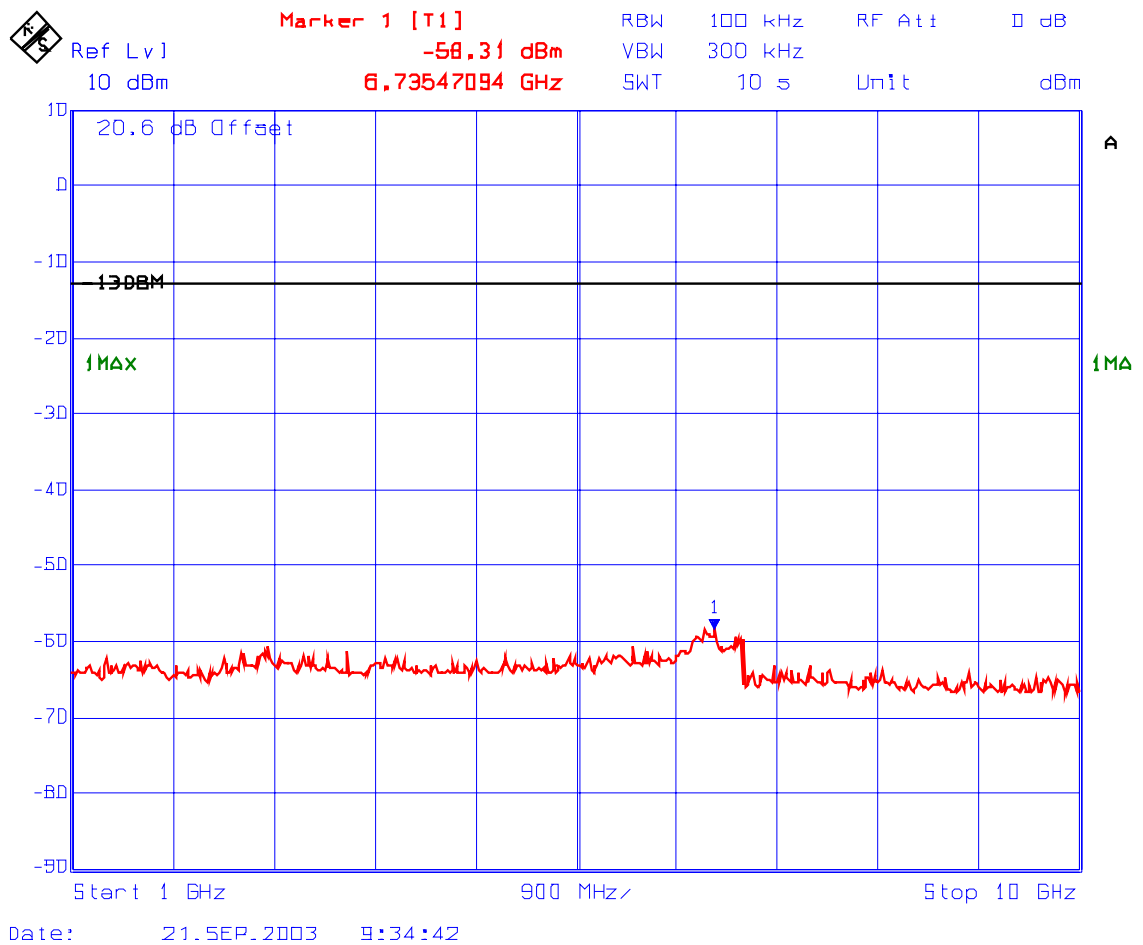
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PLOT # 329 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: CDMA
Fc: 894 MHz



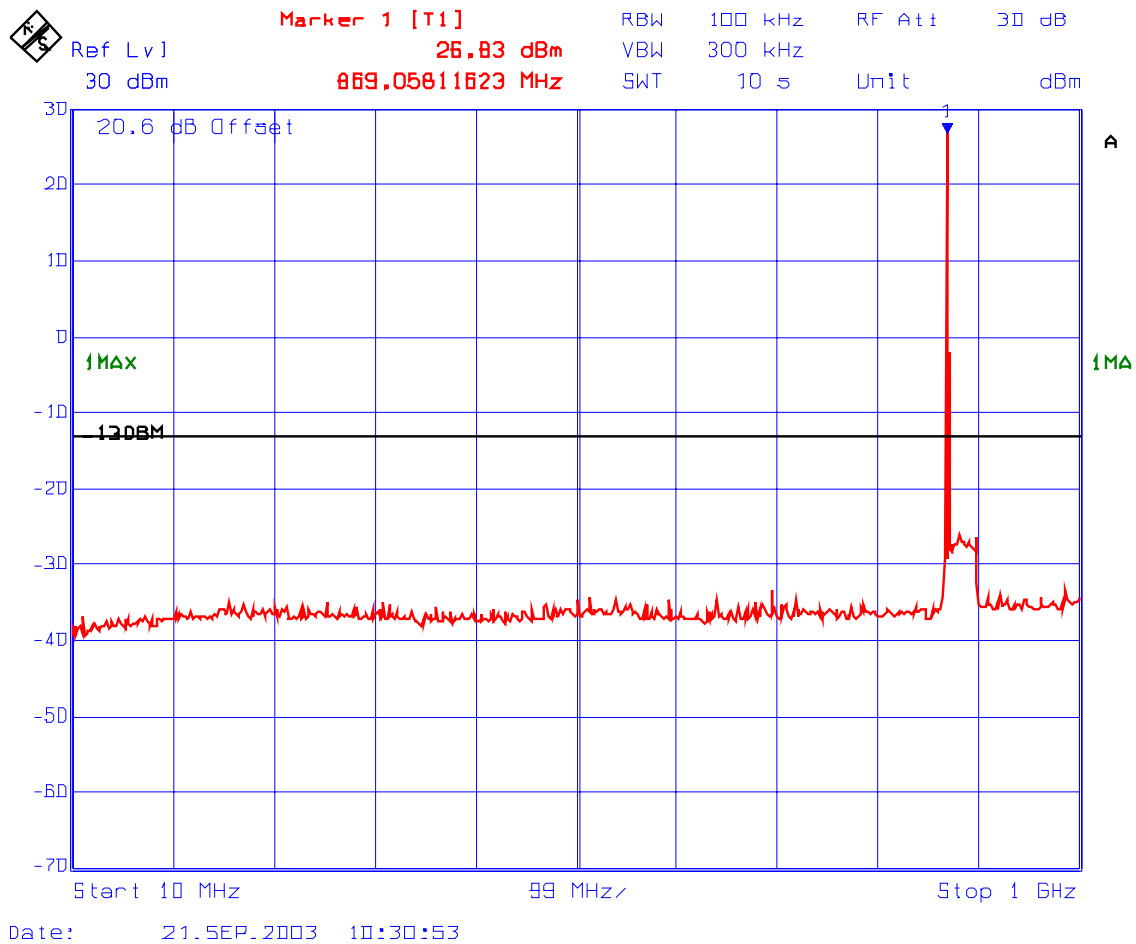
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PLOT # 330 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: TDMA
Fc: 869 MHz



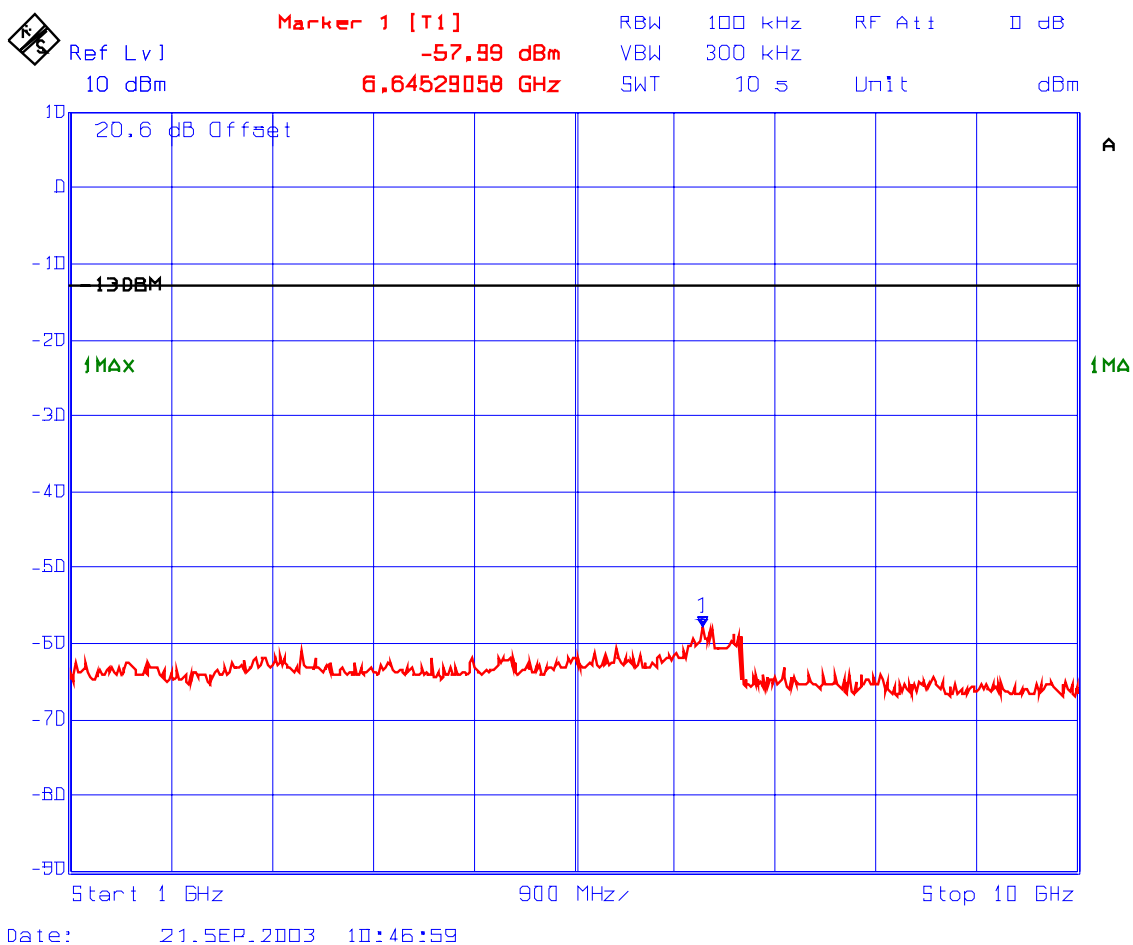
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PLOT # 331 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: TDMA
Fc: 869 MHz



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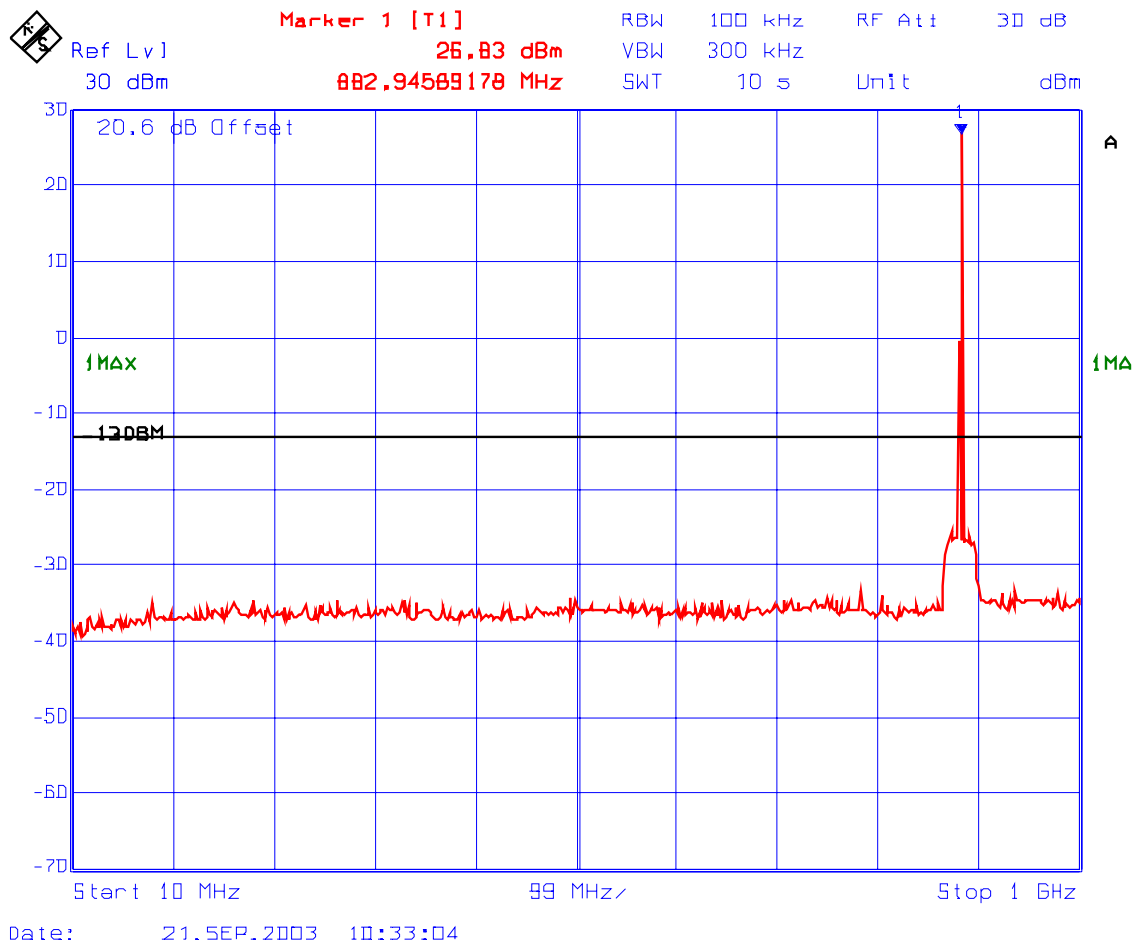
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 332 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: TDMA
Fc: 881.5 MHz



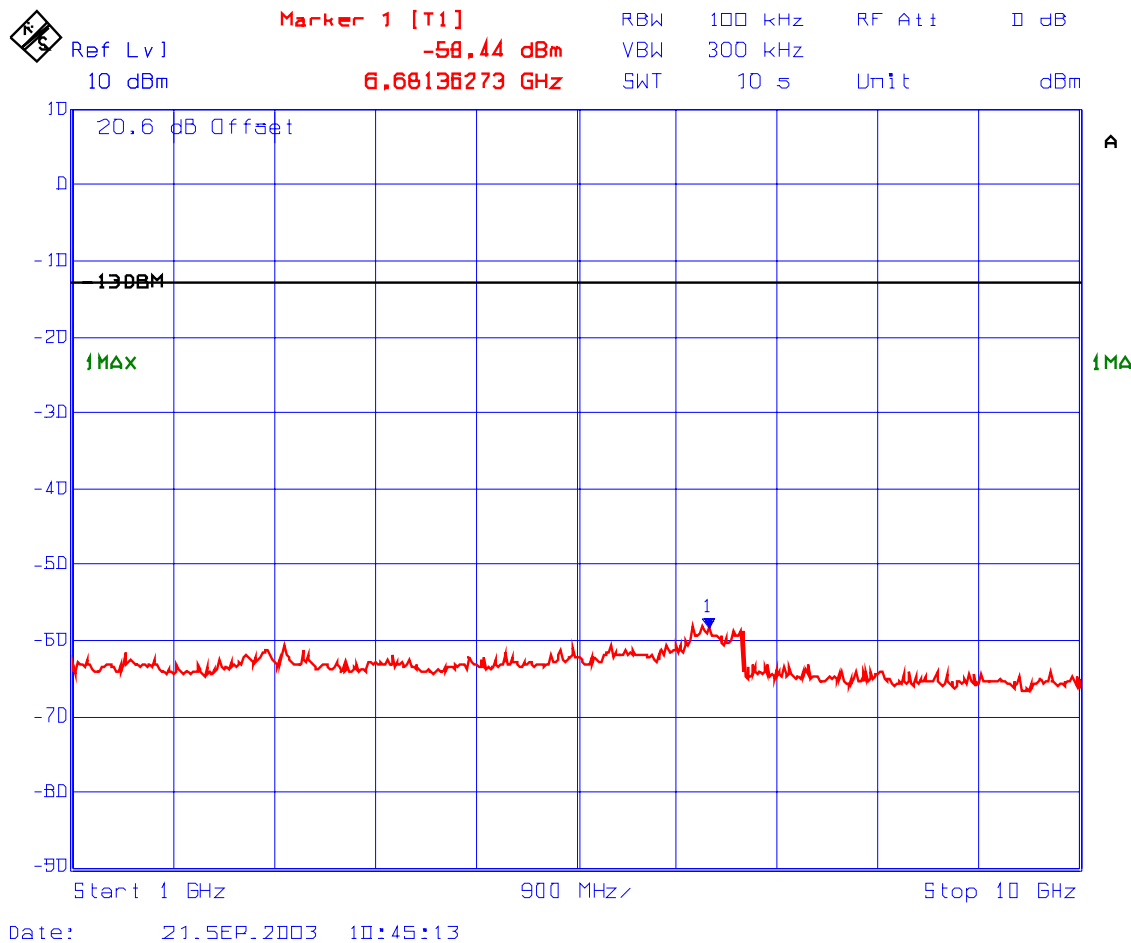
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PLOT # 333 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: TDMA
Fc: 881.5 MHz



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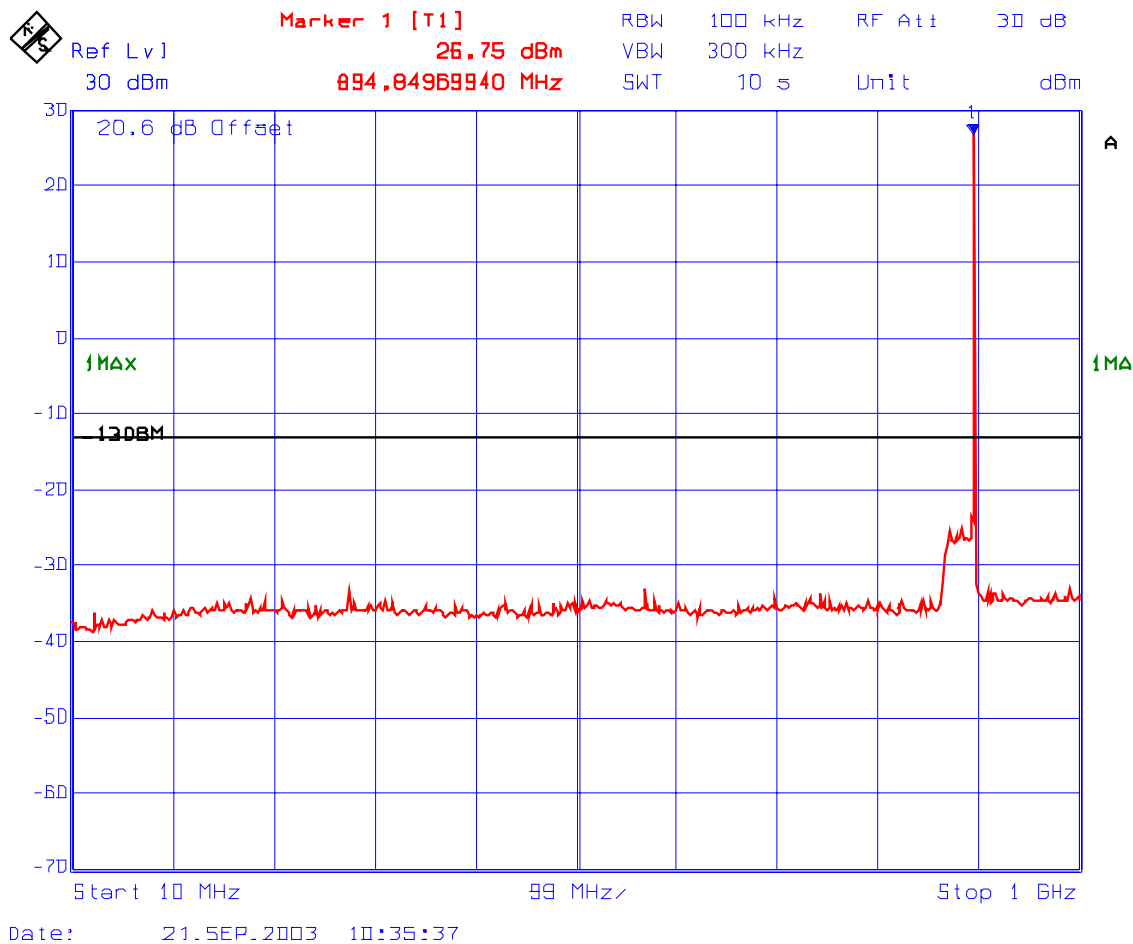
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 334 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: TDMA
Fc: 894 MHz



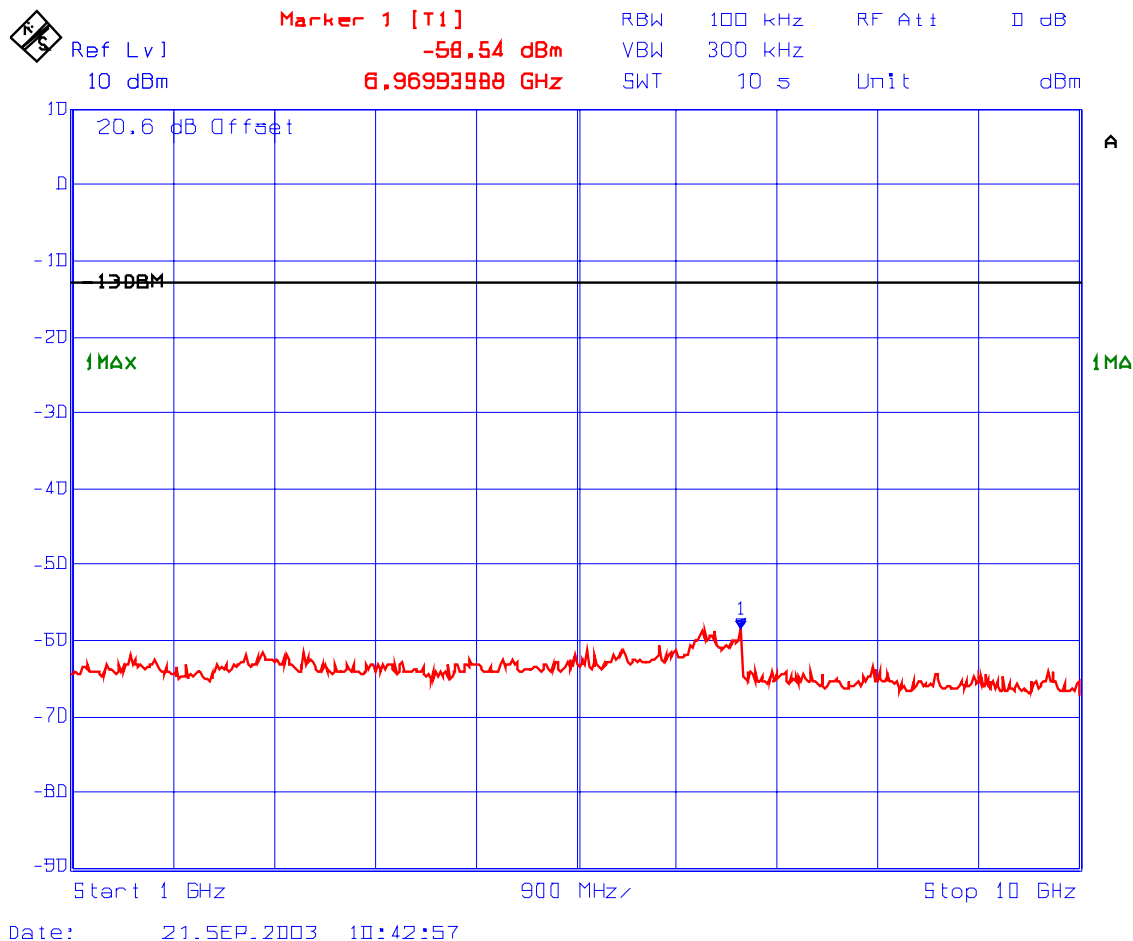
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Oct. 17, 2003

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PLOT # 335 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: TDMA
Fc: 894 MHz



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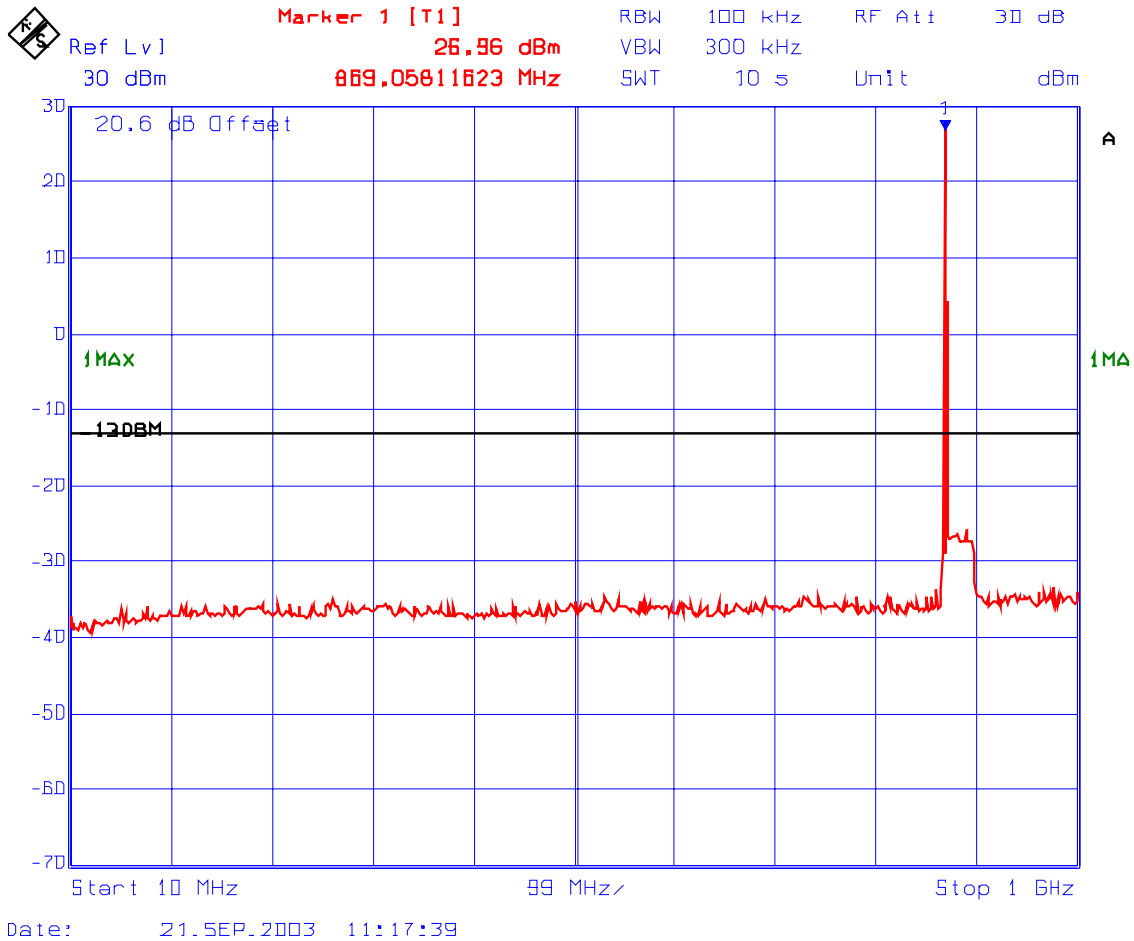
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 336 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: GSM
Fc: 869 MHz



