KTL Test Report:	9R01581
Applicant:	Allen Telecom Inc. 140 Vista Centre Drive Forest, Virginia 24551
Equipment Under Test: (E.U.T.)	MR801 Cellular Repeater
FCC ID:	BCR-RPT-MR801
In Accordance With:	**FCC Part 22, Subpart H** Cellular Band Repeaters
Tested By:	KTL Ottawa Inc. 3325 River Road, R.R. 5 Ottawa, Ontario K1V 1H2
Authorized By:	
	R. Grant, Senior RF Specialist
Date:	
Total Number of Pages:	210

Table of Contents

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Section 1. Summary of Test Results

Manufacturer: Allen Telecom Inc.

Model No.: MR801

Serial No.: 12

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.

☒ New Submission ☒ Production Unit

☐ Class II Permissive Change ☐ Pre-Production Unit

A	M	P

Equipment Code

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: 100351-0

TESTED BY: _____ DATE: _____
Kevin Carr, Technologist

Summary Of Test Data

NAME OF TEST	PARA. NO.	SPEC.	MEAS.	RESULT
RF Power Output	22.913(a)	500W ERP	Plot	Complies
Occupied Bandwidth (Voice & SAT)	22.917(c)	Mask C	Plot	Complies
Occupies Bandwidth (Wideband Data)	22.917(d)	Mask D	Plot	Complies
Occupied Bandwidth (ST)	22.917(d)	Mask D	Plot	Complies
Occupied Bandwidth (Digital)	None	Input vs. Output	Plot	Complies
Spurious Emissions at Antenna Terminals	22.917	-13 dBm	Plot	Complies
Field Strength of Spurious Emissions	22.917	-13 dBm E.I.R.P.	Chart	Complies
Frequency Stability	22.355	1.5 ppm	N/A	N/A

Footnotes For N/A's:

Test Conditions:

Indoor	Temperature:	24 °C
	Humidity:	60%
Outdoor	Temperature:	27 °C
	Humidity:	60 %

.

Section 2. General Equipment Specification

Supply Voltage Input:		120 VAC, 60 Hz
Frequency Range:	**Downlink:**	869-894 MHz
Frequency Range:	**Uplink:**	824-849 MHz

Type of Modulation and Designator:

CDMA (F9W)	GSM (GXW)	TDMA (DXW)	CDPD (F9W)	AMPS (F8W, F1D)
☒	☐	☒	☐	☒

AGC Threshold:		Not Applicable
Output Impedance:		50 Ω
Gain:		90 dB Nominal
Max Input Power:		-50 dBm
RF Output (Rated):	**Single:** **Composite:**	See Page 10

Frequency Translation:

F1-F1	F1-F2	N/A
☒	☐	☐

Band Selection:

Software	Duplexer Change	Fullband Coverage
☐	☐	☒

Description of Modifications For Class II Permissive Change

NOT APPLICABLE

Modifications Made During Testing

NOT APPLICABLE

Theory of Operation

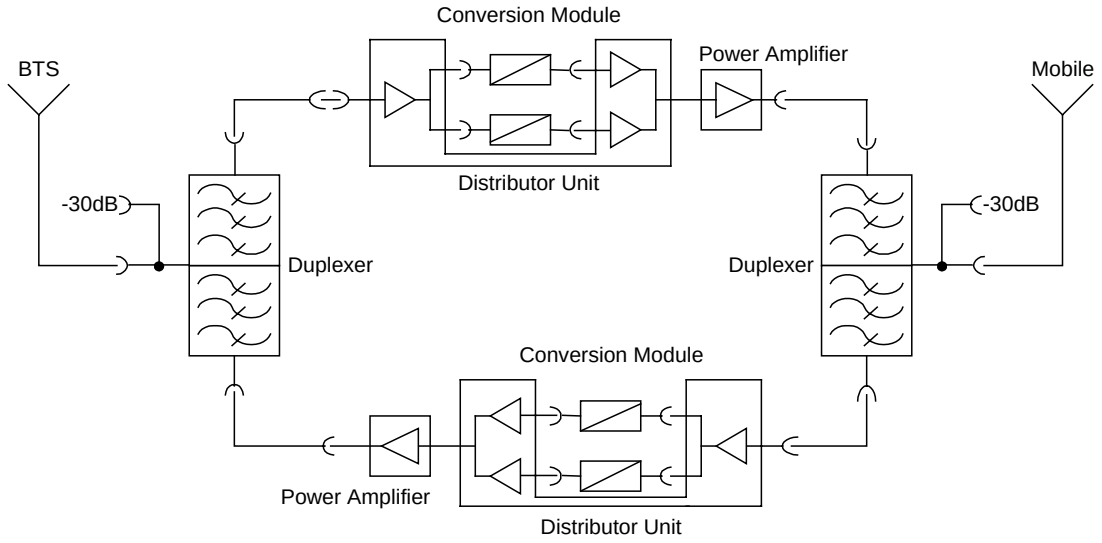
The E.U.T. is available as a variable band selective or channel selective repeater for CDMA, TDMA and Analog. As well, the unit is available in high and low power configurations.

This repeater bi-directionally amplifies signals between multiple mobiles and a single base station in the AMPS800 frequency band. It is employed where poor topological conditions cause weak field strengths . It can provide highly selective amplification of band segments or channels in the AMPS800 band.

The E.U.T.'s modules can be combined with other repeater modules in order to create a multi-band repeater system. Modules operating in the PCS1900, GSM1800, GSM900 or iDEN bands are available. When different modules are combined, a common antenna and control interface are available.

The E.U.T. can be set-up locally or remotely. A PCMCIA slot for modem operation is an available option. The repeater has a large number of functions that can be monitored and changed by the operators via a terminal emulation program or the MIKOM OMC software platform. An understandable communication language is available to aid the operator query status reports from the repeater or to change settings.

System Diagram



Section 3. RF Power Output

NAME OF TEST: RF Power Output	PARA. NO.: 2.985
TESTED BY: Kevin Carr	DATE: August 11, 1999

Test Results: Complies.

Measurement Data:

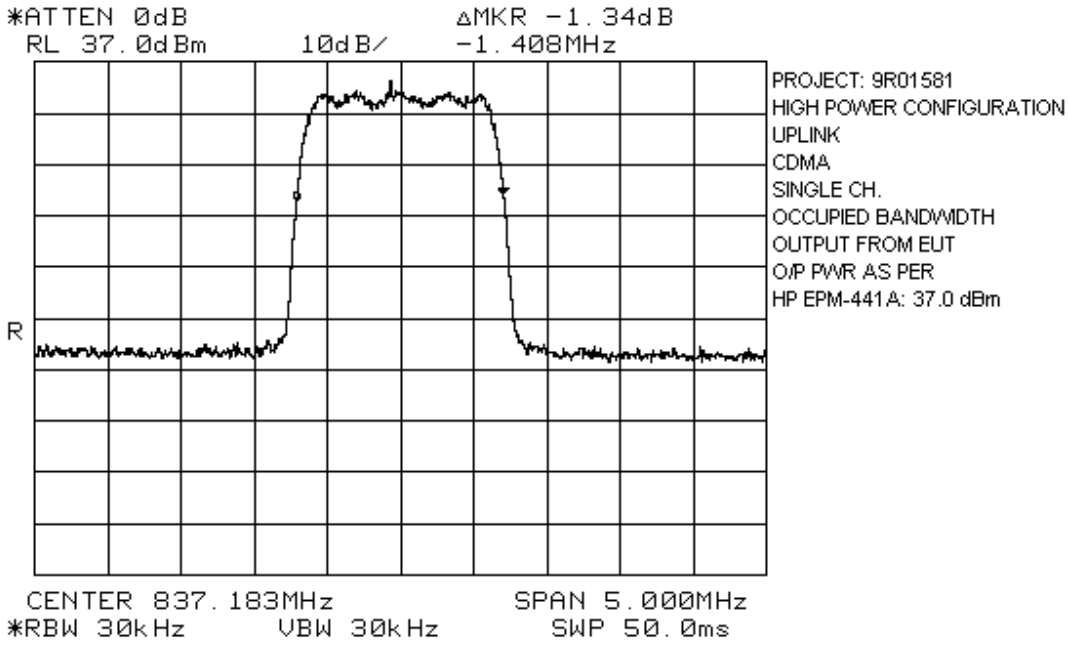
2 Channel RF Power Composite:

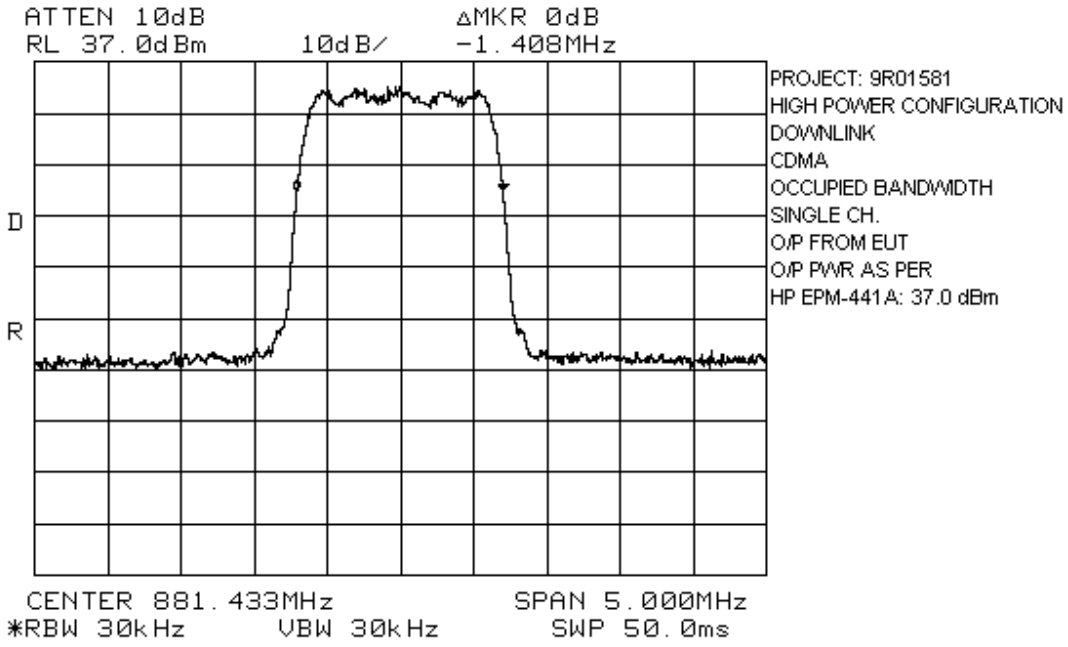
	Uplink				Downlink			
	High Power Configuration		Low Power Configuration		High Power Configuration		Low Power Configuration	
	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)
AMPS	40	10.0	32.1	1.62	40	10.0	30.9	1.23
CDMA	34	2.51	27.8	0.603	34	2.51	26.2	0.417
TDMA	37	5.01	28.9	0.776	37	5.01	27.9	0.617

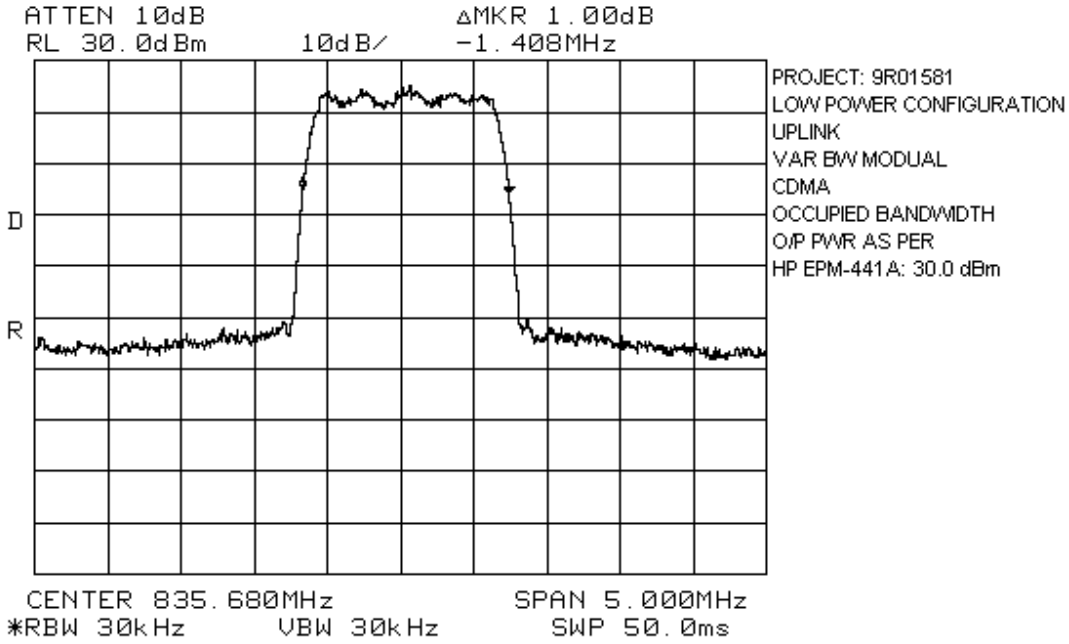
Single Channel – Customer Specified:

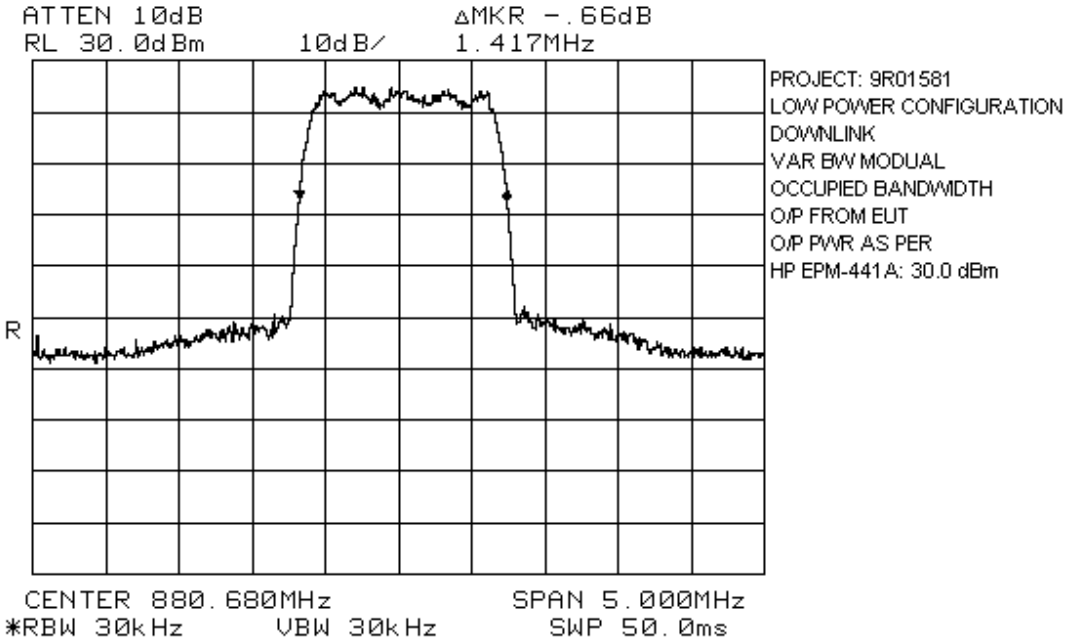
	Uplink				Downlink			
	High Power Configuration		Low Power Configuration		High Power Configuration		Low Power Configuration	
	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)
AMPS	40	10.0	37	5.01	40	10.0	37	5.01
CDMA	37	5.01	30	1.00	37	5.01	30	1.00
TDMA	40	10.0	34	2.51	40	10.0	34	2.51

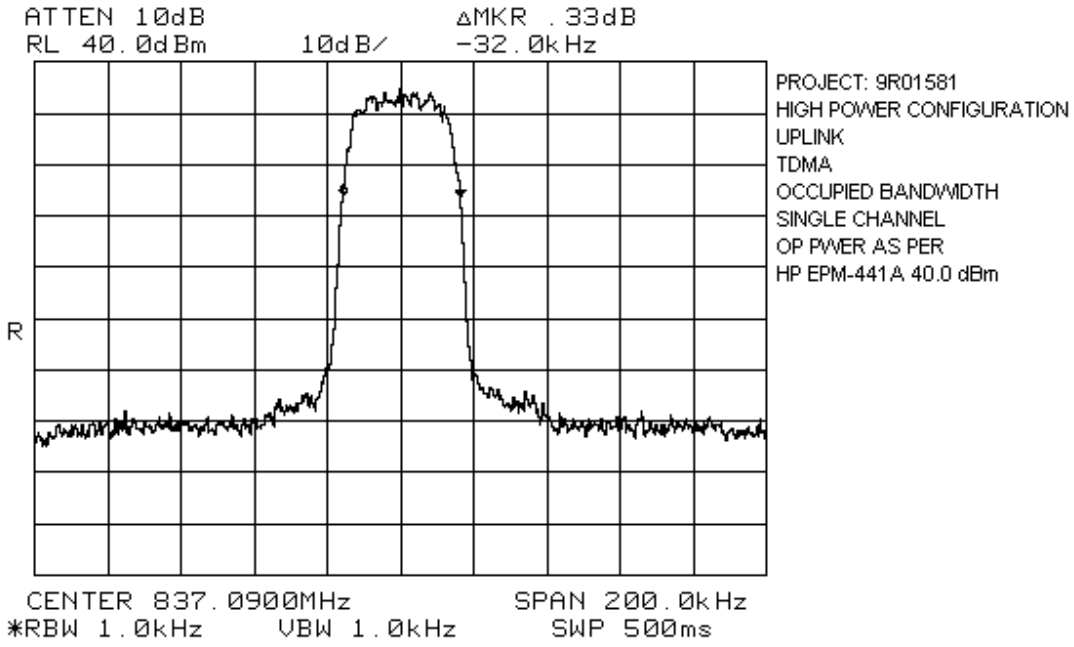
Variable Bandwidth Module

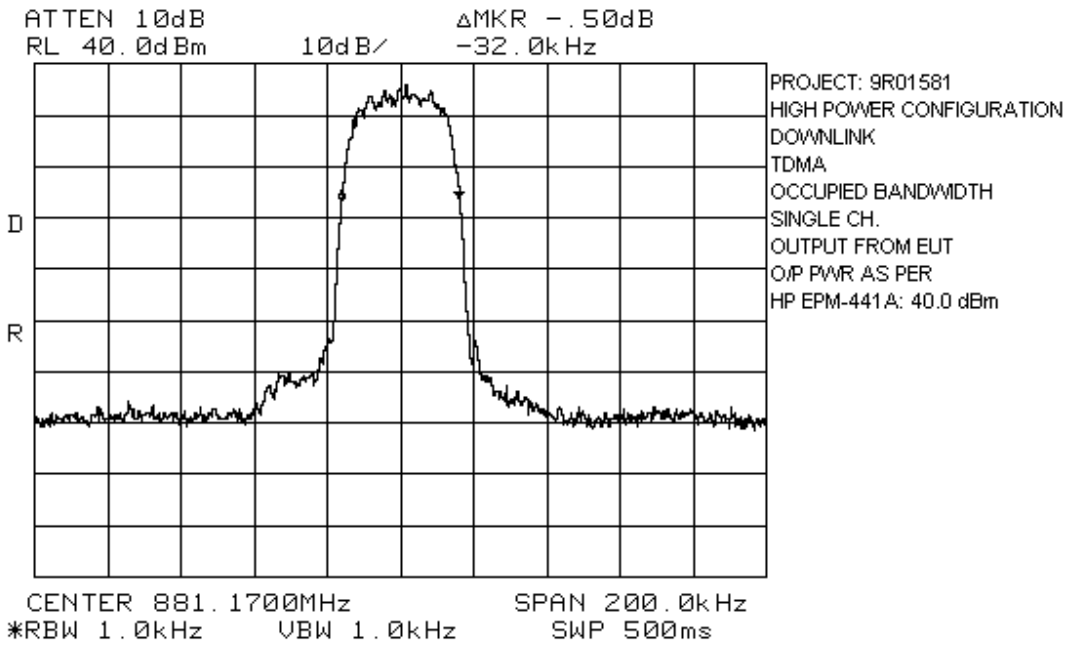


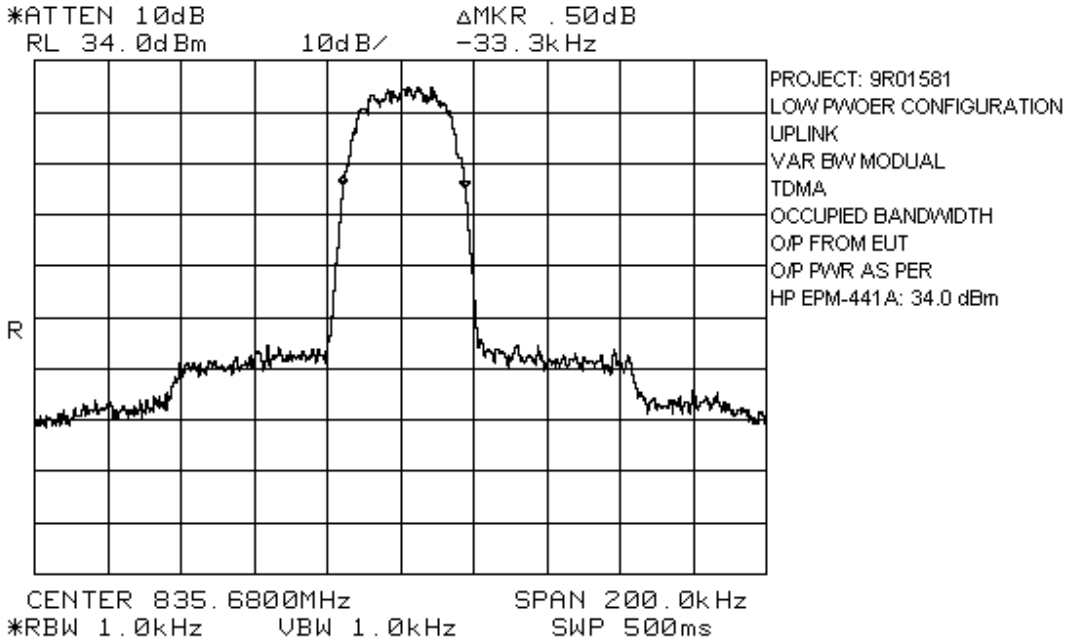

ATTEN 10dB
RL 37.0dBm
10dB/
ΔMKR 0dB
-1.408MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA
OCCUPIED BANDWIDTH
SINGLE CH.
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
CENTER 881.433MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

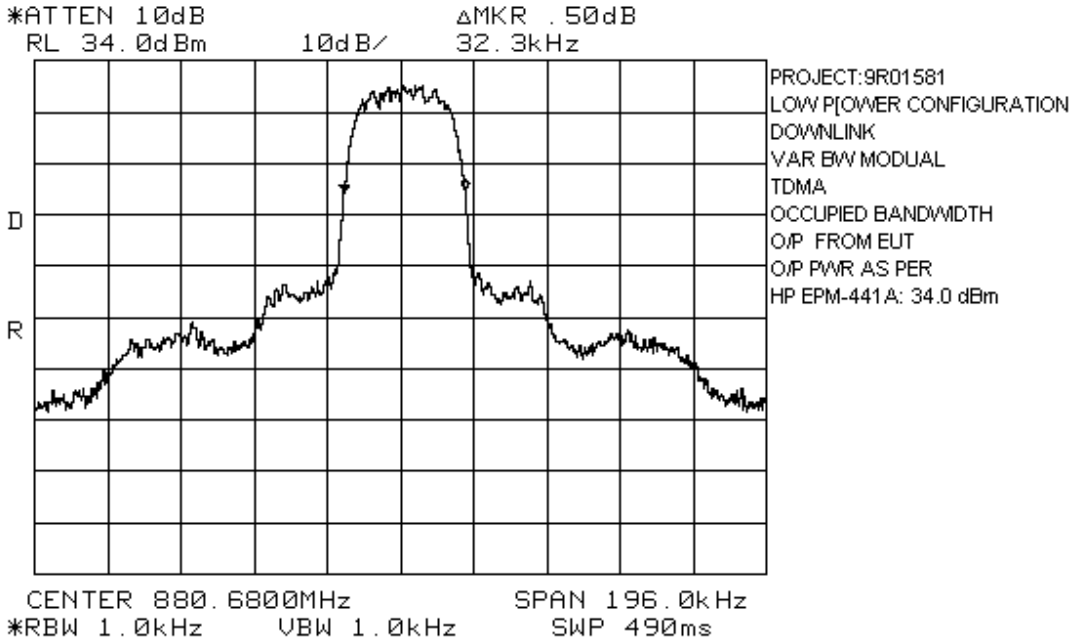

ATTEN 10dB
RL 30.0dBm
10dB/
ΔMKR 1.00dB
-1.408MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
CDMA
OCCUPIED BANDWIDTH
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
CENTER 835.680MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms


ATTEN 10dB
RL 30.0dBm
10dB/
ΔMKR -.66dB
1.417MHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
R
CENTER 880.680MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

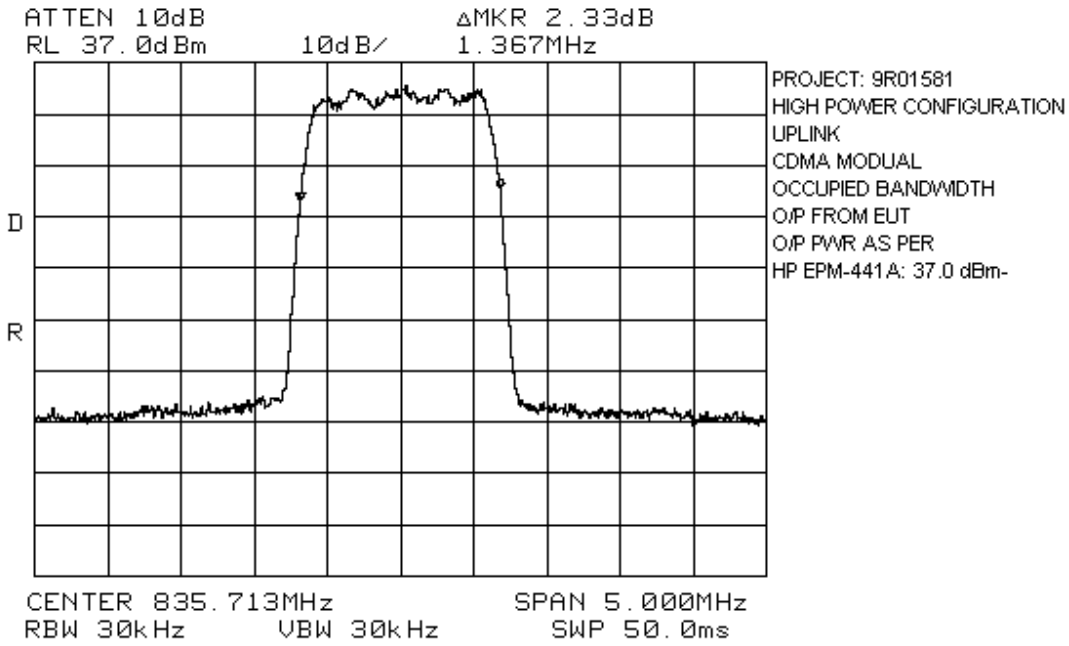

ATTEN 10dB
RL 40.0dBm
10dB/
ΔMKR .33dB
-32.0kHz
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
TDMA
OCCUPIED BANDWIDTH
SINGLE CHANNEL
OP PWER AS PER
HP EPM-441A 40.0 dBm
CENTER 837.0900MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

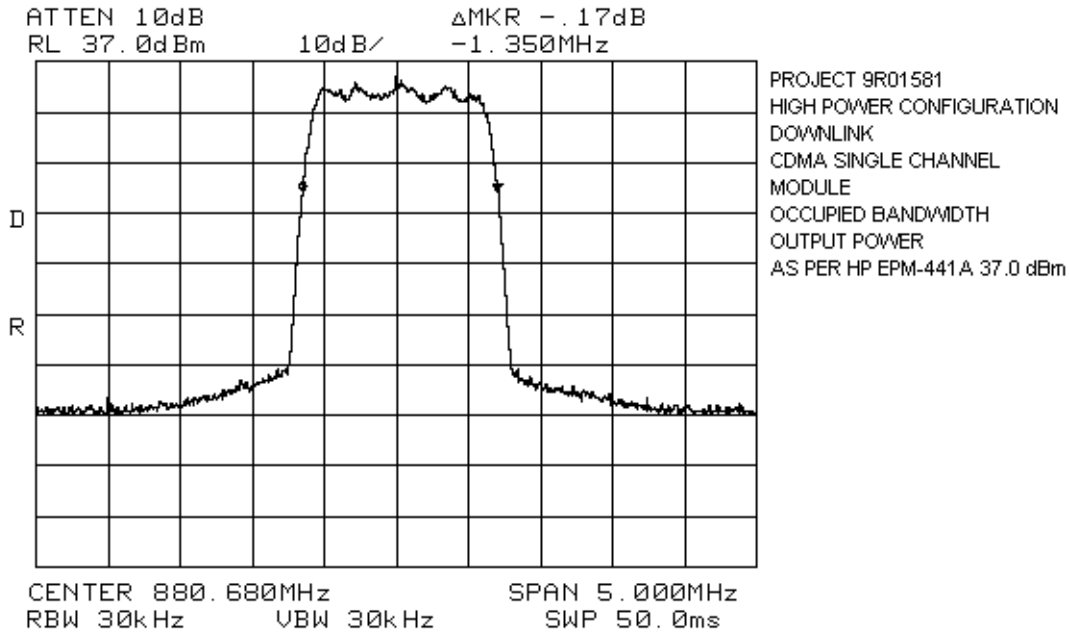

ATTEN 10dB
RL 40.0dBm
10dB/
ΔMKR -.50dB
-32.0kHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
TDMA
OCCUPIED BANDWIDTH
SINGLE CH.
OUTPUT FROM EUT
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
CENTER 881.1700MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

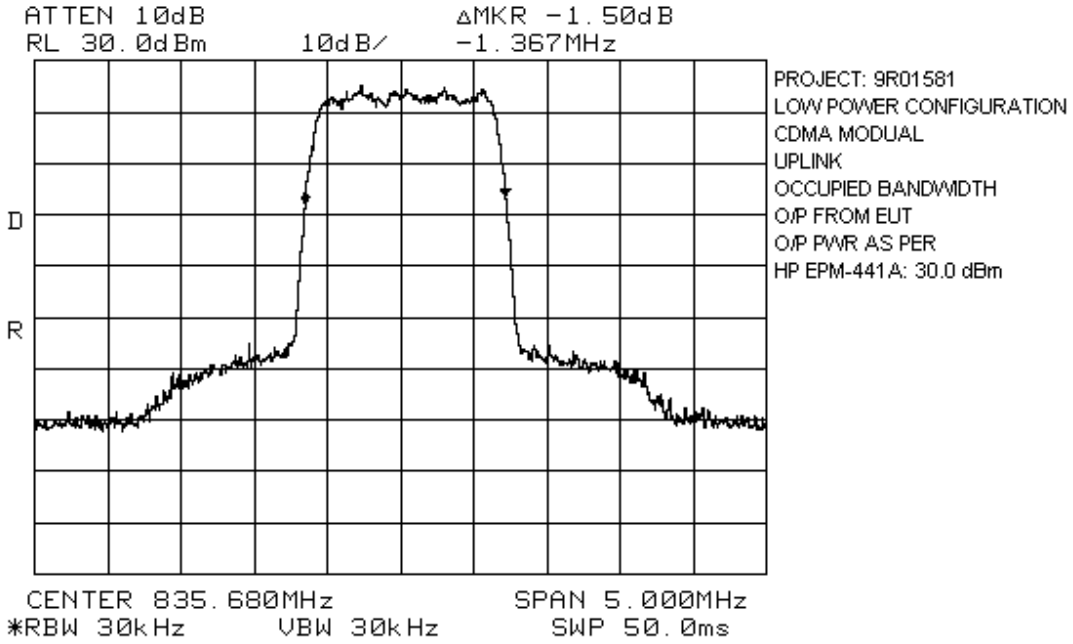

*ATTEN 10dB
RL 34.0dBm
10dB/
ΔMKR .50dB
-33.3kHz
PROJECT: 9R01581
LOW PWOER CONFIGURATION
UPLINK
VAR BW MODUAL
TDMA
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
R
CENTER 835.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

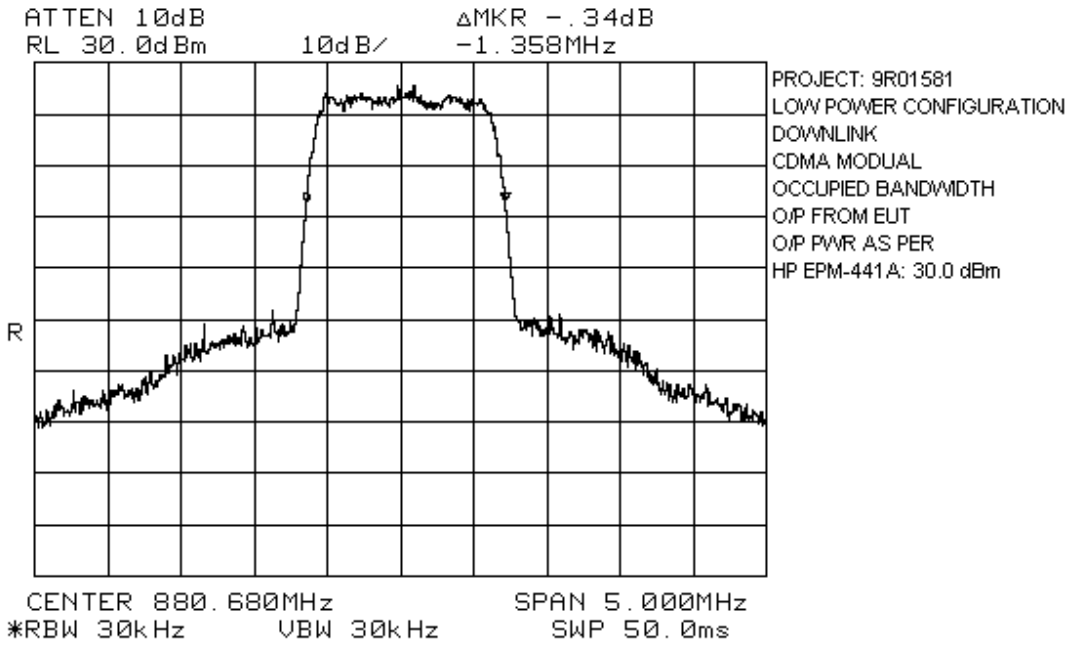

*ATTEN 10dB
RL 34.0dBm
10dB/
ΔMKR .50dB
32.3kHz
D
R
PROJECT:9R01581
LOW P[OWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
TDMA
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
CENTER 880.6800MHz
SPAN 196.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 490ms

CDMA Module

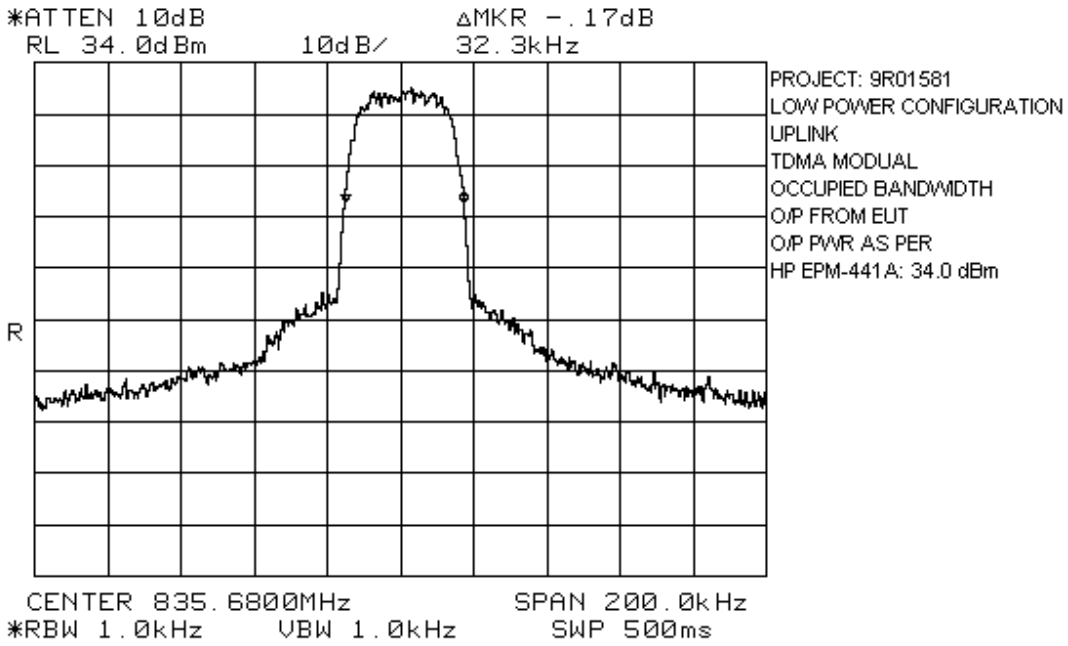

ATTEN 10dB
RL 37.0dBm
10dB/
ΔMKR 2.33dB
1.367MHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
CDMA MODUAL
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 37.0 dBm-
D
R
CENTER 835.713MHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

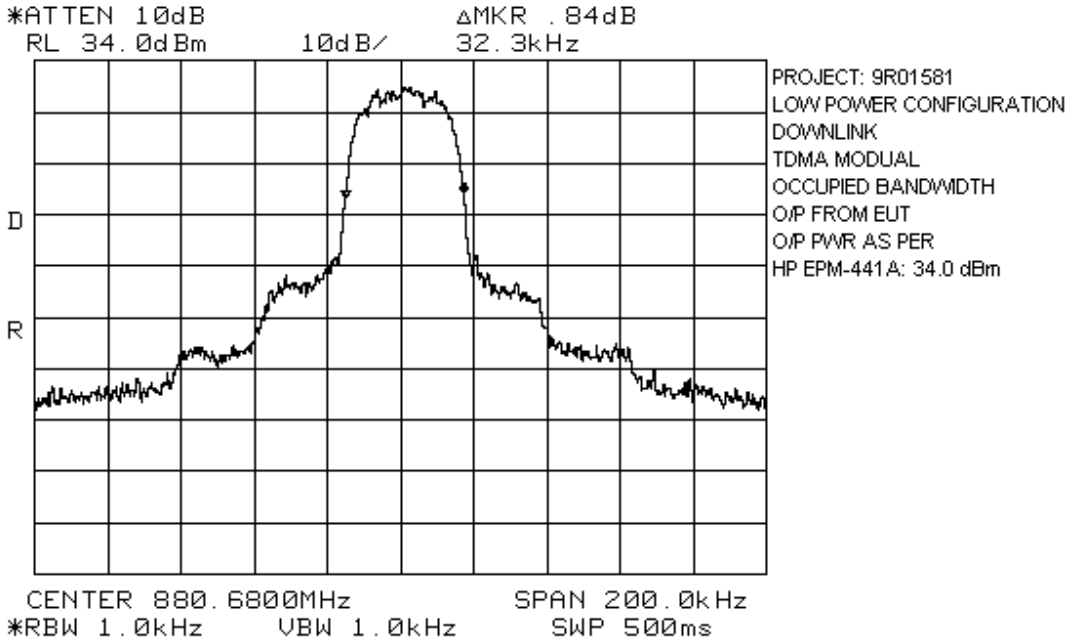

ATTEN 10dB
RL 37.0dBm
10dB/
ΔMKR -.17dB
-1.350MHz
D
R
PROJECT 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA SINGLE CHANNEL
MODULE
OCCUPIED BANDWIDTH
OUTPUT POWER
AS PER HP EPM-441A 37.0 dBm
CENTER 880.680MHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

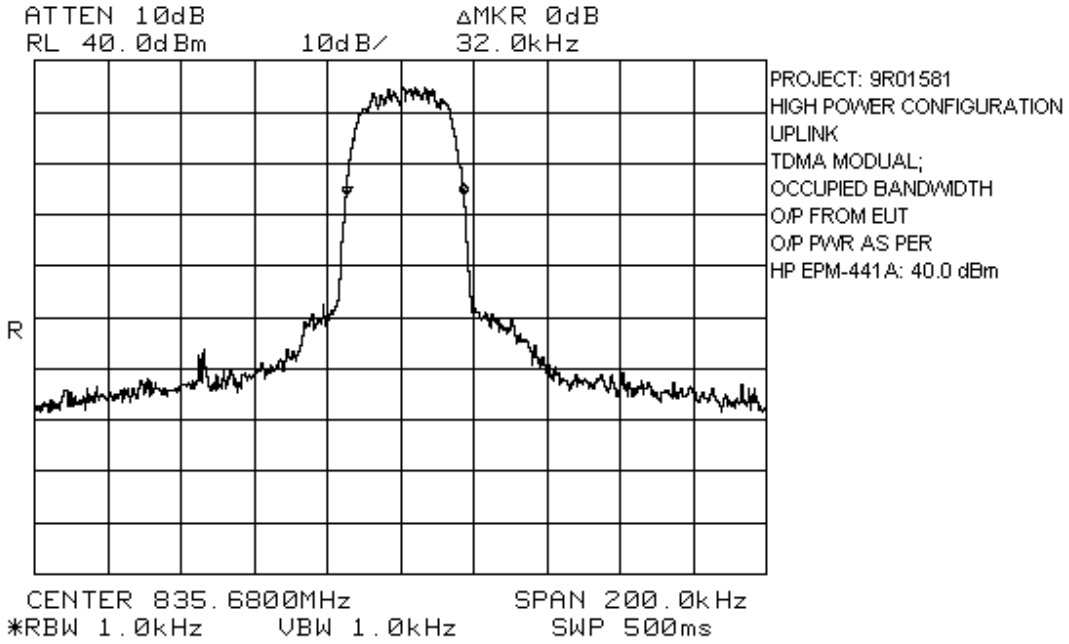

ATTEN 10dB
RL 30.0dBm
10dB/
ΔMKR -1.50dB
-1.367MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
CDMA MODUAL
UPLINK
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
CENTER 835.680MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

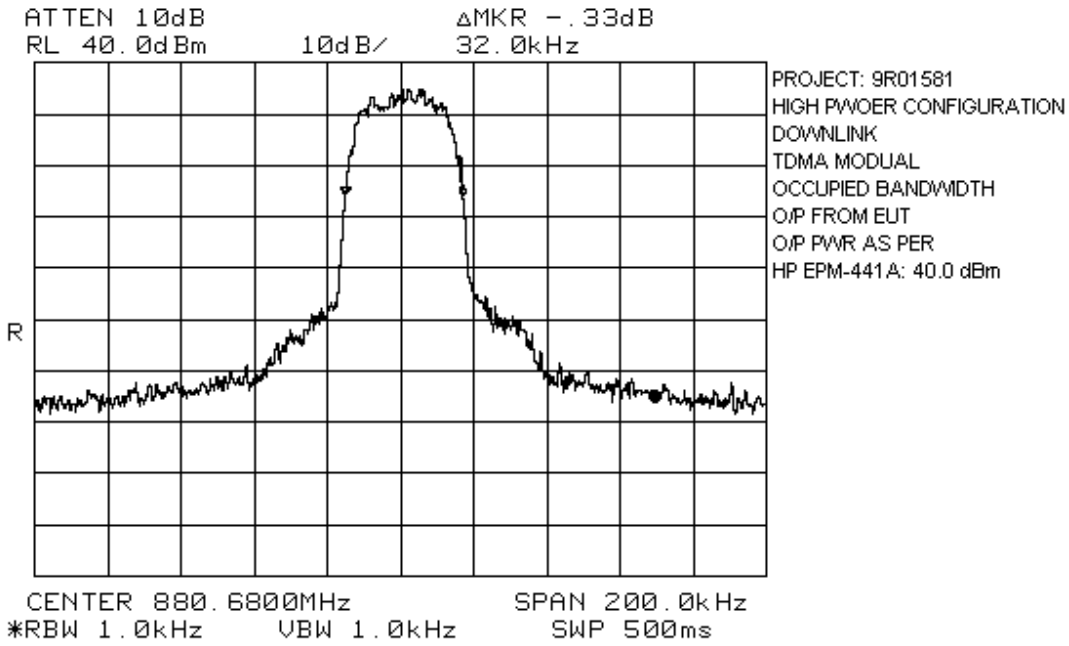

ATTEN 10dB
RL 30.0dBm
10dB/
ΔMKR -.34dB
-1.358MHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
CDMA MODUAL
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
R
CENTER 880.680MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

TDMA Module


*ATTEN 10dB
RL 34.0dBm
10dB/
ΔMKR -.17dB
32.3kHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
TDMA MODUAL
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
R
CENTER 835.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


*ATTEN 10dB
RL 34.0dBm
10dB/
ΔMKR .84dB
32.3kHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
TDMA MODUAL
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
CENTER 880.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


ATTEN 10dB
RL 40.0dBm
10dB/
ΔMKR 0dB
32.0kHz
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
TDMA MODUAL;
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
CENTER 835.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


ATTEN 10dB
RL 40.0dBm
10dB/
ΔMKR -.33dB
32.0kHz
PROJECT: 9R01581
HIGH PWOER CONFIGURATION
DOWNLINK
TDMA MODUAL
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
R
CENTER 880.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

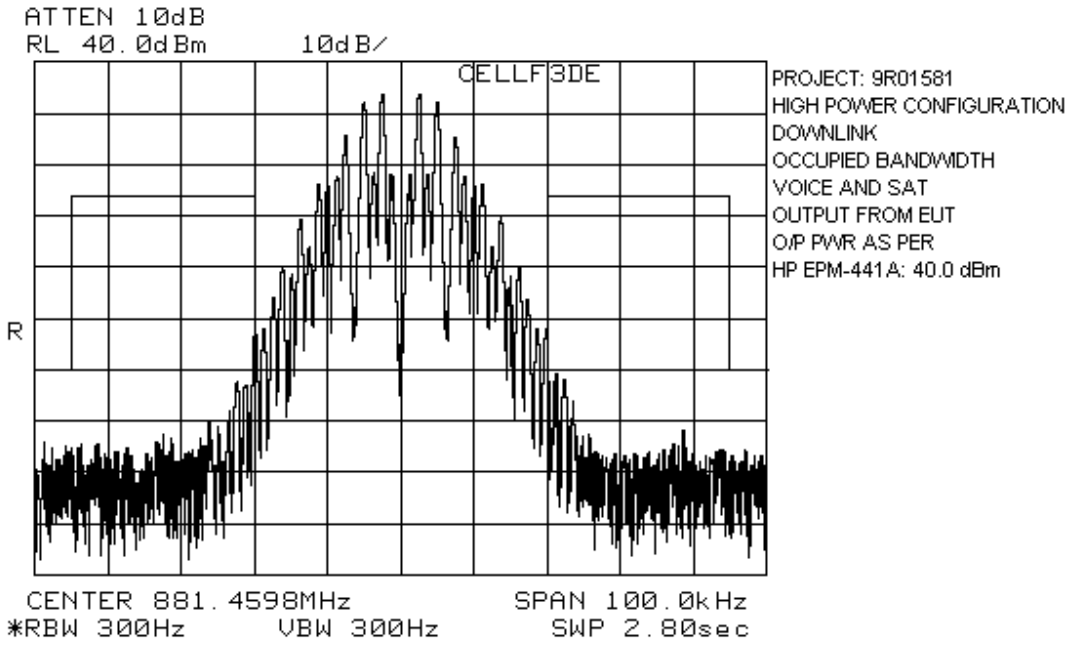
Section 4. Occupied Bandwidth

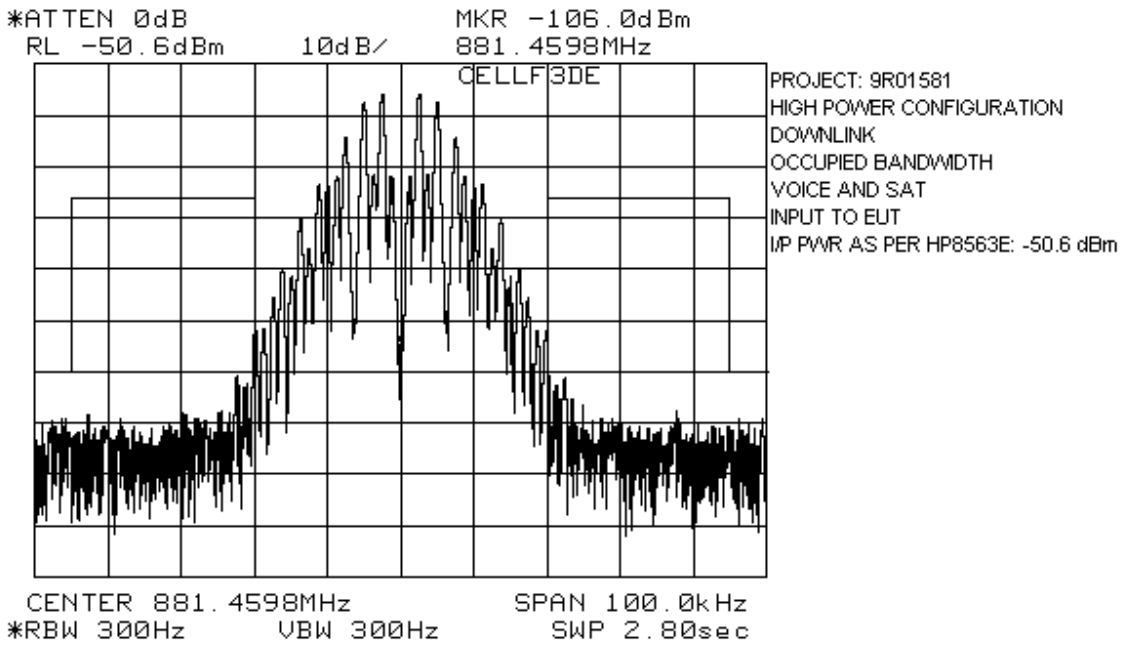
NAME OF TEST: Occupied Bandwidth (Voice + SAT)	PARA. NO.: 2.917(c)
TESTED BY: Kevin Carr	DATE: July 14, 1999

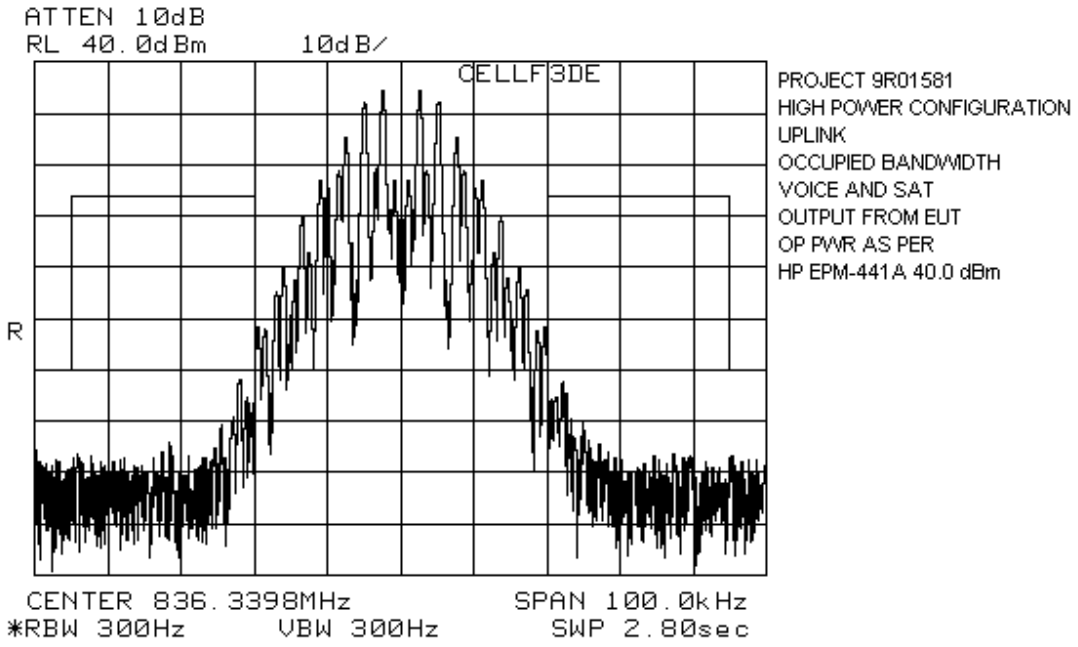
Test Results: Complies.

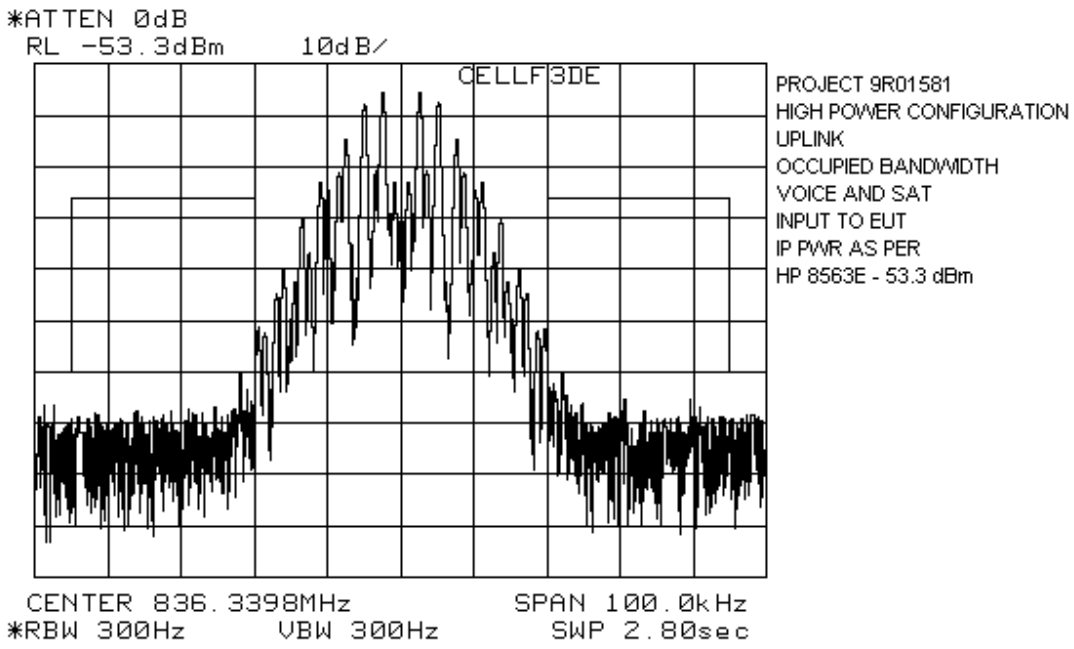
Test Data: See attached graph(s).

