

Advanced  
Compliance Laboratory

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**Electromagnetic  
Emission  
Compliance  
Test Report**



**Equipment Under Test (EUT) Applicant** Dual Band Outdoor Repeater DB5R33  
Shyam Telecom Inc.

**In Accordance With** FCC Part 22, Subpart H  
FCC Part 24, Subpart E

**Test by** Advanced Compliance Laboratory, Inc.  
6 Randolph Way  
Hillsborough, New Jersey 08844

**Authorized by** Wei Li  
Lab Manager

Signature

**Date** October 18, 2007

**AC Lab Report Number** 0048-070901-01



Lab Code:200101-0

**The test result in this report is supported and covered by the NVLAP accreditation.**

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**Section 1. Summary of Test Results**

Manufacturer: Shyam Telecom Inc.  
Model No.: Dual Band Outdoor Repeater DB5R33  
Sample No.: D5R33CDG05

General: **All measurements are traceable to national standards**

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 22, Subpart H& Part 24, Subpart E.

New Submission                       Production Unit  
 Class II Permissive Change             Pre-Production Unit

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.

“See Summary of Test Data”



**NVLAP LAB CODE: 200101-0**

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**Summary of Test Data**

|  |                        |                       |          |
|--|------------------------|-----------------------|----------|
|  |                        |                       |          |
| <b>RF Power Output</b>                         | 22.913(a)<br>24.232(a) | 500W ERP<br>100W EIRP | Complies |
| <b>Occupied Bandwidth (Voice &amp; SAT)</b>    | 2.1049(i)              | Mask                  | N/A*     |
| <b>Occupies Bandwidth (Wideband Data)</b>      | 2.1049(i)              | Mask                  | N/A*     |
| <b>Occupied Bandwidth (Digital)</b>            | 2.1049(i)              | Mask                  | Complies |
| <b>Spurious Emissions at Antenna Terminals</b> | 22.917<br>24.238       | -13 dBm               | Complies |
| <b>Field Strength of Spurious Emissions</b>    | 22.917<br>24.238       | -13 dBm<br>E.I.R.P.   | Complies |
| <b>Frequency Stability</b>                     | 22.355<br>24.235       | 1.5 ppm               | N/A*     |

\* These items are NOT applied to the EUT.

The estimated uncertainty of the test result is given as following. The method of uncertainty calculation is provided in Advanced Compliance Lab. Doc. No. 0048-01-01.

|                                 | Prob. Dist. | Uncertainty(dB) | Uncertainty(dB) | Uncertainty(dB) |
|---------------------------------|-------------|-----------------|-----------------|-----------------|
|                                 |             | 30-1000MHz      | 1-6.5GHz        | Conducted       |
| Combined Std. Uncertainty $u_c$ | norm.       | $\pm 2.36$      | $\pm 2.99$      | $\pm 1.83$      |



Wei Li  
Lab Manager  
Advanced Compliance Lab

Date: October 18, 2007

**Section 2. General Equipment Specification**

|                              |            |   |  |   |  |   |
|------------------------------|------------|---|--|---|--|---|
| <b>Supply Voltage</b>        |            | 90-250VAC 50/60Hz                                 |  |   |  |   |
| <b>Frequency Range</b>       | Cellular   | UL/824-849MHz; DL/869-894MHz                      |  |   |  |   |
|                              | PCS        | UL/1850-1910MHz; DL/1930-1990MHz                  |  |   |  |   |
|                              | Modulation | CDMA (F9W)<br><input checked="" type="checkbox"/> | GSM (GXW)<br><input checked="" type="checkbox"/> | EDGE (G7W)<br><input checked="" type="checkbox"/>         | CDPD (F9W)<br><input type="checkbox"/> | AMPS (F8W, F1D)<br><input type="checkbox"/> |
| <b>Output Impedance</b>      |            | 50ohm   |  |   |  |   |
| <b>Frequency Translation</b> |            | F1-F1<br><input checked="" type="checkbox"/>      | F1-F2<br><input type="checkbox"/>                | N/A<br><input type="checkbox"/>                           |  |   |
|                              |            | Software<br><input type="checkbox"/>              | Duplexer Change<br><input type="checkbox"/>      | Full Band Coverage<br><input checked="" type="checkbox"/> |  |   |

**DC voltages and DC currents per 2.1033(c)(8)**

The input supply to the transmitter was set at 27Volts DC. The RF power output was measured with the indicated voltage and current applied into the final RF amplifying device(s).

**800 MHz Cellular / 1900MHz PCS**

RF Output, DC Current and RF Input Power are all average values.

Measured Maximum RF output ( rated): 33.3 dBm

Measured Minimum RF output: -14.1dBm

**Tune-up procedure per 2.1033(c) (9)**

There are no user accessible adjustments or tuning in this portable cellular transceiver. All necessary adjustments and tuning are performed during manufacture of the product. Any adjustments or tuning after service or repair are done as part of that process as special equipment is required to perform such adjustments.

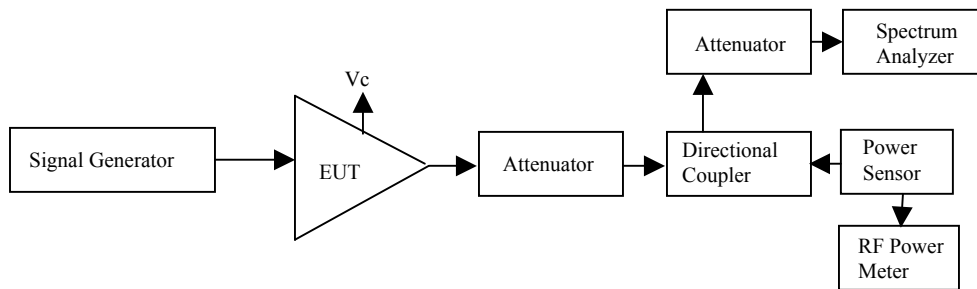
## Description of Operation

This device is a dual band repeater operating in both downlink and uplink spectrums of Cellular and PCS bands.

## System Diagram

See Attachment.

## General EUT Setup



## Testing Frequency/Channel/Port Selection:

Band I: L(owest), M(iddle), H(ighest) of UL & DL bands

**Section 3. RF Output Power**

|                      |                        |                       |                        |
|----------------------|------------------------|-----------------------|------------------------|
| <b>Name of Test:</b> | <i>RF Output Power</i> | <b>Test Standard:</b> | 22.913(a)<br>24.232(a) |
| <b>Tested By:</b>    | WEI LI                 | <b>Test Date:</b>     | 09/01/2007-10/15/2007  |

**Minimum Standard:** Para. No. 22.913(a). The maximum effective radiated power (ERP) of base station transmitters and cellular repeaters must not exceed 500 Watts (57dBm).

Para. No. 24.232(a). The maximum peak output power of base transmitters should not exceed 100 Watts EIRP (50dBm).

**Method of Measurement:** Detachable Antenna:  
The average/peak power at antenna terminals is measured using power meter.

Integral Antenna:

If the antenna is not detachable from the circuit then the Peak Power Output is derived from the peak radiated field strength of the fundamental emission by using the plane wave relation

$$\frac{GP}{4\pi R^2} = \frac{E^2}{120\pi}$$

and proceeding as follows:

$$P = \frac{E^2 R^2}{30G} = \frac{E^2 3^2}{30G}$$

where,

P = the equivalent isotropic radiated power in watts

E = the maximum measured field strength in V/m

R = the measurement range (3 meters)

G = the numeric gain of the transmit antenna in relation to an isotropic radiator

**Test Result:****Complies****Test Data:**

| Cellular Bands           | Channel                                     | Modulation | Power Output (dBm) | Limit (dBm) | Margin |
|--------------------------|---|------------|--------------------|-------------|--------|
| <b>Uplink</b>            | Hi  | CDMA       | 25.26              | 57          | -31.74 |
|                          | Mid   | CDMA       | 27.15              | 57          | -29.85 |
|                          | Low   | CDMA       | 27.58              | 57          | -29.42 |
|                          | Hi  | GSM        | 26.40              | 57          | -30.6  |
|                          | Mid   | GSM        | 27.80              | 57          | -29.2  |
|                          | Low   | GSM        | 27.20              | 57          | -29.8  |
|                          | Hi  | EDGE       | 25.68              | 57          | -31.32 |
|                          | Mid   | EDGE       | 27.29              | 57          | -29.71 |
|                          | Low   | EDGE       | 27.13              | 57          | -29.87 |
| <b>Downlink</b>          | Hi  | CDMA       | 30.63              | 57          | -26.37 |
|                          | Mid   | CDMA       | 31.56              | 57          | -25.44 |
|                          | Low   | CDMA       | 26.38              | 57          | -30.62 |
|                          | Hi  | GSM        | 29.80              | 57          | -27.2  |
|                          | Mid   | GSM        | 30.98              | 57          | -26.02 |
|                          | Low   | GSM        | 26.4               | 57          | -30.6  |
|                          | Hi  | EDGE       | 30.15              | 57          | -26.85 |
|                          | Mid   | EDGE       | 31.64              | 57          | -25.36 |
|                          | Low   | EDGE       | 26.27              | 57          | -30.73 |
| <b>Input Power (dBm)</b> | -50dBm                                      |            |                    |             |        |
| <b>Ref Offset</b>        | Ref offset=Cable Factor +Attenuation=30.2dB |            |                    |             |        |



| PCS Bands                | Channel                                     | Modulation | Power Output (dBm) | Limit (dBm) | Margin |
|--------------------------|---|------------|--------------------|-------------|--------|
| <b>Uplink</b>            | Hi  | CDMA       | 28.83              | 50          | -21.17 |
|                          | Mid   | CDMA       | 30.32              | 50          | -19.68 |
|                          | Low   | CDMA       | 30.35              | 50          | -19.65 |
|                          | Hi  | GSM        | 27.88              | 50          | -22.12 |
|                          | Mid   | GSM        | 28.38              | 50          | -21.62 |
|                          | Low   | GSM        | 28.47              | 50          | -21.53 |
|                          | Hi  | EDGE       | 27.83              | 50          | -22.17 |
|                          | Mid   | EDGE       | 29.41              | 50          | -20.59 |
|                          | Low   | EDGE       | 30.0               | 50          | -20    |
| <b>Downlink</b>          | Hi  | CDMA       | 32.90              | 50          | -17.1  |
|                          | Mid   | CDMA       | 33.30              | 50          | -16.7  |
|                          | Low   | CDMA       | 29.25              | 50          | -20.75 |
|                          | Hi  | GSM        | 30.37              | 50          | -19.63 |
|                          | Mid   | GSM        | 32.94              | 50          | -17.06 |
|                          | Low   | GSM        | 29.40              | 50          | -20.6  |
|                          | Hi  | EDGE       | 31.58              | 50          | -18.42 |
|                          | Mid   | EDGE       | 33.10              | 50          | -16.9  |
|                          | Low   | EDGE       | 30.96              | 50          | -19.04 |
| <b>Input Power (dBm)</b> | -50dBm                                      |            |                    |             |        |
| <b>Ref Offset</b>        | Ref offset=Cable Factor +Attenuation=30.2dB |            |                    |             |        |

**Section 4. Occupied Bandwidth**

|                      |                           |                       |                       |
|----------------------|---------------------------|-----------------------|-----------------------|
| <b>Name of Test:</b> | <i>Occupied Bandwidth</i> | <b>Test Standard:</b> | <i>2.1049(i)</i>      |
| <b>Tested By:</b>    | WEI LI                    | <b>Test Date:</b>     | 09/01/2007-10/15/2007 |

**Minimum Standard:** Not defined by FCC. Input vs. Output.

**Method of Measurement:** Spectrum Analyzer Settings:  
 RBW: CDMA (30 kHz), GSM (3kHz), EDGE (3KHz),NADC (1 kHz)  
 and CDPD (1 kHz)  
 VBW:  $\geq$ RBW  
 Span: As required  
 Sweep: Auto  
 Input Signal Characteristics:  
 RF level: Maximum Gain recommended by manufacturer

**Test Result:**

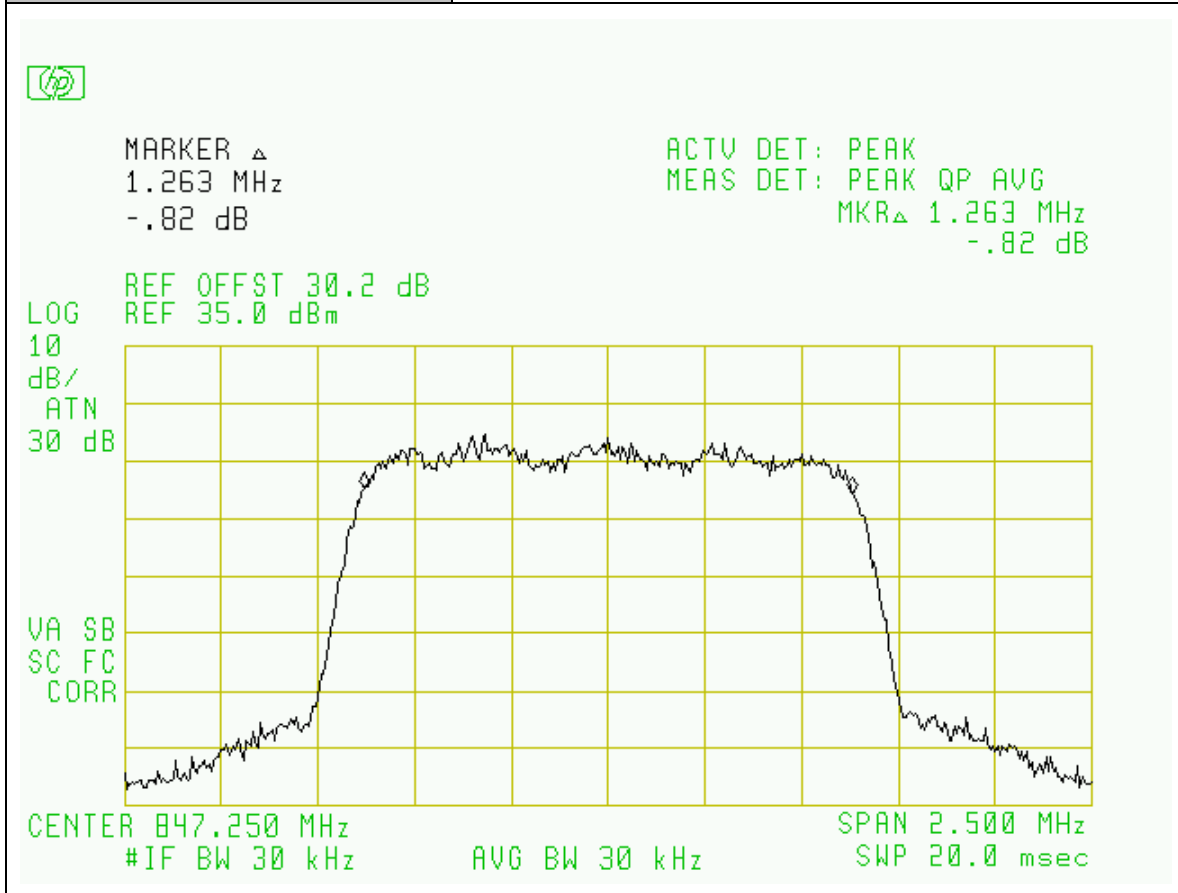
**Complies**

**Test Data:**

Attached Plots

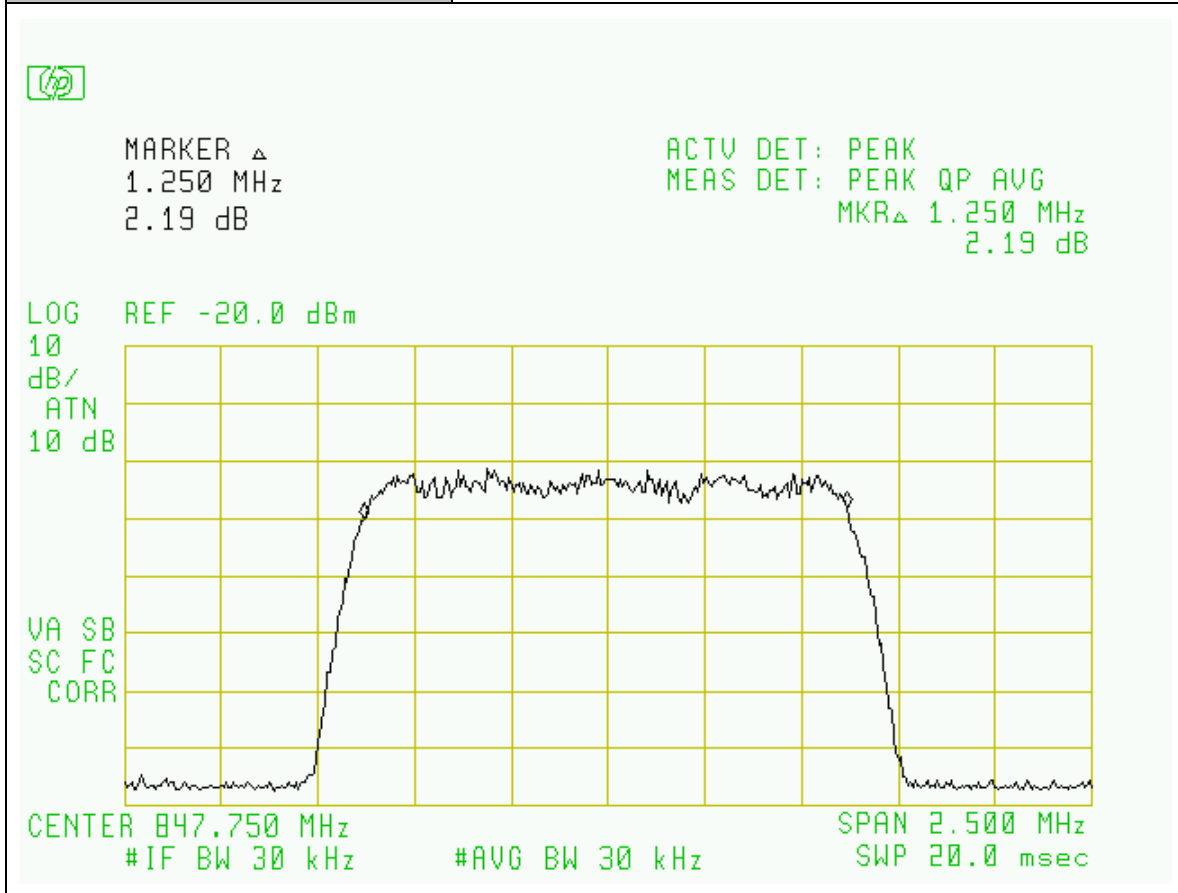
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands     |
| <b>Plot Name:</b>     | Uplink, Hi-Channel, CDMA Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |



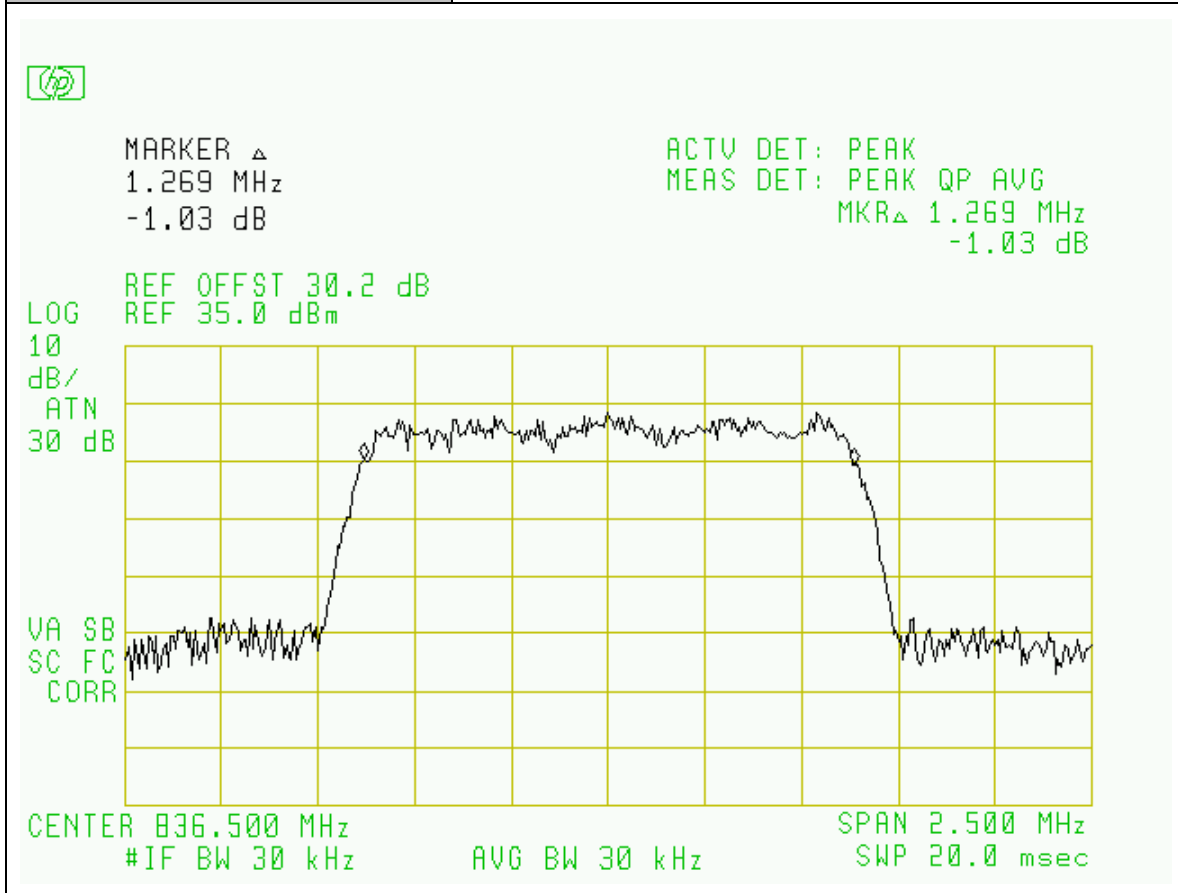
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| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                     |
|-----------------------|-------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands  |
| <b>Plot Name:</b>     | Uplink, Hi-Channel, CDMA Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG   |



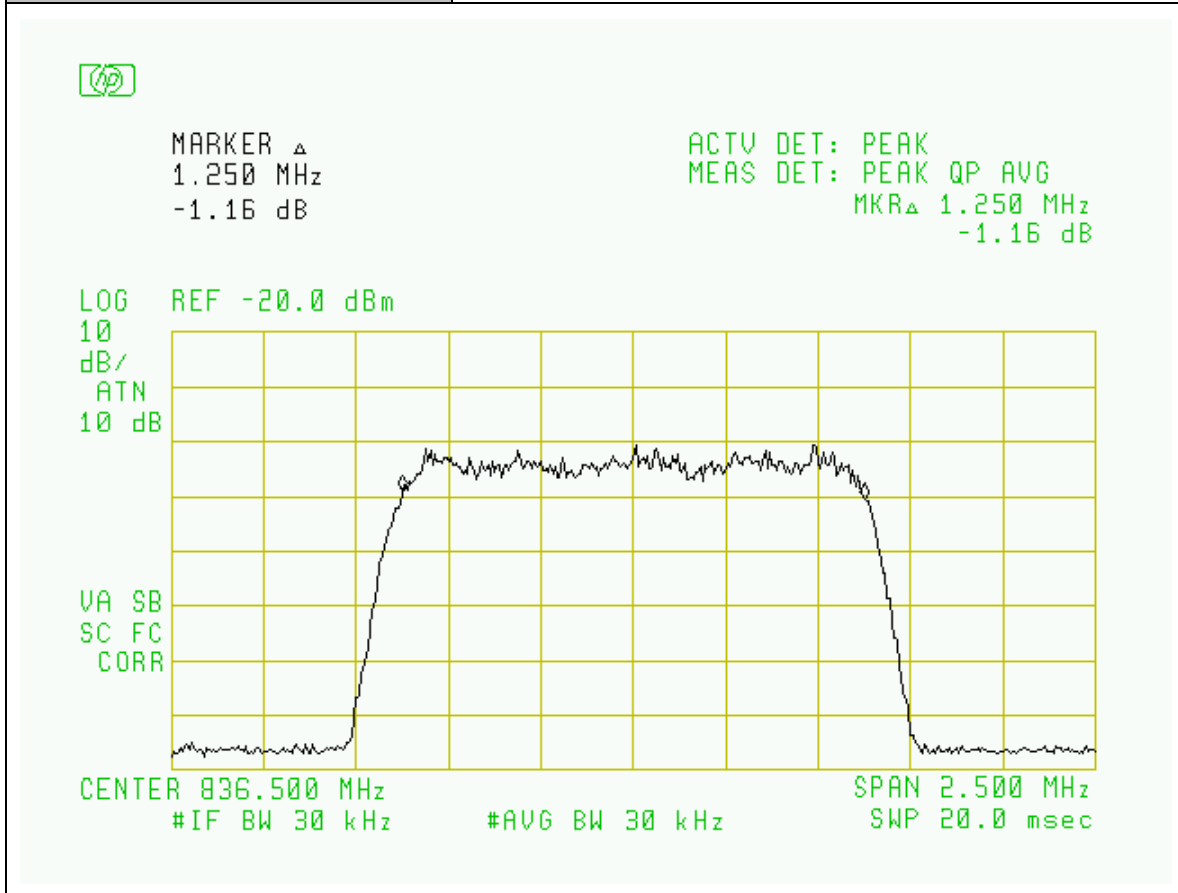
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| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands     |
| <b>Plot Name:</b>     | Uplink, Mid-Channel, CDMA Modulation   |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |



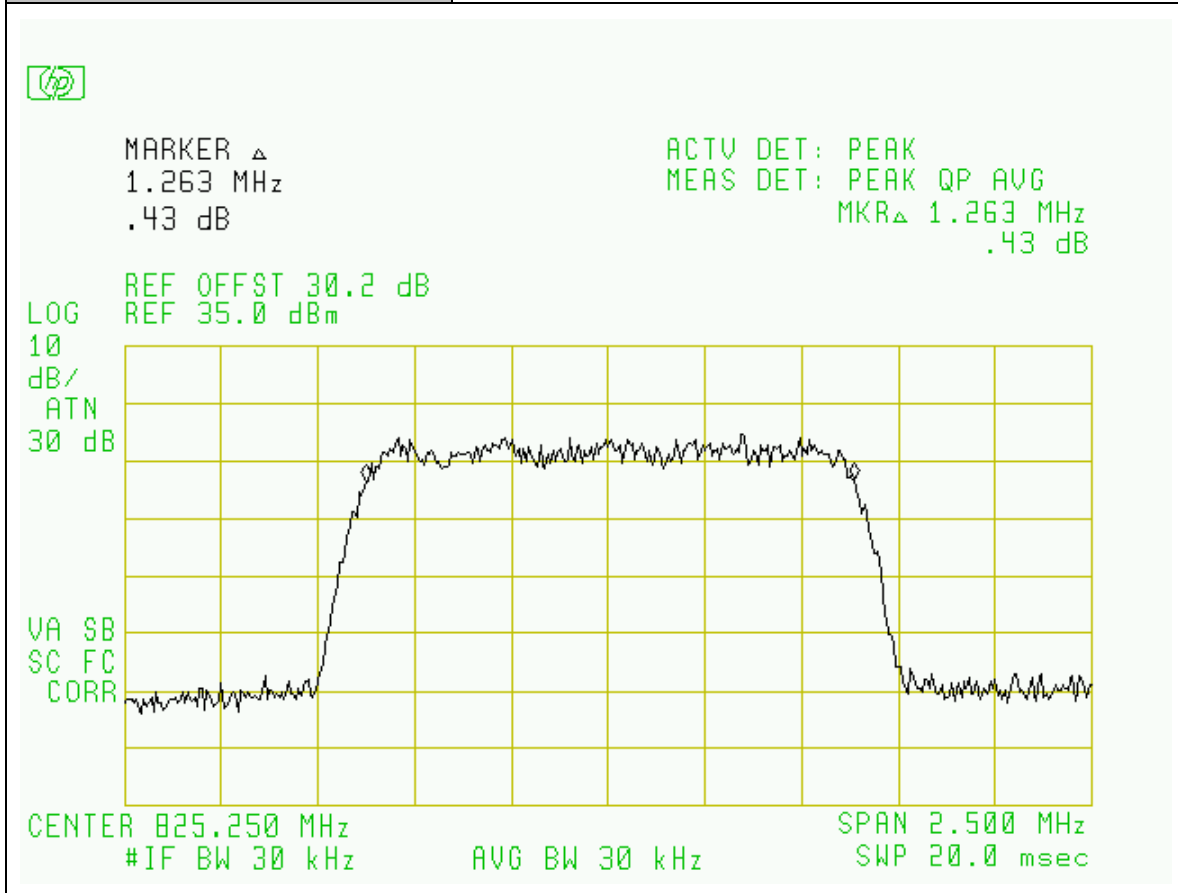
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| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                      |
|-----------------------|--------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands   |
| <b>Plot Name:</b>     | Uplink, Mid-Channel, CDMA Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG    |



|                        |   |
|------------------------|---|
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| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

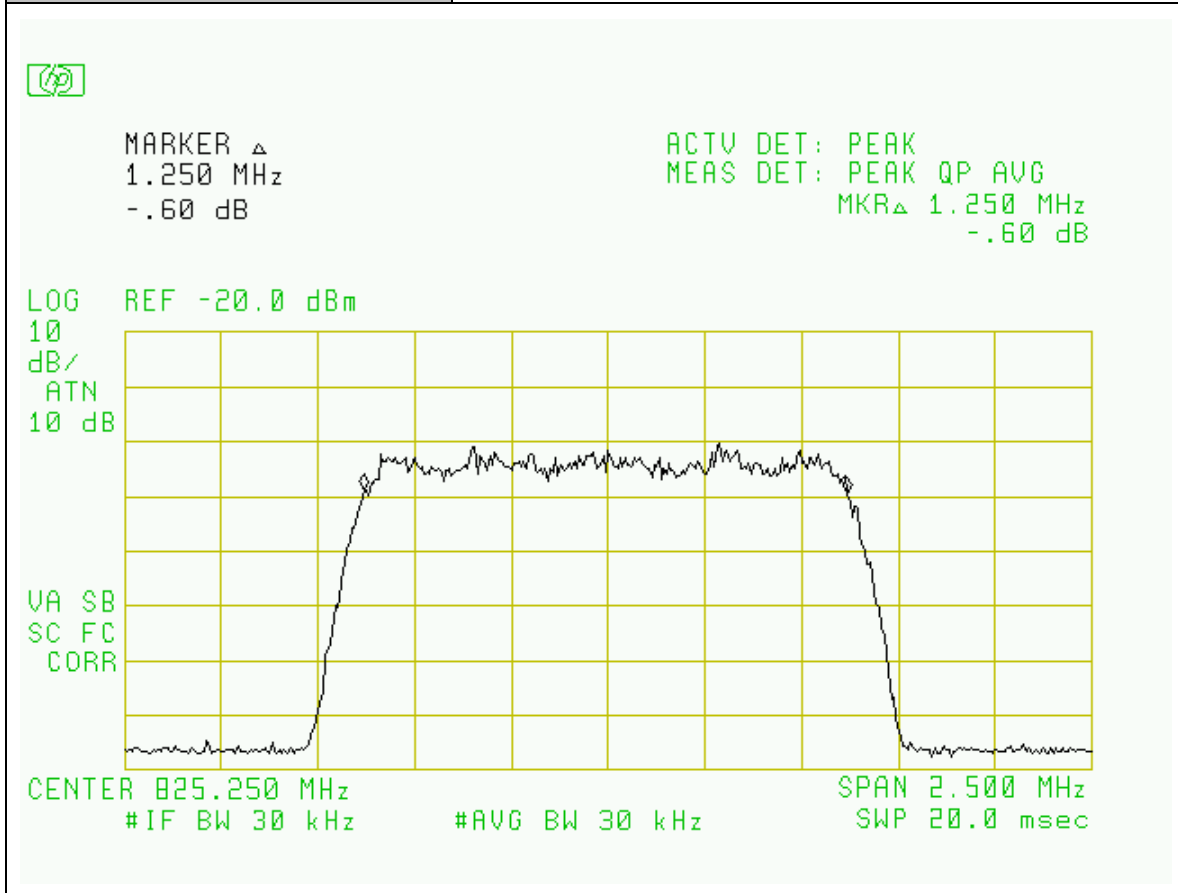
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| <b>Plot Name:</b>     | Uplink, Low-Channel, CDMA Modulation   |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |





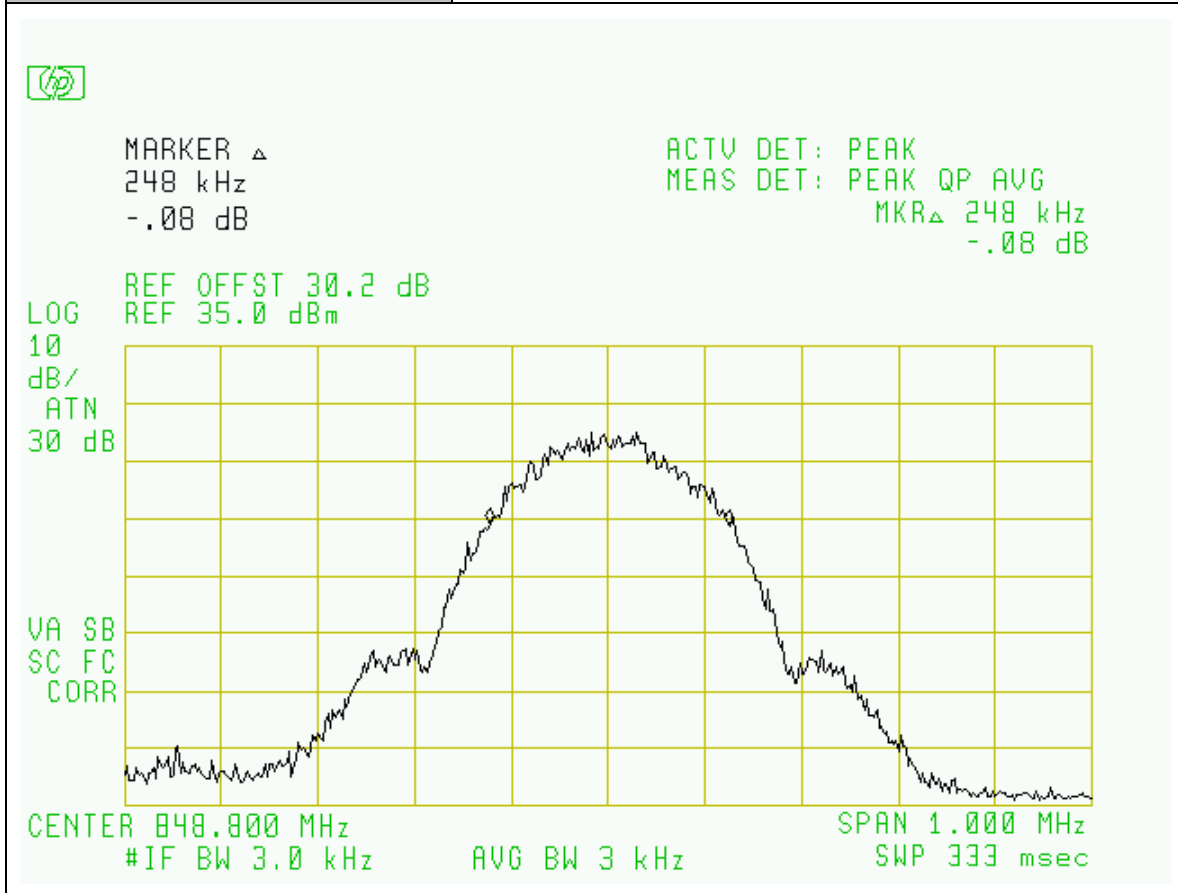
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| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                      |
|-----------------------|--------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands   |
| <b>Plot Name:</b>     | Uplink, Low-Channel, CDMA Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG    |



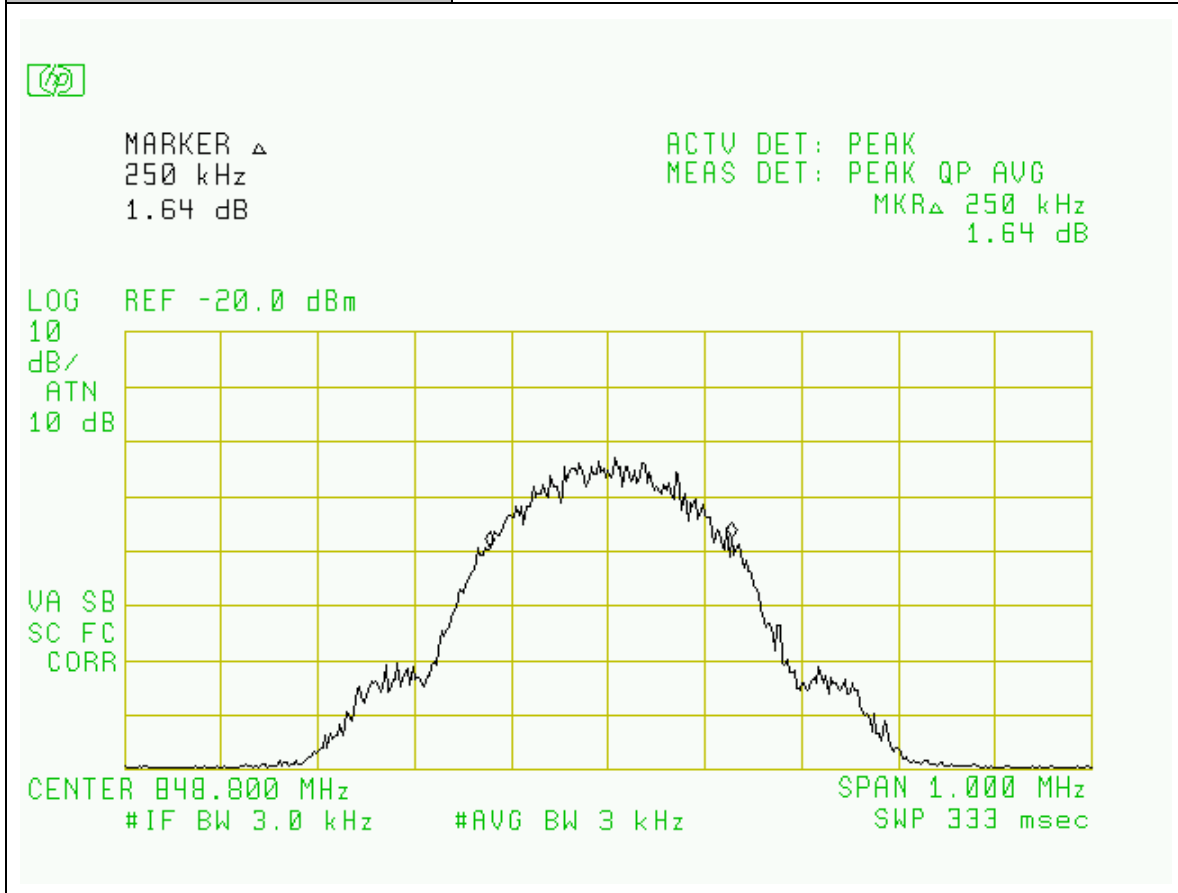
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| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands     |
| <b>Plot Name:</b>     | Uplink, Hi-Channel, GSM Modulation     |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |



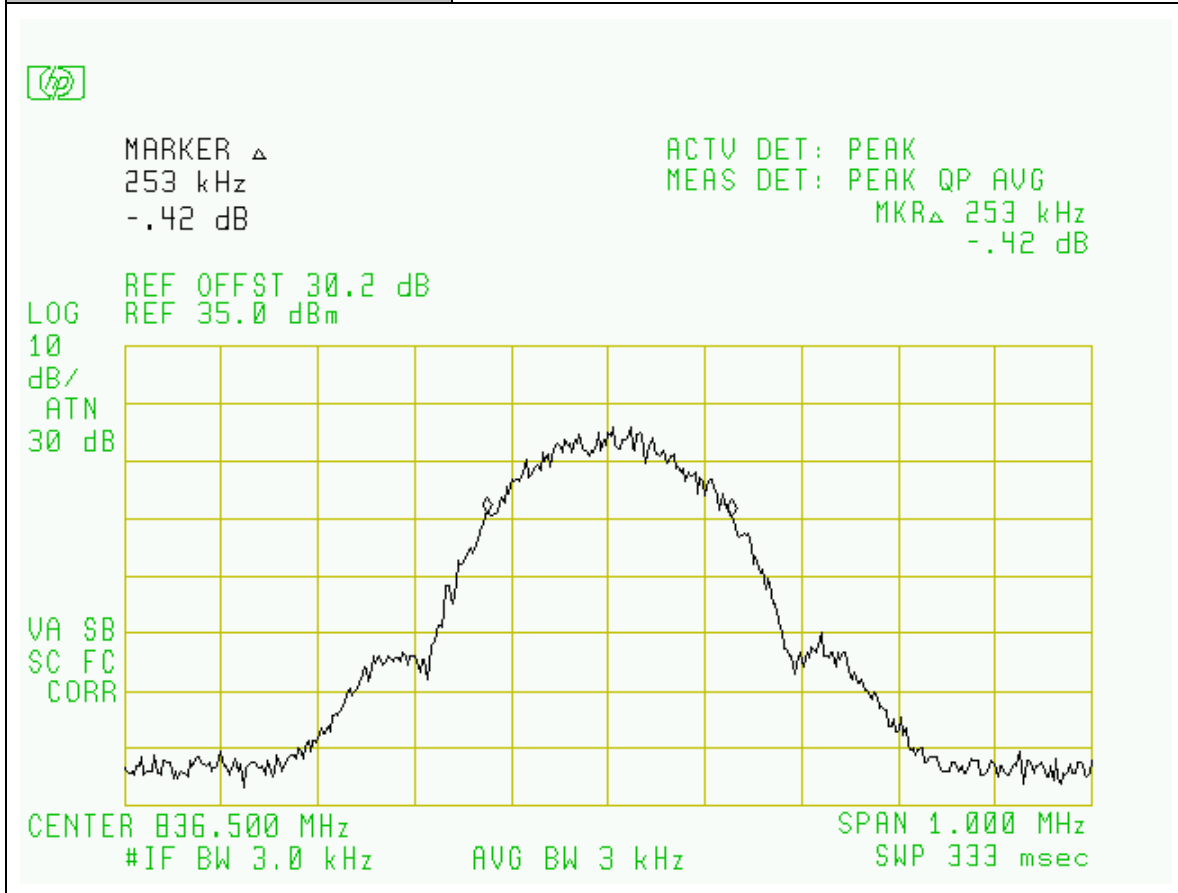
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| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                    |
|-----------------------|------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands |
| <b>Plot Name:</b>     | Uplink, Hi-Channel, GSM Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG  |



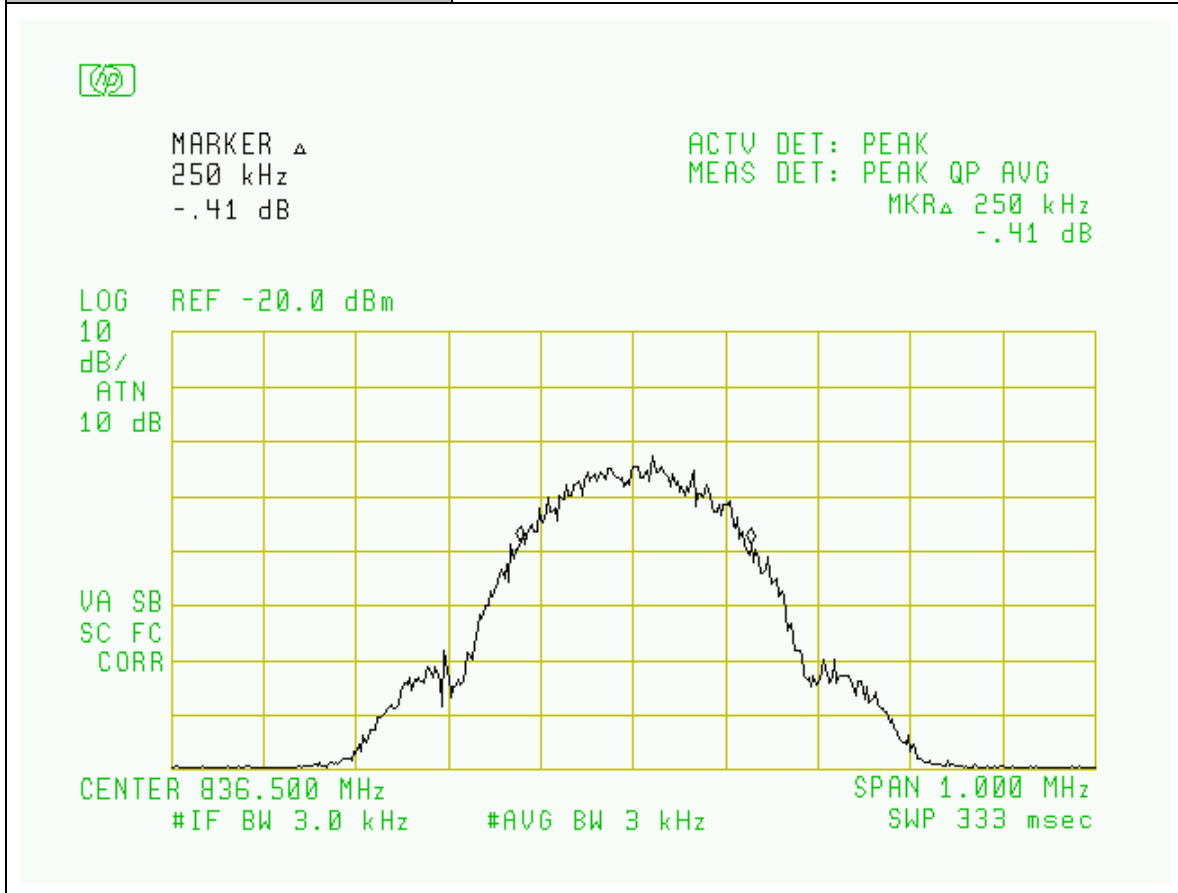
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| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands     |
| <b>Plot Name:</b>     | Uplink, Mid-Channel, GSM Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |



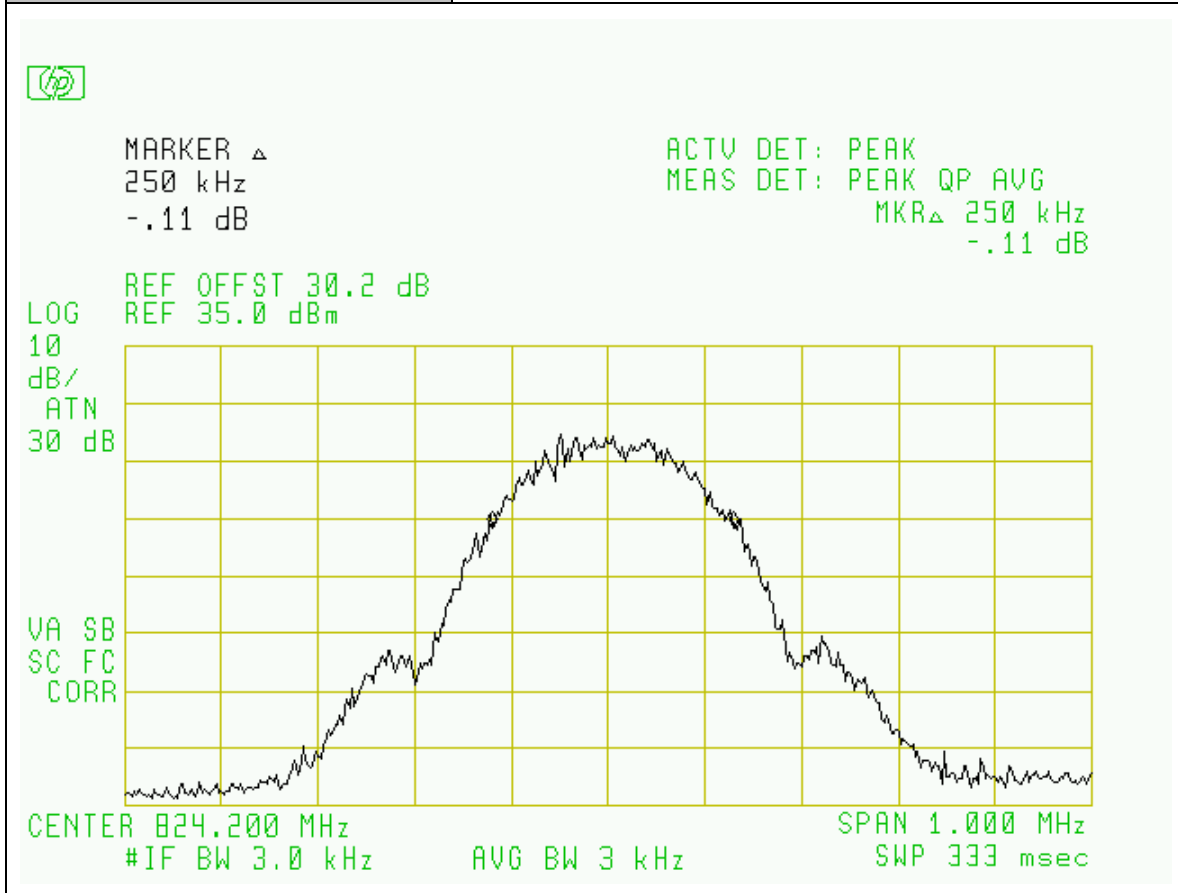
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| <b>Humidity:</b>       | 30%                                     |

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| <b>Plot Name:</b>     | Uplink, Mid-Channel, GSM Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG   |



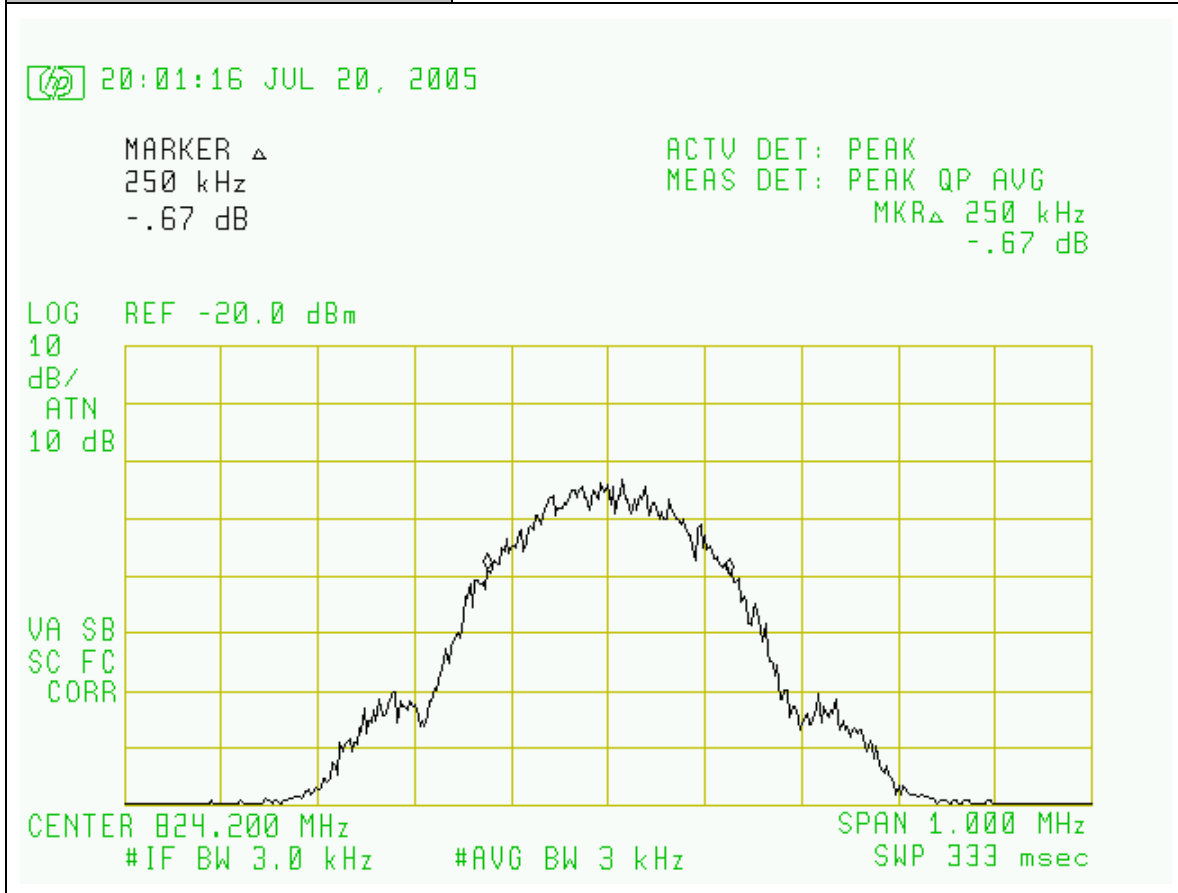
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| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands     |
| <b>Plot Name:</b>     | Uplink, Low-Channel, GSM Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |



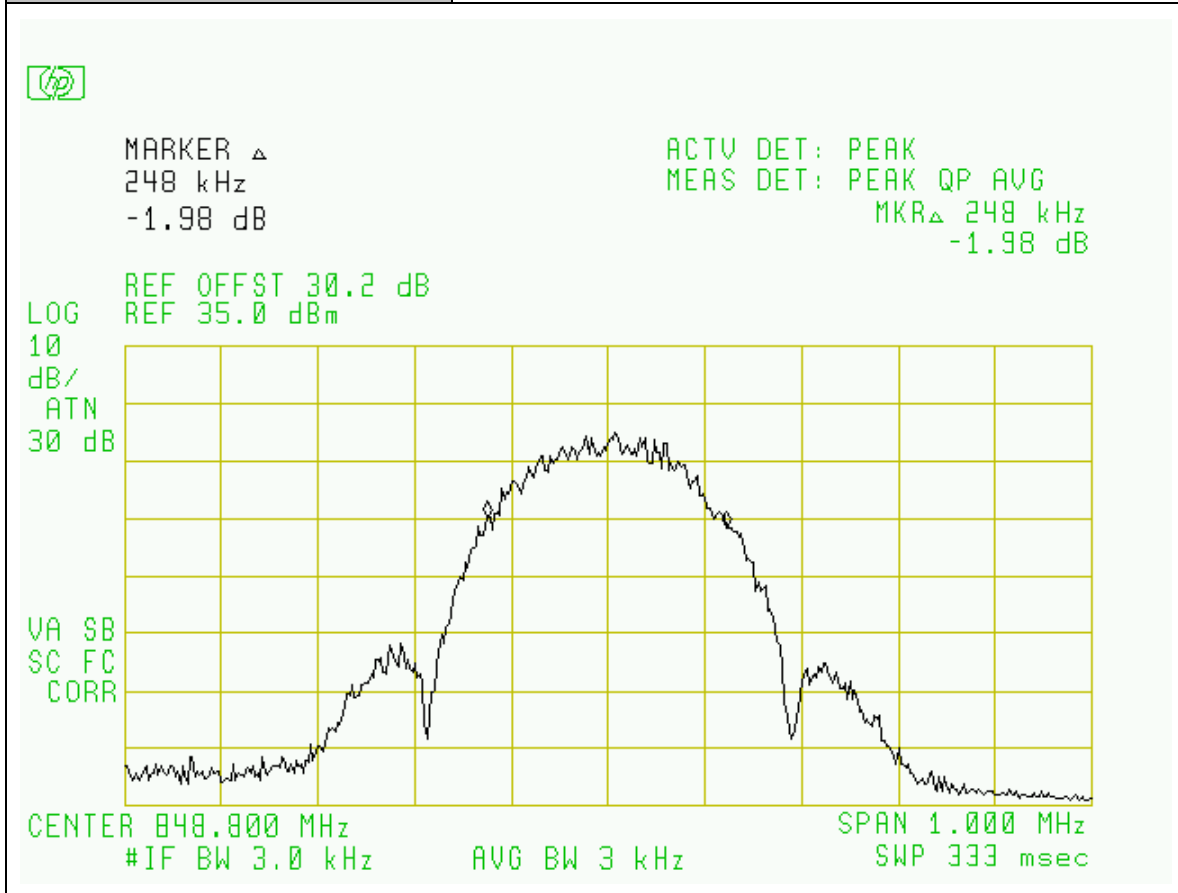
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| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                     |
|-----------------------|-------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands  |
| <b>Plot Name:</b>     | Uplink, Low-Channel, GSM Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG   |



|                        |   |
|------------------------|---|
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| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

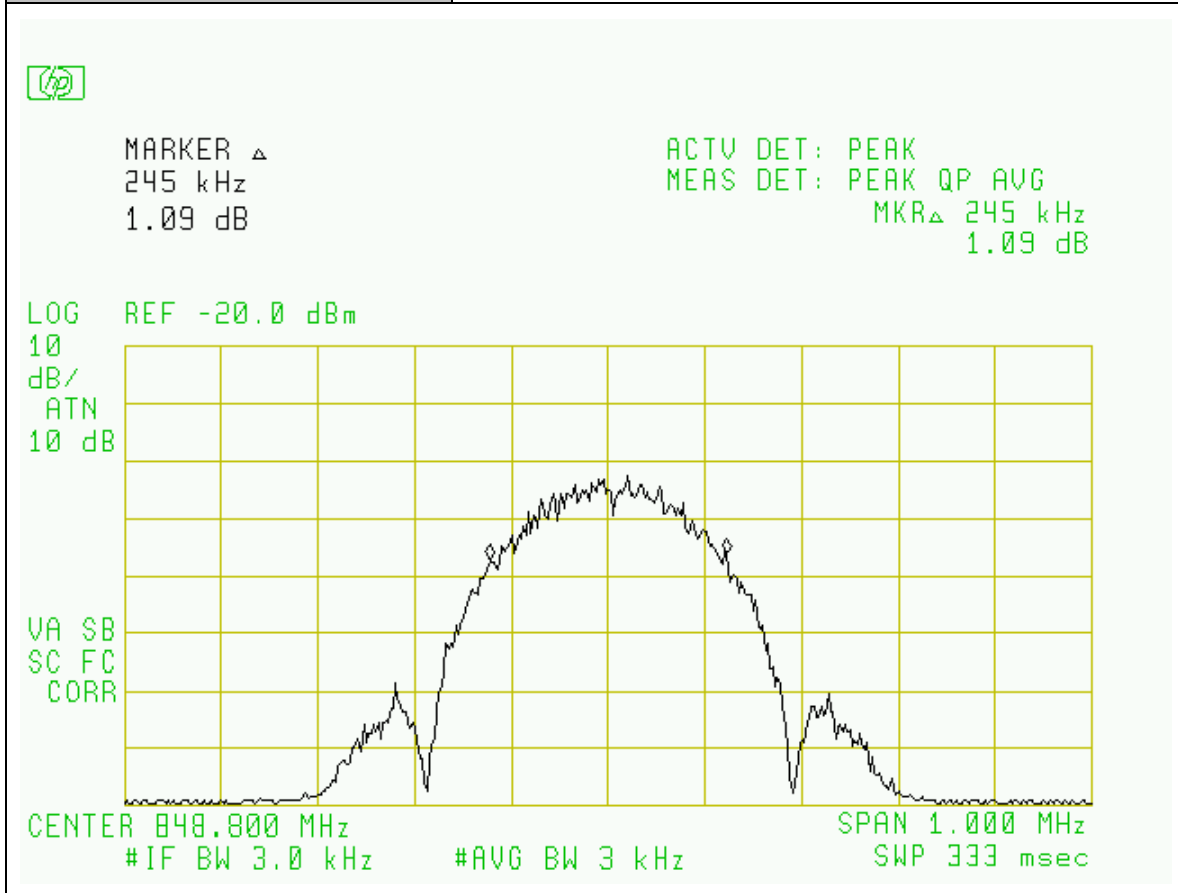
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|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands     |
| <b>Plot Name:</b>     | Uplink, Hi-Channel, EDGE Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |





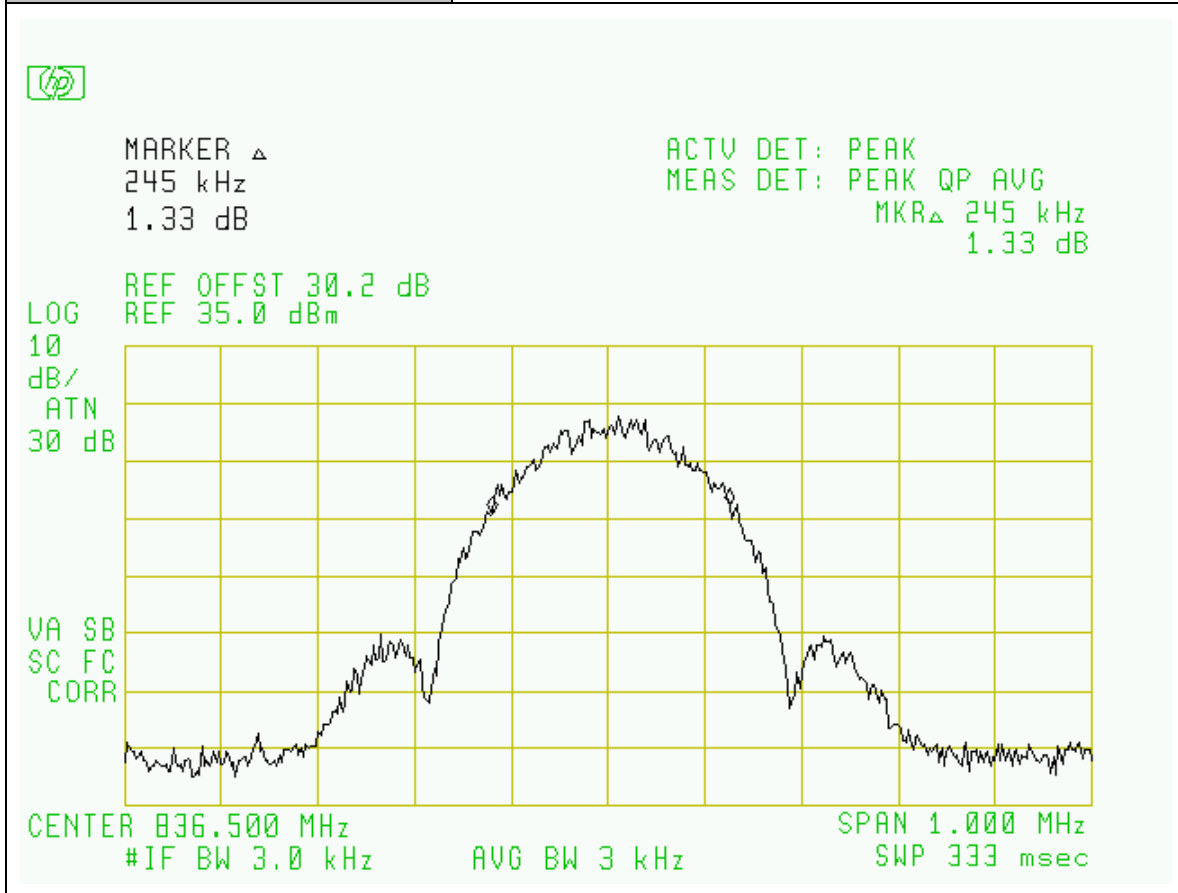
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                     |
|-----------------------|-------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands  |
| <b>Plot Name:</b>     | Uplink, Hi-Channel, EDGE Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG   |



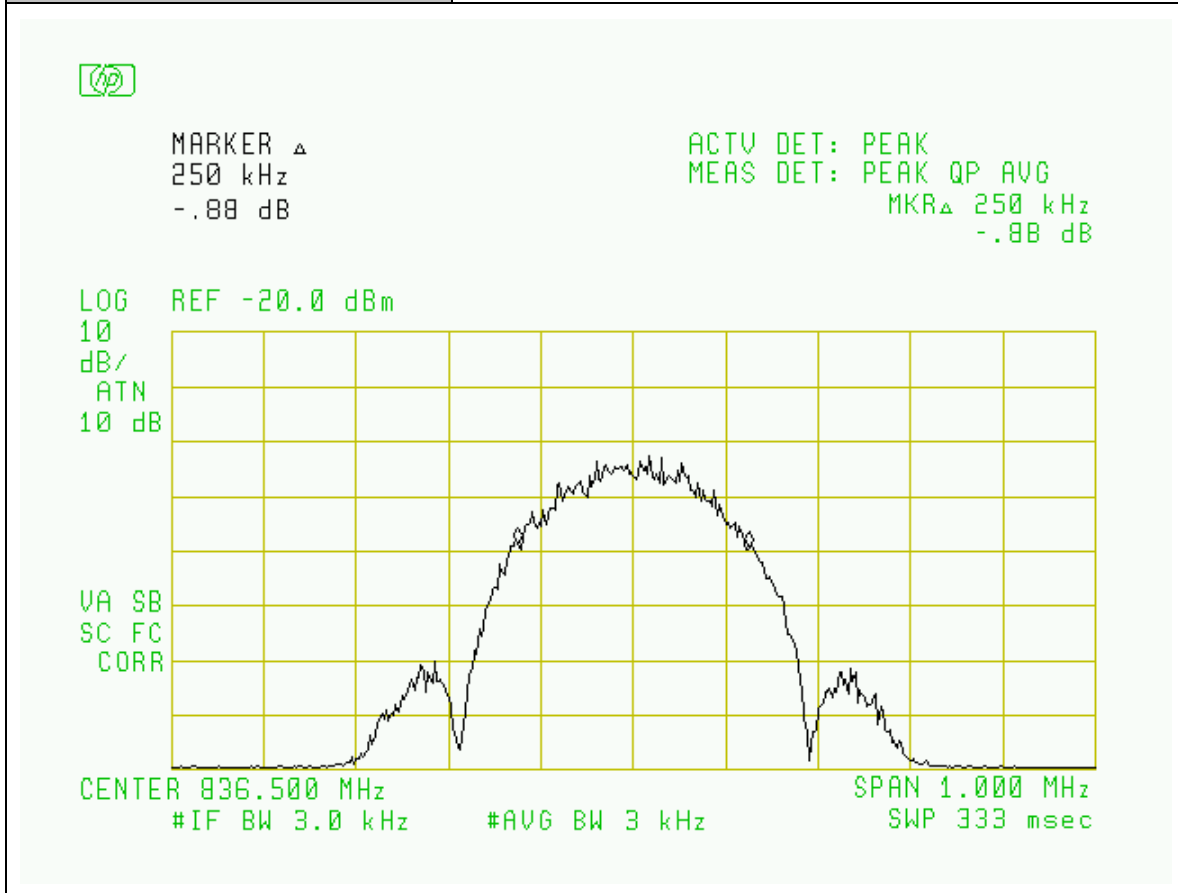
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands     |
| <b>Plot Name:</b>     | Uplink, Mid-Channel, EDGE Modulation   |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |



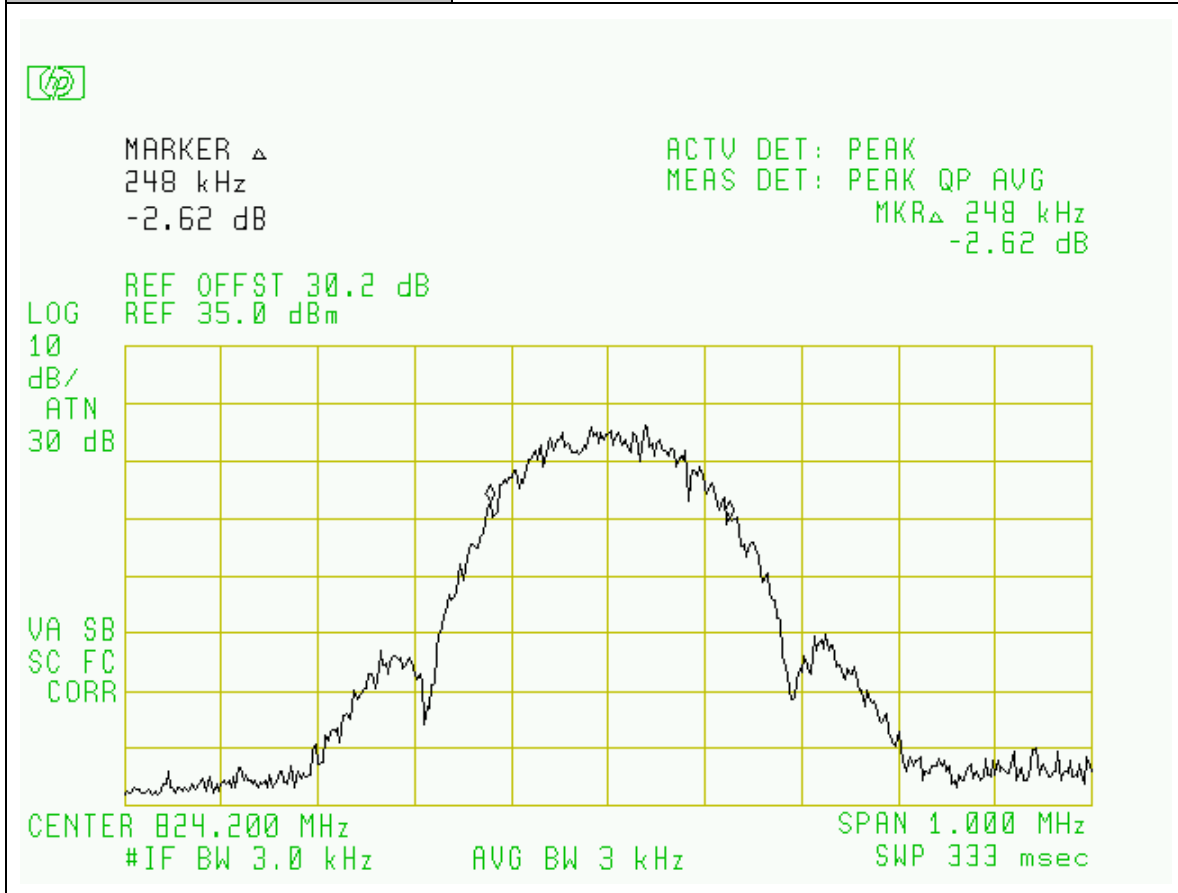
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                      |
|-----------------------|--------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands   |
| <b>Plot Name:</b>     | Uplink, Mid-Channel, EDGE Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG    |