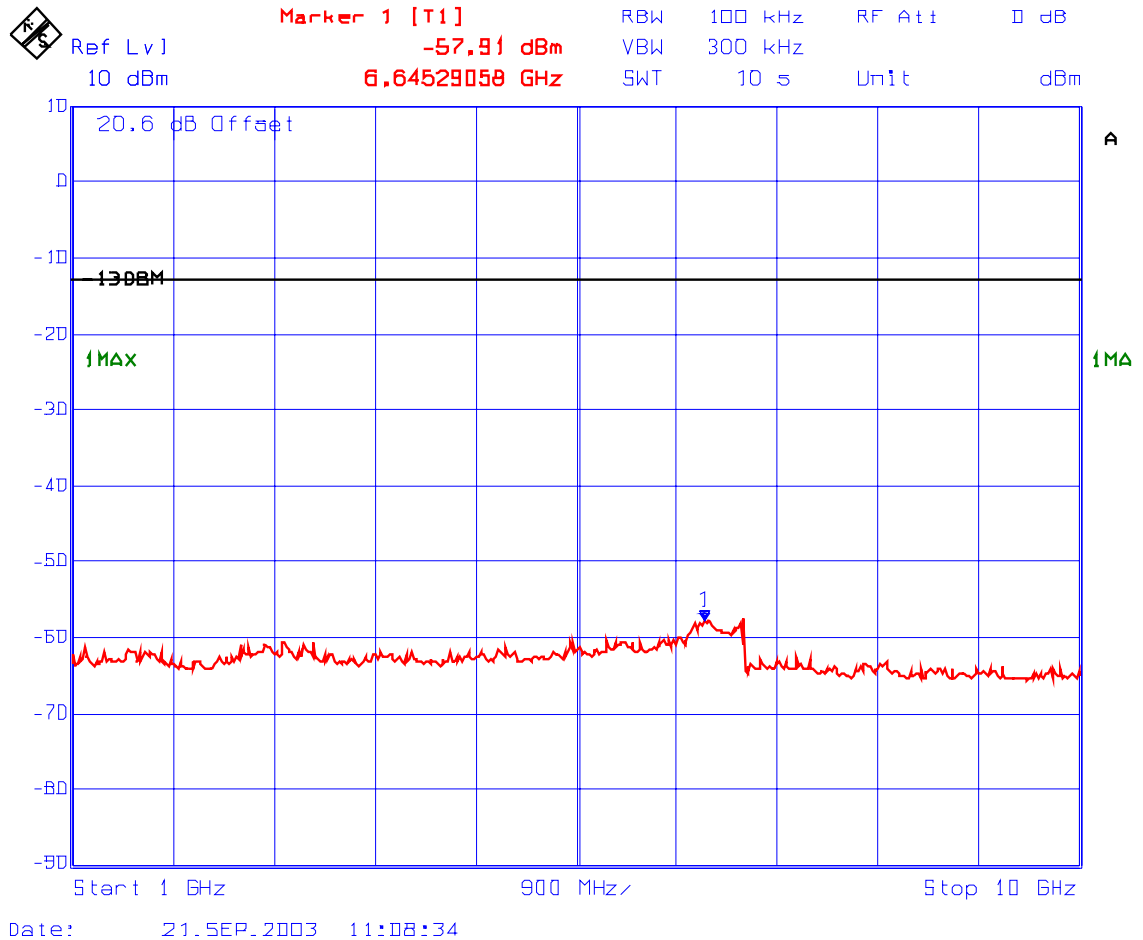
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PLOT # 337 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: GSM
Fc: 869 MHz



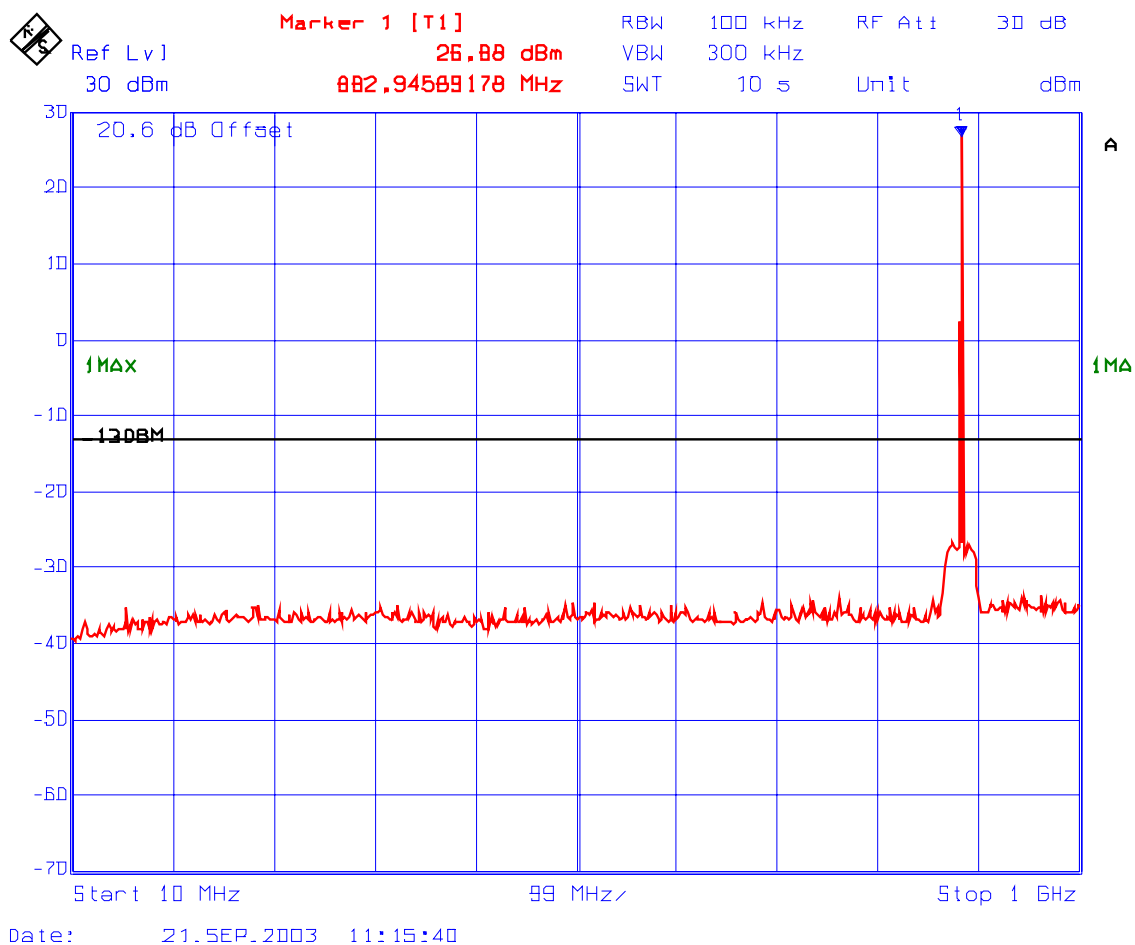
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 338 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: GSM
Fc: 881.5 MHz



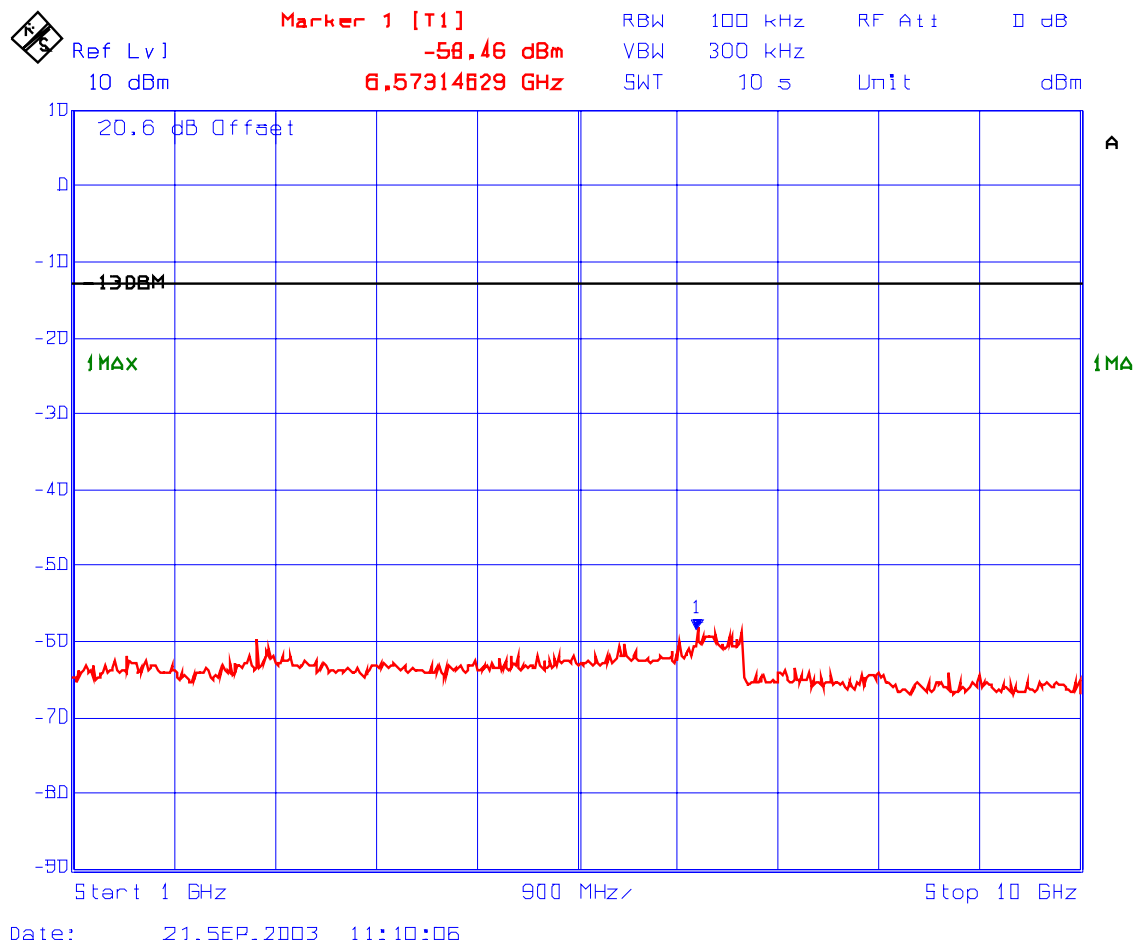
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Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 339 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: GSM
Fc: 881.5 MHz



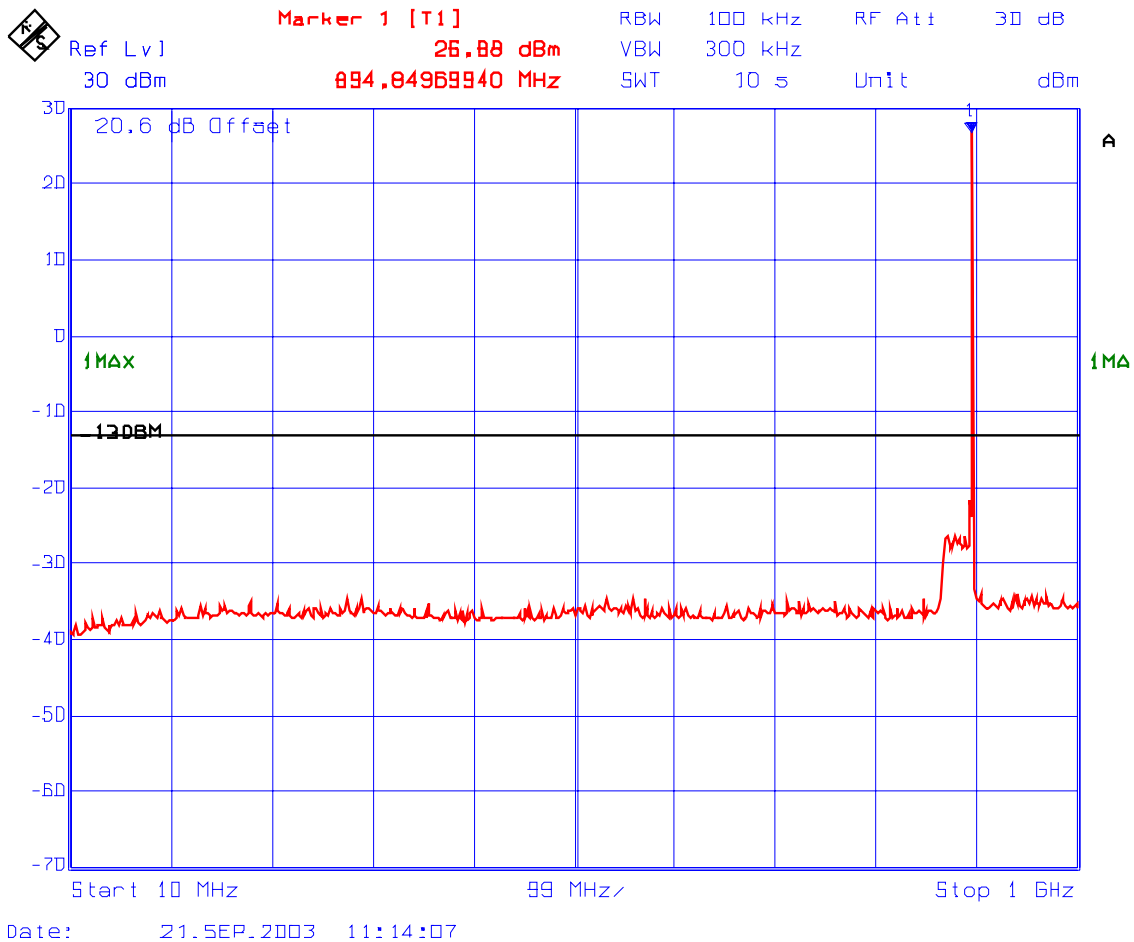
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Oct. 17, 2003

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PLOT # 340 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: GSM
Fc: 894 MHz



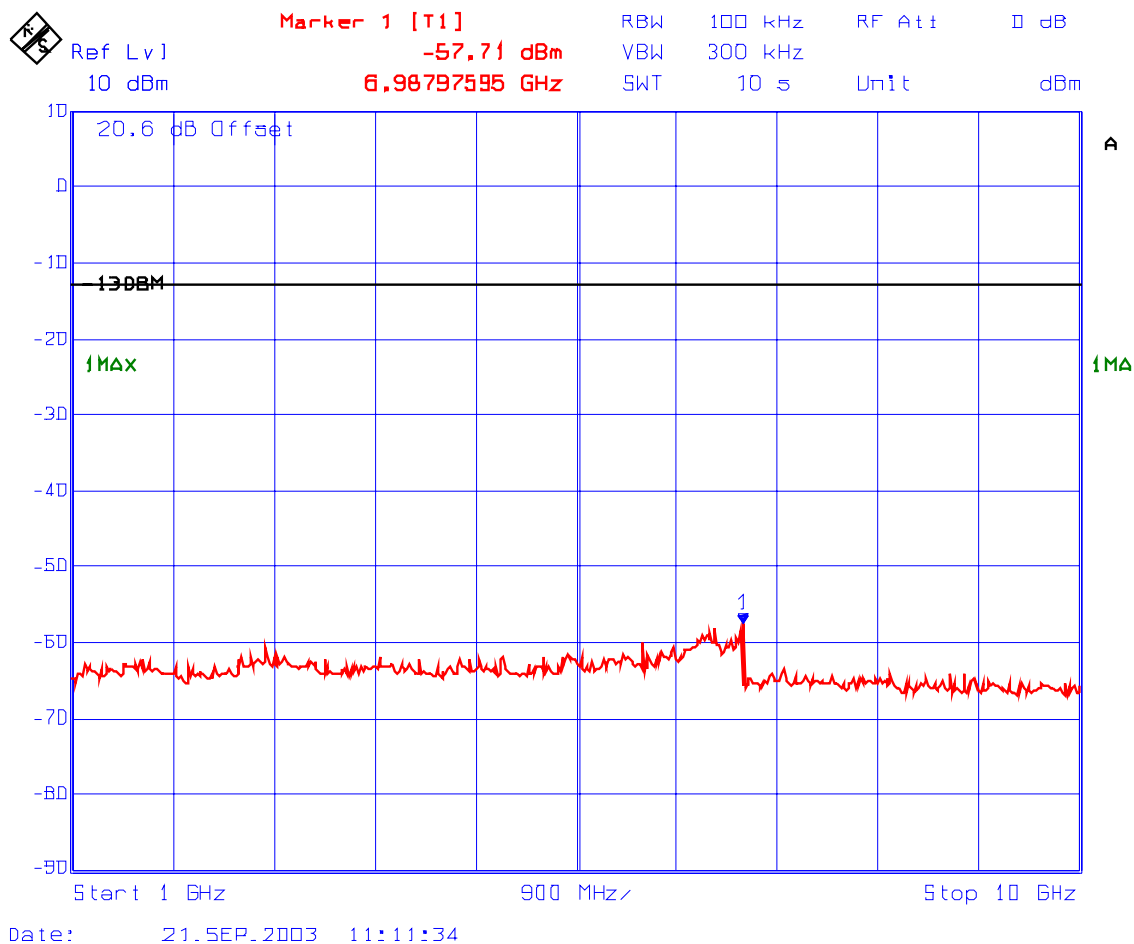
ULTRATECH GROUP OF LABS

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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 341 Spurious Emissions Conducted with 1 RF signal input/output
Modulation: GSM
Fc: 894 MHz



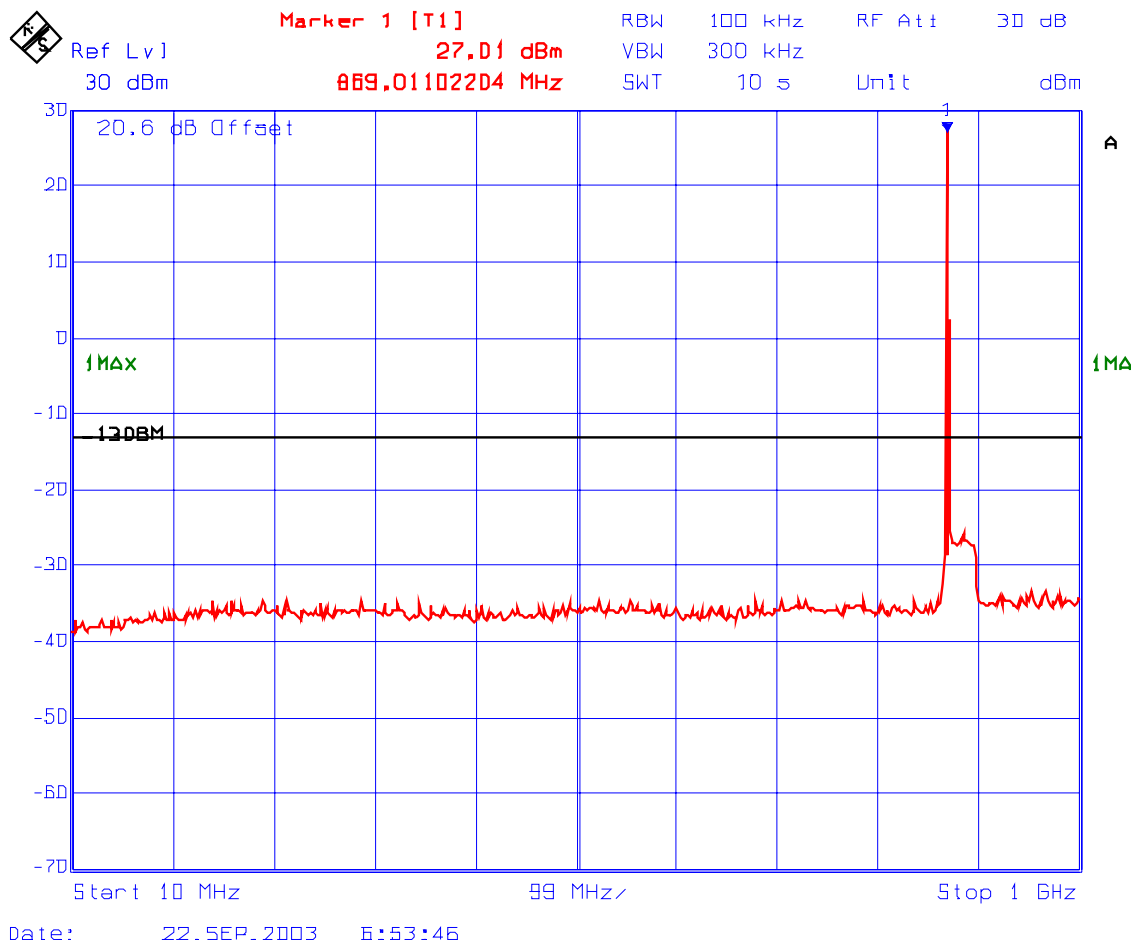
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 342 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 869 MHz, Fc + 30 kHz



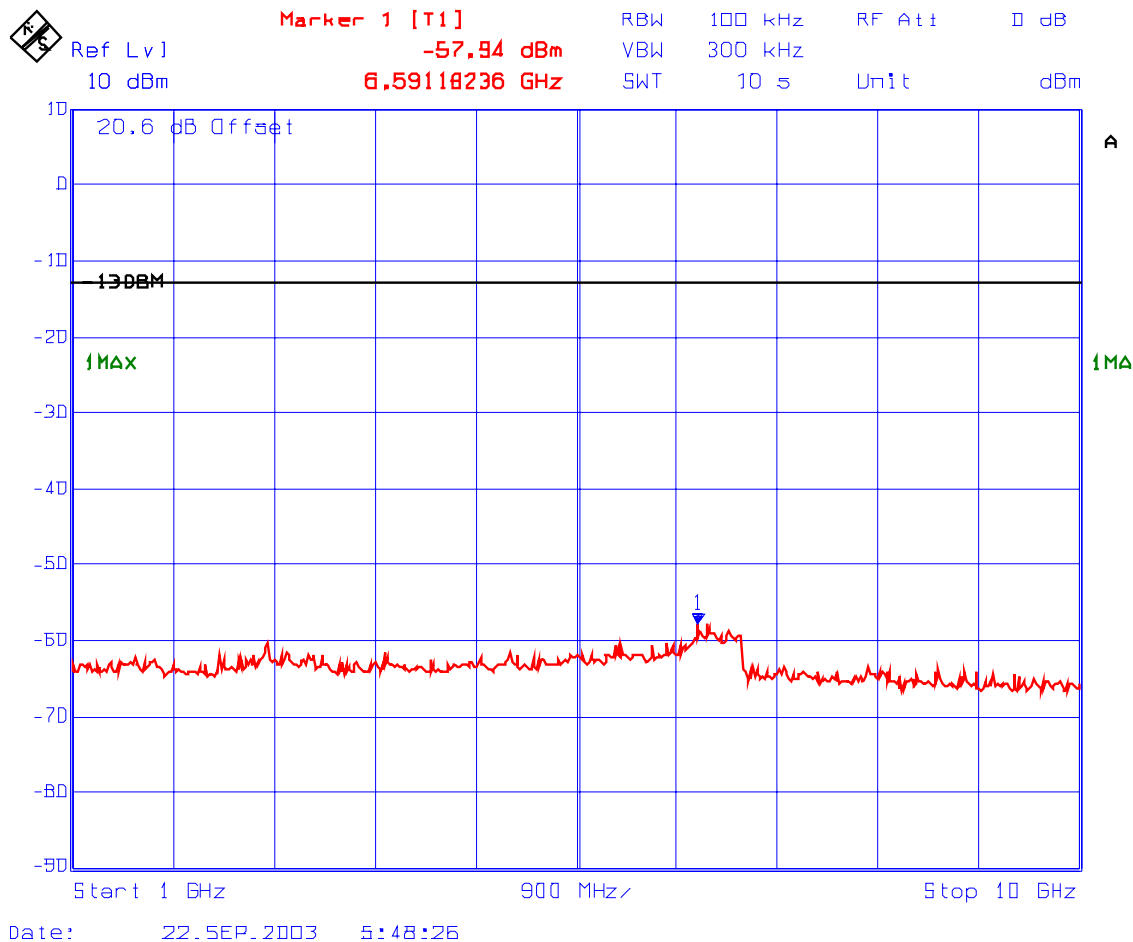
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File #: KT1-034FCC22-90
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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 343 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 869 MHz, Fc + 30 kHz