High Power – Variable Bandwidth Modules

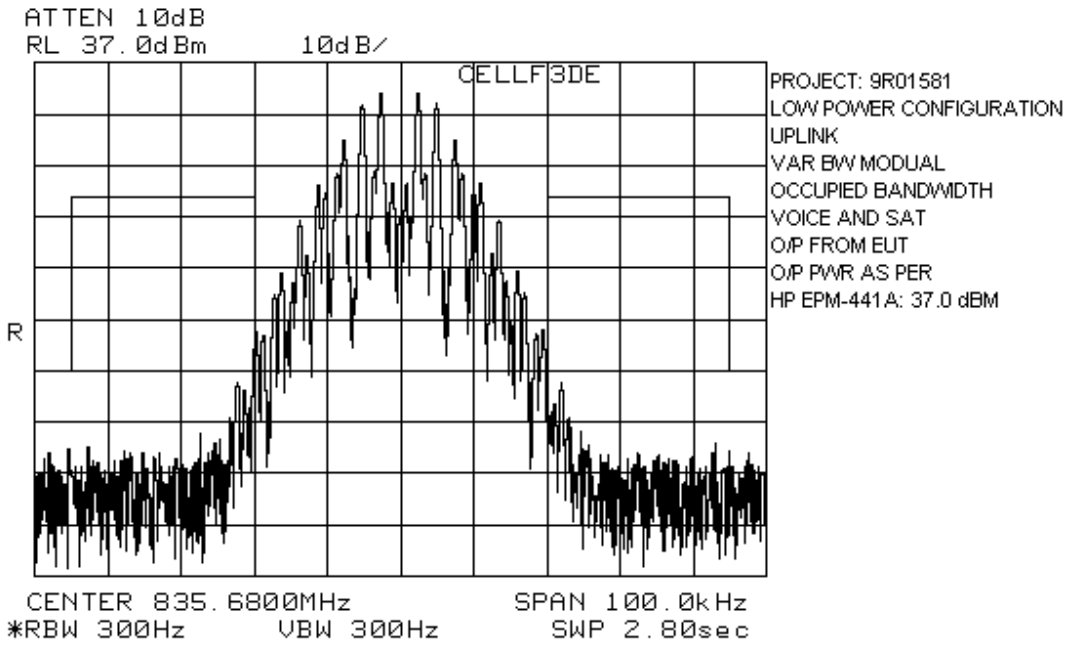


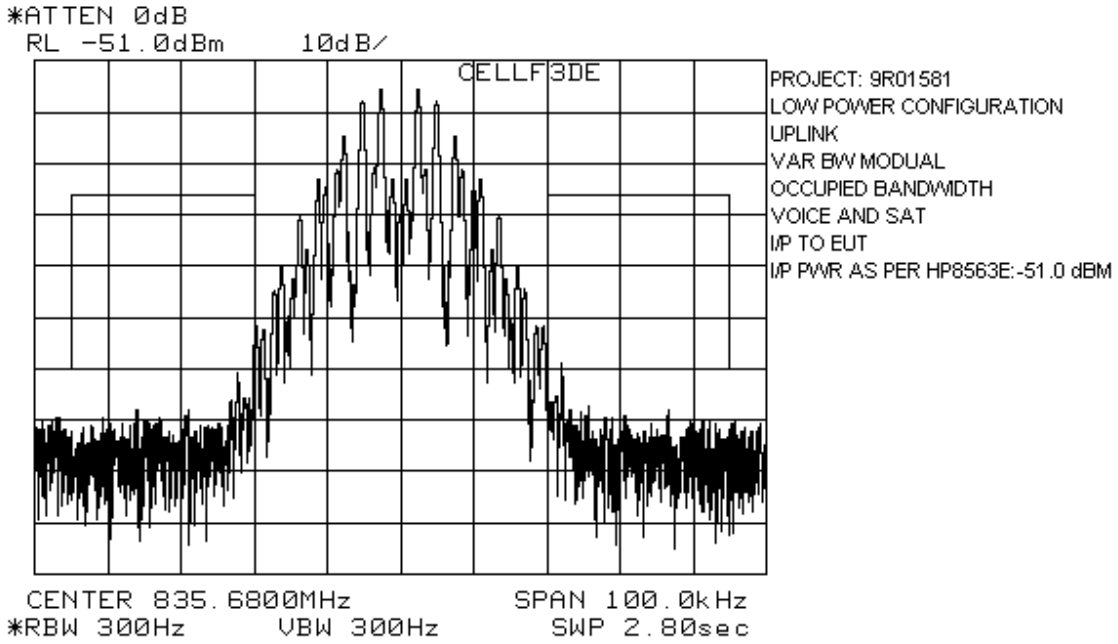

*ATTEN 0dB
RL -50.6dBm
10dB/
MKR -106.0dBm
881.4598MHz
CELLF3DE
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
OCCUPIED BANDWIDTH
VOICE AND SAT
INPUT TO EUT
I/P PWR AS PER HP8563E: -50.6 dBm
CENTER 881.4598MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec

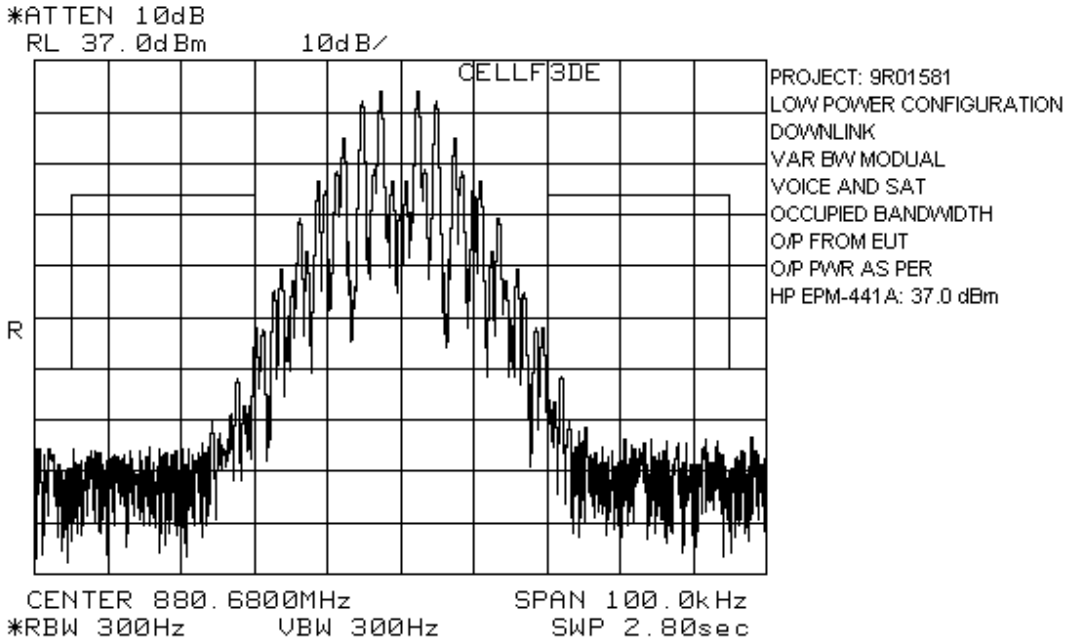

ATTEN 10dB
RL 40.0dBm
10dB/
CELLF3DE
PROJECT 9R01581
HIGH POWER CONFIGURATION
UPLINK
OCCUPIED BANDWIDTH
VOICE AND SAT
OUTPUT FROM EUT
OP PWR AS PER
HP EPM-441A 40.0 dBm
R
CENTER 836.3398MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec

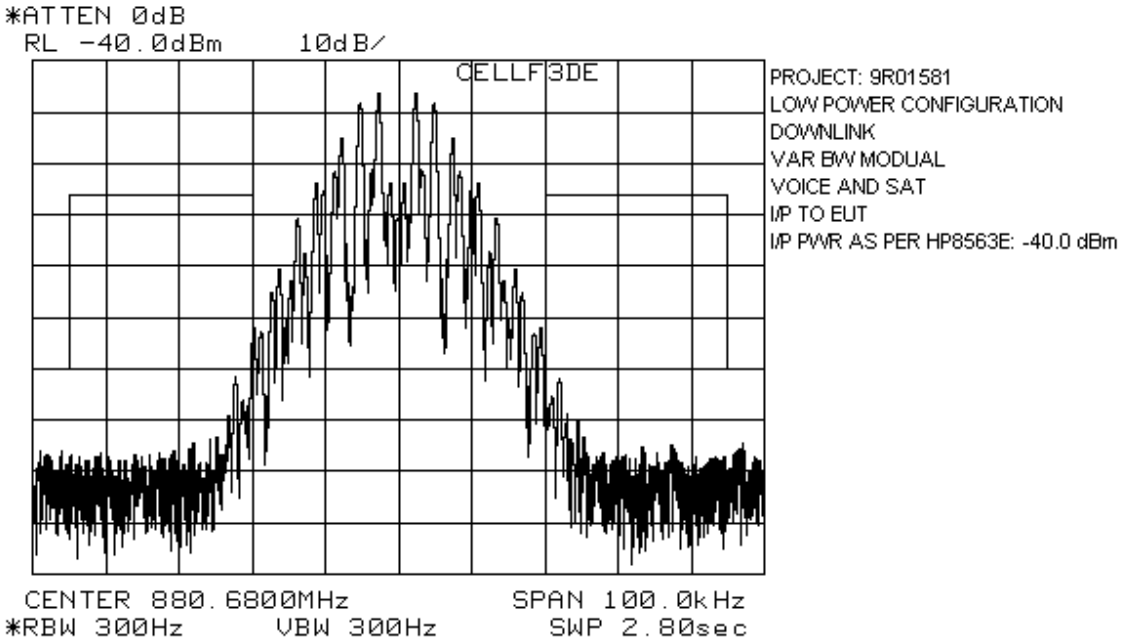

*ATTEN 0dB
RL -53.3dBm
10dB/
CELLF3DE
PROJECT 9R01581
HIGH POWER CONFIGURATION
UPLINK
OCCUPIED BANDWIDTH
VOICE AND SAT
INPUT TO EUT
IP PWR AS PER
HP 8563E - 53.3 dBm
CENTER 836.3398MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec

Low Power Variable Bandwidth Module




*ATTEN 0dB
RL -51.0dBm
10dB/
CELLF3DE
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
OCCUPIED BANDWIDTH
VOICE AND SAT
I/P TO EUT
I/P PWR AS PER HP8563E:-51.0 dBM
CENTER 835.6800MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec


*ATTEN 10dB
RL 37.0dBm
10dB/
CELLF3DE
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
VOICE AND SAT
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
R
CENTER 880.6800MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec

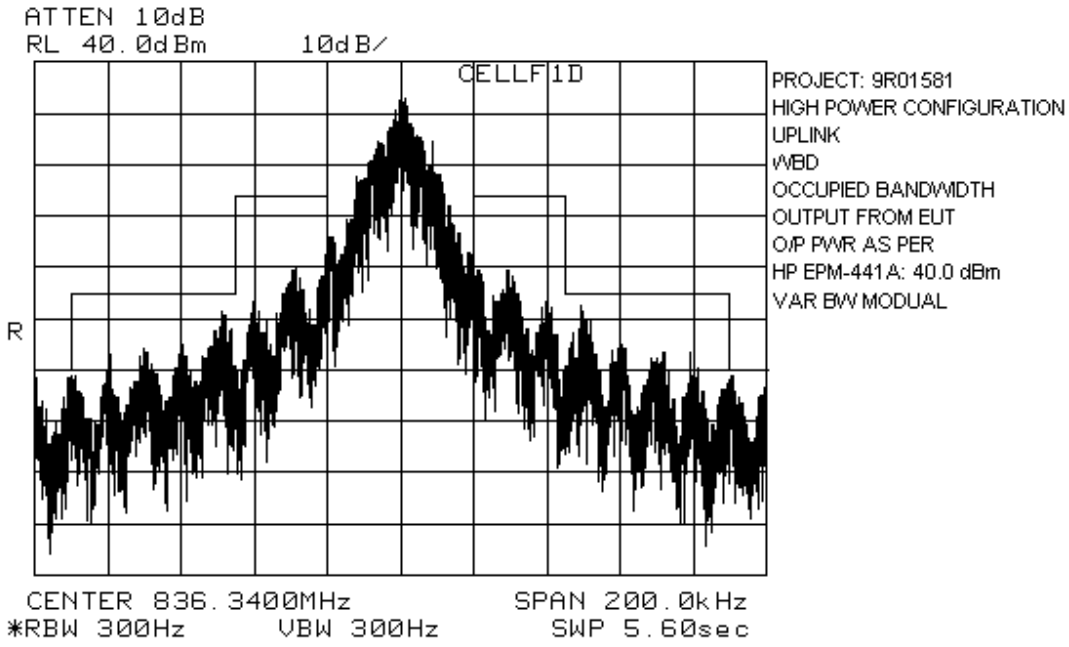

*ATTEN 0dB
RL -40.0dBm
10dB/
CELLF3DE
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
VOICE AND SAT
I/P TO EUT
I/P PWR AS PER HP8563E: -40.0 dBm
CENTER 880.6800MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec

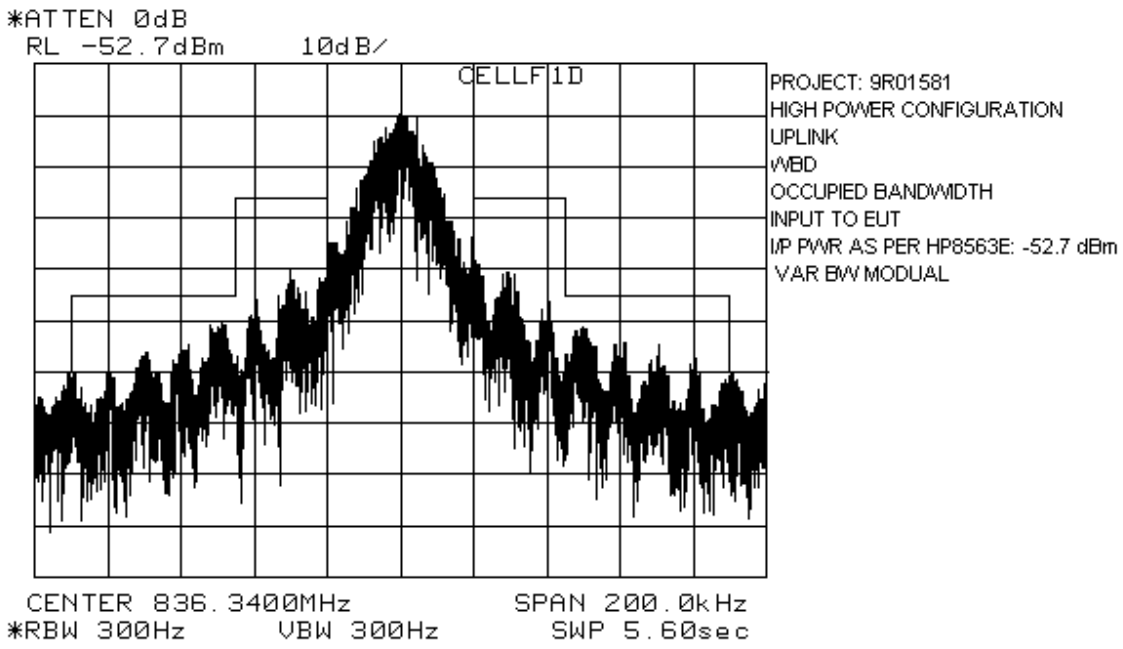
NAME OF TEST: Occupied Bandwidth (WB Data)	PARA. NO.: 2.917 (d)
TESTED BY: Kevin Carr	DATE: July 16, 1999

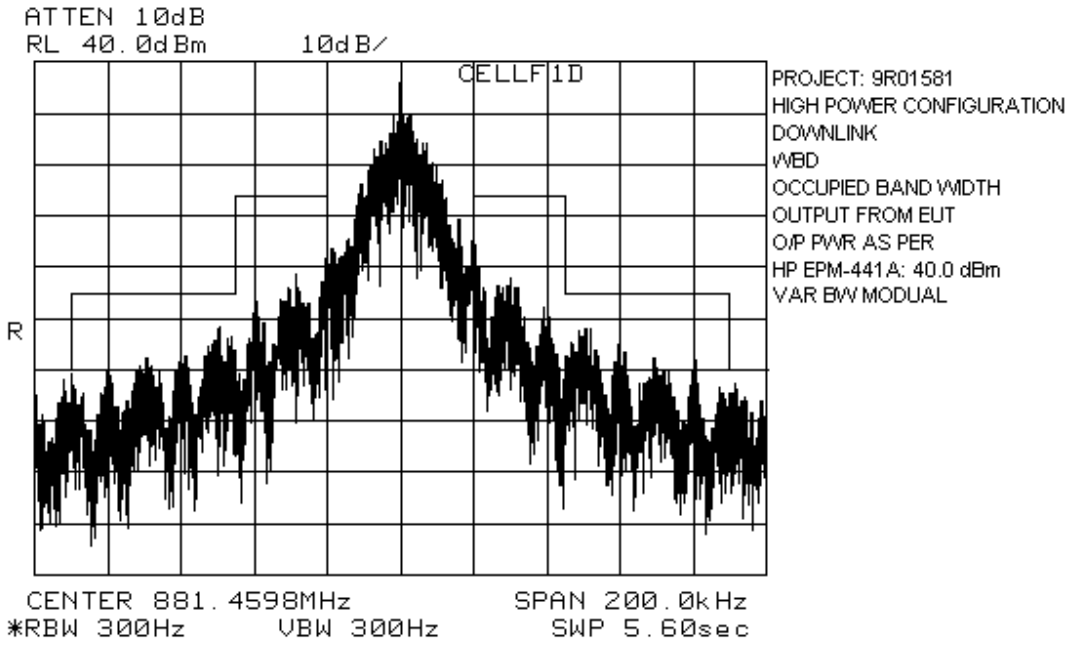
Test Results: Complies.

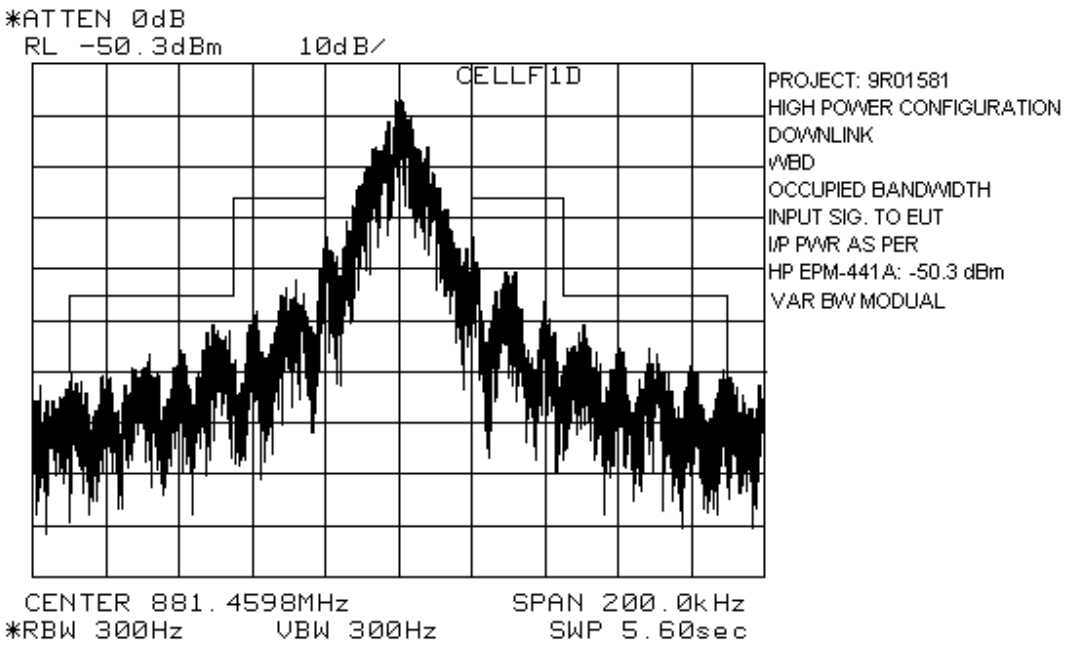
Test Data: See attached graph(s).

High Power – Variable Bandwidth Module

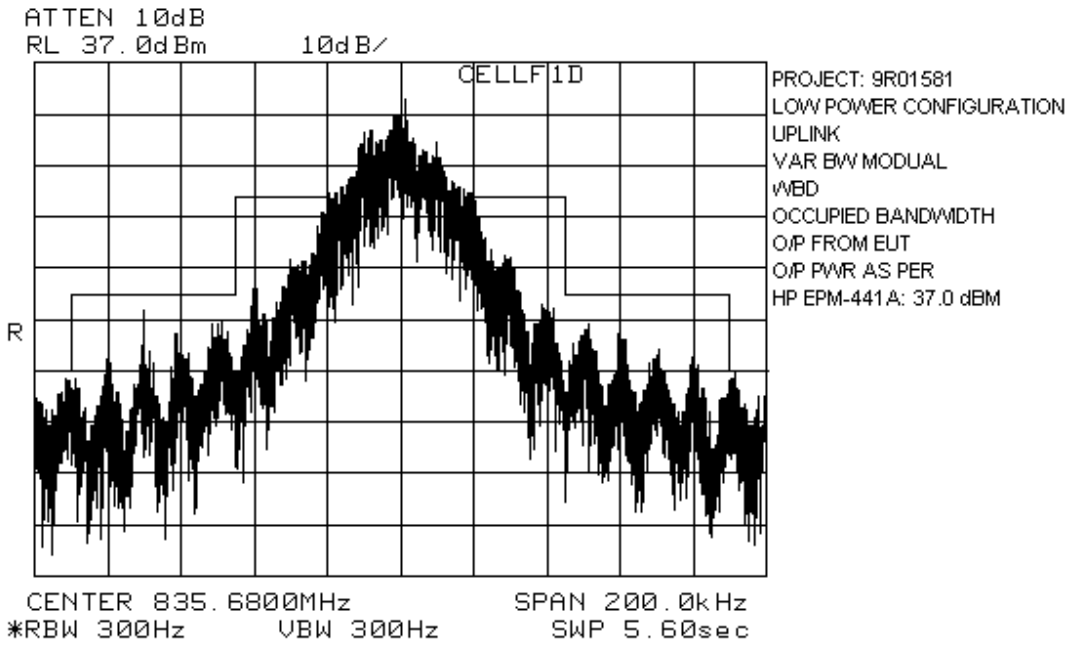


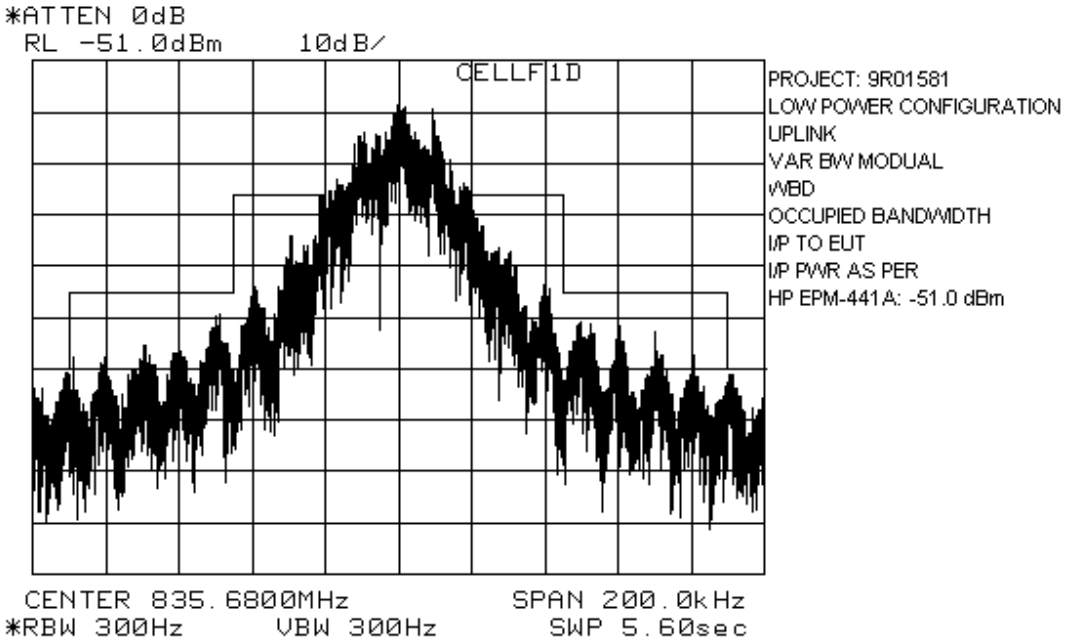

*ATTEN 0dB
RL -52.7dBm
10dB/
CELLF1D
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
WBD
OCCUPIED BANDWIDTH
INPUT TO EUT
I/P PWR AS PER HP8563E: -52.7 dBm
VAR BW MODUAL
CENTER 836.3400MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

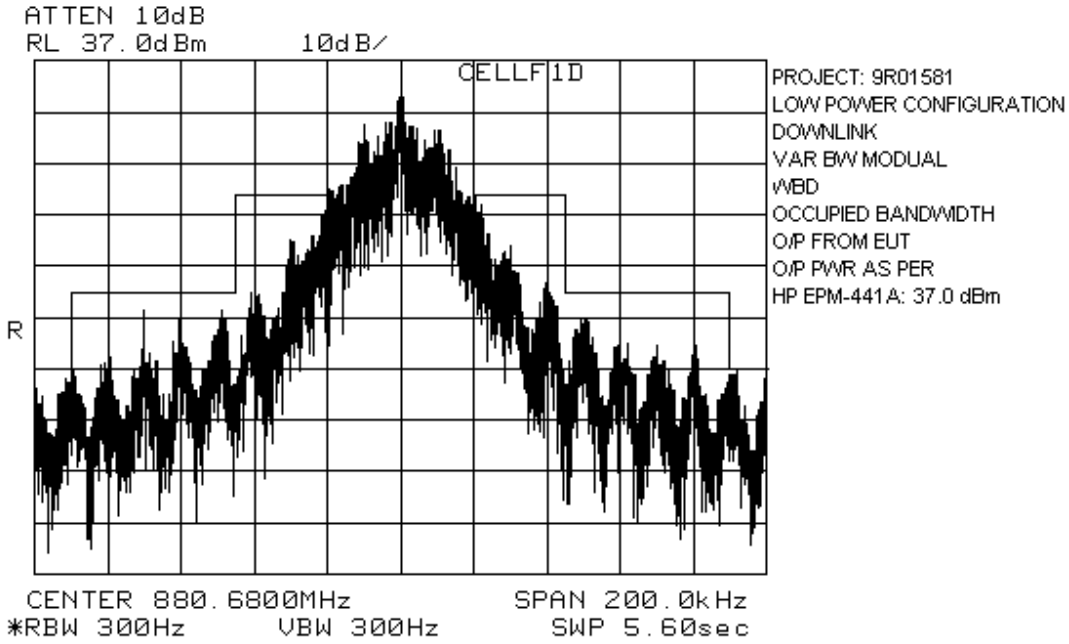

ATTEN 10dB
RL 40.0dBm
10dB/
CELLF1D
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
WBD
OCCUPIED BAND WIDTH
OUTPUT FROM EUT
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
VAR BW MODUAL
R
CENTER 881.4598MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

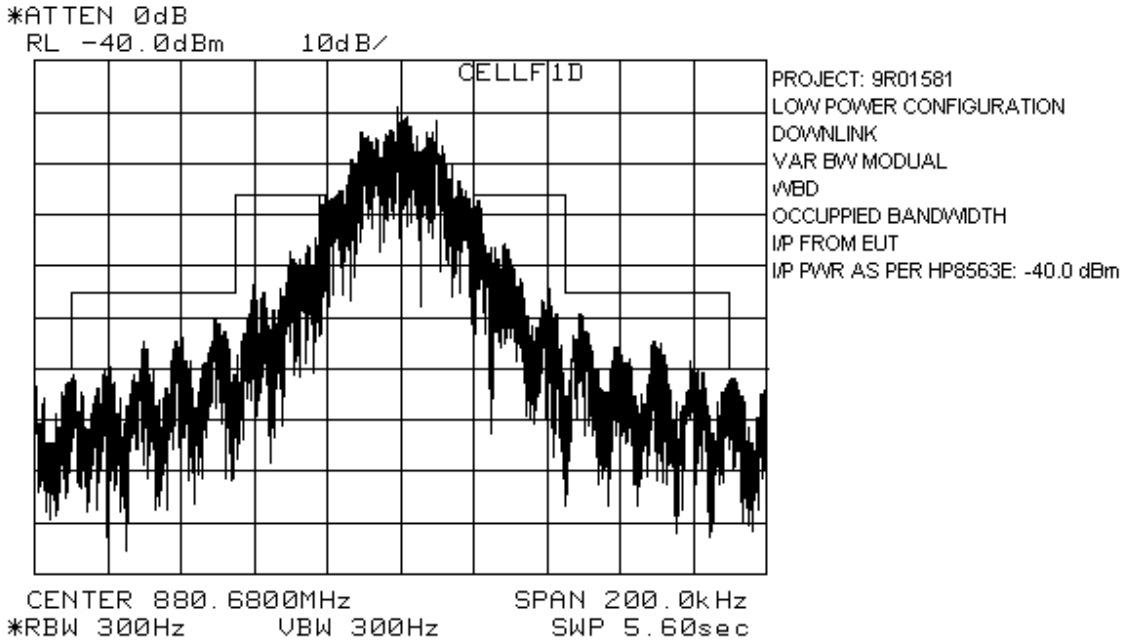

*ATTEN 0dB
RL -50.3dBm
10dB/
CELLF1D
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
WBD
OCCUPIED BANDWIDTH
INPUT SIG. TO EUT
I/P PWR AS PER
HP EPM-441A: -50.3 dBm
VAR BW MODUAL
CENTER 881.4598MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

Low Power – Variable Bandwidth Module




*ATTEN 0dB
RL -51.0dBm
10dB/
CELLF1D
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
WBD
OCCUPIED BANDWIDTH
I/P TO EUT
I/P PWR AS PER
HP EPM-441A: -51.0 dBm
CENTER 835.6800MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec


ATTEN 10dB
RL 37.0dBm
10dB/
CELLF1D
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
WBD
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
R
CENTER 880.6800MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

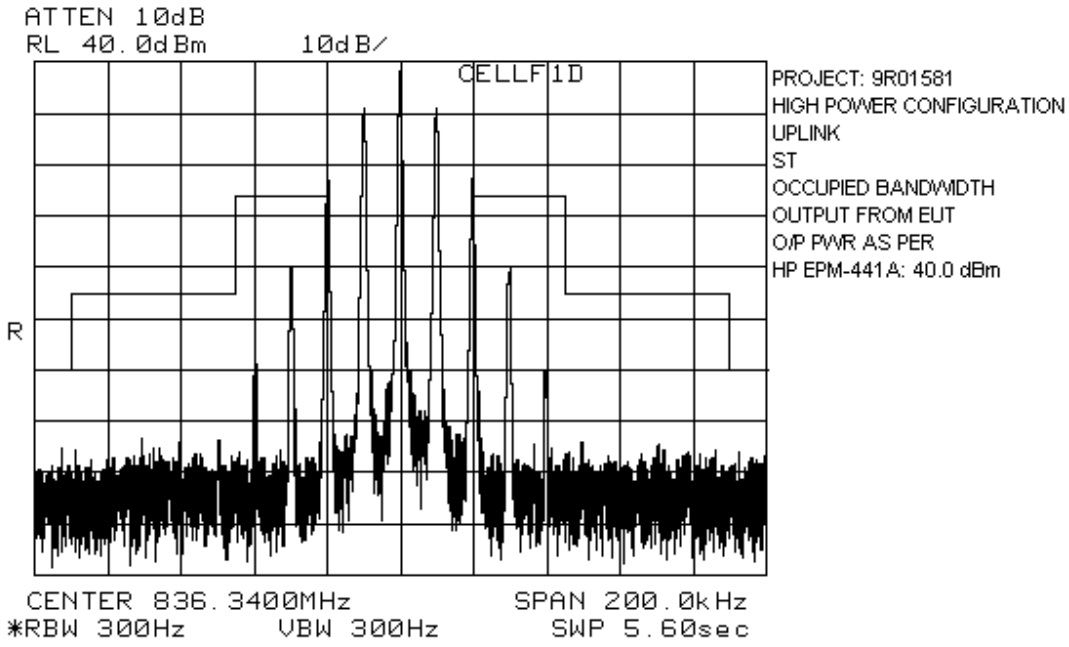

*ATTEN 0dB
RL -40.0dBm
10dB/
CELLF1D
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
WBD
OCCUPPIED BANDWIDTH
I/P FROM EUT
I/P PWR AS PER HP8563E: -40.0 dBm
CENTER 880.6800MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

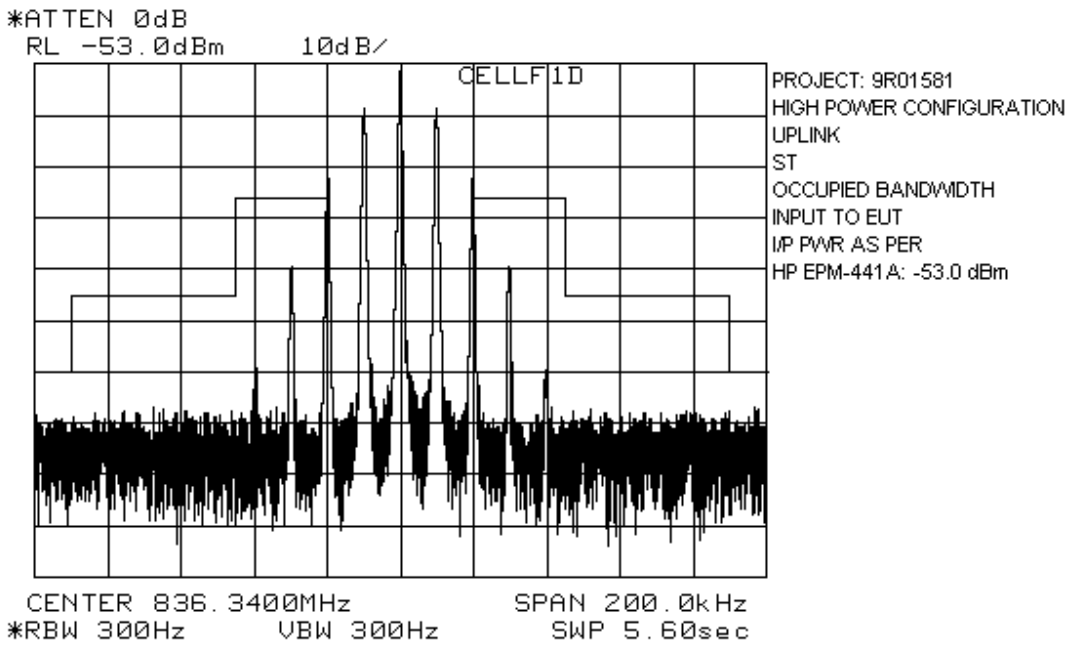
NAME OF TEST: Occupied Bandwidth (ST)	PARA. NO.: 2.917(d)
TESTED BY: Kevin Carr	DATE: July 16, 1999

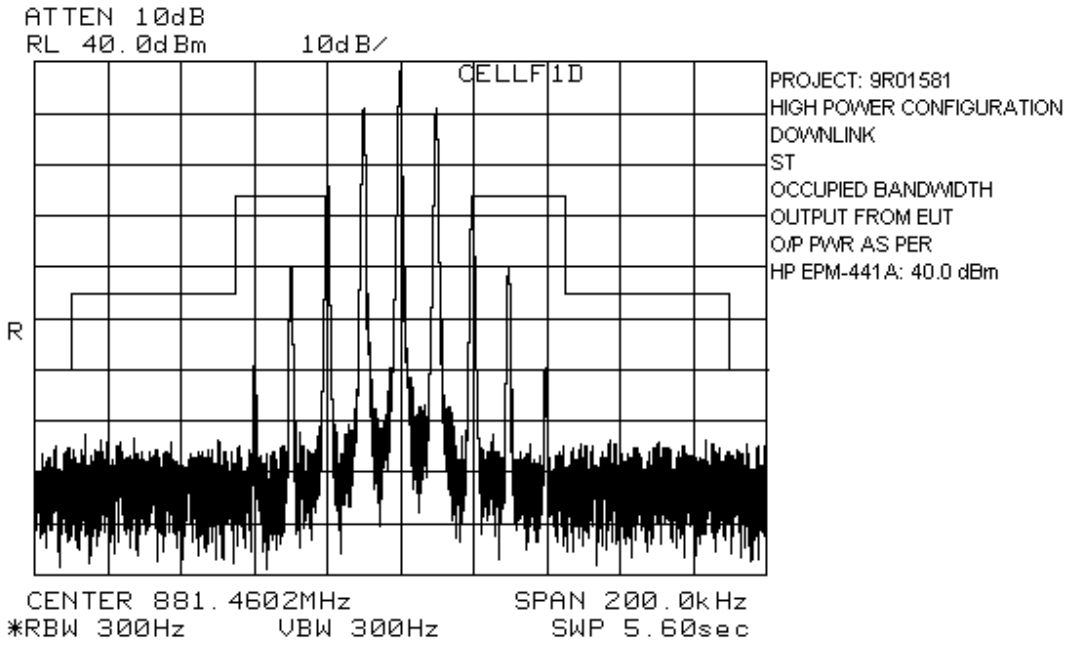
Test Results: Complies.

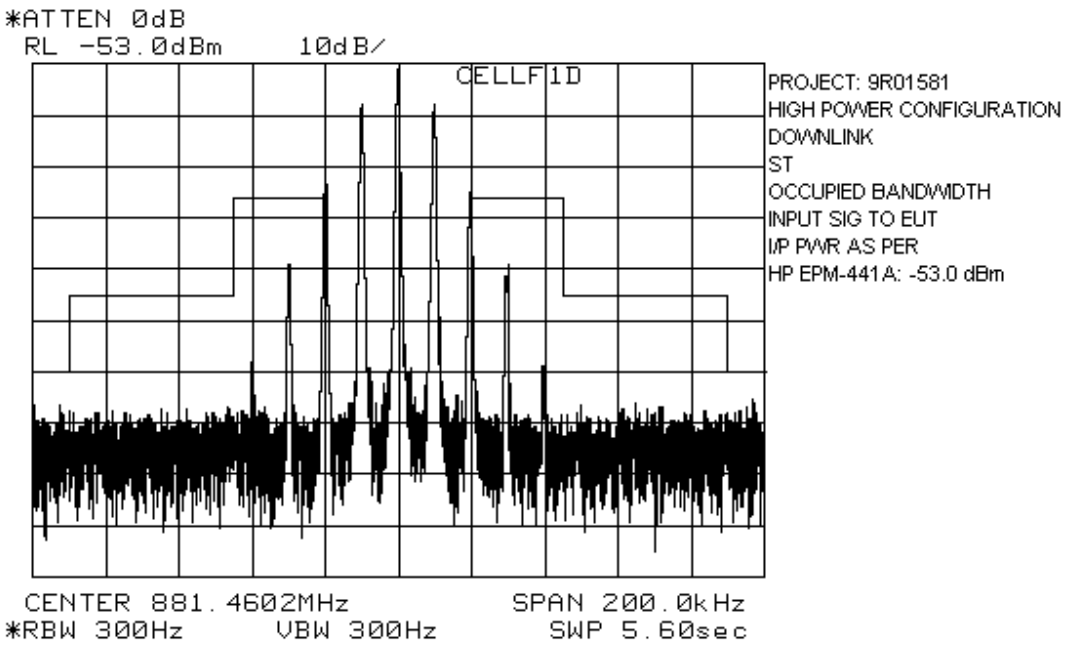
Test Data: See attached graph(s).

High Power – Variable Bandwidth Module

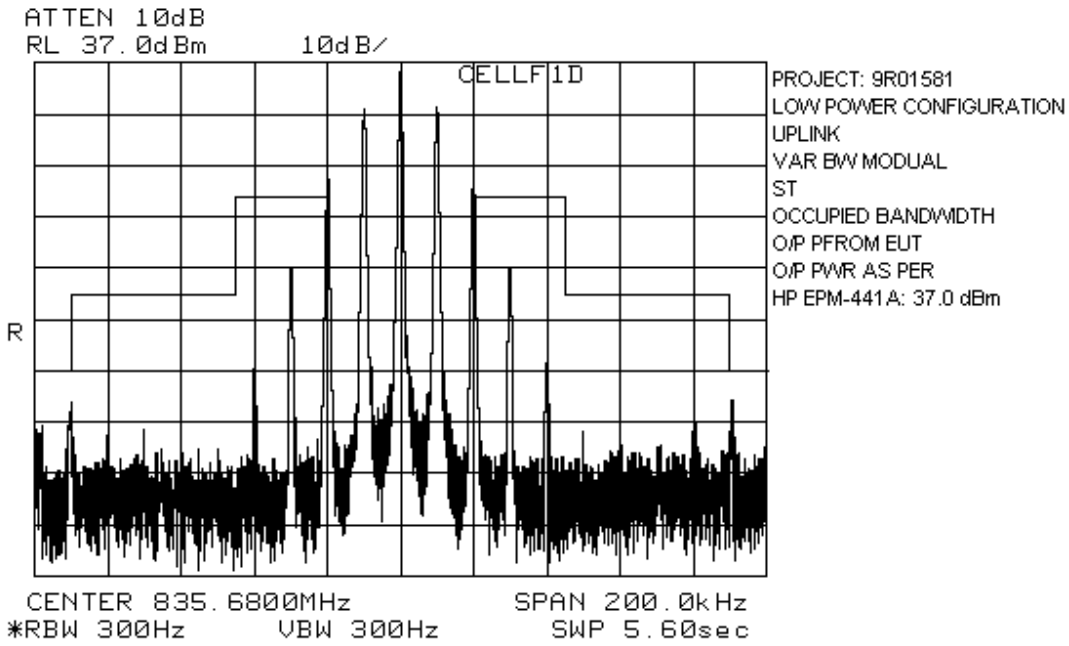


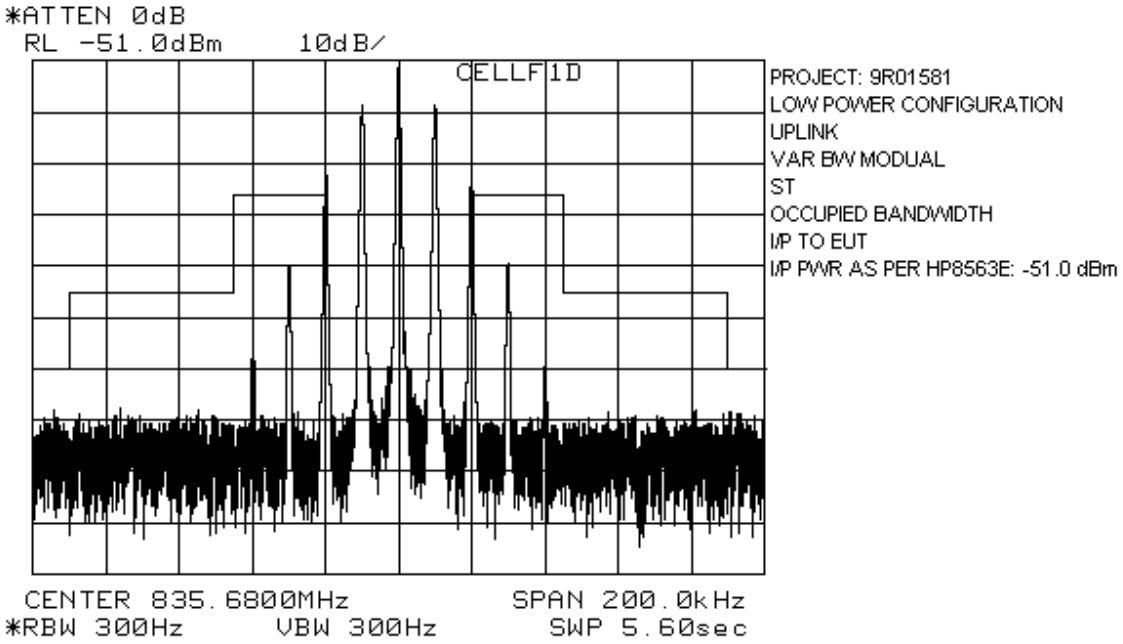

*ATTEN 0dB
RL -53.0dBm
10dB/
CELLF1D
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
ST
OCCUPIED BANDWIDTH
INPUT TO EUT
I/P PWR AS PER
HP EPM-441A: -53.0 dBm
CENTER 836.3400MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

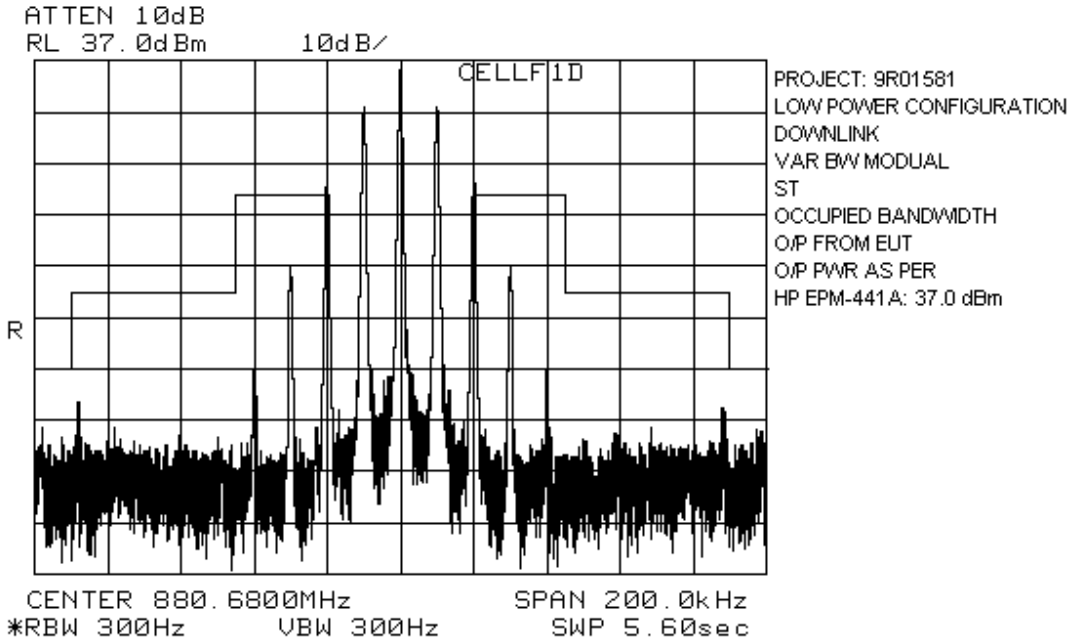

ATTEN 10dB
RL 40.0dBm
10dB/
CELLF1D
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
ST
OCCUPIED BANDWIDTH
OUTPUT FROM EUT
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
R
CENTER 881.4602MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

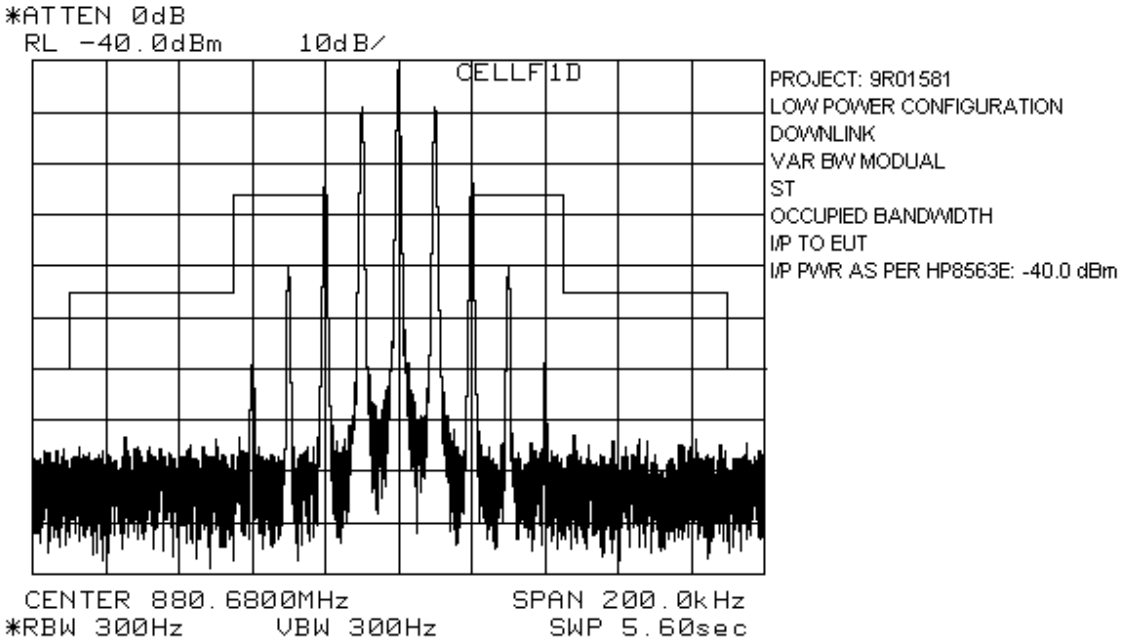

*ATTEN 0dB
RL -53.0dBm
10dB/
CELLF1D
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
ST
OCCUPIED BANDWIDTH
INPUT SIG TO EUT
I/P PWR AS PER
HP EPM-441A: -53.0 dBm
CENTER 881.4602MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

Low Power – Variable Bandwidth Module




*ATTEN 0dB
RL -51.0dBm
10dB/
CELLF1D
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
ST
OCCUPIED BANDWIDTH
I/P TO EUT
I/P PWR AS PER HP8563E: -51.0 dBm
CENTER 835.6800MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec


ATTEN 10dB
RL 37.0dBm
10dB/
CELLF1D
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
ST
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
R
CENTER 880.6800MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

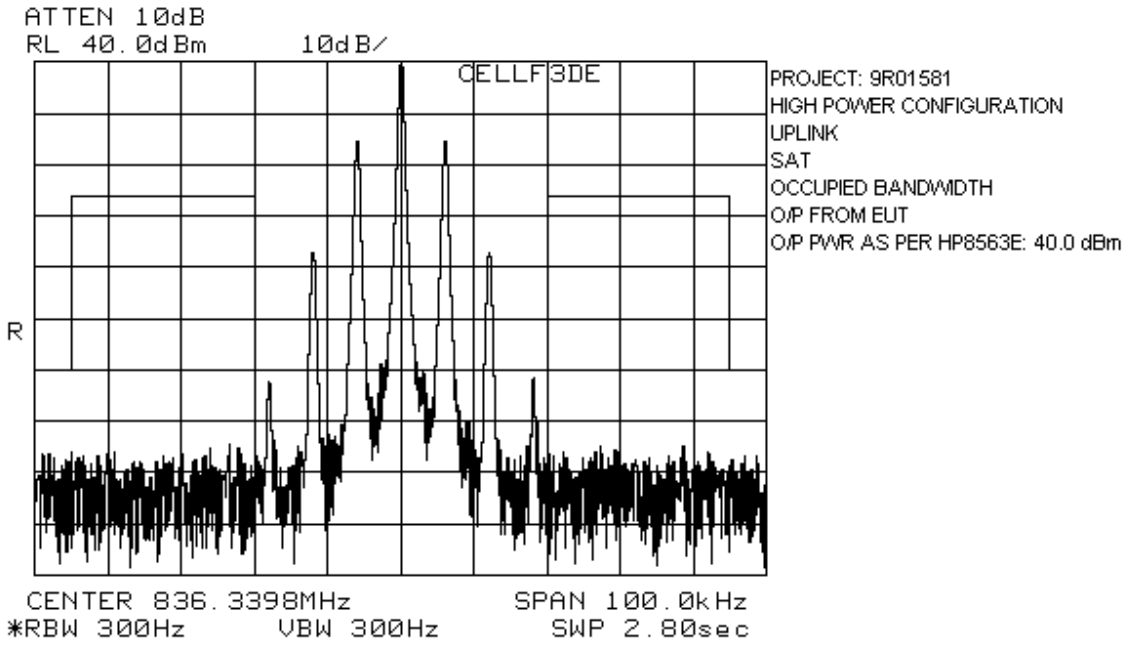

*ATTEN 0dB
RL -40.0dBm
10dB/
CELLF1D
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
ST
OCCUPIED BANDWIDTH
I/P TO EUT
I/P PWR AS PER HP8563E: -40.0 dBm
CENTER 880.6800MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

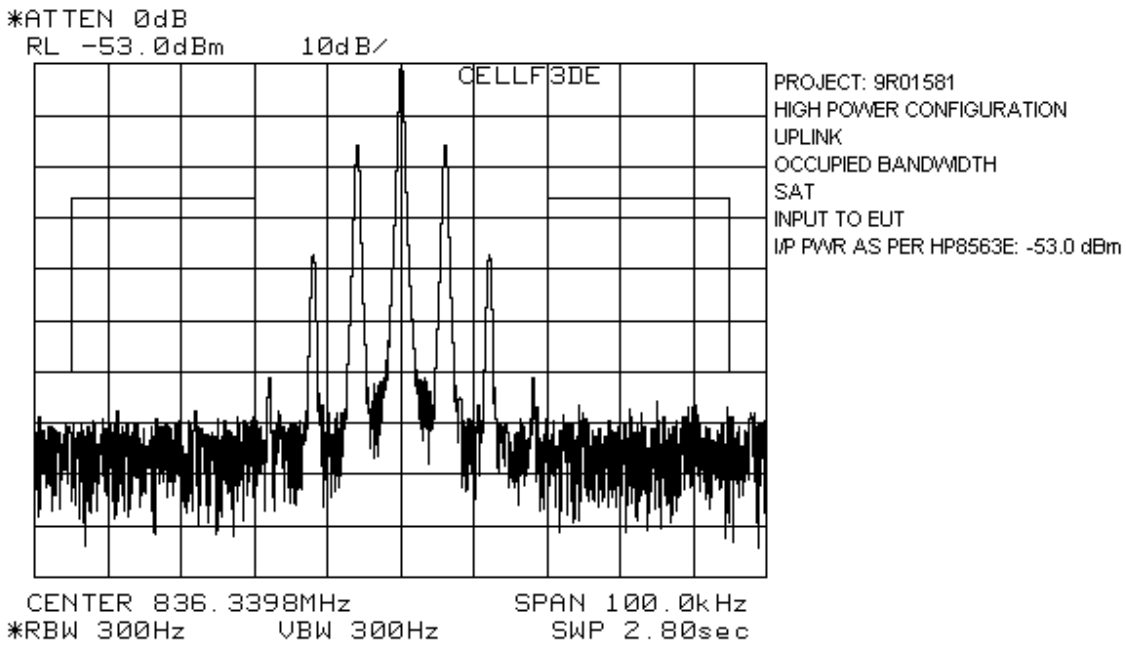
NAME OF TEST: Occupied Bandwidth (SAT)	PARA. NO.: 2.917(d)
TESTED BY: Kevin Carr	DATE: July 15, 1999

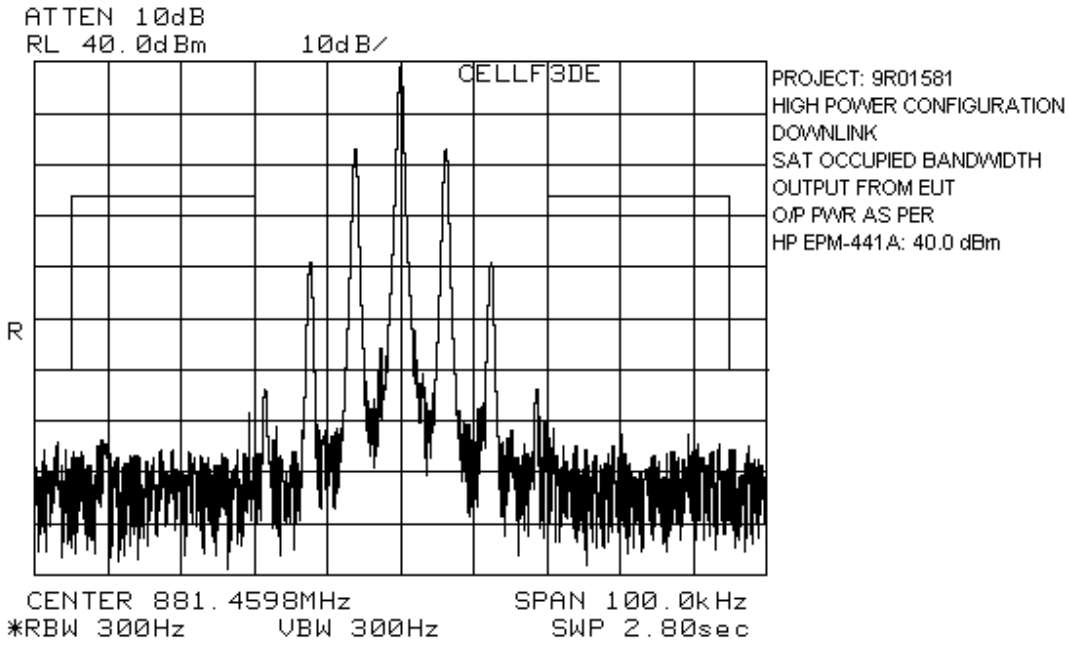
Test Results: Complies.

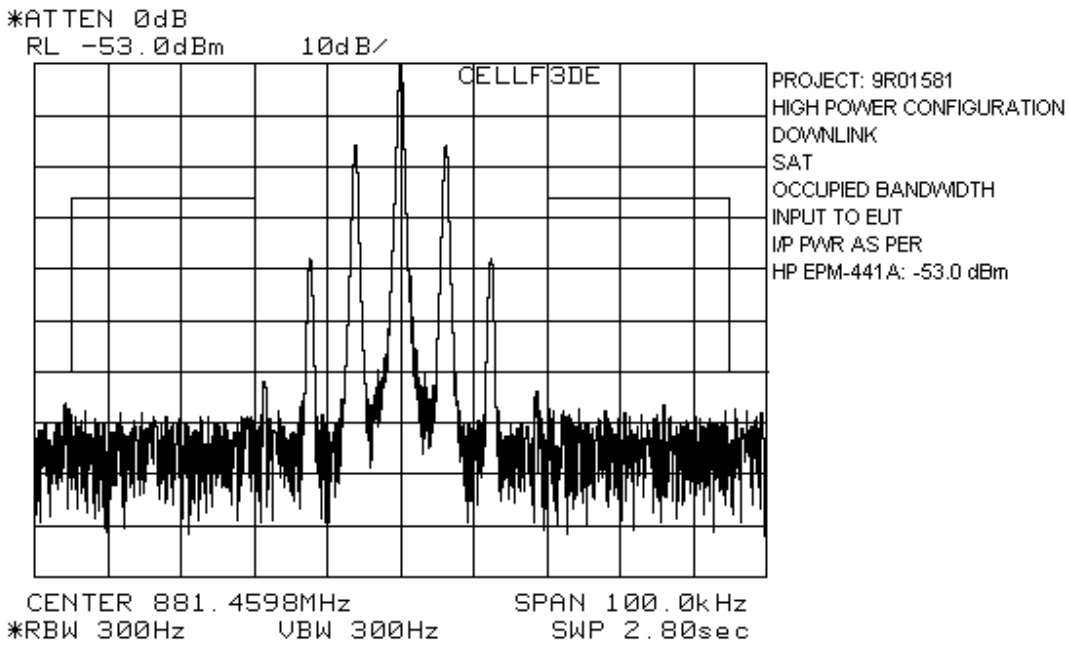
Test Data: See attached graph(s).