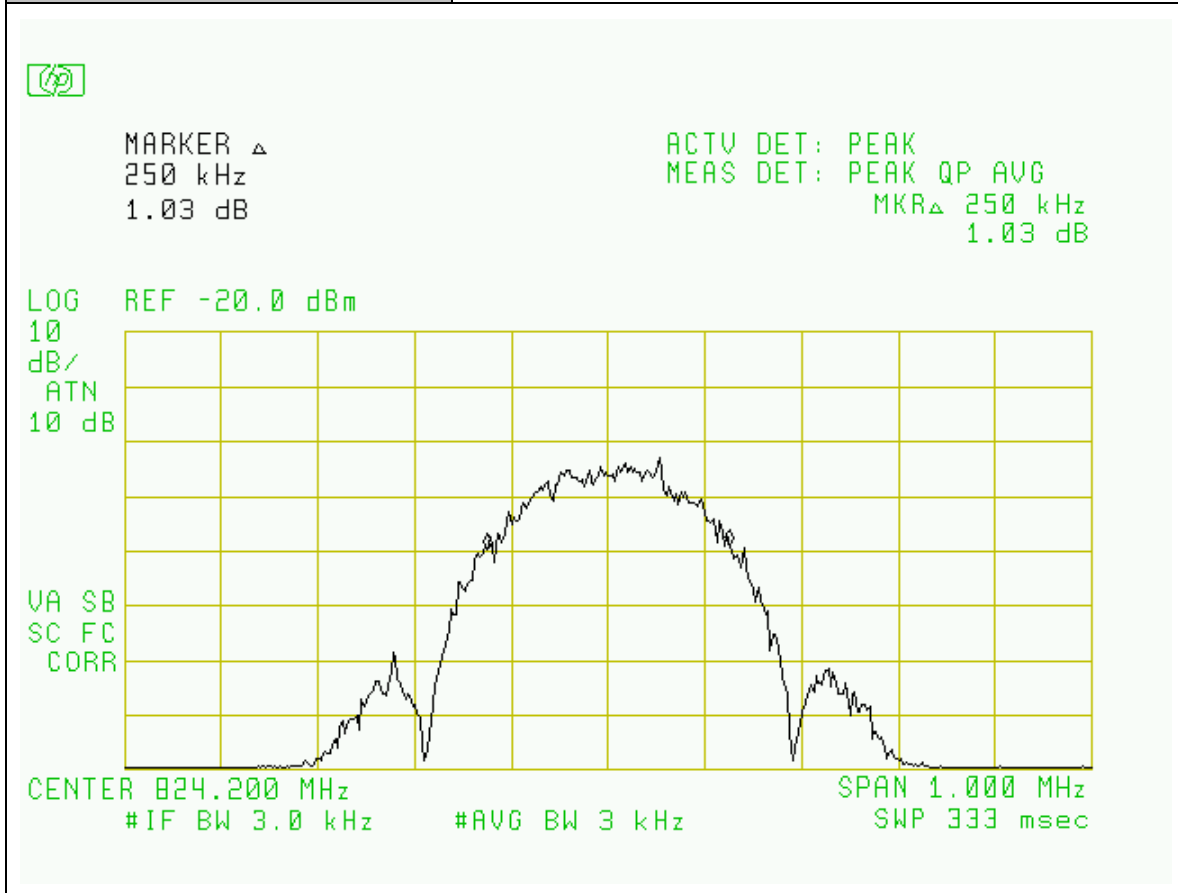
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands     |
| <b>Plot Name:</b>     | Uplink, Low-Channel, EDGE Modulation   |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |



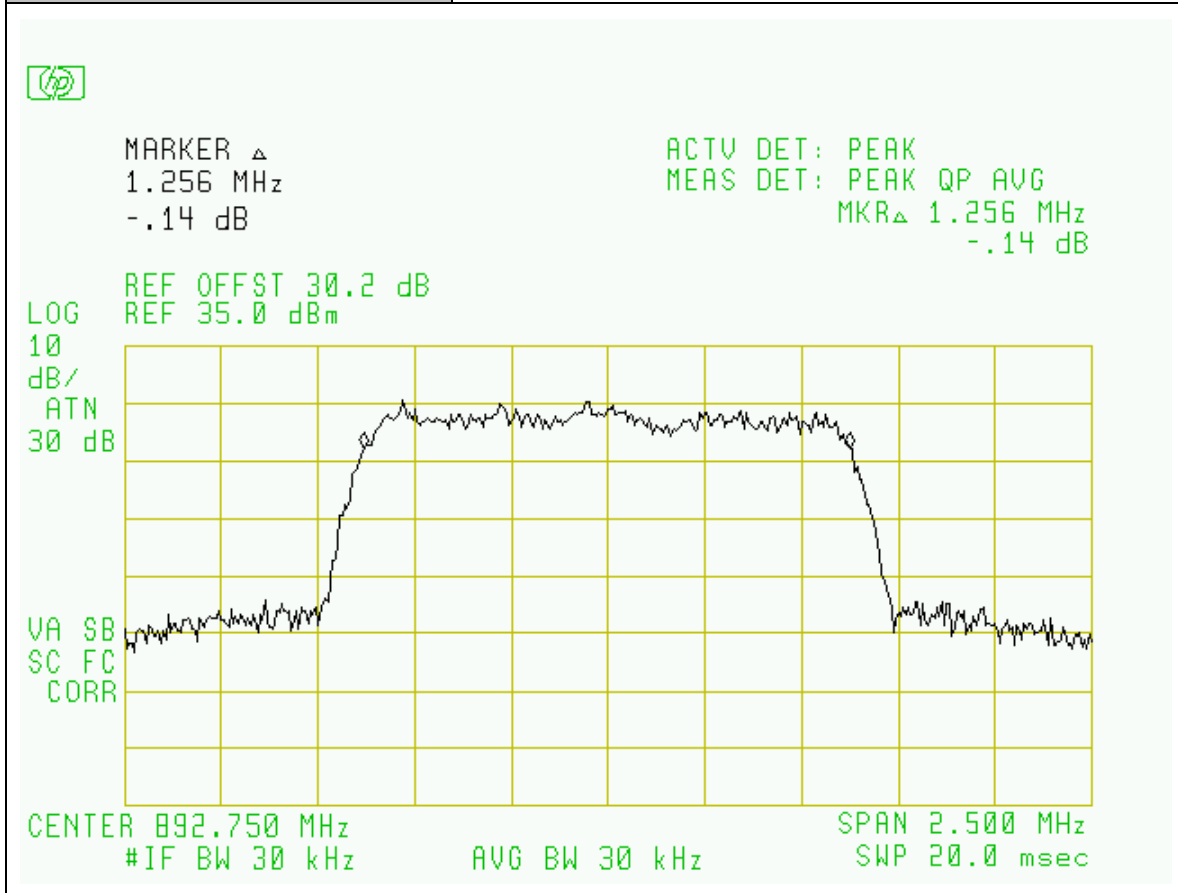
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                      |
|-----------------------|--------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands   |
| <b>Plot Name:</b>     | Uplink, Low-Channel, EDGE Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG    |



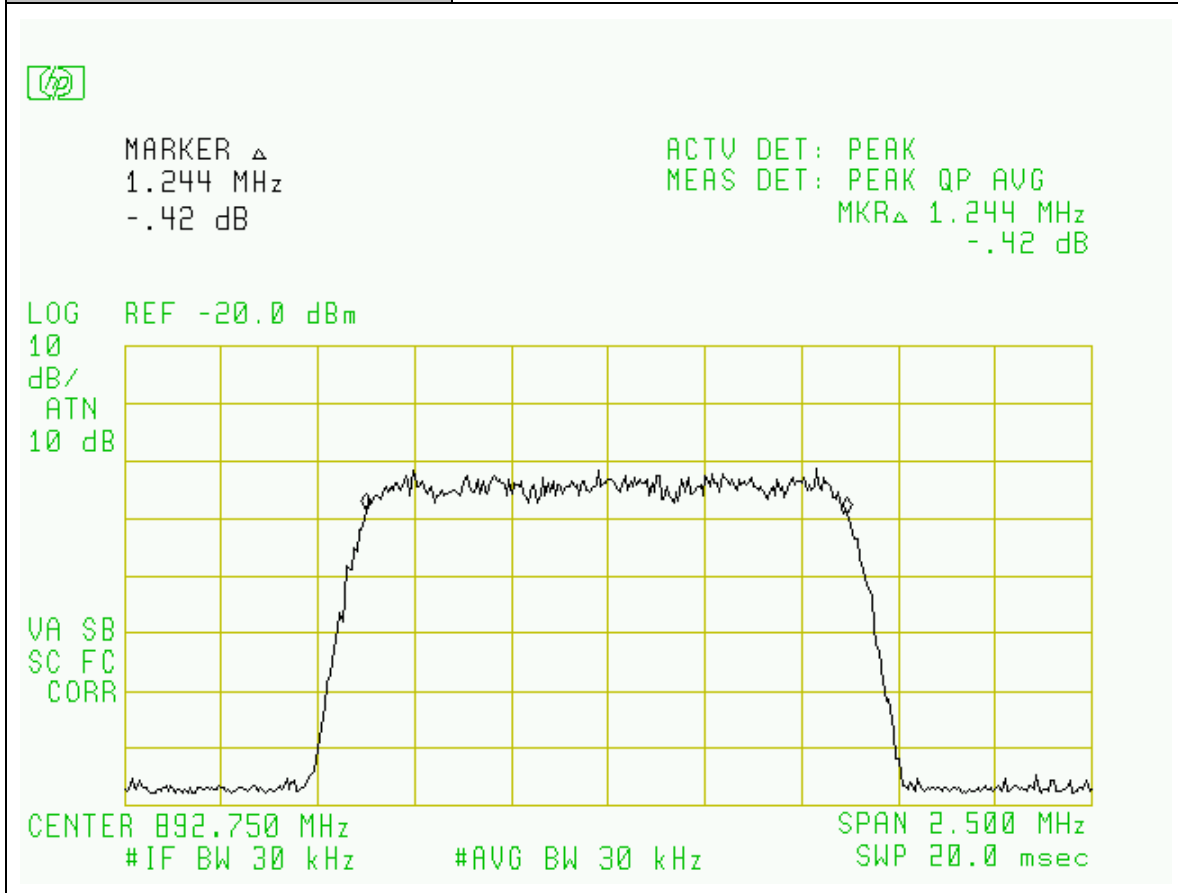
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands        |
| <b>Plot Name:</b>     | Downlink, Hi-Channel, CDMA Modulation     |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |



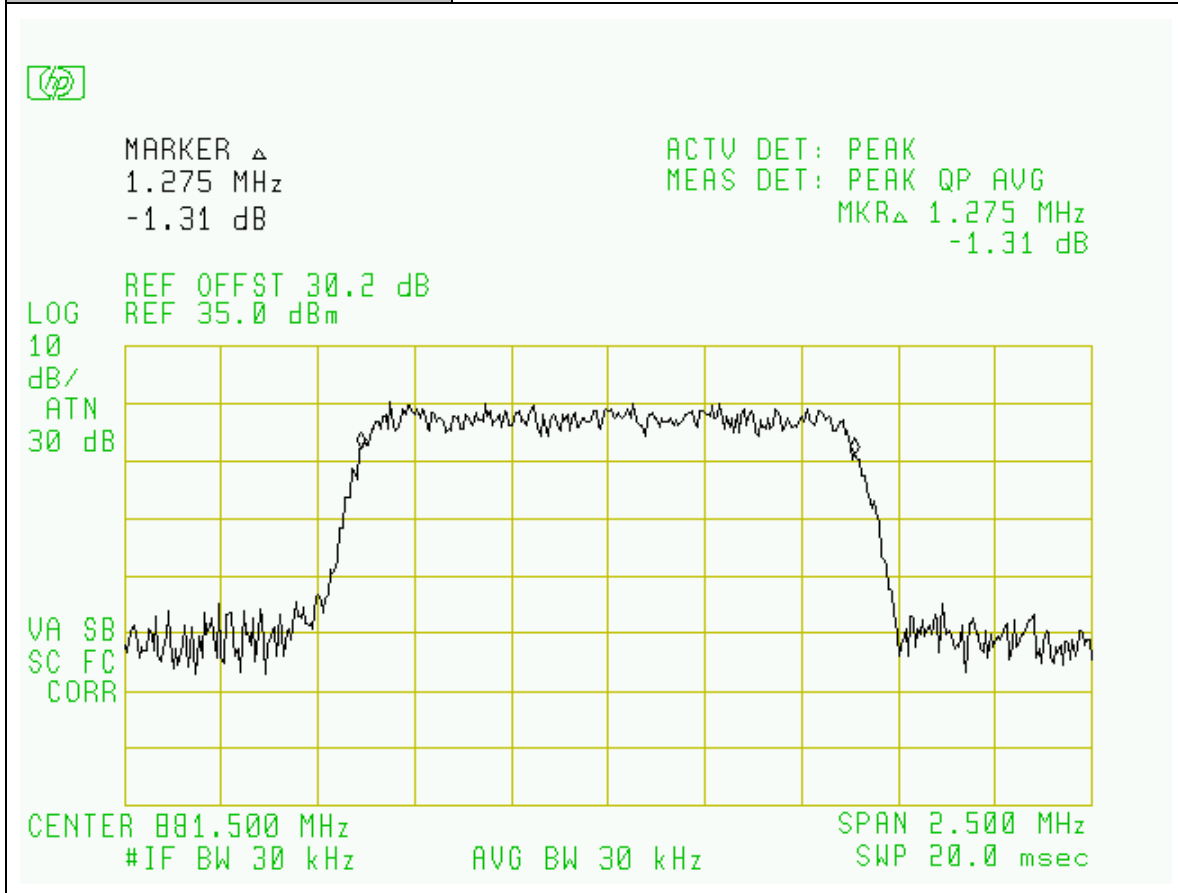
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                       |
|-----------------------|---------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands    |
| <b>Plot Name:</b>     | Downlink, Hi-Channel, CDMA Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG     |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

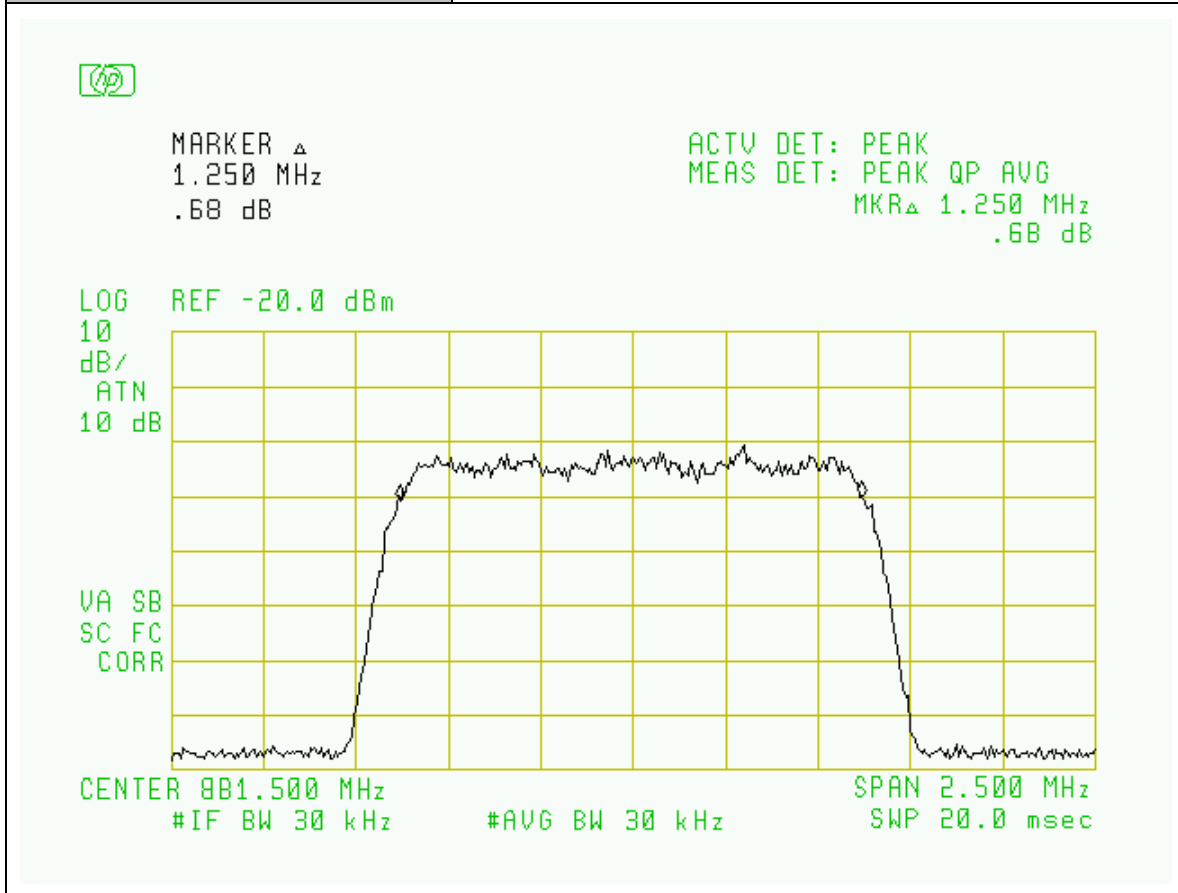
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| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands        |
| <b>Plot Name:</b>     | Downlink, Mid-Channel, CDMA Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |





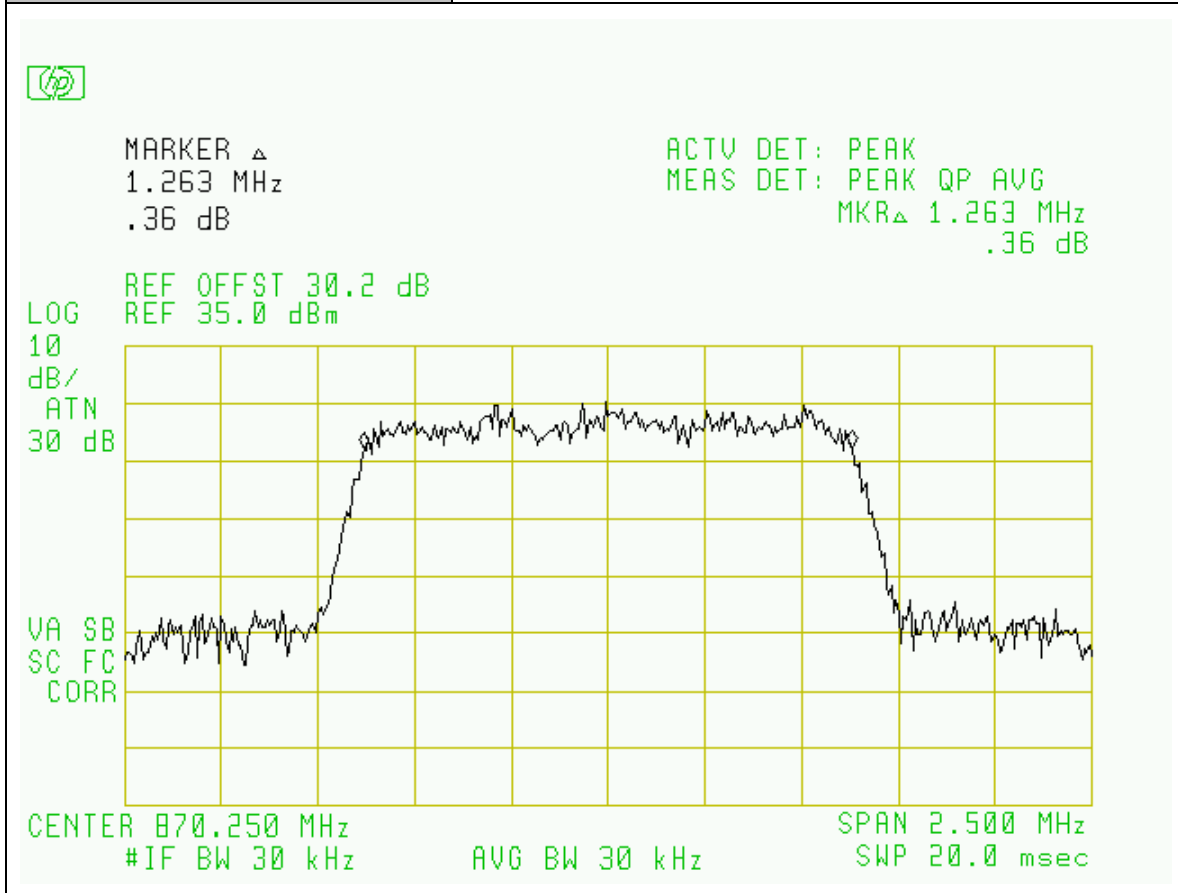
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

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|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands     |
| <b>Plot Name:</b>     | Downlink, Mid-Channel, CDMA Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG      |



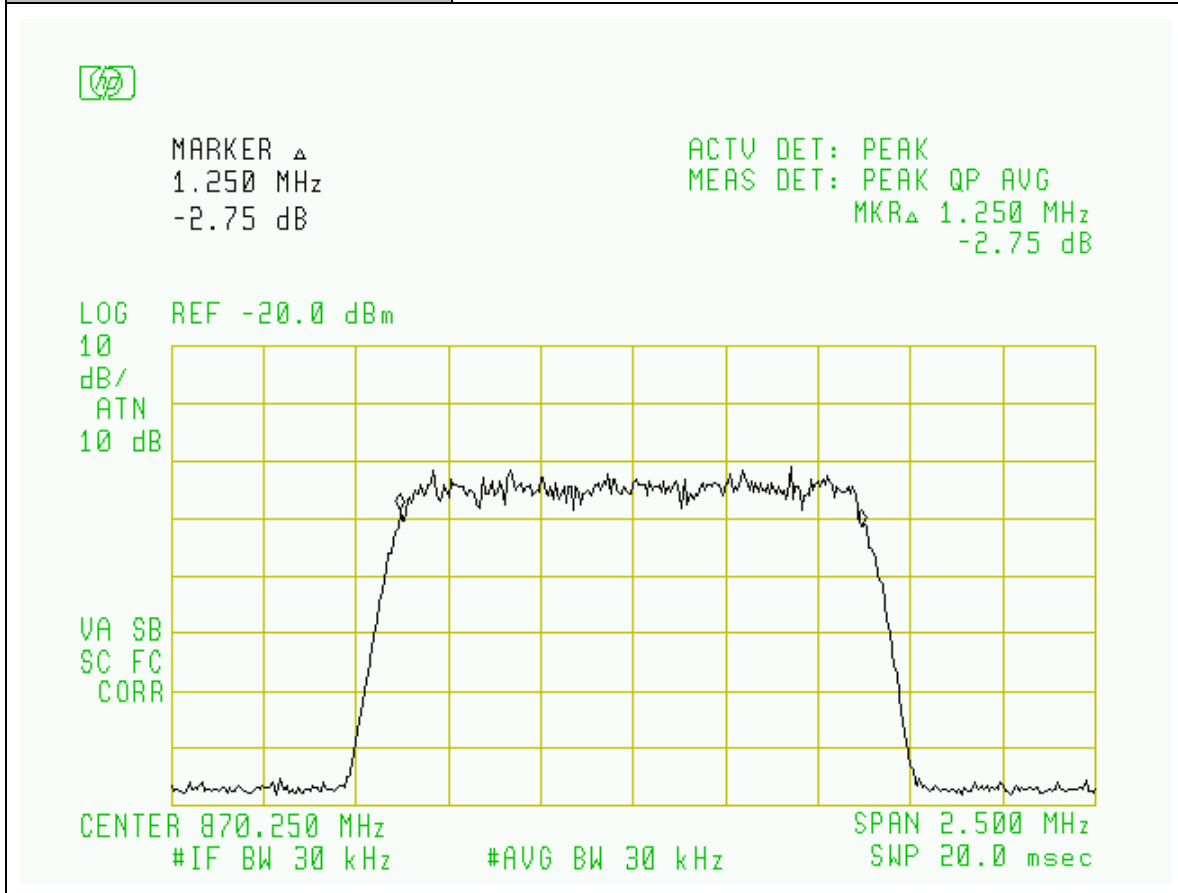
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands        |
| <b>Plot Name:</b>     | Downlink, Low-Channel, CDMA Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MIBILE |



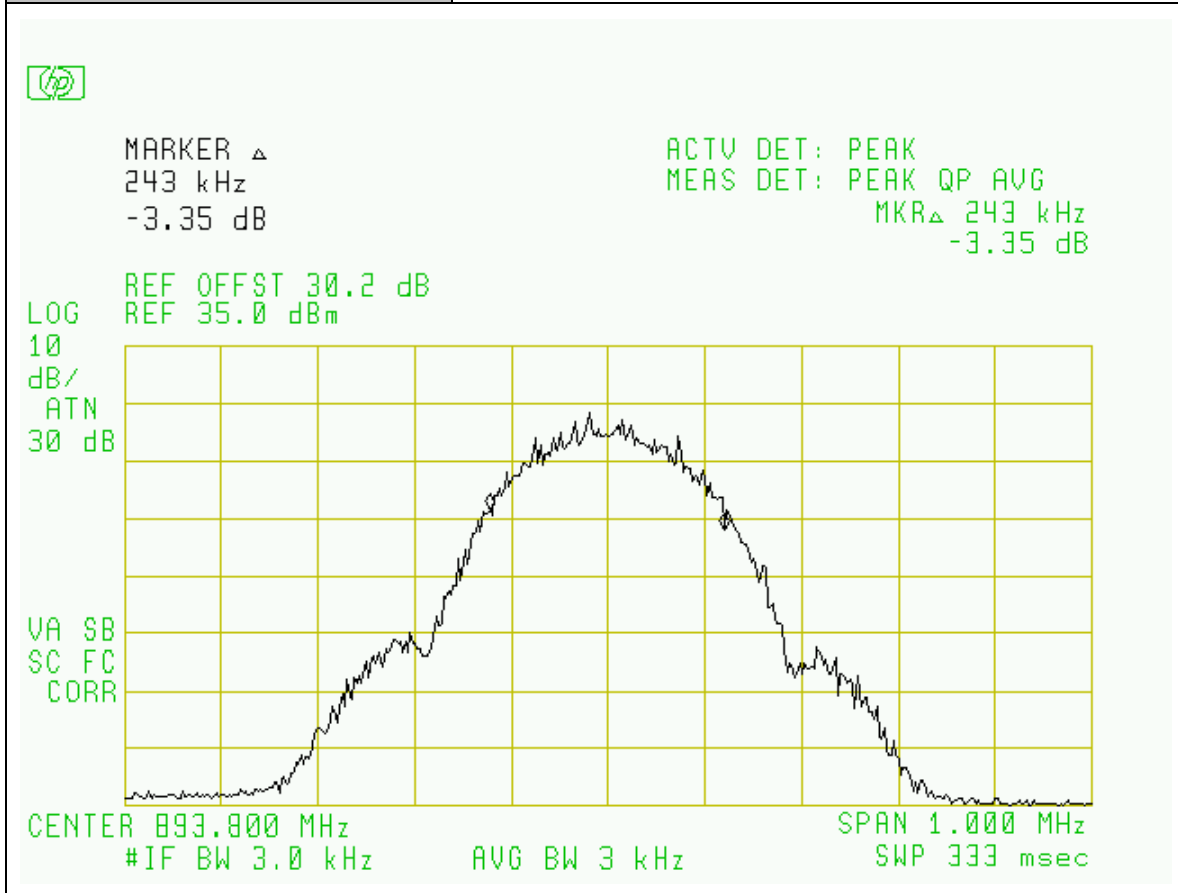
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands     |
| <b>Plot Name:</b>     | Downlink, Low-Channel, CDMA Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG      |



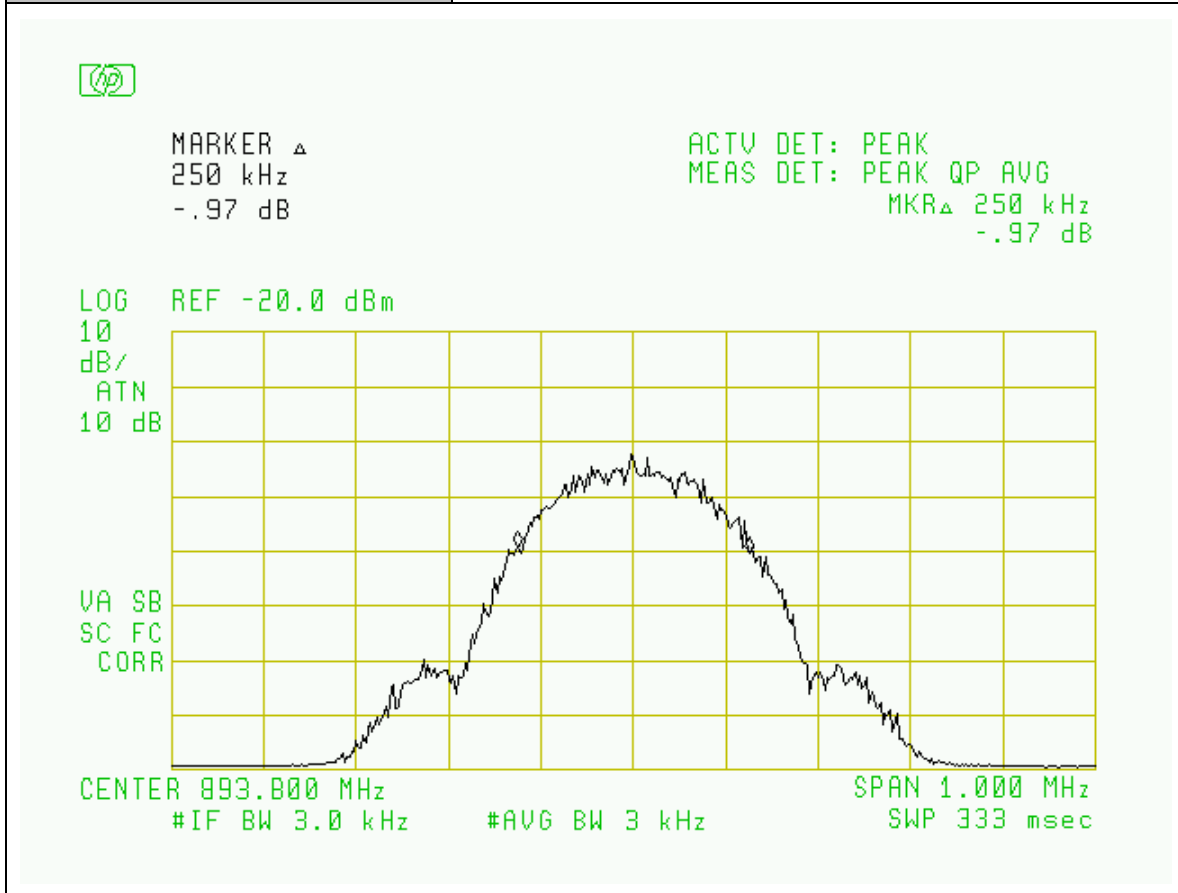
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands        |
| <b>Plot Name:</b>     | Downlink, Hi-Channel, GSM Modulation      |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |



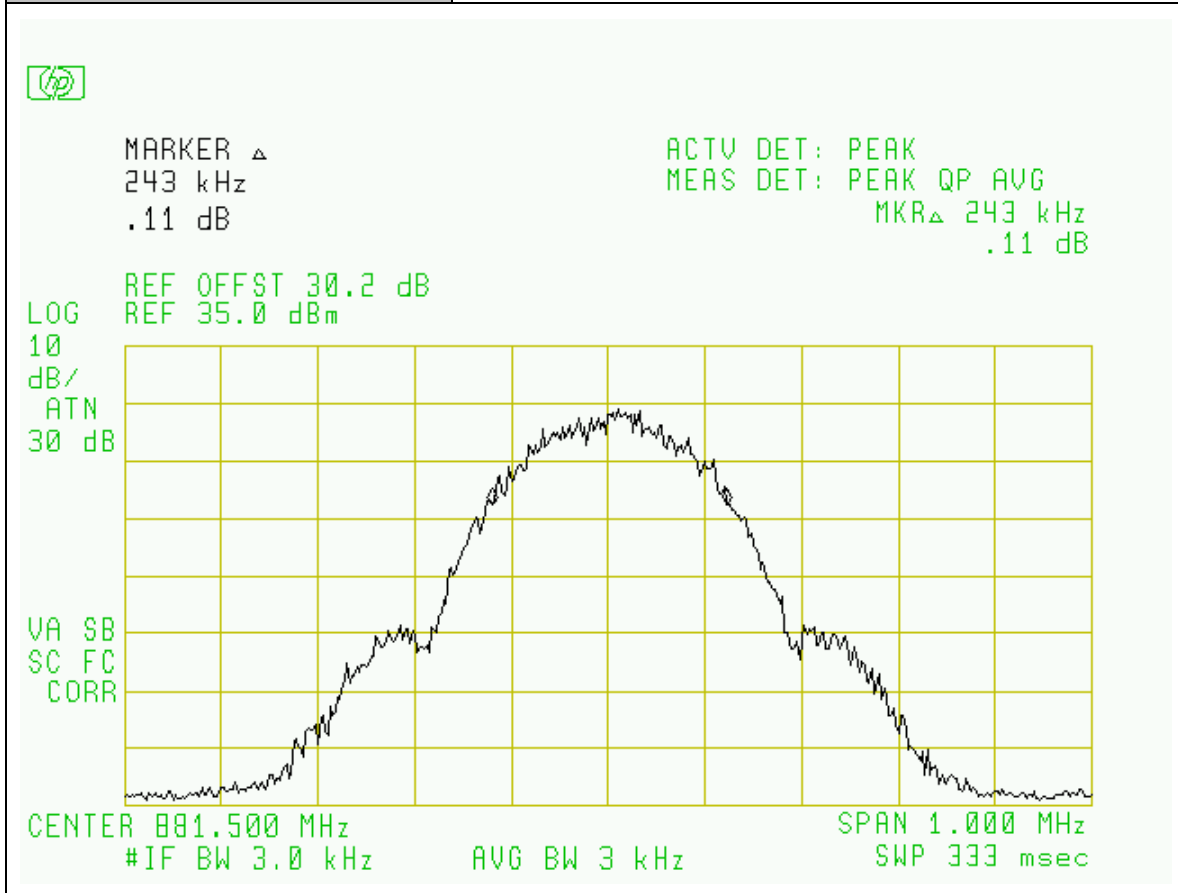
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                      |
|-----------------------|--------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands   |
| <b>Plot Name:</b>     | Downlink, Hi-Channel, GSM Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG    |



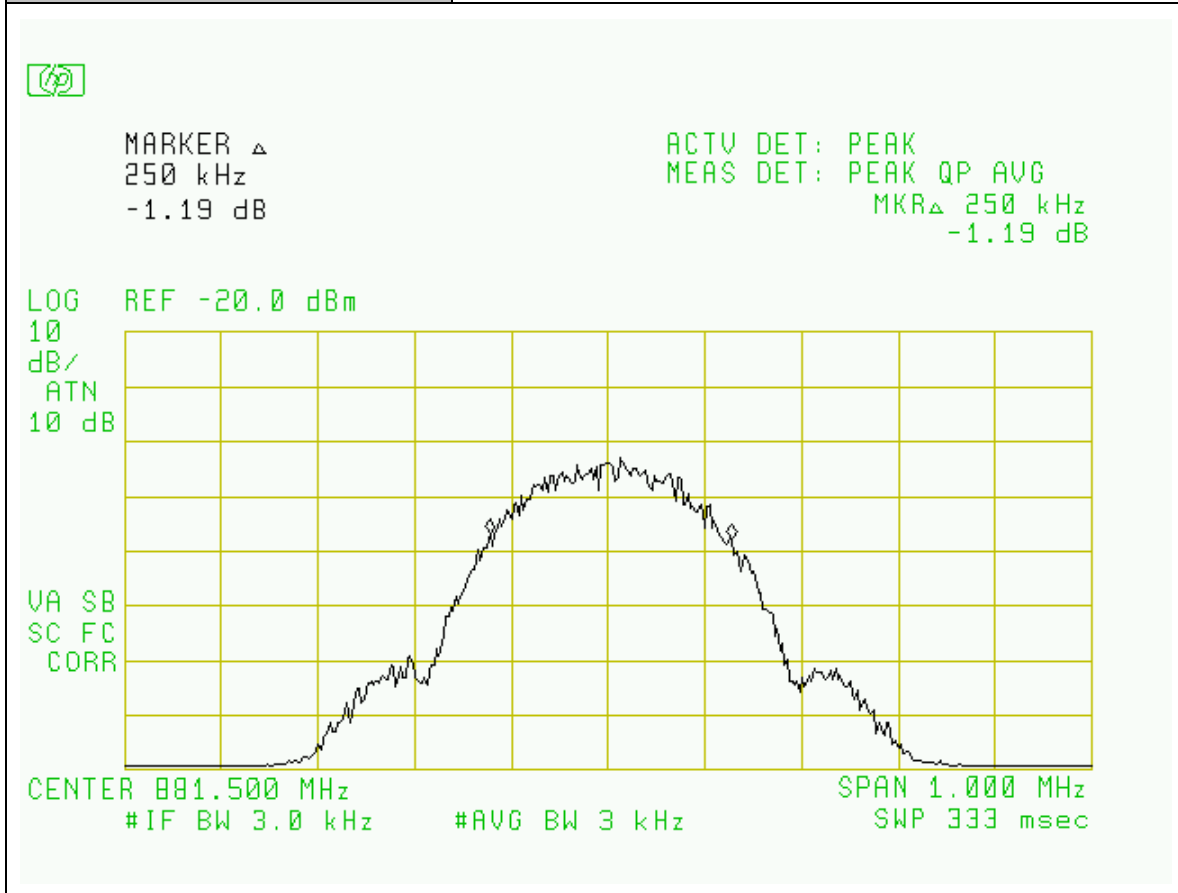
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands        |
| <b>Plot Name:</b>     | Downlink, Mid-Channel, GSM Modulation     |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |



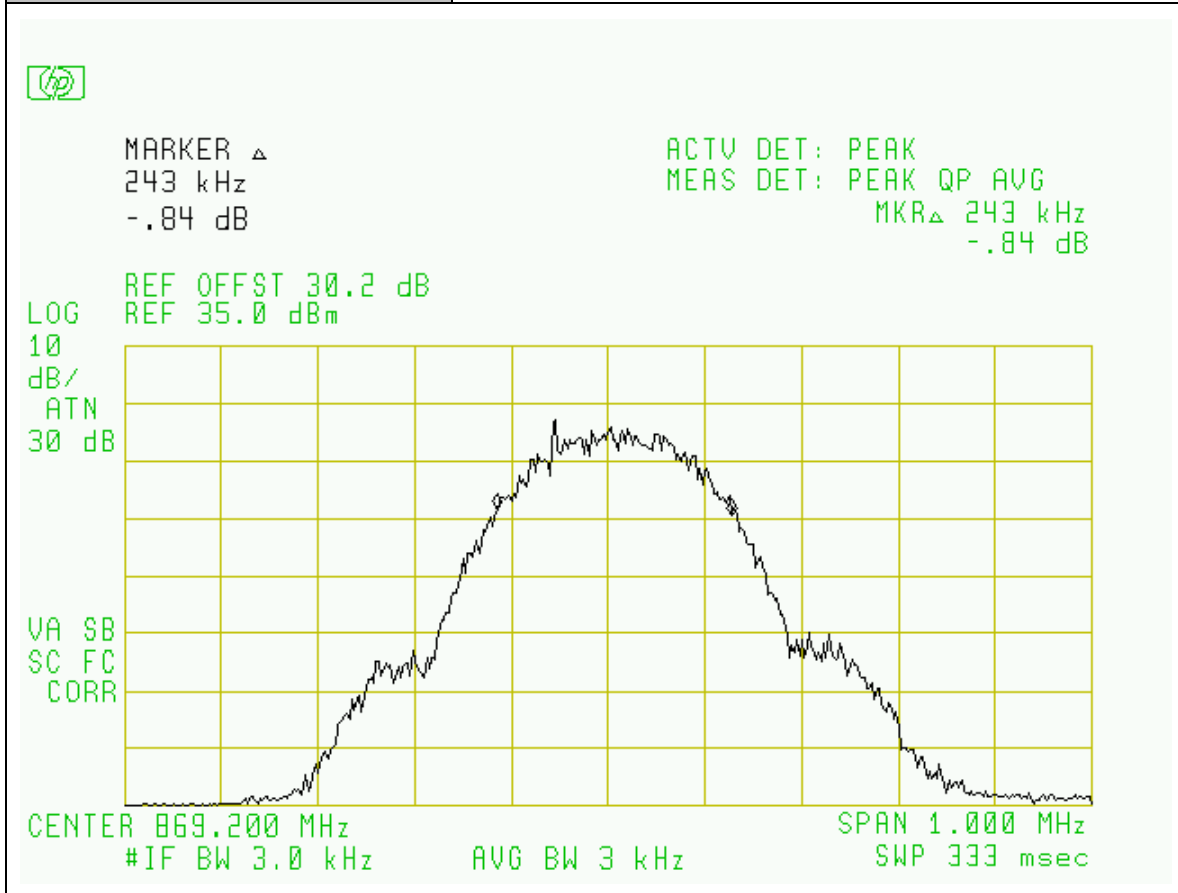
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                       |
|-----------------------|---------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands    |
| <b>Plot Name:</b>     | Downlink, Mid-Channel, GSM Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG     |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

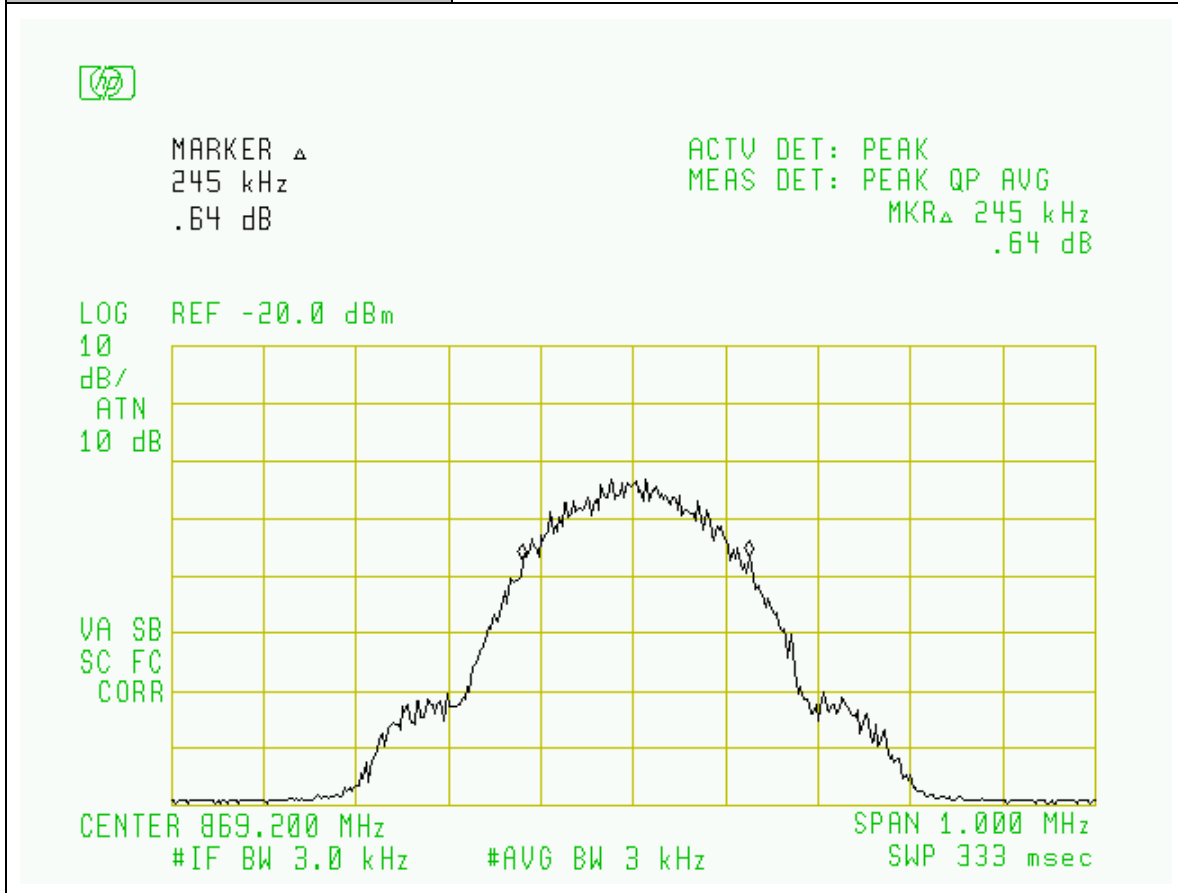
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| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands        |
| <b>Plot Name:</b>     | Downlink, Low-Channel, GSM Modulation     |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |





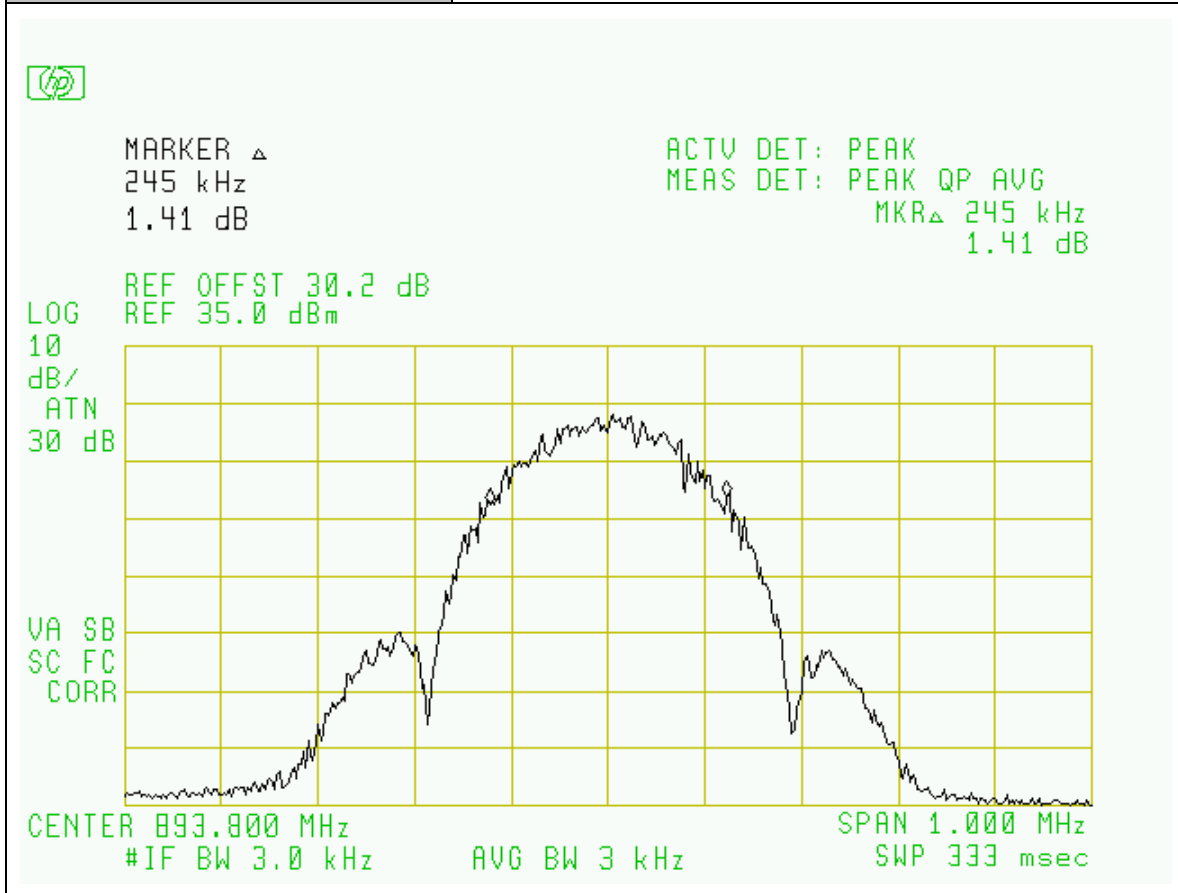
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                       |
|-----------------------|---------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands    |
| <b>Plot Name:</b>     | Downlink, Low-Channel, GSM Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG     |



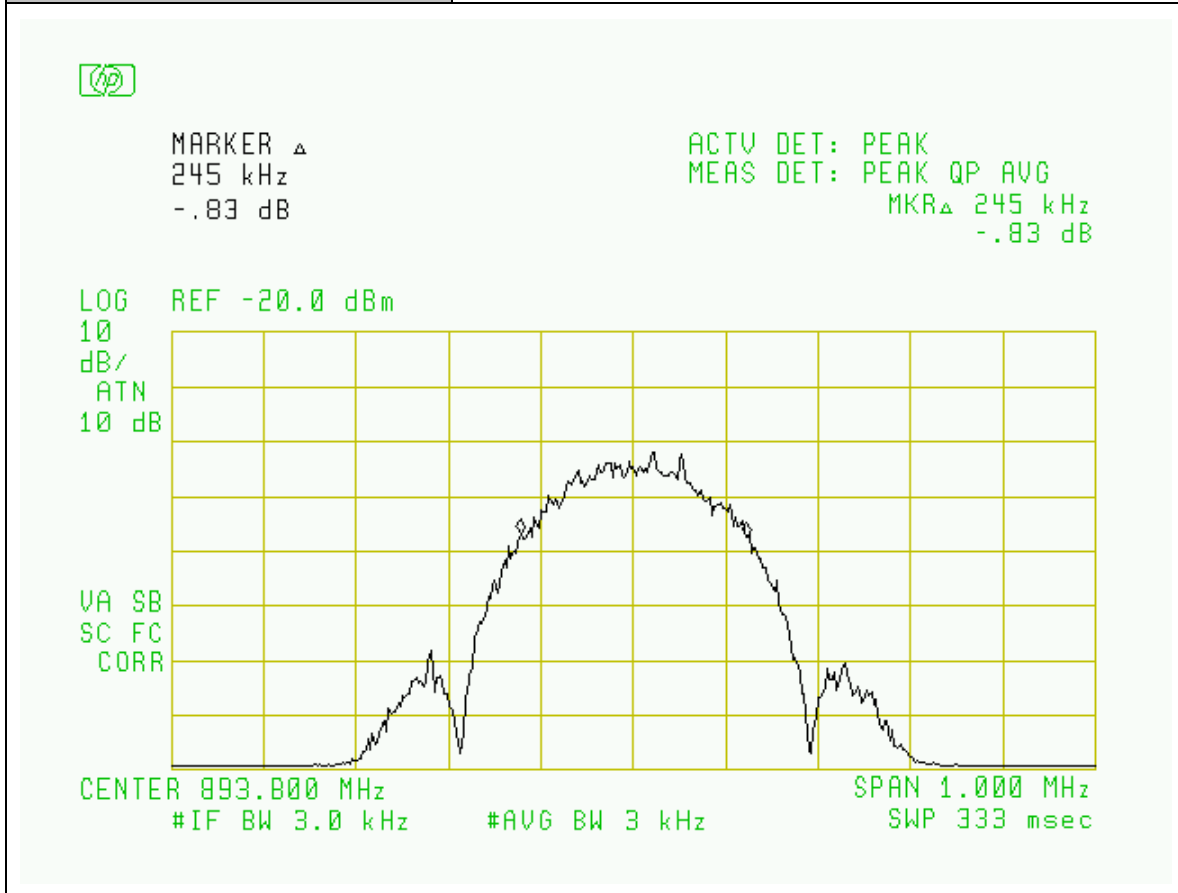
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands        |
| <b>Plot Name:</b>     | Downlink, Hi-Channel, EDGE Modulation     |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |



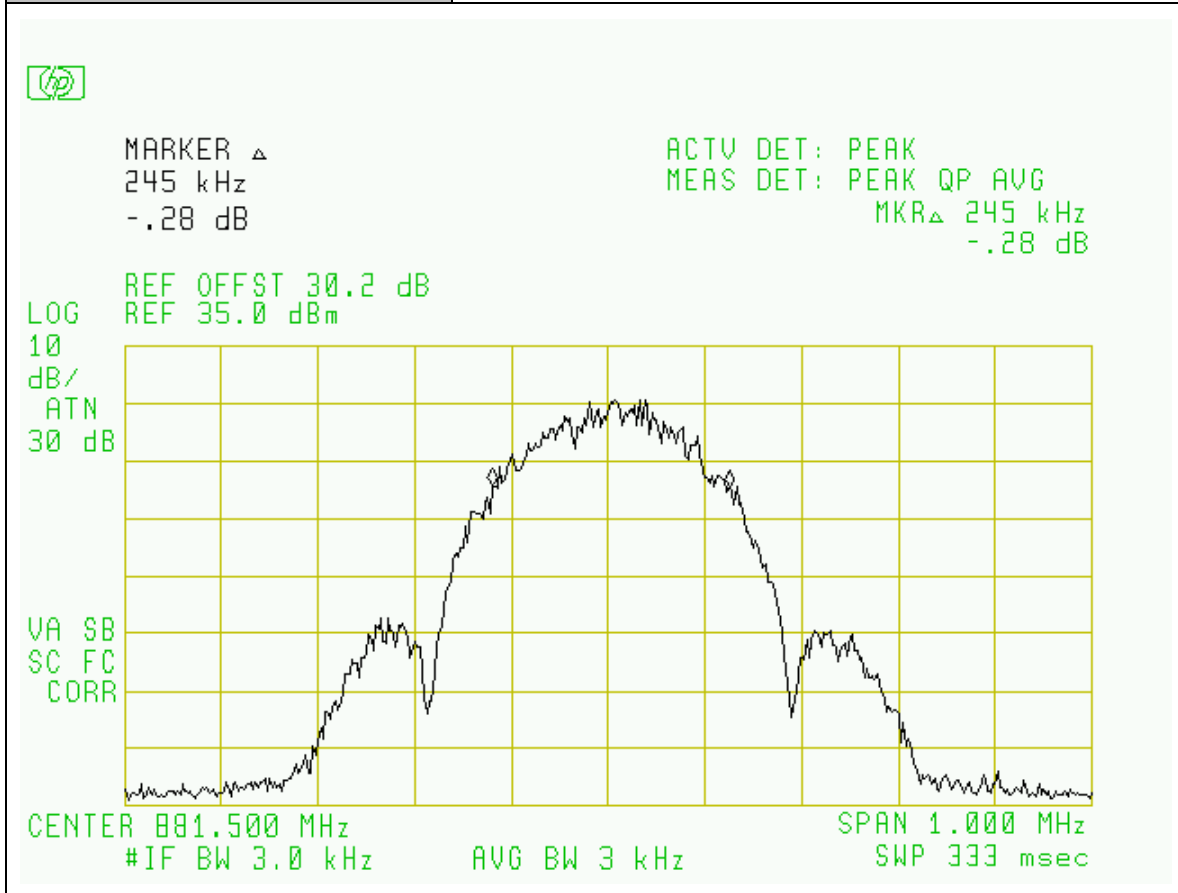
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                       |
|-----------------------|---------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands    |
| <b>Plot Name:</b>     | Downlink, Hi-Channel, EDGE Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG     |



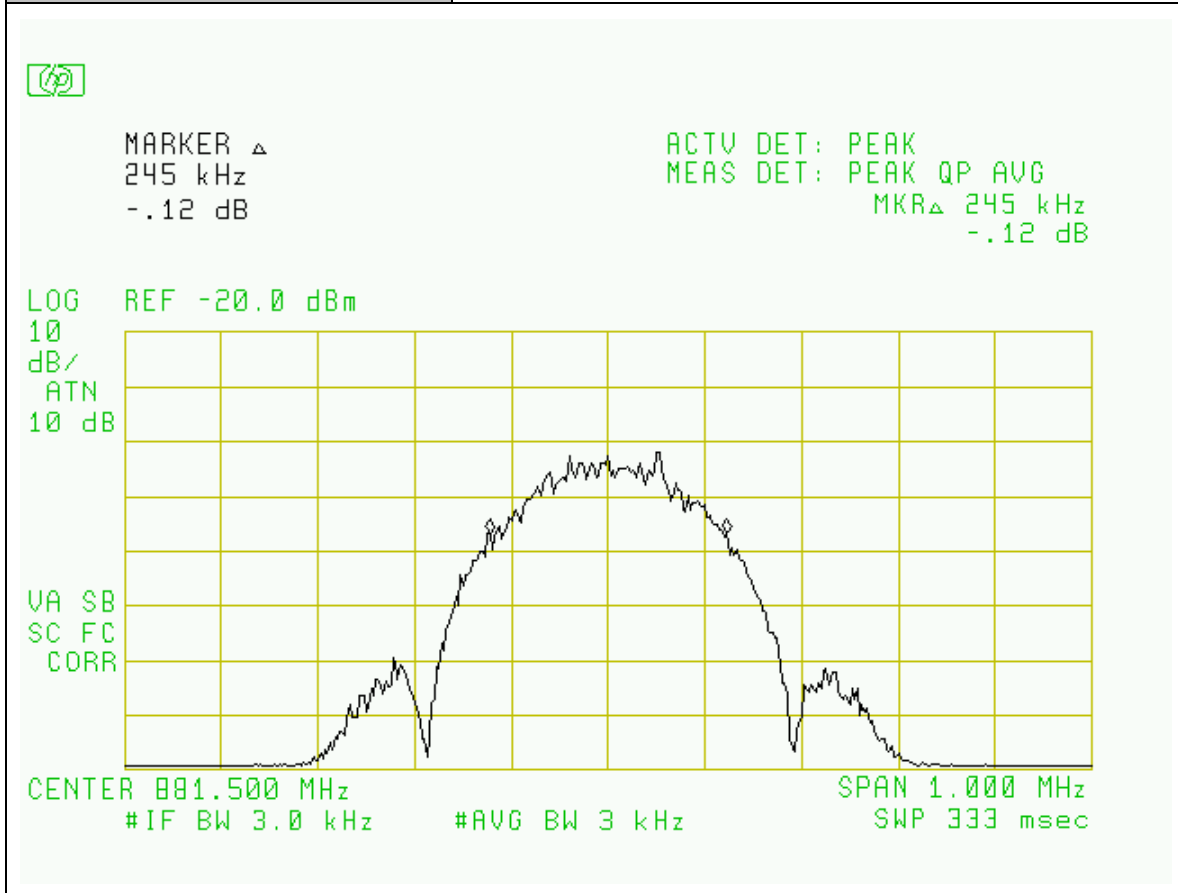
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands        |
| <b>Plot Name:</b>     | Downlink, Mid-Channel, EDGE Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |



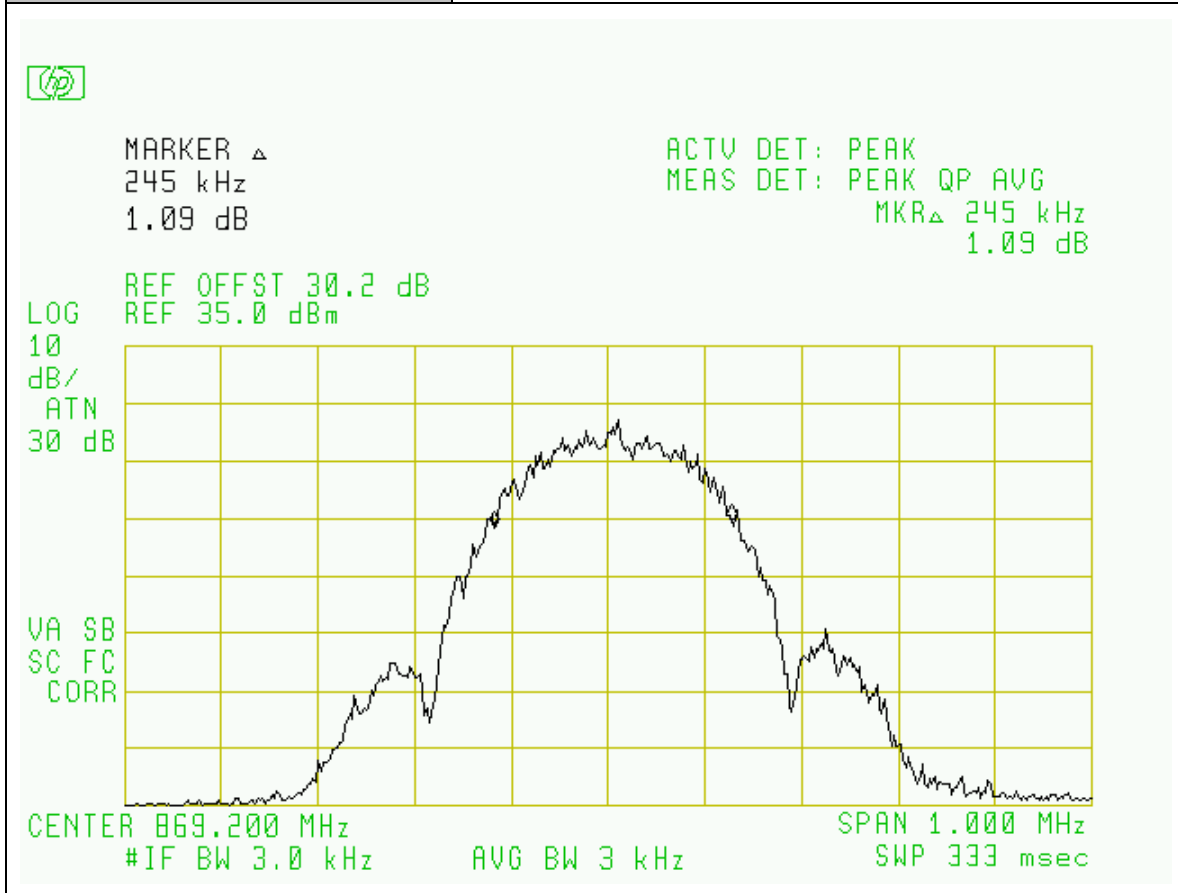
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands     |
| <b>Plot Name:</b>     | Downlink, Mid-Channel, EDGE Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG      |



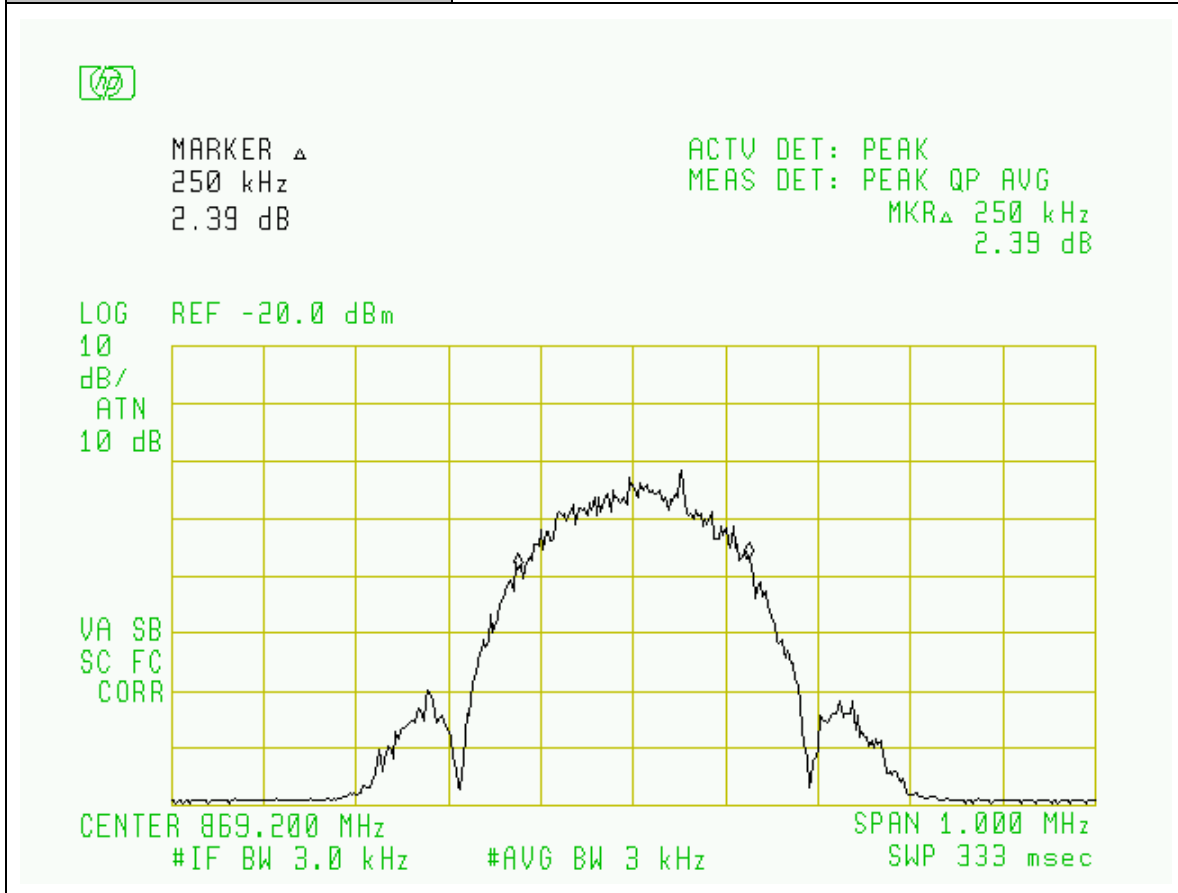
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands        |
| <b>Plot Name:</b>     | Downlink, Low-Channel, EDGE Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |



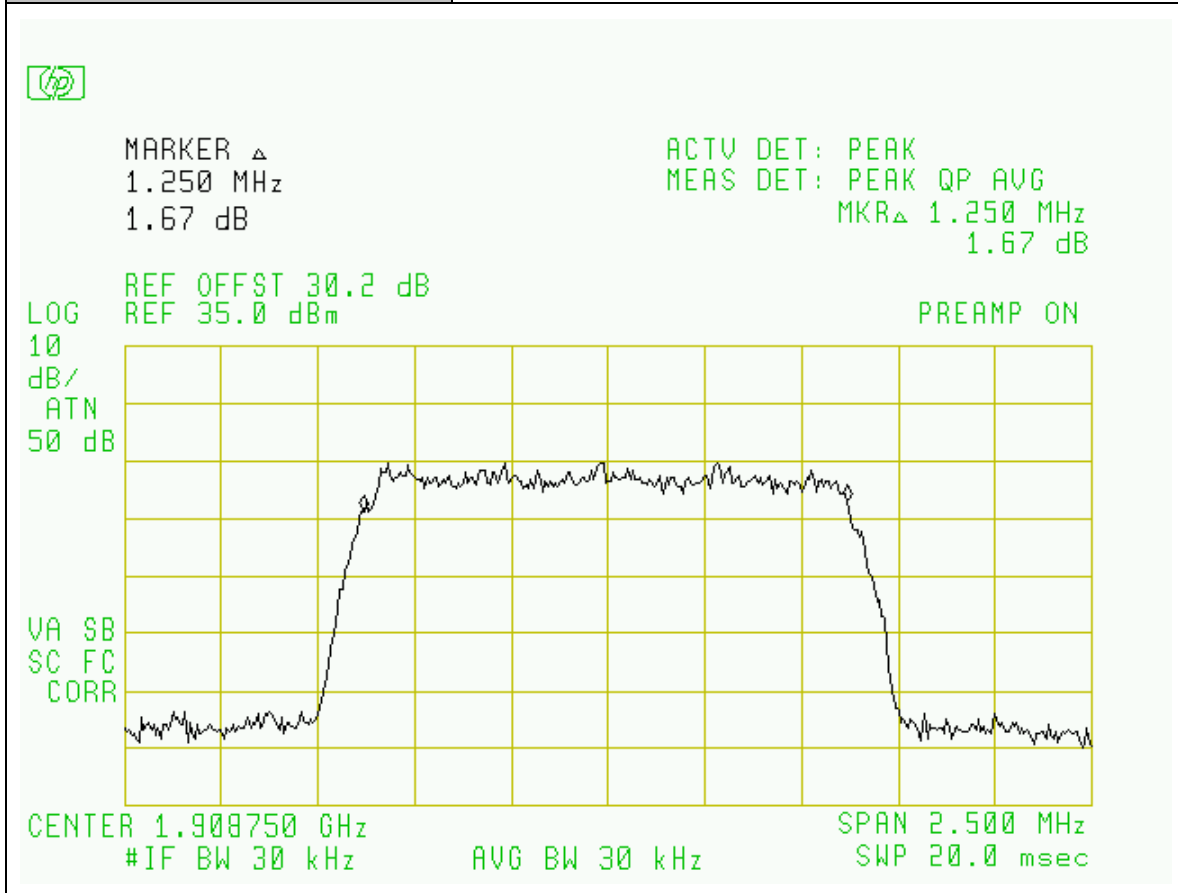
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands     |
| <b>Plot Name:</b>     | Downlink, Low-Channel, EDGE Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG      |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

