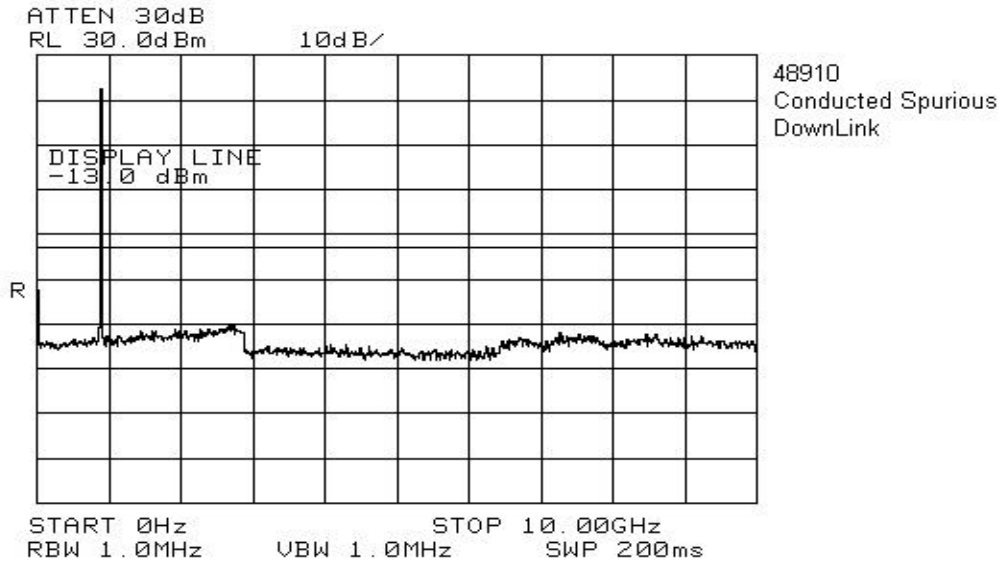
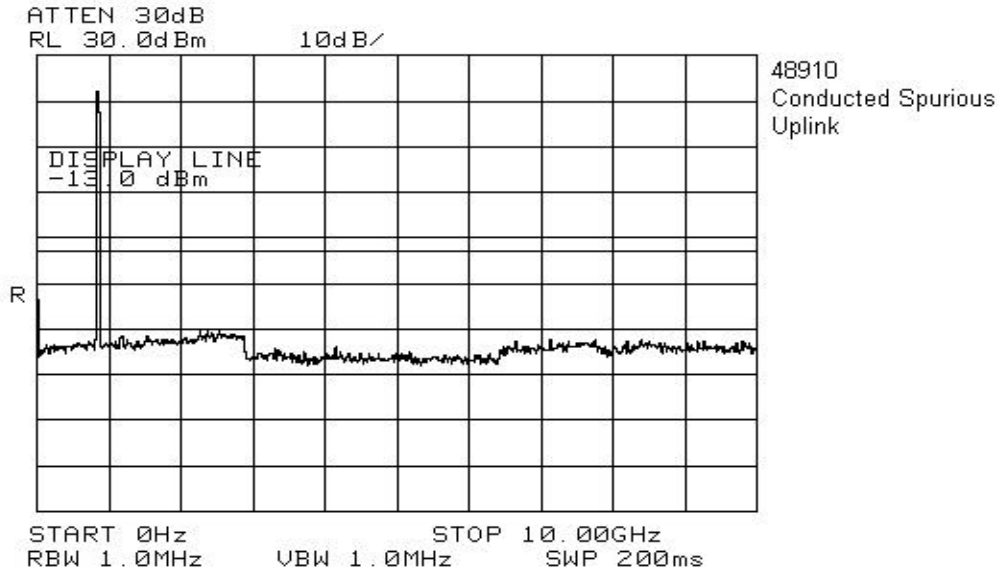
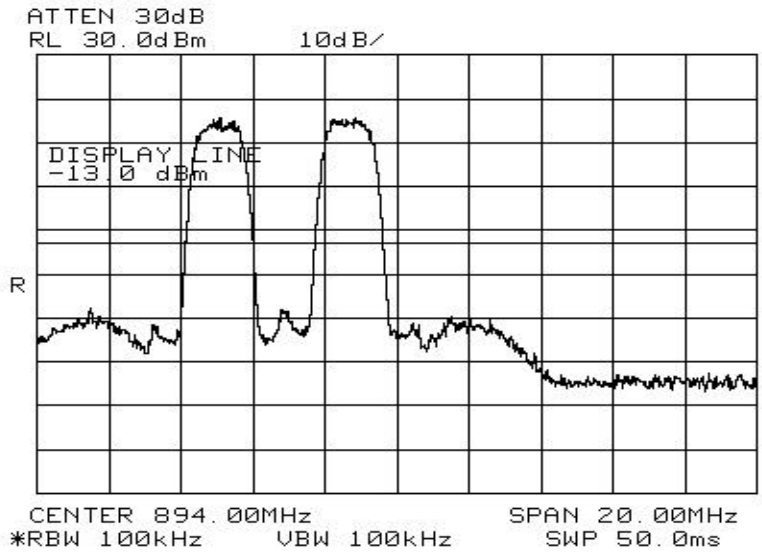
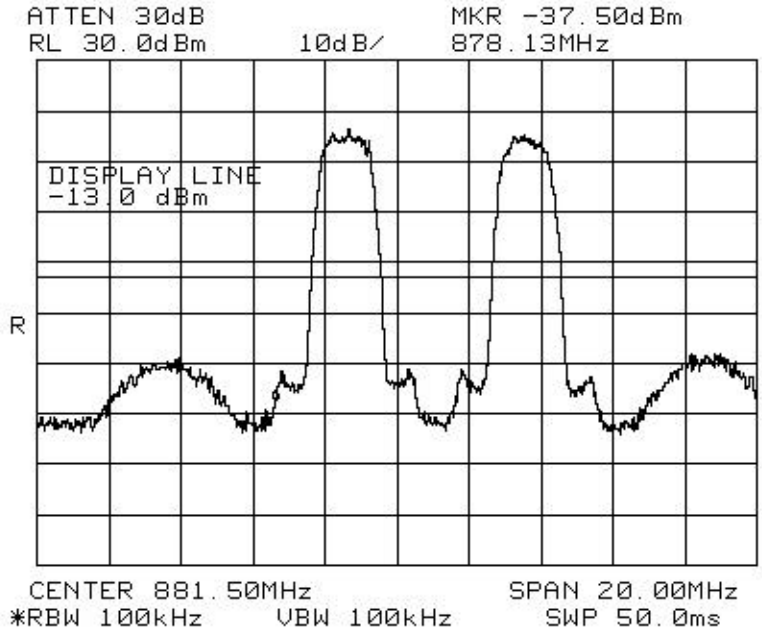
48910


ATTEN 30dB
RL 30.0dBm
10dB/
48910
Conducted Spurious
DownLink
DISPLAY LINE
-13.0 dBm
R
START 0Hz
STOP 10.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

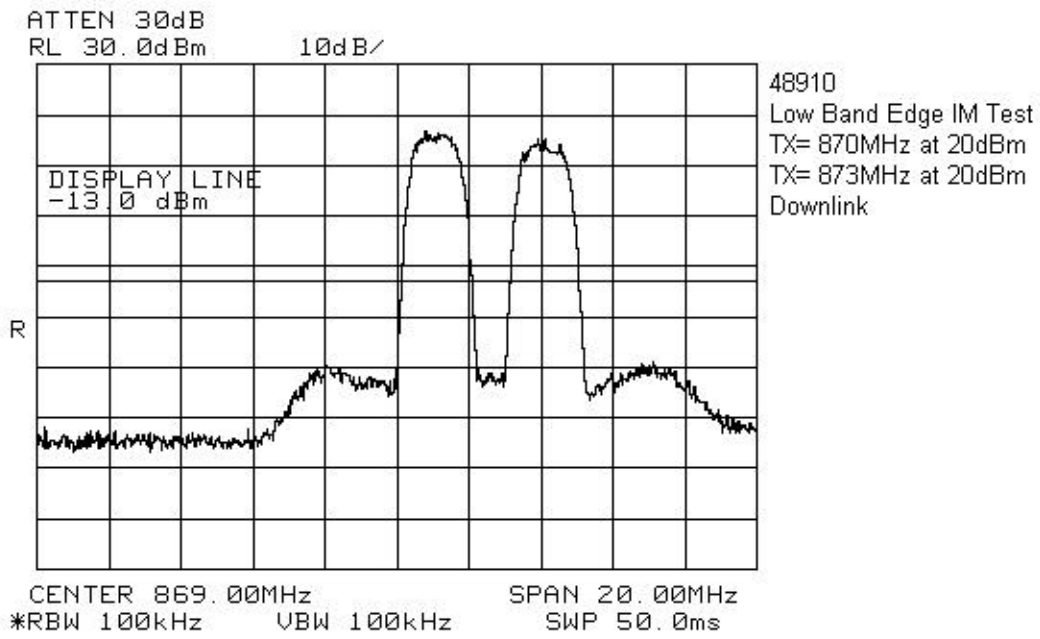

ATTEN 30dB
RL 30.0dBm
10dB/
48910
Conducted Spurious
Uplink
DISPLAY LINE
-13.0 dBm
R
START 0Hz
STOP 10.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