High Power

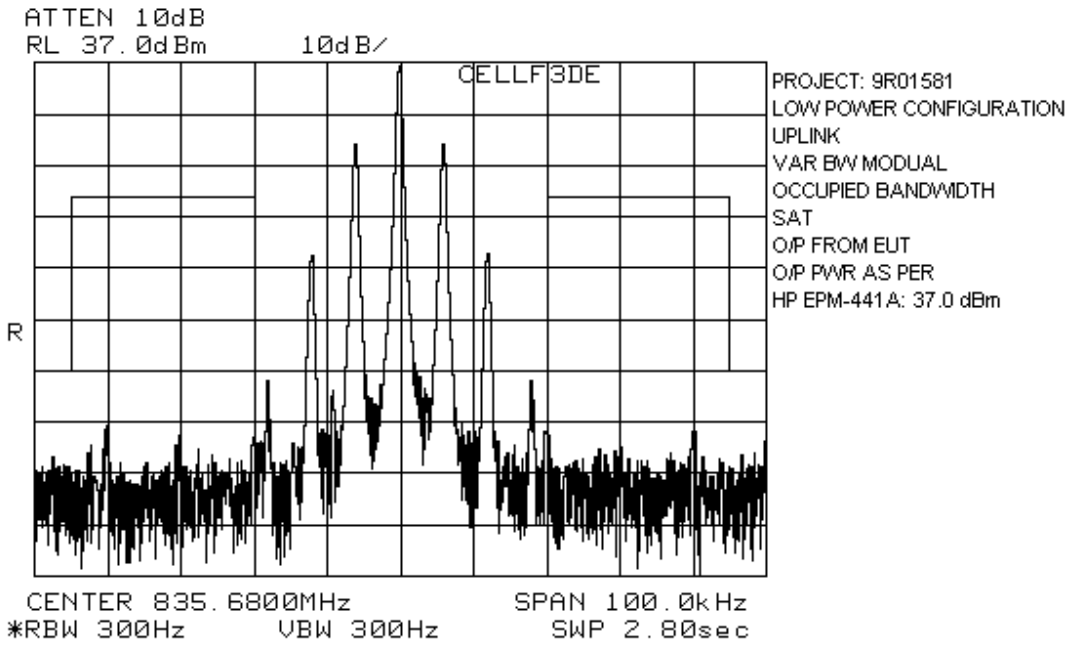

ATTEN 10dB
RL 40.0dBm
10dB/
CELLF3DE
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
SAT
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER HP8563E: 40.0 dBm
R
CENTER 836.3398MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec

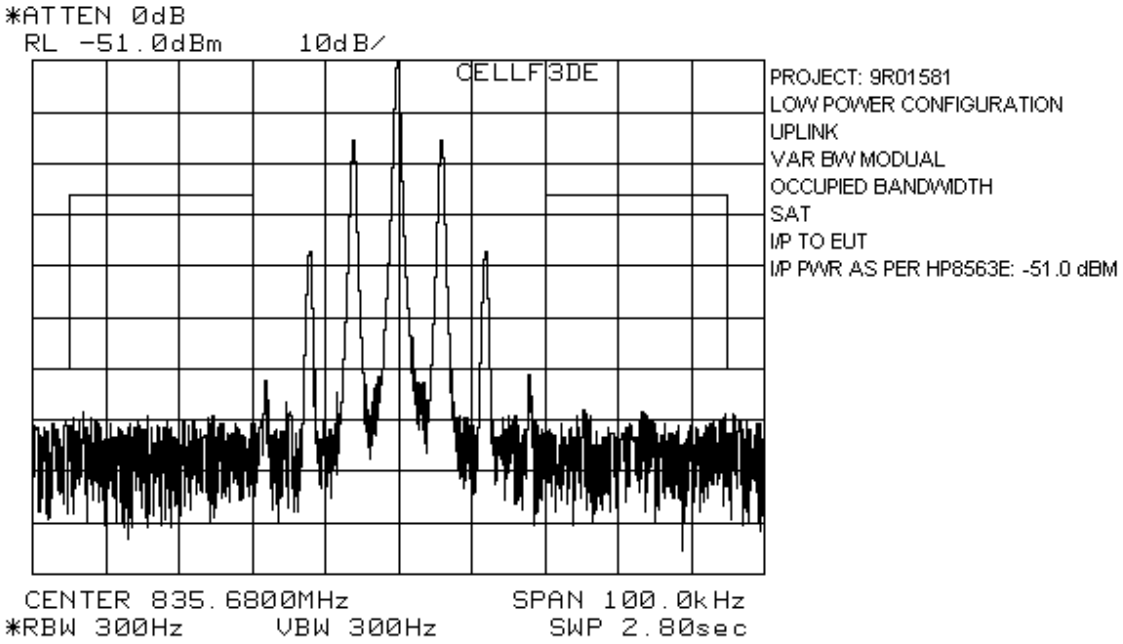

*ATTEN 0dB
RL -53.0dBm
10dB/
CELLF3DE
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
OCCUPIED BANDWIDTH
SAT
INPUT TO EUT
I/P PWR AS PER HP8563E: -53.0 dBm
CENTER 836.3398MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec

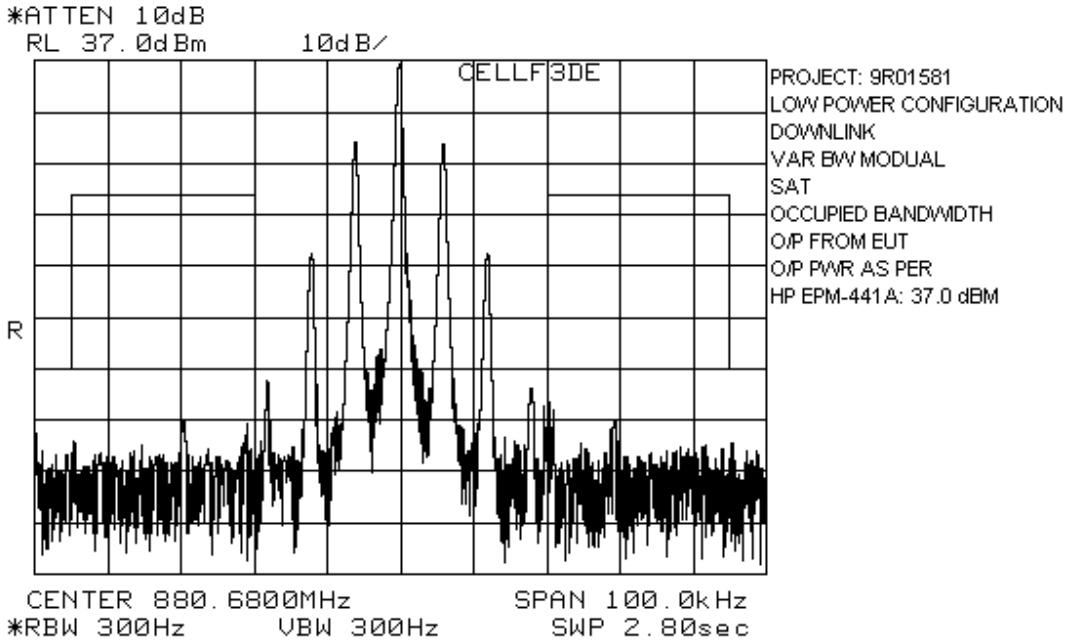

ATTEN 10dB
RL 40.0dBm
10dB/
CELLF3DE
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
SAT OCCUPIED BANDWIDTH
OUTPUT FROM EUT
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
R
CENTER 881.4598MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec

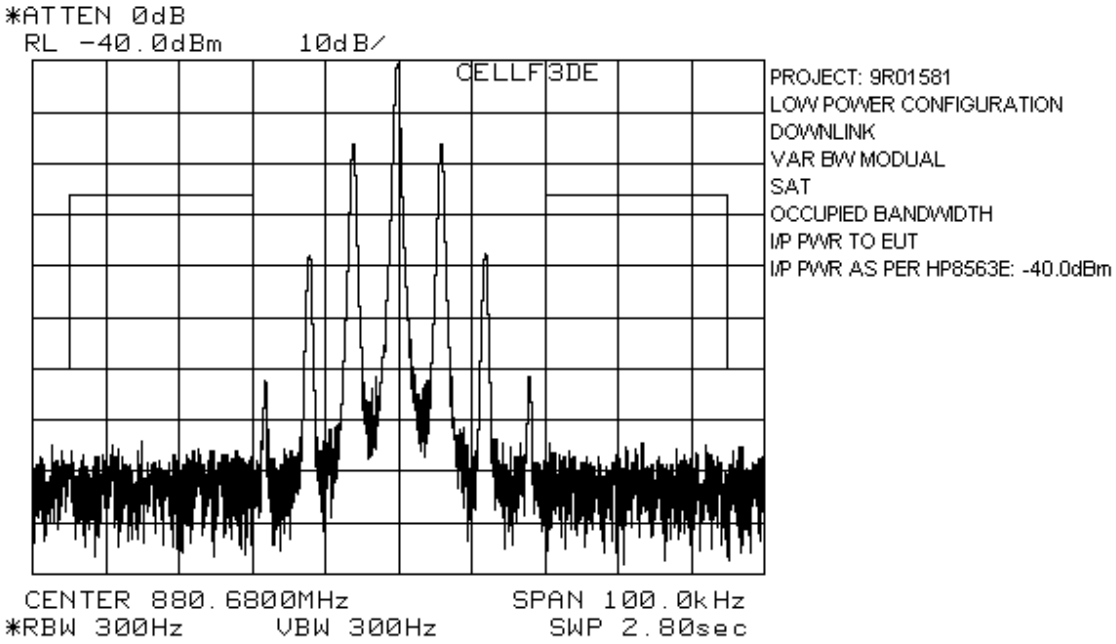

*ATTEN 0dB
RL -53.0dBm
10dB/
CELLF3DE
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
SAT
OCCUPIED BANDWIDTH
INPUT TO EUT
I/P PWR AS PER
HP EPM-441A: -53.0 dBm
CENTER 881.4598MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec

Low Power – Variable Bandwidth Module




*ATTEN 0dB
RL -51.0dBm
10dB/
CELLF3DE
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
OCCUPIED BANDWIDTH
SAT
I/P TO EUT
I/P PWR AS PER HP8563E: -51.0 dBM
CENTER 835.6800MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec


*ATTEN 10dB
RL 37.0dBm
10dB/
CELLF3DE
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
SAT
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 37.0 dBM
R
CENTER 880.6800MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec

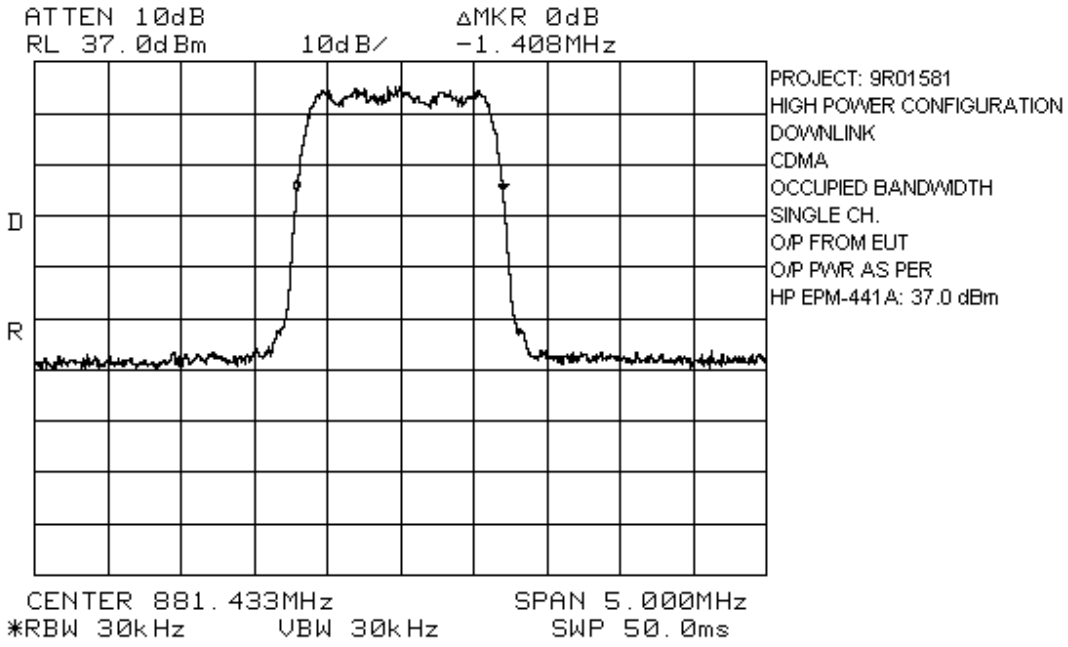

*ATTEN 0dB
RL -40.0dBm
10dB/
CELLF3DE
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
SAT
OCCUPIED BANDWIDTH
I/P PWR TO EUT
I/P PWR AS PER HP8563E: -40.0dBm
CENTER 880.6800MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec

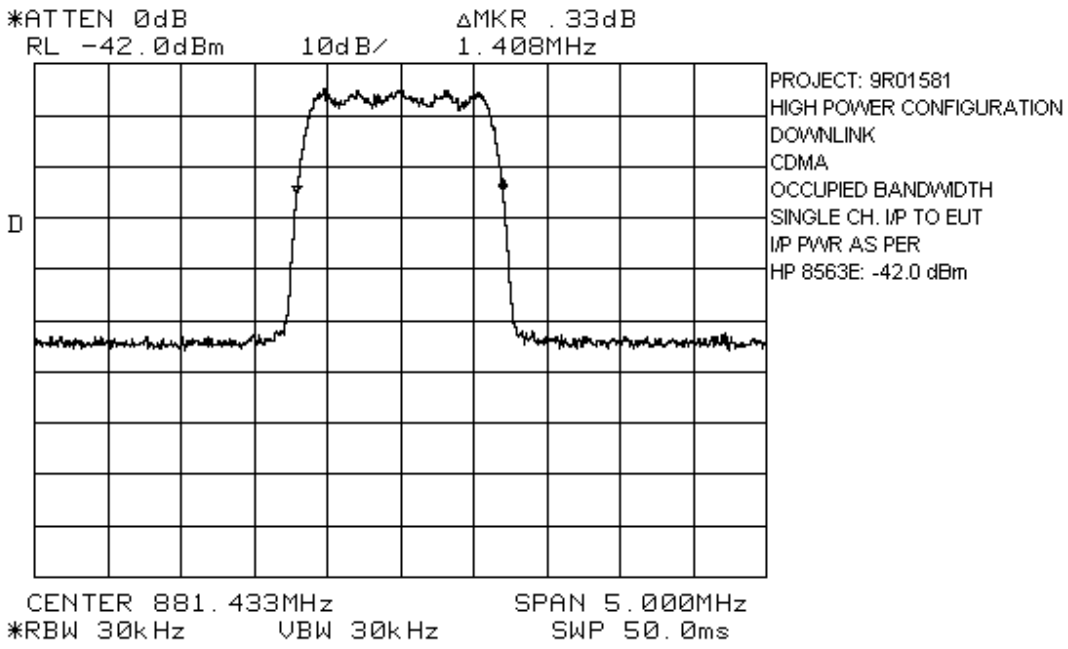
NAME OF TEST: Occupied Bandwidth (Digital Mod.)	PARA. NO.: 2.917(e)
TESTED BY: Kevin Carr	DATE: July 13, 1999

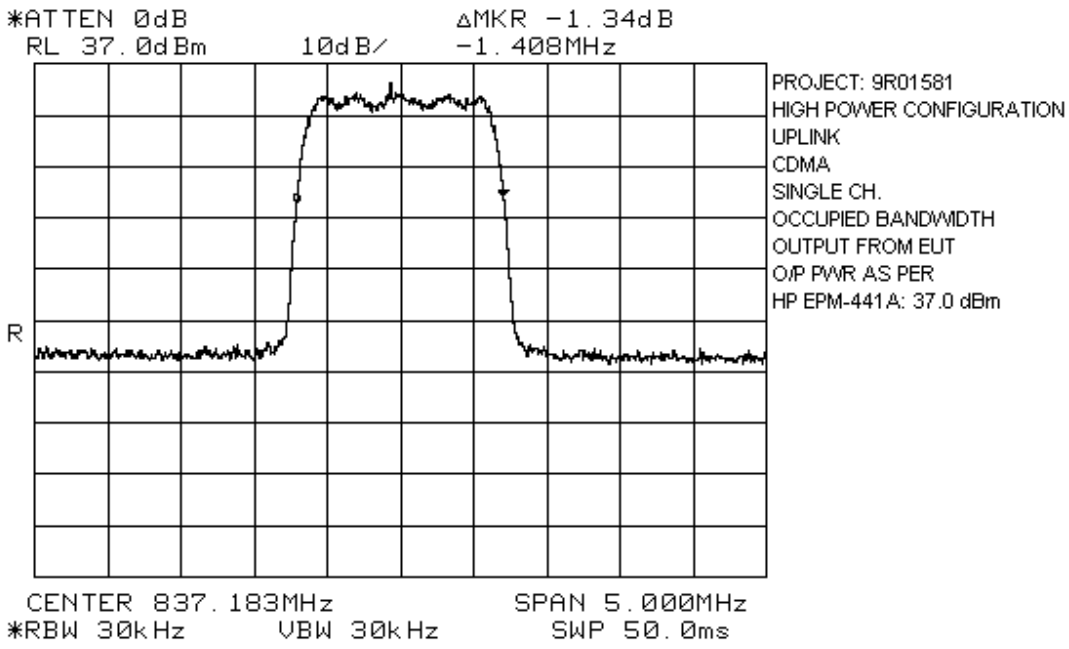
Test Results: Complies.

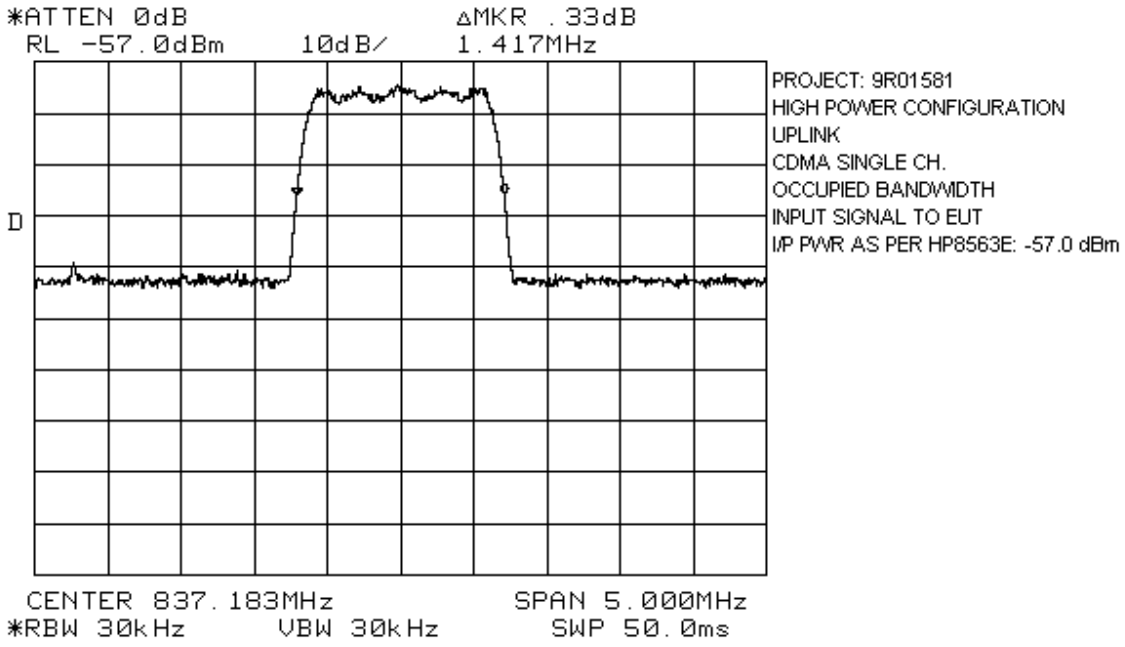
Test Data: See attached graph(s).

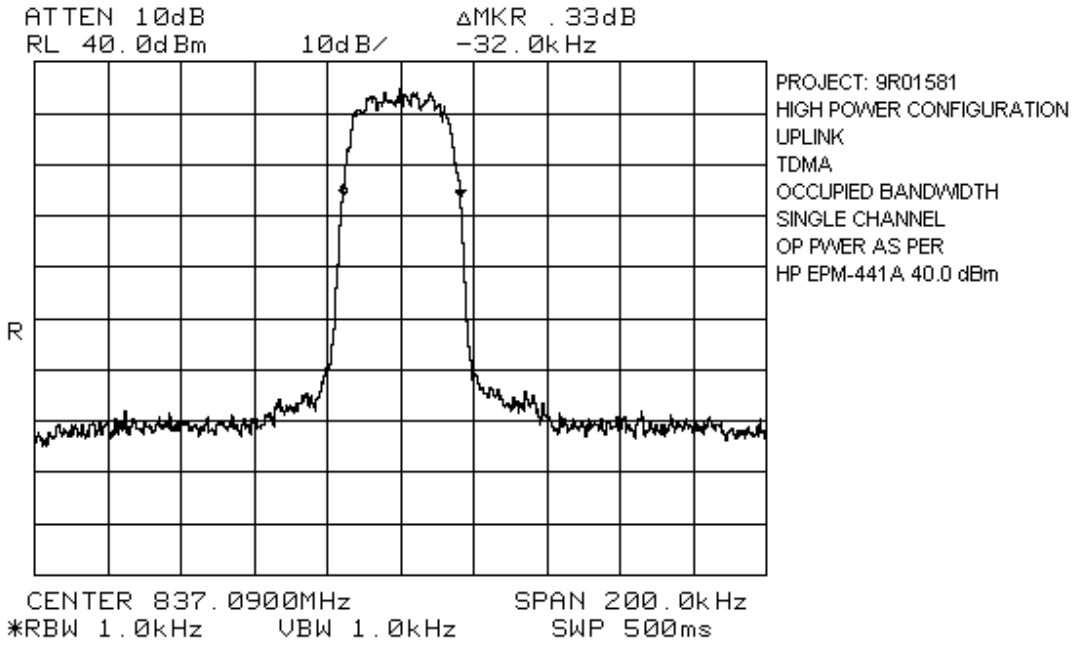
High Power Configuration – Variable Bandwidth Units

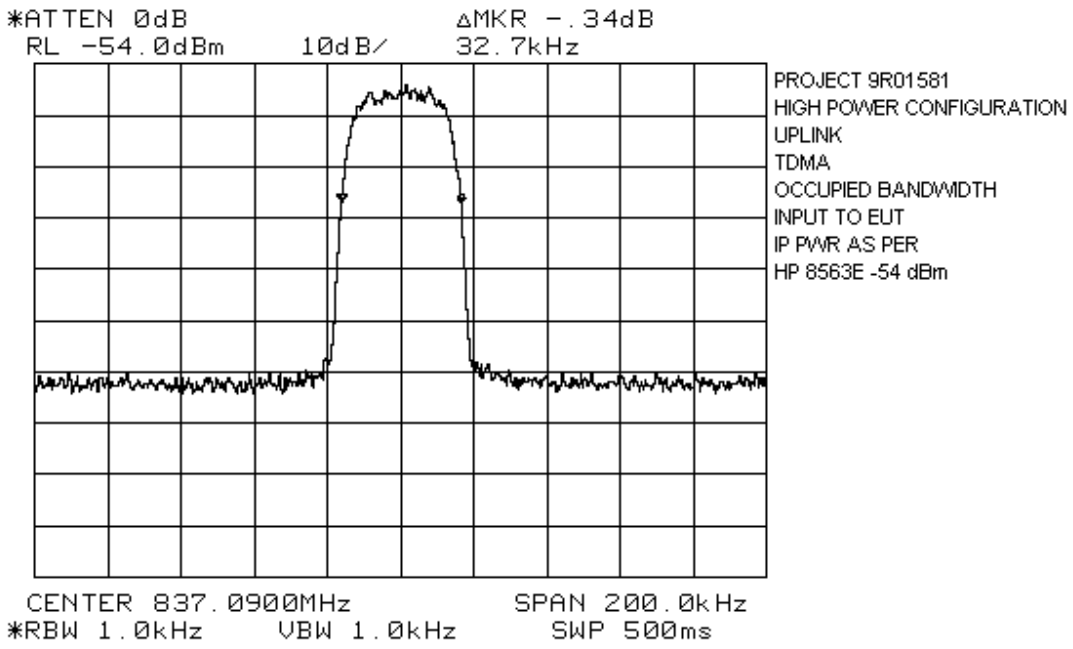


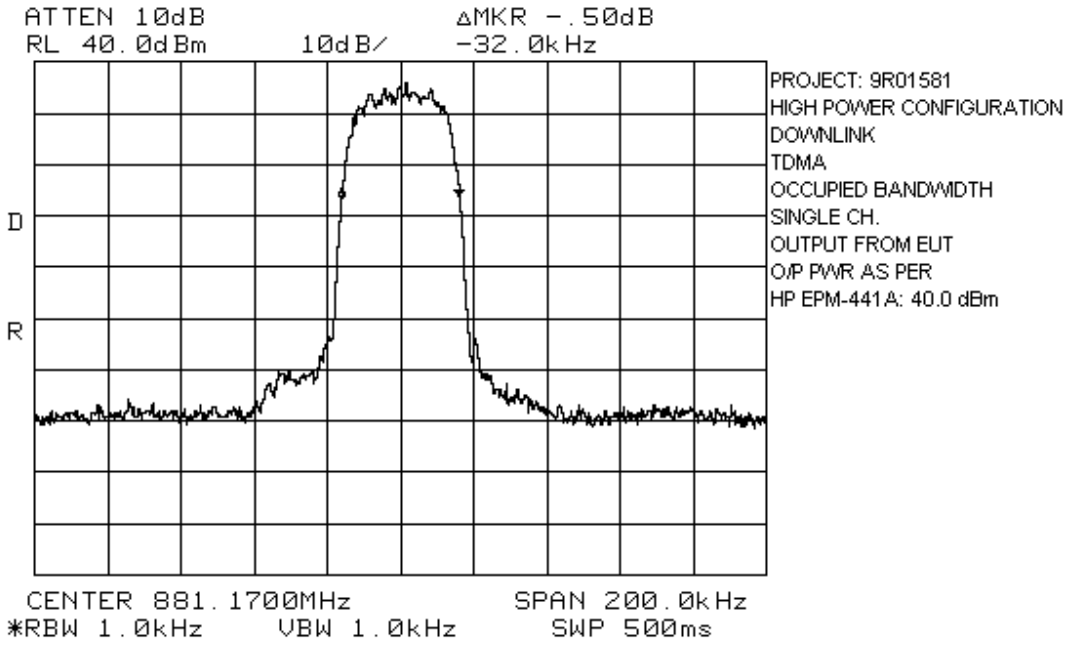

*ATTEN 0dB
ΔMKR .33dB
RL -42.0dBm
10dB/
1.408MHz
D
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA
OCCUPIED BANDWIDTH
SINGLE CH. I/P TO EUT
I/P PWR AS PER
HP 8563E: -42.0 dBm
CENTER 881.433MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

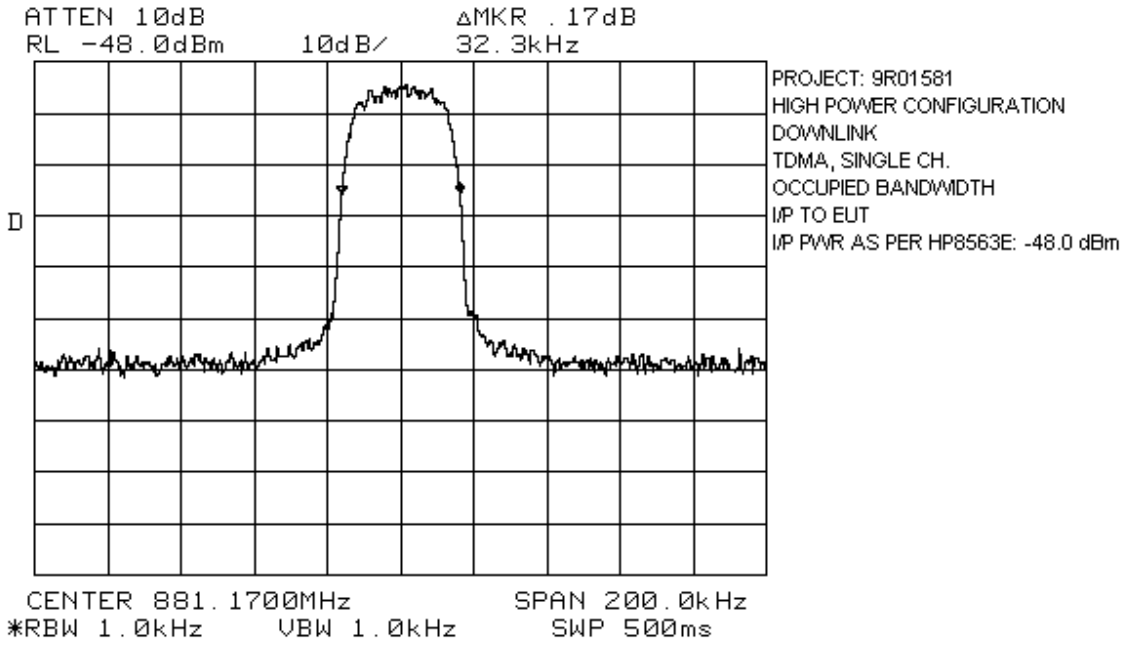

*ATTEN 0dB
RL 37.0dBm
10dB/
ΔMKR -1.34dB
-1.408MHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
CDMA
SINGLE CH.
OCCUPIED BANDWIDTH
OUTPUT FROM EUT
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
R
CENTER 837.183MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms


*ATTEN 0dB
RL -57.0dBm
10dB/
ΔMKR .33dB
1.417MHz
D
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
CDMA SINGLE CH.
OCCUPIED BANDWIDTH
INPUT SIGNAL TO EUT
I/P PWR AS PER HP8563E: -57.0 dBm
CENTER 837.183MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

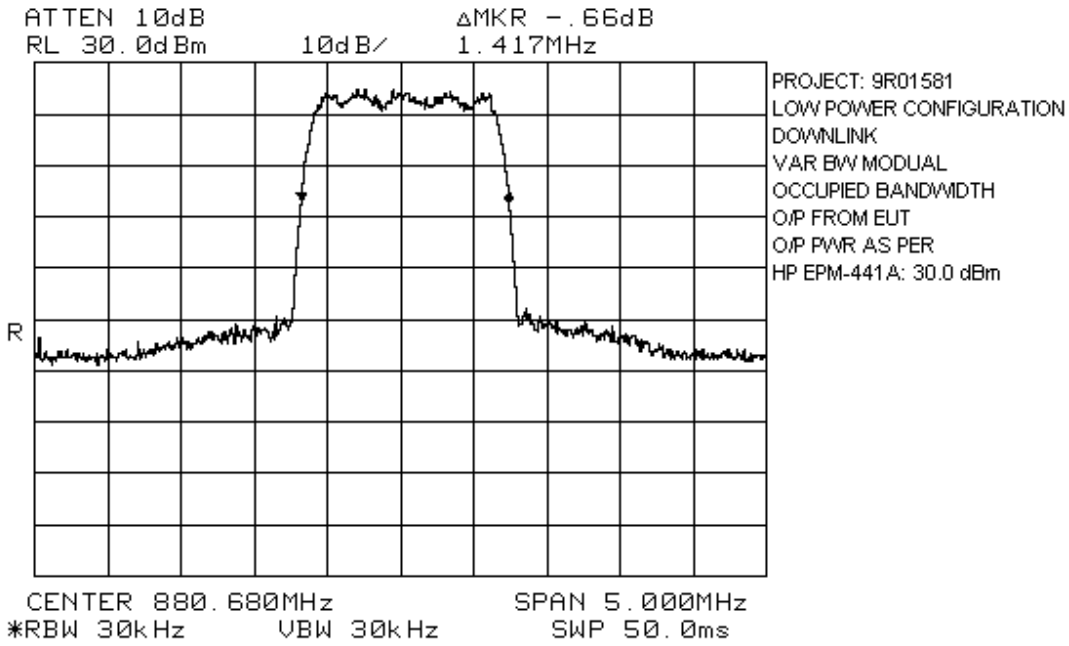

ATTEN 10dB
RL 40.0dBm
10dB/
ΔMKR .33dB
-32.0kHz
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
TDMA
OCCUPIED BANDWIDTH
SINGLE CHANNEL
OP PWER AS PER
HP EPM-441A 40.0 dBm
CENTER 837.0900MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

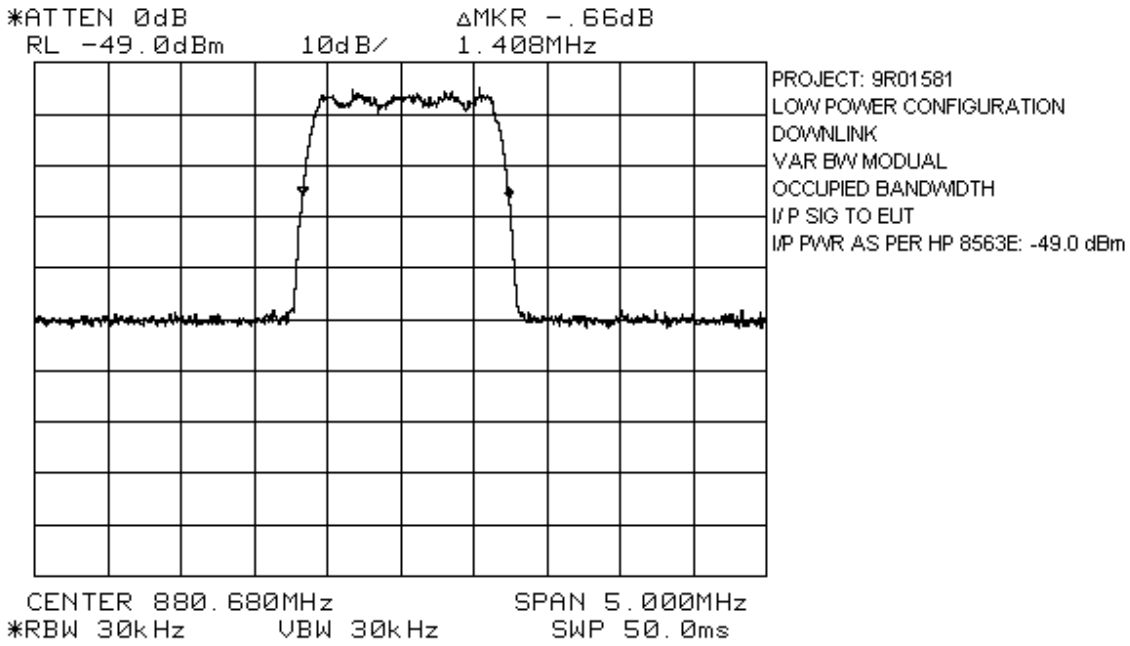

*ATTEN 0dB
ΔMKR -.34dB
RL -54.0dBm
10dB/
32.7kHz
PROJECT 9R01581
HIGH POWER CONFIGURATION
UPLINK
TDMA
OCCUPIED BANDWIDTH
INPUT TO EUT
IP PWR AS PER
HP 8563E -54 dBm
CENTER 837.0900MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

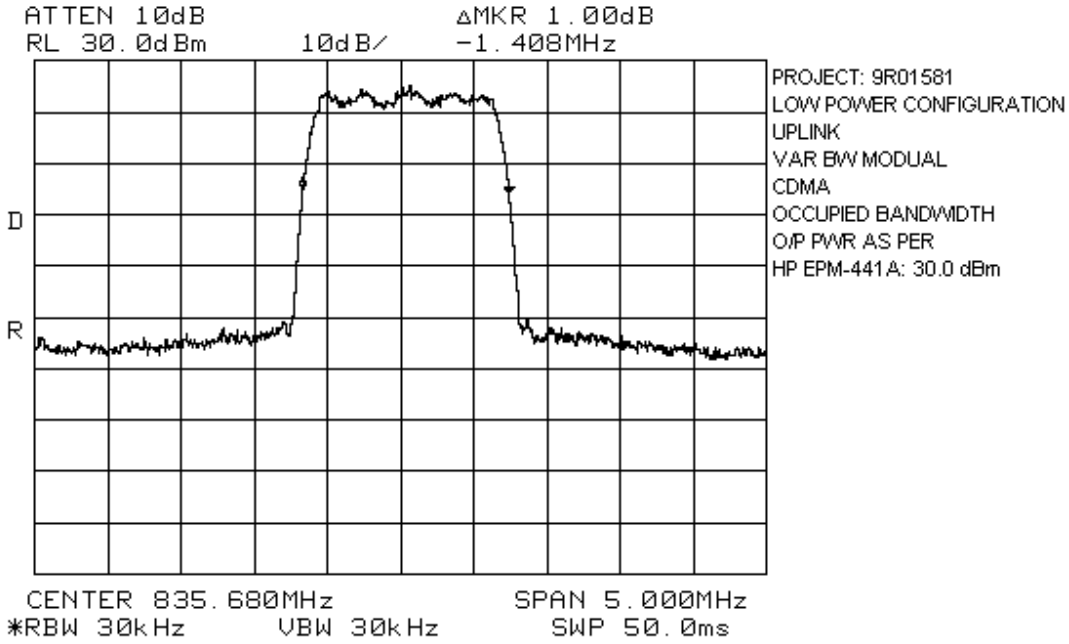

ATTEN 10dB
RL 40.0dBm
10dB/
ΔMKR -.50dB
-32.0kHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
TDMA
OCCUPIED BANDWIDTH
SINGLE CH.
OUTPUT FROM EUT
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
CENTER 881.1700MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

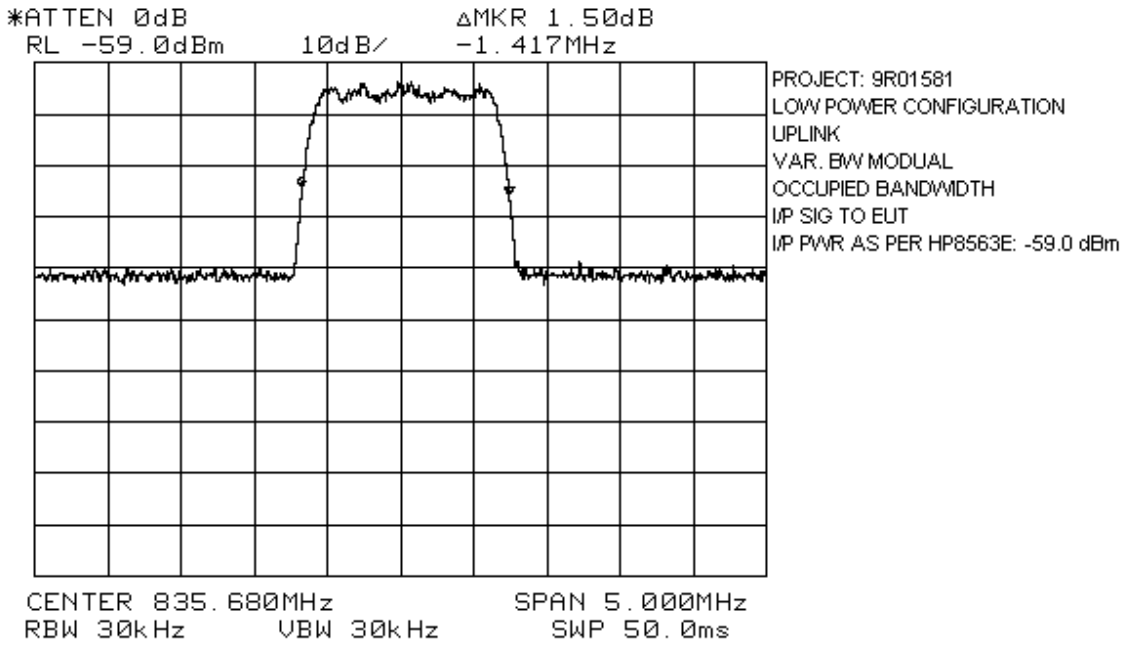

ATTEN 10dB
RL -48.0dBm
10dB/
ΔMKR .17dB
32.3kHz
D
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
TDMA, SINGLE CH.
OCCUPIED BANDWIDTH
I/P TO EUT
I/P PWR AS PER HP8563E: -48.0 dBm
CENTER 881.1700MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

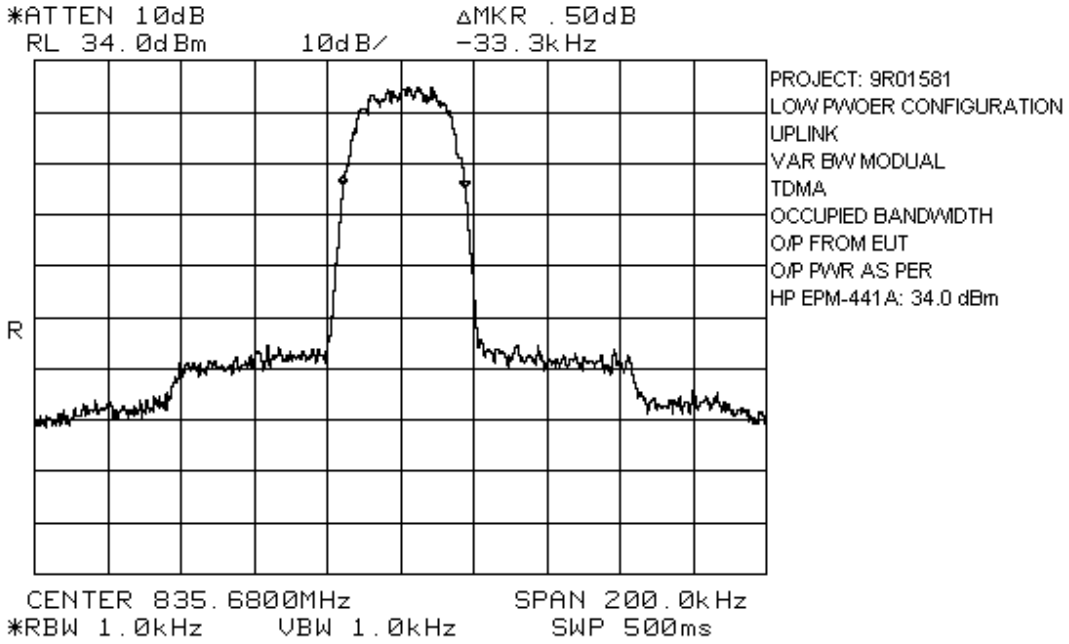
Low Power – Variable Bandwidth Units

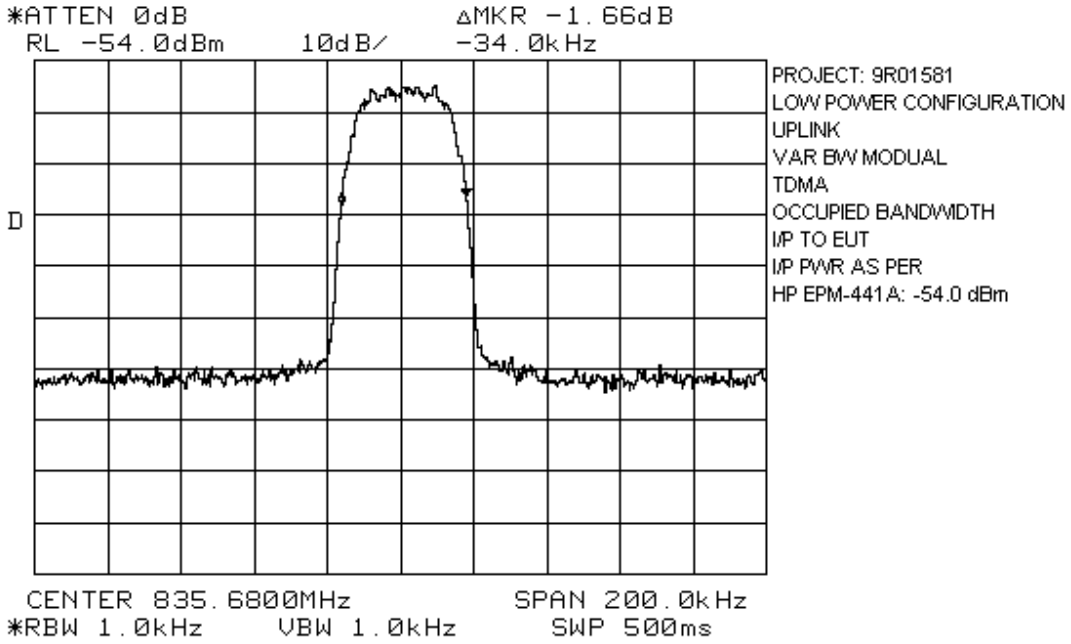


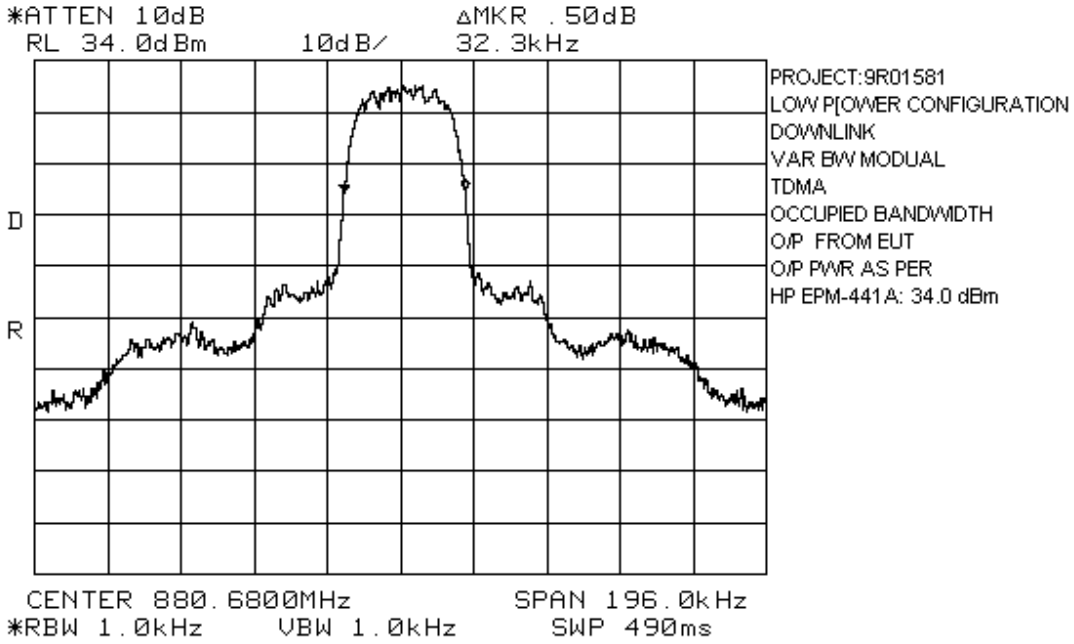

*ATTEN 0dB
ΔMKR -.66dB
RL -49.0dBm
10dB/
1.408MHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
OCCUPIED BANDWIDTH
I/P SIG TO EUT
I/P PWR AS PER HP 8563E: -49.0 dBm
CENTER 880.680MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

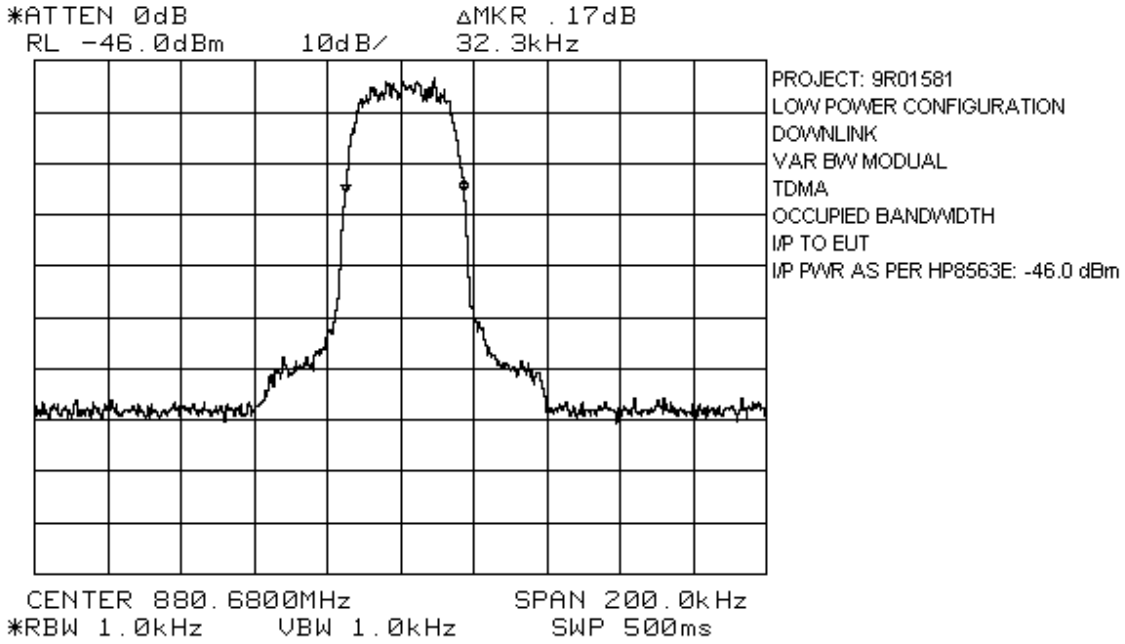

ATTEN 10dB
RL 30.0dBm
10dB/
ΔMKR 1.00dB
-1.408MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
CDMA
OCCUPIED BANDWIDTH
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
CENTER 835.680MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms


*ATTEN 0dB
RL -59.0dBm
10dB/
ΔMKR 1.50dB
-1.417MHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR. BW MODUAL
OCCUPIED BANDWIDTH
I/P SIG TO EUT
I/P PWR AS PER HP8563E: -59.0 dBm
CENTER 835.680MHz
RBW 30kHz
VBW 30kHz
SPAN 5.000MHz
SWP 50.0ms

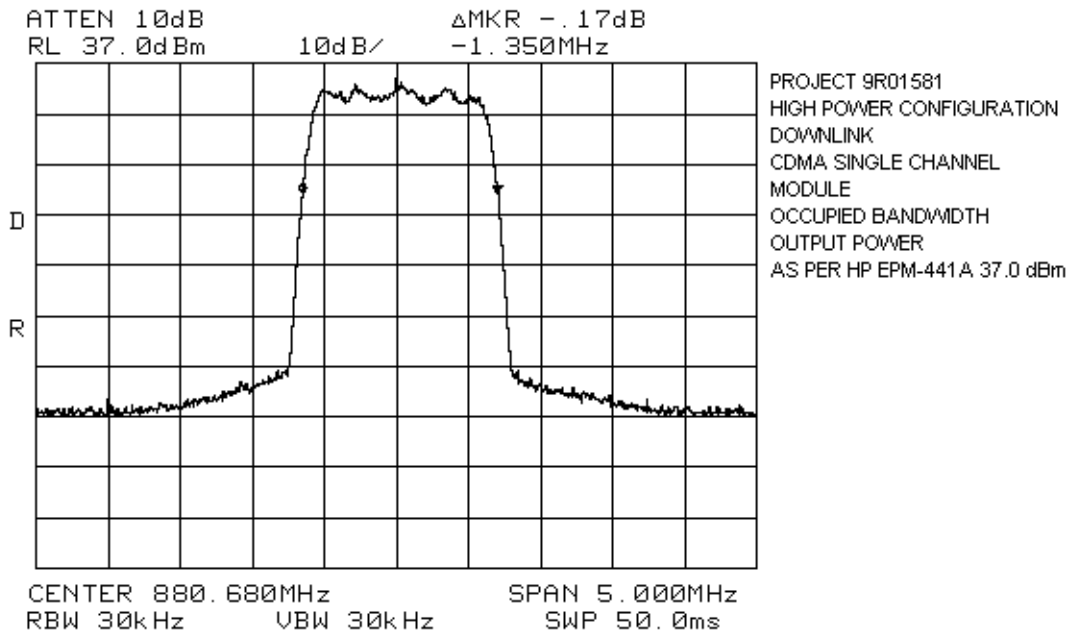

*ATTEN 10dB
RL 34.0dBm
10dB/
ΔMKR .50dB
-33.3kHz
PROJECT: 9R01581
LOW PWOER CONFIGURATION
UPLINK
VAR BW MODUAL
TDMA
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
R
CENTER 835.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

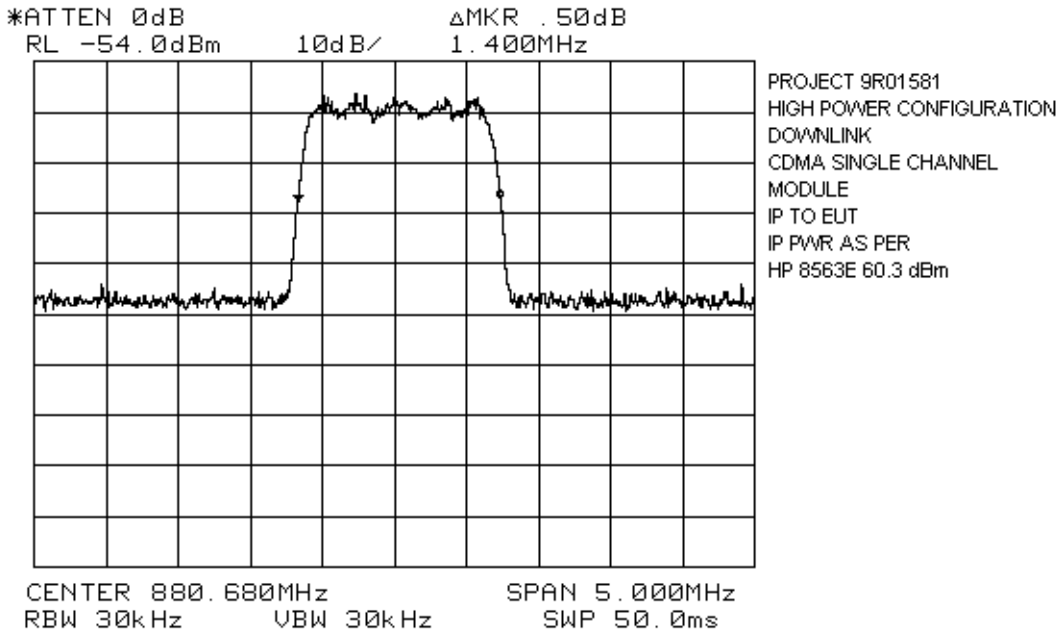

*ATTEN 0dB
ΔMKR -1.66dB
RL -54.0dBm
10dB/
-34.0kHz
D
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
TDMA
OCCUPIED BANDWIDTH
I/P TO EUT
I/P PWR AS PER
HP EPM-441A: -54.0 dBm
CENTER 835.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

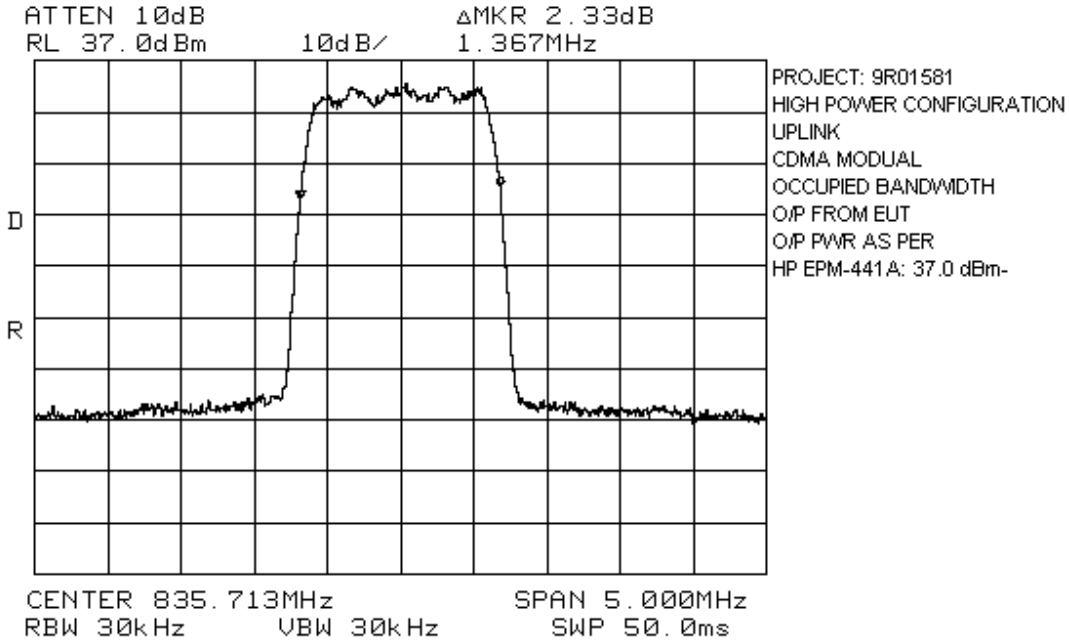

*ATTEN 10dB
RL 34.0dBm
10dB/
ΔMKR .50dB
32.3kHz
D
R
PROJECT:9R01581
LOW P[OWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
TDMA
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
CENTER 880.6800MHz
SPAN 196.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 490ms

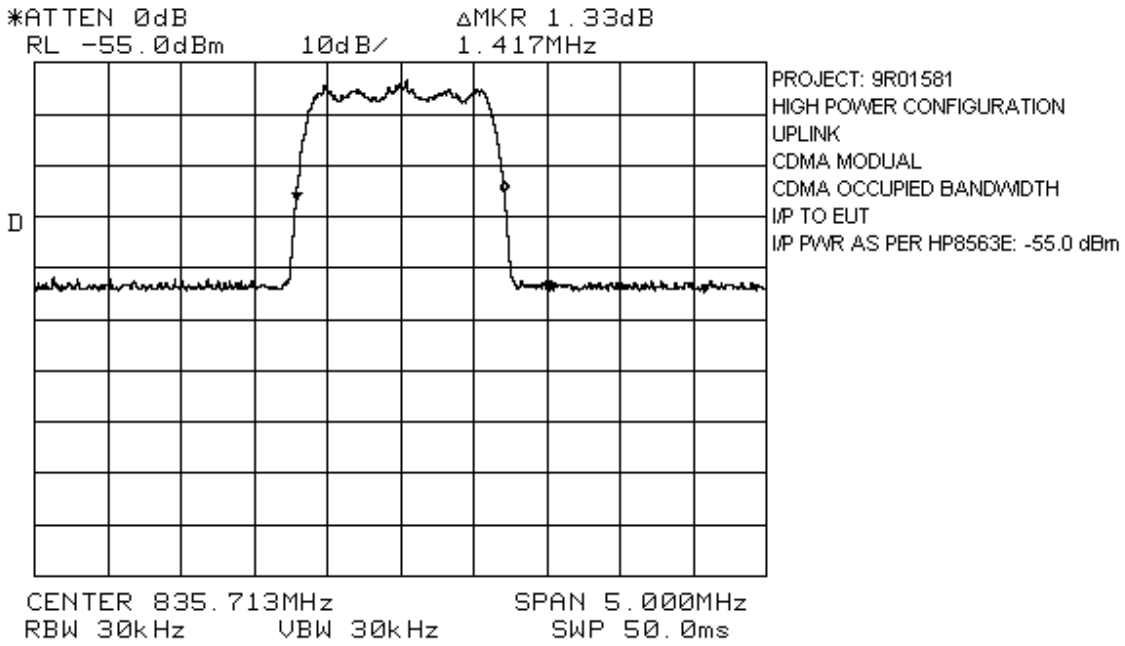

*ATTEN 0dB
ΔMKR .17dB
RL -46.0dBm
10dB/
32.3kHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
TDMA
OCCUPIED BANDWIDTH
I/P TO EUT
I/P PWR AS PER HP8563E: -46.0 dBm
CENTER 880.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