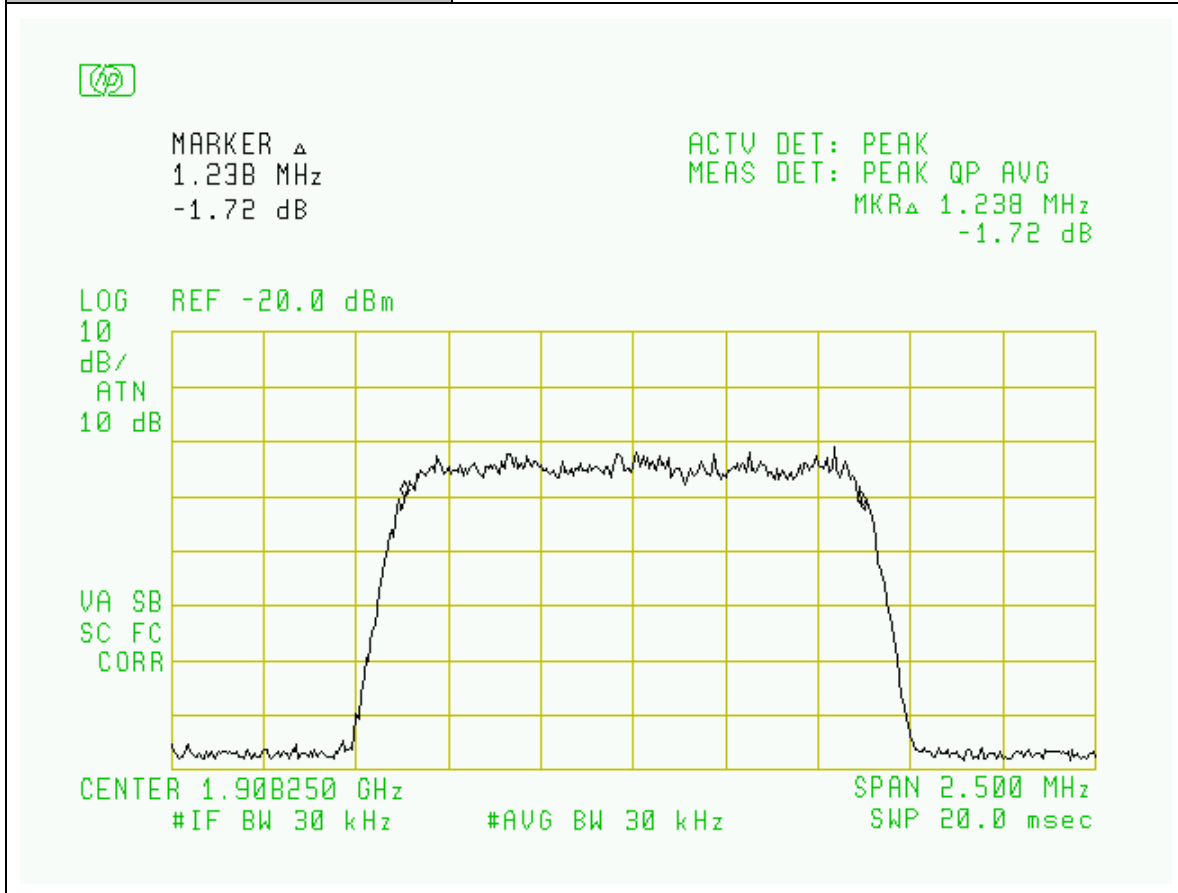
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|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands          |
| <b>Plot Name:</b>     | Uplink, Hi-Channel, CDMA Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |





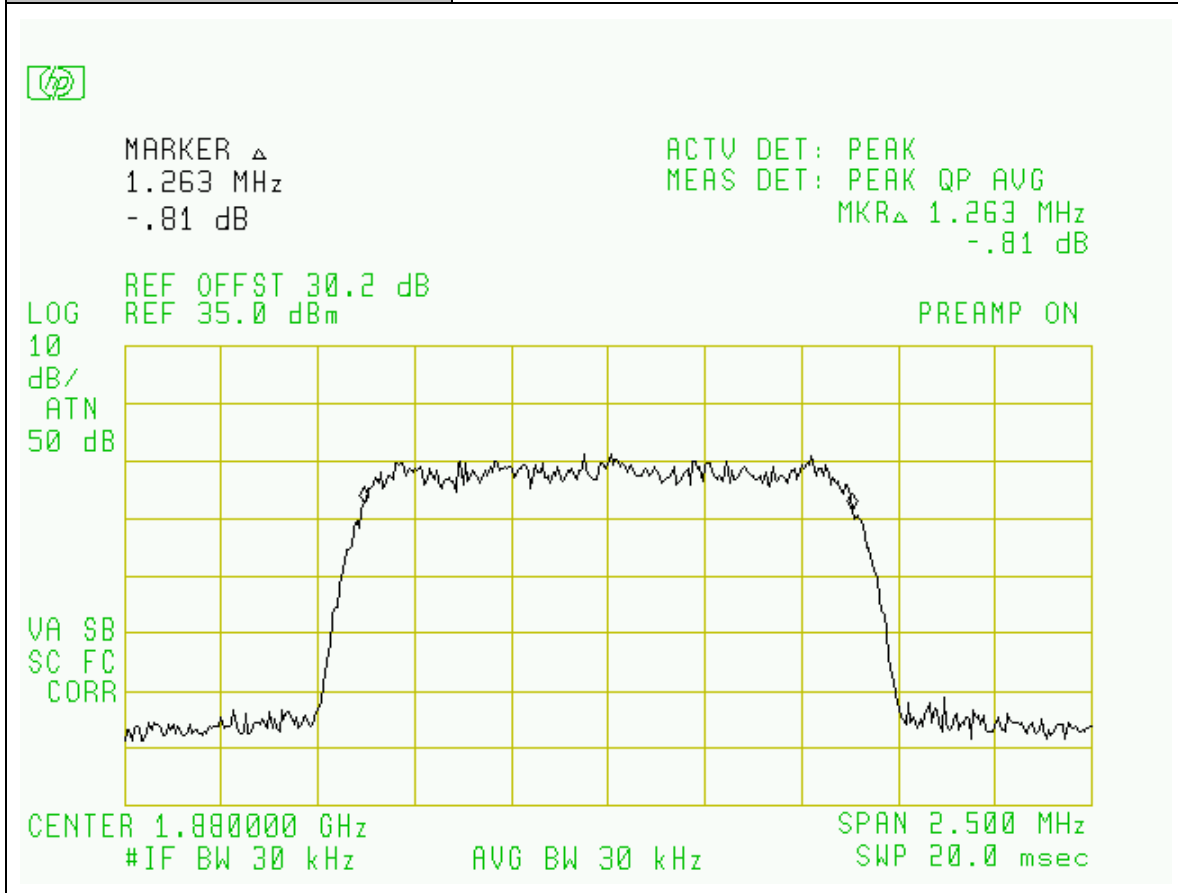
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                     |
|-----------------------|-------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands       |
| <b>Plot Name:</b>     | Uplink, Hi-Channel, CDMA Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG   |



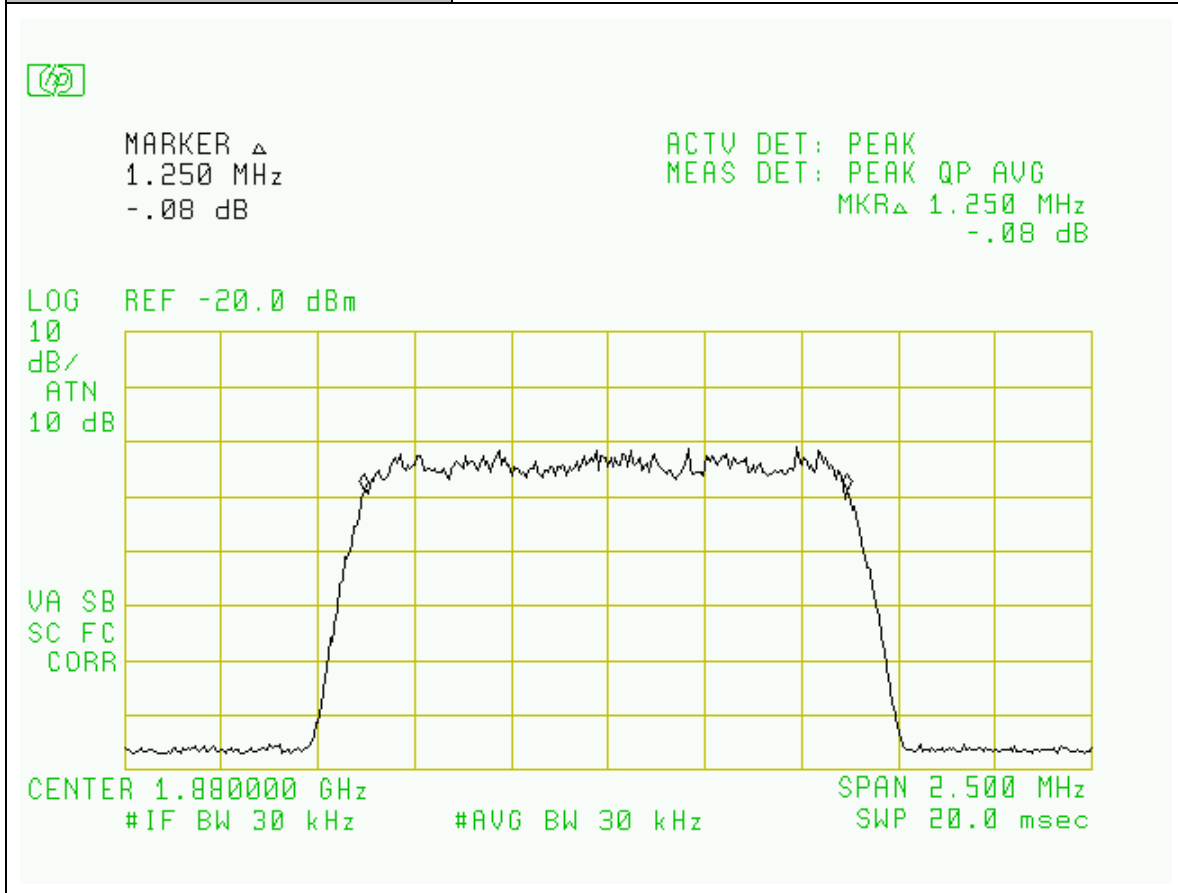
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: Cellular Bands     |
| <b>Plot Name:</b>     | Uplink, Mid-Channel, CDMA Modulation   |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |



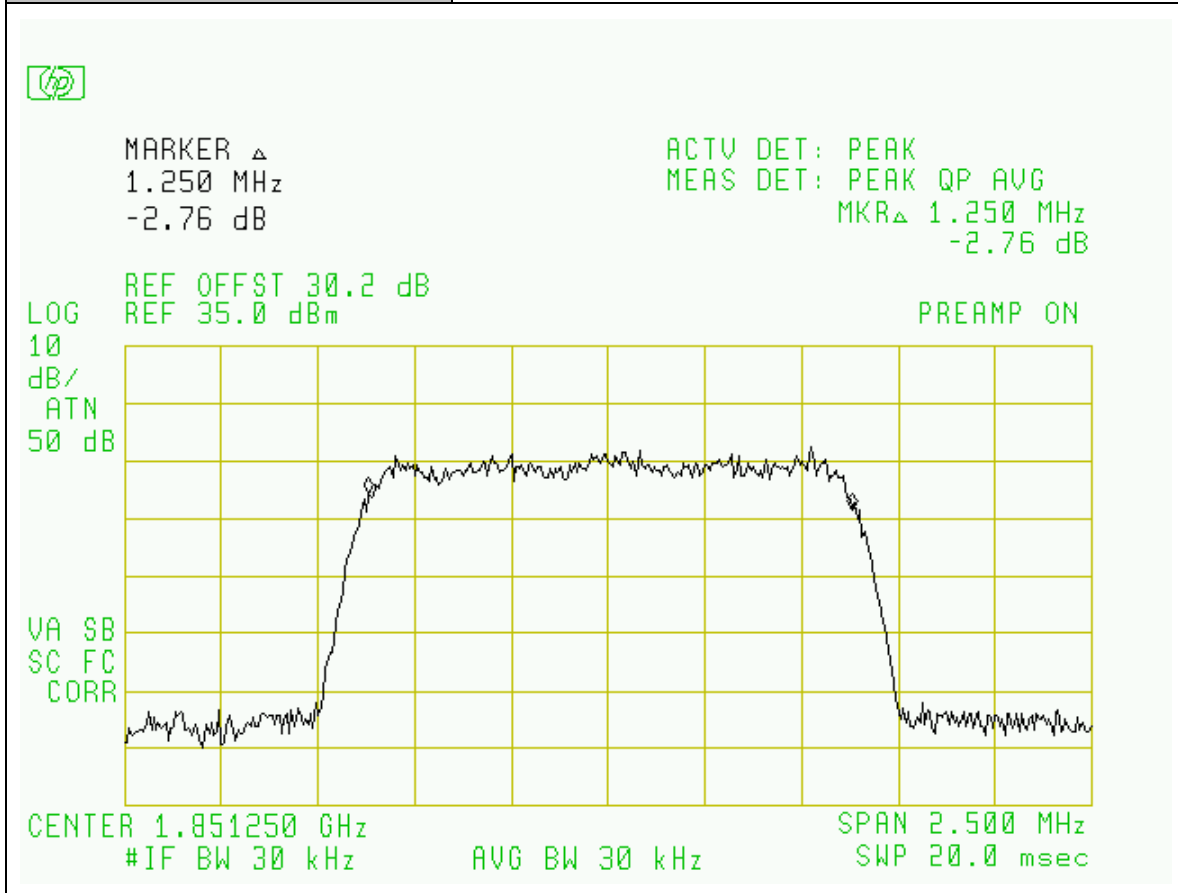
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                      |
|-----------------------|--------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands        |
| <b>Plot Name:</b>     | Uplink, Mid-Channel, CDMA Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG    |



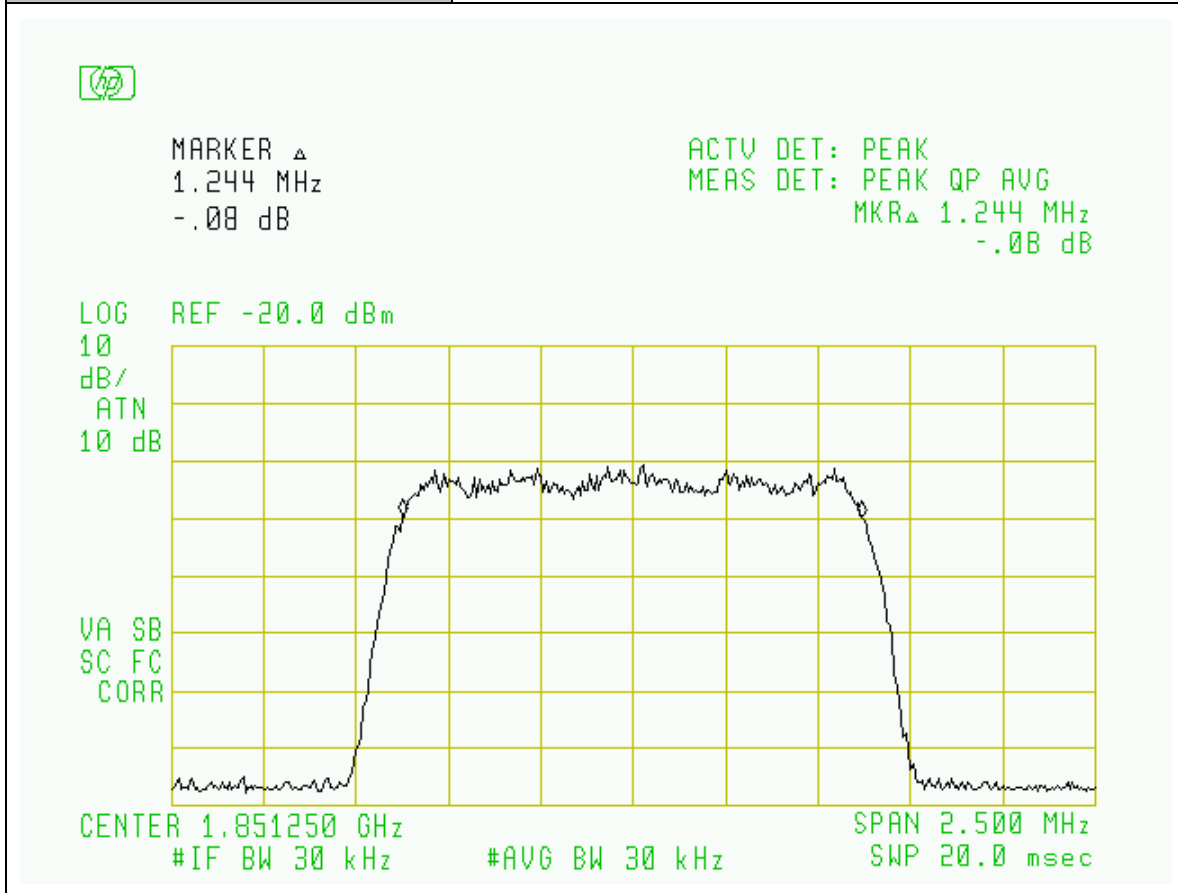
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands          |
| <b>Plot Name:</b>     | Uplink, Low-Channel, CDMA Modulation   |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |



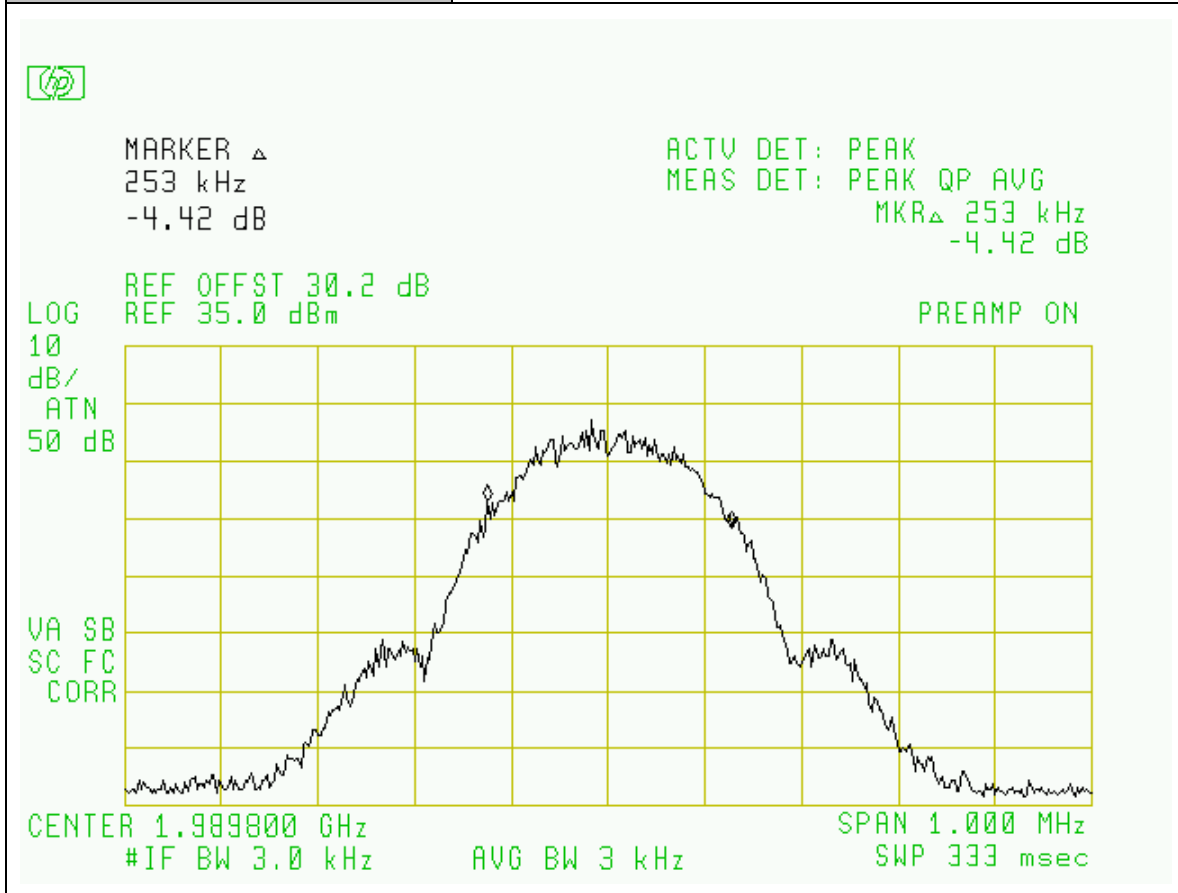
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                      |
|-----------------------|--------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands        |
| <b>Plot Name:</b>     | Uplink, Low-Channel, CDMA Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG    |



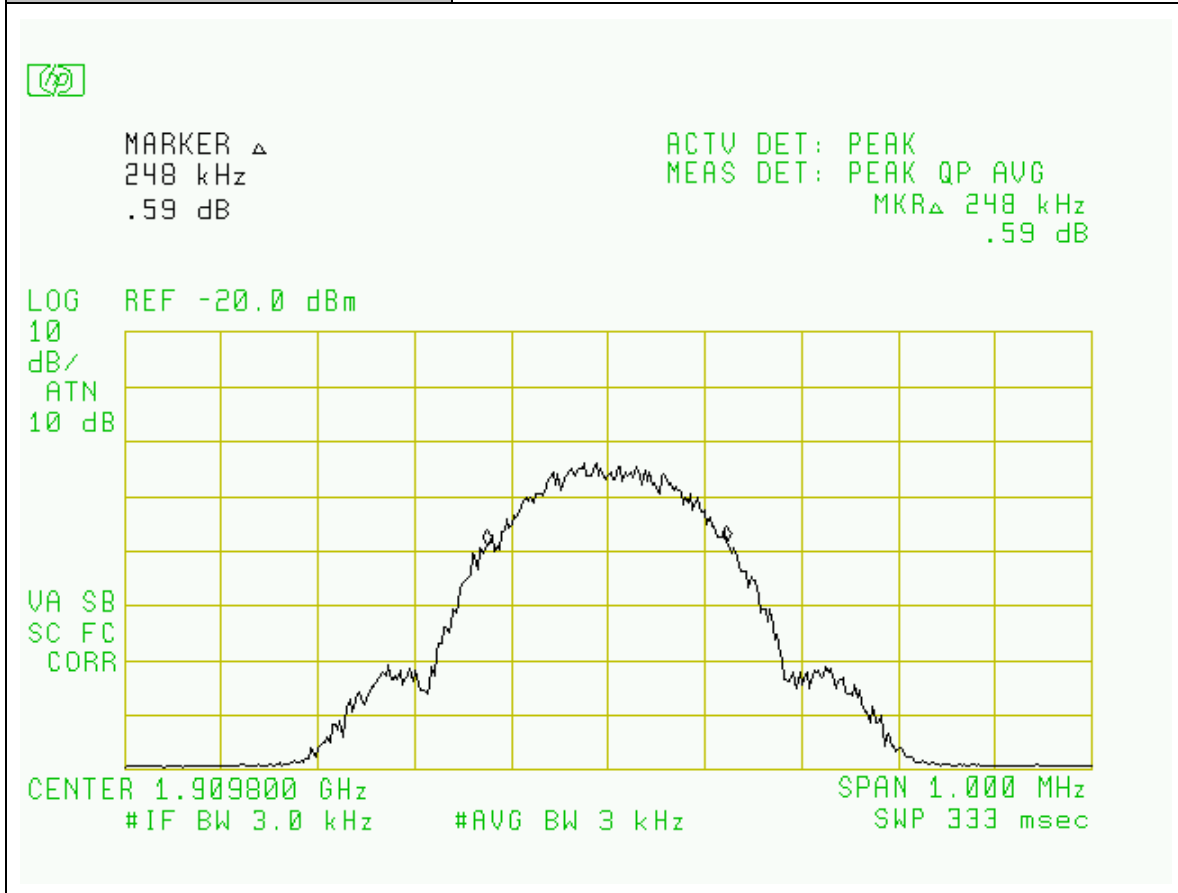
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

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|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands          |
| <b>Plot Name:</b>     | Uplink, Hi-Channel, GSM Modulation     |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |



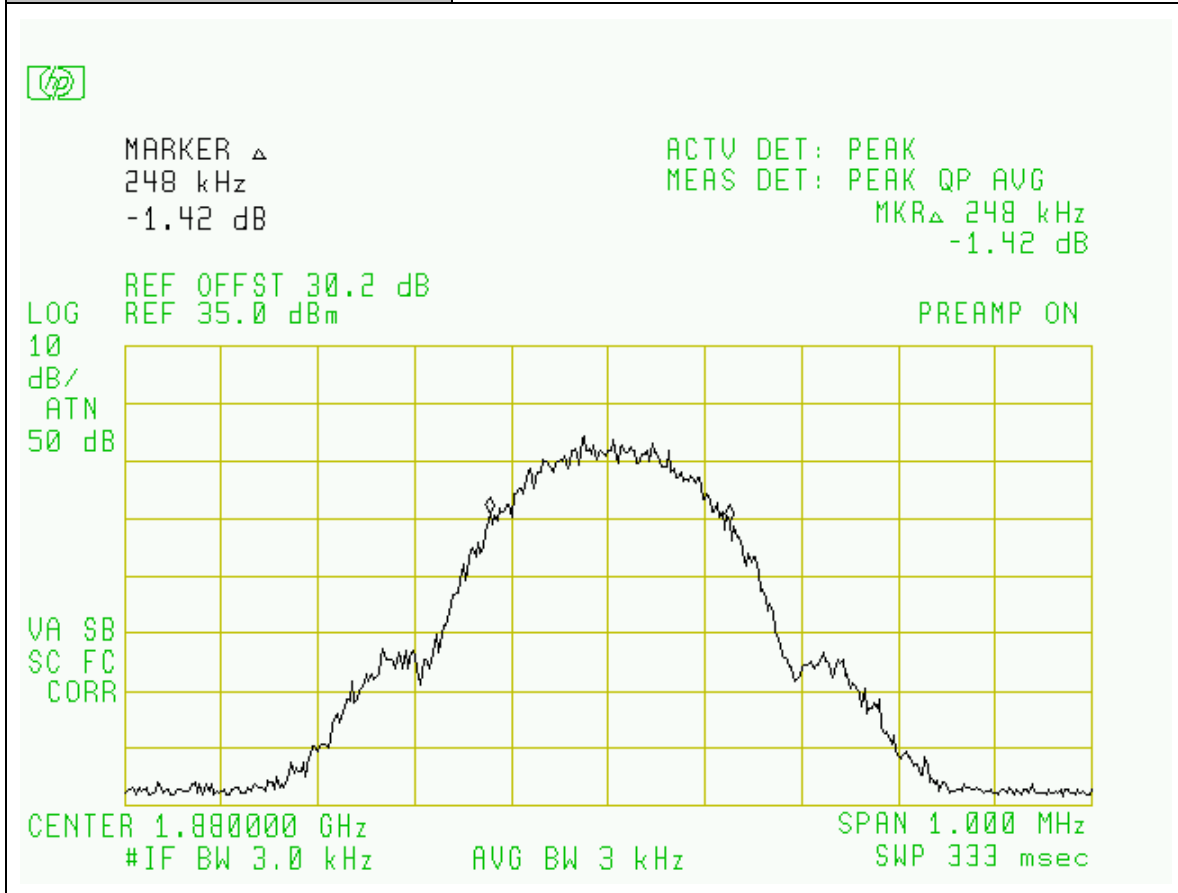
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| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                    |
|-----------------------|------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands      |
| <b>Plot Name:</b>     | Uplink, Hi-Channel, GSM Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG  |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

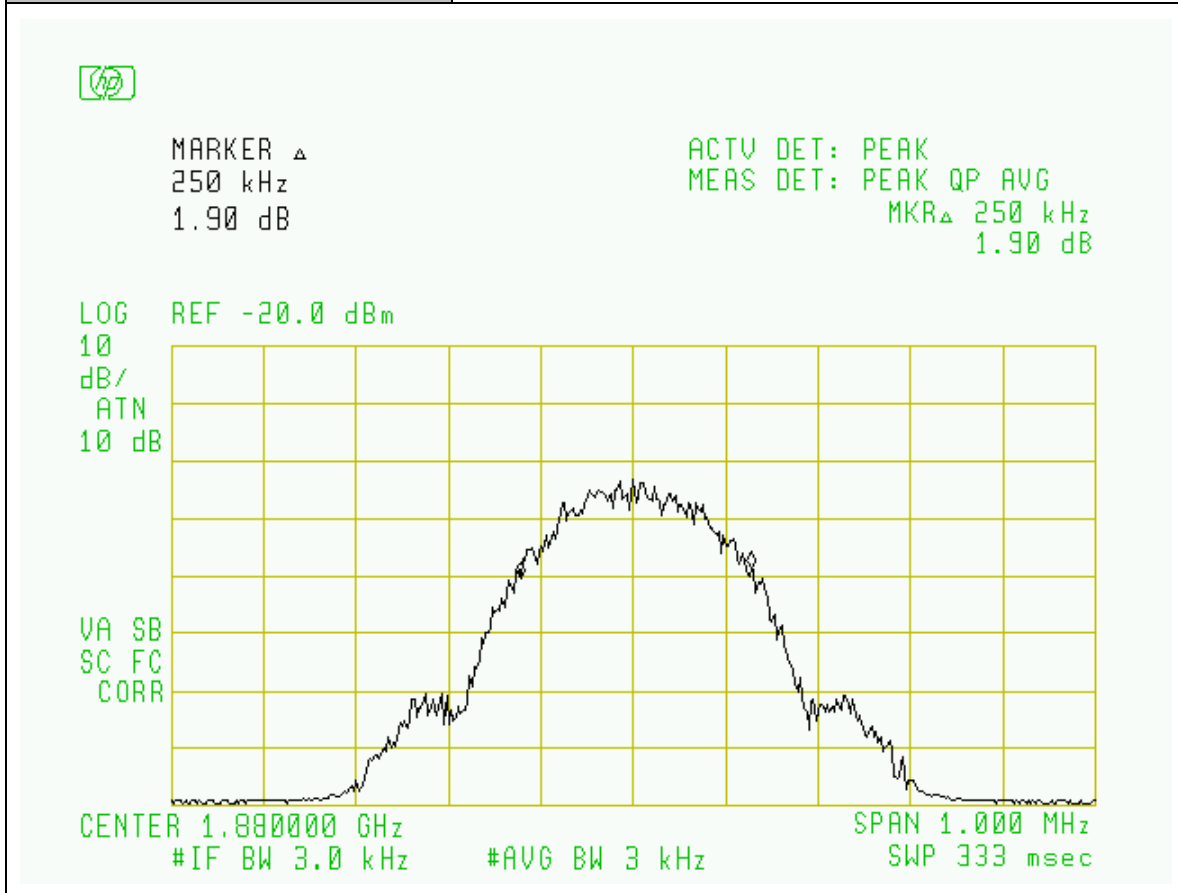
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|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands          |
| <b>Plot Name:</b>     | Uplink, Mid-Channel, GSM Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |





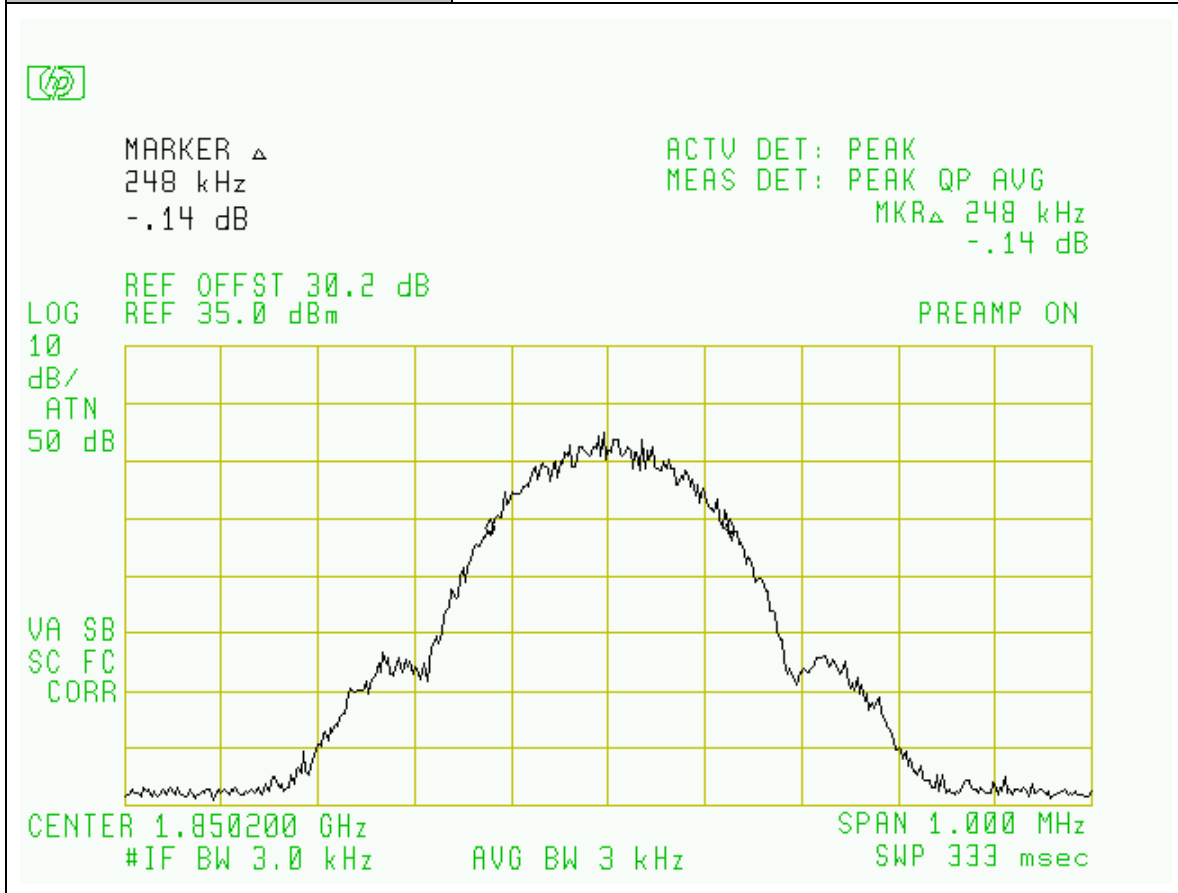
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

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|-----------------------|-------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands       |
| <b>Plot Name:</b>     | Uplink, Mid-Channel, GSM Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG   |



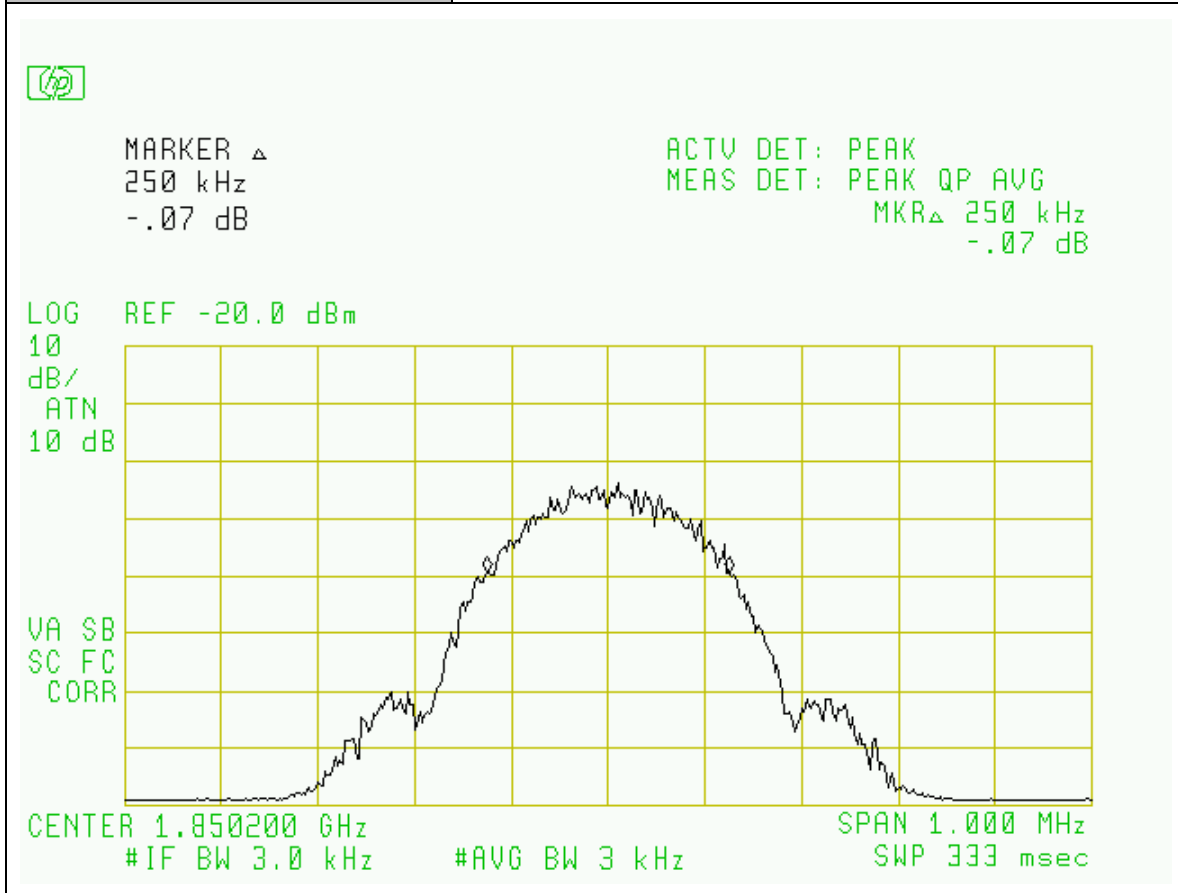
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

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|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands          |
| <b>Plot Name:</b>     | Uplink, Low-Channel, GSM Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |



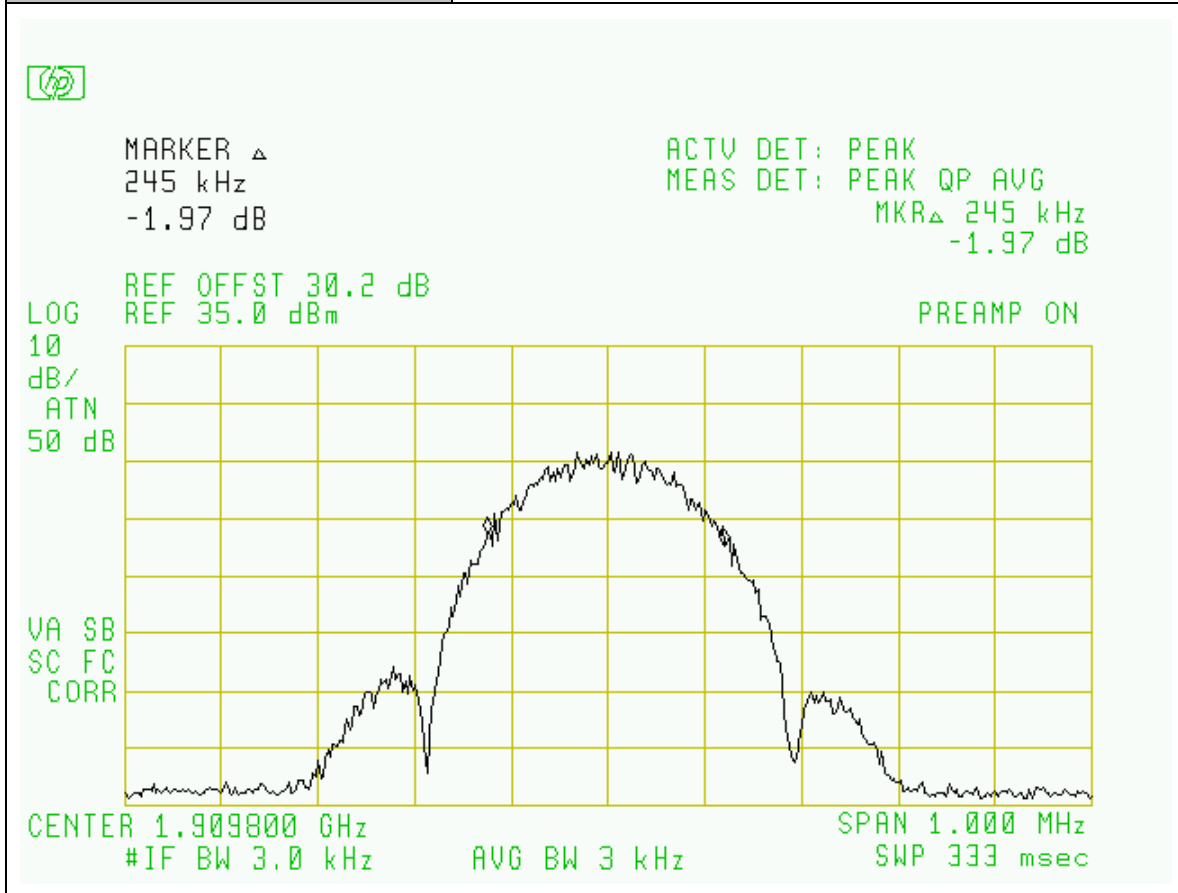
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                     |
|-----------------------|-------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands       |
| <b>Plot Name:</b>     | Uplink, Low-Channel, GSM Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG   |



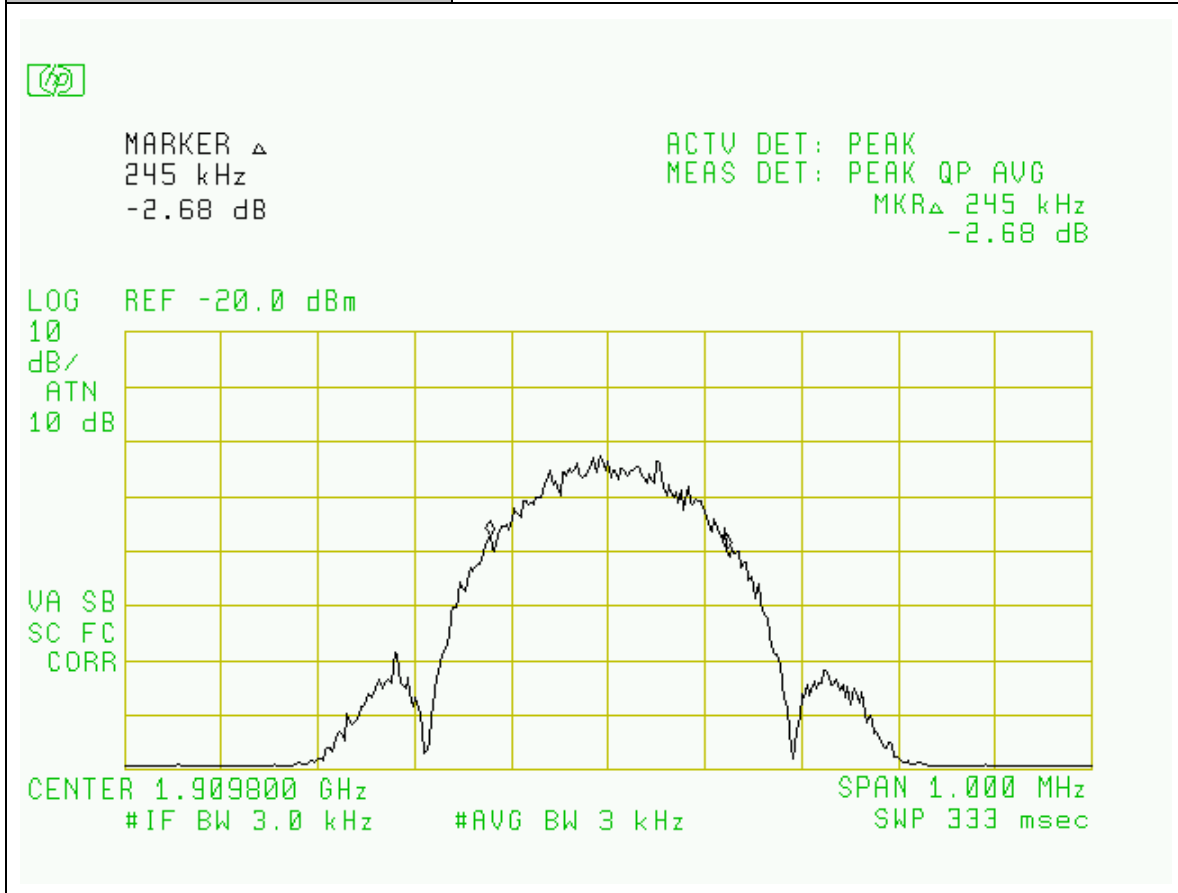
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands          |
| <b>Plot Name:</b>     | Uplink, Hi-Channel, EDGE Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |



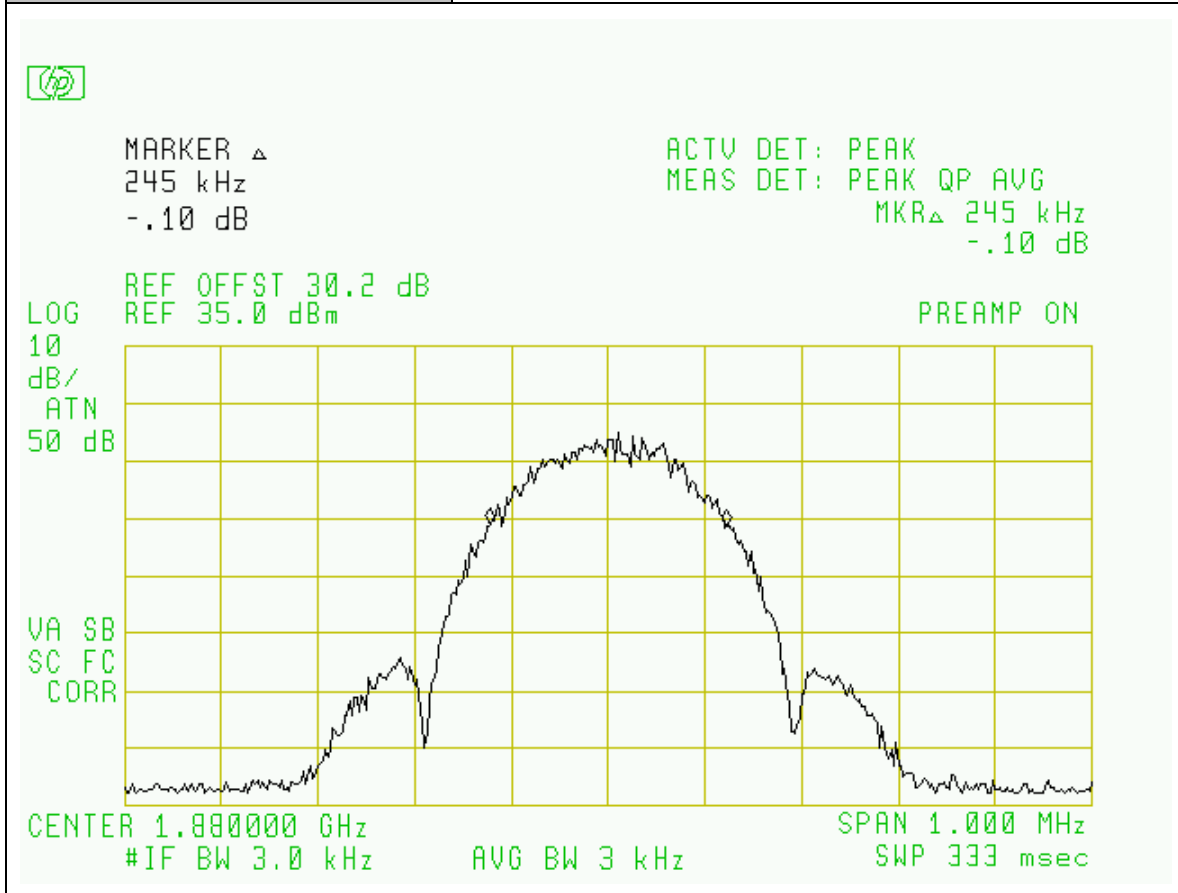
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                     |
|-----------------------|-------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands       |
| <b>Plot Name:</b>     | Uplink, Hi-Channel, EDGE Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG   |



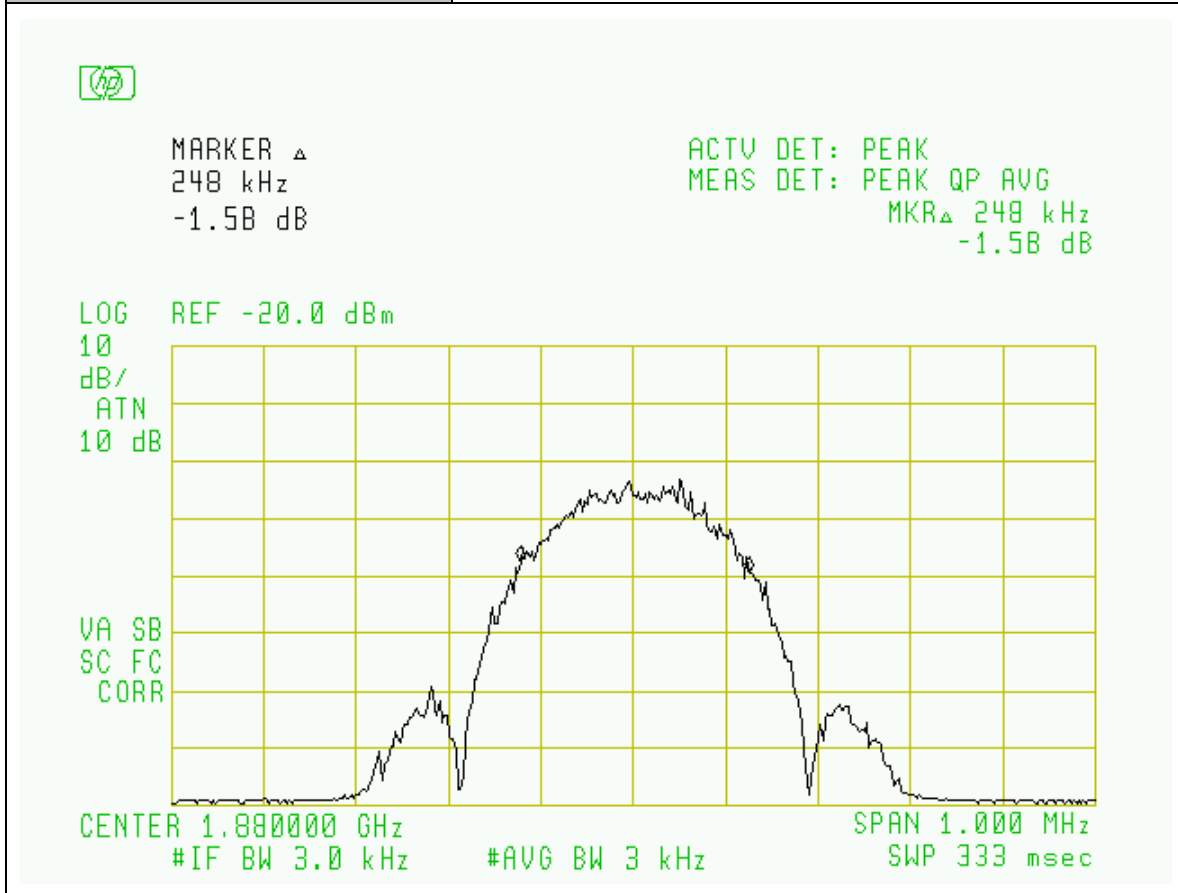
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands          |
| <b>Plot Name:</b>     | Uplink, Mid-Channel, EDGE Modulation   |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |



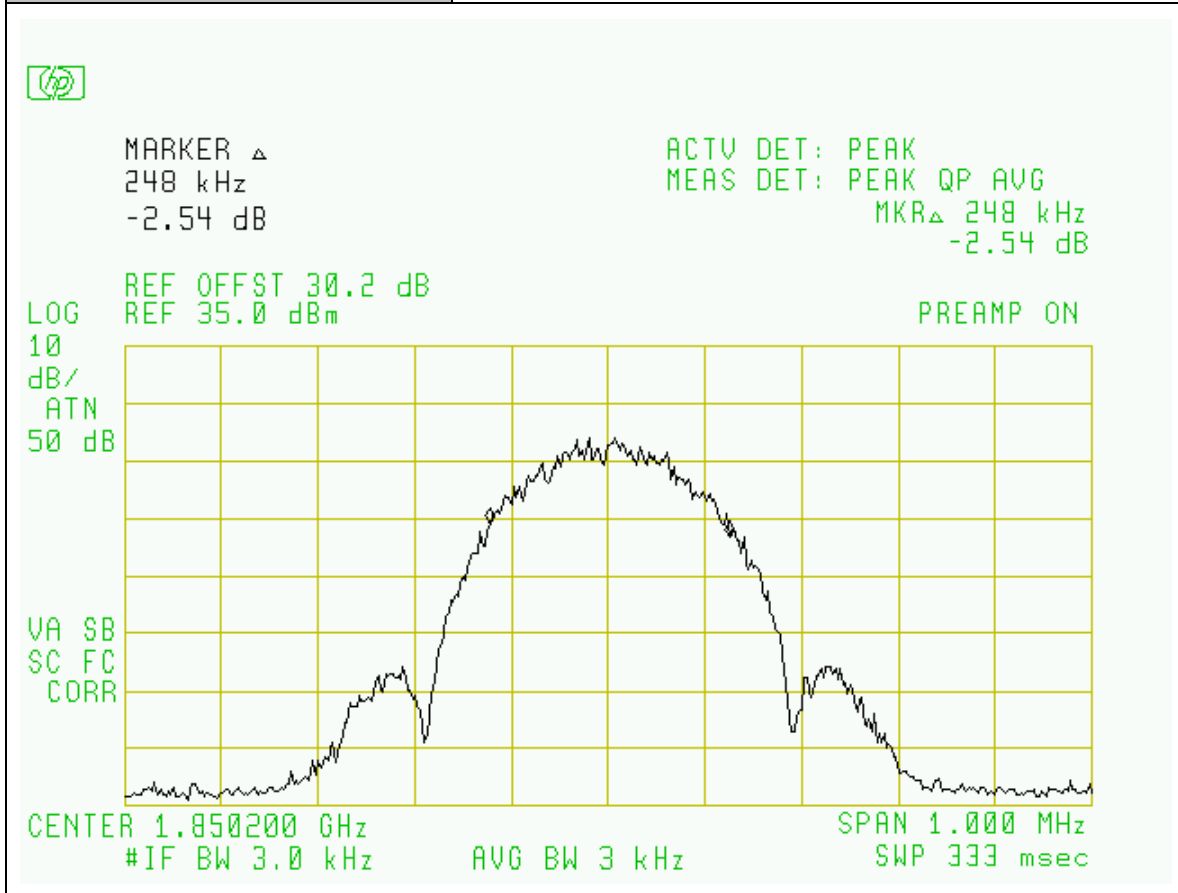
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                      |
|-----------------------|--------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands        |
| <b>Plot Name:</b>     | Uplink, Mid-Channel, EDGE Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG    |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

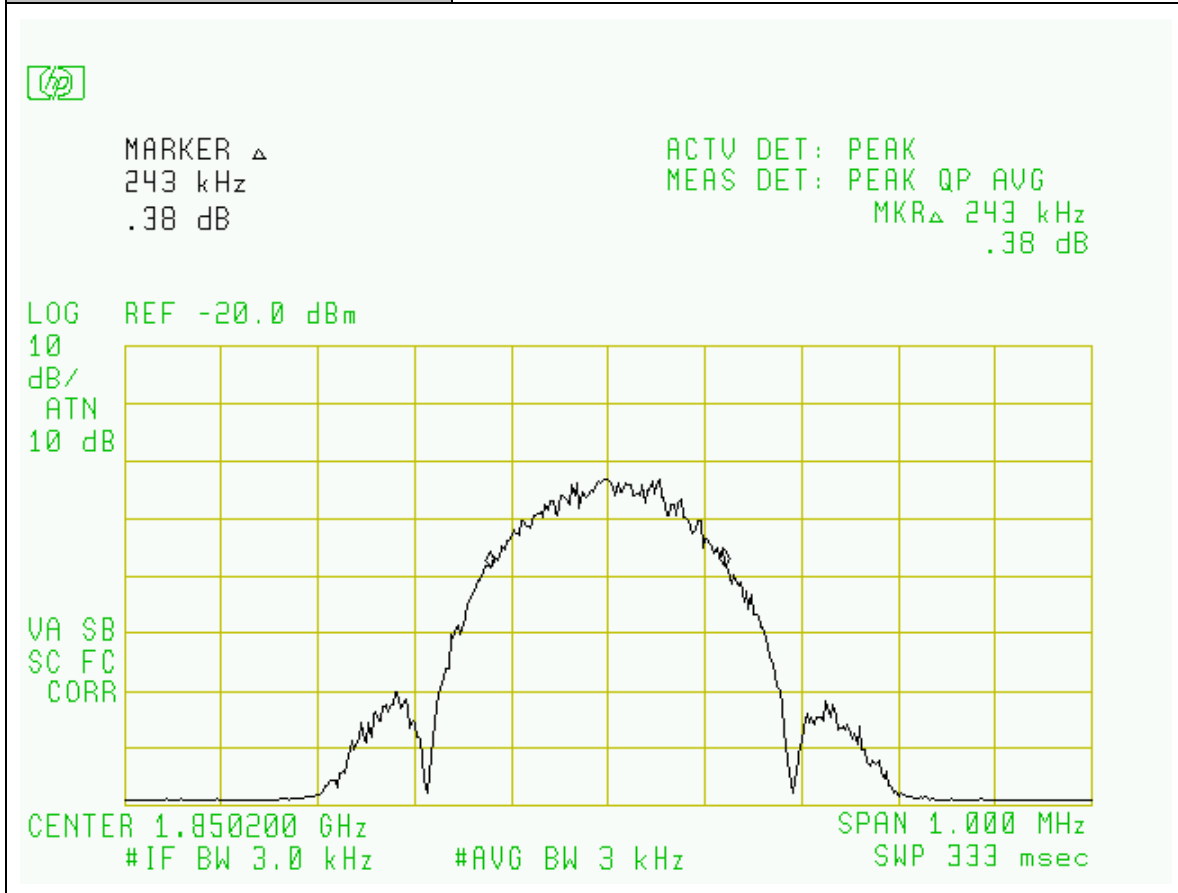
|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands          |
| <b>Plot Name:</b>     | Uplink, Low-Channel, EDGE Modulation   |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT BTS |





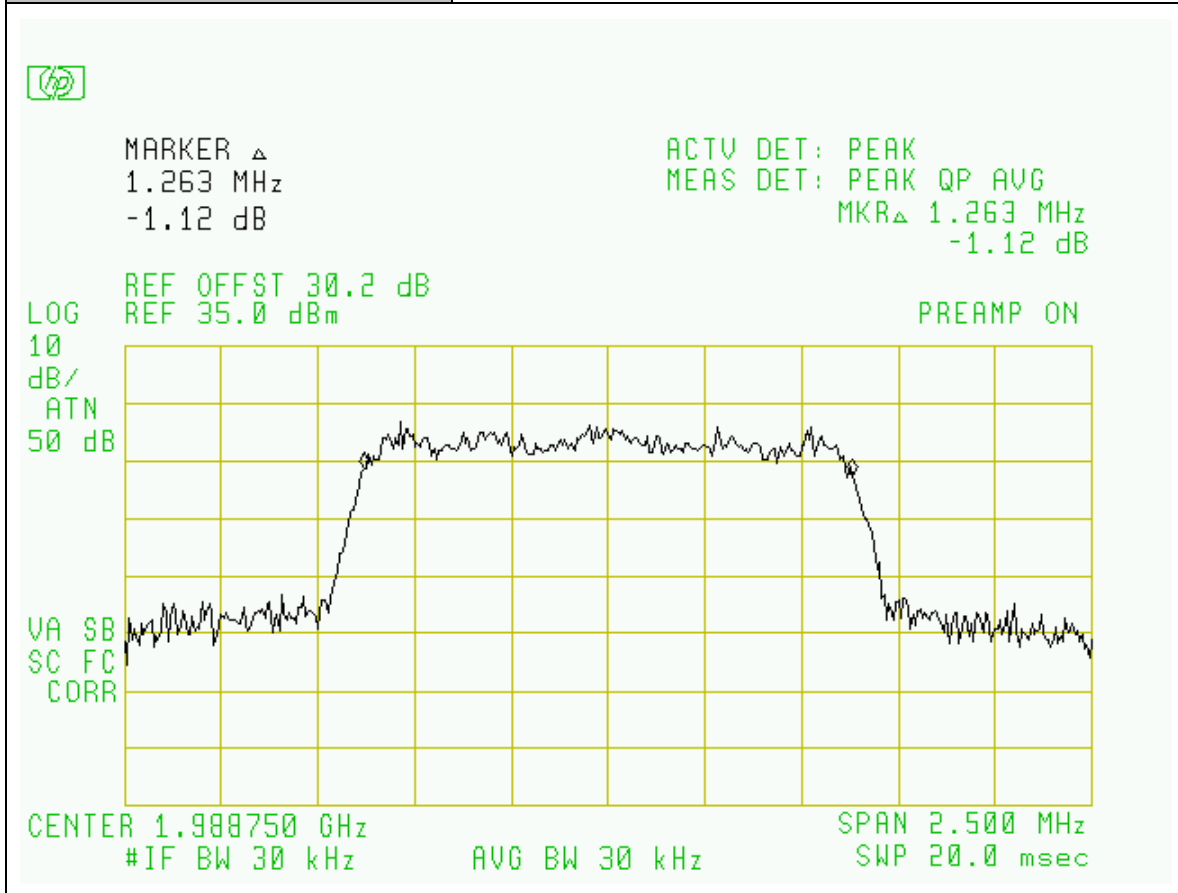
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                      |
|-----------------------|--------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands        |
| <b>Plot Name:</b>     | Uplink, Low-Channel, EDGE Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG    |



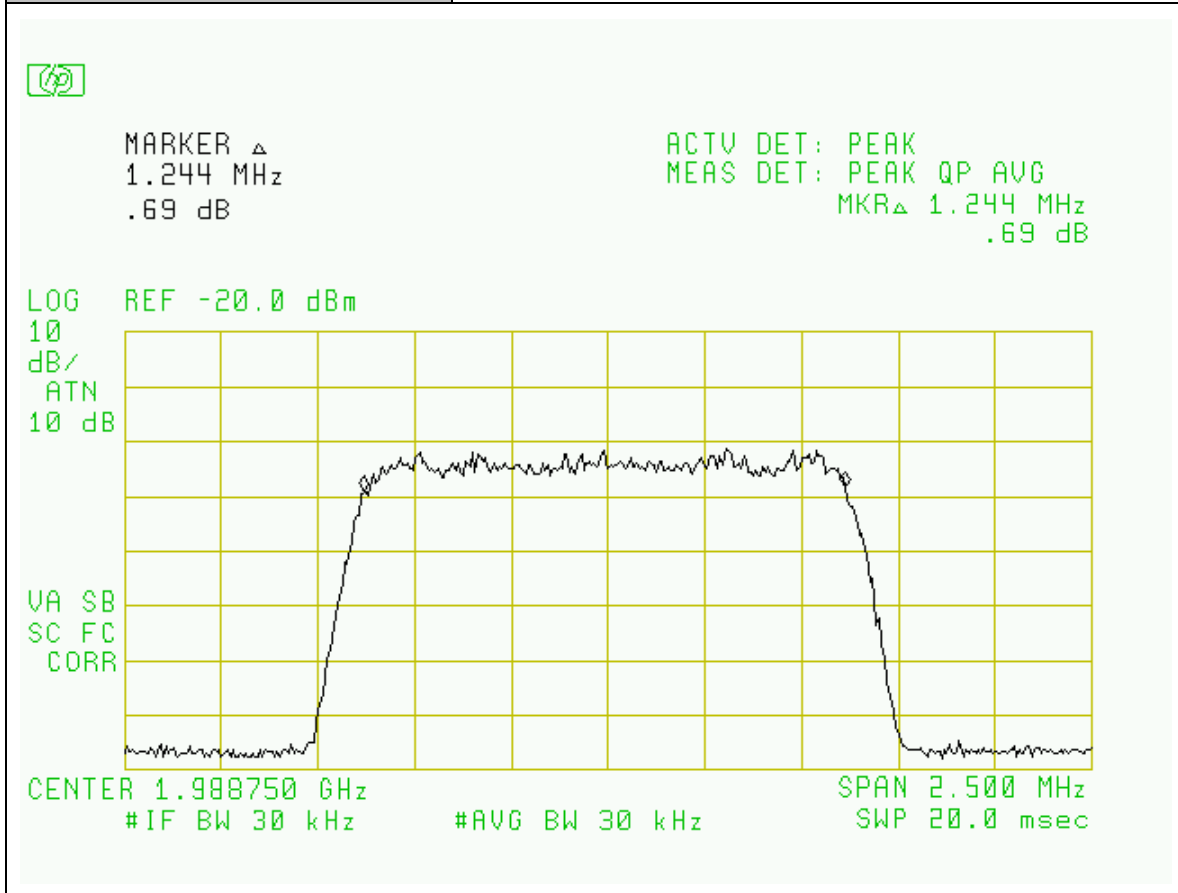
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands             |
| <b>Plot Name:</b>     | Downlink, Hi-Channel, CDMA Modulation     |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

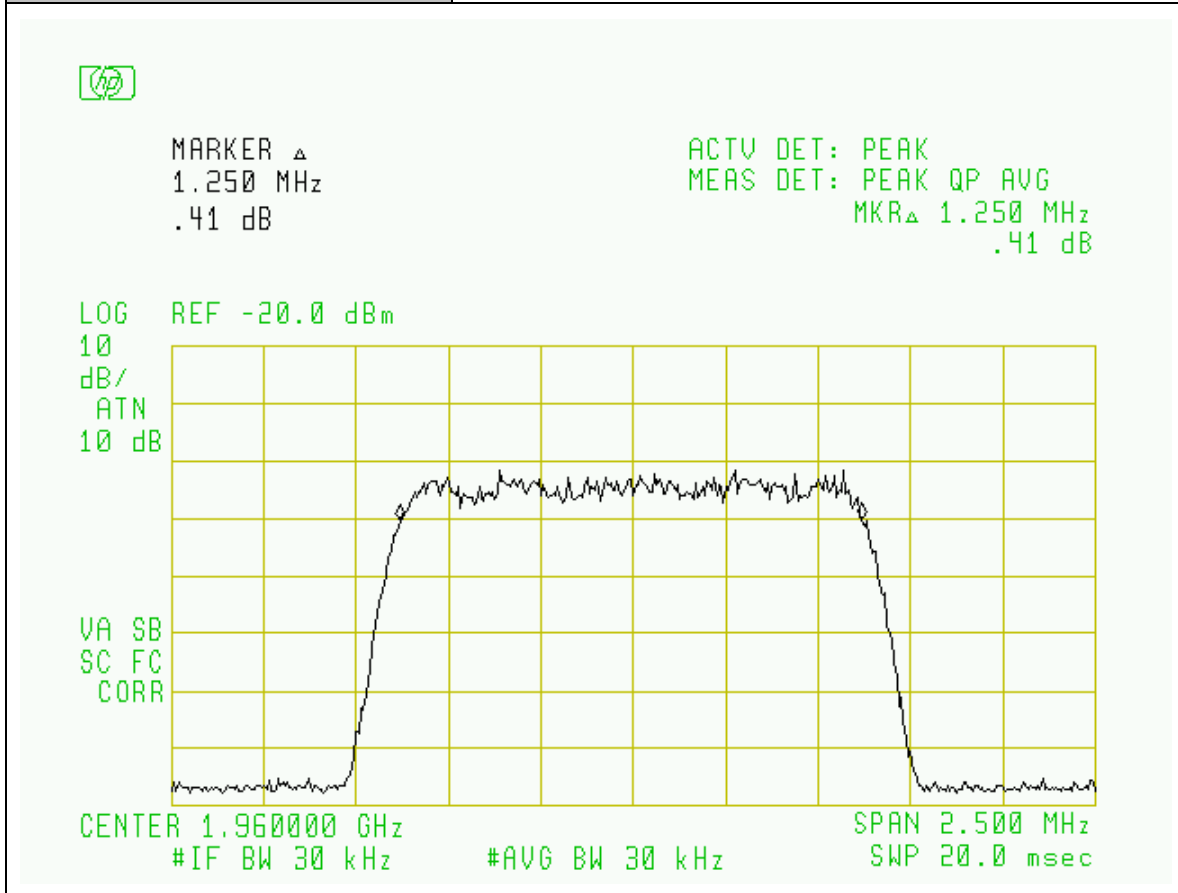
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|-----------------------|---------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands         |
| <b>Plot Name:</b>     | Downlink, Hi-Channel, CDMA Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG     |





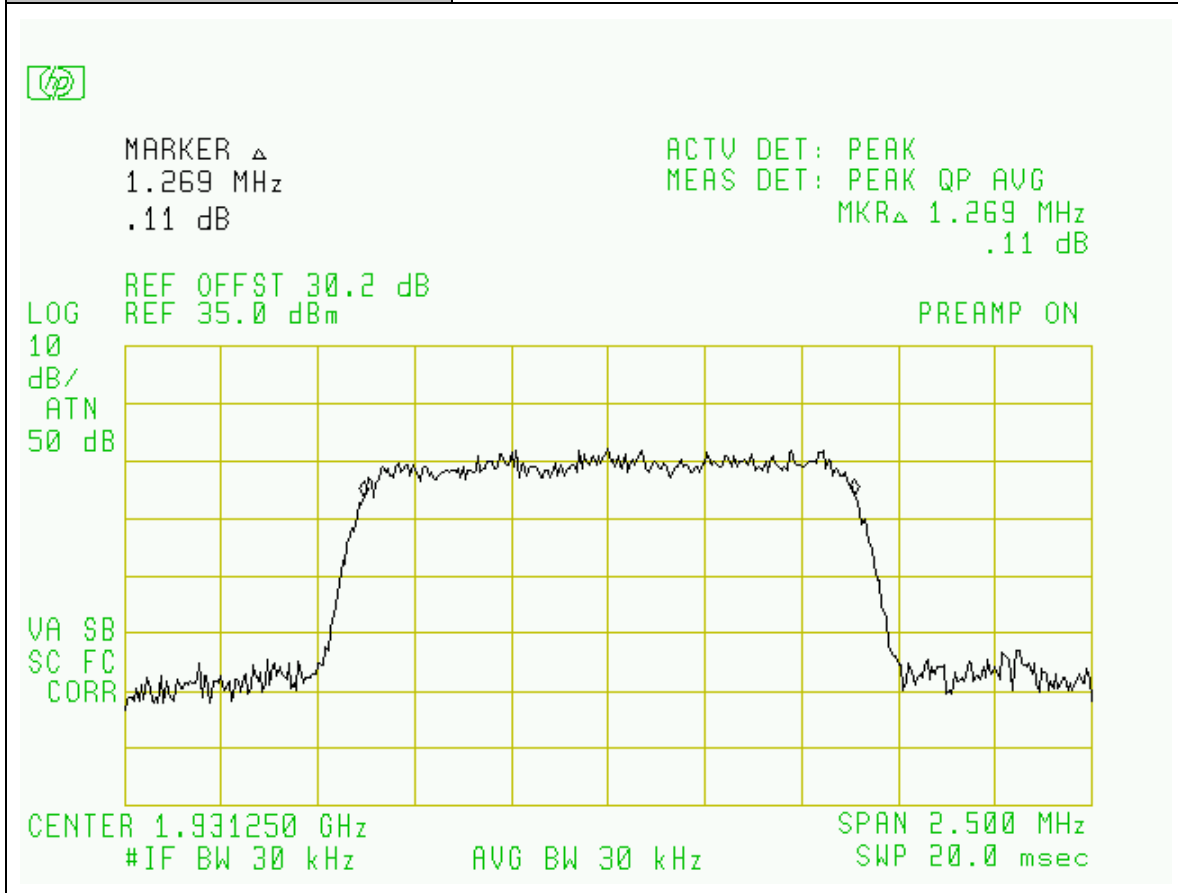
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands          |
| <b>Plot Name:</b>     | Downlink, Mid-Channel, CDMA Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG      |