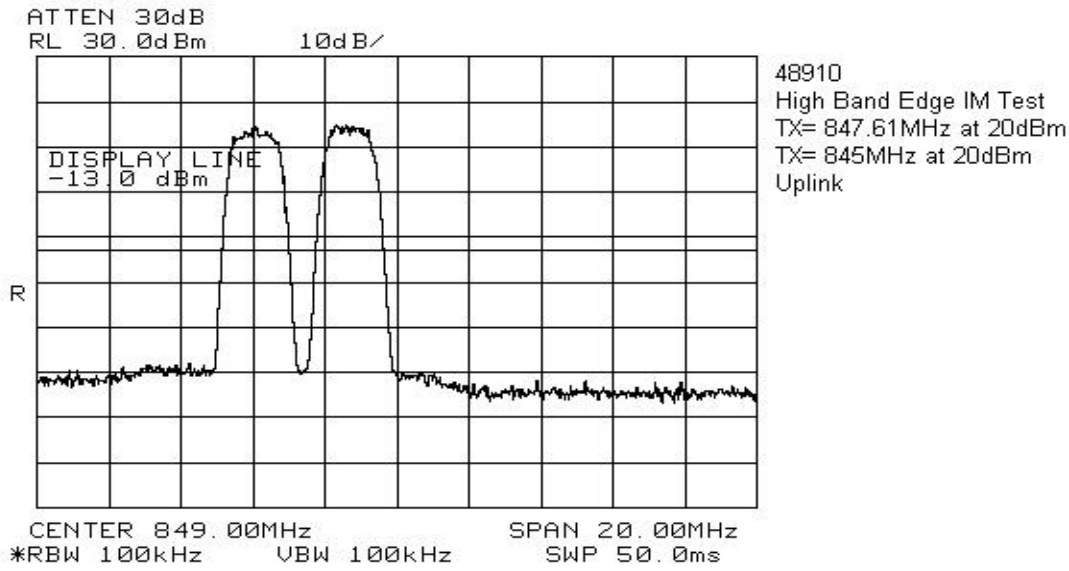


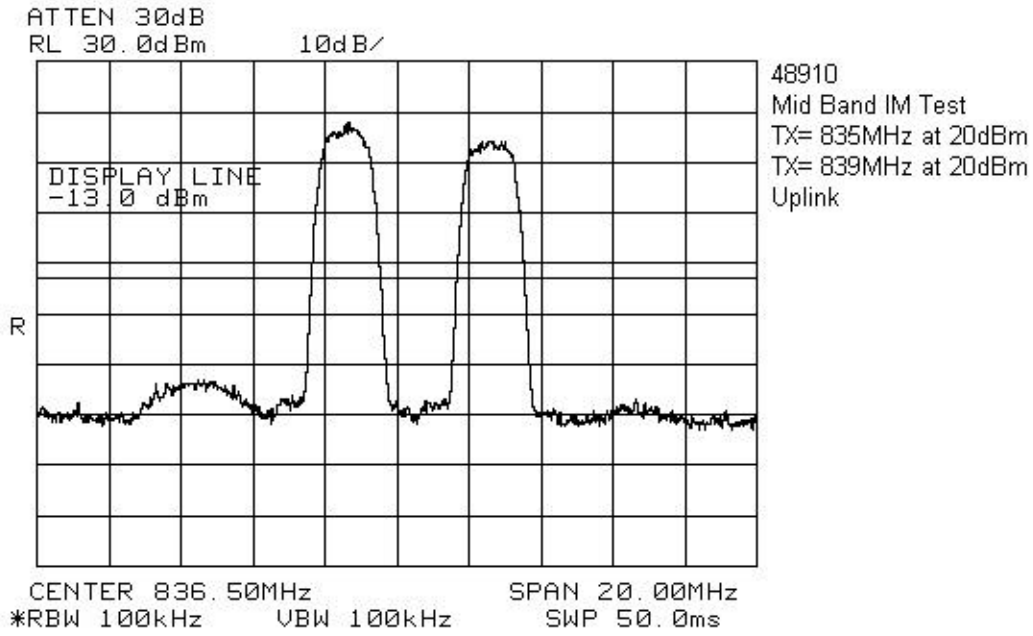
48910
High Band Edge IM Test
TX= 892.61MHz at 20dBm
TX= 889MHz at 20dBm
Downlink

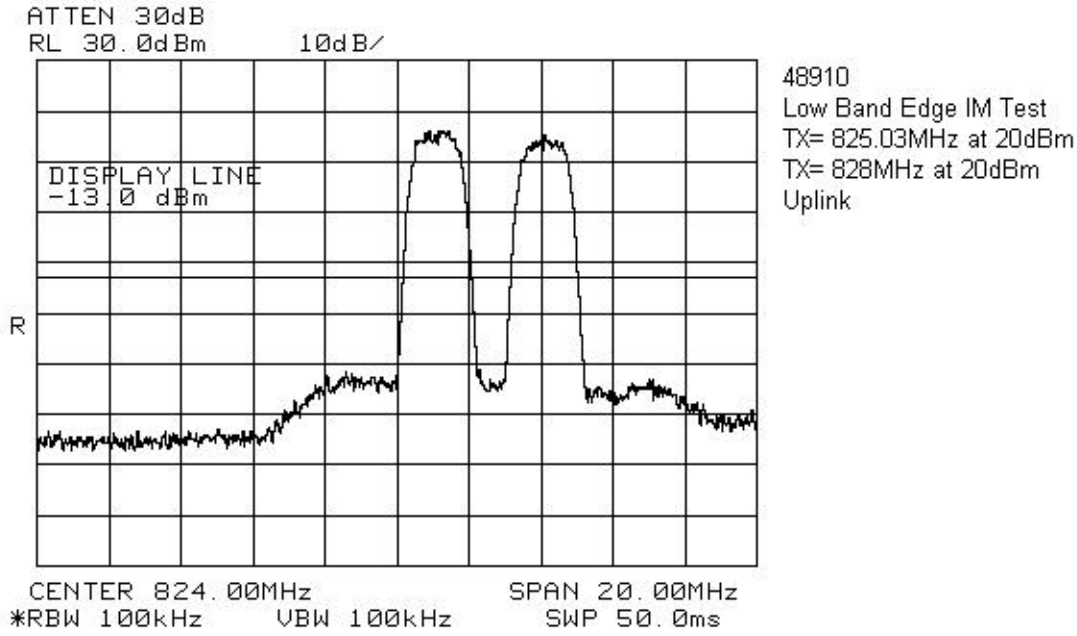


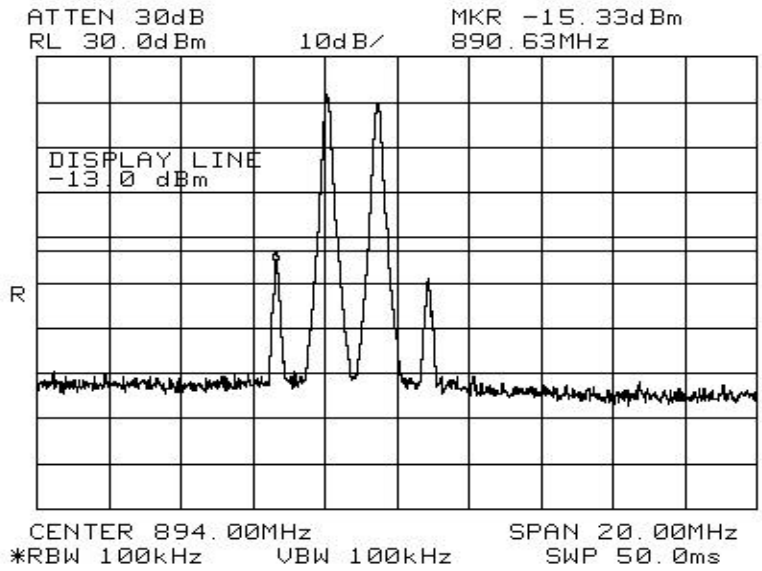
48910
Mid Band IM Test
TX= 880MHz at 20dBm
TX= 885MHz at 20dBm
Downlink


ATTEN 30dB
RL 30.0dBm
10dB/
48910
Low Band Edge IM Test
TX= 870MHz at 20dBm
TX= 873MHz at 20dBm
Downlink
DISPLAY LINE
-13.0 dBm
R
CENTER 869.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms

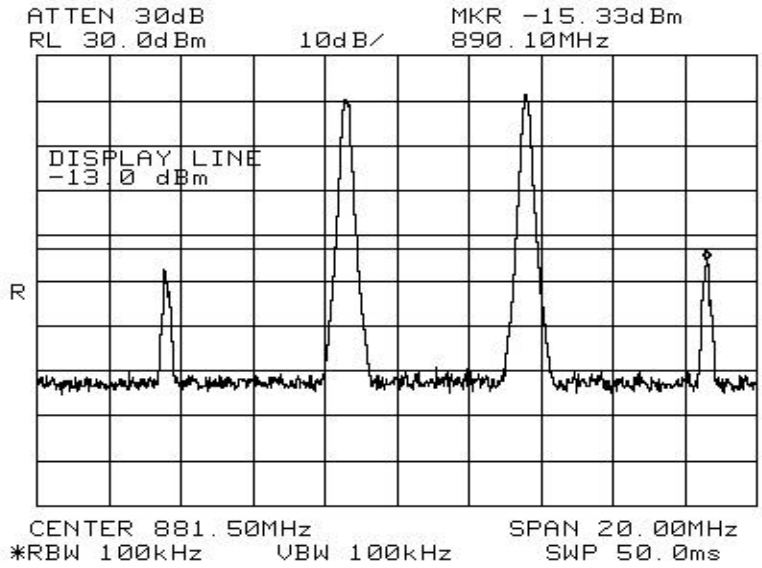

ATTEN 30dB
RL 30.0dBm
10dB/
DISPLAY LINE
-13.0 dBm
R
CENTER 849.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48910
High Band Edge IM Test
TX= 847.61MHz at 20dBm
TX= 845MHz at 20dBm
Uplink


ATTEN 30dB
RL 30.0dBm
10dB/
DISPLAY LINE
-13.0 dBm
R
CENTER 836.50MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48910
Mid Band IM Test
TX= 835MHz at 20dBm
TX= 839MHz at 20dBm
Uplink