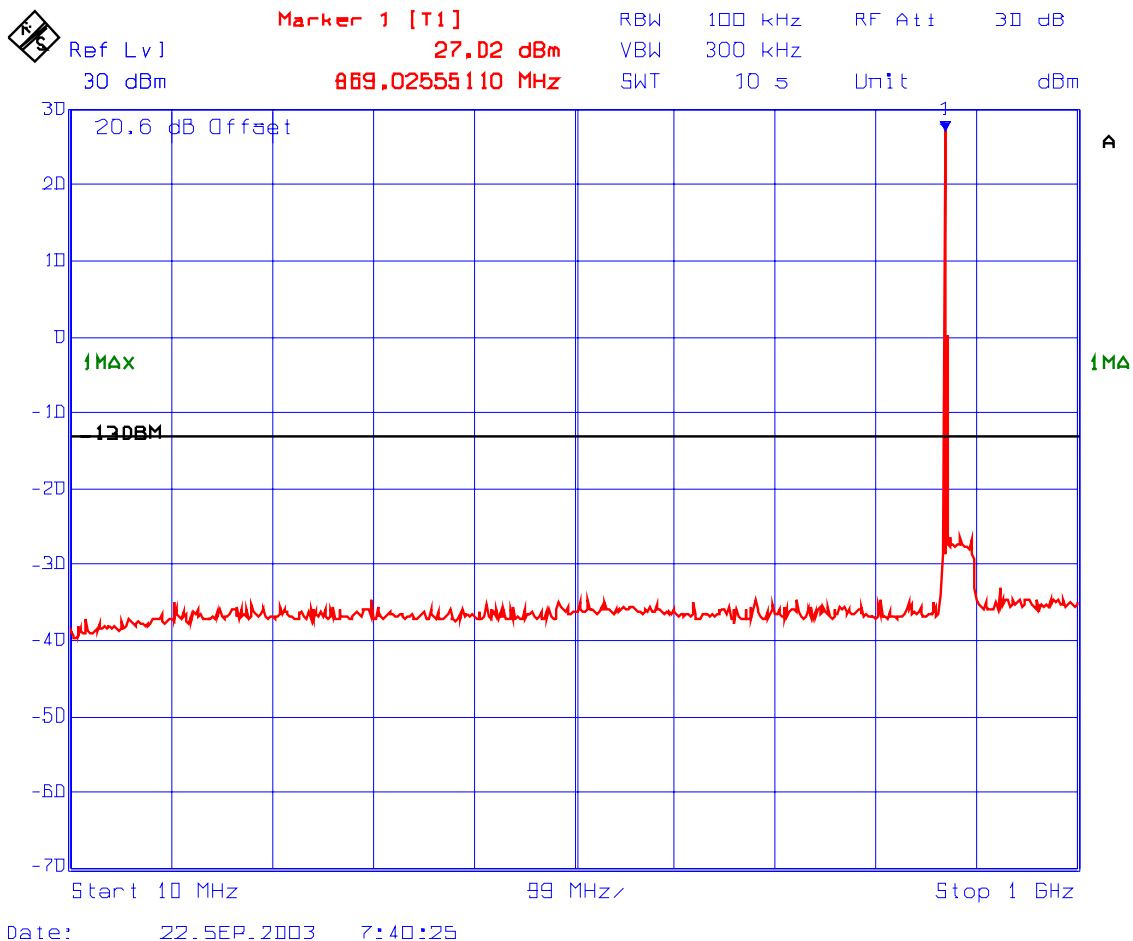
ULTRATECH GROUP OF LABS

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PLOT # 344 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 869 MHz, Fc + 30 kHz, Fc + 60 kHz



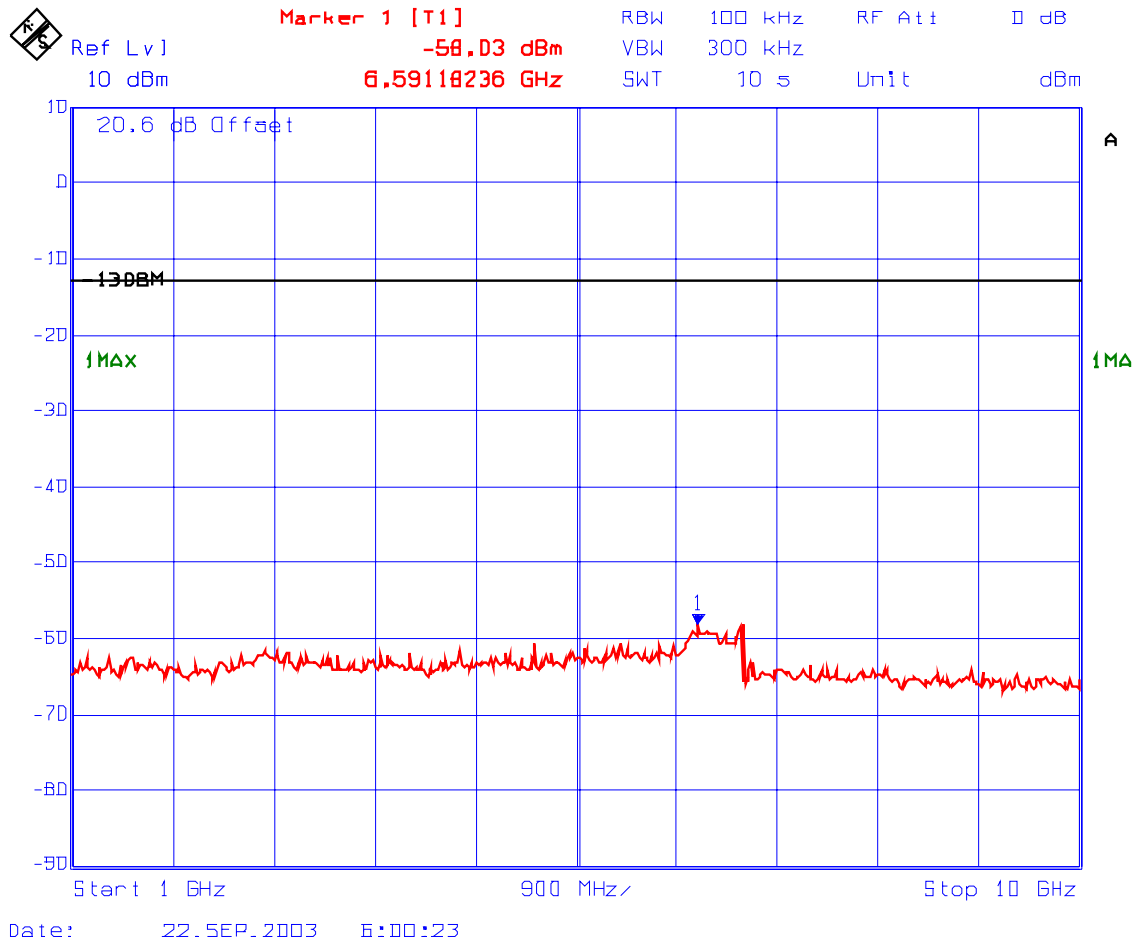
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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Oct. 17, 2003

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PLOT # 345 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 869 MHz, Fc + 30 kHz, Fc + 60 kHz



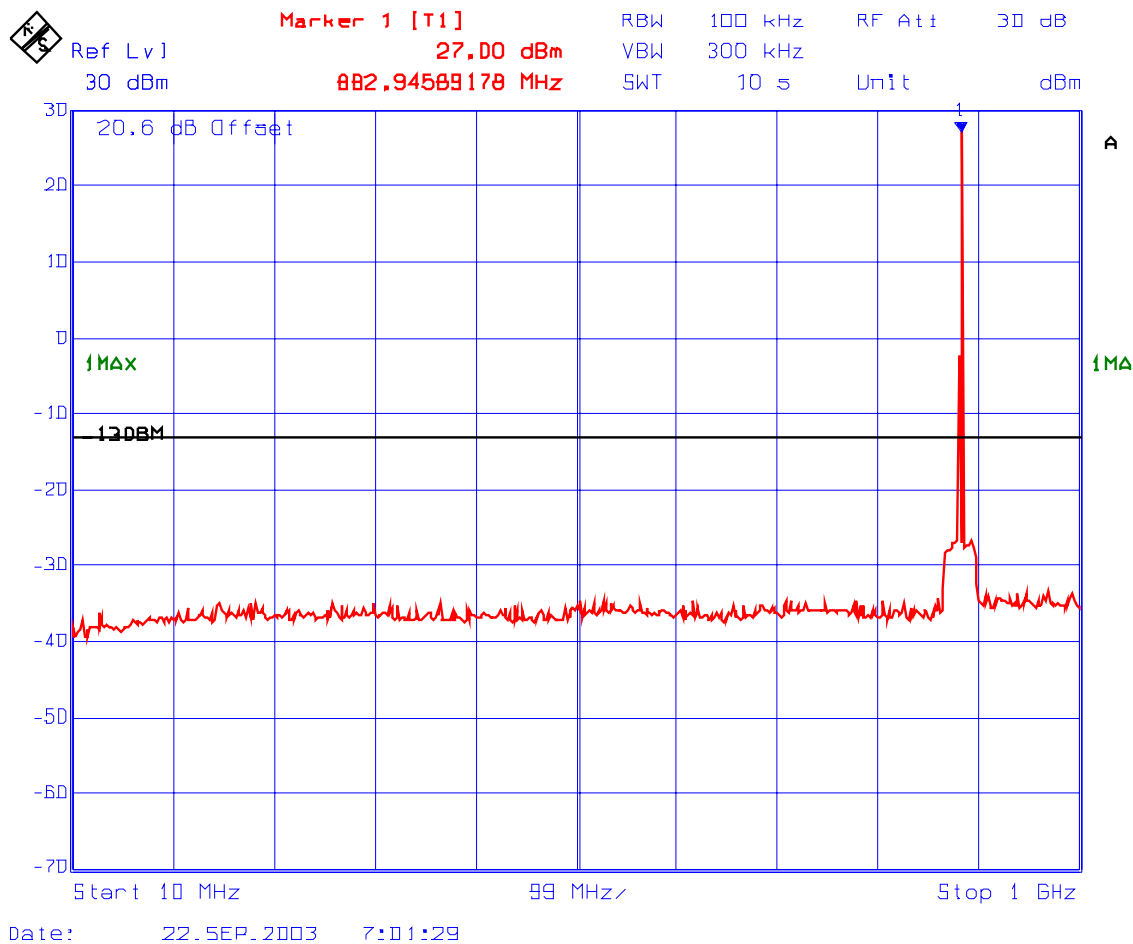
ULTRATECH GROUP OF LABS

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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

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PLOT # 346 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 881.5 MHz, Fc + 30 kHz



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File #: KTI-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 347 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 881.5 MHz, Fc + 30 kHz



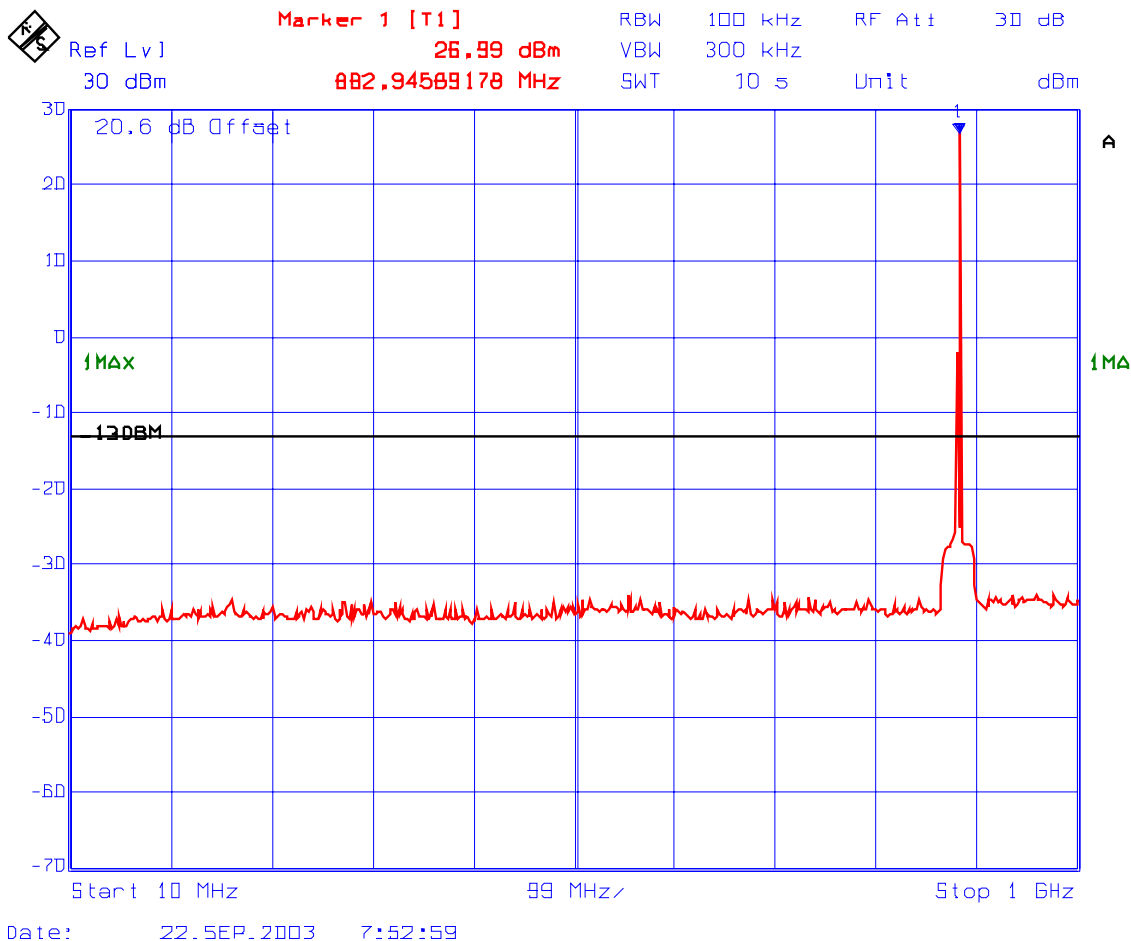
ULTRATECH GROUP OF LABS

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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 348 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 881.5 MHz, Fc - 30 kHz, Fc + 30 kHz



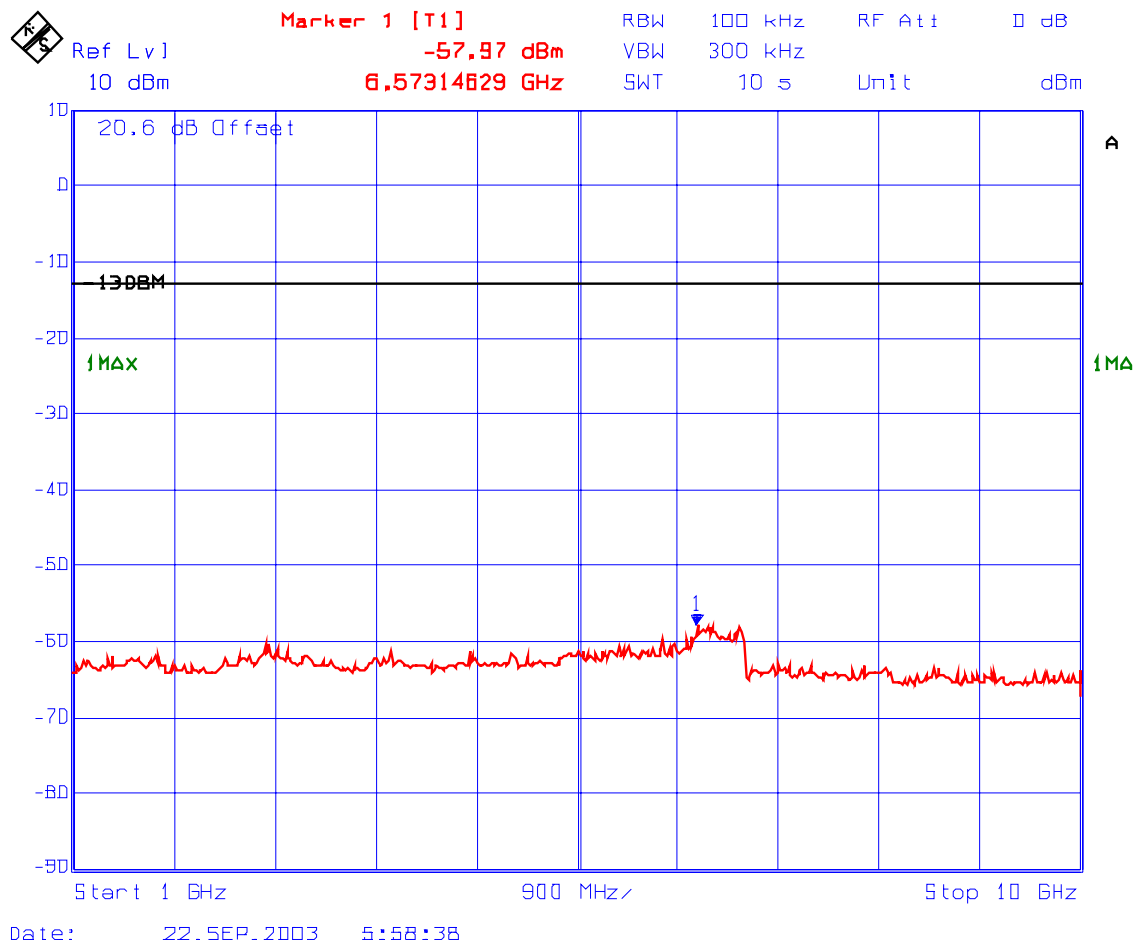
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Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 349 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 881.5 MHz, Fc - 30 kHz, Fc + 30 kHz



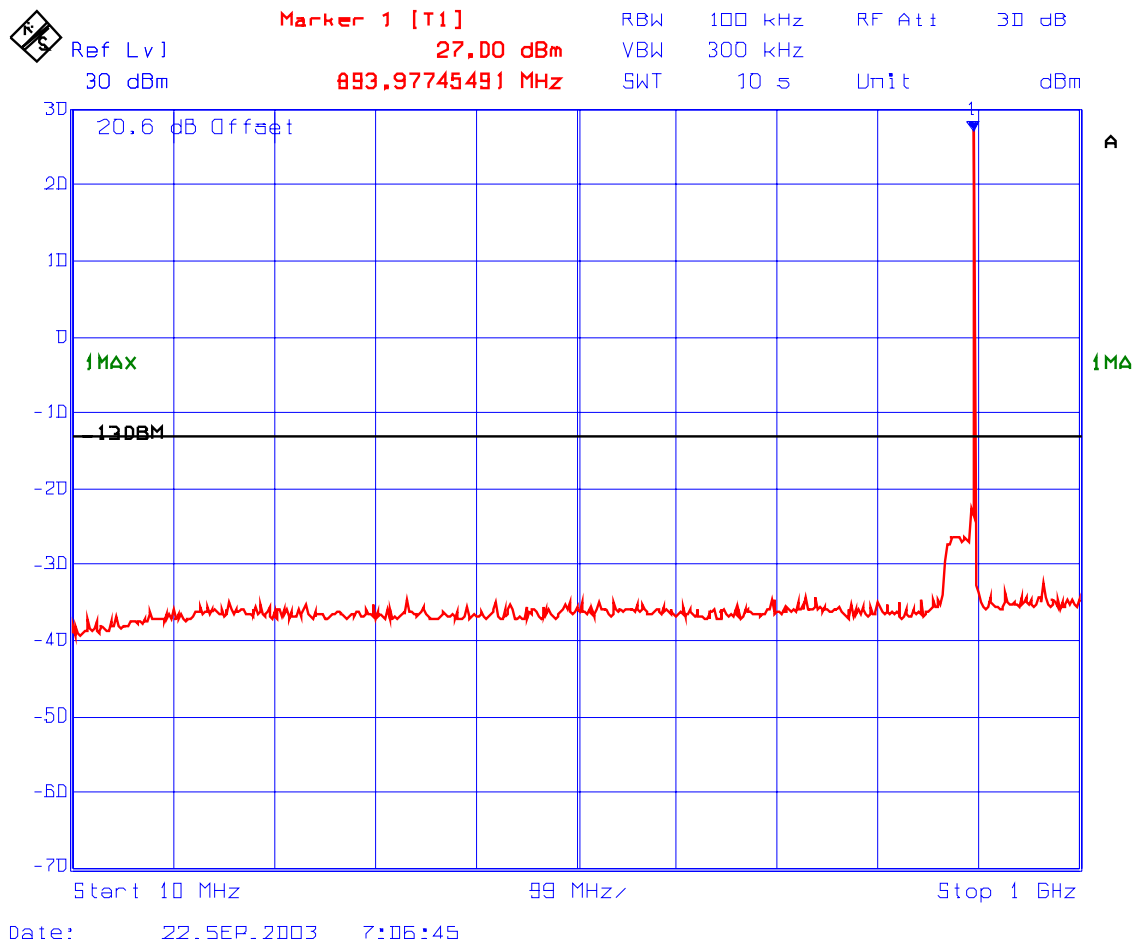
ULTRATECH GROUP OF LABS

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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 350 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 894 MHz, Fc - 30 kHz



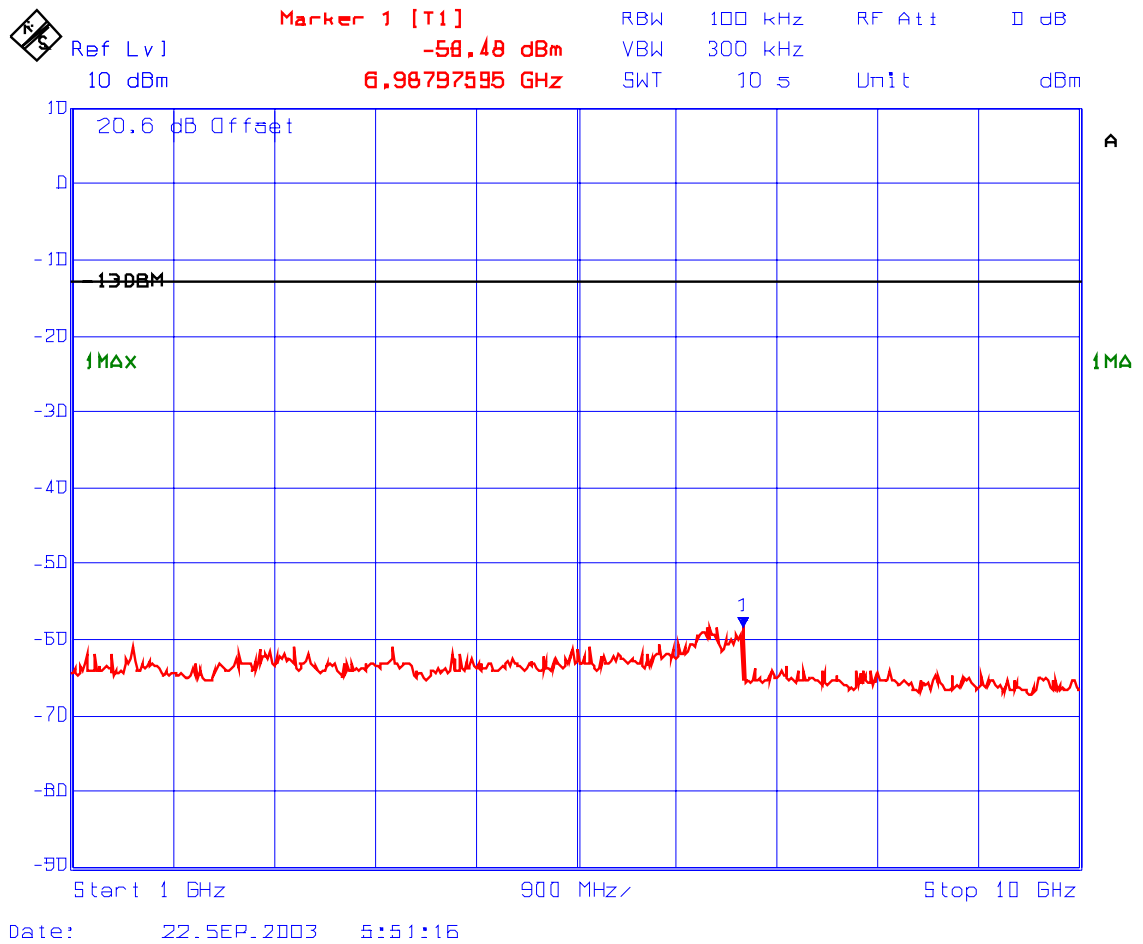
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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 351 Spurious Emissions Conducted with 2 RF signal inputs/outputs
Fc: 894 MHz, Fc - 30 kHz



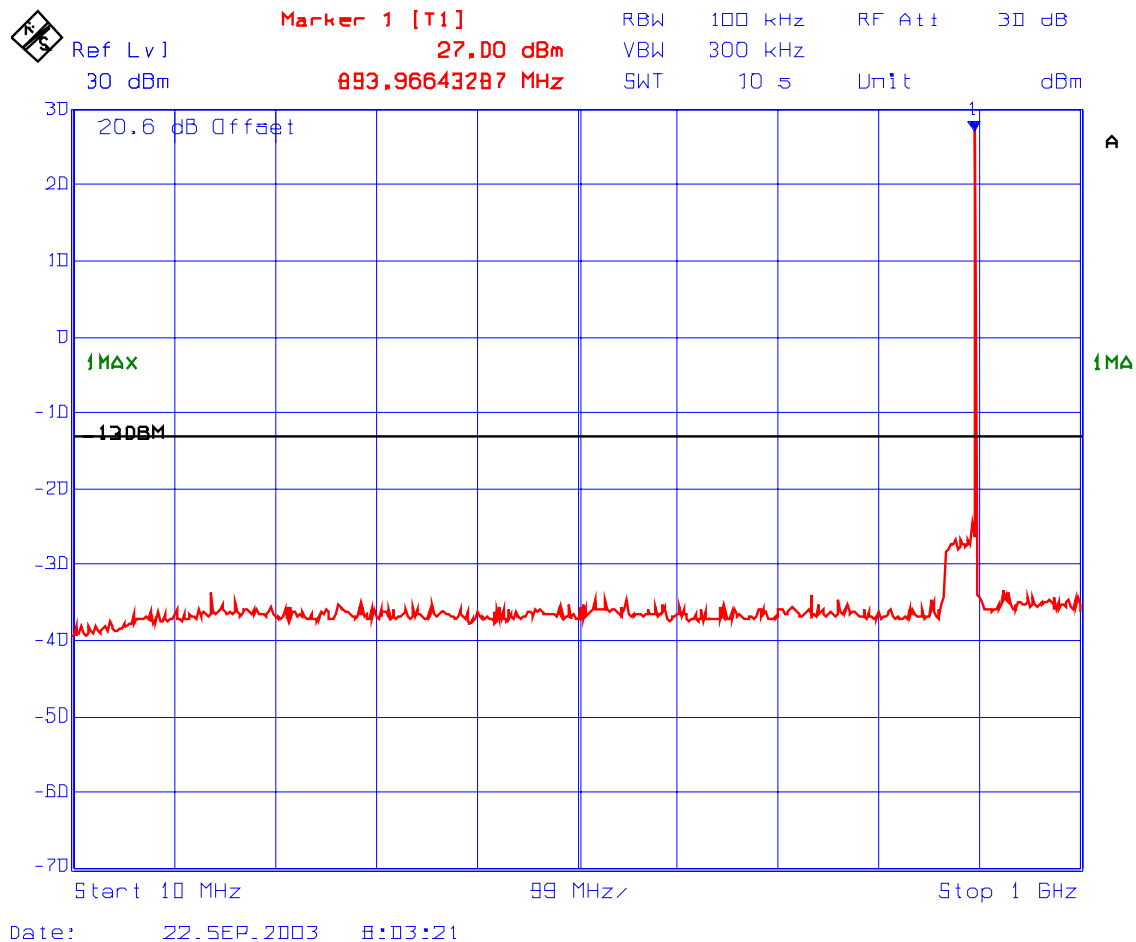
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Oct. 17, 2003