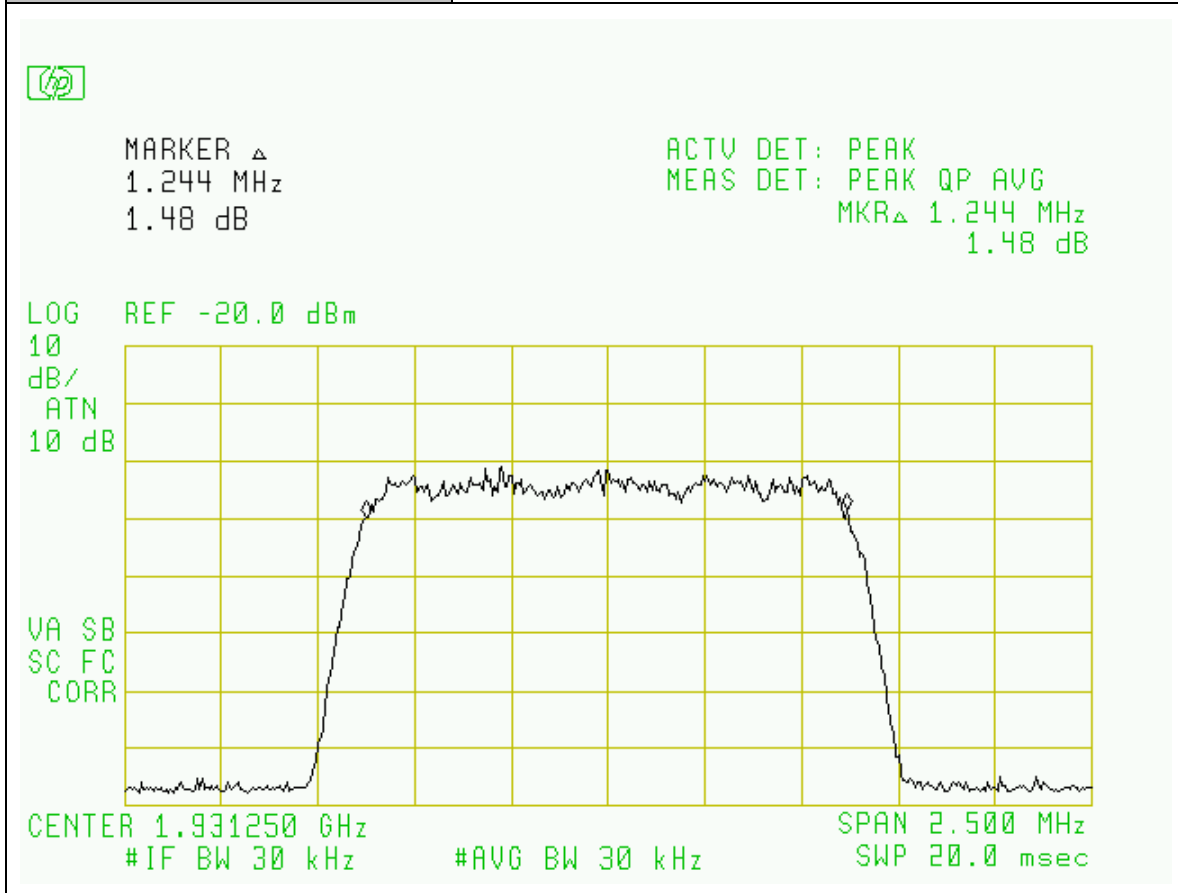
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands             |
| <b>Plot Name:</b>     | Downlink, Low-Channel, CDMA Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MIBILE |



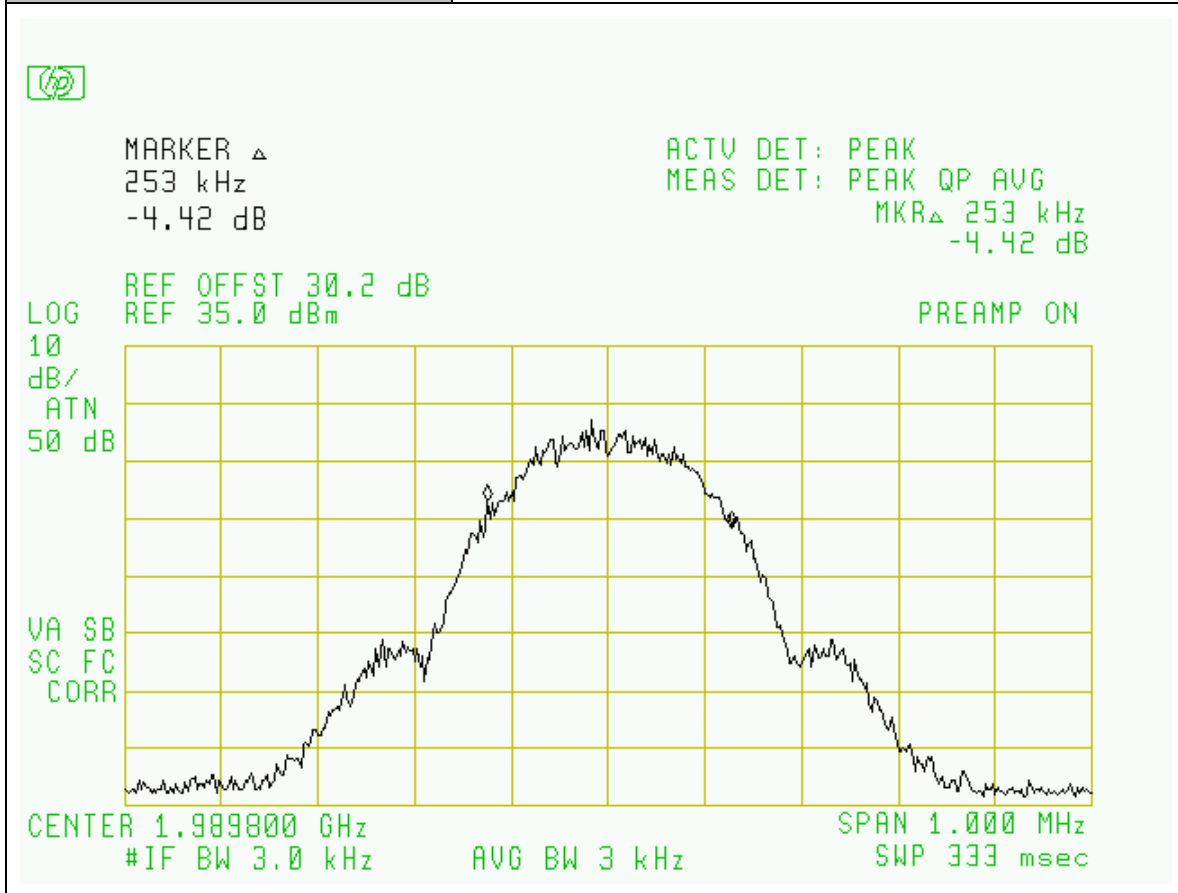
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands          |
| <b>Plot Name:</b>     | Downlink, Low-Channel, CDMA Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG      |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

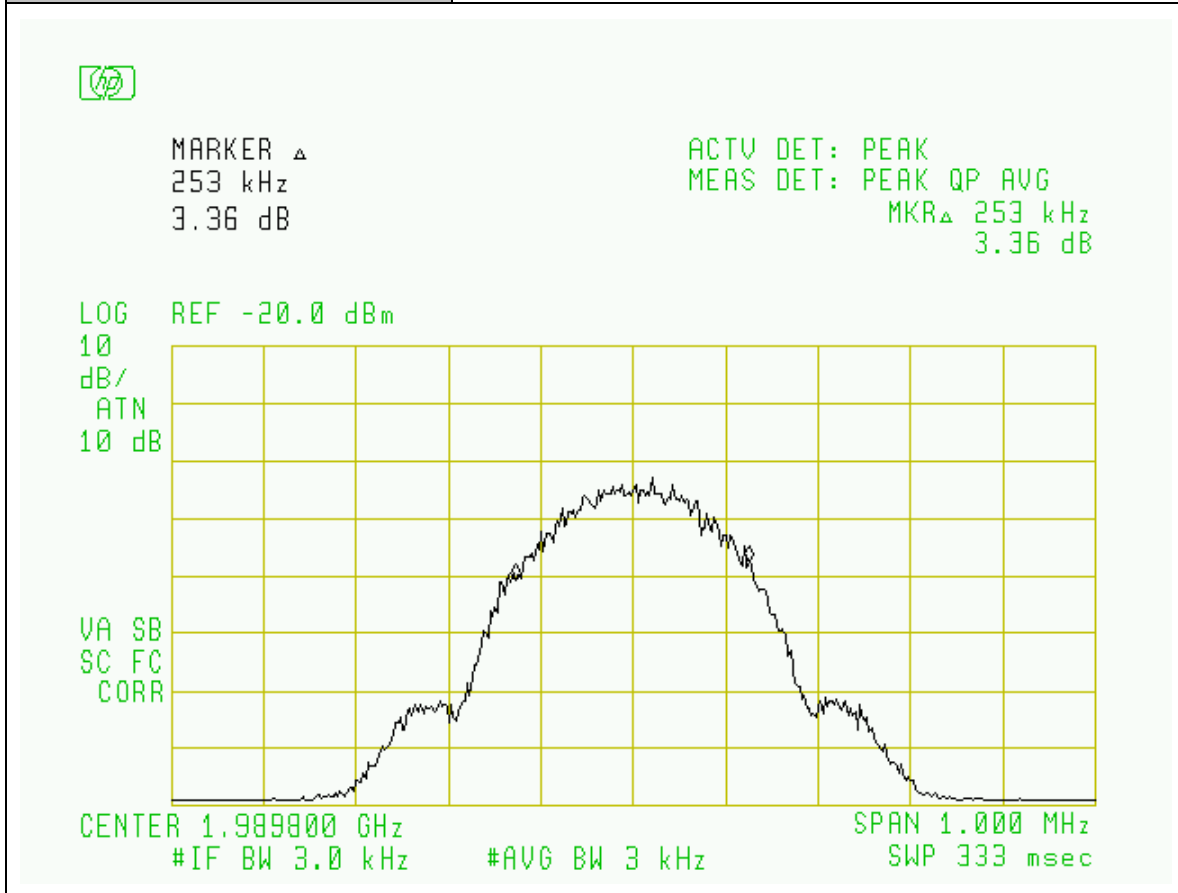
|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands             |
| <b>Plot Name:</b>     | Downlink, Hi-Channel, GSM Modulation      |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |





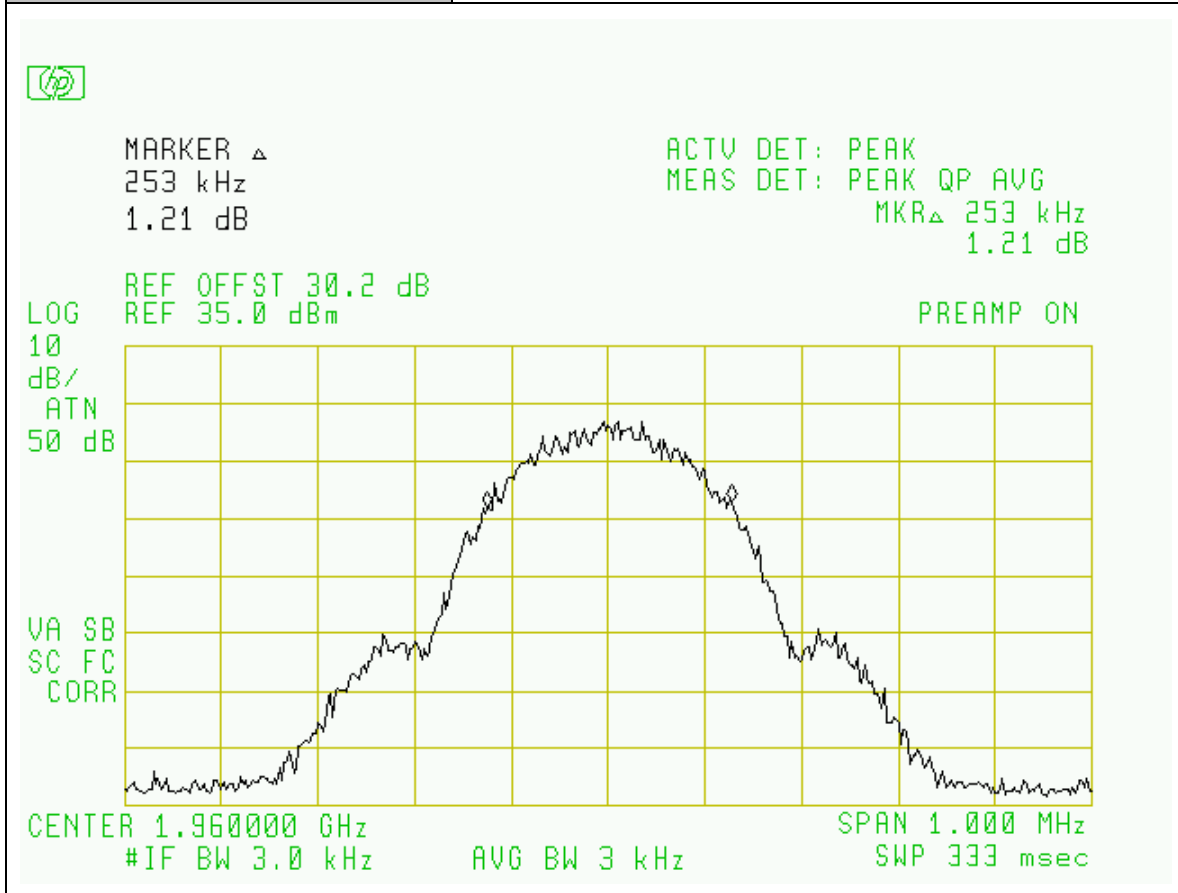
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                      |
|-----------------------|--------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands        |
| <b>Plot Name:</b>     | Downlink, Hi-Channel, GSM Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG    |



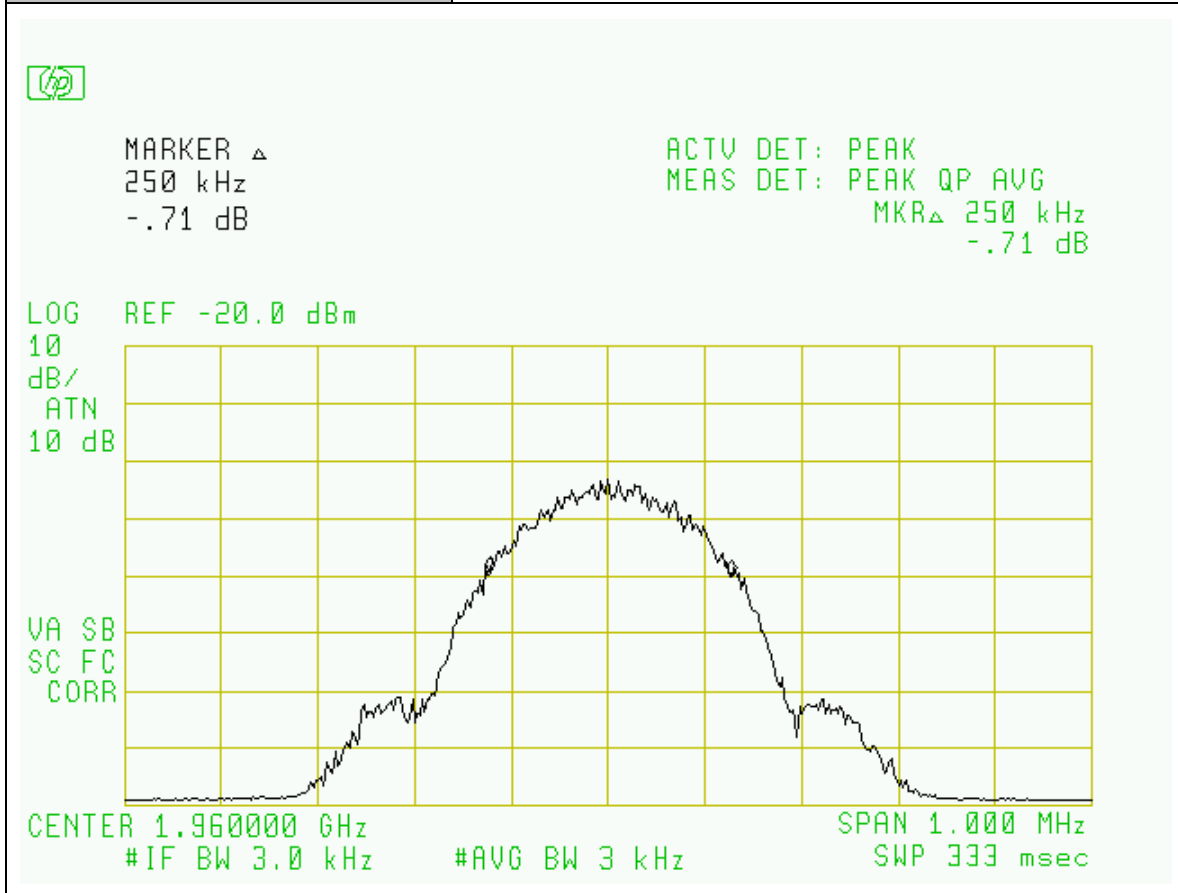
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands             |
| <b>Plot Name:</b>     | Downlink, Mid-Channel, GSM Modulation     |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |



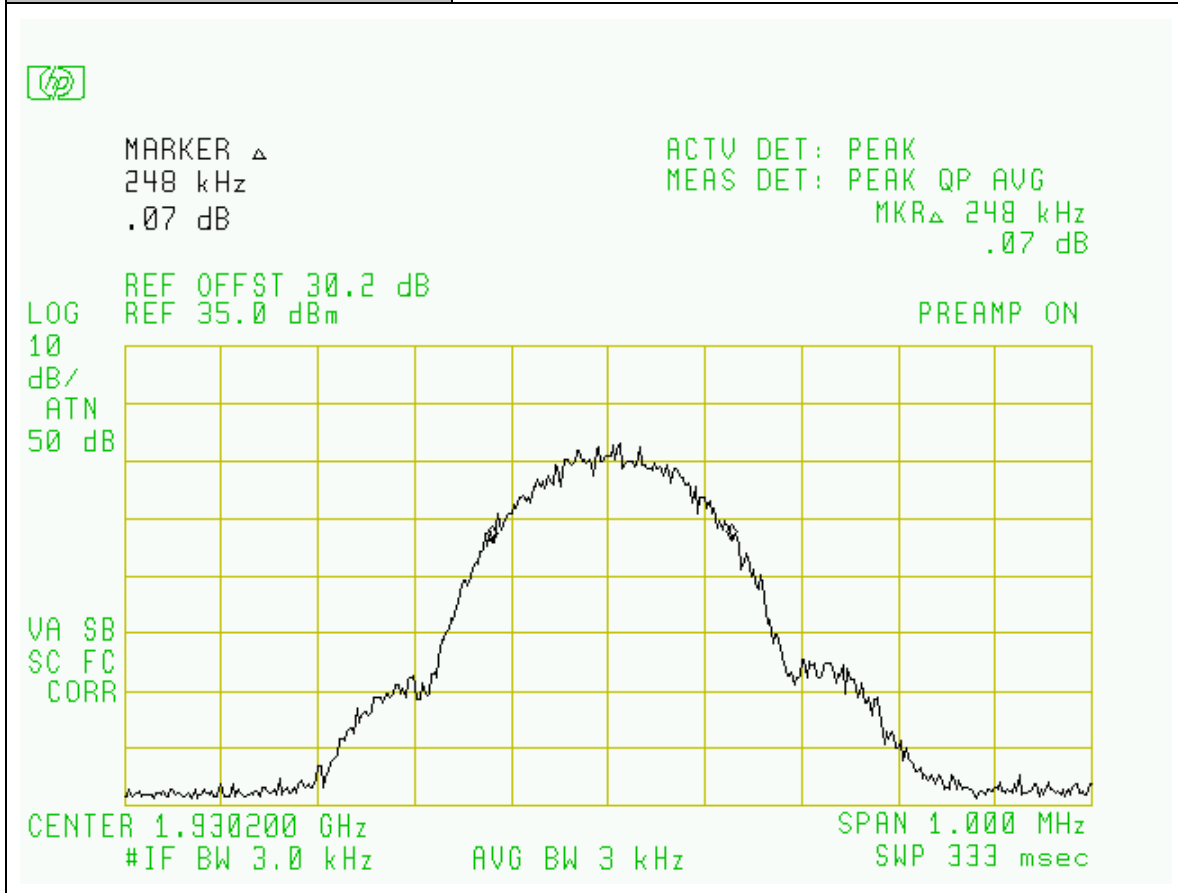
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                       |
|-----------------------|---------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands         |
| <b>Plot Name:</b>     | Downlink, Mid-Channel, GSM Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG     |



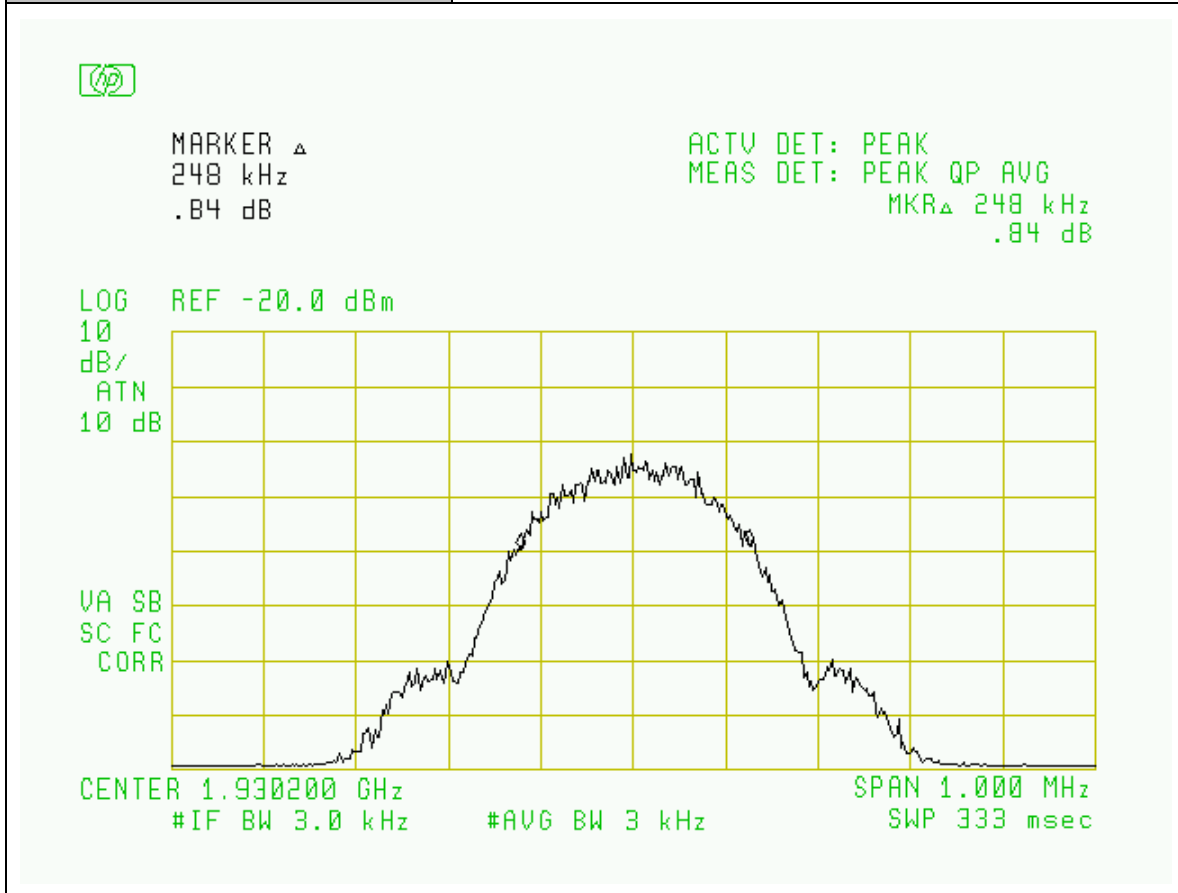
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands             |
| <b>Plot Name:</b>     | Downlink, Low-Channel, GSM Modulation     |
| <b>Configuration:</b> | SG Input: -25dBm, Output Port: EUT MOBILE |



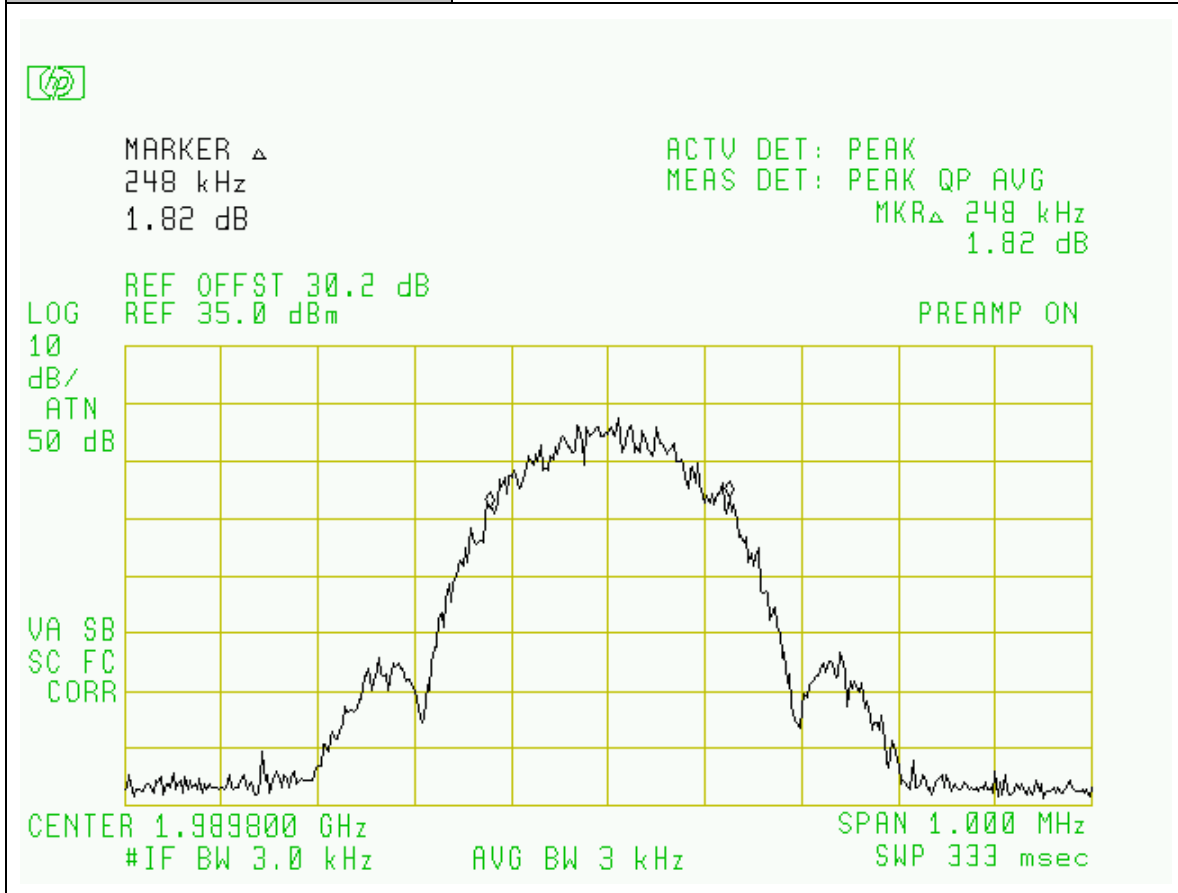
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                       |
|-----------------------|---------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands         |
| <b>Plot Name:</b>     | Downlink, Low-Channel, GSM Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG     |



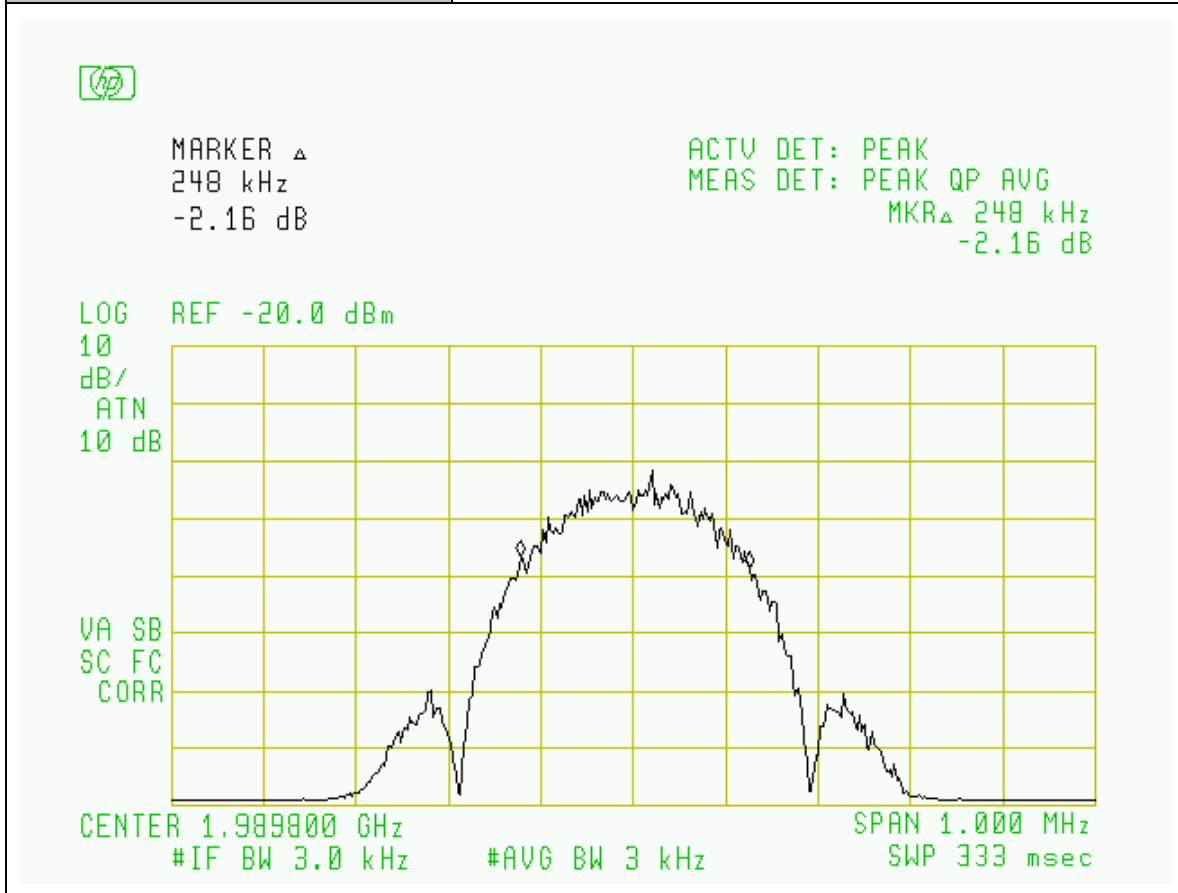
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands             |
| <b>Plot Name:</b>     | Downlink, Hi-Channel, EDGE Modulation     |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |



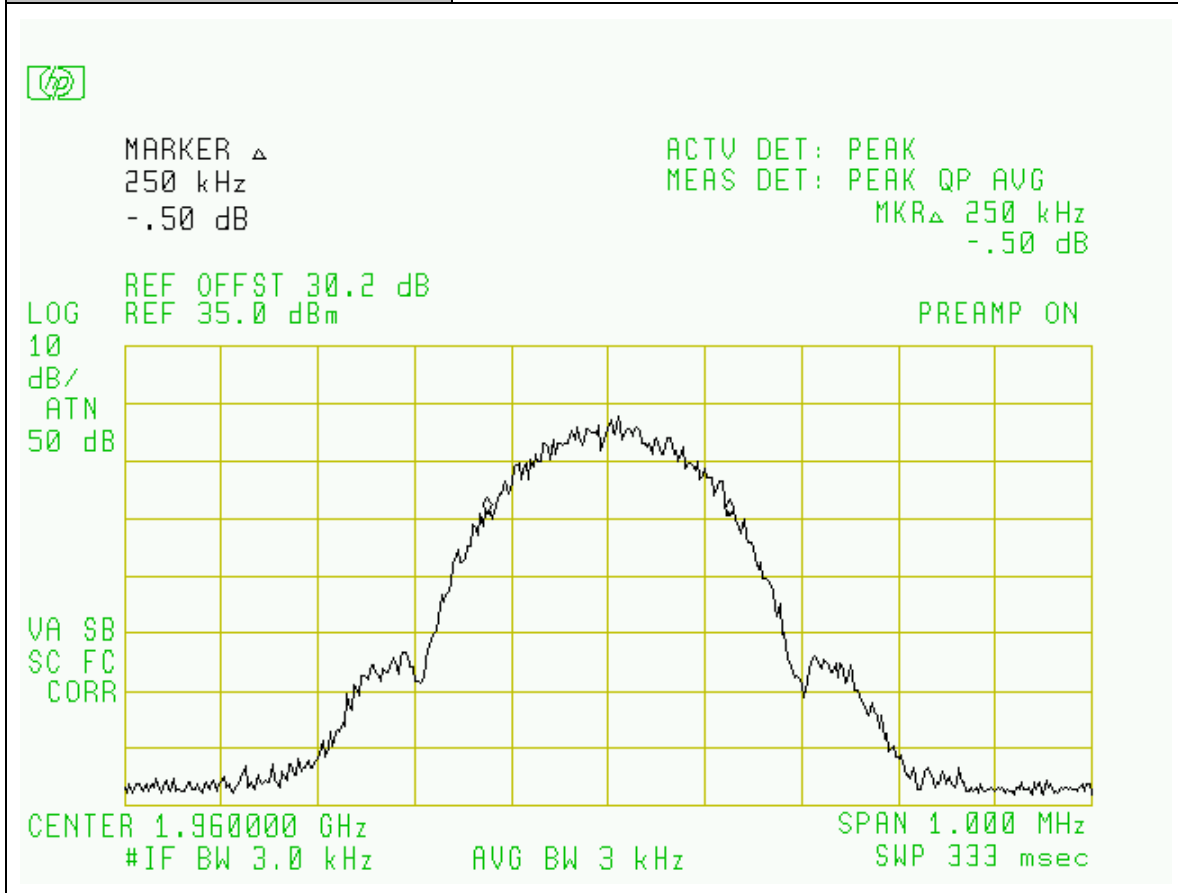
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |                                       |
|-----------------------|---------------------------------------|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands         |
| <b>Plot Name:</b>     | Downlink, Hi-Channel, EDGE Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG     |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

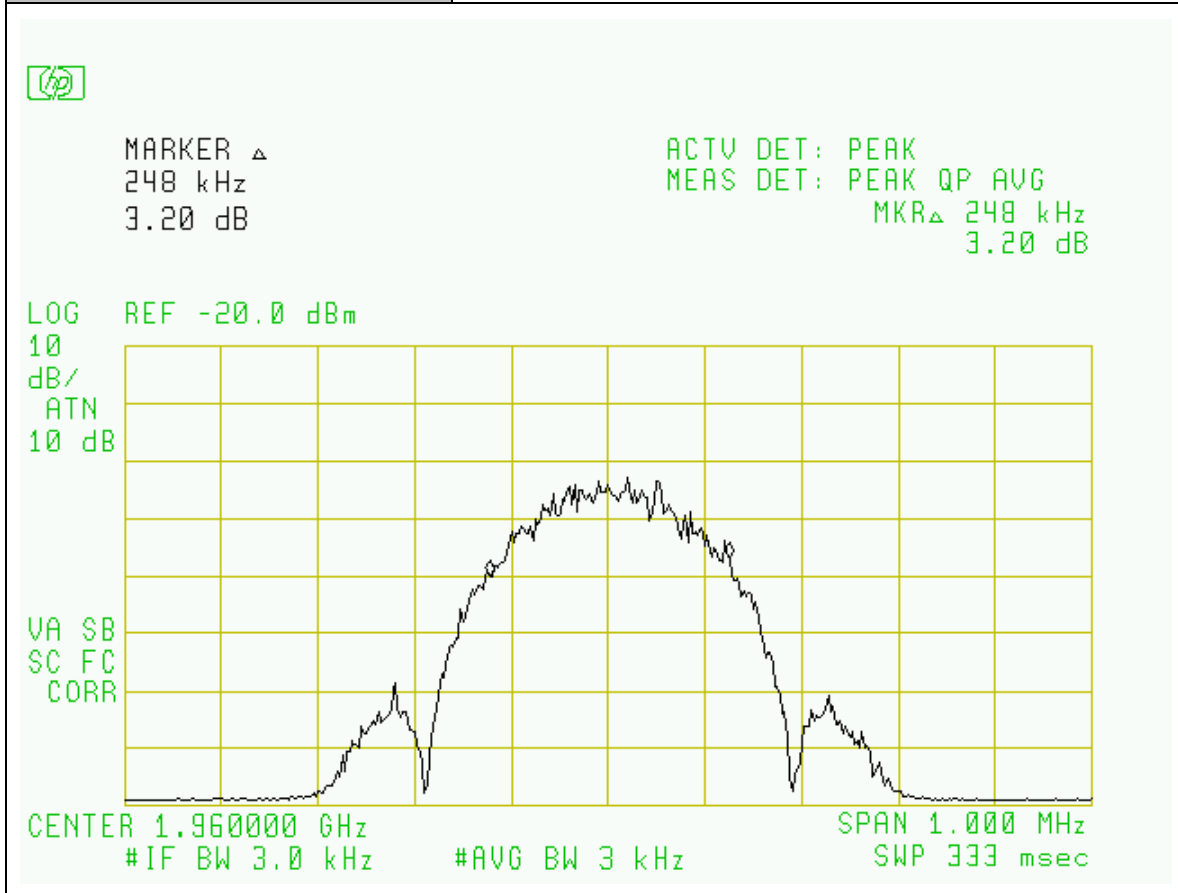
|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands             |
| <b>Plot Name:</b>     | Downlink, Mid-Channel, EDGE Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |





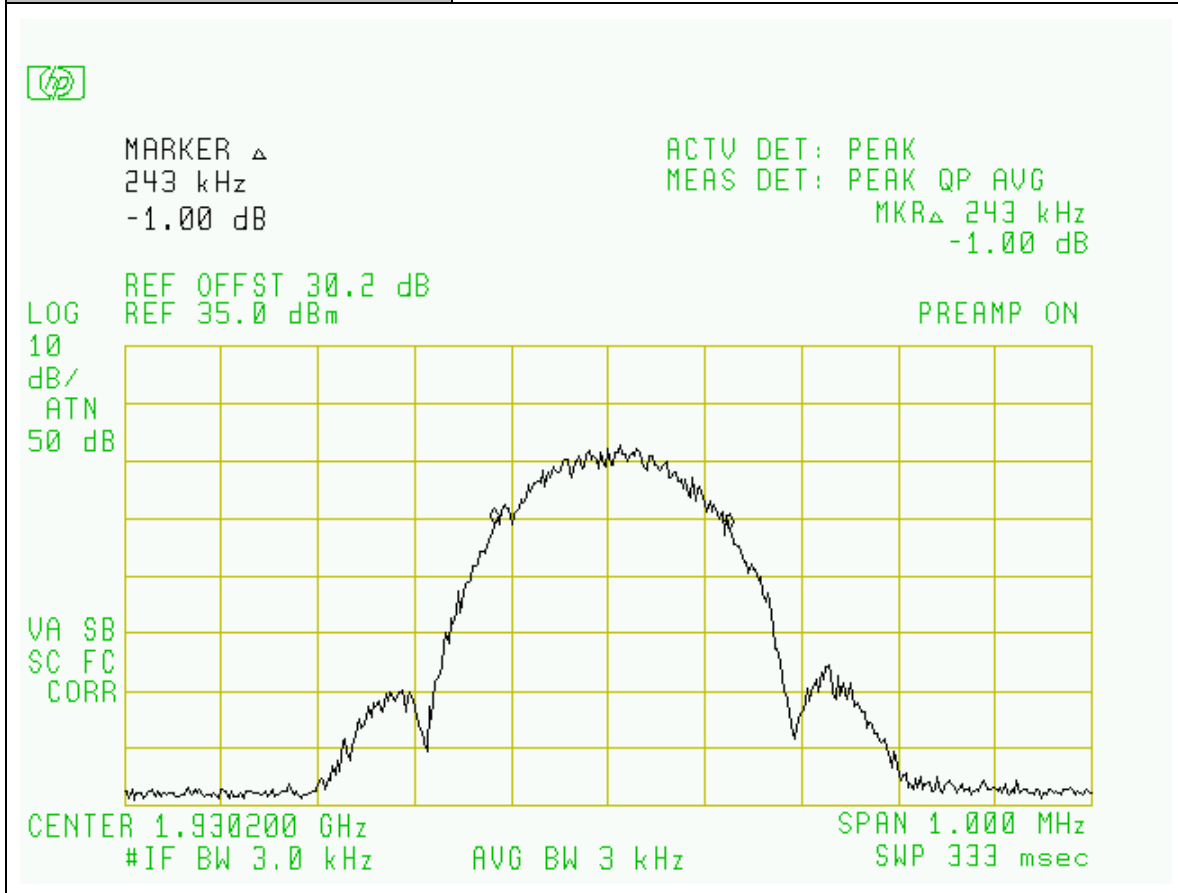
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands          |
| <b>Plot Name:</b>     | Downlink, Mid-Channel, EDGE Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG      |



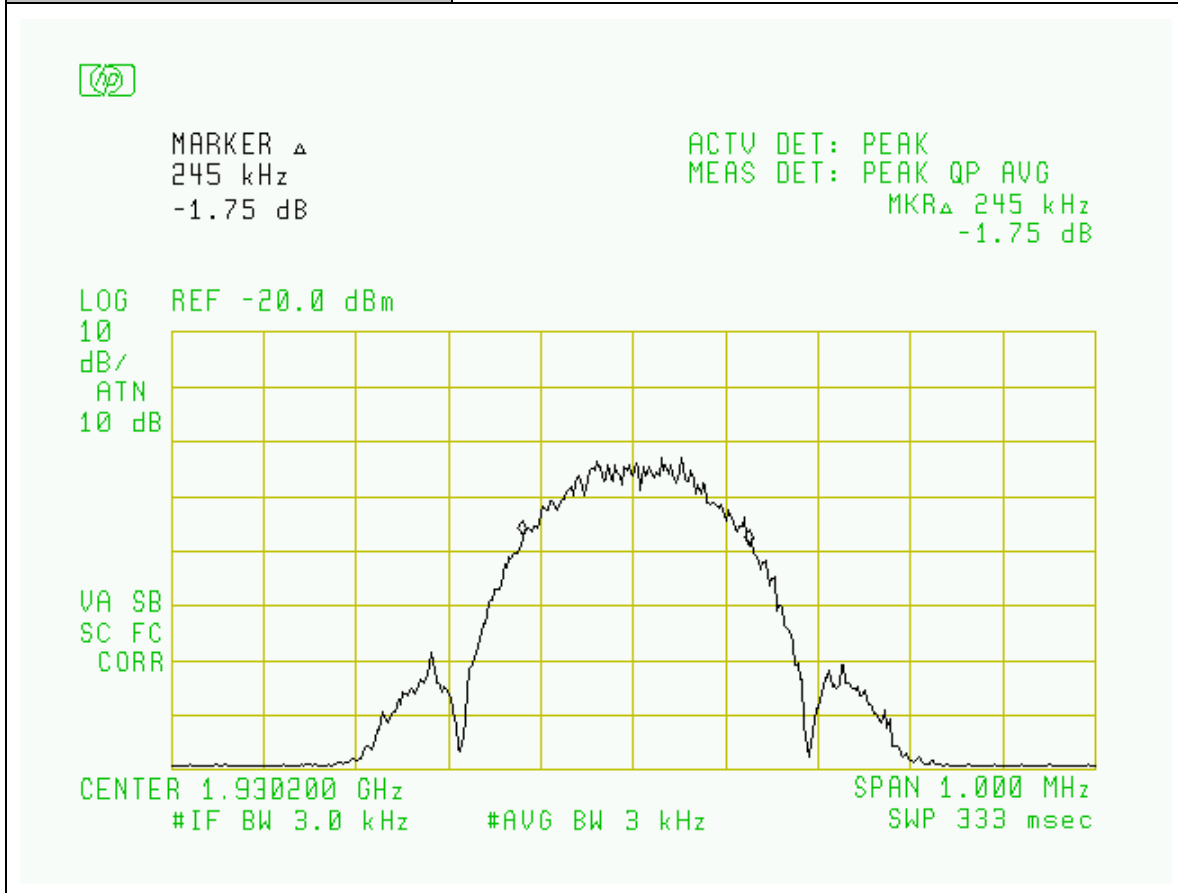
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands             |
| <b>Plot Name:</b>     | Downlink, Low-Channel, EDGE Modulation    |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: EUT MOBILE |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Occupied Bandwidth: PCS Bands          |
| <b>Plot Name:</b>     | Downlink, Low-Channel, EDGE Modulation |
| <b>Configuration:</b> | SG Input: -55dBm, Output Port: SG      |



**Section 5. Spurious Emissions at Antenna Terminals**

|                      |  |                       |                       |
|----------------------|--|-----------------------|-----------------------|
| <b>Name of Test:</b> | <i>Spurious Emissions at Antenna Terminals</i> | <b>Test Standard:</b> | 22.917<br>24.238(a)   |
| <b>Tested By:</b>    | WEI LI<br>EDWARD LEE                           | <b>Test Date:</b>     | 09/01/2007-10/15/2007 |

**Minimum Standard:** Para. No. 22.917(e). The mean power of emissions must be attenuated below the mean power of the unmodulated carrier on any frequency twice or more than twice the fundamental emission by at least  $43 + 10 \log P$ . This is equivalent to -13 dBm absolute power.

Para. No. 24.238(a). The magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under conditions specified in the instruction manual and/or alignment procedure, shall not less than  $43+10 \log$  (mean output power in watts) dBc below the mean power output outside a licensee's frequency block (-13dBm).

**Method of Measurement:** Spectrum Analyzer Settings:  
 RBW: 100 kHz&1MHz. As required for digital modulations.  
 VBW:  $\geq$ RBW  
 Start Frequency: 0 MHz or lowest EUT clock frequency.  
 Stop Frequency: 13 GHz (Cellular), 22GHz (PCS)  
 Sweep: Auto

For Inter-modulation measurement: Two RF signals set as inputs. The frequencies of both RF signals shall be within the repeater's operating band. The spacing between both RF signals shall be the minimum possible spacing applied in a network. The level of both RF input signals shall be increased, until the maximum rated output power per channel, as declared by the manufacturer, is reached.

Frequencies:  $f1=F_{(Low\ CH/Mid\ CH/High\ CH)}$ ,  $f2=f1 \pm \Delta$   
 Min. spacing  $\Delta=2.5\text{MHz}$  for CDMA and 600KHz for GSM&EDGE  
 Each RF Input Level:  
 about -3dB comparing to the max. input level of single RF Input test

**Test Result:**

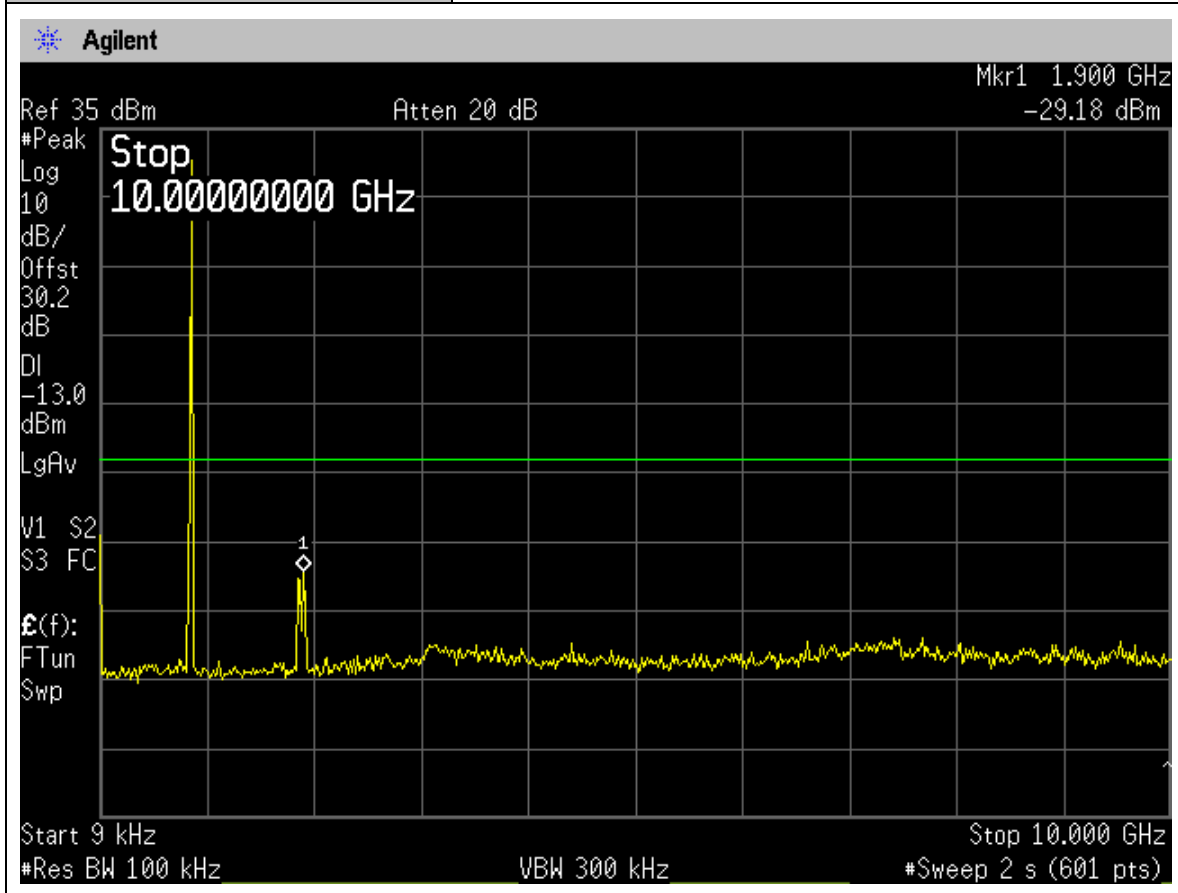
**Complies**

**Test Data:**

Attached Plots

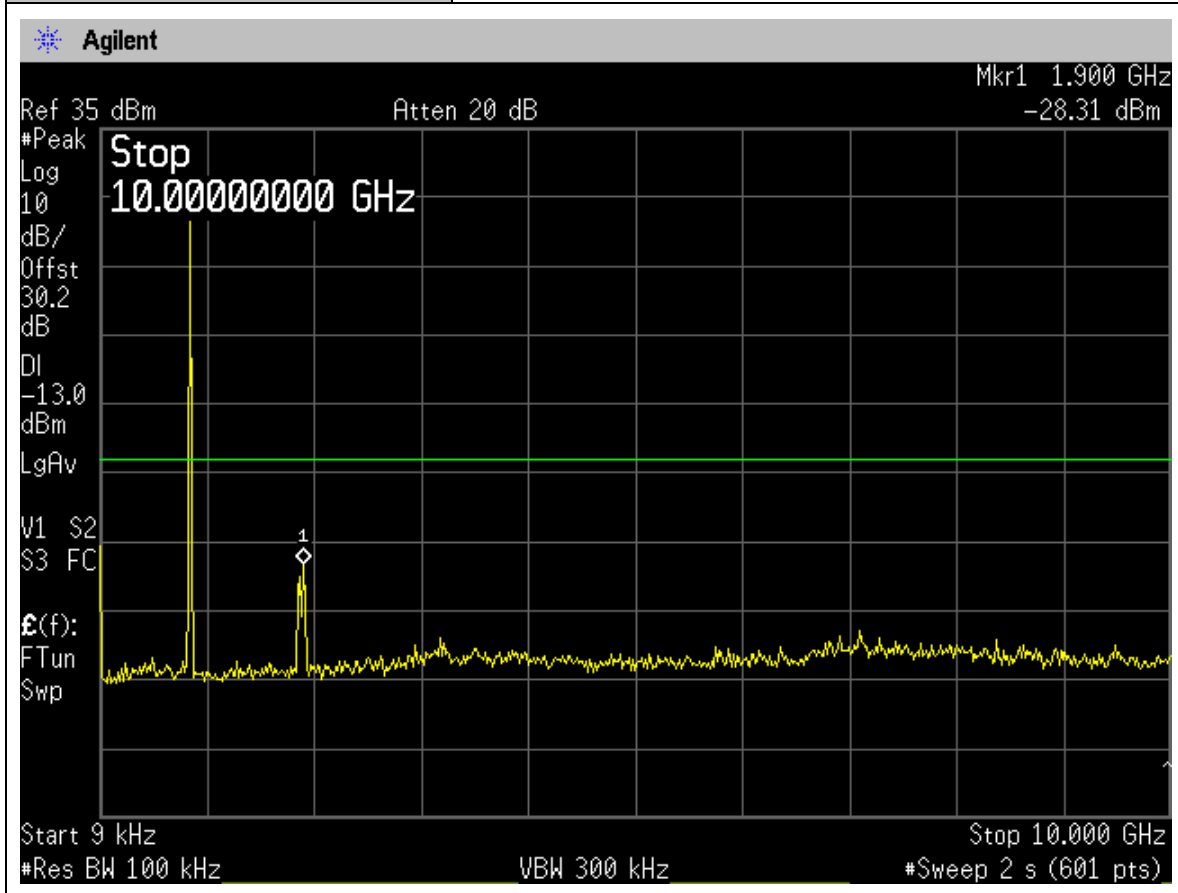
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / CDMA Modulation |
| <b>Plot Name:</b>     | Uplink, Hi-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                       |



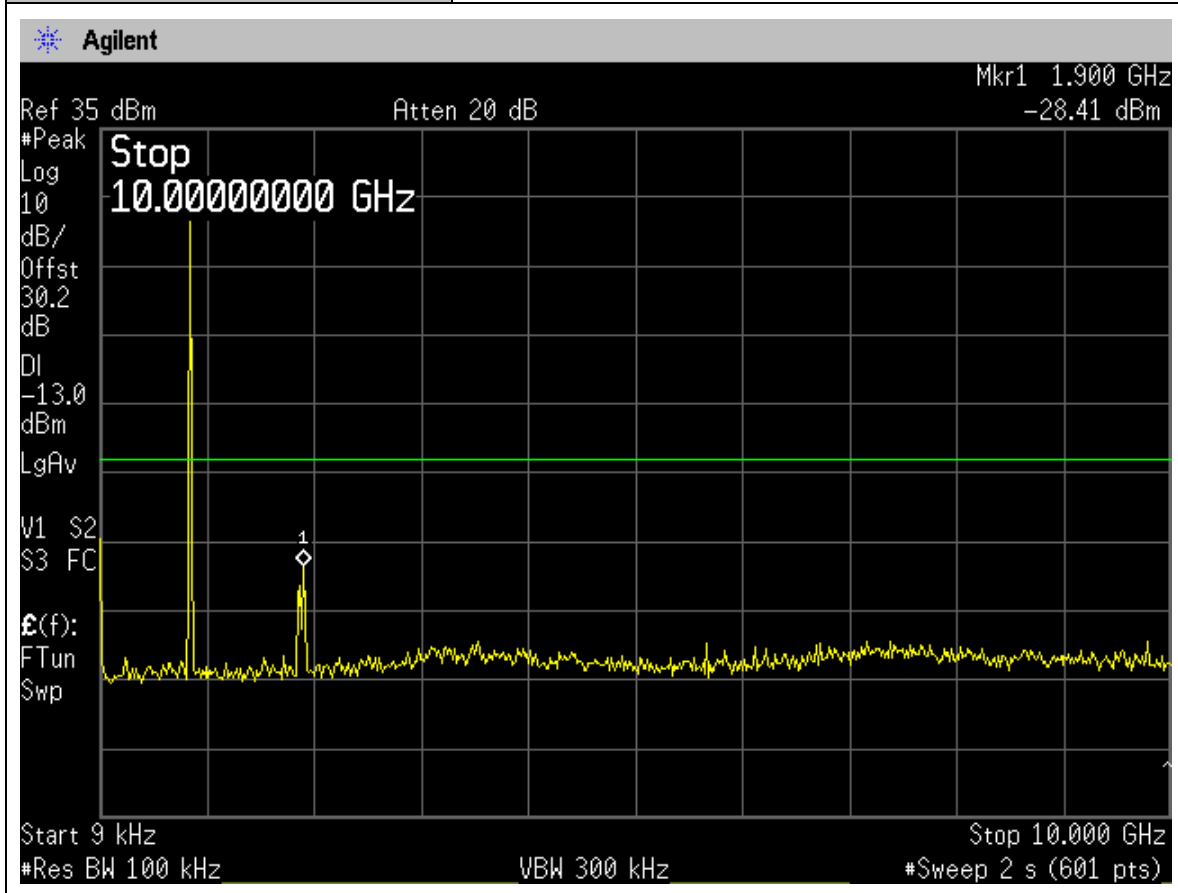
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / CDMA Modulation |
| <b>Plot Name:</b>     | Uplink, Mid-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                       |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

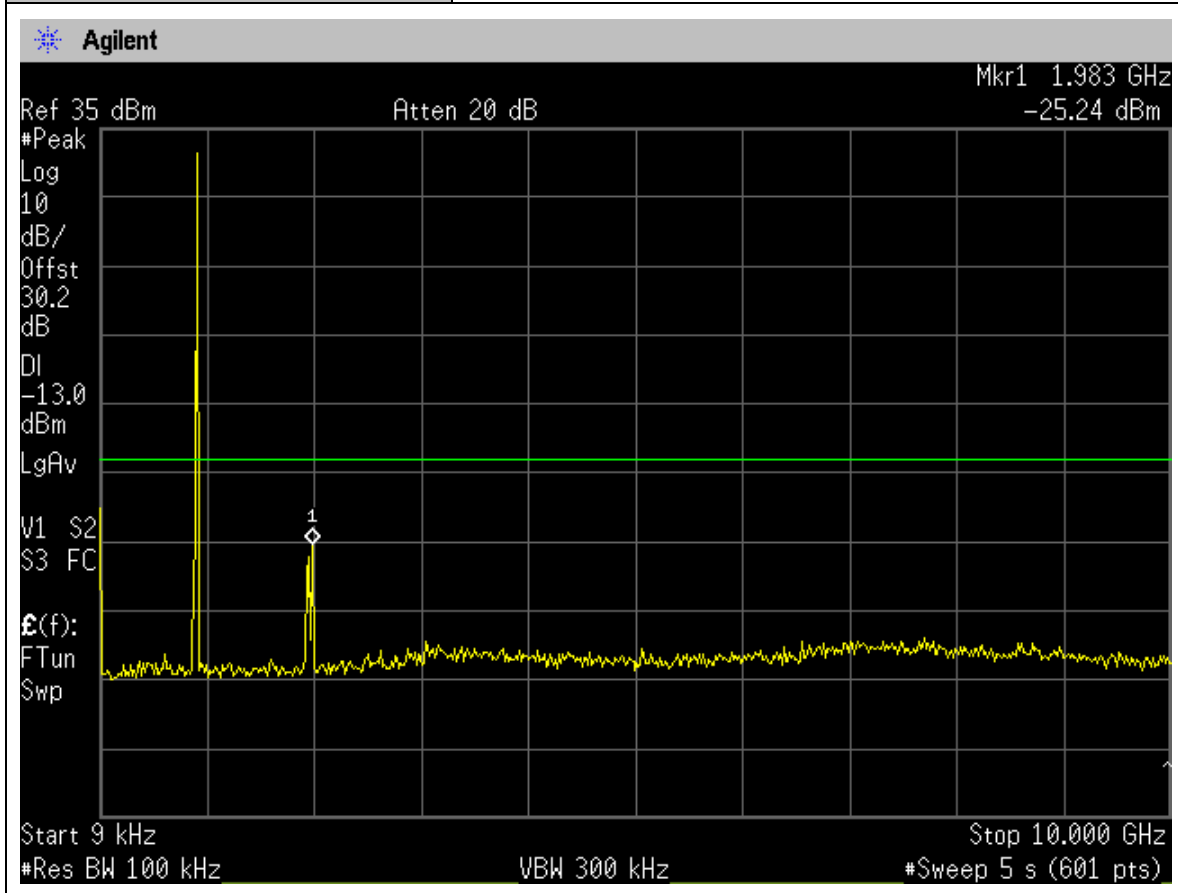
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|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / CDMA Modulation |
| <b>Plot Name:</b>     | Uplink, Low-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                       |





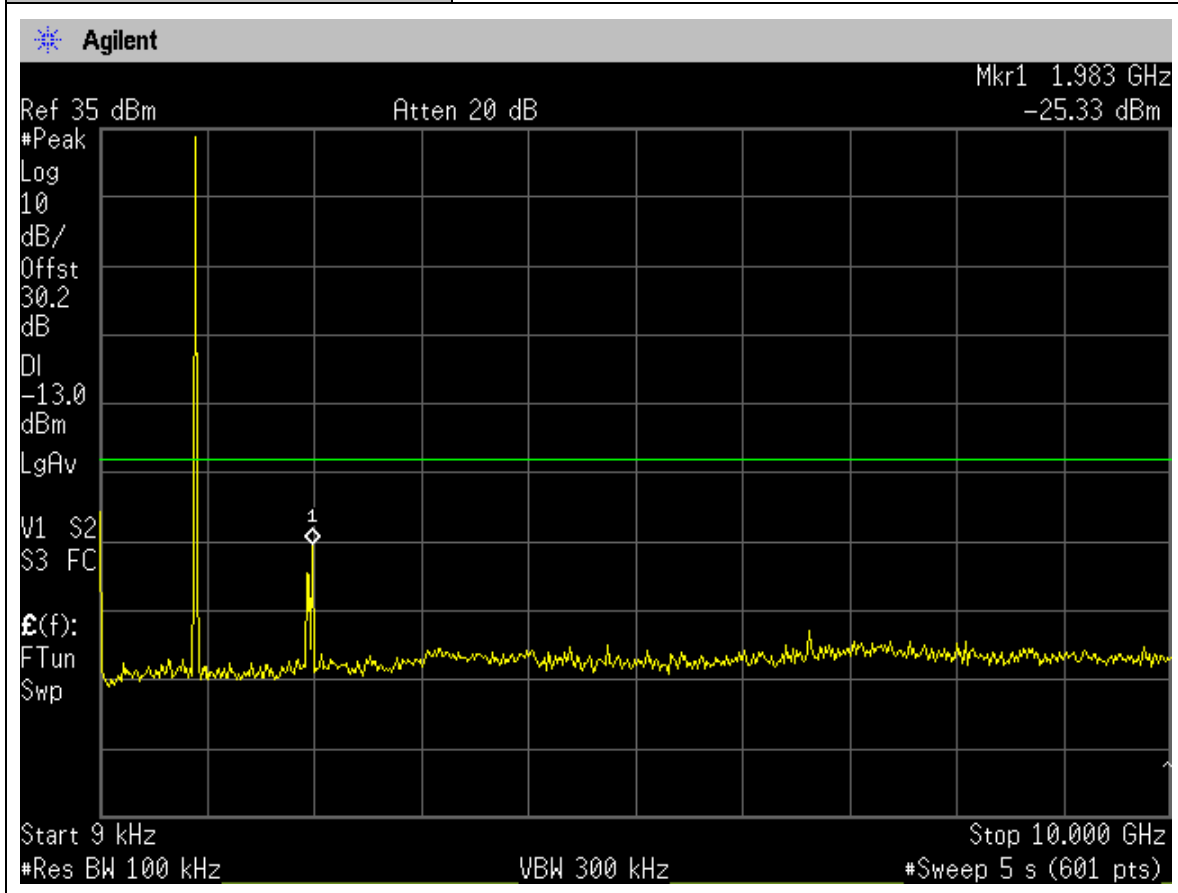
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / CDMA Modulation |
| <b>Plot Name:</b>     | Downlink, Hi-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                    |



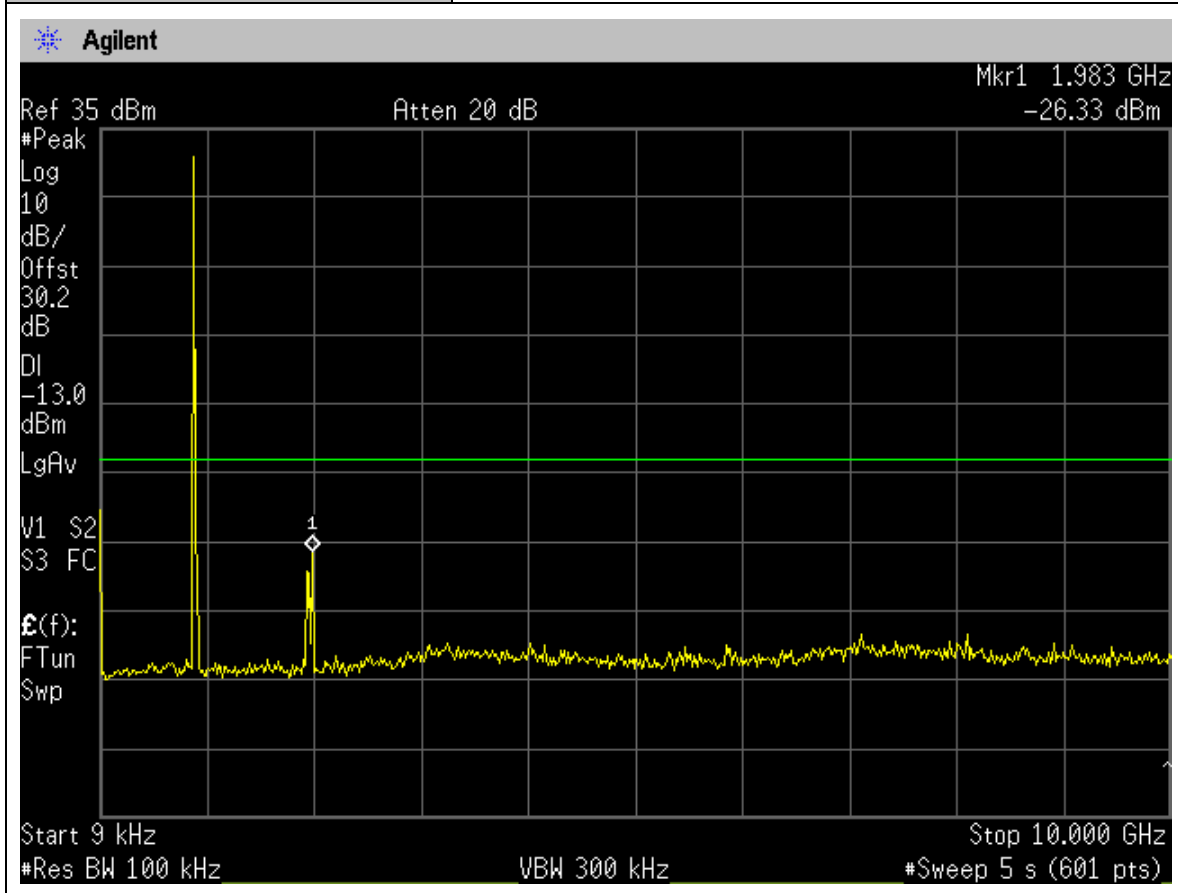
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / CDMA Modulation |
| <b>Plot Name:</b>     | Downlink, Mid-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                    |