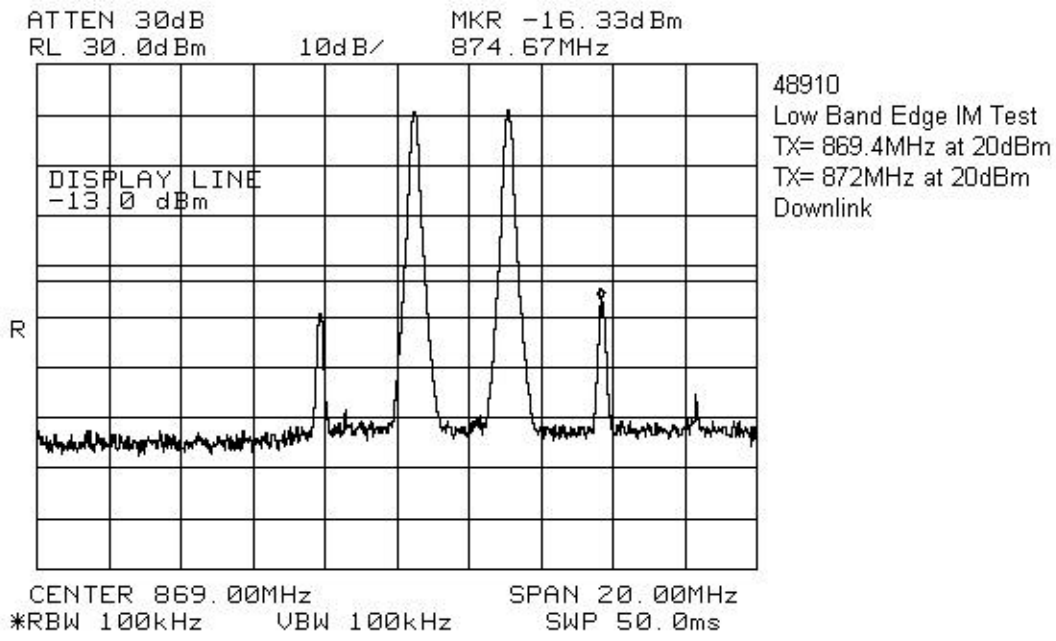

ATTEN 30dB
RL 30.0dBm
10dB/
DISPLAY LINE
-13.0 dBm
R
CENTER 824.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48910
Low Band Edge IM Test
TX= 825.03MHz at 20dBm
TX= 828MHz at 20dBm
Uplink

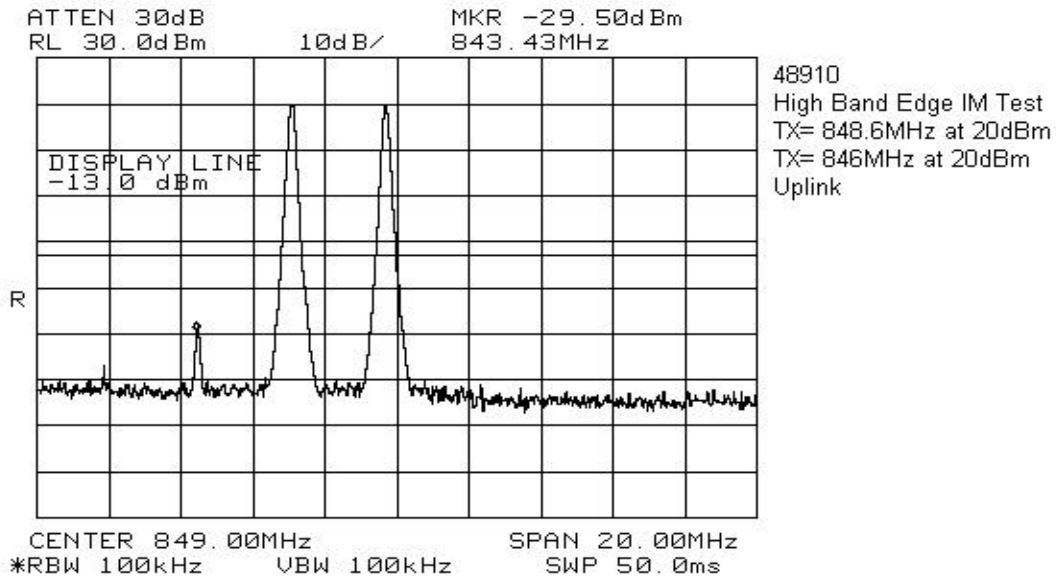


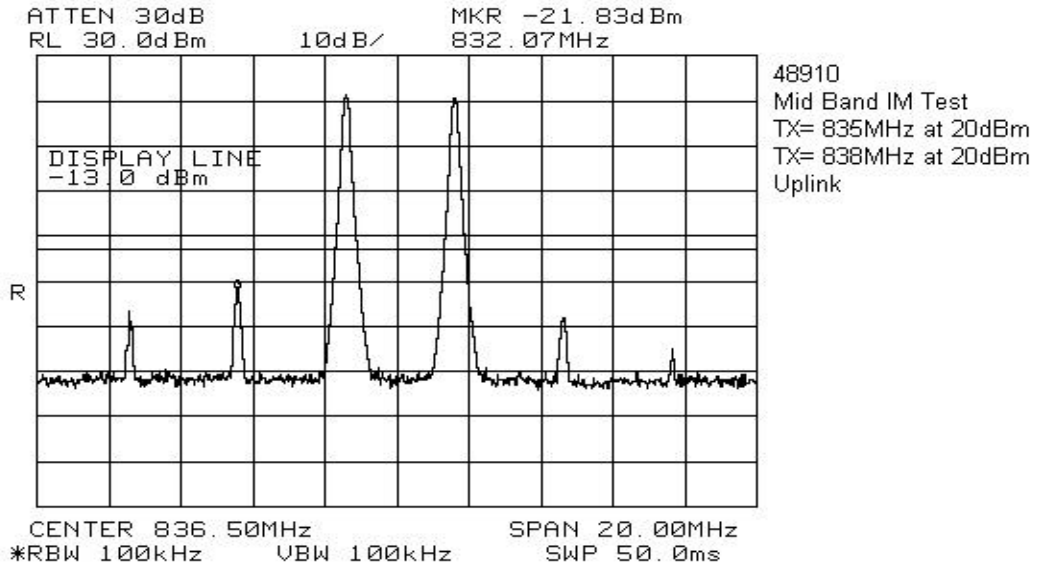
48910
High Band Edge IM Test
TX= 893.4MHz at 20dBm
TX= 892MHz at 20dBm
Downlink

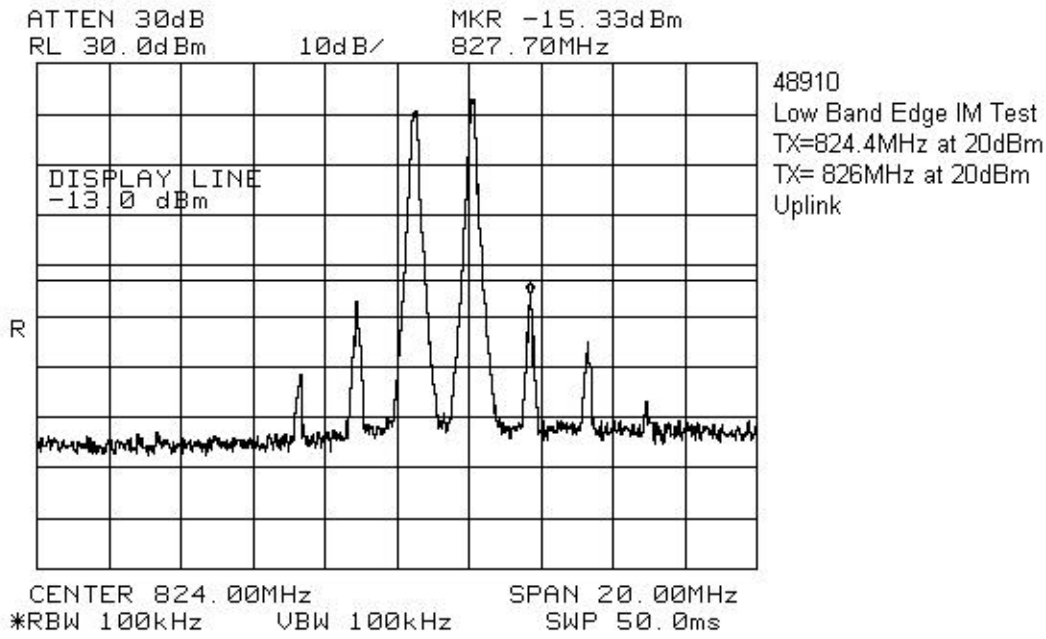


48910
Mid Band IM Test
TX= 880MHz at 20dBm
TX= 885MHz at 20dBm
Downlink

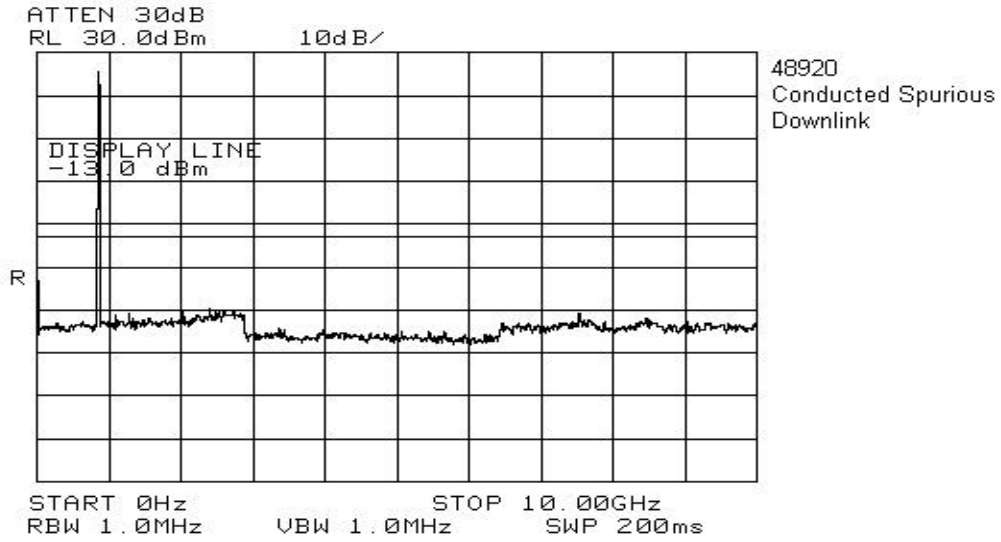

ATTEN 30dB
RL 30.0dBm
10dB/
MKR -16.33dBm
874.67MHz
DISPLAY LINE
-13.0 dBm
R
CENTER 869.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48910
Low Band Edge IM Test
TX= 869.4MHz at 20dBm
TX= 872MHz at 20dBm
Downlink