High Power – CDMA Module

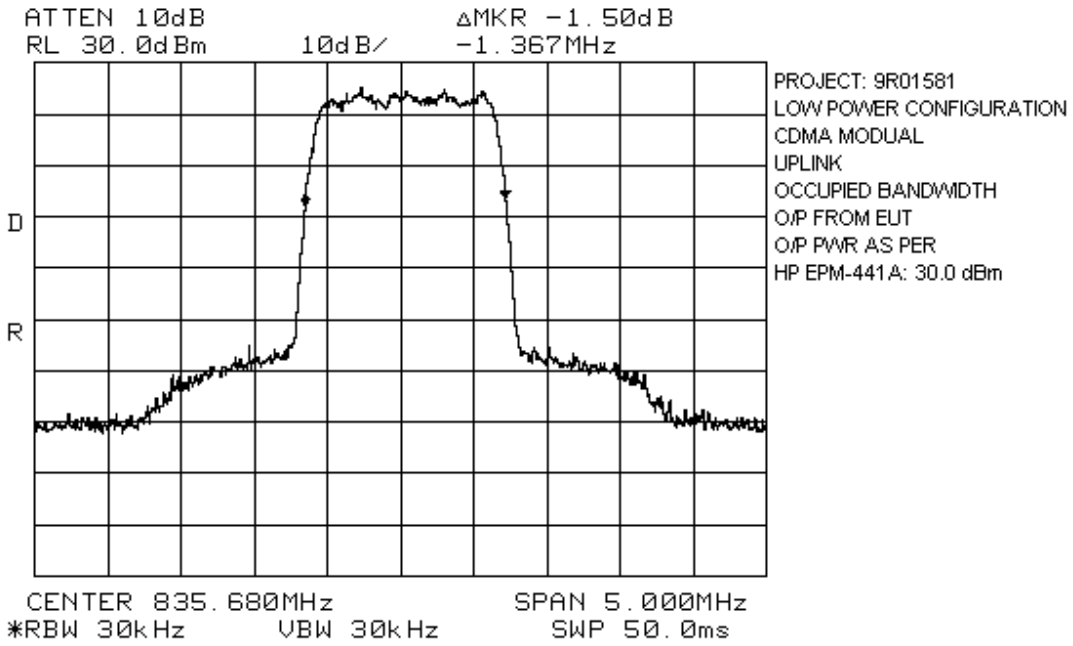


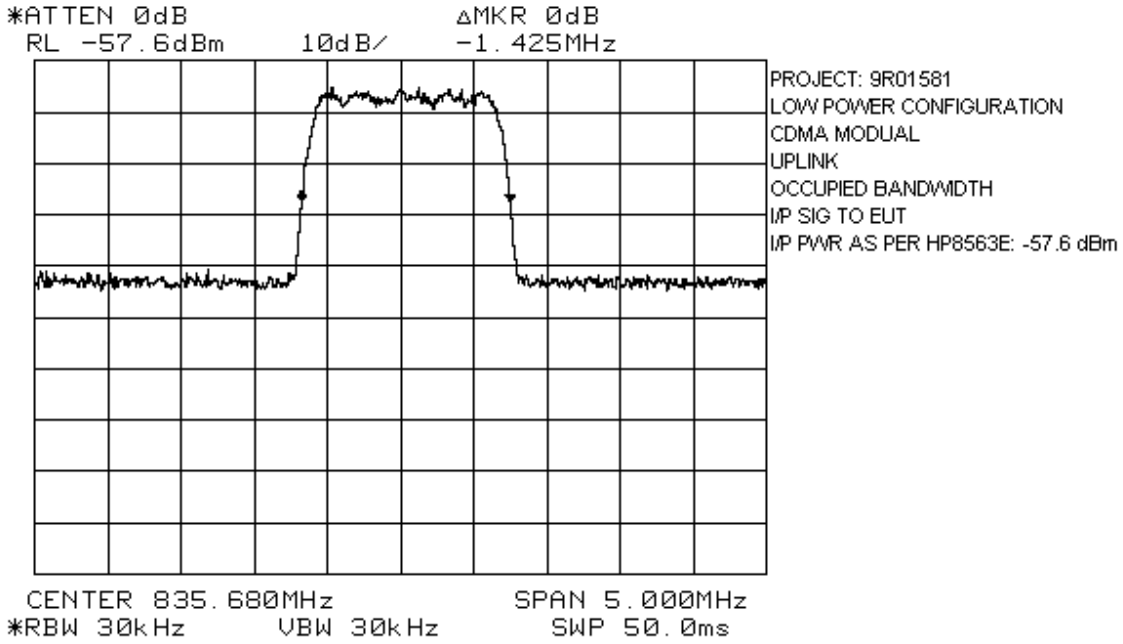

*ATTEN 0dB
RL -54.0dBm
10dB/
ΔMKR .50dB
1.400MHz
PROJECT 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA SINGLE CHANNEL
MODULE
IP TO EUT
IP PWR AS PER
HP 8563E 60.3 dBm
CENTER 880.680MHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

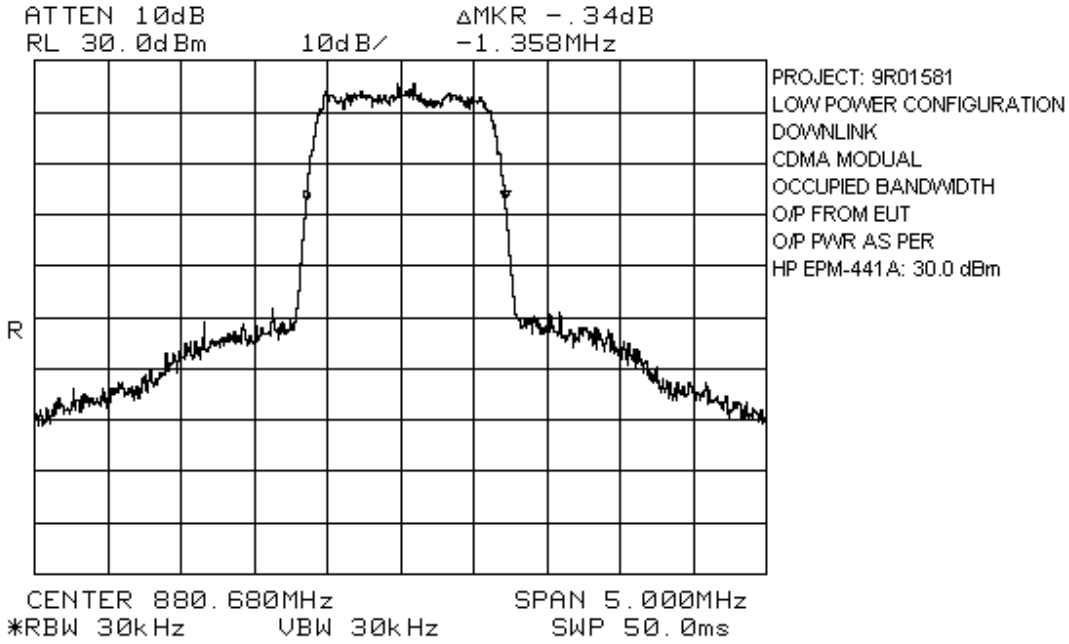

ATTEN 10dB
RL 37.0dBm
10dB/
ΔMKR 2.33dB
1.367MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
CDMA MODUAL
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 37.0 dBm-
CENTER 835.713MHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

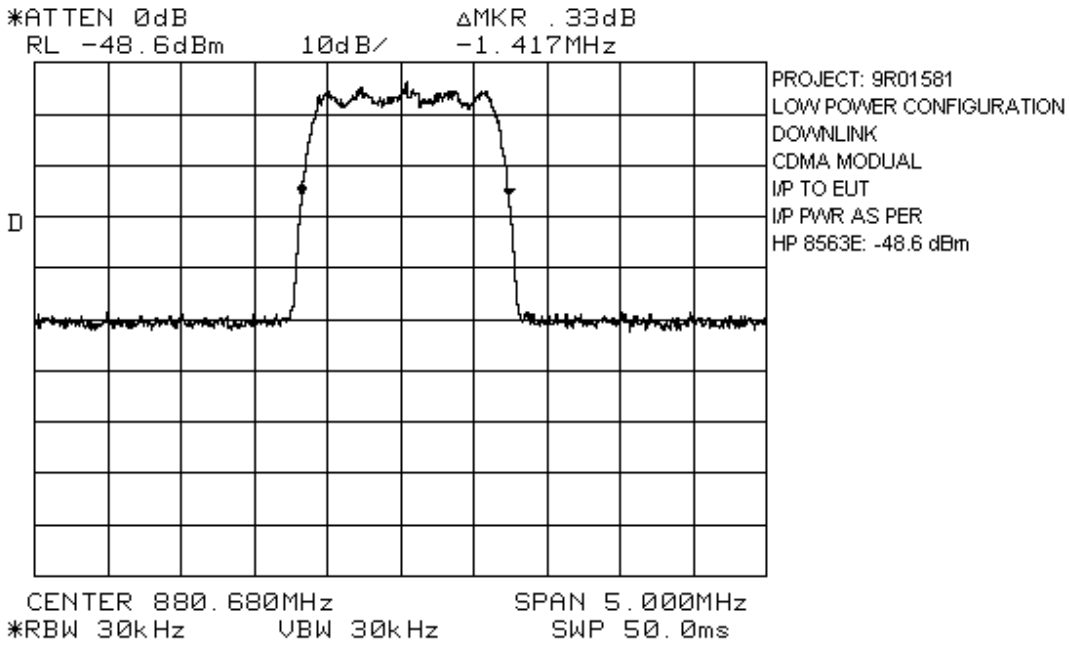

*ATTEN 0dB
RL -55.0dBm
10dB/
ΔMKR 1.33dB
1.417MHz
D
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
CDMA MODUAL
CDMA OCCUPIED BANDWIDTH
I/P TO EUT
I/P PWR AS PER HP8563E: -55.0 dBm
CENTER 835.713MHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

Low Power – CDMA Module

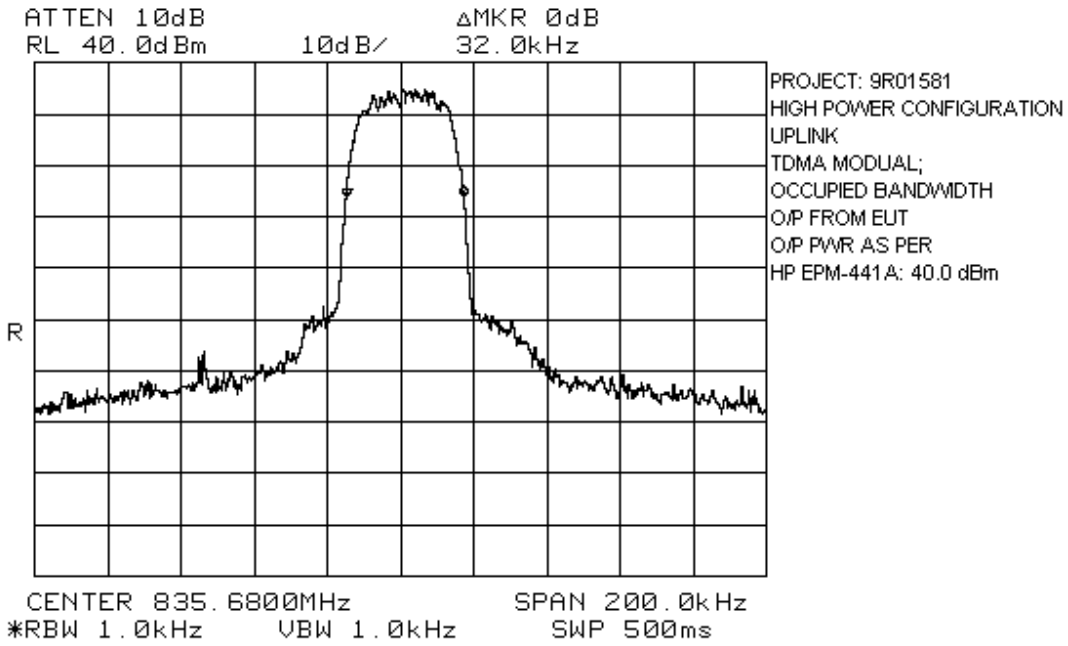


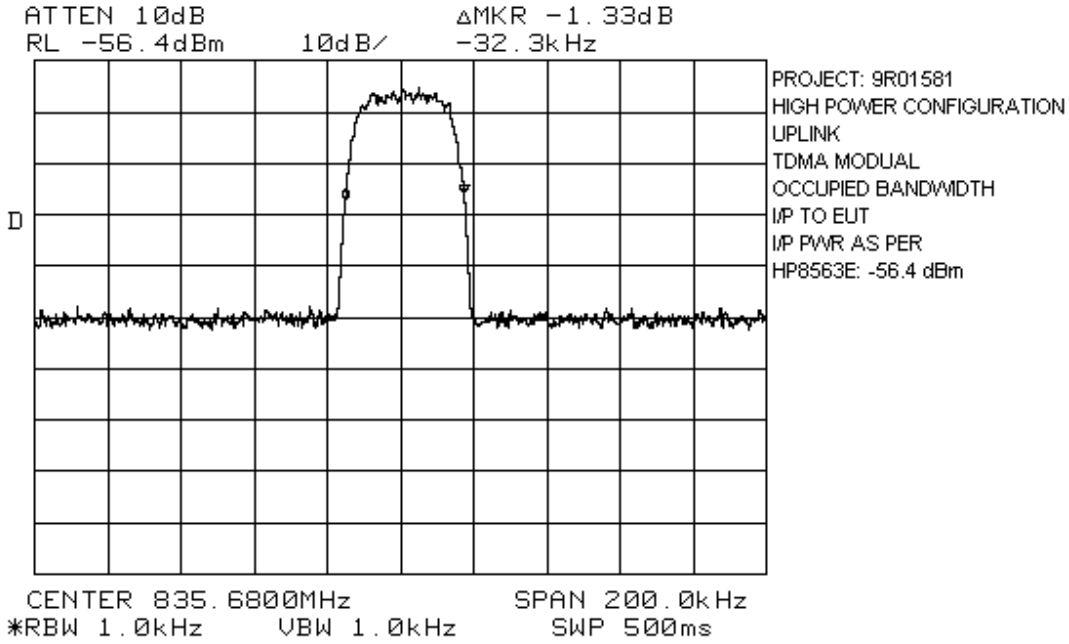

*ATTEN 0dB
RL -57.6dBm
10dB/
ΔMKR 0dB
-1.425MHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
CDMA MODUAL
UPLINK
OCCUPIED BANDWIDTH
I/P SIG TO EUT
I/P PWR AS PER HP8563E: -57.6 dBm
CENTER 835.680MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

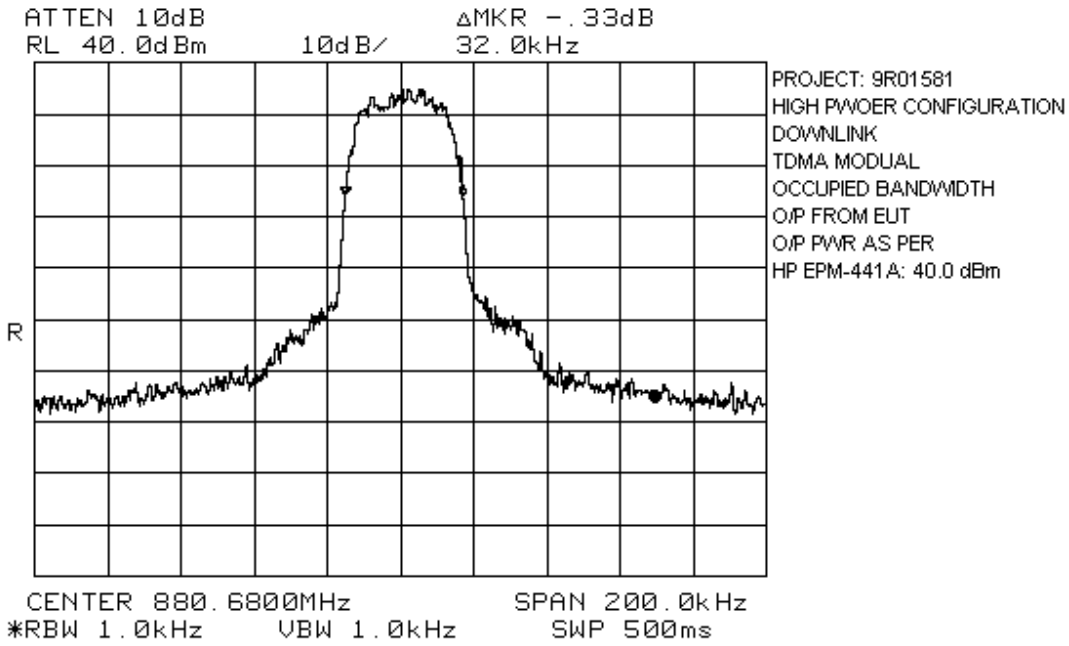

ATTEN 10dB
RL 30.0dBm
10dB/
ΔMKR -.34dB
-1.358MHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
CDMA MODUAL
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
R
CENTER 880.680MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

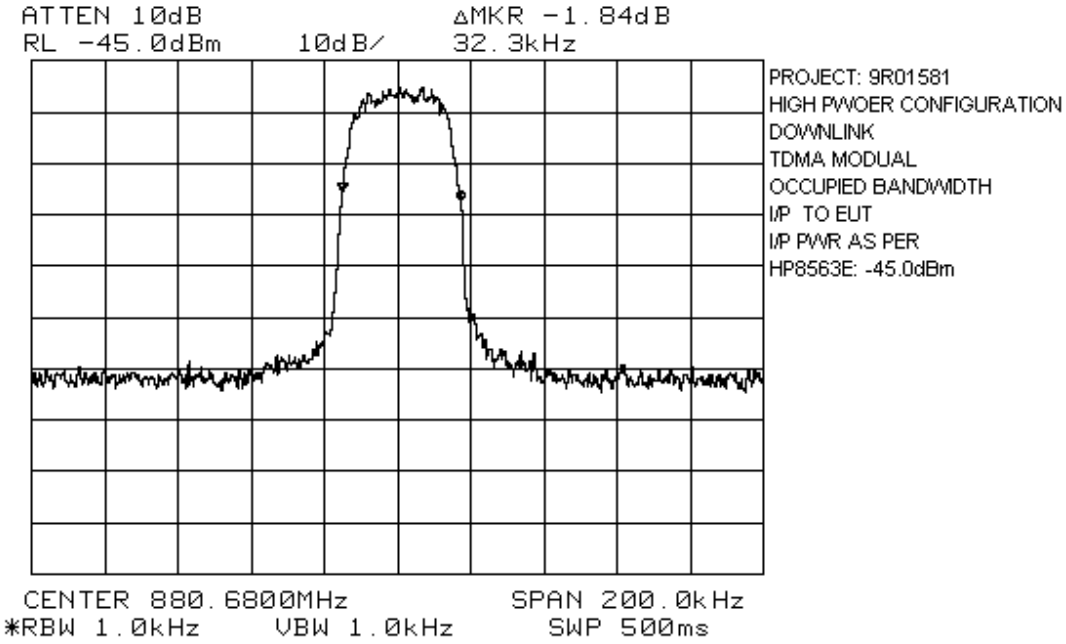

*ATTEN 0dB
ΔMKR .33dB
RL -48.6dBm
10dB/
-1.417MHz
D
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
CDMA MODUAL
I/P TO EUT
I/P PWR AS PER
HP 8563E: -48.6 dBm
CENTER 880.680MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

High Power – TDMA Module

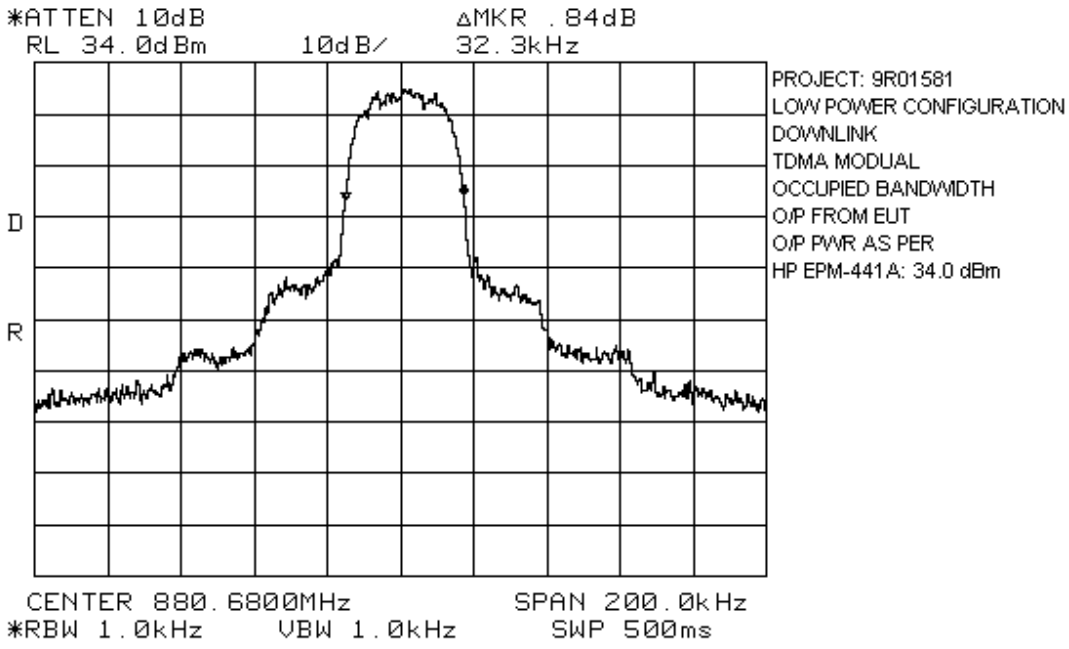


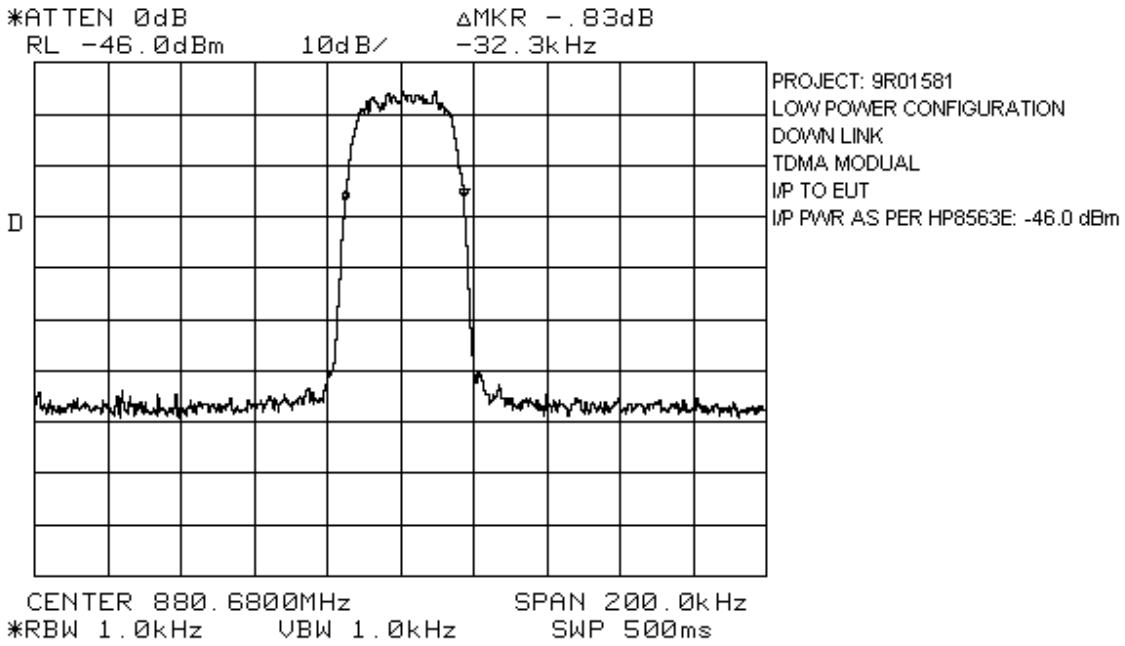

ATTEN 10dB
RL -56.4dBm
10dB/
ΔMKR -1.33dB
-32.3kHz
D
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
TDMA MODUAL
OCCUPIED BANDWIDTH
I/P TO EUT
I/P PWR AS PER
HP8563E: -56.4 dBm
CENTER 835.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

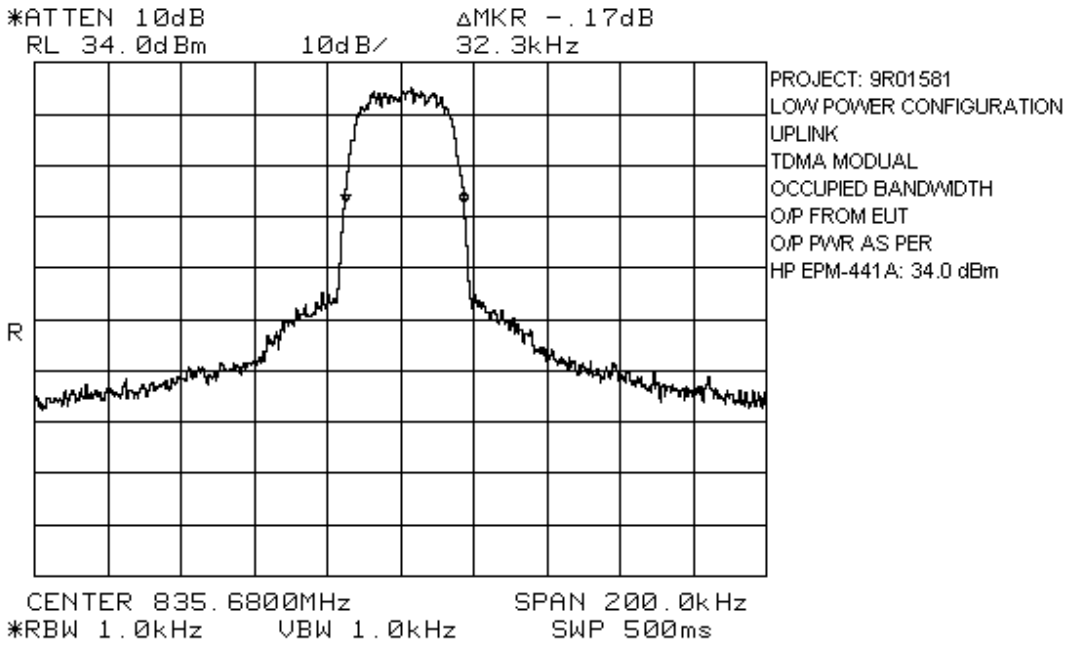

ATTEN 10dB
RL 40.0dBm
10dB/
ΔMKR -.33dB
32.0kHz
PROJECT: 9R01581
HIGH PWOER CONFIGURATION
DOWNLINK
TDMA MODUAL
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
R
CENTER 880.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

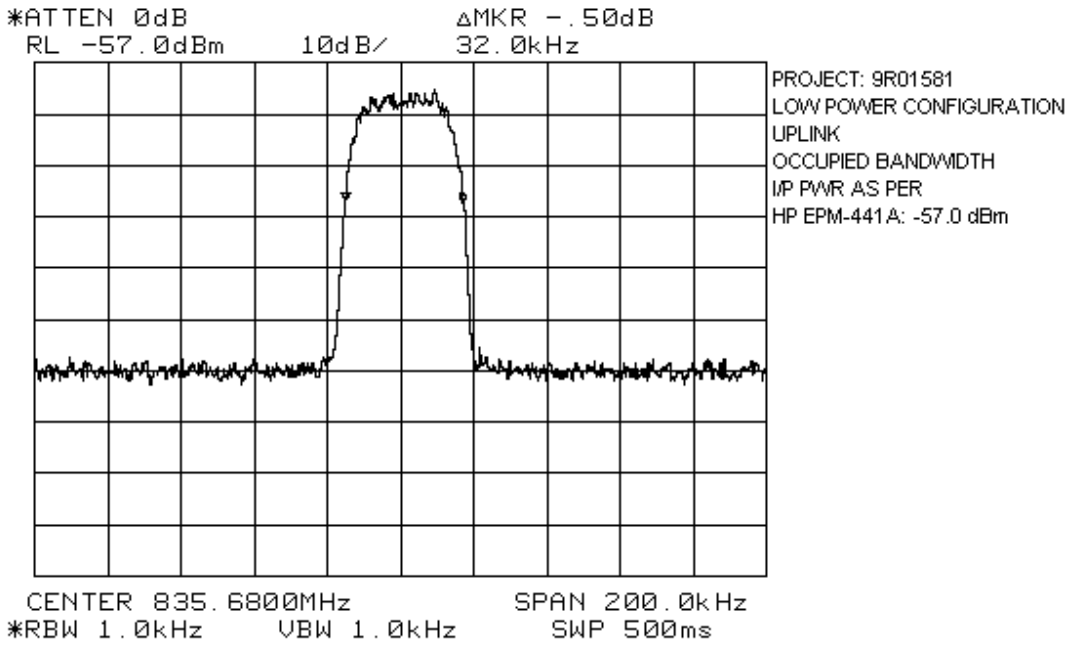

ATTEN 10dB
RL -45.0dBm
10dB/
ΔMKR -1.84dB
32.3kHz
PROJECT: 9R01581
HIGH PWOER CONFIGURATION
DOWNLINK
TDMA MODUAL
OCCUPIED BANDWIDTH
I/P TO EUT
I/P PWR AS PER
HP8563E: -45.0dBm
CENTER 880.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

Low Power – TDMA Module




*ATTEN 0dB
ΔMKR -.83dB
RL -46.0dBm
10dB/
-32.3kHz
D
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWN LINK
TDMA MODUAL
I/P TO EUT
I/P PWR AS PER HP8563E: -46.0 dBm
CENTER 880.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


*ATTEN 10dB
RL 34.0dBm
10dB/
ΔMKR -.17dB
32.3kHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
TDMA MODUAL
OCCUPIED BANDWIDTH
O/P FROM EUT
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
R
CENTER 835.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


*ATTEN 0dB
ΔMKR -.50dB
RL -57.0dBm
10dB/
32.0kHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
OCCUPIED BANDWIDTH
I/P PWR AS PER
HP EPM-441A: -57.0 dBm
CENTER 835.6800MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

Section 5. Spurious Emissions at Antenna Terminals

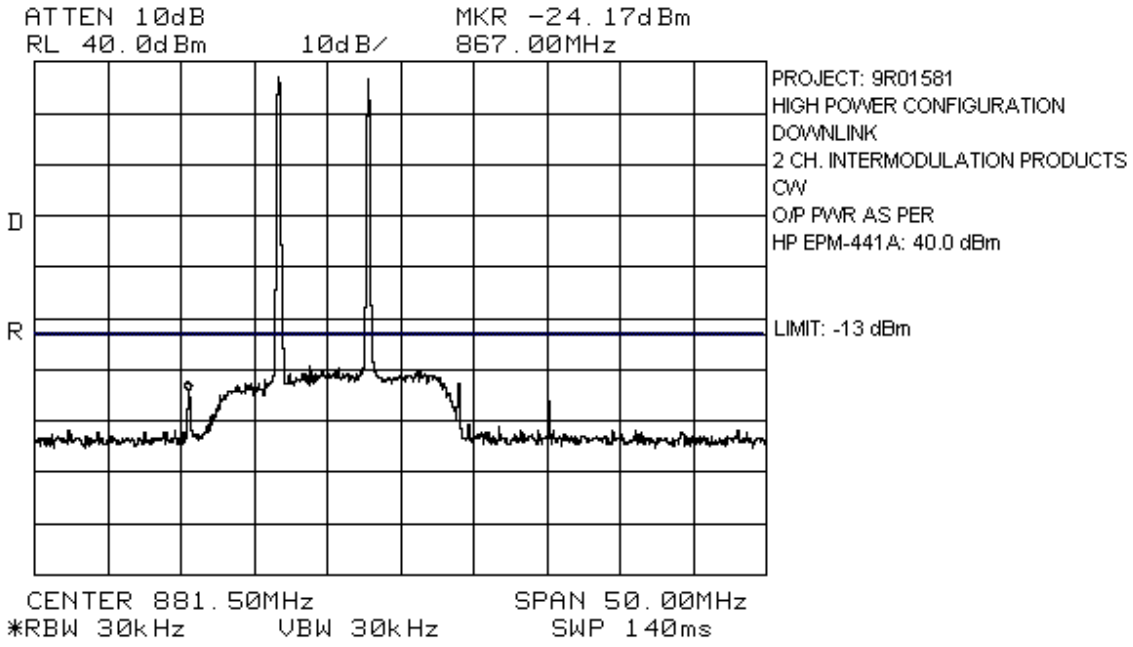
NAME OF TEST: Spurious Emissions @ Antenna Terminals	PARA. NO.: 2.917(e)
TESTED BY: Kevin Carr	DATE: August 11, 1999

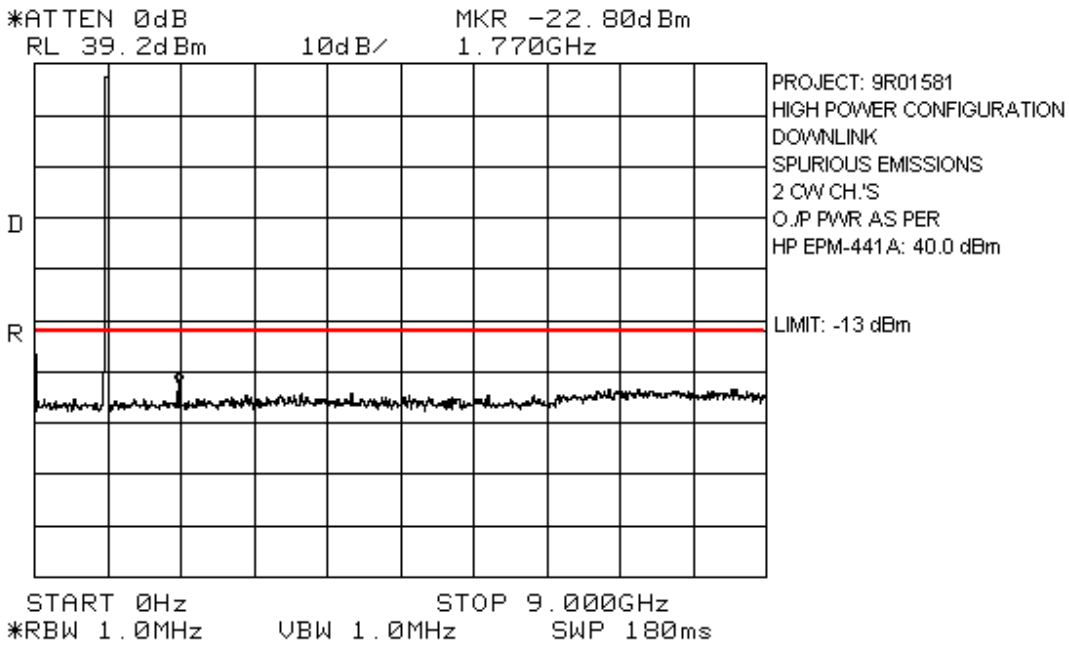
Test Results: Complies.

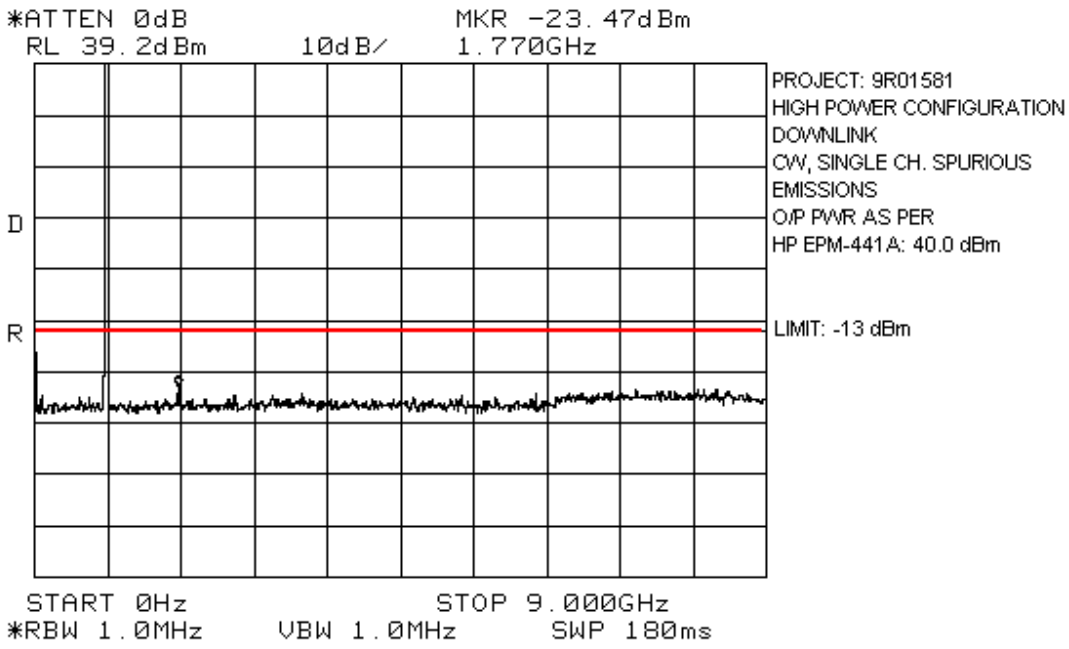
Test Data:

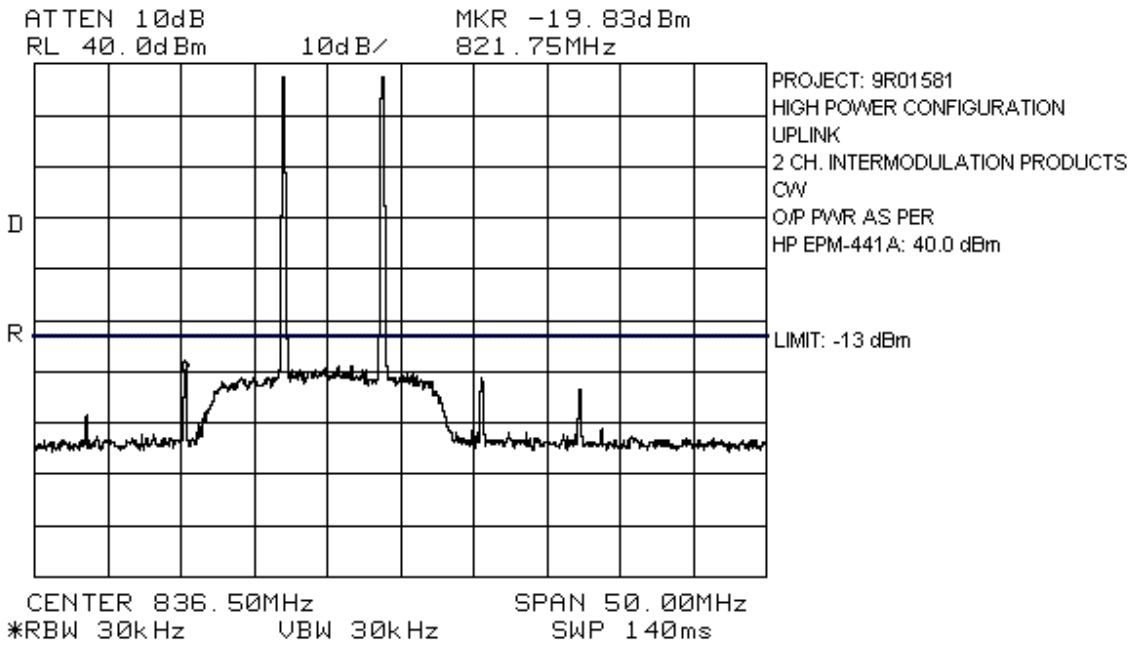
NAME OF TEST	WORST-CASE SPURIOUS LEVEL(dBm)
0 to 10 GHz spurious (Uplink)	-22.97
0 to 10 GHz spurious (Downlink)	-21.23
2 - signal intermodulation (Uplink)	-13.00
2 - signal intermodulation (Downlink)	-13.00
Lower band edge spurious (Uplink)	-13.17
Lower band edge spurious (Downlink)	-13.00
Upper band edge spurious (Uplink)	-13.10
Upper band edge spurious (Downlink)	-13.00

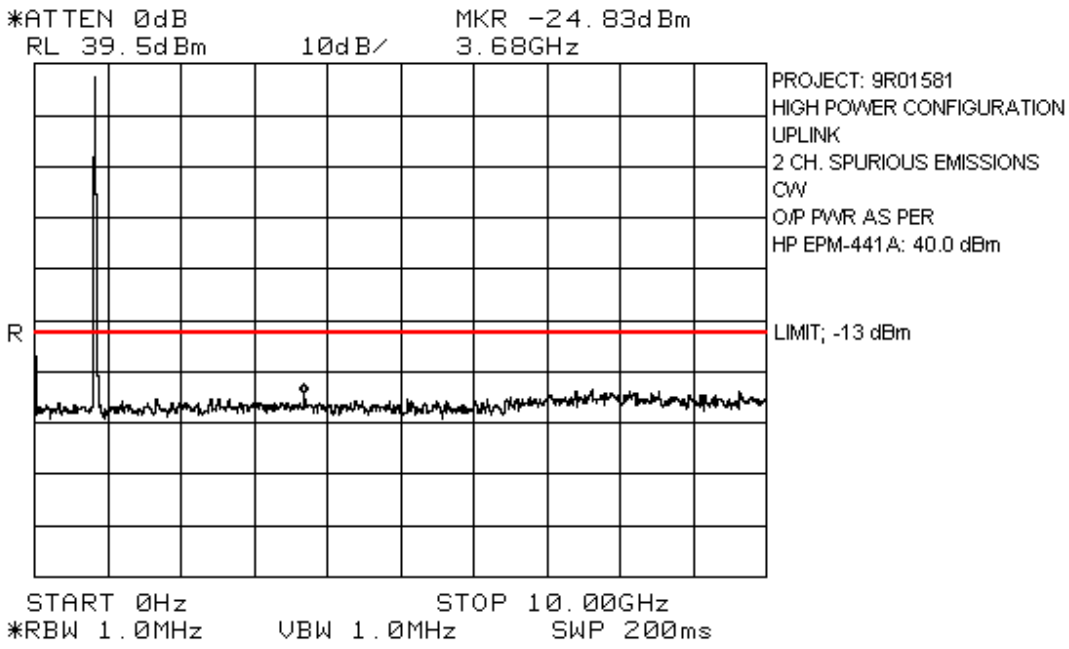
High Power – Variable Bandwidth Module

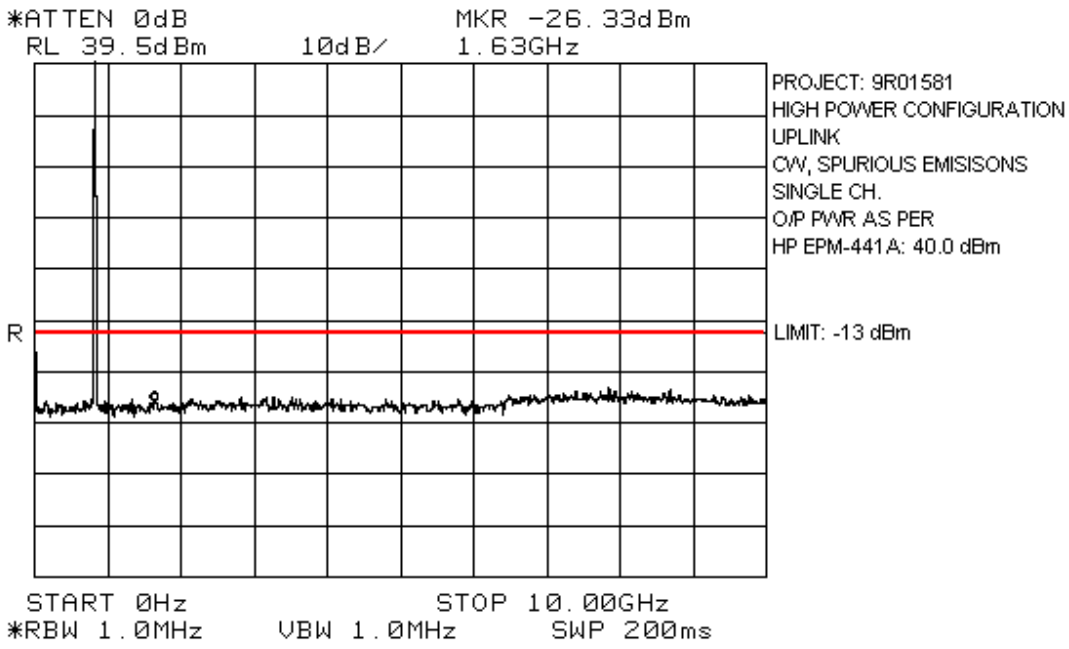


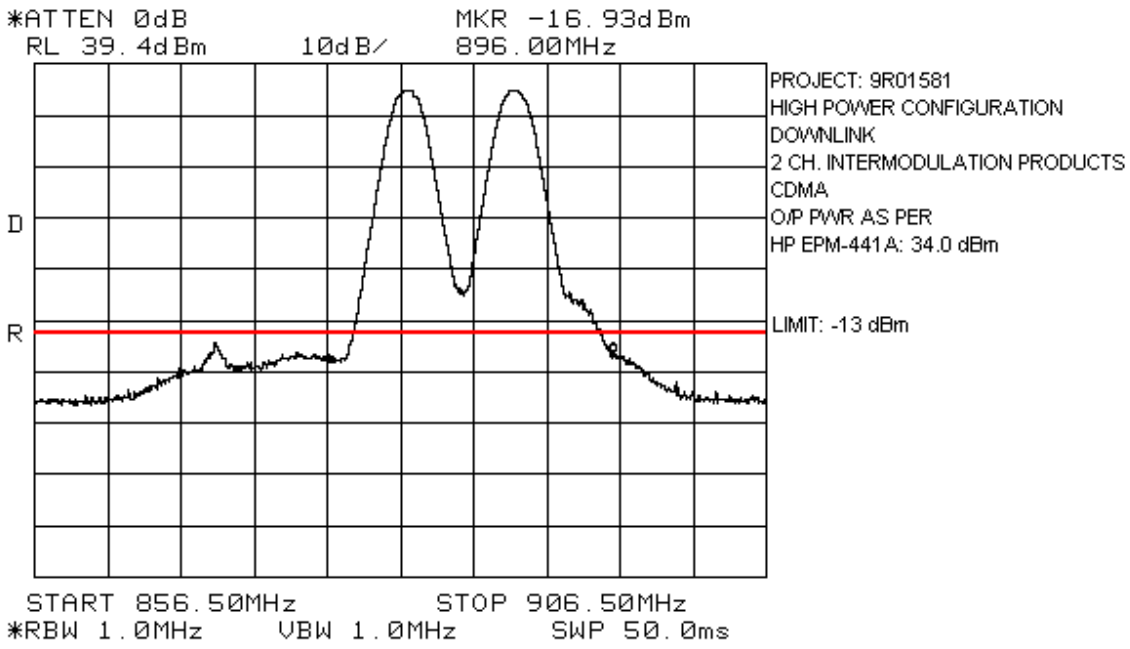

*ATTEN 0dB
MKR -22.80dBm
RL 39.2dBm
10dB/
1.770GHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
SPURIOUS EMISSIONS
2 CW CH.'S
O./P PWR AS PER
HP EPM-441A: 40.0 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 9.000GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 180ms

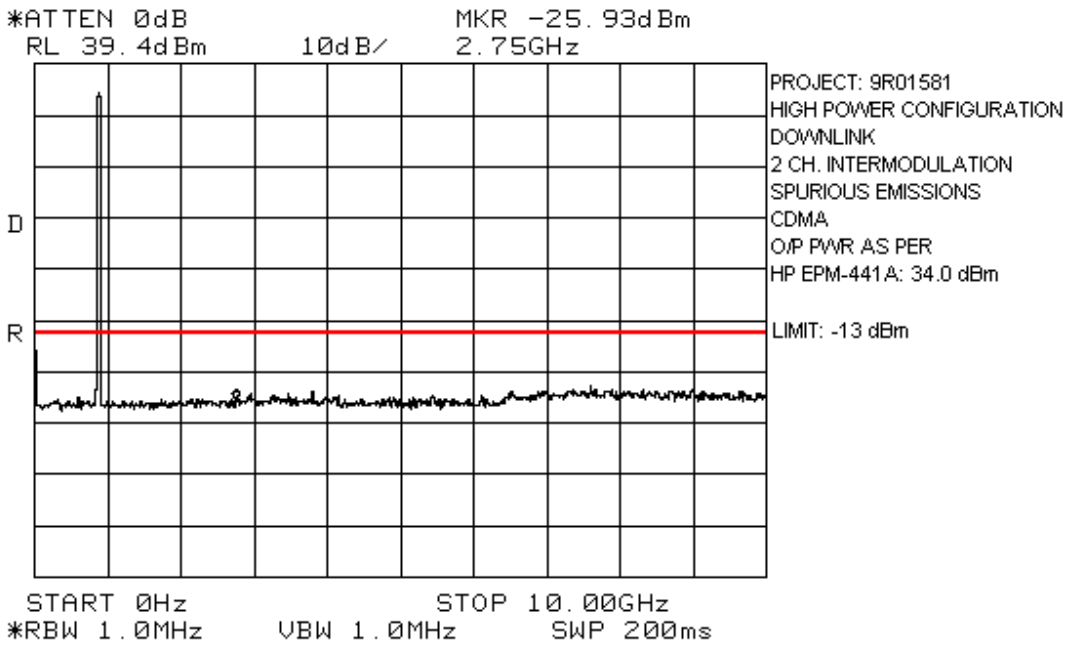

*ATTEN 0dB
MKR -23.47dBm
RL 39.2dBm
10dB/
1.770GHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CW, SINGLE CH. SPURIOUS
EMISSIONS
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 9.000GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 180ms

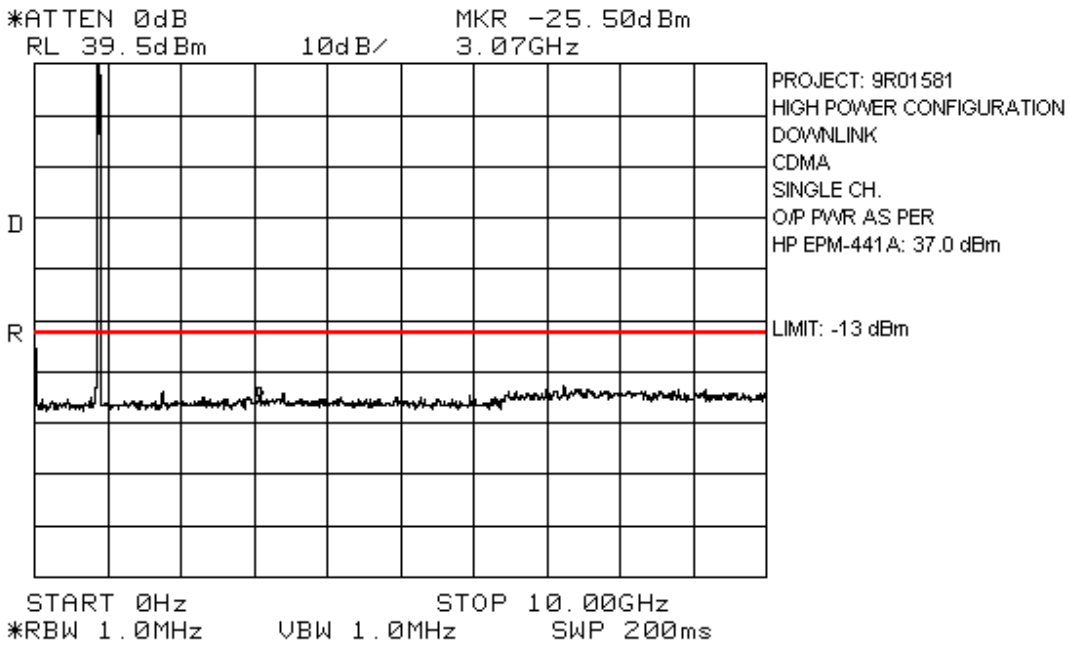

ATTEN 10dB
RL 40.0dBm
10dB/
MKR -19.83dBm
821.75MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
2 CH. INTERMODULATION PRODUCTS
CW
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
LIMIT: -13 dBm
CENTER 836.50MHz
SPAN 50.00MHz
*RBW 30kHz
VBW 30kHz
SWP 140ms

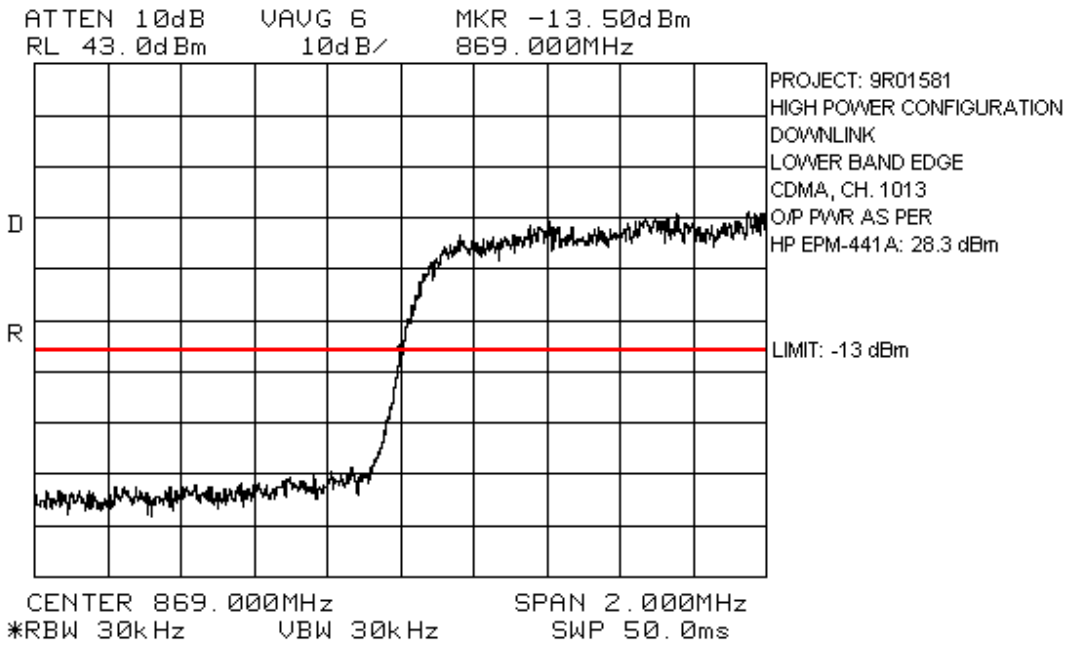

*ATTEN 0dB
MKR -24.83dBm
RL 39.5dBm
10dB/
3.68GHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
2 CH. SPURIOUS EMISSIONS
CW
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
R
LIMIT; -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

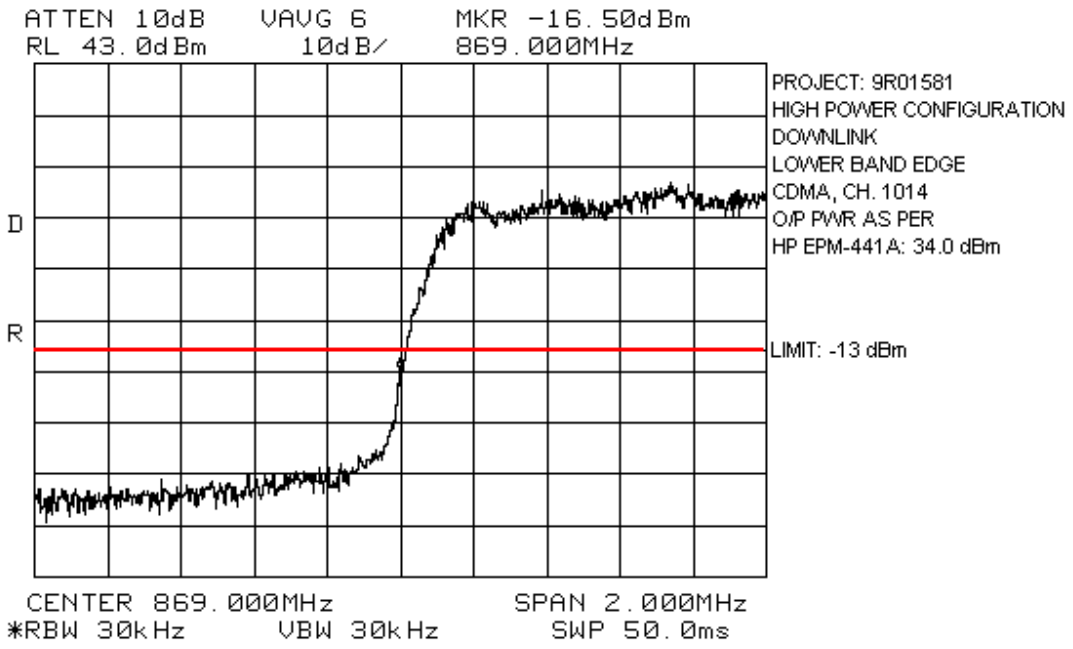

*ATTEN 0dB
MKR -26.33dBm
RL 39.5dBm
10dB/
1.63GHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
CW, SPURIOUS EMISISONS
SINGLE CH.
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
R
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

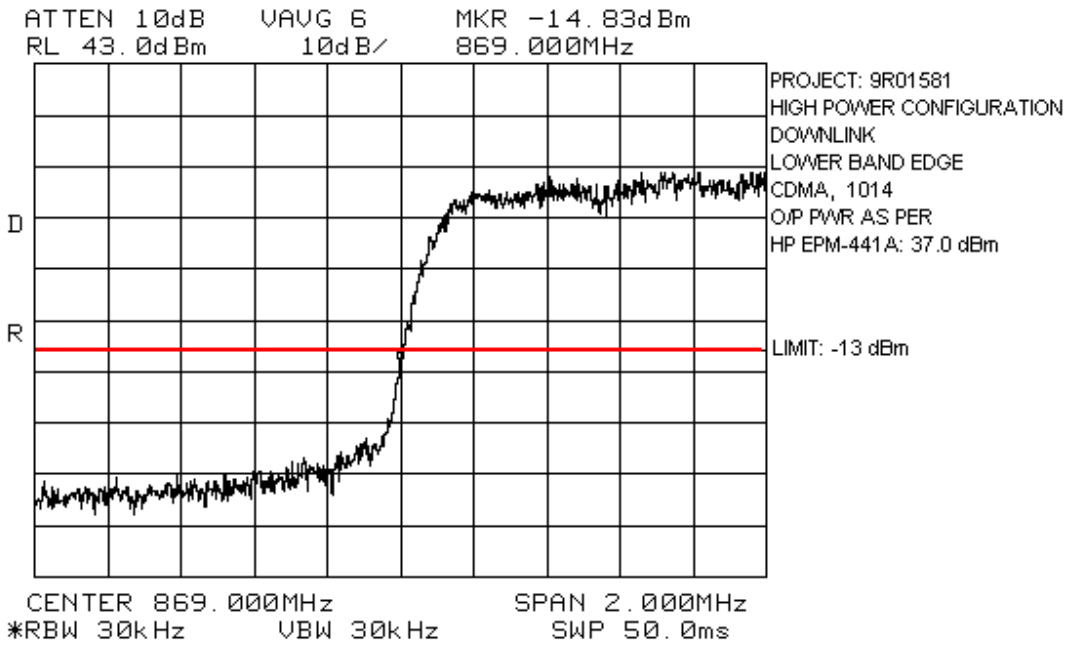

*ATTEN 0dB
MKR -16.93dBm
RL 39.4dBm
10dB/
896.00MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
2 CH. INTERMODULATION PRODUCTS
CDMA
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
LIMIT: -13 dBm
START 856.50MHz
STOP 906.50MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

