FCC PART 90

TEST AND MEASUREMENT REPORT

For

Canam Technology, Inc.

5318 East 2nd St., #700,

Long Beach, CA 90803, USA

FCC ID: TCJ-M4DBDA7

Report Type:	Product Type:
Original Report	Bi-Directional Amplifier

Prepared By	Lionel Lara
Report Number	R1207231-90
Report Date	2012-08-16
Reviewed By	Victor Zhang RF/EMC Lead

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	R1207231-90	Original Report	2012-08-16

1. General Information

1.1 Product Description for Equipment under Test (EUT)

This test and measurement report was prepared on behalf of *Canam Technology,Inc.* and their product, FCC ID: TCJ-M4DBDA7, model: M4DBDA7, which will henceforth be referred to as the EUT (Equipment Under Test). The EUT is a bi-directional amplifier.

Specifications	
Frequency Band	Downlink: 763-775 MHz Uplink: 793-805 MHz
Modulation Type	FM Voice, FM Data, C4FM, CQPSK
Emission Designator	F1E, F3E, F1D, G1E
RF Output Power	Low: 0.5 Watts; High: 5 Watts
Channel Spacing	12.5 kHz
Necessary/authorized Bandwidth	12.5 kHz
Power Source	120 VAC

1.2 Mechanical Description

The EUT measures approximately 48.9cm (L) x 48.2cm (W) x 17.7cm (H) and weighs 27000 g.

The test data gathered are from production sample. Serial number: 914 provided by the manufacturer.

1.3 Objective

This type approval report is prepared on behalf of *Canam Technology, Inc.* in accordance with Part 90 of the Federal Communication Commissions rules.

The objective was to determine the RF output power; Occupied Bandwidth, Spurious Emissions, Band Edge and Emission Mask are in compliance with the FCC rules.

1.4 Related Submittal(s)/Grant(s)

None.

1.5 Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of federal Regulations Title 47 Part 2, Sub-part J as well as the following individual parts:

Part 90 – Private Land Mobile Radio Service

Applicable Standards: TIA603-C

All emissions measurement was performed by Bay Area Compliance Laboratories Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

1.6 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on CISPR16-4-2:2003, The Treatment of Uncertainty in EMC Measurements, the values ranging from $\pm$2.0 dB for Conducted Emissions tests and $\pm$4.0 dB for Radiated Emissions tests are the most accurate estimates pertaining to uncertainty of EMC measurements at BACL Corp.

1.7 Test Facility

The test site used by BACL Corp. to collect radiated and conducted emissions measurement data is located at its facility in Sunnyvale, California, USA.

The test site at BACL Corp. has been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997, and Article 8 of the VCCI regulations on December 25, 1997. The test site also complies with the test methods and procedures set forth in CISPR 22:2008 §10.4 for measurements below 1 GHz and §10.6 for measurements above 1 GHz as well as ANSI C63.4-2003, ANSI C63.4-2009, TIA/EIA-603 & CISPR 24:2010.

The Federal Communications Commission and Voluntary Control Council for Interference have the reports on file and they are listed under FCC registration number: 90464 and VCCI Registration No.: A-0027. The test site has been approved by the FCC and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, BACL Corp. is an American Association for laboratory Accreditation (A2LA) accredited laboratory (Lab Code 3297-02). The current scope of accreditations can be found at

http://www.a2la.org/scopepdf/3297-02.pdf?CFID=1132286&CFTOKEN=e42a3240dac3f6ba-6DE17DCB-1851-9E57-477422F667031258&jsessionid=8430d44f1f47cf2996124343c704b367816b

2 System Test Configuration

2.1 Justification

The EUT was configured for testing according to TIA/EIA-603-C.

The EUT was tested in the normal (native) operating mode to represent *worst*-case results during the final qualification test.

2.2 EUT Exercise Software

The software used was a web based GUI.

2.3 Equipment Modifications

No modifications were made to the EUT.

2.4 Internal Configuration

Manufacturer	Descriptions	Models	Serial Numbers
Empower RF Systems, Inc.	Downlink Power Amplifier	SKU7074	1005
Empower RF Systems, Inc.	Uplink Power Amplifier	SKU7074	1004
Echo Microwave	Donor Side 700 MHz duplexer	ECB769R799P12C70A	2230
Echo Microwave	Service Side 700 MHz duplexer	ECB769R799P12C70A	2231
Canam Technology, Inc.	Uplink Analog Interface Module	M4-AIC-7ULv3.1	1022
Canam Technology, Inc.	Downlink Analog Interface Module	M4-AIC-7ULv3.1	1021
Canam Technology, Inc.	DSP Module (Digital Signal Processor)	M4D-DSPv2.2	175
Mean Well	Power Supply (+5v, +12v, +27v)	CT-MP450-M-N-2H	RB00U50307
Canam Technology, Inc.	ECM Control Board	ECMv2.1	310
Canam Technology, Inc.	ECM Break-out	ECM-BO	310

2.5 Local Support Equipment

Manufacturer	Description	Model No.	Serial No.
Dell	Laptop	PP05L	7T390 A02

2.6 Local Support Equipment Power Supply and Line Filters

N/A

2.7 External I/O Cabling List and Details

Cable Description	Length (m)	From	To
Ethernet Cable	> 1.0	EUT	Laptop
RF Cable	1.0	EUT	Signal Generator
RF cable	1.0	EUT	PSA

3 Summary of Test Results

FCC Rules	Description of Tests	Results
§1.1310, §2.1091	RF Exposure	Compliant
§2.1046, §90.205	RF Output Power	Compliant
§2.1047, §90.207	Modulation Characteristics	N/A
§2.1049, §90.543	Occupied Bandwidth and Emission Mask	Compliant
§2.1051, §90.543	Spurious Emissions at Antenna Terminals	Compliant
§2.1055, §90.539	Frequency Stability	N/A
§2.1053, §90.543	Field Strength of Spurious Radiation	Compliant

N/A: Not applicable, EUT is a repeater device.

4 FCC §2.1091 - RF Exposure Information

4.1 Applicable Standards

FCC §2.1091, (a) Requirements of this section are a consequence of Commission responsibilities under the National Environmental Policy Act to evaluate the environmental significance of its actions. See subpart I of part 1 of this chapter, in particular §1.1307(b).

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-1.34	614	1.63	*(100)	6
1.34-30	1842/f	4.89/f	*($900/f^2$)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6

f = frequency in MHz
** = Plane-wave equivalent power density*

4.2 MPE Prediction

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

Where: S = power density
P = power input to antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

Downlink:

Maximum peak output power at antenna input terminal (dBm):	37.65
Maximum peak output power at antenna input terminal (mW):	5821.03
Prediction distance (cm):	100
Prediction frequency (MHz):	763.1
Maximum Antenna Gain, typical (dBi):	11.3
Maximum Antenna Gain (numeric):	13.5
Power density of prediction frequency at 100 cm (mW/cm^2):	0.6257
MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	2.54

Uplink:

Maximum peak output power at antenna input terminal (dBm):	37.65
Maximum peak output power at antenna input terminal (mW):	5821.03
Prediction distance (cm):	100
Prediction frequency (MHz):	799
Maximum Antenna Gain, typical (dBi):	11.3
Maximum Antenna Gain (numeric):	13.5
Power density of prediction frequency at 100 cm (mW/cm^2):	0.6257
MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	2.66

4.3 Conclusion

The device complies with the MPE requirements by providing a safe separation distance of at least 100 cm between the antenna with maximum 11.3 dBi gain, including any radiating structure, and any persons when normally operated.

5 FCC §2.1046 & §90.205 – RF Output Power

5.1 Applicable Standard

According to FCC §2.1046, and §90.205, 763–805 MHz. The transmitting power of base transmitters must not exceed the limits given in paragraphs (a), (b) and (c) of §90.635.

(a) The effective radiated power and antenna height for base stations may not exceed 1 kilowatt (30 dBw) and 304 m. (1,000 ft.) above average terrain (AAT), respectively, or the equivalent thereof as determined from the Table. These are maximum values, and applicants will be required to justify power levels and antenna heights requested.

(b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).

5.2 Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

5.3 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date
Agilent	Spectrum Analyzer	E4440A	US42221851	2012-02-28

Statement of Traceability: **BACL Corp.** attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.

5.4 Test Environmental Conditions

Temperature:	22.2 °C
Relative Humidity:	58 %
ATM Pressure:	101.6 kPa

The testing was performed by Lionel Lara on 2012-07-26 in the RF Site.