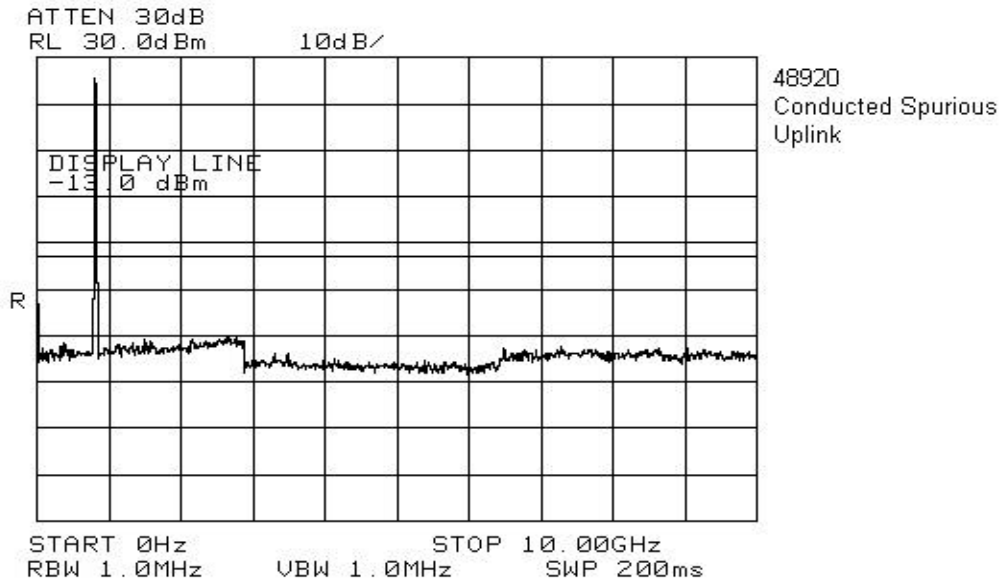

ATTEN 30dB
RL 30.0dBm
10dB/
MKR -29.50dBm
843.43MHz
DISPLAY LINE
-13.0 dBm
R
CENTER 849.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48910
High Band Edge IM Test
TX= 848.6MHz at 20dBm
TX= 846MHz at 20dBm
Uplink

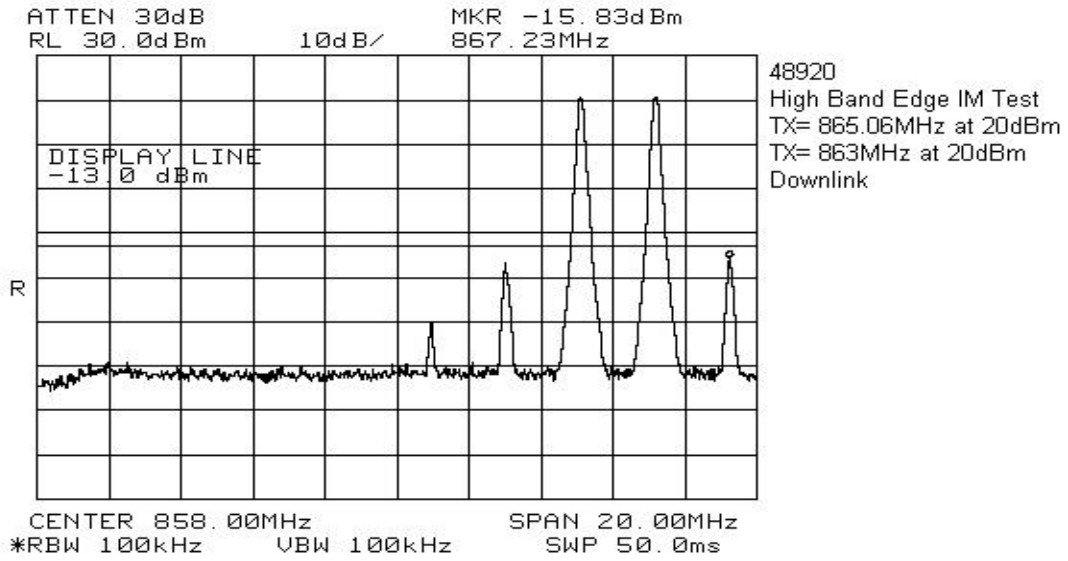

ATTEN 30dB
RL 30.0dBm
10dB/
MKR -21.83dBm
832.07MHz
DISPLAY LINE
-13.0 dBm
R
CENTER 836.50MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48910
Mid Band IM Test
TX= 835MHz at 20dBm
TX= 838MHz at 20dBm
Uplink

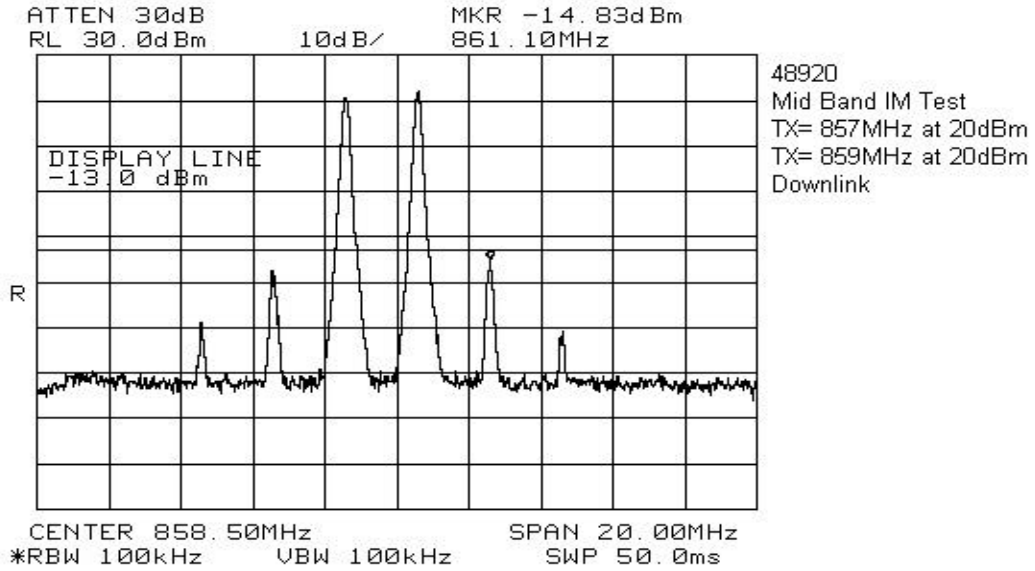

ATTEN 30dB
RL 30.0dBm
10dB/
MKR -15.33dBm
827.70MHz
48910
Low Band Edge IM Test
TX=824.4MHz at 20dBm
TX= 826MHz at 20dBm
Uplink
DISPLAY LINE
-13.0 dBm
R
CENTER 824.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms

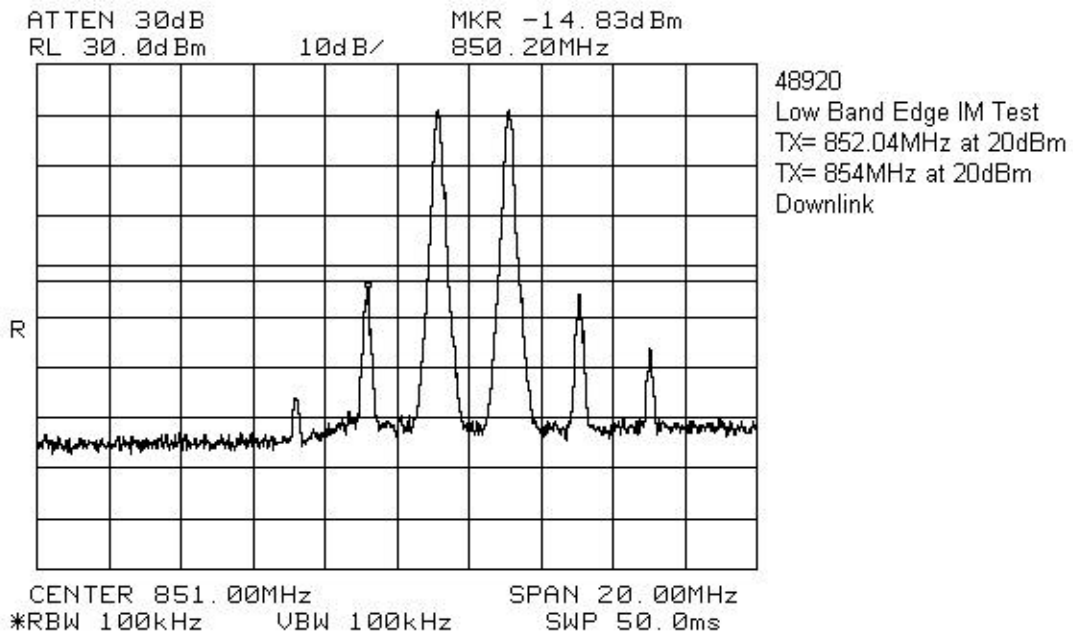
48920

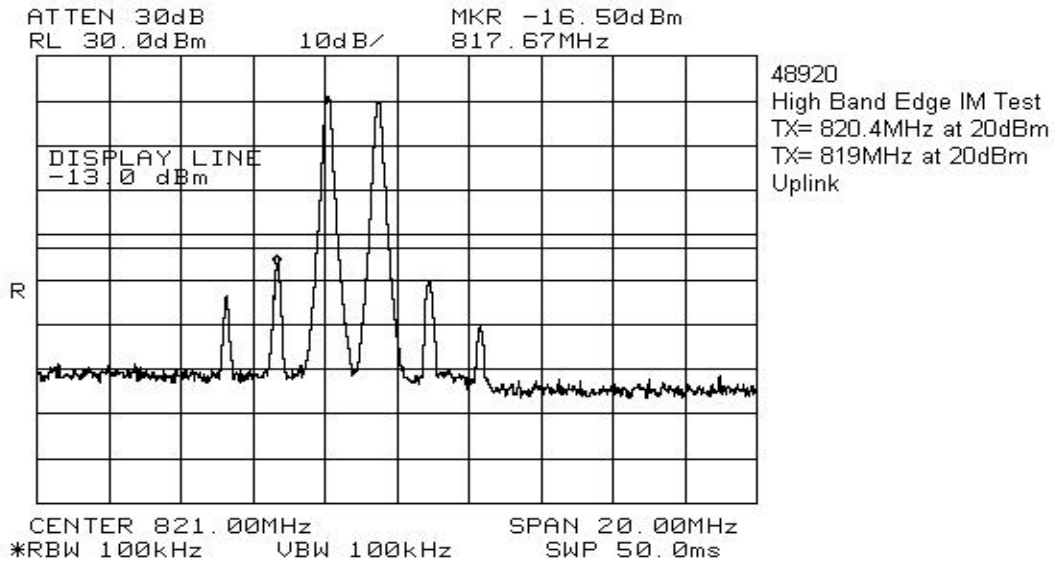

ATTEN 30dB
RL 30.0dBm
10dB/
DISPLAY LINE
-13.0 dBm
R
START 0Hz
STOP 10.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 200ms
48920
Conducted Spurious
Downlink

