KTL Test Report:	8R01375
Applicant:	Allen Telecom Group 140 Vista Centre Drive Forest, Virginia 24551 USA
Equipment Under Test: (E.U.T.)	Band Selective Booster Amplifier
FCC ID:	BCR-MRB-PCS
In Accordance With:	**FCC Part 24, Subpart E** Broadband PCS Base Station
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:	196

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Section 1. Summary of Test Results

Manufacturer: Allen Telecom Group

Model No.: Band Selective Booster Amplifier

Serial No.: 001

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 24, Subpart E.

☒ 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	24.232	100W	Plot	Complies
Occupied Bandwidth (CDMA)	24.238	Input vs. Output	Plot	Complies
Occupied Bandwidth (GSM)	24.238	Input vs. Output	Plot	Complies
Occupied Bandwidth (TDMA)	24.238	Input vs. Output	Plot	Complies
Spurious Emissions at Antenna Terminals	24.238(a)	-13 dBm	-13.0	Complies
Field Strength of Spurious Emissions	24.238(a)	-13 dBm E.I.R.P.	Chart	Complies
Frequency Stability	24.235	± 0.05 ppm	N/A	N/A

Footnotes For N/A's:

Test Conditions: **LAB:** Temperature: 22 °C
Humidity: 41 %

OATS: Temperature: 24.5 °C
Humidity: 41.0 %

Section 2. General Equipment Specification

Supply Voltage Input: 120 VAC, 60 Hz

Frequency Range(s): ADB-Block, 1930.0 – 1964.95 MHz
EFC-Block, 1965.0 – 1989.95 MHz

Type of Modulation and Designator:	**CDMA (F9W)**	**GSM (GXW)**	**TDMA (DXW)**
	☒	☒	☒

Emission & Bandwidth Designator: Not Applicable

Output Impedance: 50 ohm

RF Output (Rated):			
	4-Amplifier Configuration:	ADB-Block:	41.0 dBm
		EFC-Block:	38.4 dBm
		Single Channe	
		ADB-Block:	42.6 dBm
		EFC-Block:	45.0 dBm
	2-Amplifier Configuration:	ADB-Block:	38.7 dBm
		EFC-Block:	38.7 dBm
		Single Channel	
		ADB-Block:	44.1 dBm
		EFC-Block:	42.0 dBm

Band Selection:	**Software**	**Duplexer Change**	**Fullband Coverage**
	☐	☒	☐

Description of Modifications For Class II Permissive Change

NOT APPLICABLE

Modifications Made During Testing

NOT APPLICABLE

System Description

The RF Booster is a band selective device, which will increase the maximum output power of a signal from a repeater in the downlink. In addition, an integrated LNA will reduce the noise figure in the uplink so as to maintain balance in both paths. It is employed wherever additional signal strengths are needed and isolation requirements allow it. It can be ordered initially with a repeater or retrofitted to an existing product in the field.

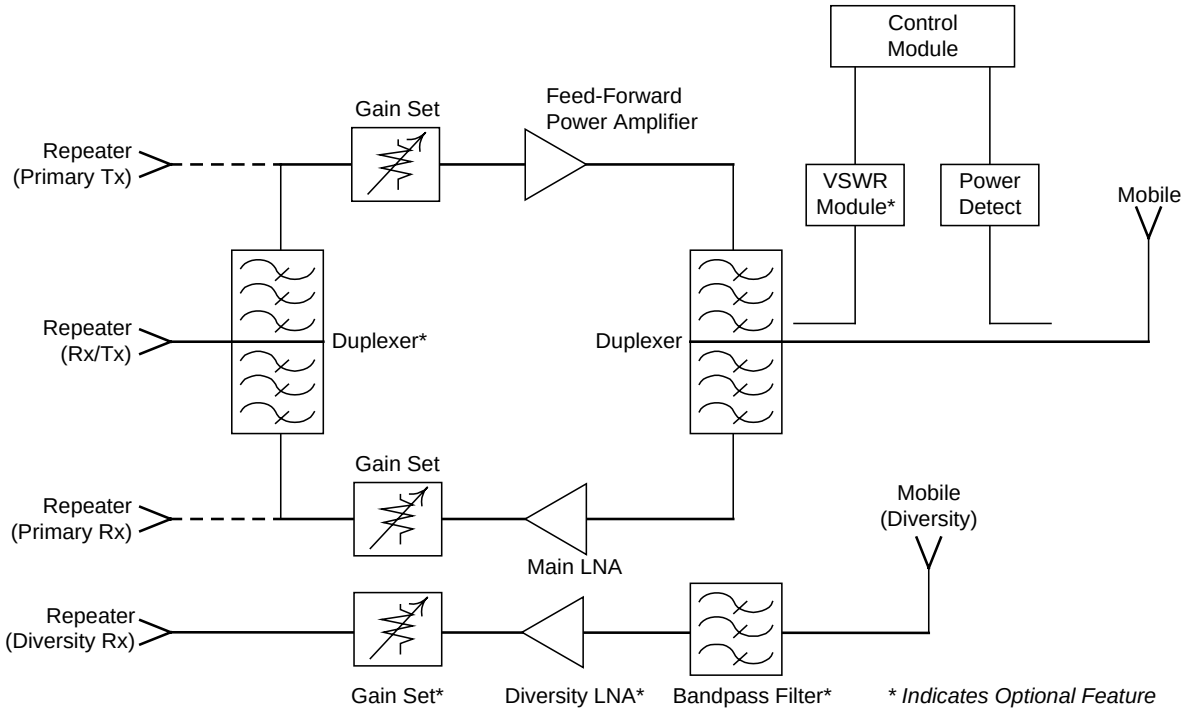
The RF Booster is available for most frequency bands including PCS1900, GSM1800, GSM900, AMPS800 and LMR800. As it is a band selective amplifier it can be used with all technologies including GMS, CDMA, TDMA, iDEN and Analog.

The RF Booster passes alarms back through the repeater it is attached to. The operator may monitor the RF Booster through the repeater as well, via terminal emulation program or the MIKOM OMC software platform. The same language that is used for the repeater supports the operator when querying status reports or changing settings.

Note:

The RF booster has multiple configurations. There is a 4-amplifier configuration and a dual amplifier configuration. Within each of the previous amplifier configurations are two swappable duplexer configurations. One duplexer set covers the ABD-Blocks and the second set covers the EFC-Blocks.

System Diagram



Section 3. RF Power Output

NAME OF TEST: RF Power Output	PARA. NO.: 2.985
TESTED BY: Kevin Carr	DATE: May 12, 1999

Test Results: Complies.

Measurement Data:

4-Amplifier Configuration

	ADB-Block		EFC-Block	
Modulation Type	**Output Power (dBm)**	**Output Power (w)**	**Output Power (dBm)**	**Output Power (w)**
CDMA	41.0	12.6	38.4	6.9
GSM	45.5	35.5	43.9	24.6
TDMA	44.1	25.7	43.3	21.4

Single Channel Power

	ADB-Block		EFC-Block	
Modulation Type	**Output Power (dBm)**	**Output Power (w)**	**Output Power (dBm)**	**Output Power (w)**
CDMA	42.6	18.2	45.0	31.6
GSM	46.5	44.7	45.0	31.6
TDMA	46.5	44.7	46.3	42.7

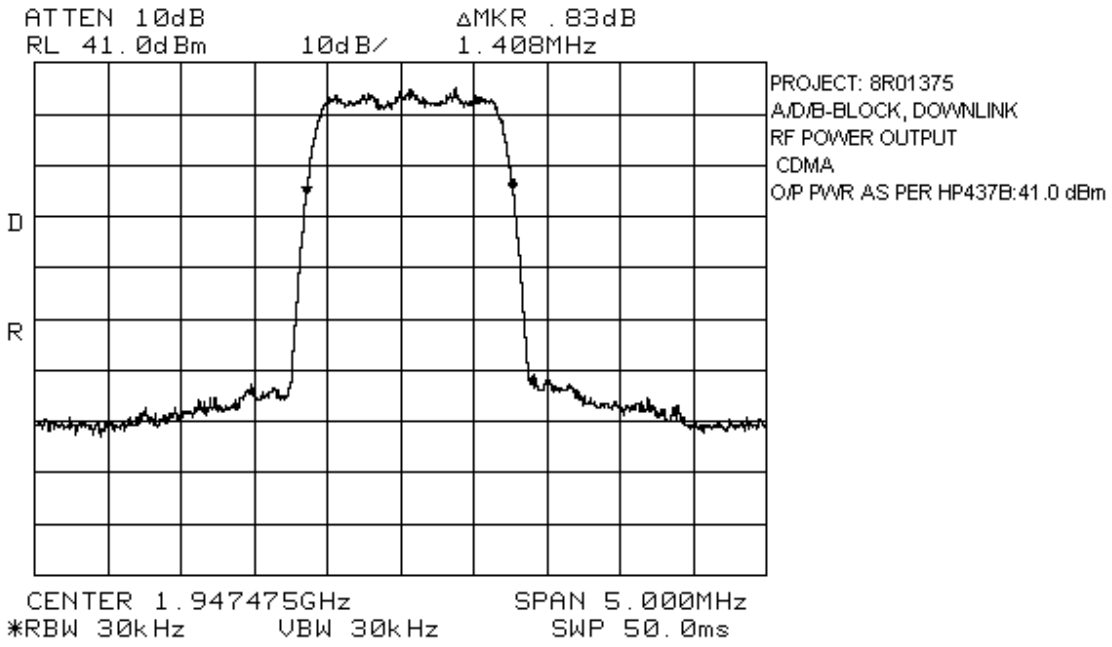
2-Amplifier Configuration

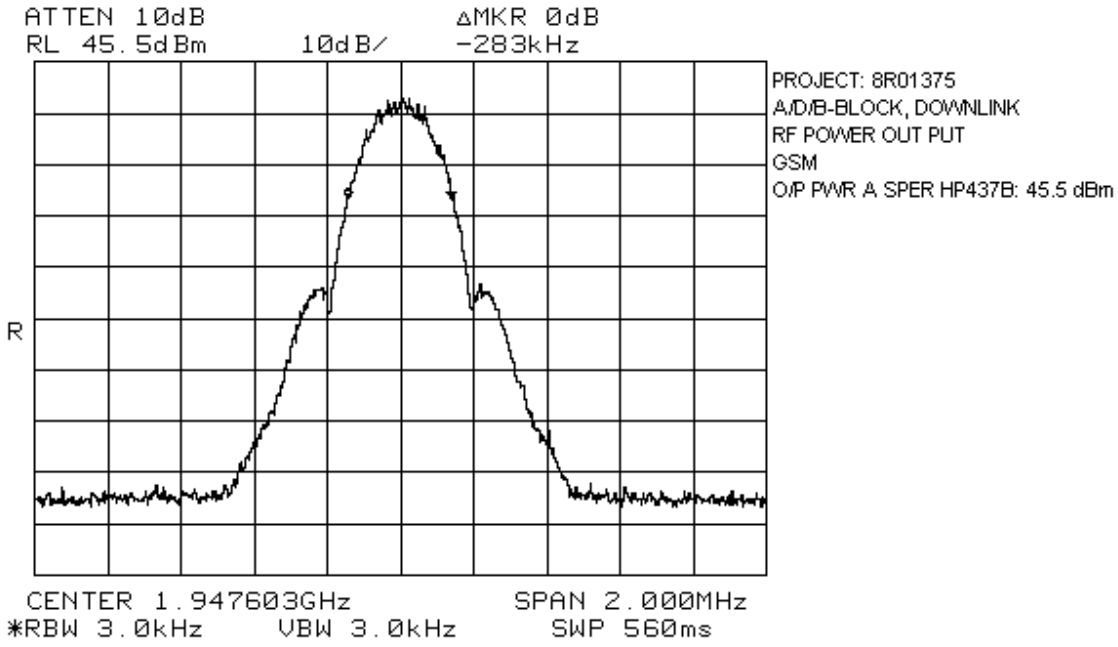
	ADB-Block		EFC-Block	
Modulation Type	**Output Power (dBm)**	**Output Power (w)**	**Output Power (dBm)**	**Output Power (w)**
CDMA	38.7	7.4	38.7	7.4
GSM	44.2	26.3	44.3	26.9
TDMA	42.0	15.8	40.6	11.5

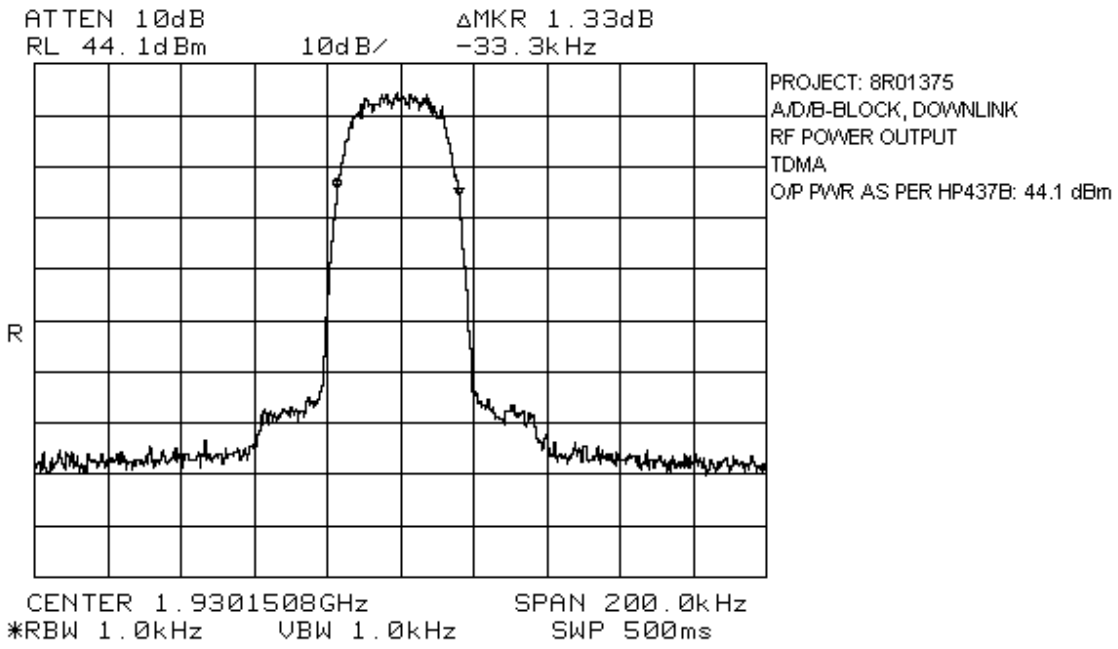
Single Channel Power

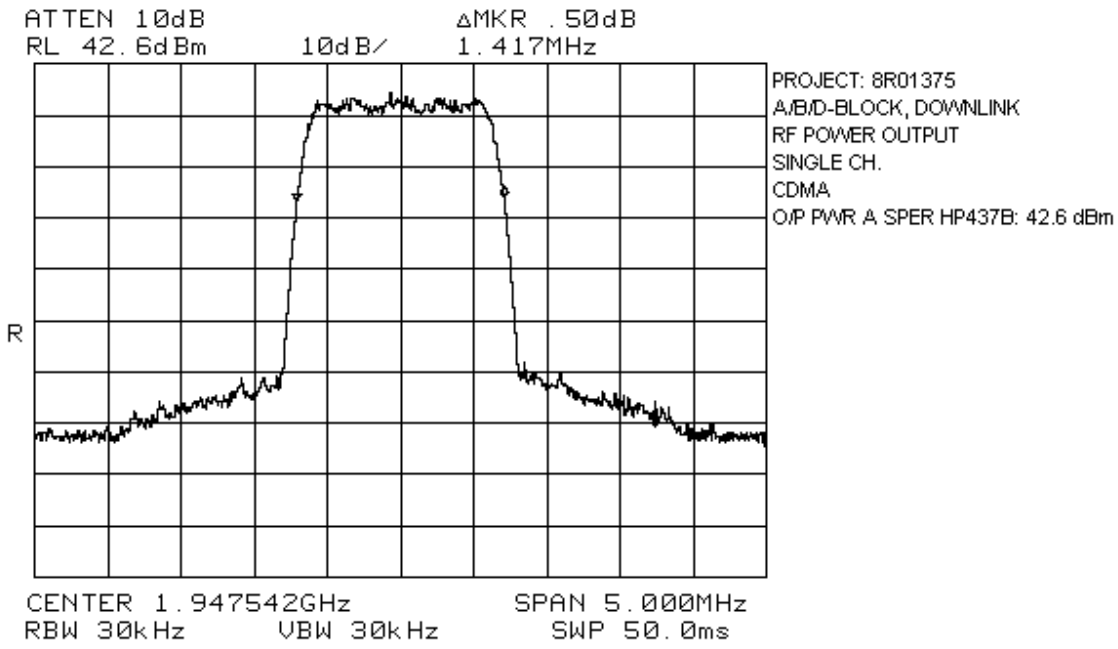
	ADB-Block		EFC-Block	
Modulation Type	**Output Power (dBm)**	**Output Power (w)**	**Output Power (dBm)**	**Output Power (w)**
CDMA	44.1	25.7	42.0	15.8
GSM	46.0	39.8	42.0	15.8
TDMA	44.7	29.5	42.0	15.8

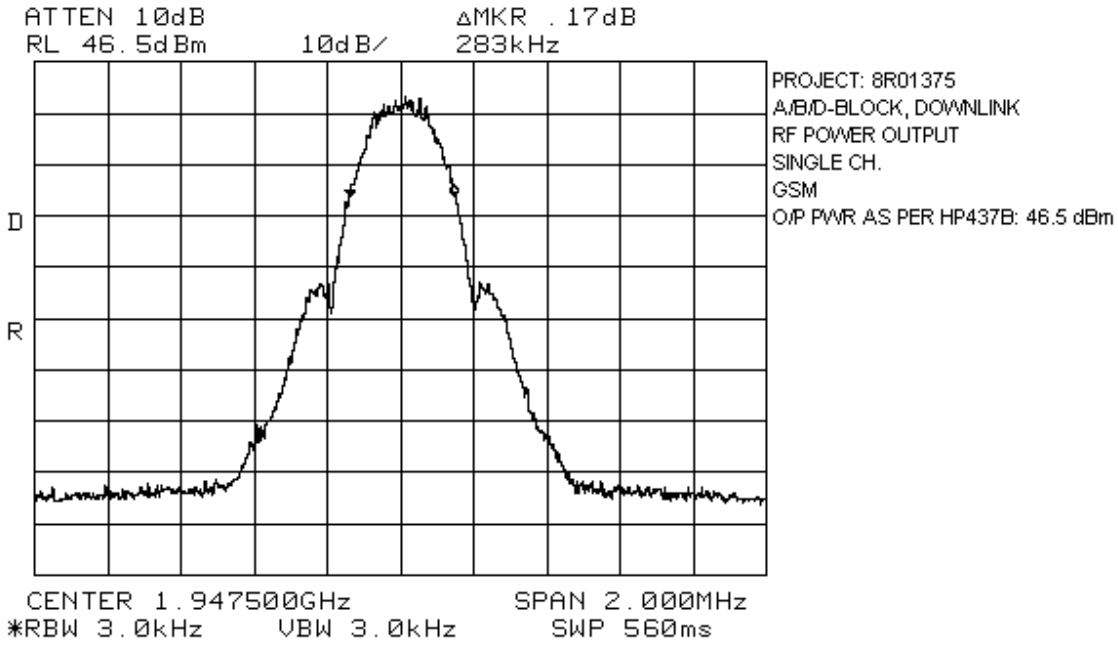
4-Amplifier Configuration (ADB-Block) Two Channel & Single Channel

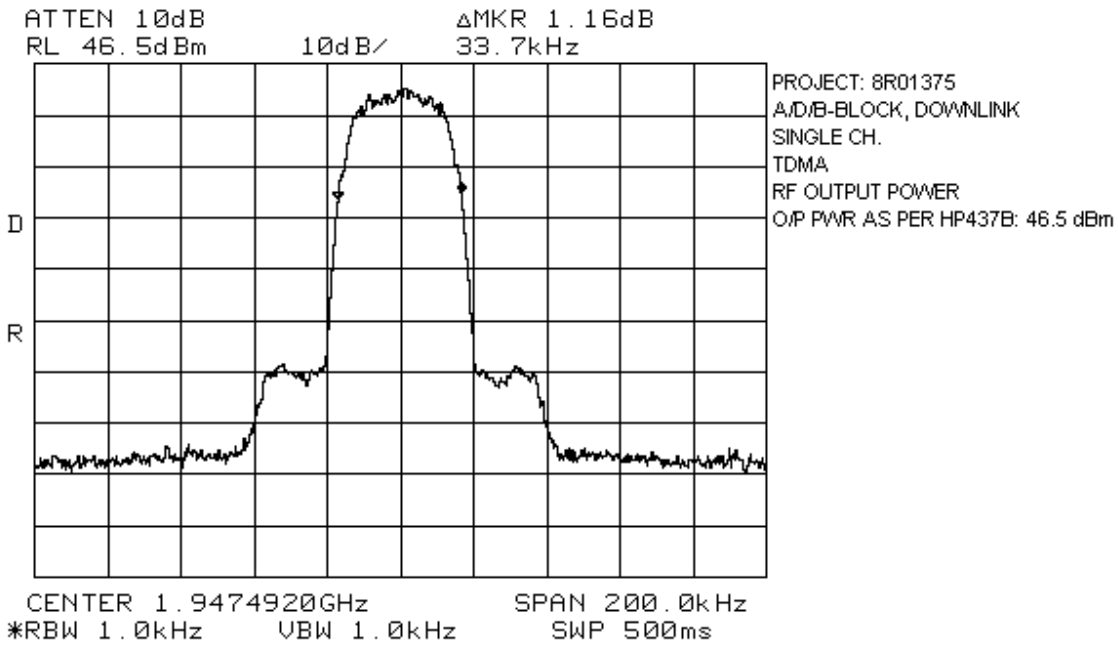



ATTEN 10dB
RL 45.5dBm
10dB/
ΔMKR 0dB
-283kHz
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
RF POWER OUT PUT
GSM
O/P PWR A SPER HP437B: 45.5 dBm
CENTER 1.947603GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

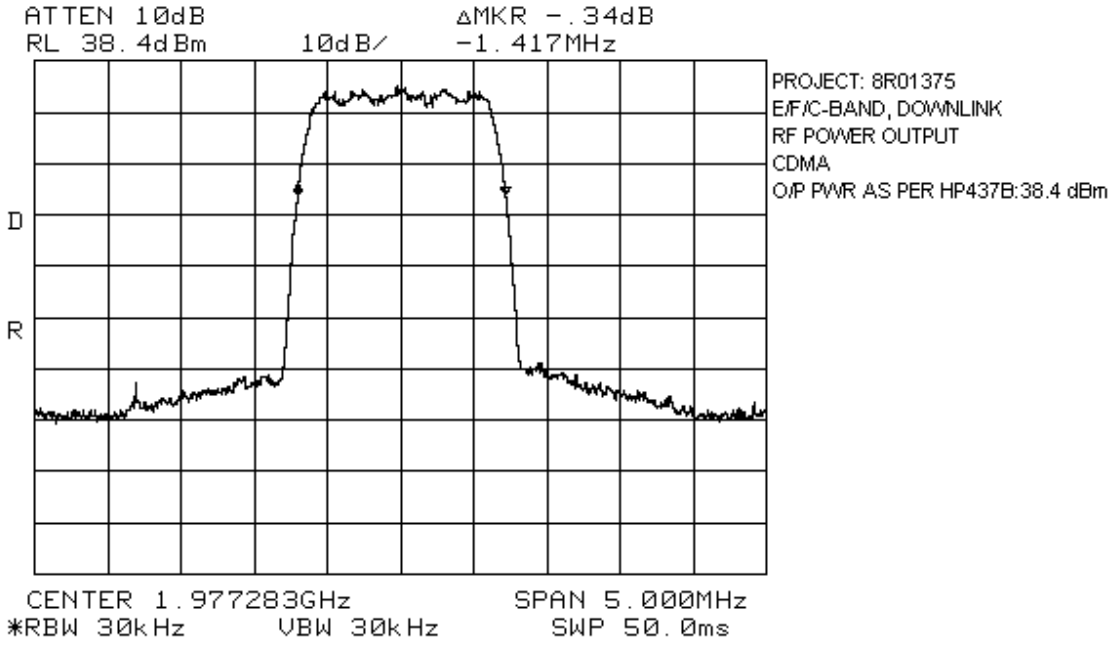

ATTEN 10dB
RL 44.1dBm
10dB/
ΔMKR 1.33dB
-33.3kHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
RF POWER OUTPUT
TDMA
O/P PWR AS PER HP437B: 44.1 dBm
R
CENTER 1.9301508GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

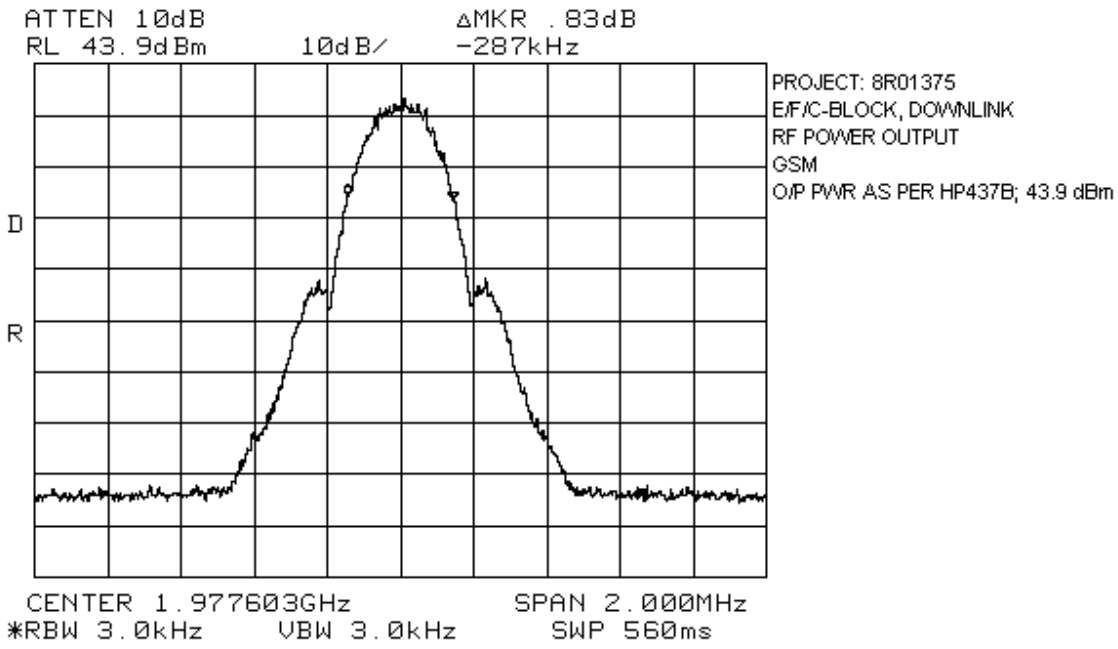

ATTEN 10dB
RL 42.6dBm
10dB/
ΔMKR .50dB
1.417MHz
R
PROJECT: 8R01375
A/B/D-BLOCK, DOWNLINK
RF POWER OUTPUT
SINGLE CH.
CDMA
O/P PWR A SPER HP437B: 42.6 dBm
CENTER 1.947542GHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

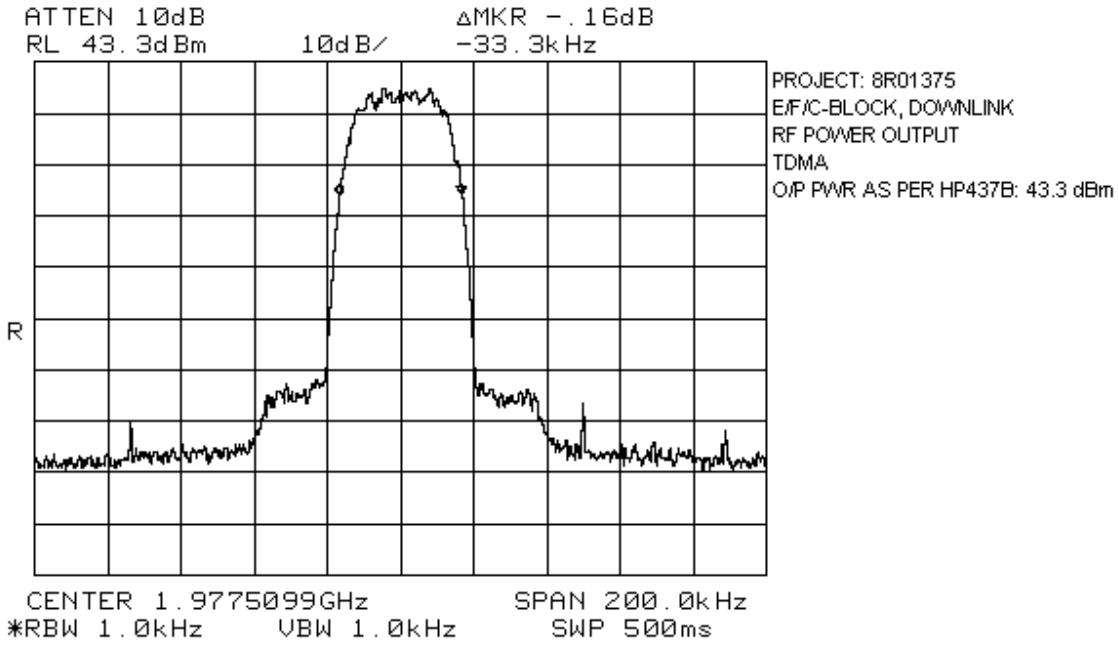

ATTEN 10dB
RL 46.5dBm
10dB/
ΔMKR .17dB
283kHz
D
R
PROJECT: 8R01375
A/B/D-BLOCK, DOWNLINK
RF POWER OUTPUT
SINGLE CH.
GSM
O/P PWR AS PER HP437B: 46.5 dBm
CENTER 1.947500GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

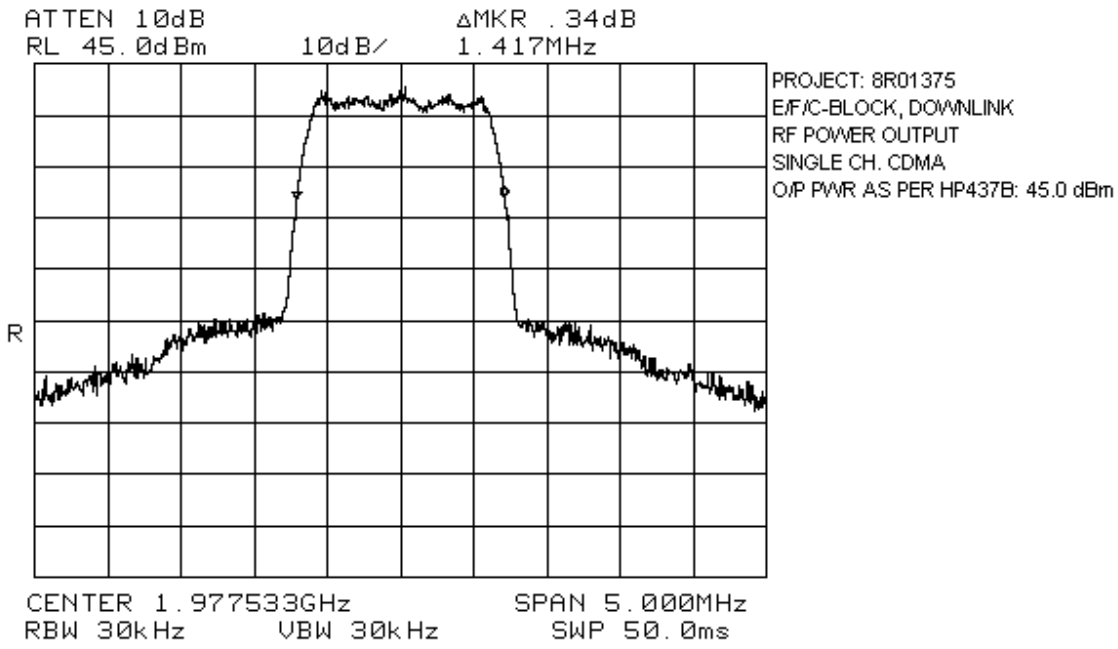

ATTEN 10dB
RL 46.5dBm
10dB/
ΔMKR 1.16dB
33.7kHz
D
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
TDMA
RF OUTPUT POWER
O/P PWR AS PER HP437B: 46.5 dBm
CENTER 1.9474920GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

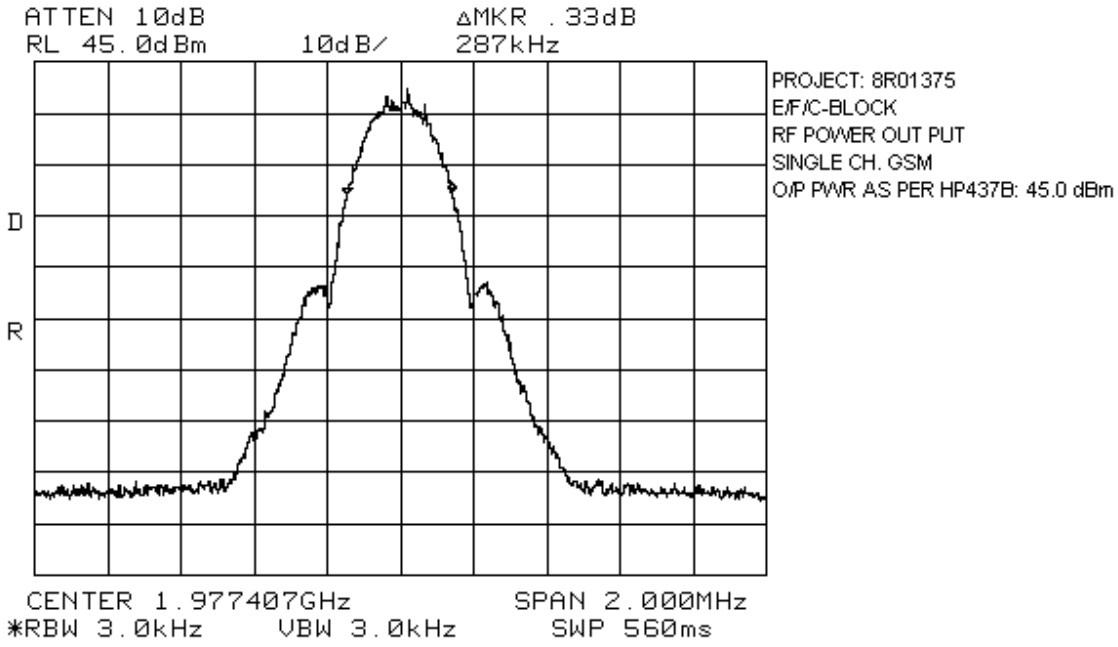
4-Amplifier Configuration (EFC-Block) 2 Channel & Single Channel

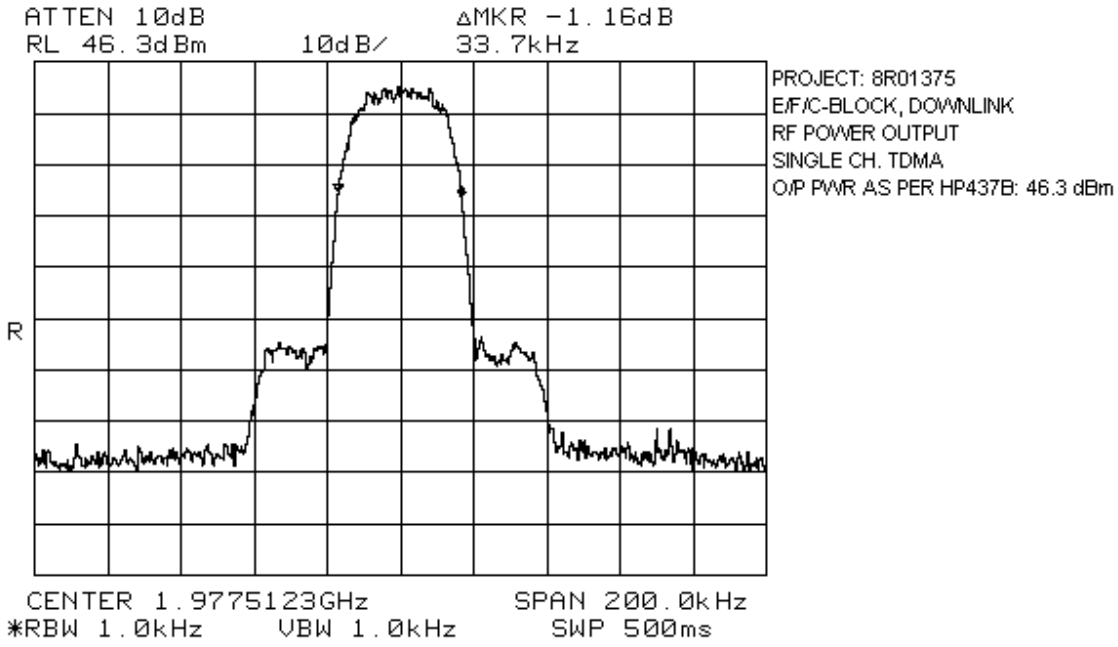



ATTEN 10dB
RL 43.9dBm
10dB/
ΔMKR .83dB
-287kHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
RF POWER OUTPUT
GSM
O/P PWR AS PER HP437B; 43.9 dBm
D
R
CENTER 1.977603GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

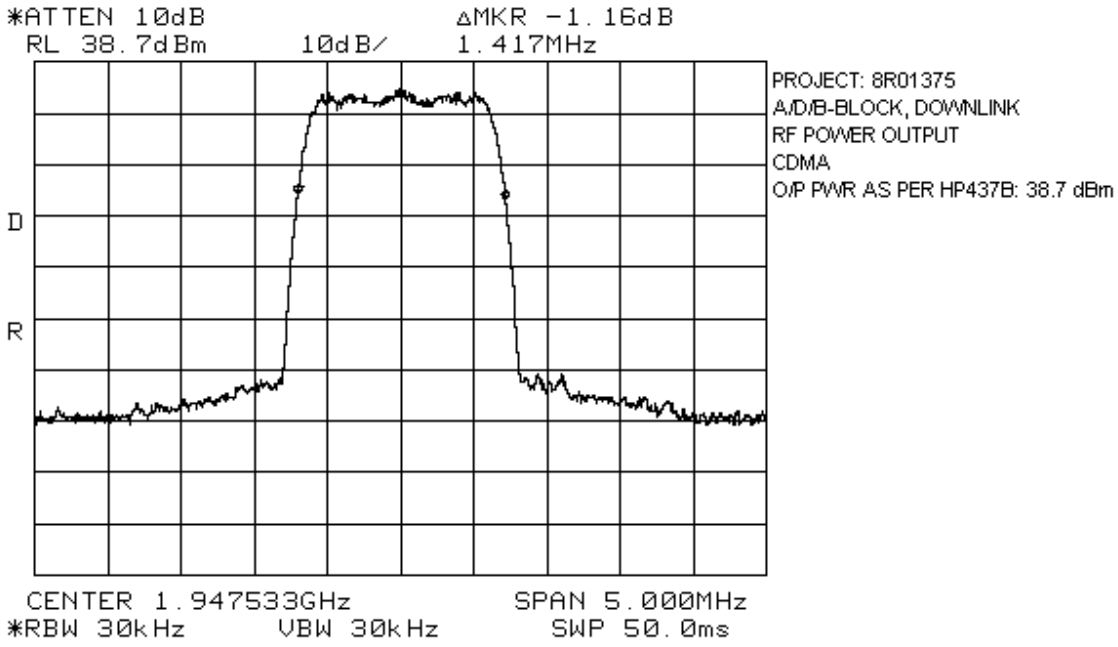

ATTEN 10dB
RL 43.3dBm
10dB/
ΔMKR -.16dB
-33.3kHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
RF POWER OUTPUT
TDMA
O/P PWR AS PER HP437B: 43.3 dBm
CENTER 1.9775099GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

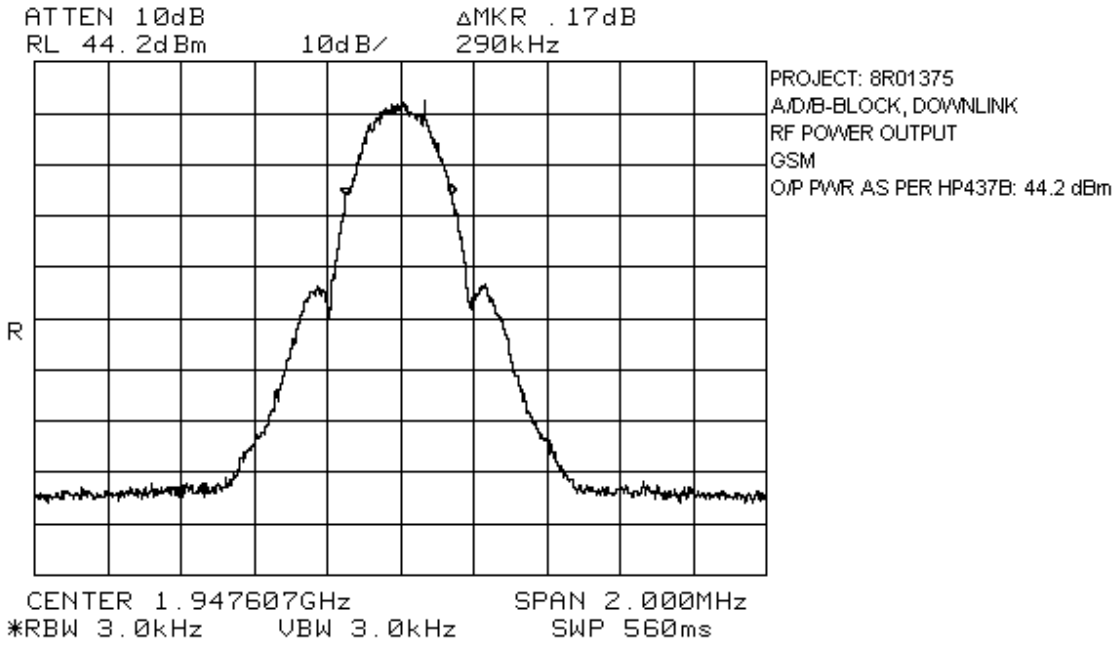

ATTEN 10dB
RL 45.0dBm
10dB/
ΔMKR .34dB
1.417MHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
RF POWER OUTPUT
SINGLE CH. CDMA
O/P PWR AS PER HP437B: 45.0 dBm
CENTER 1.977533GHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

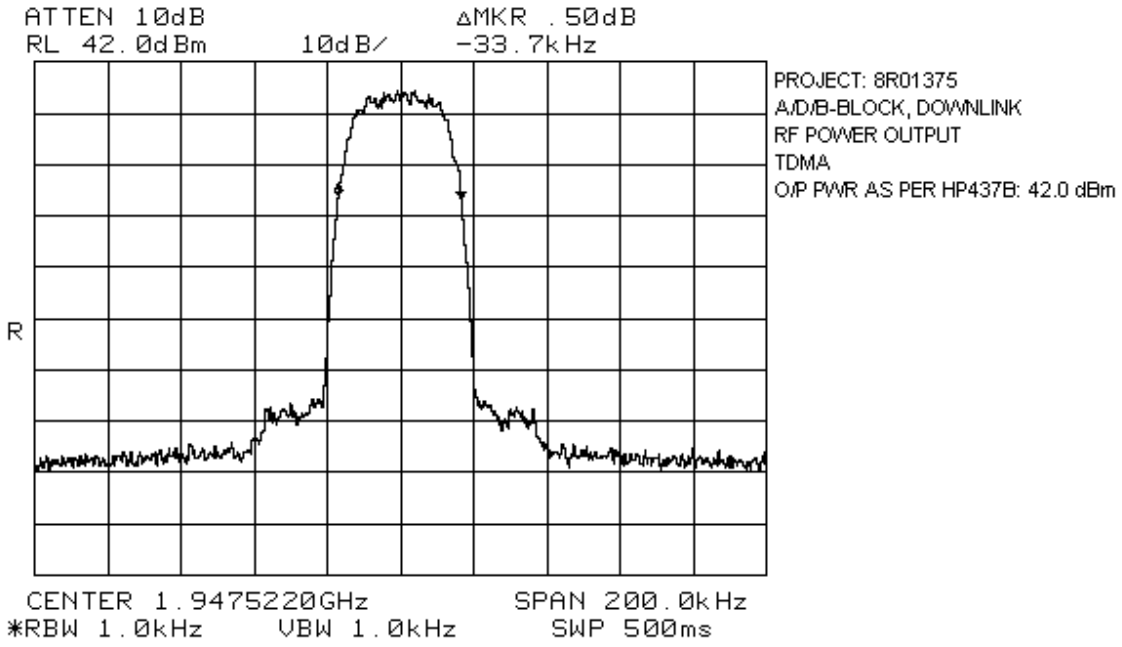

ATTEN 10dB
RL 45.0dBm
10dB/
ΔMKR .33dB
287kHz
PROJECT: 8R01375
E/F/C-BLOCK
RF POWER OUT PUT
SINGLE CH. GSM
O/P PWR AS PER HP437B: 45.0 dBm
D
R
CENTER 1.977407GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

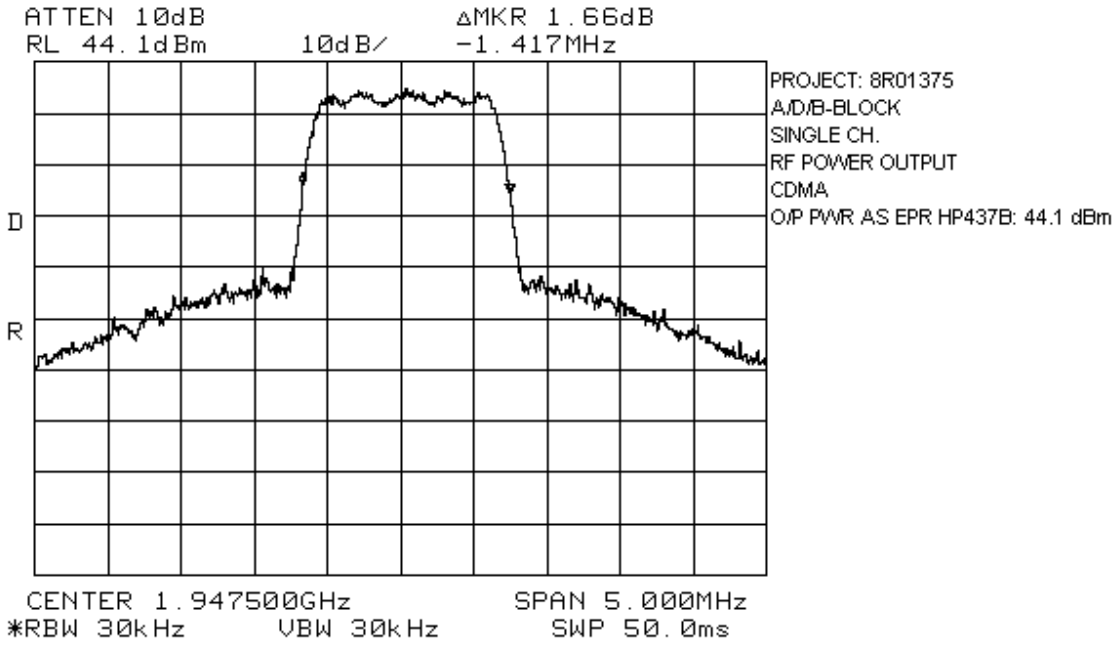

ATTEN 10dB
RL 46.3dBm
10dB/
ΔMKR -1.16dB
33.7kHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
RF POWER OUTPUT
SINGLE CH. TDMA
O/P PWR AS PER HP437B: 46.3 dBm
CENTER 1.9775123GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

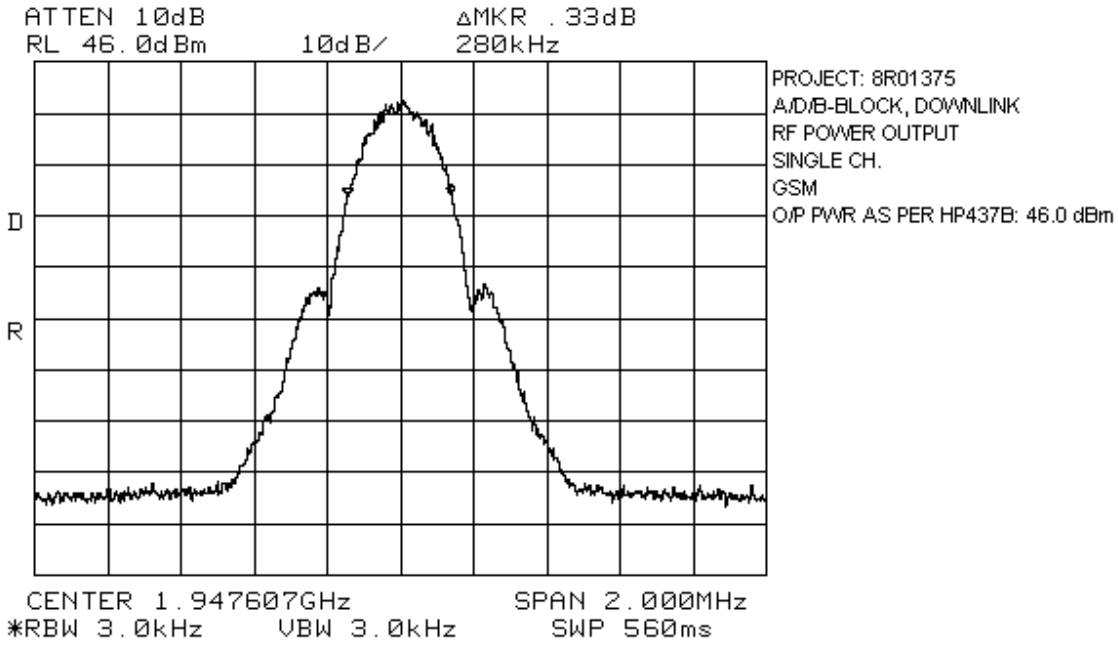
2-Amplifier Configuration (ADB-Block) 2 Channel & Single Channel

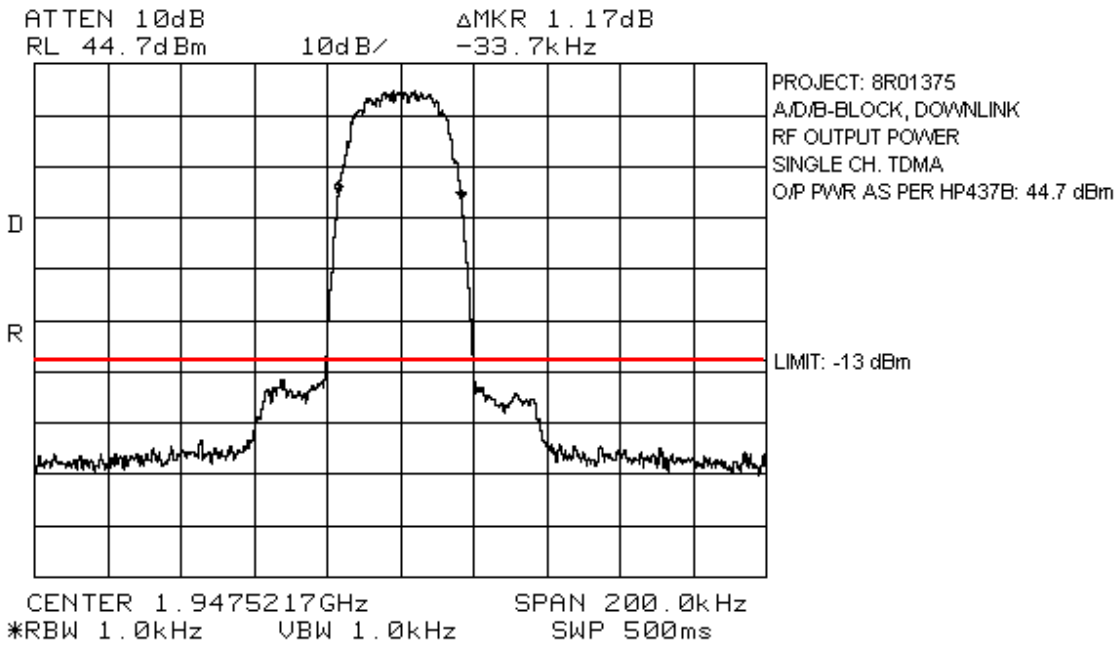



ATTEN 10dB
RL 44.2dBm
10dB/
ΔMKR .17dB
290kHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
RF POWER OUTPUT
GSM
O/P PWR AS PER HP437B: 44.2 dBm
R
CENTER 1.947607GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

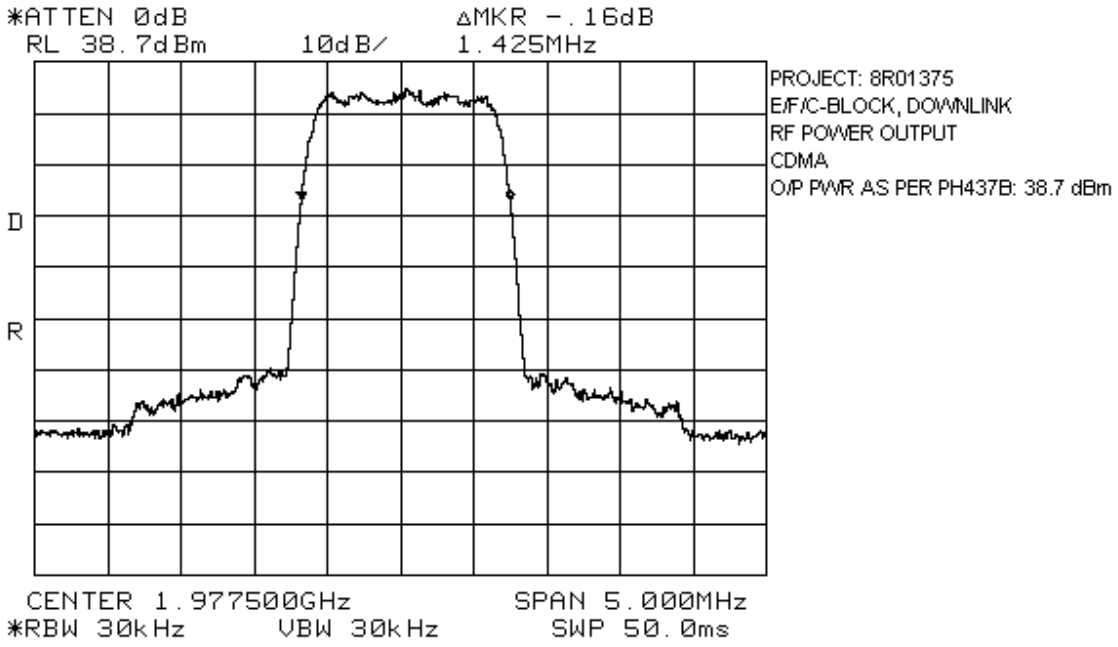

ATTEN 10dB
RL 42.0dBm
10dB/
ΔMKR .50dB
-33.7kHz
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
RF POWER OUTPUT
TDMA
O/P PWR AS PER HP437B: 42.0 dBm
CENTER 1.9475220GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