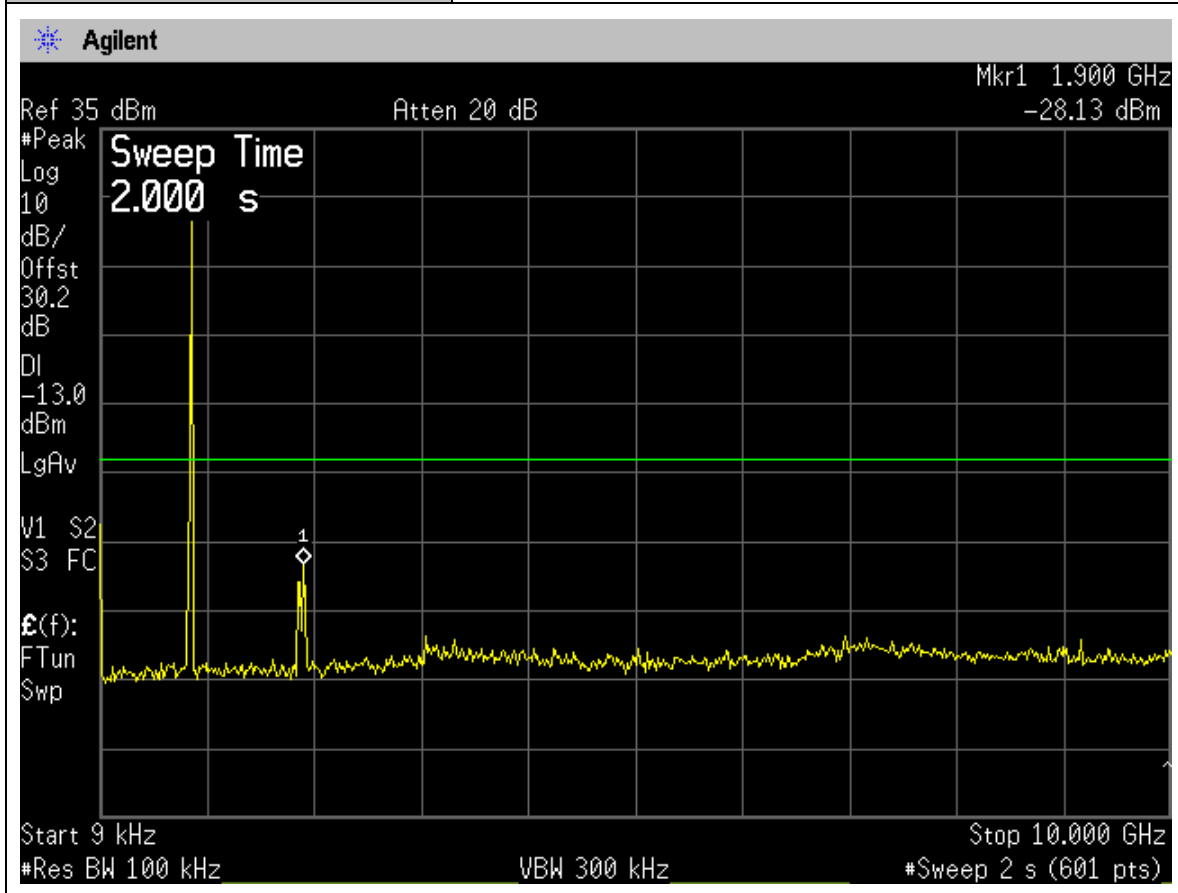
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / CDMA Modulation |
| <b>Plot Name:</b>     | Downlink, Low-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                    |



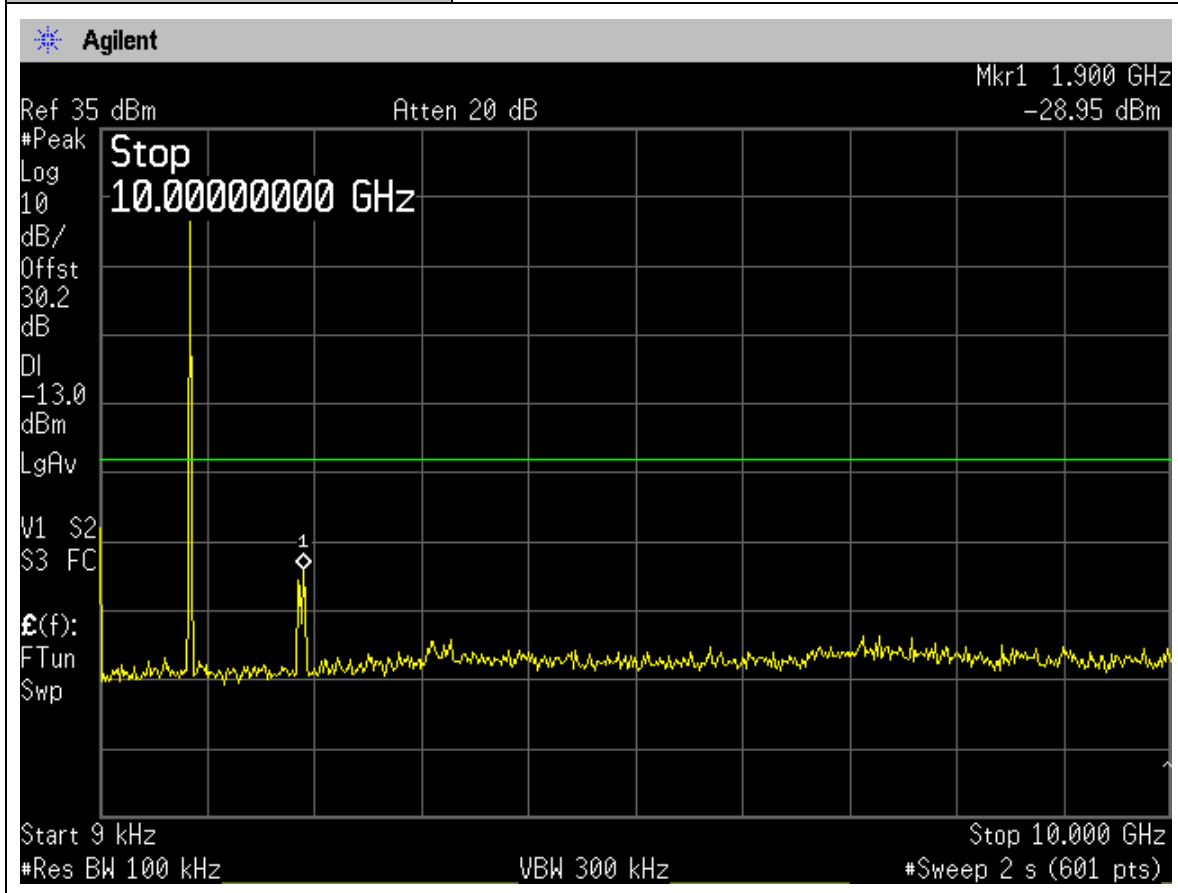
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / GSM Modulation |
| <b>Plot Name:</b>     | Uplink, Hi-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                      |



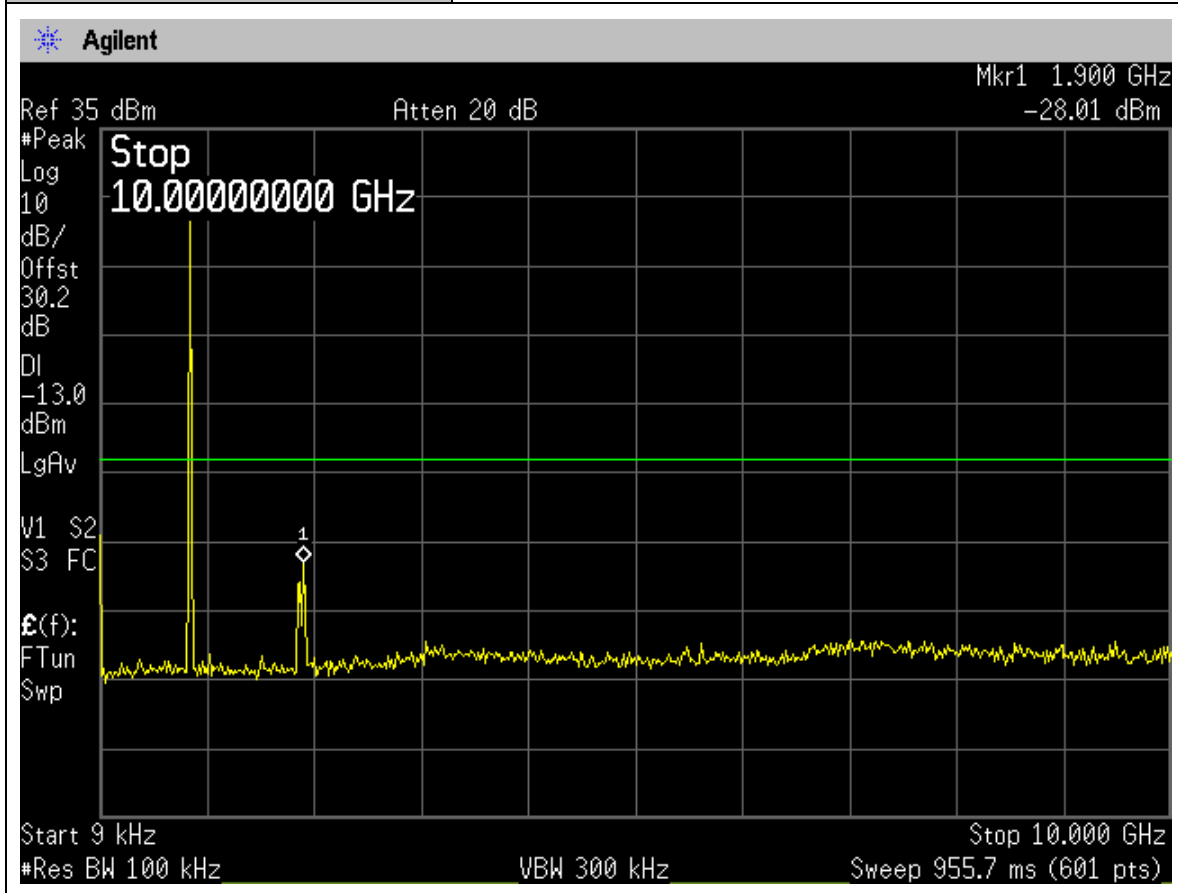
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / GSM Modulation |
| <b>Plot Name:</b>     | Uplink, Mid-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                      |



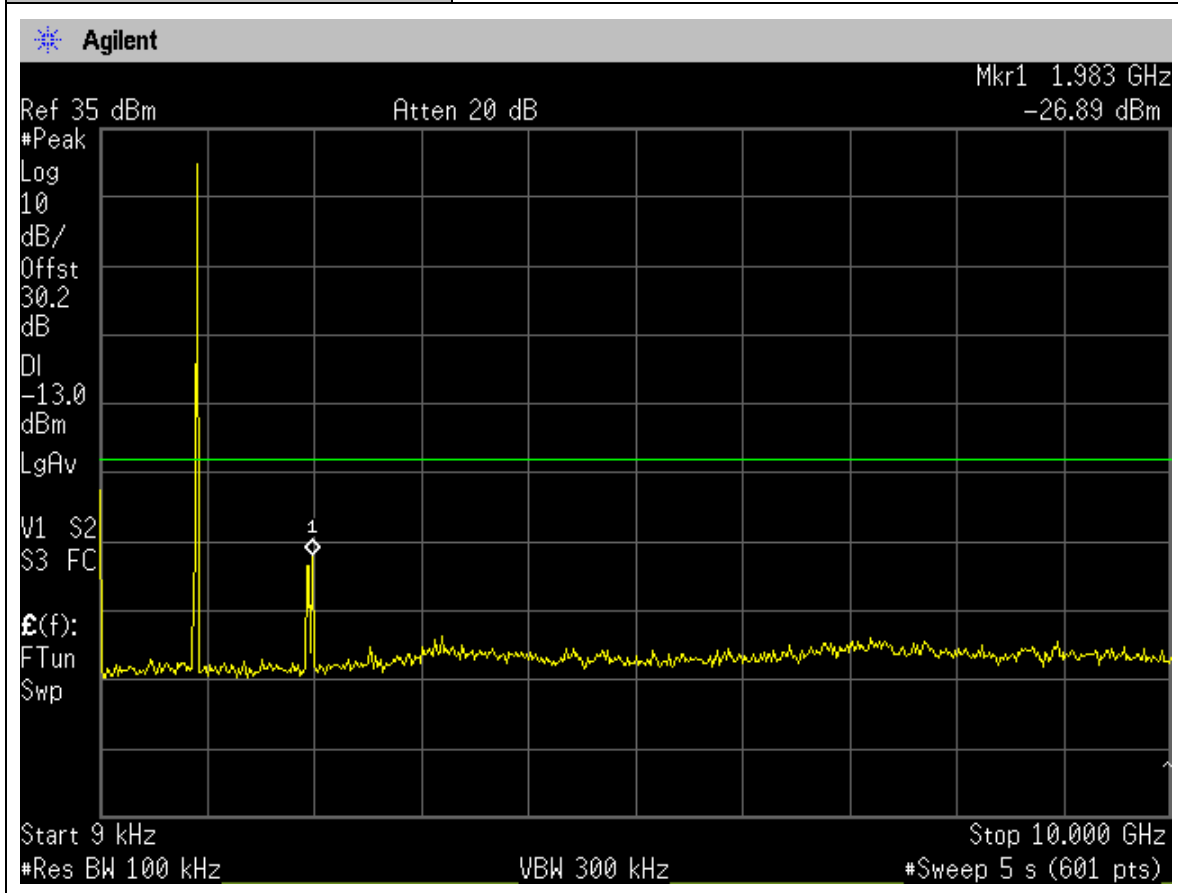
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / GSM Modulation |
| <b>Plot Name:</b>     | Uplink, Low-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                      |



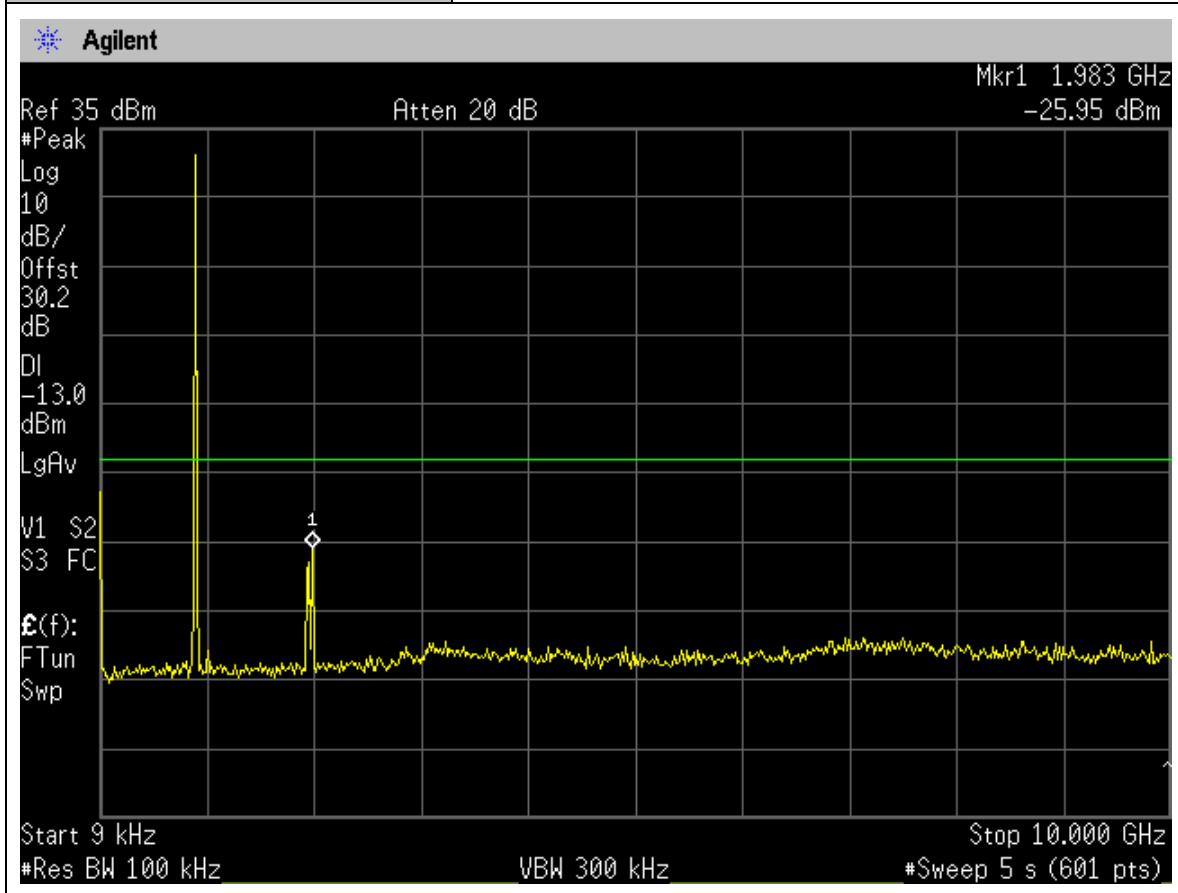
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / GSM Modulation |
| <b>Plot Name:</b>     | Downlink, Hi-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                   |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

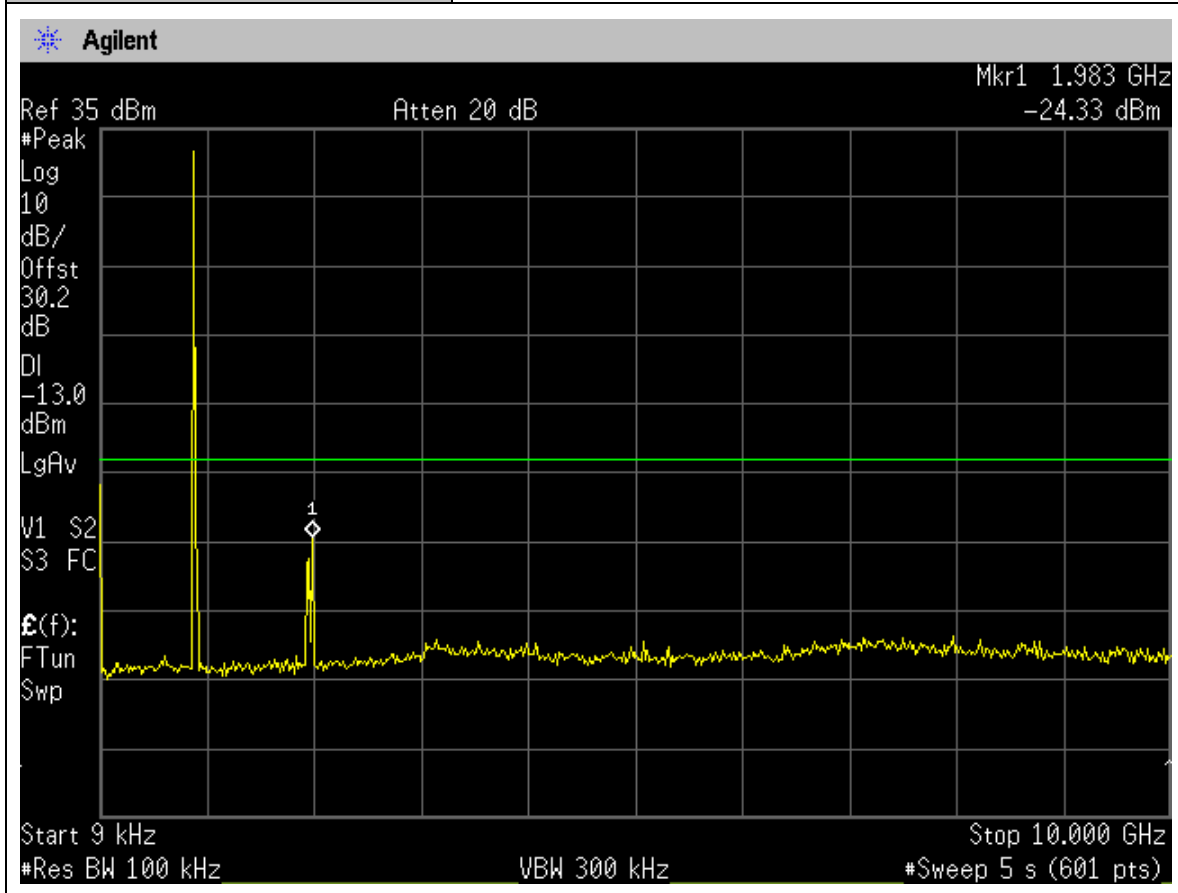
|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / GSM Modulation |
| <b>Plot Name:</b>     | Downlink, Mid-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                   |





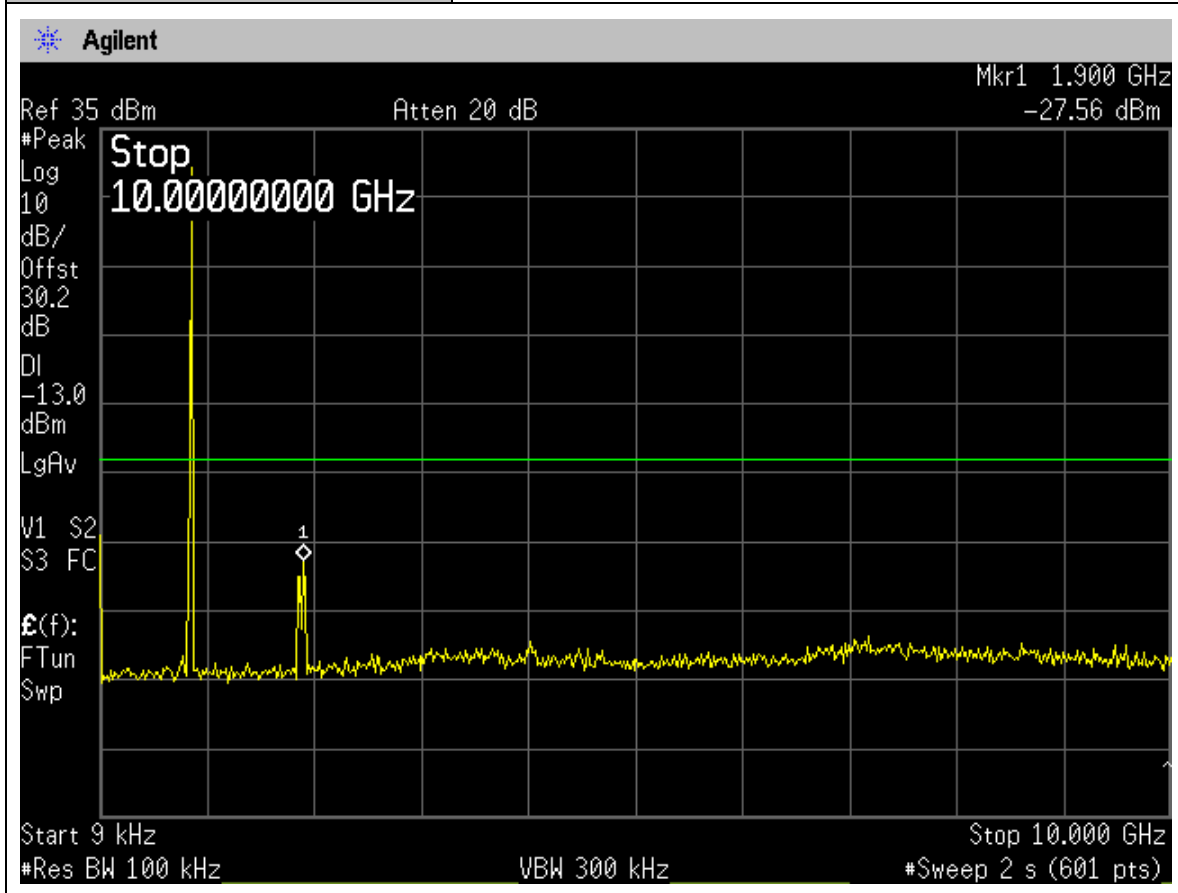
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / GSM Modulation |
| <b>Plot Name:</b>     | Downlink, Low-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                   |



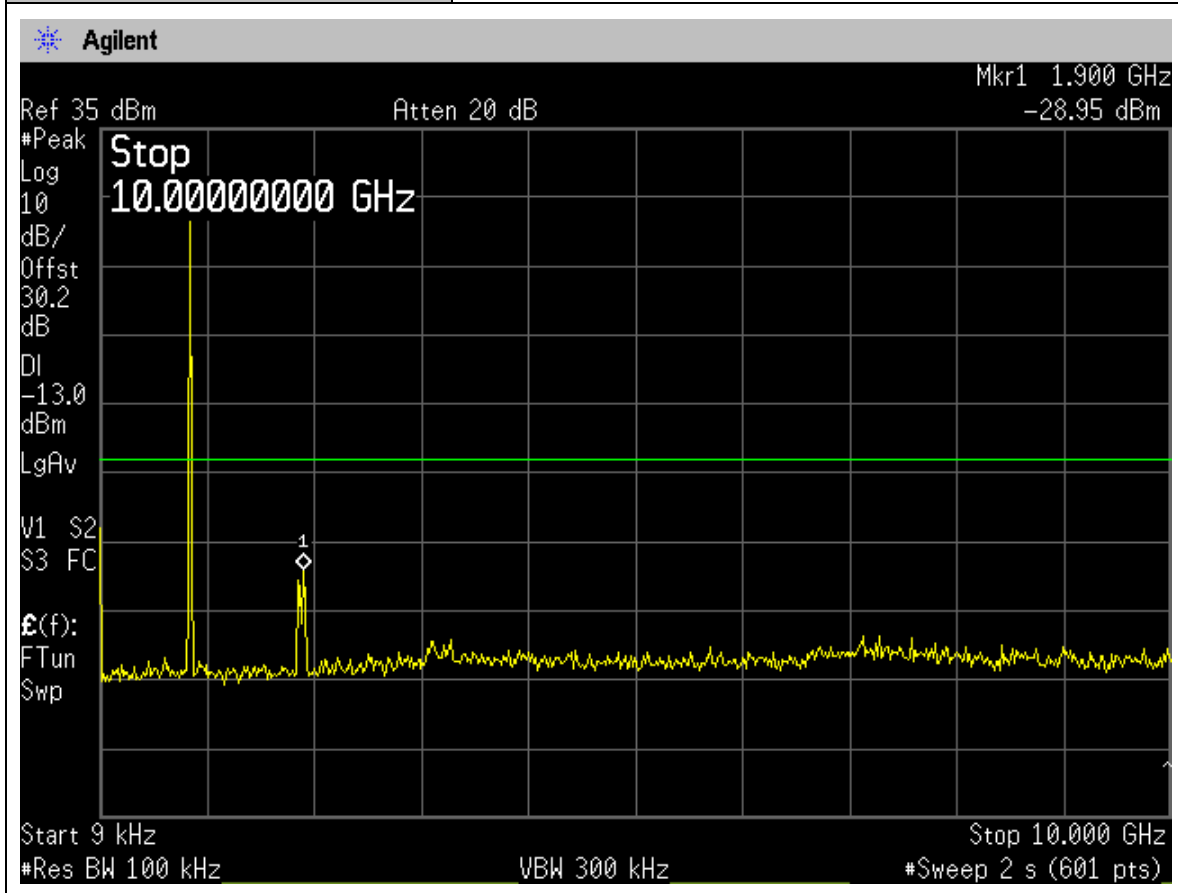
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / EDGE Modulation |
| <b>Plot Name:</b>     | Uplink, Hi-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                       |



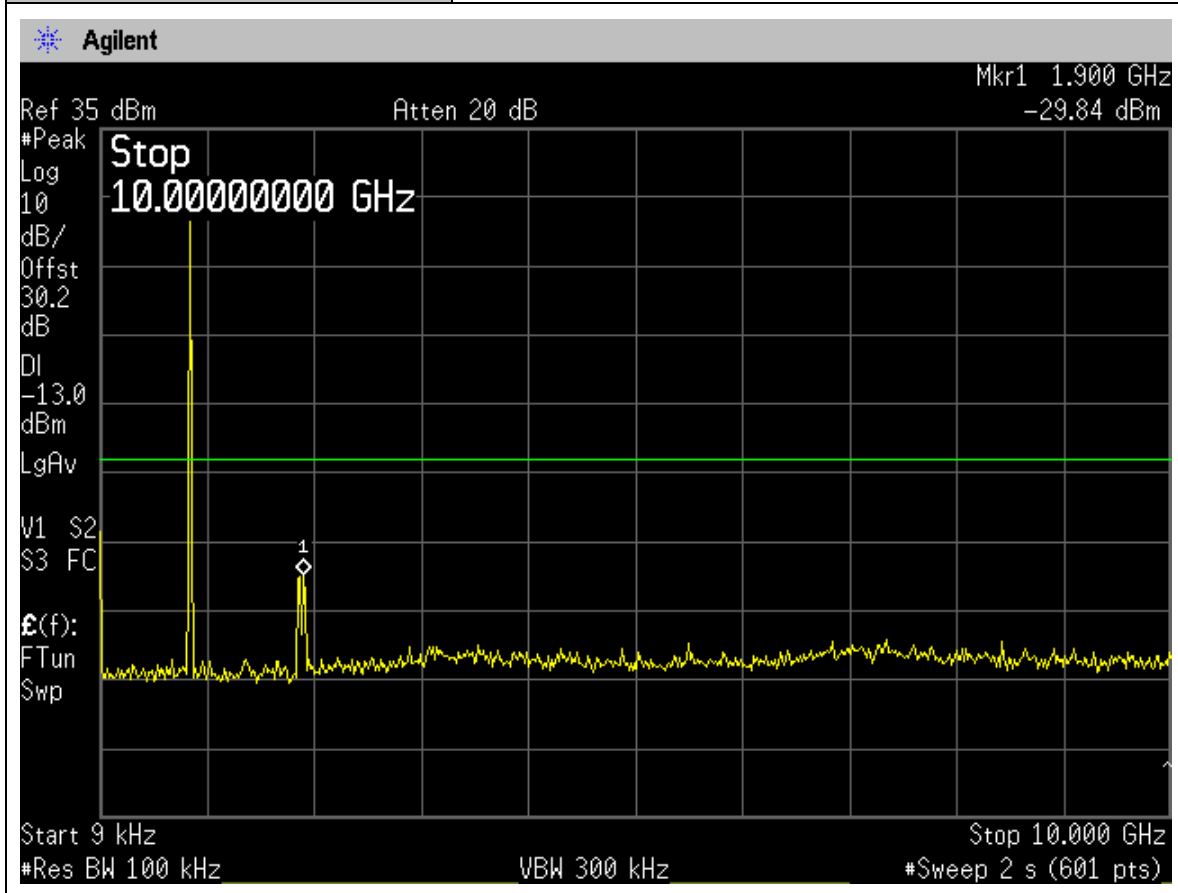
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / EDGE Modulation |
| <b>Plot Name:</b>     | Uplink, Mid-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                       |



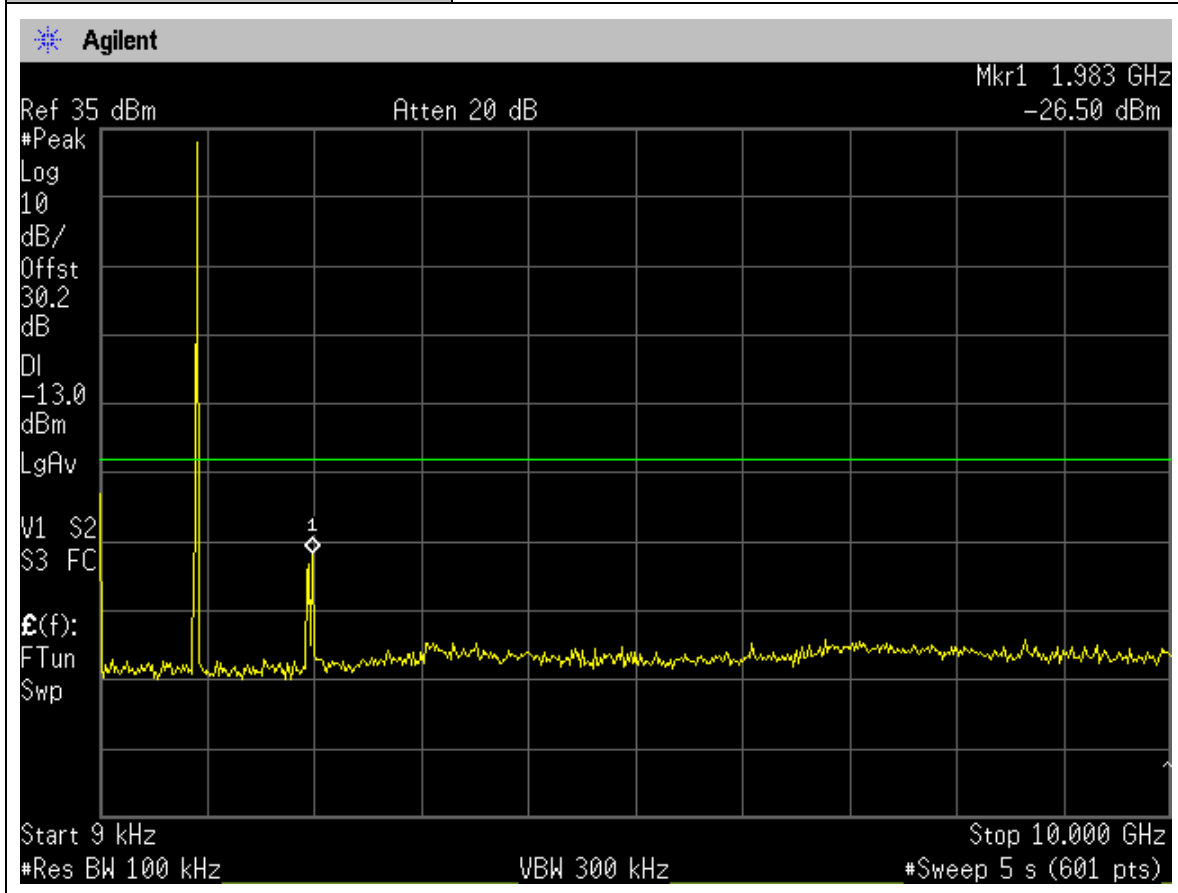
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / EDGE Modulation |
| <b>Plot Name:</b>     | Uplink, Low-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                       |



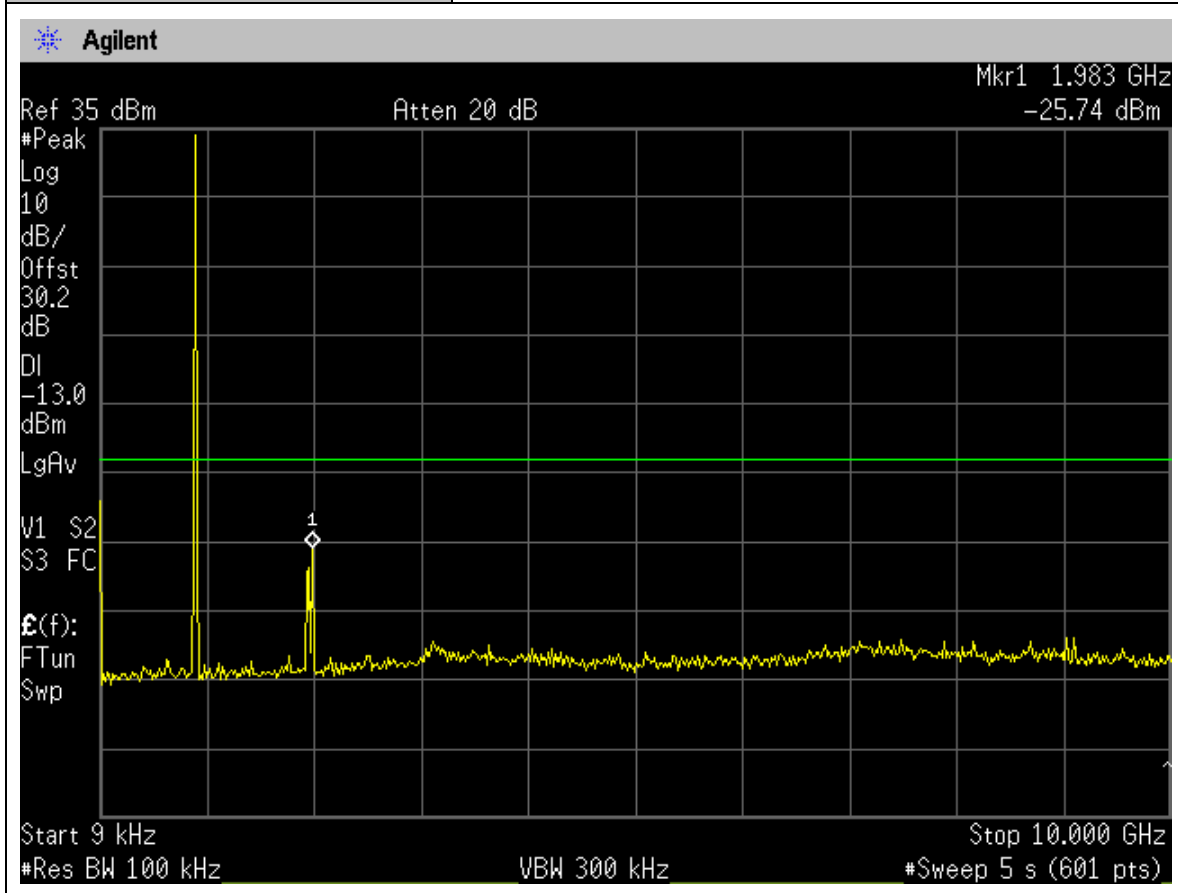
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / EDGE Modulation |
| <b>Plot Name:</b>     | Downlink, Hi-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                    |



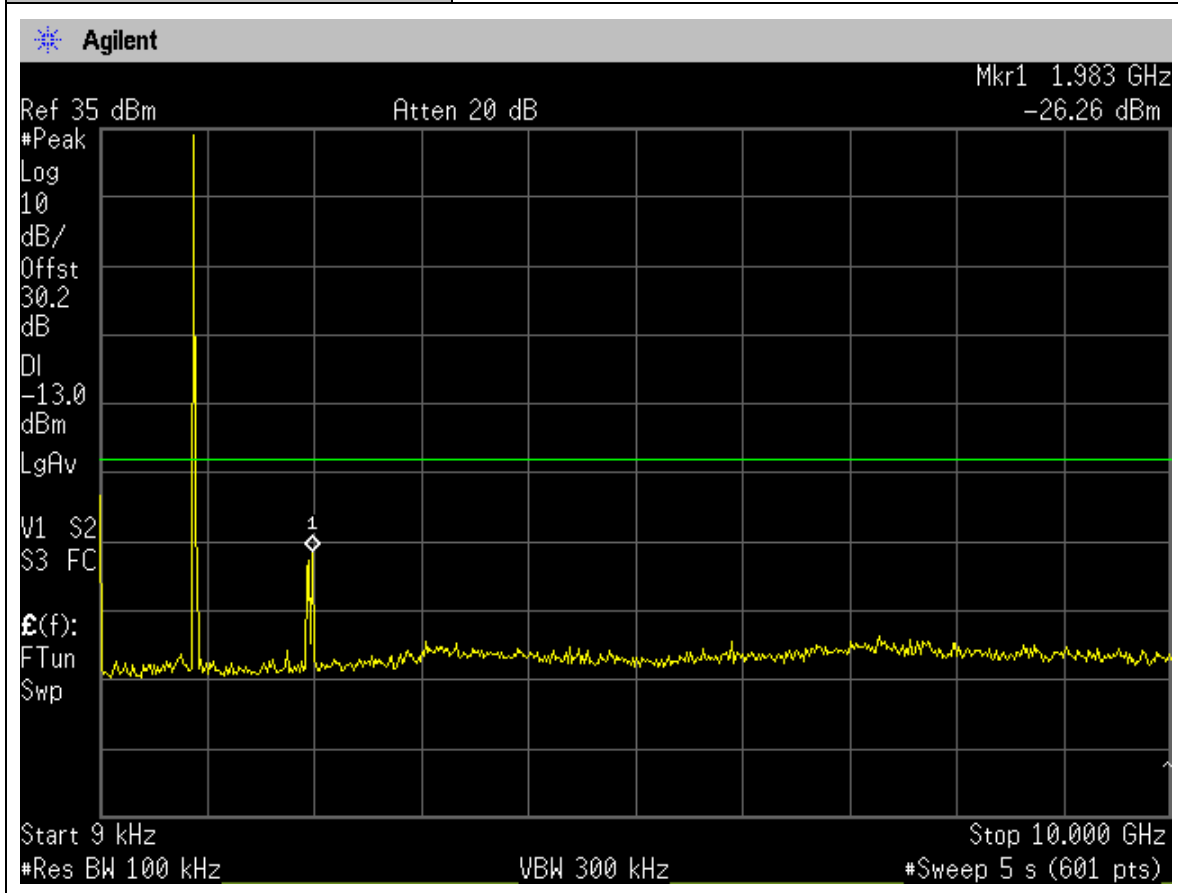
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / EDGE Modulation |
| <b>Plot Name:</b>     | Downlink, Mid-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                    |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / EDGE Modulation |
| <b>Plot Name:</b>     | Downlink, Low-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                    |

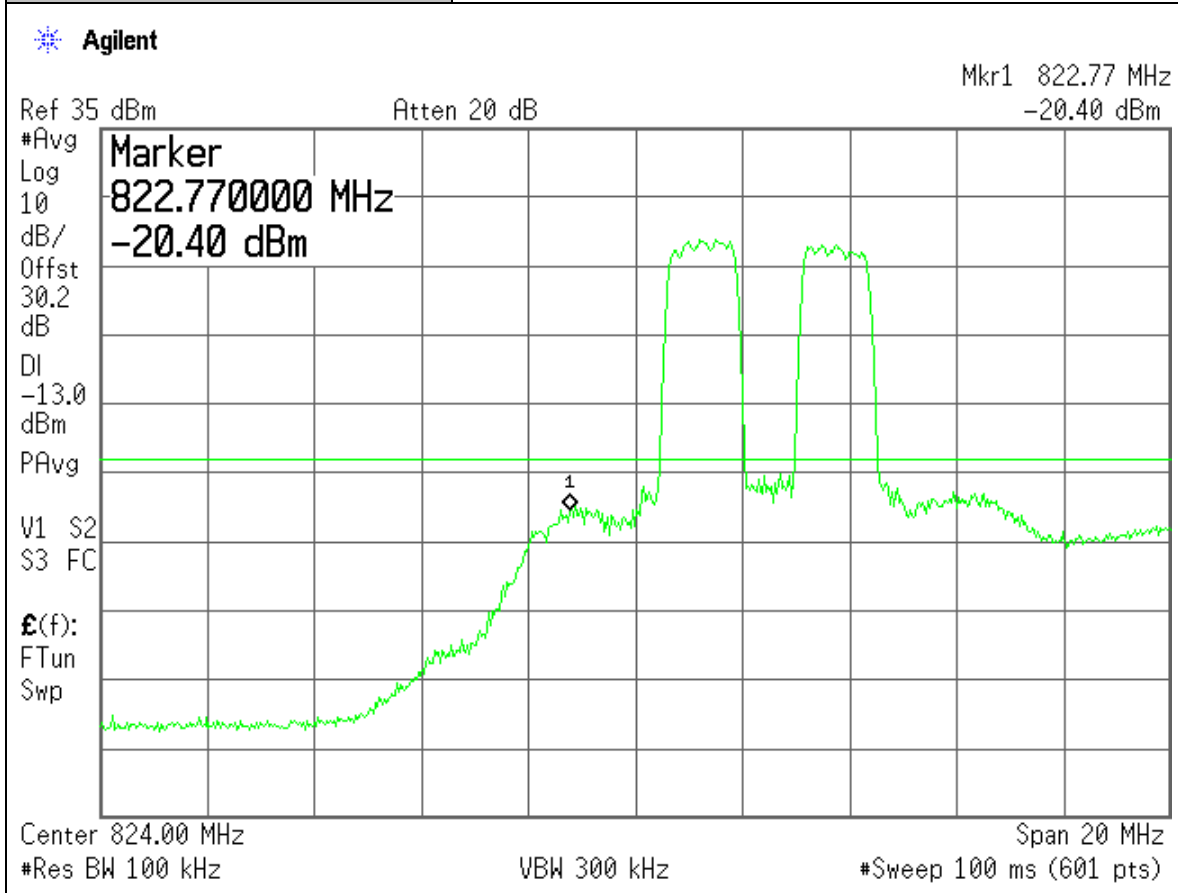






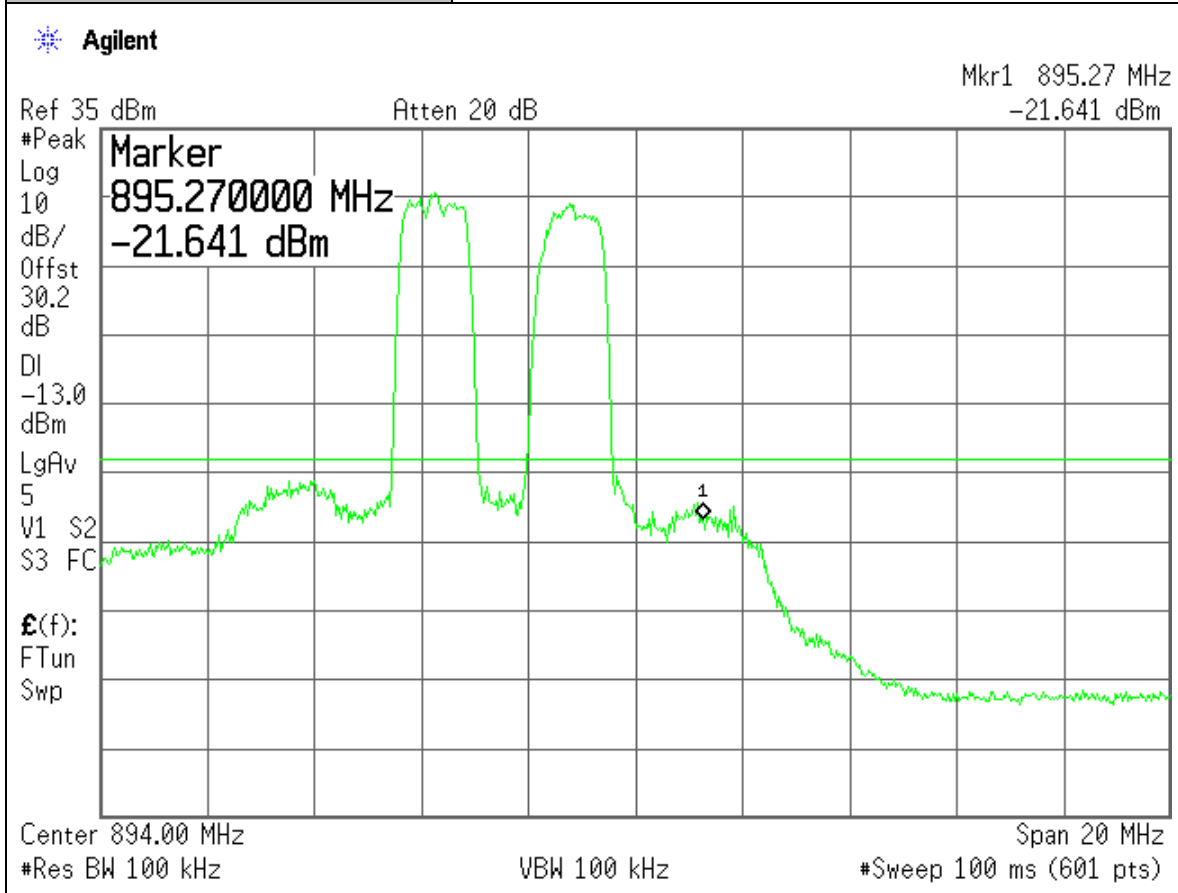
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | <b>Spurious Emissions at Antenna Terminals:<br/>Cellular Bands / CDMA Modulation</b> |
| <b>Plot Name:</b>     | <b>UL, Low-Chn, Intermodulation,<br/>Lower Bandedge</b>                              |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS   |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

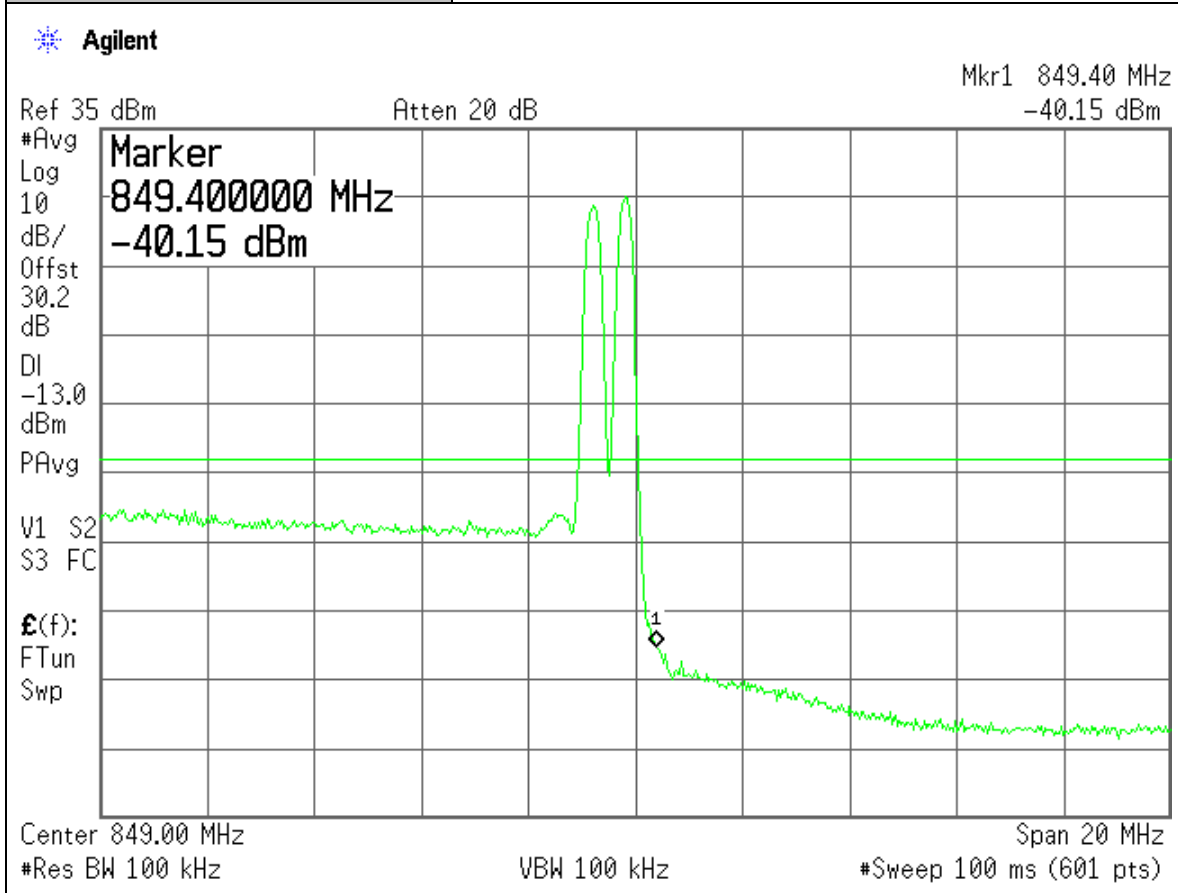
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|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / CDMA Modulation |
| <b>Plot Name:</b>     | DL, High-Chn, Intermodulation,<br>Upper Bandedge                             |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                    |





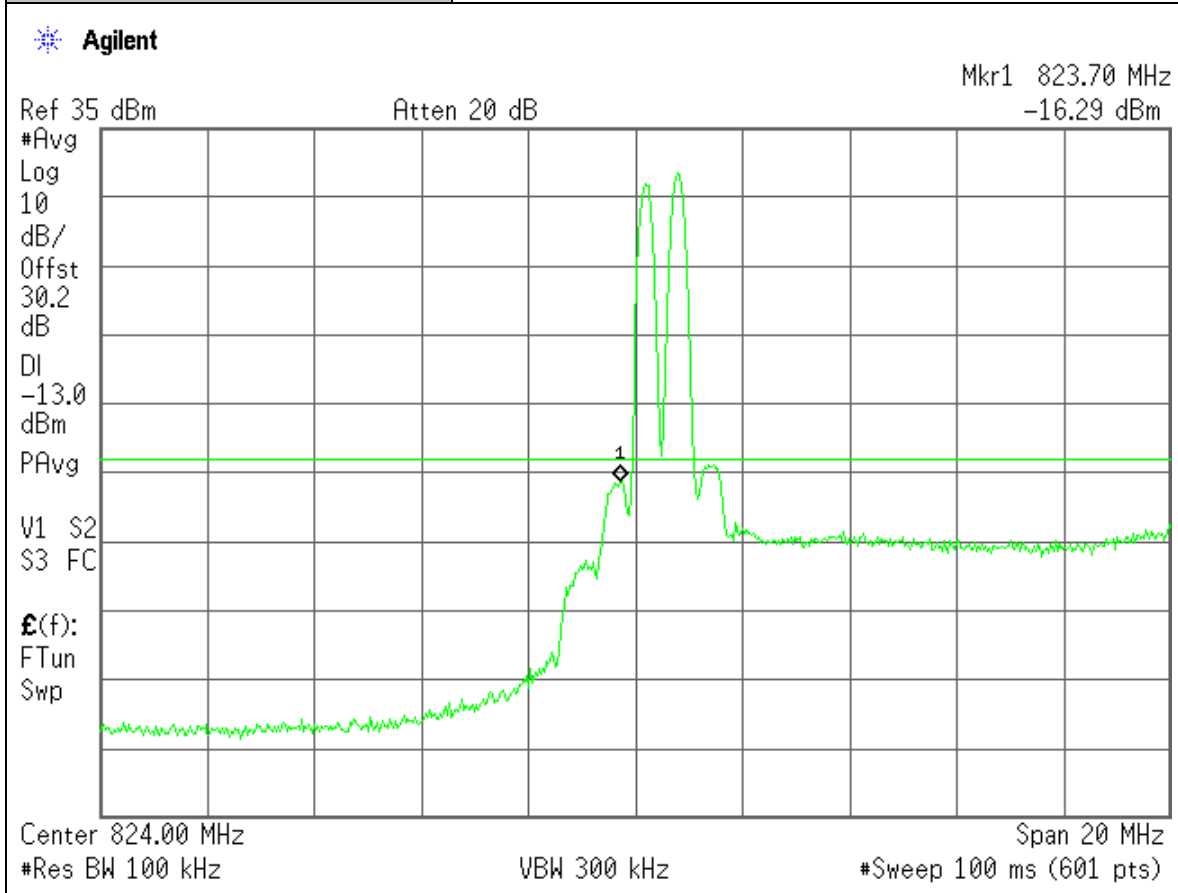
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | <b>Spurious Emissions at Antenna Terminals:<br/>Cellular Bands / GSM Modulation</b> |
| <b>Plot Name:</b>     | UL, Hi-Chn, Intermodulation , Upper Bandedge  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS  |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

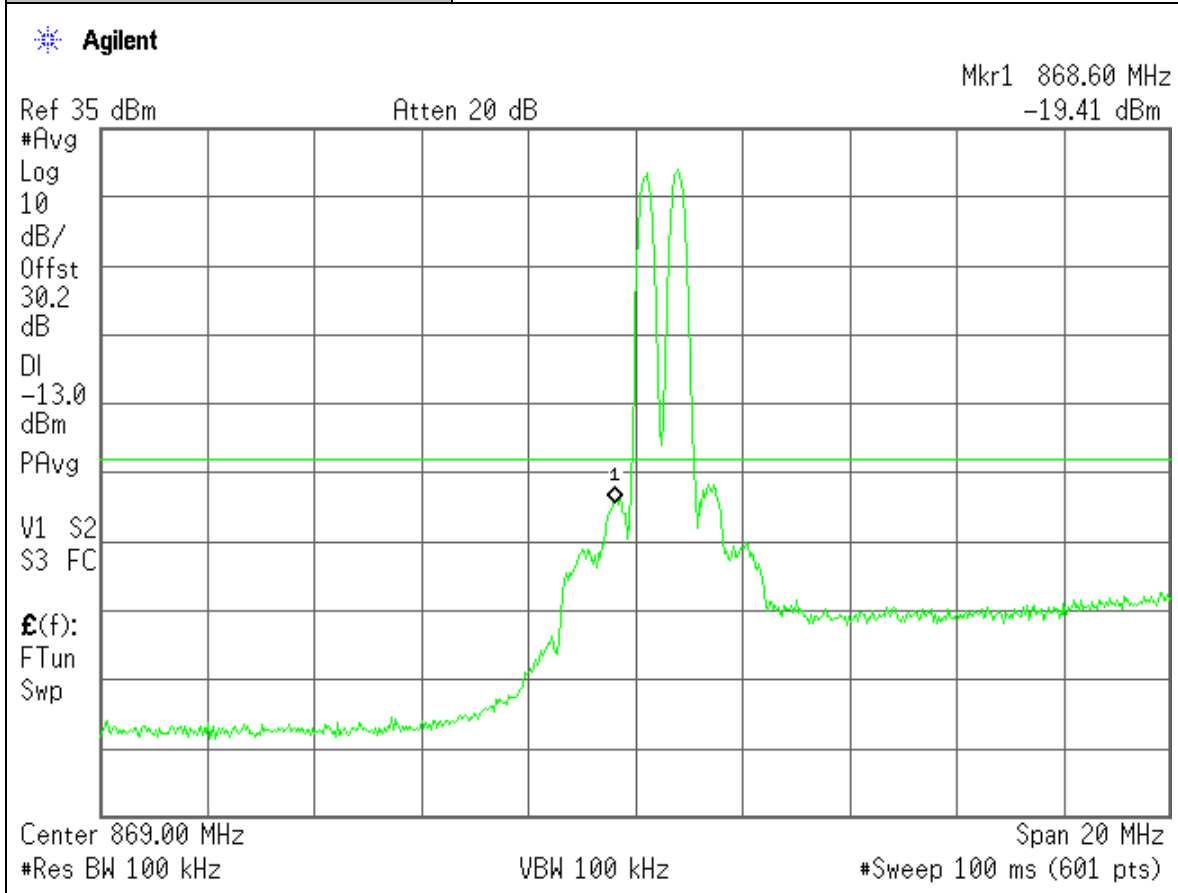
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|-----------------------|---|
| <b>Section:</b>       | <b>Spurious Emissions at Antenna Terminals:<br/>Cellular Bands / GSM Modulation</b> |
| <b>Plot Name:</b>     | <b>UL, Low-Chn, Intermodulation , Lower<br/>Bandedge</b>                            |
| <b>Configuration:</b> | <b>SG Input: -50dBm, Output Port: EUT BTS</b>                                       |





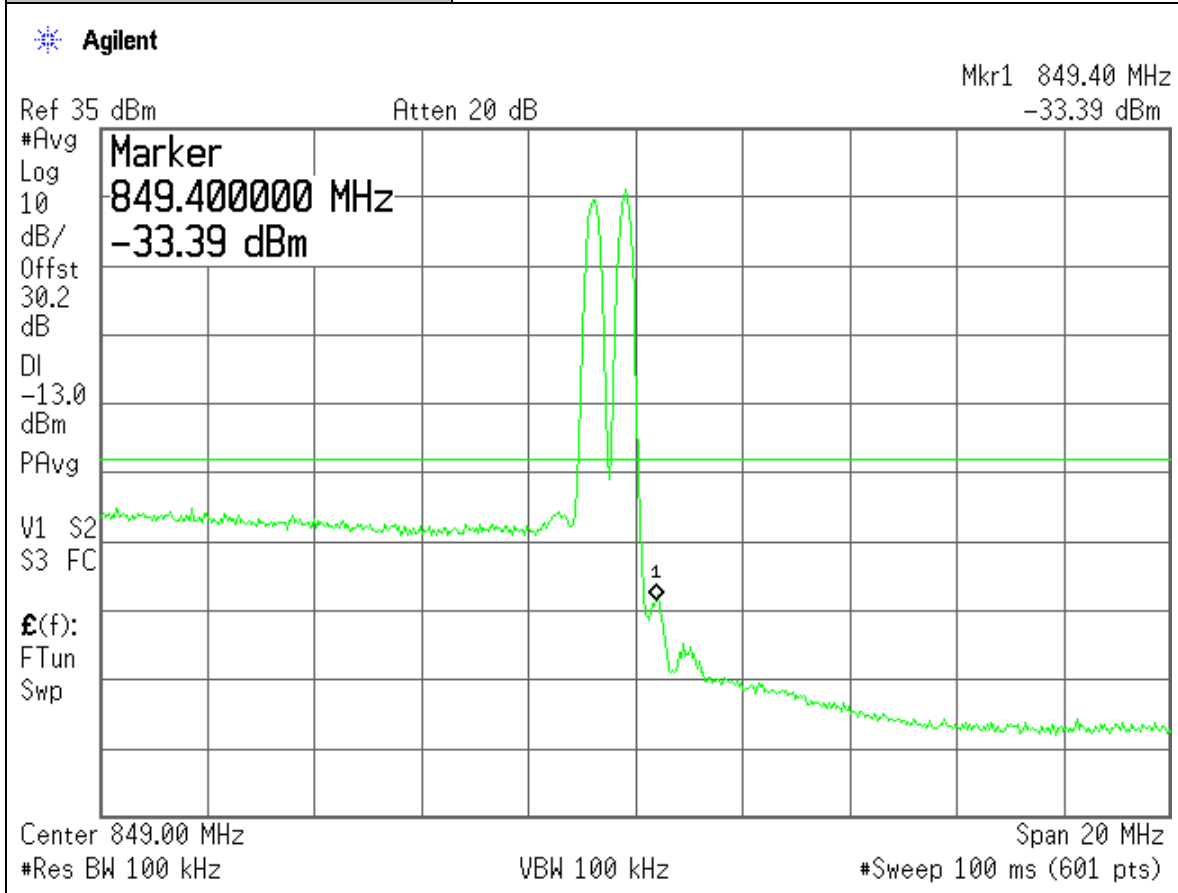
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | <b>Spurious Emissions at Antenna Terminals:<br/>Cellular Bands / GSM Modulation</b> |
| <b>Plot Name:</b>     | <b>Downlink, Low-Chn, Intermodulation , Lower<br/>Bandedge</b>                      |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE   |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | <b>Spurious Emissions at Antenna Terminals:<br/>Cellular Bands / EDGE Modulation</b> |
| <b>Plot Name:</b>     | UL, Hi-Chn, Intermodulation , Upper Bandedge   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS   |



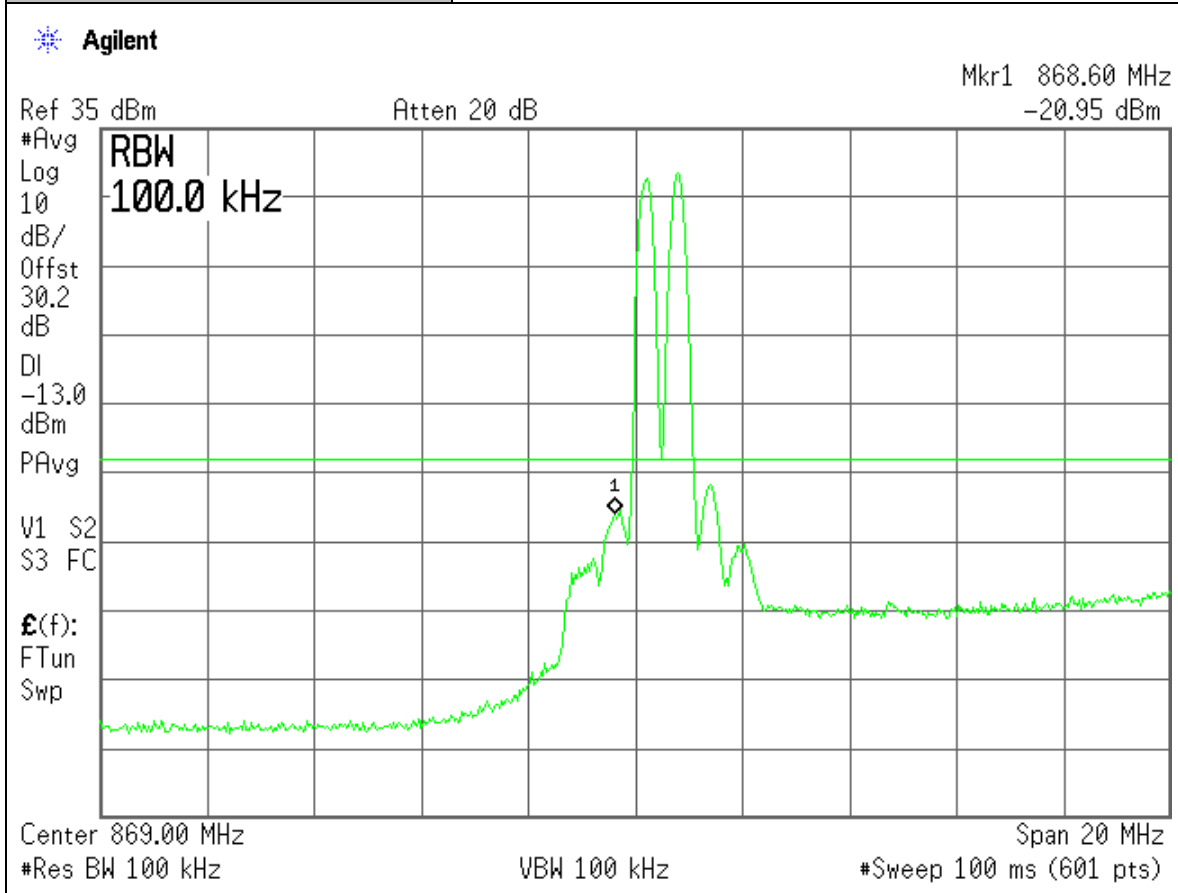






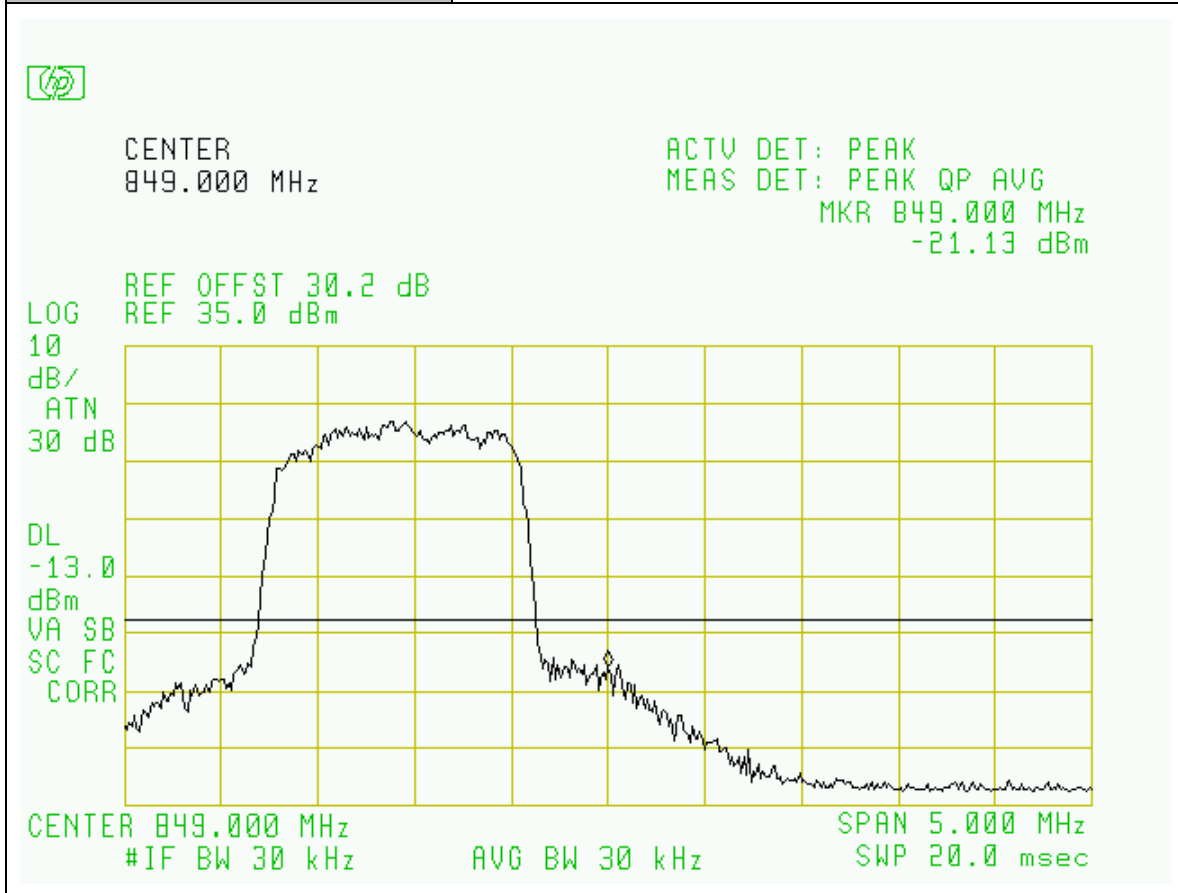
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

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|-----------------------|--|
| <b>Section:</b>       | <b>Spurious Emissions at Antenna Terminals:<br/>Cellular Bands / EDGE Modulation</b> |
| <b>Plot Name:</b>     | <b>Downlink, Low-Chn, Intermodulation , Lower<br/>Bandedge</b>                       |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE  |