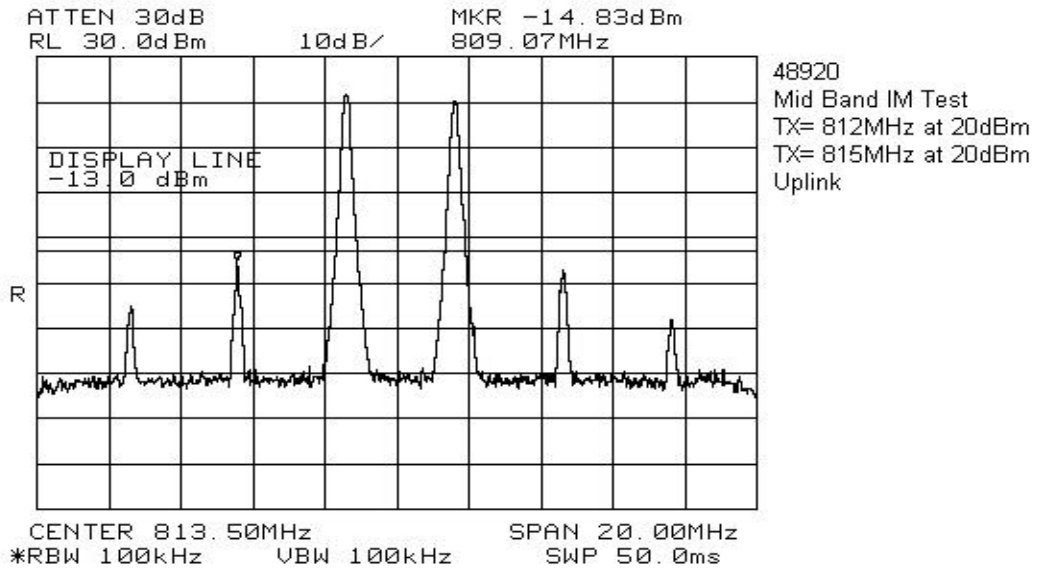

ATTEN 30dB
RL 30.0dBm
10dB/
DISPLAY LINE
-13.0 dBm
R
START 0Hz
STOP 10.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 200ms
48920
Conducted Spurious
Uplink

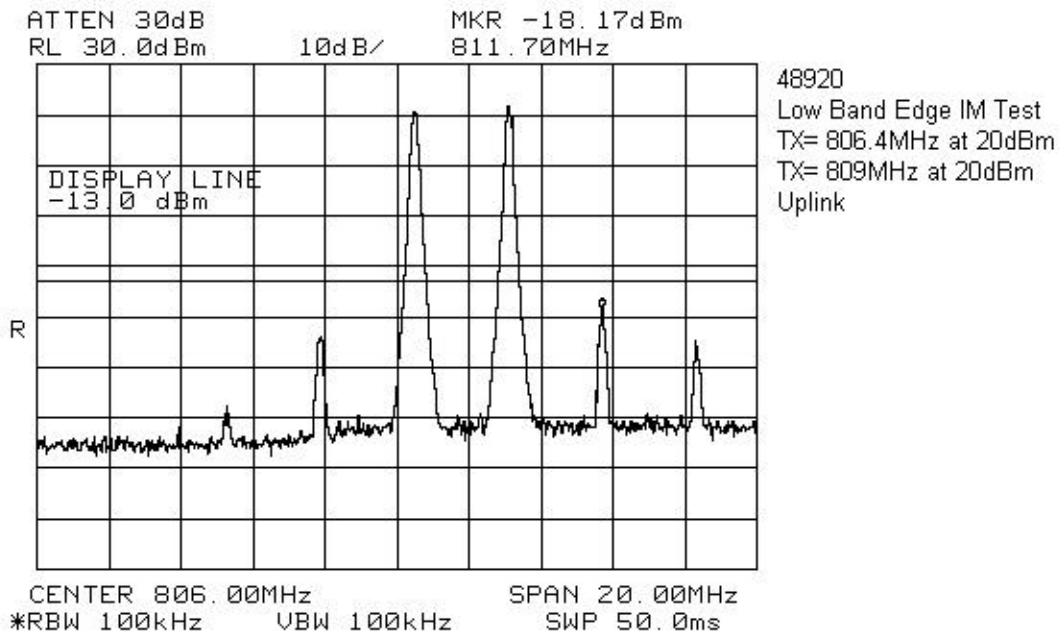

ATTEN 30dB
RL 30.0dBm
10dB/
MKR -15.83dBm
867.23MHz
DISPLAY LINE
-13.0 dBm
R
CENTER 858.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48920
High Band Edge IM Test
TX= 865.06MHz at 20dBm
TX= 863MHz at 20dBm
Downlink


ATTEN 30dB
RL 30.0dBm
10dB/
MKR -14.83dBm
861.10MHz
DISPLAY LINE
-13.0 dBm
R
CENTER 858.50MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48920
Mid Band IM Test
TX= 857MHz at 20dBm
TX= 859MHz at 20dBm
Downlink

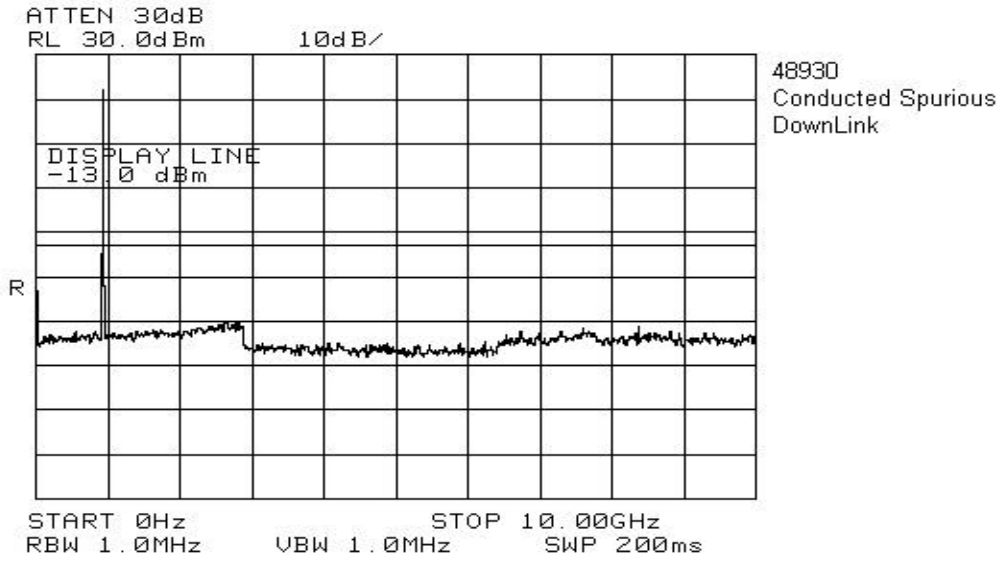

ATTEN 30dB
RL 30.0dBm
10dB/
MKR -14.83dBm
850.20MHz
R
48920
Low Band Edge IM Test
TX= 852.04MHz at 20dBm
TX= 854MHz at 20dBm
Downlink
CENTER 851.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms

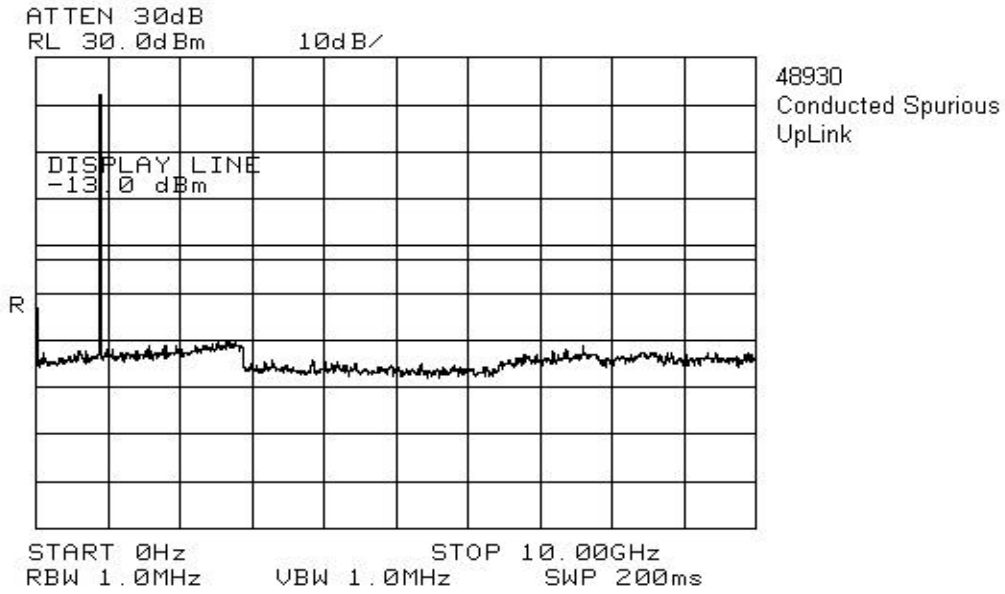

ATTEN 30dB
RL 30.0dBm
10dB/
MKR -16.50dBm
817.67MHz
DISPLAY LINE
-13.0 dBm
R
CENTER 821.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48920
High Band Edge IM Test
TX= 820.4MHz at 20dBm
TX= 819MHz at 20dBm
Uplink