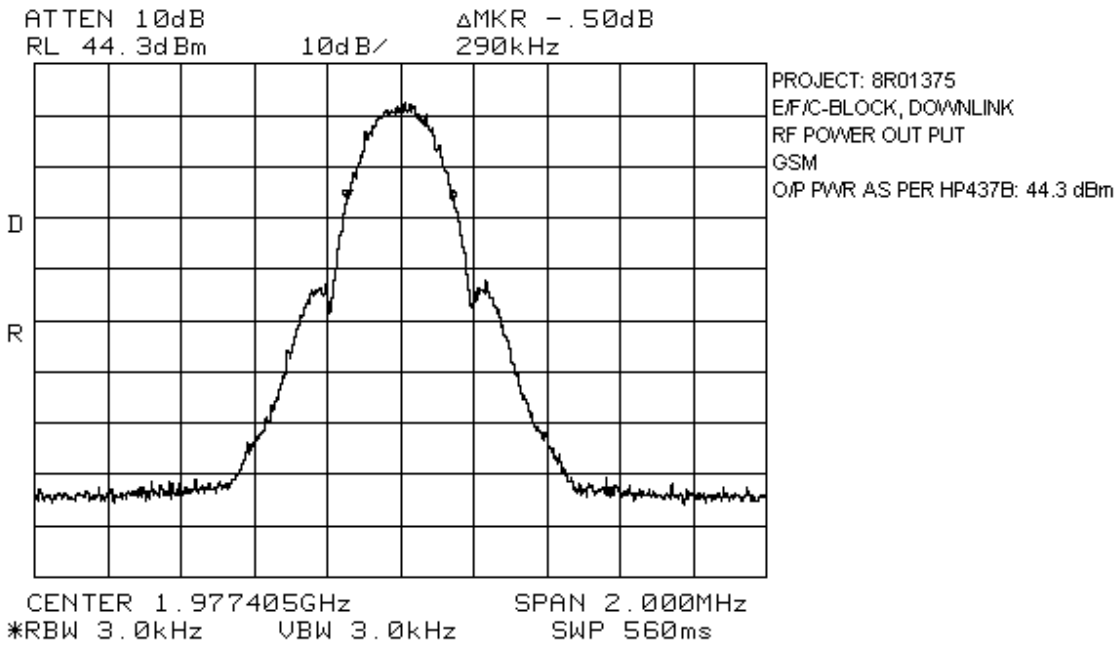

ATTEN 10dB
RL 44.1dBm
10dB/
ΔMKR 1.66dB
-1.417MHz
PROJECT: 8R01375
A/D/B-BLOCK
SINGLE CH.
RF POWER OUTPUT
CDMA
O/P PWR AS EPR HP437B: 44.1 dBm
D
R
CENTER 1.947500GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

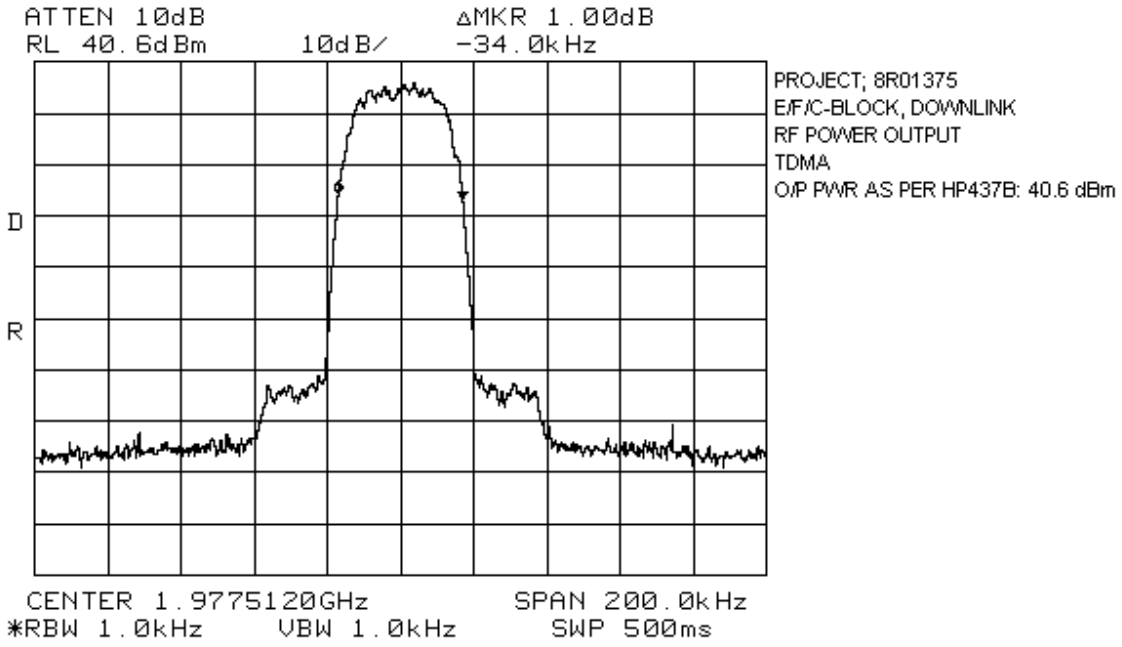

ATTEN 10dB
RL 46.0dBm
10dB/
ΔMKR .33dB
280kHz
D
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
RF POWER OUTPUT
SINGLE CH.
GSM
O/P PWR AS PER HP437B: 46.0 dBm
CENTER 1.947607GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

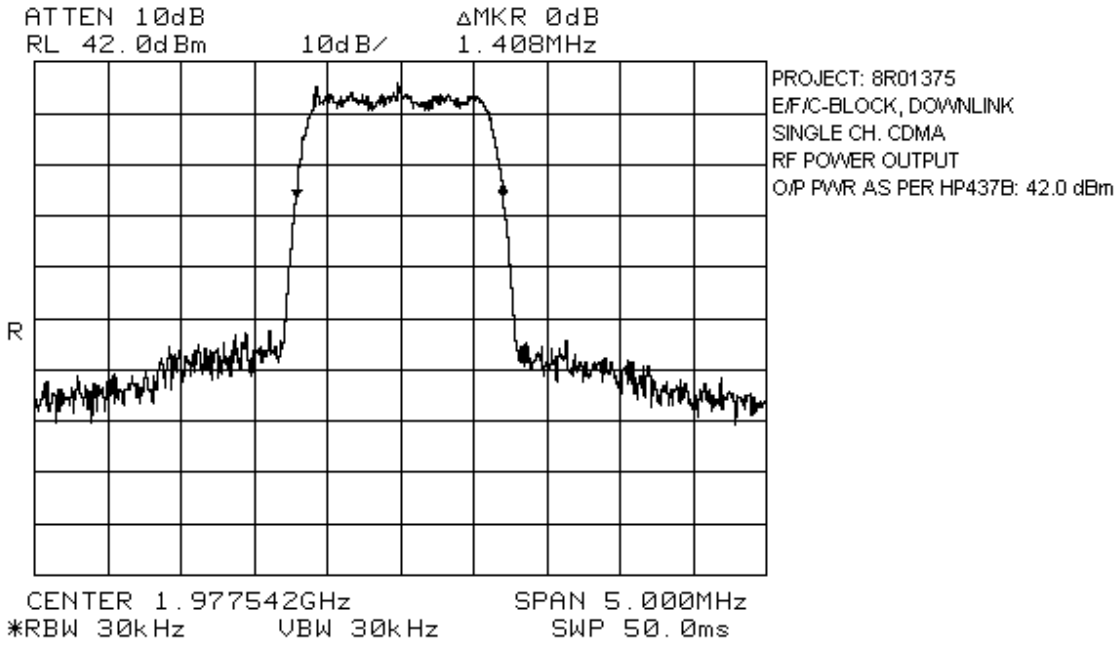

ATTEN 10dB
RL 44.7dBm
10dB/
ΔMKR 1.17dB
-33.7kHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
RF OUTPUT POWER
SINGLE CH. TDMA
O/P PWR AS PER HP437B: 44.7 dBm
D
R
LIMIT: -13 dBm
CENTER 1.9475217GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

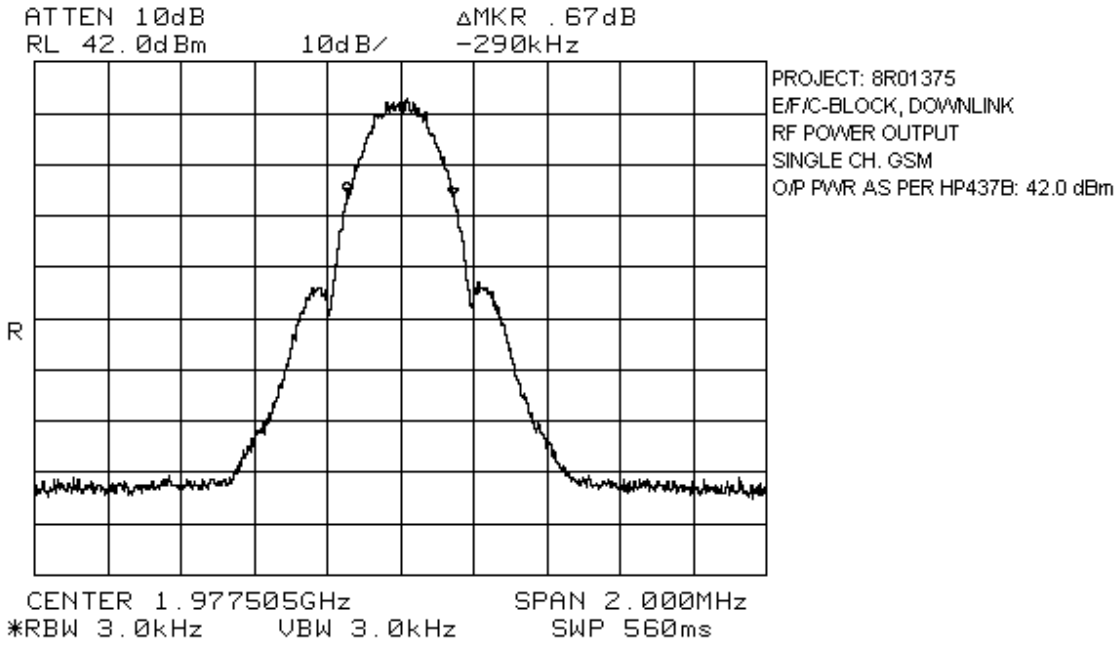
2-Amplifier Configuration (EFC-Block) 2 Channel & Single Channel

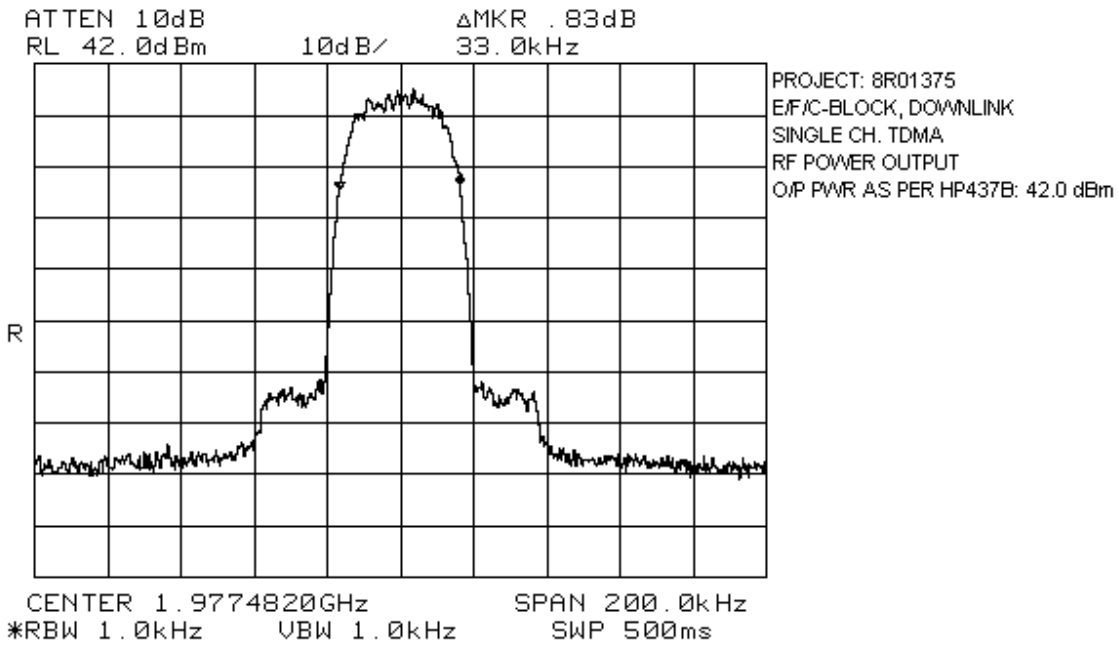



ATTEN 10dB
RL 44.3dBm
10dB/
ΔMKR -.50dB
290kHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
RF POWER OUT PUT
GSM
O/P PWR AS PER HP437B: 44.3 dBm
D
R
CENTER 1.977405GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms


ATTEN 10dB
RL 40.6dBm
10dB/
ΔMKR 1.00dB
-34.0kHz
PROJECT; 8R01375
E/F/C-BLOCK, DOWNLINK
RF POWER OUTPUT
TDMA
O/P PWR AS PER HP437B: 40.6 dBm
D
R
CENTER 1.9775120GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


ATTEN 10dB
RL 42.0dBm
10dB/
ΔMKR 0dB
1.408MHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. CDMA
RF POWER OUTPUT
O/P PWR AS PER HP437B: 42.0 dBm
CENTER 1.977542GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms


ATTEN 10dB
RL 42.0dBm
10dB/
ΔMKR .67dB
-290kHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
RF POWER OUTPUT
SINGLE CH. GSM
O/P PWR AS PER HP437B: 42.0 dBm
R
CENTER 1.977505GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms


ATTEN 10dB
RL 42.0dBm
10dB/
ΔMKR .83dB
33.0kHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. TDMA
RF POWER OUTPUT
O/P PWR AS PER HP437B: 42.0 dBm
CENTER 1.9774820GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

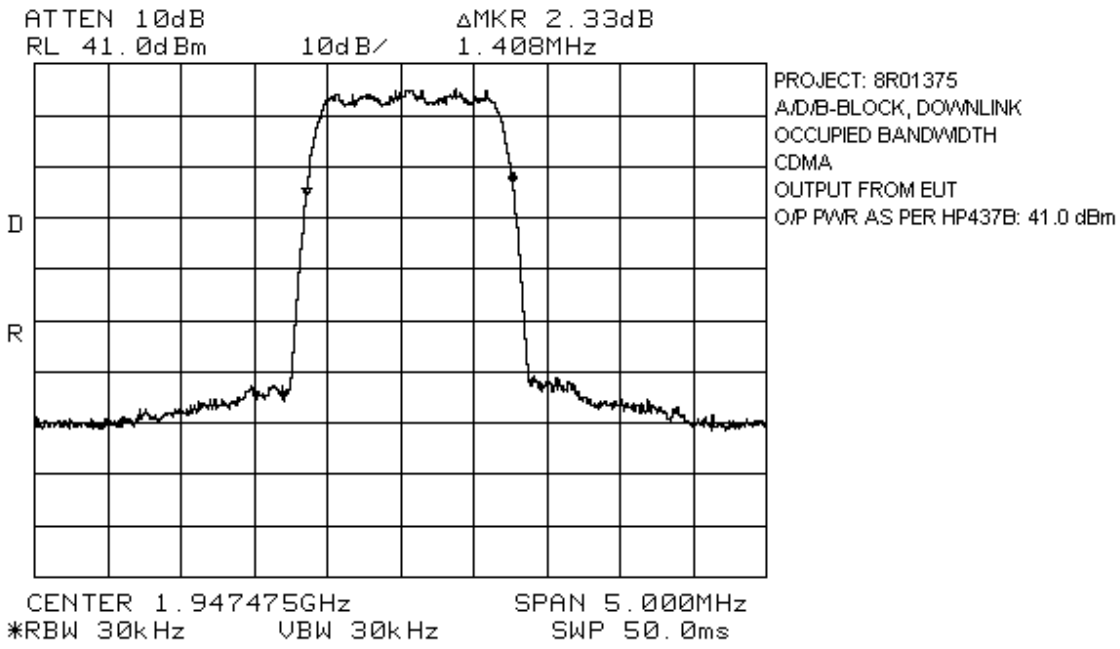
Section 4. Occupied Bandwidth

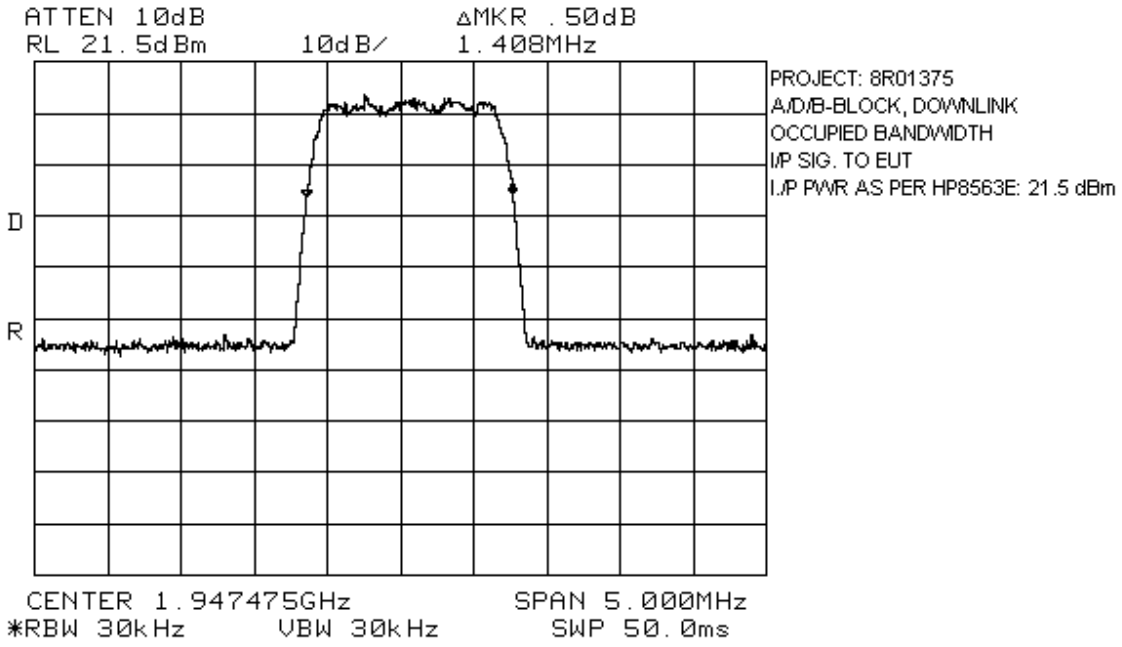
NAME OF TEST: Occupied Bandwidth (CDMA)	PARA. NO.: 2.917(c)
TESTED BY: Kevin Carr	DATE: May 26, 1999

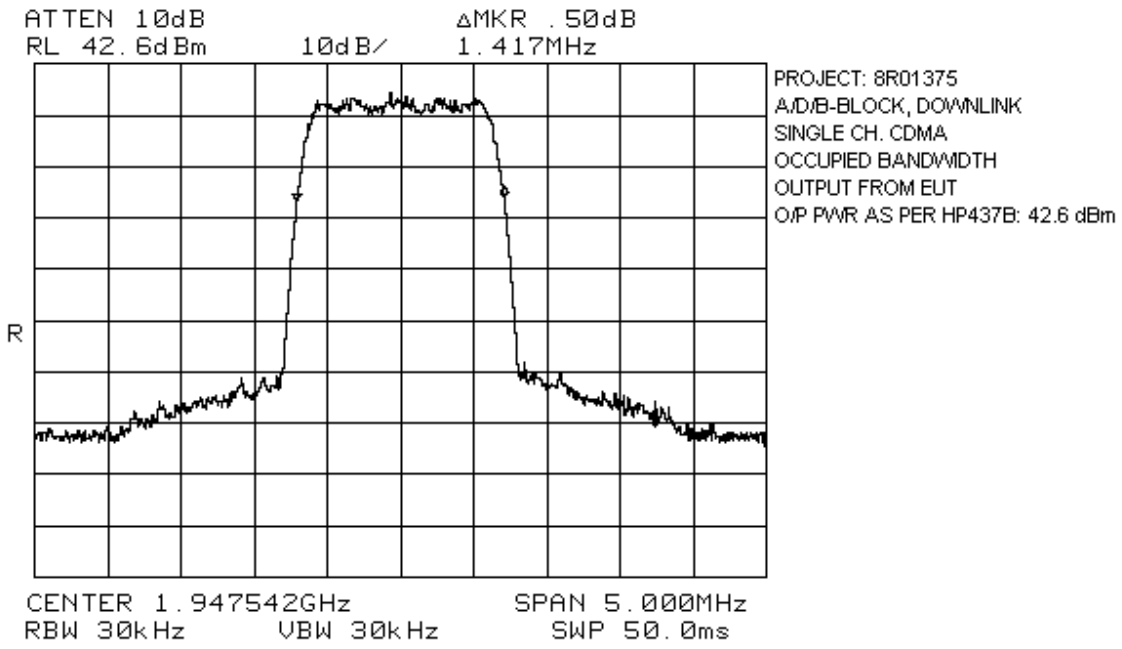
Test Results: Complies.

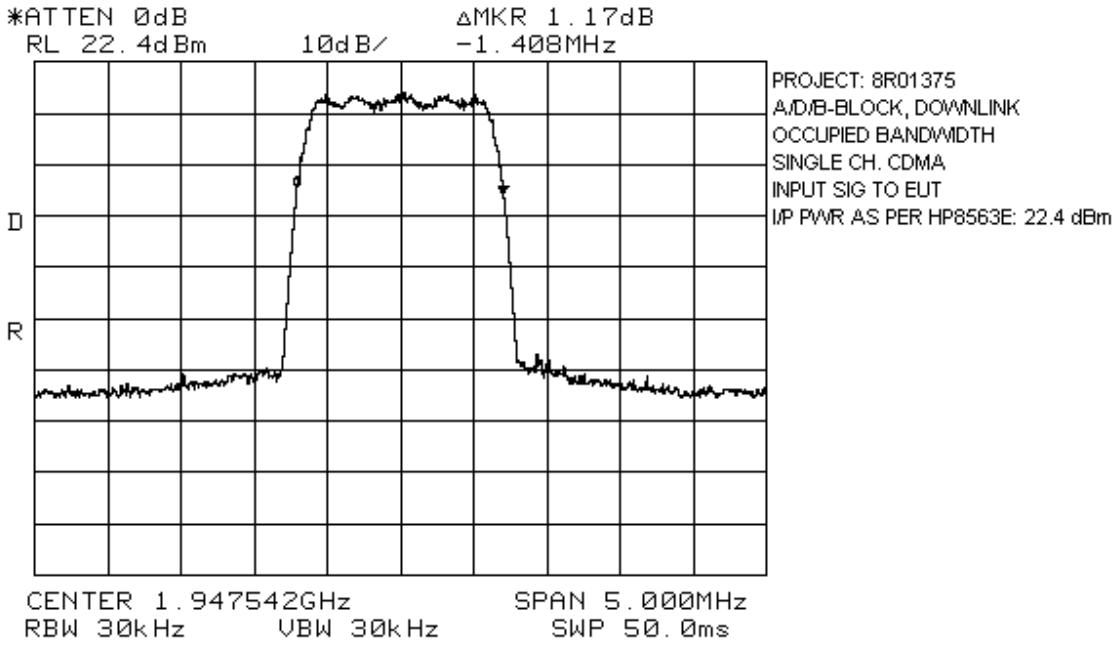
Test Data: See attached graph(s).

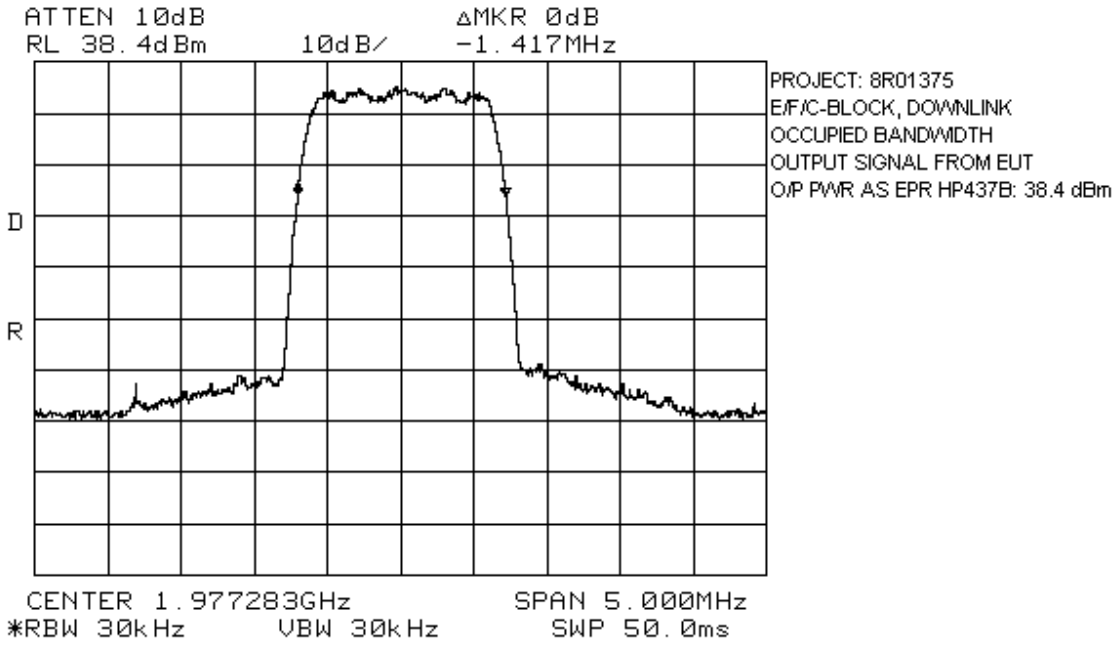
4-Amplifier Configuration (ABD & EFC Blocks) 2 Channel & Single Channel

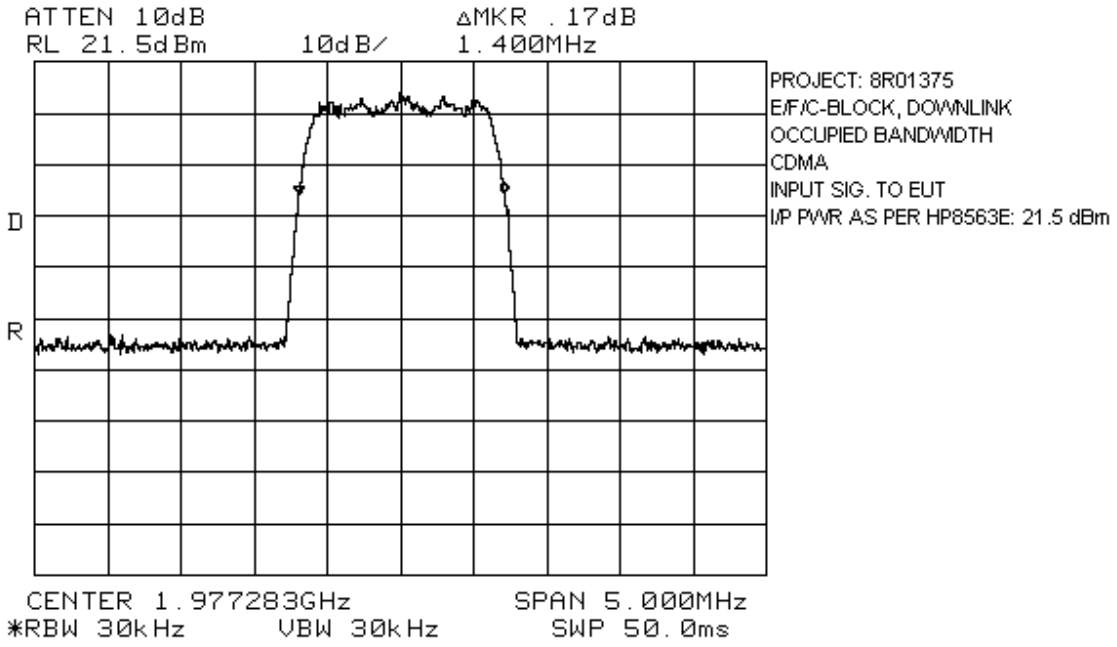


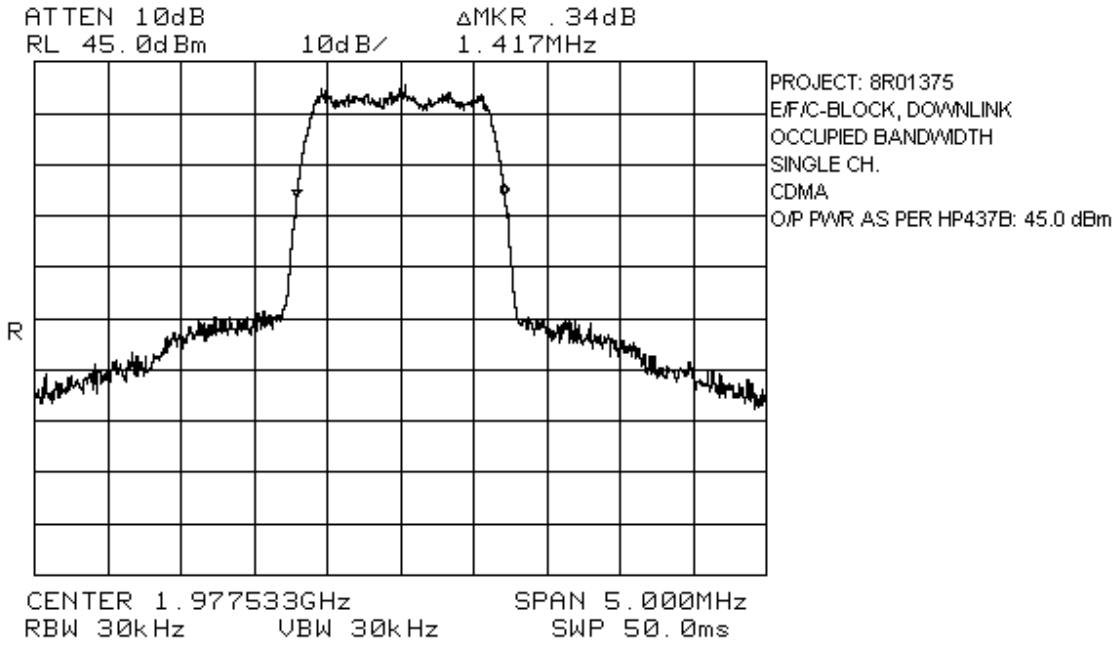

ATTEN 10dB
RL 21.5dBm
10dB/
ΔMKR .50dB
1.408MHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
I/P SIG. TO EUT
I/P PWR AS PER HP8563E: 21.5 dBm
D
R
CENTER 1.947475GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

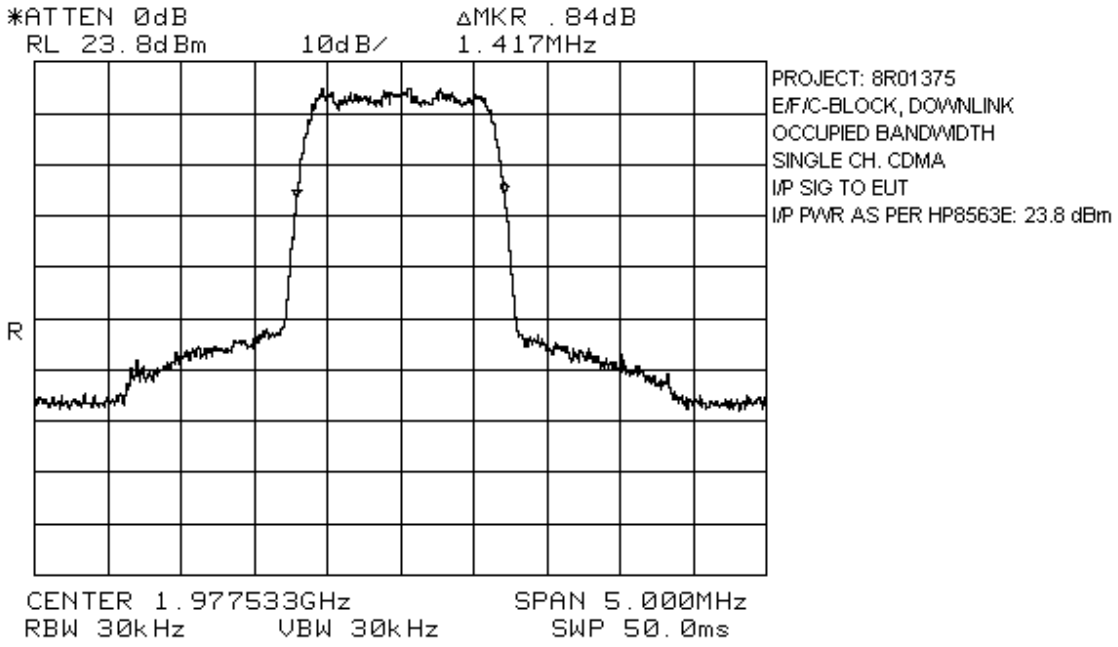

ATTEN 10dB
RL 42.6dBm
10dB/
ΔMKR .50dB
1.417MHz
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH. CDMA
OCCUPIED BANDWIDTH
OUTPUT FROM EUT
O/P PWR AS PER HP437B: 42.6 dBm
CENTER 1.947542GHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms


*ATTEN 0dB
RL 22.4dBm
10dB/
ΔMKR 1.17dB
-1.408MHz
D
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH. CDMA
INPUT SIG TO EUT
I/P PWR AS PER HP8563E: 22.4 dBm
CENTER 1.947542GHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

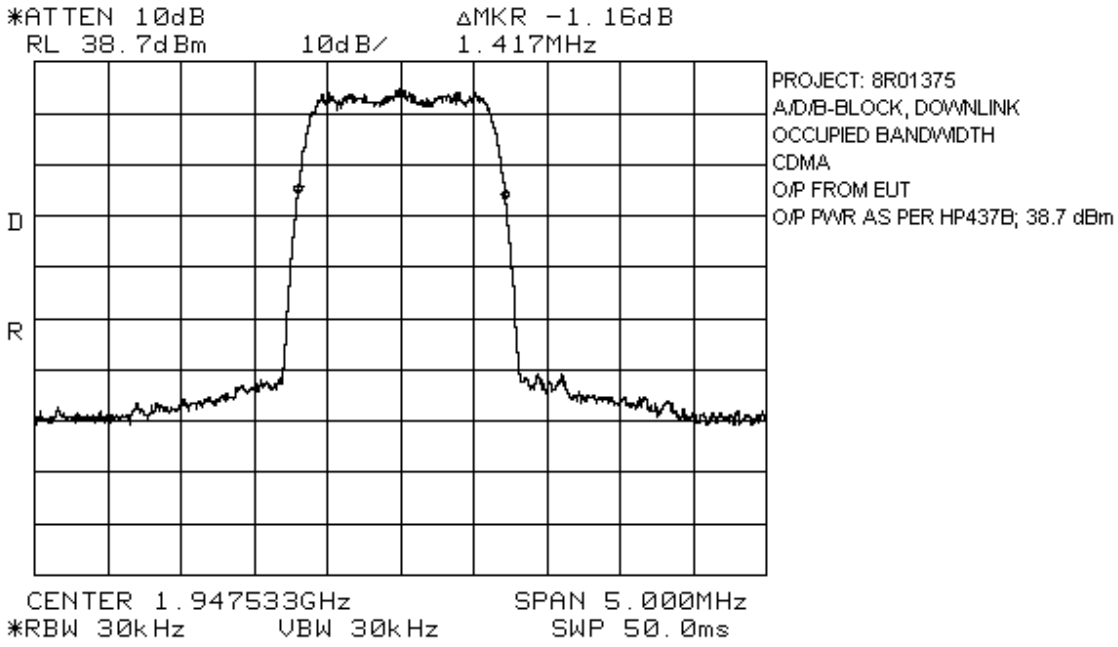

ATTEN 10dB
RL 38.4dBm
10dB/
ΔMKR 0dB
-1.417MHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
OUTPUT SIGNAL FROM EUT
O/P PWR AS EPR HP437B: 38.4 dBm
D
R
CENTER 1.977283GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

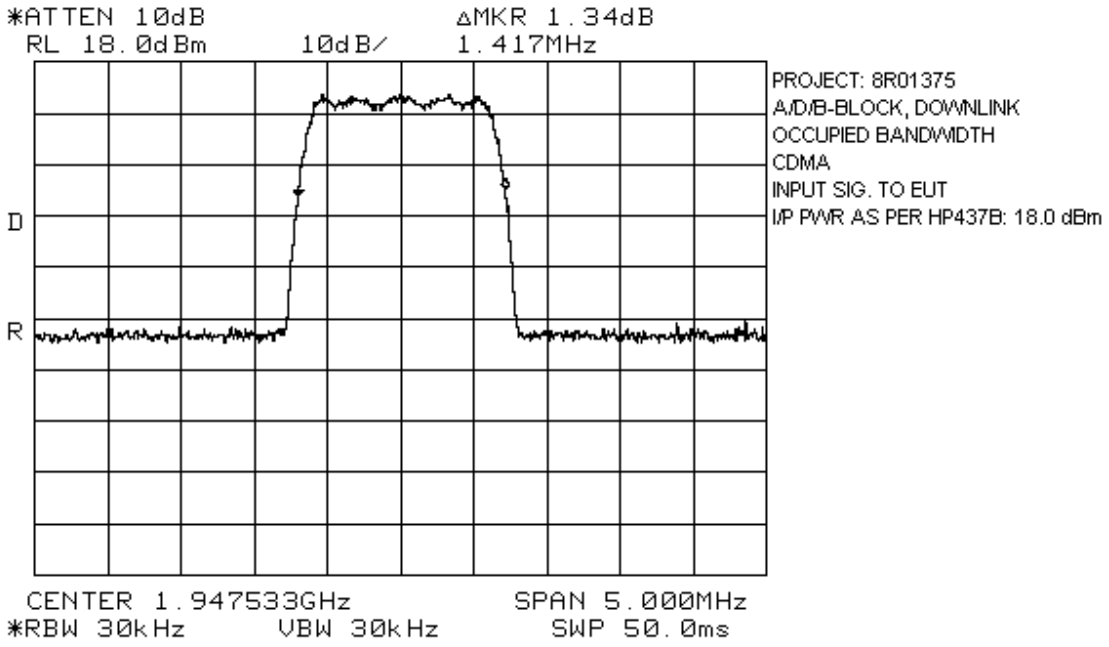

ATTEN 10dB
RL 21.5dBm
10dB/
ΔMKR .17dB
1.400MHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
CDMA
INPUT SIG. TO EUT
I/P PWR AS PER HP8563E: 21.5 dBm
D
R
CENTER 1.977283GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

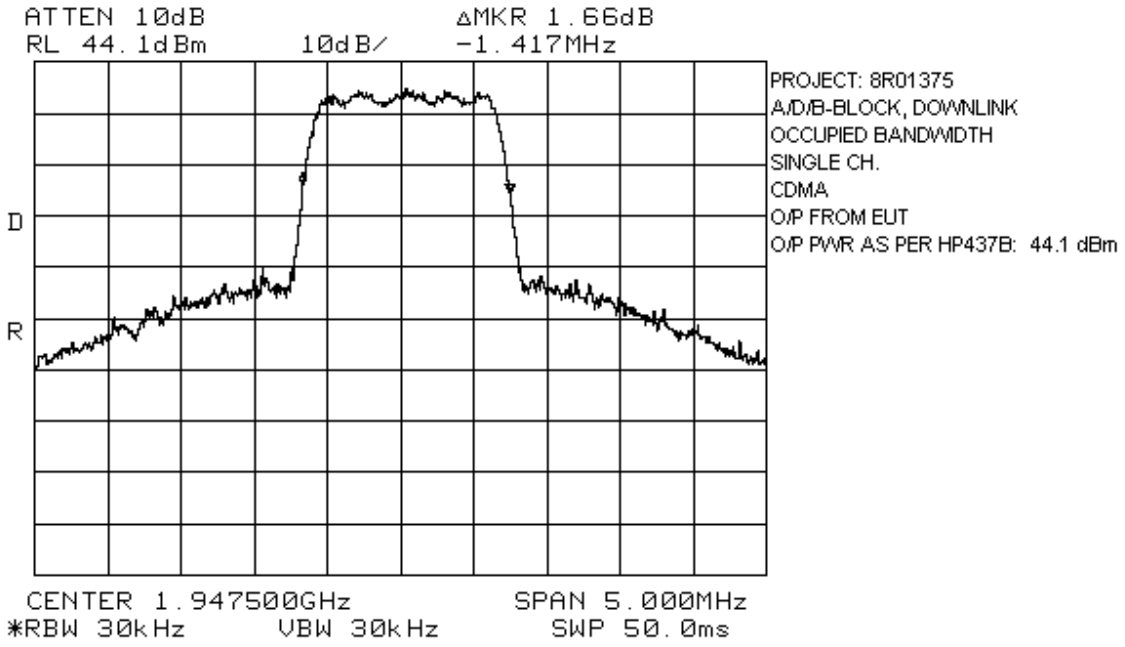

ATTEN 10dB
RL 45.0dBm
10dB/
ΔMKR .34dB
1.417MHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH.
CDMA
O/P PWR AS PER HP437B: 45.0 dBm
CENTER 1.977533GHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

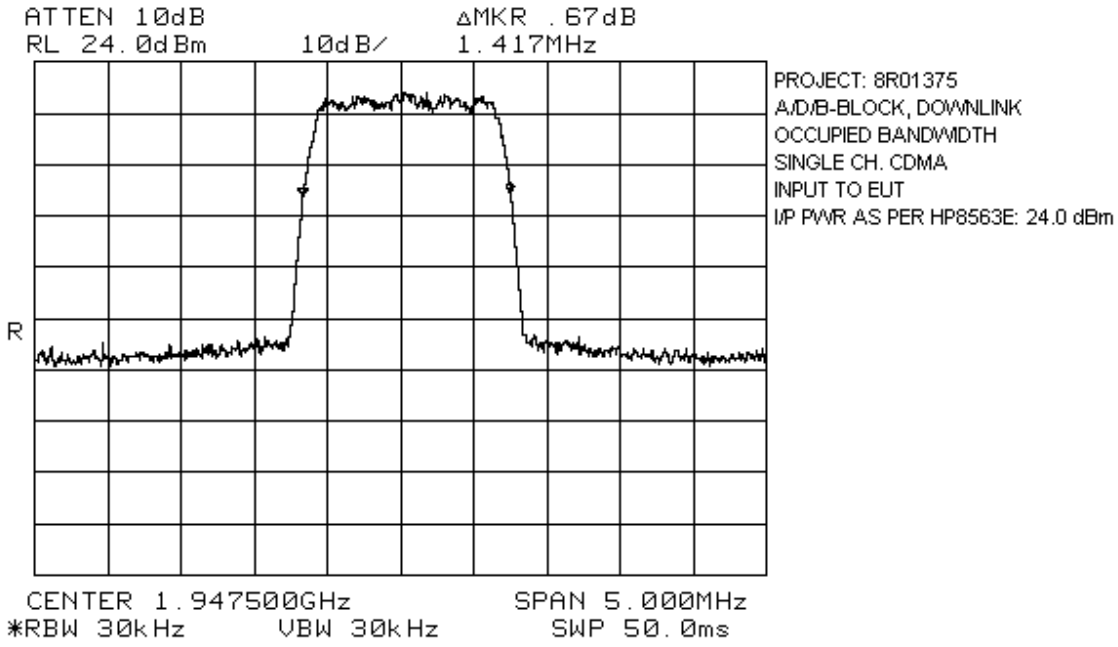

*ATTEN 0dB
RL 23.8dBm
10dB/
ΔMKR .84dB
1.417MHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH. CDMA
I/P SIG TO EUT
I/P PWR AS PER HP8563E: 23.8 dBm
CENTER 1.977533GHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

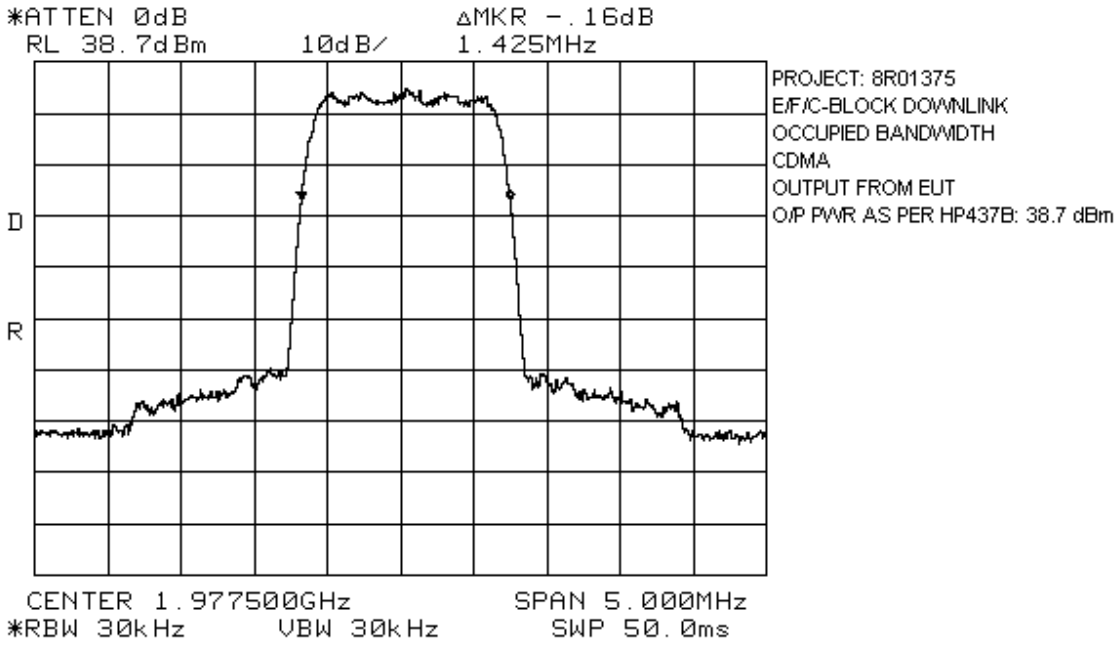
2-Amplifier Configuration (ADB & EFC Blocks) 2 Channel & Single Channel

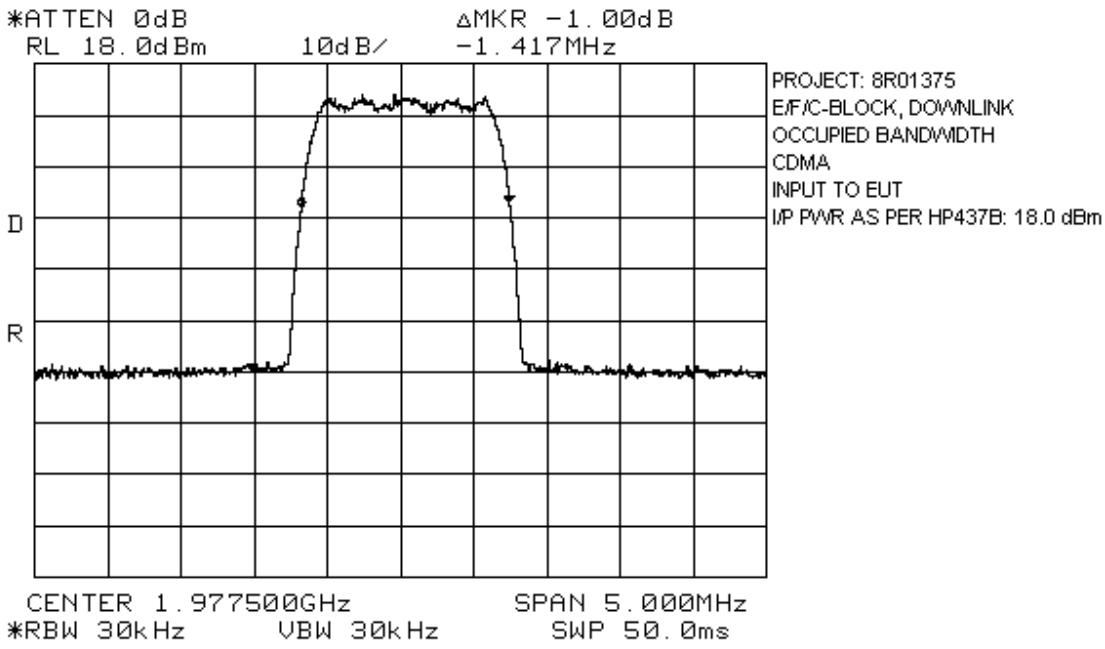


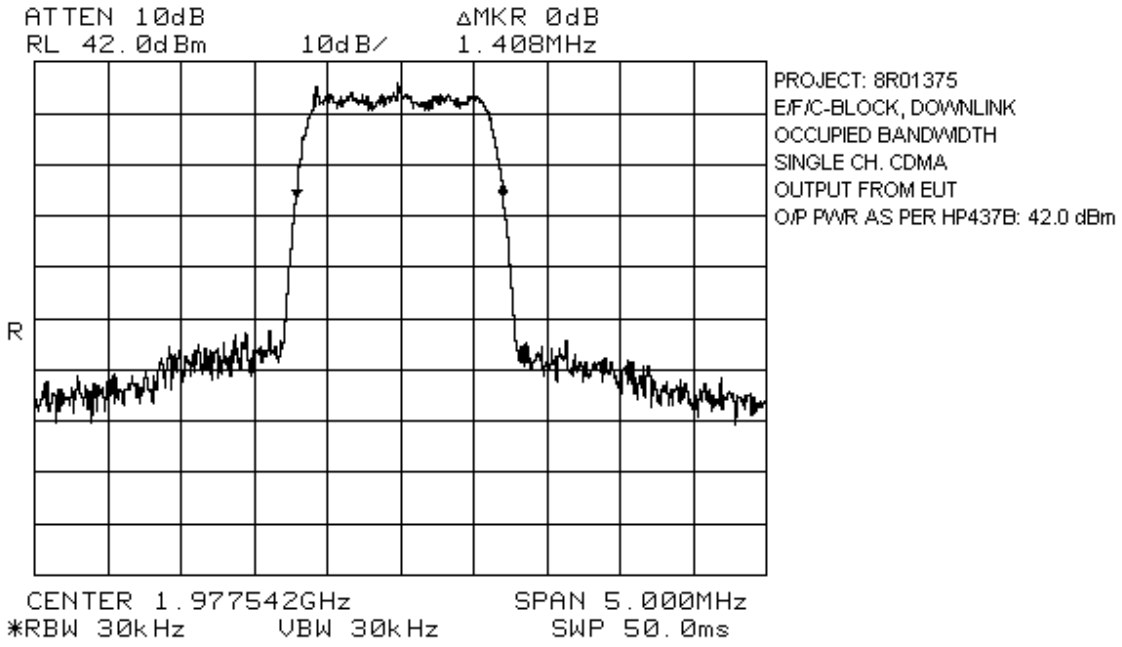

*ATTEN 10dB
RL 18.0dBm
10dB/
ΔMKR 1.34dB
1.417MHz
D
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
CDMA
INPUT SIG. TO EUT
I/P PWR AS PER HP437B: 18.0 dBm
CENTER 1.947533GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

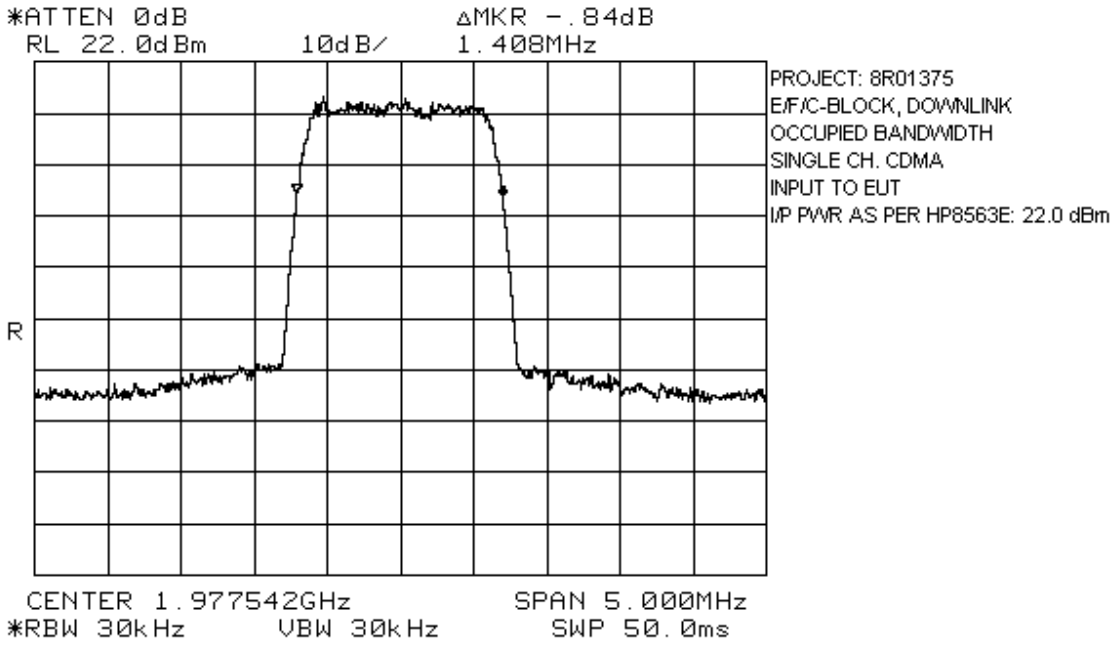

ATTEN 10dB
RL 44.1dBm
10dB/
ΔMKR 1.66dB
-1.417MHz
D
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH.
CDMA
O/P FROM EUT
O/P PWR AS PER HP437B: 44.1 dBm
CENTER 1.947500GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms


ATTEN 10dB
RL 24.0dBm
10dB/
ΔMKR .67dB
1.417MHz
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH. CDMA
INPUT TO EUT
I/P PWR AS PER HP8563E: 24.0 dBm
CENTER 1.947500GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms


*ATTEN 0dB
RL 38.7dBm
10dB/
ΔMKR -.16dB
1.425MHz
D
R
PROJECT: 8R01375
E/F/C-BLOCK DOWNLINK
OCCUPIED BANDWIDTH
CDMA
OUTPUT FROM EUT
O/P PWR AS PER HP437B: 38.7 dBm
CENTER 1.977500GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms


*ATTEN 0dB
RL 18.0dBm
10dB/
ΔMKR -1.00dB
-1.417MHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
CDMA
INPUT TO EUT
I/P PWR AS PER HP437B: 18.0 dBm
D
R
CENTER 1.977500GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms


ATTEN 10dB
RL 42.0dBm
10dB/
ΔMKR 0dB
1.408MHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH. CDMA
OUTPUT FROM EUT
O/P PWR AS PER HP437B: 42.0 dBm
CENTER 1.977542GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

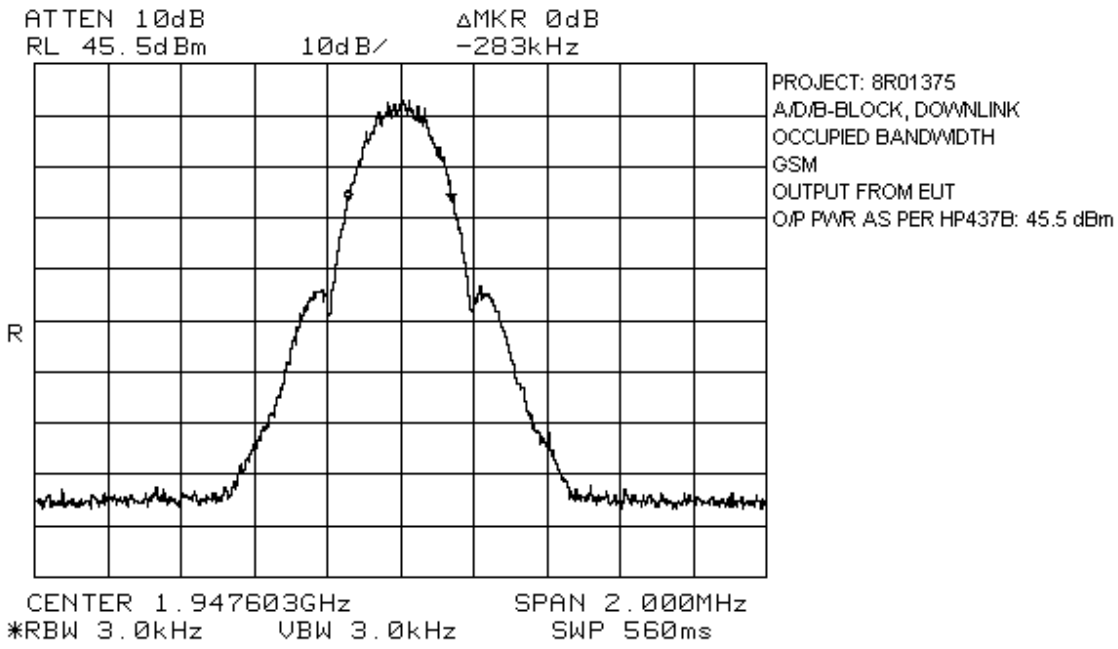

*ATTEN 0dB
RL 22.0dBm
10dB/
ΔMKR -.84dB
1.408MHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH. CDMA
INPUT TO EUT
I/P PWR AS PER HP8563E: 22.0 dBm
CENTER 1.977542GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

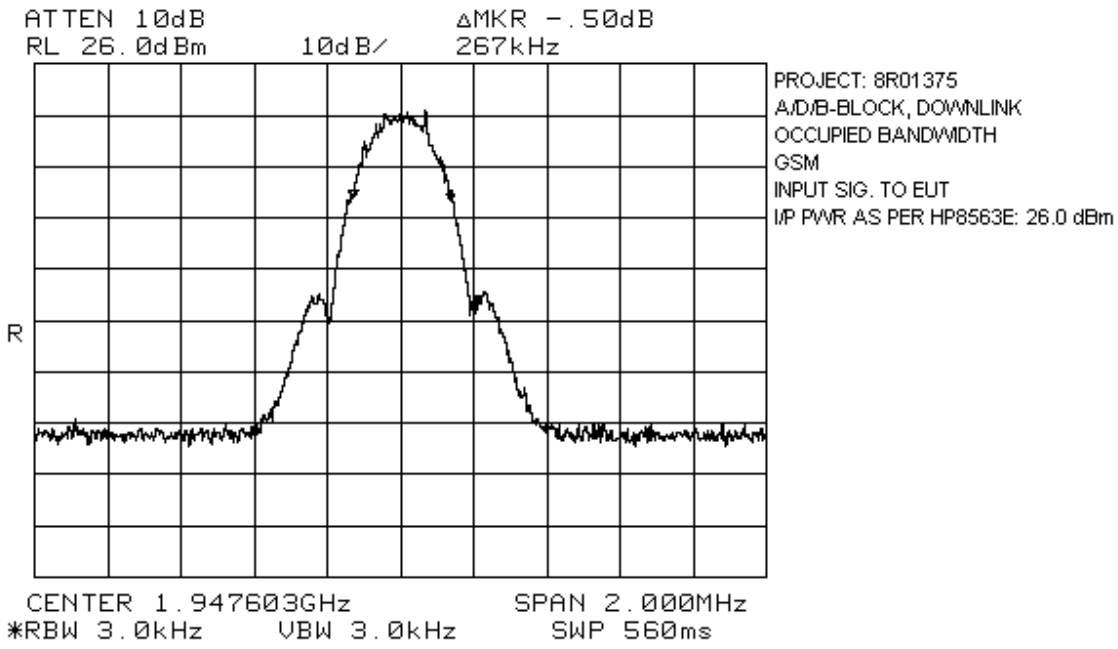
NAME OF TEST: Occupied Bandwidth (GSM)	PARA. NO.: 2.917(c)
TESTED BY: Kevin Carr	DATE: May 26, 1999

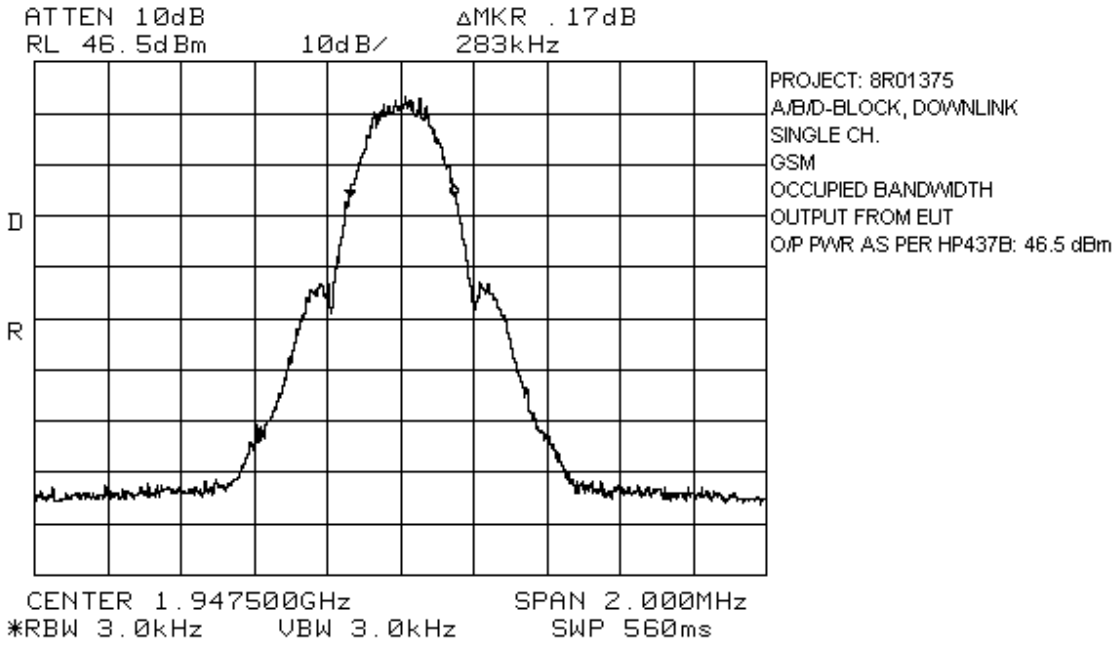
Test Results: Complies.