5.5 Test Results

Mode		Power Setting	Channel	Frequency (MHz)	Input Power (dBm)	Output Power (dBm)
FM Voice	763-775 MHz Downlink	Low Power	Low	763.1	-60	26.86
			Middle	769.0	-60	26.90
			High	774.9	-60	27.02
		High Power	Low	763.1	-60	36.25
			Middle	769.0	-60	37.25
			High	774.9	-60	37.51
	793-805 MHz Uplink	Low Power	Low	793.1	-60	26.95
			Middle	799.0	-60	27.53
			High	804.9	-60	27.40
		High Power	Low	793.1	-60	37.14
			Middle	799.0	-60	37.59
			High	804.9	-60	37.24

Mode		Power Setting	Channel	Frequency (MHz)	Input Power (dBm)	Output Power (dBm)
FM Data	763-775 MHz Downlink	Low Power	Low	763.1	-60	26.66
			Middle	769.0	-60	27.09
			High	774.9	-60	27.27
		High Power	Low	763.1	-60	36.45
			Middle	769.0	-60	37.29
			High	774.9	-60	37.45
	793-805 MHz Uplink	Low Power	Low	793.1	-60	26.16
			Middle	799.0	-60	27.55
			High	804.9	-60	27.57
		High Power	Low	793.1	-60	36.53
			Middle	799.0	-60	37.55
			High	804.9	-60	37.14

Note: Manufacturer's rated power is 0.5-5 Watt (27-37dBm)

Mode		Power Setting	Channel	Frequency (MHz)	Input Power (dBm)	Output Power (dBm)
C4FM	763-775 MHz Downlink	Low Power	Low	763.1	-60	26.08
			Middle	769.0	-60	27.00
			High	774.9	-60	26.79
		High Power	Low	763.1	-60	36.27
			Middle	769.0	-60	37.53
			High	774.9	-60	37.21
	793-805 MHz Uplink	Low Power	Low	793.1	-60	26.92
			Middle	799.0	-60	27.18
			High	804.9	-60	27.59
		High Power	Low	793.1	-60	36.23
			Middle	799.0	-60	36.58
			High	804.9	-60	36.61

Mode		Power Setting	Channel	Frequency (MHz)	Input Power (dBm)	Output Power (dBm)
CQPSK	763-775 MHz Downlink	Low Power	Low	763.1	-60	27.16
			Middle	769.0	-60	26.55
			High	774.9	-60	26.92
		High Power	Low	763.1	-60	**37.65**
			Middle	769.0	-60	36.64
			High	774.9	-60	36.96
	793-805 MHz Uplink	Low Power	Low	793.1	-60	27.59
			Middle	799.0	-60	27.00
			High	804.9	-60	27.17
		High Power	Low	793.1	-60	37.40
			Middle	799.0	-60	37.41
			High	804.9	-60	**37.65**

Note: Manufacturer's rated power is 0.5-5 Watt (27-37 dBm)

6 FCC §2.1049 & §90.543 – Occupied Bandwidth & Emission Mask

6.1 Applicable Standard

According to FCC §90.543: Transmitters designed to operate in 769–775 MHz and 799–805 MHz frequency bands must meet the emission limitations in paragraphs (a) through (d) of this section. Transmitters operating in 763–768 MHz and 793–798 MHz bands must meet the emission limitations in (e) of this section.

12.5 kHz Base Transmitter ACP Requirements

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP relative (dBc)
9.375	6.25	−40
15.625	6.25	−60
21.875	6.25	−60
37.5	25	−60
62.5	25	−65
87.5	25	−65
150	100	−65
250	100	−65
350.00	100	−65
>400 kHz to 12 MHz	30 (s)	−80
12 MHz to paired receive band	30 (s)	−80
In the paired receive band	30 (s)	−100

6.2 Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set at 300 Hz and the spectrum was recorded in the frequency band ±50 KHz from the carrier frequency.

6.3 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date
Agilent	Spectrum Analyzer	E4440A	US42221851	2012-02-28

Statement of Traceability: **BACL Corp.** attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.

6.4 Test Environmental Conditions

Temperature:	23.3 °C
Relative Humidity:	60 %
ATM Pressure:	101.3 kPa

The testing was performed by Lionel Lara on 2012-07-30 in the RF Site.

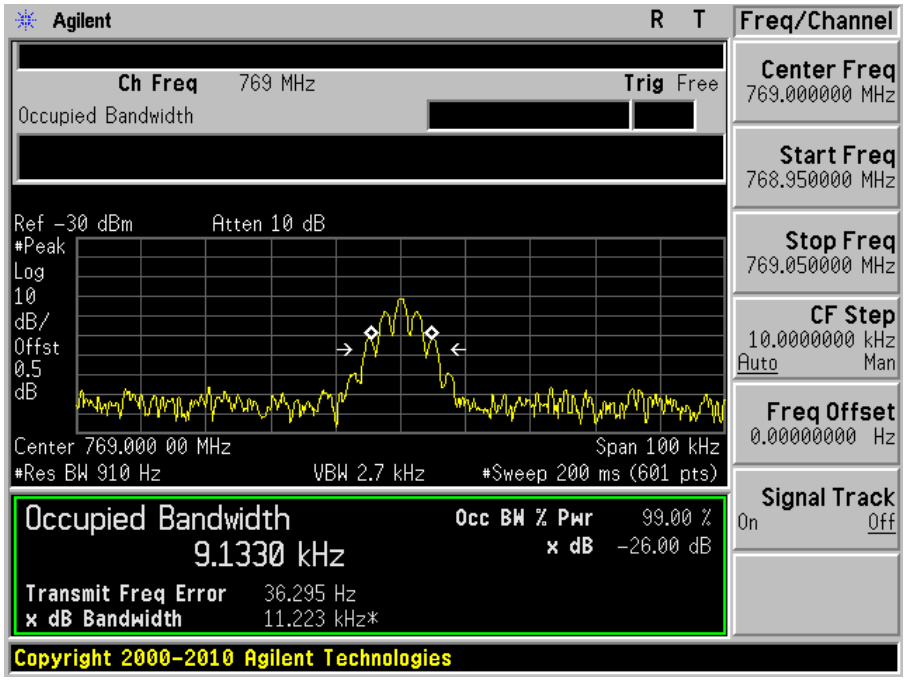
6.5 Test Results

Please refer to the following plots.

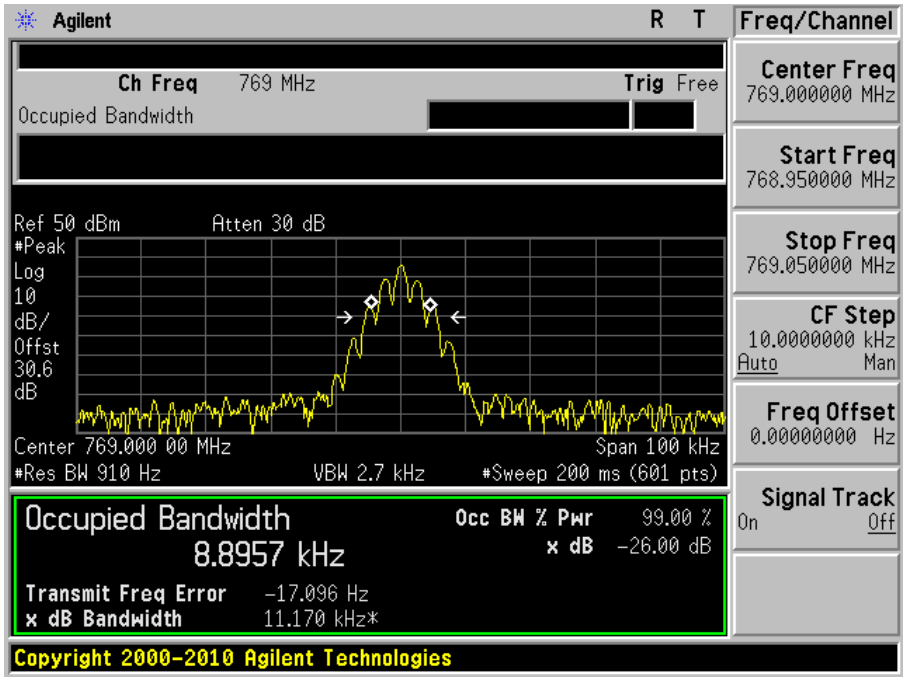
Occupied Bandwidth (High Power)

Downlink: 763-775 MHz

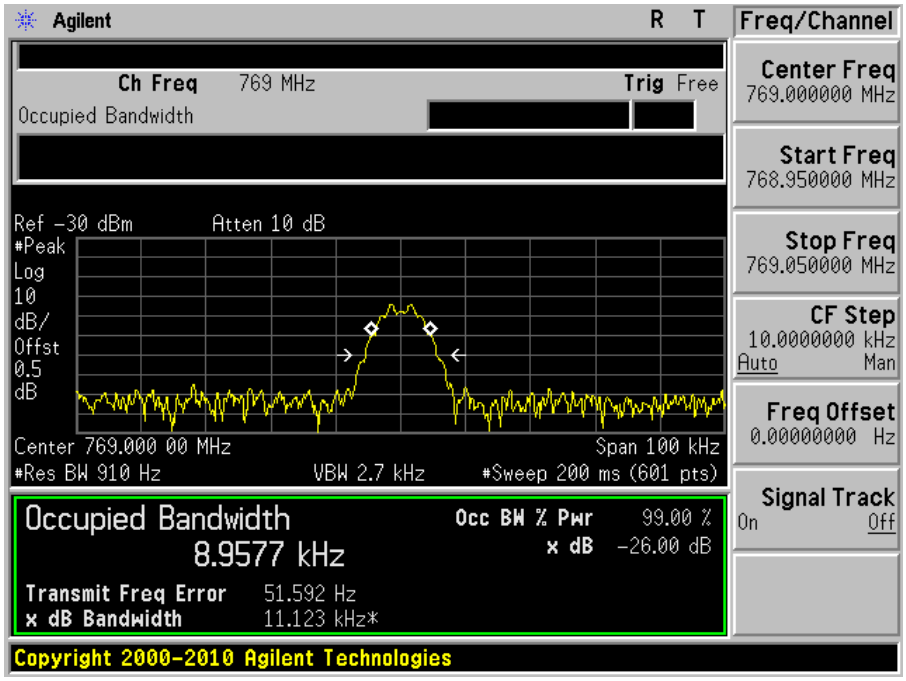
Voice, Input, Middle Channel – 769.0 MHz