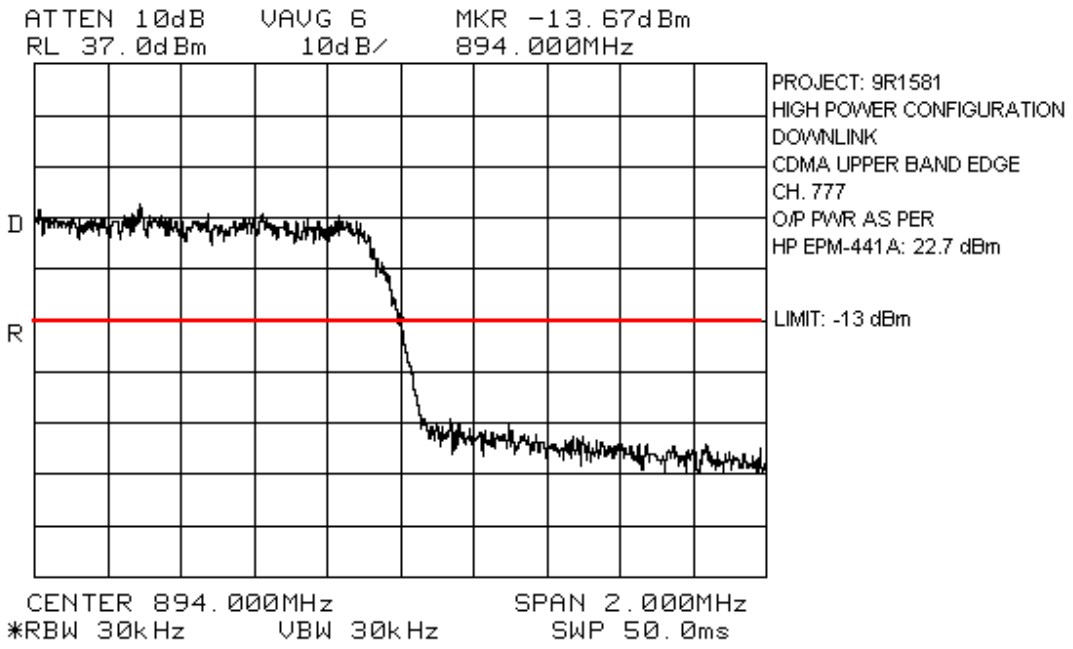

*ATTEN 0dB
MKR -25.93dBm
RL 39.4dBm
10dB/
2.75GHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
2 CH. INTERMODULATION
SPURIOUS EMISSIONS
CDMA
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

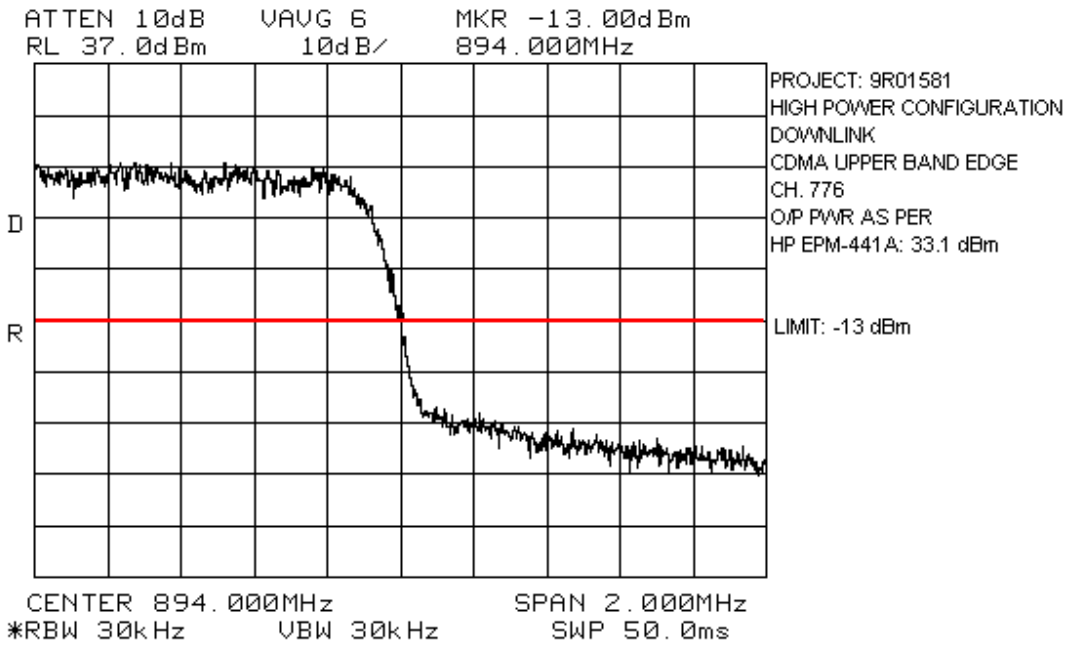

*ATTEN 0dB
MKR -25.50dBm
RL 39.5dBm
10dB/
3.07GHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA
SINGLE CH.
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

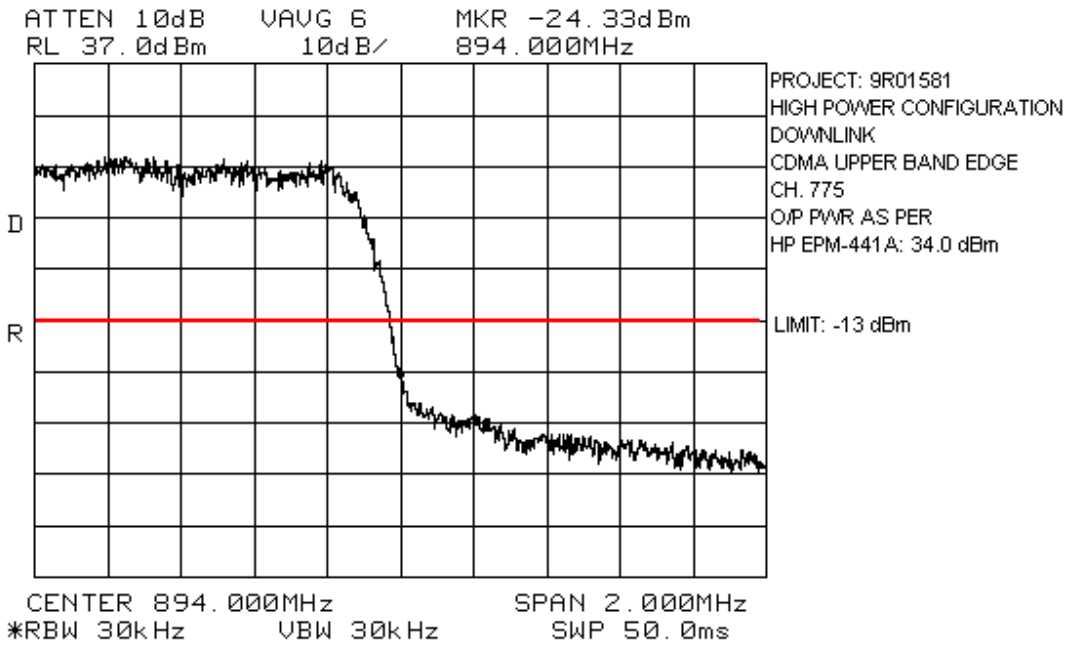

ATTEN 10dB
RL 43.0dBm
VAVG 6
10dB/
MKR -13.50dBm
869.000MHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
LOWER BAND EDGE
CDMA, CH. 1013
O/P PWR AS PER
HP EPM-441A: 28.3 dBm
D
R
LIMIT: -13 dBm
CENTER 869.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

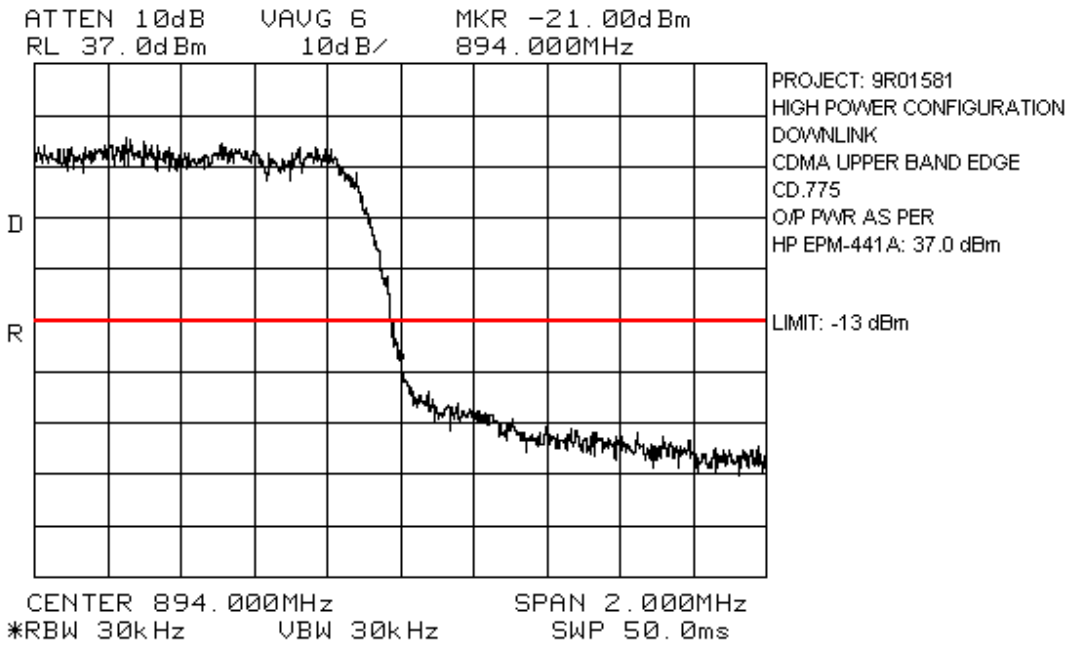

ATTEN 10dB
RL 43.0dBm
VAVG 6
10dB/
MKR -16.50dBm
869.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
LOWER BAND EDGE
CDMA, CH. 1014
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
LIMIT: -13 dBm
CENTER 869.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

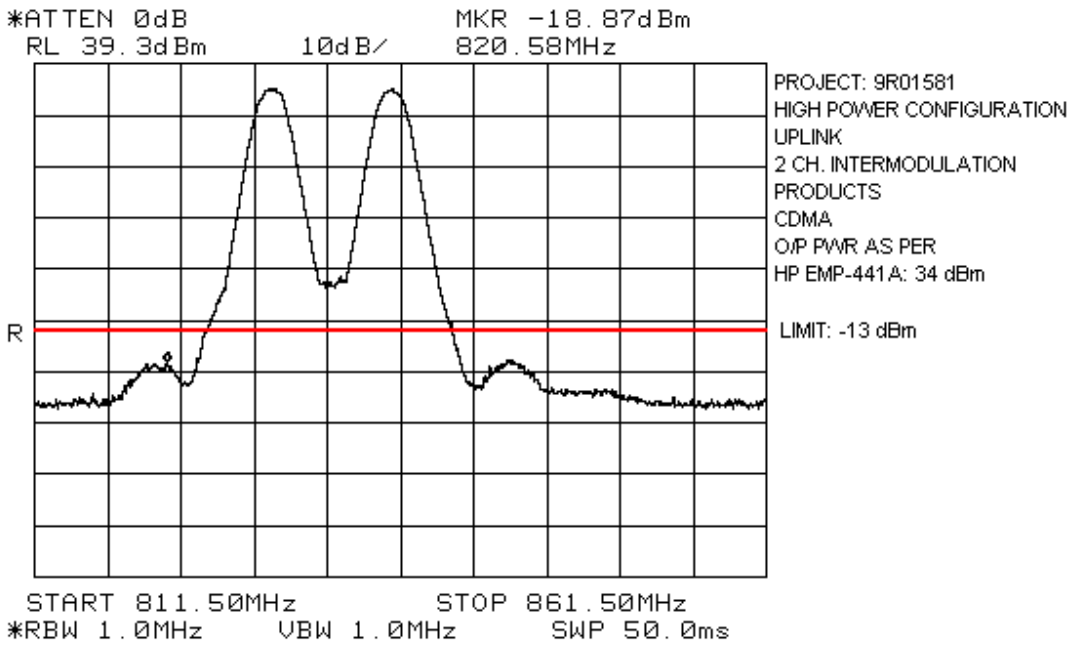

ATTEN 10dB
RL 43.0dBm
VAVG 6
10dB/
MKR -14.83dBm
869.000MHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
LOWER BAND EDGE
CDMA, 1014
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
D
R
LIMIT: -13 dBm
CENTER 869.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

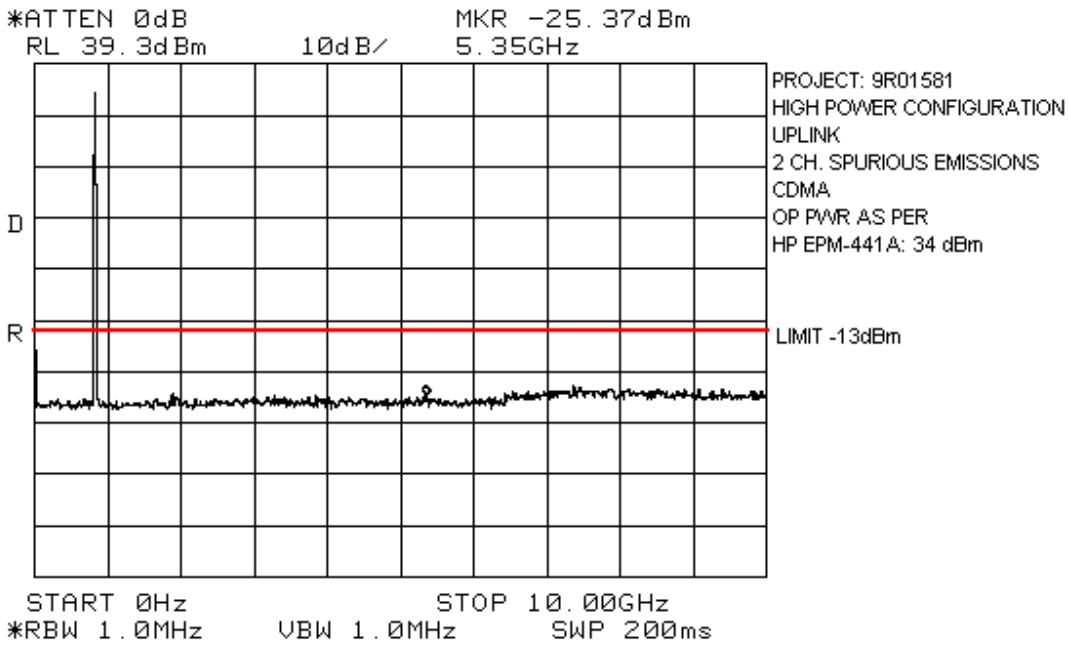

ATTEN 10dB
RL 37.0dBm
VAVG 6
10dB/
MKR -13.67dBm
894.000MHz
D
R
PROJECT: 9R1581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA UPPER BAND EDGE
CH. 777
O/P PWR AS PER
HP EPM-441A: 22.7 dBm
LIMIT: -13 dBm
CENTER 894.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

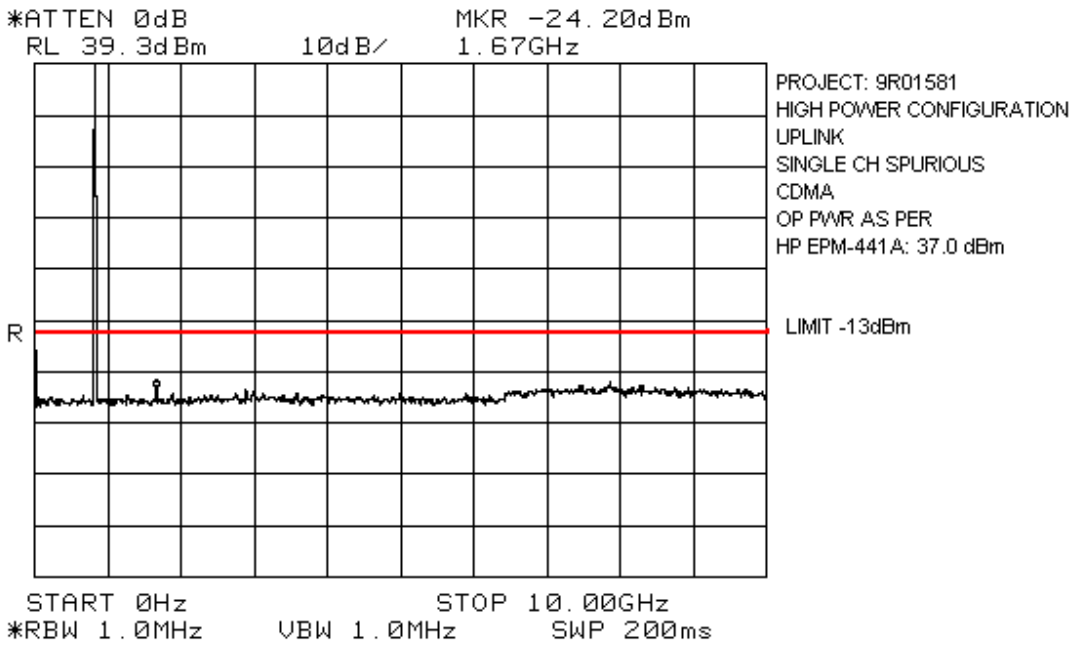

ATTEN 10dB
RL 37.0dBm
VAVG 6
10dB/
MKR -13.00dBm
894.000MHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA UPPER BAND EDGE
CH. 776
O/P PWR AS PER
HP EPM-441A: 33.1 dBm
LIMIT: -13 dBm
D
R
CENTER 894.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

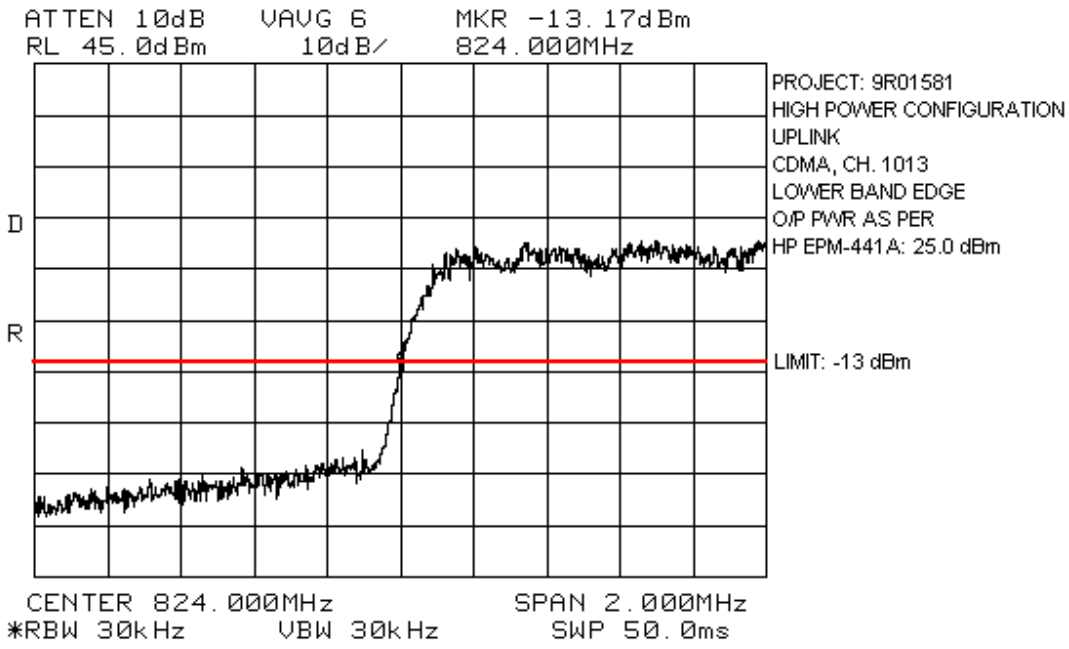

ATTEN 10dB
RL 37.0dBm
VAVG 6
10dB/
MKR -24.33dBm
894.000MHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA UPPER BAND EDGE
CH. 775
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
LIMIT: -13 dBm
D
R
CENTER 894.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

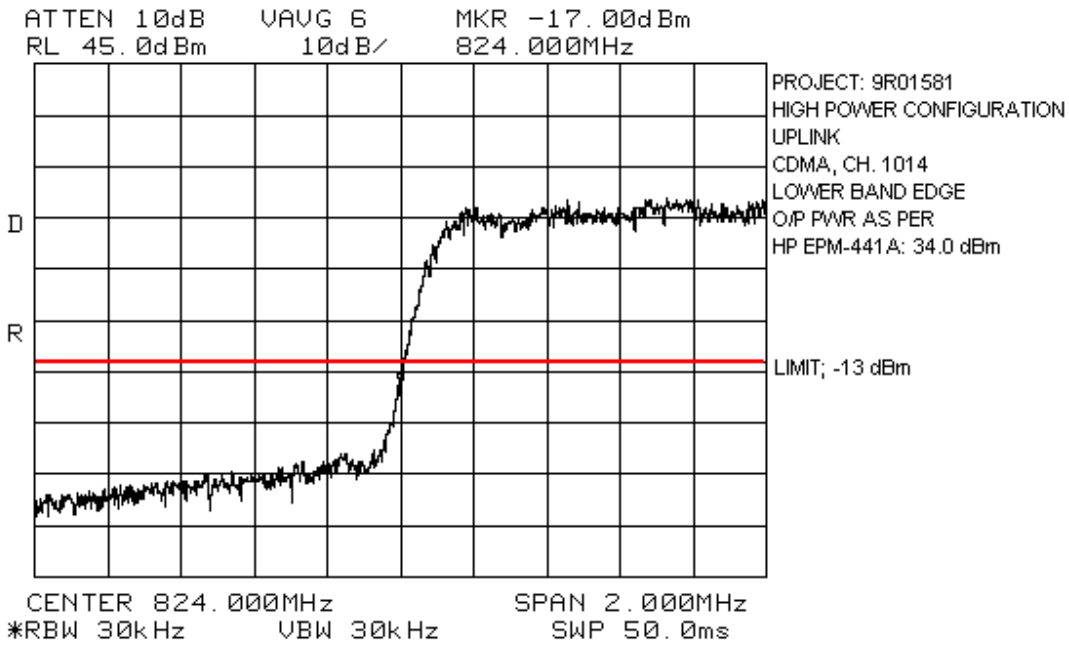

ATTEN 10dB
RL 37.0dBm
VAVG 6
10dB/
MKR -21.00dBm
894.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA UPPER BAND EDGE
CD.775
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
LIMIT: -13 dBm
CENTER 894.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

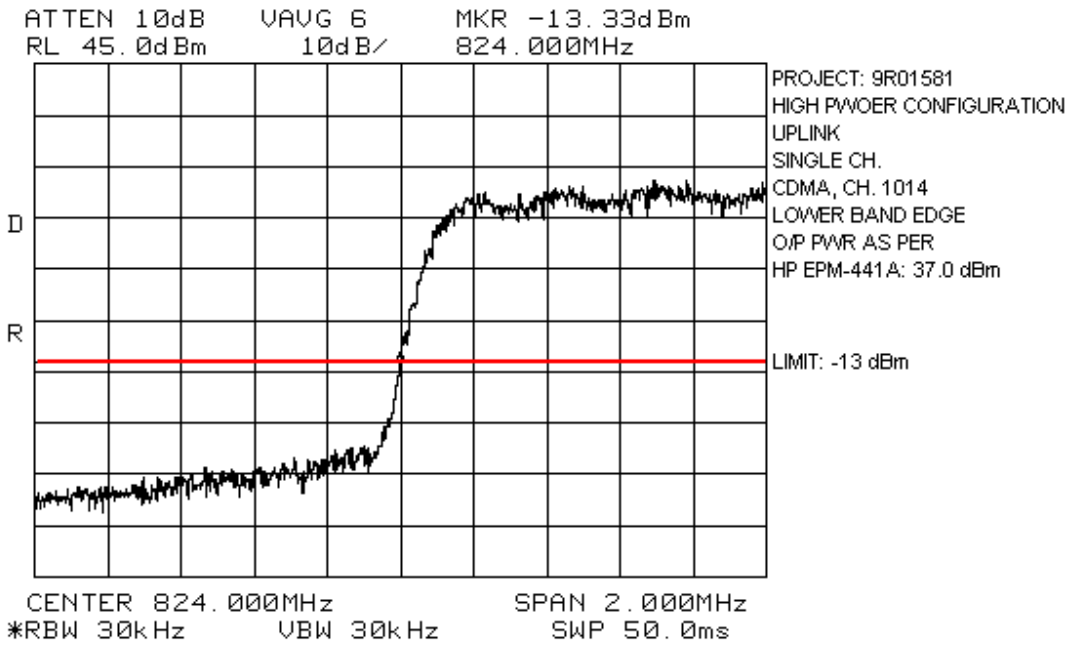

*ATTEN 0dB
MKR -18.87dBm
RL 39.3dBm
10dB/
820.58MHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
2 CH. INTERMODULATION
PRODUCTS
CDMA
O/P PWR AS PER
HP EMP-441A: 34 dBm
R
LIMIT: -13 dBm
START 811.50MHz
STOP 861.50MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

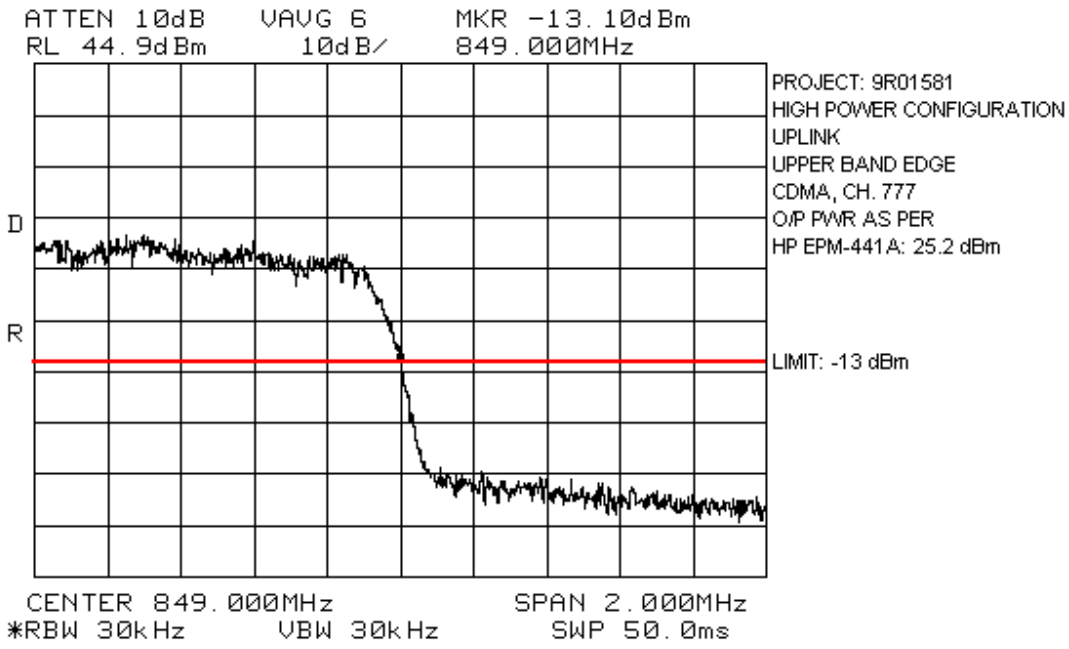

*ATTEN 0dB
MKR -25.37dBm
RL 39.3dBm
10dB/
5.35GHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
2 CH. SPURIOUS EMISSIONS
CDMA
OP PWR AS PER
HP EPM-441A: 34 dBm
D
R
LIMIT -13dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

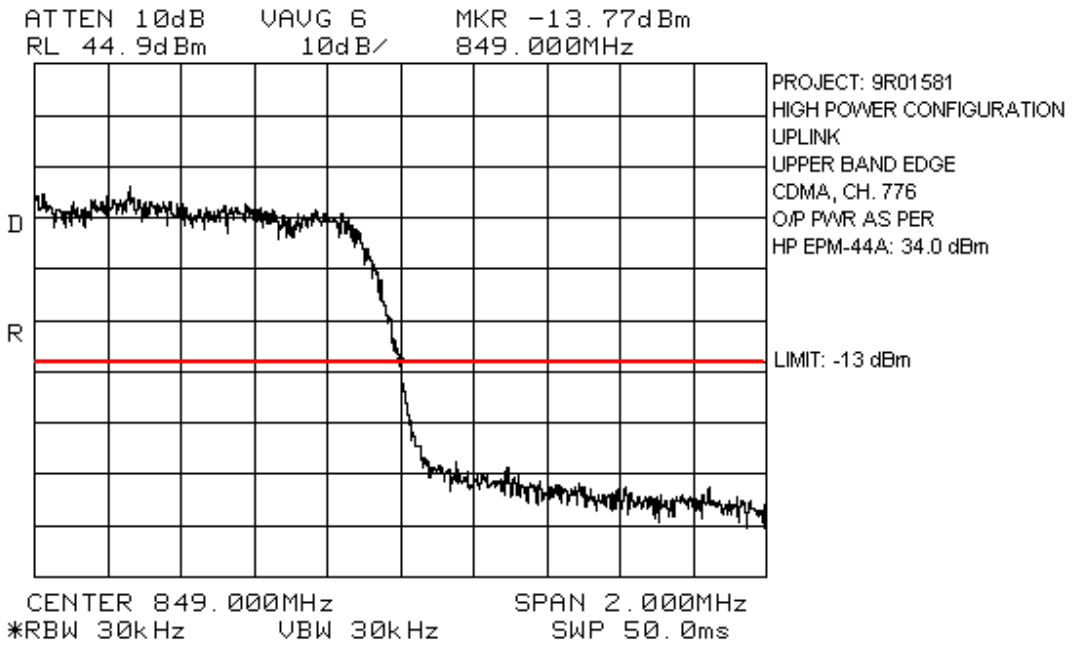

*ATTEN 0dB
MKR -24.20dBm
RL 39.3dBm
10dB/
1.67GHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
SINGLE CH SPURIOUS
CDMA
OP PWR AS PER
HP EPM-441A: 37.0 dBm
R
LIMIT -13dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

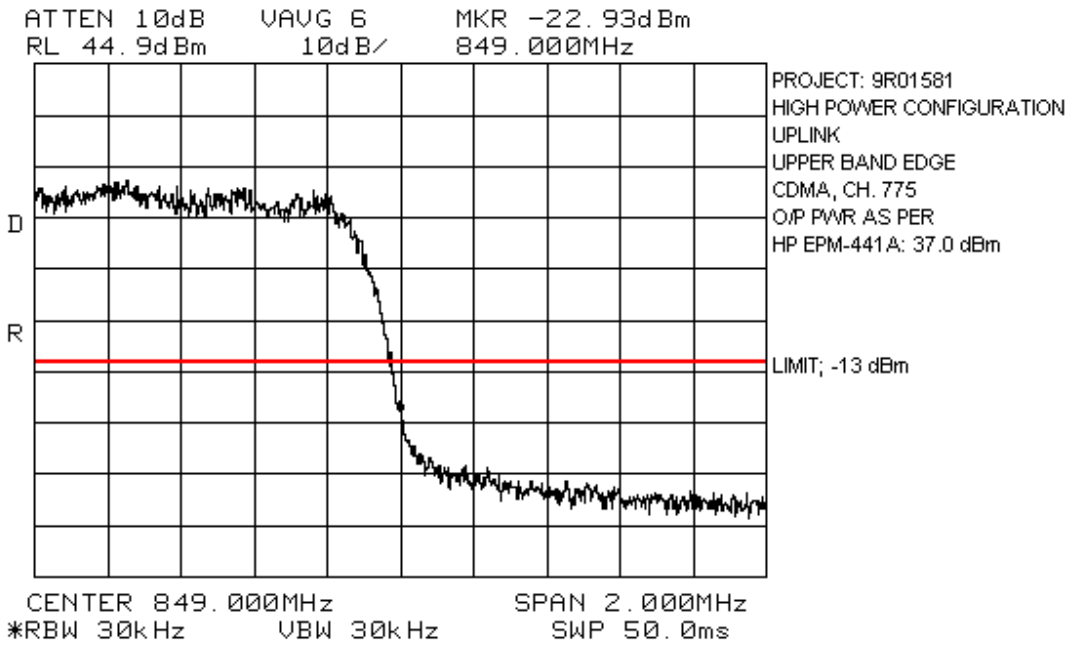

ATTEN 10dB
RL 45.0dBm
VAVG 6
10dB/
MKR -13.17dBm
824.000MHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
CDMA, CH. 1013
LOWER BAND EDGE
O/P PWR AS PER
HP EPM-441A: 25.0 dBm
D
R
LIMIT: -13 dBm
CENTER 824.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

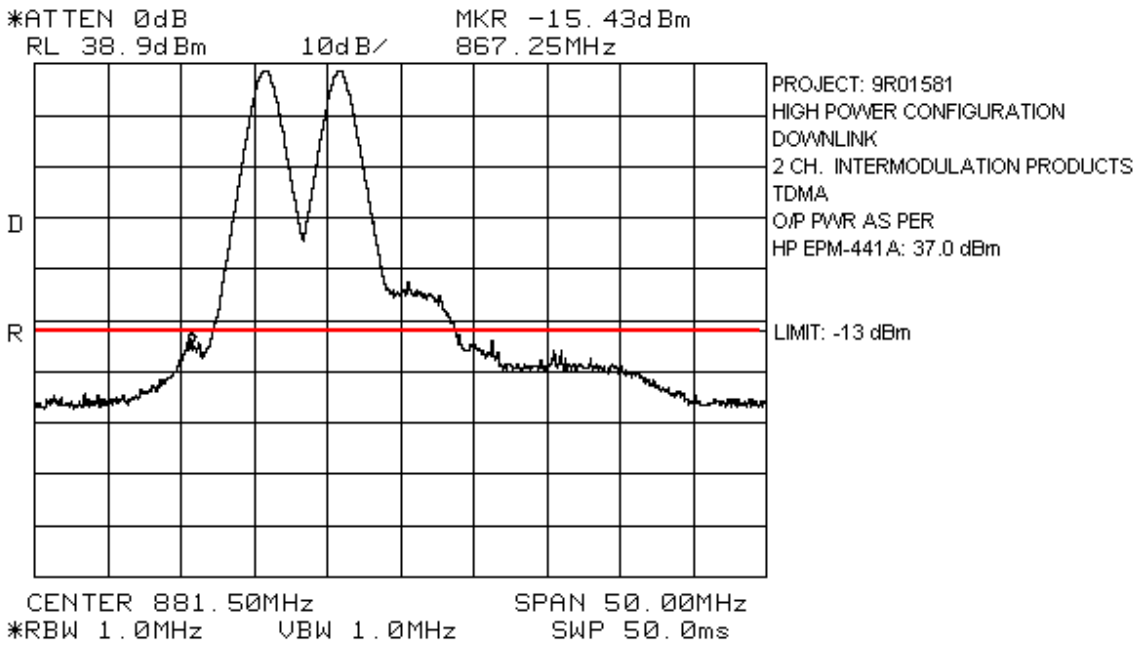

ATTEN 10dB
RL 45.0dBm
VAVG 6
10dB/
MKR -17.00dBm
824.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
CDMA, CH. 1014
LOWER BAND EDGE
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
LIMIT; -13 dBm
CENTER 824.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

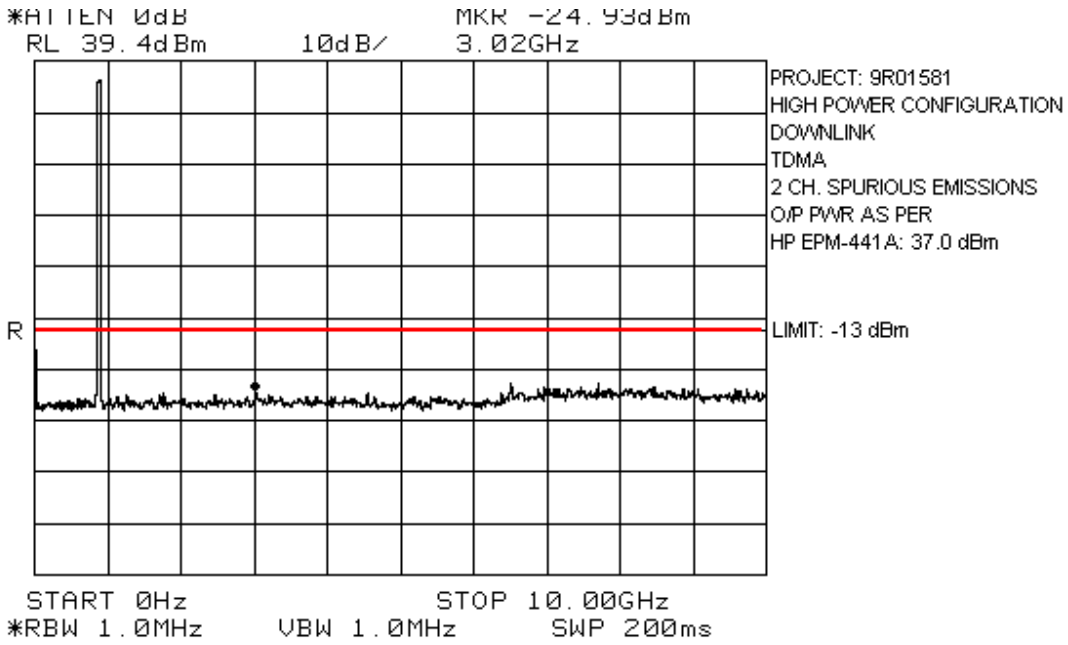

ATTEN 10dB
RL 45.0dBm
VAVG 6
10dB/
MKR -13.33dBm
824.000MHz
D
R
PROJECT: 9R01581
HIGH PWOER CONFIGURATION
UPLINK
SINGLE CH.
CDMA, CH. 1014
LOWER BAND EDGE
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
LIMIT: -13 dBm
CENTER 824.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

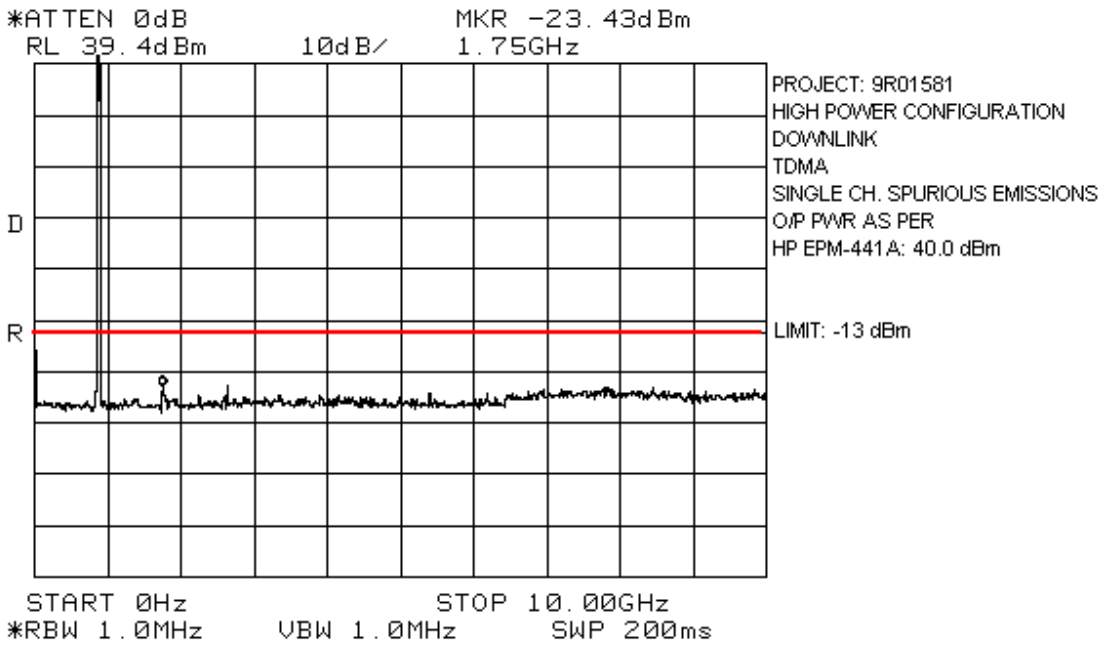

ATTEN 10dB
RL 44.9dBm
VAVG 6
10dB/
MKR -13.10dBm
849.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
UPPER BAND EDGE
CDMA, CH. 777
O/P PWR AS PER
HP EPM-441A: 25.2 dBm
LIMIT: -13 dBm
CENTER 849.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

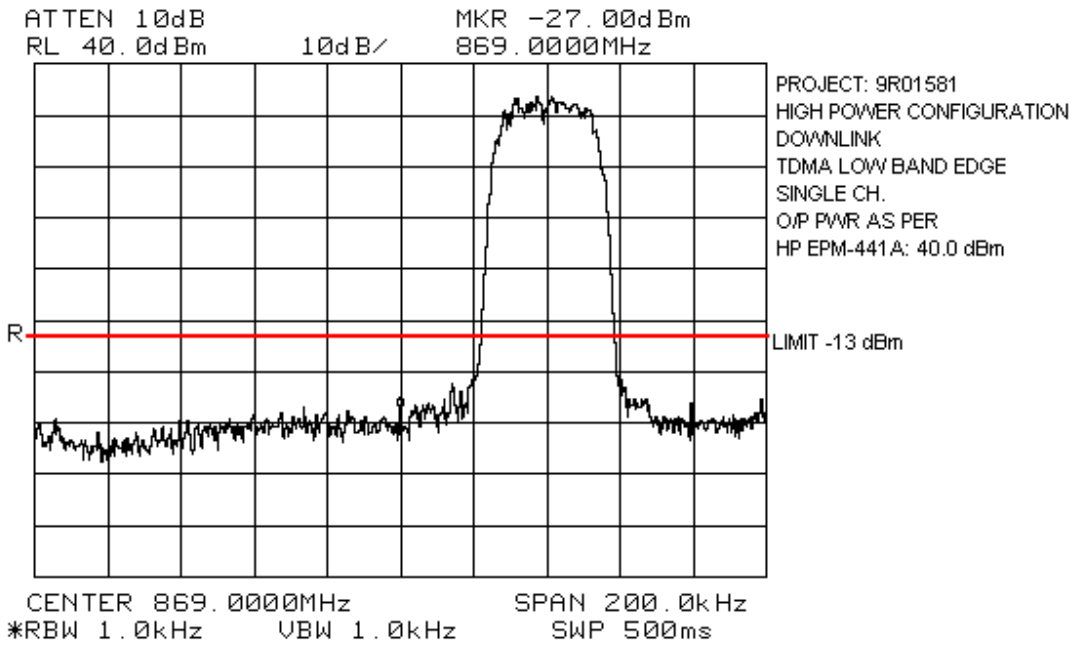

ATTEN 10dB
RL 44.9dBm
VAVG 6
10dB/
MKR -13.77dBm
849.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
UPPER BAND EDGE
CDMA, CH. 776
O/P PWR AS PER
HP EPM-44A: 34.0 dBm
LIMIT: -13 dBm
CENTER 849.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

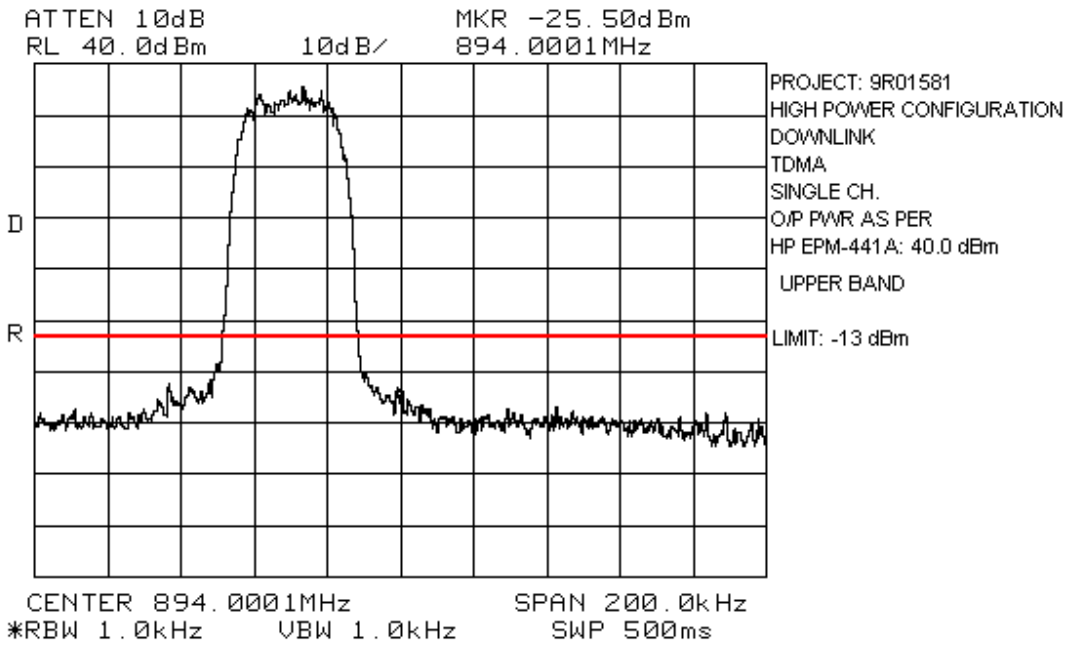

ATTEN 10dB
RL 44.9dBm
VAVG 6
10dB/
MKR -22.93dBm
849.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
UPPER BAND EDGE
CDMA, CH. 775
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
LIMIT; -13 dBm
CENTER 849.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

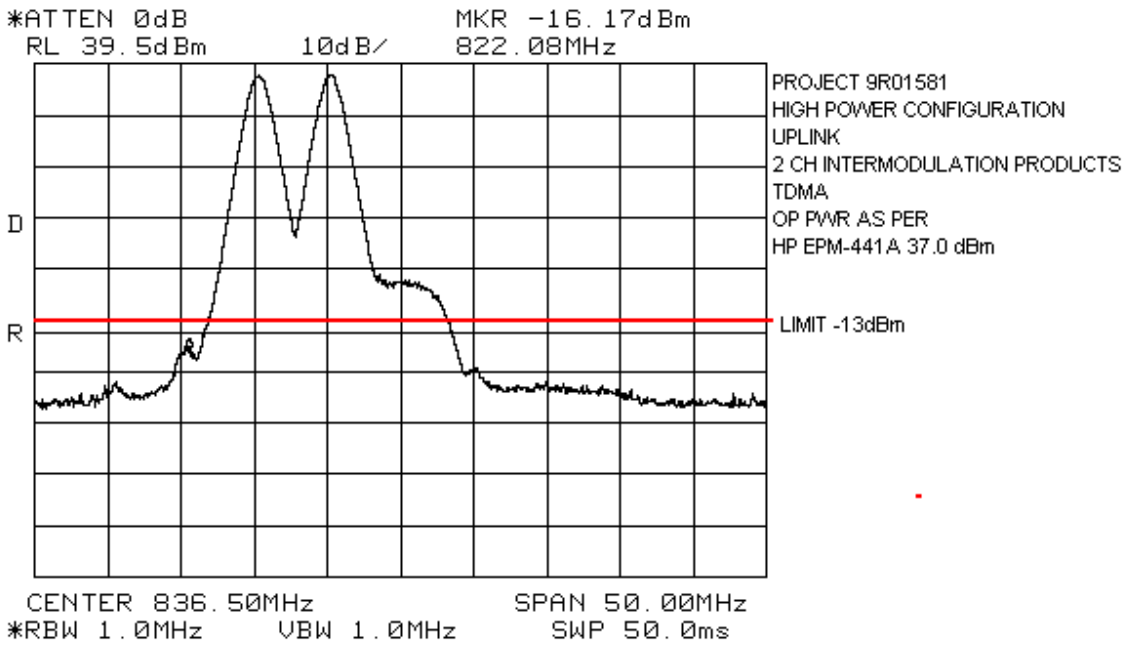

*ATTEN 0dB
RL 38.9dBm
10dB/
MKR -15.43dBm
867.25MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
2 CH. INTERMODULATION PRODUCTS
TDMA
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
LIMIT: -13 dBm
CENTER 881.50MHz
SPAN 50.00MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

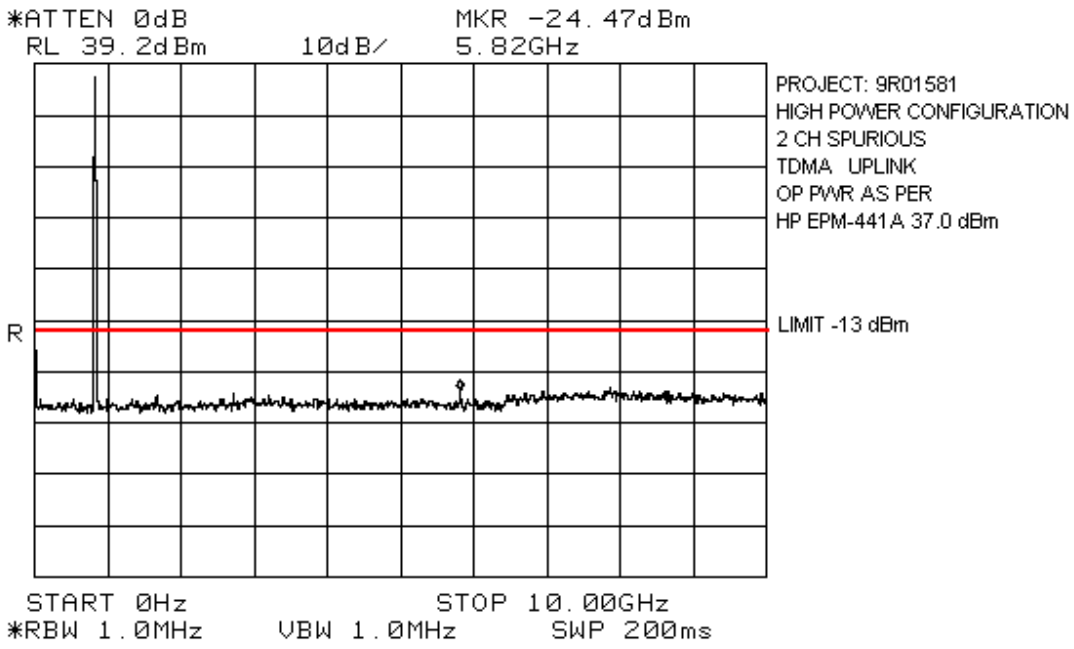

*ATTEN 0dB
MKR -24.93dBm
RL 39.4dBm
10dB/
3.02GHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
TDMA
2 CH. SPURIOUS EMISSIONS
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
R
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

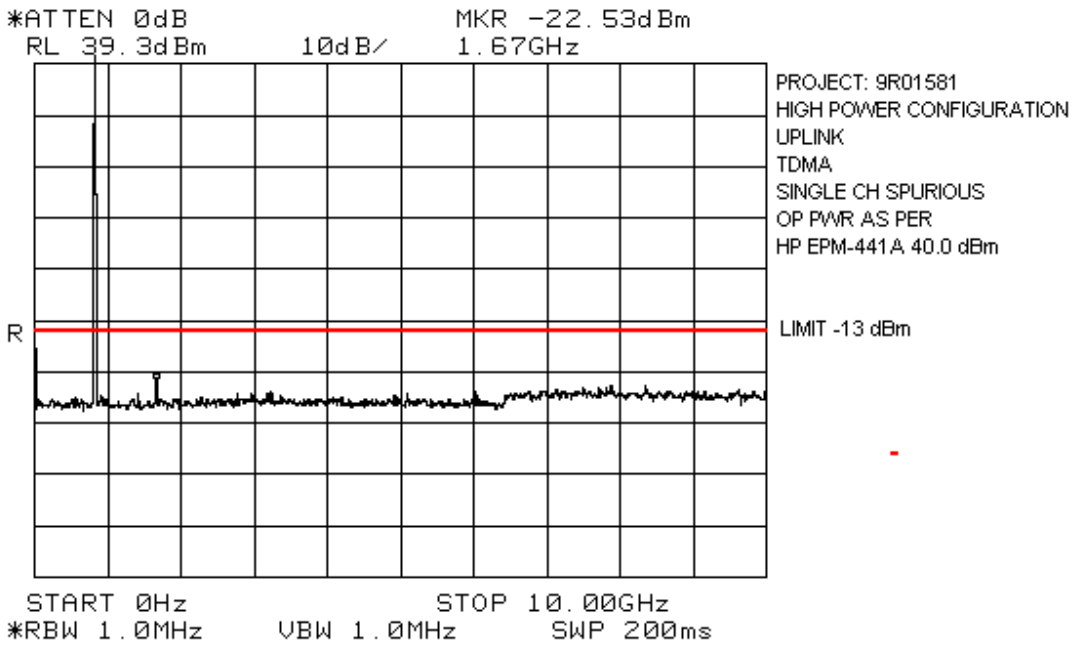

*ATTEN 0dB
MKR -23.43dBm
RL 39.4dBm
10dB/
1.75GHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
TDMA
SINGLE CH. SPURIOUS EMISSIONS
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

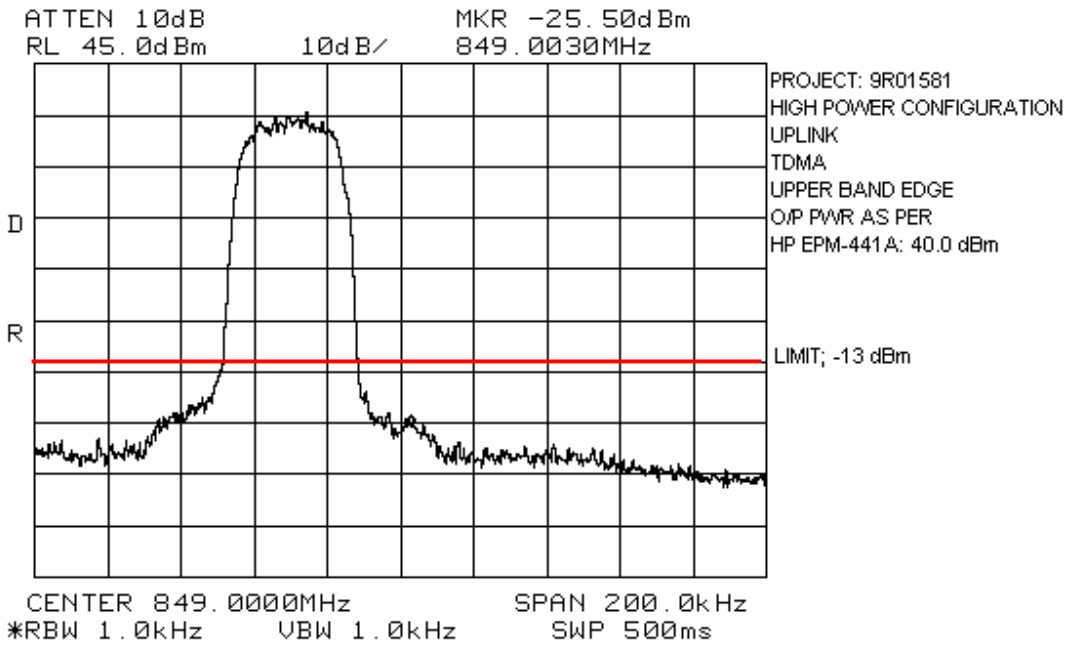

ATTEN 10dB
RL 40.0dBm
10dB/
MKR -27.00dBm
869.0000MHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
TDMA LOW BAND EDGE
SINGLE CH.
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
R
LIMIT -13 dBm
CENTER 869.0000MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

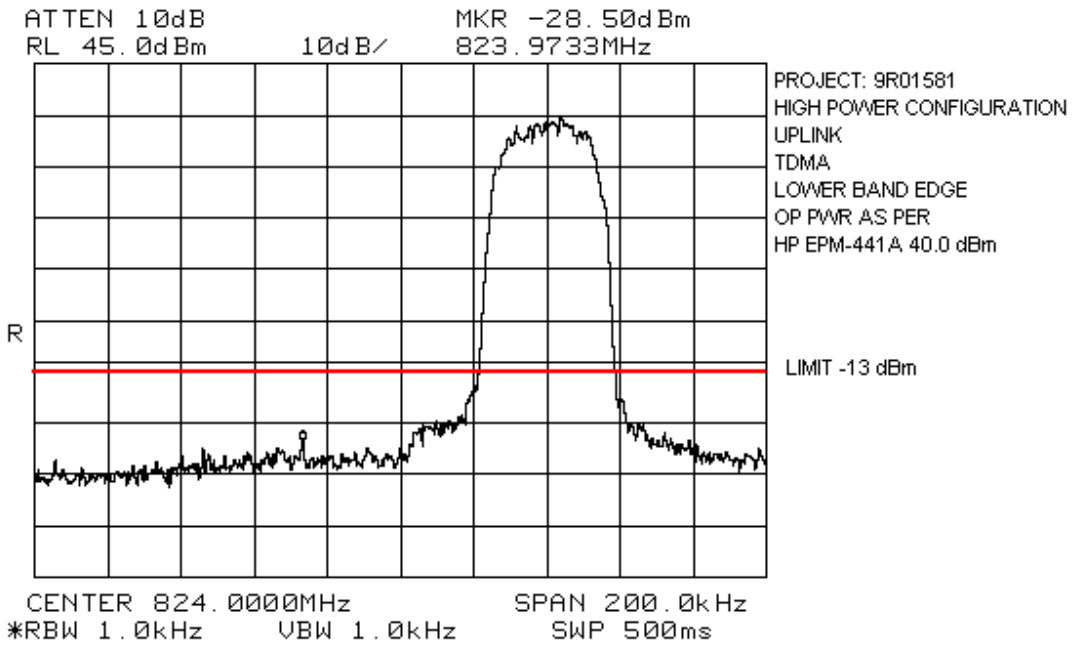

ATTEN 10dB
RL 40.0dBm
10dB/
MKR -25.50dBm
894.0001MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
TDMA
SINGLE CH.
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
UPPER BAND
LIMIT: -13 dBm
CENTER 894.0001MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