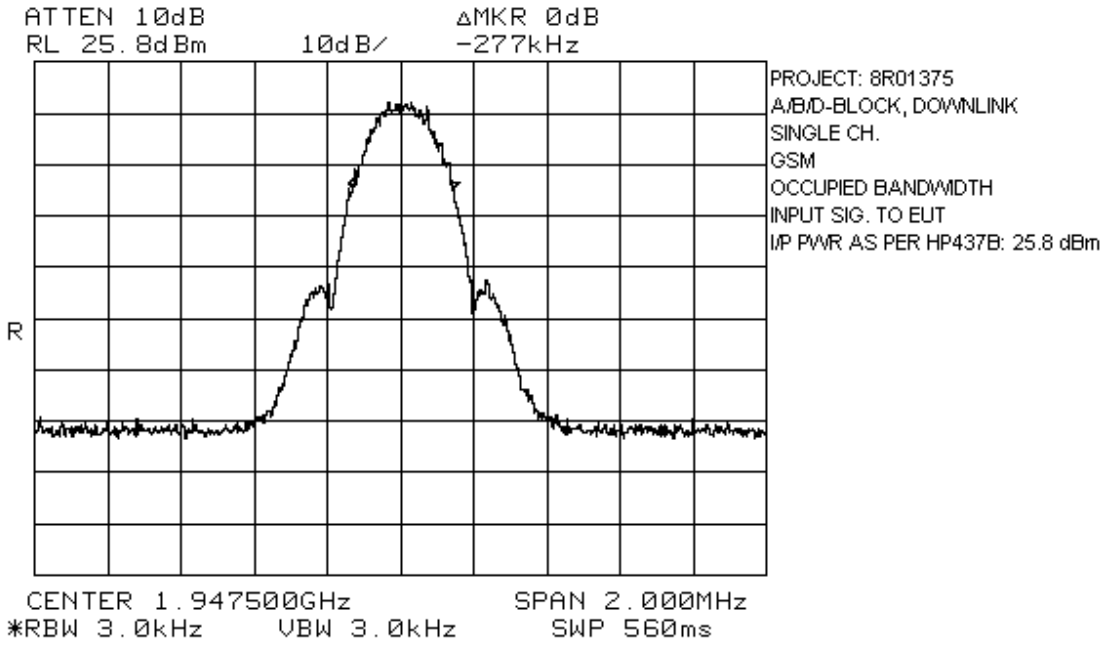
Test Data: See attached graph(s).

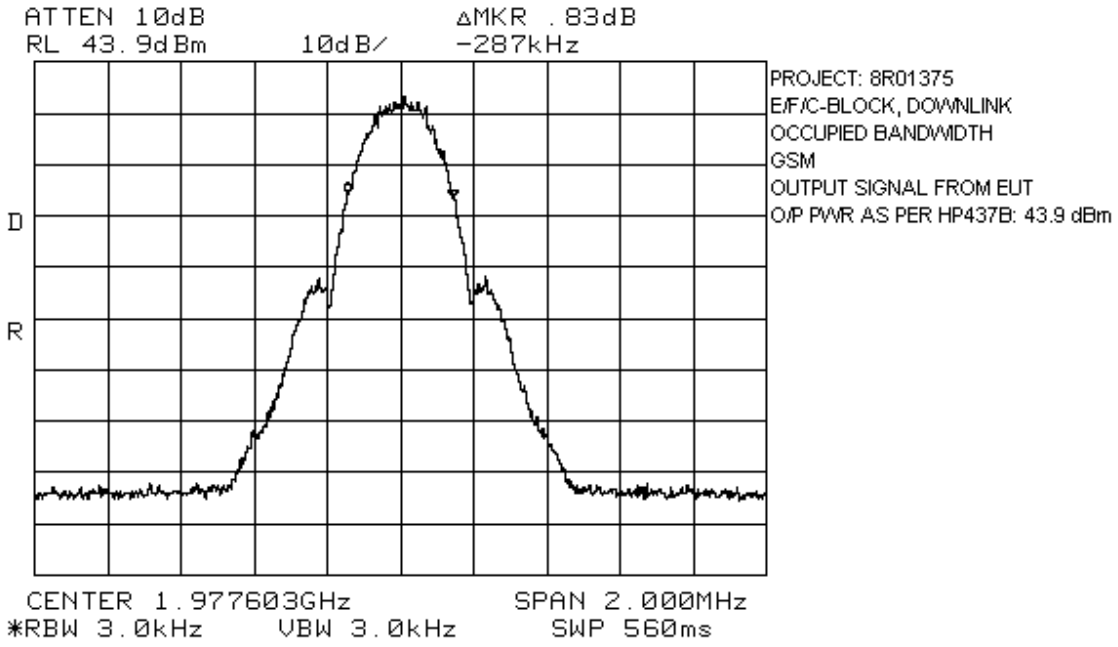
4-Amplifier Configuration (ABD & EFC Blocks) 2 Channel & Single Channel

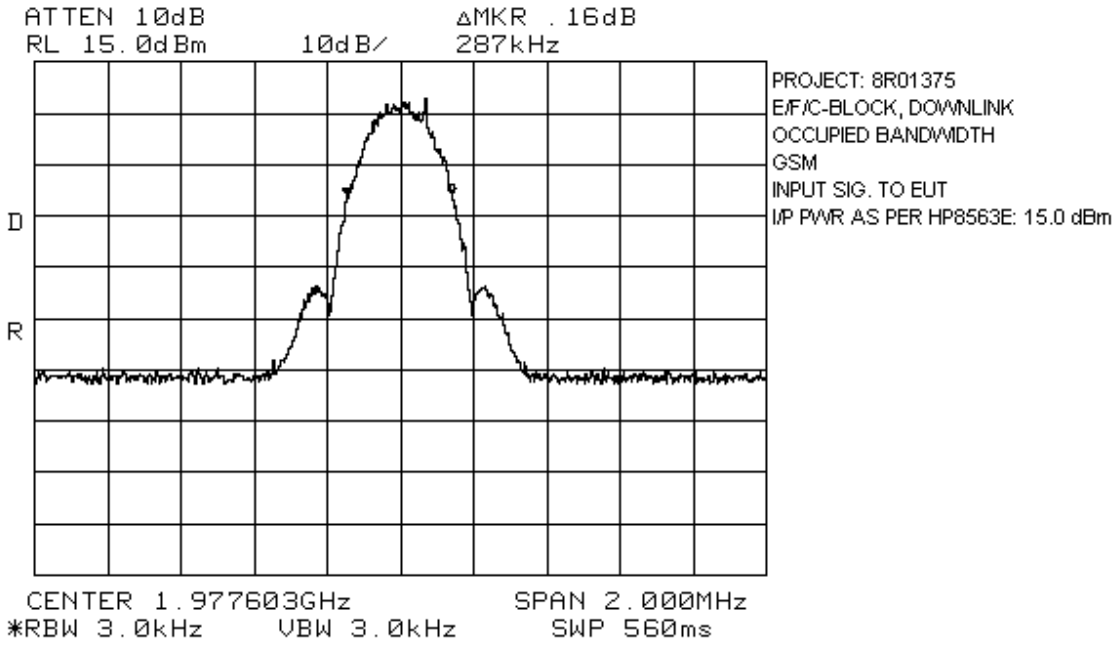


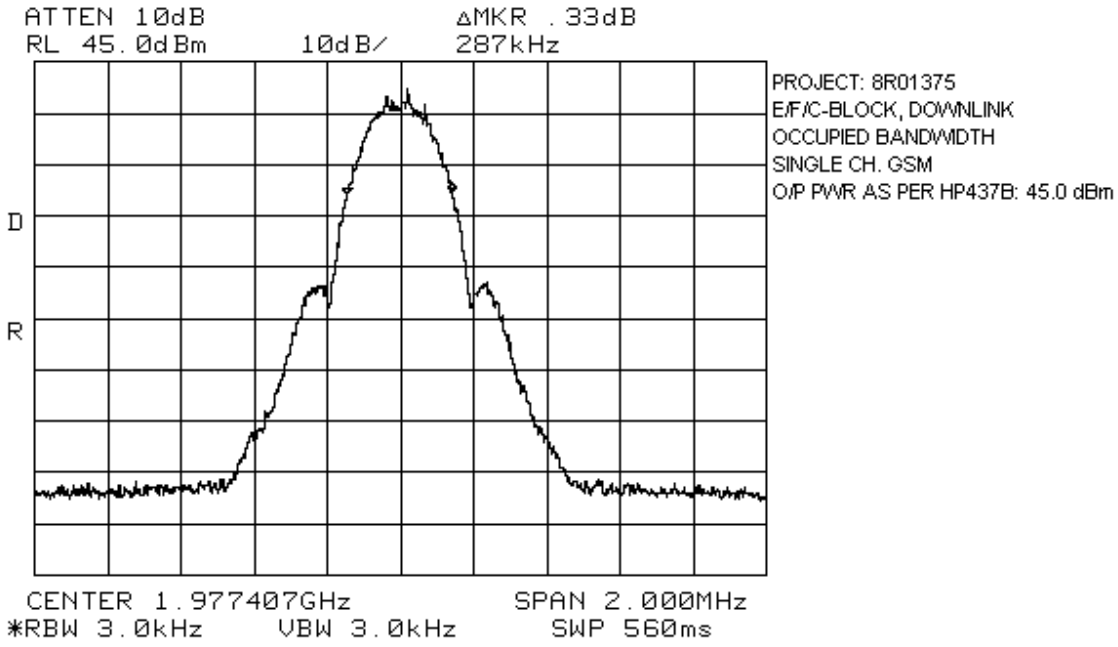

ATTEN 10dB
RL 26.0dBm
10dB/
ΔMKR -.50dB
267kHz
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
GSM
INPUT SIG. TO EUT
I/P PWR AS PER HP8563E: 26.0 dBm
CENTER 1.947603GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

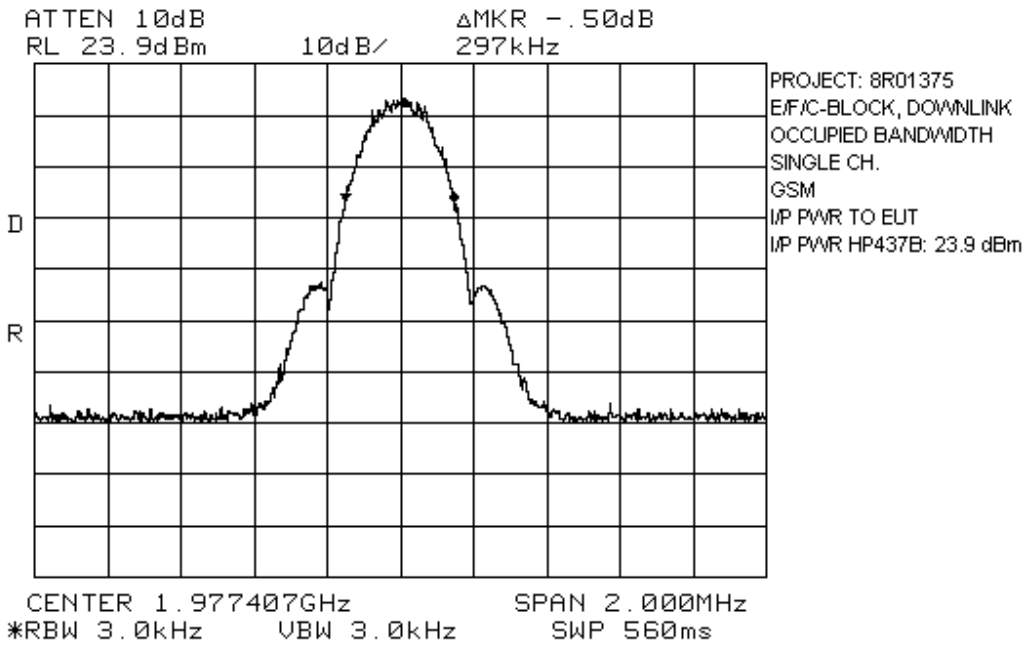

ATTEN 10dB
RL 46.5dBm
10dB/
ΔMKR .17dB
283kHz
D
R
PROJECT: 8R01375
A/B/D-BLOCK, DOWNLINK
SINGLE CH.
GSM
OCCUPIED BANDWIDTH
OUTPUT FROM EUT
O/P PWR AS PER HP437B: 46.5 dBm
CENTER 1.947500GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms


ATTEN 10dB
RL 25.8dBm
10dB/
ΔMKR 0dB
-277kHz
R
PROJECT: 8R01375
A/B/D-BLOCK, DOWNLINK
SINGLE CH.
GSM
OCCUPIED BANDWIDTH
INPUT SIG. TO EUT
I/P PWR AS PER HP437B: 25.8 dBm
CENTER 1.947500GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

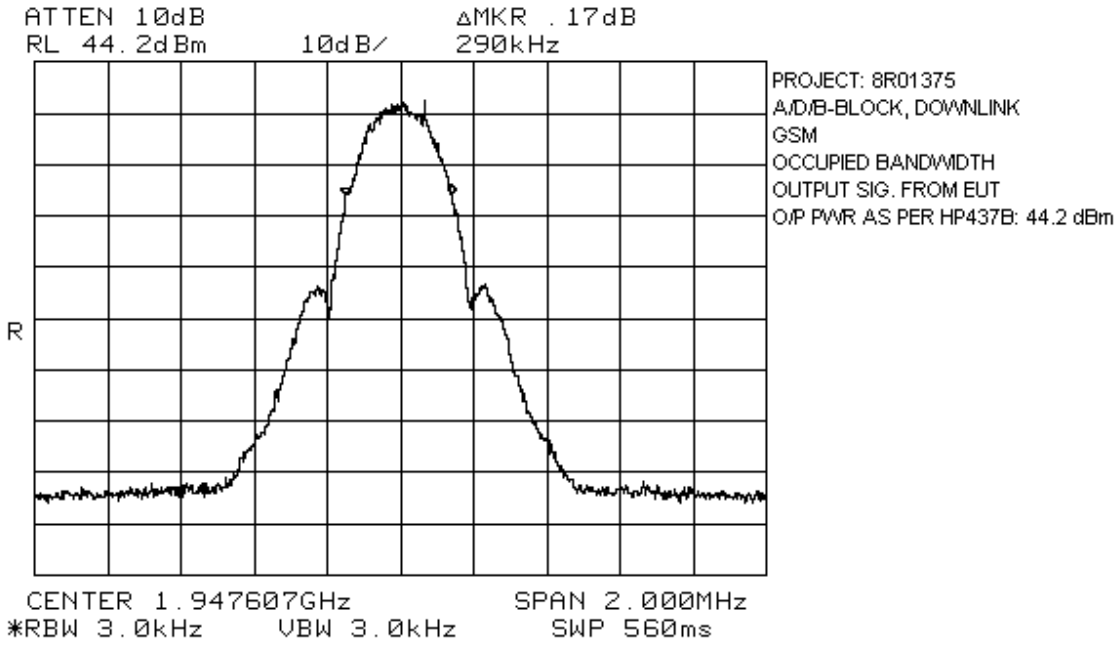

ATTEN 10dB
RL 43.9dBm
10dB/
ΔMKR .83dB
-287kHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
GSM
OUTPUT SIGNAL FROM EUT
O/P PWR AS PER HP437B: 43.9 dBm
D
R
CENTER 1.977603GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

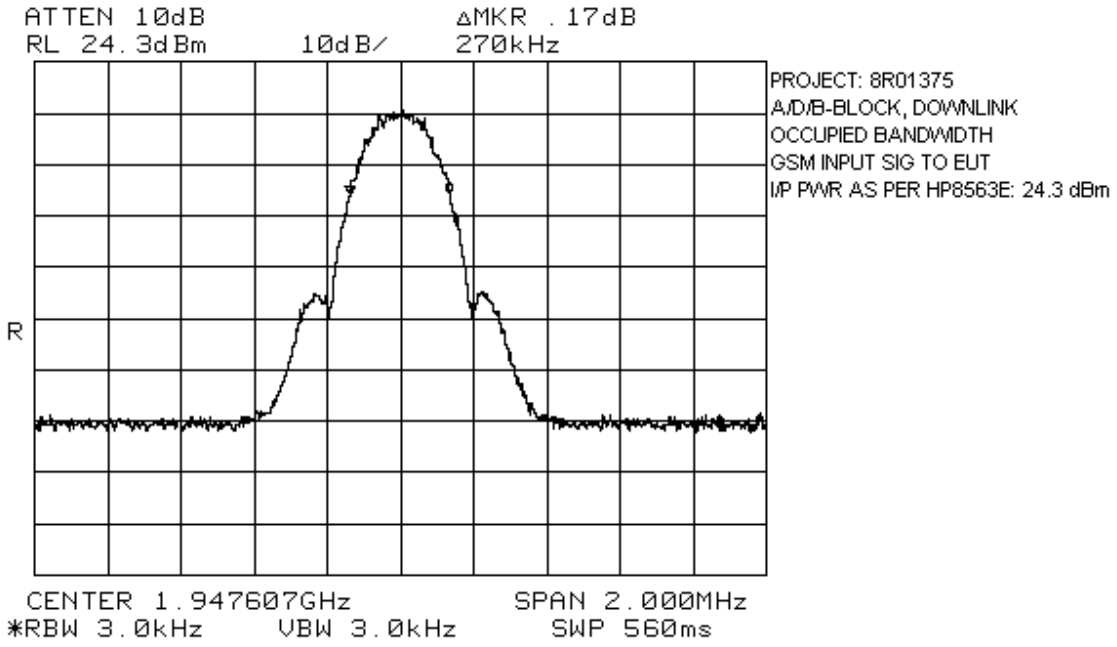

ATTEN 10dB
RL 15.0dBm
10dB/
ΔMKR .16dB
287kHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
GSM
INPUT SIG. TO EUT
I/P PWR AS PER HP8563E: 15.0 dBm
D
R
CENTER 1.977603GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

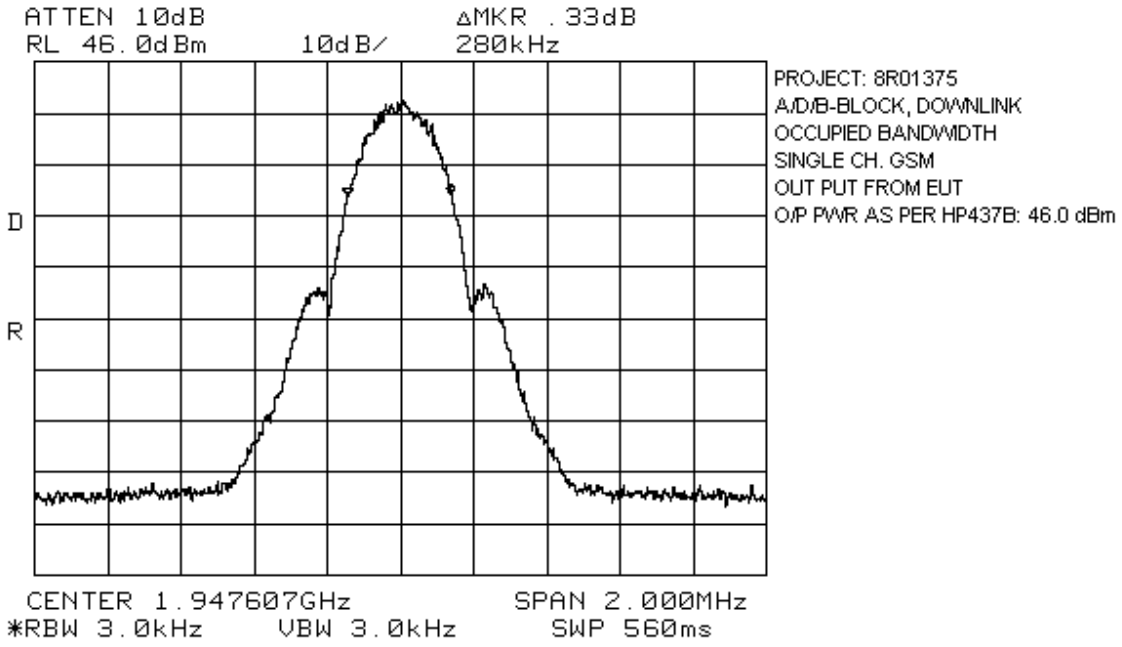

ATTEN 10dB
RL 45.0dBm
10dB/
ΔMKR .33dB
287kHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH. GSM
O/P PWR AS PER HP437B: 45.0 dBm
D
R
CENTER 1.977407GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

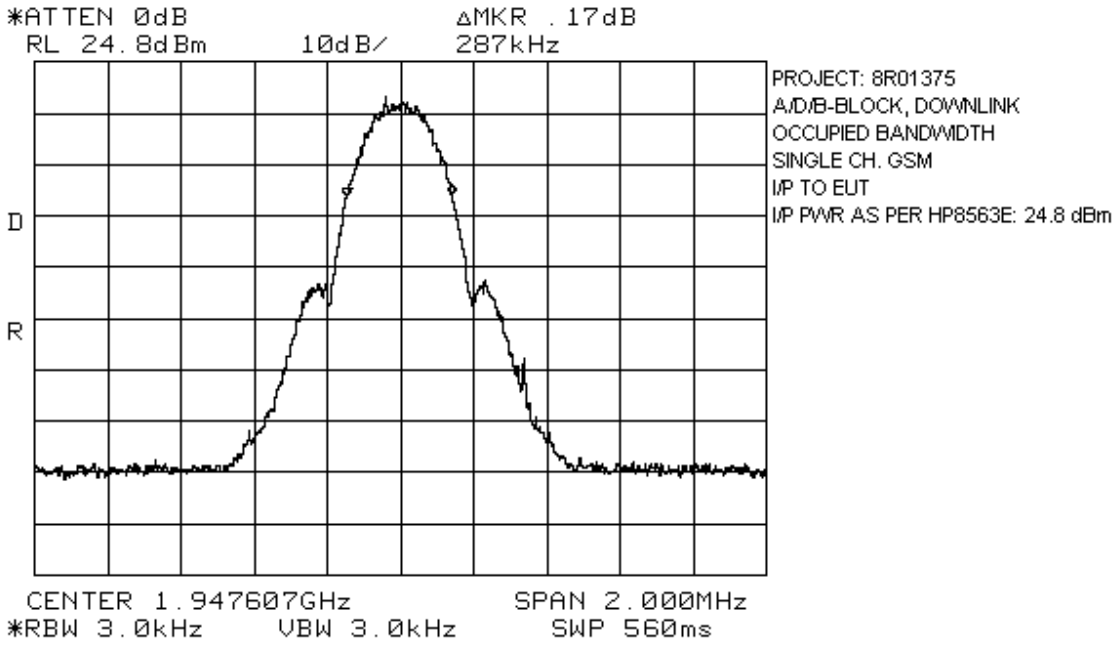

ATTEN 10dB
RL 23.9dBm
10dB/
ΔMKR -.50dB
297kHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH.
GSM
I/P PWR TO EUT
I/P PWR HP437B: 23.9 dBm
D
R
CENTER 1.977407GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

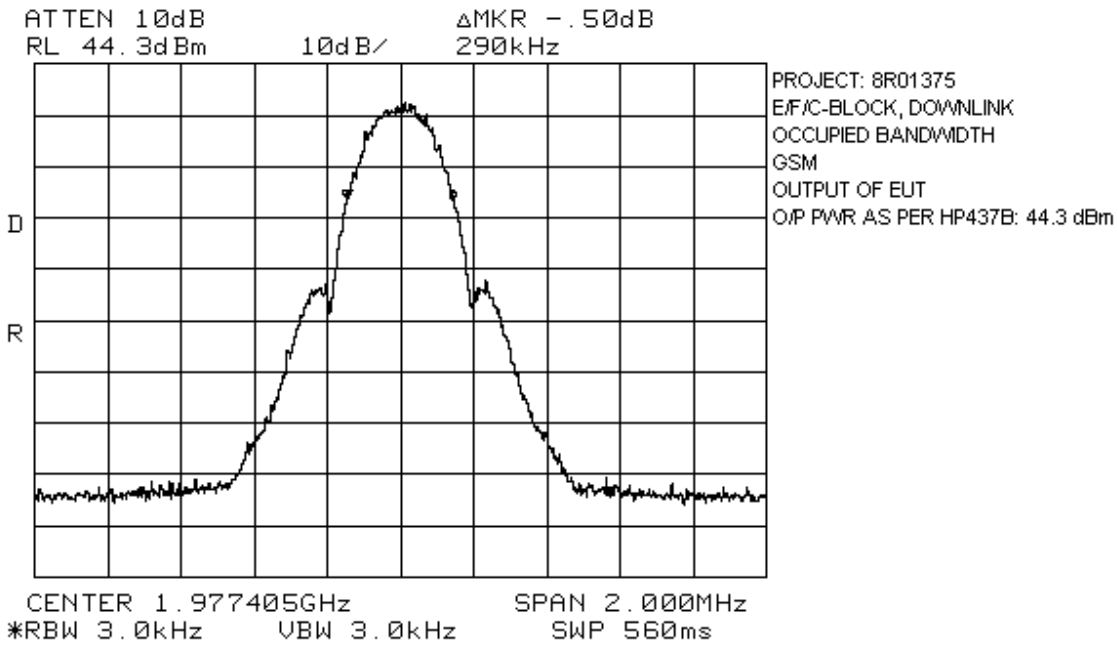
2-Amplifier Configuration (ABD & EFC Blocks) 2 Channel & Single Channel

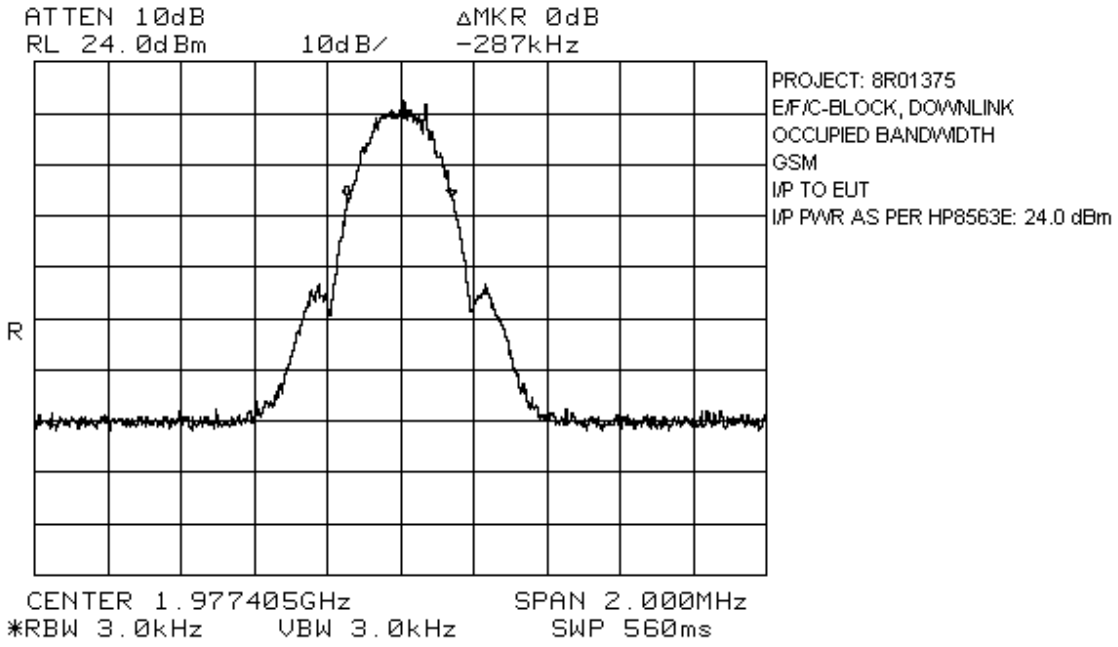


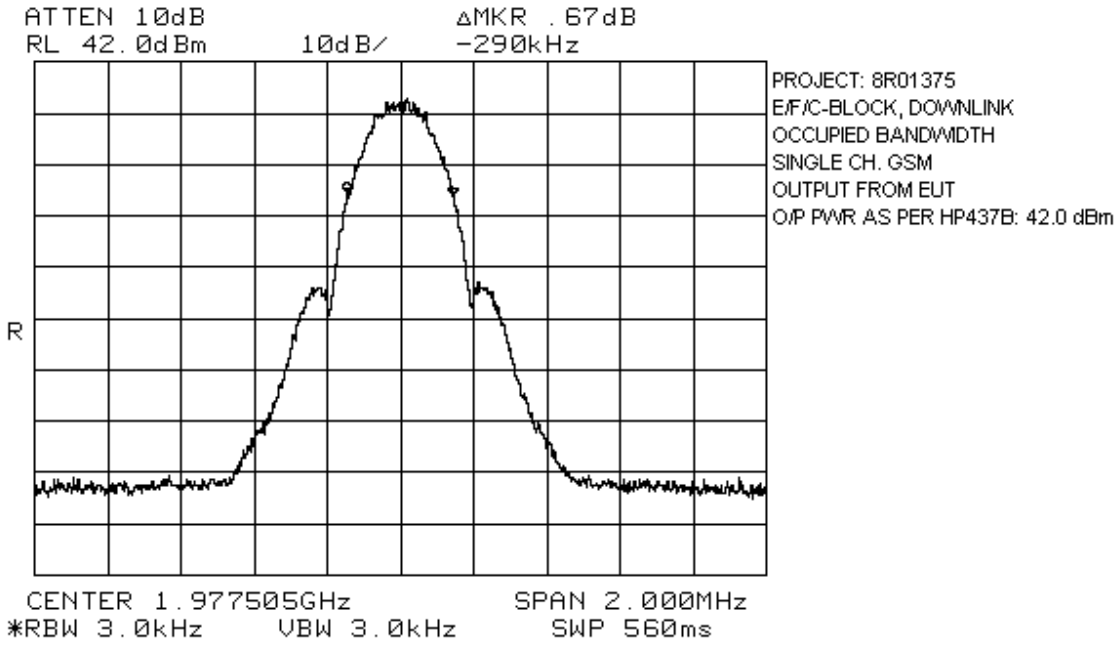

ATTEN 10dB
RL 24.3dBm
10dB/
ΔMKR .17dB
270kHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
GSM INPUT SIG TO EUT
I/P PWR AS PER HP8563E: 24.3 dBm
R
CENTER 1.947607GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

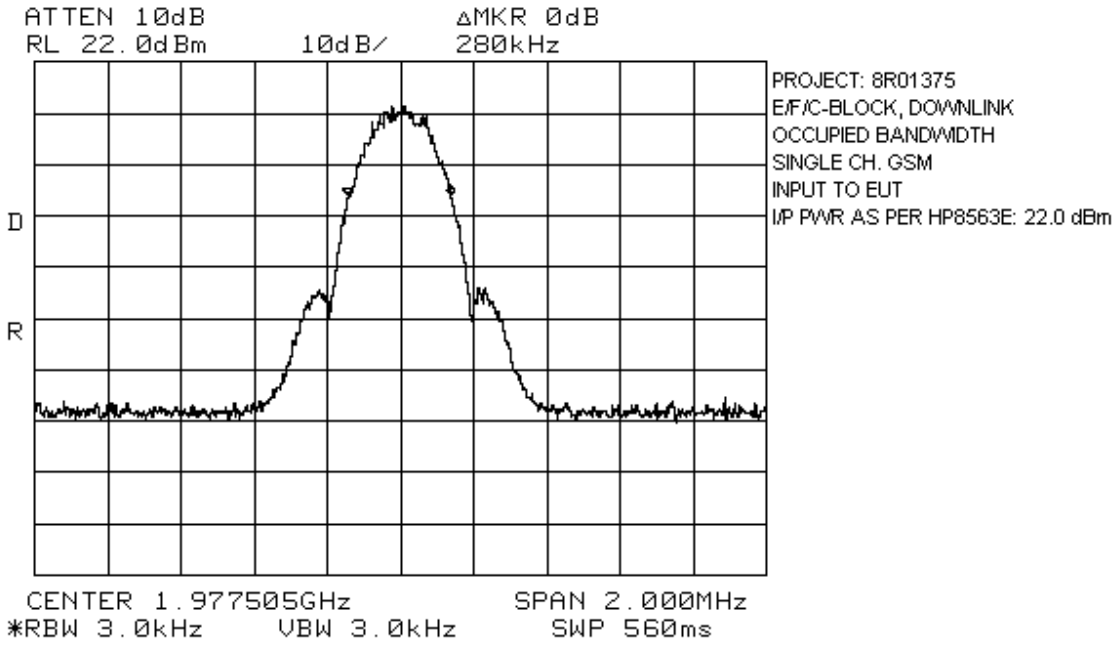

ATTEN 10dB
RL 46.0dBm
10dB/
ΔMKR .33dB
280kHz
D
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH. GSM
OUT PUT FROM EUT
O/P PWR AS PER HP437B: 46.0 dBm
CENTER 1.947607GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms


*ATTEN 0dB
ΔMKR .17dB
RL 24.8dBm
10dB/
287kHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH. GSM
I/P TO EUT
I/P PWR AS PER HP8563E: 24.8 dBm
D
R
CENTER 1.947607GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms


ATTEN 10dB
RL 44.3dBm
10dB/
ΔMKR -.50dB
290kHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
GSM
OUTPUT OF EUT
O/P PWR AS PER HP437B: 44.3 dBm
D
R
CENTER 1.977405GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms


ATTEN 10dB
RL 24.0dBm
10dB/
ΔMKR 0dB
-287kHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
GSM
I/P TO EUT
I/P PWR AS PER HP8563E: 24.0 dBm
CENTER 1.977405GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms


ATTEN 10dB
RL 42.0dBm
10dB/
ΔMKR .67dB
-290kHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH. GSM
OUTPUT FROM EUT
O/P PWR AS PER HP437B: 42.0 dBm
CENTER 1.977505GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

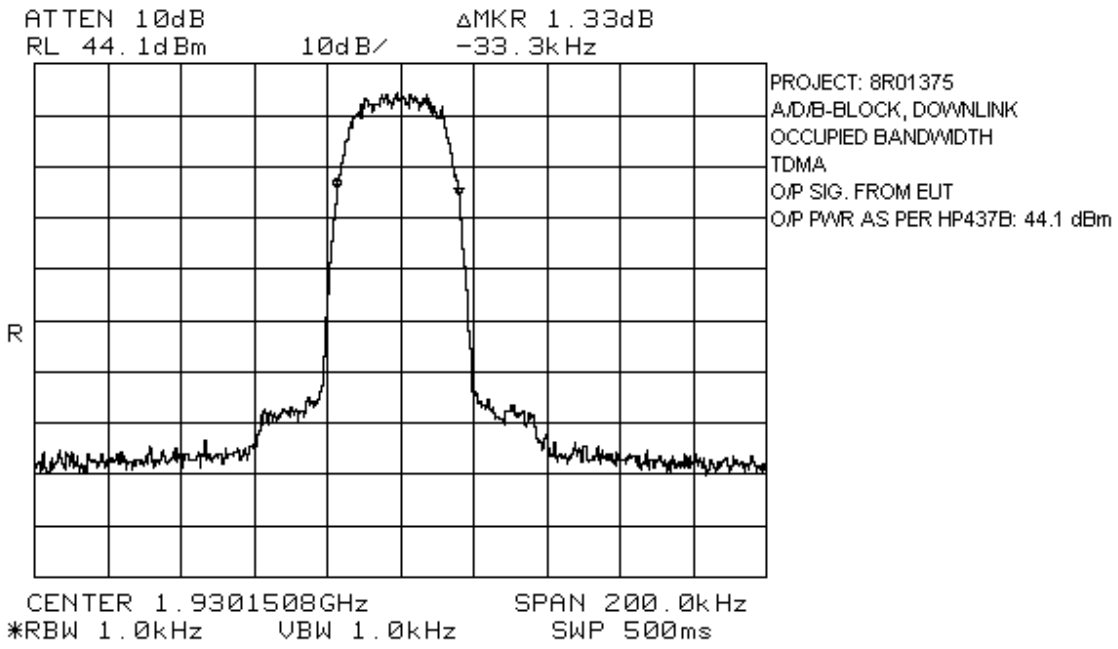

ATTEN 10dB
RL 22.0dBm
10dB/
ΔMKR 0dB
280kHz
D
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH. GSM
INPUT TO EUT
I/P PWR AS PER HP8563E: 22.0 dBm
CENTER 1.977505GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

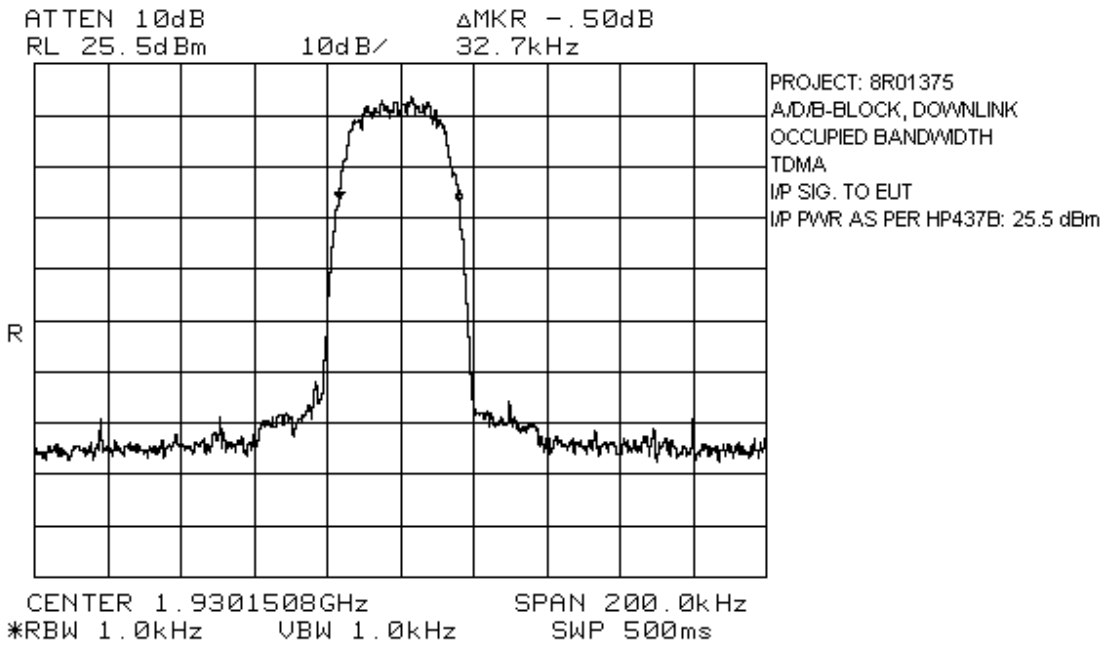
NAME OF TEST: Occupied Bandwidth (TDMA)	PARA. NO.: 2.917(c)
TESTED BY: Kevin Carr	DATE: May 12, 1999

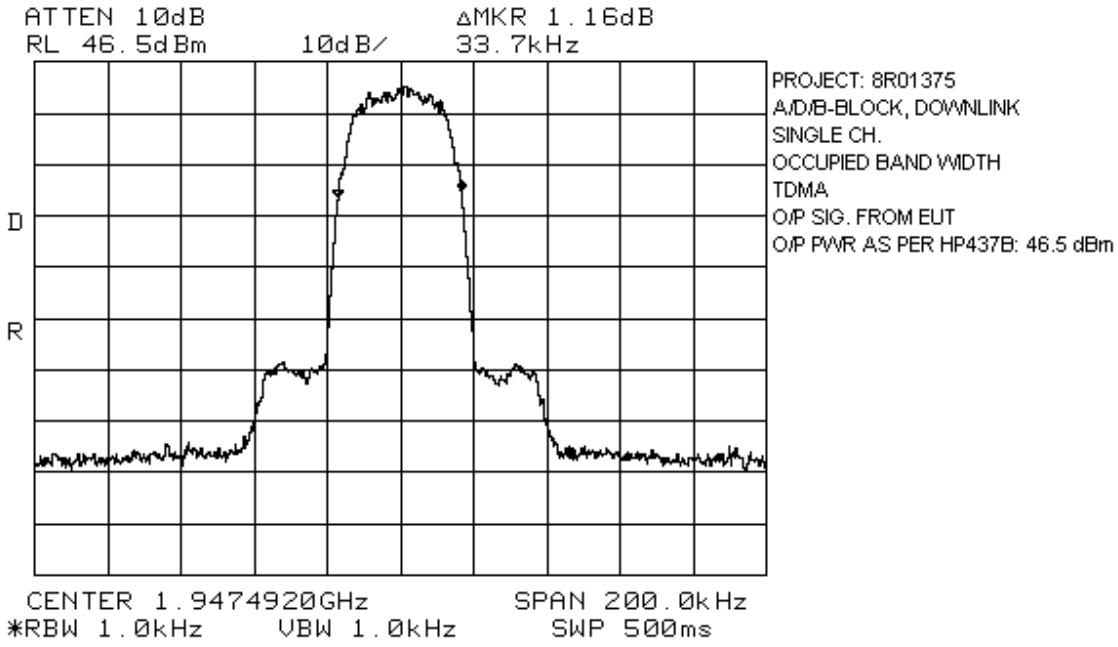
Test Results: Complies.

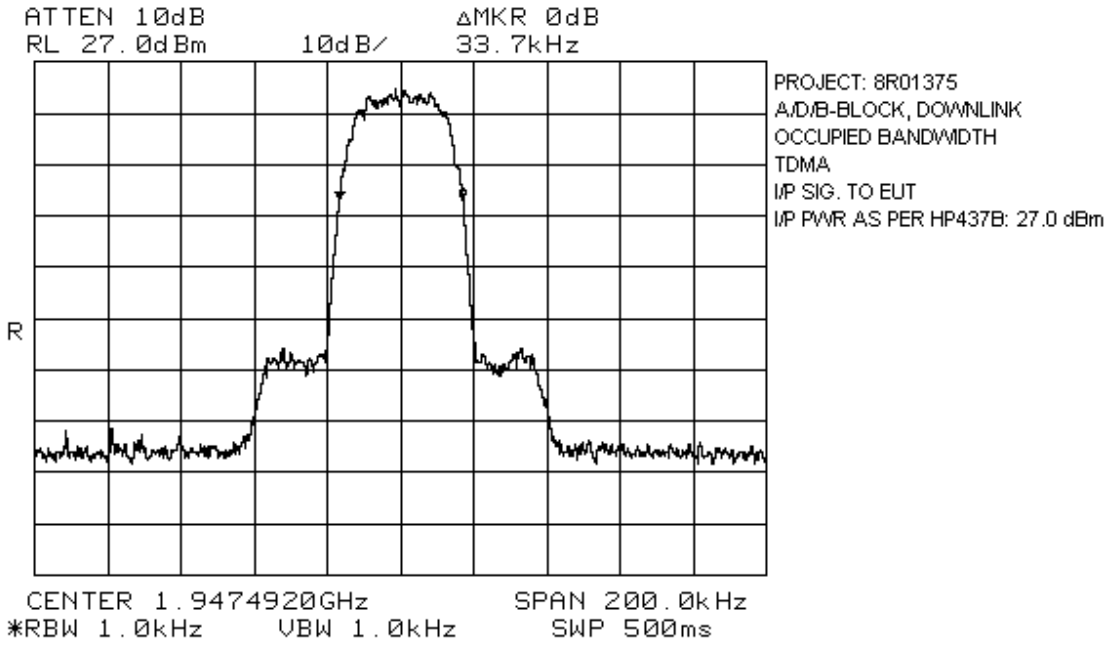
Test Data: See attached graph(s).