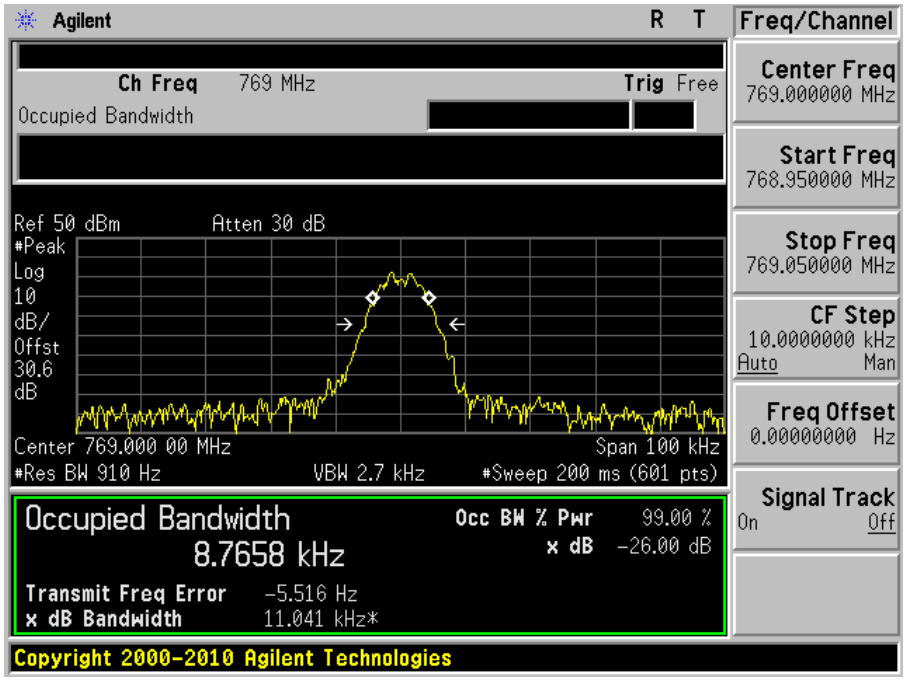
Voice, Output, Middle Channel – 769.0 MHz



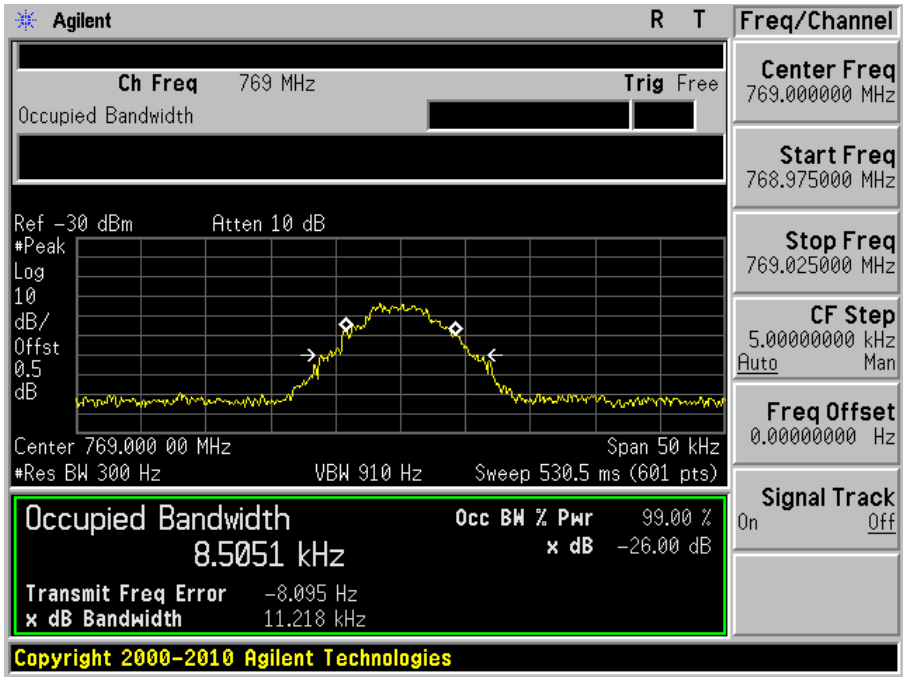
Data, Input, Middle Channel – 769.0 MHz



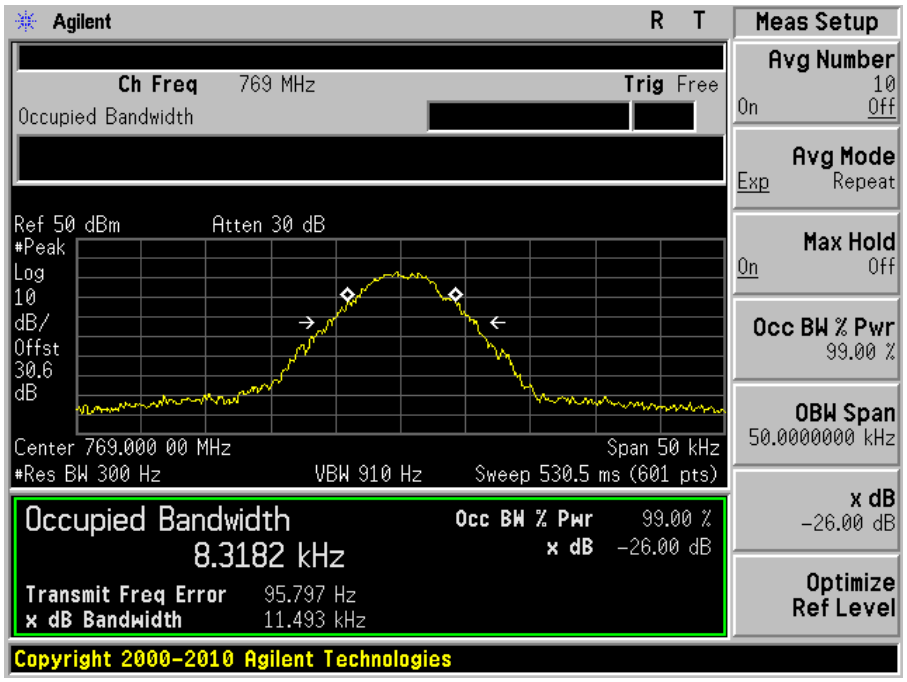
Data, Output, Middle Channel – 769.0 MHz



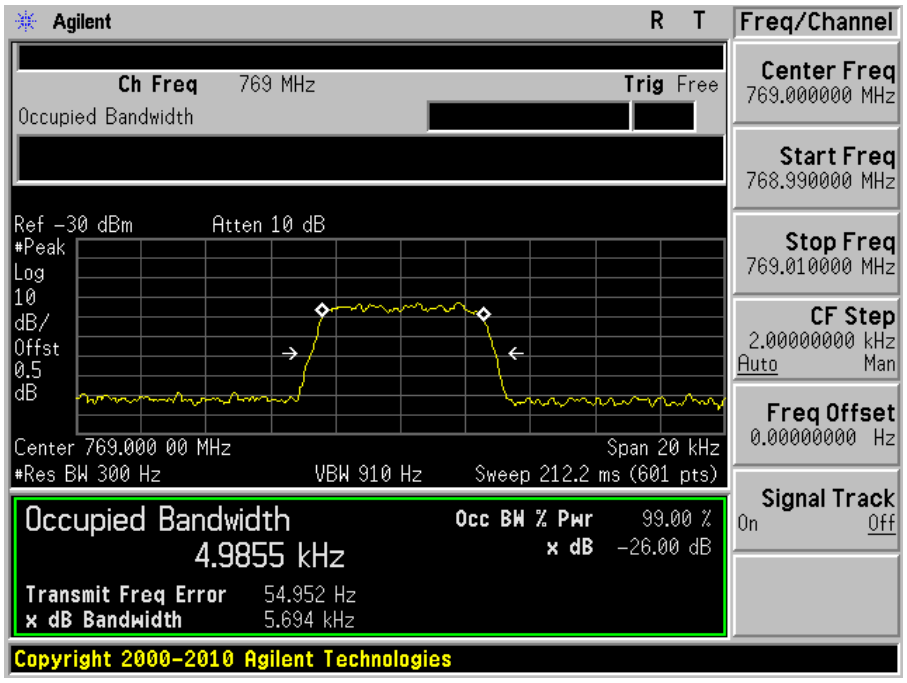
C4FM, Input, Middle Channel – 769.0 MHz



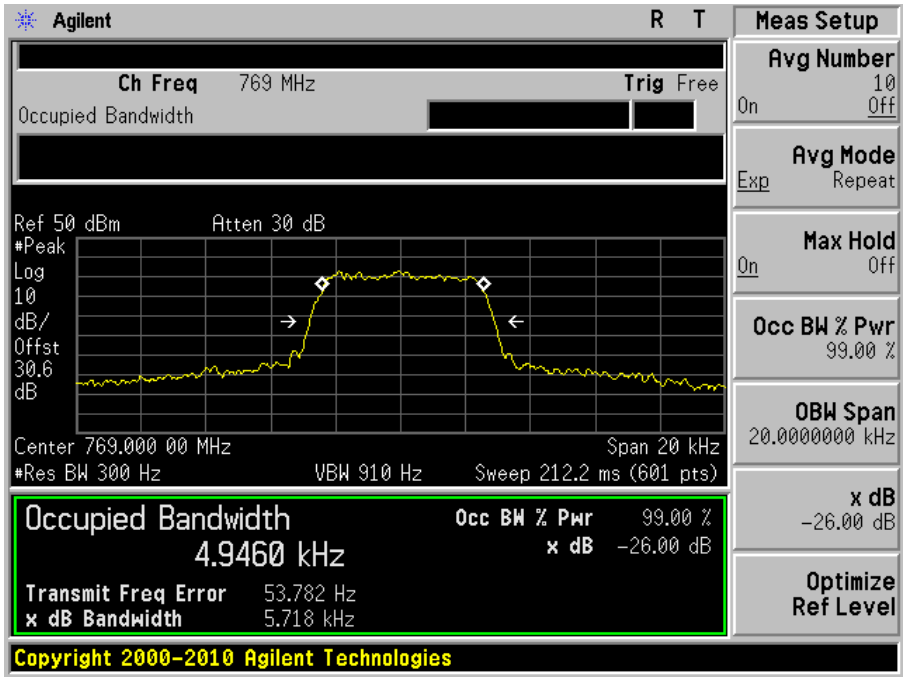
C4FM, Output, Middle Channel – 769.0 MHz