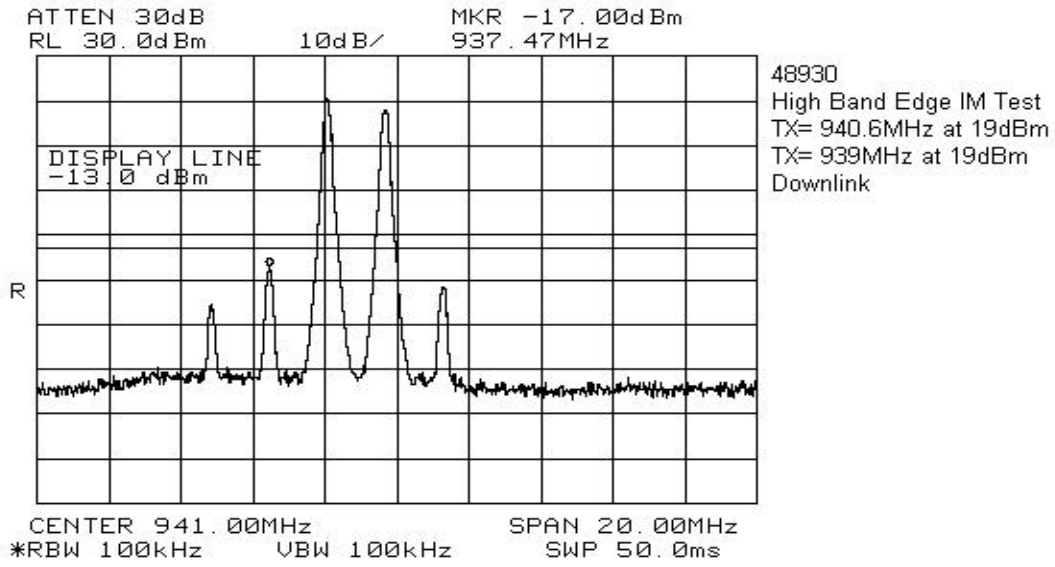

ATTEN 30dB
RL 30.0dBm
10dB/
MKR -14.83dBm
809.07MHz
DISPLAY LINE
-13.0 dBm
R
CENTER 813.50MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48920
Mid Band IM Test
TX= 812MHz at 20dBm
TX= 815MHz at 20dBm
Uplink

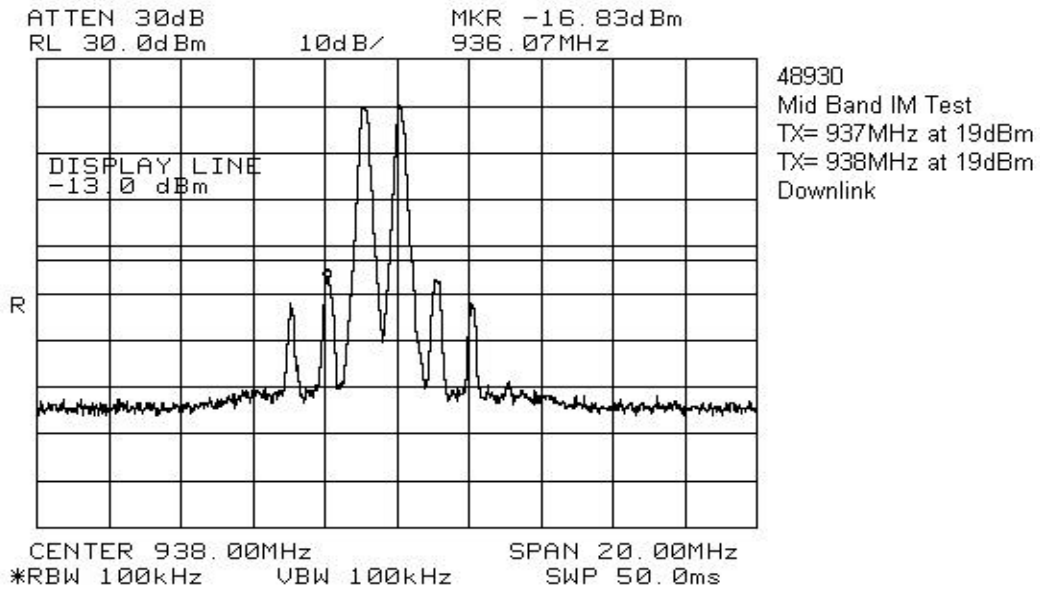

ATTEN 30dB
RL 30.0dBm
10dB/
MKR -18.17dBm
811.70MHz
DISPLAY LINE
-13.0 dBm
R
CENTER 806.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48920
Low Band Edge IM Test
TX= 806.4MHz at 20dBm
TX= 809MHz at 20dBm
Uplink

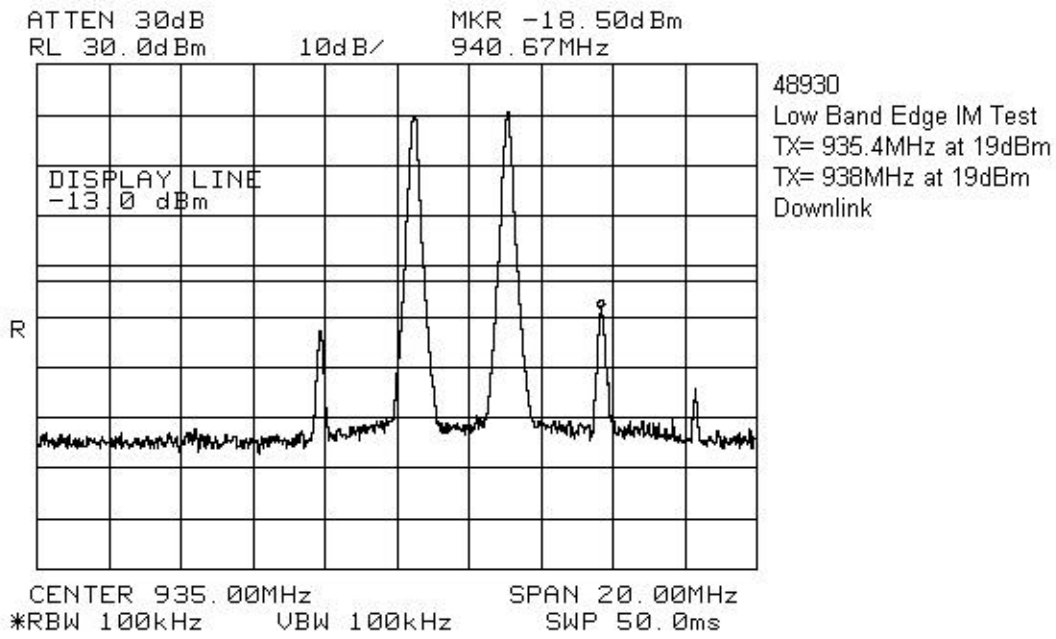
48930

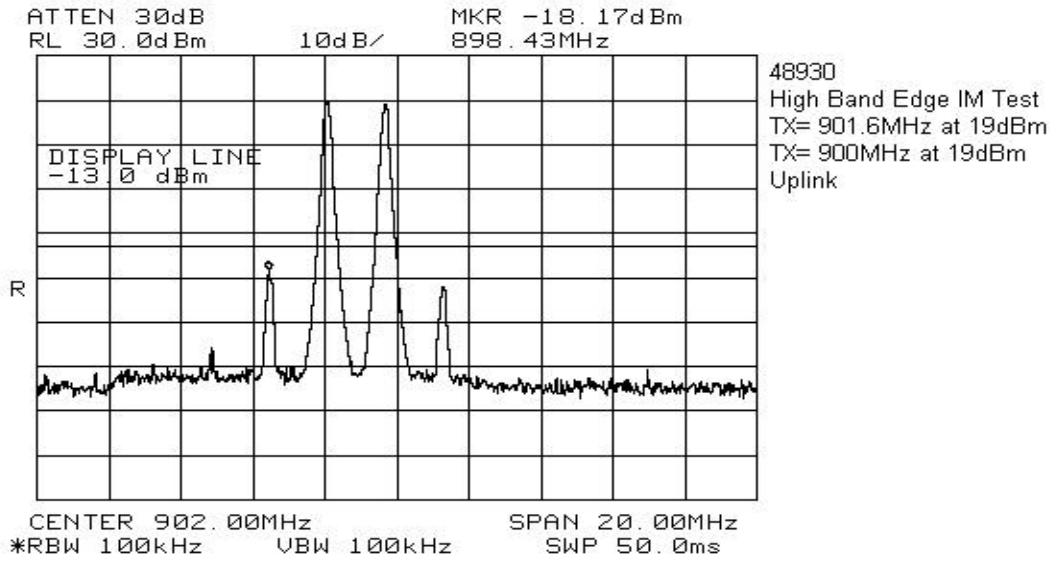

ATTEN 30dB
RL 30.0dBm
10dB/
48930
Conducted Spurious
DownLink
DISPLAY LINE
-13.0 dBm
R
START 0Hz
STOP 10.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