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PLOT # 352 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 894 MHz, Fc - 30 kHz, Fc - 60 kHz



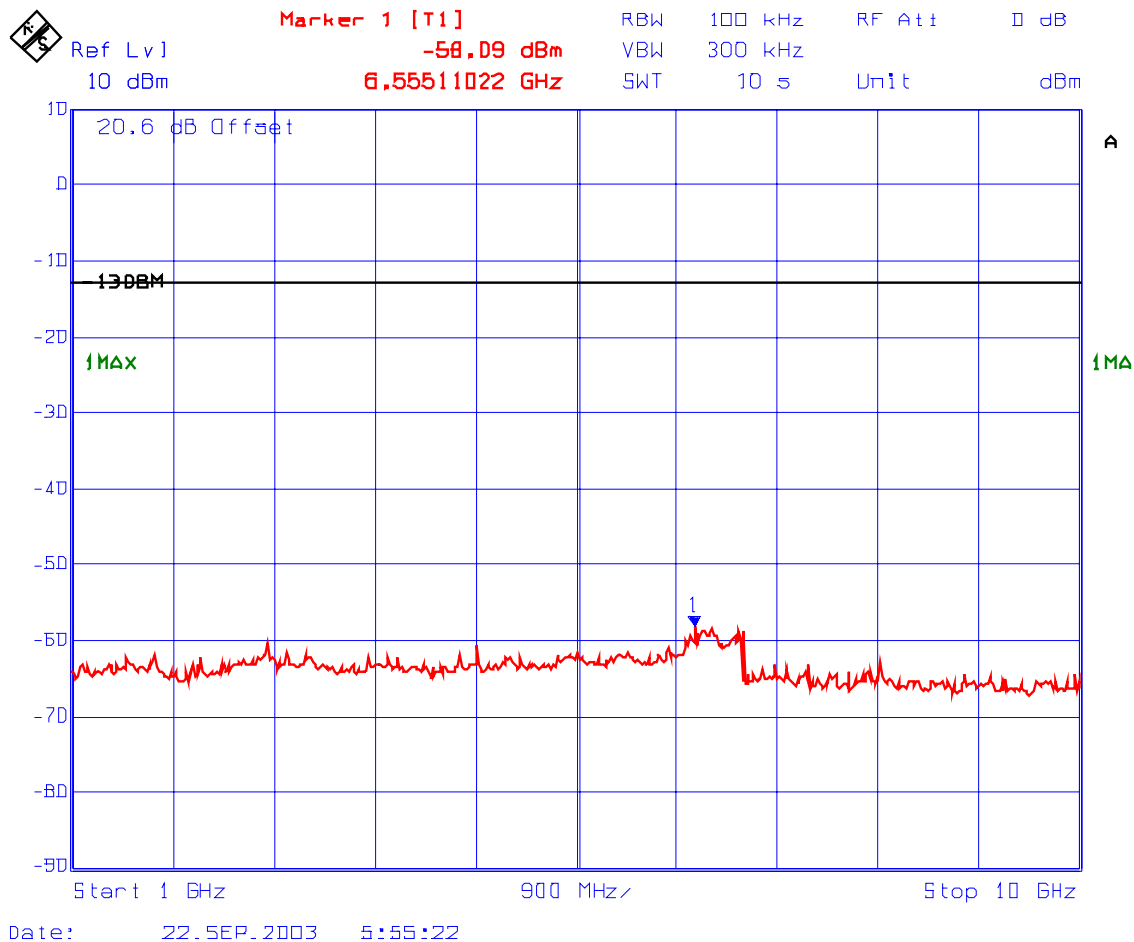
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

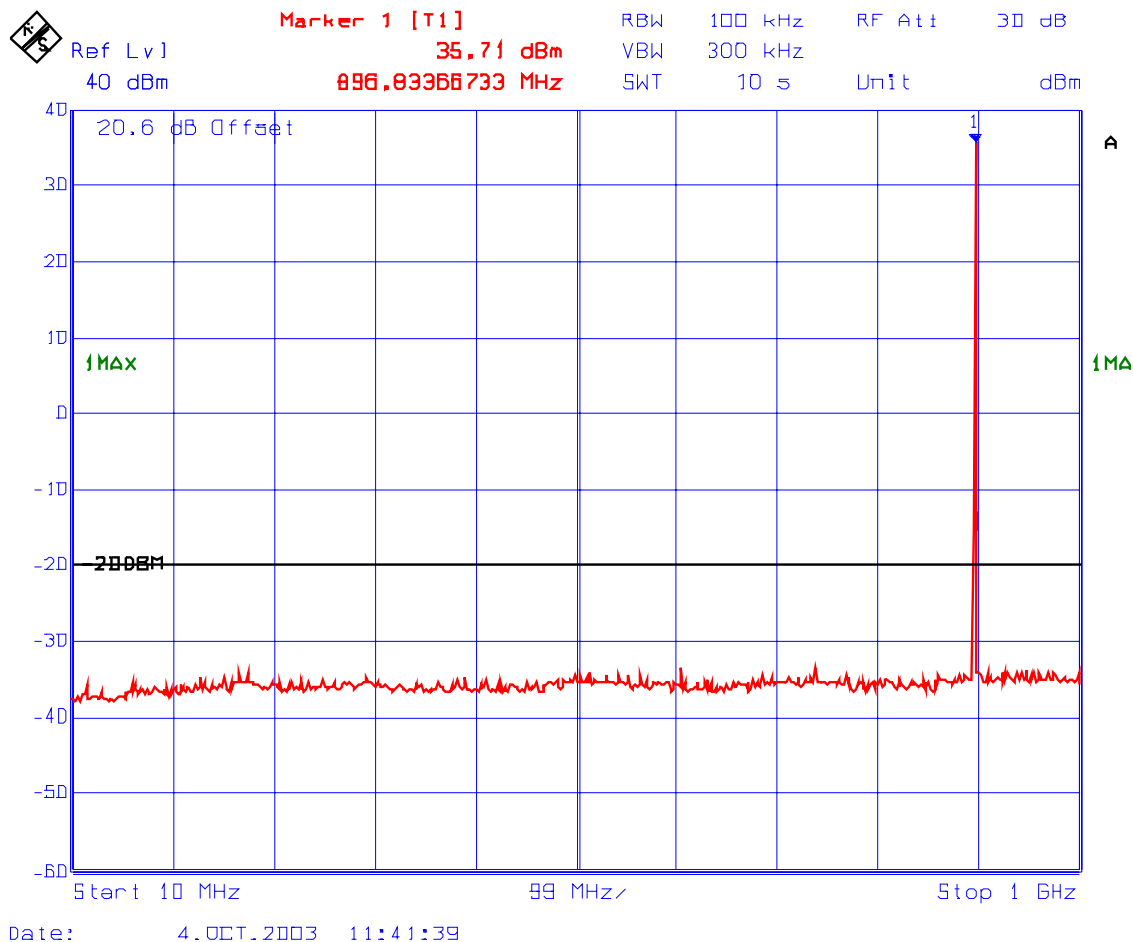
File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 353 Spurious Emissions Conducted with 3 RF signal inputs/outputs
Fc: 894 MHz, Fc - 30 kHz, Fc - 60 kHz



**PLOT # 354 Spurious Emissions Conducted with 1 RF signal input/output
Fc: 896 MHz**



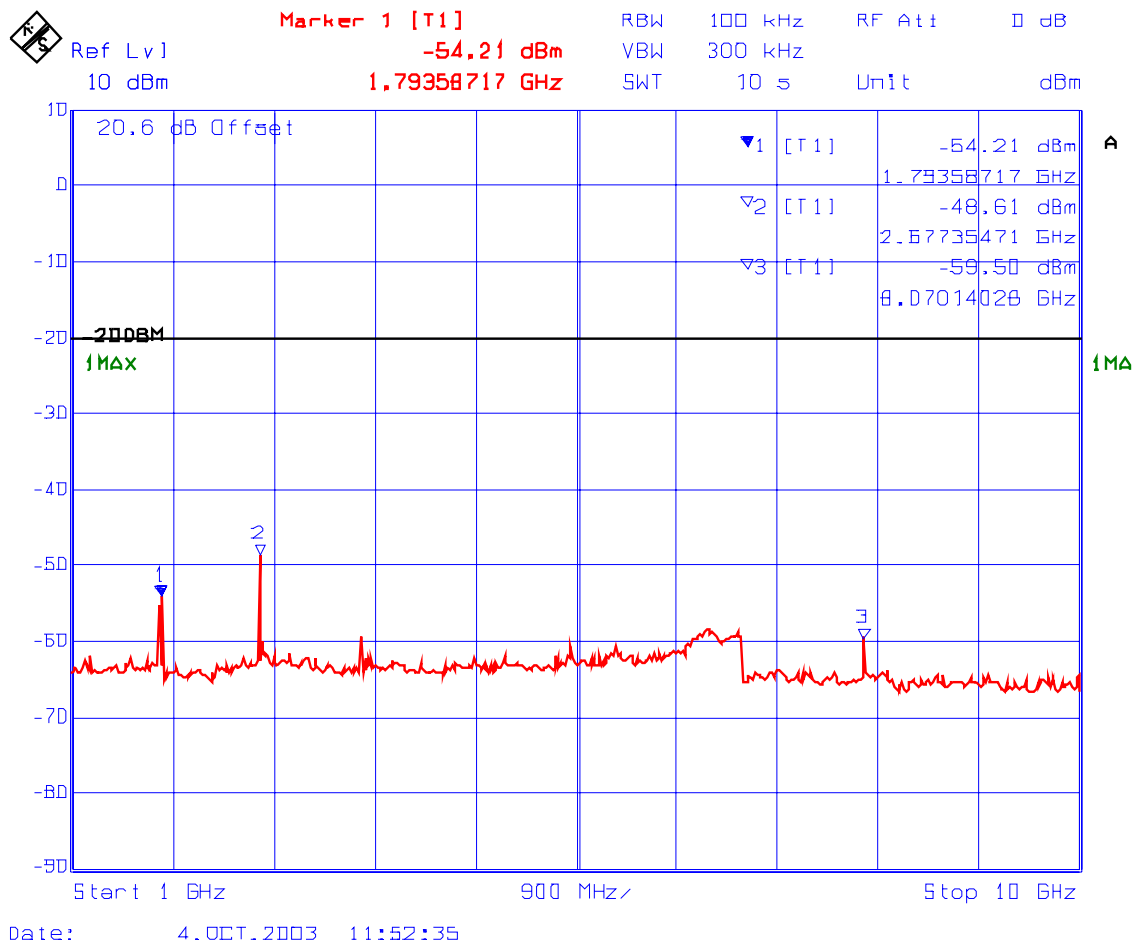
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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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**PLOT # 355 Spurious Emissions Conducted with 1 RF signal input/output
 Fc: 896 MHz**



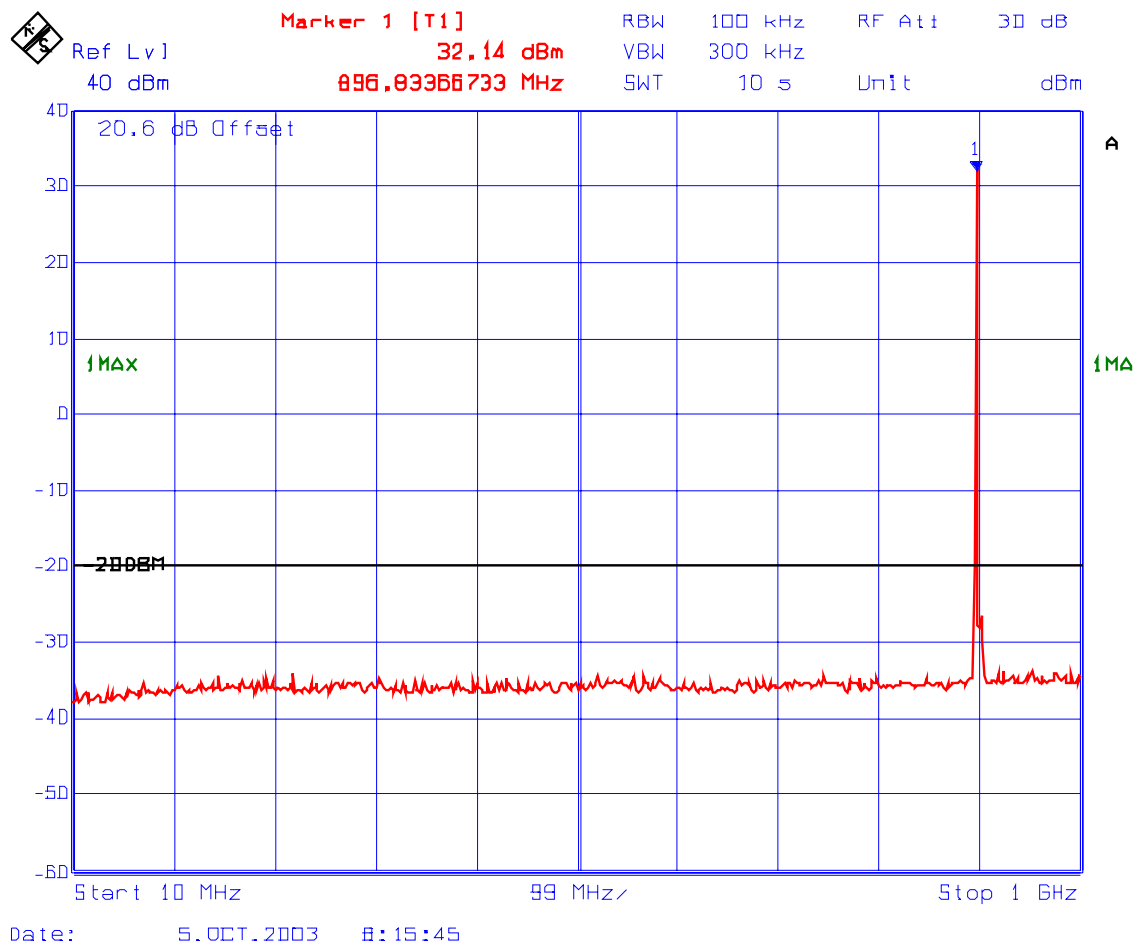
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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 356 Spurious Emissions conducted with 2 RF signal inputs/outputs
Fc: 896 MHz, Fc + 12.5 kHz



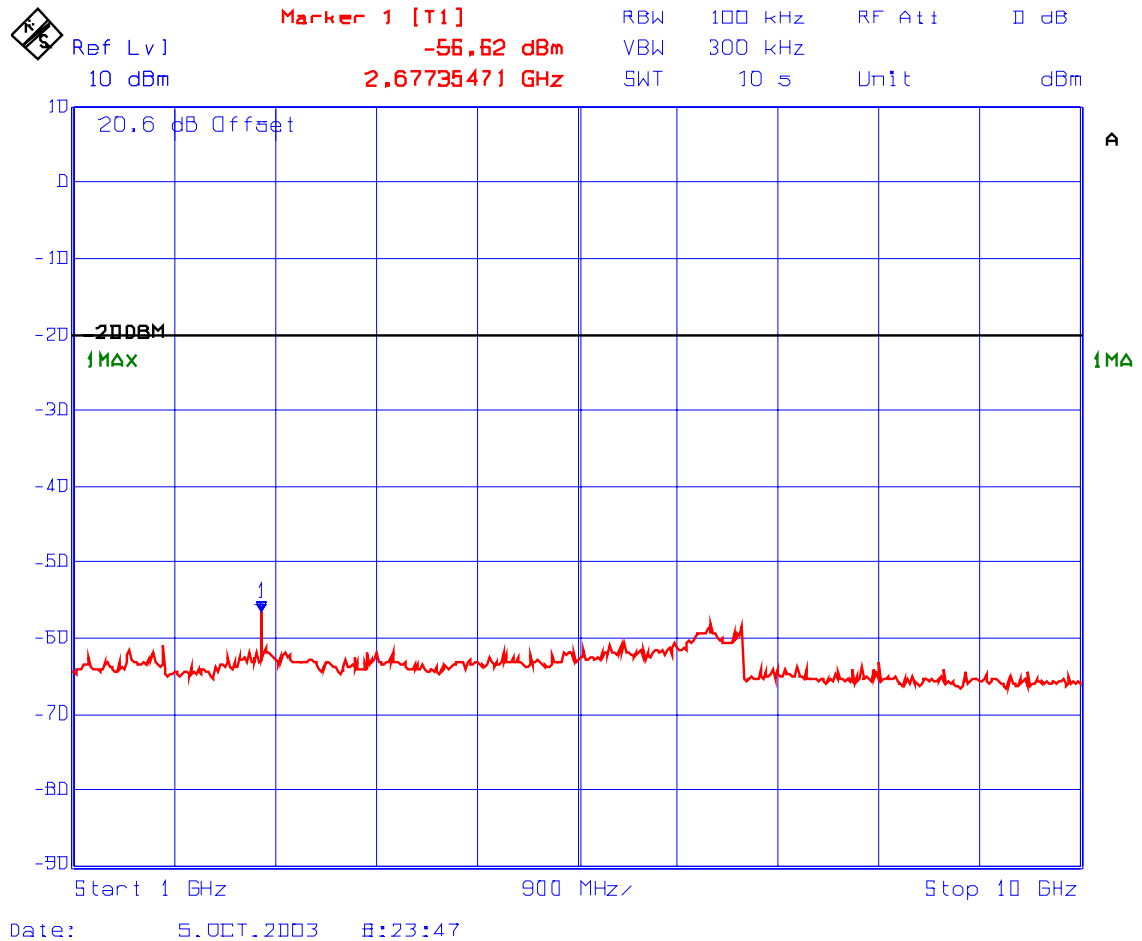
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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 357 Spurious Emissions conducted with 2 RF signal inputs/outputs
Fc: 896 MHz, Fc + 12.5 kHz



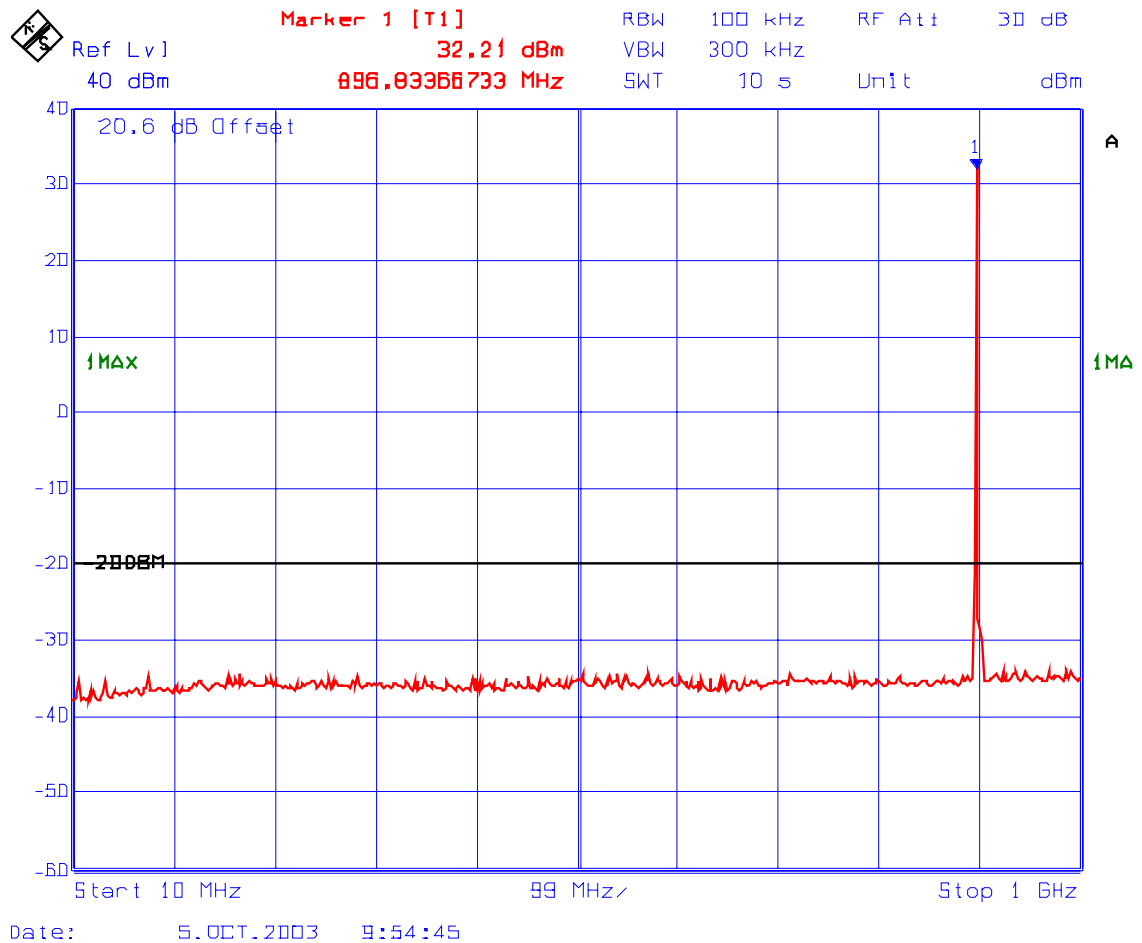
ULTRATECH GROUP OF LABS

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PLOT # 358 Spurious Emissions conducted with 3 RF signal inputs/outputs
Fc: 896 MHz, Fc + 12.5 kHz, Fc + 25 kHz



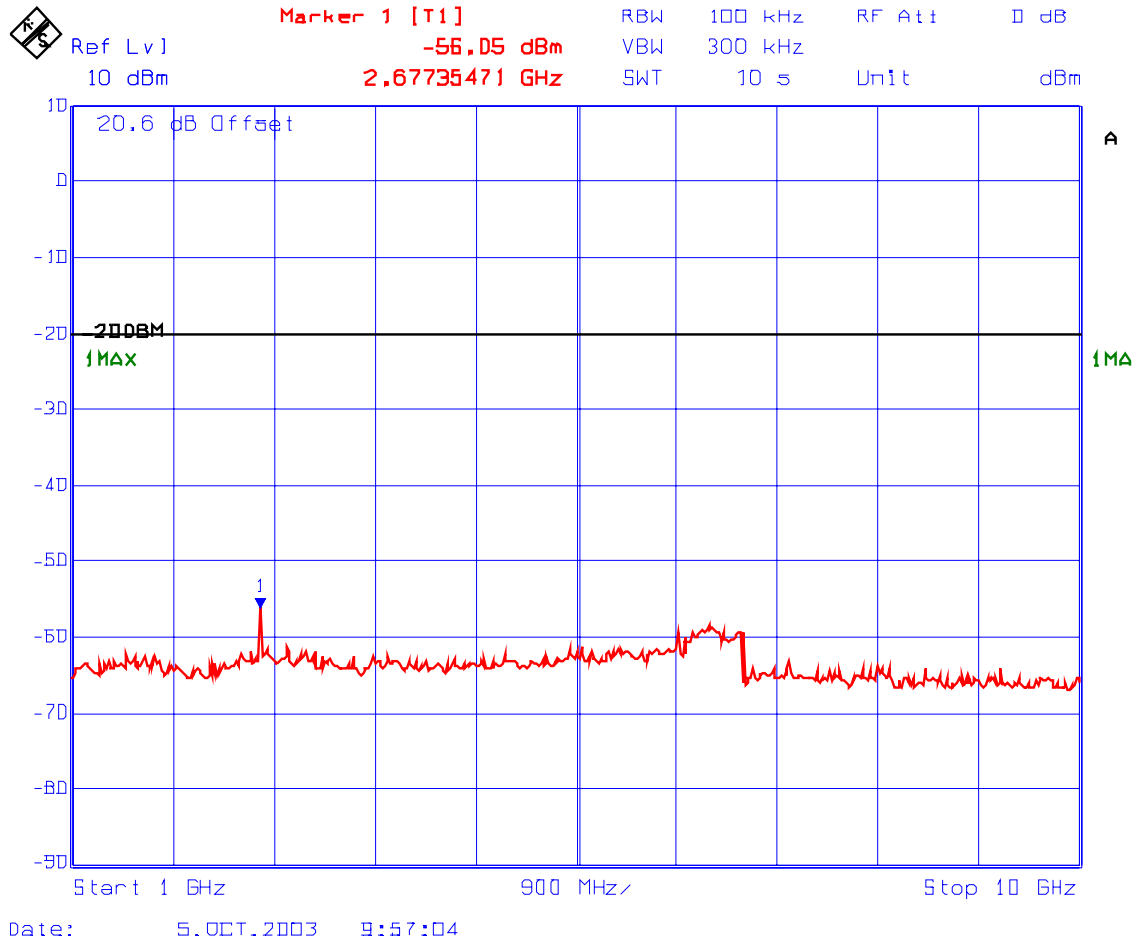
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PLOT # 359 Spurious Emissions conducted with 3 RF signal inputs/outputs
Fc: 896 MHz, Fc + 12.5 kHz, Fc + 25 kHz