CQPSK, Input, Middle Channel – 769.0 MHz

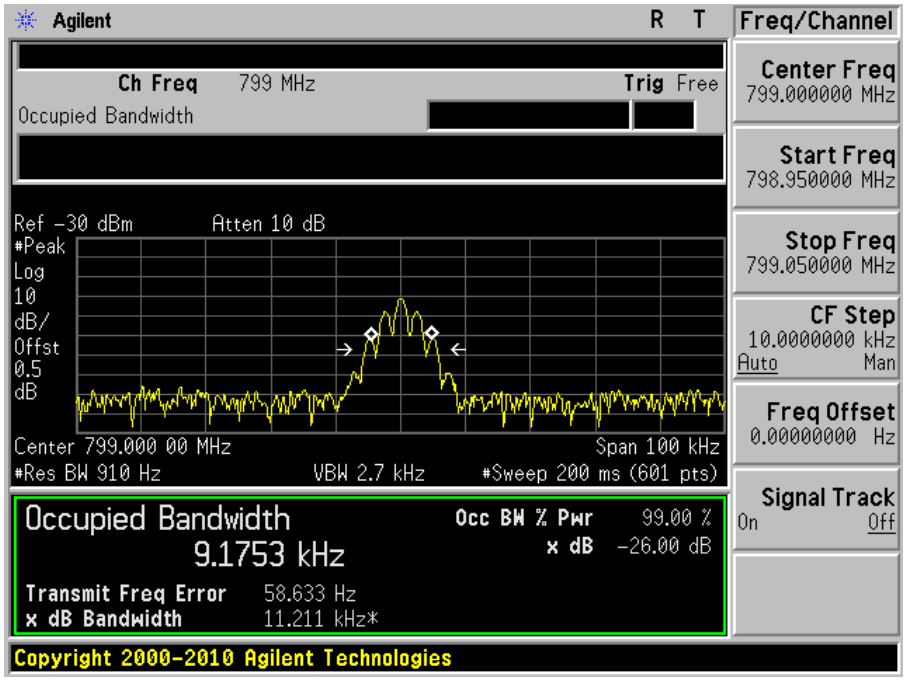


CQPSK, Output, Middle Channel – 769.0 MHz

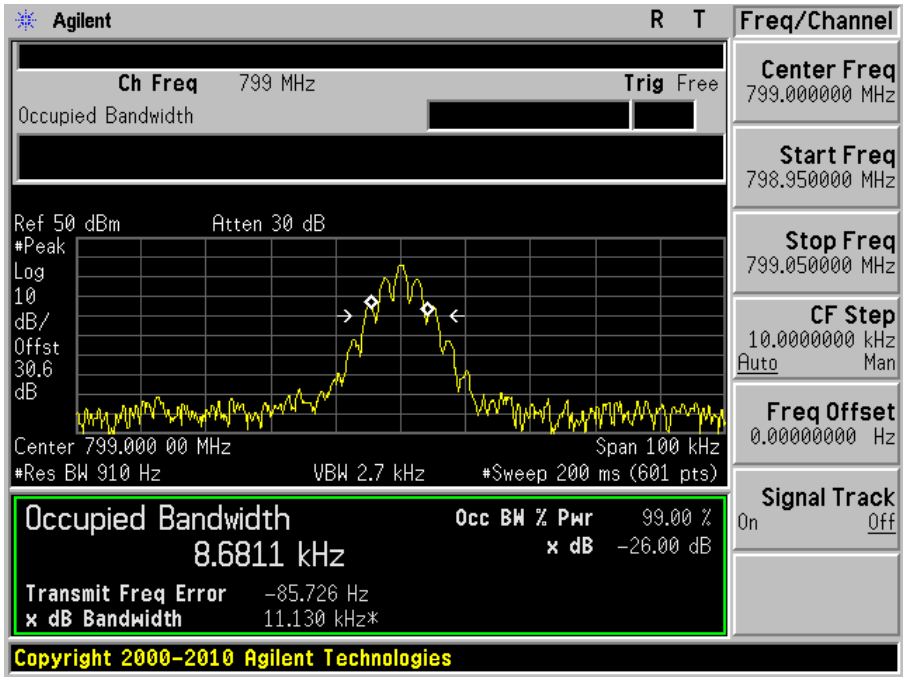


Uplink: 793-805 MHz

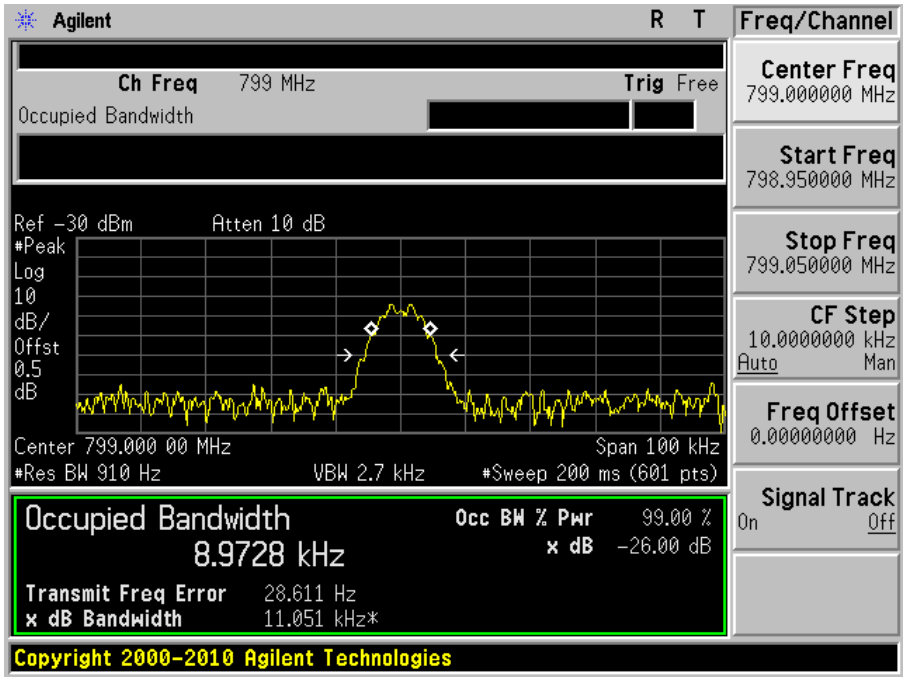
Voice, Input, Middle Channel – 799.0 MHz



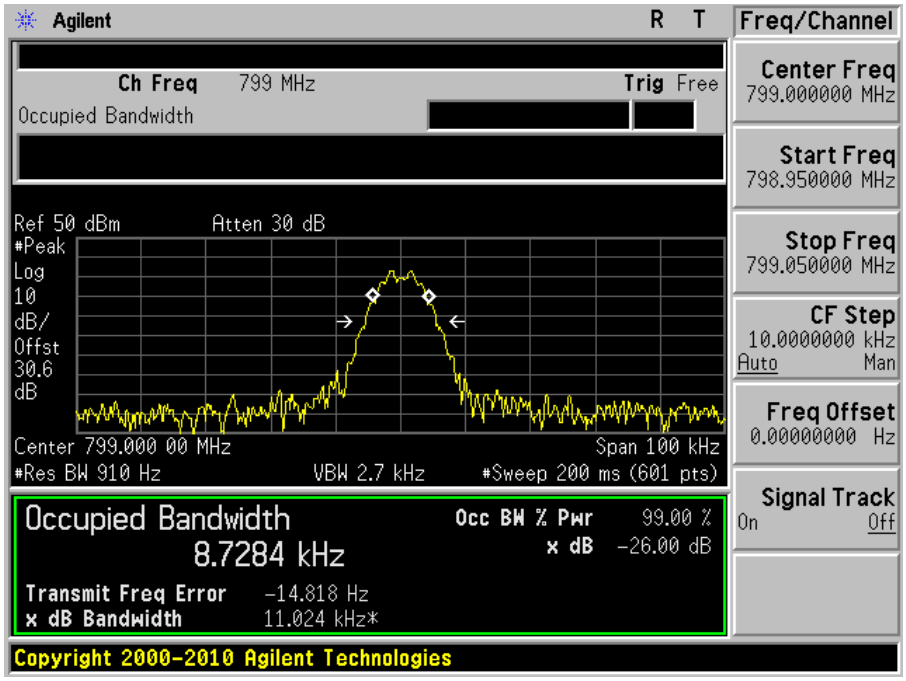
Voice, Output, Middle Channel – 799.0 MHz