*ATTEN 0dB
RL 39.5dBm
10dB/
MKR -16.17dBm
822.08MHz
D
R
PROJECT 9R01581
HIGH POWER CONFIGURATION
UPLINK
2 CH INTERMODULATION PRODUCTS
TDMA
OP PWR AS PER
HP EPM-441A 37.0 dBm
LIMIT -13dBm
CENTER 836.50MHz
SPAN 50.00MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

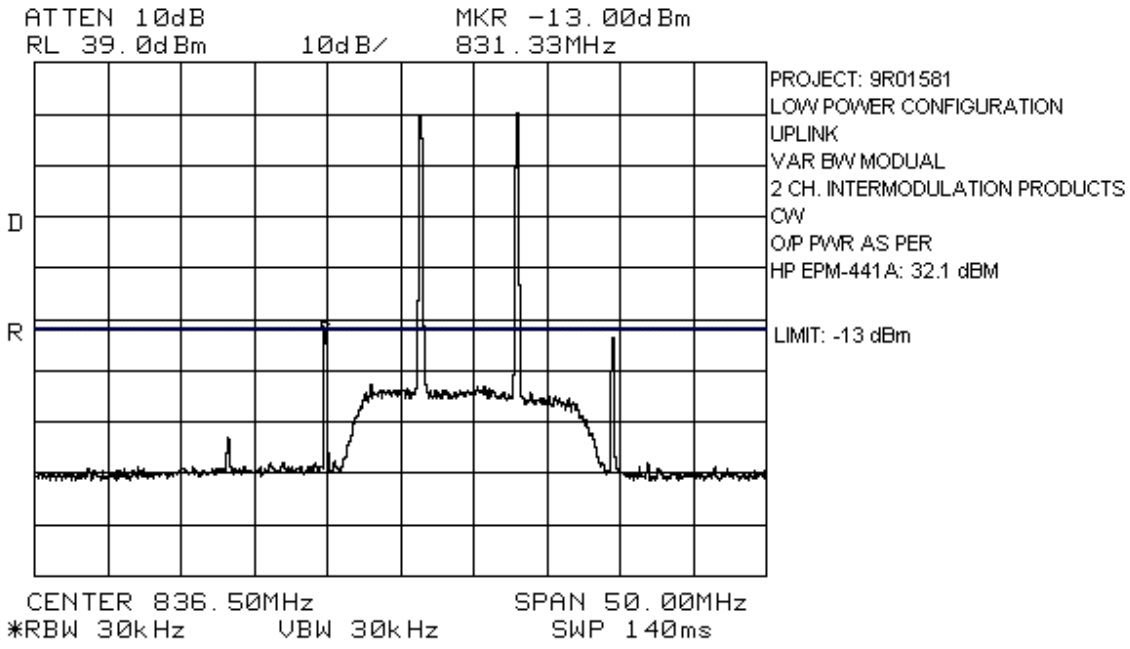

*ATTEN 0dB
MKR -24.47dBm
RL 39.2dBm
10dB/
5.82GHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
2 CH SPURIOUS
TDMA UPLINK
OP PWR AS PER
HP EPM-441A 37.0 dBm
R
LIMIT -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

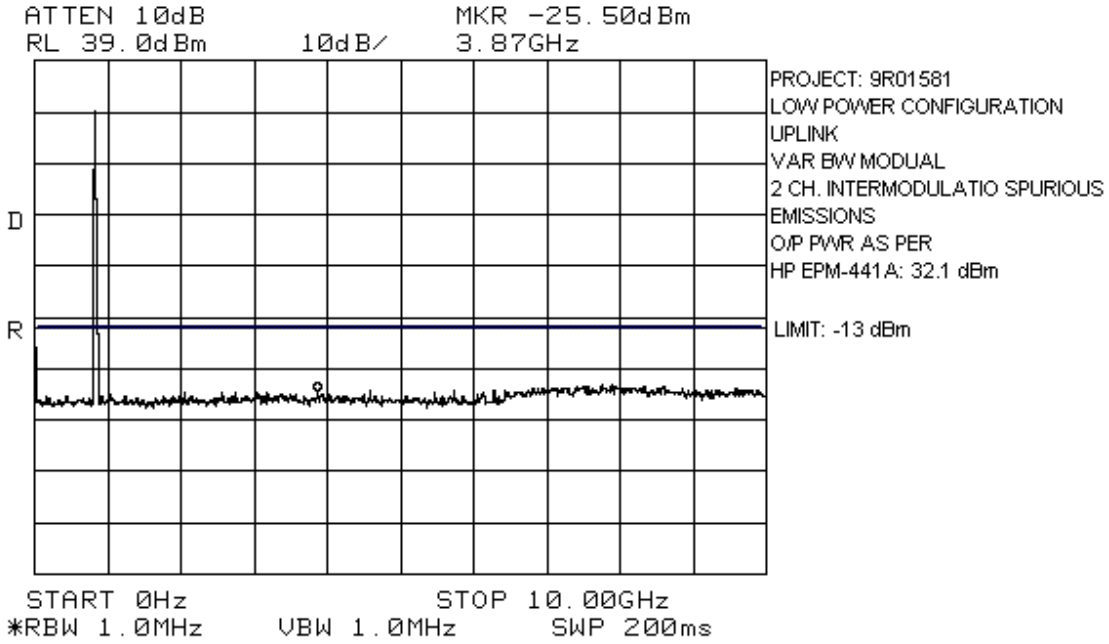

*ATTEN 0dB
MKR -22.53dBm
RL 39.3dBm
10dB/
1.67GHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
TDMA
SINGLE CH SPURIOUS
OP PWR AS PER
HP EPM-441A 40.0 dBm
R
LIMIT -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

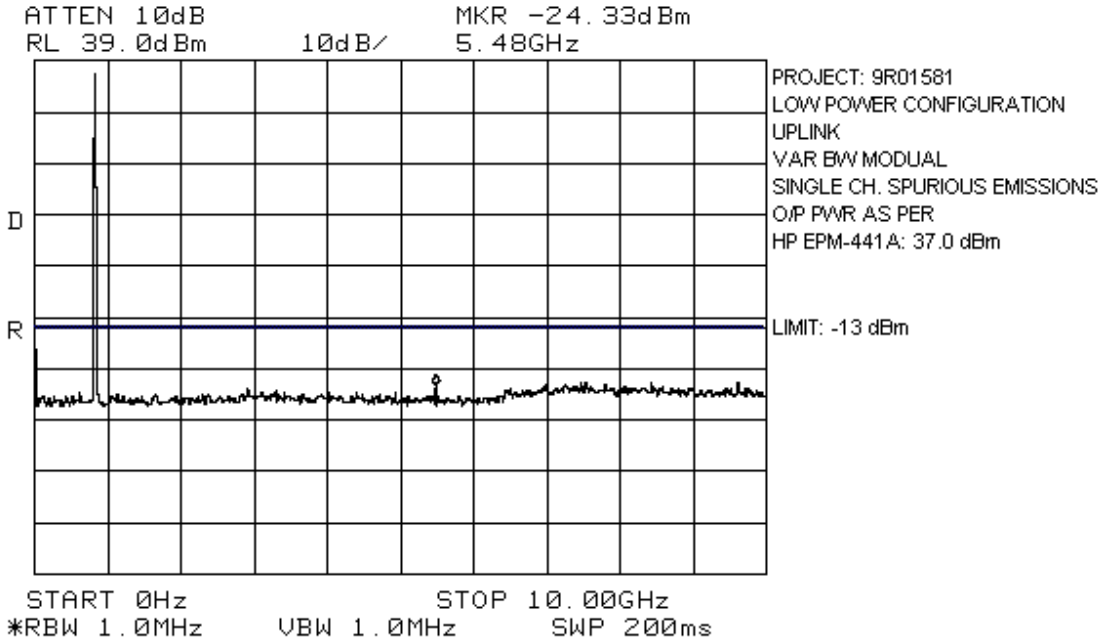

ATTEN 10dB
RL 45.0dBm
10dB/
MKR -25.50dBm
849.0030MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
TDMA
UPPER BAND EDGE
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
LIMIT; -13 dBm
CENTER 849.0000MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

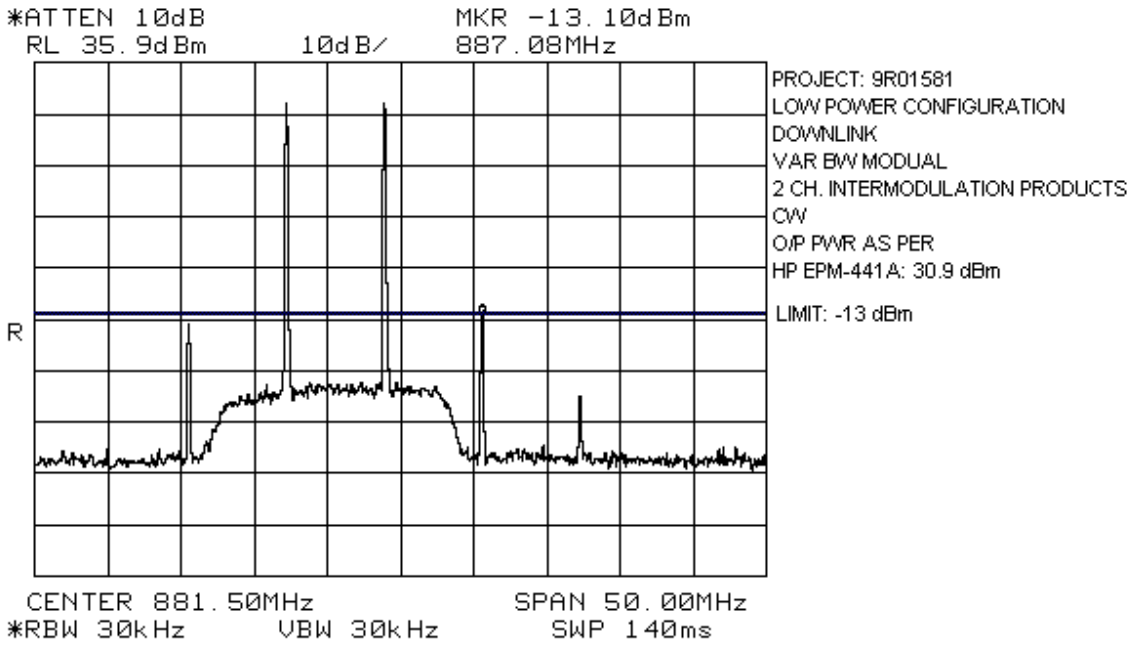

ATTEN 10dB
RL 45.0dBm
10dB/
MKR -28.50dBm
823.9733MHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
TDMA
LOWER BAND EDGE
OP PWR AS PER
HP EPM-441A 40.0 dBm
R
LIMIT -13 dBm
CENTER 824.0000MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

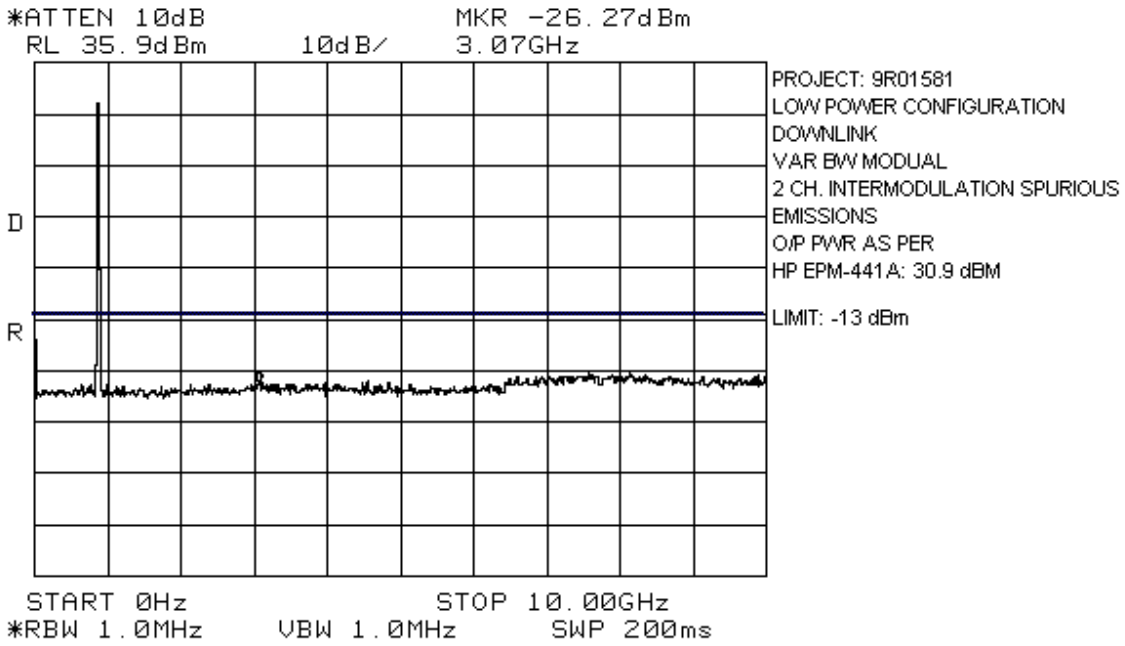
Low Power – Variable Bandwidth Module

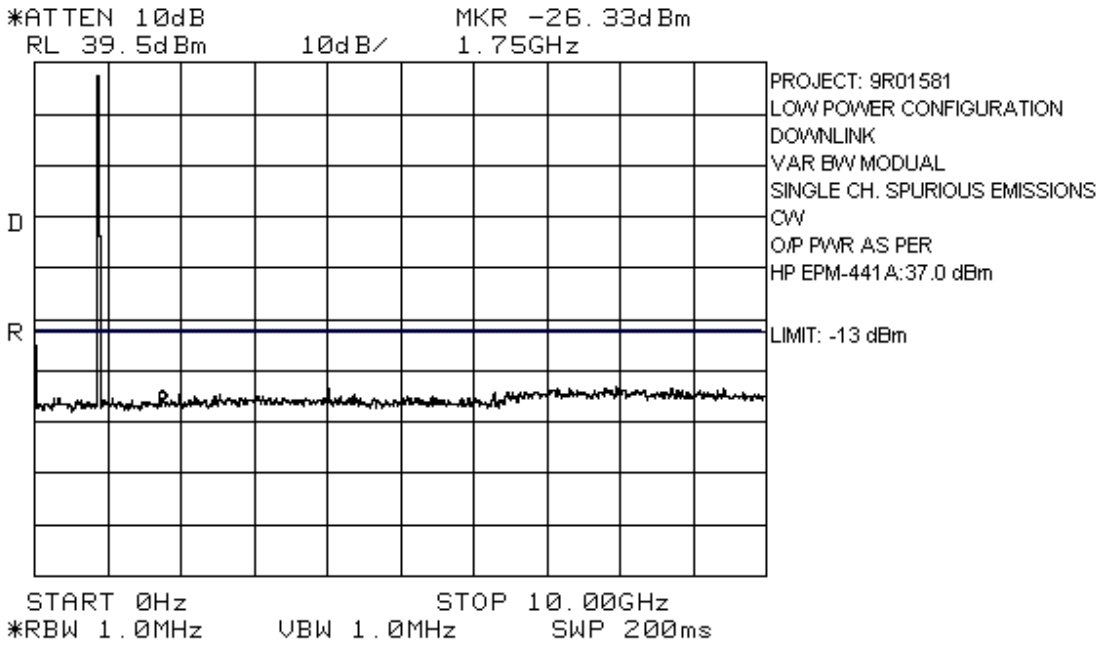


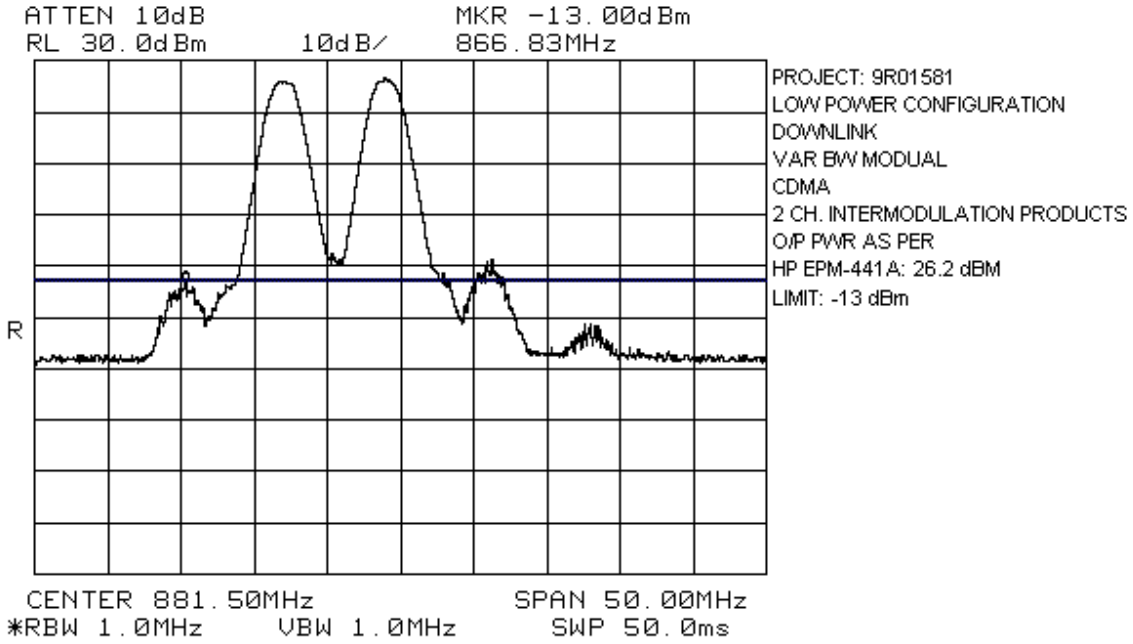

ATTEN 10dB
RL 39.0dBm
10dB/
MKR -25.50dBm
3.87GHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
2 CH. INTERMODULATIO SPURIOUS
EMISSIONS
O/P PWR AS PER
HP EPM-441A: 32.1 dBm
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

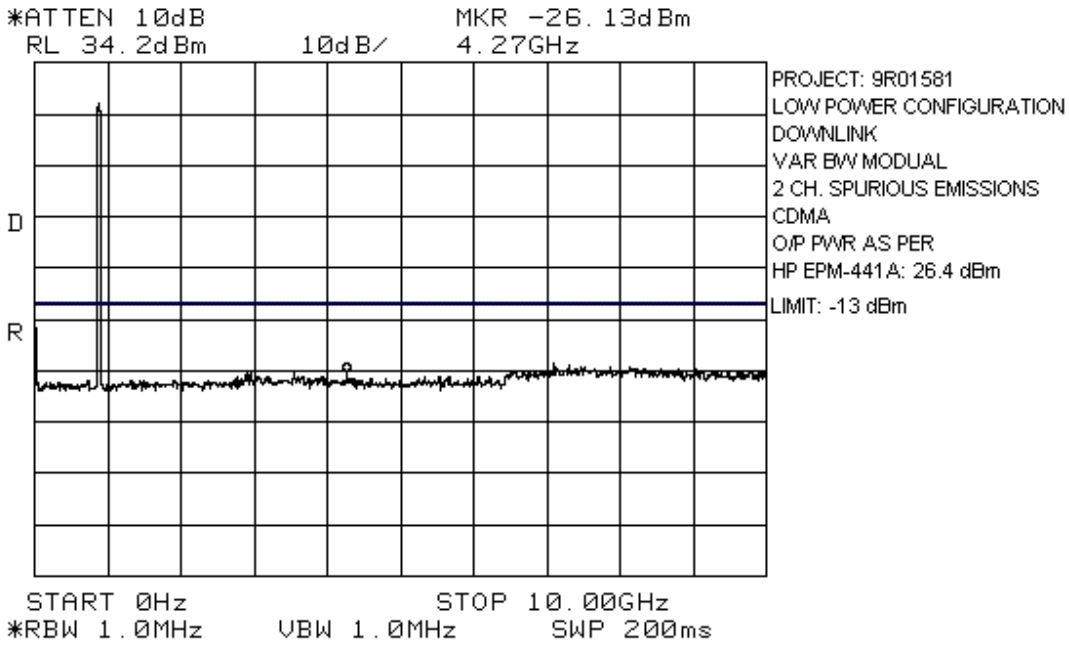

ATTEN 10dB
RL 39.0dBm
10dB/
MKR -24.33dBm
5.48GHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
SINGLE CH. SPURIOUS EMISSIONS
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

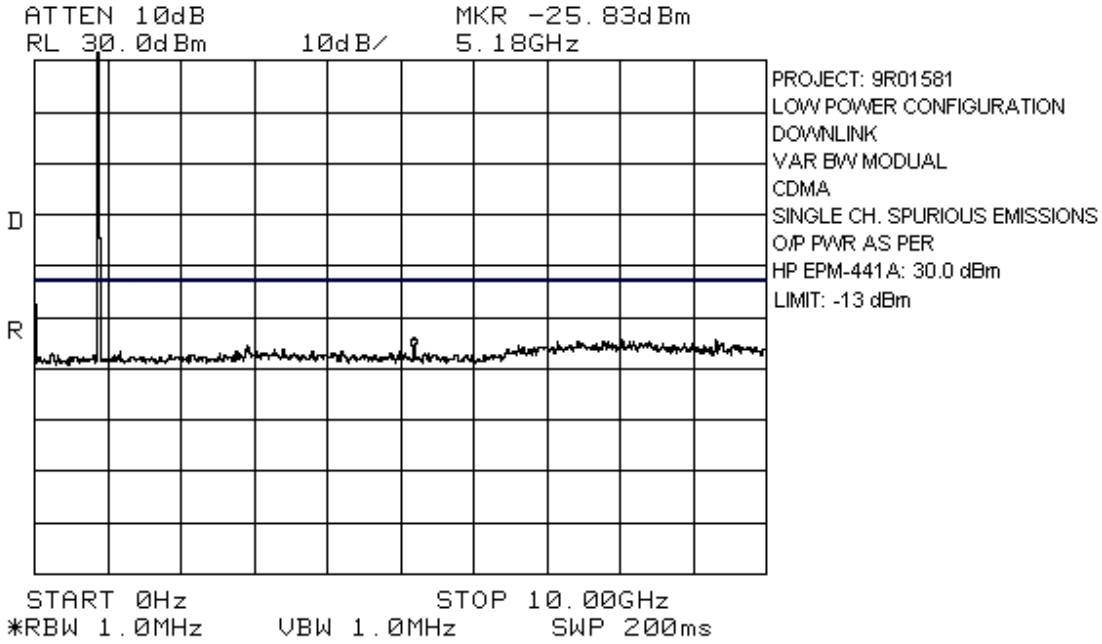

*ATTEN 10dB
RL 35.9dBm
10dB/
MKR -13.10dBm
887.08MHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
2 CH. INTERMODULATION PRODUCTS
CW
O/P PWR AS PER
HP EPM-441A: 30.9 dBm
LIMIT: -13 dBm
R
CENTER 881.50MHz
SPAN 50.00MHz
*RBW 30kHz
VBW 30kHz
SWP 140ms

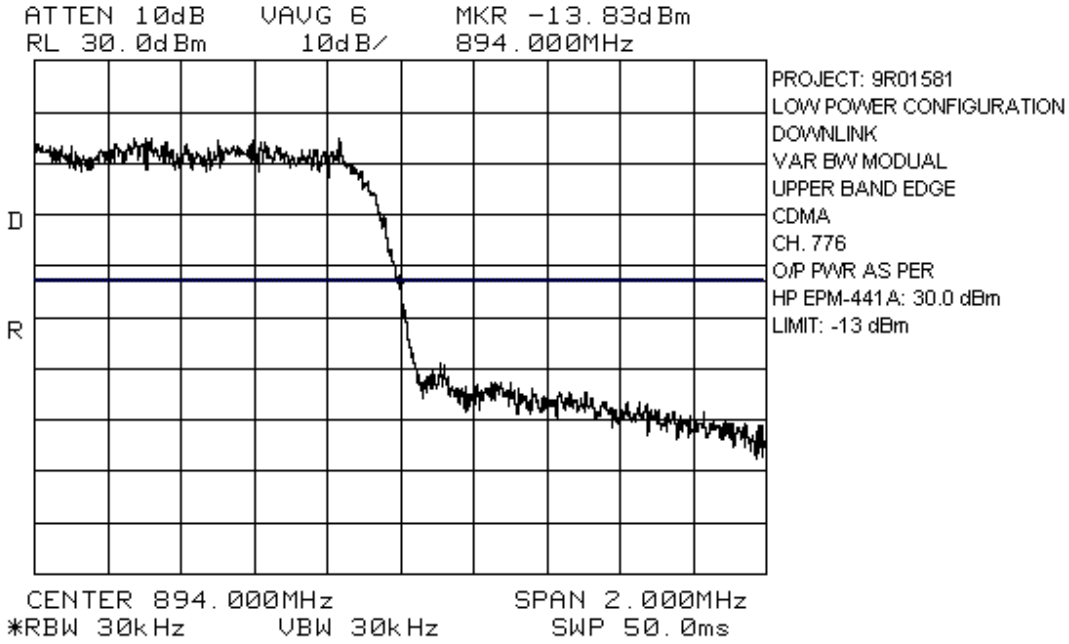

*ATTEN 10dB
MKR -26.27dBm
RL 35.9dBm
10dB/
3.07GHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
2 CH. INTERMODULATION SPURIOUS
EMISSIONS
O/P PWR AS PER
HP EPM-441A: 30.9 dBM
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

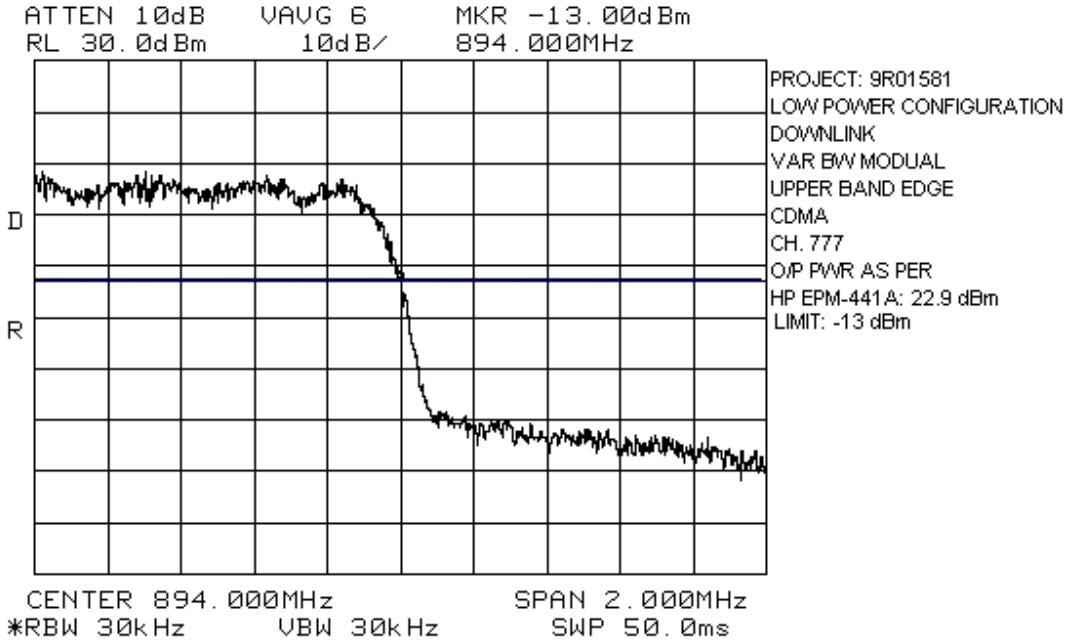

*ATTEN 10dB
MKR -26.33dBm
RL 39.5dBm
10dB/
1.75GHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
SINGLE CH. SPURIOUS EMISSIONS
CW
O/P PWR AS PER
HP EPM-441A:37.0 dBm
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

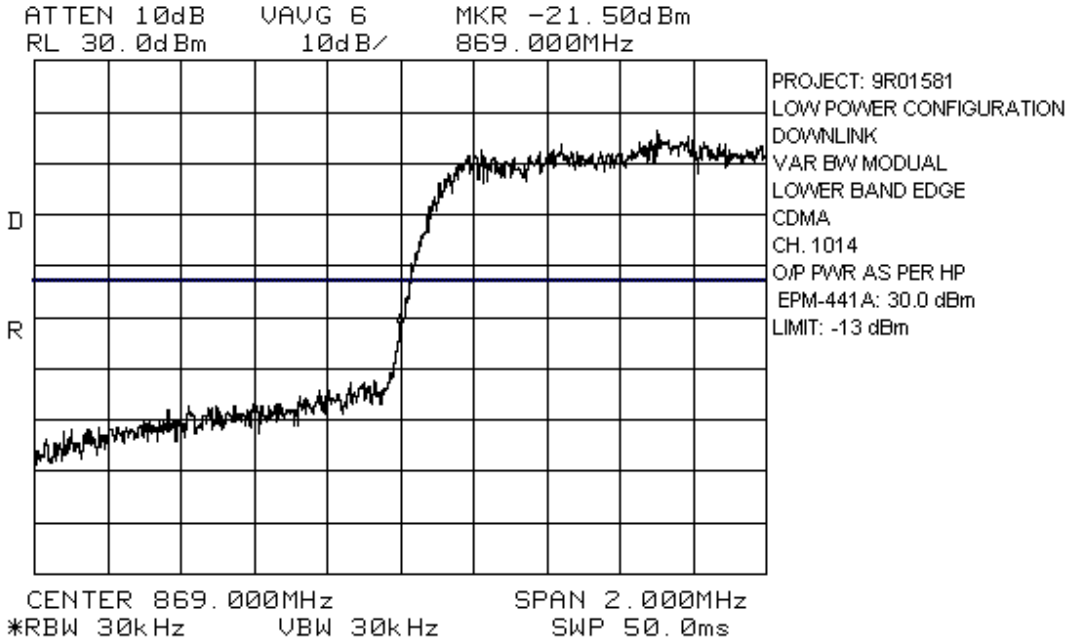

ATTEN 10dB
RL 30.0dBm
10dB/
MKR -13.00dBm
866.83MHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
CDMA
2 CH. INTERMODULATION PRODUCTS
O/P PWR AS PER
HP EPM-441A: 26.2 dBM
LIMIT: -13 dBm
R
CENTER 881.50MHz
SPAN 50.00MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

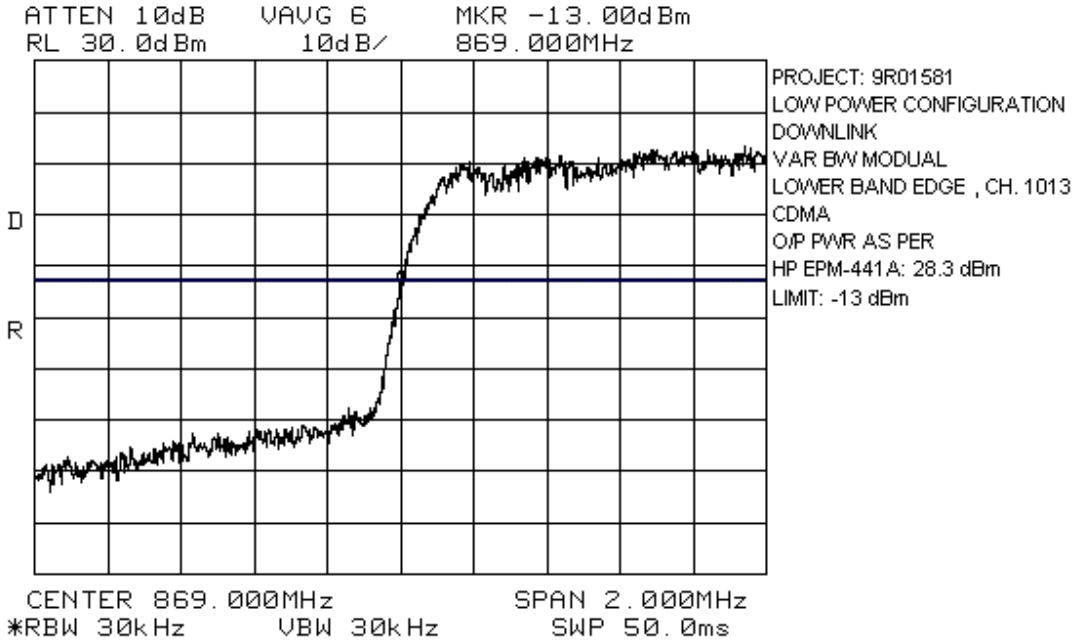

*ATTEN 10dB
MKR -26.13dBm
RL 34.2dBm
10dB/
4.27GHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
2 CH. SPURIOUS EMISSIONS
CDMA
O/P PWR AS PER
HP EPM-441A: 26.4 dBm
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

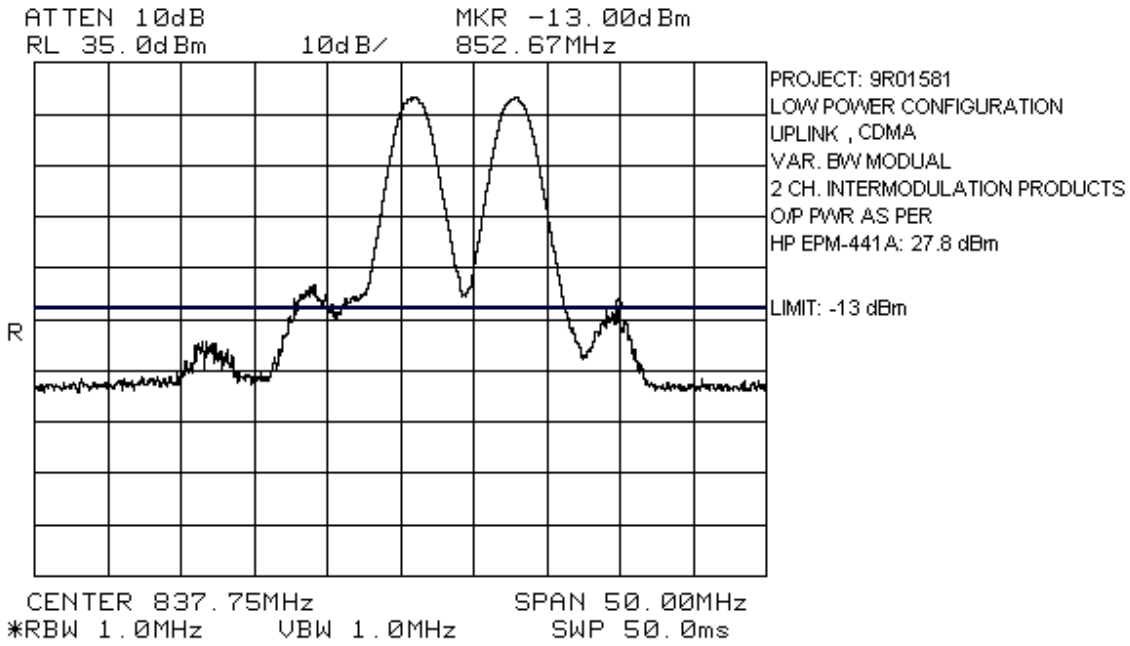

ATTEN 10dB
RL 30.0dBm
10dB/
MKR -25.83dBm
5.18GHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
CDMA
SINGLE CH. SPURIOUS EMISSIONS
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

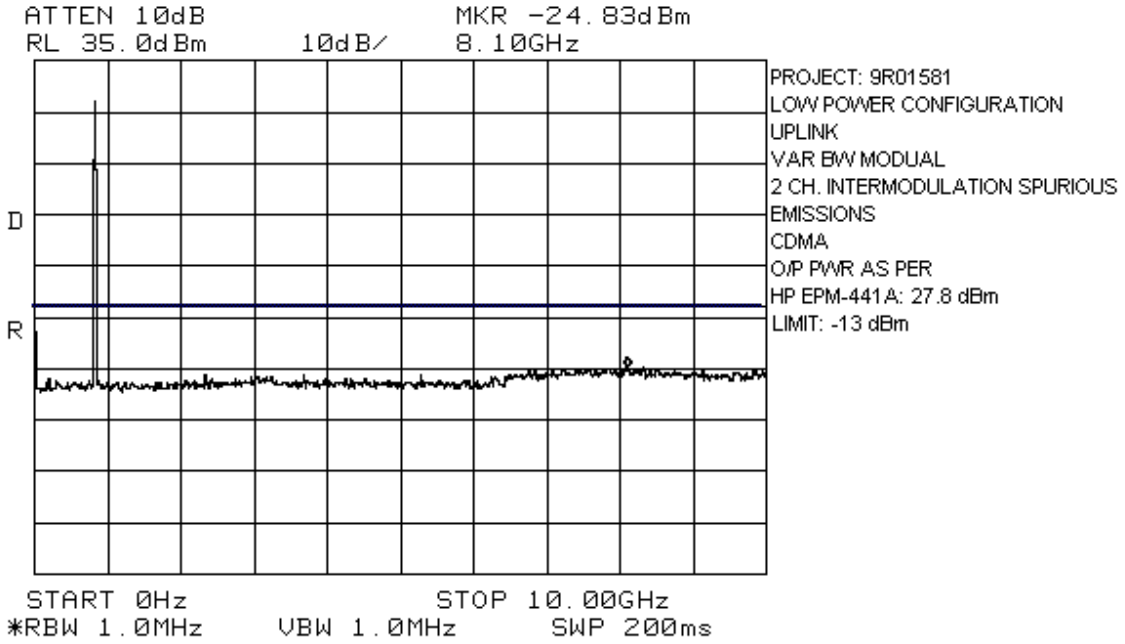

ATTEN 10dB
RL 30.0dBm
VAVG 6
10dB/
MKR -13.83dBm
894.000MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
UPPER BAND EDGE
CDMA
CH. 776
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
LIMIT: -13 dBm
CENTER 894.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

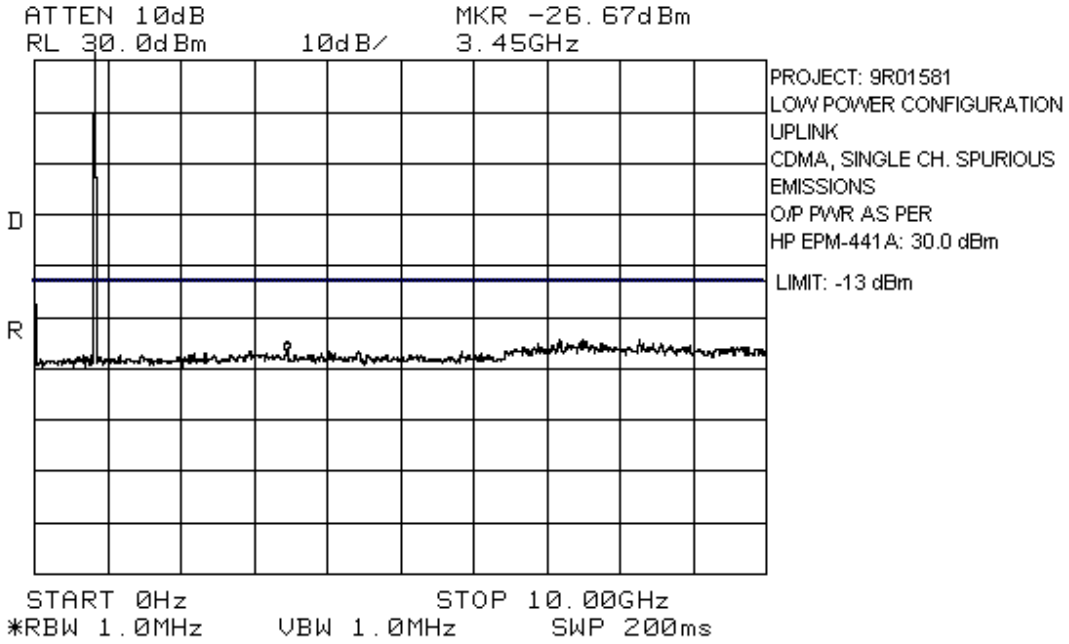

ATTEN 10dB
RL 30.0dBm
VAVG 6
10dB/
MKR -13.00dBm
894.000MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
UPPER BAND EDGE
CDMA
CH. 777
O/P PWR AS PER
HP EPM-441A: 22.9 dBm
LIMIT: -13 dBm
CENTER 894.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

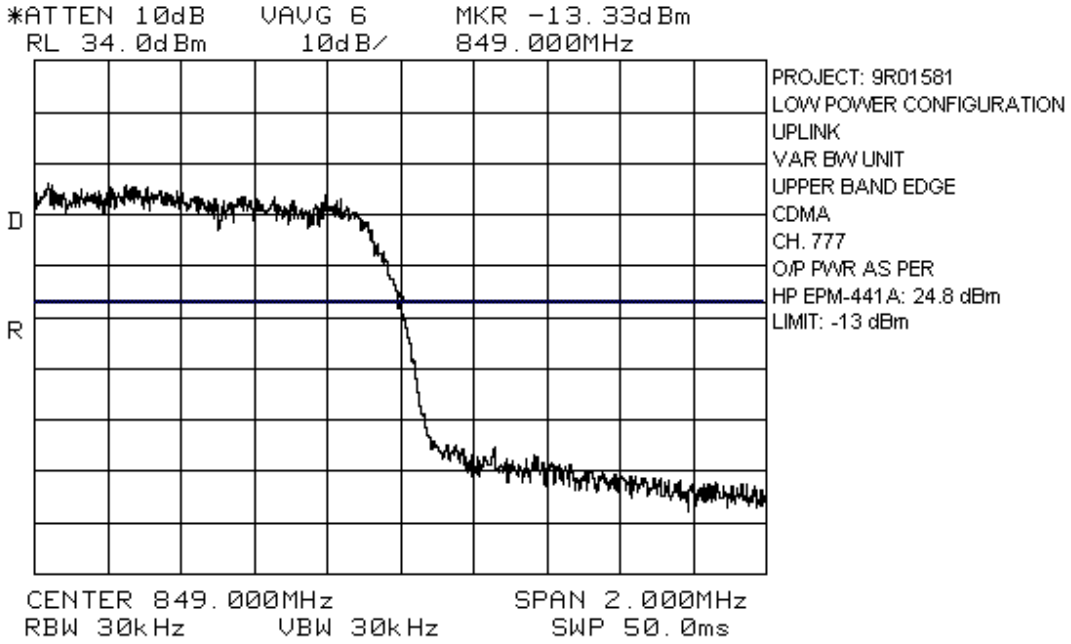

ATTEN 10dB
RL 30.0dBm
VAVG 6
10dB/
MKR -21.50dBm
869.000MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
LOWER BAND EDGE
CDMA
CH. 1014
O/P PWR AS PER HP
EPM-441A: 30.0 dBm
LIMIT: -13 dBm
CENTER 869.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

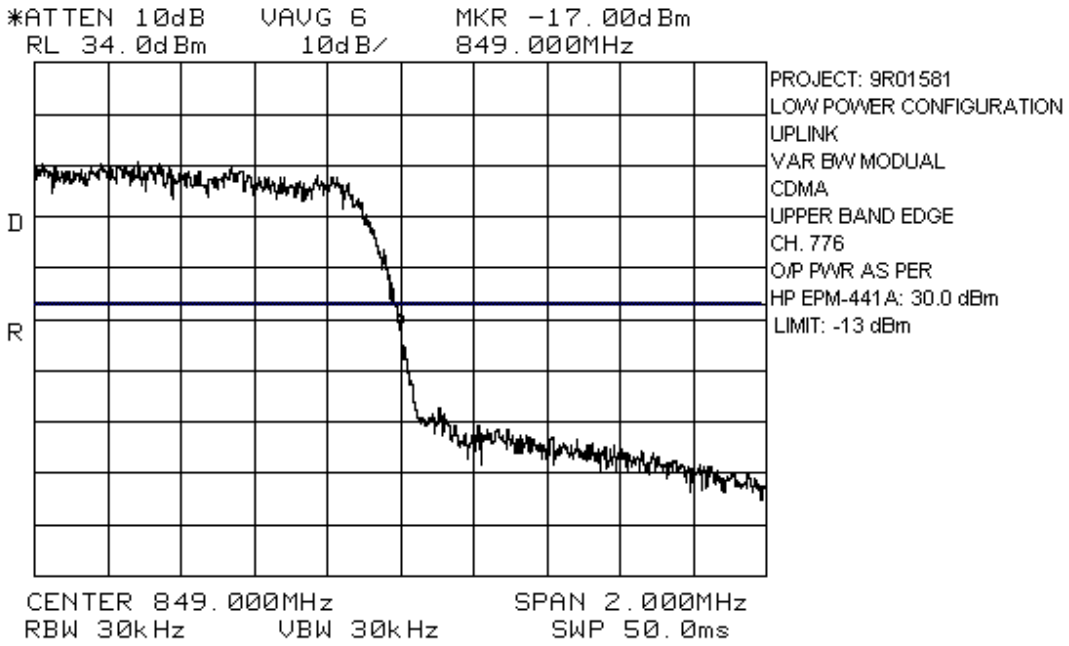

ATTEN 10dB
RL 30.0dBm
VAVG 6
10dB/
MKR -13.00dBm
869.000MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
LOWER BAND EDGE , CH. 1013
CDMA
O/P PWR AS PER
HP EPM-441A: 28.3 dBm
LIMIT: -13 dBm
CENTER 869.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

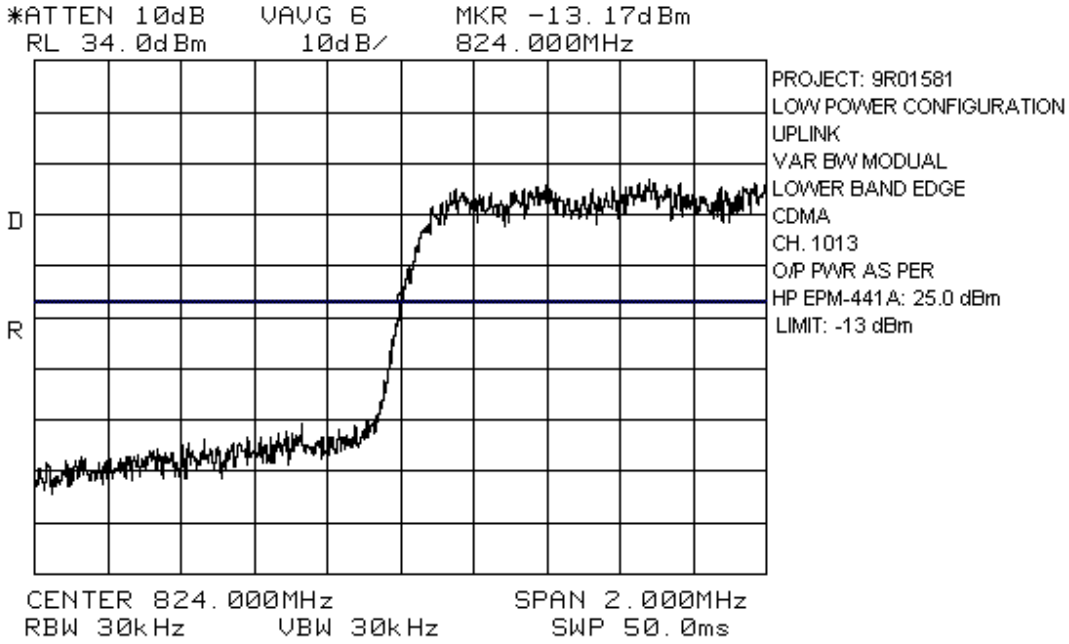

ATTEN 10dB
RL 35.0dBm
10dB/
MKR -13.00dBm
852.67MHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK , CDMA
VAR. BW MODUAL
2 CH. INTERMODULATION PRODUCTS
O/P PWR AS PER
HP EPM-441A: 27.8 dBm
LIMIT: -13 dBm
R
CENTER 837.75MHz
SPAN 50.00MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

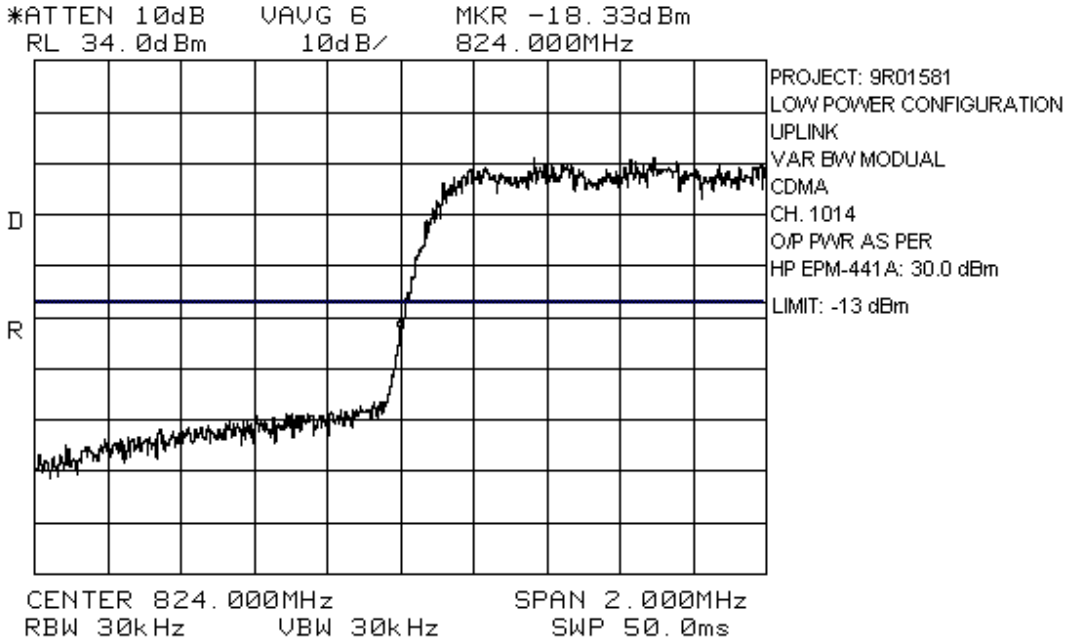

ATTEN 10dB
RL 35.0dBm
10dB/
MKR -24.83dBm
8.10GHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
2 CH. INTERMODULATION SPURIOUS
EMISSIONS
CDMA
O/P PWR AS PER
HP EPM-441A: 27.8 dBm
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

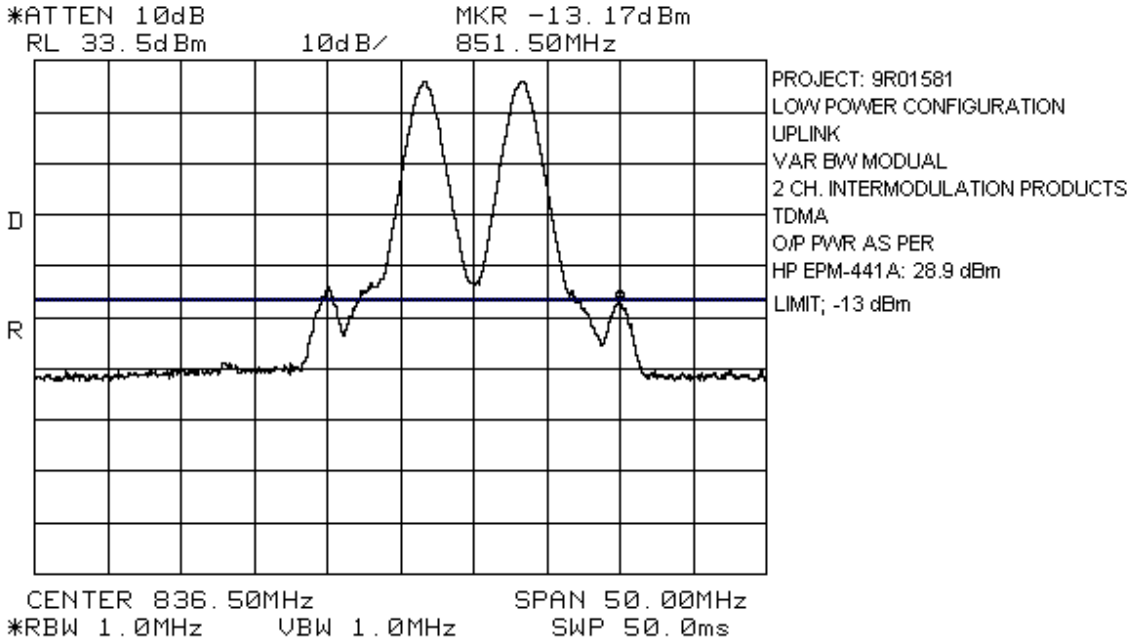

ATTEN 10dB
RL 30.0dBm
10dB/
MKR -26.67dBm
3.45GHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
CDMA, SINGLE CH. SPURIOUS EMISSIONS
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
LIMIT: -13 dBm
D
R
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

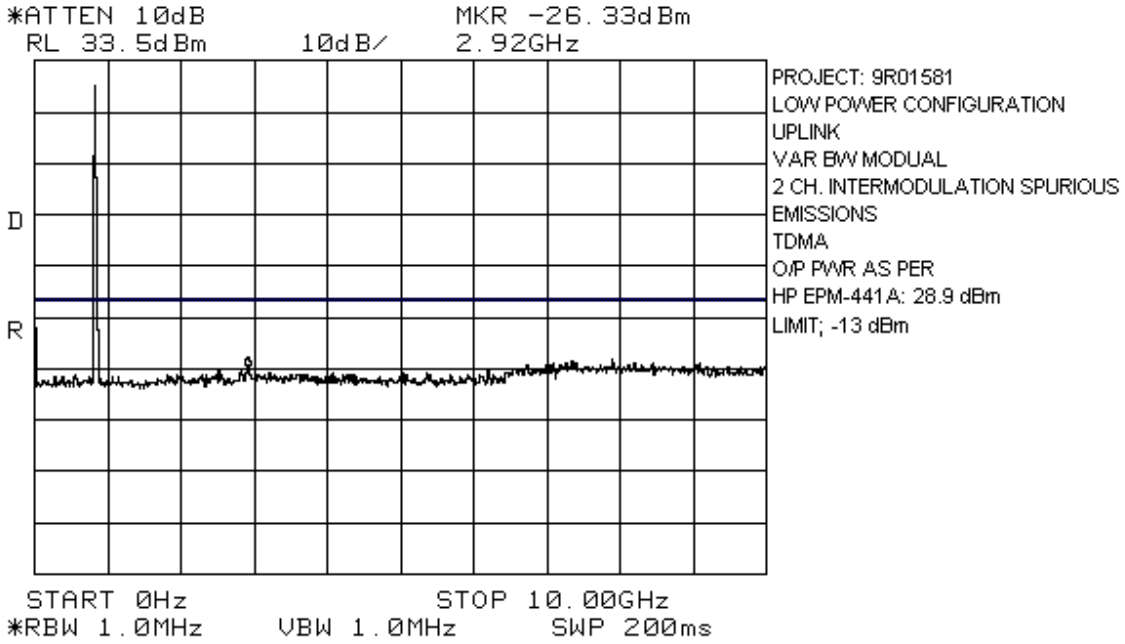

*ATTEN 10dB
RL 34.0dBm
VAVG 6
10dB/
MKR -13.33dBm
849.000MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW UNIT
UPPER BAND EDGE
CDMA
CH. 777
O/P PWR AS PER
HP EPM-441A: 24.8 dBm
LIMIT: -13 dBm
CENTER 849.000MHz
SPAN 2.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

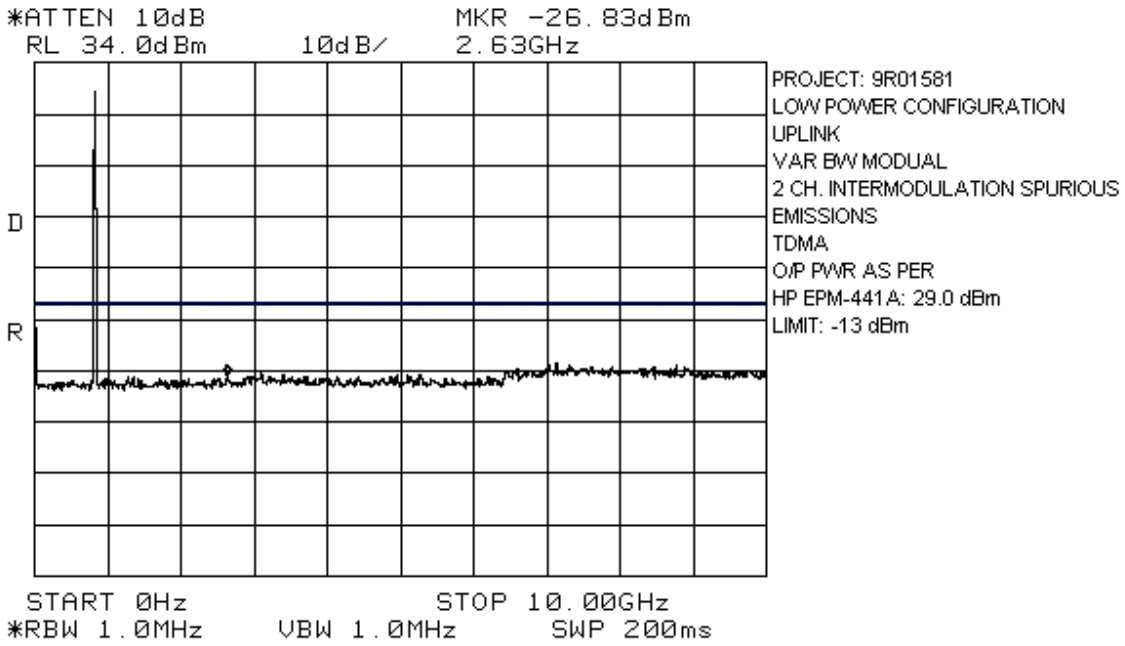

*ATTEN 10dB
RL 34.0dBm
VAVG 6
10dB/
MKR -17.00dBm
849.000MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
CDMA
UPPER BAND EDGE
CH. 776
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
LIMIT: -13 dBm
CENTER 849.000MHz
SPAN 2.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