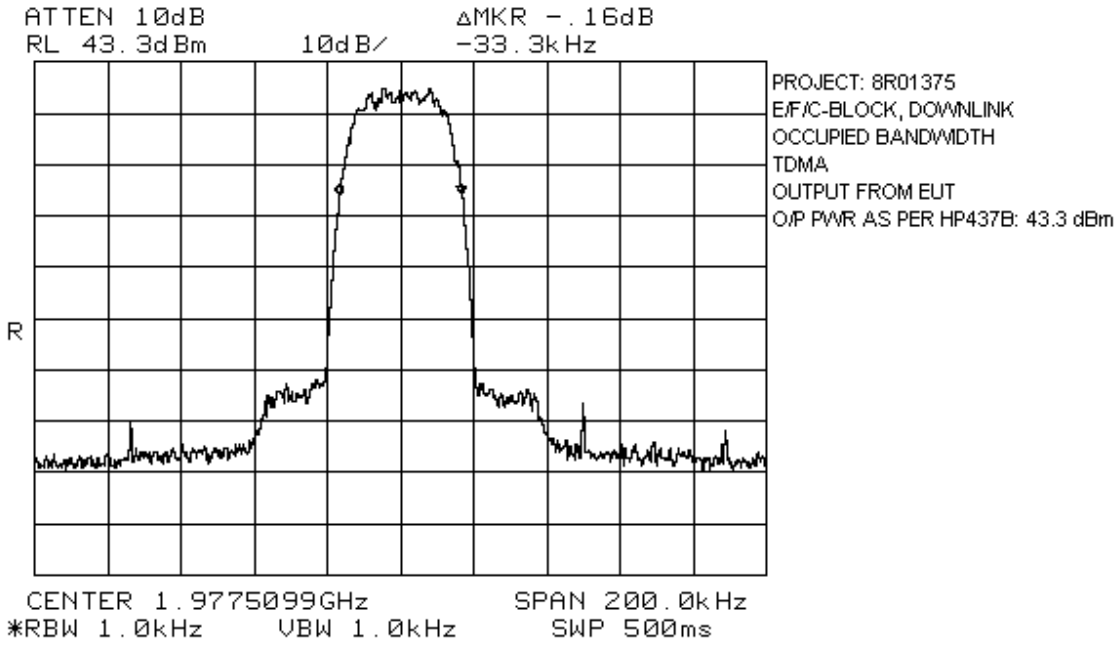
4-Amplifier Configuration (ADB & EFC Blocks) 2 Channel & Single Channel

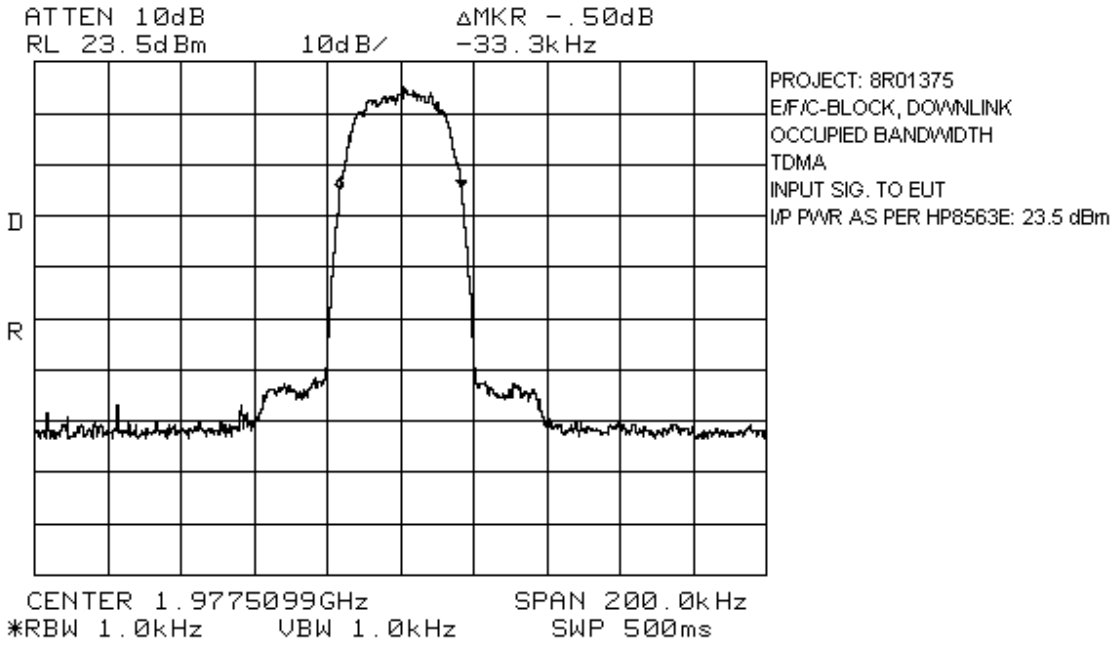


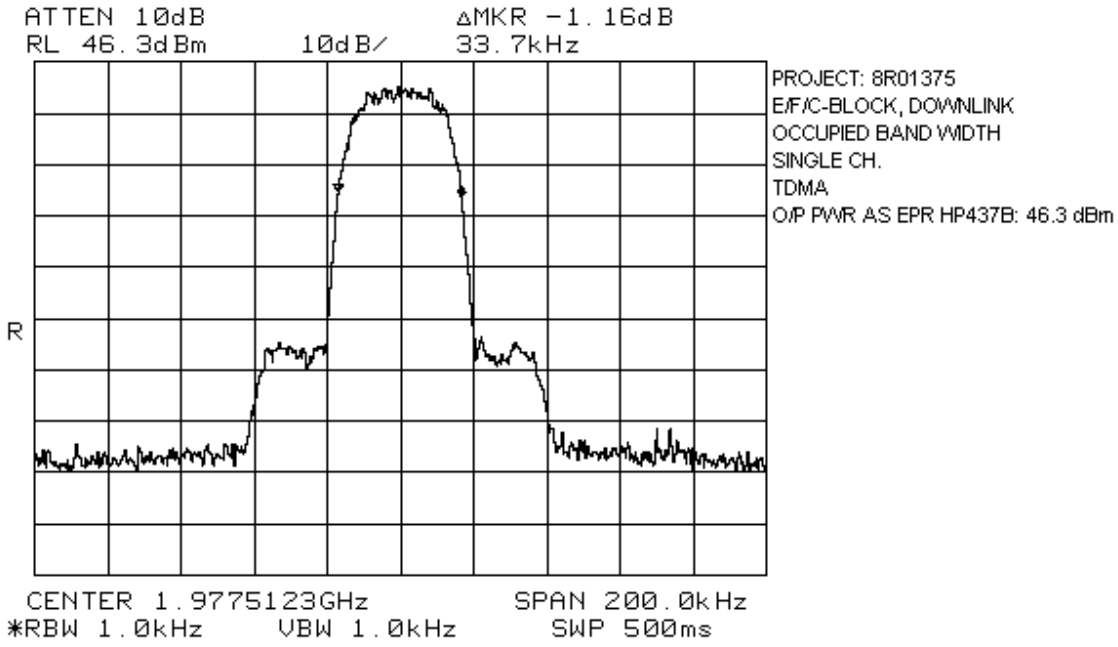

ATTEN 10dB
RL 25.5dBm
10dB/
ΔMKR -.50dB
32.7kHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
TDMA
I/P SIG. TO EUT
I/P PWR AS PER HP437B: 25.5 dBm
R
CENTER 1.9301508GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

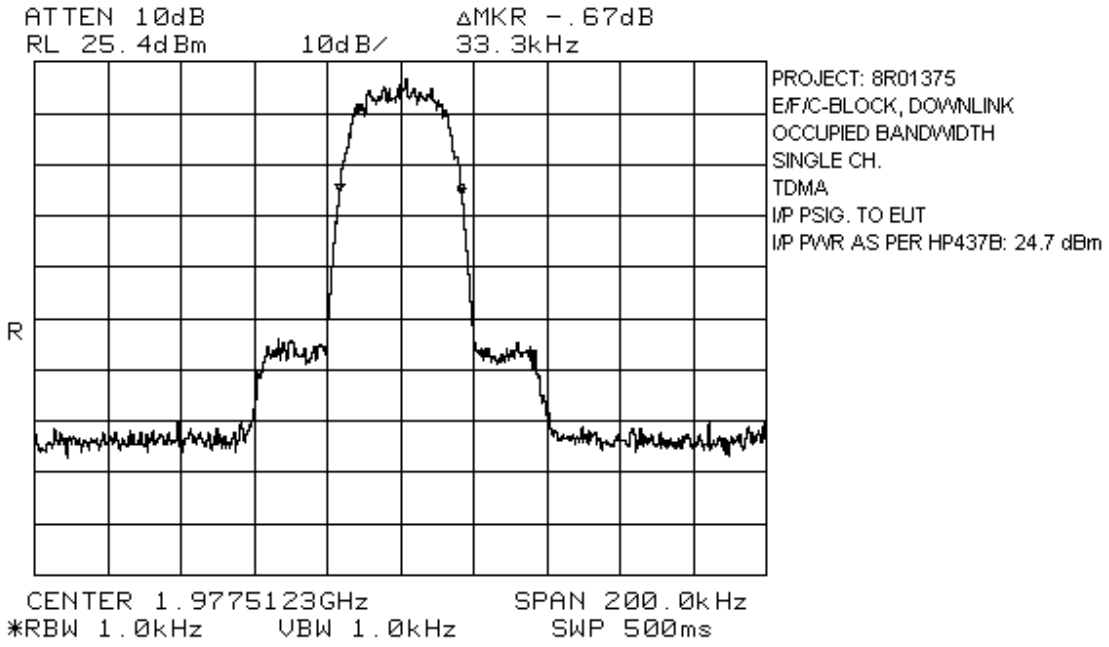

ATTEN 10dB
RL 46.5dBm
10dB/
ΔMKR 1.16dB
33.7kHz
D
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
OCCUPIED BAND WIDTH
TDMA
O/P SIG. FROM EUT
O/P PWR AS PER HP437B: 46.5 dBm
CENTER 1.9474920GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


ATTEN 10dB
RL 27.0dBm
10dB/
ΔMKR 0dB
33.7kHz
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
TDMA
I/P SIG. TO EUT
I/P PWR AS PER HP437B: 27.0 dBm
CENTER 1.9474920GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

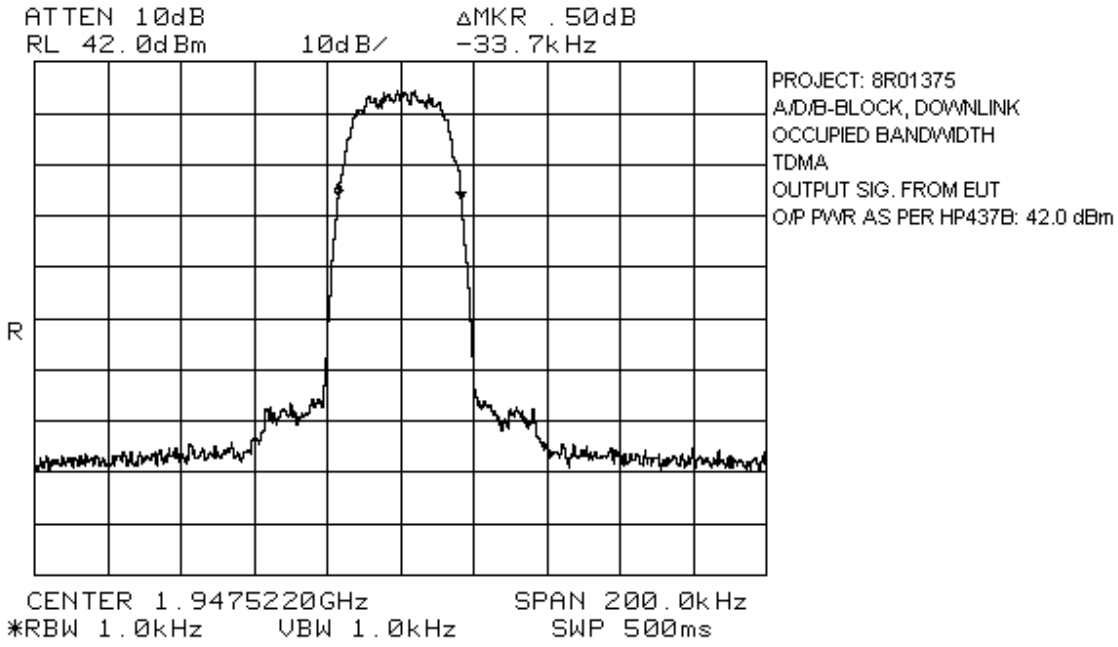

ATTEN 10dB
RL 43.3dBm
10dB/
ΔMKR -.16dB
-33.3kHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
TDMA
OUTPUT FROM EUT
O/P PWR AS PER HP437B: 43.3 dBm
CENTER 1.9775099GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

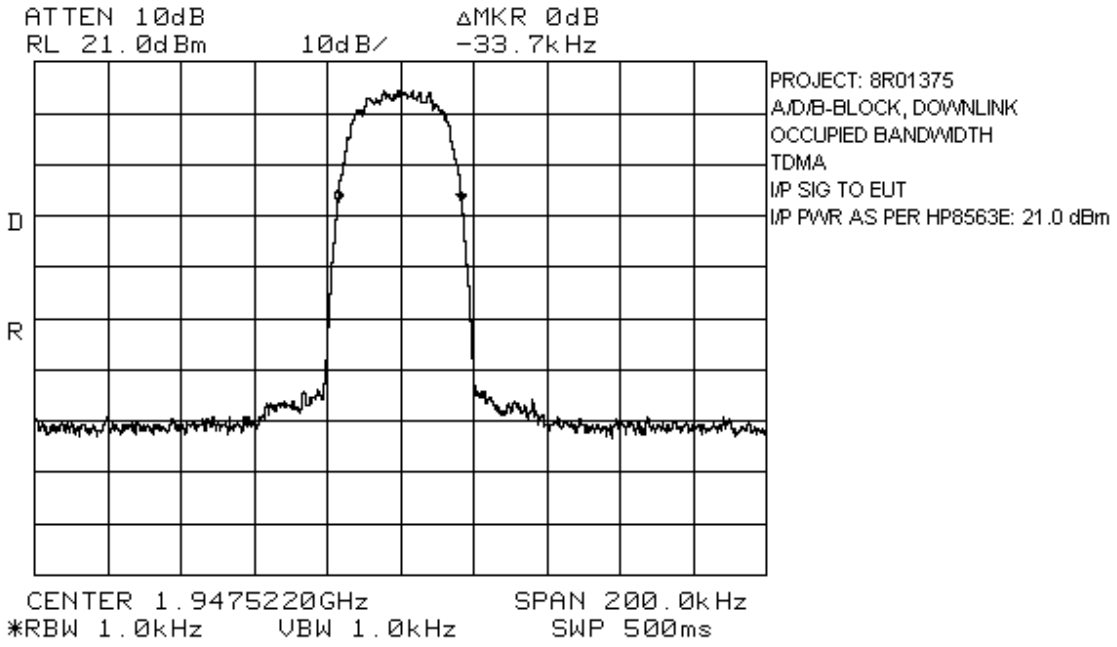

ATTEN 10dB
RL 23.5dBm
10dB/
ΔMKR -.50dB
-33.3kHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
TDMA
INPUT SIG. TO EUT
I/P PWR AS PER HP8563E: 23.5 dBm
D
R
CENTER 1.9775099GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

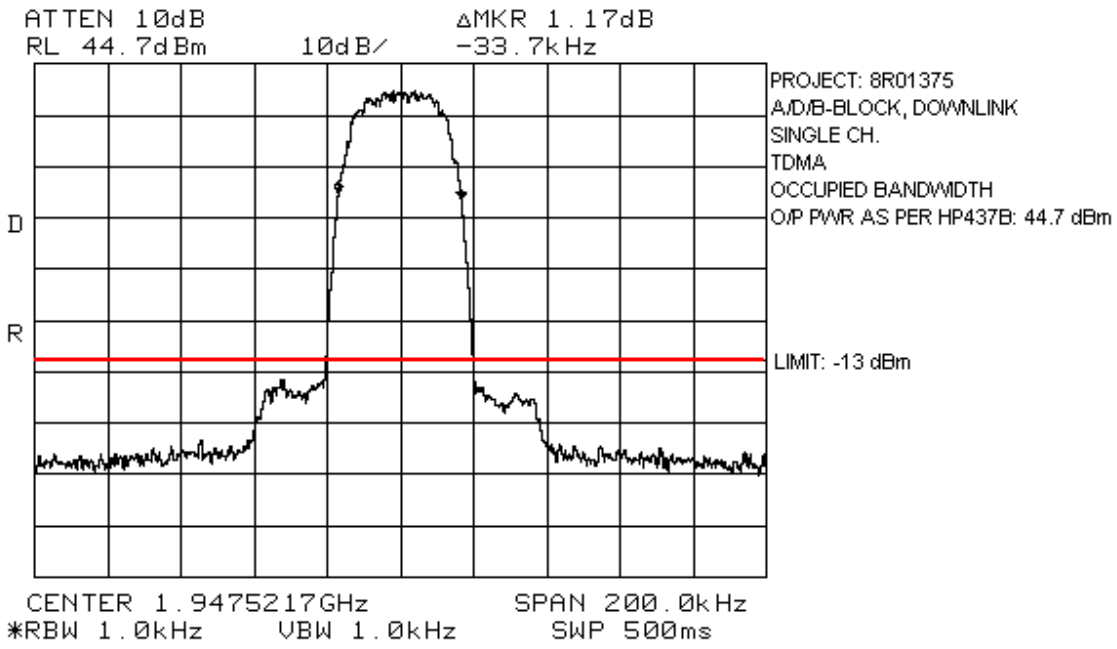

ATTEN 10dB
RL 46.3dBm
10dB/
ΔMKR -1.16dB
33.7kHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BAND WIDTH
SINGLE CH.
TDMA
O/P PWR AS EPR HP437B: 46.3 dBm
CENTER 1.9775123GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

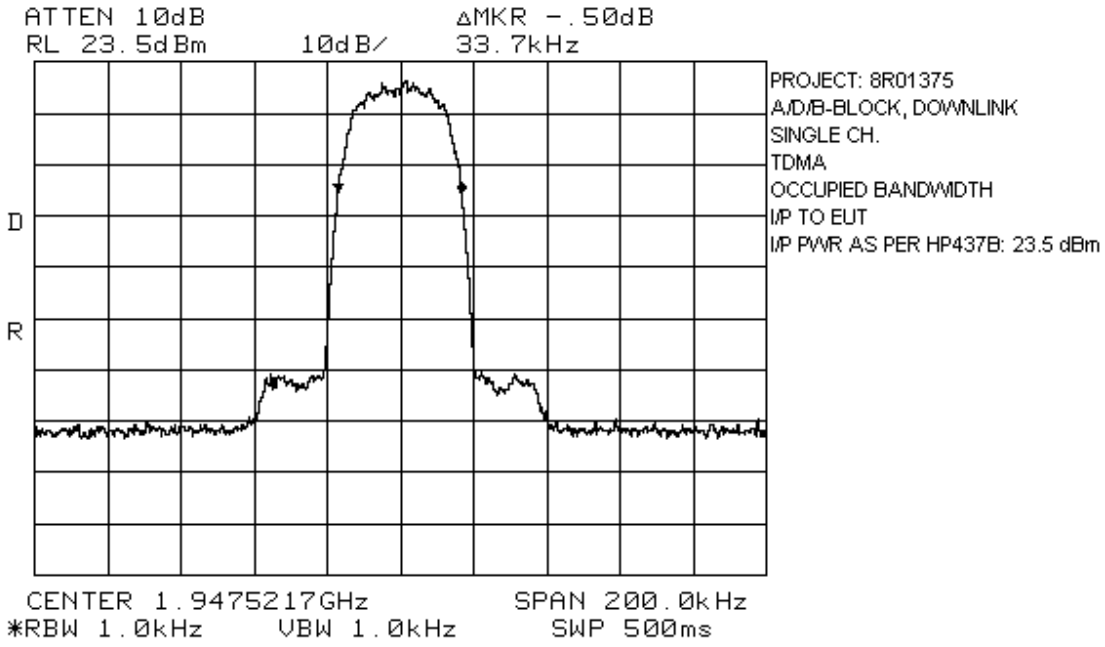

ATTEN 10dB
RL 25.4dBm
10dB/
ΔMKR -.67dB
33.3kHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH.
TDMA
I/P PSIG. TO EUT
I/P PWR AS PER HP437B: 24.7 dBm
CENTER 1.9775123GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

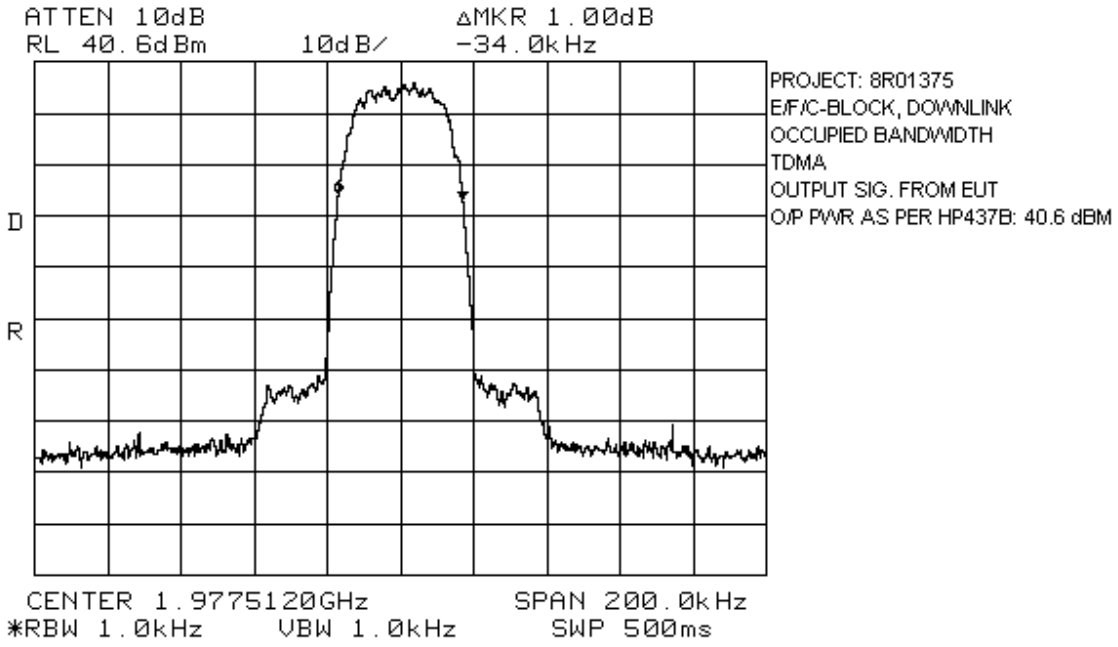
2-Amplifier Configuration (ADB & EFC Block) 2 Channel & Single Channel

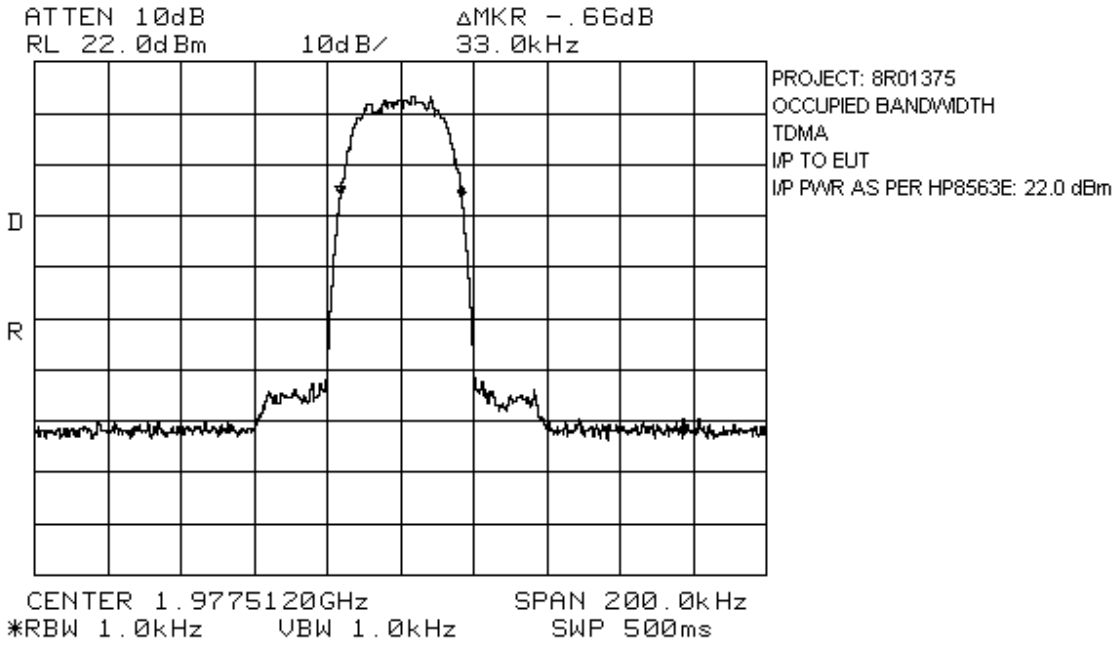


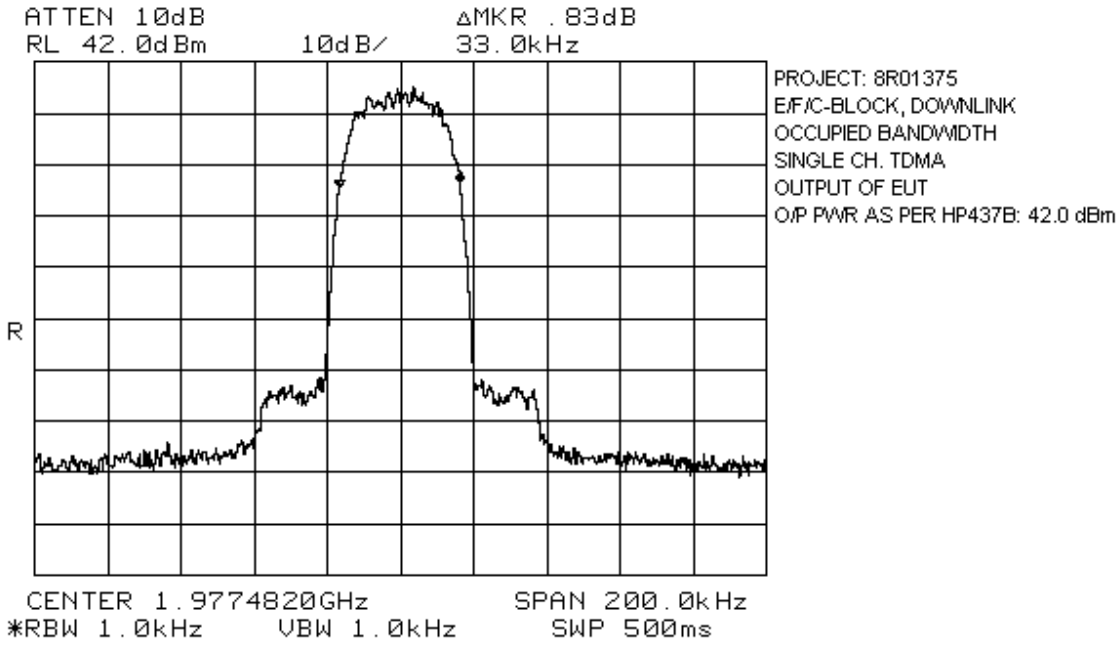

ATTEN 10dB
RL 21.0dBm
10dB/
ΔMKR 0dB
-33.7kHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
TDMA
I/P SIG TO EUT
I/P PWR AS PER HP8563E: 21.0 dBm
D
R
CENTER 1.9475220GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

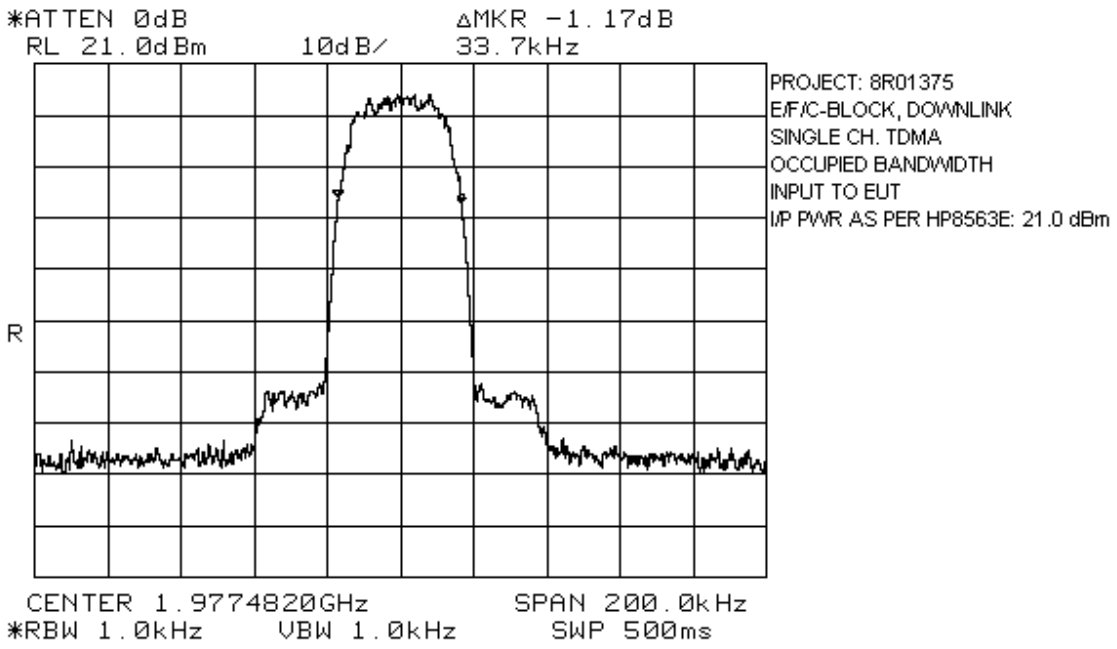

ATTEN 10dB
RL 44.7dBm
10dB/
ΔMKR 1.17dB
-33.7kHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
TDMA
OCCUPIED BANDWIDTH
O/P PWR AS PER HP437B: 44.7 dBm
D
R
LIMIT: -13 dBm
CENTER 1.9475217GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


ATTEN 10dB
RL 23.5dBm
10dB/
ΔMKR -.50dB
33.7kHz
D
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
TDMA
OCCUPIED BANDWIDTH
I/P TO EUT
I/P PWR AS PER HP437B: 23.5 dBm
CENTER 1.9475217GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


ATTEN 10dB
RL 40.6dBm
10dB/
ΔMKR 1.00dB
-34.0kHz
D
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
TDMA
OUTPUT SIG. FROM EUT
O/P PWR AS PER HP437B: 40.6 dBM
CENTER 1.9775120GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


ATTEN 10dB
RL 22.0dBm
10dB/
ΔMKR -.66dB
33.0kHz
PROJECT: 8R01375
OCCUPIED BANDWIDTH
TDMA
I/P TO EUT
I/P PWR AS PER HP8563E: 22.0 dBm
D
R
CENTER 1.9775120GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


ATTEN 10dB
RL 42.0dBm
10dB/
ΔMKR .83dB
33.0kHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
OCCUPIED BANDWIDTH
SINGLE CH. TDMA
OUTPUT OF EUT
O/P PWR AS PER HP437B: 42.0 dBm
CENTER 1.9774820GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


*ATTEN 0dB
RL 21.0dBm
10dB/
ΔMKR -1.17dB
33.7kHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. TDMA
OCCUPIED BANDWIDTH
INPUT TO EUT
I/P PWR AS PER HP8563E: 21.0 dBm
R
CENTER 1.9774820GHz
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: May 12, 1999

Test Results: Complies.

Test Data:

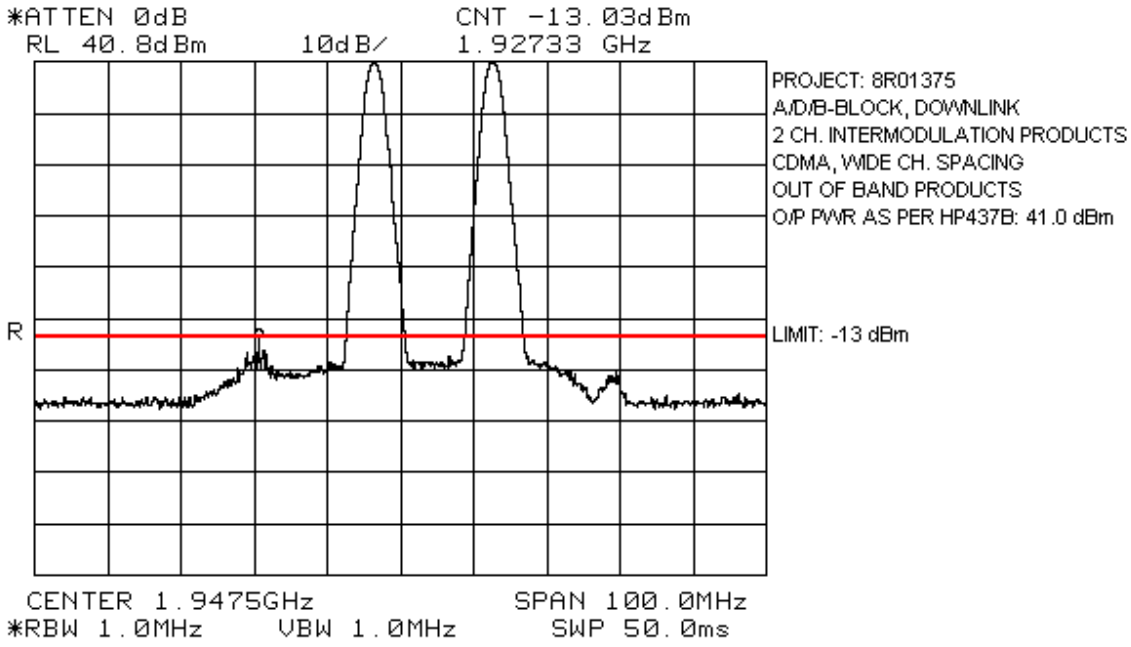
ADB-BLOCK	
NAME OF TEST	**WORST-CASE SPURIOUS LEVEL(dBm)**
0 to 20 GHz Spurious	-18.87
Lower Band Edge	-13.0
Upper Band Edge	-13.0
2-Channel Intermodulation Products	-13.0

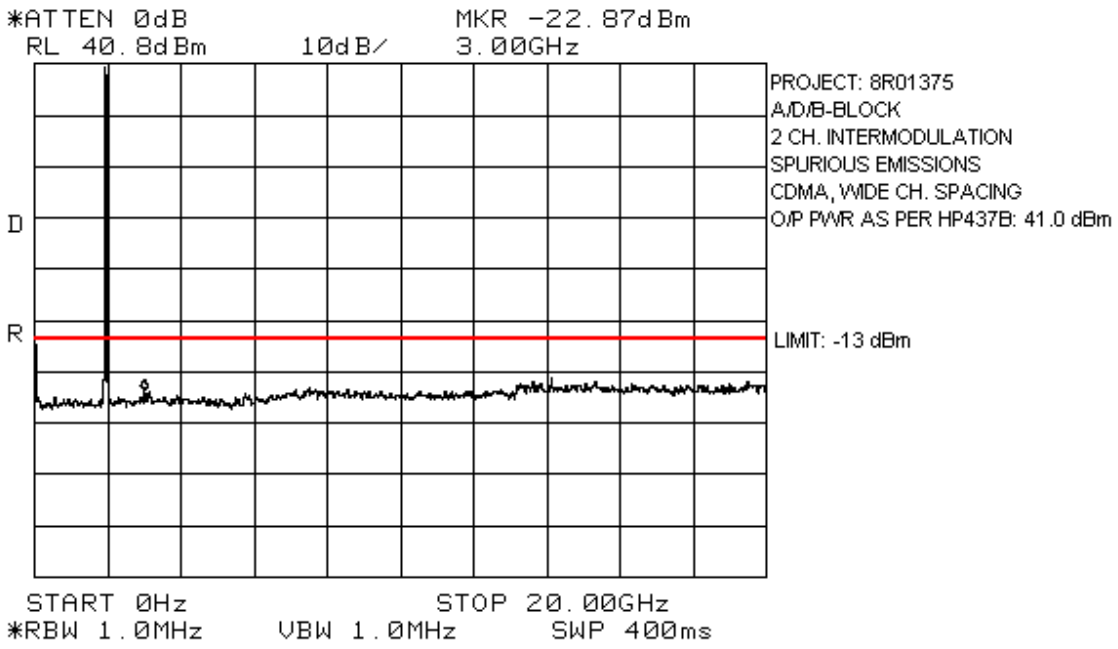
ADB-BLOCK, SINGLE CHANNEL	
NAME OF TEST	**WORST-CASE SPURIOUS LEVEL(dBm)**
0 to 20 GHz Spurious	-18.2
Lower Band Edge	-13.0
Upper Band Edge	-13.0
2-Channel Intermodulation Products	-13.0

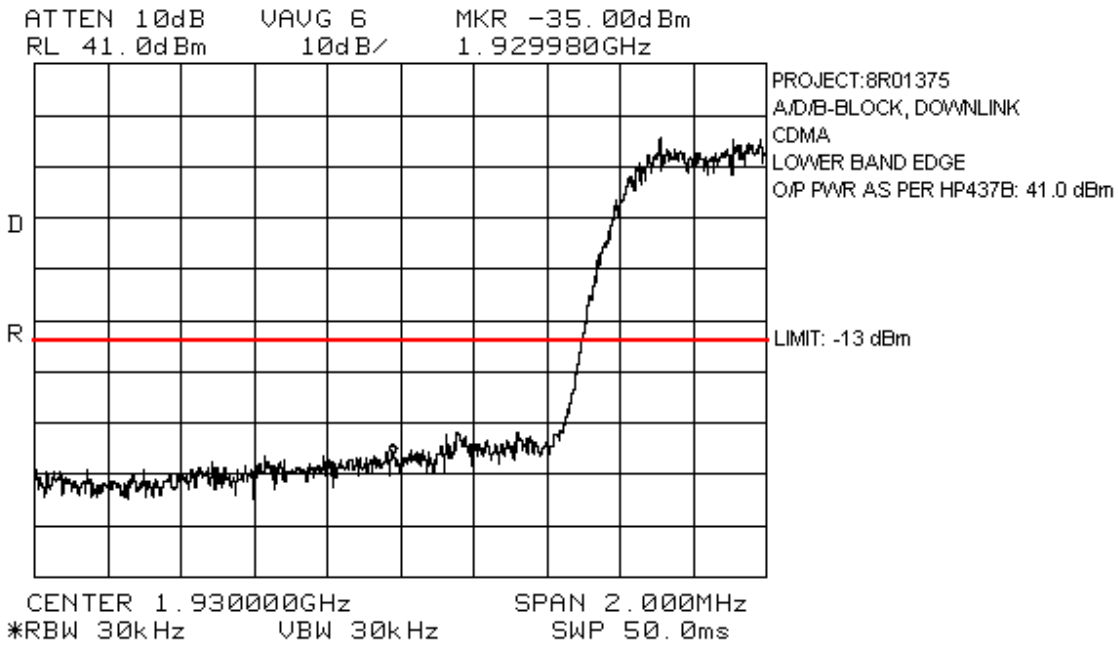
EFC-BLOCK	
NAME OF TEST	**WORST-CASE SPURIOUS LEVEL(dBm)**
0 to 20 GHz Spurious	-19.4
Lower Band Edge	-13.0
Upper Band Edge	-13.0
2-Channel Intermodulation Products	-13.0

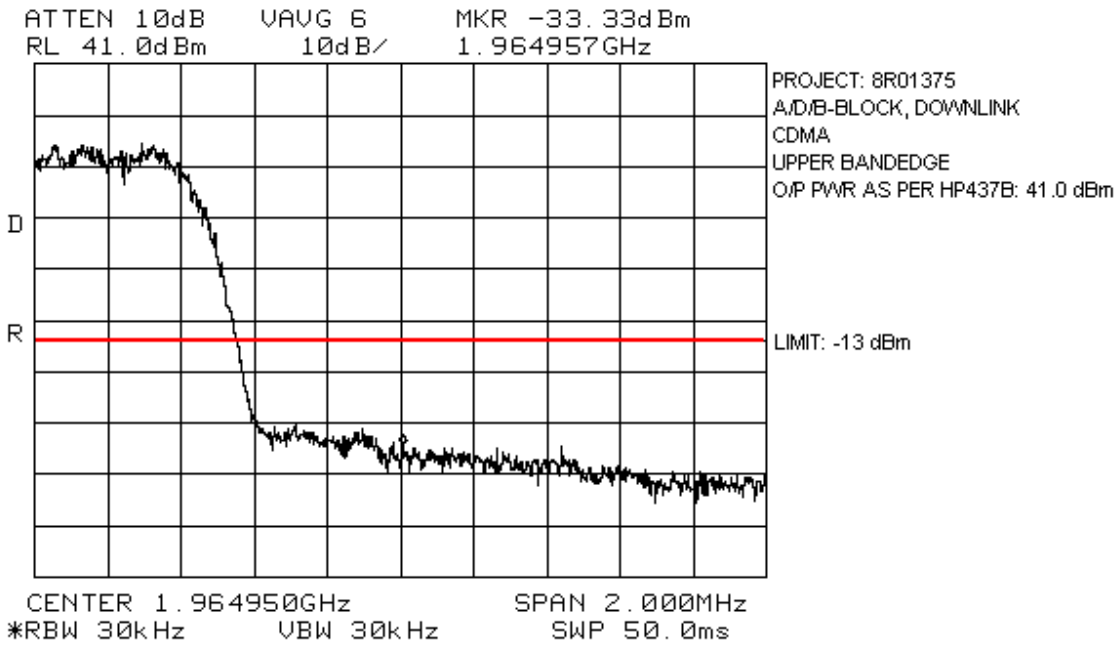
EFC-BLOCK, SINGLE CHANNEL	
NAME OF TEST	**WORST-CASE SPURIOUS LEVEL(dBm)**
0 to 20 GHz Spurious	-17.37
Lower Band Edge	-13.0
Upper Band Edge	-13.0
2-Channel Intermodulation Products	-13.0

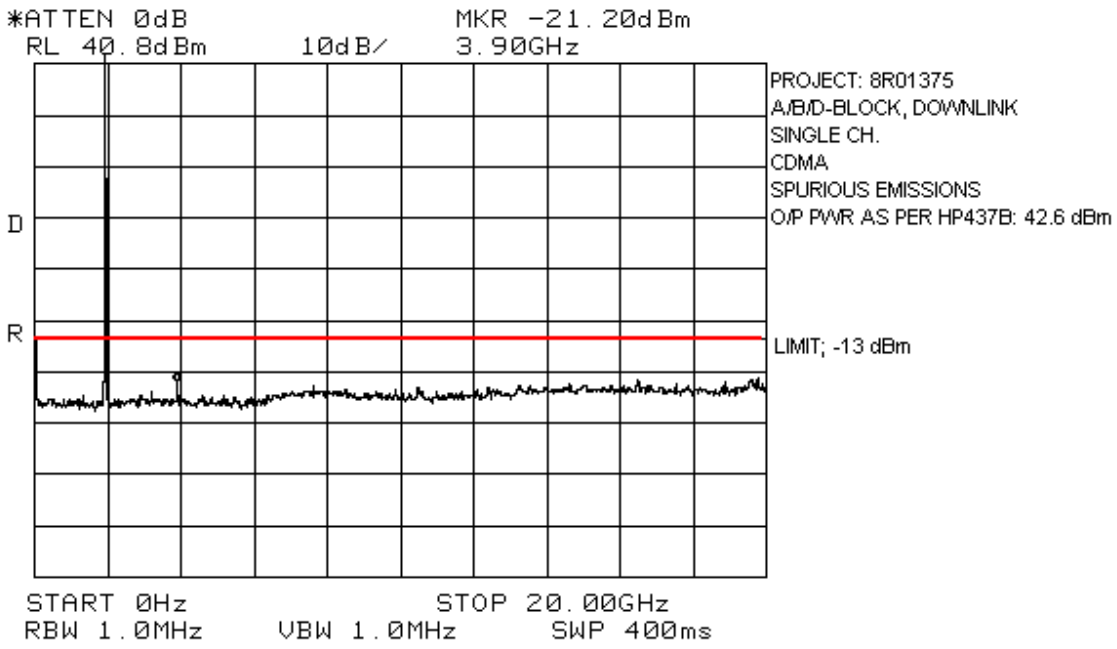
4-Amplifier Configuration (ADB-Block) 2 Channel & Single Channel

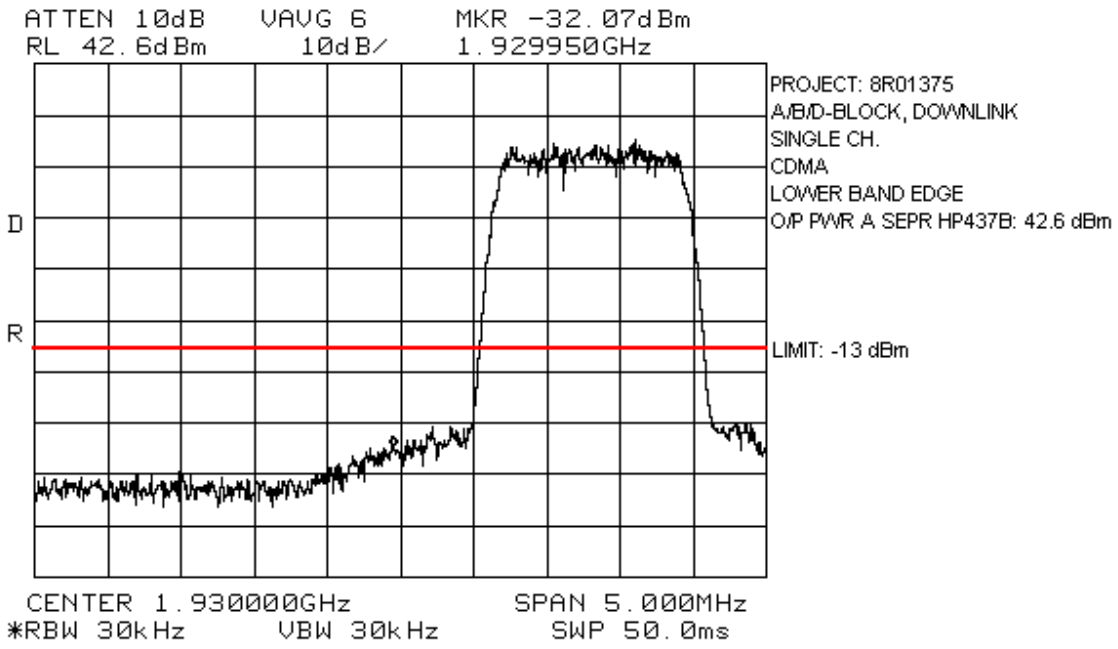


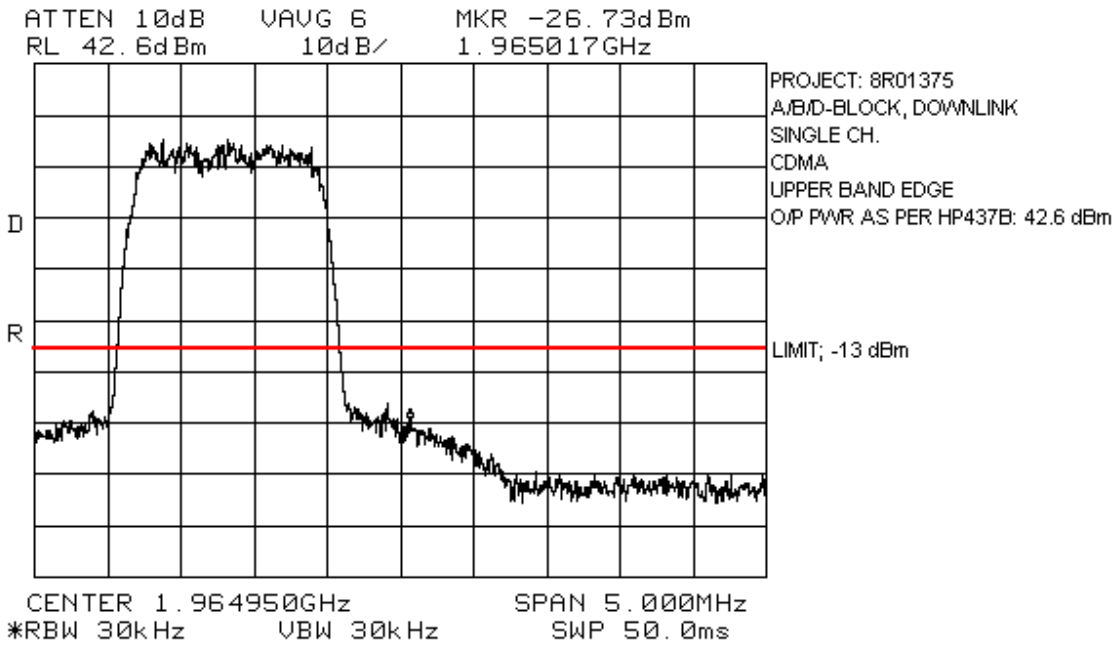

*ATTEN 0dB
MKR -22.87dBm
RL 40.8dBm
10dB/
3.00GHz
PROJECT: 8R01375
A/D/B-BLOCK
2 CH. INTERMODULATION
SPURIOUS EMISSIONS
CDMA, WIDE CH. SPACING
O/P PWR AS PER HP437B: 41.0 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

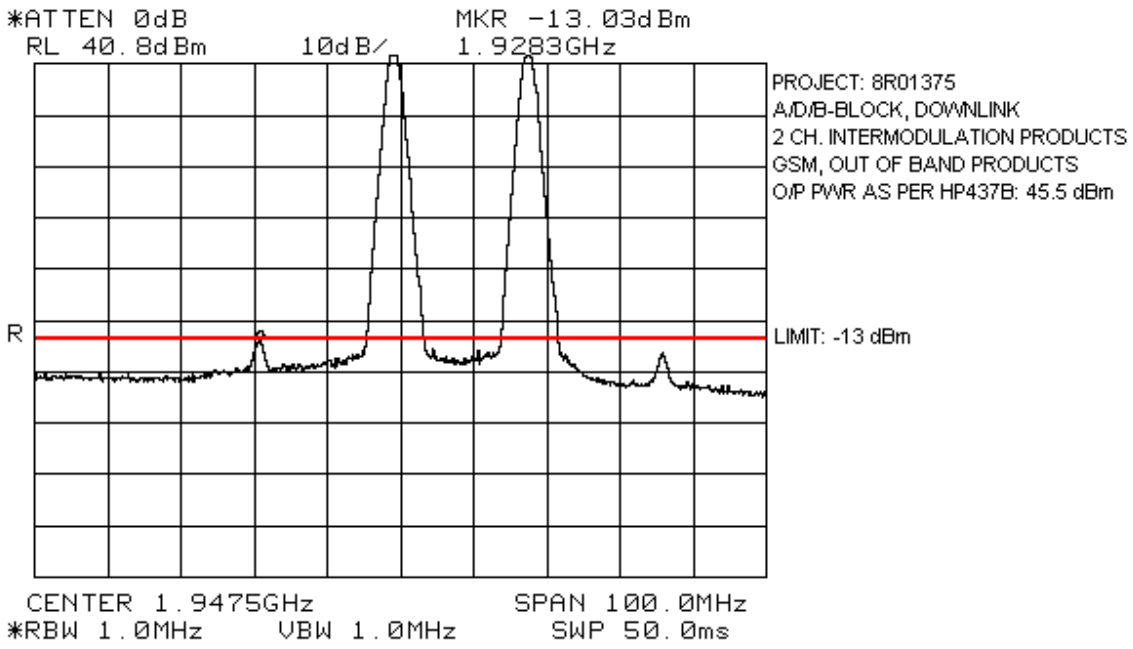

ATTEN 10dB
RL 41.0dBm
VAVG 6
10dB/
MKR -35.00dBm
1.929980GHz
PROJECT:8R01375
A/D/B-BLOCK, DOWNLINK
CDMA
LOWER BAND EDGE
O/P PWR AS PER HP437B: 41.0 dBm
D
R
LIMIT: -13 dBm
CENTER 1.930000GHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

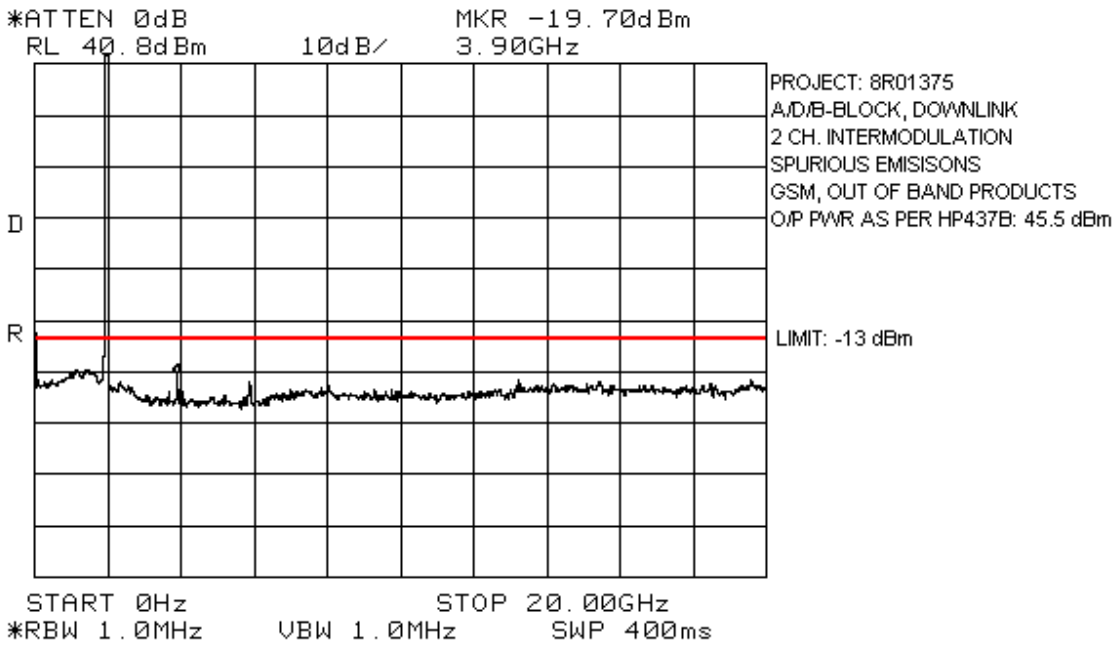

ATTEN 10dB
RL 41.0dBm
VAVG 6
10dB/
MKR -33.33dBm
1.964957GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
CDMA
UPPER BANDEDGE
O/P PWR AS PER HP437B: 41.0 dBm
D
R
LIMIT: -13 dBm
CENTER 1.964950GHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

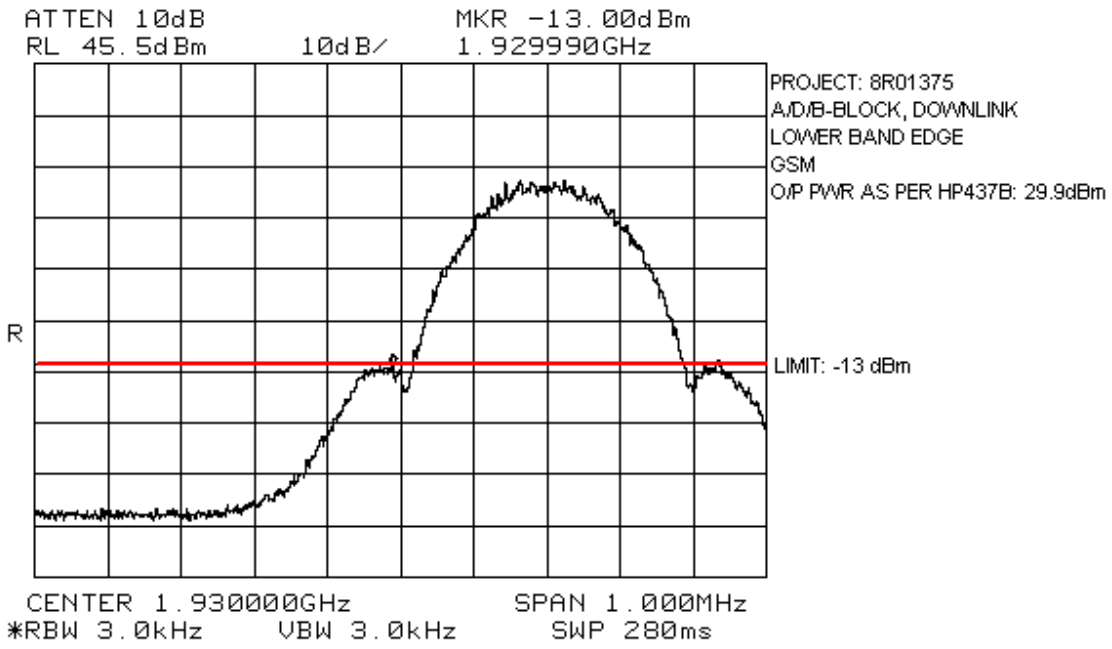

*ATTEN 0dB
MKR -21.20dBm
RL 40.8dBm
10dB/
3.90GHz
PROJECT: 8R01375
A/B/D-BLOCK, DOWNLINK
SINGLE CH.
CDMA
SPURIOUS EMISSIONS
O/P PWR AS PER HP437B: 42.6 dBm
D
R
LIMIT; -13 dBm
START 0Hz
STOP 20.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

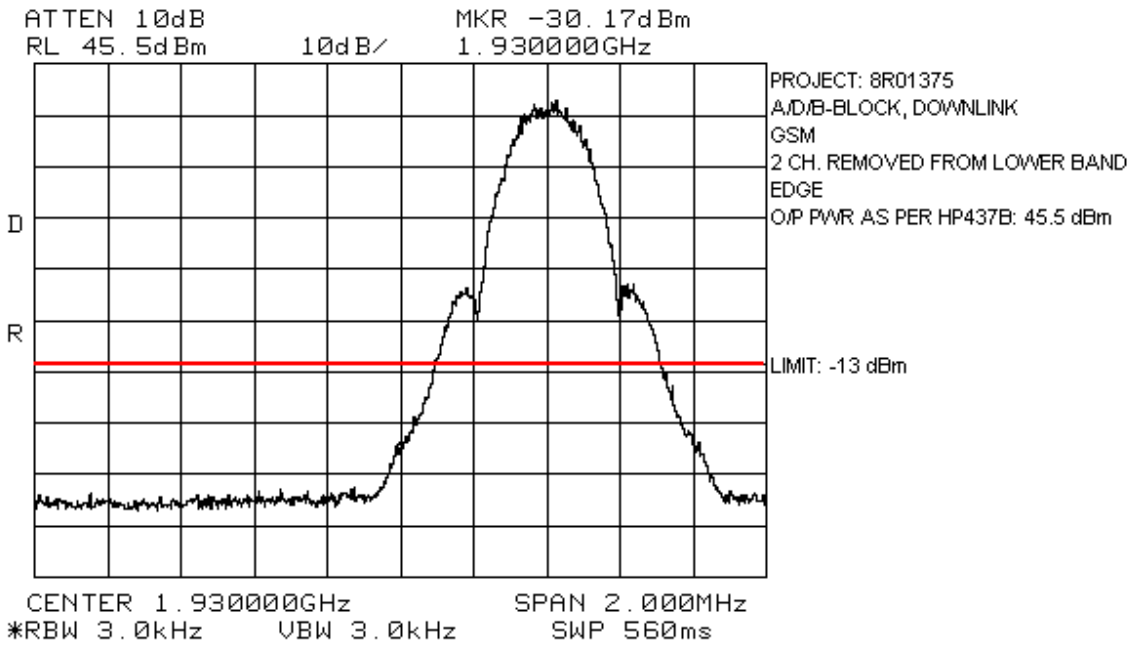

ATTEN 10dB
VAVG 6
MKR -32.07dBm
RL 42.6dBm
10dB/
1.929950GHz
PROJECT: 8R01375
A/B/D-BLOCK, DOWNLINK
SINGLE CH.
CDMA
LOWER BAND EDGE
O/P PWR A SEPR HP437B: 42.6 dBm
D
R
LIMIT: -13 dBm
CENTER 1.930000GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

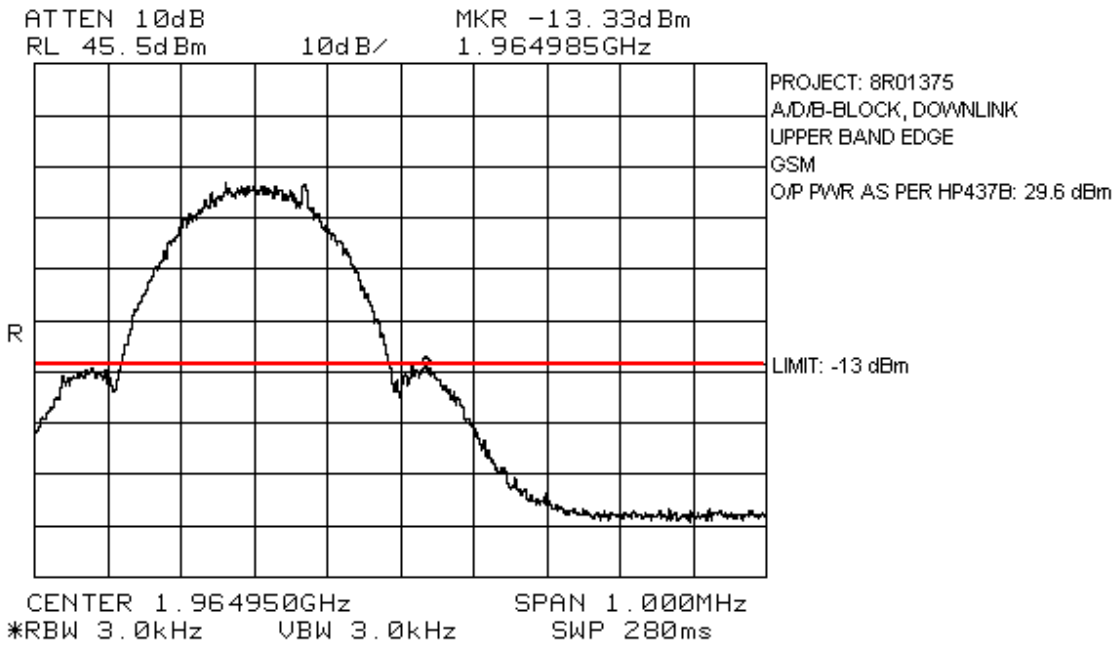

ATTEN 10dB
VAVG 6
MKR -26.73dBm
RL 42.6dBm
10dB/
1.965017GHz
PROJECT: 8R01375
A/B/D-BLOCK, DOWNLINK
SINGLE CH.
CDMA
UPPER BAND EDGE
O/P PWR AS PER HP437B: 42.6 dBm
D
R
LIMIT; -13 dBm
CENTER 1.964950GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