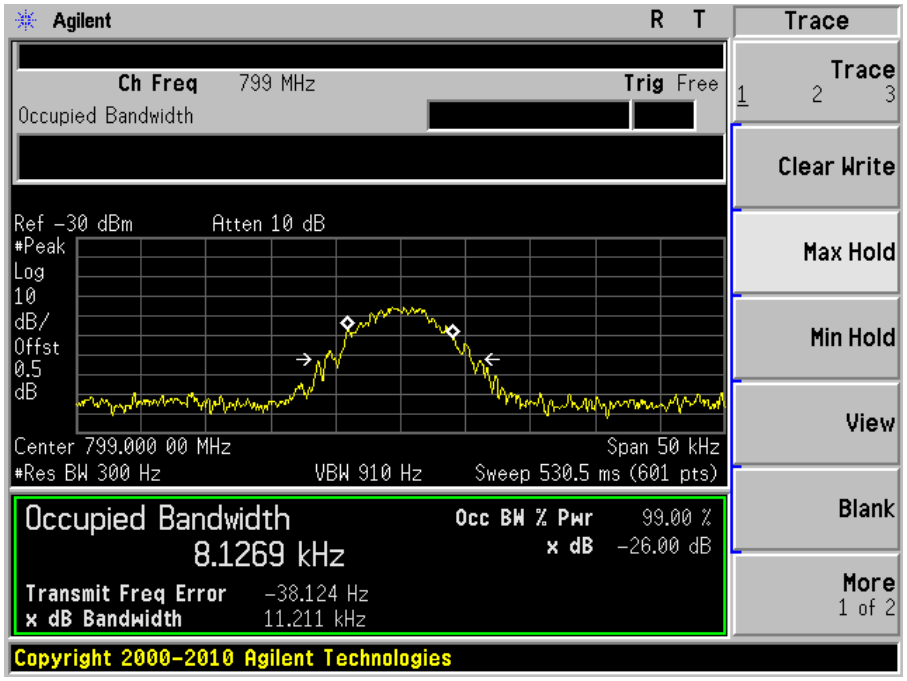
Data, Input, Middle Channel – 799.0 MHz



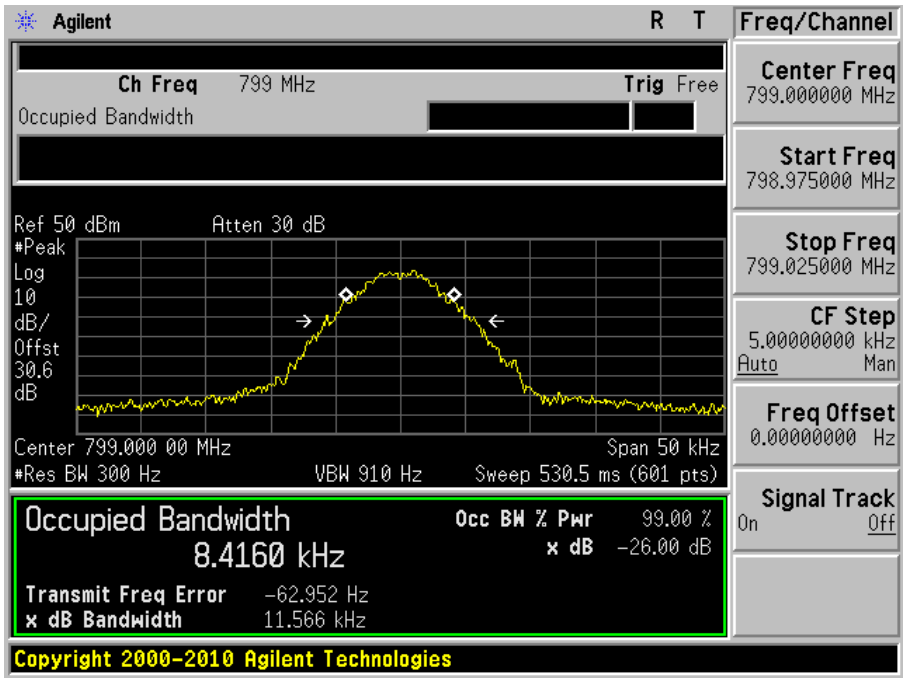
Data, Output, Middle Channel – 799.0 MHz



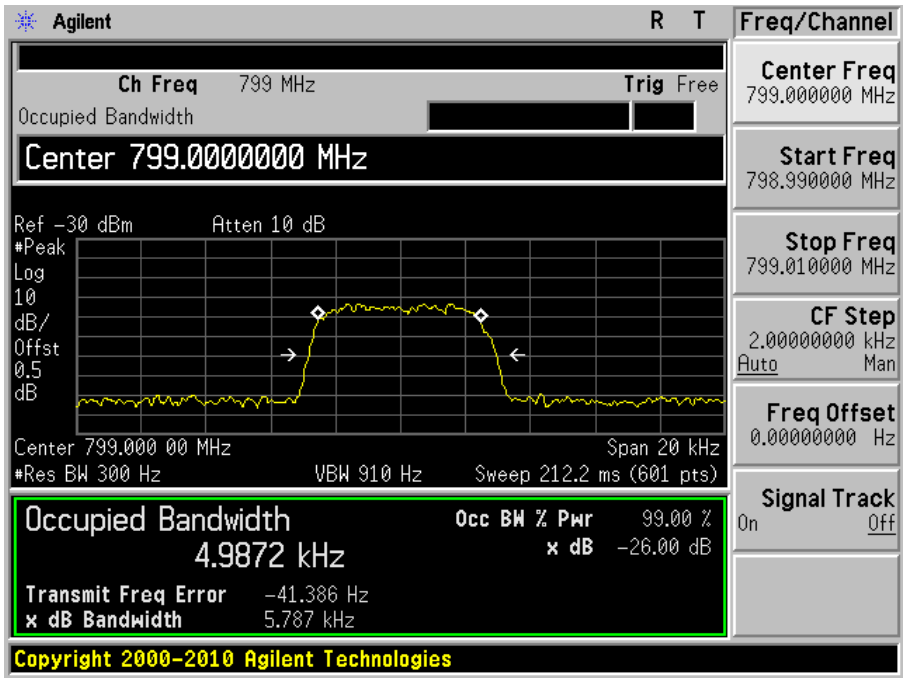
C4FM, Input, Middle Channel – 799.0 MHz



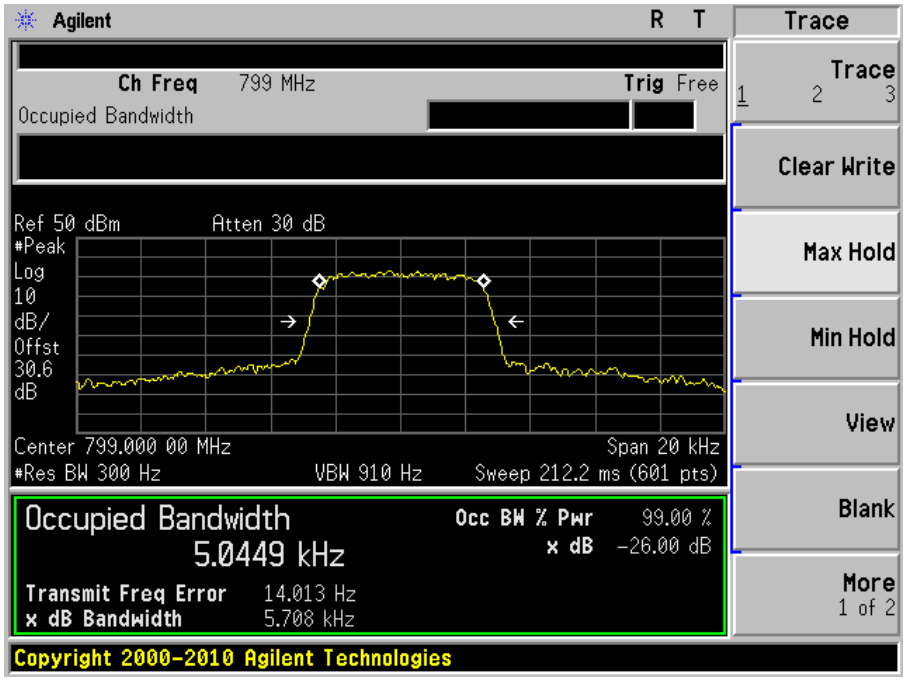
C4FM, Output, Middle Channel – 799.0 MHz



CQPSK, Input, Middle Channel – 799.0 MHz



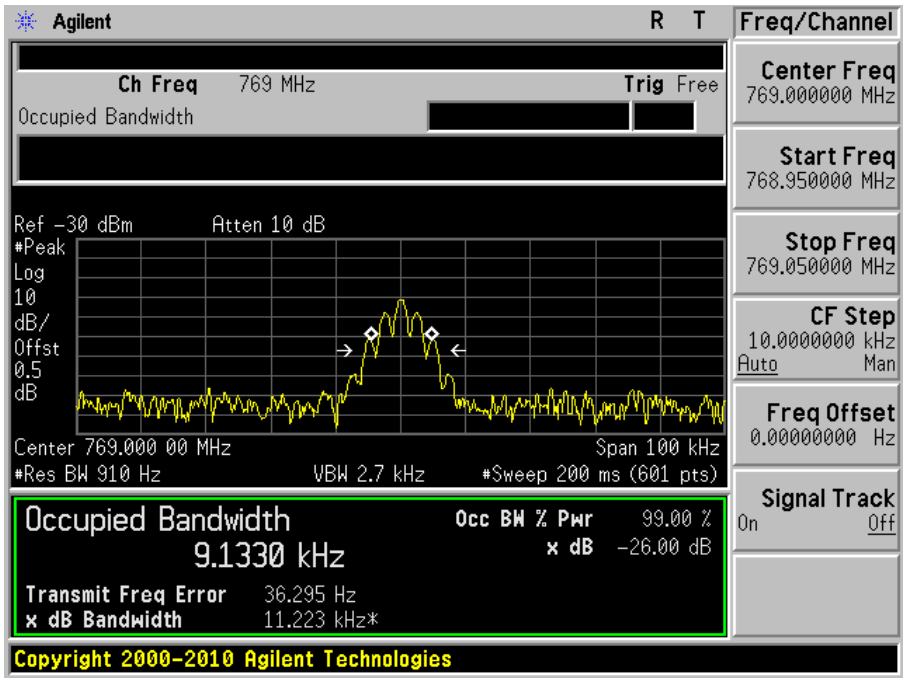
CQPSK, Output, Middle Channel – 799.0 MHz