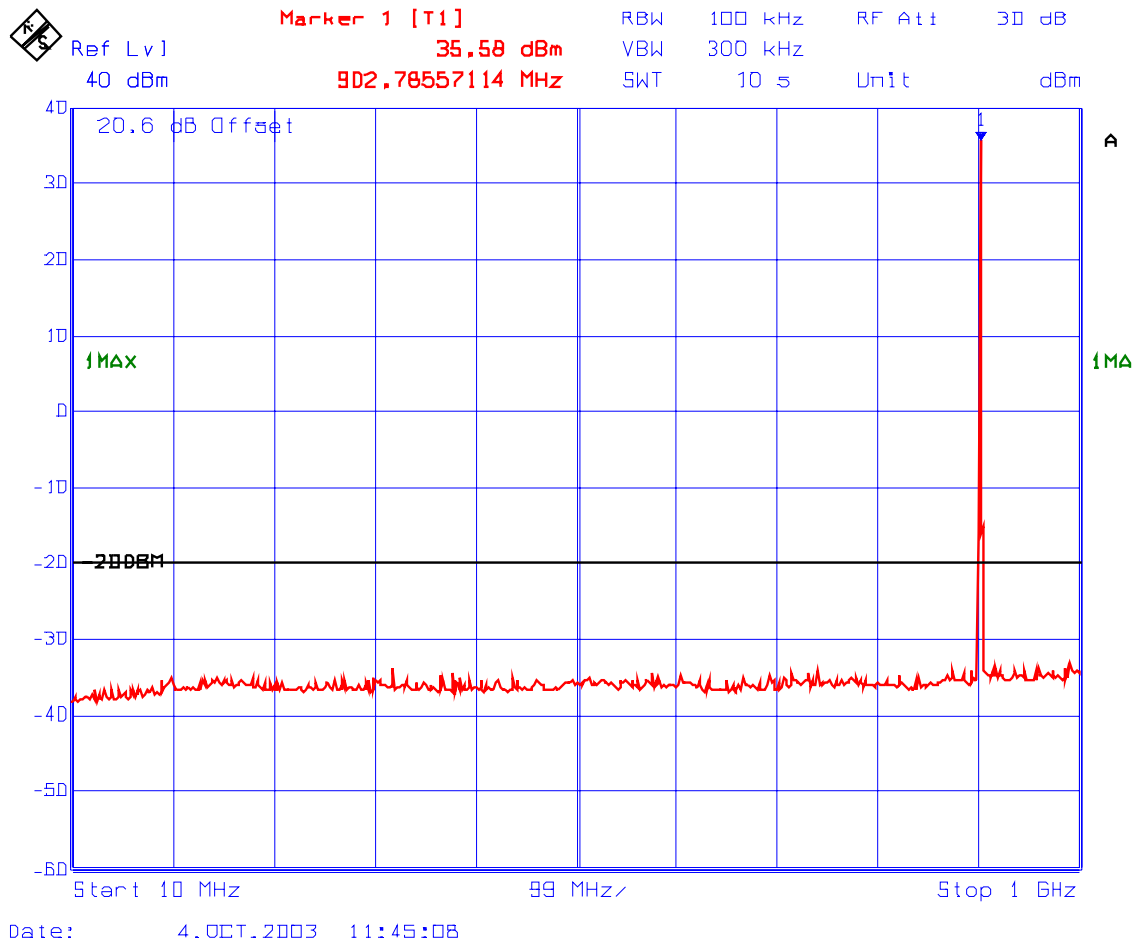
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**PLOT # 360 Spurious Emissions Conducted with 1 RF signal input/output
Fc: 902 MHz**



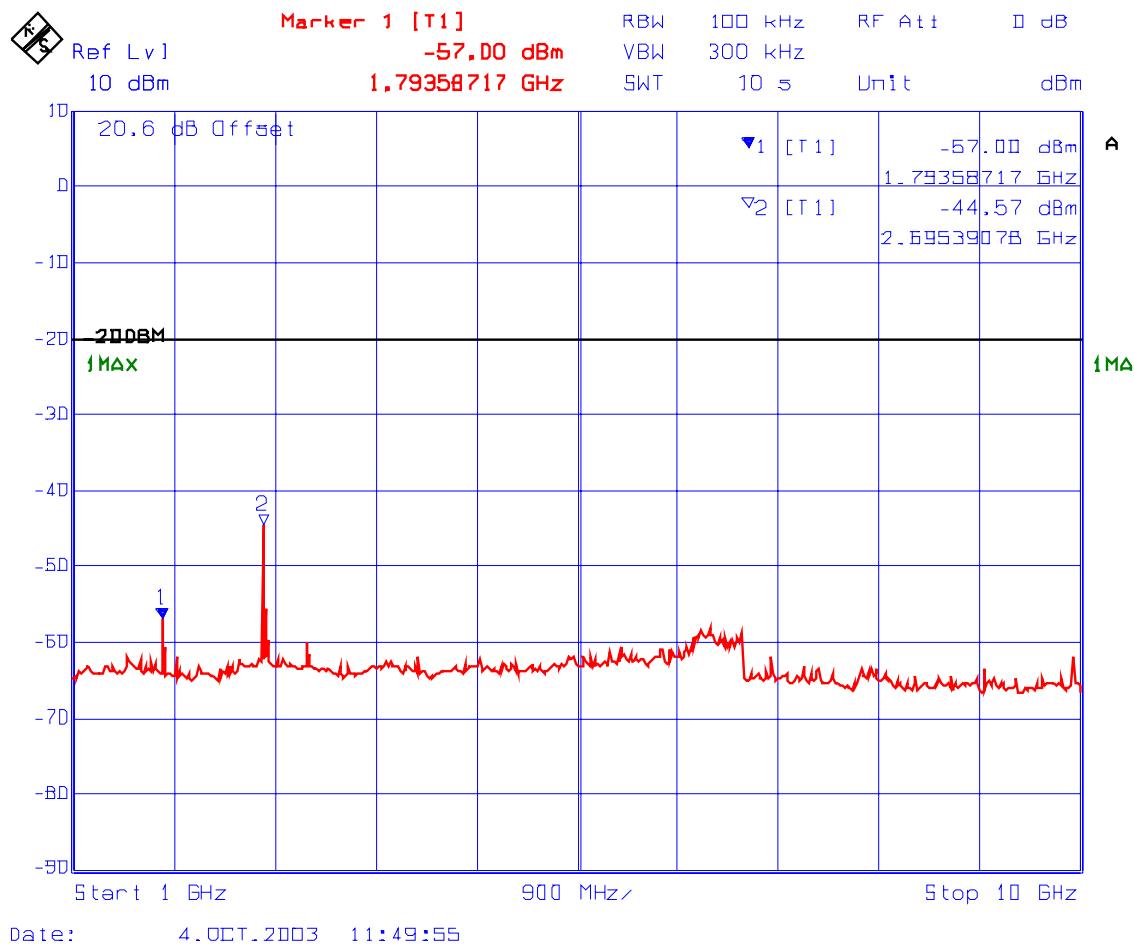
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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**PLOT # 361 Spurious Emissions Conducted with 1 RF signal input/output
 Fc: 902 MHz**



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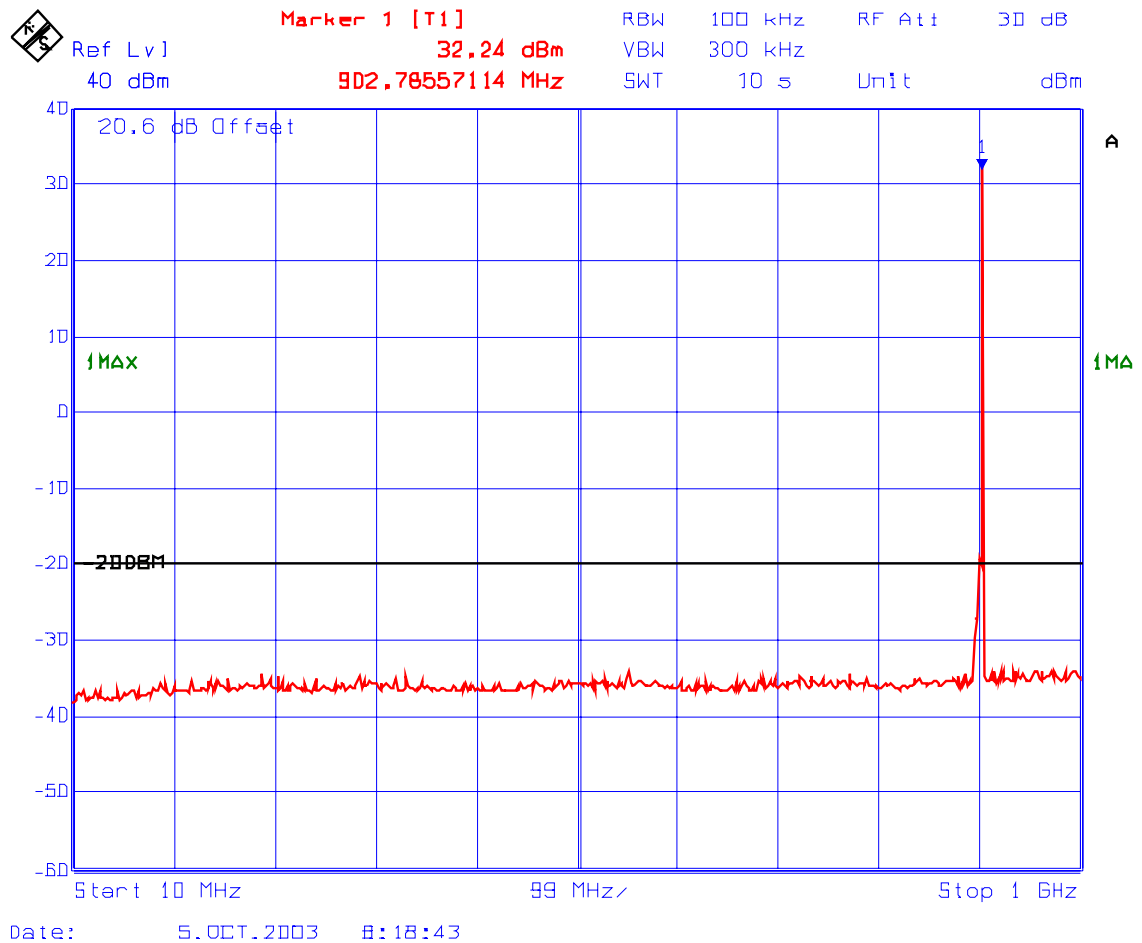
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
 Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 362 Spurious Emissions conducted with 2 RF signal inputs/outputs
Fc: 902 MHz, Fc - 12.5 kHz



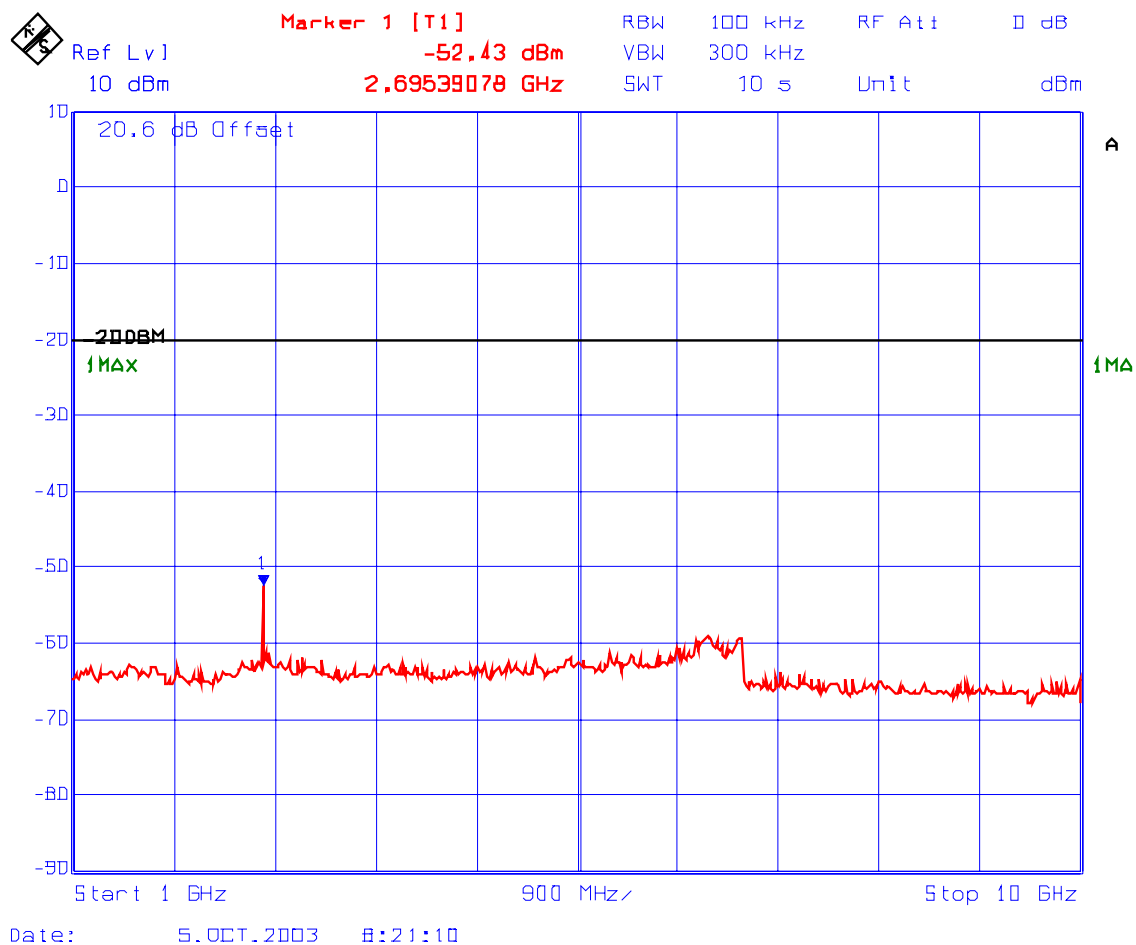
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 363 Spurious Emissions conducted with 2 RF signal inputs/outputs
Fc: 902 MHz, Fc - 12.5 kHz



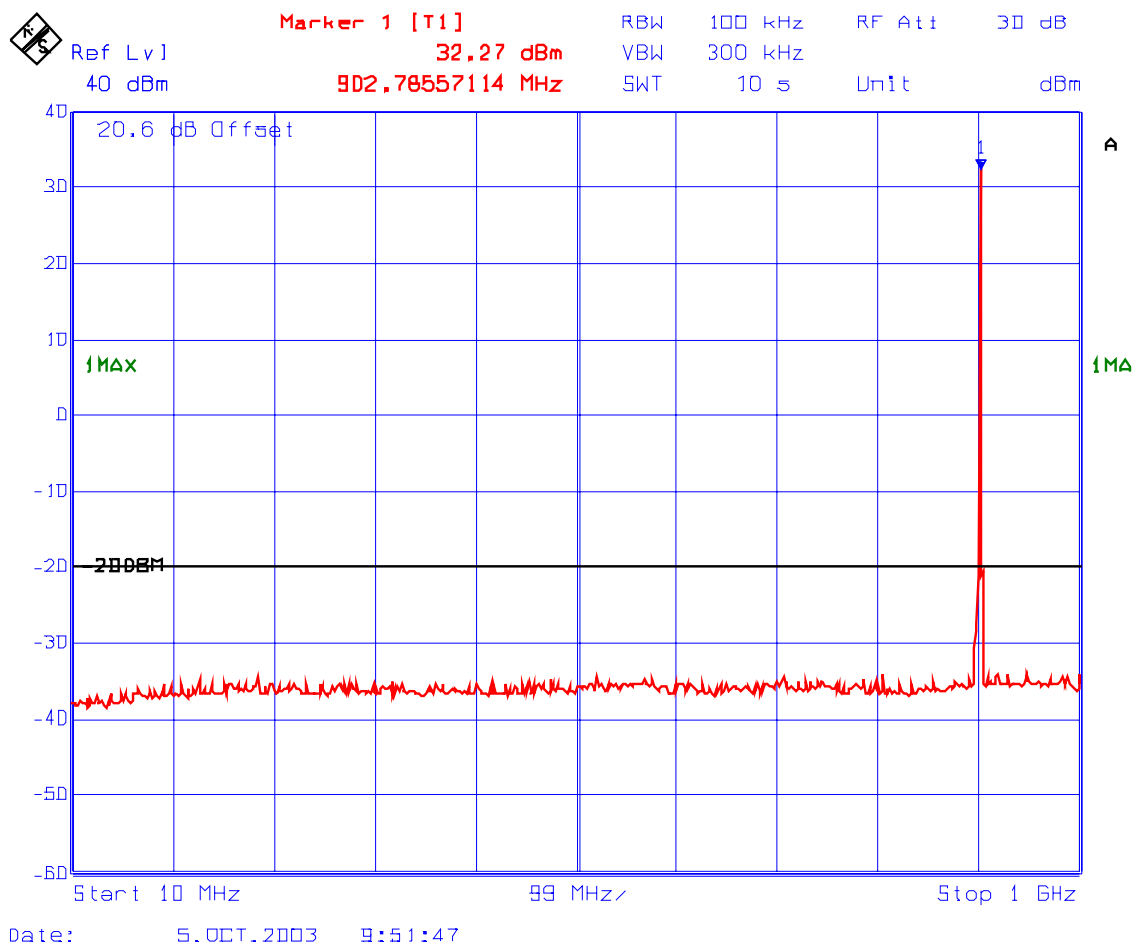
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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PLOT # 364 Spurious Emissions conducted with 3 RF signal inputs/outputs
Fc: 902 MHz, Fc - 12.5 kHz, Fc - 25 kHz



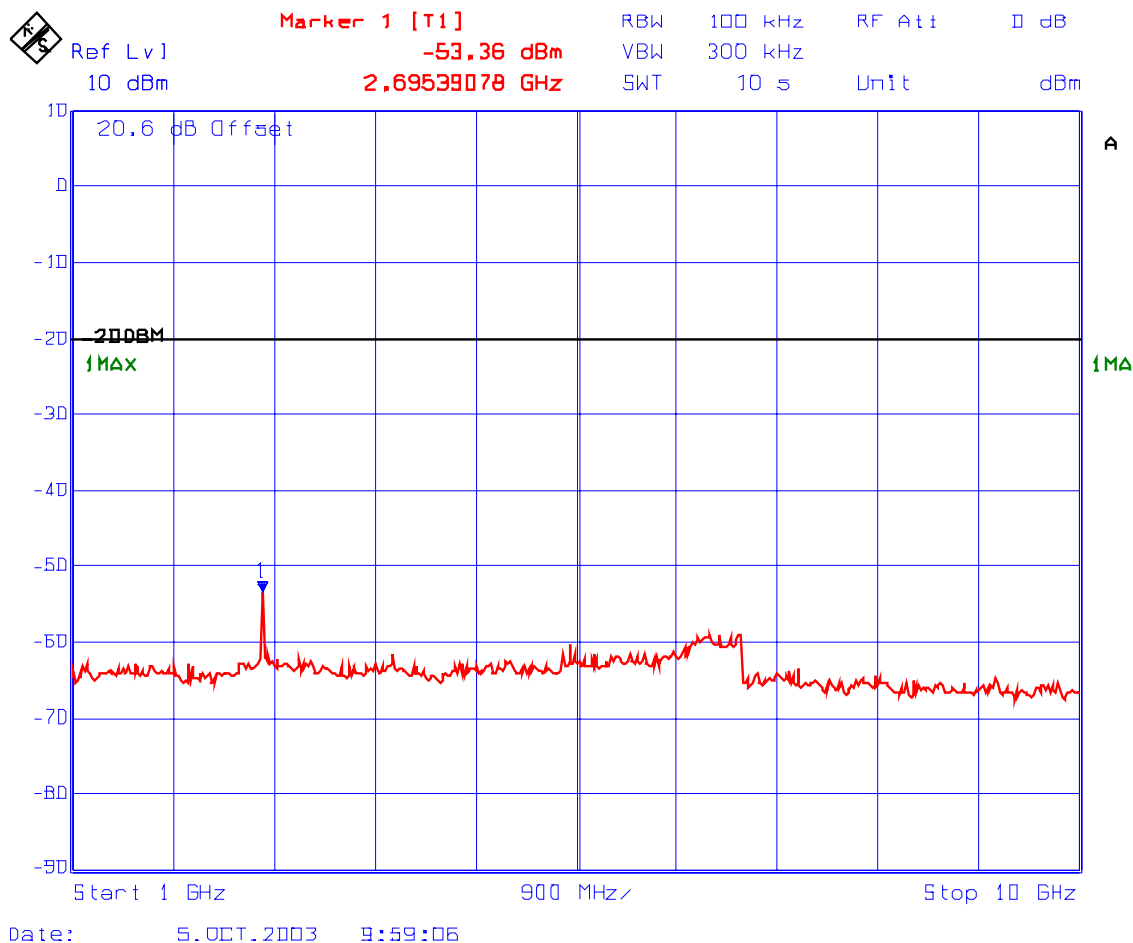
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PLOT # 365 Spurious Emissions conducted with 3 RF signal inputs/outputs
Fc: 902 MHz, Fc - 12.5 kHz, Fc - 25 kHz



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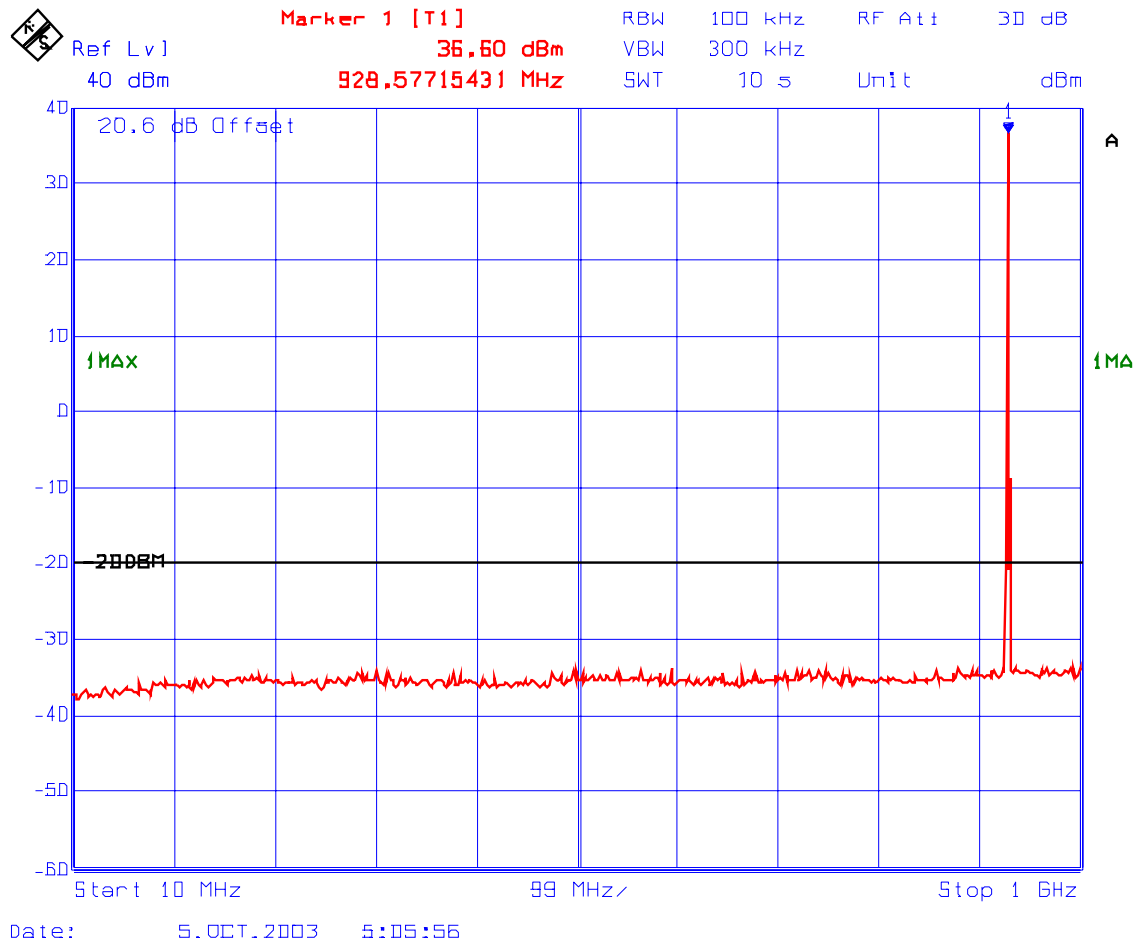
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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**PLOT # 366 Spurious Emissions Conducted with 1 RF signal input/output
Fc: 928 MHz**



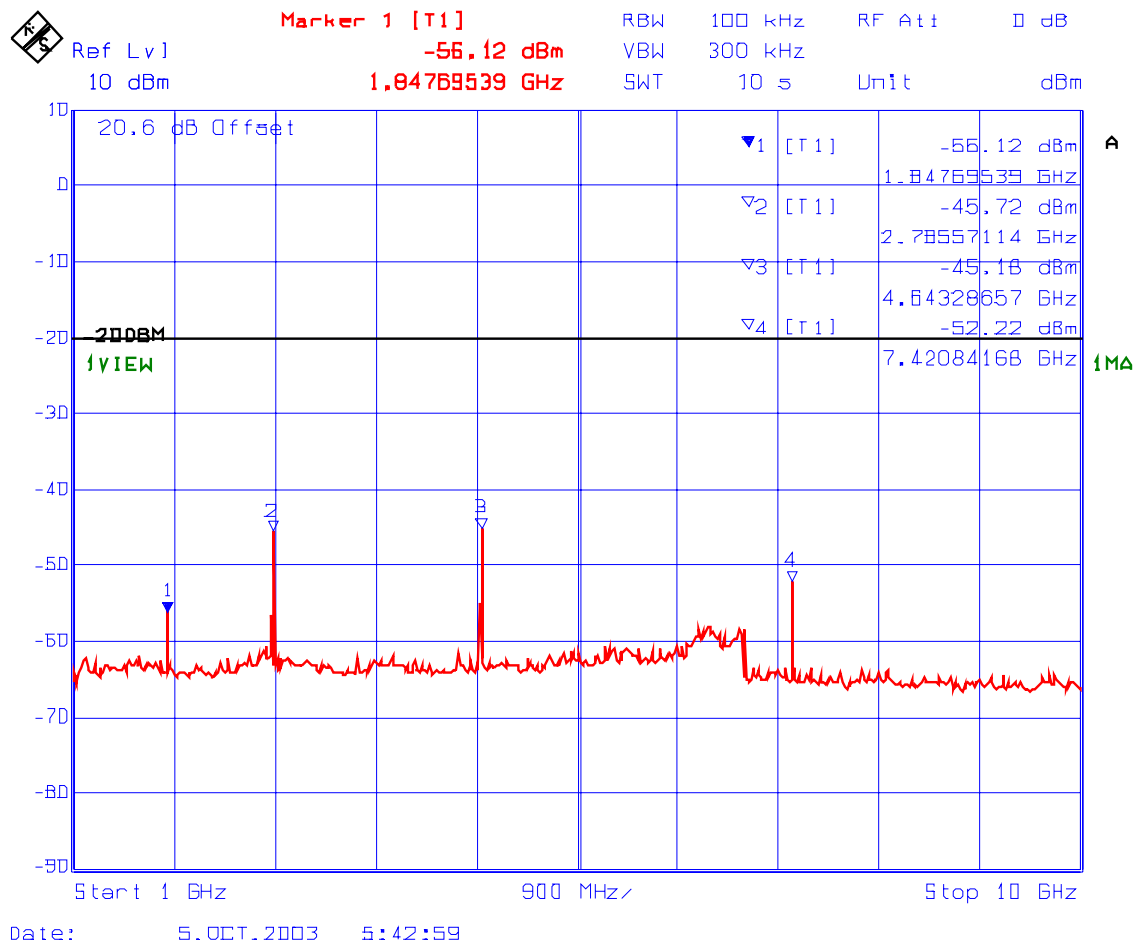
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