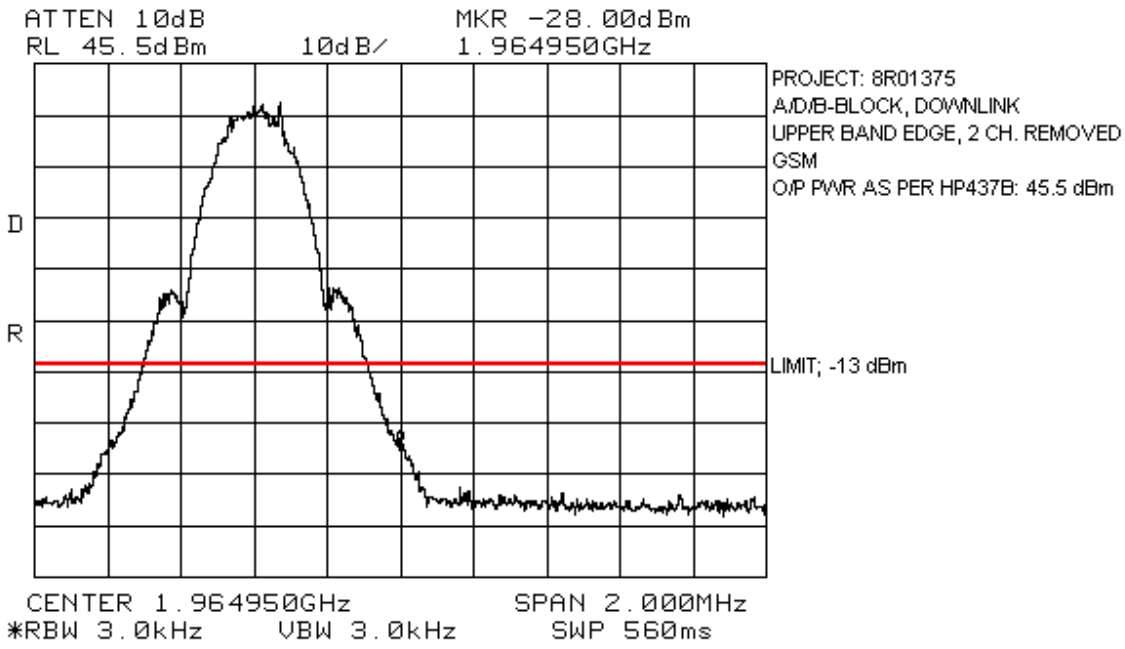

*ATTEN 0dB
RL 40.8dBm
10dB/
MKR -13.03dBm
1.9283GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
2 CH. INTERMODULATION PRODUCTS
GSM, OUT OF BAND PRODUCTS
O/P PWR AS PER HP437B: 45.5 dBm
R
LIMIT: -13 dBm
CENTER 1.9475GHz
SPAN 100.0MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

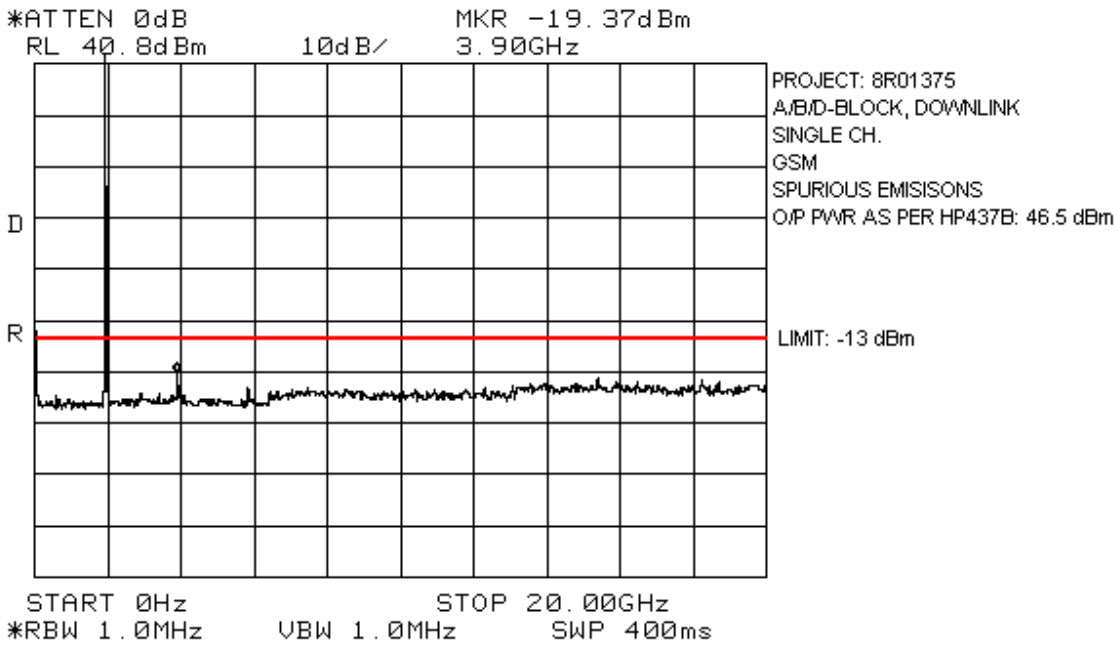

*ATTEN 0dB
MKR -19.70dBm
RL 40.8dBm
10dB/
3.90GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
2 CH. INTERMODULATION
SPURIOUS EMISISONS
GSM, OUT OF BAND PRODUCTS
O/P PWR AS PER HP437B: 45.5 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

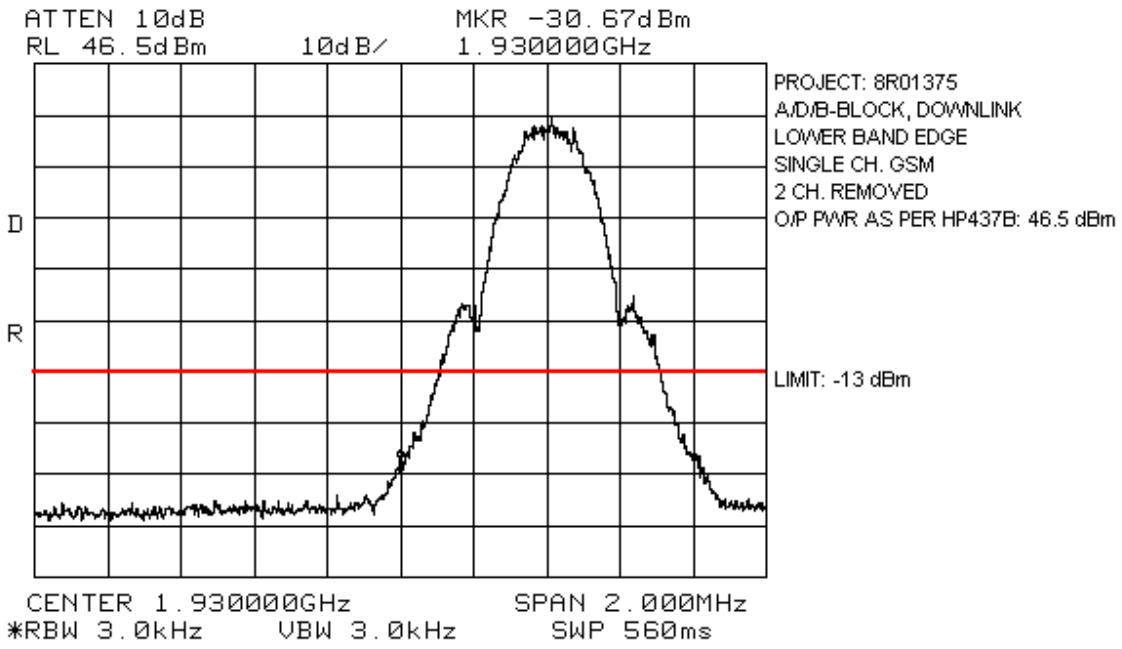

ATTEN 10dB
RL 45.5dBm
10dB/
MKR -13.00dBm
1.929990GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
LOWER BAND EDGE
GSM
O/P PWR AS PER HP437B: 29.9dBm
R
LIMIT: -13 dBm
CENTER 1.930000GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

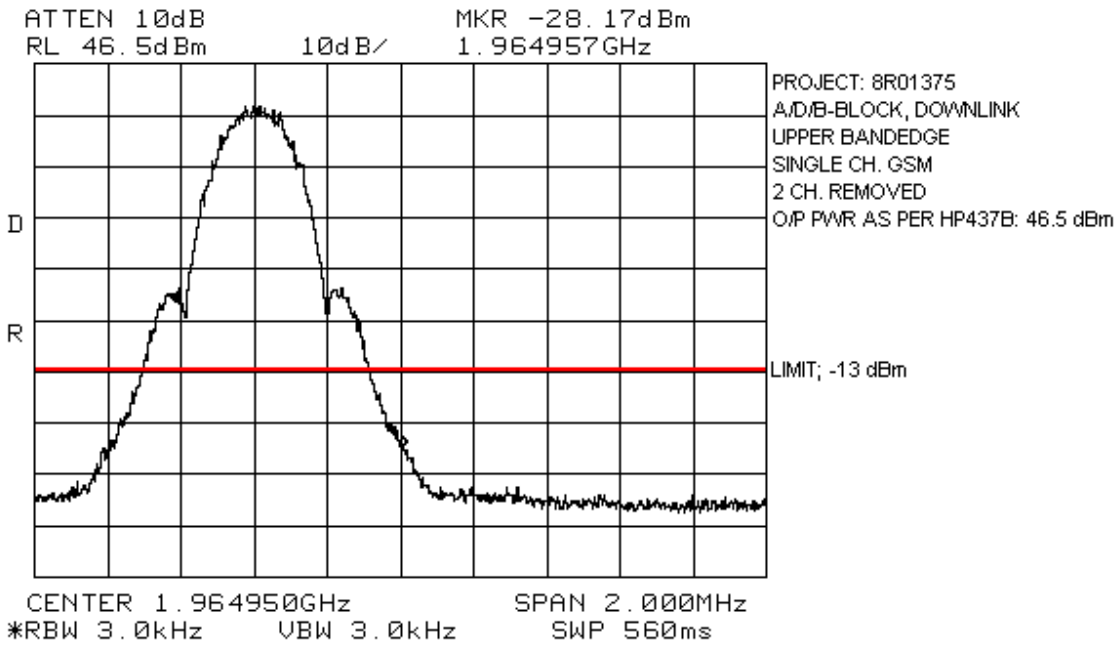

ATTEN 10dB
RL 45.5dBm
10dB/
MKR -30.17dBm
1.930000GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
GSM
2 CH. REMOVED FROM LOWER BAND EDGE
O/P PWR AS PER HP437B: 45.5 dBm
D
R
LIMIT: -13 dBm
CENTER 1.930000GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

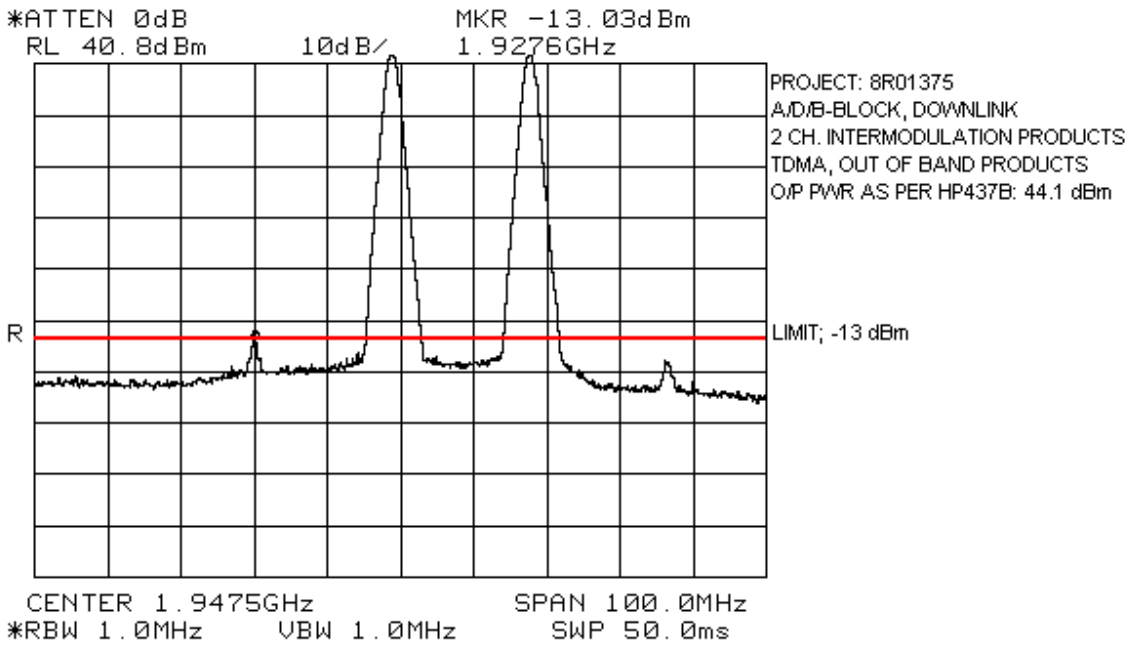

ATTEN 10dB
RL 45.5dBm
10dB/
MKR -13.33dBm
1.964985GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
UPPER BAND EDGE
GSM
O/P PWR AS PER HP437B: 29.6 dBm
R
LIMIT: -13 dBm
CENTER 1.964950GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

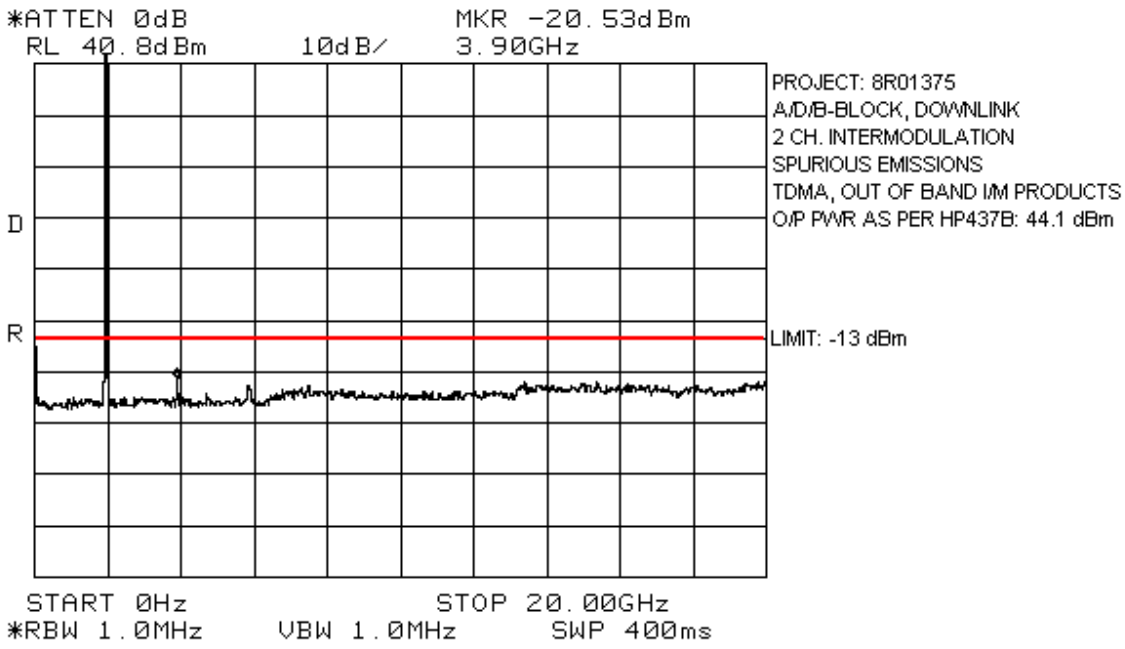

ATTEN 10dB
RL 45.5dBm
10dB/
MKR -28.00dBm
1.964950GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
UPPER BAND EDGE, 2 CH. REMOVED
GSM
O/P PWR AS PER HP437B: 45.5 dBm
D
R
LIMIT; -13 dBm
CENTER 1.964950GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

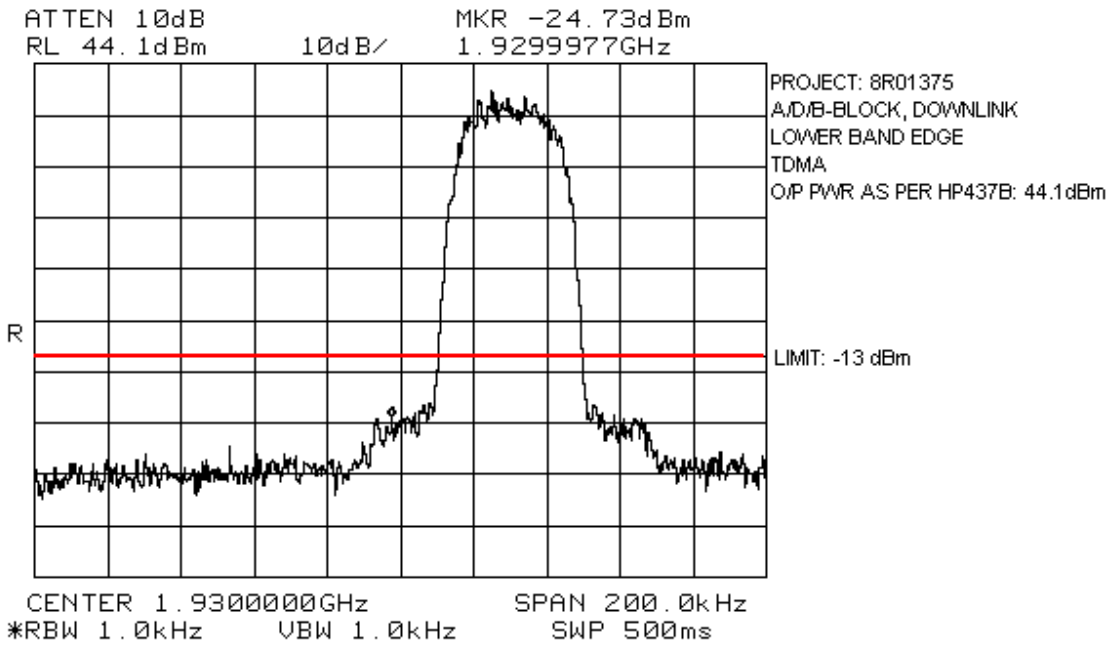

*ATTEN 0dB
MKR -19.37dBm
RL 40.8dBm
10dB/
3.90GHz
PROJECT: 8R01375
A/B/D-BLOCK, DOWNLINK
SINGLE CH.
GSM
SPURIOUS EMISISONS
O/P PWR AS PER HP437B: 46.5 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

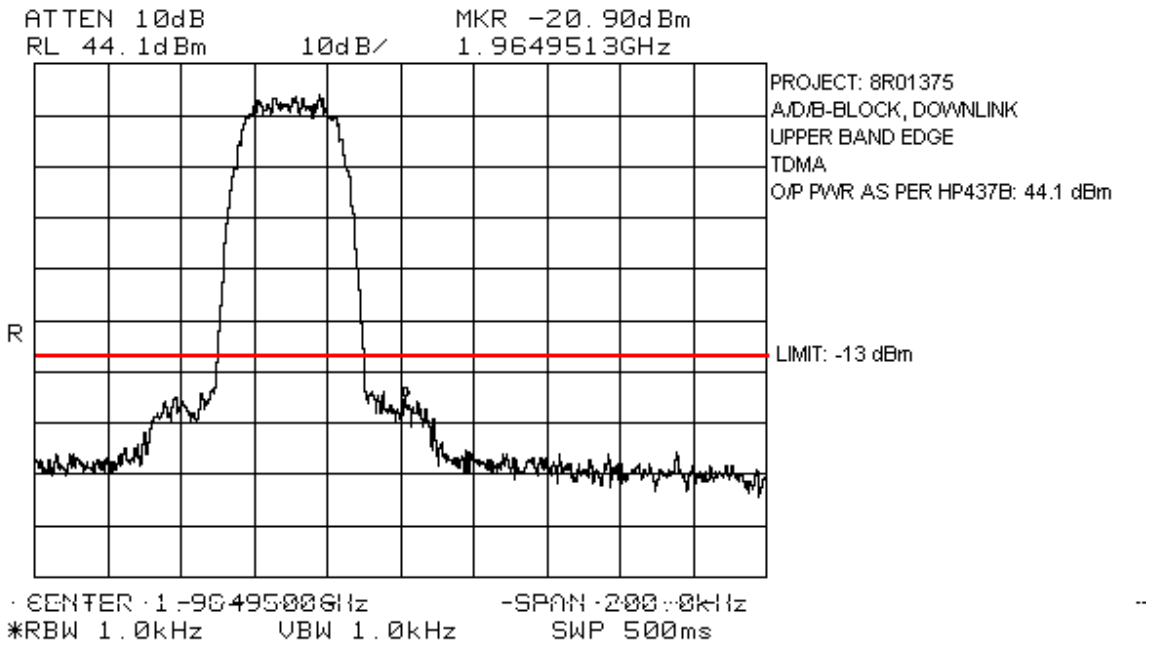

ATTEN 10dB
RL 46.5dBm
10dB/
MKR -30.67dBm
1.930000GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
LOWER BAND EDGE
SINGLE CH. GSM
2 CH. REMOVED
O/P PWR AS PER HP437B: 46.5 dBm
D
R
LIMIT: -13 dBm
CENTER 1.930000GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

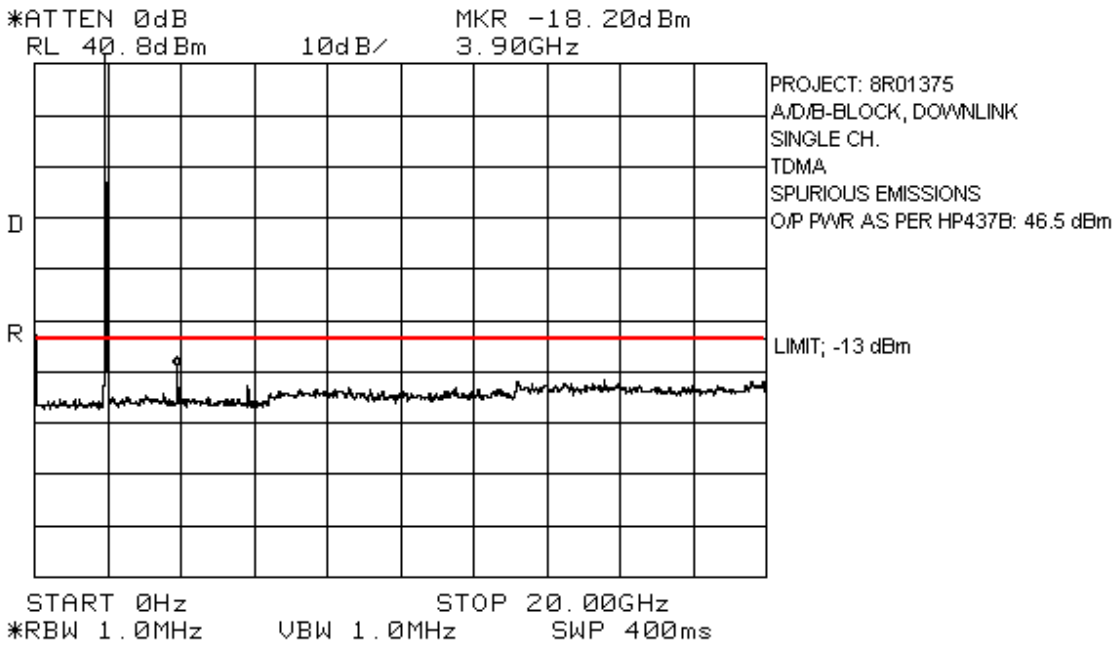

ATTEN 10dB
RL 46.5dBm
10dB/
MKR -28.17dBm
1.964957GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
UPPER BANDEDGE
SINGLE CH. GSM
2 CH. REMOVED
O/P PWR AS PER HP437B: 46.5 dBm
D
R
LIMIT; -13 dBm
CENTER 1.964950GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

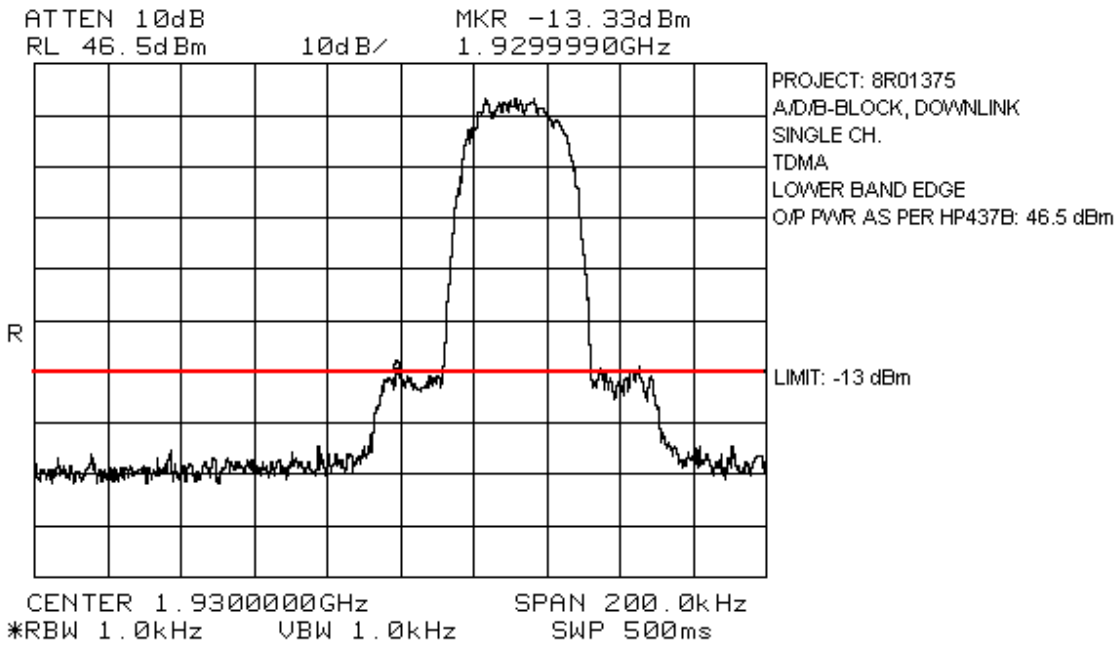

*ATTEN 0dB
RL 40.8dBm
10dB/
MKR -13.03dBm
1.9276GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
2 CH. INTERMODULATION PRODUCTS
TDMA, OUT OF BAND PRODUCTS
O/P PWR AS PER HP437B: 44.1 dBm
R
LIMIT; -13 dBm
CENTER 1.9475GHz
SPAN 100.0MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

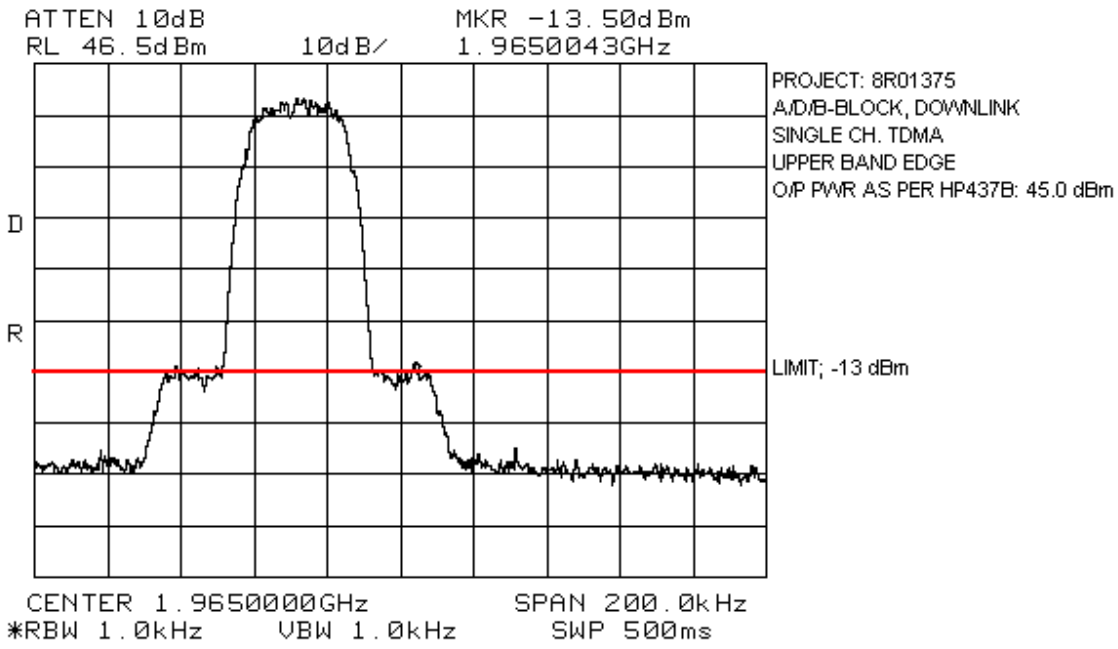

*ATTEN 0dB
MKR -20.53dBm
RL 40.8dBm
10dB/
3.90GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
2 CH. INTERMODULATION
SPURIOUS EMISSIONS
TDMA, OUT OF BAND I/M PRODUCTS
O/P PWR AS PER HP437B: 44.1 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

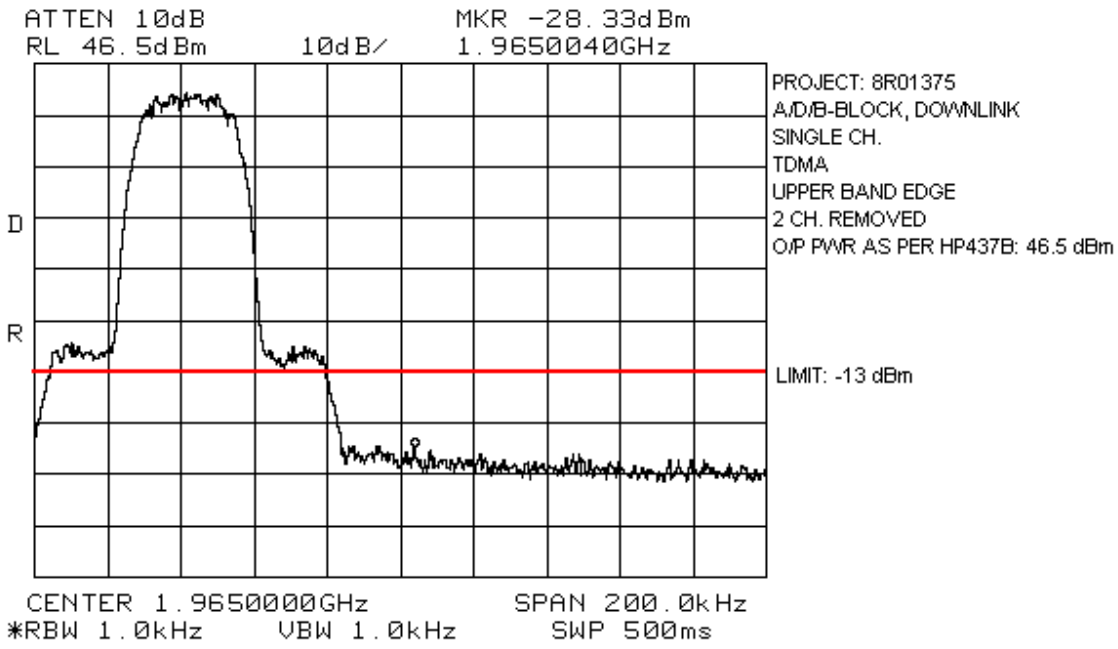

ATTEN 10dB
RL 44.1dBm
10dB/
MKR -24.73dBm
1.9299977GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
LOWER BAND EDGE
TDMA
O/P PWR AS PER HP437B: 44.1dBm
R
LIMIT: -13 dBm
CENTER 1.9300000GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


ATTEN 10dB
RL 44.1dBm
10dB/
MKR -20.90dBm
1.9649513GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
UPPER BAND EDGE
TDMA
O/P PWR AS PER HP437B: 44.1 dBm
R
LIMIT: -13 dBm
CENTER 1.9649500GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

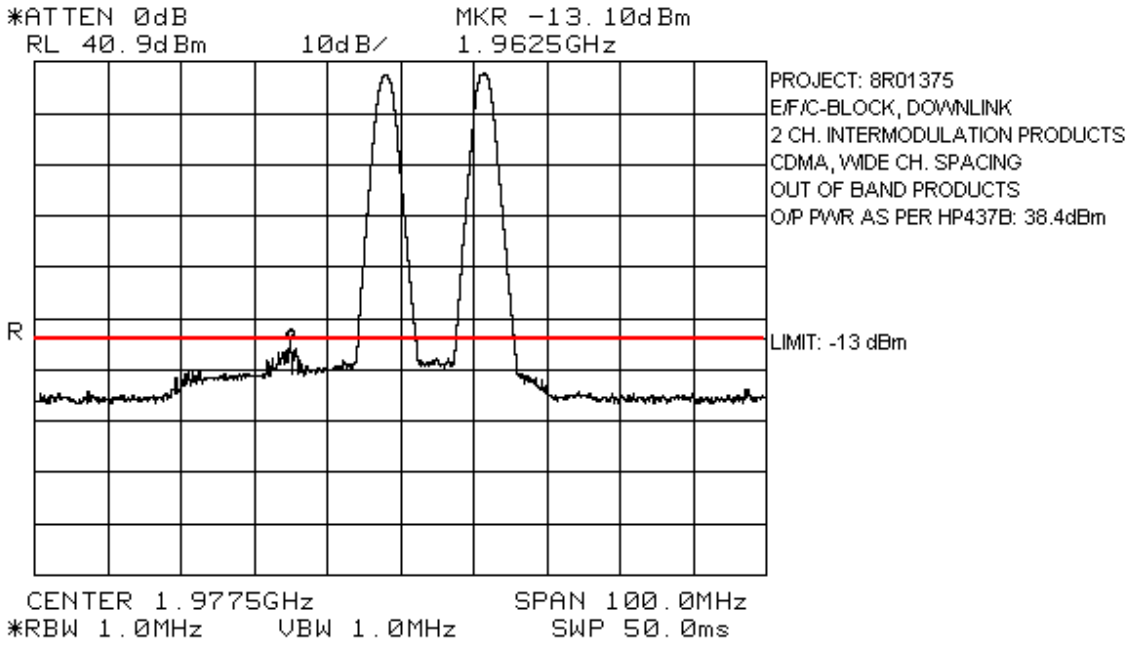

*ATTEN 0dB
MKR -18.20dBm
RL 40.8dBm
10dB/
3.90GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
TDMA
SPURIOUS EMISSIONS
O/P PWR AS PER HP437B: 46.5 dBm
D
R
LIMIT; -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

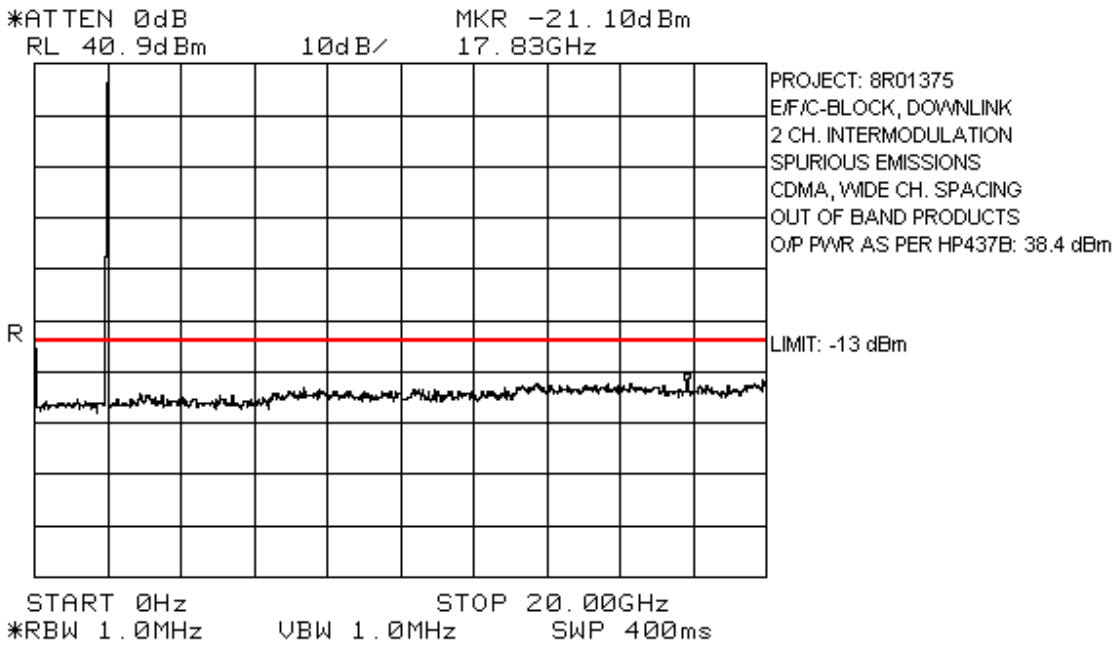

ATTEN 10dB
RL 46.5dBm
10dB/
MKR -13.33dBm
1.9299990GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
TDMA
LOWER BAND EDGE
O/P PWR AS PER HP437B: 46.5 dBm
R
LIMIT: -13 dBm
CENTER 1.9300000GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

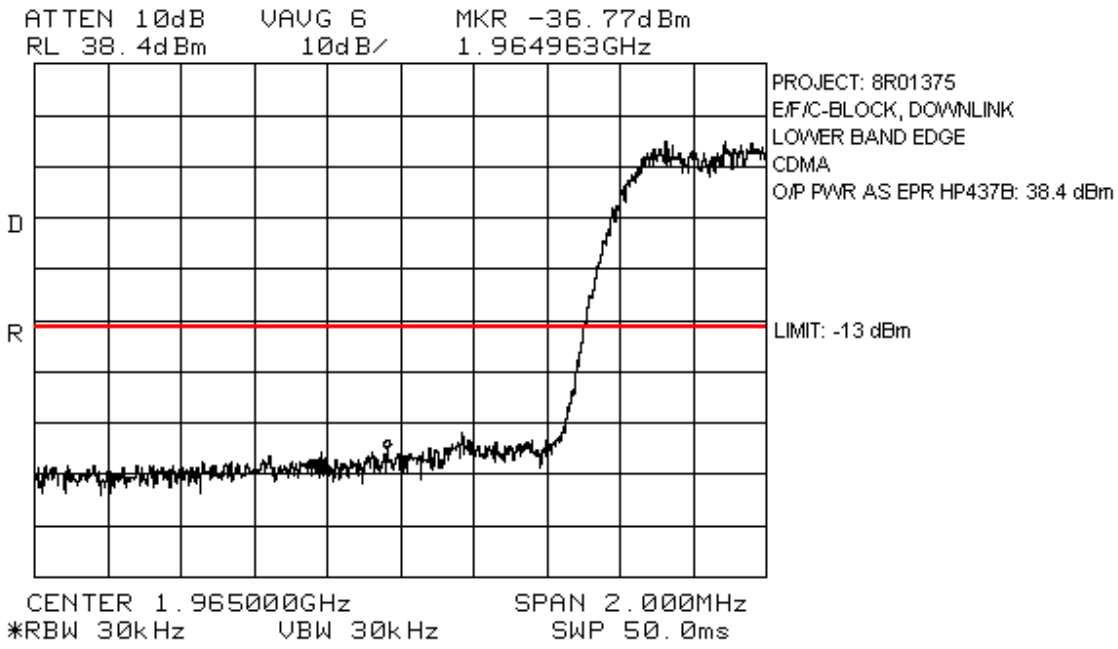

ATTEN 10dB
RL 46.5dBm
10dB/
MKR -13.50dBm
1.9650043GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH. TDMA
UPPER BAND EDGE
O/P PWR AS PER HP437B: 45.0 dBm
D
R
LIMIT; -13 dBm
CENTER 1.9650000GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

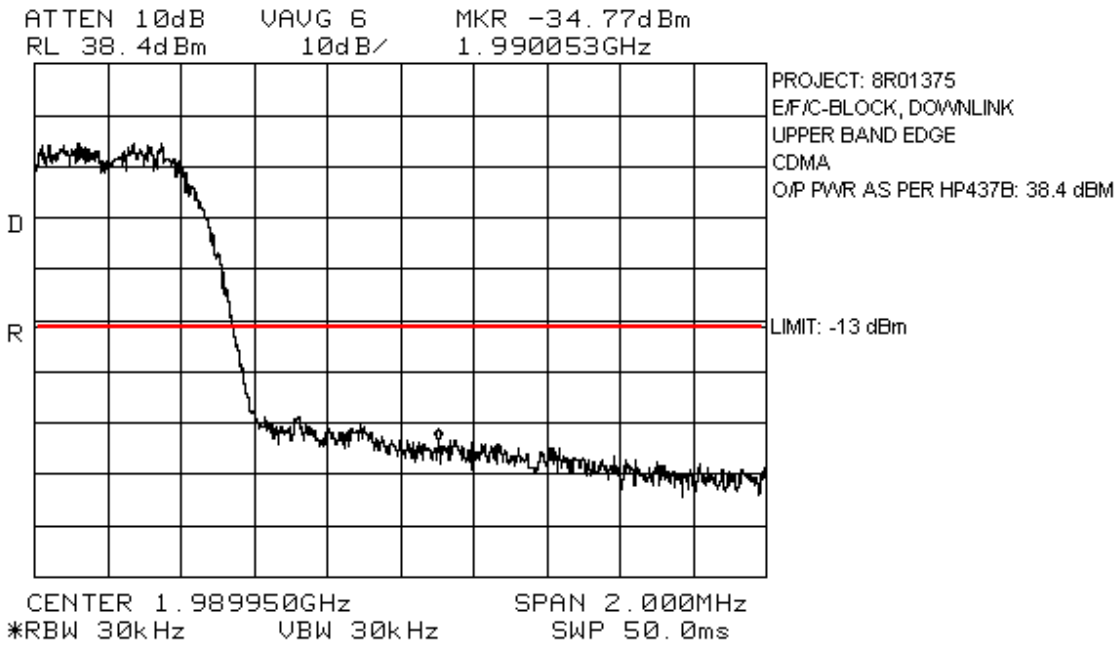

ATTEN 10dB
RL 46.5dBm
10dB/
MKR -28.33dBm
1.9650040GHz
D
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
TDMA
UPPER BAND EDGE
2 CH. REMOVED
O/P PWR AS PER HP437B: 46.5 dBm
LIMIT: -13 dBm
CENTER 1.9650000GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

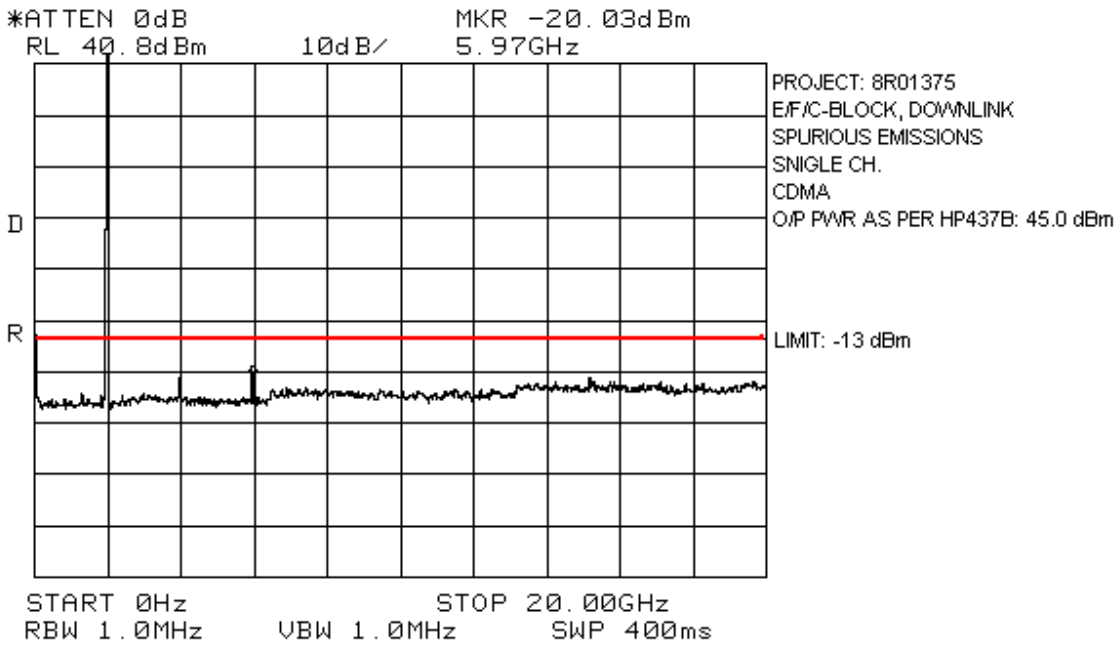
4-Amplifier Configuration (EFC Block) 2 Channel & Single Channel

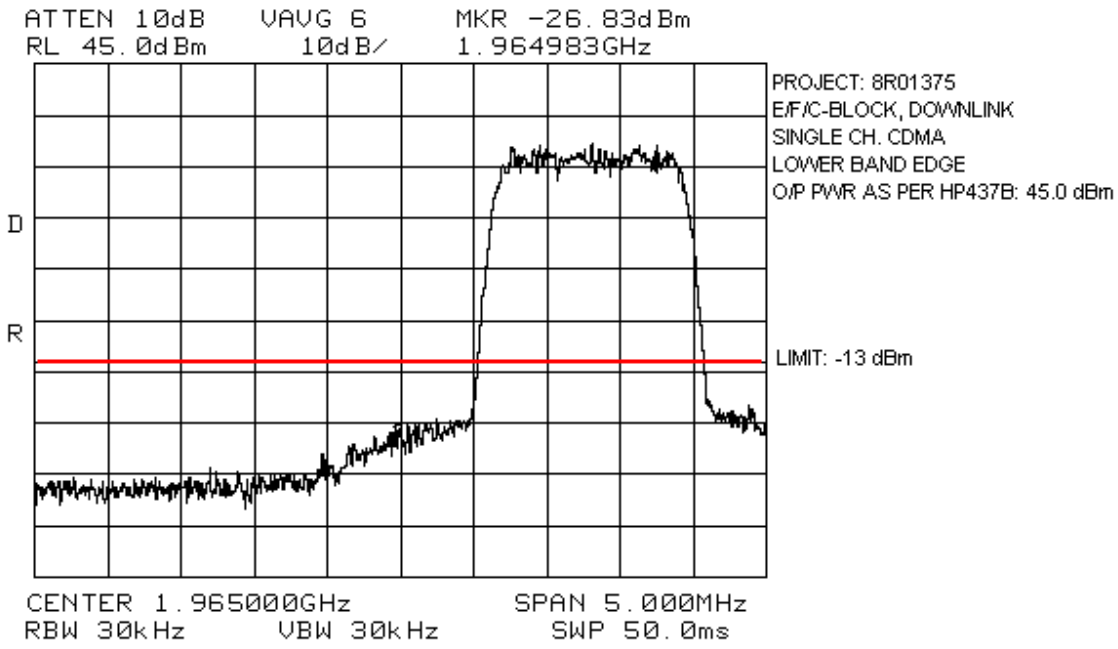


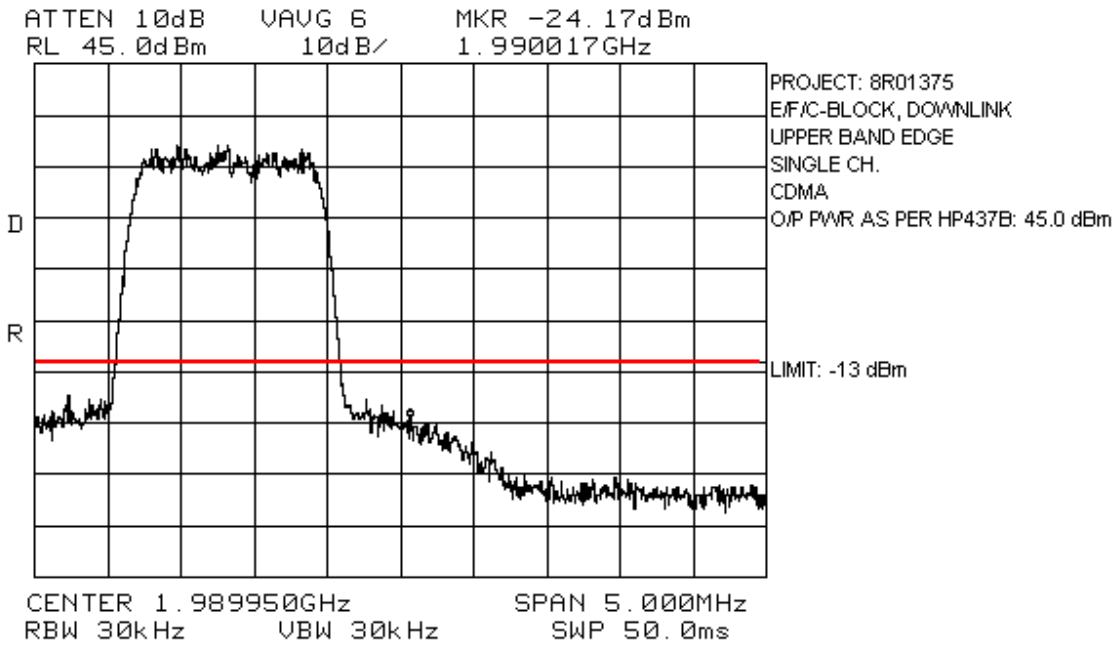

*ATTEN 0dB
MKR -21.10dBm
RL 40.9dBm
10dB/
17.83GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
2 CH. INTERMODULATION
SPURIOUS EMISSIONS
CDMA, WIDE CH. SPACING
OUT OF BAND PRODUCTS
O/P PWR AS PER HP437B: 38.4 dBm
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

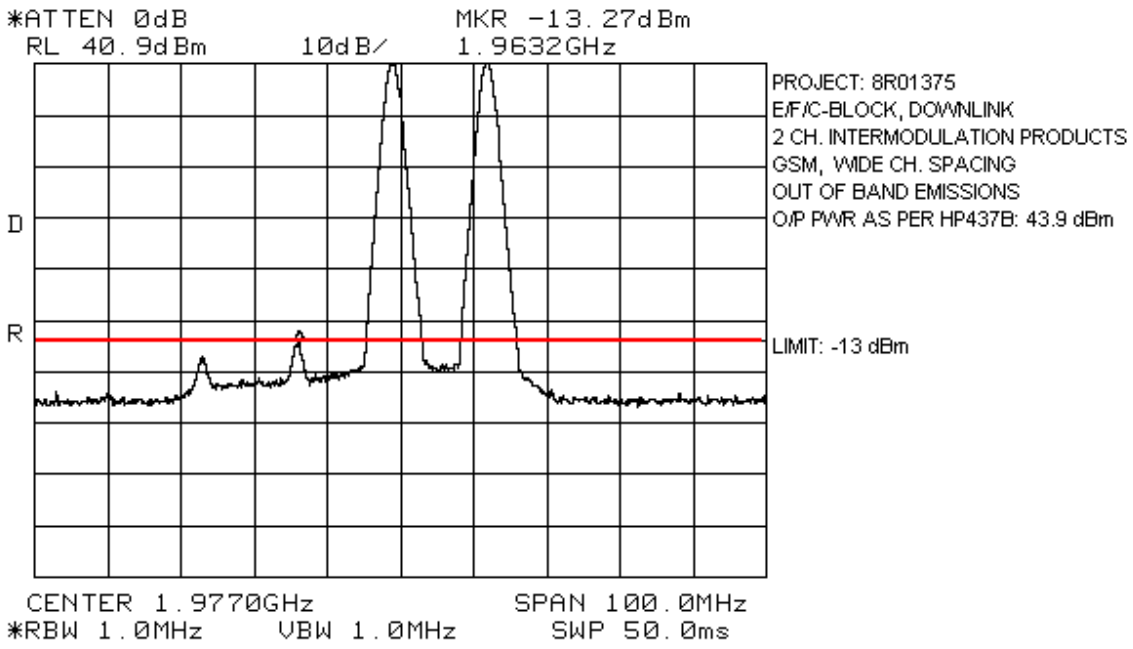

ATTEN 10dB
VAVG 6
MKR -36.77dBm
RL 38.4dBm
10dB/
1.964963GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
LOWER BAND EDGE
CDMA
O/P PWR AS EPR HP437B: 38.4 dBm
D
R
LIMIT: -13 dBm
CENTER 1.965000GHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

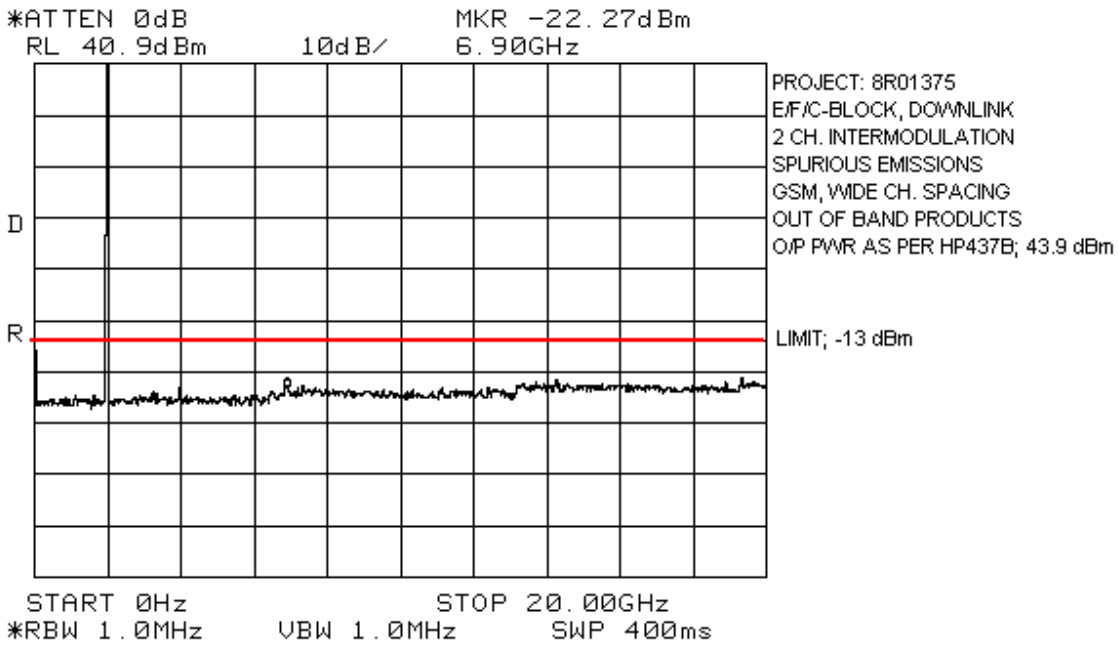

ATTEN 10dB
RL 38.4dBm
VAVG 6
10dB/
MKR -34.77dBm
1.990053GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
UPPER BAND EDGE
CDMA
O/P PWR AS PER HP437B: 38.4 dBM
D
R
LIMIT: -13 dBm
CENTER 1.989950GHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

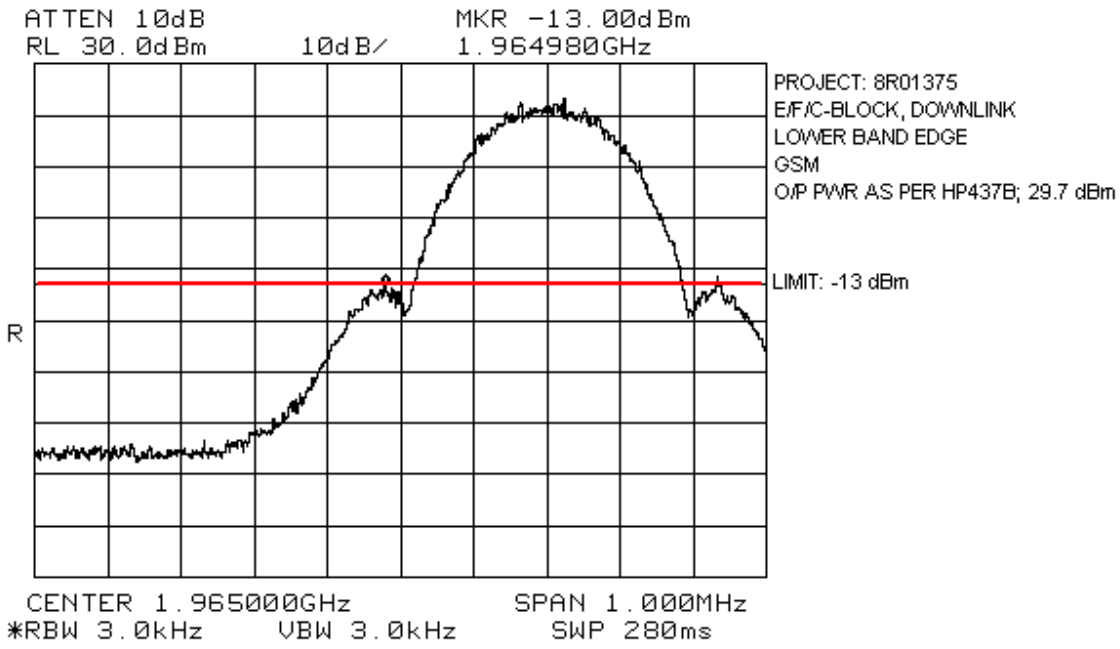

*ATTEN 0dB
MKR -20.03dBm
RL 40.8dBm
10dB/
5.97GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SPURIOUS EMISSIONS
SNIGLE CH.
CDMA
O/P PWR AS PER HP437B: 45.0 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