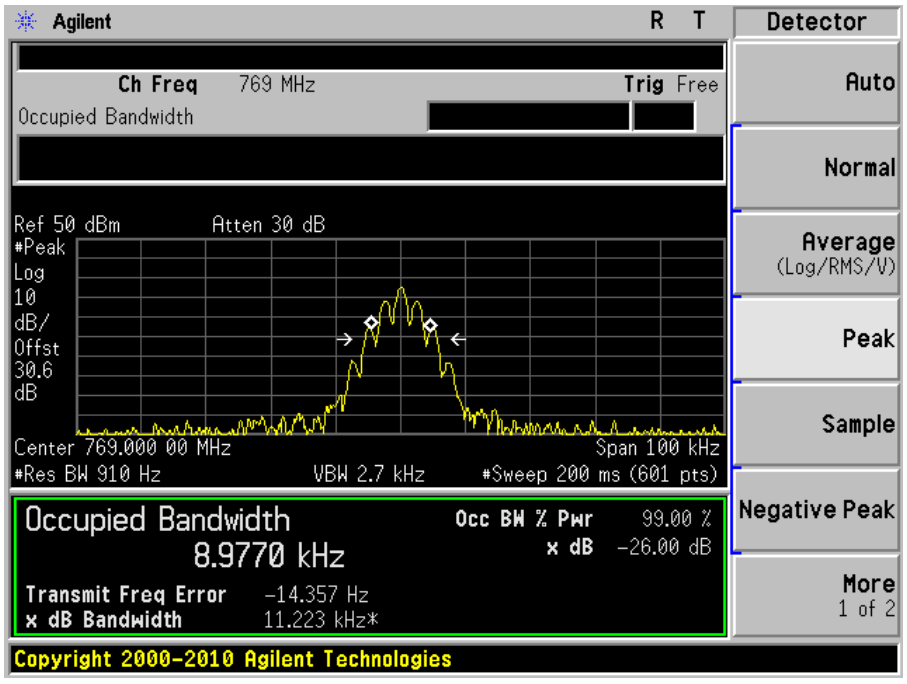
Occupied Bandwidth (Low Power)

Downlink: 763-775 MHz

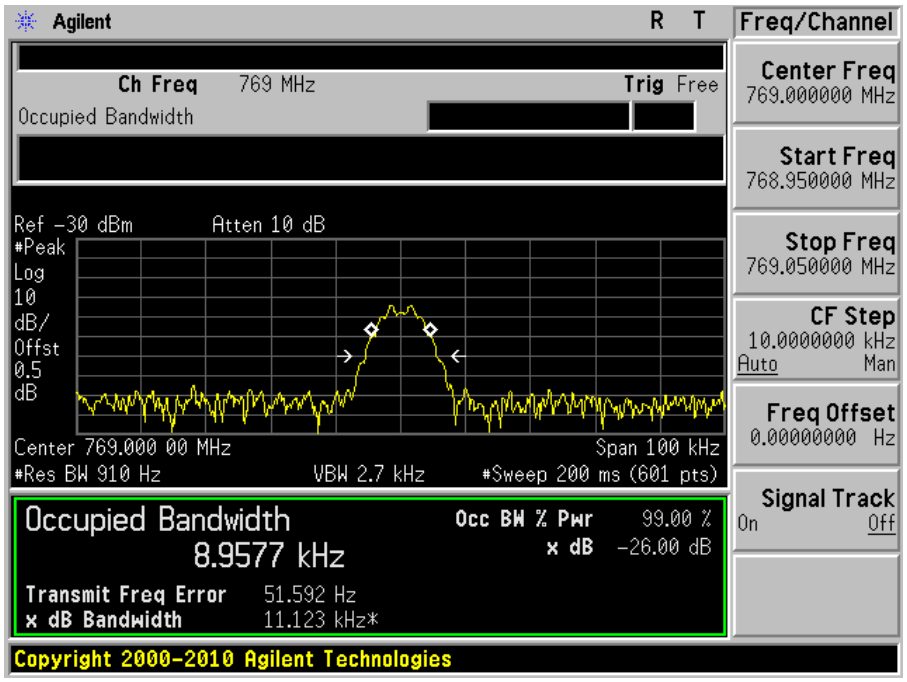
Voice, Input, Middle Channel – 769.0 MHz



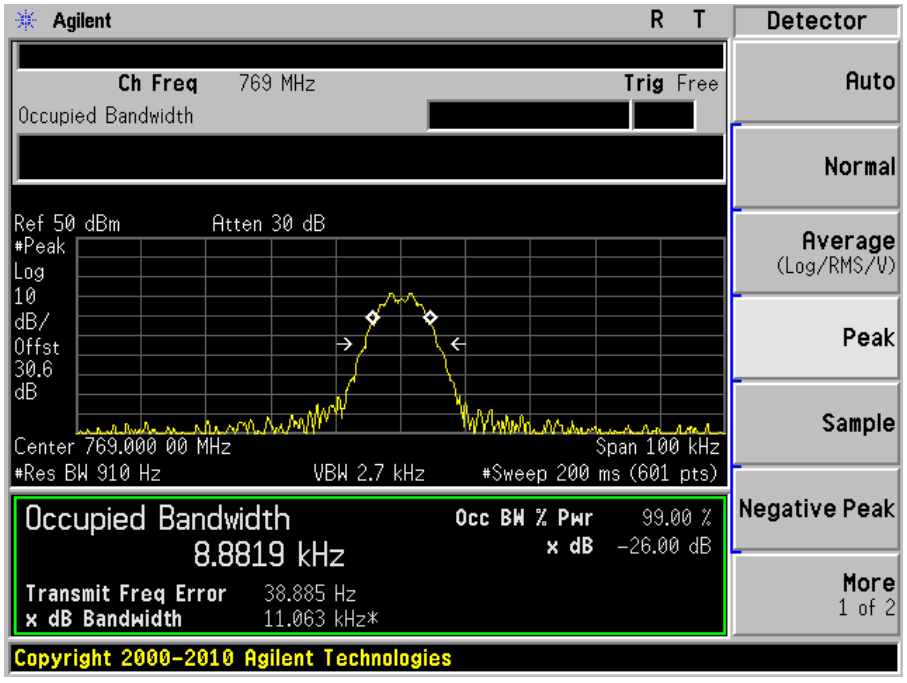
Voice, Output, Middle Channel – 769.0 MHz