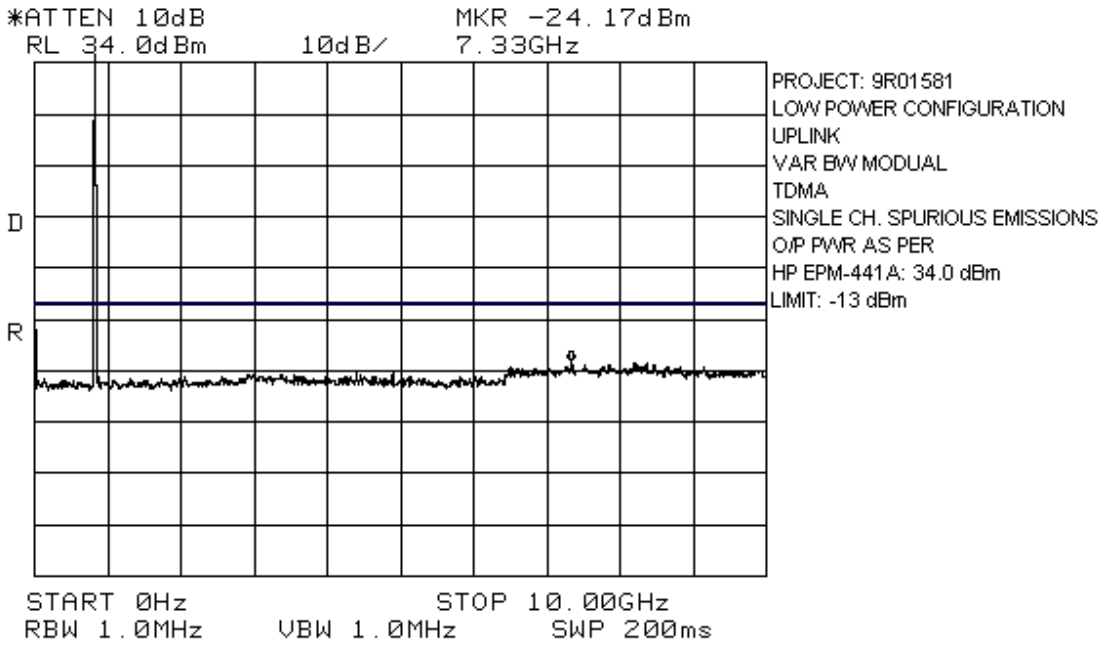

*ATTEN 10dB
RL 34.0dBm
VAVG 6
10dB/
MKR -13.17dBm
824.000MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
LOWER BAND EDGE
CDMA
CH. 1013
O/P PWR AS PER
HP EPM-441A: 25.0 dBm
LIMIT: -13 dBm
CENTER 824.000MHz
SPAN 2.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

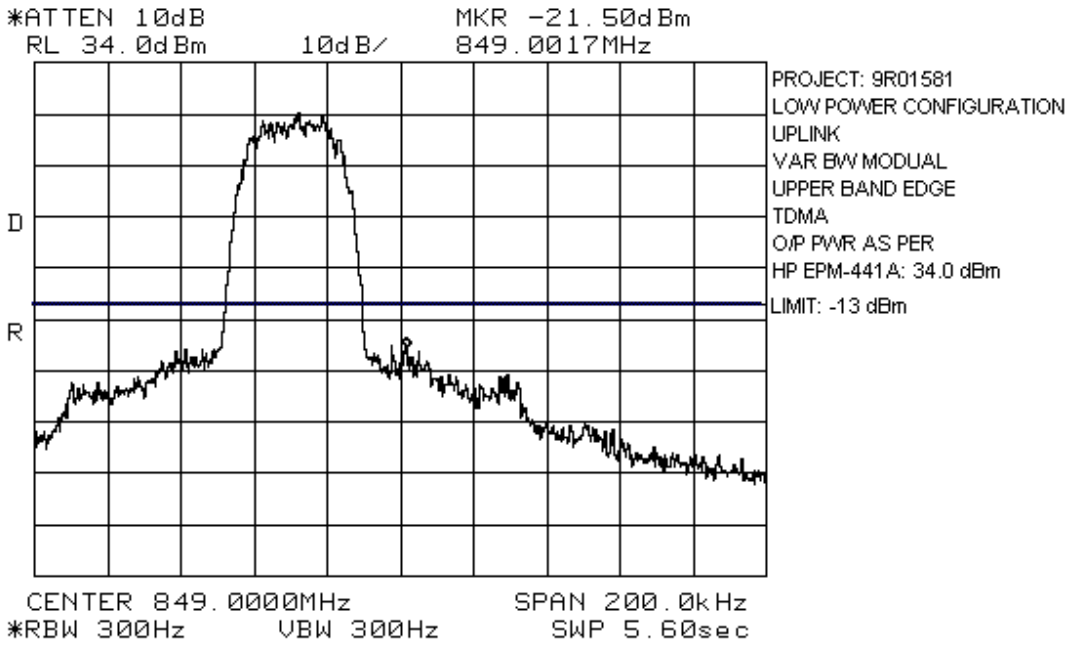

*ATTEN 10dB
RL 34.0dBm
VAVG 6
10dB/
MKR -18.33dBm
824.000MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
CDMA
CH. 1014
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
LIMIT: -13 dBm
CENTER 824.000MHz
RBW 30kHz
VBW 30kHz
SPAN 2.000MHz
SWP 50.0ms

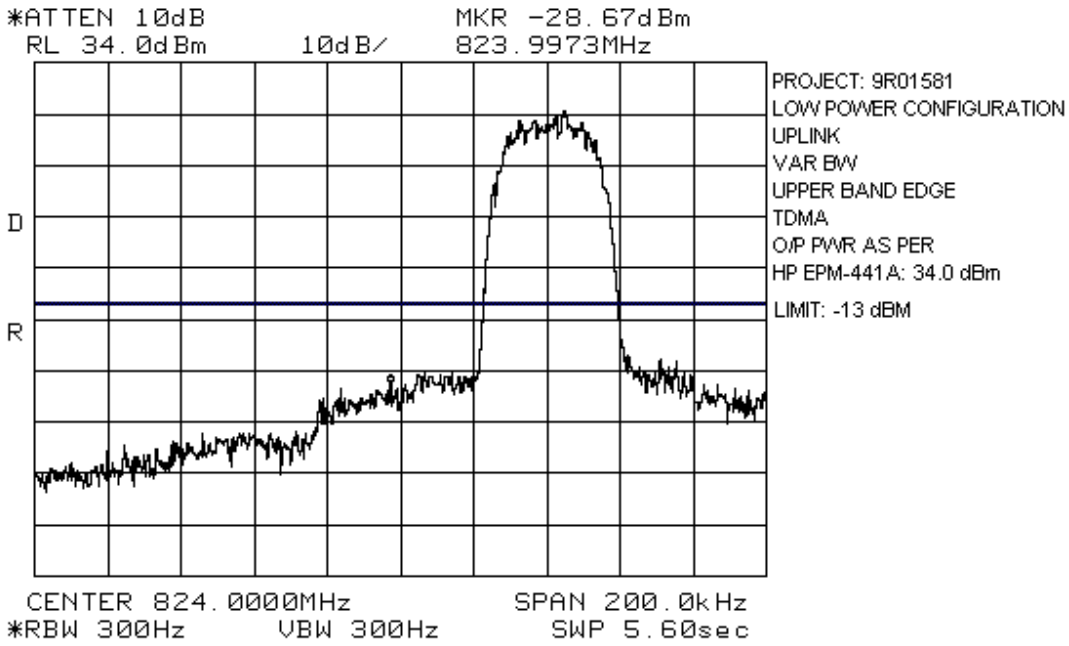

*ATTEN 10dB
RL 33.5dBm
10dB/
MKR -13.17dBm
851.50MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
2 CH. INTERMODULATION PRODUCTS
TDMA
O/P PWR AS PER
HP EPM-441A: 28.9 dBm
LIMIT; -13 dBm
CENTER 836.50MHz
SPAN 50.00MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

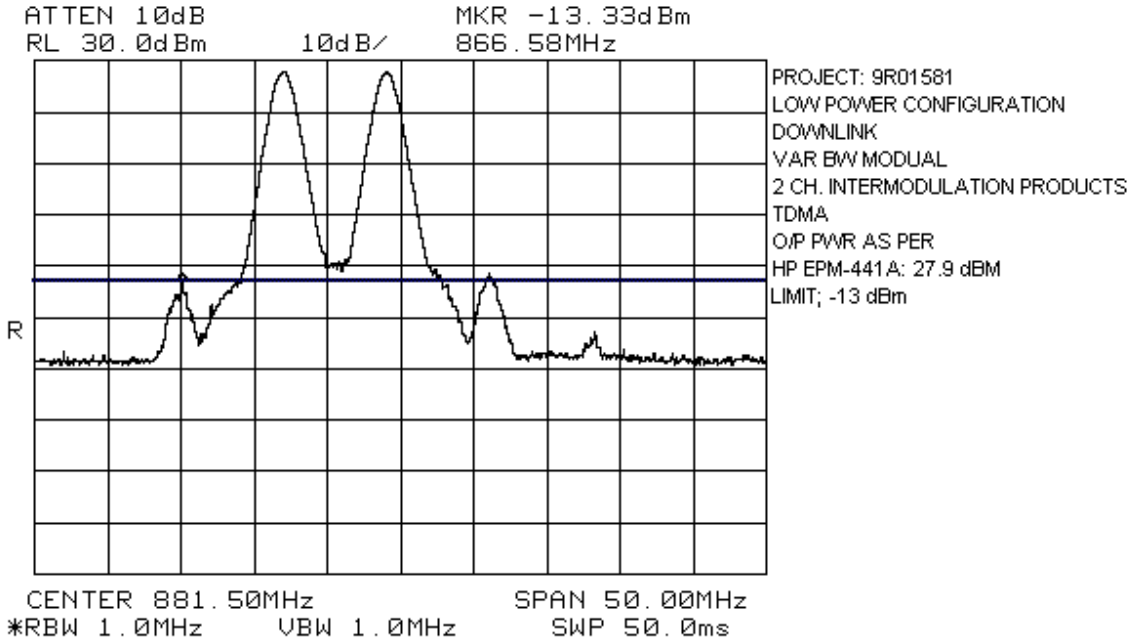

*ATTEN 10dB
MKR -26.33dBm
RL 33.5dBm
10dB/
2.92GHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
2 CH. INTERMODULATION SPURIOUS
EMISSIONS
TDMA
O/P PWR AS PER
HP EPM-441A: 28.9 dBm
LIMIT; -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

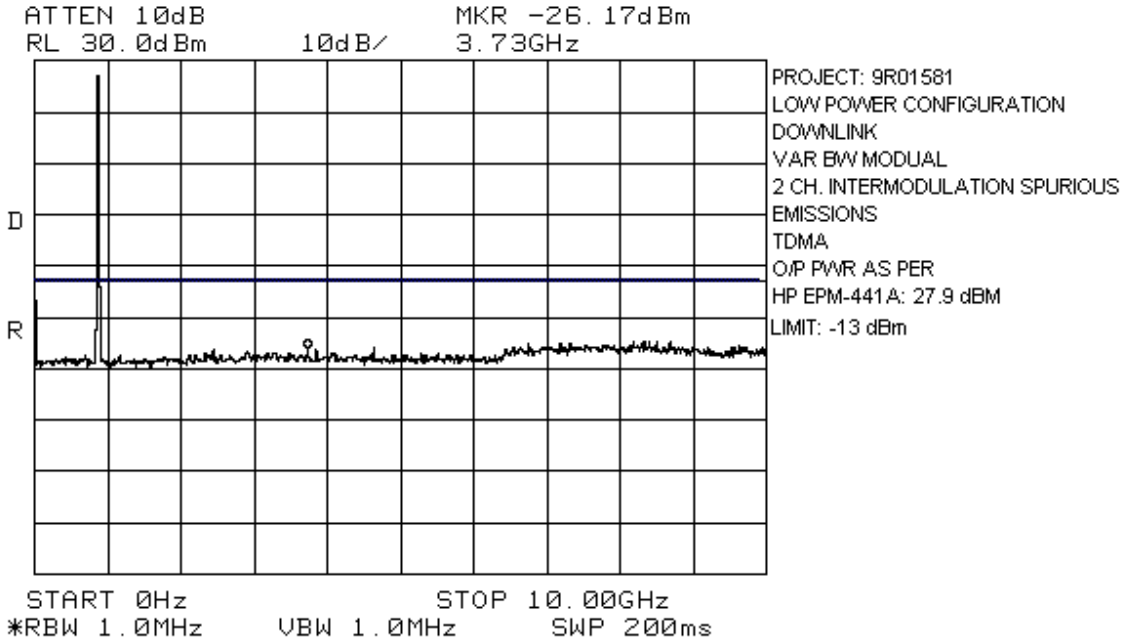

*ATTEN 10dB
MKR -26.83dBm
RL 34.0dBm
10dB/
2.63GHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
2 CH. INTERMODULATION SPURIOUS
EMISSIONS
TDMA
O/P PWR AS PER
HP EPM-441A: 29.0 dBm
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

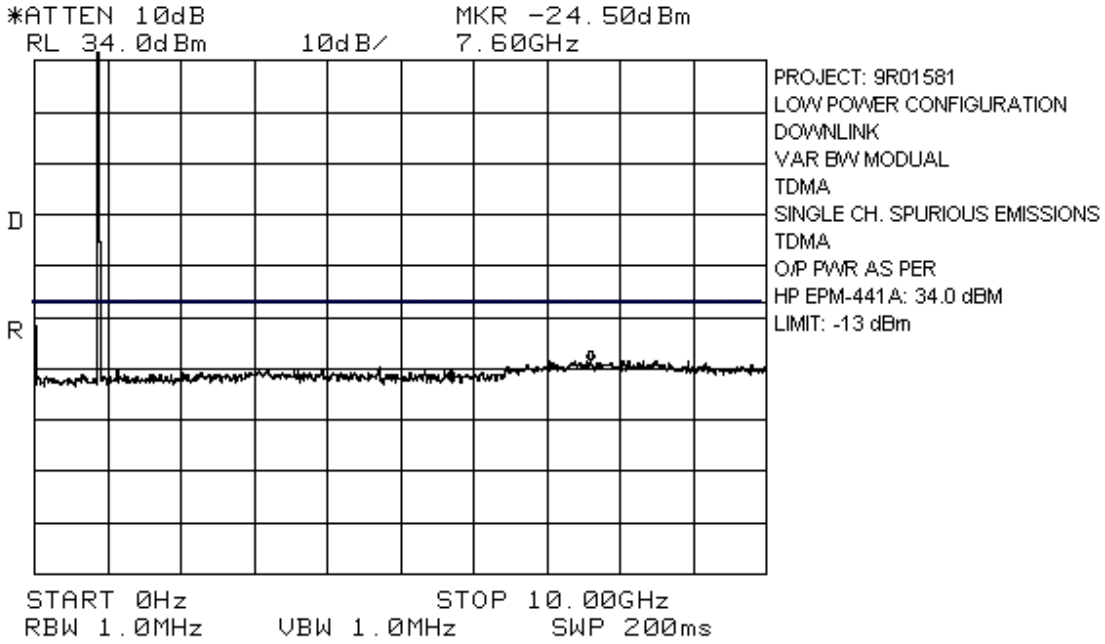

*ATTEN 10dB
RL 34.0dBm
10dB/
MKR -24.17dBm
7.33GHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
TDMA
SINGLE CH. SPURIOUS EMISSIONS
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

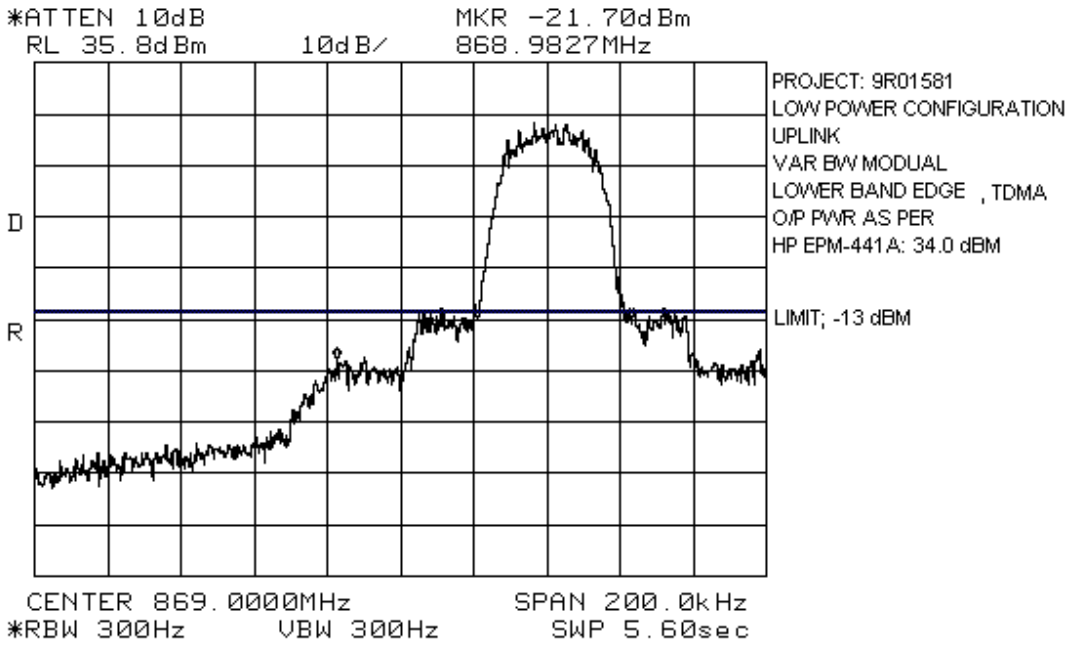

*ATTEN 10dB
RL 34.0dBm
10dB/
MKR -21.50dBm
849.0017MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
UPPER BAND EDGE
TDMA
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
LIMIT: -13 dBm
CENTER 849.0000MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

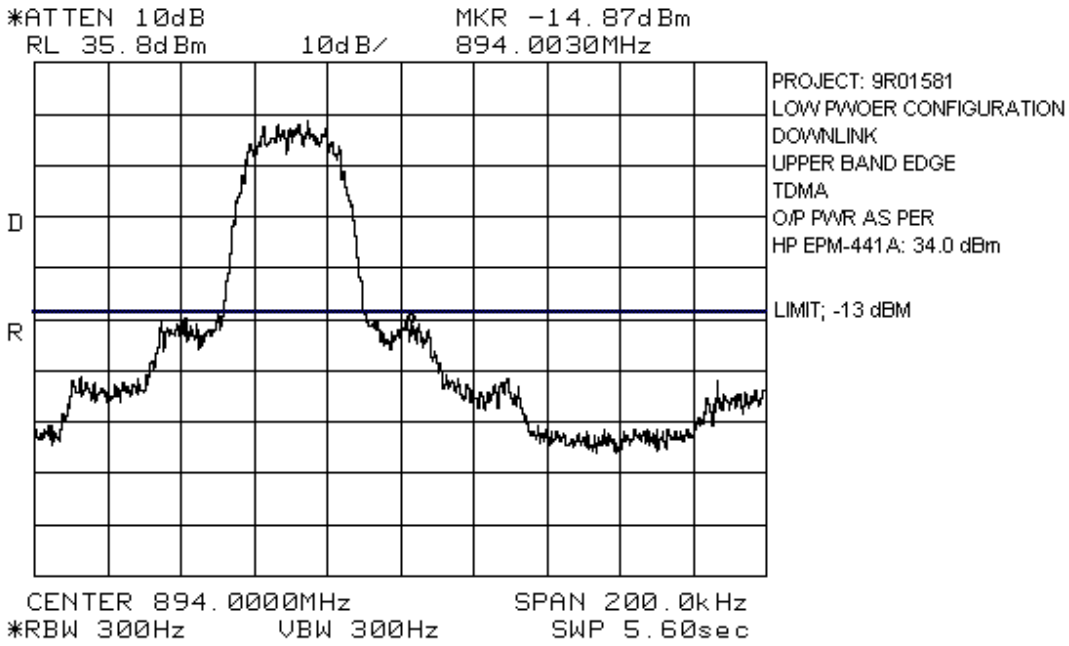

*ATTEN 10dB
RL 34.0dBm
10dB/
MKR -28.67dBm
823.9973MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW
UPPER BAND EDGE
TDMA
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
LIMIT: -13 dBM
CENTER 824.0000MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec


ATTEN 10dB
RL 30.0dBm
10dB/
MKR -13.33dBm
866.58MHz
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
2 CH. INTERMODULATION PRODUCTS
TDMA
O/P PWR AS PER
HP EPM-441A: 27.9 dBM
LIMIT; -13 dBm
CENTER 881.50MHz
SPAN 50.00MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

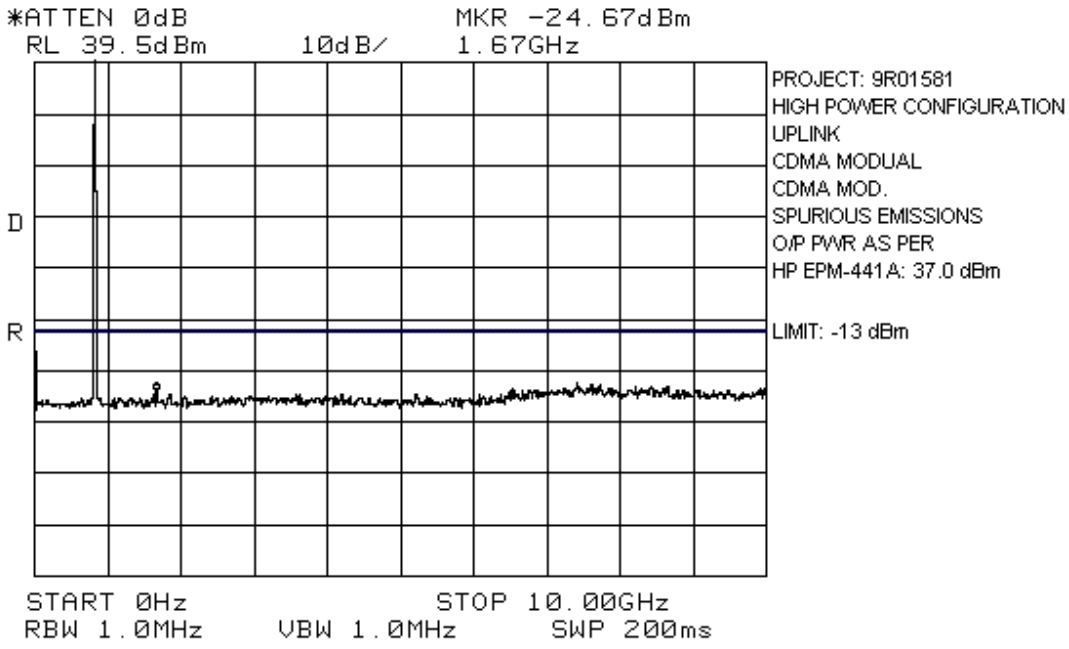

ATTEN 10dB
RL 30.0dBm
10dB/
MKR -26.17dBm
3.73GHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
2 CH. INTERMODULATION SPURIOUS
EMISSIONS
TDMA
O/P PWR AS PER
HP EPM-441A: 27.9 dBM
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

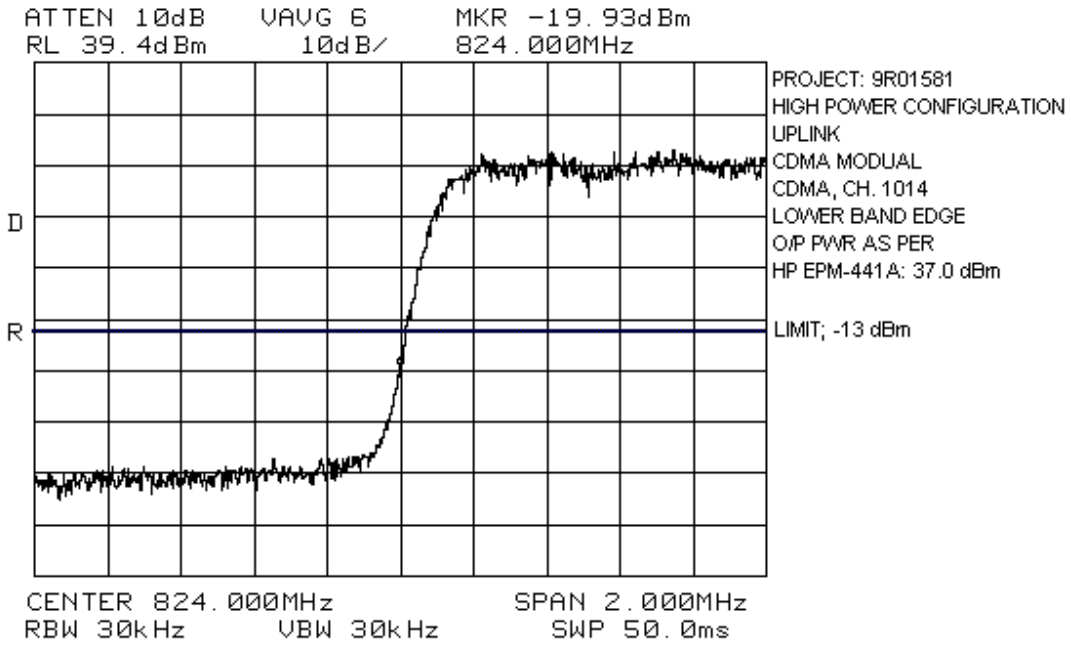

*ATTEN 10dB
RL 34.0dBm
10dB/
MKR -24.50dBm
7.60GHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
VAR BW MODUAL
TDMA
SINGLE CH. SPURIOUS EMISSIONS
TDMA
O/P PWR AS PER
HP EPM-441A: 34.0 dBM
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

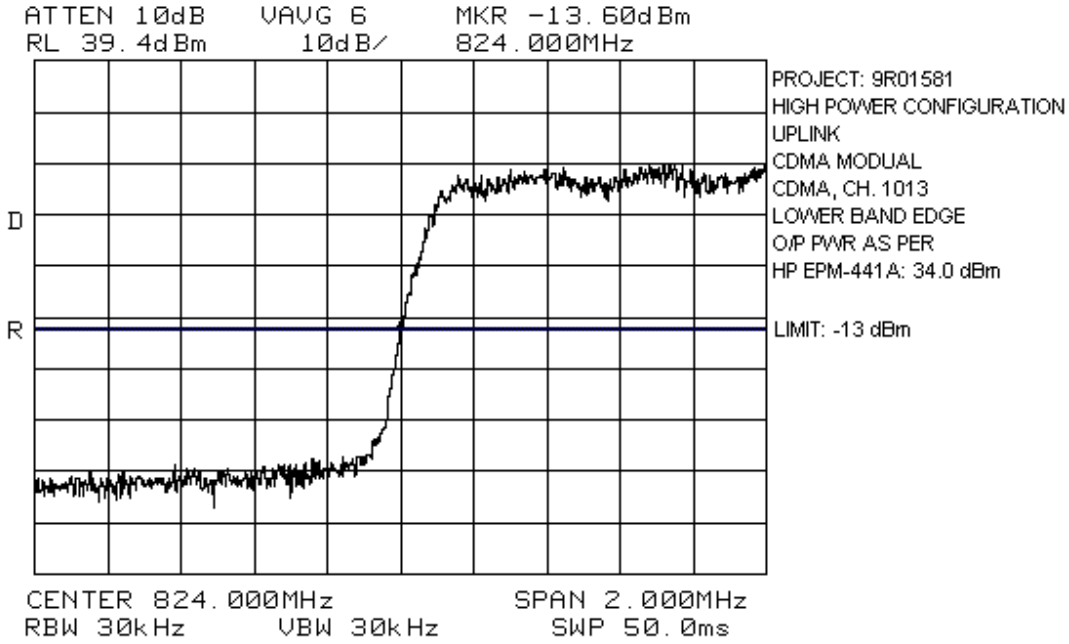

*ATTEN 10dB
RL 35.8dBm
10dB/
MKR -21.70dBm
868.9827MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
VAR BW MODUAL
LOWER BAND EDGE , TDMA
O/P PWR AS PER
HP EPM-441A: 34.0 dBM
LIMIT; -13 dBM
CENTER 869.0000MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

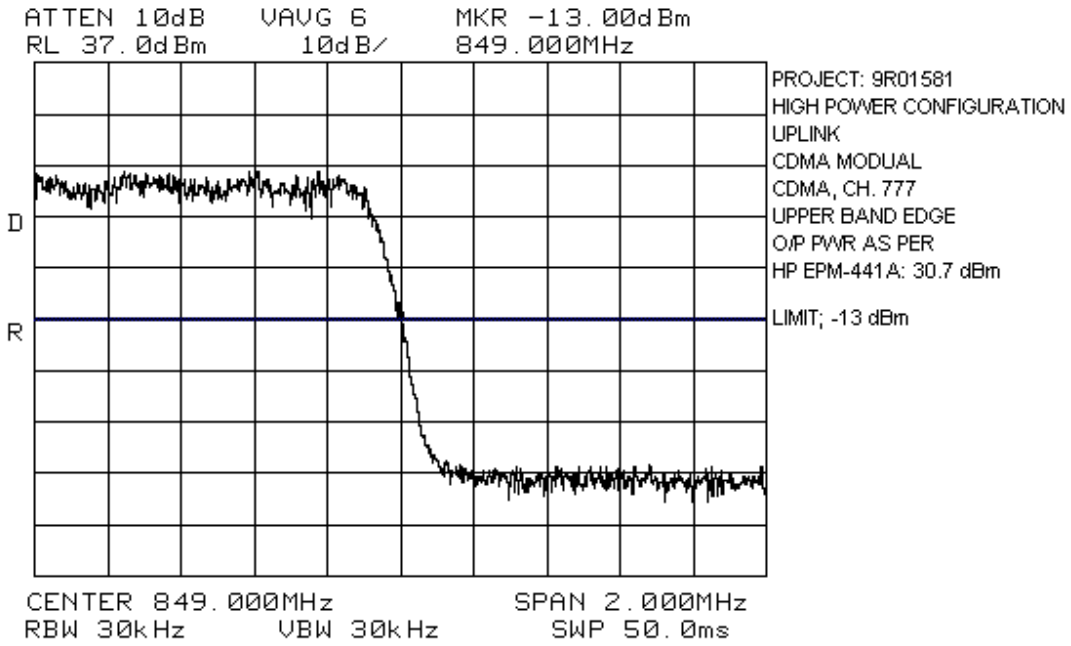

*ATTEN 10dB
RL 35.8dBm
10dB/
MKR -14.87dBm
894.0030MHz
D
R
PROJECT: 9R01581
LOW PWOER CONFIGURATION
DOWNLINK
UPPER BAND EDGE
TDMA
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
LIMIT; -13 dBM
CENTER 894.0000MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

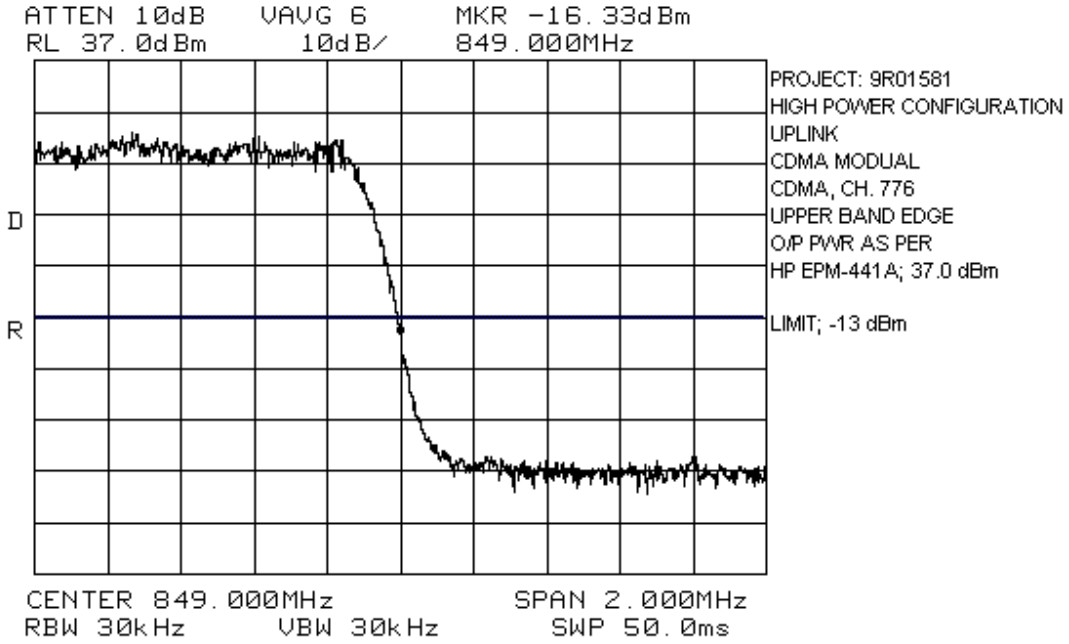
High Power – CDMA Module

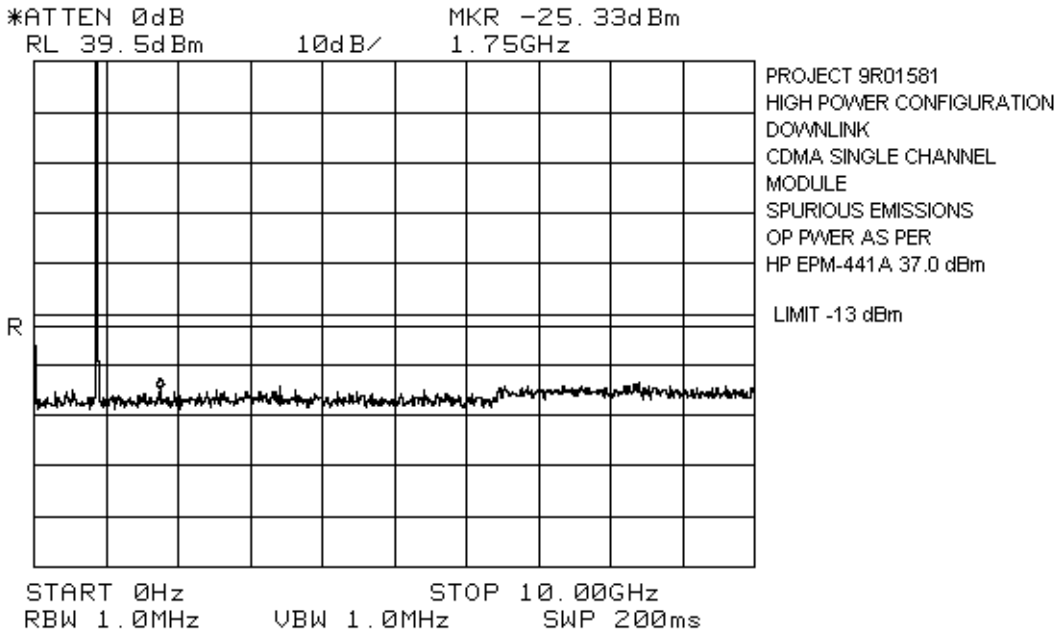


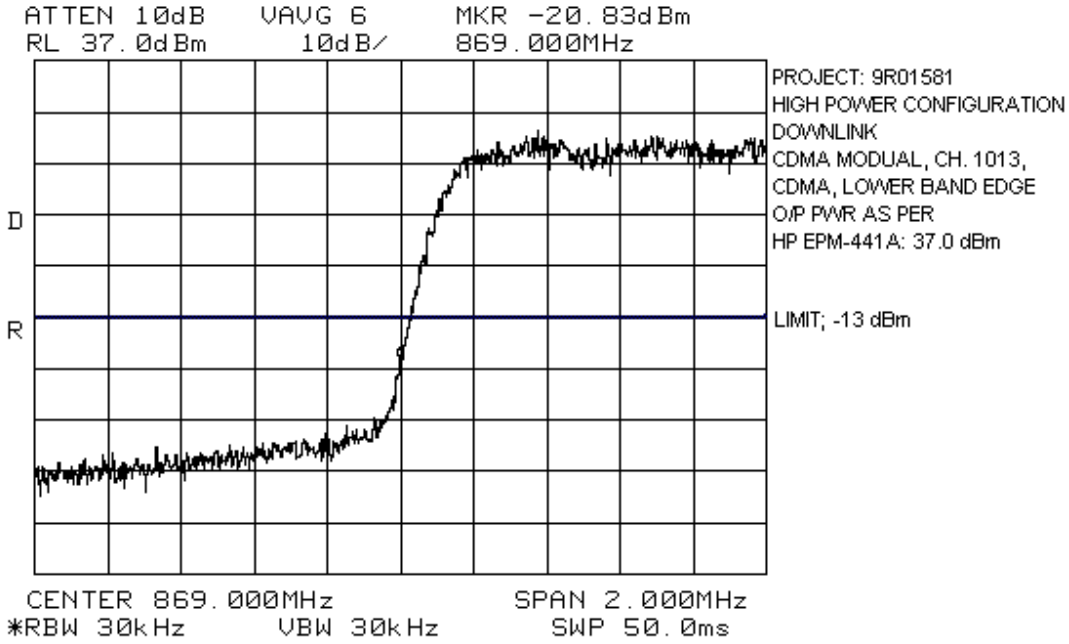

ATTEN 10dB
RL 39.4dBm
VAVG 6
10dB/
MKR -19.93dBm
824.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
CDMA MODUAL
CDMA, CH. 1014
LOWER BAND EDGE
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
LIMIT; -13 dBm
CENTER 824.000MHz
SPAN 2.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

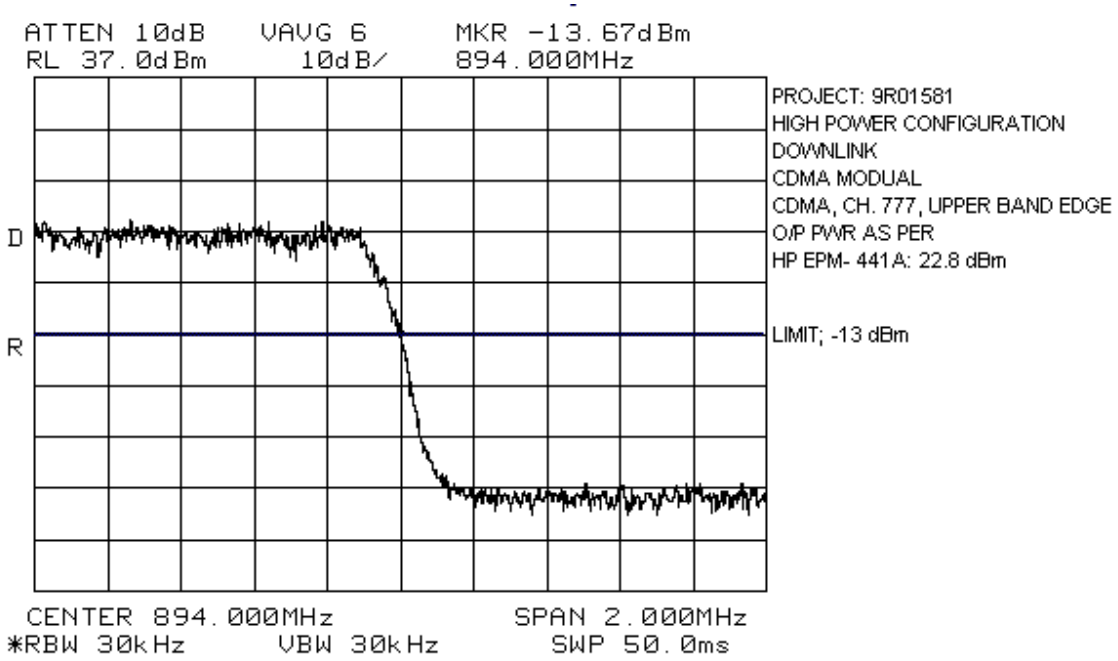

ATTEN 10dB
RL 39.4dBm
VAVG 6
10dB/
MKR -13.60dBm
824.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
CDMA MODUAL
CDMA, CH. 1013
LOWER BAND EDGE
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
LIMIT: -13 dBm
CENTER 824.000MHz
RBW 30kHz
VBW 30kHz
SPAN 2.000MHz
SWP 50.0ms

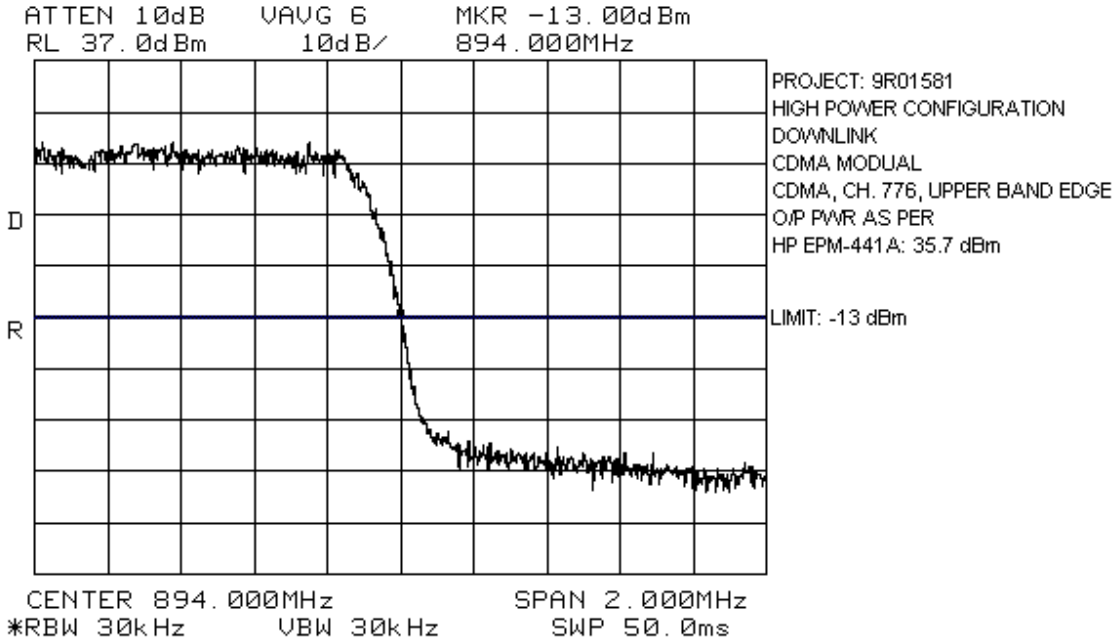

ATTEN 10dB
RL 37.0dBm
VAVG 6
10dB/
MKR -13.00dBm
849.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
CDMA MODUAL
CDMA, CH. 777
UPPER BAND EDGE
O/P PWR AS PER
HP EPM-441A: 30.7 dBm
LIMIT; -13 dBm
CENTER 849.000MHz
RBW 30kHz
VBW 30kHz
SPAN 2.000MHz
SWP 50.0ms

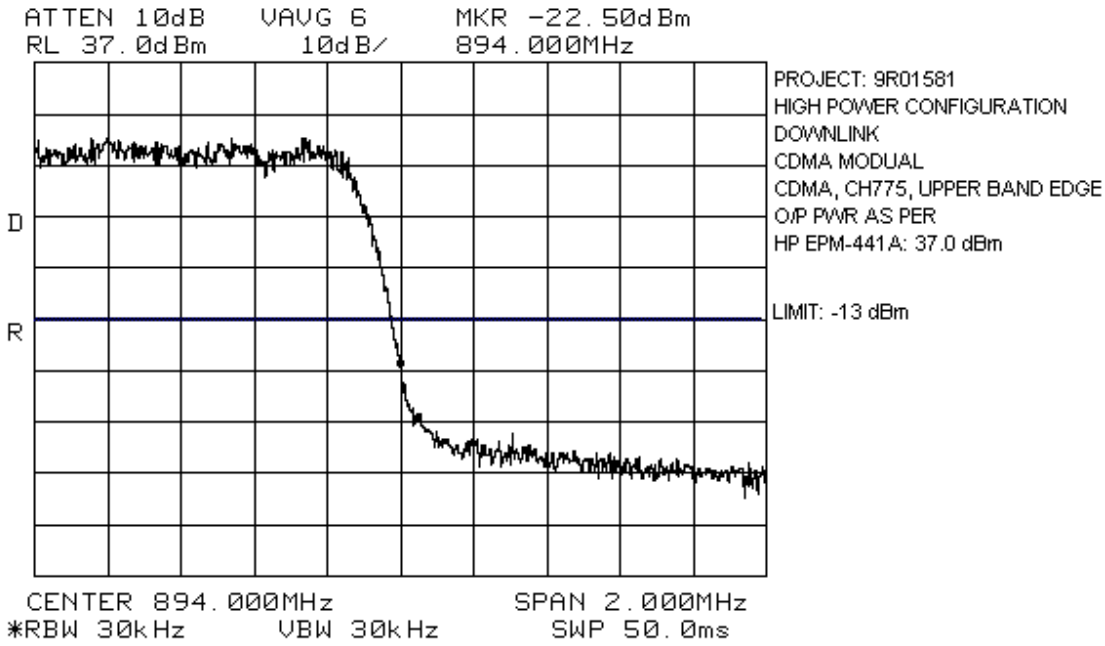

ATTEN 10dB
RL 37.0dBm
VAVG 6
10dB/
MKR -16.33dBm
849.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
CDMA MODUAL
CDMA, CH. 776
UPPER BAND EDGE
O/P PWR AS PER
HP EPM-441A; 37.0 dBm
LIMIT; -13 dBm
CENTER 849.000MHz
RBW 30kHz
VBW 30kHz
SPAN 2.000MHz
SWP 50.0ms


*ATTEN 0dB
MKR -25.33dBm
RL 39.5dBm
10dB/
1.75GHz
R
PROJECT 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA SINGLE CHANNEL
MODULE
SPURIOUS EMISSIONS
OP PWER AS PER
HP EPM-441A 37.0 dBm
LIMIT -13 dBm
START 0Hz
STOP 10.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

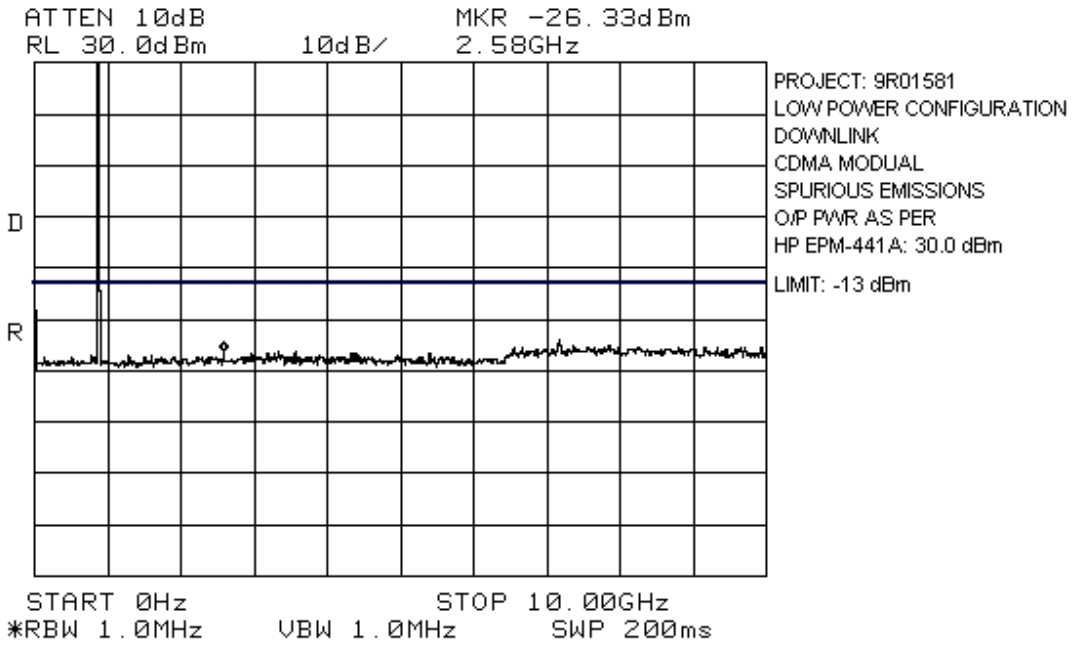

ATTEN 10dB
RL 37.0dBm
VAVG 6
10dB/
MKR -20.83dBm
869.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA MODUAL, CH. 1013,
CDMA, LOWER BAND EDGE
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
LIMIT; -13 dBm
CENTER 869.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

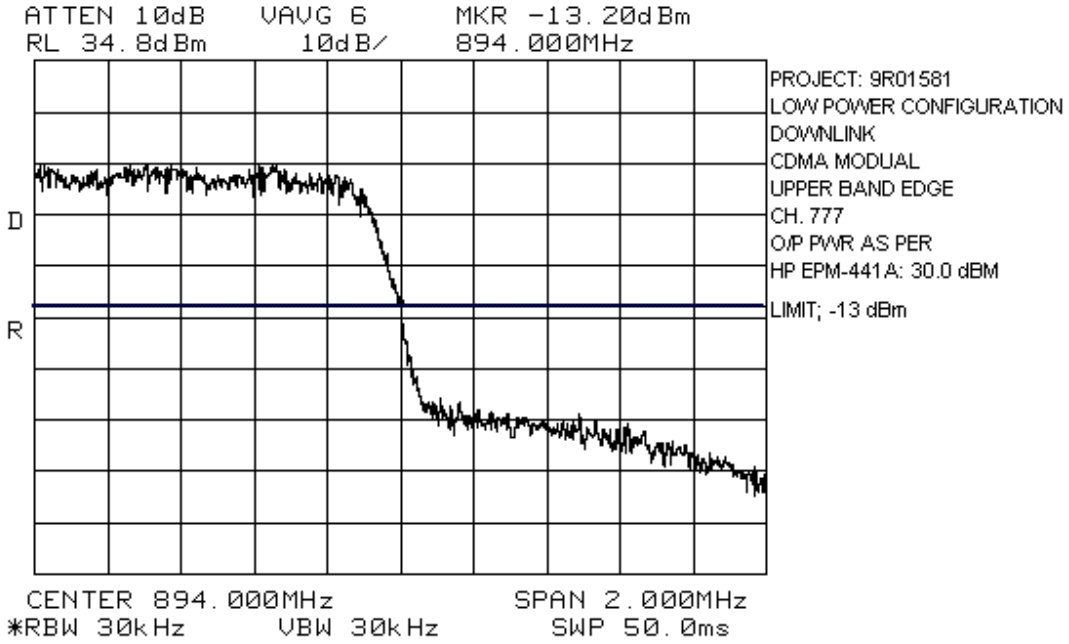

ATTEN 10dB
RL 37.0dBm
VAVG 6
10dB/
MKR -13.67dBm
894.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA MODUAL
CDMA, CH. 777, UPPER BAND EDGE
O/P PWR AS PER
HP EPM- 441A: 22.8 dBm
LIMIT; -13 dBm
CENTER 894.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

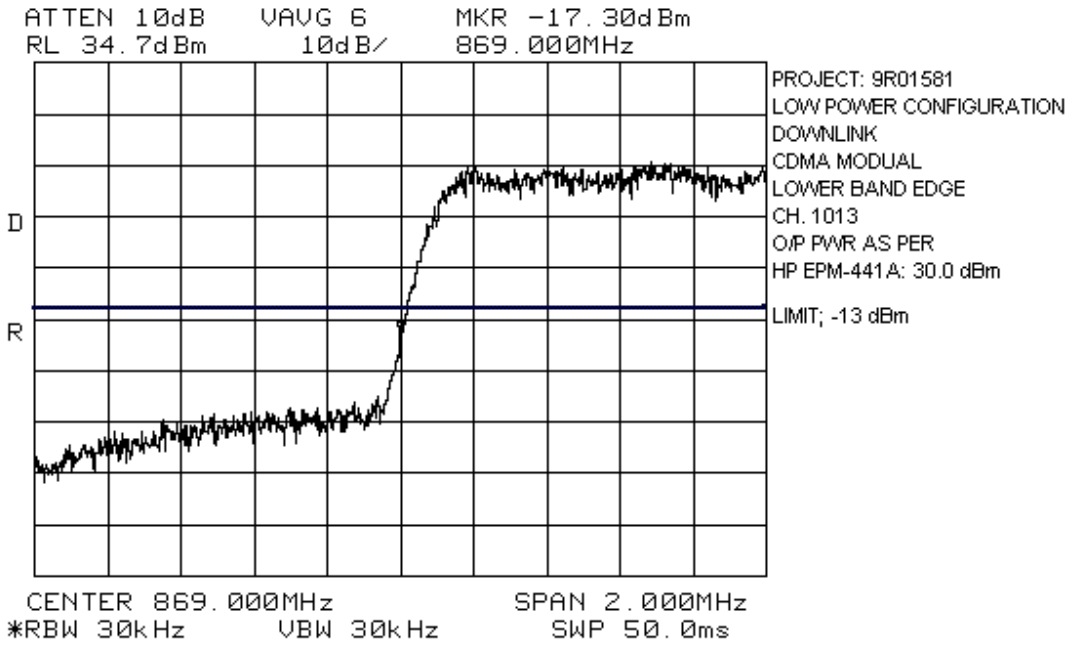

ATTEN 10dB
RL 37.0dBm
VAVG 6
10dB/
MKR -13.00dBm
894.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA MODUAL
CDMA, CH. 776, UPPER BAND EDGE
O/P PWR AS PER
HP EPM-441A: 35.7 dBm
LIMIT: -13 dBm
CENTER 894.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

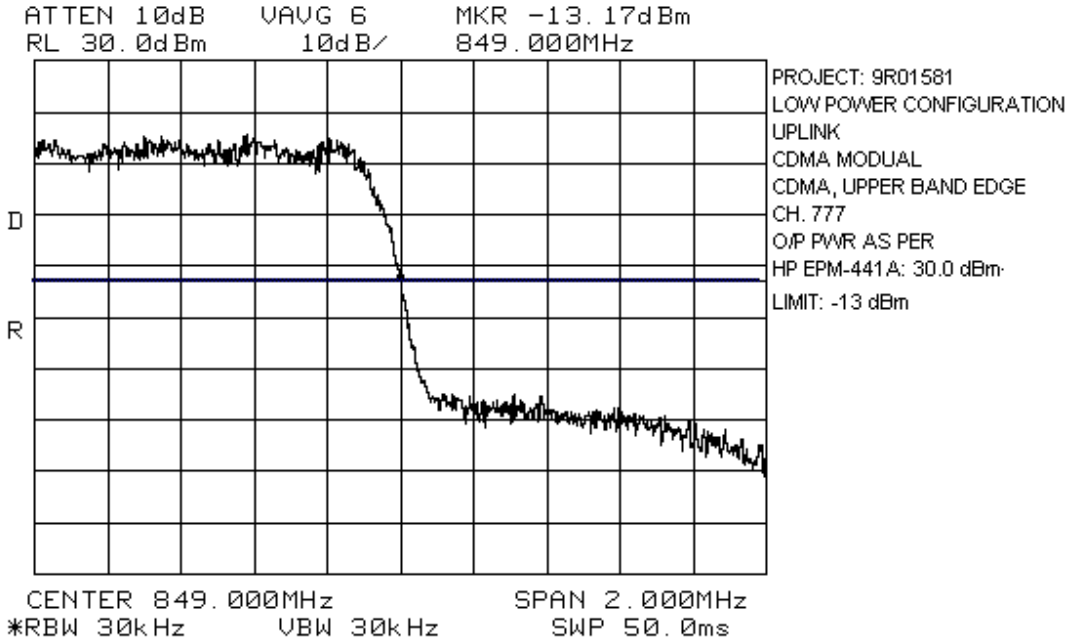

ATTEN 10dB
RL 37.0dBm
VAVG 6
10dB/
MKR -22.50dBm
894.000MHz
D
R
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
CDMA MODUAL
CDMA, CH775, UPPER BAND EDGE
O/P PWR AS PER
HP EPM-441A: 37.0 dBm
LIMIT: -13 dBm
CENTER 894.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