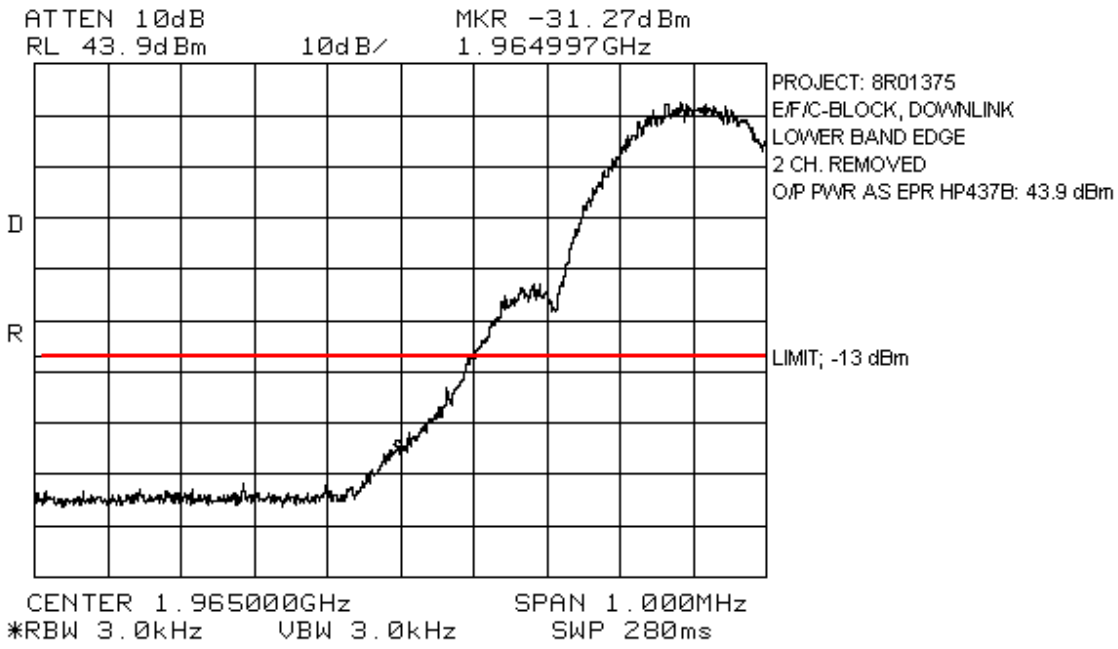

ATTEN 10dB
VAVG 6
MKR -26.83dBm
RL 45.0dBm
10dB/
1.964983GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. CDMA
LOWER BAND EDGE
O/P PWR AS PER HP437B: 45.0 dBm
D
R
LIMIT: -13 dBm
CENTER 1.965000GHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

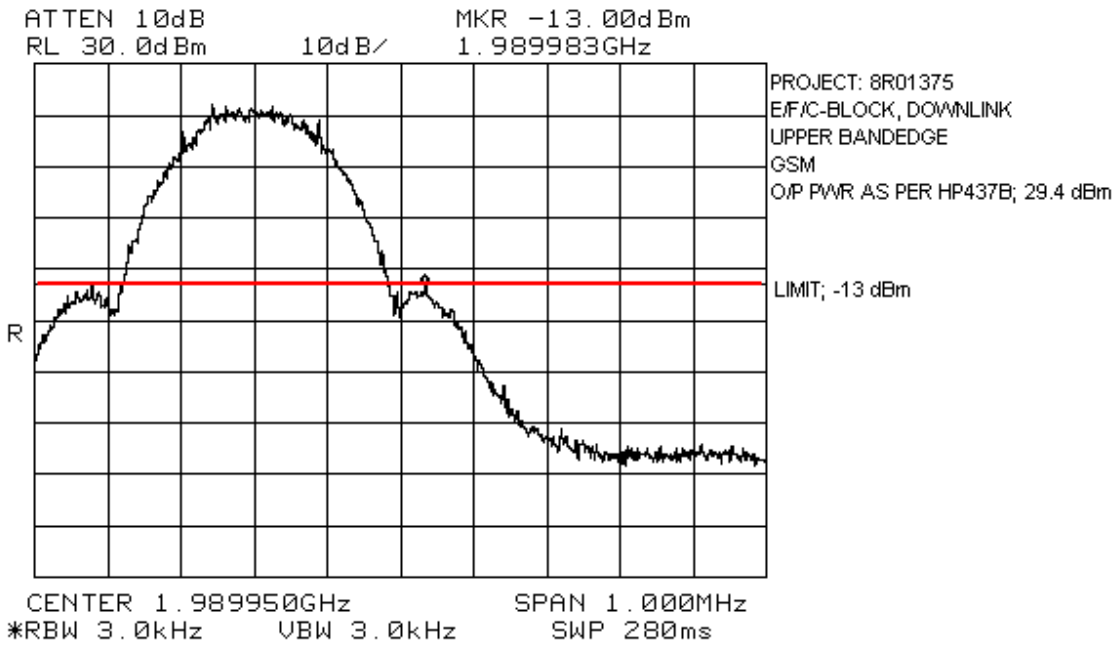

ATTEN 10dB
VAVG 6
MKR -24.17dBm
RL 45.0dBm
10dB/
1.990017GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
UPPER BAND EDGE
SINGLE CH.
CDMA
O/P PWR AS PER HP437B: 45.0 dBm
D
R
LIMIT: -13 dBm
CENTER 1.989950GHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

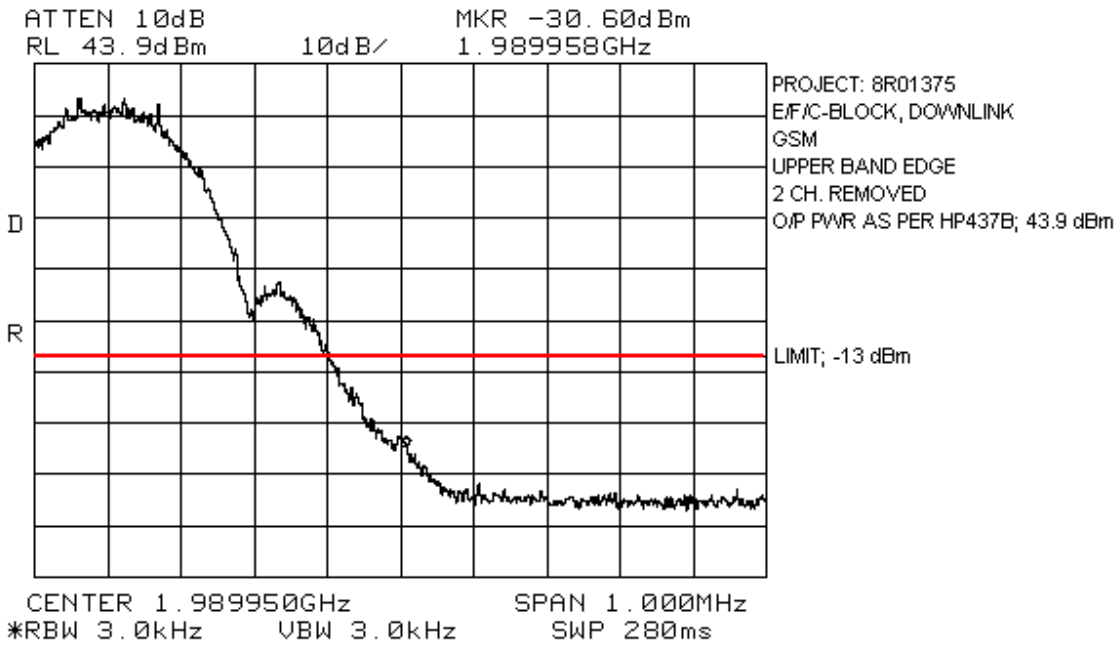

*ATTEN 0dB
MKR -13.27dBm
RL 40.9dBm
10dB/
1.9632GHz
D
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
2 CH. INTERMODULATION PRODUCTS
GSM, WIDE CH. SPACING
OUT OF BAND EMISSIONS
O/P PWR AS PER HP437B: 43.9 dBm
LIMIT: -13 dBm
CENTER 1.9770GHz
SPAN 100.0MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

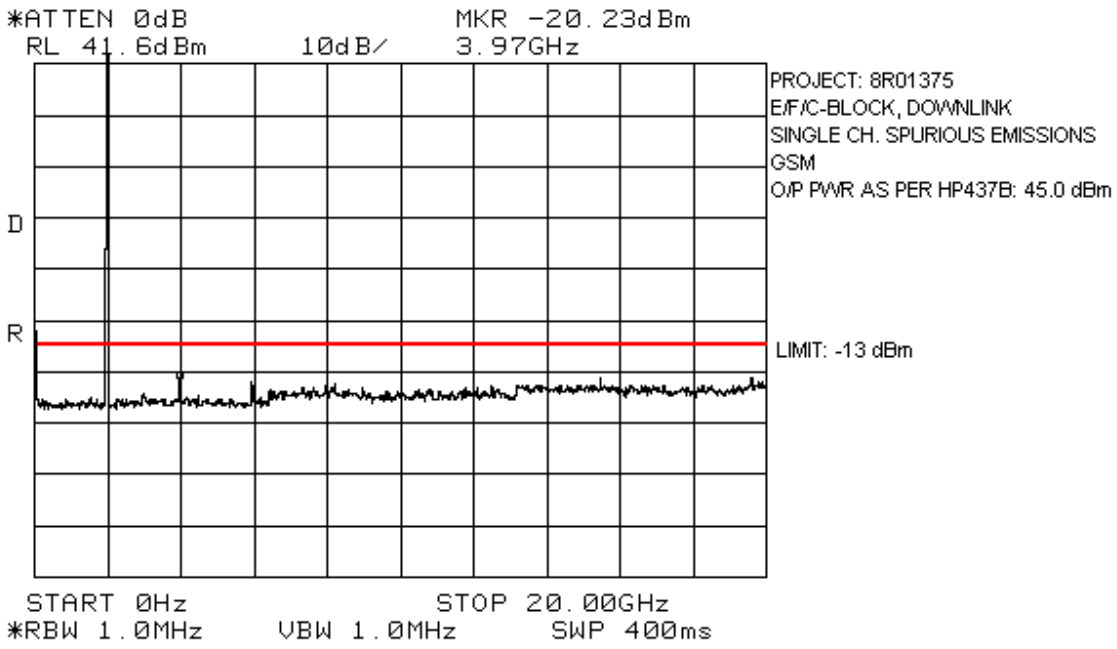

*ATTEN 0dB
MKR -22.27dBm
RL 40.9dBm
10dB/
6.90GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
2 CH. INTERMODULATION
SPURIOUS EMISSIONS
GSM, WIDE CH. SPACING
OUT OF BAND PRODUCTS
O/P PWR AS PER HP437B; 43.9 dBm
D
R
LIMIT; -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

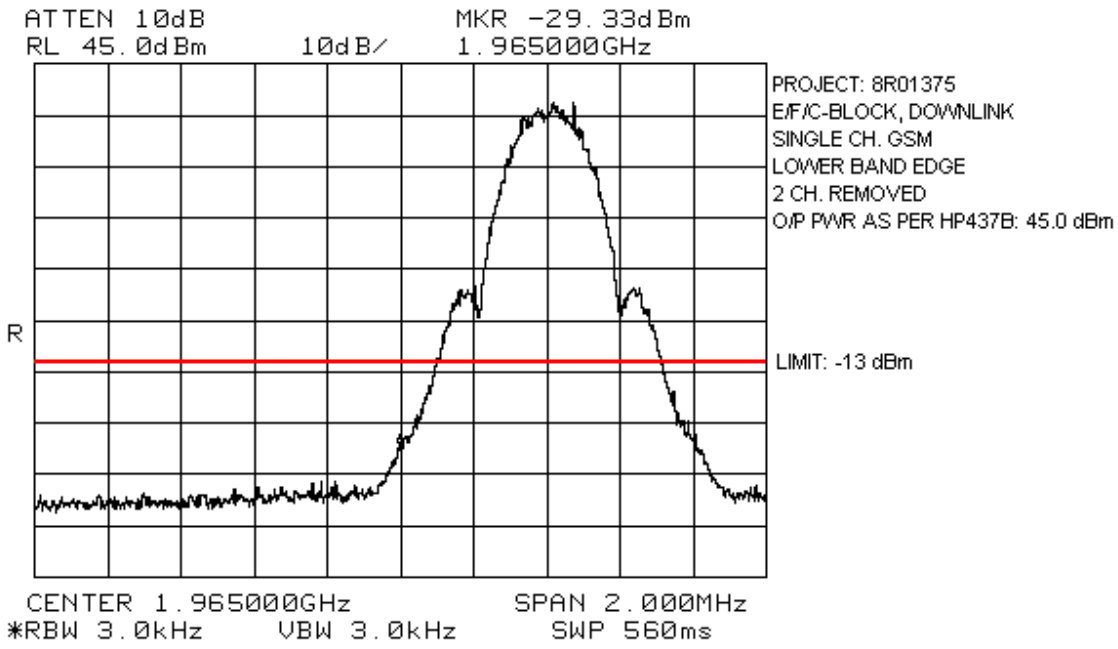

ATTEN 10dB
RL 30.0dBm
10dB/
MKR -13.00dBm
1.964980GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
LOWER BAND EDGE
GSM
O/P PWR AS PER HP437B; 29.7 dBm
LIMIT: -13 dBm
R
CENTER 1.965000GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

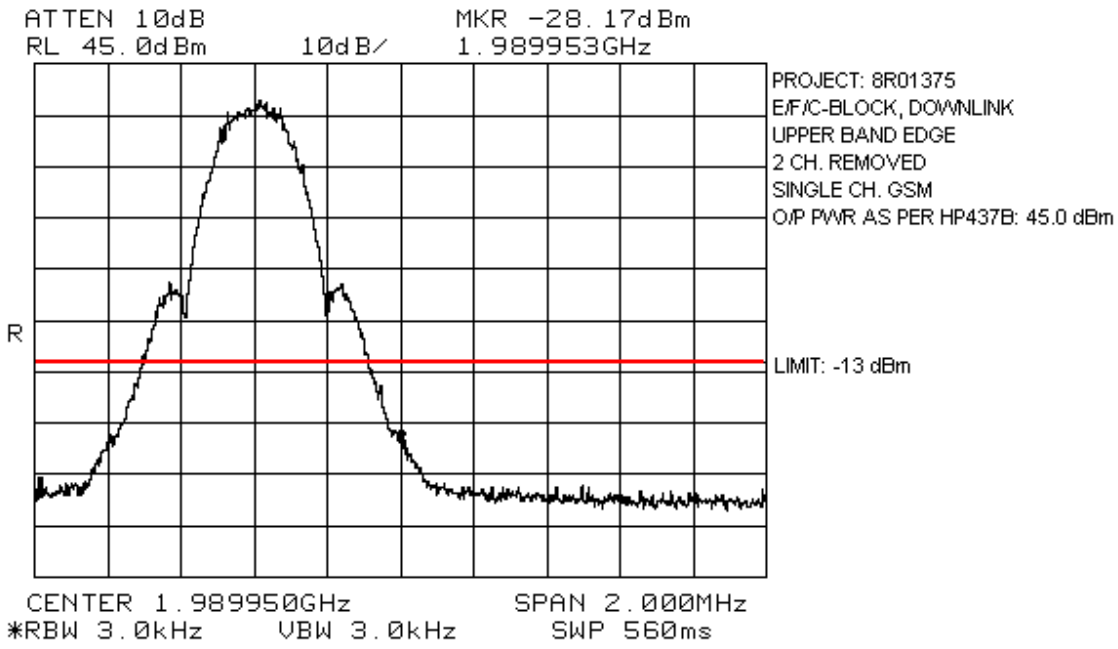

ATTEN 10dB
RL 43.9dBm
10dB/
MKR -31.27dBm
1.964997GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
LOWER BAND EDGE
2 CH. REMOVED
O/P PWR AS EPR HP437B: 43.9 dBm
D
R
LIMIT; -13 dBm
CENTER 1.965000GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

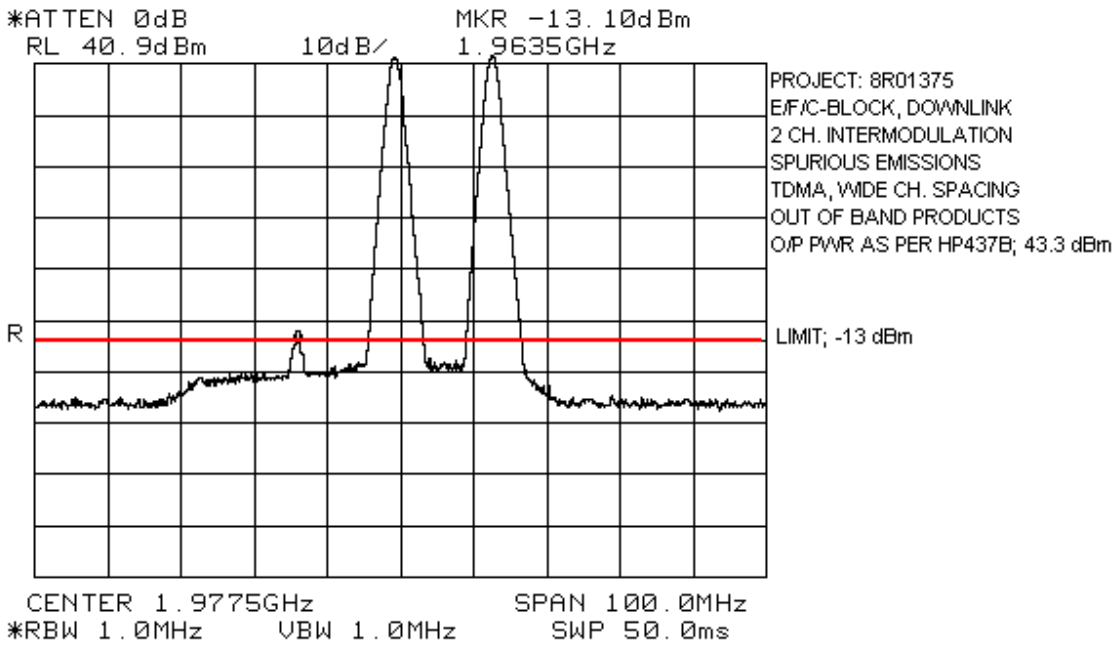

ATTEN 10dB
RL 30.0dBm
10dB/
MKR -13.00dBm
1.989983GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
UPPER BANDEDGE
GSM
O/P PWR AS PER HP437B; 29.4 dBm
LIMIT; -13 dBm
R
CENTER 1.989950GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

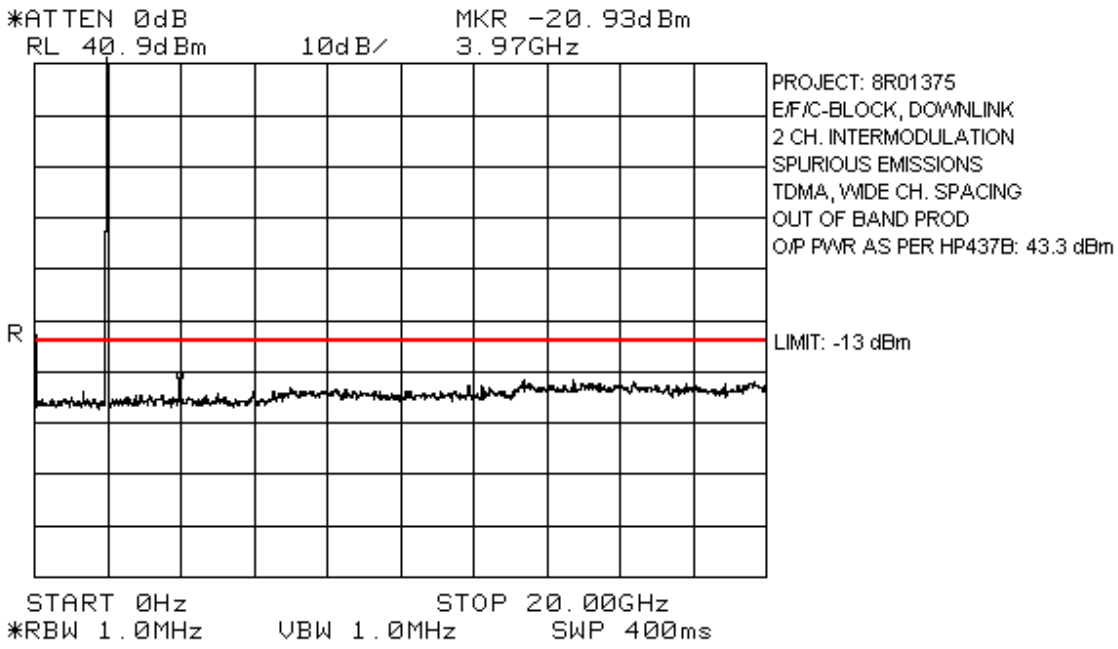

ATTEN 10dB
RL 43.9dBm
10dB/
MKR -30.60dBm
1.989958GHz
D
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
GSM
UPPER BAND EDGE
2 CH. REMOVED
O/P PWR AS PER HP437B; 43.9 dBm
LIMIT; -13 dBm
CENTER 1.989950GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

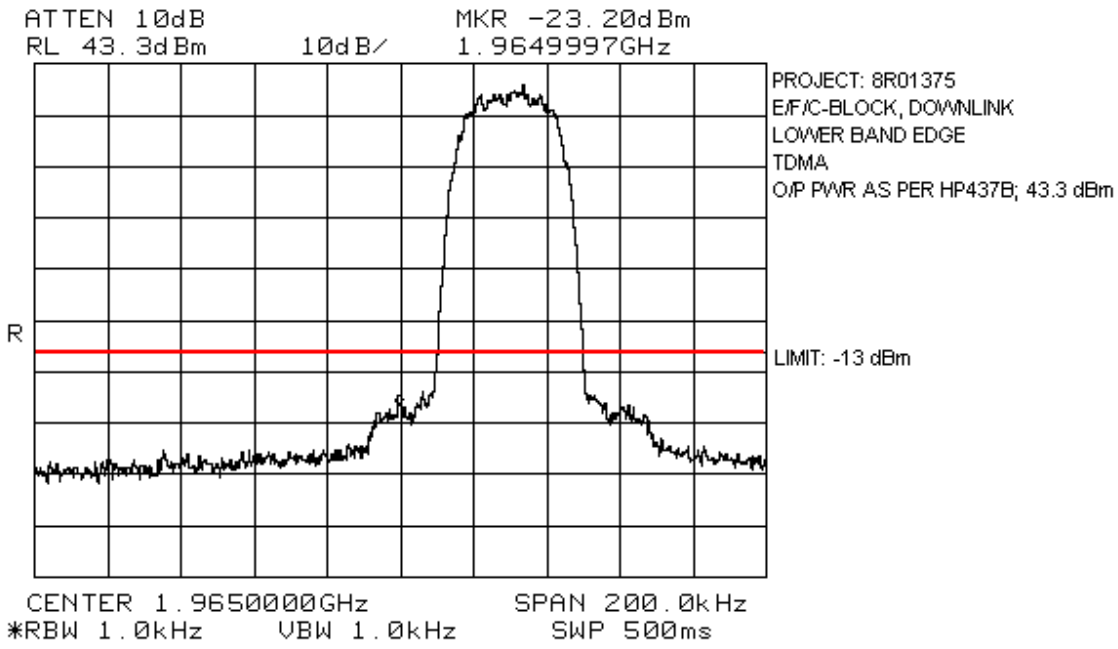

*ATTEN 0dB
MKR -20.23dBm
RL 41.6dBm
10dB/
3.97GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. SPURIOUS EMISSIONS
GSM
O/P PWR AS PER HP437B: 45.0 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

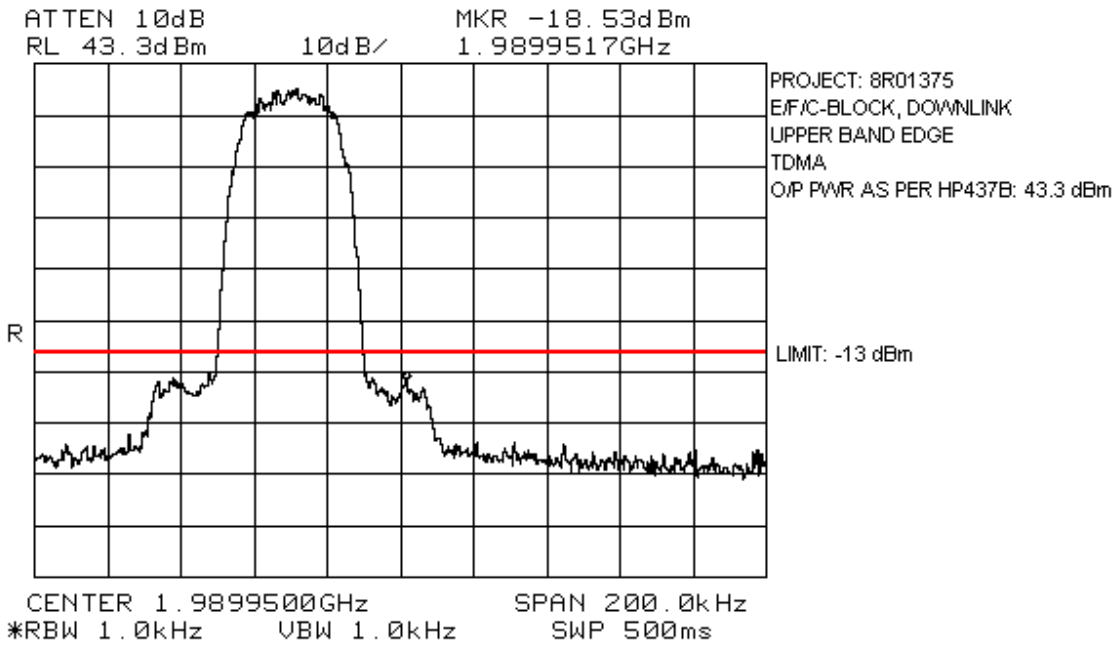

ATTEN 10dB
RL 45.0dBm
10dB/
MKR -29.33dBm
1.965000GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. GSM
LOWER BAND EDGE
2 CH. REMOVED
O/P PWR AS PER HP437B: 45.0 dBm
R
LIMIT: -13 dBm
CENTER 1.965000GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

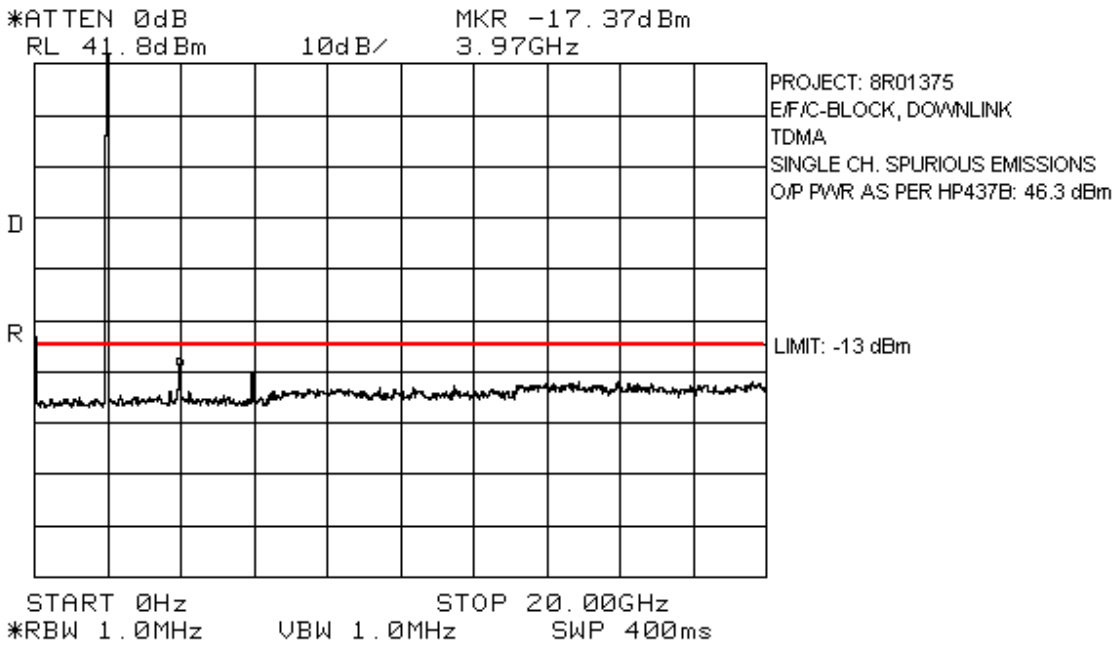

ATTEN 10dB
RL 45.0dBm
10dB/
MKR -28.17dBm
1.989953GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
UPPER BAND EDGE
2 CH. REMOVED
SINGLE CH. GSM
O/P PWR AS PER HP437B: 45.0 dBm
R
LIMIT: -13 dBm
CENTER 1.989950GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

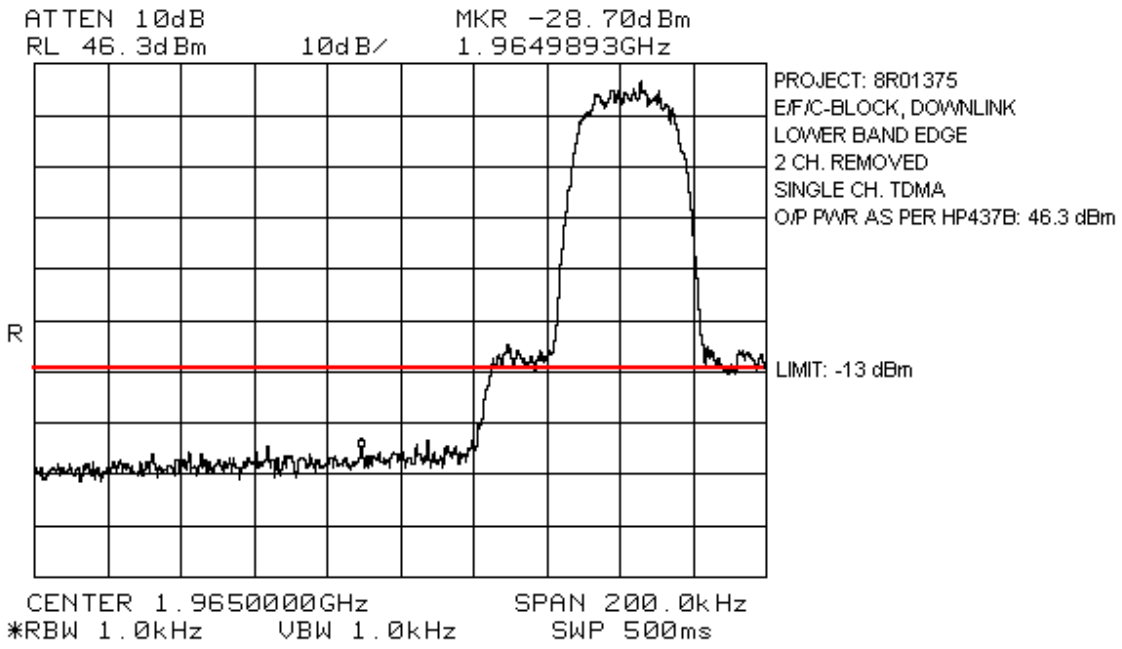

*ATTEN 0dB
MKR -13.10dBm
RL 40.9dBm
10dB/
1.9635GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
2 CH. INTERMODULATION
SPURIOUS EMISSIONS
TDMA, WIDE CH. SPACING
OUT OF BAND PRODUCTS
O/P PWR AS PER HP437B; 43.3 dBm
R
LIMIT; -13 dBm
CENTER 1.9775GHz
SPAN 100.0MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

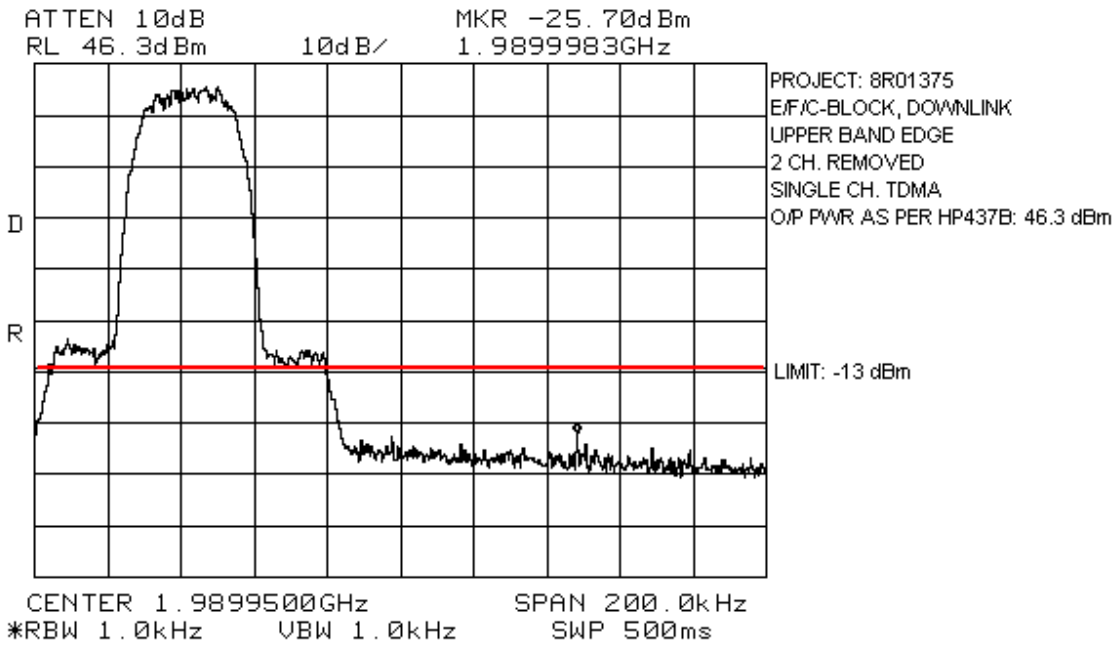

*ATTEN 0dB
MKR -20.93dBm
RL 40.9dBm
10dB/
3.97GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
2 CH. INTERMODULATION
SPURIOUS EMISSIONS
TDMA, WIDE CH. SPACING
OUT OF BAND PROD
O/P PWR AS PER HP437B: 43.3 dBm
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms


ATTEN 10dB
RL 43.3dBm
10dB/
MKR -23.20dBm
1.9649997GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
LOWER BAND EDGE
TDMA
O/P PWR AS PER HP437B; 43.3 dBm
R
LIMIT: -13 dBm
CENTER 1.9650000GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

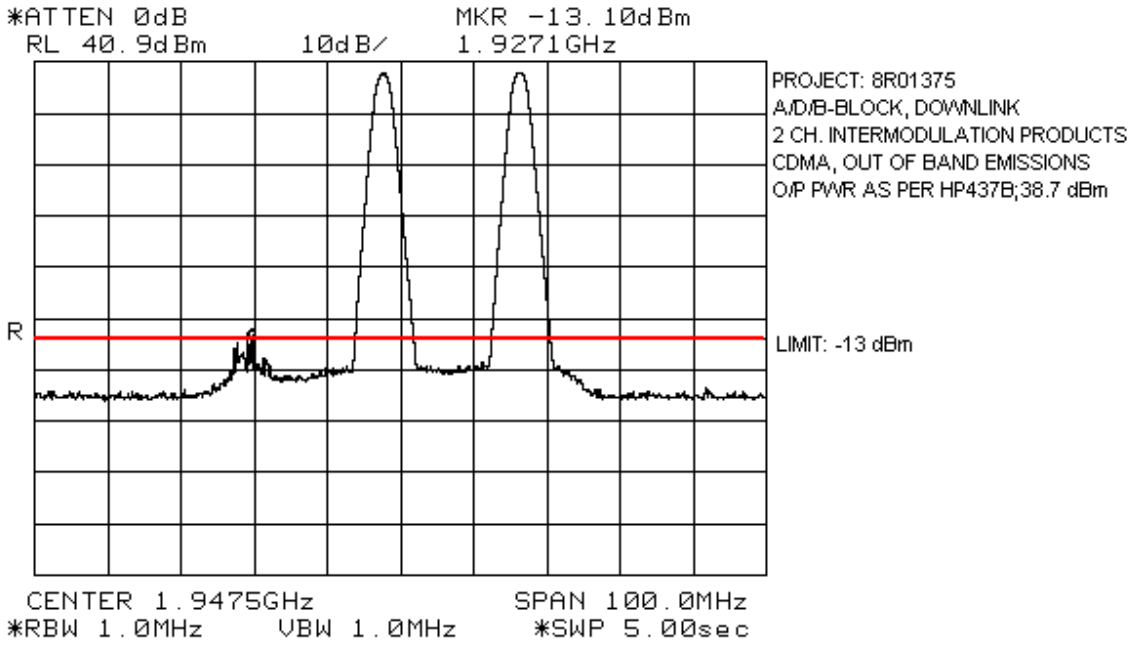

ATTEN 10dB
RL 43.3dBm
10dB/
MKR -18.53dBm
1.9899517GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
UPPER BAND EDGE
TDMA
O/P PWR AS PER HP437B: 43.3 dBm
R
LIMIT: -13 dBm
CENTER 1.9899500GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

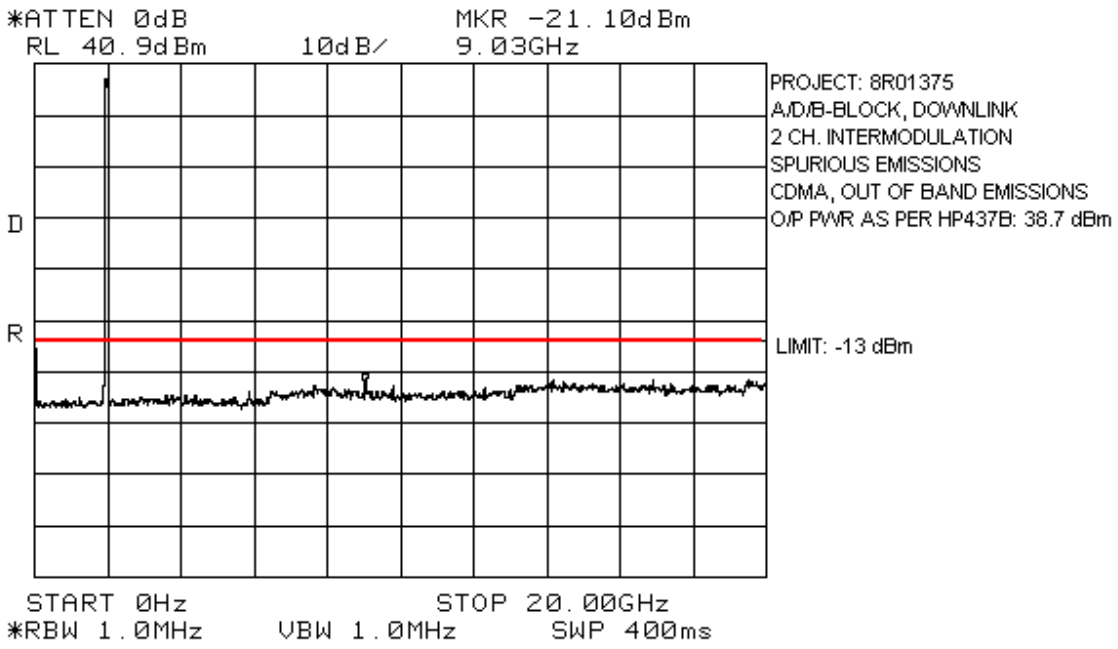

*ATTEN 0dB
MKR -17.37dBm
RL 41.8dBm
10dB/
3.97GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
TDMA
SINGLE CH. SPURIOUS EMISSIONS
O/P PWR AS PER HP437B: 46.3 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

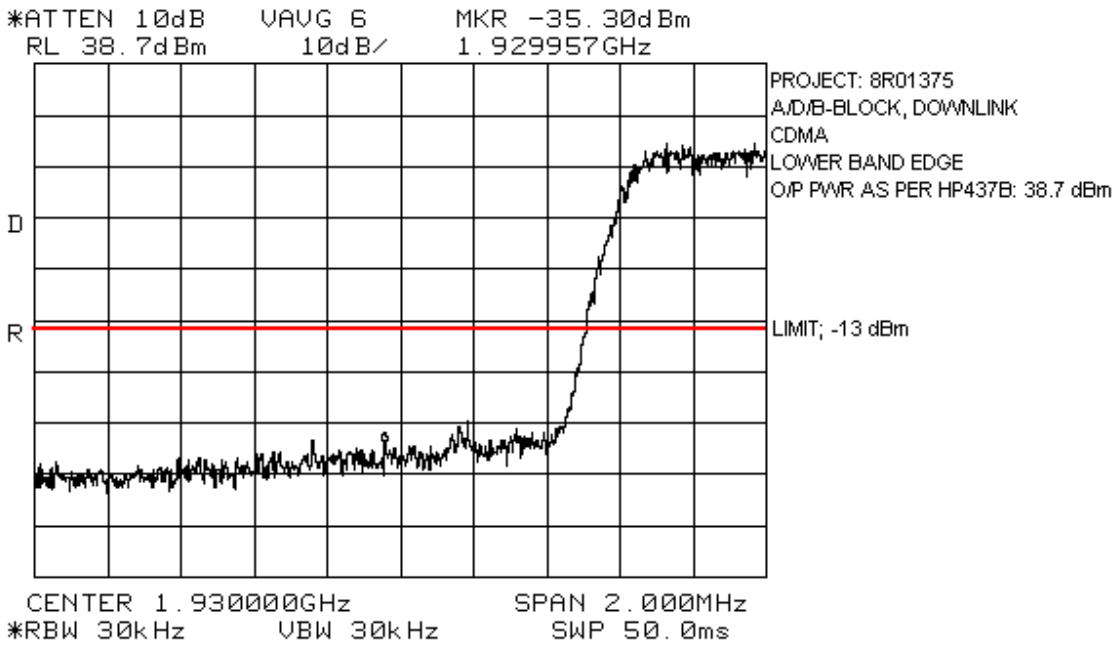

ATTEN 10dB
RL 46.3dBm
10dB/
MKR -28.70dBm
1.9649893GHz
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
LOWER BAND EDGE
2 CH. REMOVED
SINGLE CH. TDMA
O/P PWR AS PER HP437B: 46.3 dBm
LIMIT: -13 dBm
CENTER 1.9650000GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

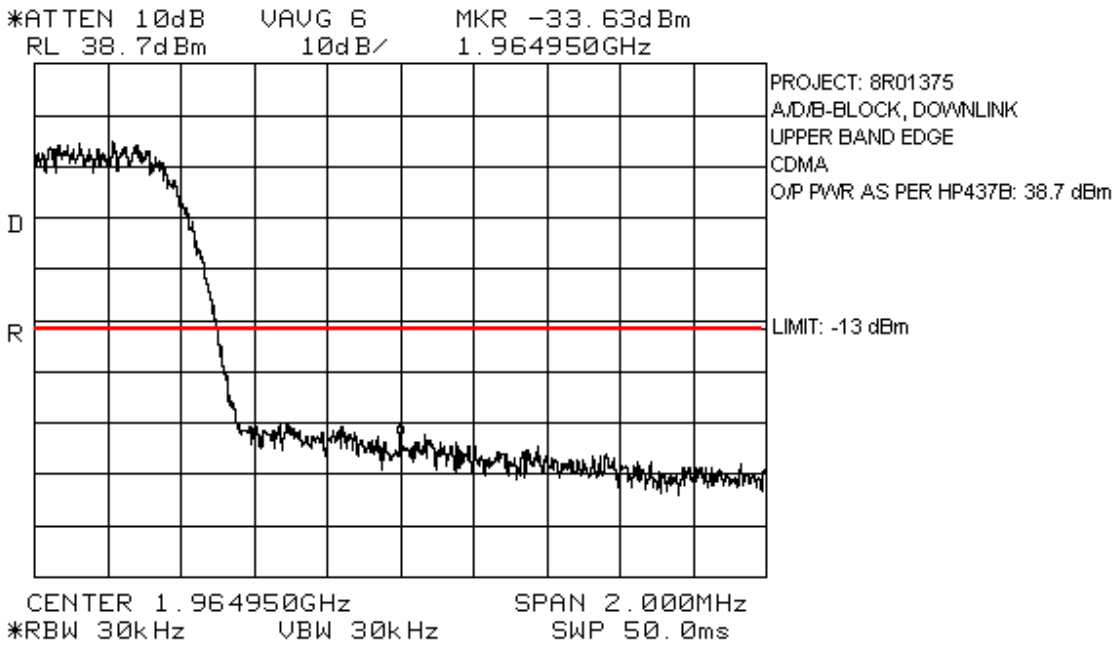

ATTEN 10dB
RL 46.3dBm
10dB/
MKR -25.70dBm
1.9899983GHz
D
R
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
UPPER BAND EDGE
2 CH. REMOVED
SINGLE CH. TDMA
O/P PWR AS PER HP437B: 46.3 dBm
LIMIT: -13 dBm
CENTER 1.9899500GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

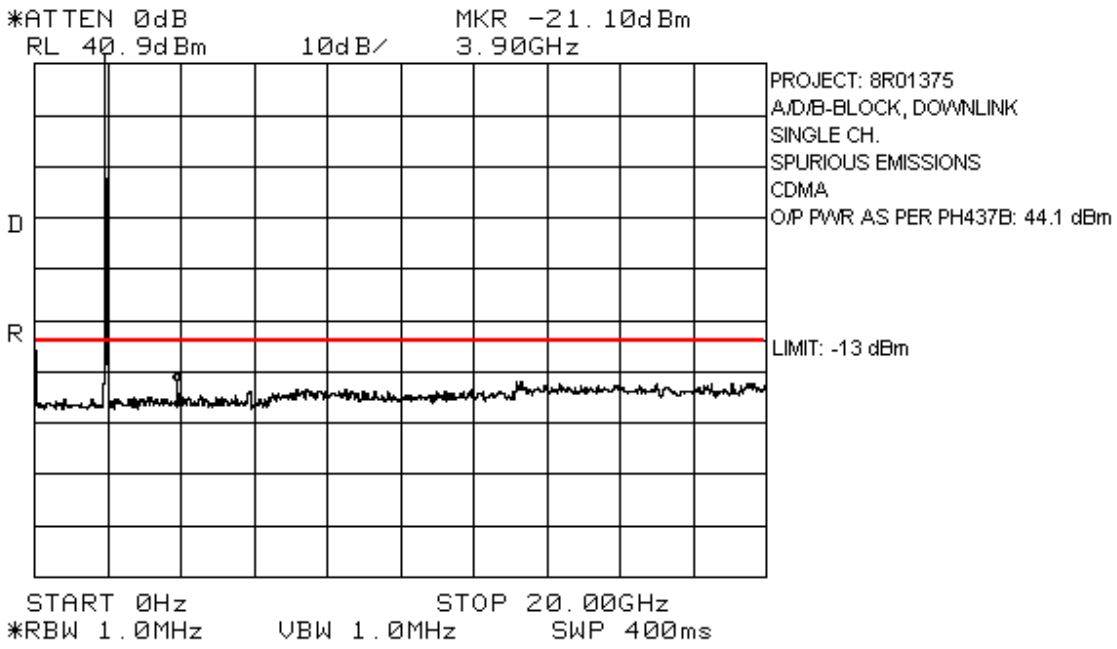
2-Amplifier Configuration (ADB Block) 2 Channel & Single Channel

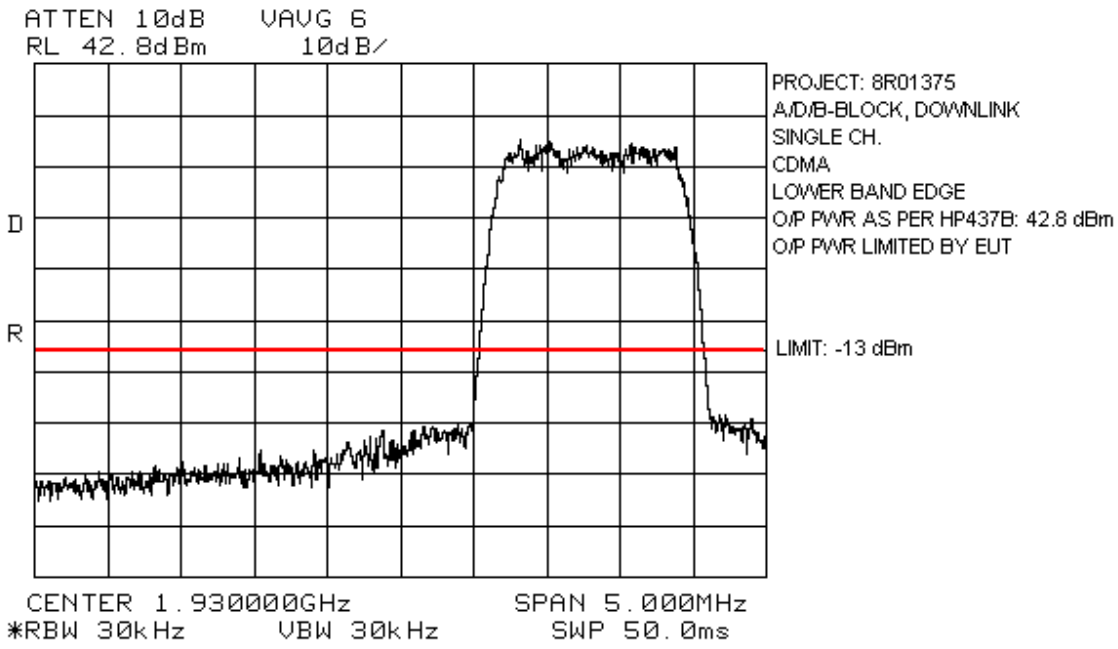


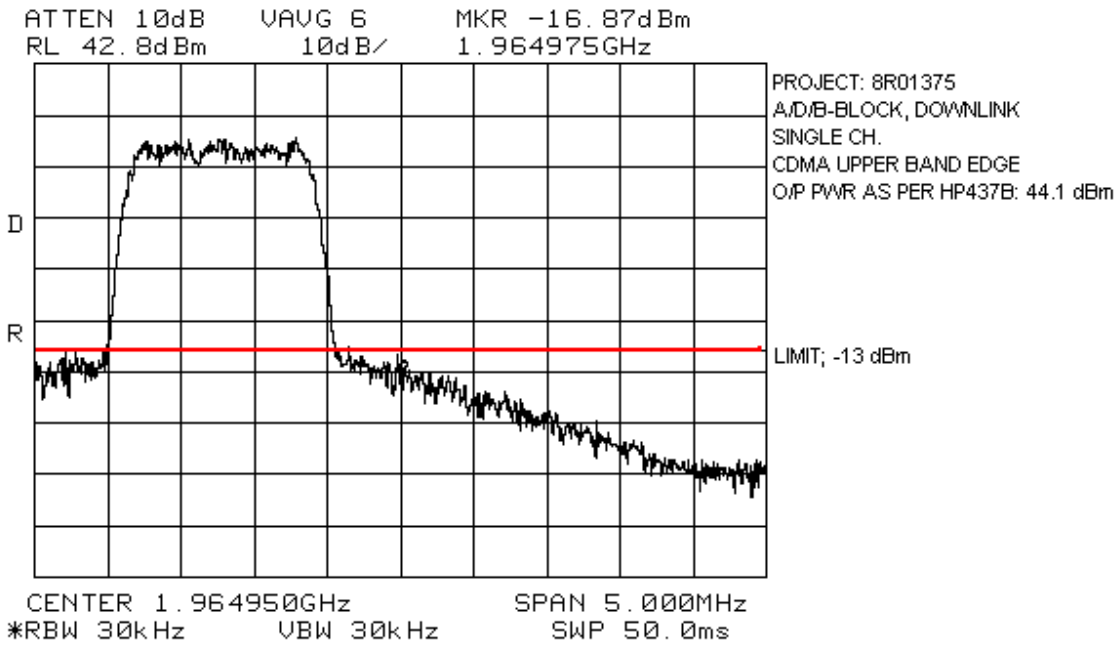

*ATTEN 0dB
MKR -21.10dBm
RL 40.9dBm
10dB/
9.03GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
2 CH. INTERMODULATION
SPURIOUS EMISSIONS
CDMA, OUT OF BAND EMISSIONS
O/P PWR AS PER HP437B: 38.7 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

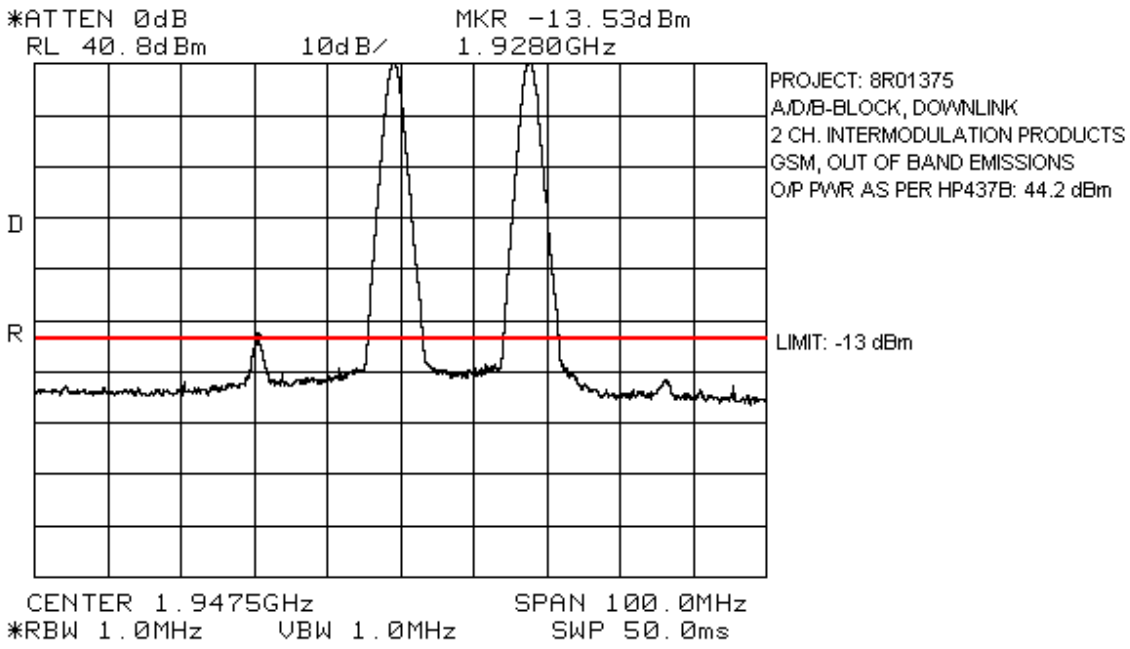

*ATTEN 10dB
VAVG 6
MKR -35.30dBm
RL 38.7dBm
10dB/
1.929957GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
CDMA
LOWER BAND EDGE
O/P PWR AS PER HP437B: 38.7 dBm
D
R
LIMIT; -13 dBm
CENTER 1.930000GHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