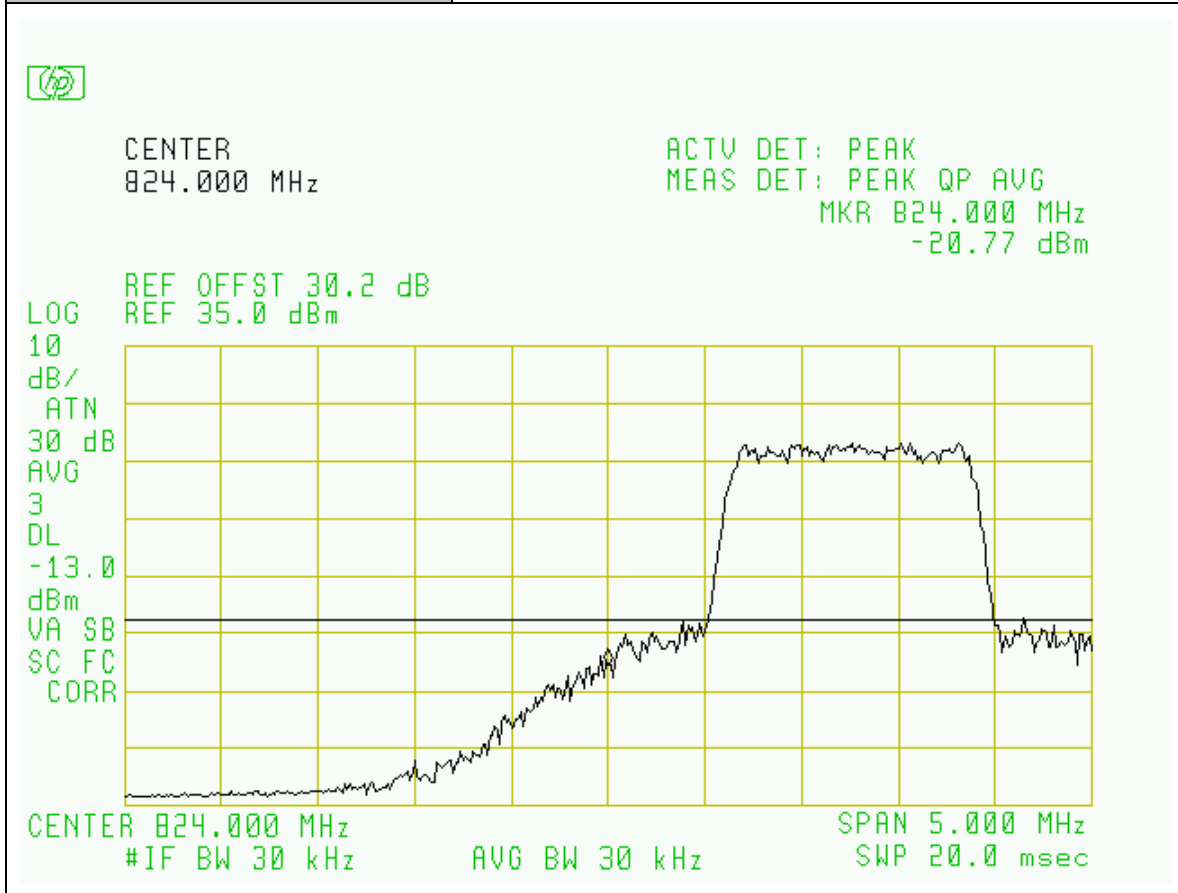
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / CDMA Modulation |
| <b>Plot Name:</b>     | UL, Hi-Chn, Upper Band Edge+1MHz   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                       |



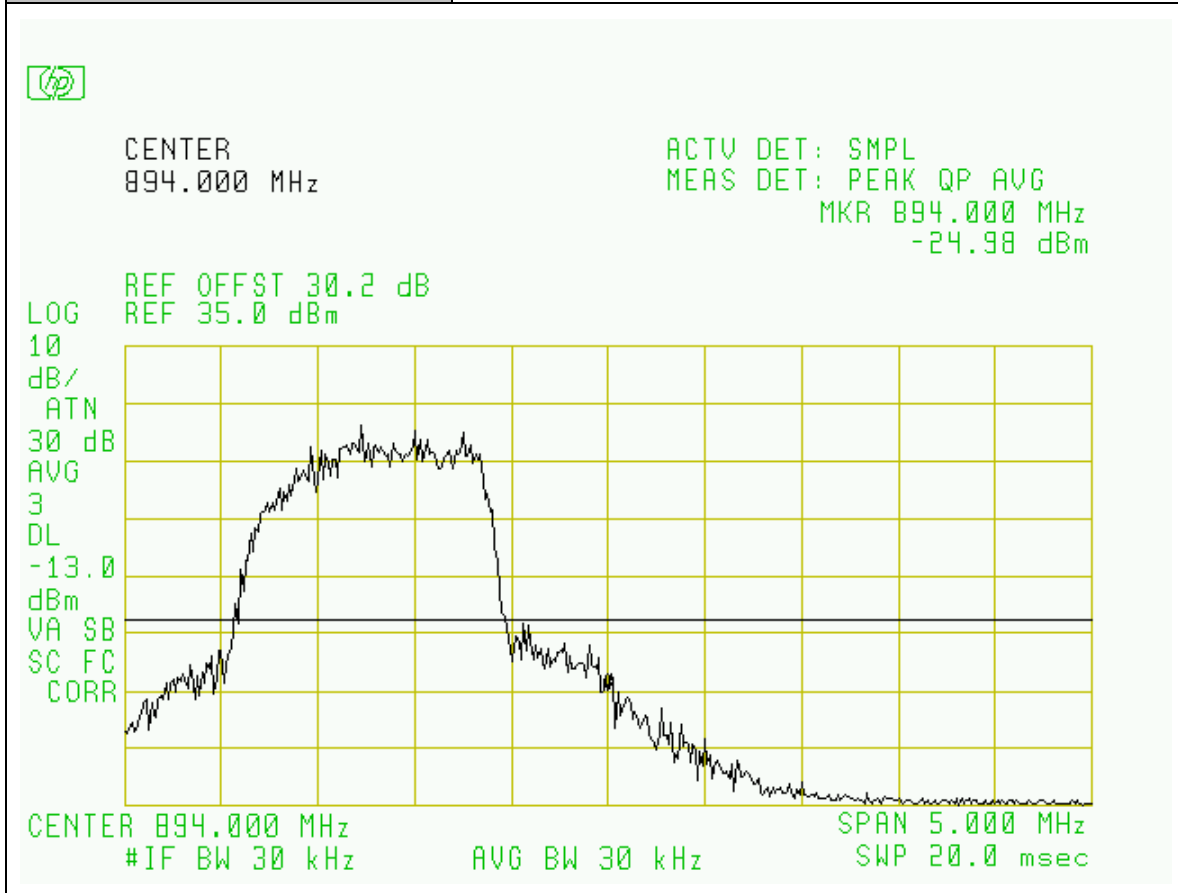
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / CDMA Modulation |
| <b>Plot Name:</b>     | UL, Low-Chn, Lower Band Edge -1MHz   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                       |



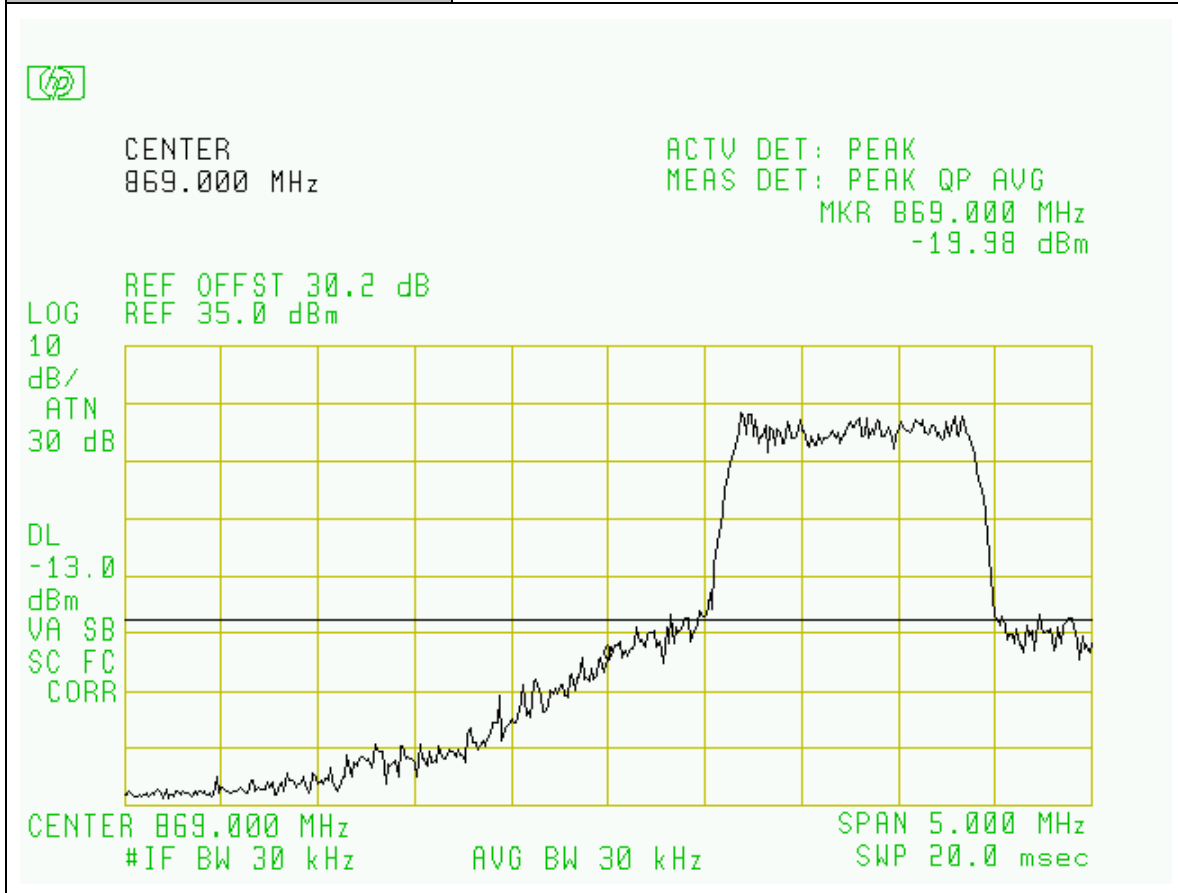
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / CDMA Modulation |
| <b>Plot Name:</b>     | DL, Hi-Chn, Upper Band Edge+1MHz   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                    |



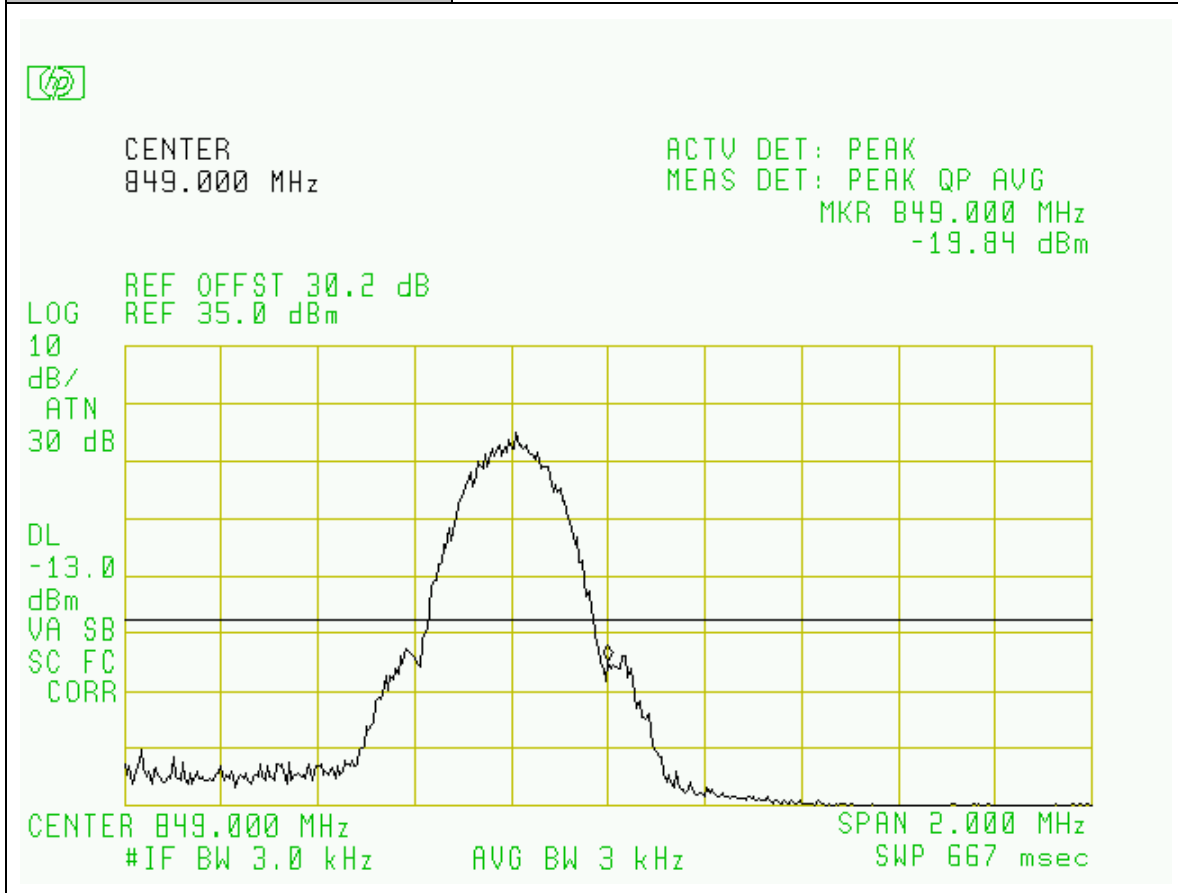
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / CDMA Modulation |
| <b>Plot Name:</b>     | DL, Low-Chn, Lower Band Edge -1MHz   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                    |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

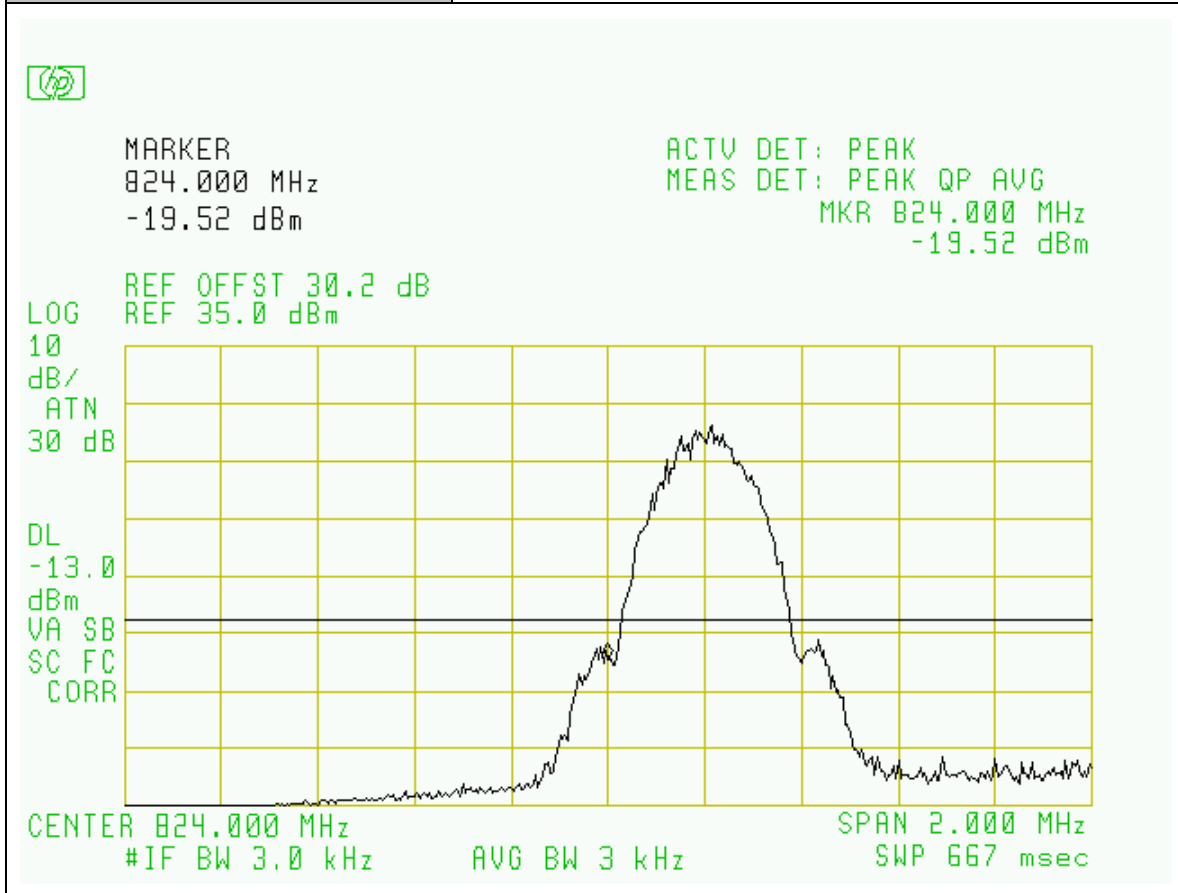
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|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / GSM Modulation |
| <b>Plot Name:</b>     | UL, Hi-Chn, Upper Band Edge+1MHz  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                      |





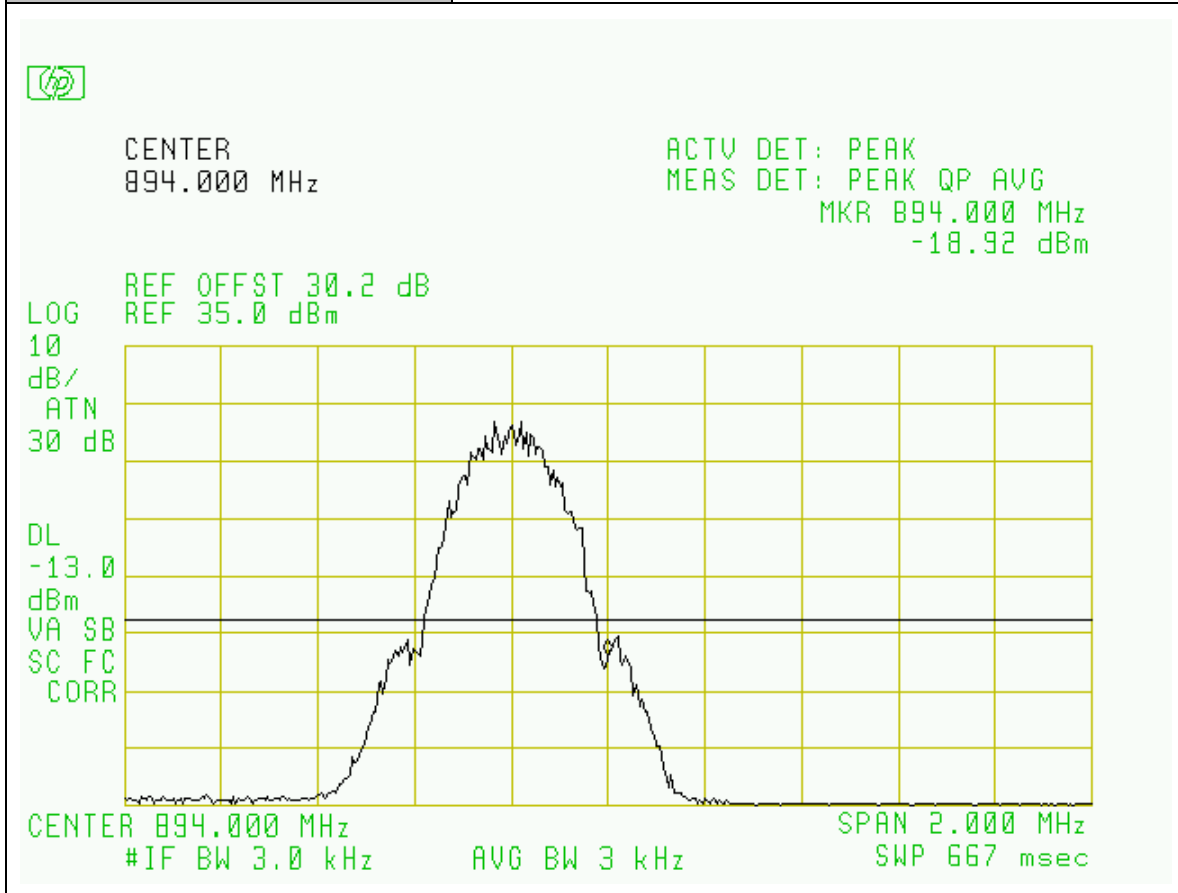
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / GSM Modulation |
| <b>Plot Name:</b>     | UL, Low-Chn, Lower Band Edge -1MHz  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                      |



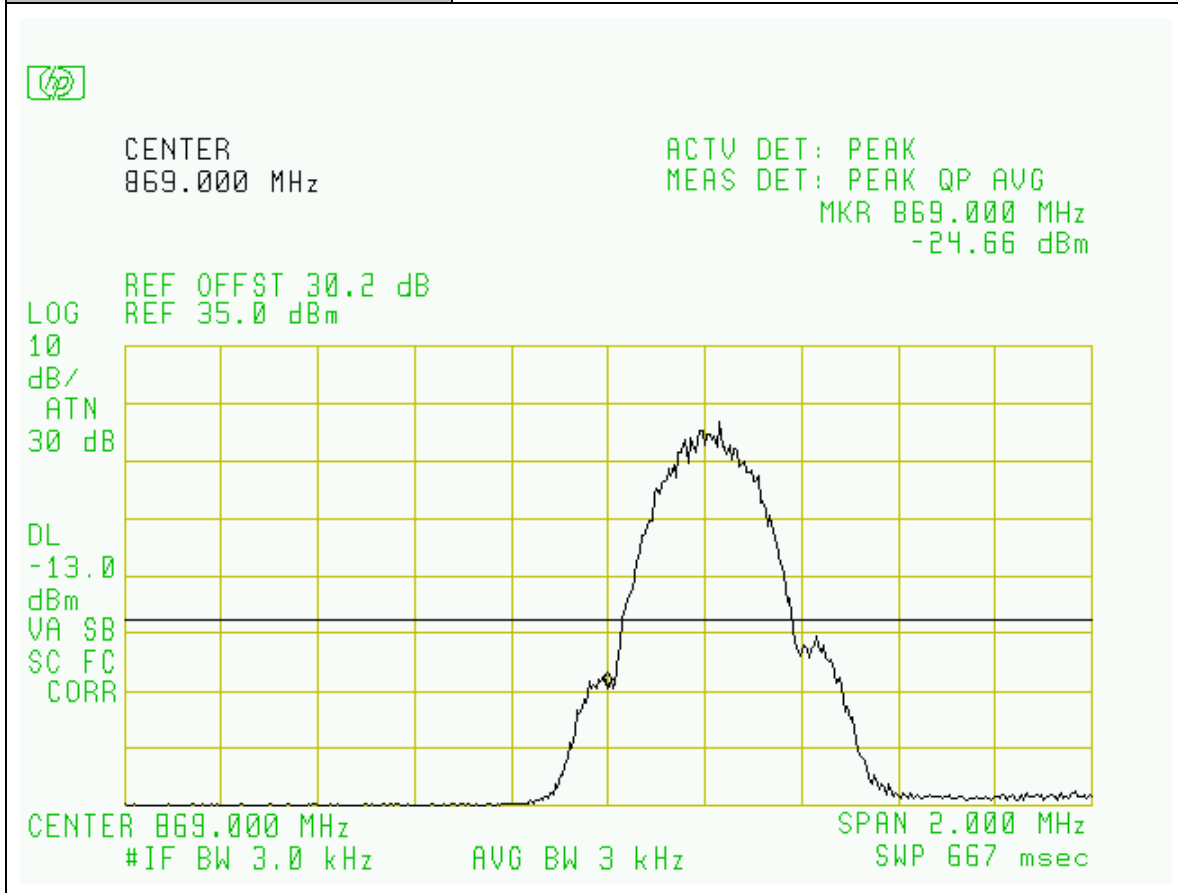
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / GSM Modulation |
| <b>Plot Name:</b>     | DL, Hi-Chn, Upper Band Edge+1MHz  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                   |



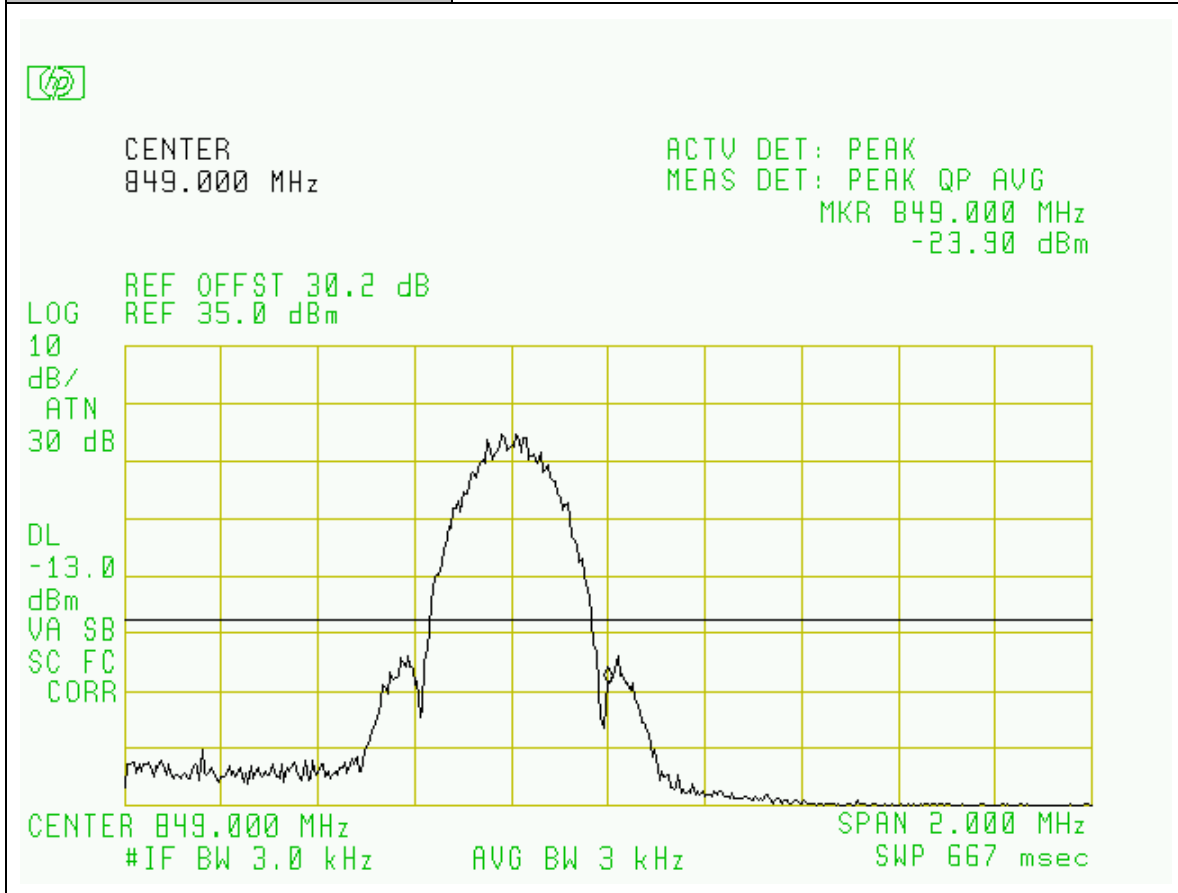
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / GSM Modulation |
| <b>Plot Name:</b>     | DL, Low-Chn, Lower Band Edge -1MHz  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                   |



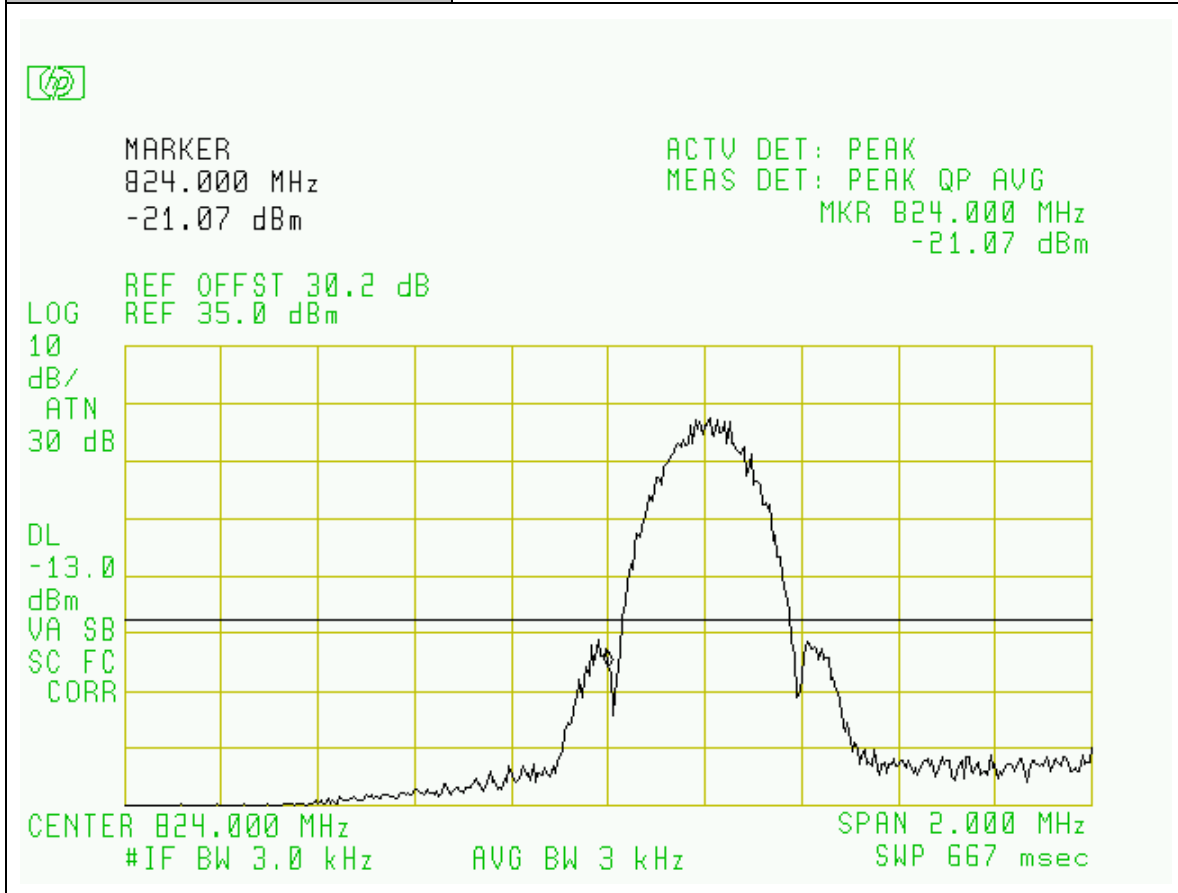
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / EDGE Modulation |
| <b>Plot Name:</b>     | UL, Hi-Chn, Upper Band Edge+1MHz   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                       |



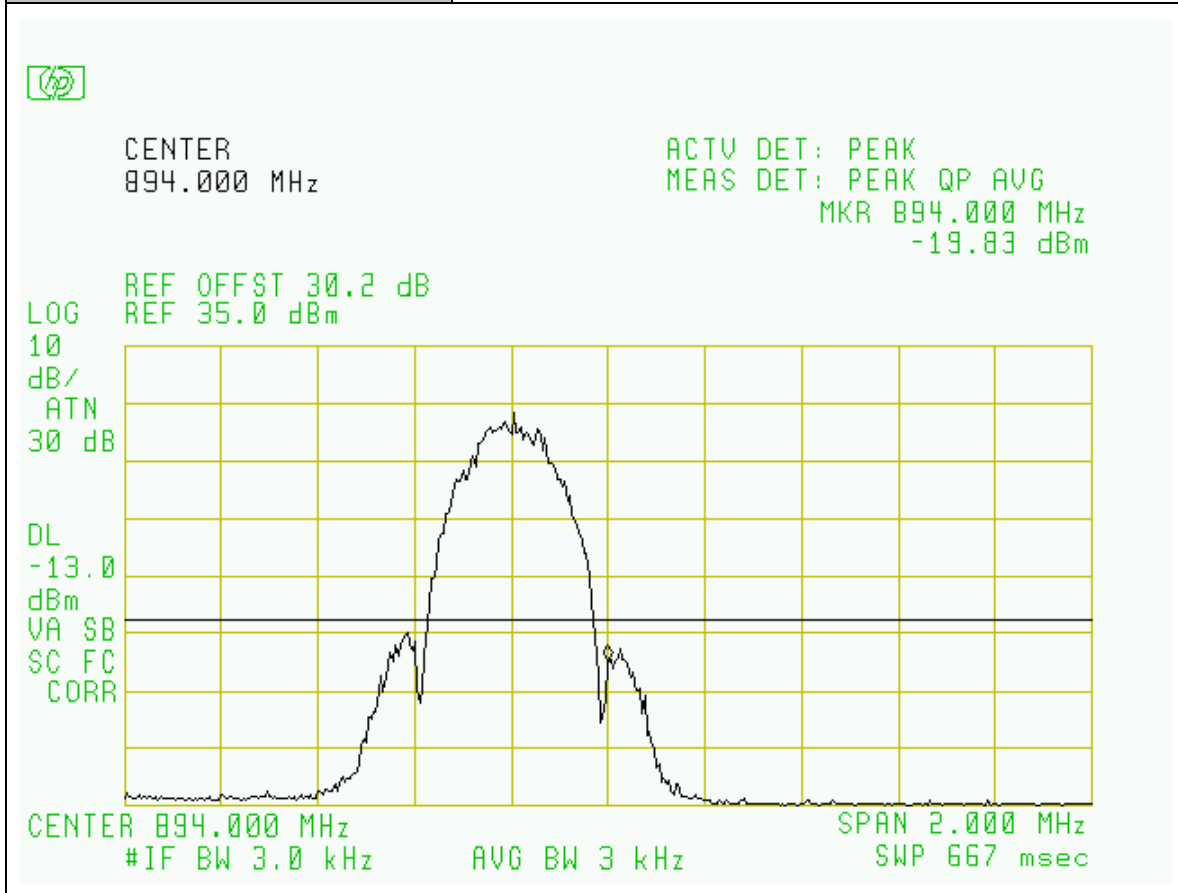
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / EDGE Modulation |
| <b>Plot Name:</b>     | UL, Low-Chn, Lower Band Edge -1MHz   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                       |



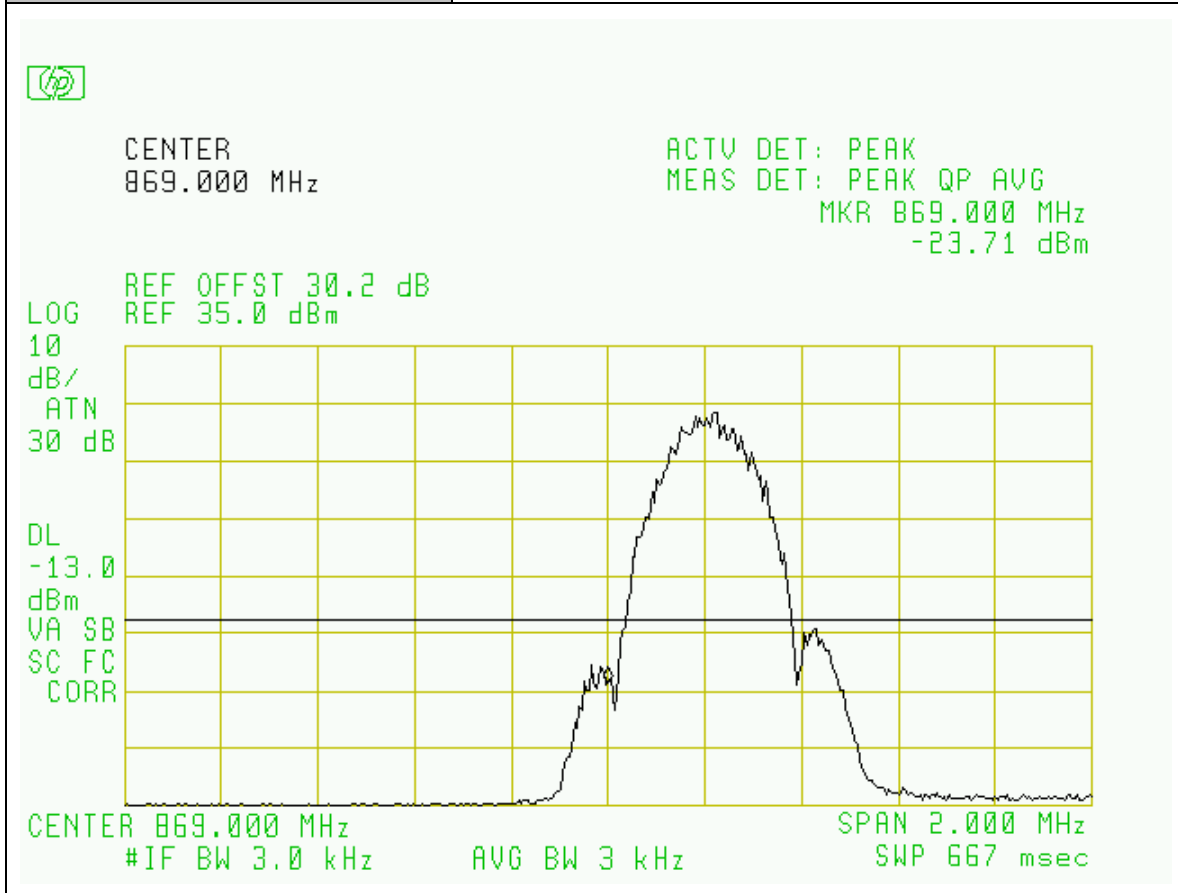
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / EDGE Modulation |
| <b>Plot Name:</b>     | DL, Hi-Chn, Upper Band Edge+1MHz   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                    |



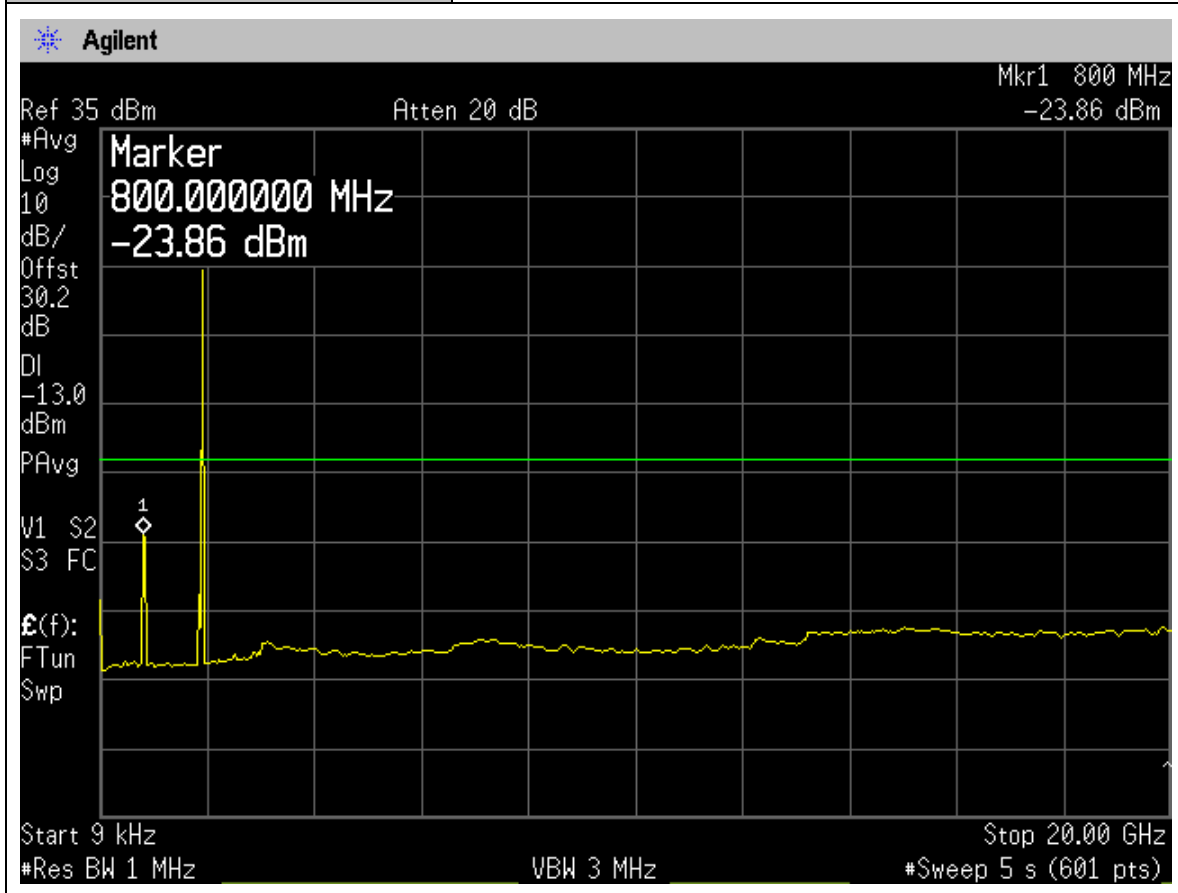
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>Cellular Bands / EDGE Modulation |
| <b>Plot Name:</b>     | DL, Low-Chn, Lower Band Edge -1MHz   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                                    |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

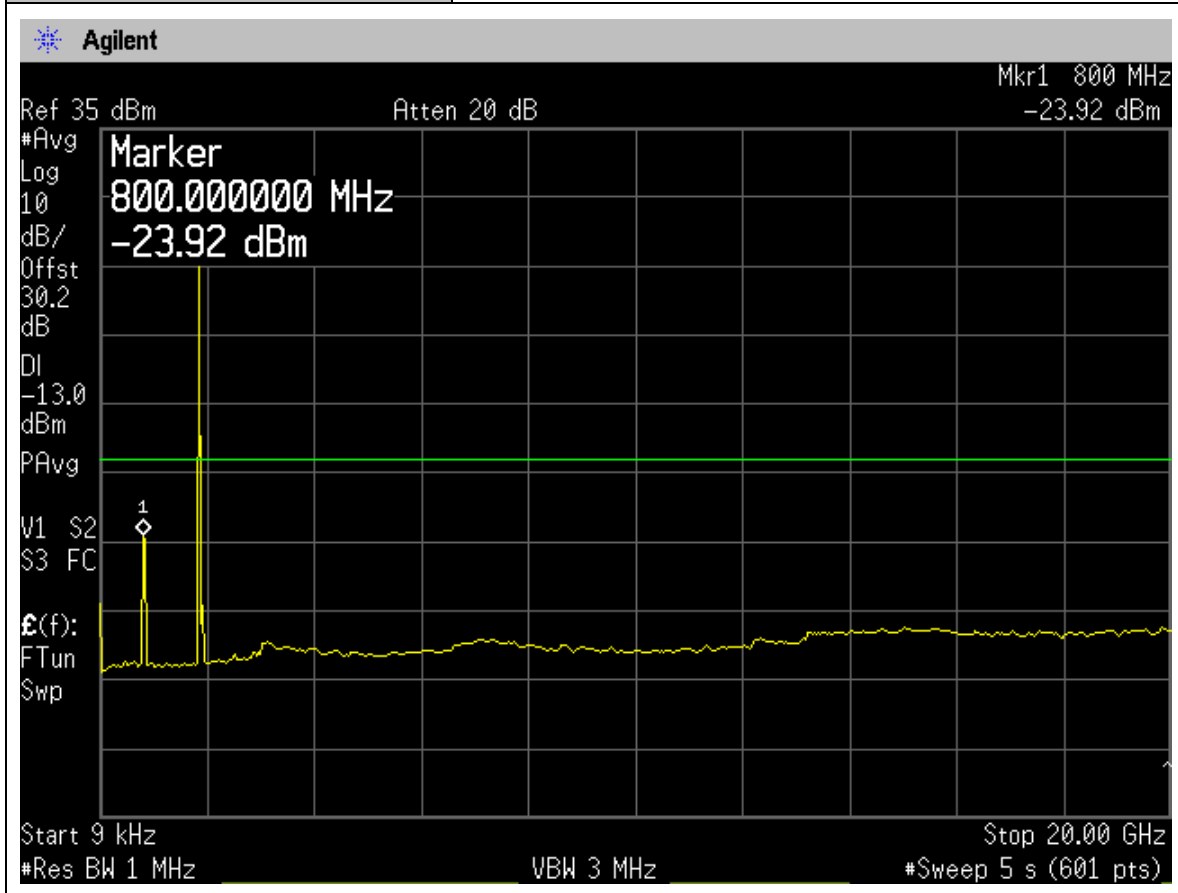
|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / CDMA Modulation |
| <b>Plot Name:</b>     | Uplink, Hi-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                  |





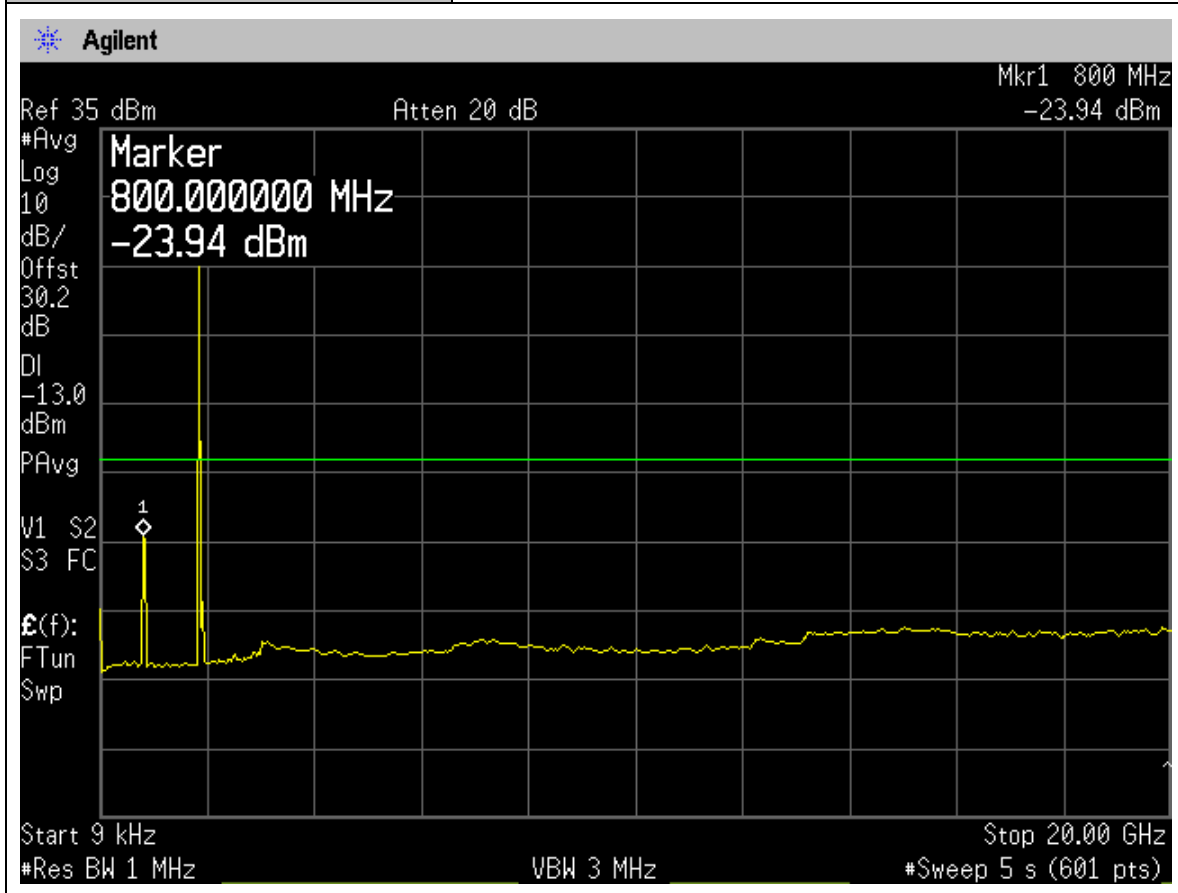
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / CDMA Modulation |
| <b>Plot Name:</b>     | Uplink, Mid-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                  |



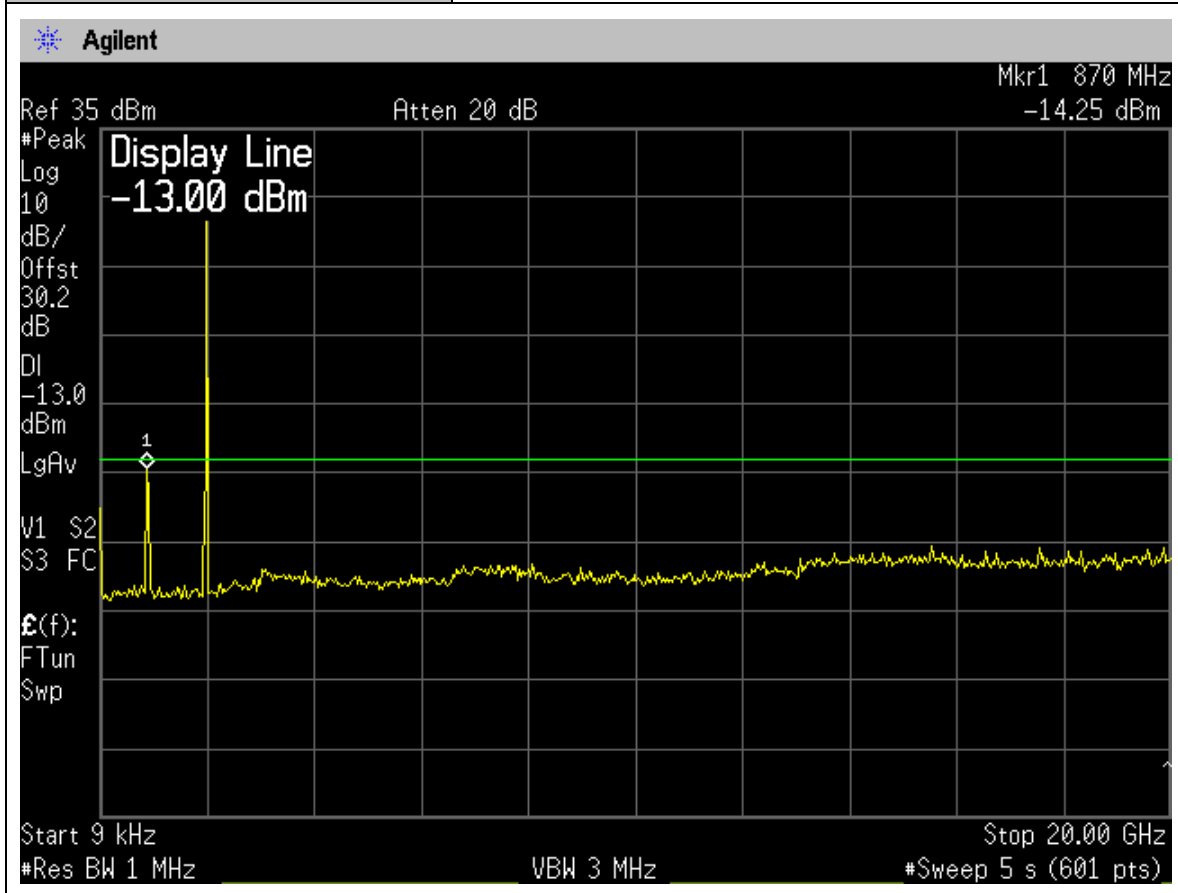
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / CDMA Modulation |
| <b>Plot Name:</b>     | Uplink, Low-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                  |



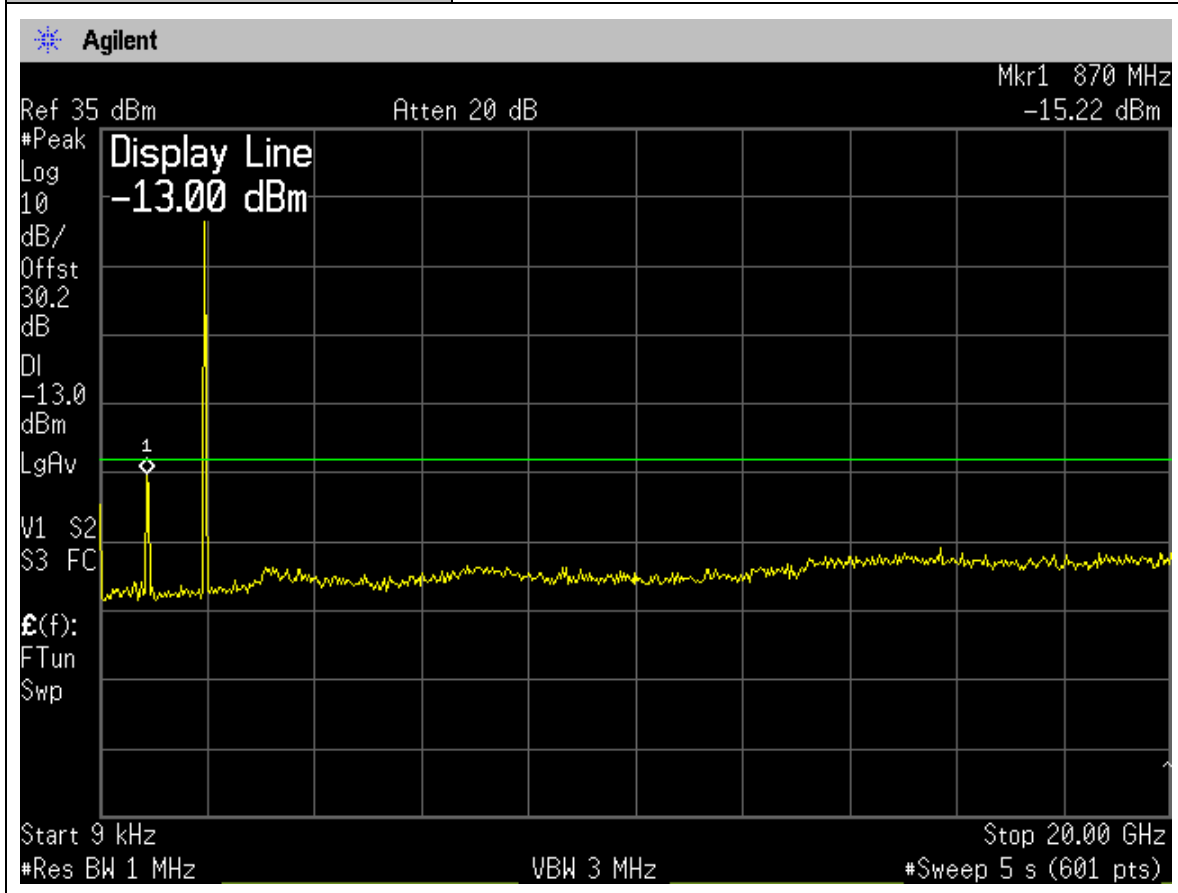
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / CDMA Modulation |
| <b>Plot Name:</b>     | Downlink, Hi-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                               |



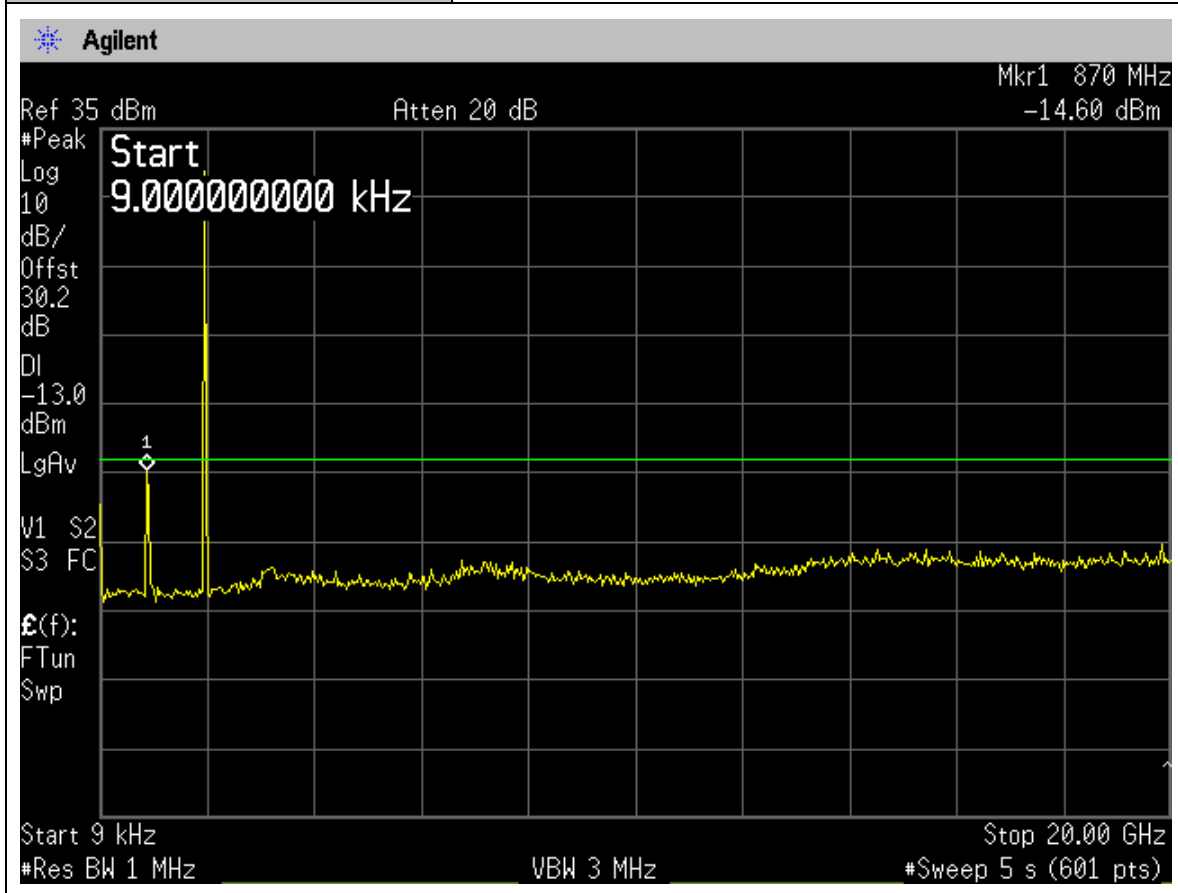
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / CDMA Modulation |
| <b>Plot Name:</b>     | Downlink, Mid-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                               |



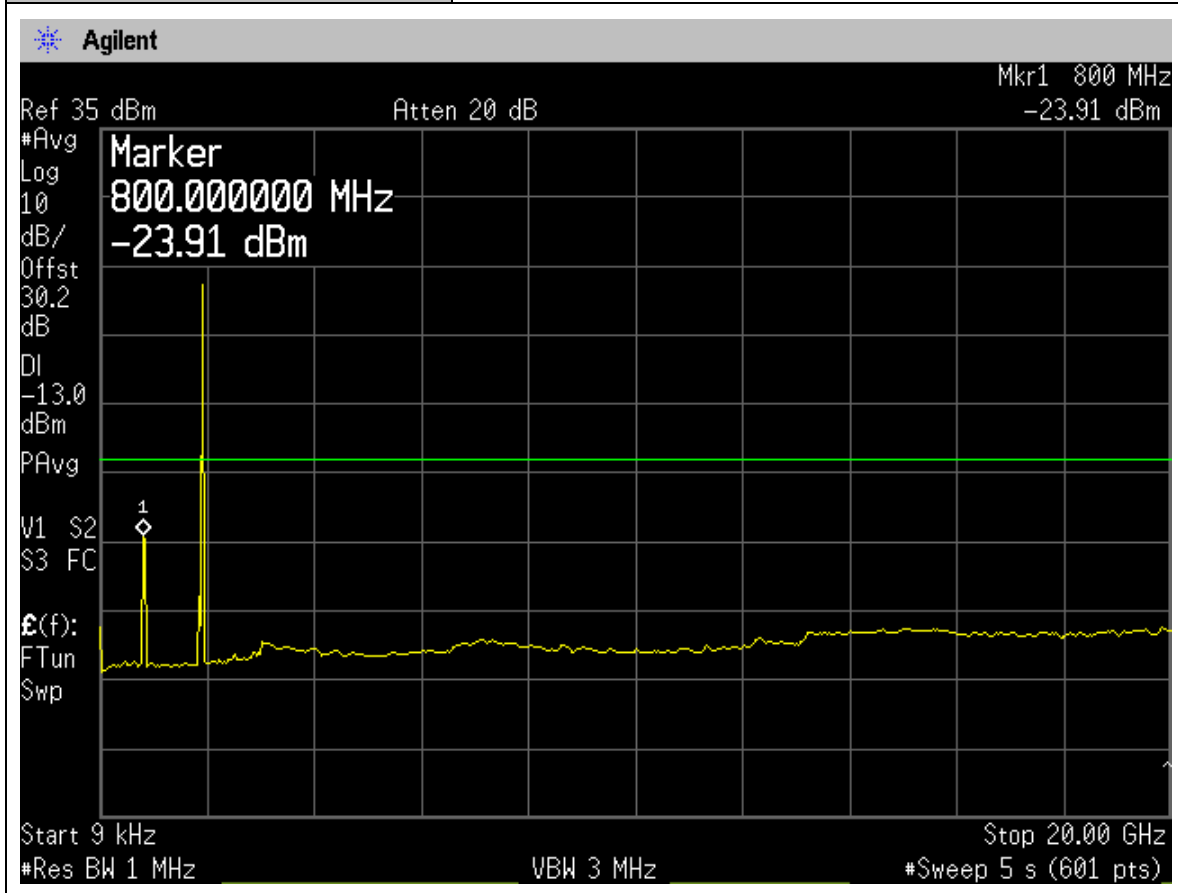
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / CDMA Modulation |
| <b>Plot Name:</b>     | Downlink, Low-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                               |



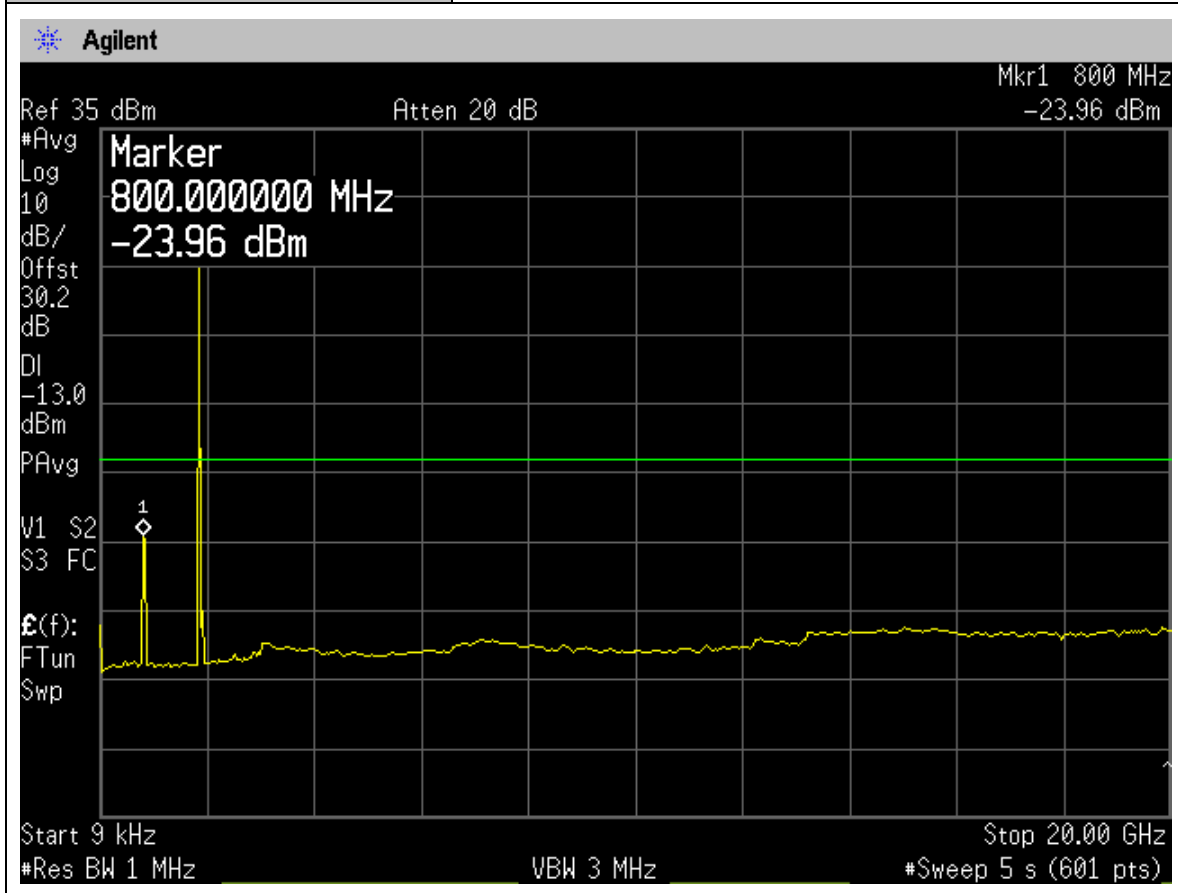
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / GSM Modulation |
| <b>Plot Name:</b>     | Uplink, Hi-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                 |



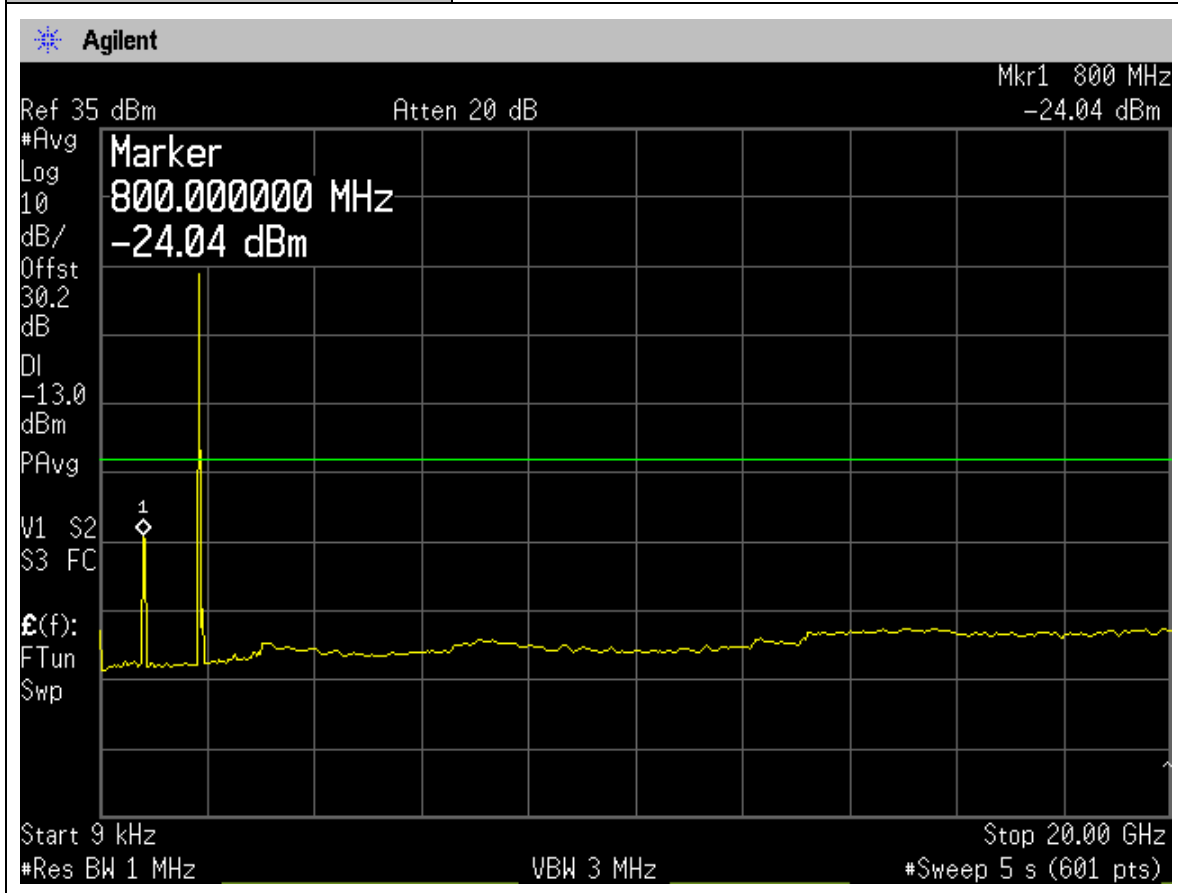
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / GSM Modulation |
| <b>Plot Name:</b>     | Uplink, Mid-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                 |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

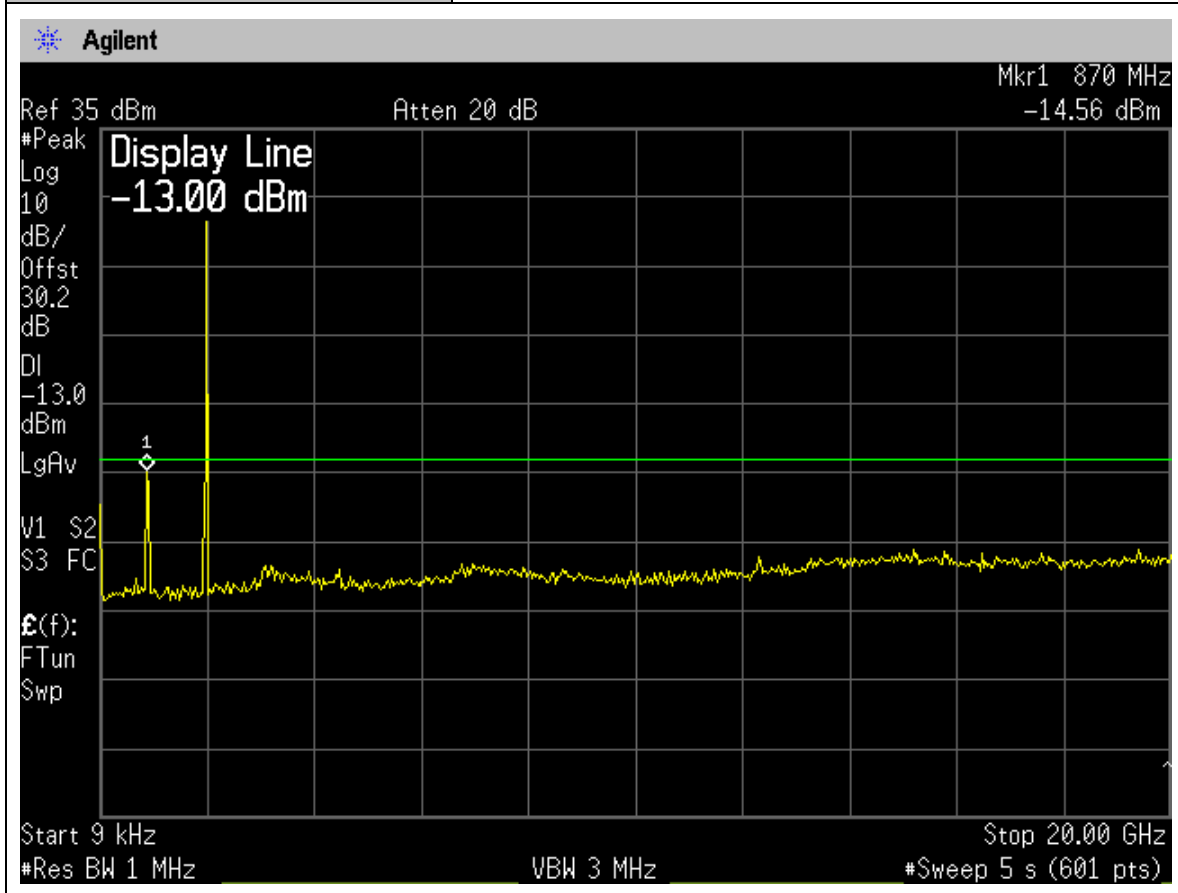
|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / GSM Modulation |
| <b>Plot Name:</b>     | Uplink, Low-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                 |