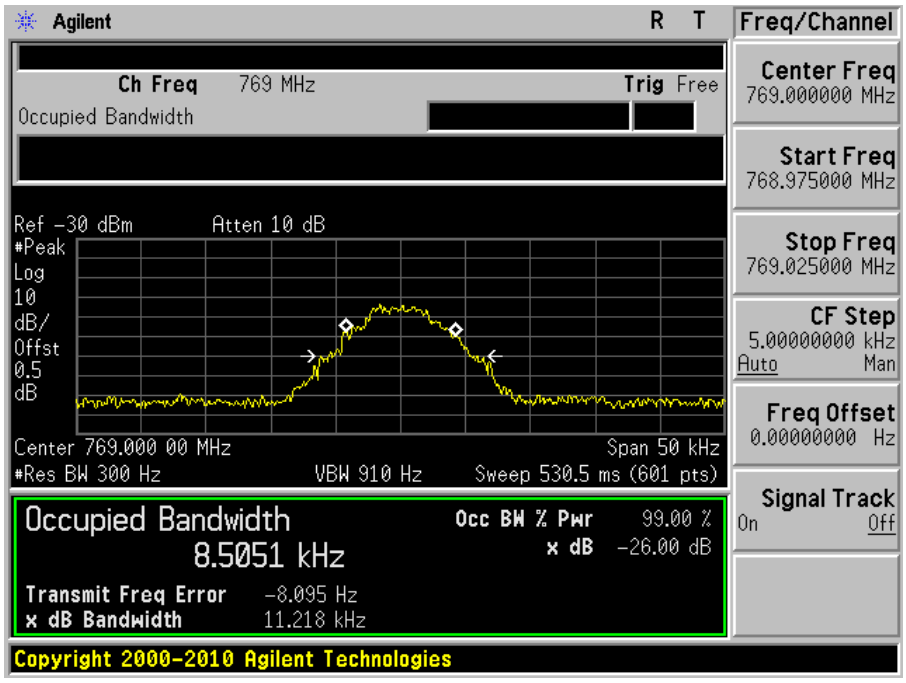
Data, Input, Middle Channel – 769.0 MHz



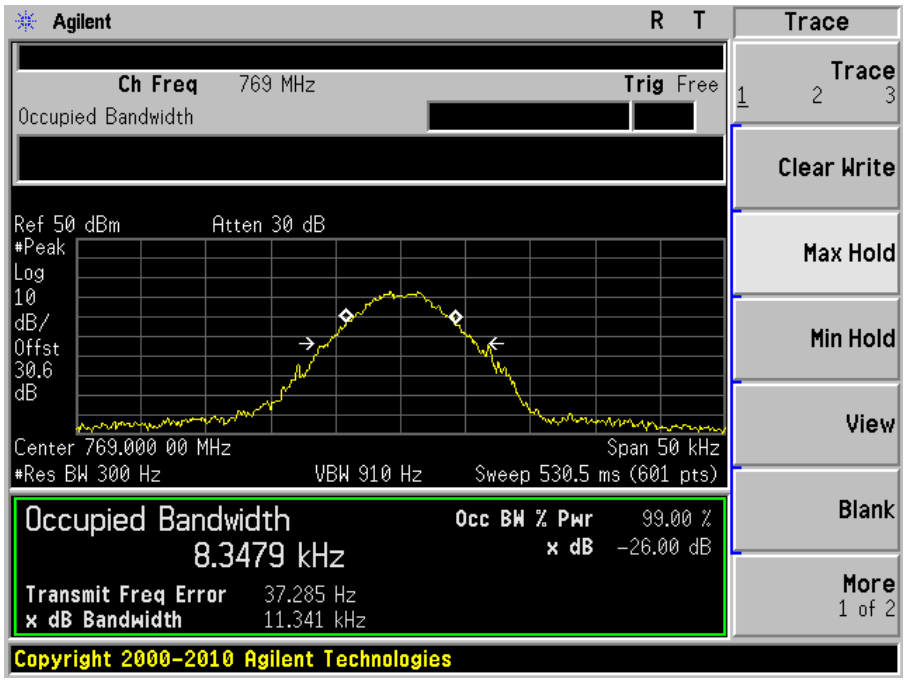
Data, Output, Middle Channel – 769.0 MHz



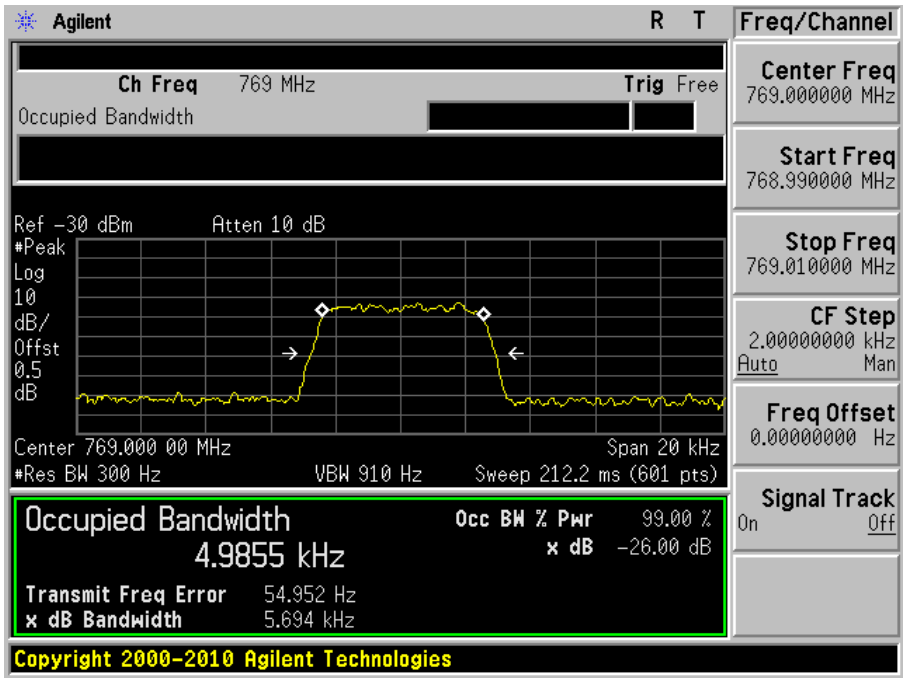
C4FM, Input, Middle Channel – 769.0 MHz



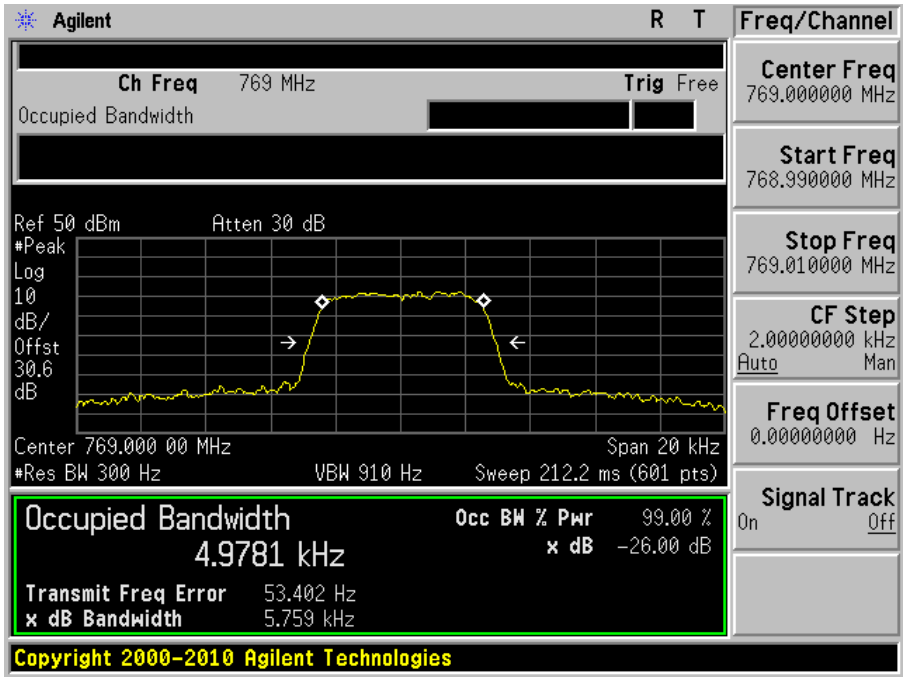
C4FM, Output, Middle Channel – 769.0 MHz