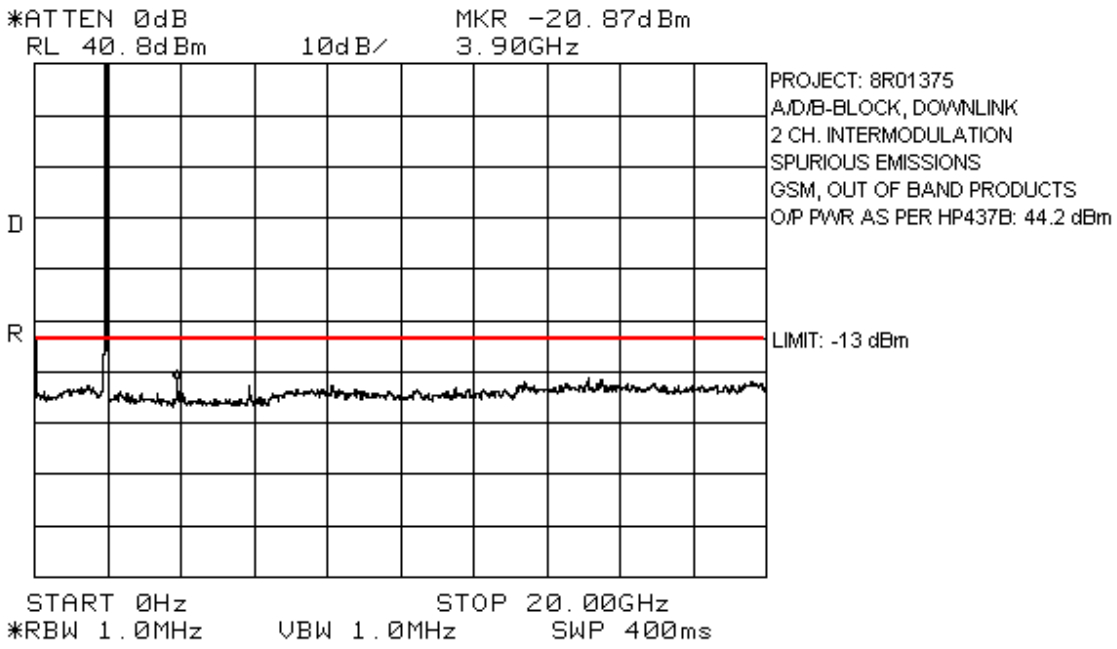

*ATTEN 10dB
VAVG 6
MKR -33.63dBm
RL 38.7dBm
10dB/
1.964950GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
UPPER BAND EDGE
CDMA
O/P PWR AS PER HP437B: 38.7 dBm
D
R
LIMIT: -13 dBm
CENTER 1.964950GHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

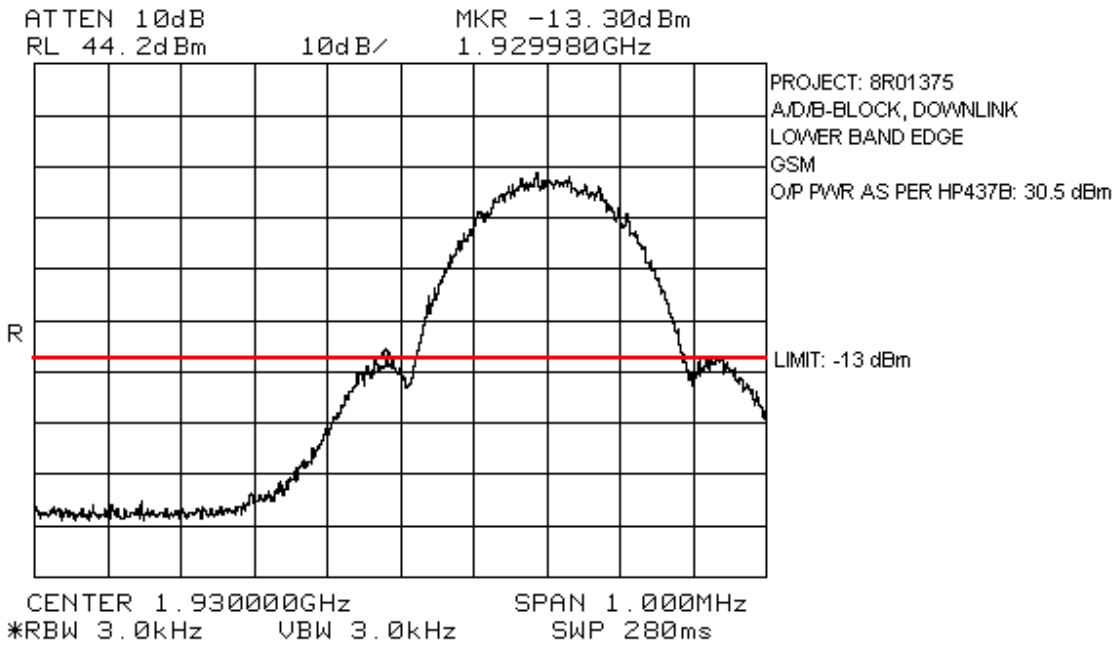

*ATTEN 0dB
MKR -21.10dBm
RL 40.9dBm
10dB/
3.90GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
SPURIOUS EMISSIONS
CDMA
O/P PWR AS PER PH437B: 44.1 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

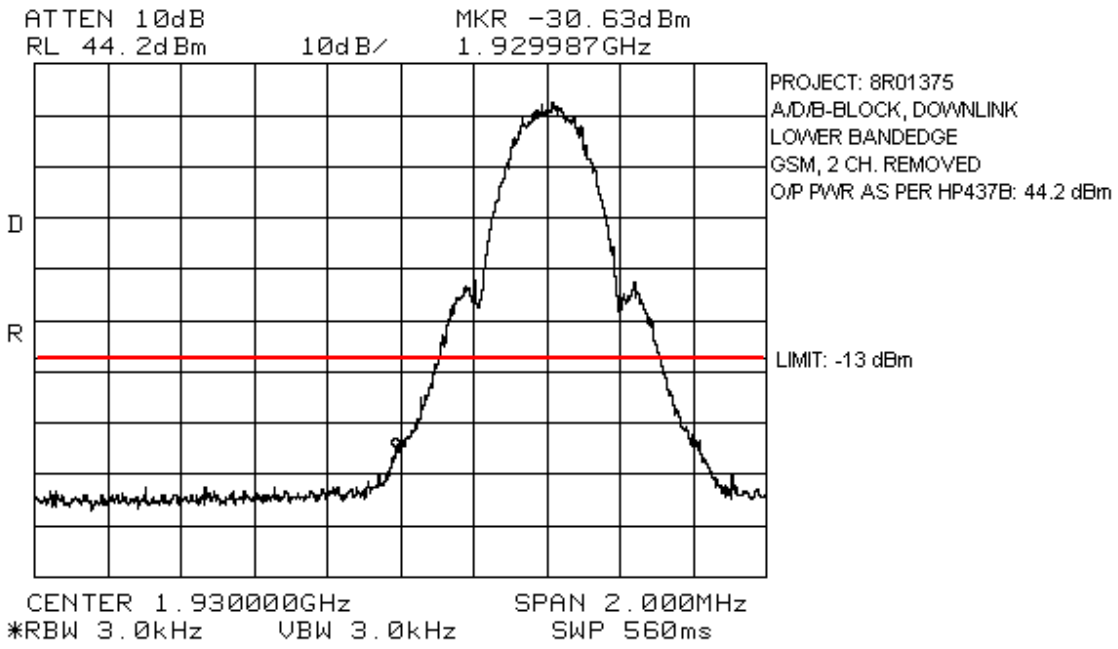

ATTEN 10dB
VAVG 6
RL 42.8dBm
10dB/
D
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
CDMA
LOWER BAND EDGE
O/P PWR AS PER HP437B: 42.8 dBm
O/P PWR LIMITED BY EUT
LIMIT: -13 dBm
CENTER 1.930000GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

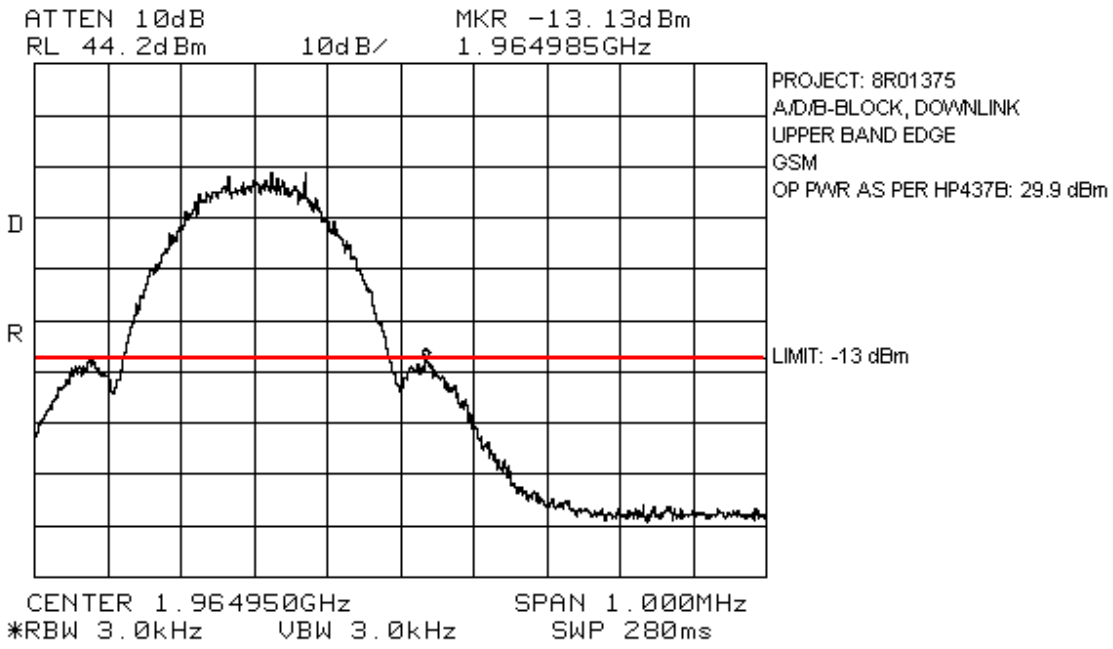

ATTEN 10dB
RL 42.8dBm
VAVG 6
10dB/
MKR -16.87dBm
1.964975GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
CDMA UPPER BAND EDGE
O/P PWR AS PER HP437B: 44.1 dBm
D
R
LIMIT; -13 dBm
CENTER 1.964950GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

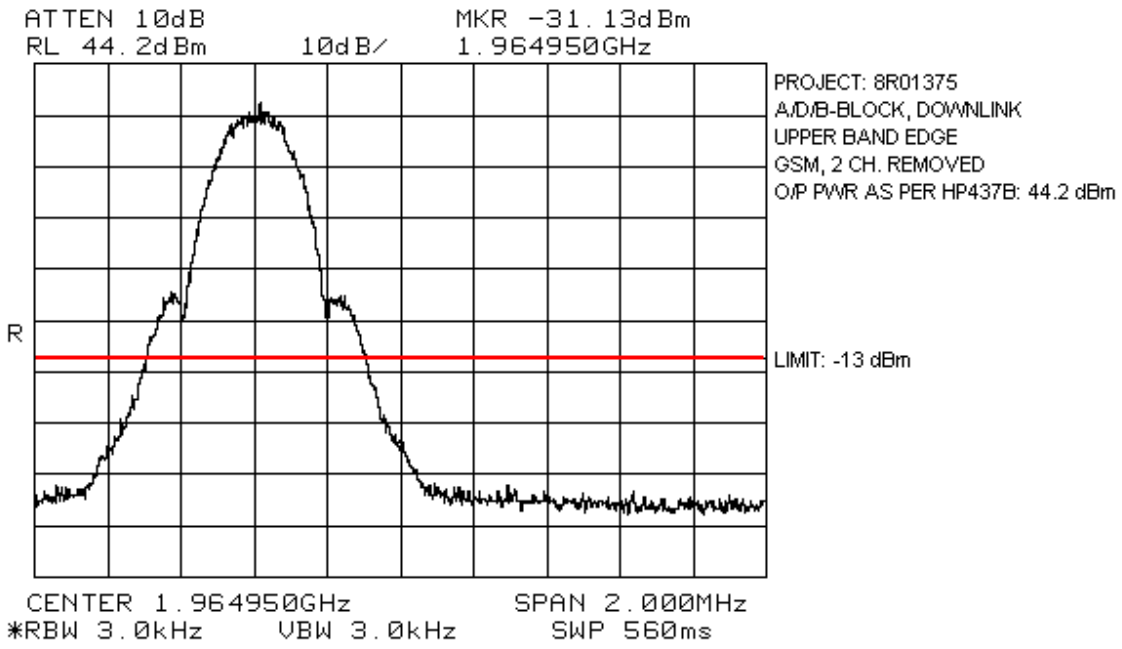

*ATTEN 0dB
MKR -13.53dBm
RL 40.8dBm
10dB/
1.9280GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
2 CH. INTERMODULATION PRODUCTS
GSM, OUT OF BAND EMISSIONS
O/P PWR AS PER HP437B: 44.2 dBm
D
R
LIMIT: -13 dBm
CENTER 1.9475GHz
SPAN 100.0MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

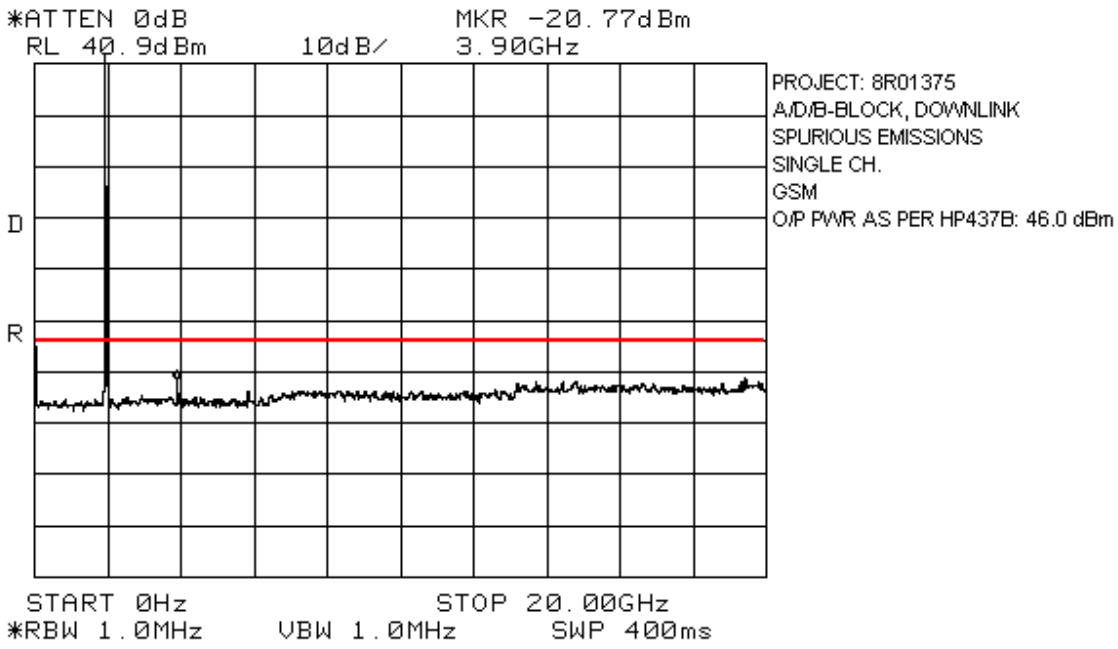

*ATTEN 0dB
MKR -20.87dBm
RL 40.8dBm
10dB/
3.90GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
2 CH. INTERMODULATION
SPURIOUS EMISSIONS
GSM, OUT OF BAND PRODUCTS
O/P PWR AS PER HP437B: 44.2 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

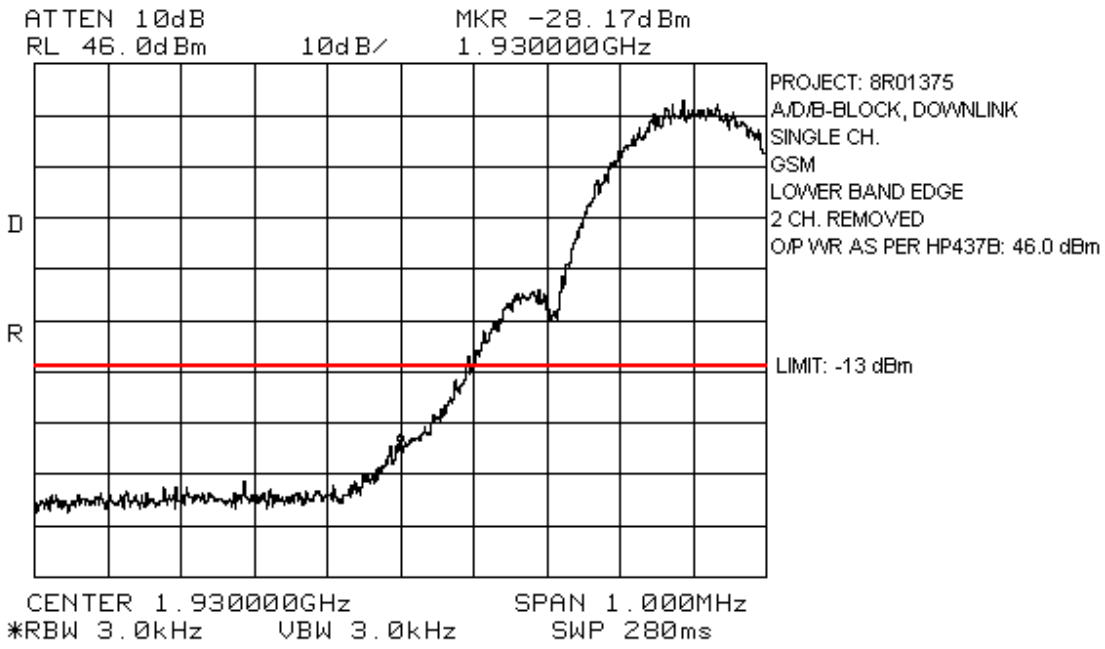

ATTEN 10dB
RL 44.2dBm
10dB/
MKR -13.30dBm
1.929980GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
LOWER BAND EDGE
GSM
O/P PWR AS PER HP437B: 30.5 dBm
R
LIMIT: -13 dBm
CENTER 1.930000GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

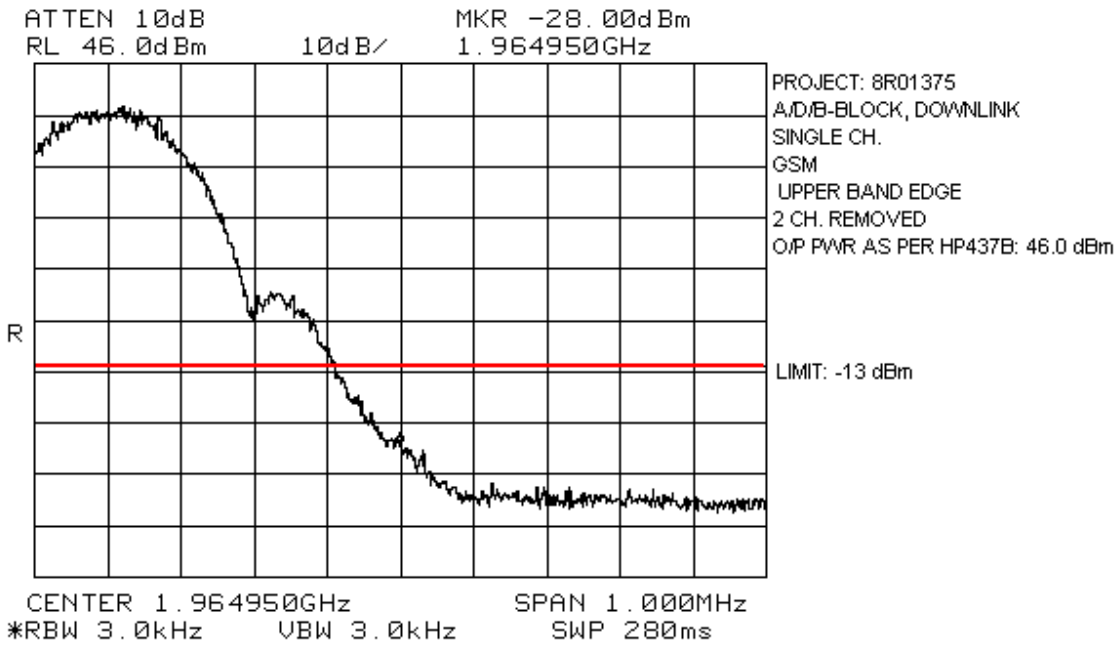

ATTEN 10dB
RL 44.2dBm
10dB/
MKR -30.63dBm
1.929987GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
LOWER BANDEDGE
GSM, 2 CH. REMOVED
O/P PWR AS PER HP437B: 44.2 dBm
D
R
LIMIT: -13 dBm
CENTER 1.930000GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

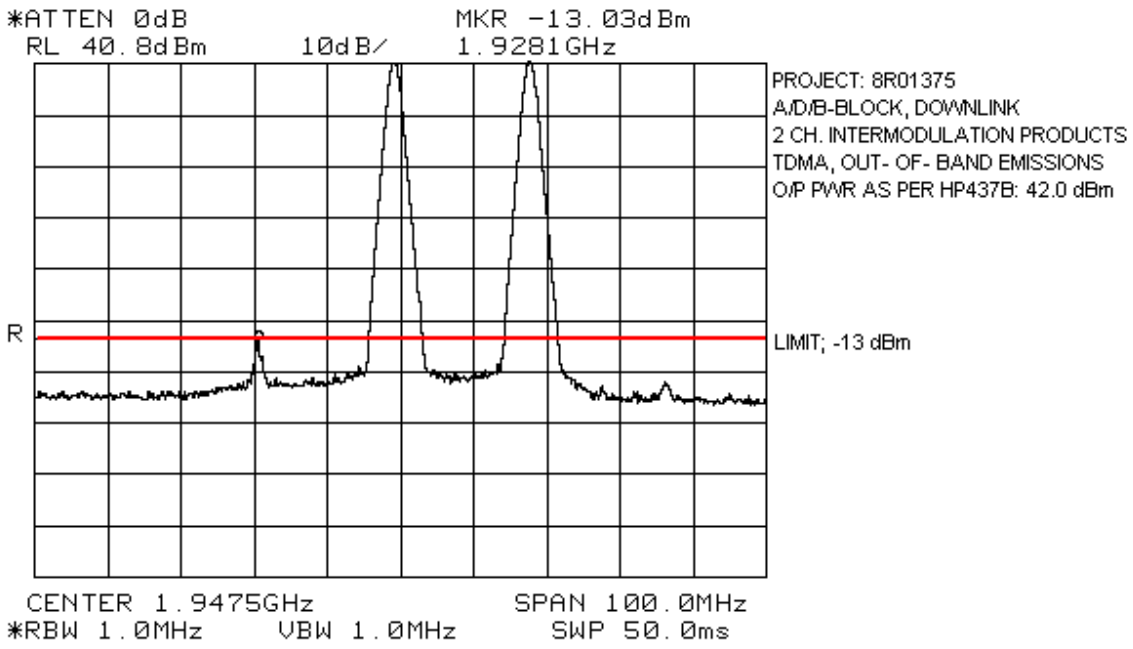

ATTEN 10dB
RL 44.2dBm
10dB/
MKR -13.13dBm
1.964985GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
UPPER BAND EDGE
GSM
OP PWR AS PER HP437B: 29.9 dBm
D
R
LIMIT: -13 dBm
CENTER 1.964950GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

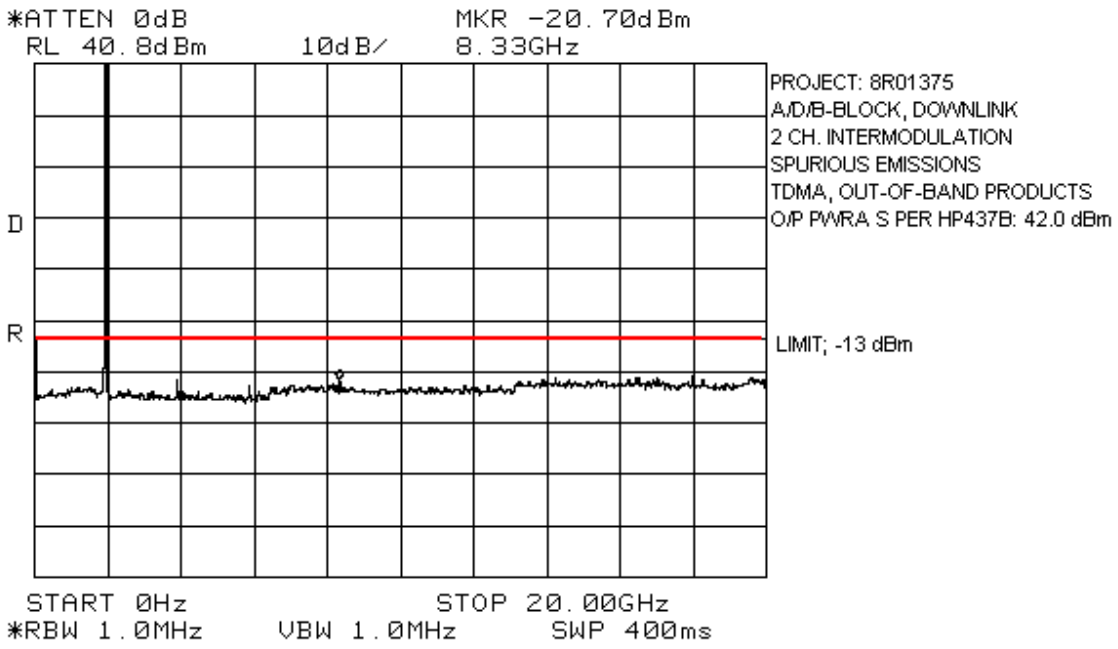

ATTEN 10dB
RL 44.2dBm
10dB/
MKR -31.13dBm
1.964950GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
UPPER BAND EDGE
GSM, 2 CH. REMOVED
O/P PWR AS PER HP437B: 44.2 dBm
R
LIMIT: -13 dBm
CENTER 1.964950GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

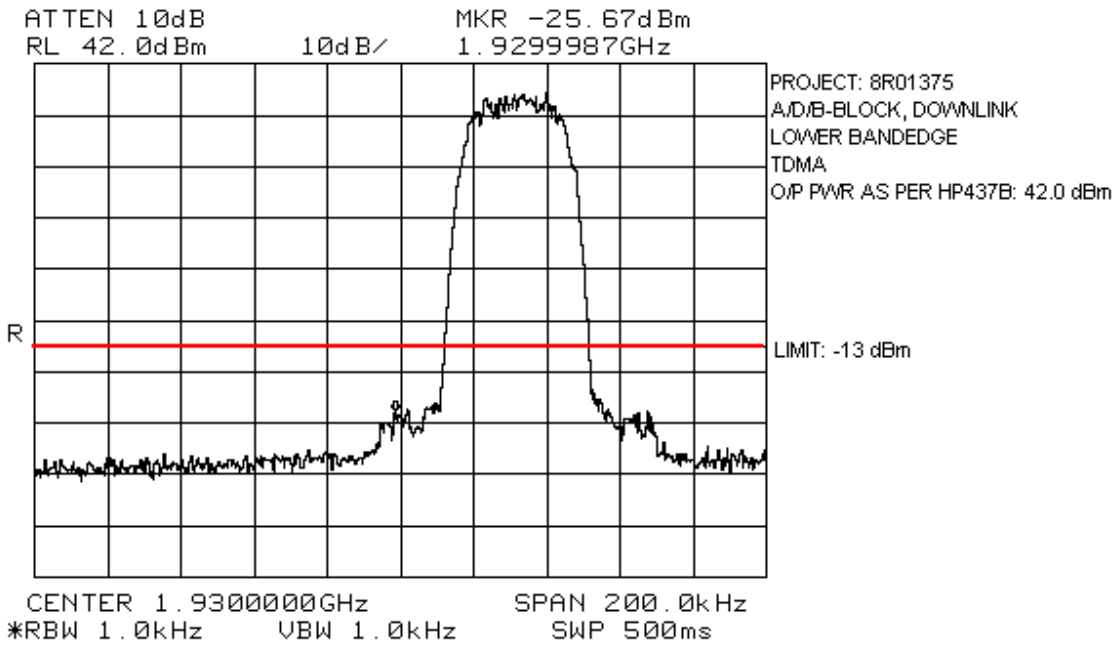

*ATTEN 0dB
MKR -20.77dBm
RL 40.9dBm
10dB/
3.90GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SPURIOUS EMISSIONS
SINGLE CH.
GSM
O/P PWR AS PER HP437B: 46.0 dBm
D
R
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

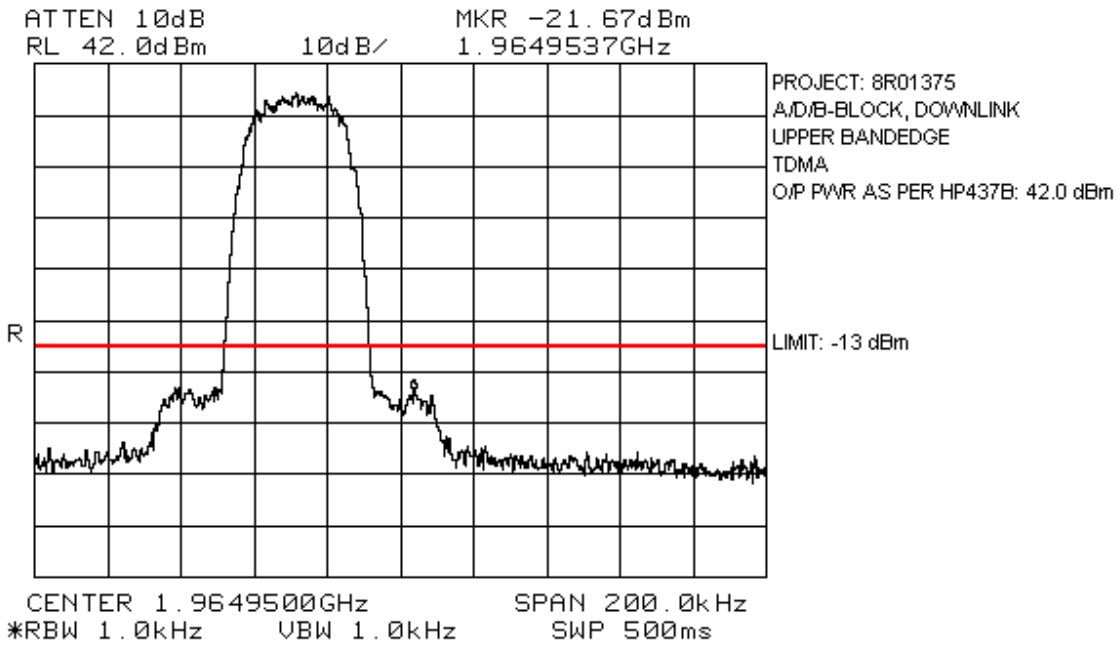

ATTEN 10dB
RL 46.0dBm
10dB/
MKR -28.17dBm
1.930000GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
GSM
LOWER BAND EDGE
2 CH. REMOVED
O/P WR AS PER HP437B: 46.0 dBm
D
R
LIMIT: -13 dBm
CENTER 1.930000GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

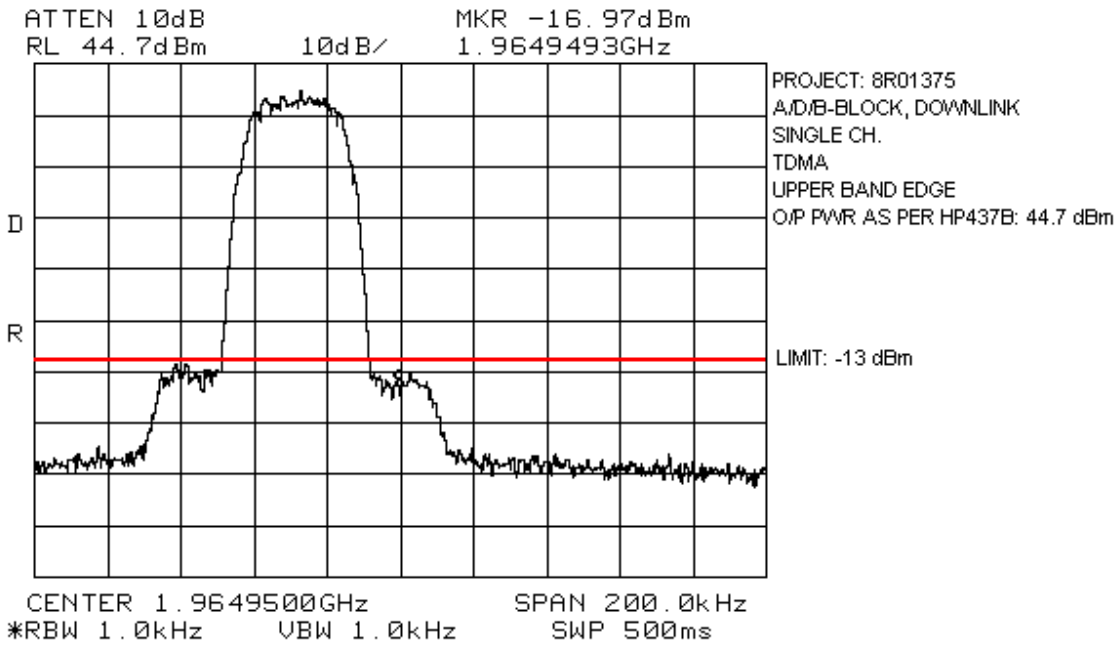

ATTEN 10dB
RL 46.0dBm
10dB/
MKR -28.00dBm
1.964950GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
GSM
UPPER BAND EDGE
2 CH. REMOVED
O/P PWR AS PER HP437B: 46.0 dBm
R
LIMIT: -13 dBm
CENTER 1.964950GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

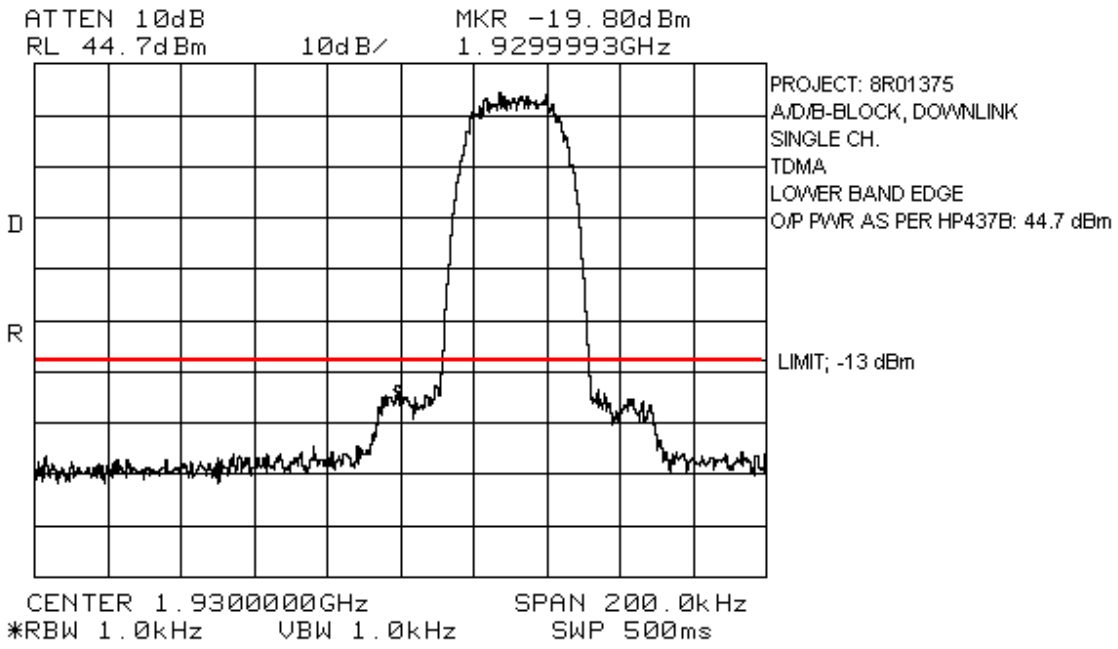

*ATTEN 0dB
MKR -13.03dBm
RL 40.8dBm
10dB/
1.9281GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
2 CH. INTERMODULATION PRODUCTS
TDMA, OUT- OF- BAND EMISSIONS
O/P PWR AS PER HP437B: 42.0 dBm
R
LIMIT; -13 dBm
CENTER 1.9475GHz
SPAN 100.0MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

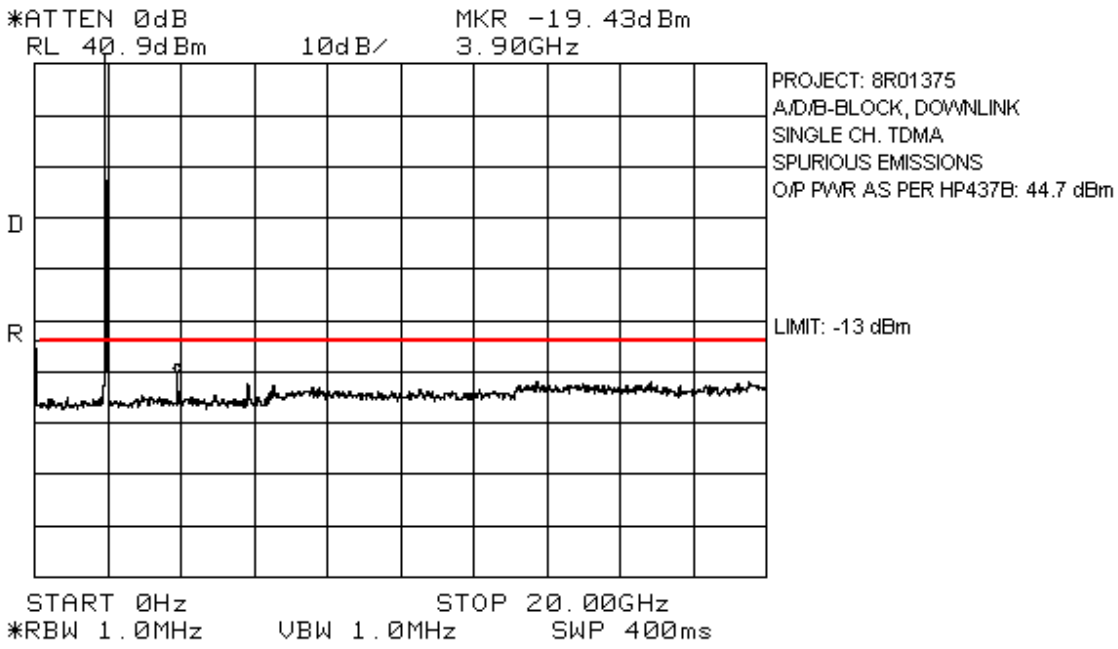

*ATTEN 0dB
MKR -20.70dBm
RL 40.8dBm
10dB/
8.33GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
2 CH. INTERMODULATION
SPURIOUS EMISSIONS
TDMA, OUT-OF-BAND PRODUCTS
O/P PWRA S PER HP437B: 42.0 dBm
D
R
LIMIT; -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

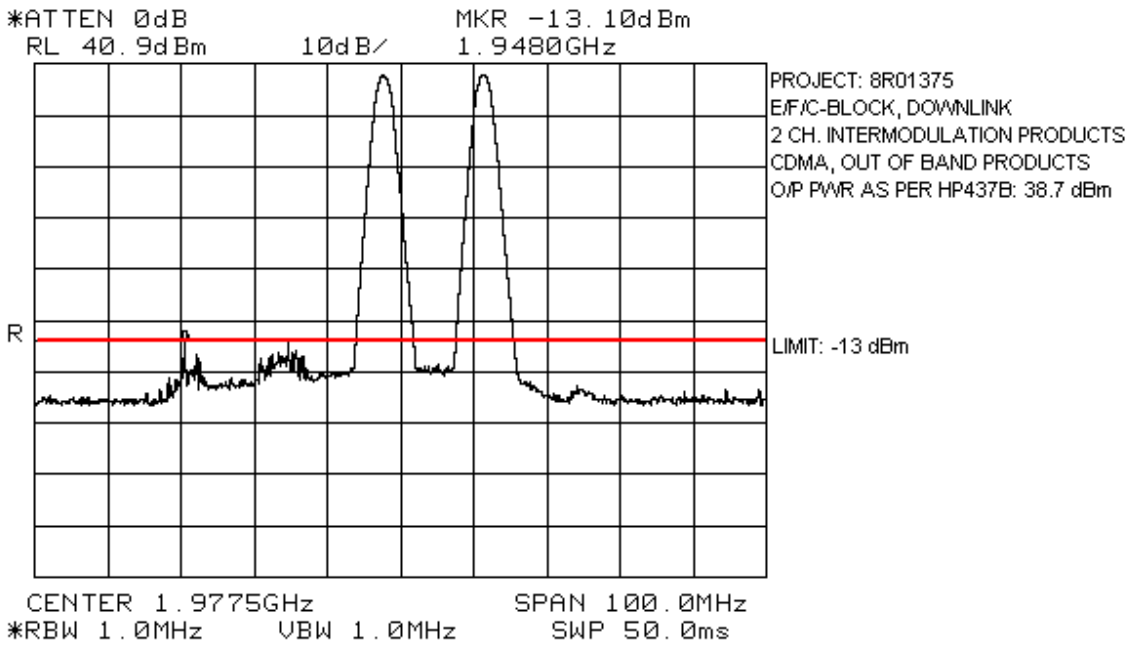

ATTEN 10dB
RL 42.0dBm
10dB/
MKR -25.67dBm
1.9299987GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
LOWER BANDEDGE
TDMA
O/P PWR AS PER HP437B: 42.0 dBm
R
LIMIT: -13 dBm
CENTER 1.9300000GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

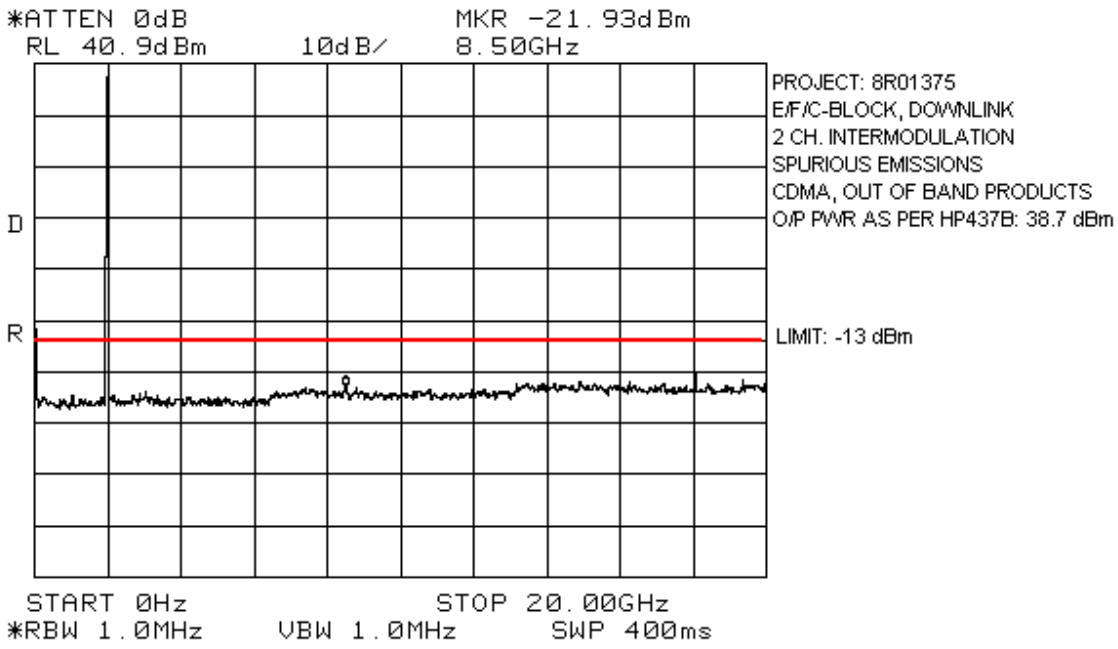

ATTEN 10dB
RL 42.0dBm
10dB/
MKR -21.67dBm
1.9649537GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
UPPER BANDEDGE
TDMA
O/P PWR AS PER HP437B: 42.0 dBm
R
LIMIT: -13 dBm
CENTER 1.9649500GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

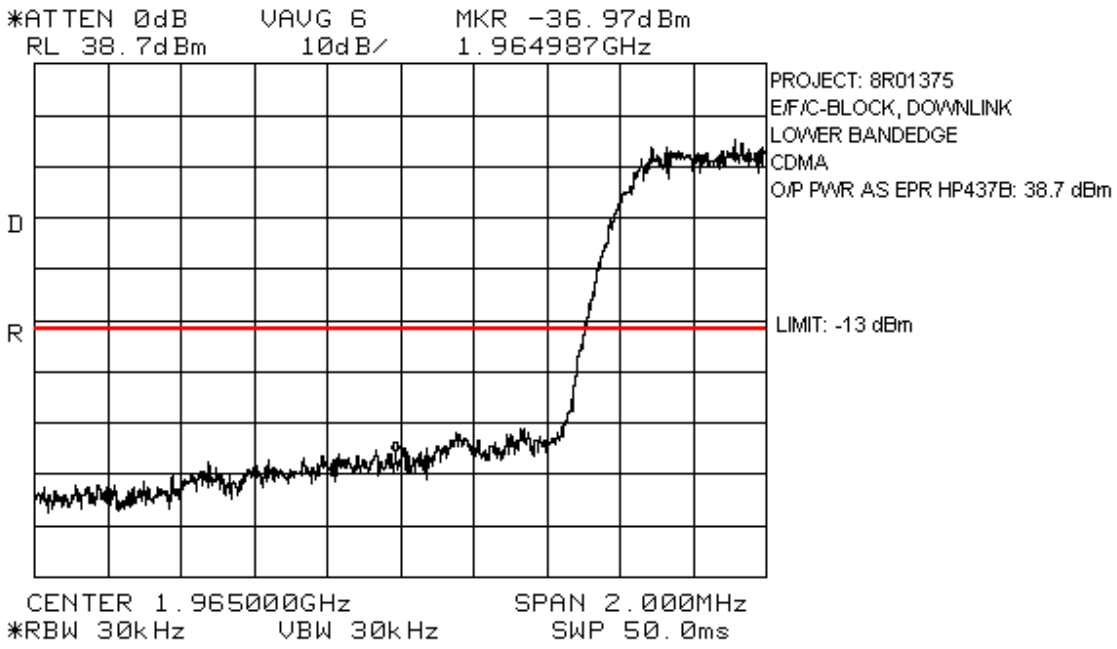

ATTEN 10dB
RL 44.7dBm
10dB/
MKR -16.97dBm
1.9649493GHz
D
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
TDMA
UPPER BAND EDGE
O/P PWR AS PER HP437B: 44.7 dBm
LIMIT: -13 dBm
CENTER 1.9649500GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

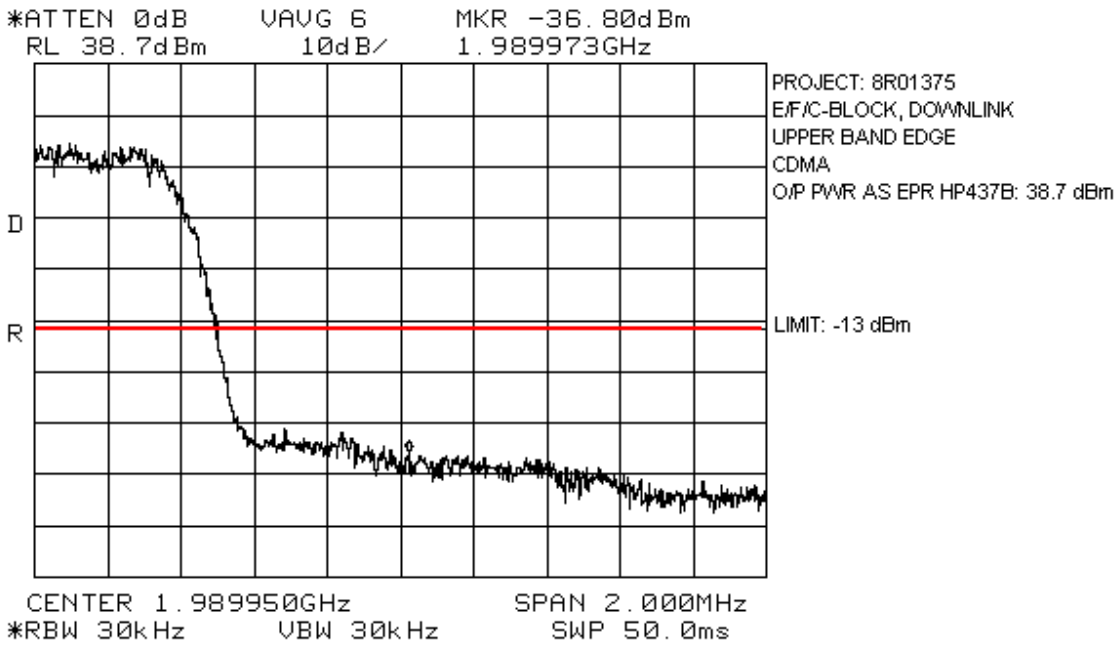

ATTEN 10dB
RL 44.7dBm
10dB/
MKR -19.80dBm
1.9299993GHz
D
R
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH.
TDMA
LOWER BAND EDGE
O/P PWR AS PER HP437B: 44.7 dBm
LIMIT; -13 dBm
CENTER 1.9300000GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

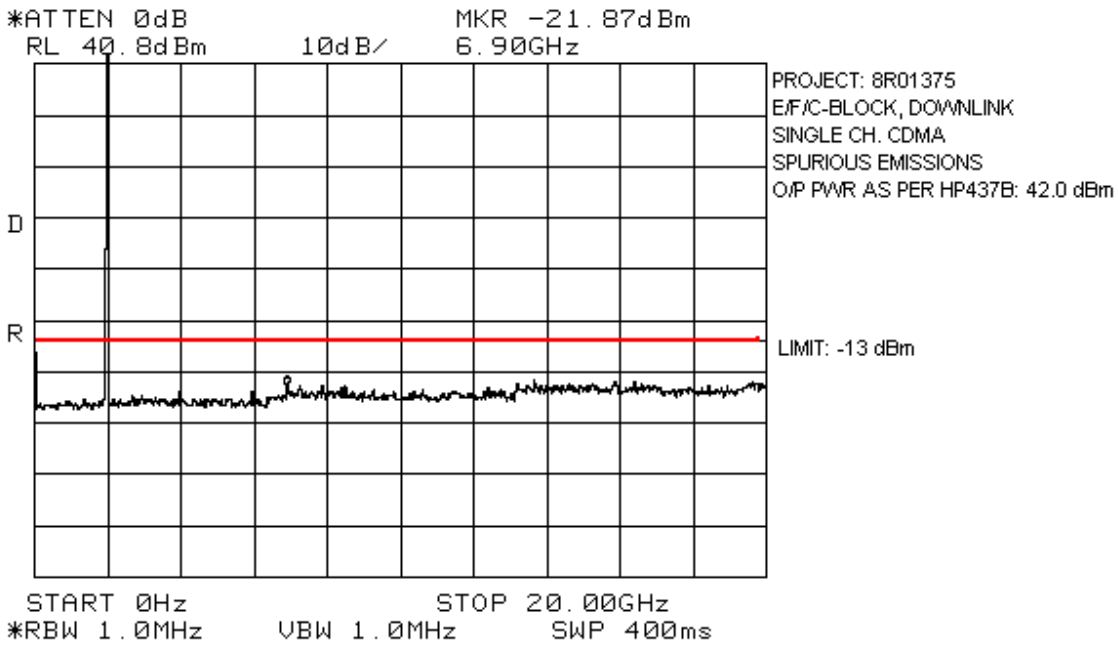

*ATTEN 0dB
MKR -19.43dBm
RL 40.9dBm
10dB/
3.90GHz
PROJECT: 8R01375
A/D/B-BLOCK, DOWNLINK
SINGLE CH. TDMA
SPURIOUS EMISSIONS
O/P PWR AS PER HP437B: 44.7 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

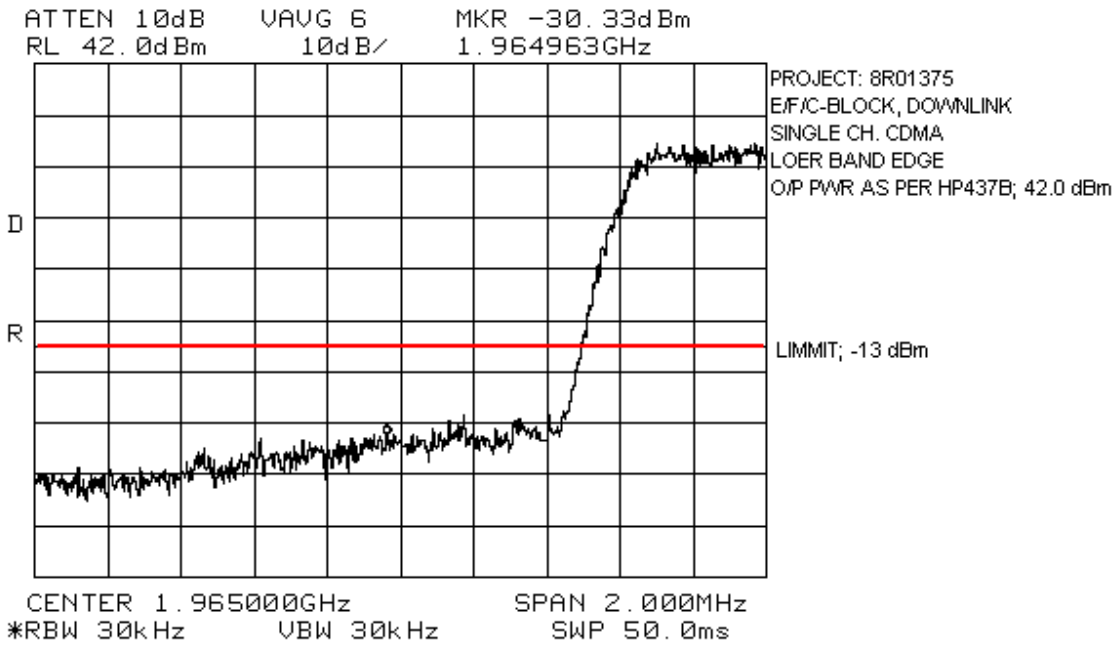

*ATTEN 0dB
MKR -13.10dBm
RL 40.9dBm
10dB/
1.9480GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
2 CH. INTERMODULATION PRODUCTS
CDMA, OUT OF BAND PRODUCTS
O/P PWR AS PER HP437B: 38.7 dBm
R
LIMIT: -13 dBm
CENTER 1.9775GHz
SPAN 100.0MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

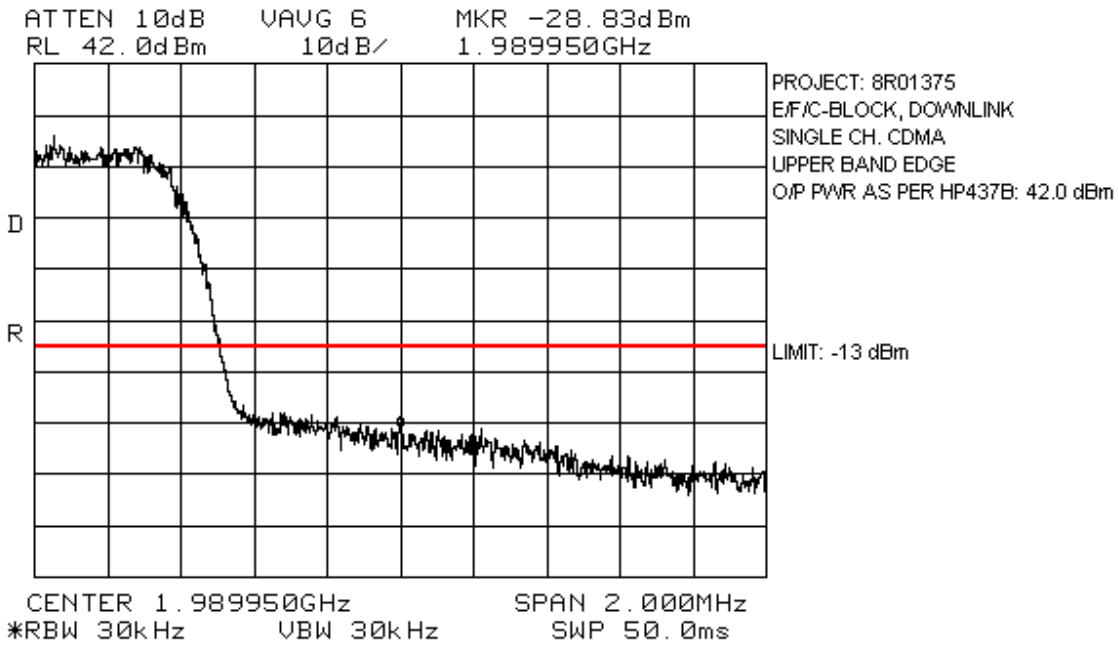

*ATTEN 0dB
MKR -21.93dBm
RL 40.9dBm
10dB/
8.50GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
2 CH. INTERMODULATION
SPURIOUS EMISSIONS
CDMA, OUT OF BAND PRODUCTS
O/P PWR AS PER HP437B: 38.7 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