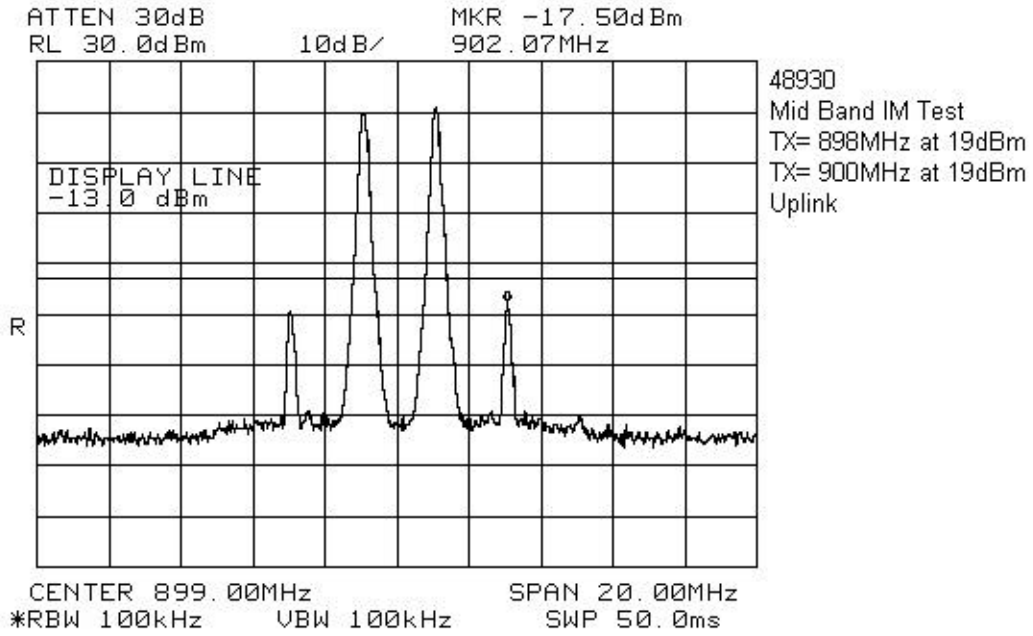

ATTEN 30dB
RL 30.0dBm
10dB/
48930
Conducted Spurious
UpLink
DISPLAY LINE
-13.0 dBm
R
START 0Hz
STOP 10.00GHz
RBW 1.0MHz
VBW 1.0MHz
SWP 200ms

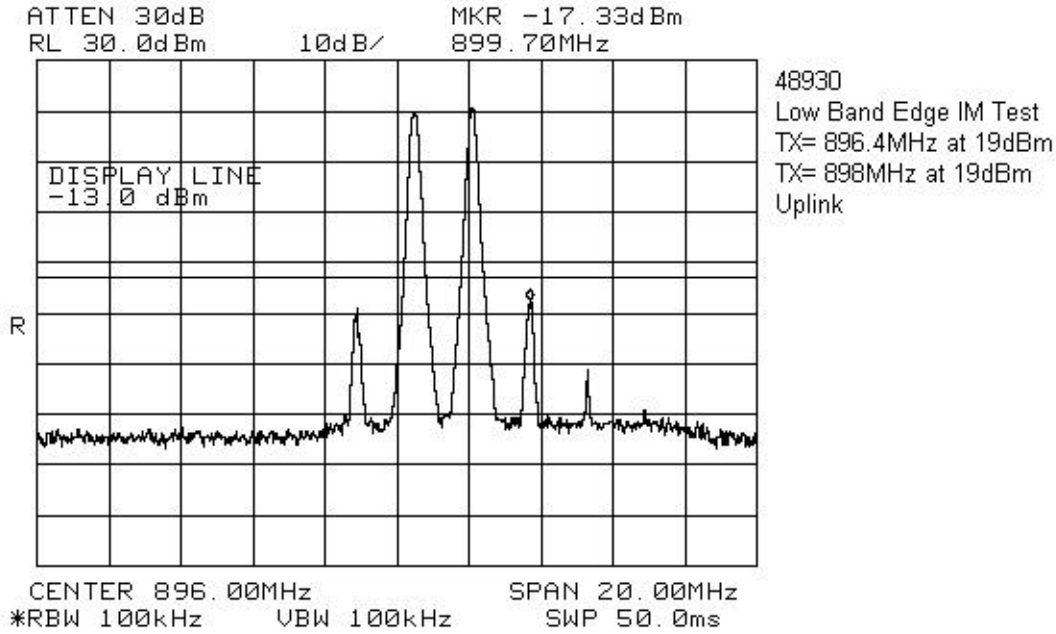

ATTEN 30dB
RL 30.0dBm
10dB/
MKR -17.00dBm
937.47MHz
DISPLAY LINE
-13.0 dBm
R
CENTER 941.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48930
High Band Edge IM Test
TX= 940.6MHz at 19dBm
TX= 939MHz at 19dBm
Downlink


ATTEN 30dB
RL 30.0dBm
10dB/
MKR -16.83dBm
936.07MHz
DISPLAY LINE
-13.0 dBm
R
CENTER 938.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48930
Mid Band IM Test
TX= 937MHz at 19dBm
TX= 938MHz at 19dBm
Downlink


ATTEN 30dB
RL 30.0dBm
10dB/
MKR -18.50dBm
940.67MHz
DISPLAY LINE
-13.0 dBm
R
CENTER 935.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48930
Low Band Edge IM Test
TX= 935.4MHz at 19dBm
TX= 938MHz at 19dBm
Downlink


ATTEN 30dB
RL 30.0dBm
10dB/
MKR -18.17dBm
898.43MHz
DISPLAY LINE
-13.0 dBm
R
CENTER 902.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48930
High Band Edge IM Test
TX= 901.6MHz at 19dBm
TX= 900MHz at 19dBm
Uplink


ATTEN 30dB
RL 30.0dBm
10dB/
MKR -17.50dBm
902.07MHz
DISPLAY LINE
-13.0 dBm
R
CENTER 899.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms
48930
Mid Band IM Test
TX= 898MHz at 19dBm
TX= 900MHz at 19dBm
Uplink


ATTEN 30dB
RL 30.0dBm
10dB/
MKR -17.33dBm
899.70MHz
48930
Low Band Edge IM Test
TX= 896.4MHz at 19dBm
TX= 898MHz at 19dBm
Uplink
DISPLAY LINE
-13.0 dBm
R
CENTER 896.00MHz
SPAN 20.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms

Section 5. Field Strength of Spurious Emissions

Para. No.: 2.1053

Test Performed By: Glen Westwell	**Date of Test:** 21 Nov. 2002

Minimum Standard: Para. No.'s 90.210
22.917

Test Results: Complies.

Measurement Data: See attached tables.

Radiated Spurious Emissions were evaluated using the signal substitution method as per ANSI/TIA/EIA-603.

The spectrum was searched from 30MHz to 10Gz.

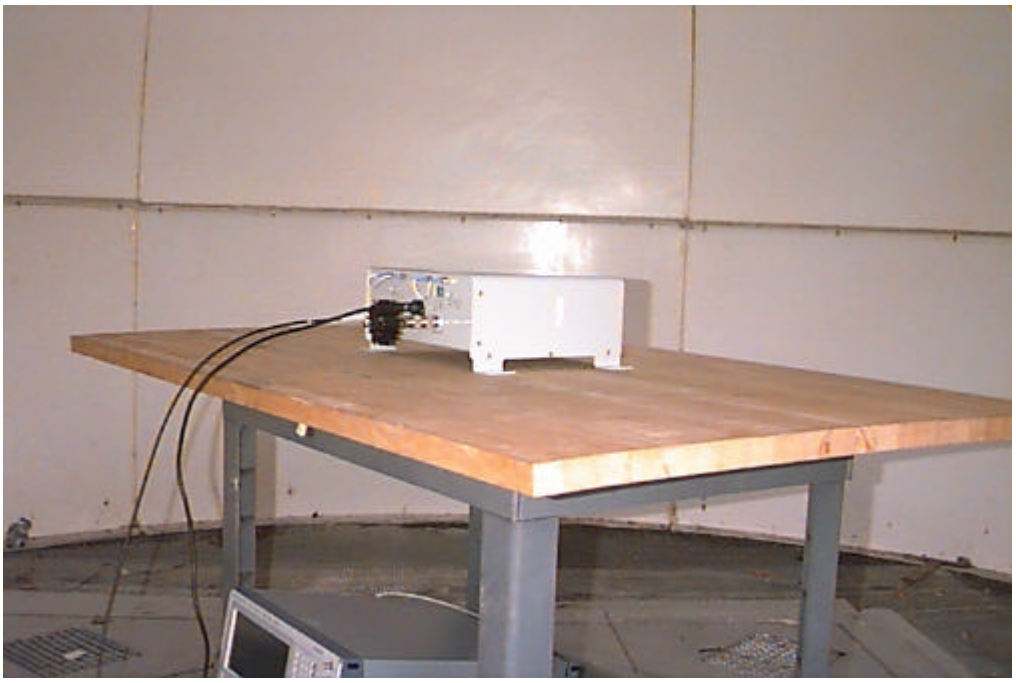
Test Data - Field Strength of Spurious Emissions

Test Distance (meters) : 3		Range: A Tower		Receiver: 8564E		RBW(kHz): 1000		Detector: Peak	
Freq. (MHz)	**Ant. ***	**Pol. (V/H)**	**RCVD Signal (dBµV)**	**Signal Substitution Conversion Factor (dB)****	**Amp. Gain (dB)*****	**Dist. Corr. (dB)**	**Field Strength (dBm)**	**Limit (dBm)**	**Margin (dB)**
48910									
1670.0	SSV	V	54.7	-117.0			-62.3	-13.0	49.3
1670.0	SSH	H	47.0	-117.3			-70.3	-13.0	57.3
1760.0	SSV	V	N.D.	-115.7			N.D.	-13.0	--
1760.0	SSV	H	N.D.	-116.2			N.D.	-13.0	--
48920									
1716.0	SSV	V	43.8	-116.2			-72.4	-13.0	59.4
1630.0	SSV	V	N.D.	-117.9			N.D.	-13.0	--
48930									
1798.0	SSV	V	N.D.	-115.3			N.D.	-13.0	--
1876.0	SSV	V	33.7	-114.9			-81.2	-13.0	68.2