**PLOT # 367 Spurious Emissions Conducted with 1 RF signal input/output
 Fc: 928 MHz**



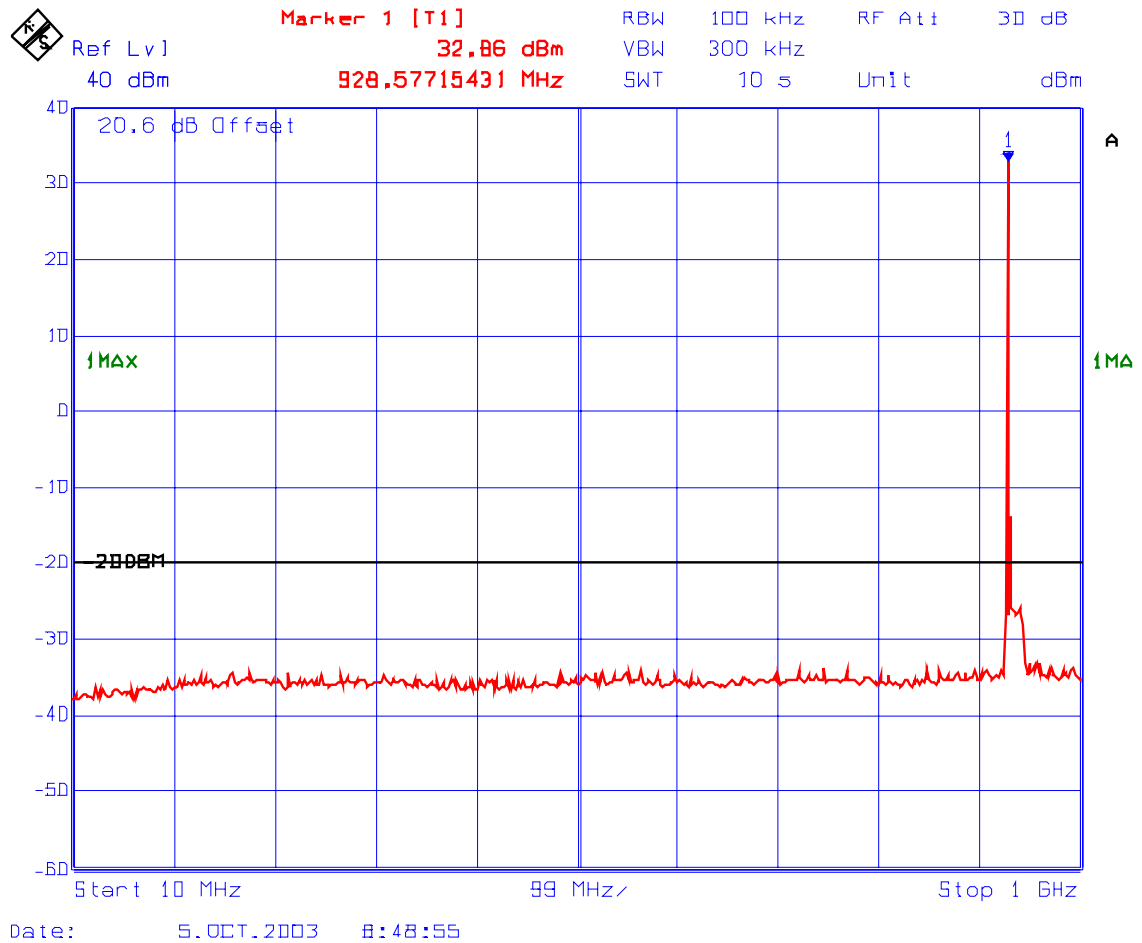
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
 Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90
 Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 368 Spurious Emissions conducted with 2 RF signal inputs/outputs
Fc: 928 MHz, Fc + 12.5 kHz



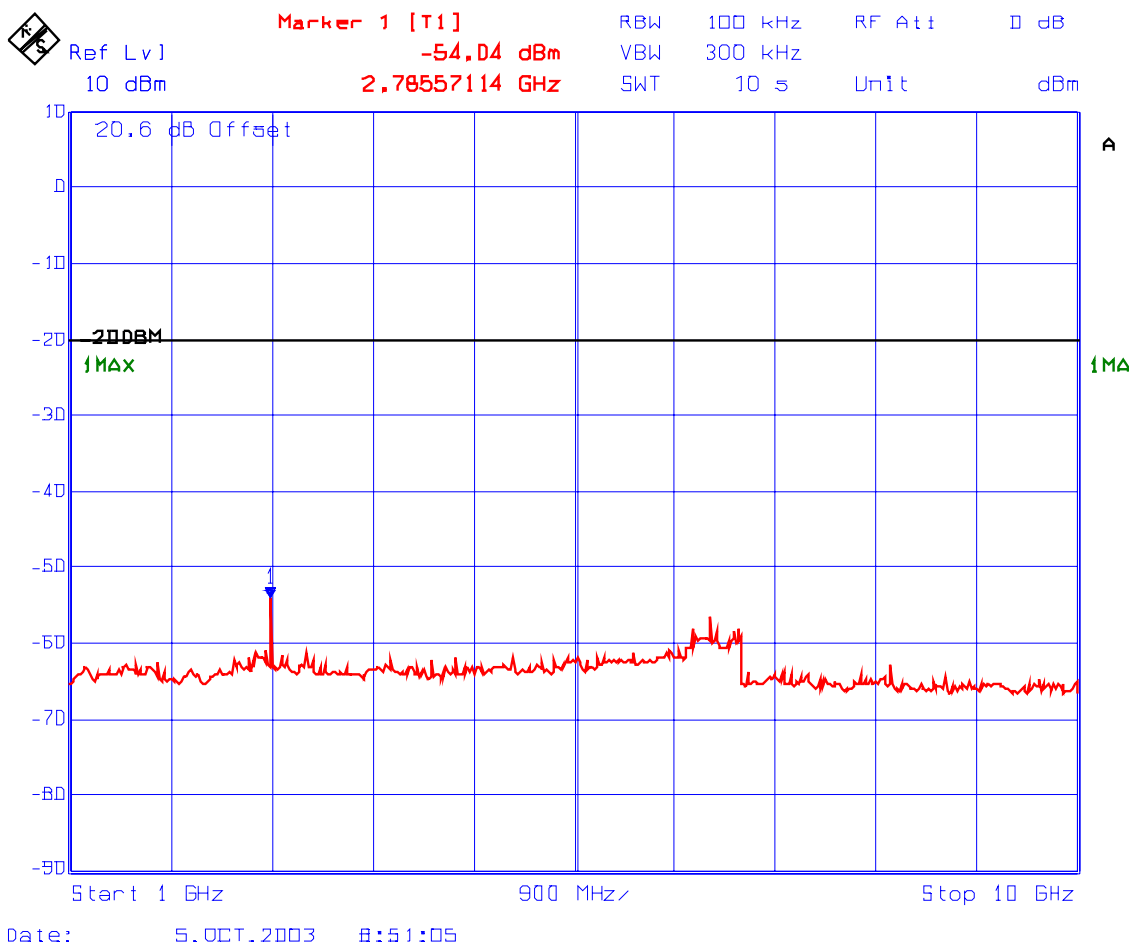
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
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Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 369 Spurious Emissions conducted with 2 RF signal inputs/outputs
Fc: 928 MHz, Fc + 12.5 kHz



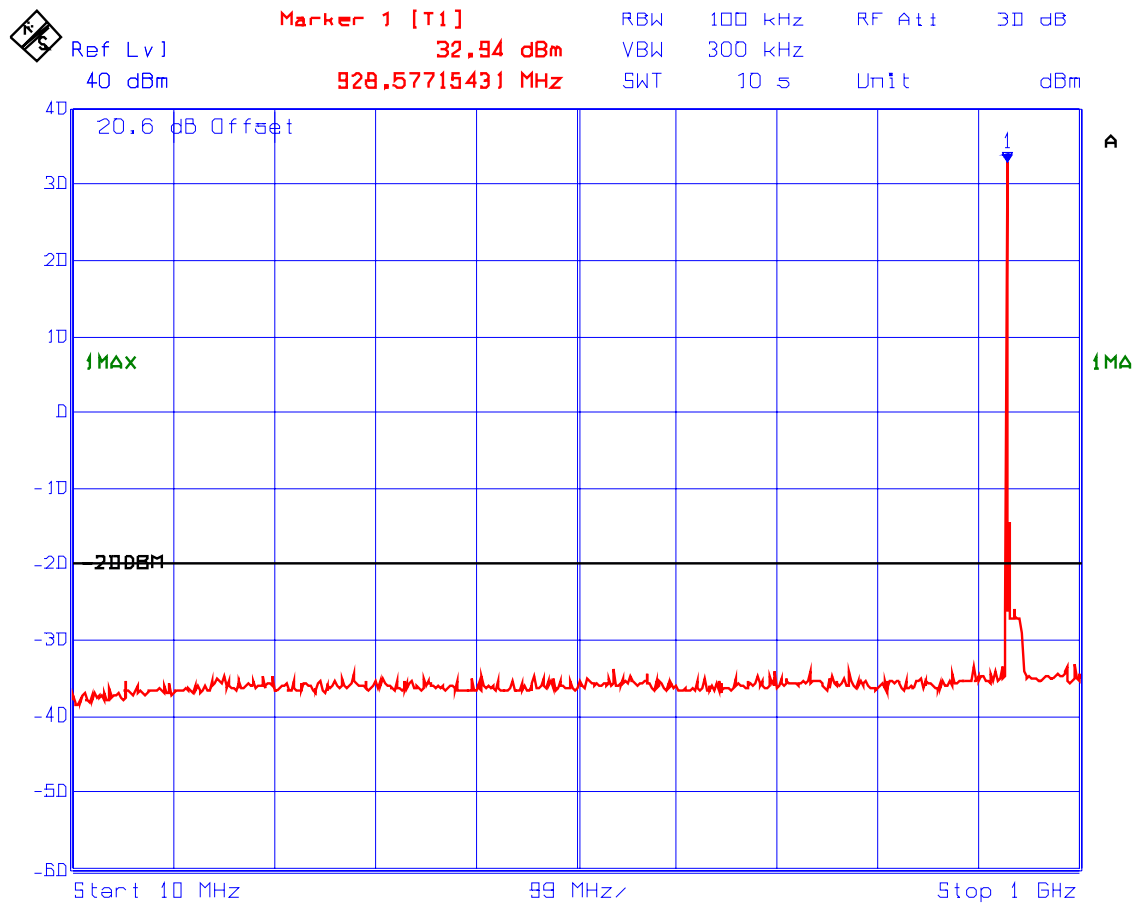
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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 370 Spurious Emissions conducted with 3 RF signal inputs/outputs
Fc: 928 MHz, Fc + 12.5 kHz, Fc + 25 kHz



Date: 5.OCT.2003 10:30:06

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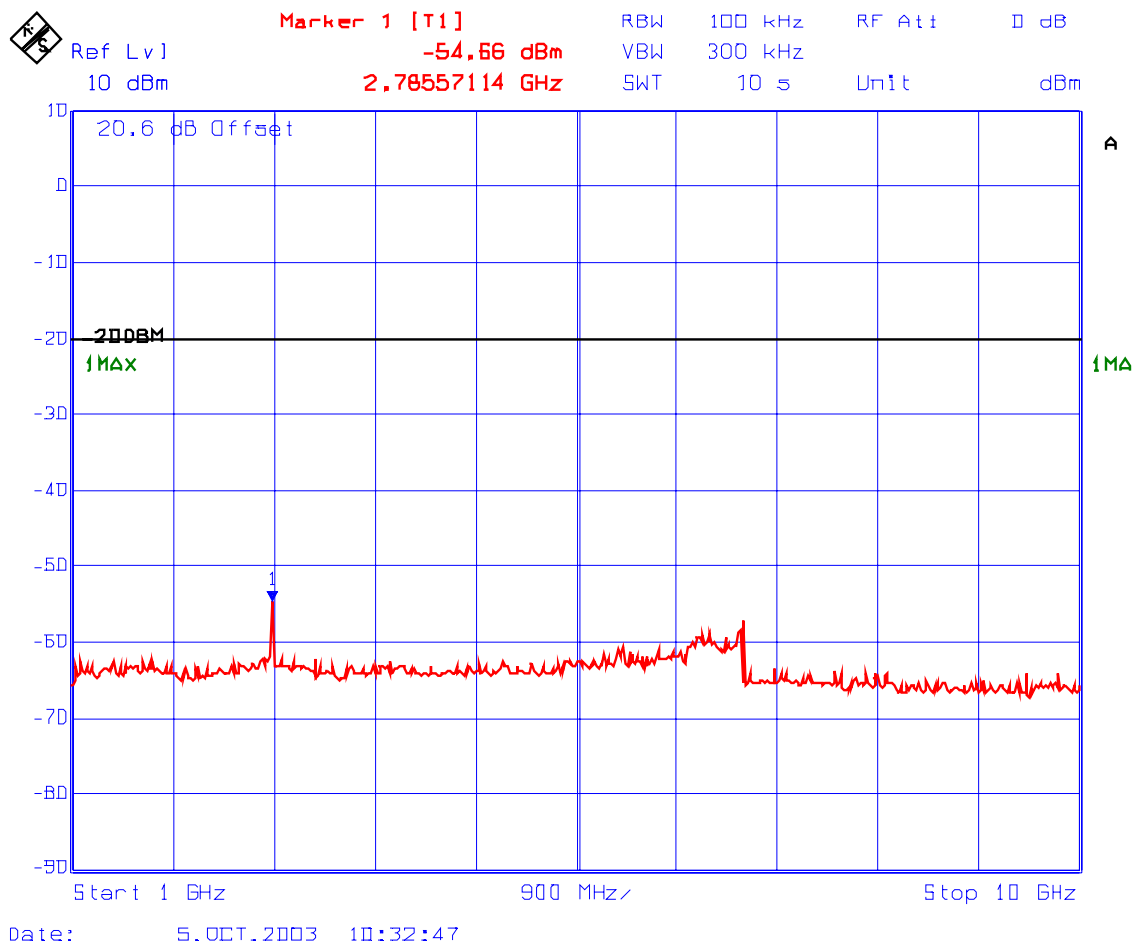
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 371 Spurious Emissions conducted with 3 RF signal inputs/outputs
Fc: 928 MHz, Fc + 12.5 kHz, Fc + 25 kHz



ULTRATECH GROUP OF LABS

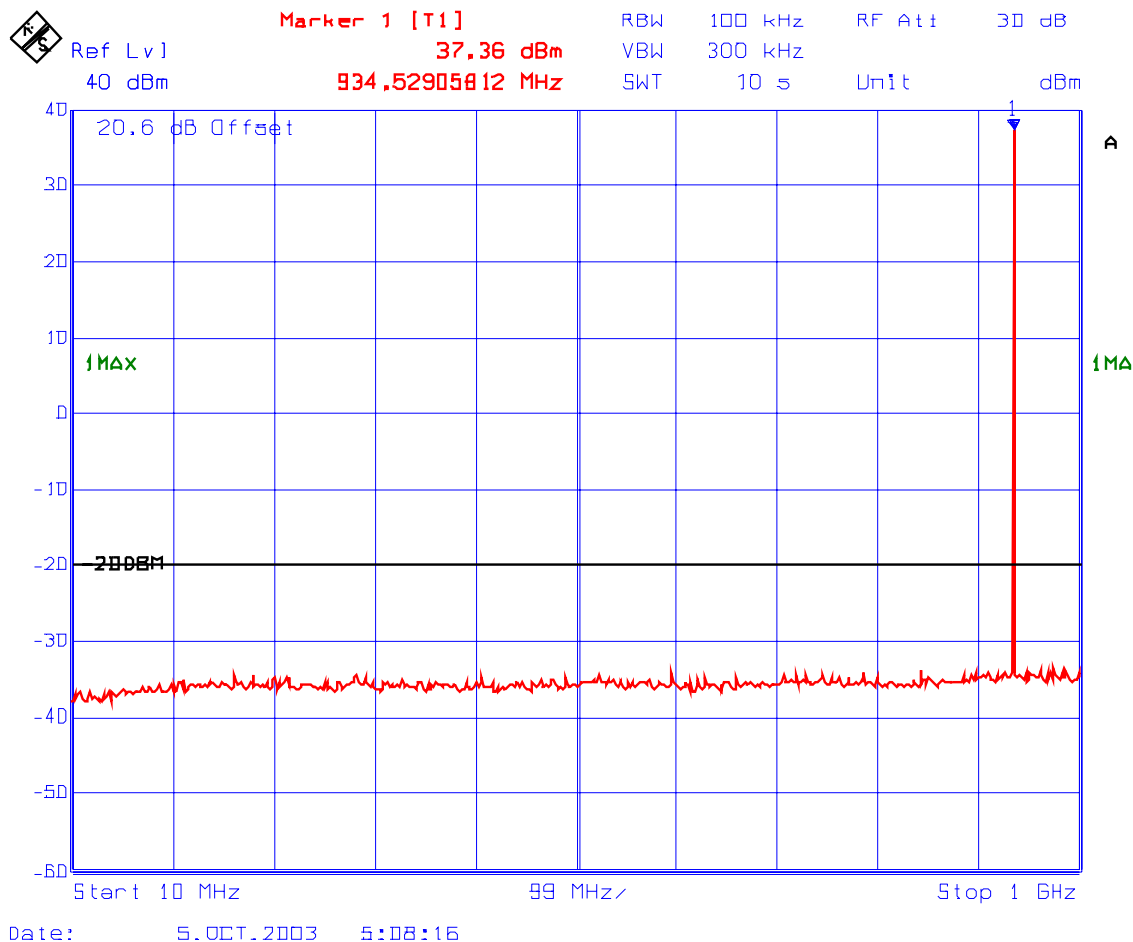
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

**PLOT # 372 Spurious Emissions Conducted with 1 RF signal input/output
Fc: 934.5 MHz**



ULTRATECH GROUP OF LABS

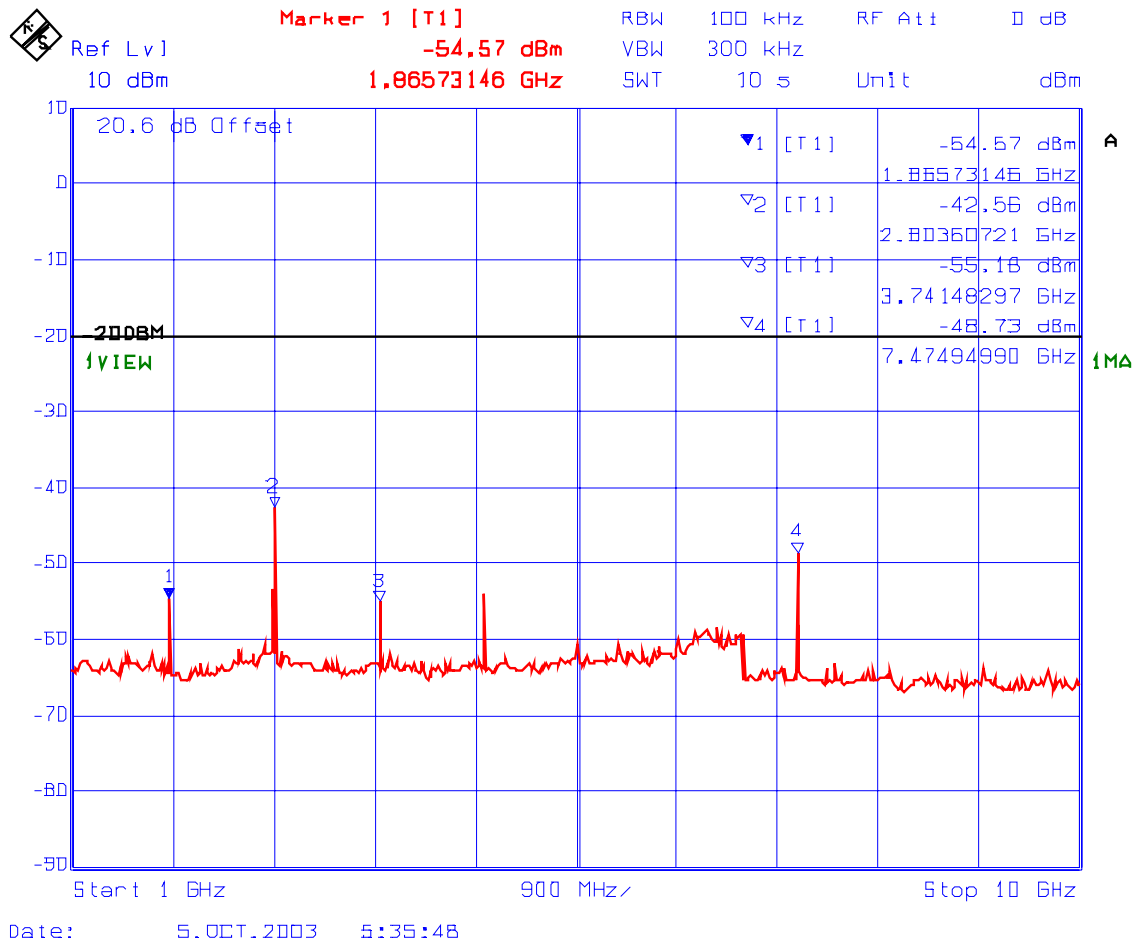
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

**PLOT # 373 Spurious Emissions Conducted with 1 RF signal input/output
 Fc: 934.5 MHz**



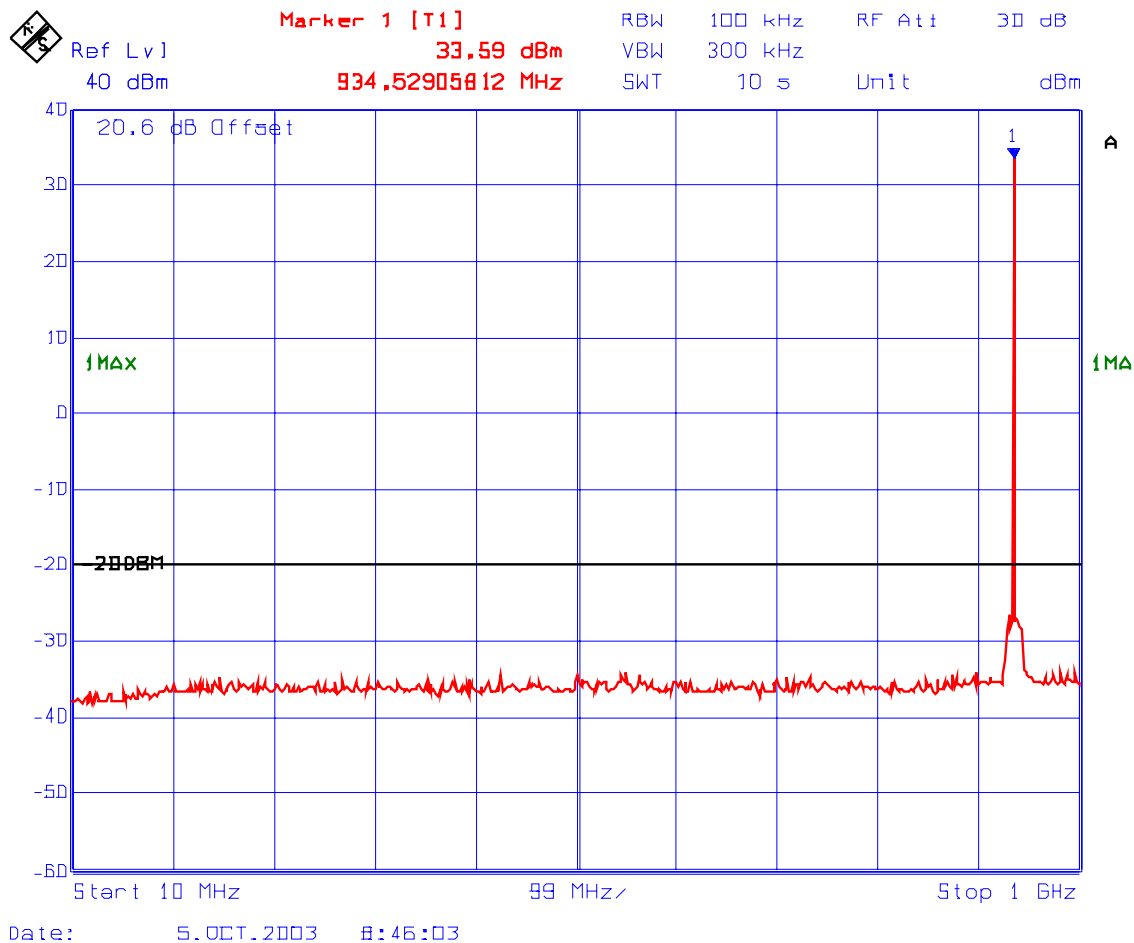
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
 Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
 Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 374 Spurious Emissions conducted with 2 RF signal inputs/outputs
Fc: 934.5 MHz, Fc + 12.5 kHz