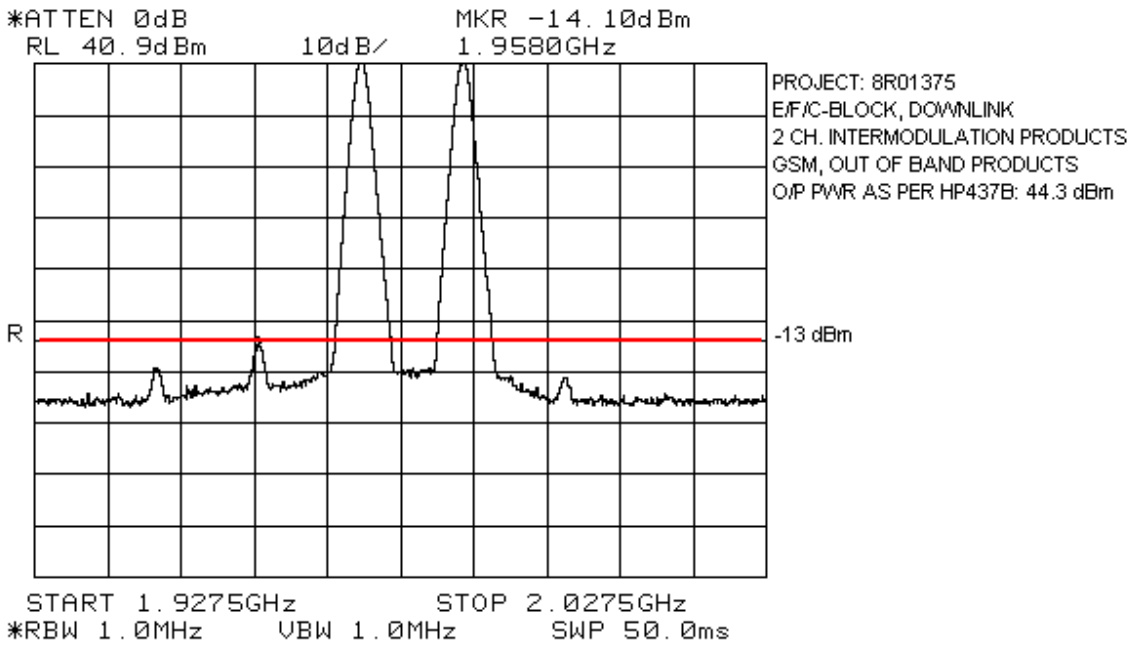

*ATTEN 0dB
VAVG 6
MKR -36.97dBm
RL 38.7dBm
10dB/
1.964987GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
LOWER BANDEDGE
CDMA
O/P PWR AS EPR HP437B: 38.7 dBm
D
R
LIMIT: -13 dBm
CENTER 1.965000GHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

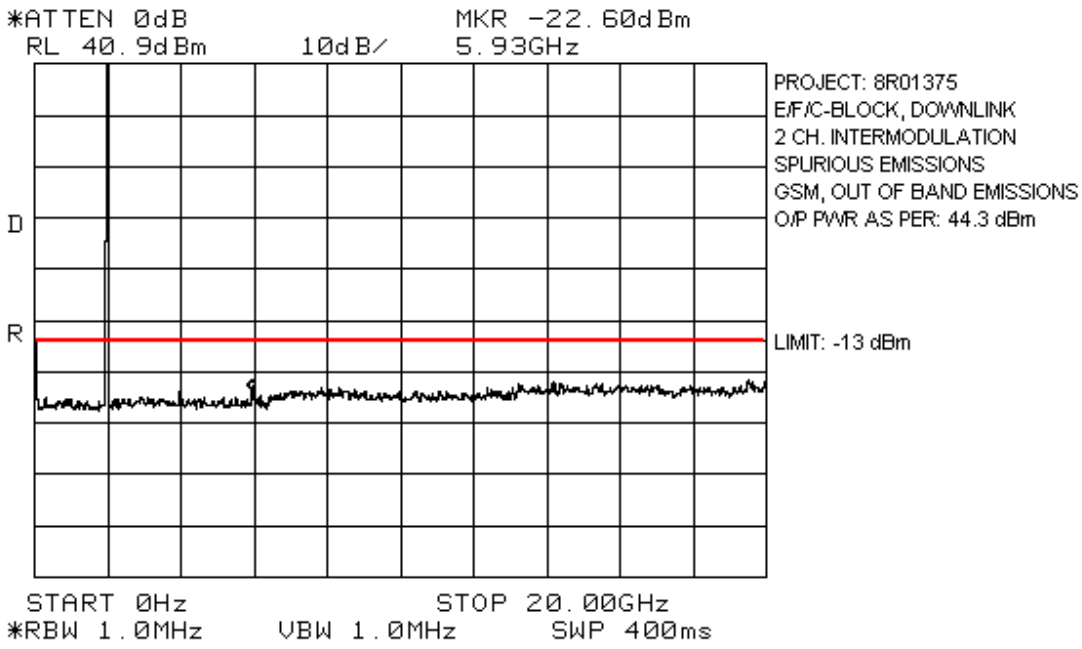

*ATTEN 0dB
VAVG 6
MKR -36.80dBm
RL 38.7dBm
10dB/
1.989973GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
UPPER BAND EDGE
CDMA
O/P PWR AS EPR HP437B: 38.7 dBm
D
R
LIMIT: -13 dBm
CENTER 1.989950GHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

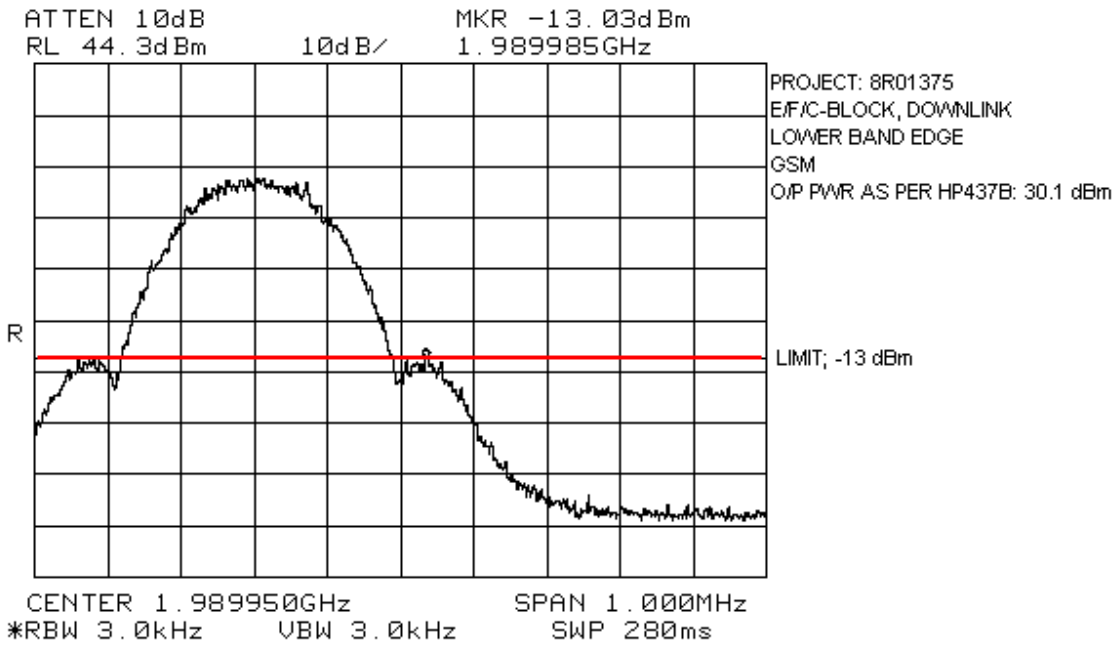

*ATTEN 0dB
MKR -21.87dBm
RL 40.8dBm
10dB/
6.90GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. CDMA
SPURIOUS EMISSIONS
O/P PWR AS PER HP437B: 42.0 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

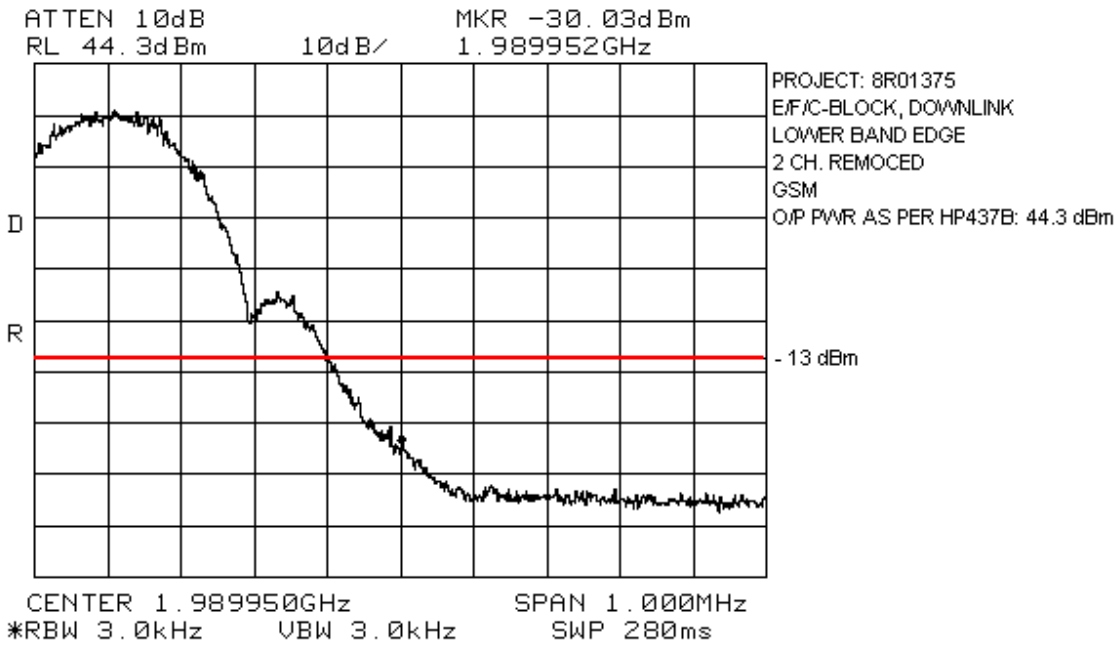

ATTEN 10dB
RL 42.0dBm
VAVG 6
10dB/
MKR -30.33dBm
1.964963GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. CDMA
LOER BAND EDGE
O/P PWR AS PER HP437B; 42.0 dBm
D
R
LIMMIT; -13 dBm
CENTER 1.965000GHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

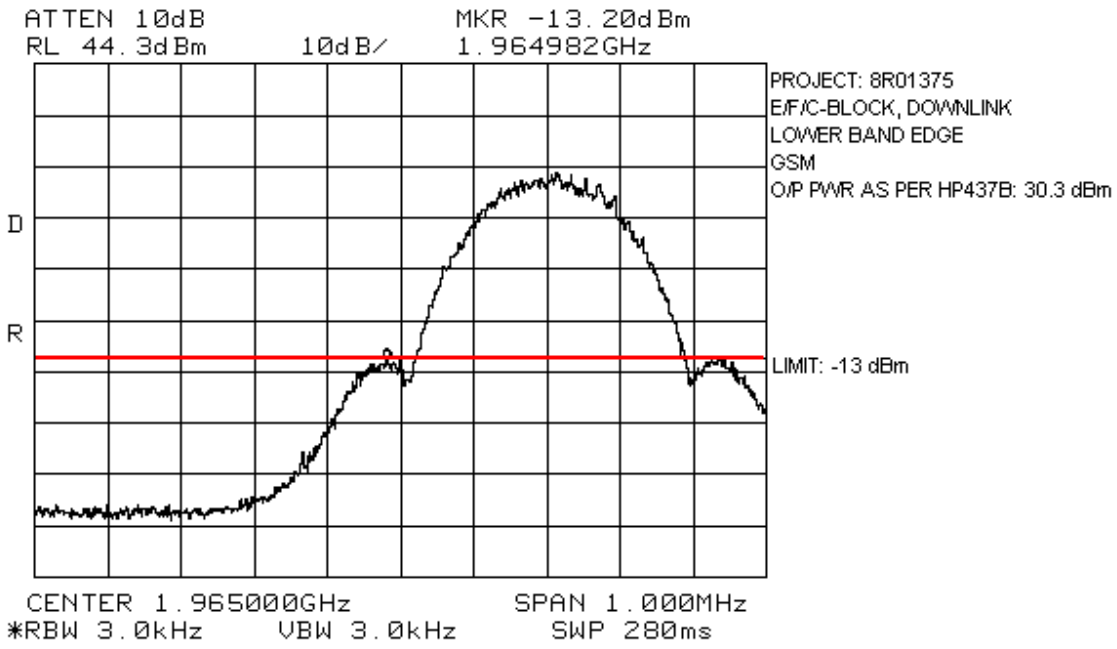

ATTEN 10dB
VAVG 6
MKR -28.83dBm
RL 42.0dBm
10dB/
1.989950GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. CDMA
UPPER BAND EDGE
O/P PWR AS PER HP437B: 42.0 dBm
D
R
LIMIT: -13 dBm
CENTER 1.989950GHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

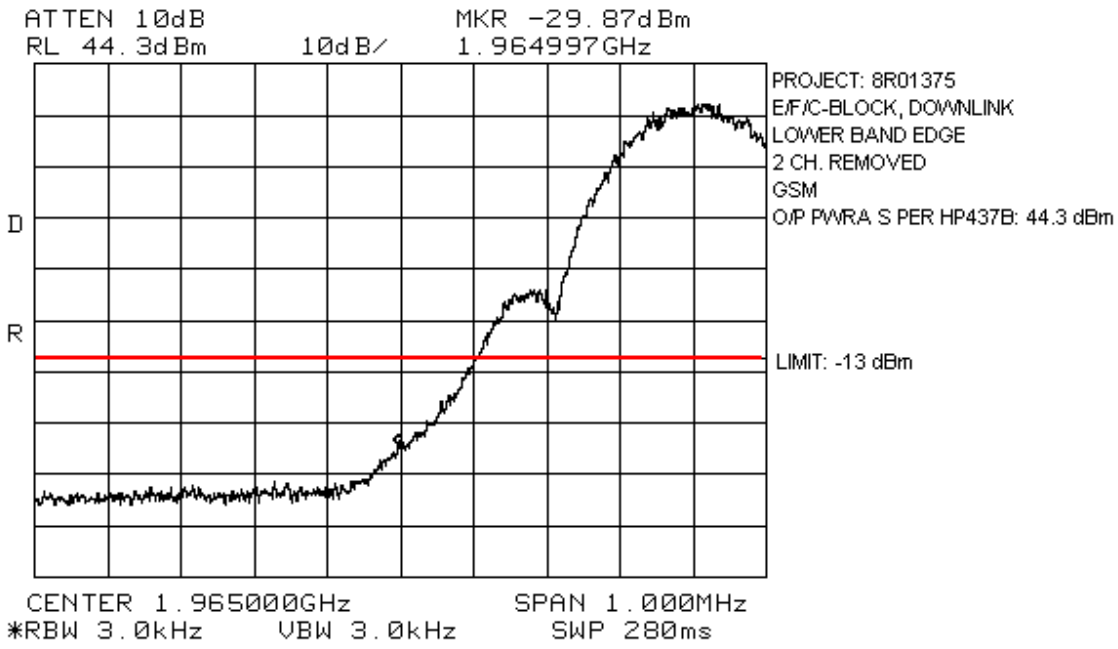

*ATTEN 0dB
MKR -14.10dBm
RL 40.9dBm
10dB/
1.9580GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
2 CH. INTERMODULATION PRODUCTS
GSM, OUT OF BAND PRODUCTS
O/P PWR AS PER HP437B: 44.3 dBm
R
-13 dBm
START 1.9275GHz
STOP 2.0275GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

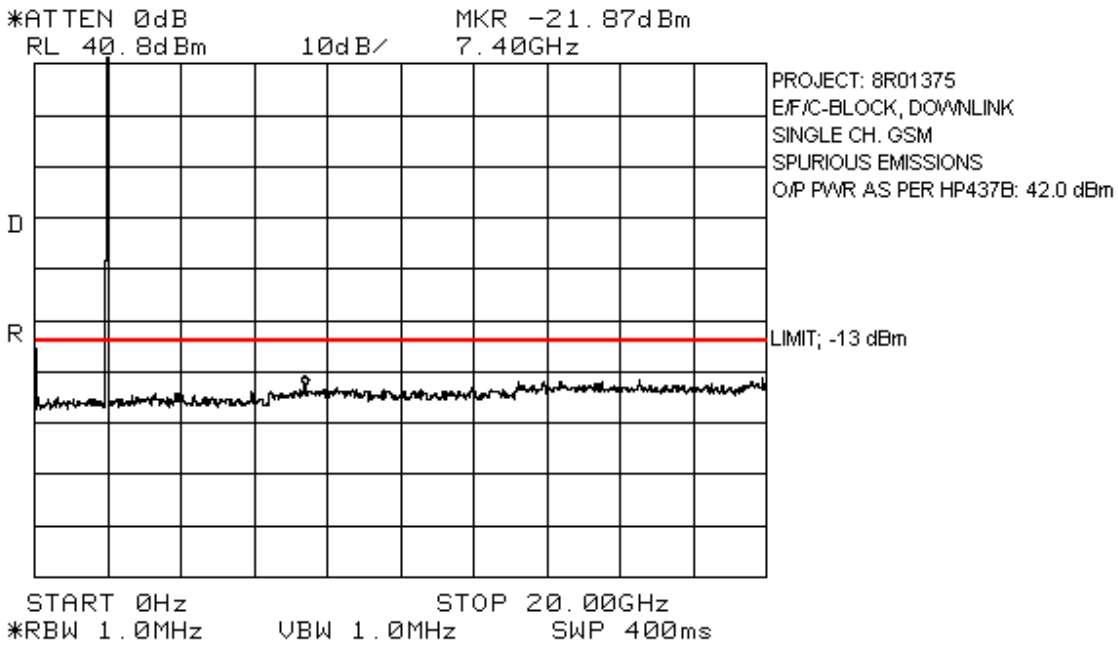

*ATTEN 0dB
MKR -22.60dBm
RL 40.9dBm
10dB/
5.93GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
2 CH. INTERMODULATION
SPURIOUS EMISSIONS
GSM, OUT OF BAND EMISSIONS
O/P PWR AS PER: 44.3 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

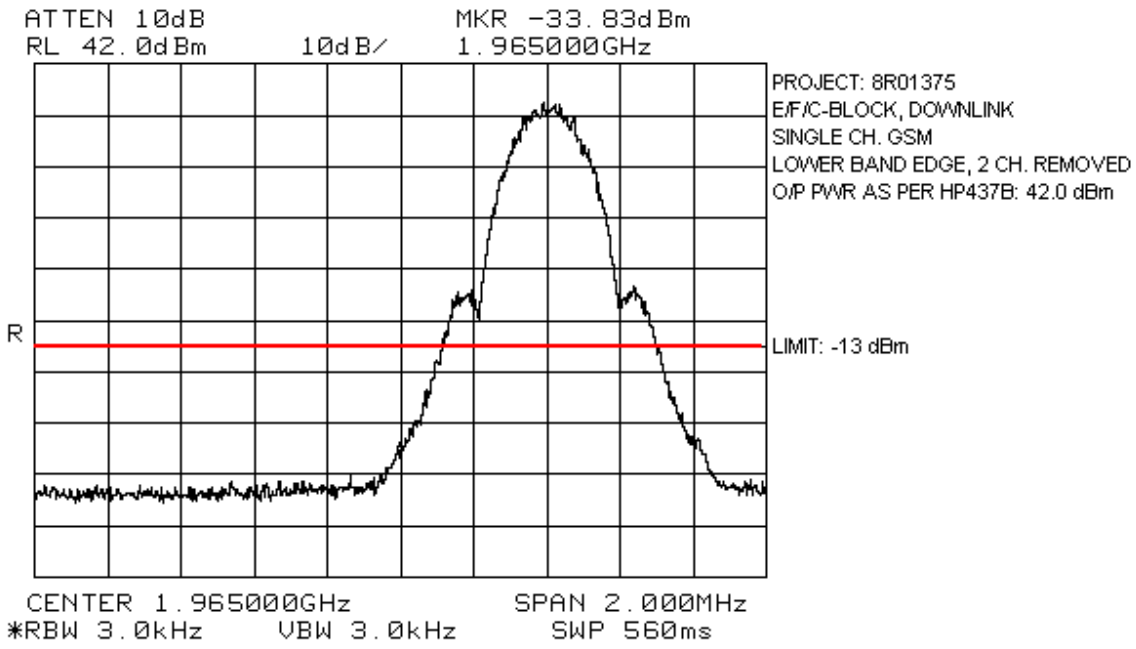

ATTEN 10dB
RL 44.3dBm
10dB/
MKR -13.03dBm
1.989985GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
LOWER BAND EDGE
GSM
O/P PWR AS PER HP437B: 30.1 dBm
R
LIMIT; -13 dBm
CENTER 1.989950GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

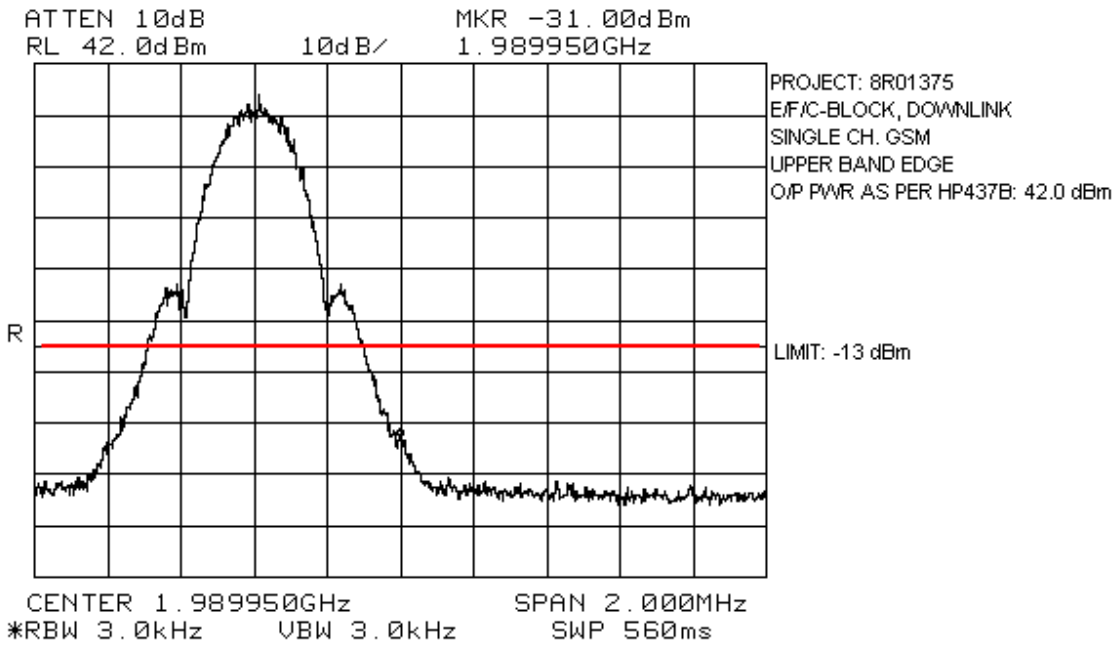

ATTEN 10dB
RL 44.3dBm
10dB/
MKR -30.03dBm
1.989952GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
LOWER BAND EDGE
2 CH. REMOCED
GSM
O/P PWR AS PER HP437B: 44.3 dBm
D
R
- 13 dBm
CENTER 1.989950GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

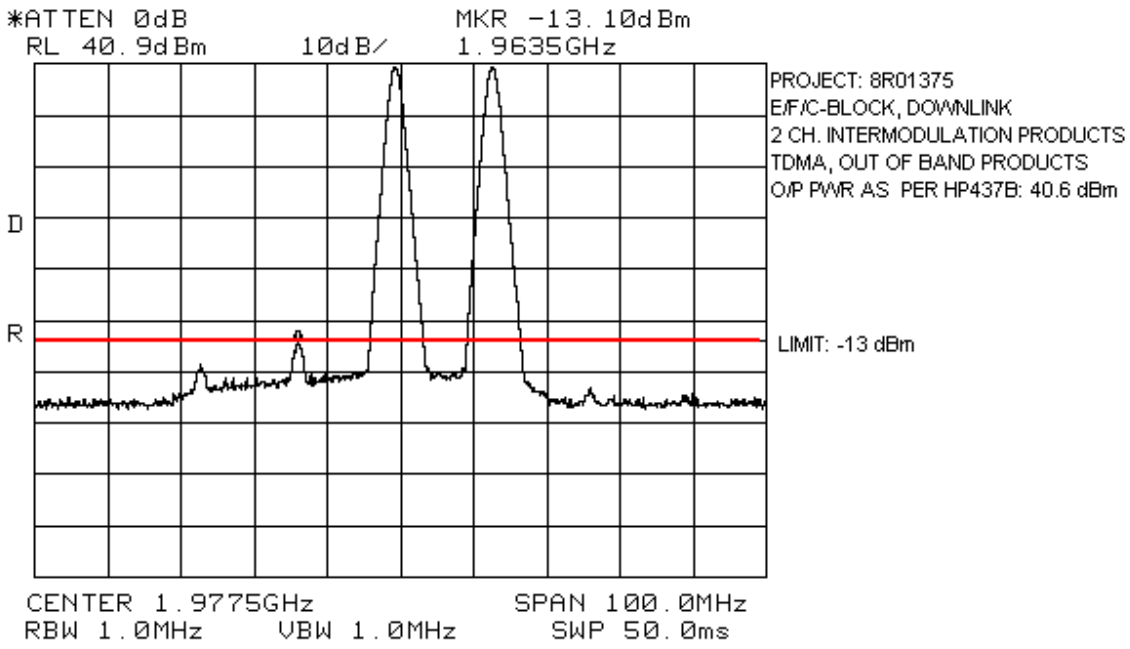

ATTEN 10dB
RL 44.3dBm
10dB/
MKR -13.20dBm
1.964982GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
LOWER BAND EDGE
GSM
O/P PWR AS PER HP437B: 30.3 dBm
D
R
LIMIT: -13 dBm
CENTER 1.965000GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

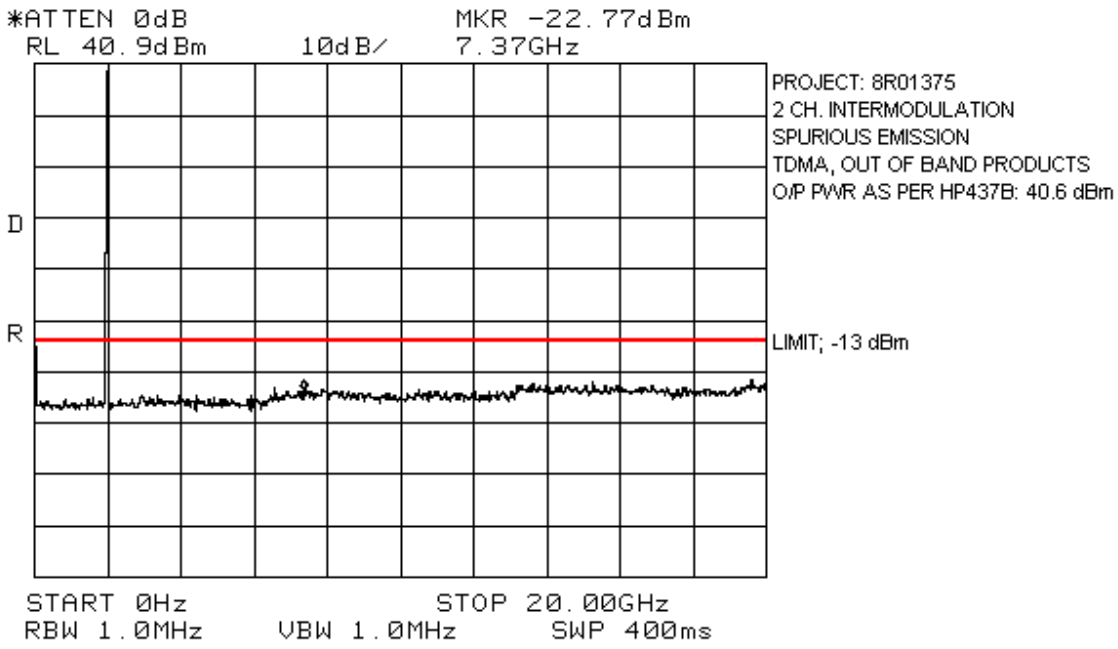

ATTEN 10dB
RL 44.3dBm
10dB/
MKR -29.87dBm
1.964997GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
LOWER BAND EDGE
2 CH. REMOVED
GSM
O/P PWR AS PER HP437B: 44.3 dBm
D
R
LIMIT: -13 dBm
CENTER 1.965000GHz
SPAN 1.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 280ms

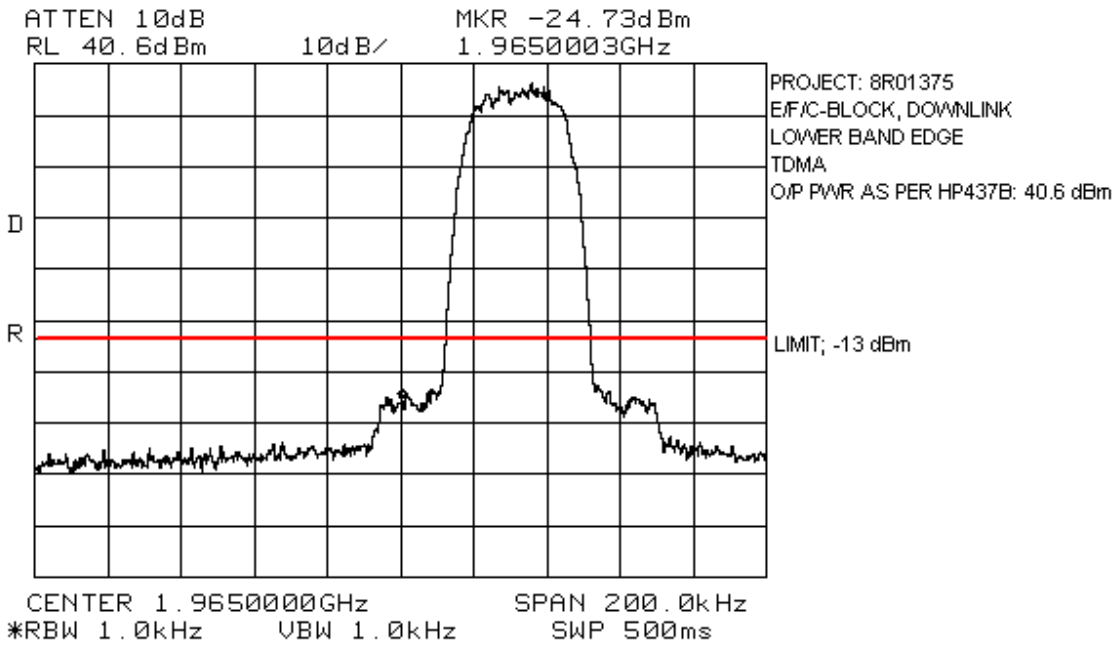

*ATTEN 0dB
MKR -21.87dBm
RL 40.8dBm
10dB/
7.40GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. GSM
SPURIOUS EMISSIONS
O/P PWR AS PER HP437B: 42.0 dBm
D
R
LIMIT; -13 dBm
START 0Hz
STOP 20.00GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 400ms

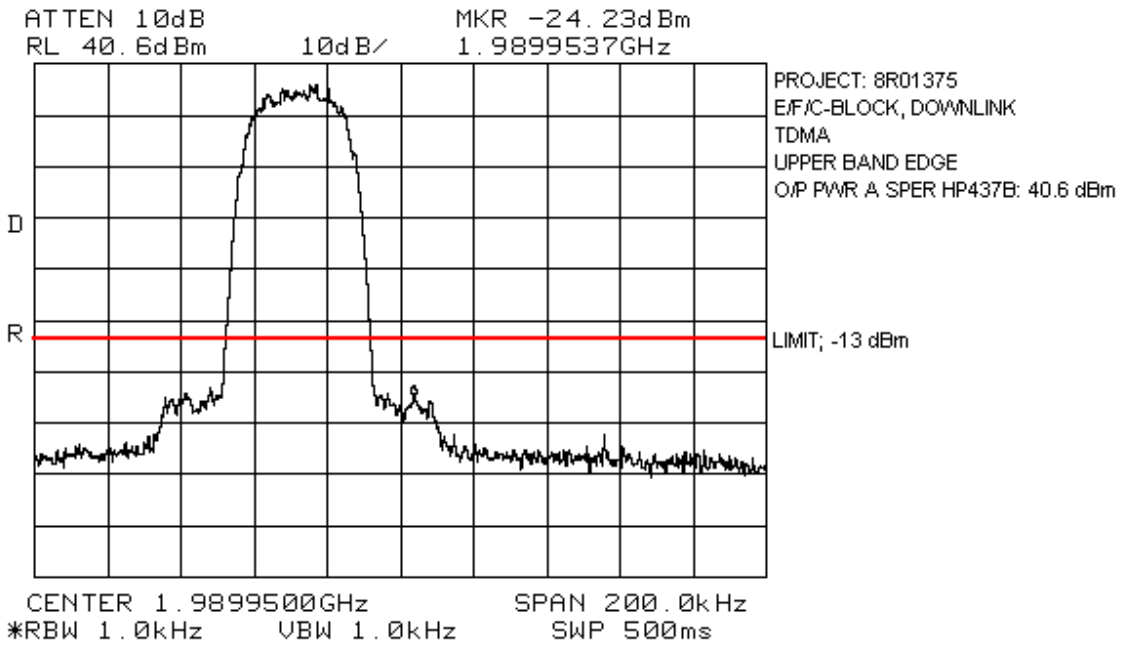

ATTEN 10dB
RL 42.0dBm
10dB/
MKR -33.83dBm
1.965000GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. GSM
LOWER BAND EDGE, 2 CH. REMOVED
O/P PWR AS PER HP437B: 42.0 dBm
R
LIMIT: -13 dBm
CENTER 1.965000GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

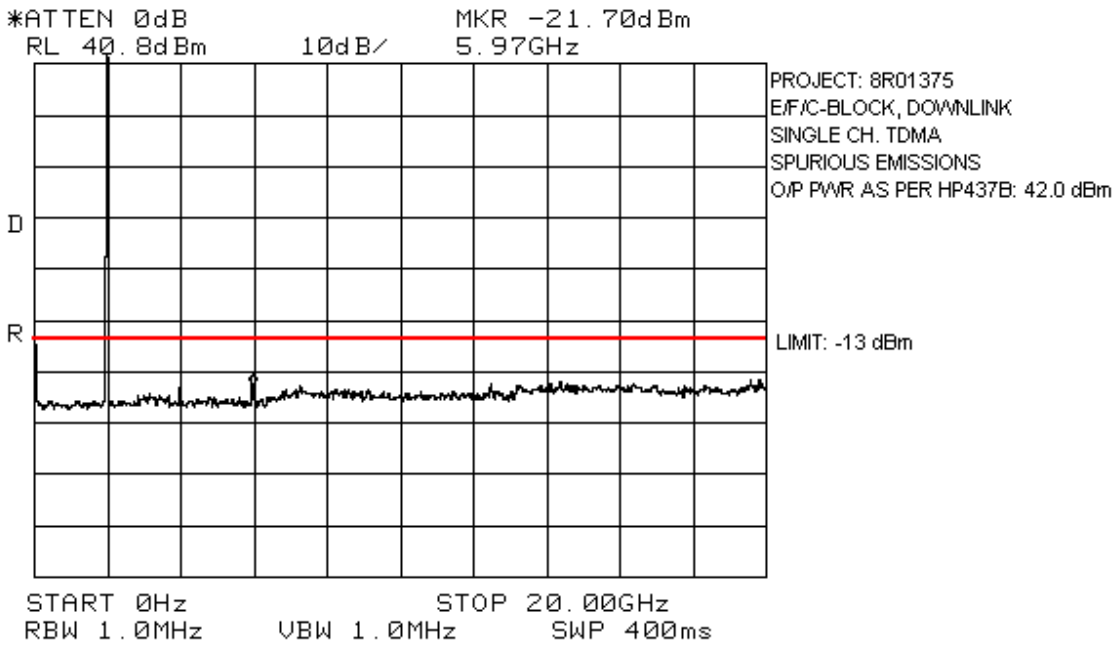

ATTEN 10dB
RL 42.0dBm
10dB/
MKR -31.00dBm
1.989950GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. GSM
UPPER BAND EDGE
O/P PWR AS PER HP437B: 42.0 dBm
R
LIMIT: -13 dBm
CENTER 1.989950GHz
SPAN 2.000MHz
*RBW 3.0kHz
VBW 3.0kHz
SWP 560ms

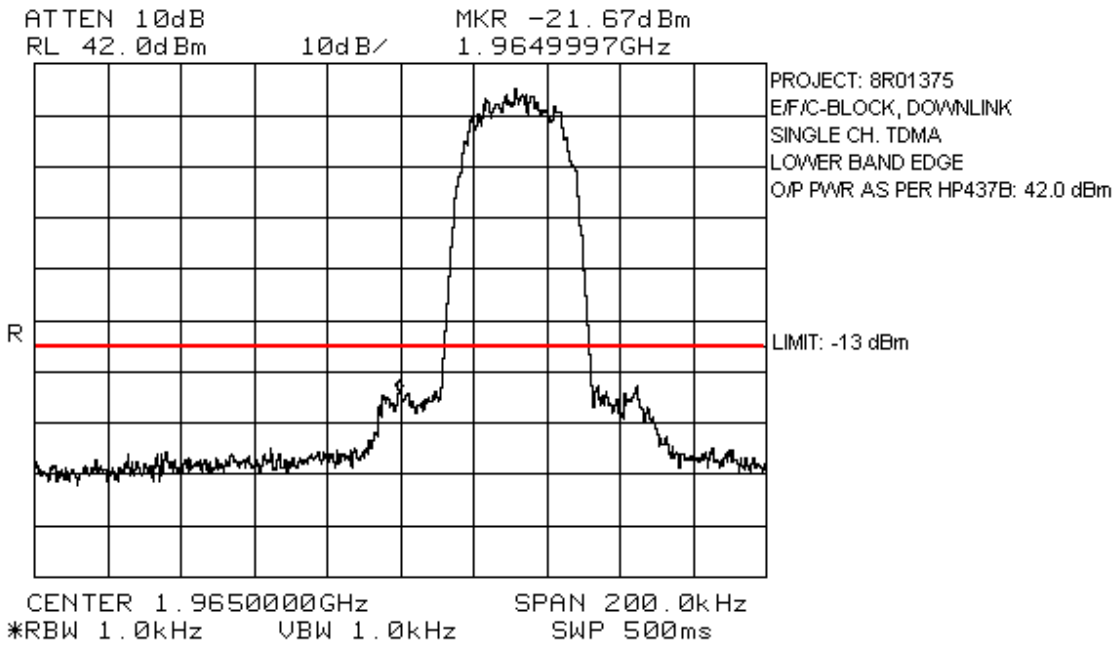

*ATTEN 0dB
MKR -13.10dBm
RL 40.9dBm
10dB/
1.9635GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
2 CH. INTERMODULATION PRODUCTS
TDMA, OUT OF BAND PRODUCTS
O/P PWR AS PER HP437B: 40.6 dBm
D
R
LIMIT: -13 dBm
CENTER 1.9775GHz
SPAN 100.0MHz
RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

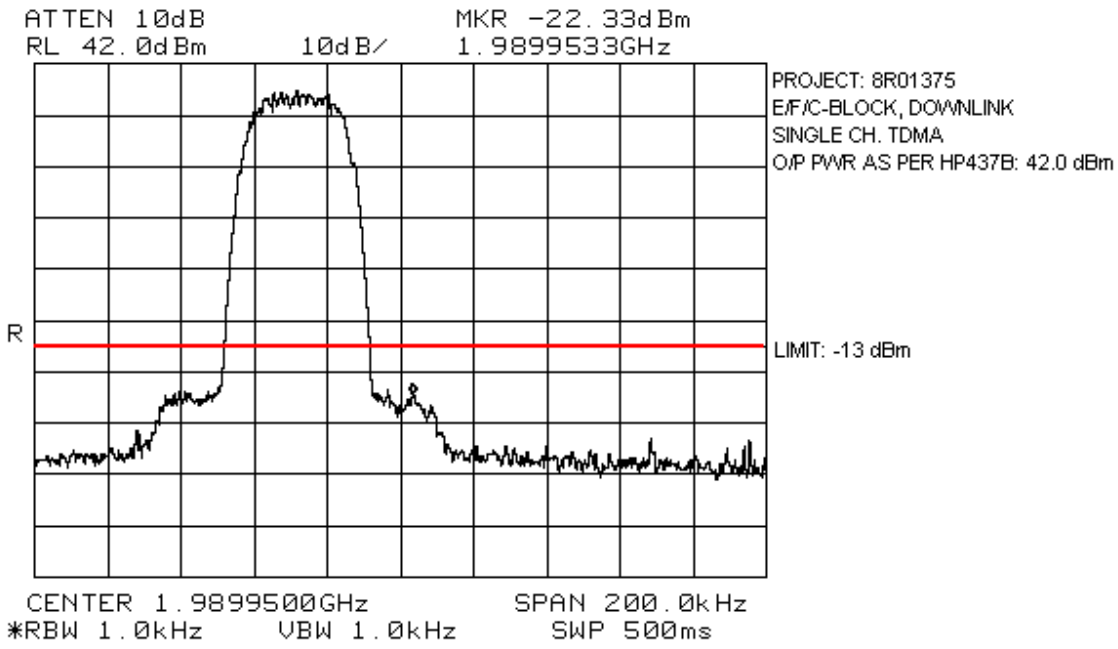

*ATTEN 0dB
MKR -22.77dBm
RL 40.9dBm
10dB/
7.37GHz
PROJECT: 8R01375
2 CH. INTERMODULATION
SPURIOUS EMISSION
TDMA, OUT OF BAND PRODUCTS
O/P PWR AS PER HP437B: 40.6 dBm
D
R
LIMIT; -13 dBm
START 0Hz
STOP 20.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 400ms


ATTEN 10dB
RL 40.6dBm
10dB/
MKR -24.73dBm
1.9650003GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
LOWER BAND EDGE
TDMA
O/P PWR AS PER HP437B: 40.6 dBm
D
R
LIMIT; -13 dBm
CENTER 1.9650000GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


ATTEN 10dB
RL 40.6dBm
10dB/
MKR -24.23dBm
1.9899537GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
TDMA
UPPER BAND EDGE
O/P PWR A SPER HP437B: 40.6 dBm
D
R
LIMIT; -13 dBm
CENTER 1.9899500GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


*ATTEN 0dB
MKR -21.70dBm
RL 40.8dBm
10dB/
5.97GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. TDMA
SPURIOUS EMISSIONS
O/P PWR AS PER HP437B: 42.0 dBm
D
R
LIMIT: -13 dBm
START 0Hz
STOP 20.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 400ms


ATTEN 10dB
RL 42.0dBm
10dB/
MKR -21.67dBm
1.9649997GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. TDMA
LOWER BAND EDGE
O/P PWR AS PER HP437B: 42.0 dBm
R
LIMIT: -13 dBm
CENTER 1.9650000GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms


ATTEN 10dB
RL 42.0dBm
10dB/
MKR -22.33dBm
1.9899533GHz
PROJECT: 8R01375
E/F/C-BLOCK, DOWNLINK
SINGLE CH. TDMA
O/P PWR AS PER HP437B: 42.0 dBm
R
LIMIT: -13 dBm
CENTER 1.9899500GHz
SPAN 200.0kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 500ms

Section 6. Field Strength of Spurious

NAME OF TEST: Field Strength of Spurious	PARA. NO.: 2.917(e)
TESTED BY: Kevin Carr	DATE: May 27, 1999

Test Results: Complies.
The maximum field strength is 73.3 dBµV/m @ 3m.

Test Data:

Test Data - Radiated Emissions

Test Distance (meters) : 3		Range: A Tower		Receiver: H.P. 8563E		RBW(1 MHz): 300 kHz		Detector: 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)**
3895.0	Hrn2	V			79.8	36.0	42.5		73.3	82.3	9.0
3895.0	Hrn2	H			70.0	36.0	42.5		63.5	82.3	18.8
5842.6	Hrn2	V			64.2	41.7	41.7		64.2	82.3	18.1
5842.5	Hrn2	H			55.5	41.7	41.7		55.5	82.3	26.8
7790.1	Hrn2	V			61.8	45.5	41.0		66.3	82.3	16.0
7790.0	Hrn2	H			50.7	45.5	41.0		55.2	82.3	27.1
9737.5	Hrn2	V			37.7	51.5	44.4		44.8	82.3	37.5
9737.5	Hrn2	H			35.8	51.5	44.4		42.9	82.3	39.4
11685.0	Hrn2	V			32.8	54.2	43.7		43.3	82.3	39.0
11685.0	Hrn2	H			32.6	54.2	43.7		43.1	82.3	39.2

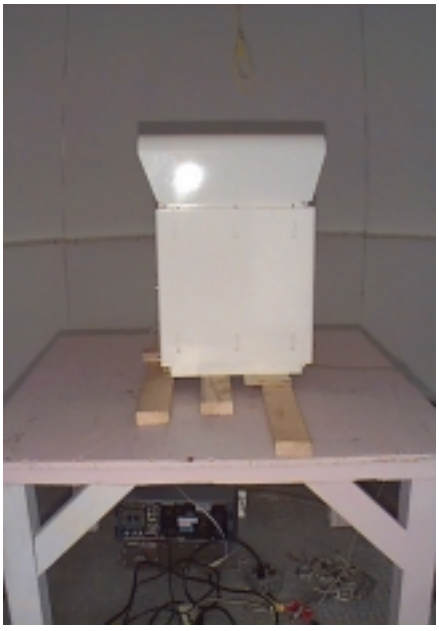
Notes:
The spectrum was search up to the 10th harmonic of the fundamental frequency.
B/C = Biconical, B/L = Biconilog, L/P = Log-Periodic, H = Horn, D/P = Dipole
* Includes cable loss when amplifier is not used.
** Includes cable loss.
( ) Denotes failing emission level.

No further emissions detected as the noise floor was 20 dB below the limit.

Photographs of Test Setup

Front View

Rear View



Section 7. Frequency Stability

NAME OF TEST: Frequency Stability	PARA. NO.: 24.235
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	July 24/99	
1 Year	Attenuator	Narda	765-20	9510	July 24/98	July 24/99	
1 Year	Attenuator	Narda	768-10	9704	July 24/98	July 24/99	
1 Year	RF Millivoltmeter	Rohde & Schwarz	URV5	FA000420	July 23/98	July 23/99	
1 Year	Insertion Unit	Rohde & Schwarz	URV5-Z4	FA000905	July 23/98	July 23/99	
2 Year	Horn Antenna	EMCO #2	3115	4336	Oct. 30/97	Oct. 30/99	
1 Year	50 ohm Combiner Pad	Mini Circuits	ZA3PD-2	9746	July 23/98	July 23/99	
1 Year	Low Noise Amplifier	Avantek	AWT-8035	1005	Aug. 4/98	Aug. 4/99	
1 Year	Low Noise Amplifier	DBS Microwave	DWT-13035	9623	Aug. 4/98	Aug. 4/99	
1 Year	Signal Generator	Rohde & Schwarz	SM1Q03	1084-8004-03	July 23/98	July 23/99	
1 Year	RF Generator	Rohde & Schwarz	SIMIQ03E	DE24154	Sept. 28/98	Sept. 28/99	
1 Year	High Power Coupler 2-18 GHz	Narda	27000-30	0221	Nov. 25/98	Nov. 25/99	
	High Pass Filter	K&L	11SH10-4000	FA001340	COU	COU	
2 Year Rental	Spectrum Analyzer	Hewlett Packard	8563E	3751A08229	Jan. 22/98	Jan. 22/00	
1 Year Rental	Power Meter	Hewlett Packard	437B	909609	Feb. 8/99	Feb. 8/00	

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.24.232. Base stations are limited to 1640 watts peak E.I.R.P. with an antenna height up to 300 meters HAAT. In no case may the peak output power of a base station transmitter exceed 100 watts.

Method Of Measurement: CDMA Per ANSI/J-STD-014
TDMA Per ANSI/J-STD-010

Detachable Antenna:
The peak power at antenna terminals is measured using an in-line peak power meter or a spectrum analyzer.

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	**PARA. NO.: 2.989**

Minimum Standard: Para. No. 24.238(b). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB.

Method Of Measurement:

CDMA Per ANSI/J-STD-014

Spectrum analyzer settings:
RBW: 30 kHz
VBW: ≥ RBW
Span: 5 MHz
Sweep: Auto

GSM Per ANSI/J-STD-010

RBW: 3 kHz
VBW: ≥ RBW
Span: 2 MHz
Sweep: Auto

NADC Per IS-136

RBW: 1 kHz
VBW: ≥ RBW
Span: 1 MHz
Sweep: Auto

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

Minimum Standard: Para. No.24.238(a). On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power by at least 43 + 10 log (P) dB.

Method Of Measurement:

Spectrum analyzer settings:

CDMA Per ANSI/J-STD-014

RBW: 1 MHz (> 1 MHz from Band Edge)
RBW: 30 kHz (< 1MHz from Band Edge)
VBW: ≥ RBW
Sweep: Auto
Video Avg: 6 Sweeps

GSM Per ANSI/J-STD-010

RBW: 1 MHz (> 1 MHz from Band Edge)
RBW: 3 kHz (< 1 MHz from Band Edge)
VBW: ≥ RBW
Sweep: Auto
Video Avg: Disabled

NADC Per IS-136

RBW: 1 MHz (> 1 MHz from Band Edge)
RBW: 1 kHz (< 1 MHz from Band Edge)
VBW: ≥ RBW
Sweep: Auto
Video Avg: Disabled

To demonstrate compliance at band edges the frequency of the input signal is set to the lowest and highest assigned channel and the center frequency of the spectrum analyzer is set to the upper and lower edges of the appropriate frequency block.

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

Minimum Standard: Para. No.24.238(a). On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power by at least 43 + 10 log (P) dB.

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)

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

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

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

Method Of Measurement: CDMA Per ANSI/J-STD-014
TDMA Per ANSI/J-STD-010
NADC Per IS-136

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. 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.

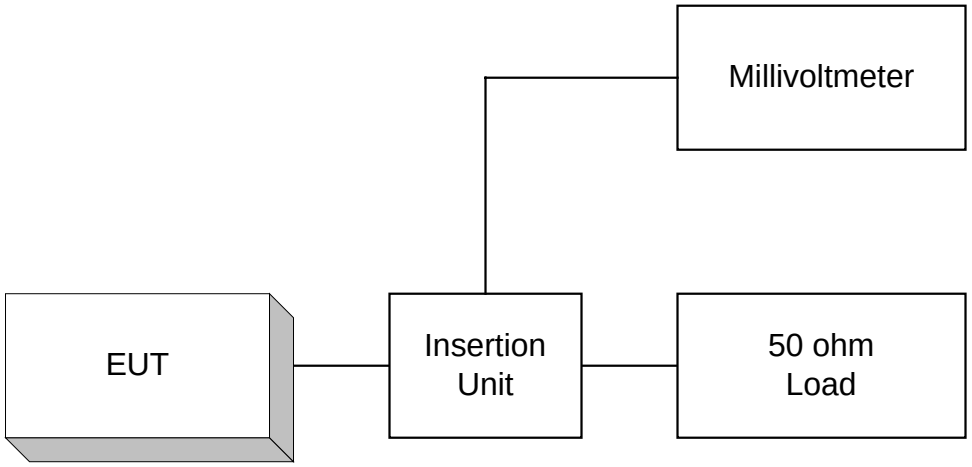
Frequency Stability With Temperature Variation

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.

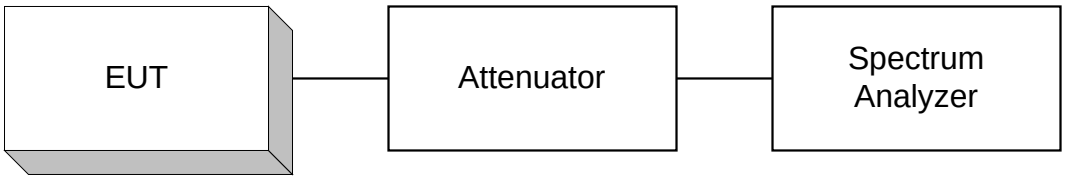
ANNEX B

TEST DIAGRAMS

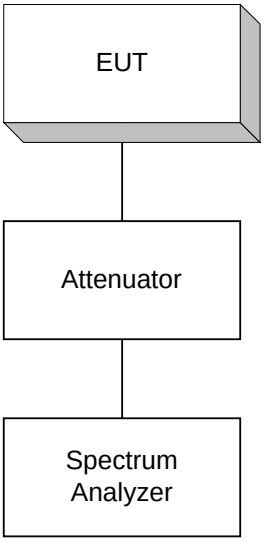
Para. No. 2.985 - R.F. Power Output



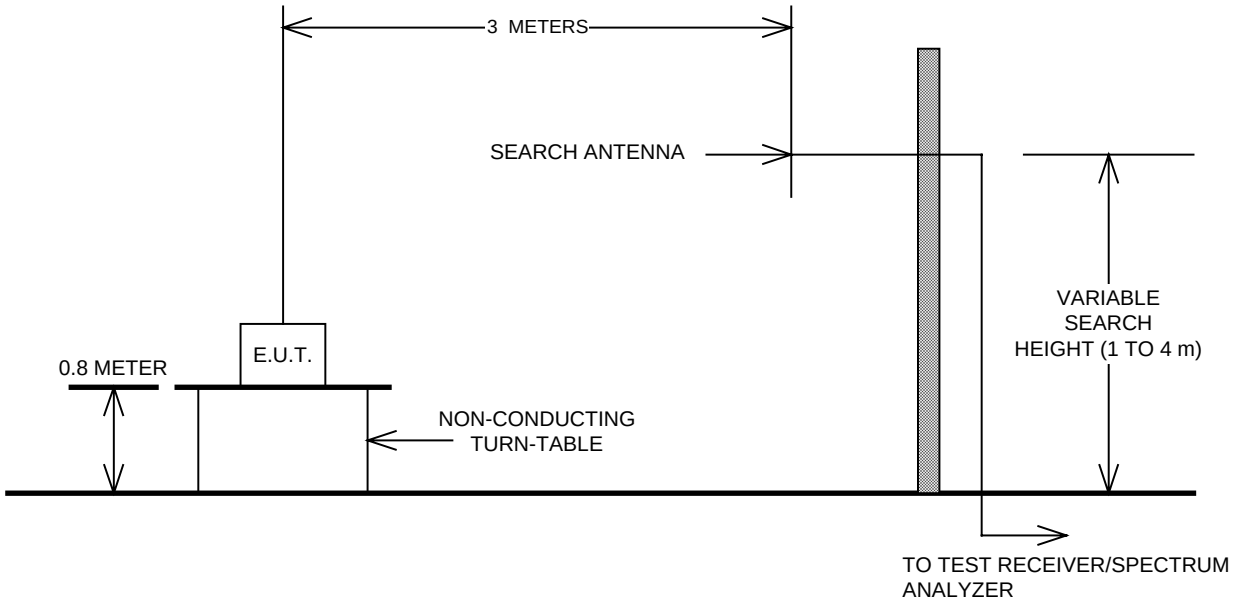
Para. No. 2.989 - Occupied Bandwidth



Para. No. 2.991 Spurious Emissions at Antenna Terminals



Para. No. 2.993 - Field Strength of Spurious Radiation



Para. No. 2.995 - Frequency Stability