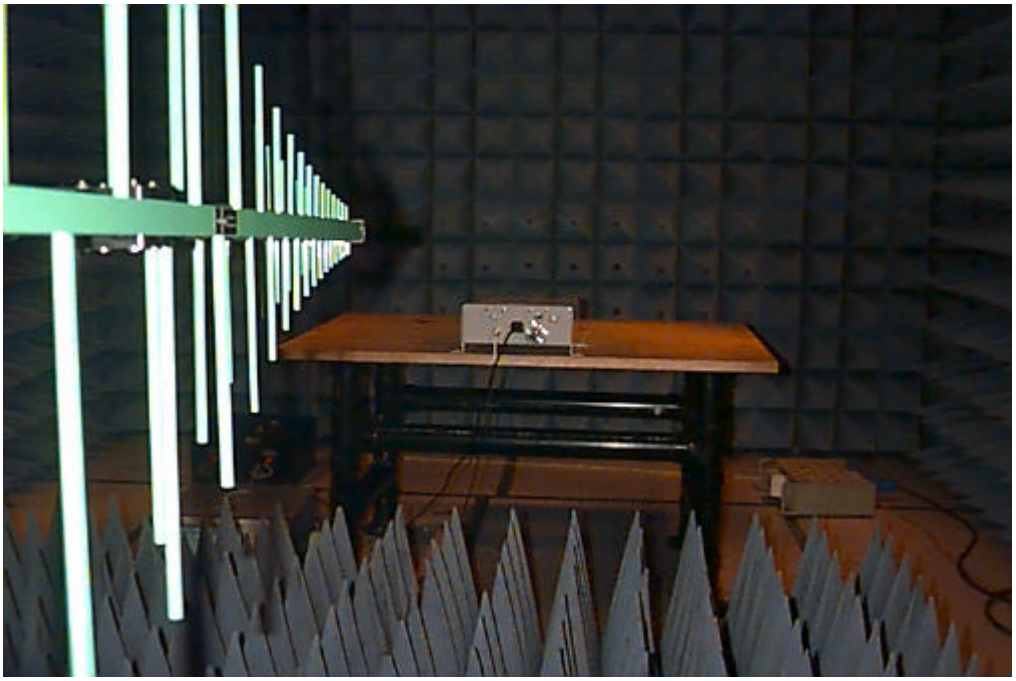
Notes:
B/C = Biconical, B/L = Biconilog, L/P = Log-Periodic, H = Horn, D/P = Dipole
* Re-measured using dipole antenna.
** Includes cable loss when amplifier is not used.
*** Includes cable loss.
( ) Denotes failing emission level.
N.D. = Not Detected

All spurious and harmonic emissions to the 10th harmonic were searched. Only those within 20dB of the limit were reported.

Radiated Test Set Up

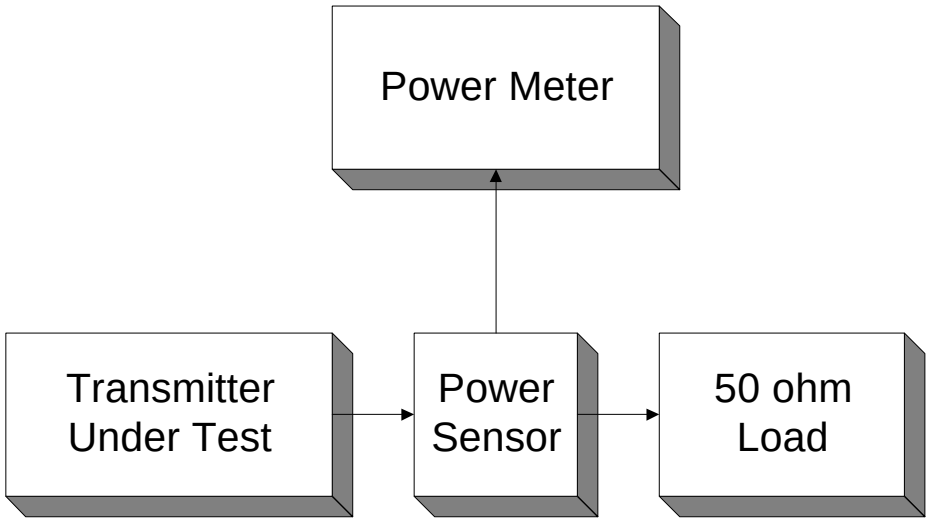


Pre-Scan Set Up

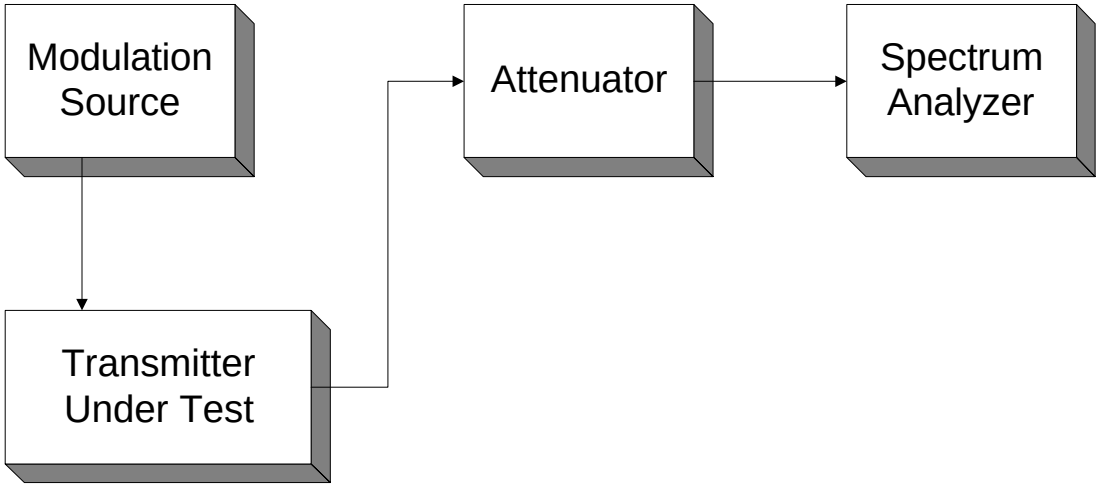


Section 6. Block Diagrams

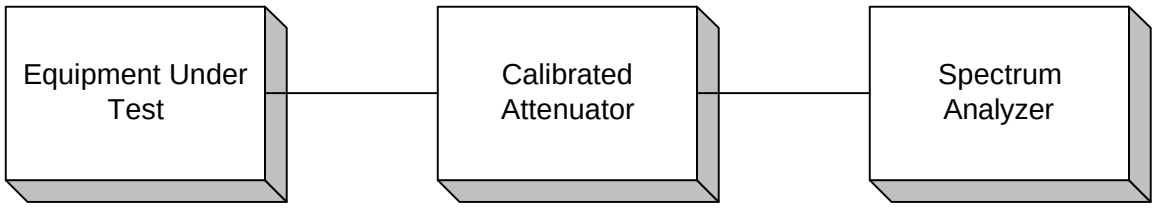
Para. No. 2.1046 - R.F. Power Output



Para. No. 2.1049 - Occupied Bandwidth

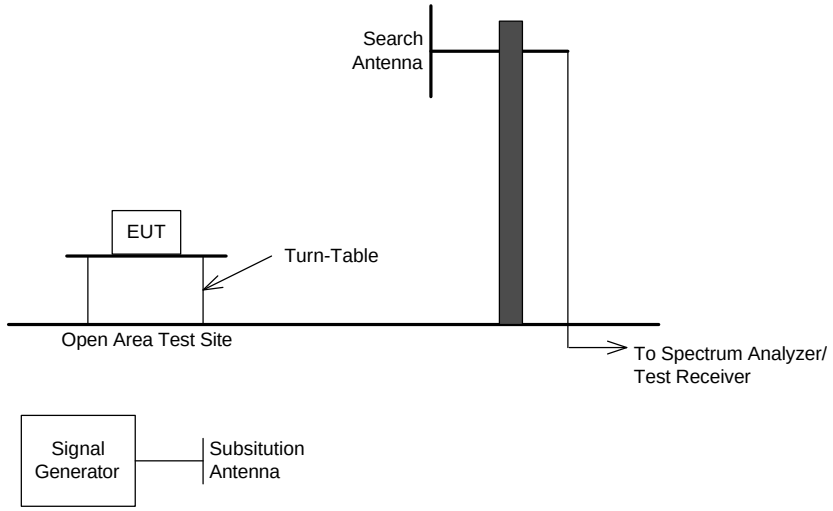


Para. No. 2.1051 - Spurious Emissions at Antenna Terminals



Para. No. 2.1053 - Field Strength of Spurious Radiation

TIA/EIA 603
Effective Radiated Power
Spurious Emissions



Section 7. Test Equipment List

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Spectrum Analyzer	Hewlett Packard	8565E	FA000981	15 Jul 02	15 Jul 03
1 Year	Spectrum Analyzer-**1**	Hewlett Packard	8566B	2311A02238	27 Nov 2001	27 Nov 2002
1 Year	Spectrum Analyzer Display-**1**	Hewlett Packard	8566B	2314A04759	27 Nov 2001	27 Nov 2002
1 Year	Quasi-peak adapter-**1**	Hewlett-Packard	85650A	2043A00302	27 Nov 2001	27 Nov 2002
1 Year	Horn Antenna	EMCO #2	3115	4336	Dec. 1/01	Dec. 1/02
1 Year	Power Meter	Hewlett Packard	E4448B	FA001413	Feb 14/02	Feb 14/03
1 Year	RF AMP	JCA	1-2GHz	FA001498	COU	COU
1 Year	RF AMP	JCA	2-4 GHz	FA001496	COU	COU
1 Year	RF AMP	JCA	4-8 GHz	FA001497	COU	COU
1 Year	RF AMP	DBS Microwave	5-18GHz	FA001409	COU	COU
3 Year	RF Generator	Rohde & Schwarz	SIMIQ03	DE22004	Sept. 10/00	Sept. 18/03
3 Year	RF Generator	Rohde & Schwarz	SIMIQ03E	DE24154	Sept. 10/02	Sept. 10/05

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