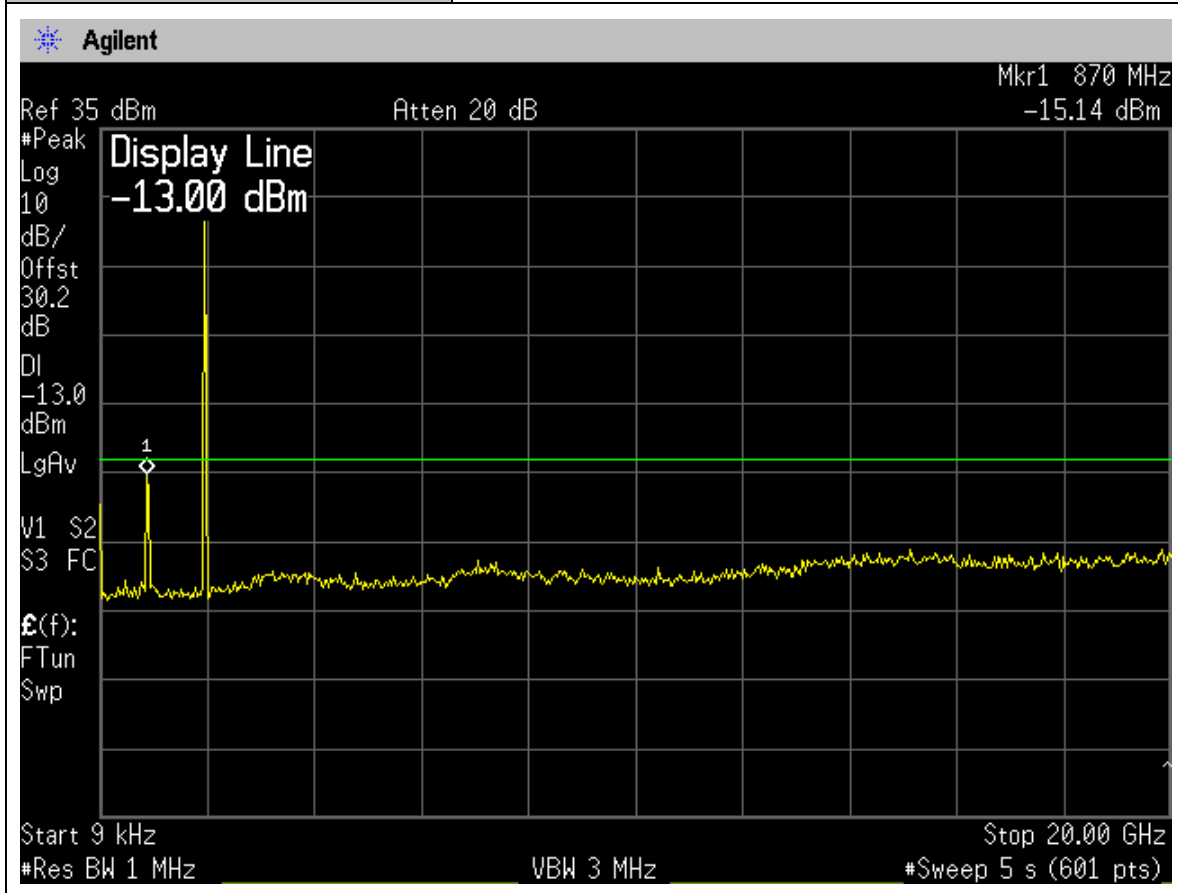
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|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / GSM Modulation |
| <b>Plot Name:</b>     | Downlink, Hi-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                              |



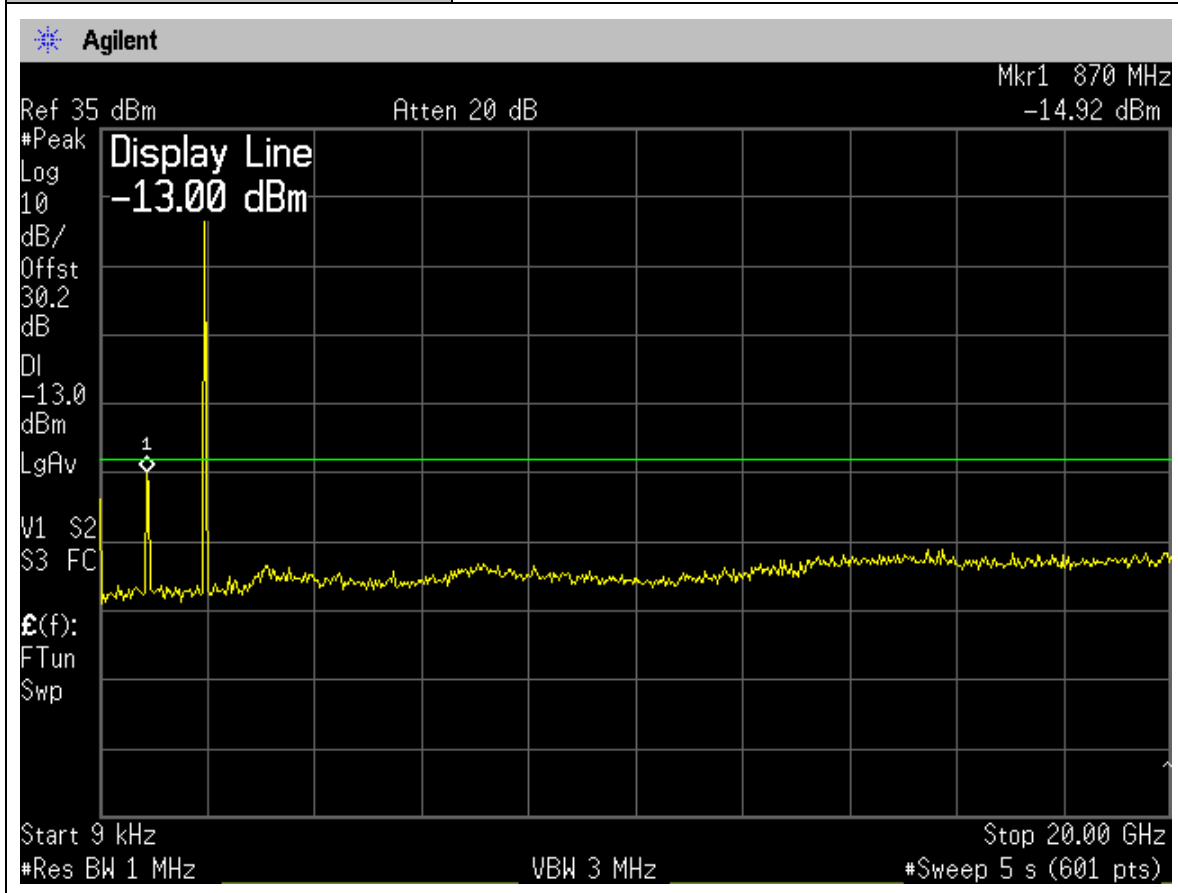
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / GSM Modulation |
| <b>Plot Name:</b>     | Downlink, Mid-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                              |



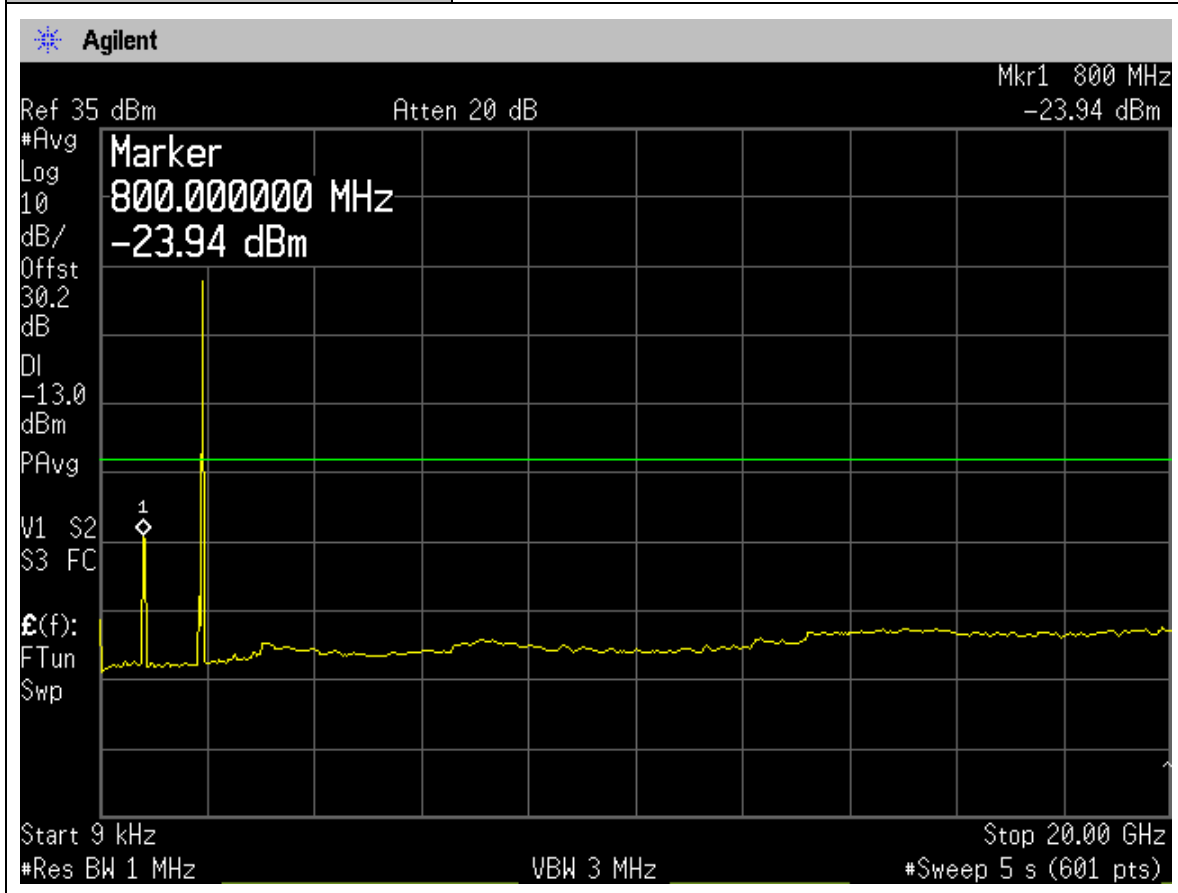
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / GSM Modulation |
| <b>Plot Name:</b>     | Downlink, Low-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                              |



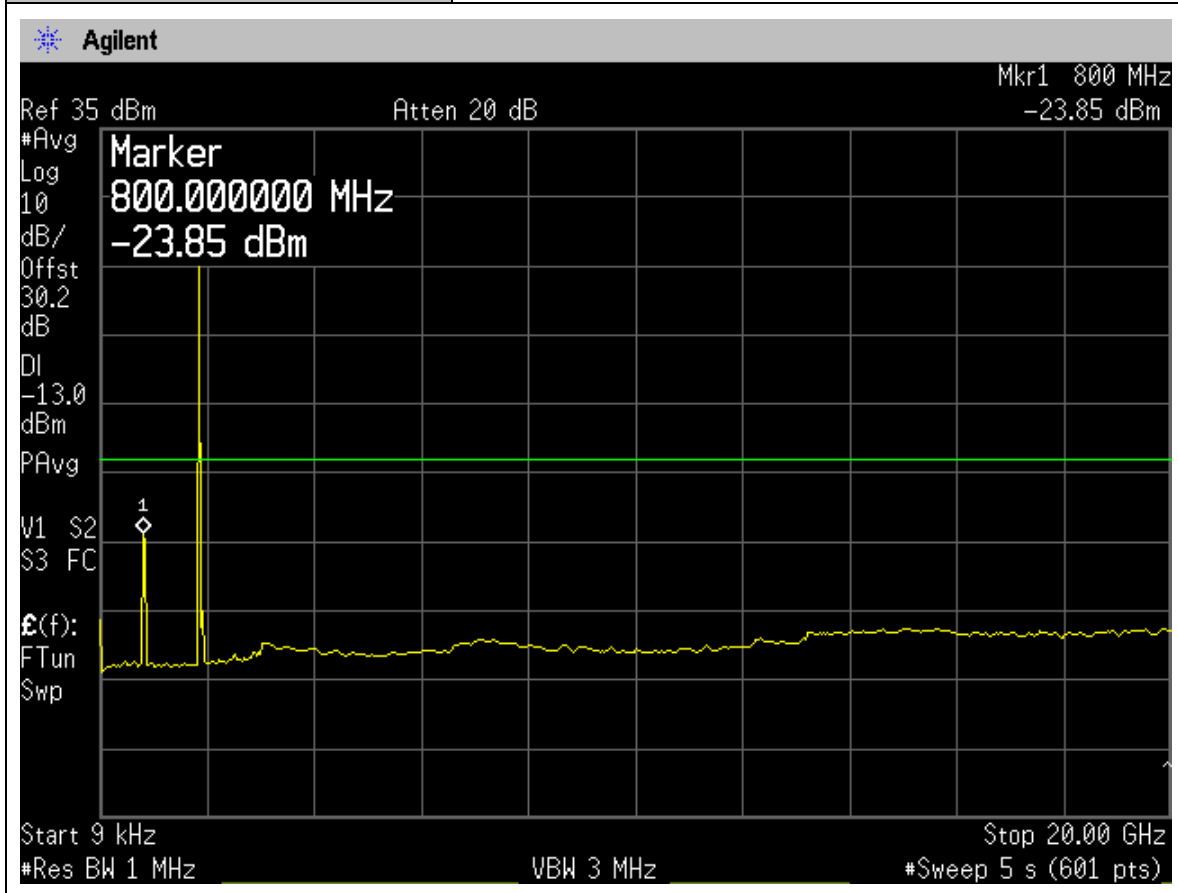
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / EDGE Modulation |
| <b>Plot Name:</b>     | Uplink, Hi-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                  |



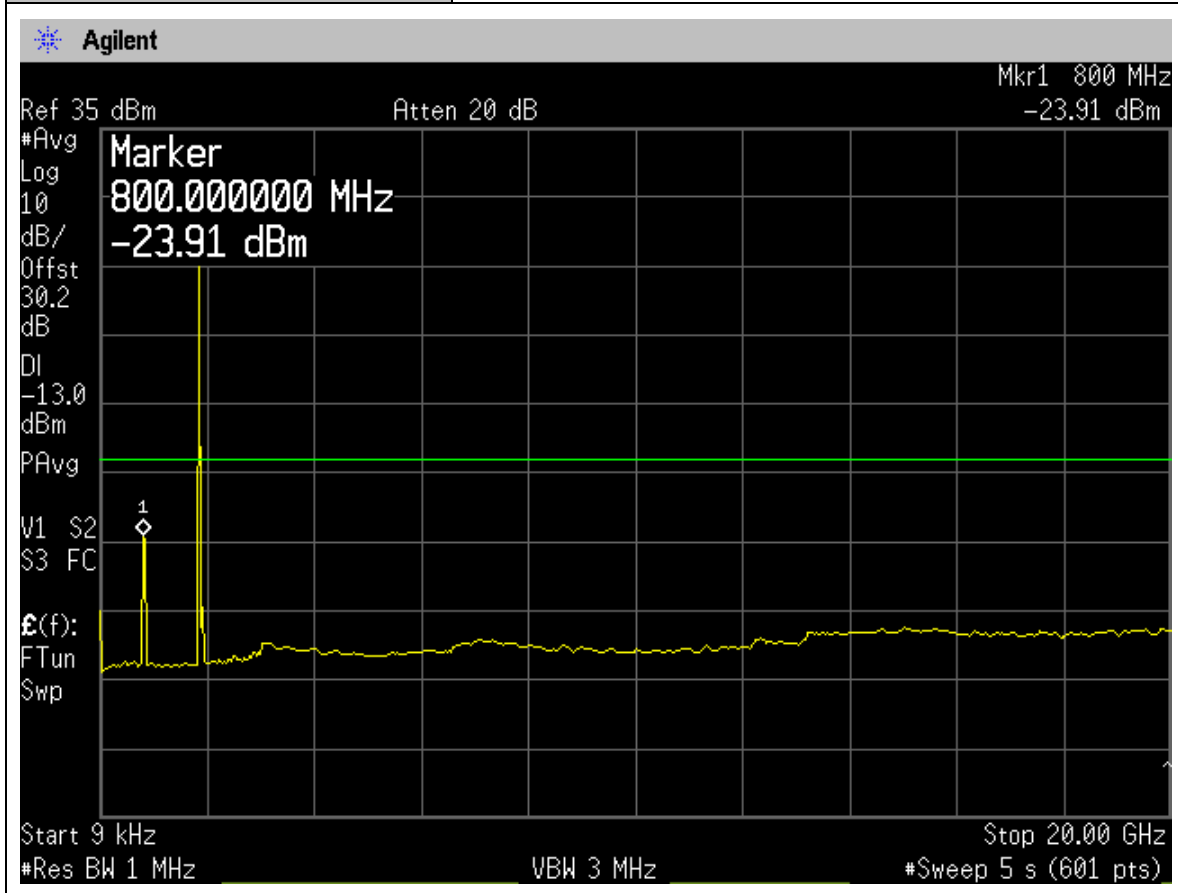
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / EDGE Modulation |
| <b>Plot Name:</b>     | Uplink, Mid-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                  |



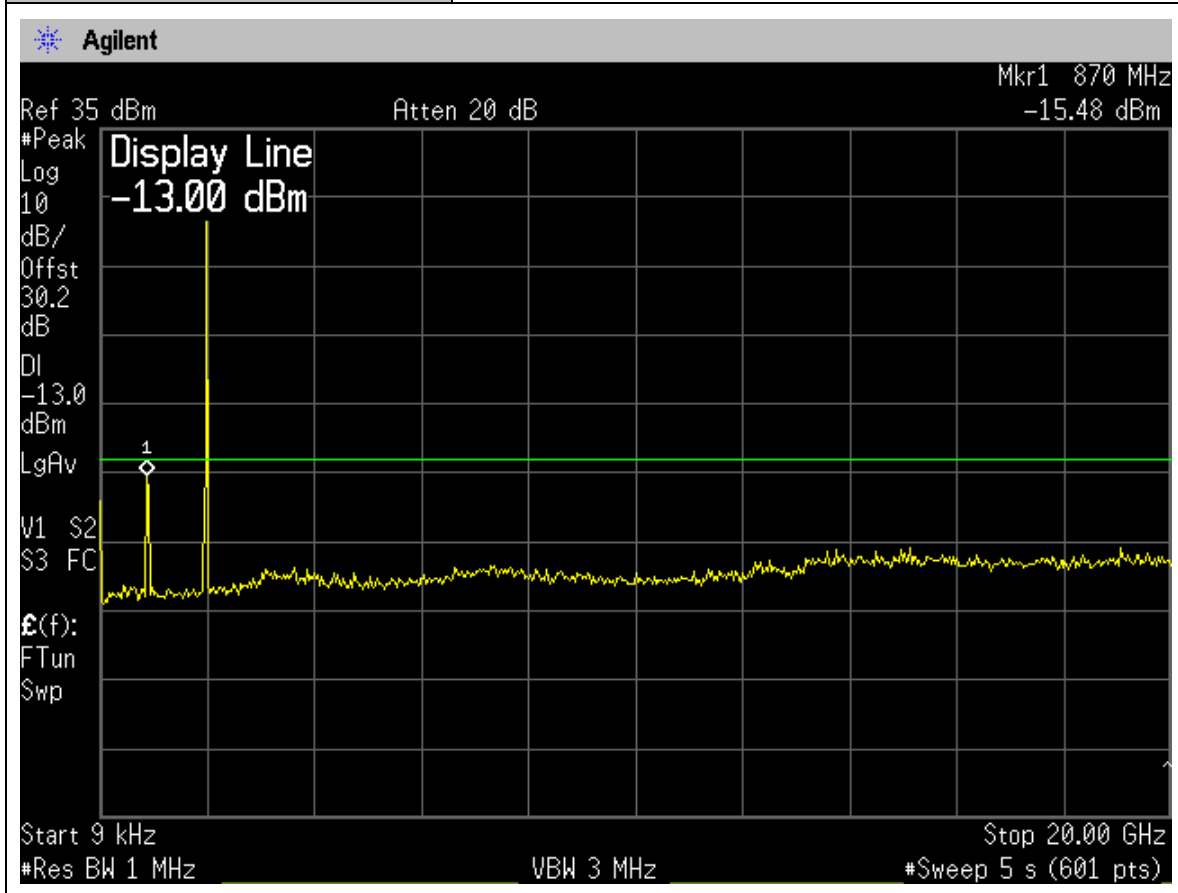
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / EDGE Modulation |
| <b>Plot Name:</b>     | Uplink, Low-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                  |



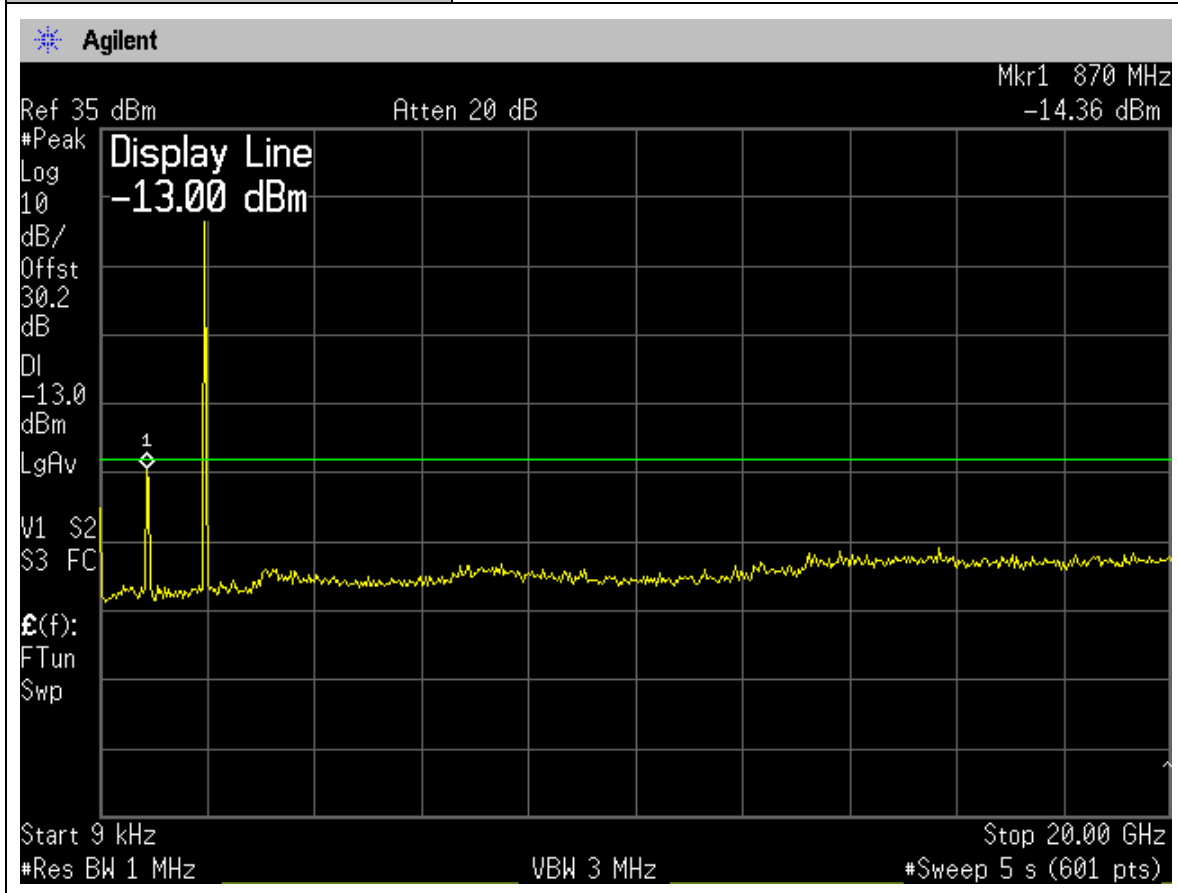
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / EDGE Modulation |
| <b>Plot Name:</b>     | Downlink, Hi-Channel  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                               |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

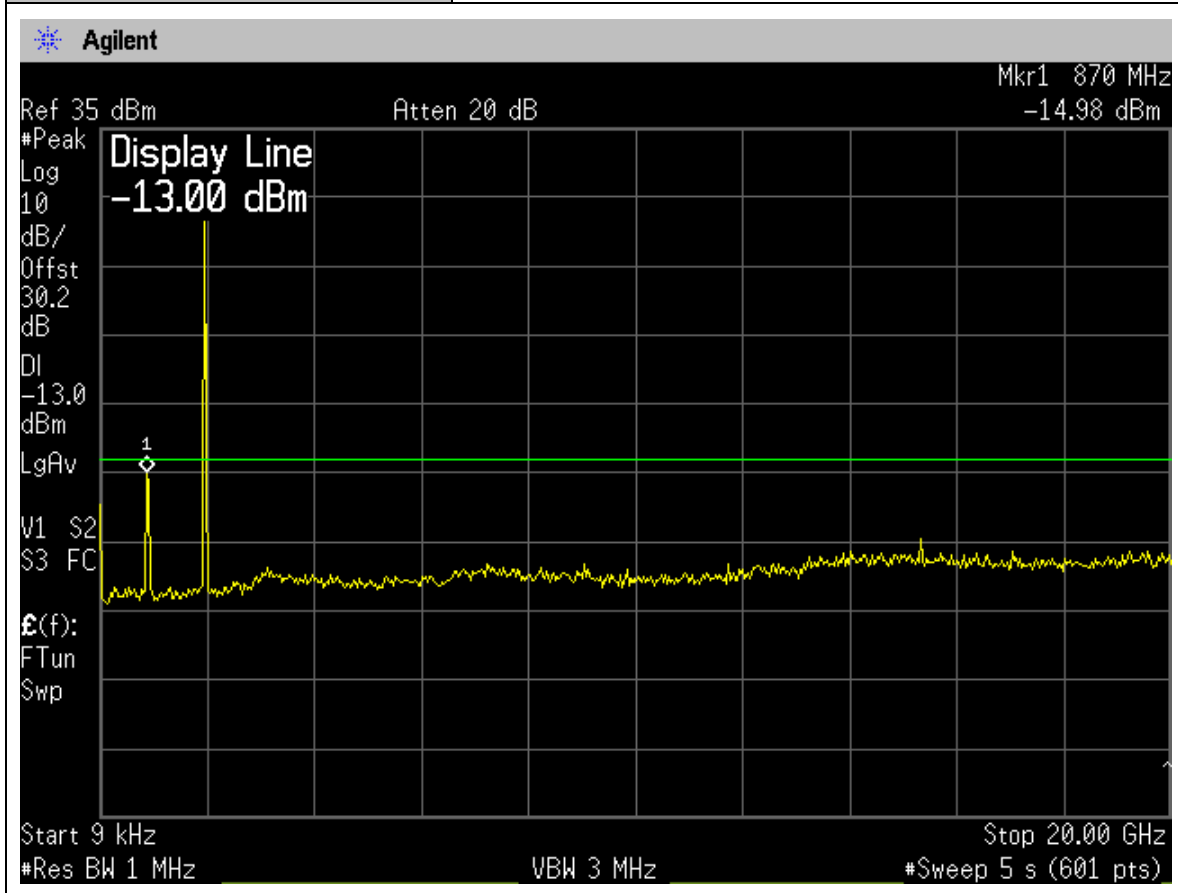
|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / EDGE Modulation |
| <b>Plot Name:</b>     | Downlink, Mid-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                               |





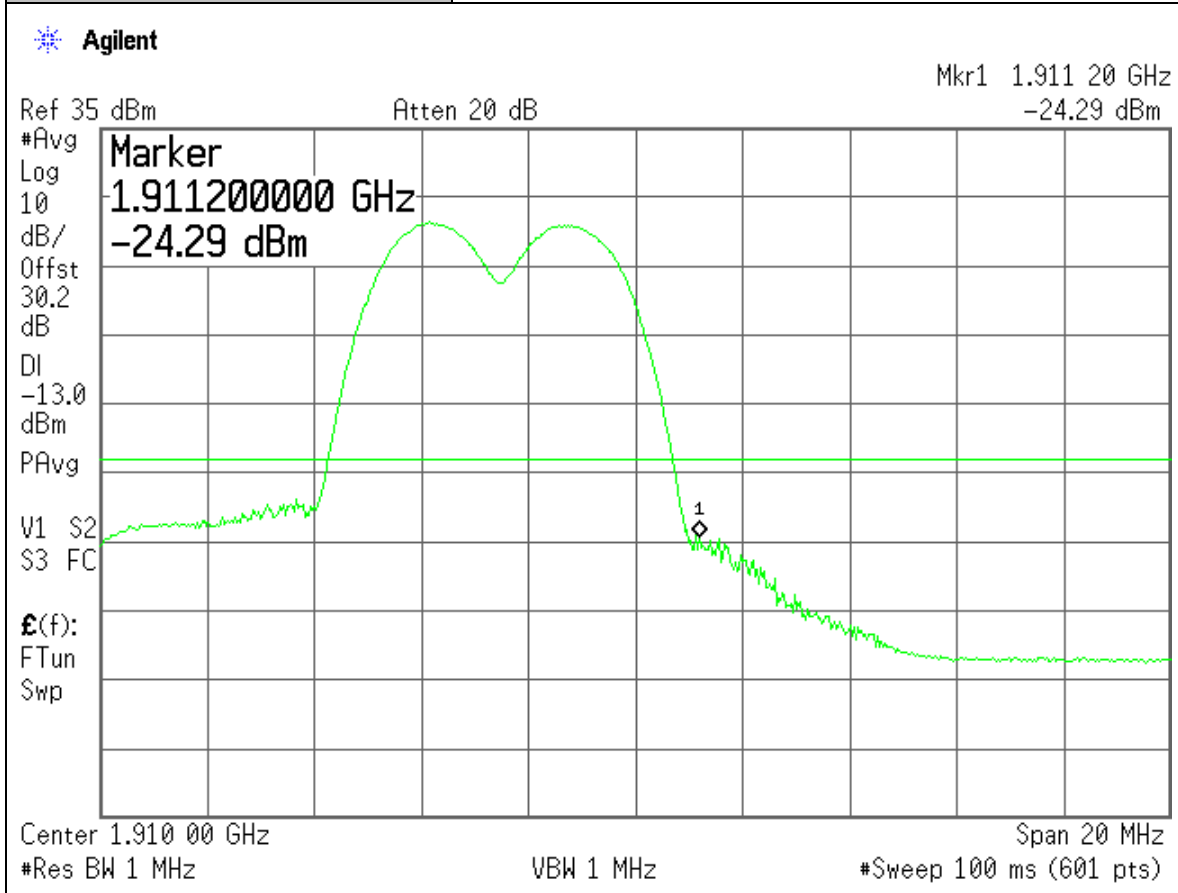
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / EDGE Modulation |
| <b>Plot Name:</b>     | Downlink, Low-Channel   |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                               |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70°F                                    |
| <b>Humidity:</b>       | 30%                                     |

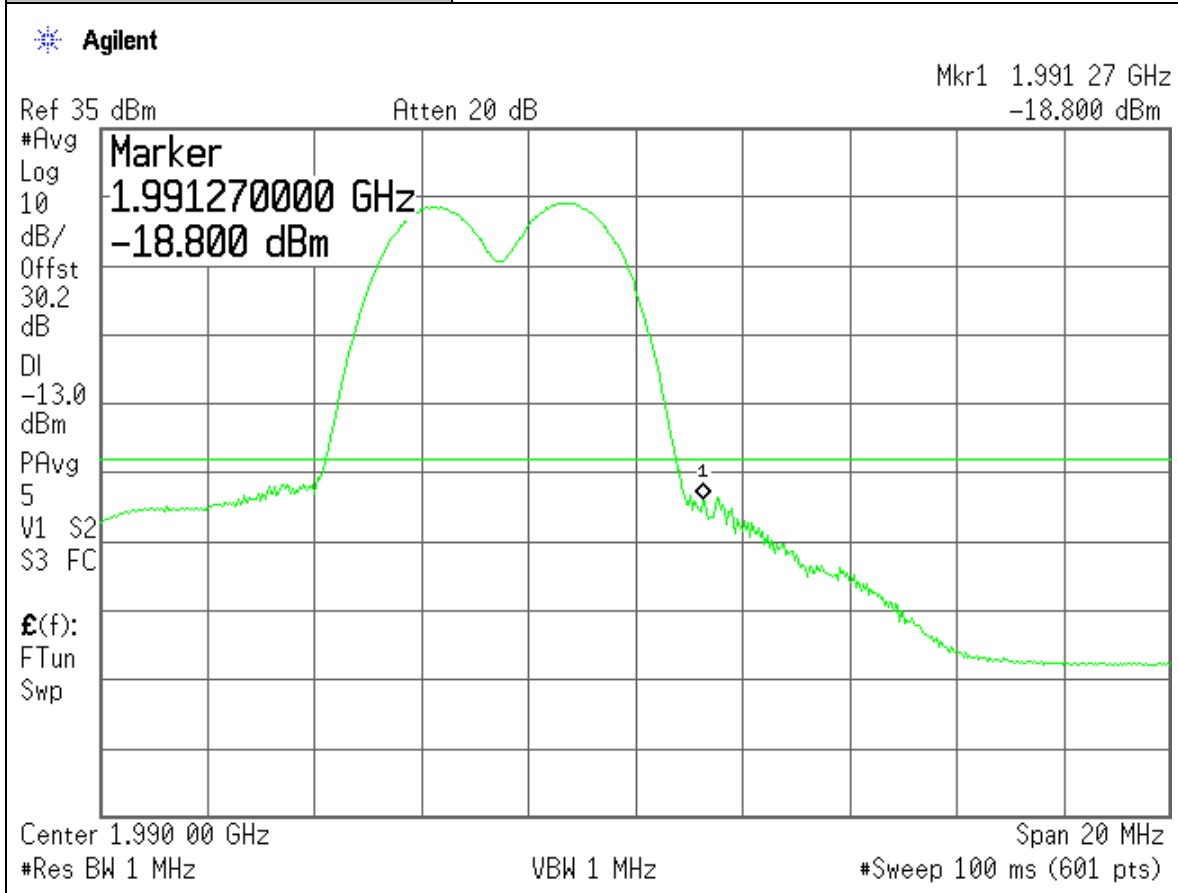
|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / CDMA Modulation |
| <b>Plot Name:</b>     | UL, Hi-Chn, Intermodulation, Upper Bandedge                             |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                  |





|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Wei Li                                  |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / CDMA Modulation |
| <b>Plot Name:</b>     | DL, High-Chn, Intermodulation,<br>Upper Bandedge                        |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                               |

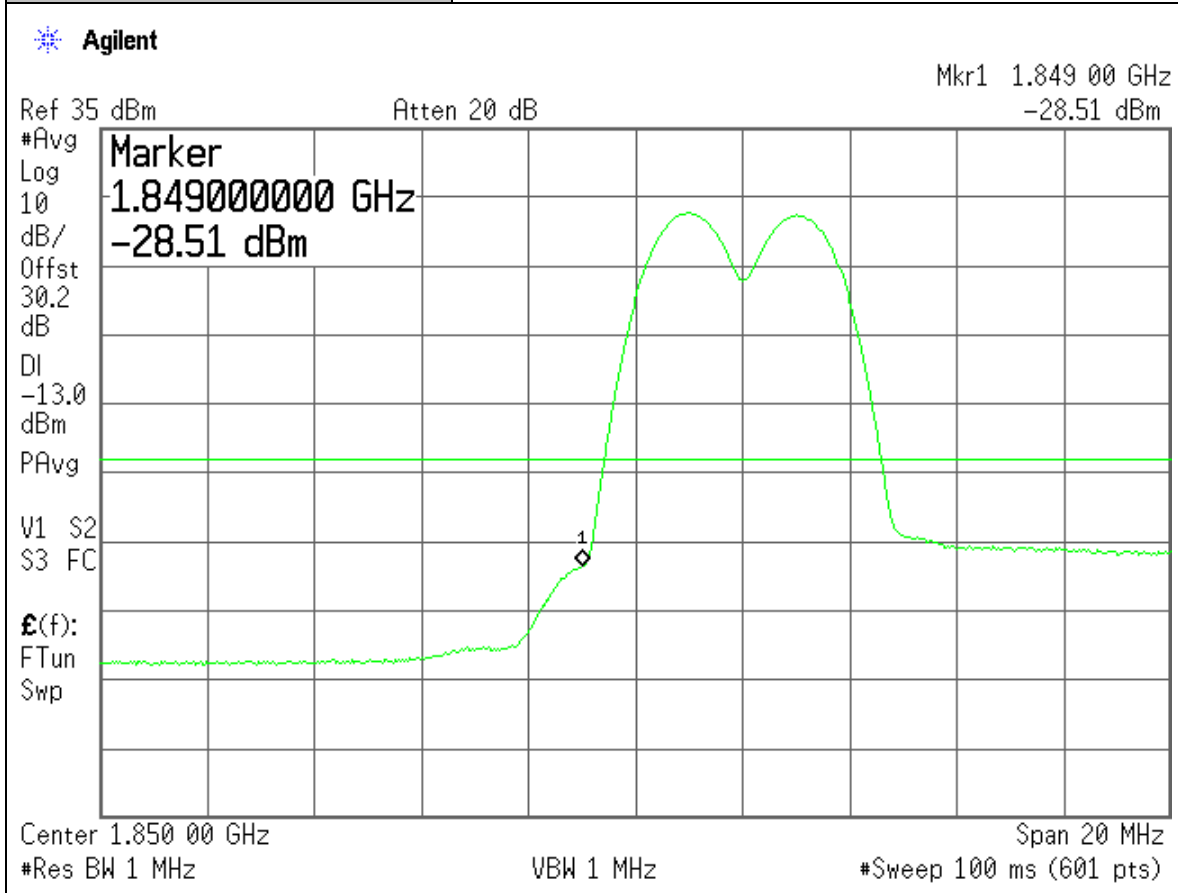






|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / GSM Modulation |
| <b>Plot Name:</b>     | UL, Low-Chn, Intermodulation , Lower<br>Bandedge                       |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                 |

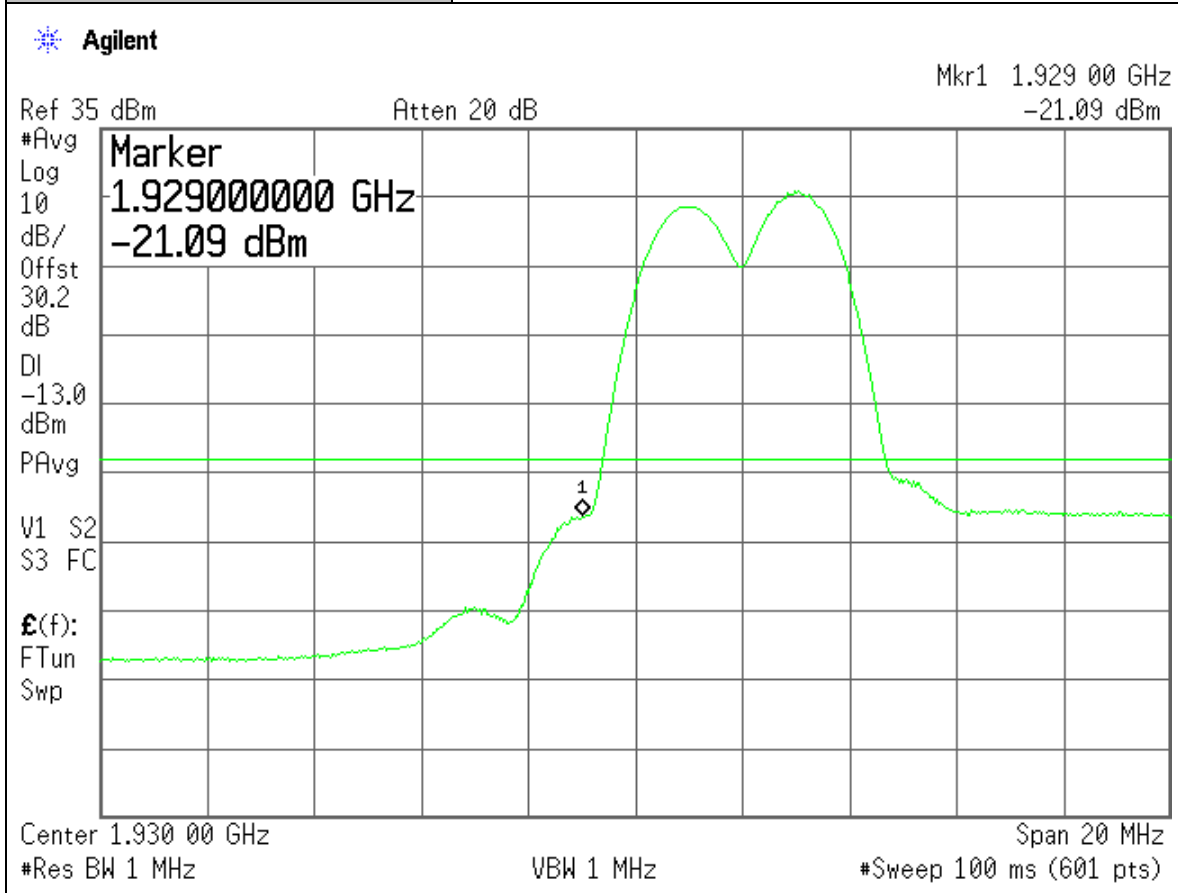






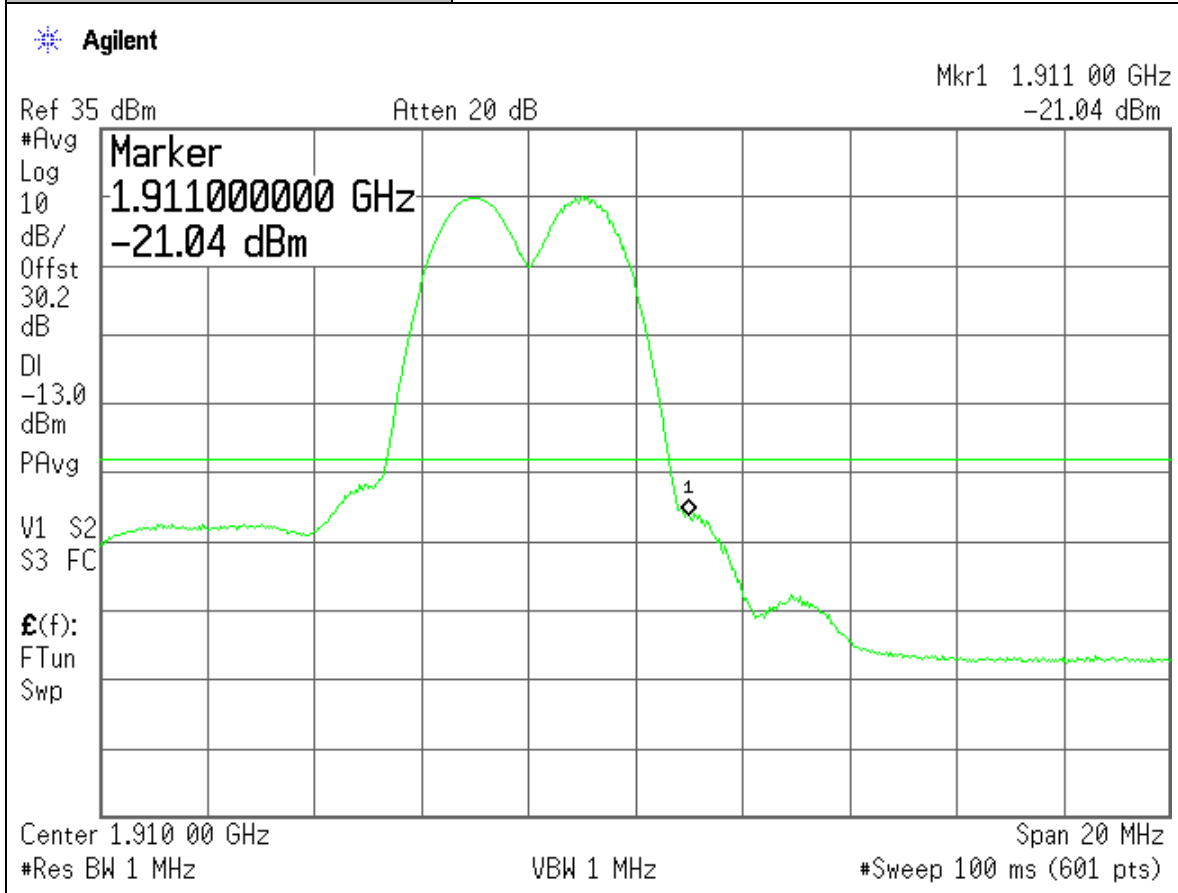
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / GSM Modulation |
| <b>Plot Name:</b>     | Downlink, Low-Chn, Intermodulation , Lower<br>Bandedge                 |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                              |



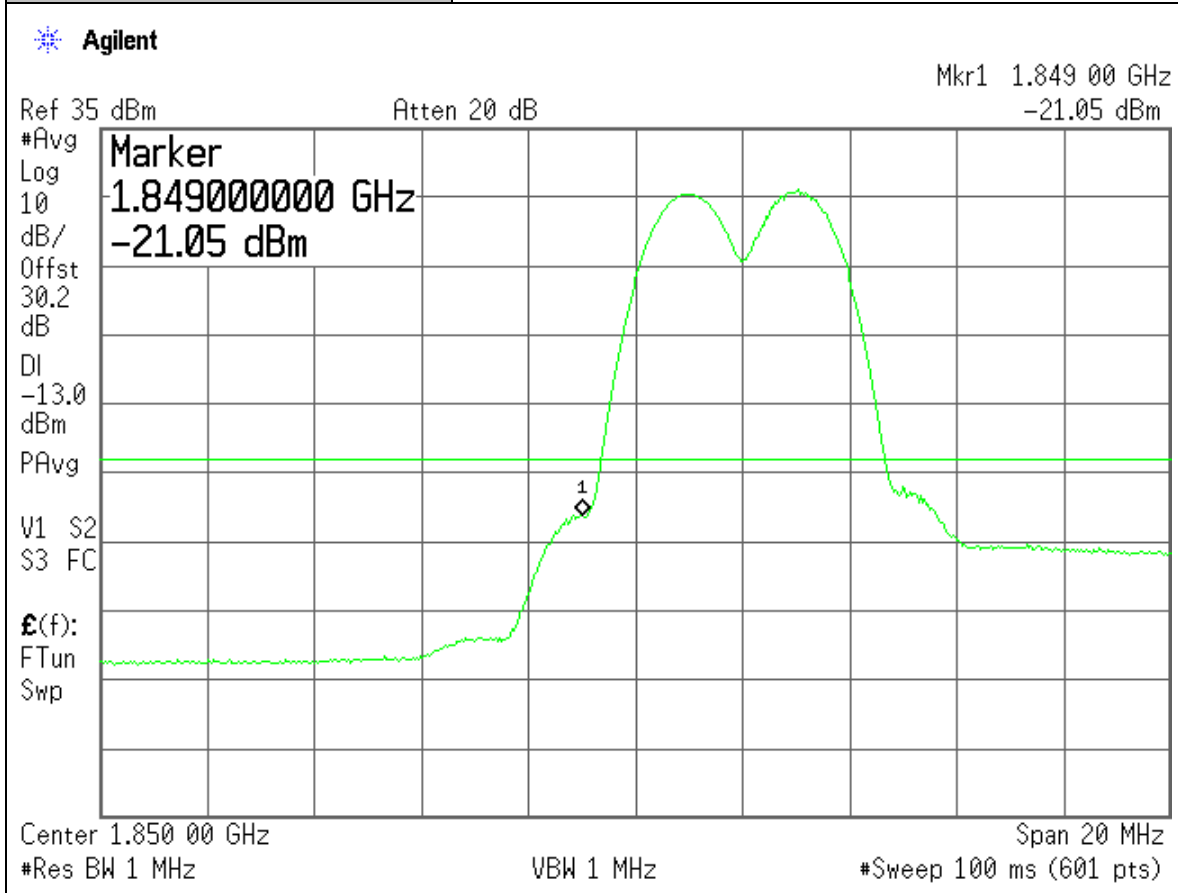
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / EDGE Modulation |
| <b>Plot Name:</b>     | UL, Hi-Chn, Intermodulation , Upper Bandedge                            |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                  |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / EDGE Modulation |
| <b>Plot Name:</b>     | UL, Low-Chn, Intermodulation , Lower<br>Bandedge                        |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                  |

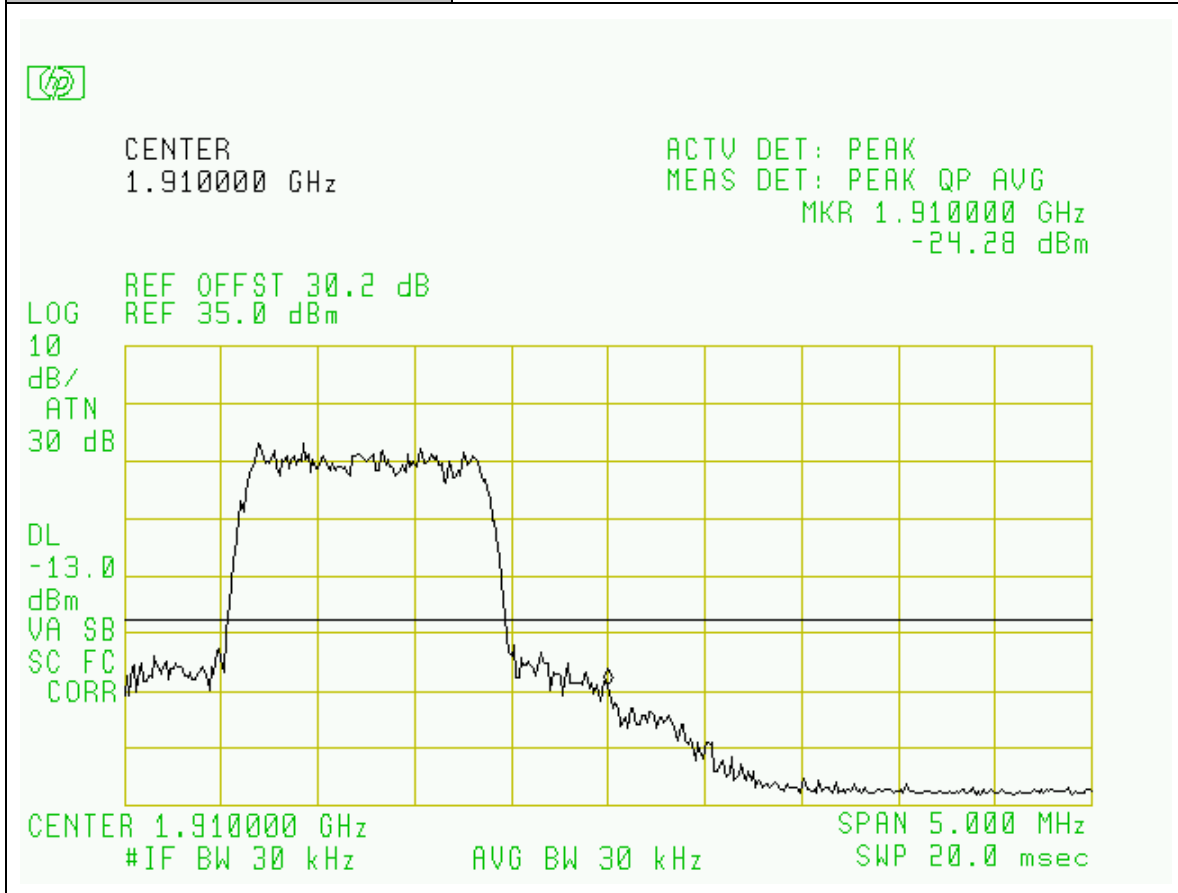






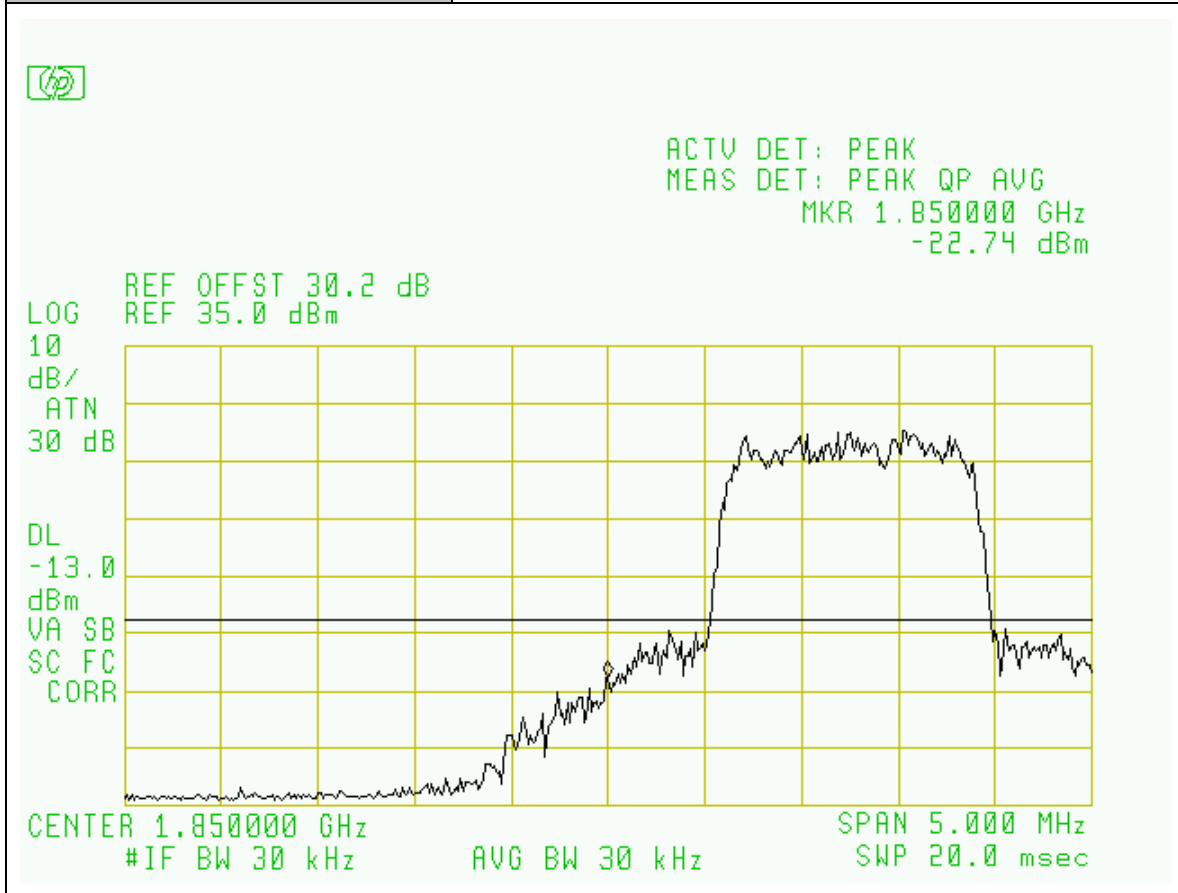
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / CDMA Modulation |
| <b>Plot Name:</b>     | UL, Hi-Chn, Upper Band Edge+1MHz  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                  |



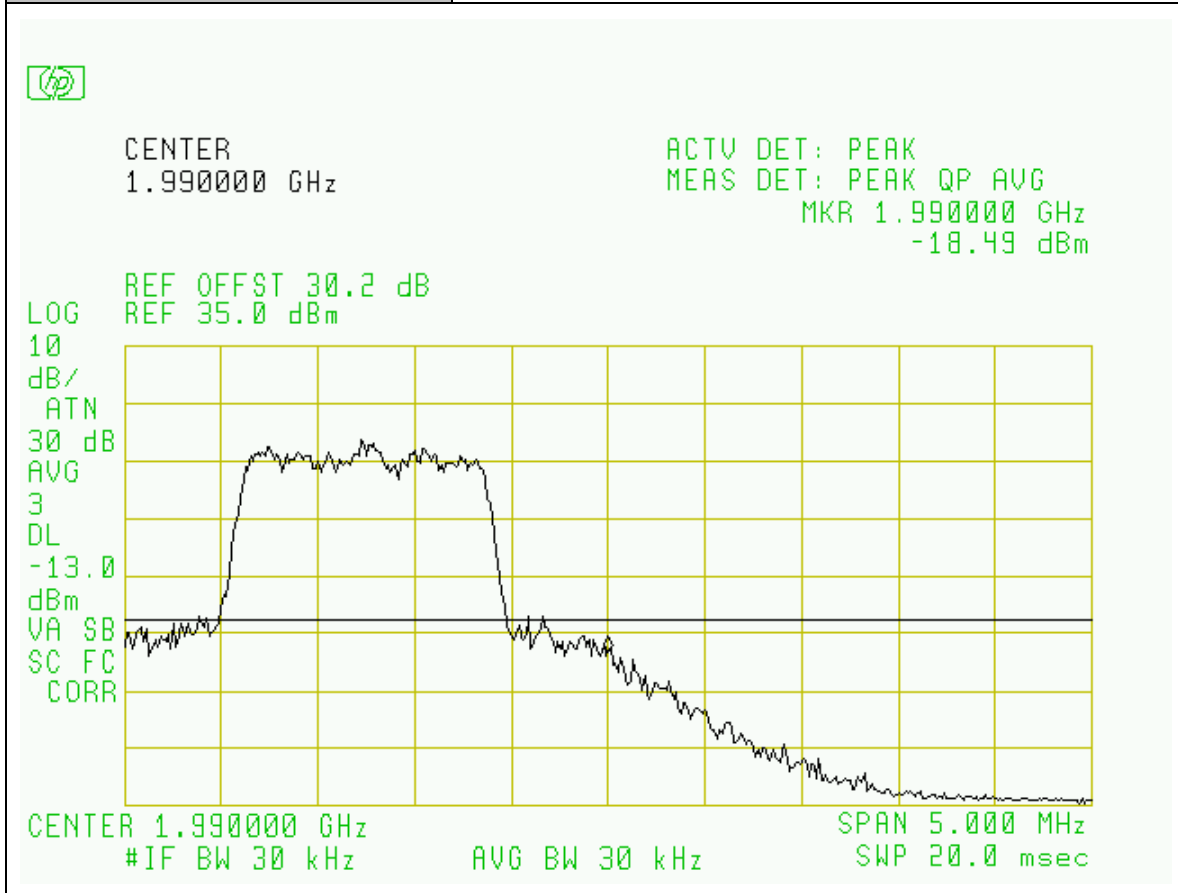
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / CDMA Modulation |
| <b>Plot Name:</b>     | UL, Low-Chn, Lower Band Edge -1MHz                                      |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                  |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

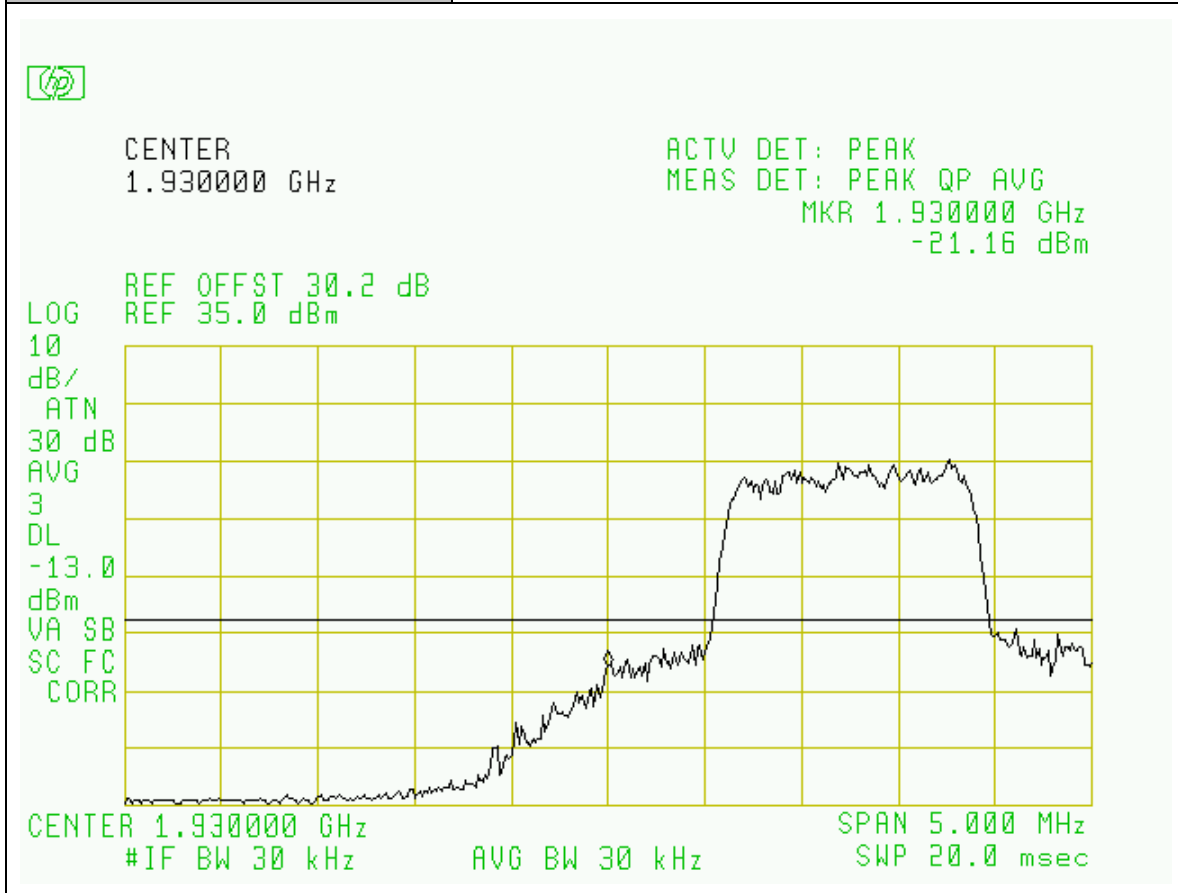
|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / CDMA Modulation |
| <b>Plot Name:</b>     | DL, Hi-Chn, Upper Band Edge+1MHz  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                               |





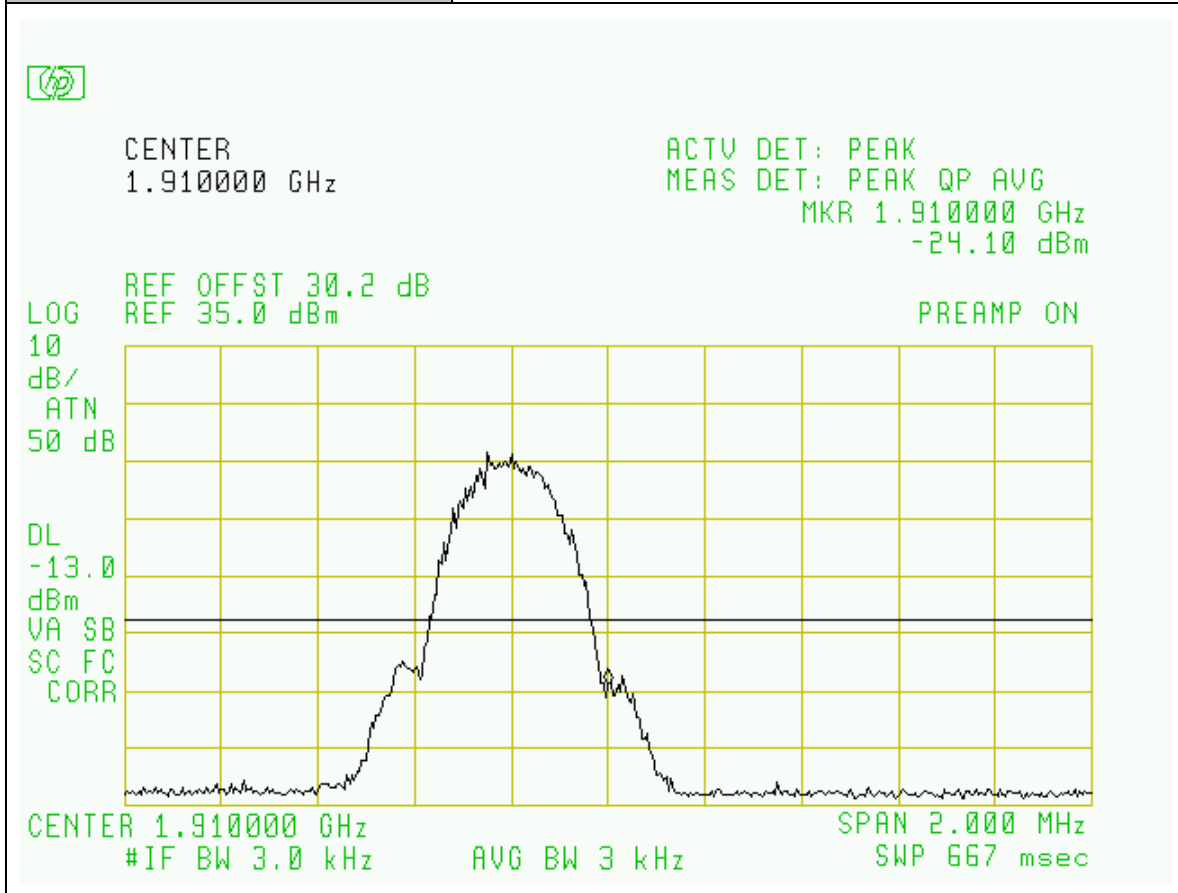
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / CDMA Modulation |
| <b>Plot Name:</b>     | DL, Low-Chn, Lower Band Edge -1MHz                                      |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                               |



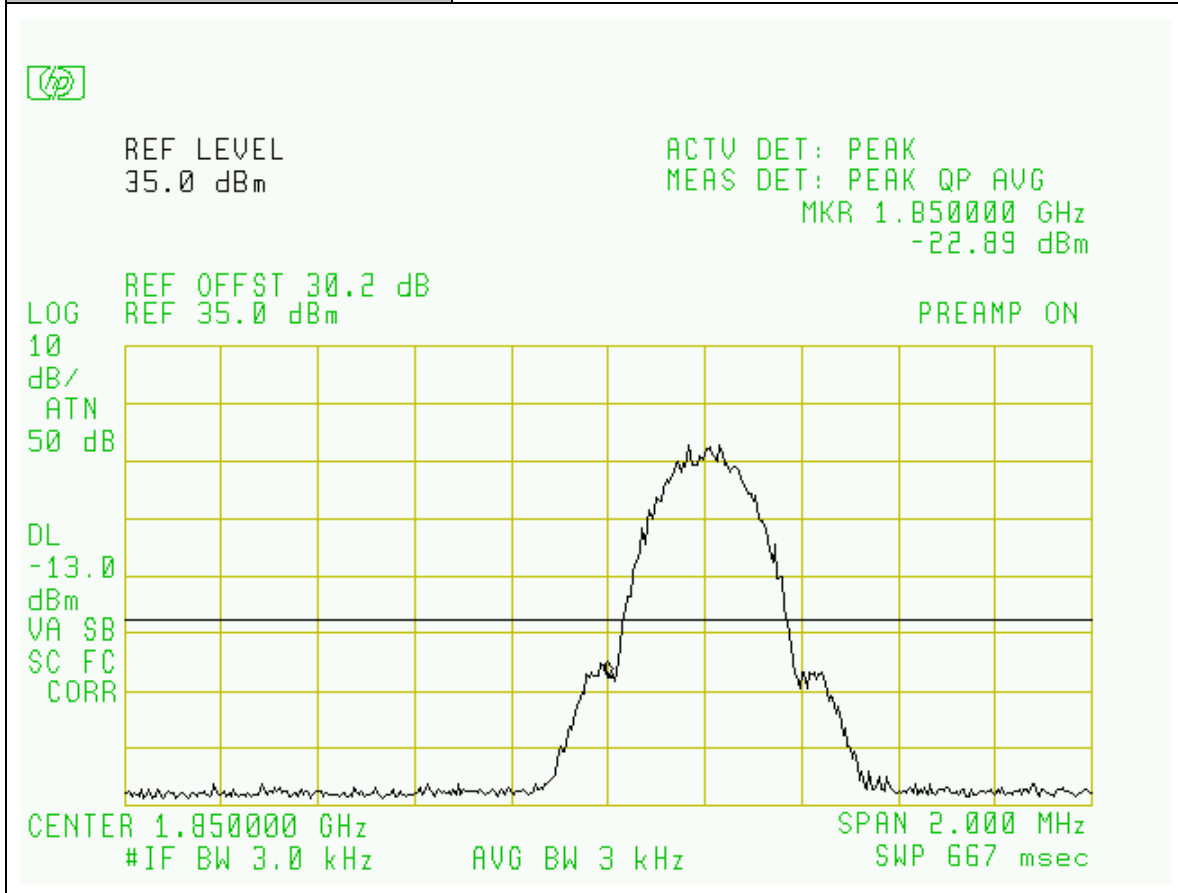
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / GSM Modulation |
| <b>Plot Name:</b>     | UL, Hi-Chn, Upper Band Edge+1MHz                                       |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                 |