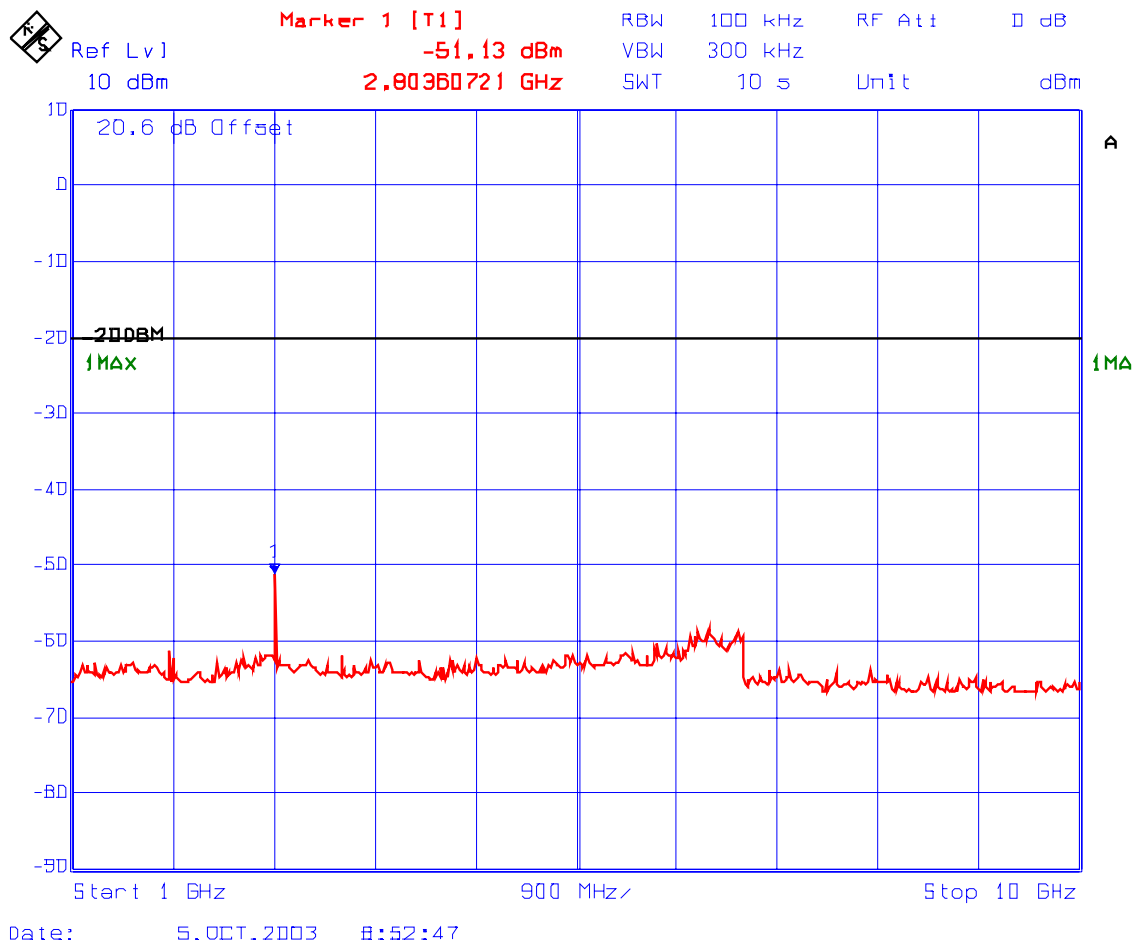
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 375 Spurious Emissions conducted with 2 RF signal inputs/outputs
Fc: 934.5 MHz, Fc + 12.5 kHz



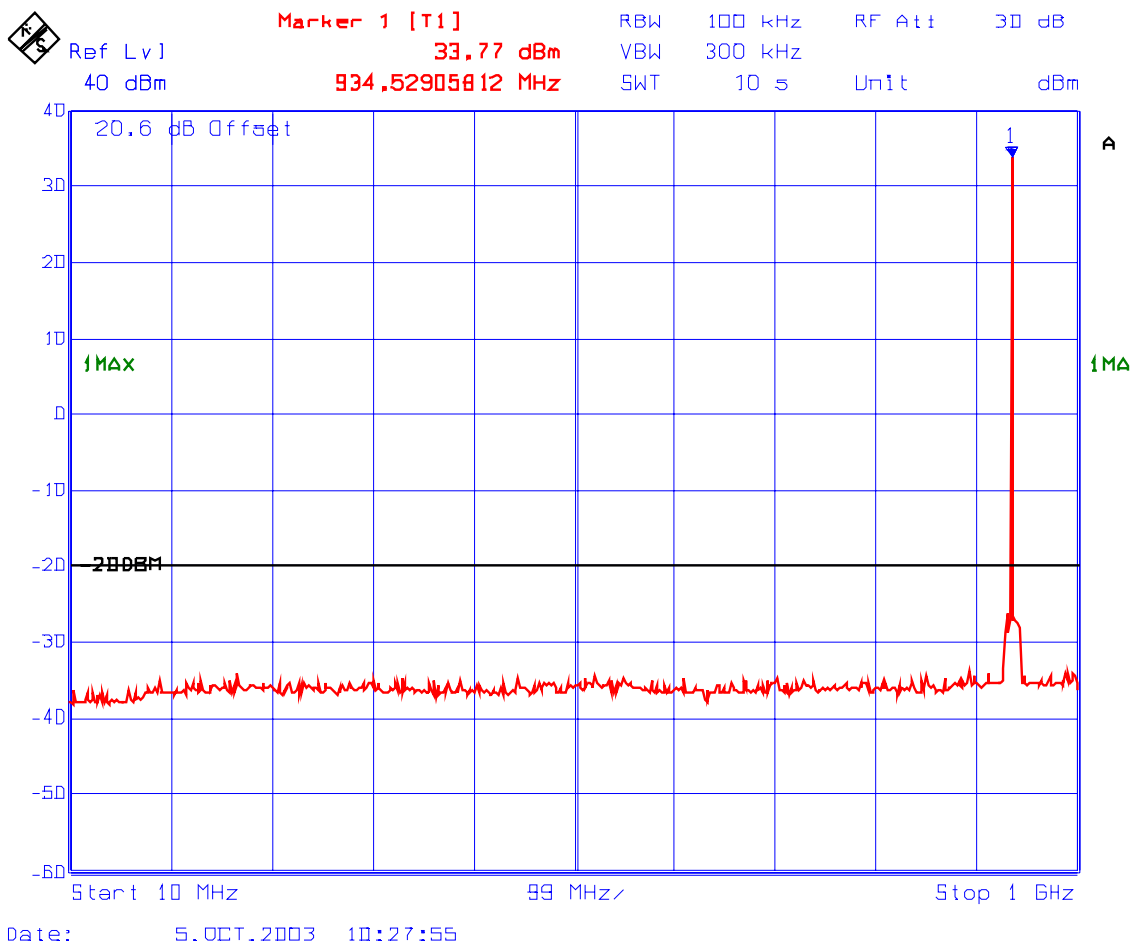
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 376 Spurious Emissions conducted with 3 RF signal inputs/outputs
Fc: 934.5 MHz, Fc + 12.5 kHz, Fc - 12.5 kHz



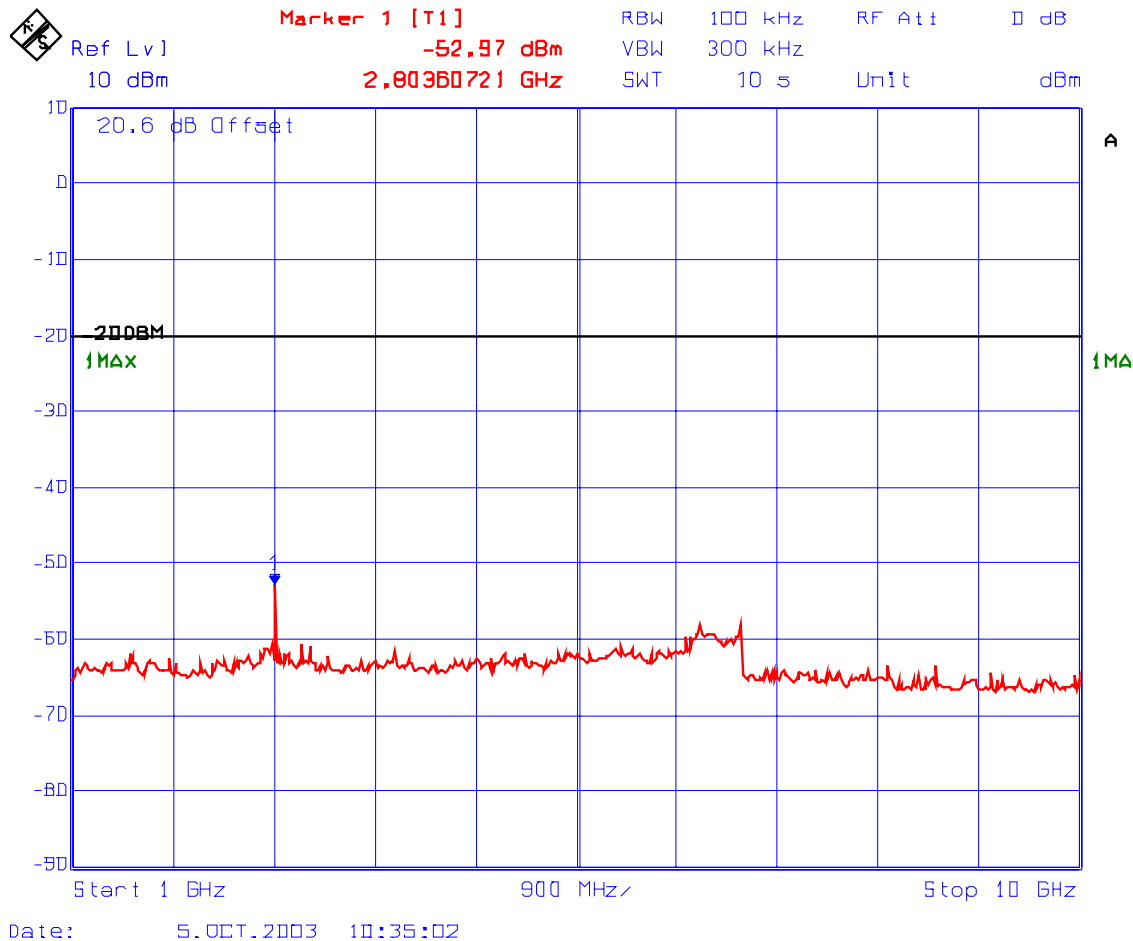
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 377 Spurious Emissions conducted with 3 RF signal inputs/outputs
Fc: 934.5 MHz, Fc + 12.5 kHz, Fc - 12.5 kHz



ULTRATECH GROUP OF LABS

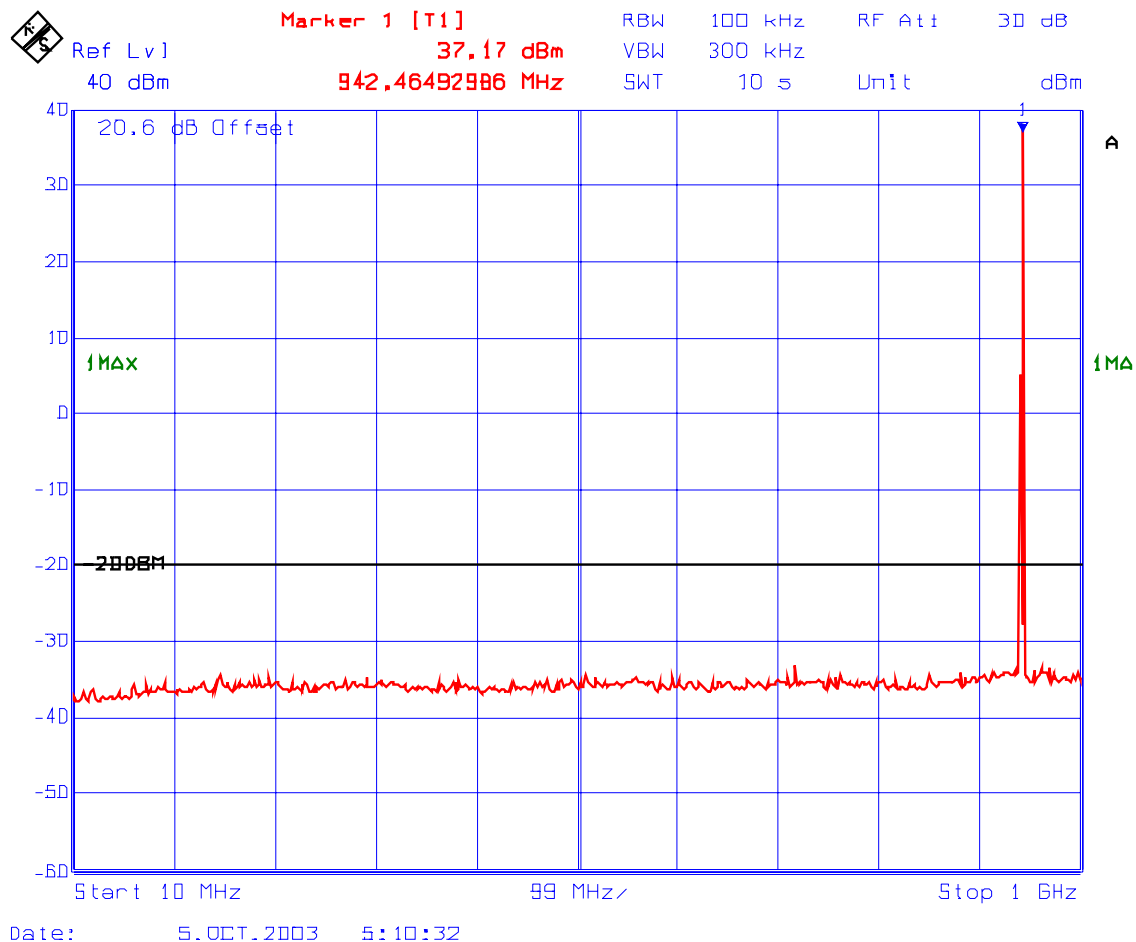
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

**PLOT # 378 Spurious Emissions Conducted with 1 RF signal input/output
Fc: 941 MHz**



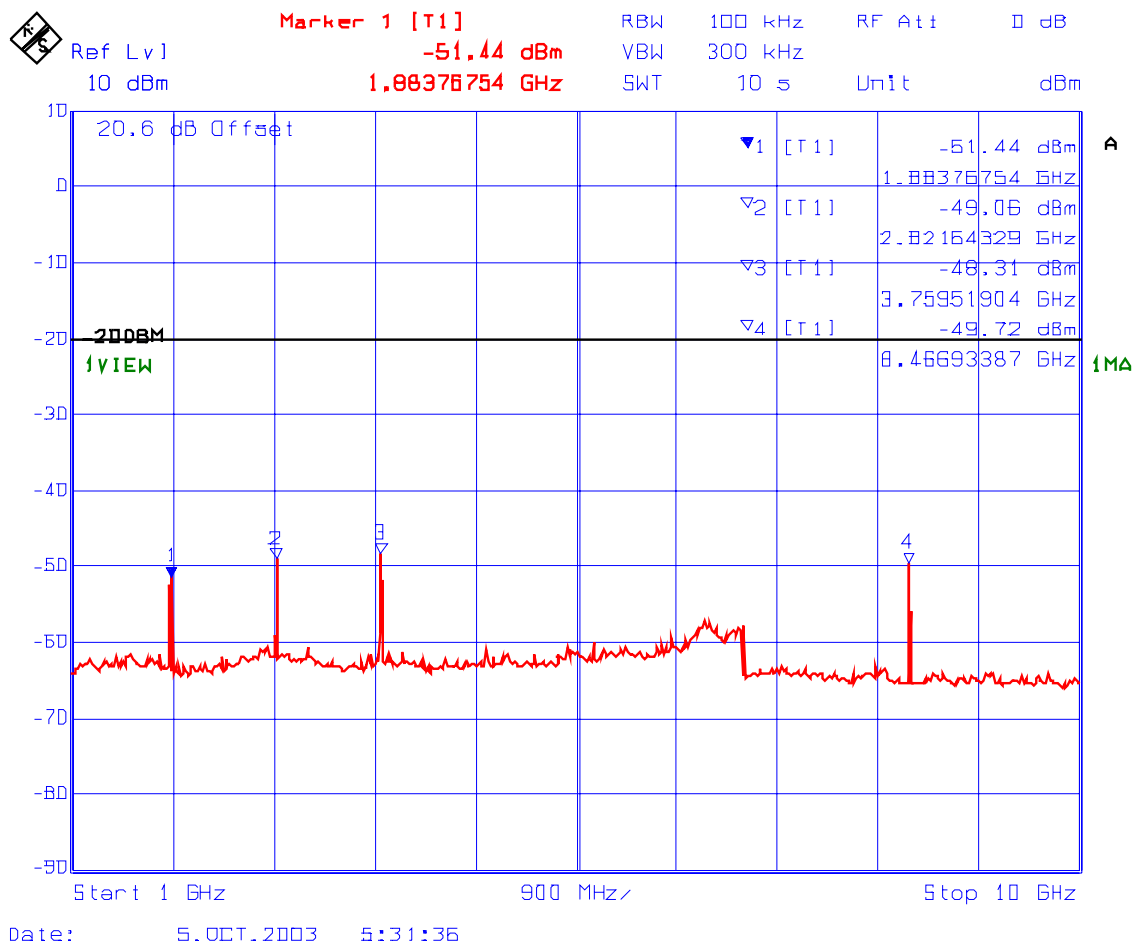
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

**PLOT # 379 Spurious Emissions Conducted with 1 RF signal input/output
 Fc: 941 MHz**



ULTRATECH GROUP OF LABS

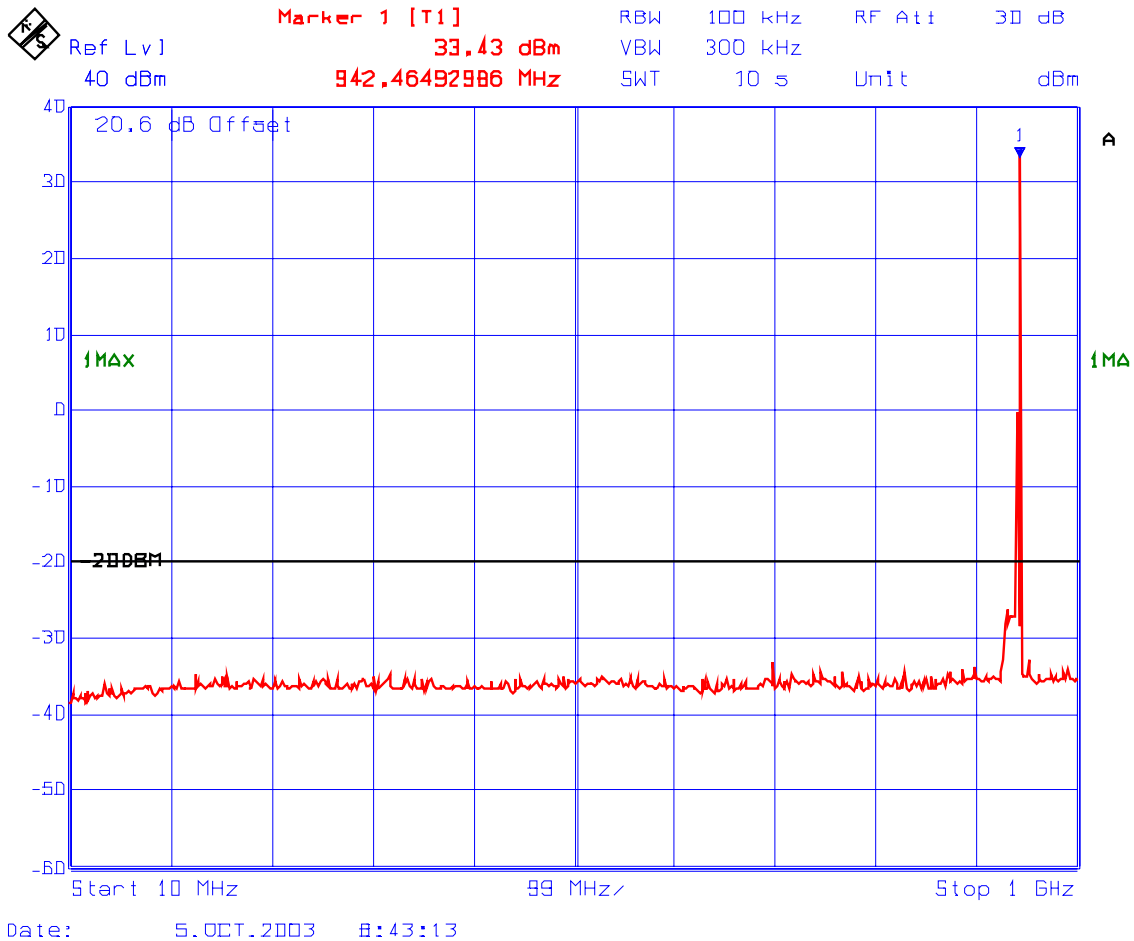
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
 Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90

Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 380 Spurious Emissions conducted with 2 RF signal inputs/outputs
Fc: 941 MHz, Fc - 12.5 kHz



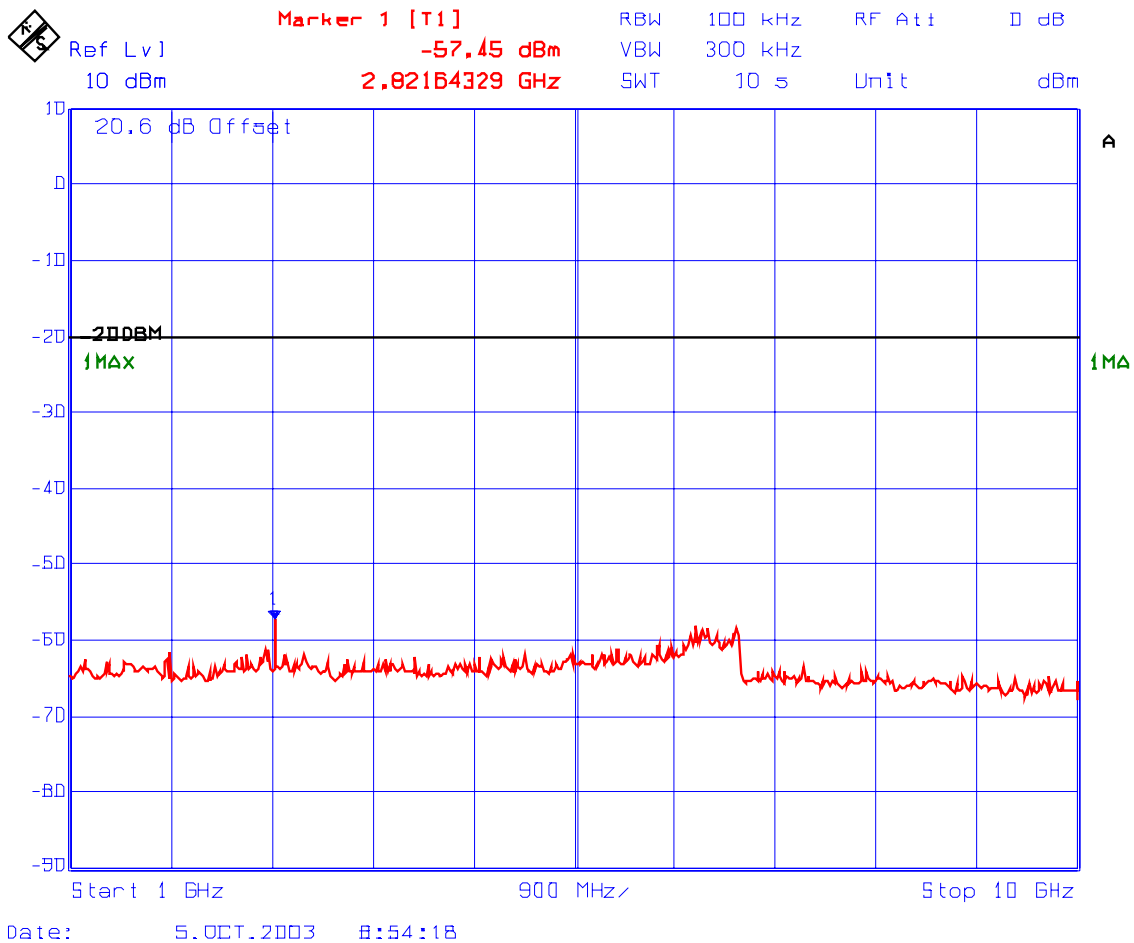
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KTI-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 381 Spurious Emissions conducted with 2 RF signal inputs/outputs
Fc: 941 MHz, Fc - 12.5 kHz