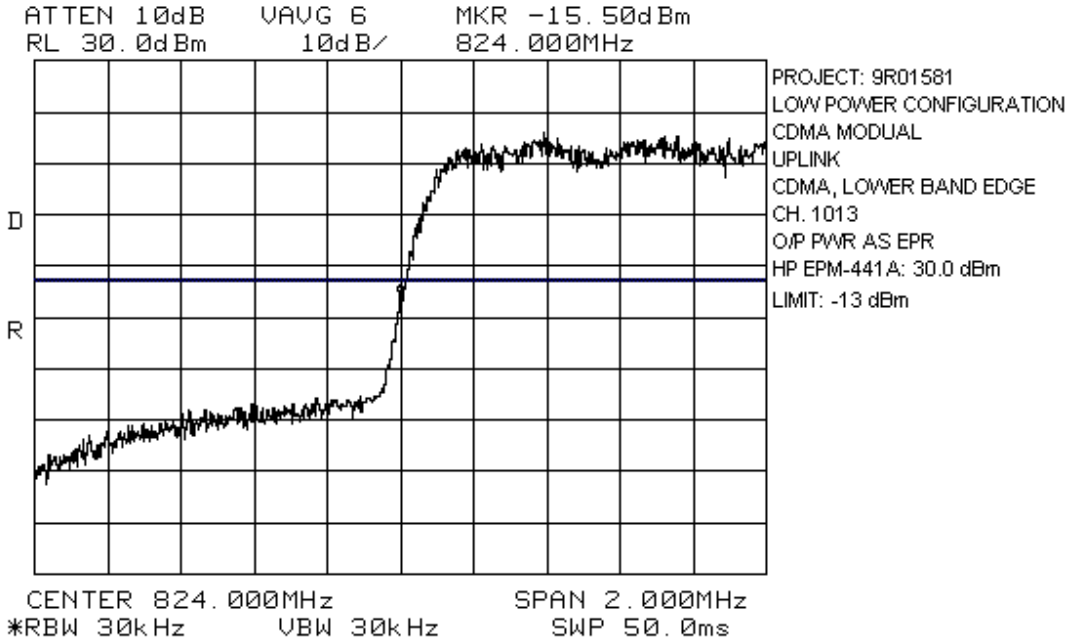
Low Power – CDMA Module

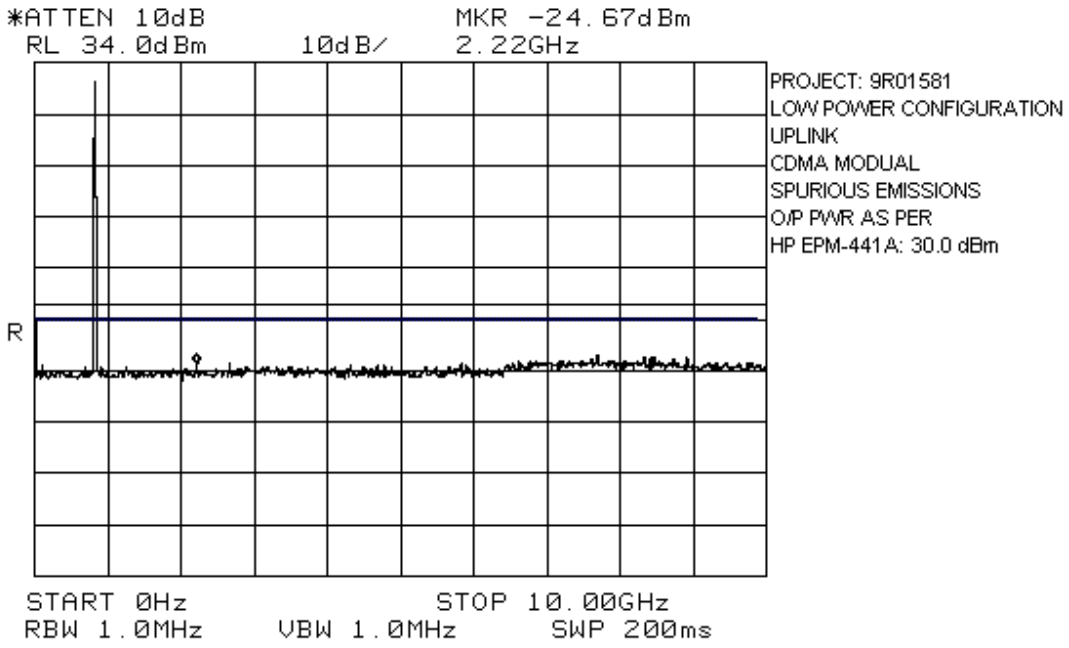



ATTEN 10dB
RL 34.8dBm
VAVG 6
10dB/
MKR -13.20dBm
894.000MHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
CDMA MODUAL
UPPER BAND EDGE
CH. 777
O/P PWR AS PER
HP EPM-441A: 30.0 dBM
LIMIT; -13 dBm
D
R
CENTER 894.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

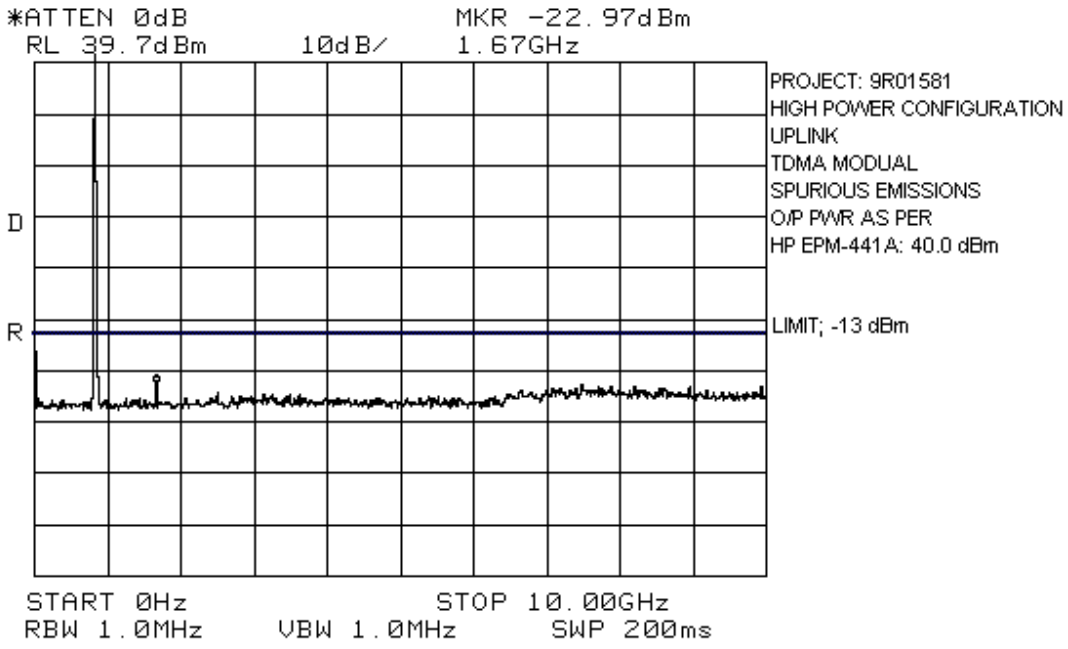

ATTEN 10dB
RL 34.7dBm
VAVG 6
10dB/
MKR -17.30dBm
869.000MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
CDMA MODUAL
LOWER BAND EDGE
CH. 1013
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
LIMIT; -13 dBm
CENTER 869.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

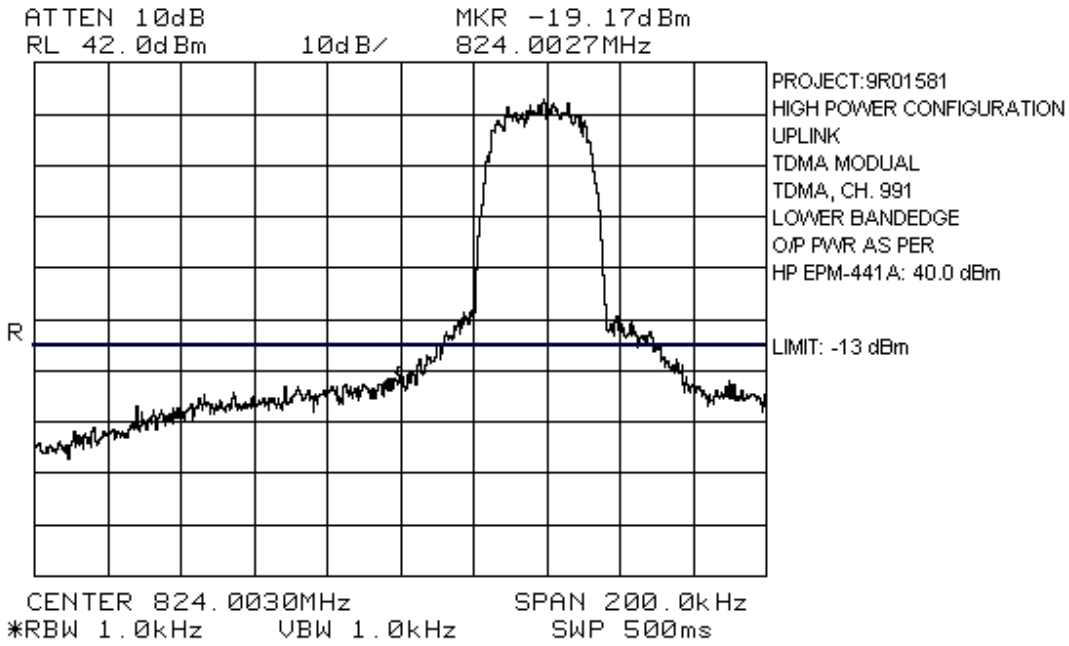

ATTEN 10dB
RL 30.0dBm
VAVG 6
10dB/
MKR -13.17dBm
849.000MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
CDMA MODUAL
CDMA, UPPER BAND EDGE
CH. 777
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
LIMIT: -13 dBm
CENTER 849.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

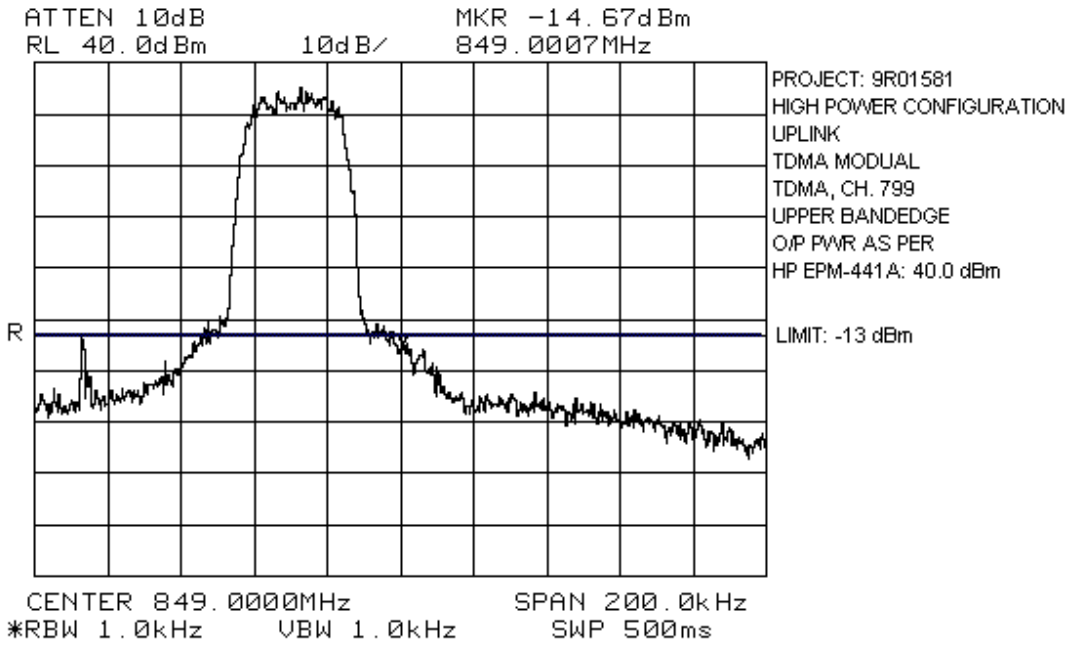

ATTEN 10dB
RL 30.0dBm
VAVG 6
10dB/
MKR -15.50dBm
824.000MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
CDMA MODUAL
UPLINK
CDMA, LOWER BAND EDGE
CH. 1013
O/P PWR AS EPR
HP EPM-441A: 30.0 dBm
LIMIT: -13 dBm
CENTER 824.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

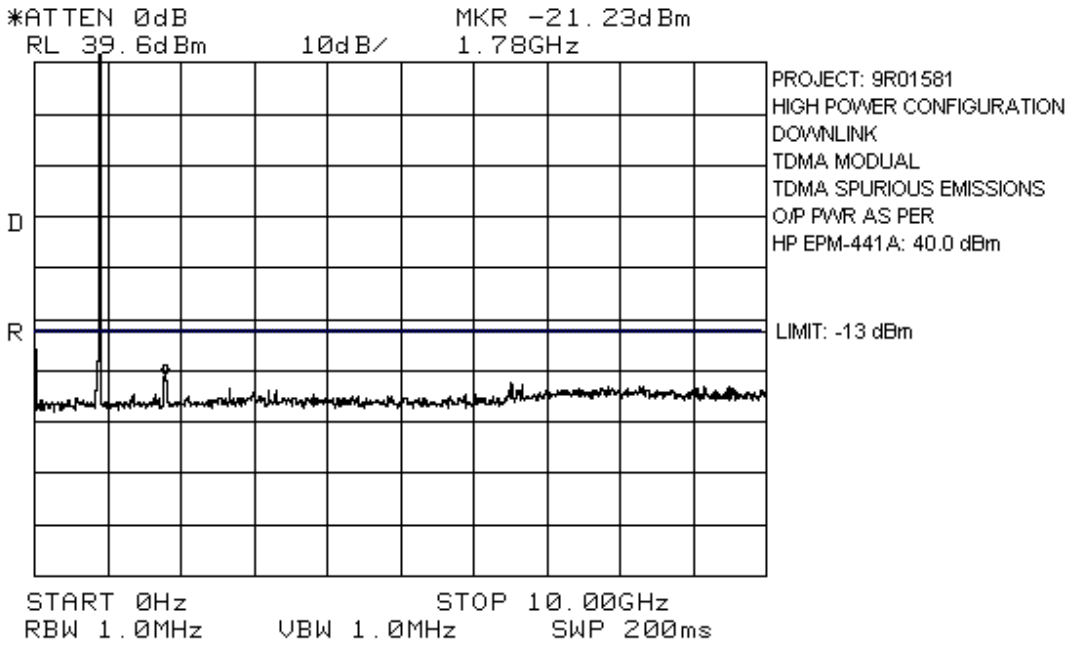

*ATTEN 10dB
RL 34.0dBm
10dB/
MKR -24.67dBm
2.22GHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
CDMA MODUAL
SPURIOUS EMISSIONS
O/P PWR AS PER
HP EPM-441A: 30.0 dBm
R
START 0Hz
STOP 10.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

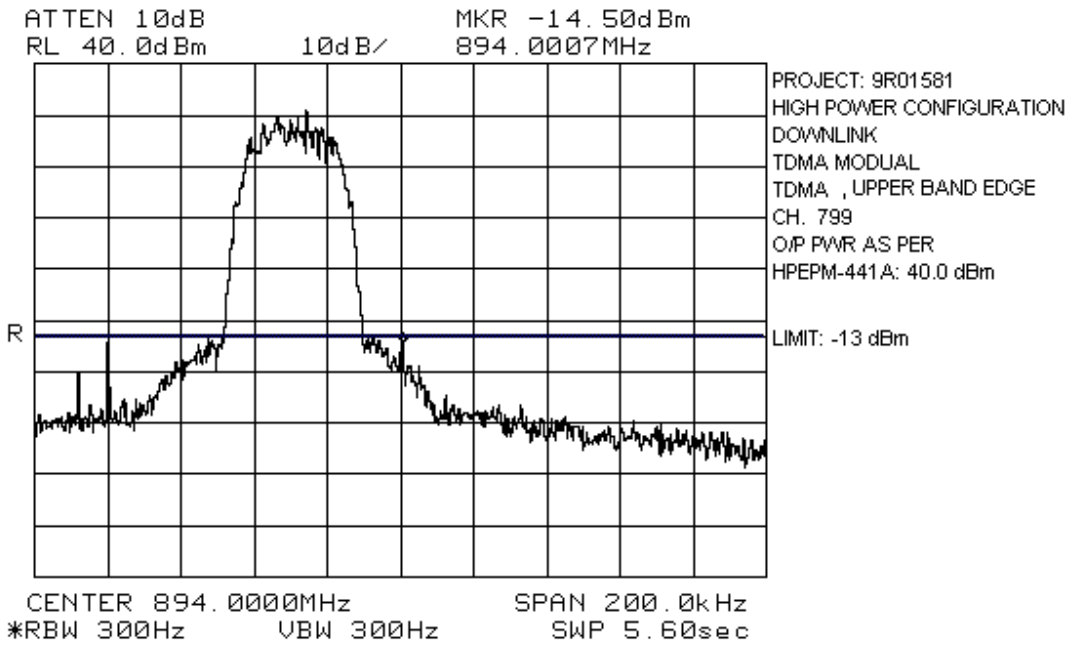
High Power – TDMA Module

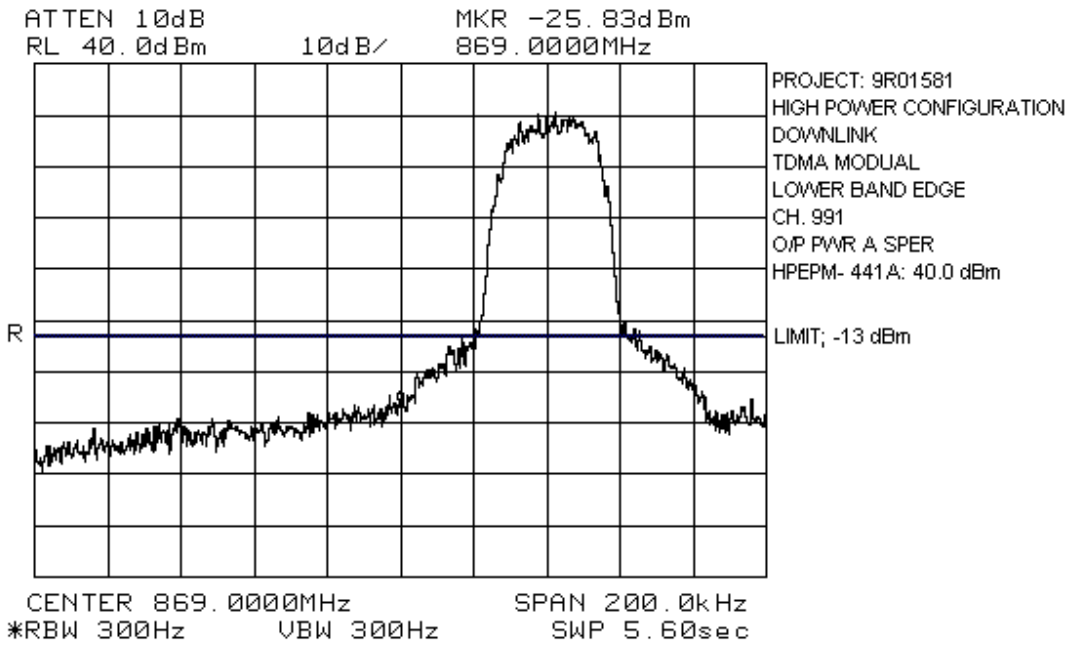



ATTEN 10dB
RL 42.0dBm
10dB/
MKR -19.17dBm
824.0027MHz
PROJECT:9R01581
HIGH POWER CONFIGURATION
UPLINK
TDMA MODUAL
TDMA, CH. 991
LOWER BANDEDGE
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
R
LIMIT: -13 dBm
CENTER 824.0030MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

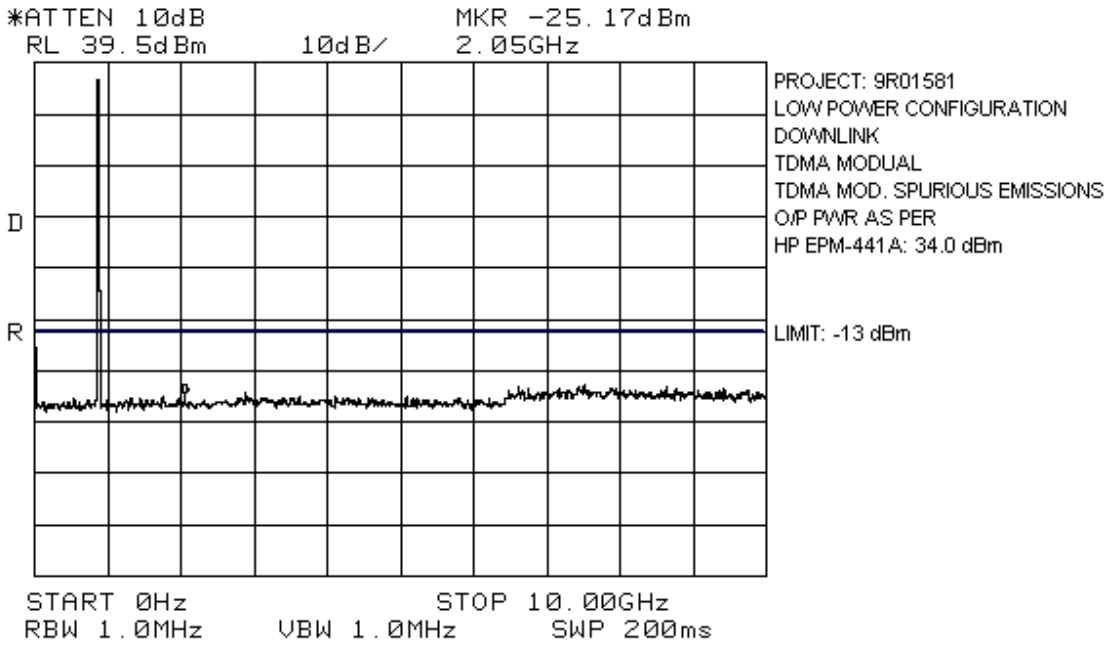

ATTEN 10dB
RL 40.0dBm
10dB/
MKR -14.67dBm
849.0007MHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
UPLINK
TDMA MODUAL
TDMA, CH. 799
UPPER BANDEDGE
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
R
LIMIT: -13 dBm
CENTER 849.0000MHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

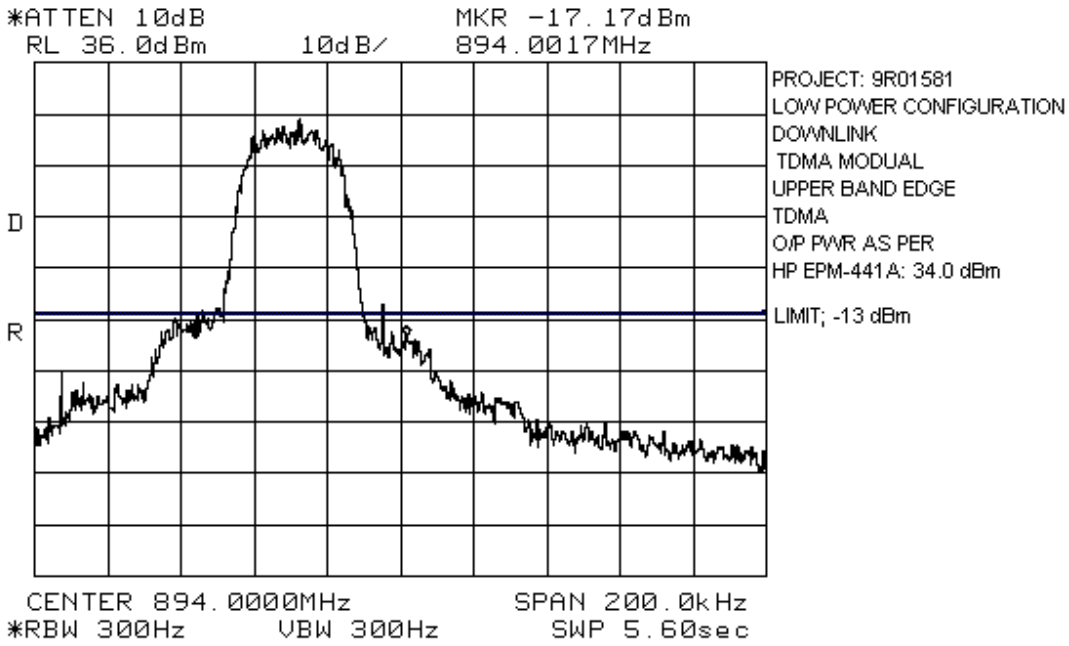

*ATTEN 0dB
MKR -21.23dBm
RL 39.6dBm
10dB/
1.78GHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
TDMA MODUAL
TDMA SPURIOUS EMISSIONS
O/P PWR AS PER
HP EPM-441A: 40.0 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

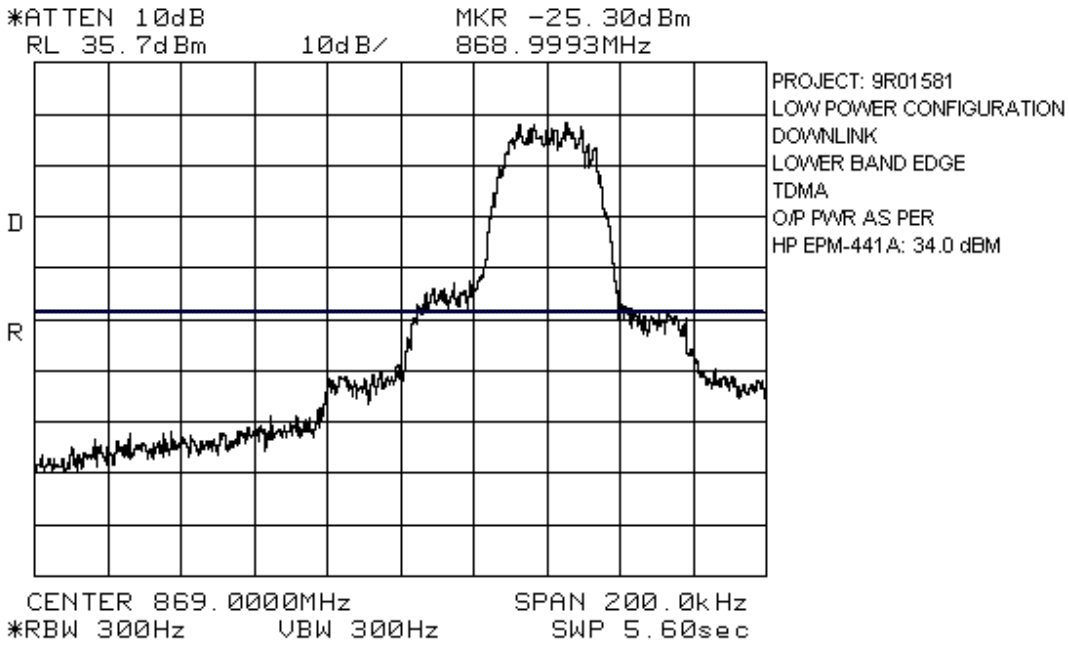

ATTEN 10dB
RL 40.0dBm
10dB/
MKR -14.50dBm
894.0007MHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
TDMA MODUAL
TDMA , UPPER BAND EDGE
CH. 799
O/P PWR AS PER
HPEPM-441A: 40.0 dBm
R
LIMIT: -13 dBm
CENTER 894.0000MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

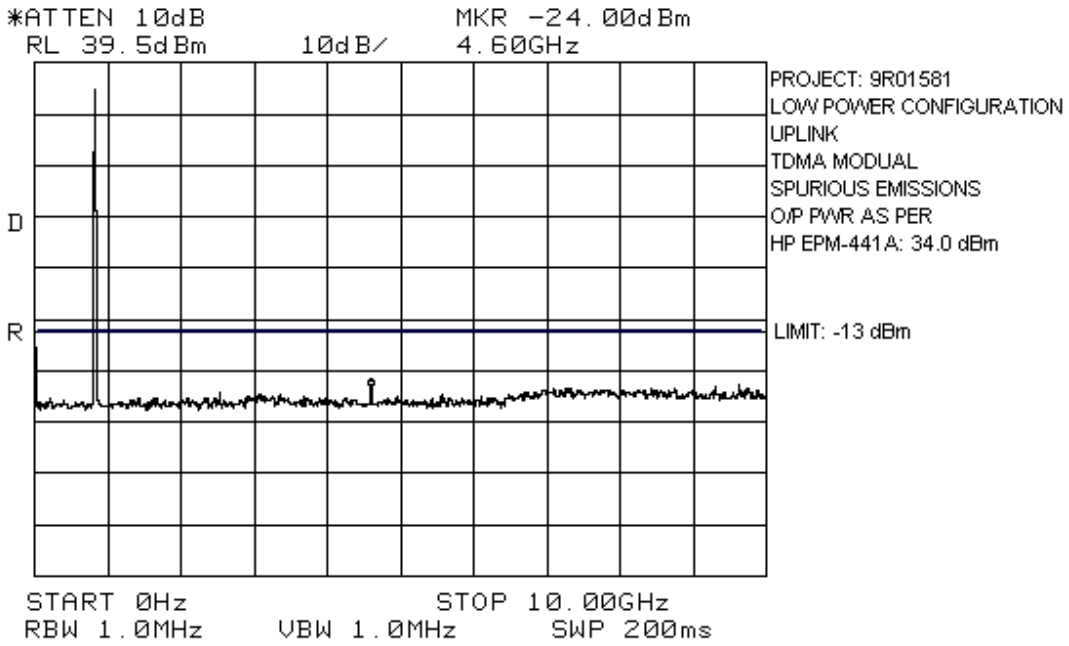

ATTEN 10dB
RL 40.0dBm
10dB/
MKR -25.83dBm
869.0000MHz
PROJECT: 9R01581
HIGH POWER CONFIGURATION
DOWNLINK
TDMA MODUAL
LOWER BAND EDGE
CH. 991
O/P PWR A SPER
HPEPM- 441A: 40.0 dBm
R
LIMIT; -13 dBm
CENTER 869.0000MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

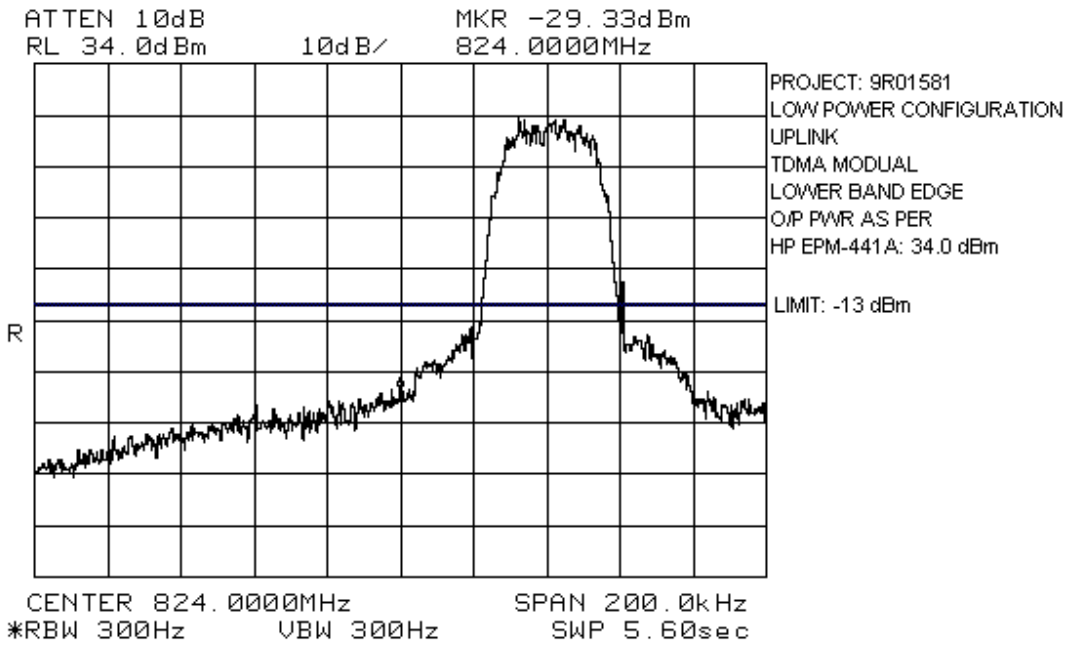
Low Power - TDMA

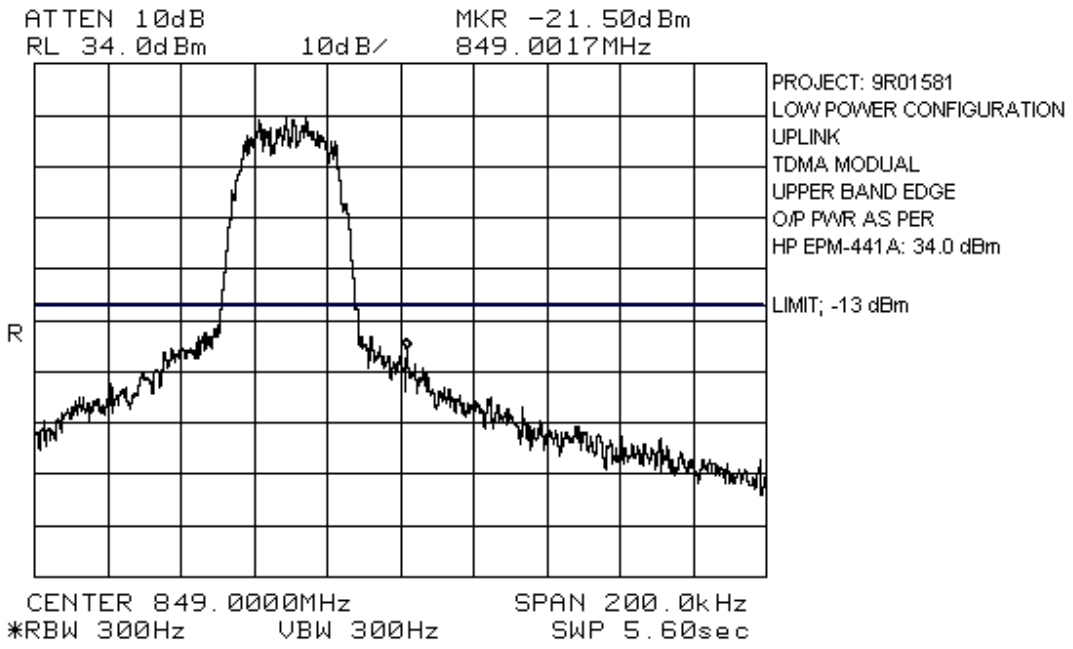



*ATTEN 10dB
RL 36.0dBm
10dB/
MKR -17.17dBm
894.0017MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
TDMA MODUAL
UPPER BAND EDGE
TDMA
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
LIMIT; -13 dBm
CENTER 894.0000MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec


*ATTEN 10dB
RL 35.7dBm
10dB/
MKR -25.30dBm
868.9993MHz
D
R
PROJECT: 9R01581
LOW POWER CONFIGURATION
DOWNLINK
LOWER BAND EDGE
TDMA
O/P PWR AS PER
HP EPM-441A: 34.0 dBM
CENTER 869.0000MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec


*ATTEN 10dB
MKR -24.00dBm
RL 39.5dBm
10dB/
4.60GHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
TDMA MODUAL
SPURIOUS EMISSIONS
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 10.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 200ms


ATTEN 10dB
RL 34.0dBm
10dB/
MKR -29.33dBm
824.0000MHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
TDMA MODUAL
LOWER BAND EDGE
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
LIMIT: -13 dBm
R
CENTER 824.0000MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec


ATTEN 10dB
RL 34.0dBm
10dB/
MKR -21.50dBm
849.0017MHz
PROJECT: 9R01581
LOW POWER CONFIGURATION
UPLINK
TDMA MODUAL
UPPER BAND EDGE
O/P PWR AS PER
HP EPM-441A: 34.0 dBm
LIMIT; -13 dBm
R
CENTER 849.0000MHz
SPAN 200.0kHz
*RBW 300Hz
VBW 300Hz
SWP 5.60sec

Section 6. Field Strength of Spurious

NAME OF TEST: Field Strength of Spurious	PARA. NO.: 2.917(e)
TESTED BY: Kevin Carr	DATE: August 12, 1999

Test Results: Complies.
The maximum field strength is 41.1 dBµV/m @ 3343.7 MHz @ 3m.

Test Data:

Test Data - Radiated Emissions - Uplink

Test Distance (meters) : 3		Range: A Tower		Receiver: ESVP		RBW: 1 MHz, 3 MHz		Detector: VBW, Peak			
Freq. (MHz)	Ant. *	Pol. (V/H)	Ant. HGT. (m)	Table (deg.)	RCVD Signal (dBµV/m)	Ant. Factor (dB)**	Amp. Gain (dB)***	Dist. Corr. (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1671.4	Hrn2	V			49.1	29.3	-41.7		36.7	82.3	45.6
1672.6	Hrn2	H			51.8	29.3	-41.7		39.4	82.3	42.9
2507.0	Hrn2	V			49.0	31.2	-45.9		34.3	82.3	48.0
2508.0	Hrn2	H			51.5	31.2	-45.9		36.8	82.3	45.5
3342.7	Hrn2	V			48.6	34.4	-42.8		40.2	82.3	42.1
3343.7	Hrn2	H			49.5	34.4	-42.8		41.1	82.3	38.5
4178.5	Hrn2	V			50.1	36.6	-42.9		43.8	82.3	39.0
4178.4	Hrn2	H			49.6	36.6	-42.9		43.3	82.3	38.9
5014.5	Hrn2	V			48.6	39.3	-44.5		43.4	82.3	39.2
5015.1	Hrn2	H			48.3	39.3	-44.5		43.1	82.3	

Notes:
The spectrum was search up to the 10th harmonic of the fundamental frequency.
B/C = Biconical, B/L = Biconilog, L/P = Log-Periodic, H = Horn, D/P = Dipole
* Includes cable loss when amplifier is not used.
** Includes cable loss.
( ) Denotes failing emission level.
All other emissions >> 40 dB below the limit.

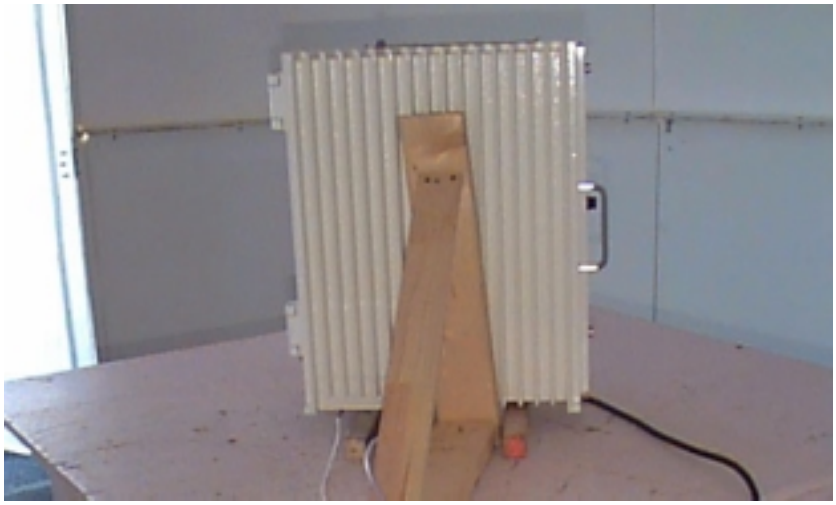
Test Data - Radiated Emissions - Downlink

Test Distance (meters) : 3		Range: A Tower		Receiver: ESVP		RBW: 120		Detector: Q-Peak			
Freq. (MHz)	**Ant. ***	**Pol. (V/H)**	**Ant. HGT. (m)**	**Table (deg.)**	**RCVD Signal (dBµV/m)**	**Ant. Factor (dB)****	**Amp. Gain (dB)*****	**Dist. Corr. (dB)**	**Field Strength (dBµV/m)**	**Limit (dBµV/m)**	**Margin (dB)**
1761.5	Hrn2	V			51.8	29.8	-43.1		38.5	82.3	43.8
1761.5	Hrn2	H			51.0	29.8	-43.1		37.7	82.3	44.6
2642.3	Hrn2	V			50.5	31.6	-45.5		36.6	82.3	45.7
2641.9	Hrn2	H			51.8	31.6	-45.5		37.9	82.3	44.4
3522.8	Hrn2	V			47.8	35.3	-42.2		40.9	82.3	41.4
3522.7	Hrn2	H			49.0	35.3	-42.2		42.1	82.3	40.2
4403.6	Hrn2	V			48.3	37.1	-43.2		42.2	82.3	40.1
4403.4	Hrn2	H			48.6	37.1	-43.2		42.5	82.3	39.8
5284.3	Hrn2	V			47.5	39.7	-44.0		43.2	82.3	39.1
5284.3	Hrn2	H			47.3	39.7	-44.0		43.0	82.3	39.3

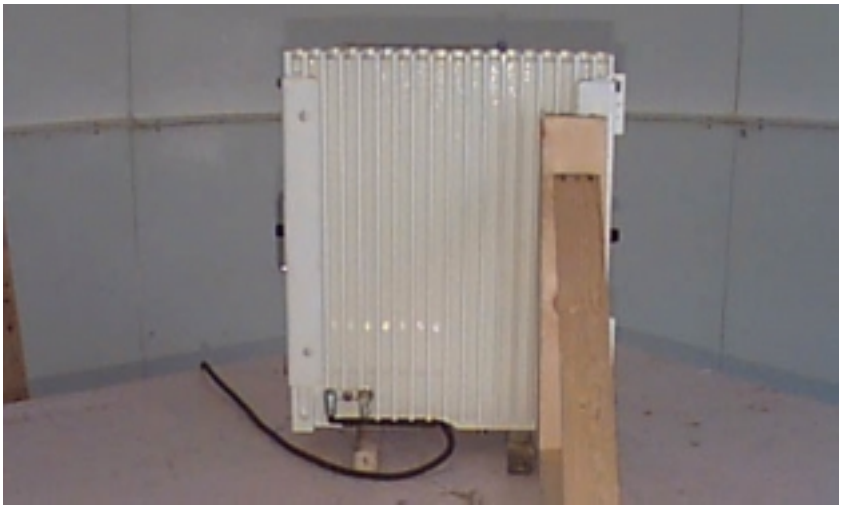
Notes:
The spectrum was search up to the 10th harmonic of the fundamental frequency.
B/C = Biconical, B/L = Biconilog, L/P = Log-Periodic, H = Horn, D/P = Dipole
* Includes cable loss when amplifier is not used.
** Includes cable loss.
( ) Denotes failing emission level.
All other emissions >> 40 dB below the limit.

Photographs of Test Setup

Front View



Rear View



Section 7. Frequency Stability

NAME OF TEST: Frequency Stability	PARA. NO.: 22.355
TESTED BY:	DATE:

Test Results: Complies/Does Not Comply.

Measurement Data: Standard Test Frequency: _____ MHz
Standard Test Voltage: _____ Vdc

NOT APPLICABLE

Section 8. Test Equipment List

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.	
1 Year	Attenuator	Narda	768-20	9507	July 24/98	Sept. 24/99	
1 Year	Attenuator	Narda	765-20	9510	July 24/98	Sept. 24/99	
1 Year	Attenuator	Narda	768-10	9704	July 24/98	Sept. 24/99	
1 Year	RF Millivoltmeter	Rohde & Schwarz	URV5	FA000420	July 23/98	Sept. 24/99	
1 Year	Insertion Unit	Rohde & Schwarz	URV5-Z4	FA000905	July 23/98	Sept. 24/99	
2 Year	Horn Antenna	EMCO #2	3115	4336	Oct. 30/97	Oct. 30/99	
1 Year	Log Periodic Antenna 2	EMCO	3148	9904-1054	Apr. 30/99	Oct. 30/00	
1 Year	Directional Coupler	Hewlett Packard	765D	228	July 21/98	Sept 24/99	
	Detector	Sierra	164B	395	N/A	N/A	
1 Year	50 ohm Combiner Pad	Mini Circuits	ZA3PD-2	9746	July 23/98	Sept. 24/99	
1 Year	Low Noise Amplifier	Avantek	AWT-8035	1005	Aug. 4/98	Sept. 24/99	
1 Year	Low Noise Amplifier	DBS Microwave	DWT-13035	9623	Aug. 4/98	Sept. 24/99	
3 Year	RF Generator	Rohde & Schwarz	SME3	DE14439	June 29/96	Dec. 29/99	
1 Year	RF Generator	Rohde & Schwarz	SIMIQ03E	DE24154	Sept. 24/98	Sept. 24/99	
	Power Supply	Hewlett Packard	6274B	2552A-08243	NCR	NCR	
2 Year	Spectrum Analyzer	Hewlett Packard	8563E	862205	Jan. 22/98	Jan. 22/00	
1 Year	Power Head (Rental)	Hewlett Packard	878A	909238	Feb. 5/99	Feb. 5/00	
1 Year	Power Meter (Rental)	Hewlett Packard	EPM-441A	837896	Oct 1/98	Oct 1/99	

NA: Not Applicable
NCR: No Cal Required
COU: CAL On Use

ANNEX A

TEST METHODOLOGIES

NAME OF TEST: RF Power Output	**PARA. NO.: 2.985**

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

Method Of Measurement:

Detachable Antenna:
The peak power at antenna terminals is measured using an in-line peak power meter. Power output is measured with the maximum rated input level.

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 $GP/4\pi R^2 = E^2/120\pi$ 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

NAME OF TEST: Occupied Bandwidth (Voice & SAT) PARA. NO.: 2.989

Minimum Standard: 22.917(c) The mean power of any emission removed from the carrier frequency by a displacement frequency (f_d in kHz) must be attenuated below the mean power of the unmodulated carrier (P) as follows:

(i) On any frequency removed from the carrier frequency by more than 12 kHz but not more than 20 kHz:

at least 117 log (f_d/12)

(ii) On any frequency removed from the carrier frequency by more than 20 kHz, up to the first multiple of the carrier frequency:

at least 100 log (f_d/11) dB or 43 + 10 log (P) dB, whichever is the lesser attenuation.

Method Of Measurement:

Spectrum Analyzer Settings:

RBW: 300 Hz
VBW: ≥ RBW
Span: 100 kHz
Sweep: Auto
Mask: CELLF3E

Input Signal Characteristics (F3E/F3D):

RF level: Maximum recommended by manufacturer
AF1 frequency: 6 kHz
AF1 level: sufficient to produce 2 kHz deviation
AF2 frequency: 2.5 kHz
AF2 level: sufficient to produce 12 kHz deviation.

NAME OF TEST: Occupied Bandwidth (WB Data) PARA. NO.: 2.989

Minimum Standard: 22.917(c) The mean power of any emission removed from the carrier frequency by a displacement frequency (f_d in kHz) must be attenuated below the mean power of the unmodulated carrier (P) as follows:

(1) On any frequency removed from the carrier frequency by more than 20 kHz but not more than 45 kHz:

at least 26 dB

(2) On any frequency removed from the carrier frequency by more than 45 kHz but not more than 90 kHz:

at least 45 dB

(3) On any frequency removed from the carrier frequency by more than 90 kHz, up to the first multiple of the carrier frequency:

at least 60 dB or 43 + 10 log (P) dB, whichever is the lesser attenuation.

Method Of Measurement:

Spectrum Analyzer Settings:
RBW: 300 Hz
VBW: ≥ RBW
Span: 200 kHz
Sweep: Auto
Mask: CELLF1D

Input Signal Characteristics:
RF level: Maximum recommended by manufacturer
AF1 frequency: 10 kHz, random bit sequence
AF1 level: sufficient to produce 8 kHz deviation

NAME OF TEST: Occupied Bandwidth (ST)	**PARA. NO.: 2.989**

Minimum Standard: 22.917(c) The mean power of any emission removed from the carrier frequency by a displacement frequency (f_d in kHz) must be attenuated below the mean power of the unmodulated carrier (P) as follows:

(1) On any frequency removed from the carrier frequency by more than 20 kHz but not more than 45 kHz:

at least 26 dB

(2) On any frequency removed from the carrier frequency by more than 45 kHz but not more than 90 kHz:

at least 45 dB

(3) On any frequency removed from the carrier frequency by more than 90 kHz, up to the first multiple of the carrier frequency:

at least 60 dB or 43 + 10 log (P) dB, whichever is the lesser attenuation.

Method Of Measurement:

Spectrum Analyzer Settings:
RBW: 300 Hz
VBW: ≥ RBW
Span: 200 kHz
Sweep: Auto
Mask: CELLF1D

Input Signal Characteristics:
RF level: Maximum recommended by manufacturer
AF1 frequency: 10 kHz tone
AF1 level: sufficient to produce 8 kHz deviation

NAME OF TEST: Occupied Bandwidth (Digital Modulation) PARA. NO.: 2.989

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

Method Of Measurement:

Spectrum Analyzer Settings:
RBW: CDMA (30 kHz), GSM (30 kHz), NADC (1 kHz) and CDPD (1 kHz)
VBW: ≥ RBW
Span: As required
Sweep: Auto
Mask:

Input Signal Characteristics:
RF level: Maximum recommended by manufacturer

NAME OF TEST: Spurious Emission at Antenna Terminals PARA. NO.: 2.991

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.

Method Of Measurement:

Spectrum Analyzer Settings:
RBW: 30 kHz (AMPS). As required for digital modulations.
VBW: ≥ RBW
Start Frequency: 0 MHz
Stop Frequency: 10 GHz
Sweep: Auto

NAME OF TEST: Field Strength of Spurious Radiation PARA. NO.: 2.993

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.

Calculation Of Field Strength Limit:

An example of attenuation requirement of 43 + 10 Log P is equivalent to -13 dBm (5×10^{-5} Watts) at the antenna terminal. We determine the field strength limit by using the plane wave relation.

$GP/4\pi R^2 = E^2/120\pi$

For emissions ≤ 1 GHz:

G = 1.64 (Dipole Gain)
P = 10^{-5} Watts (Maximum spurious output power)
R = 3m (Measurement Distance)

$$E = \frac{\sqrt{30GP}}{R}$$

$$\mathrm{E} = \frac{\sqrt{30 \times 1.64 \times 5 \times 10^{-5}}}{3} = 0.016533 \text{ V / m} = 84.4 \text{ dB}\mu\text{V / m}$$

For emissions > 1 GHz:

G = 1 (Isotropic Gain)
P = 1×10^{-5} Watts (Maximum spurious output power)
R = 3m (Measurement Distance)

$$E = 84.4 - 20Log\sqrt{1.64} = 82.3 dB\mu V \ / \ m@3m$$

The spectrum is searched to 10 GHz.

NAME OF TEST: Frequency Stability **PARA. NO.: 2.995**

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

Freq. Range (MHz)	Base, fixed	Mobile > 3 W	Mobile ≤ 3 W
821 to 896	1.5	2.5	2.5

Table C-1

Method Of Measurement:

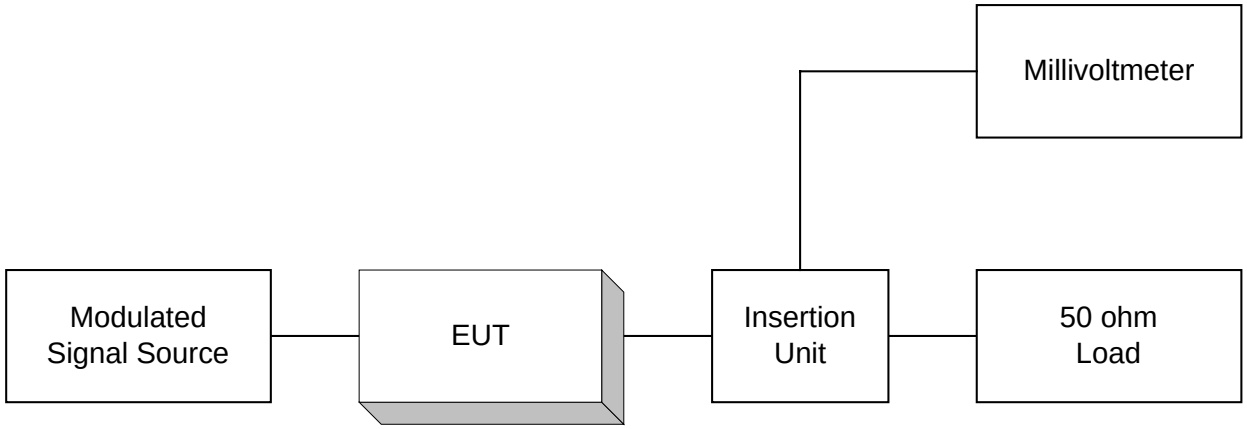
Frequency Stability With Voltage Variation:
The E.U.T. is placed in an environmental chamber and allowed to stabilize at +20 degrees Celsius for at least 15 minutes. The frequency counter and signal generator are phase locked with the same 10 MHz reference frequency by connecting the 10 MHz ref. out of the counter to the 10 MHz 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.

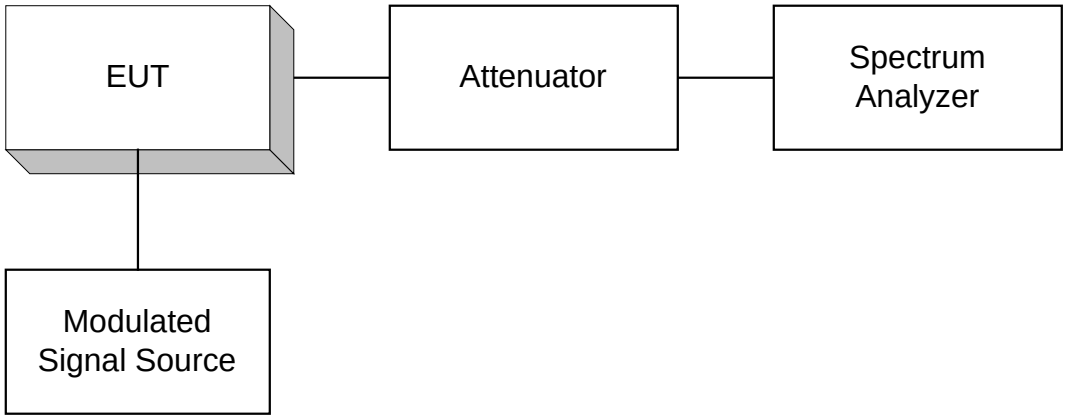
ANNEX B

TEST DIAGRAMS

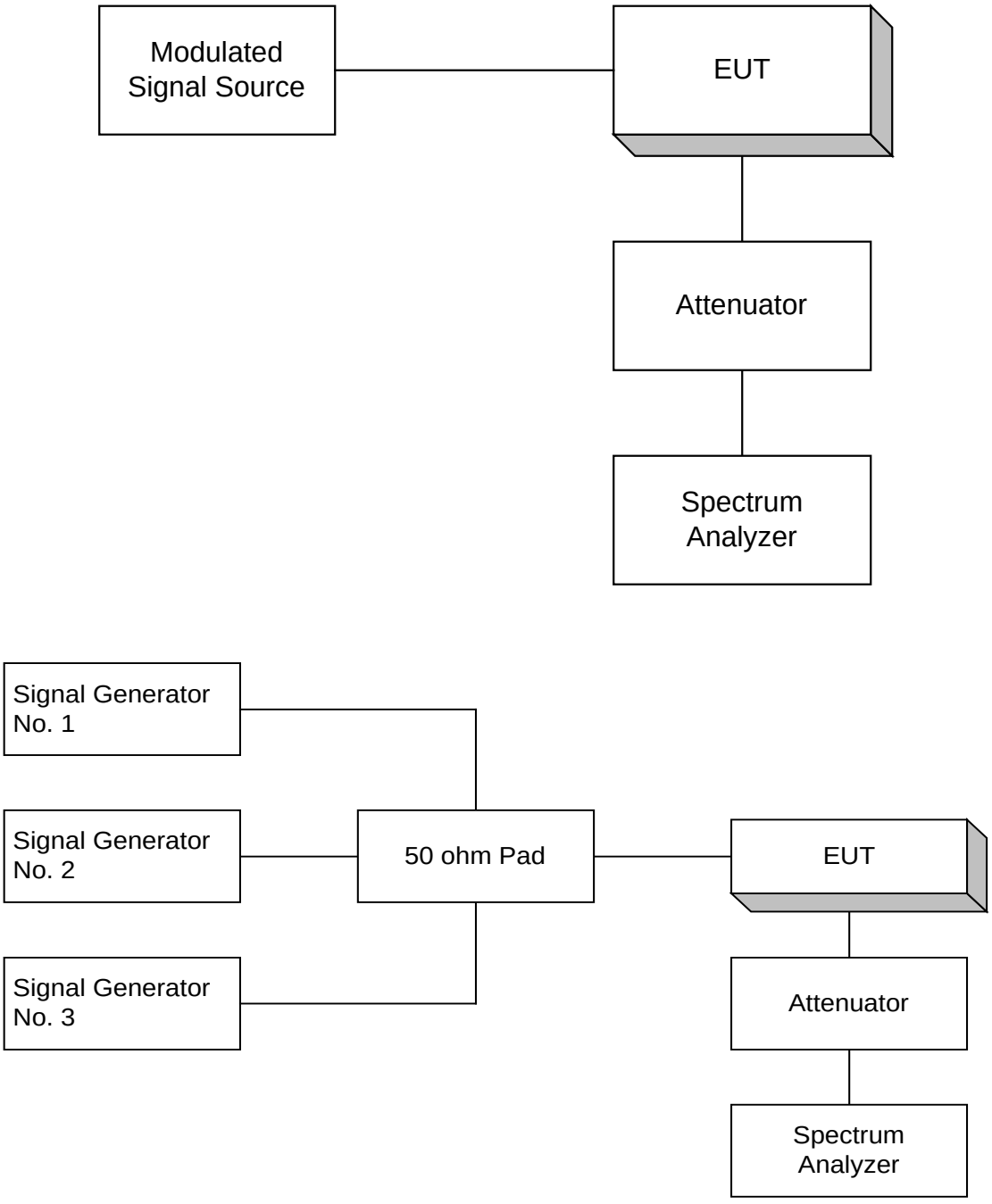
Para. No. 2.985 - R.F. Power Output



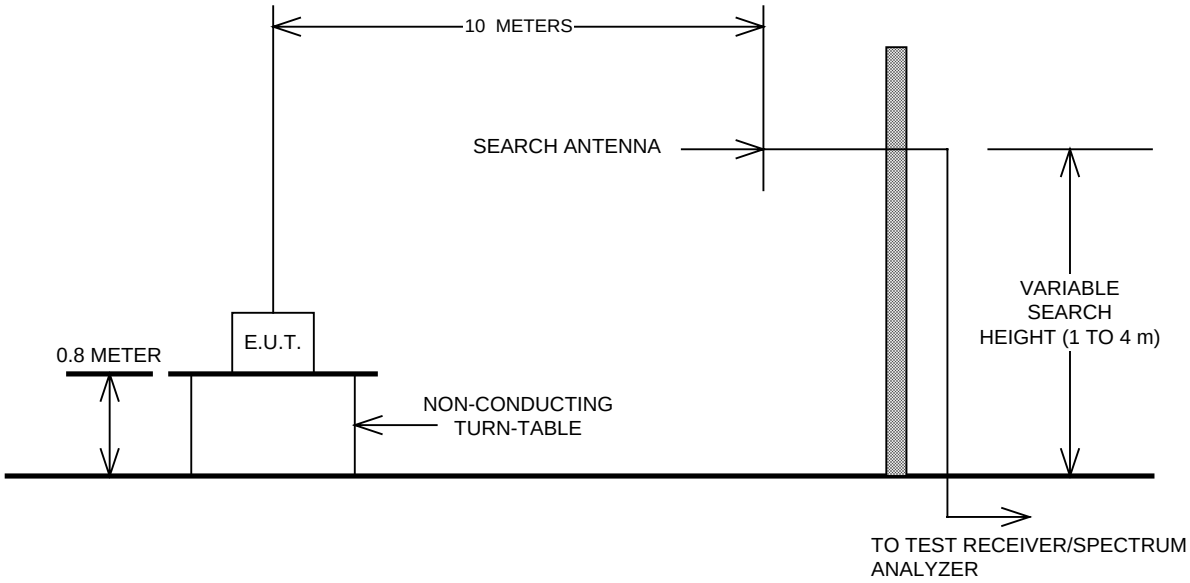
Para. No. 2.989 - Occupied Bandwidth



Para. No. 2.991 Spurious Emissions at Antenna Terminals



Para. No. 2.993 - Field Strength of Spurious Radiation



Para. No. 2.995 - Frequency Stability