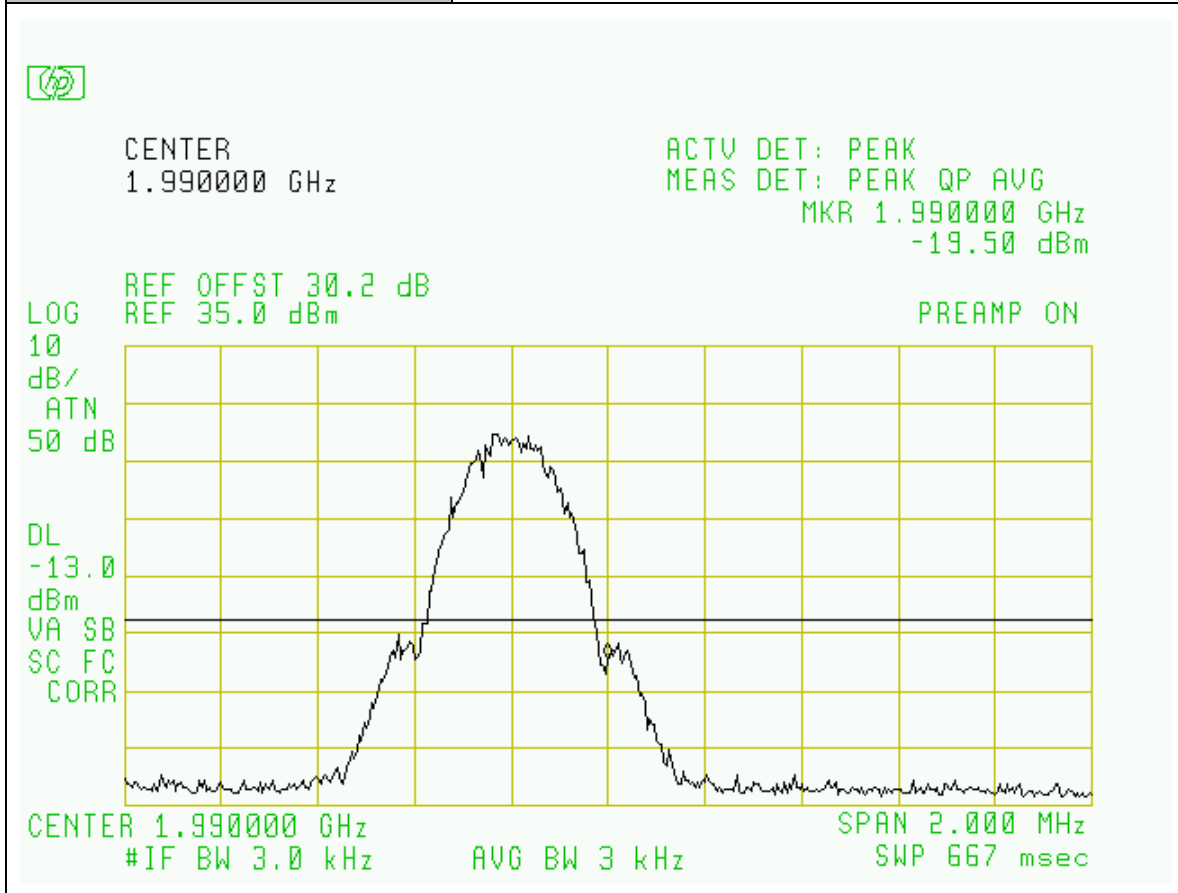
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / GSM Modulation |
| <b>Plot Name:</b>     | UL, Low-Chn, Lower Band Edge -1MHz                                     |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                 |



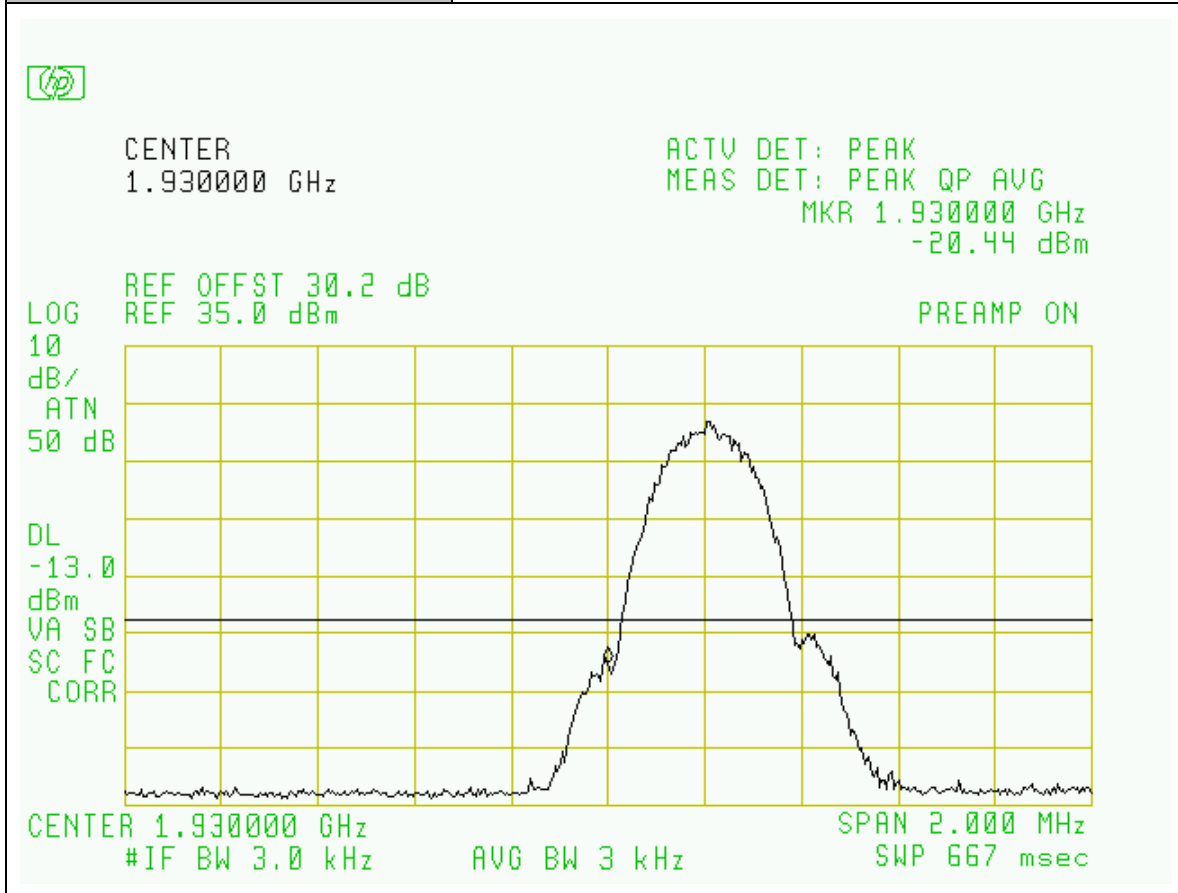
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / GSM Modulation |
| <b>Plot Name:</b>     | DL, Hi-Chn, Upper Band Edge+1MHz                                       |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                              |



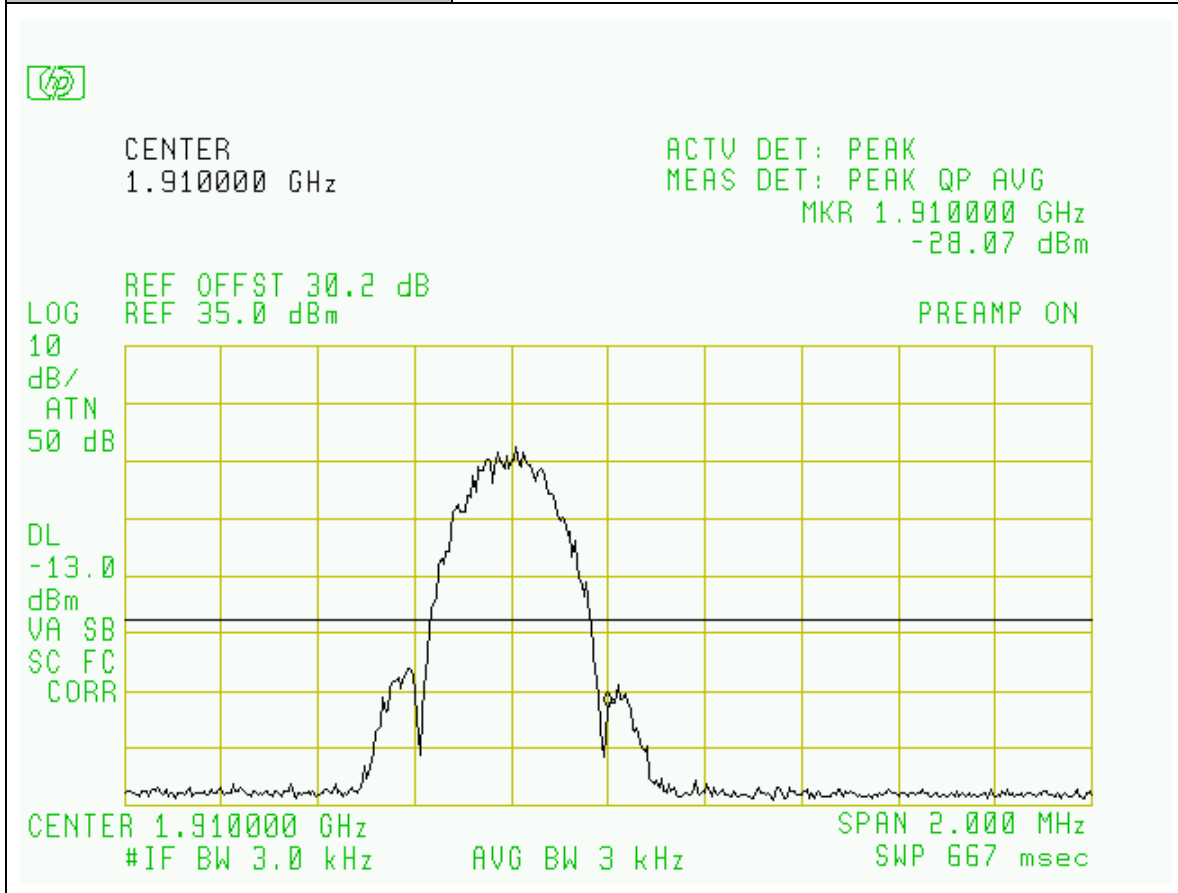
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / GSM Modulation |
| <b>Plot Name:</b>     | DL, Low-Chn, Lower Band Edge -1MHz                                     |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                              |



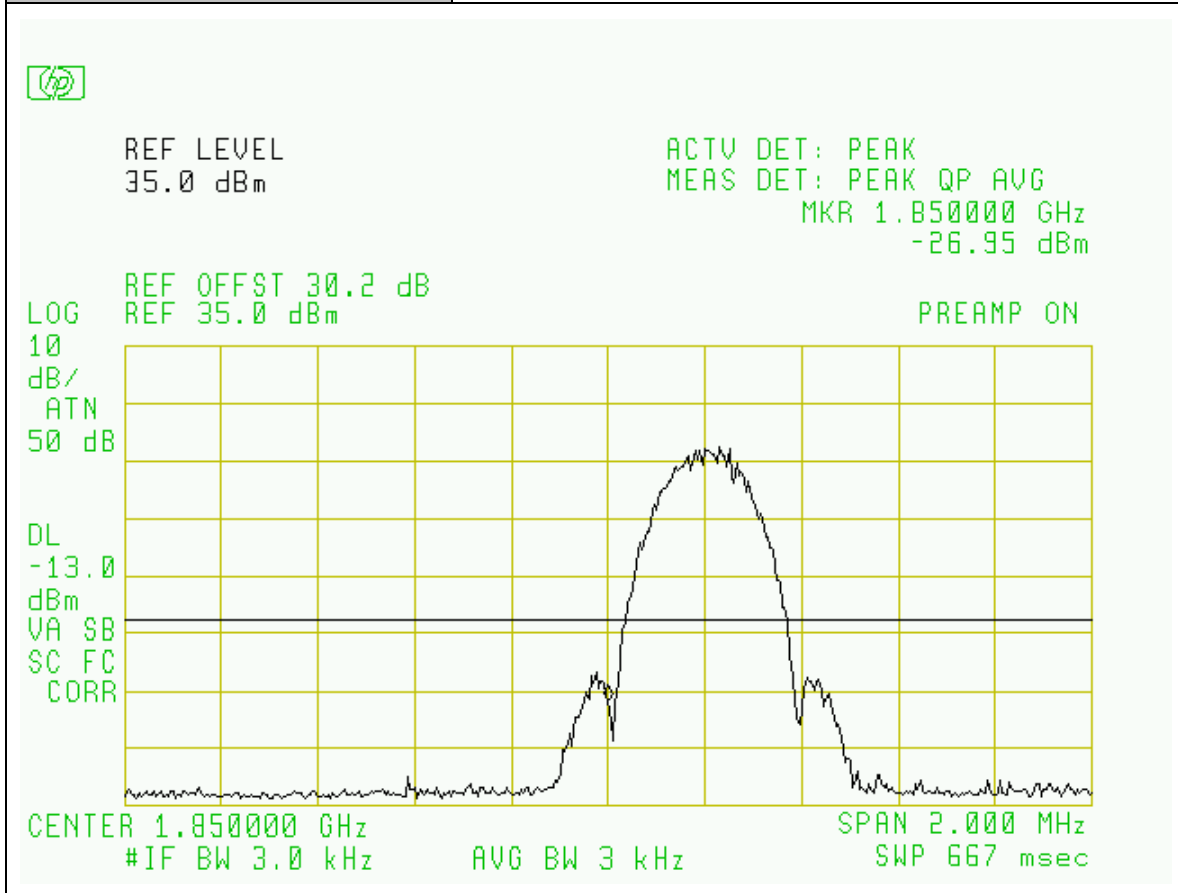
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / EDGE Modulation |
| <b>Plot Name:</b>     | UL, Hi-Chn, Upper Band Edge+1MHz  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                  |



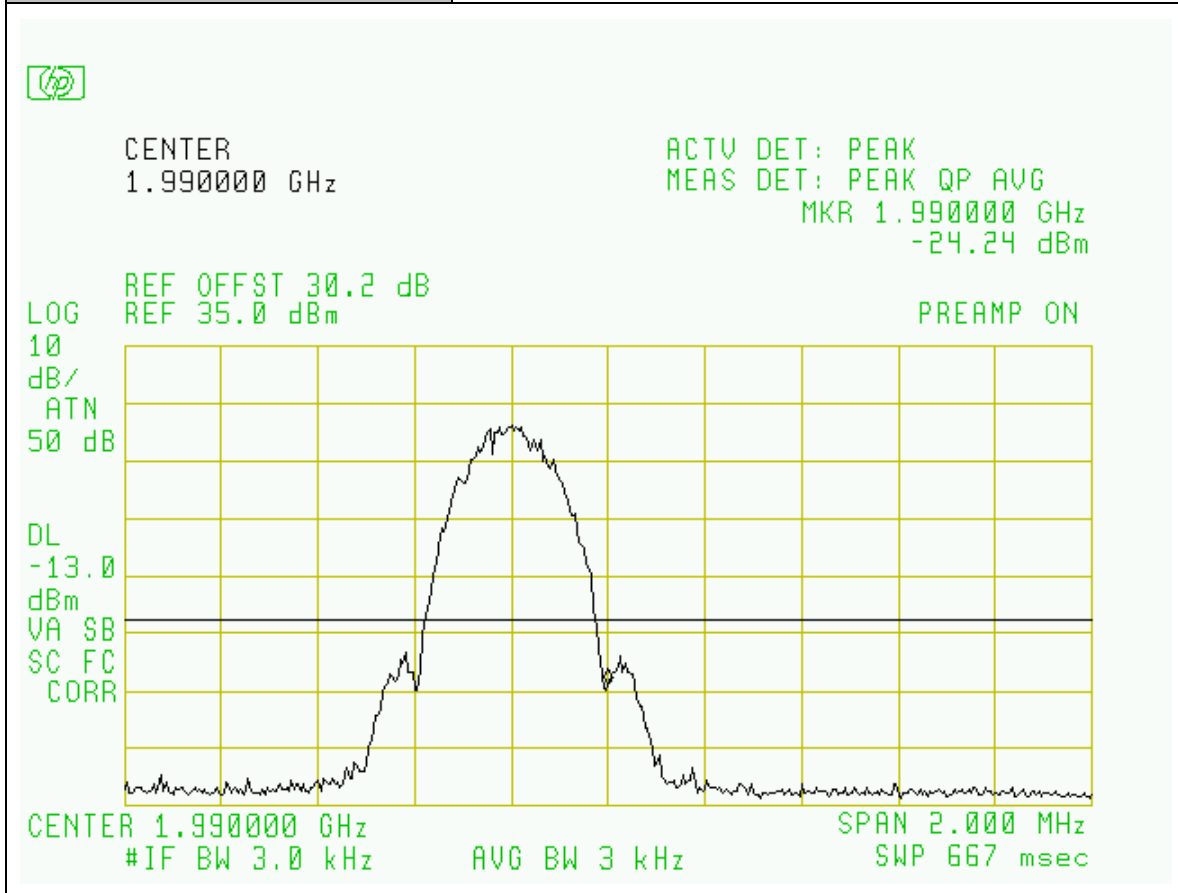
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / EDGE Modulation |
| <b>Plot Name:</b>     | UL, Low-Chn, Lower Band Edge -1MHz                                      |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT BTS                                  |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

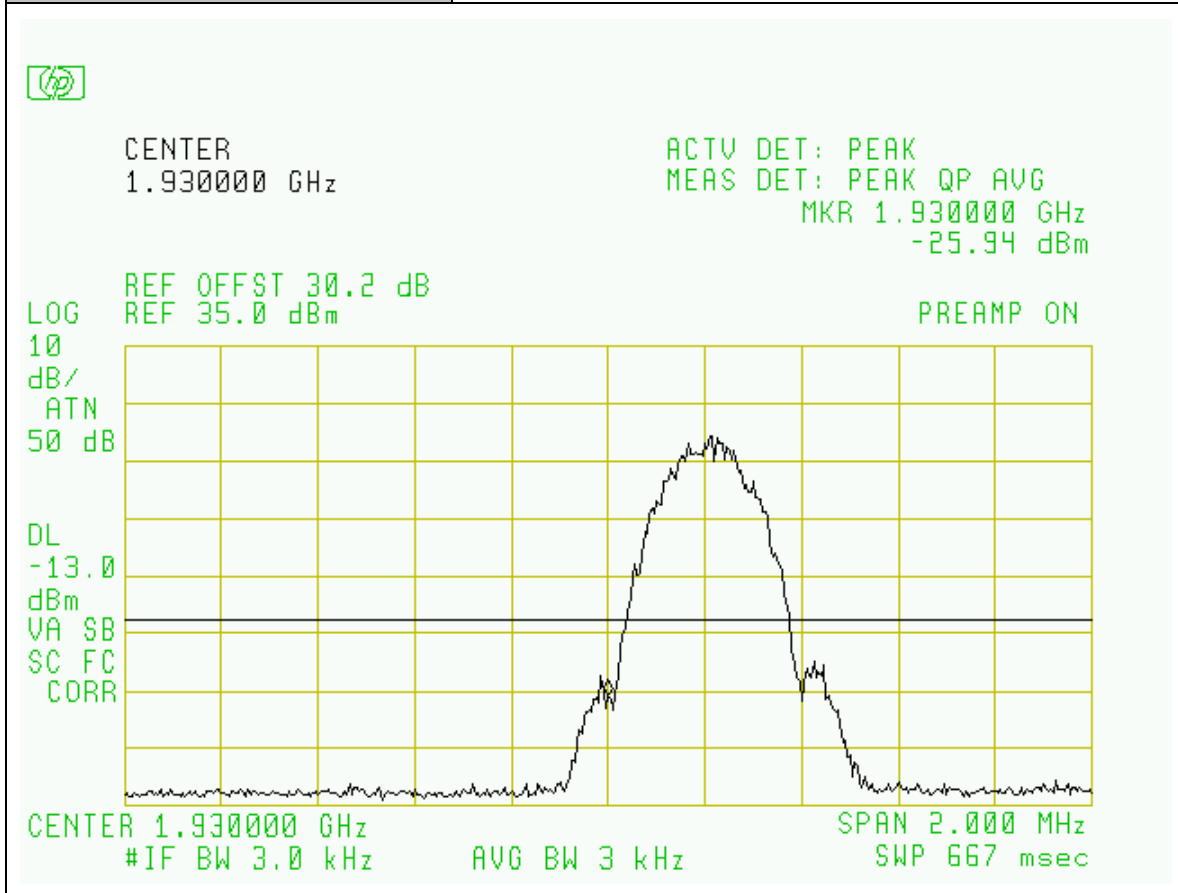
|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / EDGE Modulation |
| <b>Plot Name:</b>     | DL, Hi-Chn, Upper Band Edge+1MHz  |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                               |





|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Tested By:</b>      | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Spurious Emissions at Antenna Terminals:<br>PCS Bands / EDGE Modulation |
| <b>Plot Name:</b>     | DL, Low-Chn, Lower Band Edge -1MHz                                      |
| <b>Configuration:</b> | SG Input: -50dBm, Output Port: EUT MOBILE                               |



**Section 6. Field Strength of Spurious**

|                      |                                   |                       |                       |
|----------------------|-----------------------------------|-----------------------|-----------------------|
| <b>Name of Test:</b> | <i>Field Strength of Spurious</i> | <b>Test Standard:</b> | 22.917<br>24.238      |
| <b>Tested By:</b>    | EDWARD LEE                        | <b>Test Date:</b>     | 09/01/2007-10/15/2007 |

**Minimum Standard:** Para. No. 22.917(e). The mean power of emissions must be attenuated below the mean power of the unmodulated carrier on any frequency twice or more than twice the fundamental emission by at least  $43 + 10 \log P$ . This is equivalent to -13 dBm absolute power. Para. No. 24.238(a). The magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under conditions specified in the instruction manual and/or alignment procedure, shall not less than  $43+10 \log$  (mean output power in watts) dBc below the mean power output outside a licensee's frequency block (-13dBm).

**Method of Measurement:** TIA/EIA-603-B-2002, Section 2.2.12  
The antenna substitution method was used to determine the equivalent radiated power at spurious frequencies. The spurious emissions were measured at a distance of 3 meters. The EUT was then replaced with a reference substitution antenna with a known gain referenced to a dipole. This antenna was fed with a signal at the spurious frequency. The level of the signal was adjusted to repeat the previously measured level. The resulting ERP is the signal level fed to the reference antenna corrected for gain referenced to a dipole.

**Test Result:**

**Complies**

**Test Data:**

See Attached Table(s)

|                      |          |
|----------------------|----------|
| <b>Configuration</b> | Cellular |
| <b>Band</b>          | Downlink |
| <b>Channel</b>       | Low      |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | ERP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|-----------|-------------|-------------|
| 1738.4      | V   | 43.0              | -74              | 1.2     | 7.0        | -70.35    | -13         | -57.35      |
| 2607.6      | V   | 47.0              | -72              | 1.4     | 9.1        | -66.45    | -13         | -53.45      |
| 3476.8*     | V   | 39.0              | -80              | 1.7     | 9.1        | -74.75    | -13         | -61.75      |
| 4346.0*     | V   | 39.5              | -79              | 1.9     | 10.0       | -73.05    | -13         | -60.05      |
| 5215.2*     | V   | 40.0              | -80              | 2.1     | 10.0       | -74.25    | -13         | -61.25      |
| 6084.4*     | V   | 41.5              | -79              | 2.4     | 11.0       | -72.55    | -13         | -59.55      |
| 6953.6*     | V   | 41.4              | -79              | 2.5     | 10.5       | -73.15    | -13         | -60.15      |
| 7822.8*     | V   | 41.5              | -79              | 2.8     | 10.0       | -73.95    | -13         | -60.95      |
| 8692.0*     | V   | 41.6              | -78              | 2.9     | 10.9       | -72.15    | -13         | -59.15      |
| 1717.5      | V   | 46.0              | -71              | 1.2     | 7.0        | -67.35    | -13         | -54.35      |
| 2889.5      | V   | 57.5              | -62              | 1.5     | 9.1        | -56.55    | -13         | -43.55      |
| 3435.0      | V   | 59.2              | -60              | 1.7     | 9.1        | -54.75    | -13         | -41.75      |
| 3480.0      | V   | 58.4              | -60              | 1.7     | 9.1        | -54.75    | -13         | -41.75      |
| 3530.6      | V   | 61.8              | -57              | 1.7     | 9.2        | -51.65    | -13         | -38.65      |

**NOTE:**

\* Measured noise floor

SA: Spectrum Analyzer

SG: Signal Generator

CL: SMA cable loss (6ft)

Worse case: Vertical

H=horizontal and V=vertical

ERP = SG reading - CL + Gain (dBi)-2.15

Margin = ERP - Limit

|                      |          |
|----------------------|----------|
| <b>Configuration</b> | Cellular |
| <b>Band</b>          | Downlink |
| <b>Channel</b>       | Mid      |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | ERP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|-----------|-------------|-------------|
| 1763.0      | V   | 47.0              | -69              | 1.2     | 7.1        | -65.25    | -13         | -52.25      |
| 2644.5      | V   | 50.1              | -67              | 1.4     | 9.1        | -61.45    | -13         | -48.45      |
| 3526.0      | V   | 43.3              | -76              | 1.7     | 9.2        | -70.65    | -13         | -49.65      |
| 4407.5*     | V   | 38.0              | -80              | 1.9     | 10.5       | -73.55    | -13         | -60.55      |
| 5289.0*     | V   | 38.8              | -79              | 2.1     | 10.2       | -73.05    | -13         | -60.05      |
| 6170.5*     | V   | 40.4              | -79              | 2.4     | 11.1       | -72.45    | -13         | -59.45      |
| 7052.0*     | V   | 40.0              | -79              | 2.5     | 10.6       | -73.05    | -13         | -60.05      |
| 7933.5*     | V   | 41.2              | -79              | 2.8     | 10.1       | -73.85    | -13         | -60.85      |
| 8815.0*     | V   | 40.7              | -78              | 2.9     | 10.9       | -72.15    | -13         | -59.15      |
| 1717.5      | V   | 46.0              | -71              | 1.2     | 7.0        | -67.35    | -13         | -54.35      |
| 2889.5      | V   | 57.5              | -62              | 1.5     | 9.1        | -56.55    | -13         | -43.55      |
| 3435.0      | V   | 59.2              | -60              | 1.7     | 9.1        | -54.75    | -13         | -41.75      |
| 3480.0      | V   | 58.4              | -60              | 1.7     | 9.1        | -54.75    | -13         | -41.75      |
| 3530.6      | V   | 61.8              | -57              | 1.7     | 9.2        | -51.65    | -13         | -38.65      |

**NOTE:**

\* Measured noise floor

SA: Spectrum Analyzer

SG: Signal Generator

CL: SMA cable loss (6ft)

Worse case: Vertical

H=horizontal and V=vertical

ERP = SG reading - CL + Gain (dBi)-2.15

Margin = ERP - Limit

|                      |          |
|----------------------|----------|
| <b>Configuration</b> | Cellular |
| <b>Band</b>          | Downlink |
| <b>Channel</b>       | High     |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | ERP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|-----------|-------------|-------------|
| 1787.6      | V   | 44.0              | -72              | 1.2     | 7.3        | -68.05    | -13         | -55.05      |
| 2681.4      | V   | 45.1              | -72              | 1.4     | 9.2        | -65.35    | -13         | -52.35      |
| 3575.2*     | V   | 39.5              | -80              | 1.7     | 9.6        | -74.25    | -13         | -61.25      |
| 4469.0*     | V   | 37.8              | -81              | 1.9     | 10.5       | -74.55    | -13         | -61.55      |
| 5362.8*     | V   | 38.1              | -81              | 2.1     | 10.1       | -75.15    | -13         | -62.15      |
| 6256.6*     | V   | 40.0              | -79              | 2.4     | 11.2       | -72.35    | -13         | -59.35      |
| 7150.4*     | V   | 40.2              | -79              | 2.5     | 10.7       | -72.95    | -13         | -59.95      |
| 8044.2*     | V   | 41.0              | -79              | 2.8     | 10.0       | -73.95    | -13         | -60.95      |
| 8938.0*     | V   | 41.5              | -79              | 2.9     | 10.8       | -73.25    | -13         | -60.25      |
| 1717.5      | V   | 46.0              | -71              | 1.2     | 7.0        | -67.35    | -13         | -54.35      |
| 2889.5      | V   | 57.5              | -62              | 1.5     | 9.1        | -56.55    | -13         | -43.55      |
| 3435.0      | V   | 59.2              | -60              | 1.7     | 9.1        | -54.75    | -13         | -41.75      |
| 3480.0      | V   | 58.4              | -60              | 1.7     | 9.1        | -54.75    | -13         | -41.75      |
| 3530.6      | V   | 61.8              | -57              | 1.7     | 9.2        | -51.65    | -13         | -38.65      |

**NOTE:**

\* Measured noise floor

SA: Spectrum Analyzer

SG: Signal Generator

CL: SMA cable loss (6ft)

Worse case: Vertical

H=horizontal and V=vertical

ERP = SG reading - CL + Gain (dBi)-2.15

Margin = ERP - Limit

|                      |          |
|----------------------|----------|
| <b>Configuration</b> | Cellular |
| <b>Band</b>          | Uplink   |
| <b>Channel</b>       | Low      |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | ERP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|-----------|-------------|-------------|
| 1648.4      | V   | 44.0              | -74              | 1.2     | 7.0        | -60.35    | -13         | -57.35      |
| 2472.6      | V   | 46.9              | -72              | 1.3     | 9.0        | -66.45    | -13         | -53.45      |
| 3296.8*     | V   | 39.0              | -79              | 1.6     | 9.5        | -73.25    | -13         | -60.25      |
| 4121.0*     | V   | 39.0              | -81              | 1.8     | 9.7        | -75.25    | -13         | -62.25      |
| 4945.2*     | V   | 38.7              | -81              | 2.0     | 9.7        | -75.45    | -13         | -62.45      |
| 5769.4*     | V   | 40.5              | -79              | 2.3     | 10.5       | -72.95    | -13         | -59.95      |
| 6593.6*     | V   | 40.8              | -79              | 2.4     | 11.4       | -72.15    | -13         | -59.15      |
| 7417.8*     | V   | 40.4              | -79              | 2.7     | 11.2       | -72.65    | -13         | -59.65      |
| 8242.0*     | V   | 40.8              | -79              | 2.8     | 10.0       | -73.95    | -13         | -60.95      |
| 1717.5      | V   | 46.2              | -71              | 1.2     | 7.0        | -67.35    | -13         | -54.35      |
| 2889.5      | V   | 57.9              | -62              | 1.5     | 9.1        | -56.55    | -13         | -43.55      |
| 3435.0      | V   | 58.8              | -60              | 1.7     | 9.1        | -54.75    | -13         | -41.75      |
| 3480.0      | V   | 58.0              | -60              | 1.7     | 9.1        | -54.75    | -13         | -41.75      |
| 3530.6      | V   | 60.8              | -58              | 1.7     | 9.2        | -52.65    | -13         | -39.65      |

**NOTE:**

\* Measured noise floor

SA: Spectrum Analyzer

SG: Signal Generator

CL: SMA cable loss (6ft)

Worse case: Vertical

H=horizontal and V=vertical

ERP = SG reading - CL + Gain (dBi)-2.15

Margin = ERP - Limit

|                      |          |
|----------------------|----------|
| <b>Configuration</b> | Cellular |
| <b>Band</b>          | Uplink   |
| <b>Channel</b>       | Mid      |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | ERP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|-----------|-------------|-------------|
| 1673.0      | V   | 46.3              | -73              | 1.2     | 7.0        | -59.35    | -13         | -56.35      |
| 2509.5      | V   | 51.0              | -68              | 1.3     | 9.0        | -62.45    | -13         | -49.45      |
| 3346.0      | V   | 44.0              | -76              | 1.6     | 9.5        | -70.25    | -13         | -57.25      |
| 4182.5*     | V   | 39.0              | -80              | 1.8     | 9.7        | -74.25    | -13         | -61.25      |
| 5019.0*     | V   | 40.2              | -79              | 2.0     | 9.7        | -73.45    | -13         | -60.45      |
| 5855.5*     | V   | 41.3              | -79              | 2.3     | 10.5       | -72.95    | -13         | -59.95      |
| 6692.0*     | V   | 41.4              | -79              | 2.4     | 11.4       | -72.15    | -13         | -59.15      |
| 7528.5*     | V   | 41.3              | -78              | 2.7     | 11.2       | -71.65    | -13         | -58.65      |
| 8365.0*     | V   | 42.0              | -78              | 2.8     | 10.0       | -72.95    | -13         | -59.95      |
| 1717.5      | V   | 46.2              | -71              | 1.2     | 7.0        | -67.35    | -13         | -54.35      |
| 2889.5      | V   | 57.9              | -62              | 1.5     | 9.1        | -56.55    | -13         | -43.55      |
| 3435.0      | V   | 58.8              | -60              | 1.7     | 9.1        | -54.75    | -13         | -41.75      |
| 3480.0      | V   | 58.0              | -60              | 1.7     | 9.1        | -54.75    | -13         | -41.75      |
| 3530.6      | V   | 60.8              | -58              | 1.7     | 9.2        | -52.65    | -13         | -39.65      |

**NOTE:**

\* Measured noise floor

SA: Spectrum Analyzer

SG: Signal Generator

CL: SMA cable loss (6ft)

Worse case: Vertical

H=horizontal and V=vertical

ERP = SG reading - CL + Gain (dBi)-2.15

Margin = ERP - Limit



|                      |          |
|----------------------|----------|
| <b>Configuration</b> | Cellular |
| <b>Band</b>          | Uplink   |
| <b>Channel</b>       | High     |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | ERP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|-----------|-------------|-------------|
| 1697.6      | V   | 44.0              | -74              | 1.2     | 7.1        | -60.25    | -13         | -57.25      |
| 2546.4      | V   | 47.6              | -71              | 1.3     | 9.1        | -65.35    | -13         | -52.35      |
| 3395.2      | V   | 42.1              | -77              | 1.6     | 9.6        | -71.15    | -13         | -58.15      |
| 4244.0*     | V   | 39.5              | -80              | 1.8     | 9.7        | -74.25    | -13         | -61.25      |
| 5092.8*     | V   | 40.5              | -79              | 2.0     | 9.8        | -73.35    | -13         | -60.35      |
| 5941.6*     | V   | 41.6              | -79              | 2.3     | 10.6       | -72.85    | -13         | -59.85      |
| 6790.4*     | V   | 41.6              | -79              | 2.4     | 11.5       | -72.05    | -13         | -59.05      |
| 7639.2*     | V   | 41.4              | -78              | 2.7     | 11.3       | -71.55    | -13         | -58.55      |
| 8488.0*     | V   | 41.9              | -78              | 2.8     | 10.1       | -72.85    | -13         | -59.85      |
| 1717.5      | V   | 46.2              | -71              | 1.2     | 7.0        | -67.35    | -13         | -54.35      |
| 2889.5      | V   | 57.9              | -62              | 1.5     | 9.1        | -56.55    | -13         | -43.55      |
| 3435.0      | V   | 58.8              | -60              | 1.7     | 9.1        | -54.75    | -13         | -41.75      |
| 3480.0      | V   | 58.0              | -60              | 1.7     | 9.1        | -54.75    | -13         | -41.75      |
| 3530.6      | V   | 60.8              | -58              | 1.7     | 9.2        | -52.65    | -13         | -39.65      |

**NOTE:**

\* Measured noise floor

SA: Spectrum Analyzer

SG: Signal Generator

CL: SMA cable loss (6ft)

Worse case: Vertical

H=horizontal and V=vertical

ERP = SG reading - CL + Gain (dBi)-2.15

Margin = ERP - Limit

|                      |          |
|----------------------|----------|
| <b>Configuration</b> | PCS      |
| <b>Band</b>          | Downlink |
| <b>Channel</b>       | Low      |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|------------|-------------|-------------|
| 3860.4      | V   | 65.4              | -60              | 1.8     | 9.6        | -44.2      | -13         | -31.2       |
| 5790.6      | V   | 55.4              | -64              | 2.4     | 10.8       | -55.6      | -13         | -42.6       |
| 7736.8*     | V   | 43.0              | -76              | 2.8     | 10.6       | -68.2      | -13         | -55.2       |
| 9671.0*     | V   | 42.5              | -77              | 3.1     | 10.9       | -69.2      | -13         | -56.2       |
| 11605.2*    | V   | 43.9              | -78              | 3.4     | 12.1       | -69.3      | -13         | -56.3       |
| 13539.4*    | V   | 44.5              | -78              | 3.9     | 12.1       | -69.8      | -13         | -56.8       |
| 15473.6*    | V   | 46.0              | -77              | 4.2     | 14.9       | -66.3      | -13         | -53.3       |
| 17407.8*    | V   | 47.5              | -72              | 4.5     | 10.6       | -65.9      | -13         | -52.9       |
| 19342.0*    | V   | 48.2              | -71              | 4.8     | 8          | -67.8      | -13         | -54.8       |
| 1717.5      | V   | 46.0              | -71              | 1.2     | 7.0        | -65.2      | -13         | -52.2       |
| 2889.5      | V   | 57.5              | -62              | 1.5     | 9.1        | -54.4      | -13         | -41.4       |
| 3435.0      | V   | 59.2              | -60              | 1.7     | 9.1        | -52.6      | -13         | -39.6       |
| 3480.0      | V   | 58.4              | -60              | 1.7     | 9.1        | -52.6      | -13         | -39.6       |
| 3530.6      | V   | 61.8              | -57              | 1.7     | 9.2        | -49.5      | -13         | -36.5       |

**NOTE:**

\* Measured noise floor

**SA:** Spectrum Analyzer**SG:** Signal Generator**CL:** SMA cable loss (6ft)**Worse case: Vertical****H=horizontal and V=vertical****EIRP** = SG reading - CL + Gain (dBi)**Margin** = EIRP – Limit

|                      |                 |
|----------------------|-----------------|
| <b>Configuration</b> | <b>PCS</b>      |
| <b>Band</b>          | <b>Downlink</b> |
| <b>Channel</b>       | <b>Mid</b>      |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|------------|-------------|-------------|
| 3920        | V   | 67.0              | -50              | 1.8     | 9.6        | -42.2      | -13         | -29.2       |
| 5880        | V   | 57.6              | -61              | 2.4     | 10.8       | -52.6      | -13         | -39.6       |
| 7840*       | V   | 44.0              | -76              | 2.8     | 10.6       | -68.2      | -13         | -55.2       |
| 9800*       | V   | 43.1              | -77              | 3.1     | 10.9       | -69.2      | -13         | -56.2       |
| 11760*      | V   | 43.7              | -78              | 3.4     | 12.1       | -69.3      | -13         | -56.3       |
| 13720*      | V   | 44.3              | -78              | 3.9     | 12.1       | -69.8      | -13         | -56.8       |
| 15680*      | V   | 45.9              | -77              | 4.2     | 14.9       | -66.3      | -13         | -53.3       |
| 17640*      | V   | 47.7              | -72              | 4.5     | 10.6       | -65.9      | -13         | -52.9       |
| 19600*      | V   | 48.3              | -71              | 4.8     | 8          | -67.8      | -13         | -54.8       |
| 1717.5      | V   | 46.0              | -71              | 1.2     | 7.0        | -65.2      | -13         | -52.2       |
| 2889.5      | V   | 57.5              | -62              | 1.5     | 9.1        | -54.4      | -13         | -41.4       |
| 3435.0      | V   | 59.2              | -60              | 1.7     | 9.1        | -52.6      | -13         | -39.6       |
| 3480.0      | V   | 58.4              | -60              | 1.7     | 9.1        | -52.6      | -13         | -39.6       |
| 3530.6      | V   | 61.8              | -57              | 1.7     | 9.2        | -49.5      | -13         | -36.5       |

**NOTE:**

\* Measured noise floor

**SA:** Spectrum Analyzer**SG:** Signal Generator**CL:** SMA cable loss (6ft)**Worse case: Vertical****H=horizontal and V=vertical****EIRP** = SG reading - CL + Gain (dBi)**Margin** = EIRP - Limit

|                      |          |
|----------------------|----------|
| <b>Configuration</b> | PCS      |
| <b>Band</b>          | Downlink |
| <b>Channel</b>       | High     |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|------------|-------------|-------------|
| 3979.6      | V   | 66.0              | -52              | 1.8     | 9.7        | -44.1      | -13         | -31.1       |
| 5969.4      | V   | 57.0              | -63              | 2.4     | 10.9       | -53.5      | -13         | -41.5       |
| 7959.2*     | V   | 44.5              | -75              | 2.8     | 10.2       | -67.6      | -13         | -54.6       |
| 9949.0*     | V   | 43.3              | -77              | 3.1     | 10.9       | -69.2      | -13         | -56.2       |
| 11938.8*    | V   | 43.8              | -78              | 3.4     | 12.0       | -69.4      | -13         | -56.4       |
| 13928.6*    | V   | 44.7              | -78              | 3.9     | 11.8       | -70.1      | -13         | -57.1       |
| 15918.4*    | V   | 46.2              | -77              | 4.2     | 15.5       | -65.7      | -13         | -52.7       |
| 17908.2*    | V   | 47.3              | -72              | 4.5     | 9.8        | -66.7      | -13         | -53.7       |
| 19898.0*    | V   | 47.9              | -71              | 4.8     | 7.8        | -68        | -13         | -55         |
| 1717.5      | V   | 46.0              | -71              | 1.2     | 7.0        | -65.2      | -13         | -52.2       |
| 2889.5      | V   | 57.5              | -62              | 1.5     | 9.1        | -54.4      | -13         | -41.4       |
| 3435.0      | V   | 59.2              | -60              | 1.7     | 9.1        | -52.6      | -13         | -39.6       |
| 3480.0      | V   | 58.4              | -60              | 1.7     | 9.1        | -52.6      | -13         | -39.6       |
| 3530.6      | V   | 61.8              | -57              | 1.7     | 9.2        | -49.5      | -13         | -36.5       |

**NOTE:**

\* Measured noise floor

**SA:** Spectrum Analyzer**SG:** Signal Generator**CL:** SMA cable loss (6ft)**Worse case: Vertical****H=horizontal and V=vertical****EIRP** = SG reading - CL + Gain (dBi)**Margin** = EIRP - Limit

|                      |        |
|----------------------|--------|
| <b>Configuration</b> | PCS    |
| <b>Band</b>          | Uplink |
| <b>Channel</b>       | Low    |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|------------|-------------|-------------|
| 3700.4      | V   | 59.4              | -59              | 1.7     | 9.6        | -51.1      | -13         | -38.1       |
| 5550.6      | V   | 54.0              | -66              | 2.3     | 10.6       | -58.7      | -13         | -44.7       |
| 7400.8*     | V   | 44.5              | -74              | 2.8     | 11.3       | -65.5      | -13         | -52.5       |
| 9251.0*     | V   | 42.9              | -78              | 3.0     | 11.2       | -69.8      | -13         | -56.8       |
| 11101.2*    | V   | 43.8              | -78              | 3.3     | 12.0       | -69.3      | -13         | -56.3       |
| 12951.4*    | V   | 44.6              | -78              | 3.8     | 11.9       | -69.9      | -13         | -56.9       |
| 14801.6*    | V   | 46.2              | -78              | 4.1     | 12.2       | -69.9      | -13         | -56.9       |
| 16651.8*    | V   | 47.5              | -77              | 4.4     | 15.2       | -66.2      | -13         | -53.2       |
| 18502.0*    | V   | 47.8              | -72              | 4.7     | 9.0        | -67.7      | -13         | -54.7       |
| 1717.5      | V   | 46.2              | -71              | 1.2     | 7.0        | -65.2      | -13         | -52.2       |
| 2889.5      | V   | 57.9              | -62              | 1.5     | 9.1        | -54.4      | -13         | -41.4       |
| 3435.0      | V   | 58.8              | -60              | 1.7     | 9.1        | -52.6      | -13         | -39.6       |
| 3480.0      | V   | 58.0              | -60              | 1.7     | 9.1        | -52.6      | -13         | -39.6       |
| 3530.6      | V   | 60.8              | -58              | 1.7     | 9.2        | -50.5      | -13         | -37.5       |

**NOTE:**

\* Measured noise floor

SA: Spectrum Analyzer

SG: Signal Generator

CL: SMA cable loss (6ft)

Worse case: Vertical

H=horizontal and V=vertical

EIRP = SG reading - CL + Gain (dBi)

Margin = EIRP - Limit

|                      |        |
|----------------------|--------|
| <b>Configuration</b> | PCS    |
| <b>Band</b>          | Uplink |
| <b>Channel</b>       | Mid    |

| Freq. (MHz) | H,V | SA Reading (dBUV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|------------|-------------|-------------|
| 3760.0      | V   | 60.5              | -58              | 1.7     | 9.6        | -50.1      | -13         | -37.1       |
| 5640.0      | V   | 55.5              | -63              | 2.3     | 10.6       | -54.7      | -13         | -41.7       |
| 7520.0*     | V   | 44.0              | -77              | 2.8     | 11.4       | -68.4      | -13         | -55.4       |
| 9400.0*     | V   | 42.6              | -78              | 3.0     | 11.2       | -69.8      | -13         | -56.8       |
| 11280.0*    | V   | 44.8              | -78              | 3.3     | 11.9       | -69.4      | -13         | -56.4       |
| 13160.0*    | V   | 44.4              | -78              | 3.8     | 12.0       | -69.8      | -13         | -56.8       |
| 15040.0*    | V   | 46.0              | -77              | 4.1     | 12.4       | -68.7      | -13         | -55.7       |
| 16920.0*    | V   | 47.5              | -76              | 4.4     | 14.0       | -66.4      | -13         | -53.4       |
| 18800.0*    | V   | 48.0              | -71              | 4.7     | 8.7        | -67        | -13         | -54         |
| 1717.5      | V   | 46.2              | -71              | 1.2     | 7.0        | -65.2      | -13         | -52.2       |
| 2889.5      | V   | 57.9              | -62              | 1.5     | 9.1        | -54.4      | -13         | -41.4       |
| 3435.0      | V   | 58.8              | -60              | 1.7     | 9.1        | -52.6      | -13         | -39.6       |
| 3480.0      | V   | 58.0              | -60              | 1.7     | 9.1        | -52.6      | -13         | -39.6       |
| 3530.6      | V   | 60.8              | -58              | 1.7     | 9.2        | -50.5      | -13         | -37.5       |

**NOTE:**

\* Measured noise floor

SA: Spectrum Analyzer

SG: Signal Generator

CL: SMA cable loss (6ft)

Worse case: Vertical

H=horizontal and V=vertical

EIRP = SG reading - CL + Gain (dBi)

Margin = EIRP - Limit

|                      |               |
|----------------------|---------------|
| <b>Configuration</b> | <b>PCS</b>    |
| <b>Band</b>          | <b>Uplink</b> |
| <b>Channel</b>       | <b>High</b>   |

| Freq. (MHz) | H,V | SA Reading (dBuV) | SG Reading (dBm) | CL (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----|-------------------|------------------|---------|------------|------------|-------------|-------------|
| 3819.6      | V   | 58.5              | -59              | 1.7     | 9.6        | -51.1      | -13         | -38.1       |
| 5729.4      | V   | 55.7              | -63              | 2.3     | 10.7       | -54.6      | -13         | -41.6       |
| 7639.2*     | V   | 44.5              | -77              | 2.8     | 11.2       | -66.6      | -13         | -55.6       |
| 9549.0*     | V   | 42.8              | -78              | 3.0     | 11.2       | -69.8      | -13         | -56.8       |
| 11458.8*    | V   | 44.8              | -78              | 3.3     | 11.8       | -69.5      | -13         | -56.5       |
| 13368.6*    | V   | 45.9              | -78              | 3.8     | 12.0       | -69.8      | -13         | -56.8       |
| 15278.4*    | V   | 46.8              | -77              | 4.1     | 13.1       | -68        | -13         | -55         |
| 17188.2*    | V   | 47.7              | -76              | 4.4     | 13.2       | -67.2      | -13         | -54.2       |
| 19098.0*    | V   | 48.0              | -70              | 4.7     | 8.0        | -66.7      | -13         | -53.7       |
| 1717.5      | V   | 46.2              | -71              | 1.2     | 7.0        | -65.2      | -13         | -52.2       |
| 2889.5      | V   | 57.9              | -62              | 1.5     | 9.1        | -54.4      | -13         | -41.4       |
| 3435.0      | V   | 58.8              | -60              | 1.7     | 9.1        | -52.6      | -13         | -39.6       |
| 3480.0      | V   | 58.0              | -60              | 1.7     | 9.1        | -52.6      | -13         | -39.6       |
| 3530.6      | V   | 60.8              | -58              | 1.7     | 9.2        | -50.5      | -13         | -37.5       |

**NOTE:**

\* Measured noise floor

SA: Spectrum Analyzer

SG: Signal Generator

CL: SMA cable loss (6ft)

**Worse case: Vertical****H=horizontal and V=vertical****EIRP = SG reading - CL + Gain (dBi)****Margin = EIRP - Limit**

**Section 7. Frequency Stability**

|                      |                            |                       |                                     |
|----------------------|----------------------------|-----------------------|-------------------------------------|
| <b>Name of Test:</b> | <i>Frequency Stability</i> | <b>Test Standard:</b> | <i>2.1055<br/>22.355&amp;24.235</i> |
| <b>Tested By:</b>    | WEI LI                     | <b>Test Date:</b>     | 09/01/2007-10/15/2007               |

**Minimum Standard:** Para. No. 22.355. The transmitter carrier frequency shall remain within the tolerances given in Table C-1.

TABLE C-1.—FREQUENCY TOLERANCE FOR TRANSMITTERS IN THE PUBLIC MOBILE SERVICES

| Frequency range (MHz) | Base, fixed (ppm) | Mobile ≤3 watts (ppm) | Mobile ≤3 watts (ppm) |
|-----------------------|-------------------|-----------------------|-----------------------|
| 25 to 50 .....        | 20.0              | 20.0                  | 50.0                  |
| 50 to 450 .....       | 5.0               | 5.0                   | 50.0                  |
| 450 to 512 .....      | 2.5               | 5.0                   | 5.0                   |
| 821 to 896 .....      | 1.5               | 2.5                   | 2.5                   |
| 928 to 929 .....      | 5.0               | n/a                   | n/a                   |
| 929 to 960 .....      | 1.5               | n/a                   | n/a                   |
| 2110 to 2220 .....    | 10.0              | n/a                   | n/a                   |

Para No. 24.235. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

**Method of Measurement:** Frequency Stability With Voltage Variation:  
The E.U.T. is placed in an environmental chamber and allowed to stabilize at +20 degrees Celsius for at least 15 minutes. Set SA resolution bandwidth low enough (30Hz) to obtain the desired frequency resolution. (Using frequency counter method: The frequency counter and signal generator are phase locked with the same 10 MHz reference frequency by connecting the 10 MHz ref. out of the counter to the 10MHz ref, in of the signal generator). With the voltage input to the E.U.T. set to 85% S.T.V., the frequency is measured in 30 second intervals for a period of 5 minutes. This procedure is repeated at 100% S.T.V. and 115% S.T.V.

Frequency Stability With Temperature Variation:  
The input voltage to the E.U.T. is set to S.T.V. and the temperature of the environmental chamber is varied in 10 degree steps from -30 degrees C to +50 degrees C. The E.U.T. is allowed to stabilize at each temperature and the frequency is measured in 30 second intervals for a period of 5 minutes.



**Test Result:**

**Complies**

---

**Test Data:**

See Attached Table(s)

***Not Applicable***

**Section 8. Out of Band Rejection**

|                      |                              |                       |                       |
|----------------------|------------------------------|-----------------------|-----------------------|
| <b>Name of Test:</b> | <i>Out of Band Rejection</i> | <b>Test Standard:</b> |                       |
| <b>Tested By:</b>    | Edward Lee                   | <b>Test Date:</b>     | 09/01/2007-10/15/2007 |

**Minimum Standard:** The passband gain shall not exceed the nominal gain by more than 1.0 dB. The 20 dB bandwidth shall not exceed the nominal bandwidth that is stated by the manufacturer. Outside of the 20 dB bandwidth, the gain shall not exceed the gain at the 20 dB point.

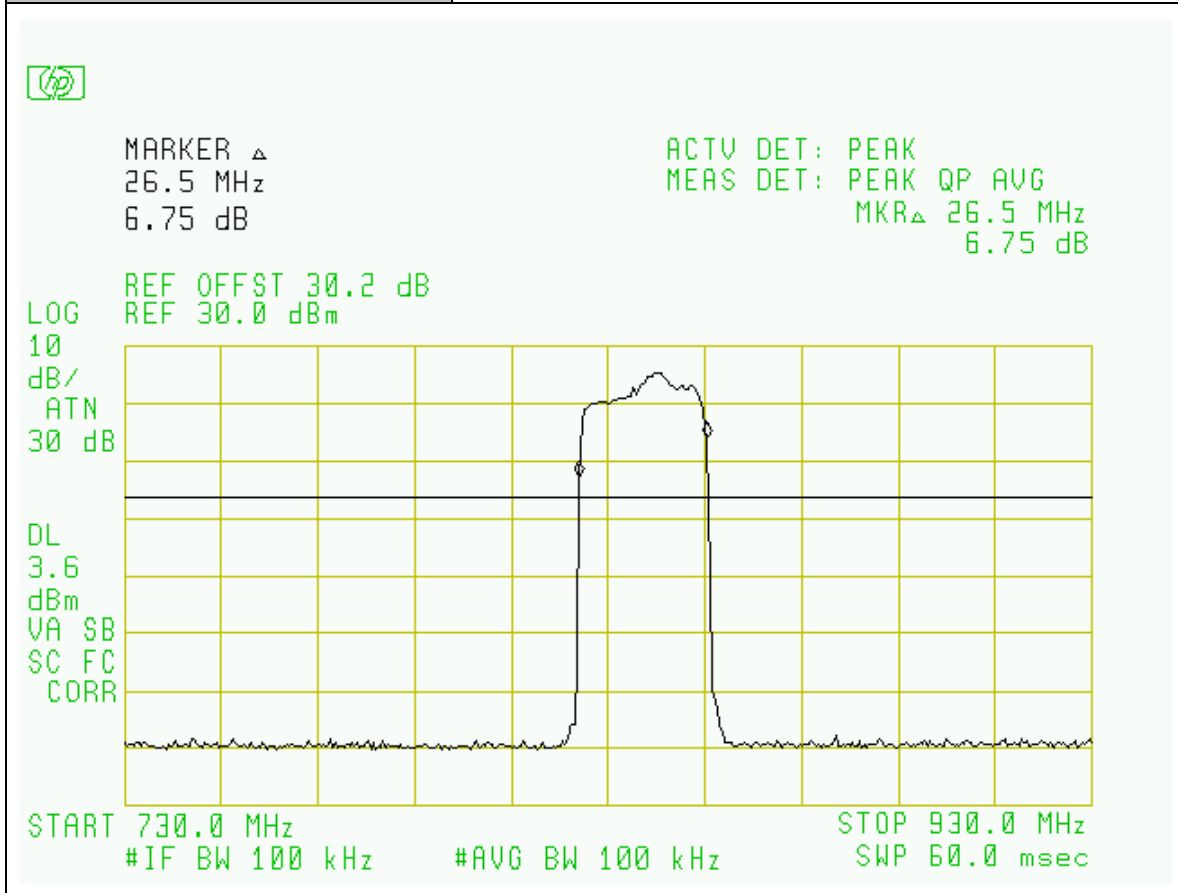
**Method of Measurement:** Adjust the internal gain control of the equipment under test to the nominal gain for which equipment certification is sought. With the aid of a signal generator and spectrum analyzer, measure the 20 dB bandwidth of the amplifier (i.e. at the point where the gain has fallen by 20 dB). Measure the gain-versus-frequency response of the amplifier from the midband frequency  $f_0$  of the passband up to at least  $f_0 \pm 250\%$  of the 20 dB bandwidth.

**Test Result:****Complies****Test Data:**

See Attached Table(s)

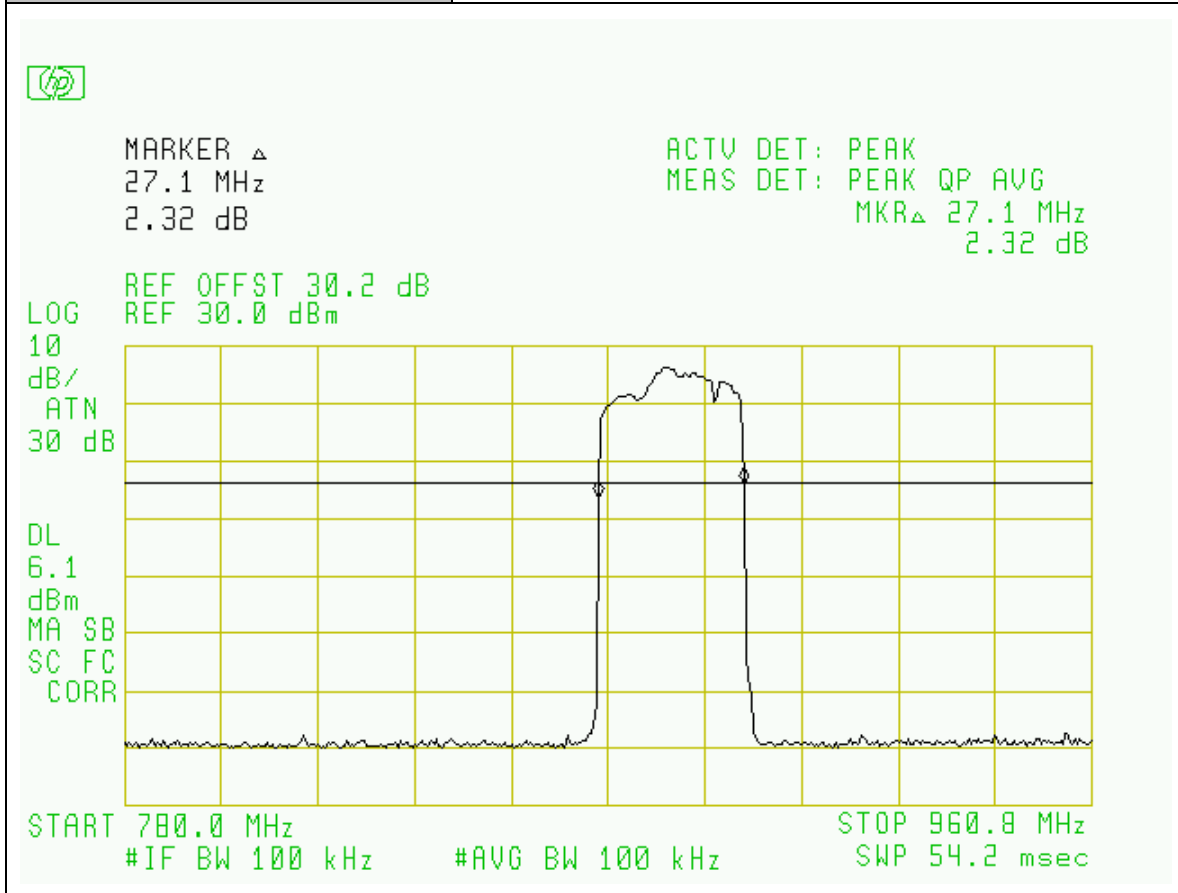
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Test By:</b>        | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Pass Band Gain & 20dB Bandwidth                                |
| <b>Plot Name:</b>     | 800 Cellular Uplink Full Band-250% Span                        |
| <b>Configuration:</b> | Server Antenna Connector was connected to SG.<br>Input: -60dBm |



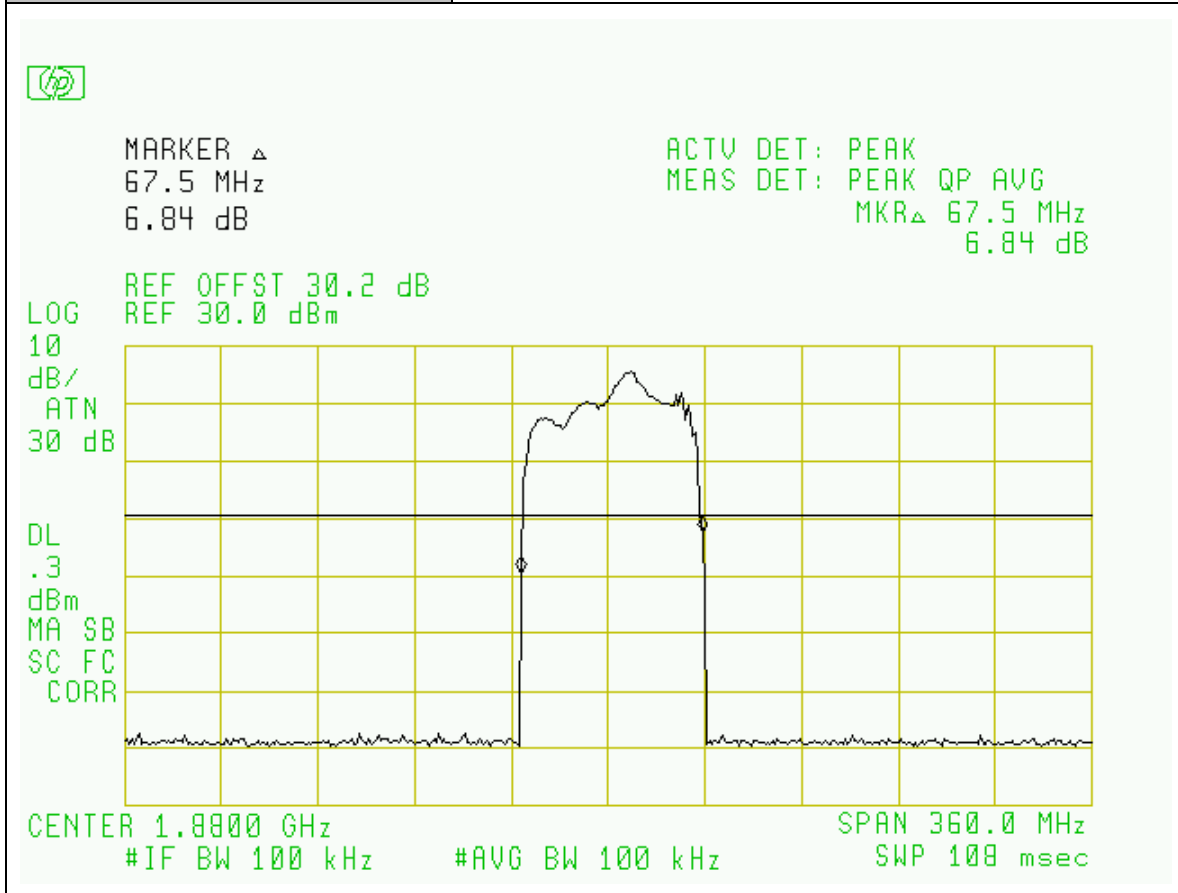
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Test By:</b>        | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Pass Band Gain & 20dB Bandwidth                               |
| <b>Plot Name:</b>     | 800 Cellular Downlink Full Band-250% Span                     |
| <b>Configuration:</b> | Donor Antenna Connector was connected to SG.<br>Input: -60dBm |



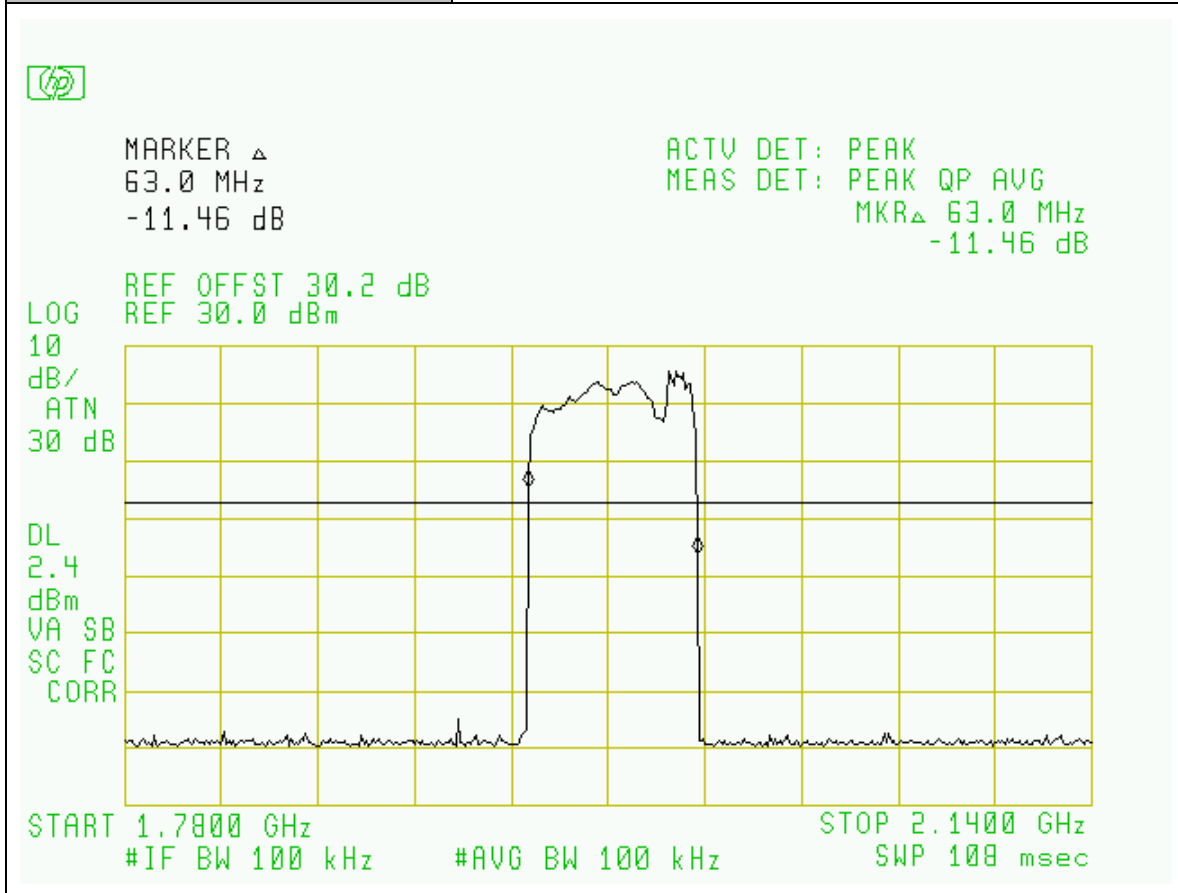
|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Test By:</b>        | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |  |
|-----------------------|--|
| <b>Section:</b>       | Pass Band Gain & 20dB Bandwidth                                |
| <b>Plot Name:</b>     | 1900 PCS Uplink Full Band-250% Span                            |
| <b>Configuration:</b> | Server Antenna Connector was connected to SG.<br>Input: -60dBm |



|                        |   |
|------------------------|---|
| <b>Project Number:</b> | 0048-070901-01                          |
| <b>EUT:</b>            | Shyam Dual Band Outdoor Repeater DB5R33 |
| <b>SN:</b>             | D5R33CDG05                              |
| <b>Test By:</b>        | Edward Lee                              |
| <b>Temperature:</b>    | 70° F                                   |
| <b>Humidity:</b>       | 30%                                     |

|                       |   |
|-----------------------|---|
| <b>Section:</b>       | Pass Band Gain & 20dB Bandwidth                               |
| <b>Plot Name:</b>     | 1900 PCS Downlink Full Band-250% Span                         |
| <b>Configuration:</b> | Donor Antenna Connector was connected to SG.<br>Input: -60dBm |



**Section 9. Test Equipment List**

| <b>Manufacture</b> | <b>Model</b> | <b>Serial No.</b> | <b>Description</b>                    | <b>Last Cal<br/>dd/mm/<br/>yy</b> | <b>Cal Due<br/>dd/mm/<br/>yy</b> |
|--------------------|--------------|-------------------|---------------------------------------|-----------------------------------|----------------------------------|
| HP                 | HP8546A      | 3448A00290        | EMI Receiver                          | 12/01/07                          | 12/01/08                         |
| HP                 | E4432B       | US38220355        | 250K-3GHz Signal Generator            | 17/09/07                          | 17/09/08                         |
| Agilent            | E4440A       | US40420700        | 3Hz-26.5GHz Spec. Analyzer            | 12/05/07                          | 12/05/08                         |
| R &S               | ESPI7        | 6001              | 9KHz-7GHz EMI Receiver                | 11/06/07                          | 11/06/08                         |
| EMCO               | 3104C        | 9307-4396         | 20-300MHz Biconical Antenna           | 12/02/07                          | 12/02/08                         |
| EMCO               | 3146         | 9008-2860         | 200-1000MHz Log-Periodic Antenna      | 09/02/07                          | 09/02/08                         |
| Fischer Custom     | LISN-2       | 900-4-0008        | Line Impedance Stabilization Networks | 23/08/07                          | 23/08/08                         |
| Fischer Custom     | LISN-2       | 900-4-0009        | Line Impedance Stabilization Networks | 23/08/07                          | 23/08/08                         |
| EMCO               | 6502         | 2665              | 10KHz-30MHz Active Loop Antenna       | 27/02/07                          | 27/02/08                         |
| EMCO               | 3115         | 4945              | Double Ridge Guide Horn Antenna       | 11/08/07                          | 11/08/08                         |
| HP                 | 8569B        | 2607A02802        | 1GHz-22GHz Spectrum Analyzer          | 10/02/07                          | 10/02/08                         |
| Advantest          | R3271        | 5003583           | 100Hz-26.5GHz Spectrum Analyzer       | 30/04/07                          | 30/04/08                         |
| HP                 | E8254A       | US42110367        | Signal Generator                      | 23/03/07                          | 23/03/08                         |
| HP                 | 4419A        | US37292112        | RF Power Meter w/ Sensor Probe        | 20/06/07                          | 20/06/08                         |
| EMCO               | 3116         | 4943              | Double Ridge Guide Horn Antenna       | 11/01/07                          | 11/01/08                         |
| Scientific-Atlanta | 12A-18       | 441               | Wave Guide Horn Antenna               | 04/08/07                          | 04/08/08                         |