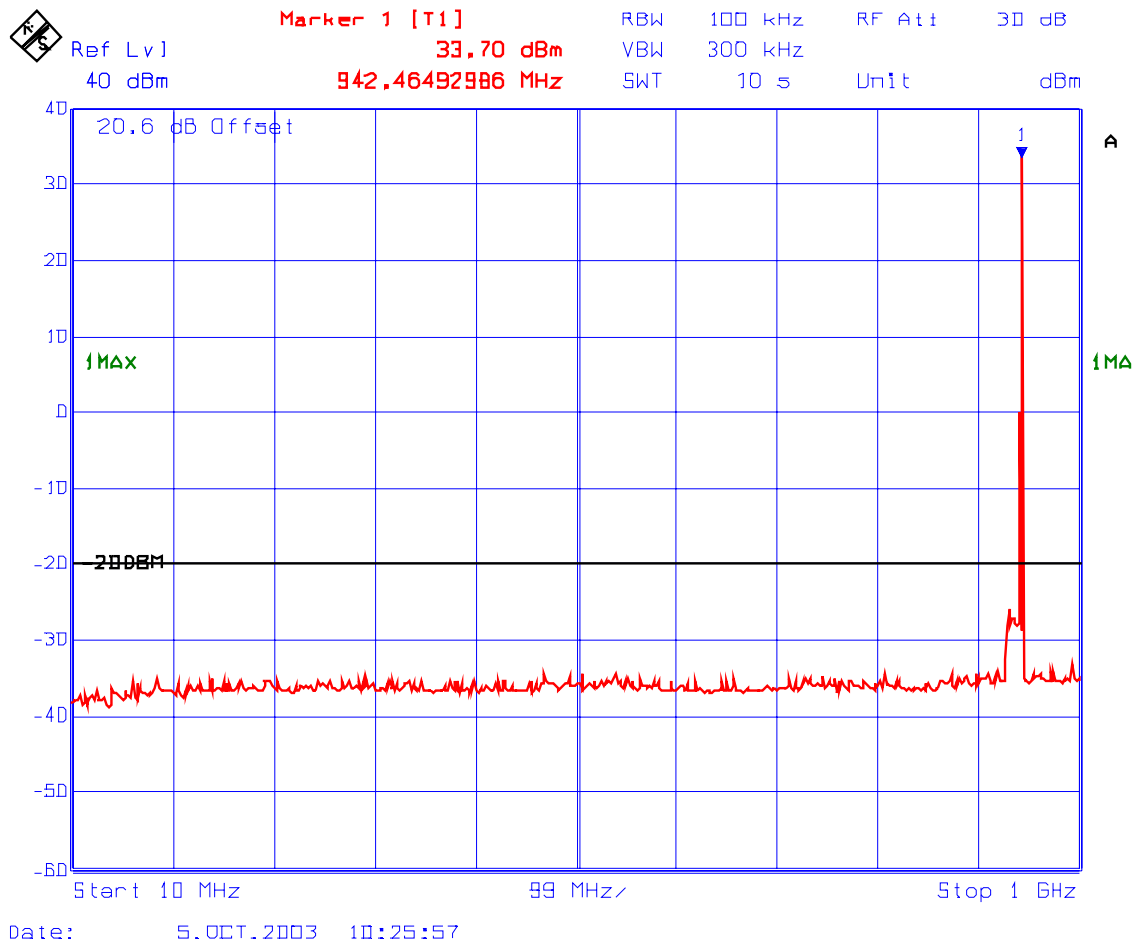
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 382 Spurious Emissions conducted with 3 RF signal inputs/outputs
Fc: 941 MHz, Fc - 12.5 kHz, Fc - 25 kHz



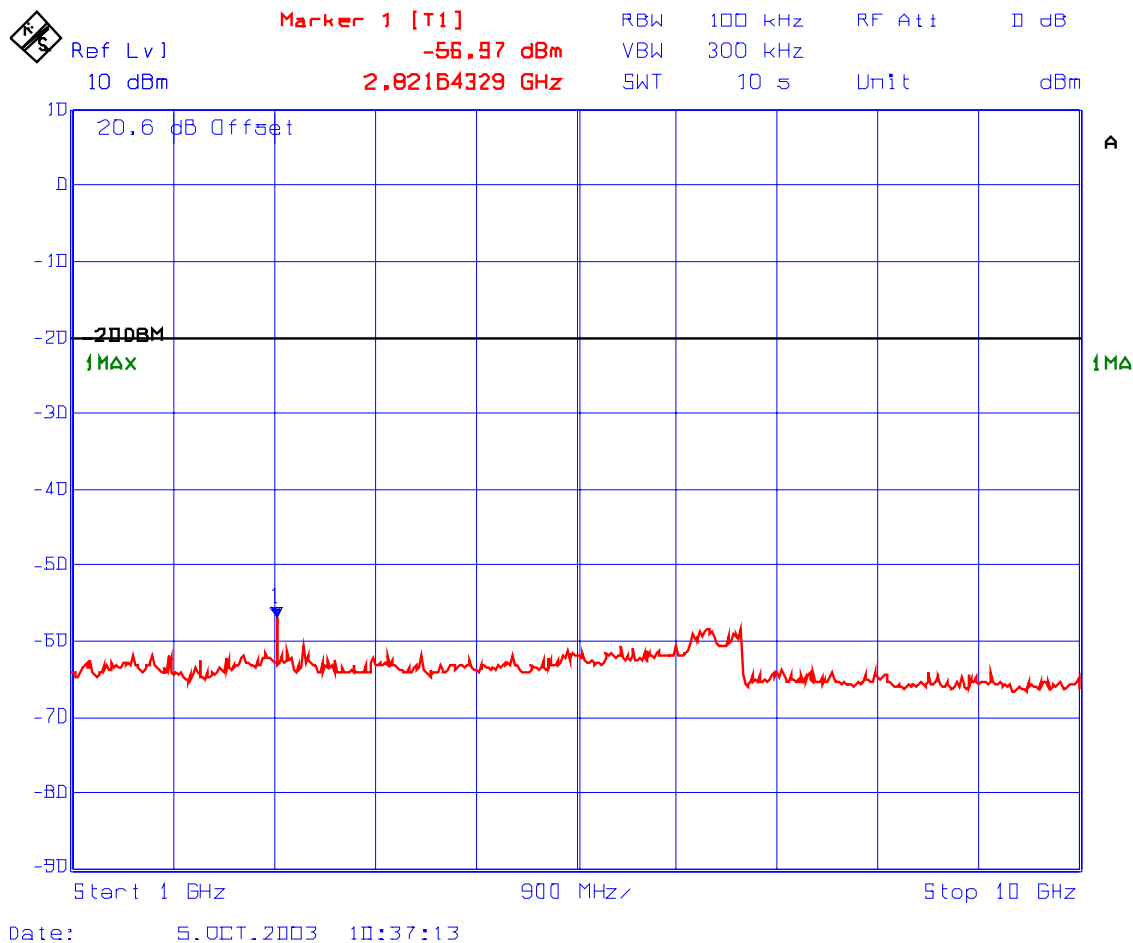
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

PLOT # 383 Spurious Emissions conducted with 3 RF signal inputs/outputs
Fc: 941 MHz, Fc - 12.5 kHz, Fc - 25 kHz



ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: KT1-034FCC22-90
Oct. 17, 2003

- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

6.10. TRANSMITTER SPURIOUS/HARMONIC RADIATED EMISSIONS @ 22.917(A), (B), (C) & (D), 90.208 & 90.210

6.10.1. Limits

The most stringent limit of $50+10*\log(P \text{ in Watts})$ dBc is applied for all sub-bands for worst case.

6.10.2. Method of Measurements

The spurious/harmonic ERP measurements are using substitution method specified in Exhibit 8, § 8.2 of this report and its value in dBc is calculated as follows:

- (1) If the transmitter's antenna is an integral part of the EUT, the ERP is measured using substitution method.
- (2) If the transmitter's antenna is non-integral and diverse, the lowest ERP of the carrier with 0 dBi antenna gain is used for calculation of the spurious/harmonic emissions in dBc:
 $\text{Lowest ERP of the carrier} = \text{EIRP} - 2.15 \text{ dB} = P_c + G - 2.15 \text{ dB} = \text{xxx dBm (conducted)} + 0 \text{ dBi} - 2.15 \text{ dB}$
- (3) Spurious /harmonic emissions levels expressed in dBc (dB below carrier) are as follows:

$$\text{ERP of spurious/harmonic (dBc)} = \text{ERP of carrier (dBm)} - \text{ERP of spurious/harmonic emission (dBm)}$$

6.10.3. Test Equipment List

| Test Instruments | Manufacturer | Model No. | Serial No. | Frequency Range |
|------------------------------------|--------------------|-----------|------------|---|
| Spectrum Analyzer/ EMI Receiver | Hewlett Packard | HP 8546A | ... | 9 kHz to 5.6 GHz with built-in 30 dB Gain Pre- selector, QP, Average & Peak Detectors. |
| RF Amplifier | Com-Power | PA-102 | | 1 MHz to 1 GHz, 30 dB gain nominal |
| Microwave Amplifier | Hewlett Packard | HP 83017A | | 1 GHz to 26.5 GHz, 30 dB nominal |
| Biconilog Antenna | EMCO | 3142 | 10005 | 30 MHz to 2 GHz |
| Dipole Antenna | EMCO | 3121C | 8907-434 | 30 GHz – 1 GHz |
| Dipole Antenna | EMCO | 3121C | 8907-440 | 30 GHz – 1 GHz |
| Horn Antenna | EMCO | 3155 | 9701-5061 | 1 GHz – 18 GHz |
| Horn Antenna | EMCO | 3155 | 9911-5955 | 1 GHz – 18 GHz |
| RF Signal Generator | Hewlett Packard | HP 83752B | 3610A00457 | 0.01 – 20 GHz |

6.10.4. Test Setup

Please refer to Photo # 1 to 2 in Annex 1 for detailed of test setup.

6.10.5. Test Data

6.10.5.1. Band 806-824 MHz

6.10.5.1.1. Lowest Frequency (806 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -55.5 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.1.2. Middle Frequency (815 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -55.8 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.1.3. Highest Frequency (824 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -55.6 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.2. Band 824-849 MHz

6.10.5.2.1. Lowest Frequency (824 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -47.1 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.2.2. Middle Frequency (836.5 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -47.1 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.2.3. Highest Frequency (849 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -47.1 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.3. Band 851-869 MHz

6.10.5.3.1. Lowest Frequency (851 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -56.6 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.3.2. Middle Frequency (860 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -56.5 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.3.3. Highest Frequency (869 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -56.4 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.4. Band 869-894 MHz

6.10.5.4.1. Lowest Frequency (869 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -47.1 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.4.2. Middle Frequency (881.5 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -47.1 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.4.3. Highest Frequency (894 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -47.1 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.5. Band 896-902 MHz

6.10.5.5.1. Lowest Frequency (896 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -55.9 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.5.2. Highest Frequency (902 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -55.8 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.6. Band 928-941 MHz

6.10.5.6.1. Lowest Frequency (928 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -56.7 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.6.2. Middle Frequency (934.5 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -57.4 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

6.10.5.6.3. Highest Frequency (941 MHz)

| FREQUENCY (MHz) | E-FIELD Level @3m (dBuV/m) | ERP Substitution measured by Method | | EMI Receiver Detector (Peak/QP) | ANTENNA PLANE (H/V) | LIMIT (dBc) | MARGIN (dB) | PASS/ FAIL |
|---|----------------------------------|--|-------|---------------------------------------|---------------------------|----------------|----------------|---------------|
| | | (dBm) | (dBc) | | | | | |
| 30 – 10000 | ** | ** | ** | PEAK | V & H | -57.2 | ** | PASS |
| <ul style="list-style-type: none"> The emissions were scanned from 30 MHz to 10 GHz and no significant rf spurious/harmonic emissions were found to be less than 20 dB below the FCC Limits. | | | | | | | | |

EXHIBIT 7. MEASUREMENT UNCERTAINTY

The measurement uncertainties stated were calculated in accordance with the requirements of NIST Technical Note 1297 and NIS 81 (1994)

7.1. RADIATED EMISSION MEASUREMENT UNCERTAINTY

| CONTRIBUTION (Radiated Emissions) | PROBABILITY DISTRIBUTION | UNCERTAINTY (\pm dB) | |
|---|-----------------------------|-------------------------|---------------|
| | | 3 m | 10 m |
| Antenna Factor Calibration | Normal (k=2) | ± 1.0 | ± 1.0 |
| Cable Loss Calibration | Normal (k=2) | ± 0.3 | ± 0.5 |
| EMI Receiver specification | Rectangular | ± 1.5 | ± 1.5 |
| Antenna Directivity | Rectangular | +0.5 | +0.5 |
| Antenna factor variation with height | Rectangular | ± 2.0 | ± 0.5 |
| Antenna phase center variation | Rectangular | 0.0 | ± 0.2 |
| Antenna factor frequency interpolation | Rectangular | ± 0.25 | ± 0.25 |
| Measurement distance variation | Rectangular | ± 0.6 | ± 0.4 |
| Site imperfections | Rectangular | ± 2.0 | ± 2.0 |
| Mismatch: Receiver VRC $\Gamma_1 = 0.2$ Antenna VRC $\Gamma_R = 0.67(\text{Bi}) 0.3 (\text{Lp})$ Uncertainty limits $20\text{Log}(1 \pm \Gamma_1 \Gamma_R)$ | U-Shaped | +1.1 -1.25 | ± 0.5 |
| System repeatability | Std. Deviation | ± 0.5 | ± 0.5 |
| Repeatability of EUT | | - | - |
| Combined standard uncertainty | Normal | +2.19 / -2.21 | +1.74 / -1.72 |
| Expanded uncertainty U | Normal (k=2) | +4.38 / -4.42 | +3.48 / -3.44 |

Calculation for maximum uncertainty when 3m biconical antenna including a factor of k=2 is used:

$$U = 2u_c(y) = 2x(+2.19) = +4.38 \text{ dB} \quad \text{And} \quad U = 2u_c(y) = 2x(-2.21) = -4.42 \text{ dB}$$

EXHIBIT 8. MEASUREMENT METHODS

8.1. CONDUCTED POWER MEASUREMENTS

- The following shall be applied to the combination(s) of the radio device and its intended antenna(e).
- If the RF level is user adjustable, all measurements shall be made with the highest power level available to the user for that combination.
- The following method of measurement shall apply to both conducted and radiated measurements.
- The radiated measurements are performed at the Ultratech Calibrated Open Field Test Site.
- The measurement shall be performed using normal operation of the equipment with modulation.

Test procedure shall be as follows:

Step 1: Duty Cycle measurements if the transmitter's transmission is transient

- Using a EMI Receiver with the frequency span set to 0 Hz and the sweep time set at a suitable value to capture the envelope peaks and the duty cycle of the transmitter output signal;
- The duty cycle of the transmitter, $x = \text{Tx on} / (\text{Tx on} + \text{Tx off})$ with $0 < x < 1$, is measure and recorded in the test report. For the purpose of testing, the equipment shall be operated with a duty cycle that is equal or more than 0.1.

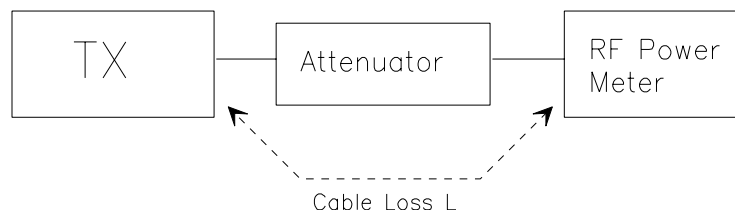
Step 2: Calculation of Average EIRP. See Figure 1

- The average output power of the transmitter shall be determined using a wideband, calibrated RF average power meter with the power sensor with an integration period that exceeds the repetition period of the transmitter by a factor 5 or more. The observed value shall be recorded as "A" (in dBm);
- The e.i.r.p. shall be calculated from the above measured power output "A", the observed duty cycle x, and the applicable antenna assembly gain "G" in dBi, according to the formula:

$$\text{EIRP} = \text{A} + \text{G} + 10\log(1/x)$$

{ X = 1 for continuous transmission => $10\log(1/x) = 0 \text{ dB}$ }

Figure 1.



- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

8.2. RADIATED POWER MEASUREMENTS (ERP & EIRP) USING SUBSTITUTION METHOD

8.2.1. Maximizing RF Emission Level (E-Field)

- (a) The measurements was performed with full rf output power and modulation.
- (b) Test was performed at listed 3m open area test site (listed with FCC, IC, ITI, NVLAP, ACA & VCCI).
- (c) The transmitter under test was placed at the specified height on a non-conducting turntable (80 cm height)
- (d) The BICONILOG antenna (20 MHz to 1 GHz) or HORN antenna (1 GHz to 18 GHz) was used for measuring.
- (e) Load an appropriate correction factors file in EMI Receiver for correcting the field strength reading level

Total Correction Factor recorded in the EMI Receiver = Cable Loss + Antenna Factor
 $E \text{ (dBuV/m)} = \text{Reading (dBuV)} + \text{Total Correction Factor (dB/m)}$

- (f) Set the EMI Receiver and #2 as follows:

Center Frequency: test frequency
Resolution BW: 100 kHz
Video BW: same
Detector Mode: positive
Average: off
Span: 3 x the signal bandwidth

- (g) The test antenna was lowered or raised from 1 to 4 meters until the maximum signal level was detected.
- (h) The transmitter was rotated through 360° about a vertical axis until a higher maximum signal was received.
- (i) The test antenna was lowered or raised again from 1 to 4 meters until a maximum was obtained. This level was recorded.
- (j) The recorded reading was corrected to the true field strength level by adding the antenna factor, cable loss and subtracting the pre-amplifier gain.
- (k) The above steps were repeated with both transmitters' antenna and test receiving antenna placed in vertical and horizontal polarization. Both readings with the antennas placed in vertical and horizontal polarization shall be recorded.
- (l) Repeat for all different test signal frequencies

8.2.2. Measuring the EIRP of Spurious/Harmonic Emissions using Substitution Method

- (a) Set the EMI Receiver (for measuring E-Field) and Receiver #2 (for measuring EIRP) as follows:

Center Frequency: equal to the signal source
Resolution BW: 10 kHz
Video BW: same
Detector Mode: positive
Average: off
Span: 3 x the signal bandwidth

- (b) Load an appropriate correction factors file in EMI Receiver for correcting the field strength reading level

Total Correction Factor recorded in the EMI Receiver = Cable Loss + Antenna Factor
 $E \text{ (dBuV/m)} = \text{Reading (dBuV)} + \text{Total Correction Factor (dB/m)}$

- (c) Select the frequency and E-field levels obtained in the Section 8.2.1 for ERP/EIRP measurements.
(d) Substitute the EUT by a signal generator and one of the following transmitting antenna (substitution antenna):
♦ DIPOLE antenna for frequency from 30-1000 MHz or
♦ HORN antenna for frequency above 1 GHz }.
(e) Mount the transmitting antenna at 1.5 meter high from the ground plane.
(f) Use one of the following antenna as a receiving antenna:
♦ DIPOLE antenna for frequency from 30-1000 MHz or
♦ HORN antenna for frequency above 1 GHz }.
(g) If the DIPOLE antenna is used, tune it's elements to the frequency as specified in the calibration manual.
(h) Adjust both transmitting and receiving antenna in a VERTICAL polarization.
(i) Tune the EMI Receivers to the test frequency.
(j) Lower or raise the test antenna from 1 to 4 meters until the maximum signal level was detected.
(k) The transmitter was rotated through 360° about a vertical axis until a higher maximum signal was received.
(l) Lower or raise the test antenna from 1 to 4 meters until the maximum signal level was detected.
(m) Adjust input signal to the substitution antenna until an equal or a known related level to that detected from the transmitter was obtained in the test receiver.
(n) Record the power level read from the Average Power Meter and calculate the ERP/EIRP as follows:

$$P = P1 - L1 = (P2 + L2) - L1 = P3 + A + L2 - L1$$

$$EIRP = P + G1 = P3 + L2 - L1 + A + G1$$

$$ERP = EIRP - 2.15 \text{ dB}$$

$$\text{Total Correction factor in EMI Receiver \# 2} = L2 - L1 + G1$$

Where: P: Actual RF Power fed into the substitution antenna port after corrected.
P1: Power output from the signal generator
P2: Power measured at attenuator A input
P3: Power reading on the Average Power Meter
EIRP: EIRP after correction
ERP: ERP after correction

- (o) Adjust both transmitting and receiving antenna in a HORIZONTAL polarization, then repeat step (k) to (o)
(p) Repeat step (d) to (o) for different test frequency
(q) Repeat steps (c) to (j) with the substitution antenna oriented in horizontal polarization.
(r) Actual gain of the EUT's antenna is the difference of the measured EIRP and measured RF power at the RF port. Correct the antenna gain if necessary.:

Figure 2

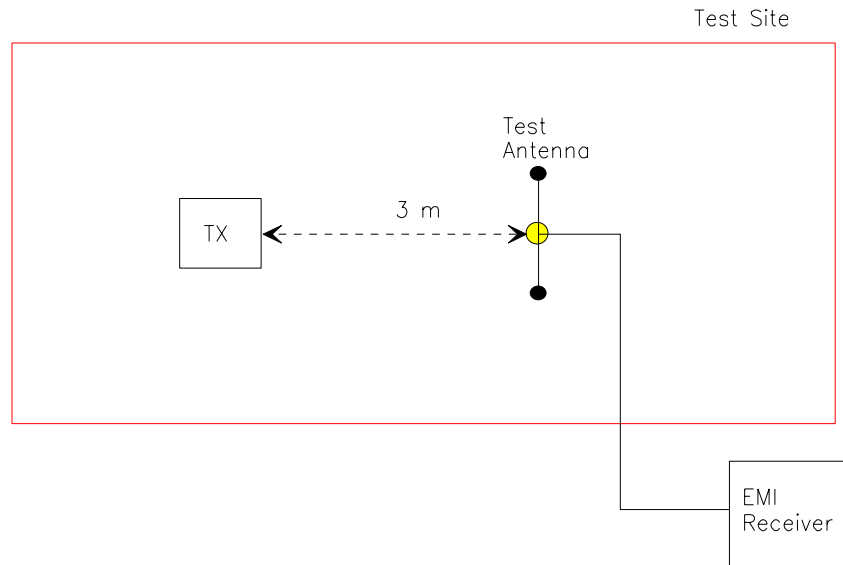
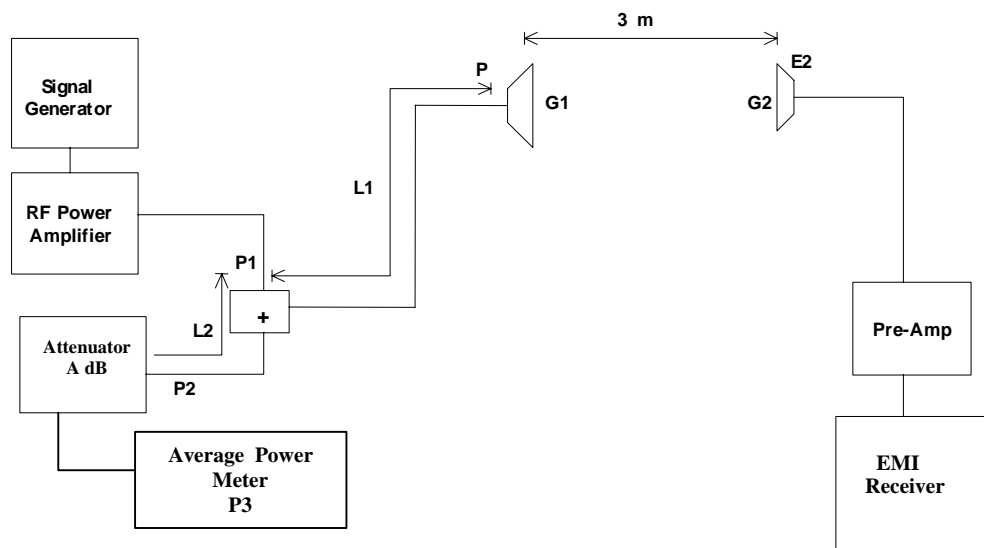


Figure 3



8.3. FREQUENCY STABILITY

Refer to FCC @ 2.1055.

- (a) The frequency stability shall be measured with variation of ambient temperature as follows: From -30 to +50 centigrade except that specified in subparagraph (2) & (3) of this paragraph.
- (b) Frequency measurements shall be made at extremes of the specified temperature range and at intervals of not more than 10 centigrade through the range. A period of time sufficient to stabilize all of the components of the oscillator circuit at each temperature level shall be allowed prior to frequency measurement. The short-term transient effects on the frequency of the transmitter due to keying (except for broadcast transmitters) and any heating element cycling normally occurring at each ambient temperature level also shall be shown. Only the portion or portions of the transmitter containing the frequency determining and stability circuitry need be subjected to the temperature variation test.
- (d) The frequency stability supply shall be measured with variation of primary supply voltage as follows:
 - (1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.
 - (2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.
 - (3) The supply voltage shall be measured at the input to the cable normally provide with the equipment, or at the power supply terminals if cables are not normally provided. Effects on frequency of transmitter keying (except for broadcast transmitters) and any heating element cycling at the nominal supply voltage and at each extreme also shall be shown.
- (e) When deemed necessary, the Commission may require tests of frequency stability under conditions in addition to those specifically set out in paragraphs (a), (b), (c) and (d) of this section. (For example, measurements showing the effect of proximity to large metal objects, or of various types of antennas, may be required for portable equipment).

8.4. EMISSION MASK

Voice or Digital Modulation Through a Voice Input Port @ 2.1049(c)(i):- The transmitter was modulated by a 2.5 KHz tone signal at an input level 16 dB greater than that required to produce 50% modulation (e.g.: ± 2.5 KHz peak deviation at 1 KHz modulating frequency). The input level was established at the frequency of maximum response of the audio modulating circuit.

Digital Modulation Through a Data Input Port @ 2.1049(h):- Transmitters employing digital modulation techniques - when modulated by an input signal such that its amplitude and symbol rate represent the maximum rated conditions under which the equipment will be operated. The signal shall be applied through any filter networks, pseudo-random generators or other devices required in normal service. Additionally, the Emission Masks shall be shown for operation with any devices used for modifying the spectrum when such devices are operational at the discretion of the user.

The following EMI Receiver bandwidth shall be used for measurement of Emission Mask/Out-of-Band Emission Measurements:

- (1) For 25 kHz Channel Spacing: RBW = 300 Hz
- (2) For 12.5 kHz or 6.25 kHz Channel Spacings: RBW = 100 Hz

The all cases the Video Bandwidth shall be equal or greater than the measuring bandwidth.

8.5. SPURIOUS EMISSIONS (CONDUCTED)

With transmitter modulation characteristics described in Out-of-Band Emissions measurements @ 2.1049, the transmitter spurious and harmonic emissions were scanned. The spurious and harmonic emissions were measured with the EMI Receiver controls set as RBW = 30 kHz minimum , VBW \geq RBW and SWEEP TIME = AUTO). The transmitter was operated at a full rated power output, and modulated as follows:

FCC CFR 47, Para. 2.1057 - Frequency spectrum to be investigated:- The spectrum was investigated from the lowest radio generated in the equipment up to at least the 10th harmonic of the carrier frequency or to the highest frequency practicable in the present state of the art of measuring techniques, whichever is lower. Particular attention should be paid to harmonics and subharmonics of the carrier frequency. Radiation at the frequencies of multiplier stages should be checked. The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

FCC CFR 47, Para. 2.1051 - Spurious Emissions at Antenna Terminal:- The radio frequency voltage or powers generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly loaded with a suitable artificial antenna. Curves or equivalent data shall show the magnitude of the harmonic and other spurious emission that can be detected when the equipment is operated under the conditions specified in 2.1049 as appropriate. The magnitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be specified.