CQPSK, Input, Middle Channel – 769.0 MHz

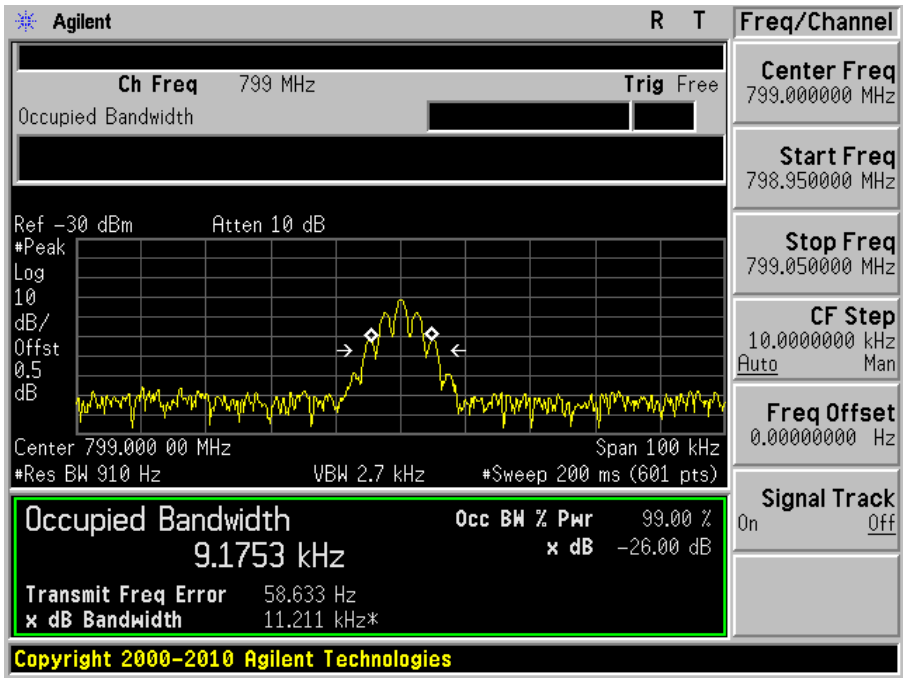


CQPSK, Output, Middle Channel – 769.0 MHz

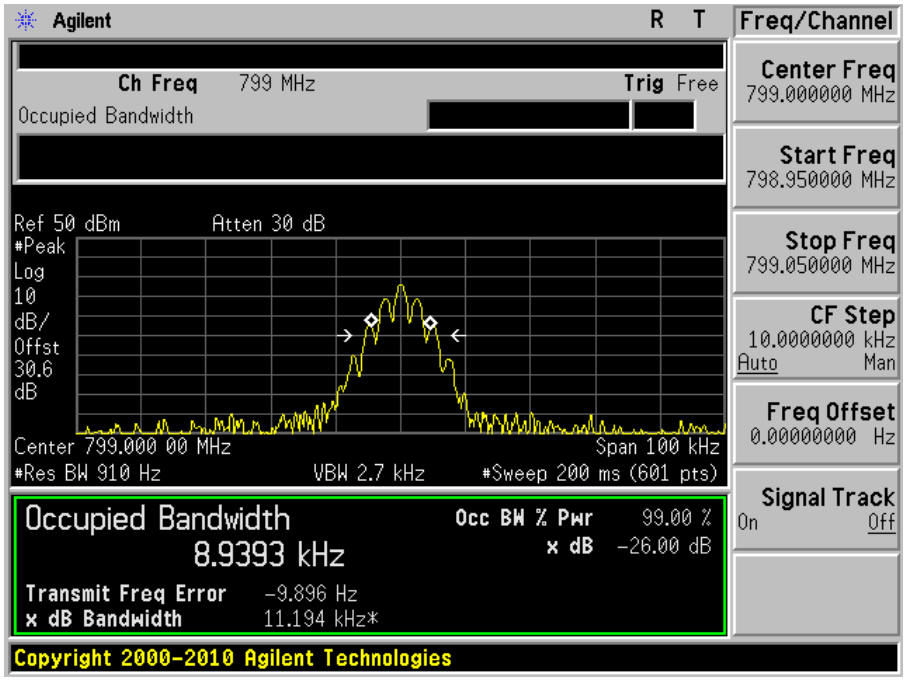


Uplink: 793-805 MHz

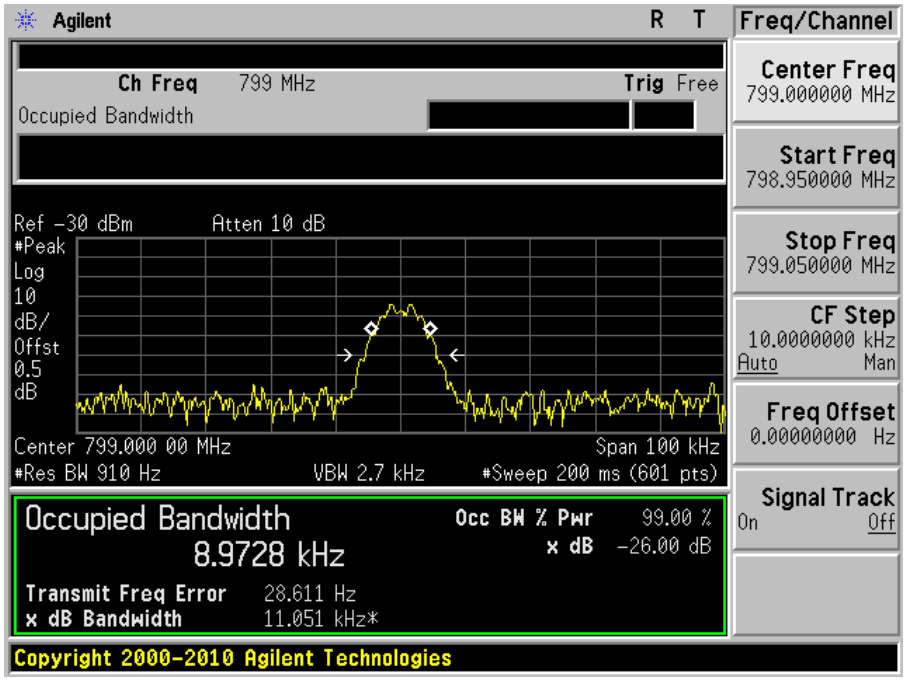
Voice, Input, Middle Channel – 799.0 MHz



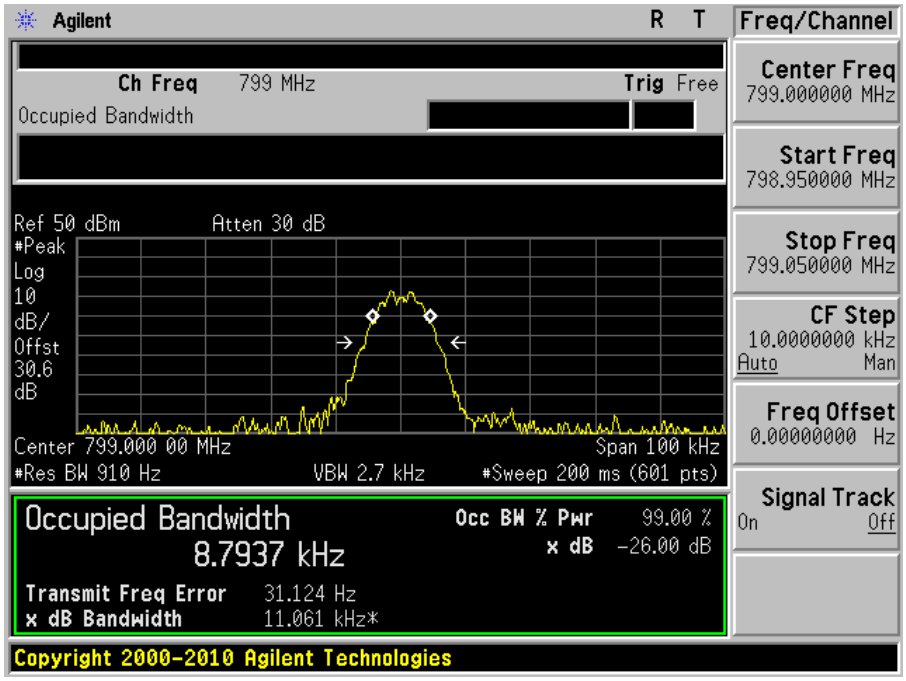
Voice, Output, Middle Channel – 799.0 MHz



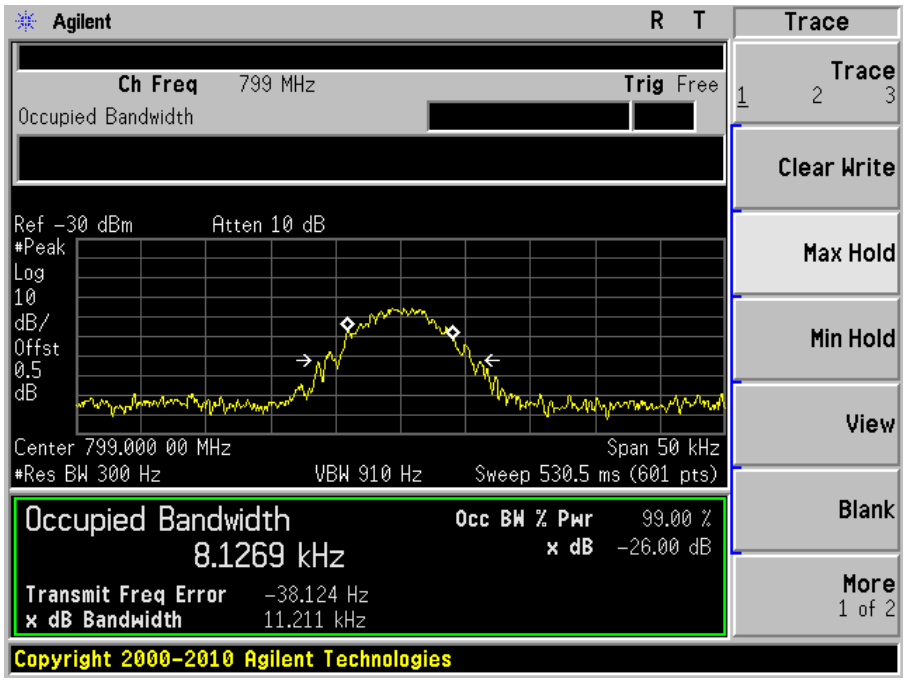
Data, Input, Middle Channel – 799.0 MHz



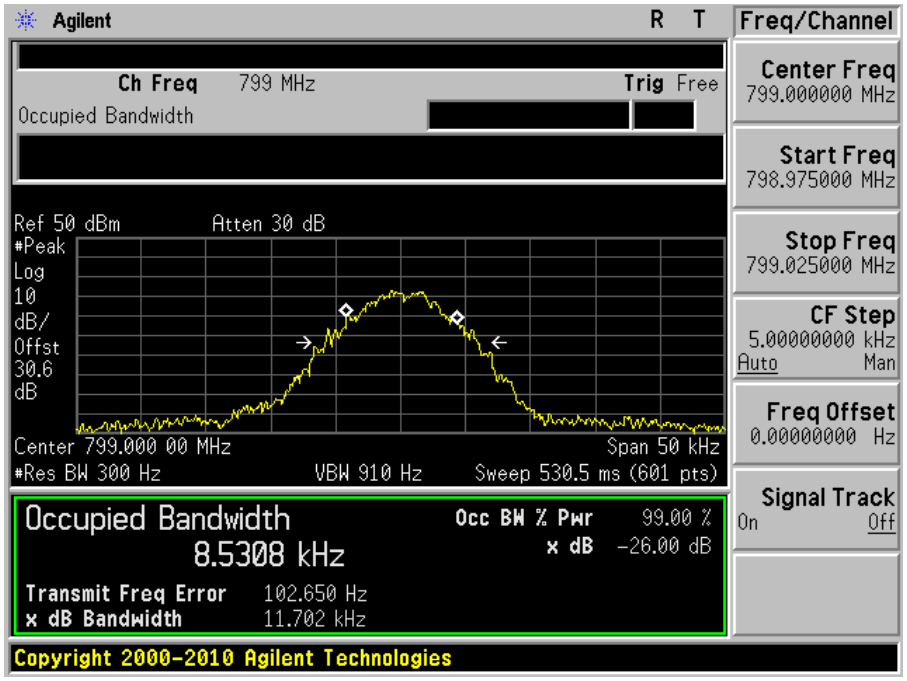
Data, Output, Middle Channel – 799.0 MHz



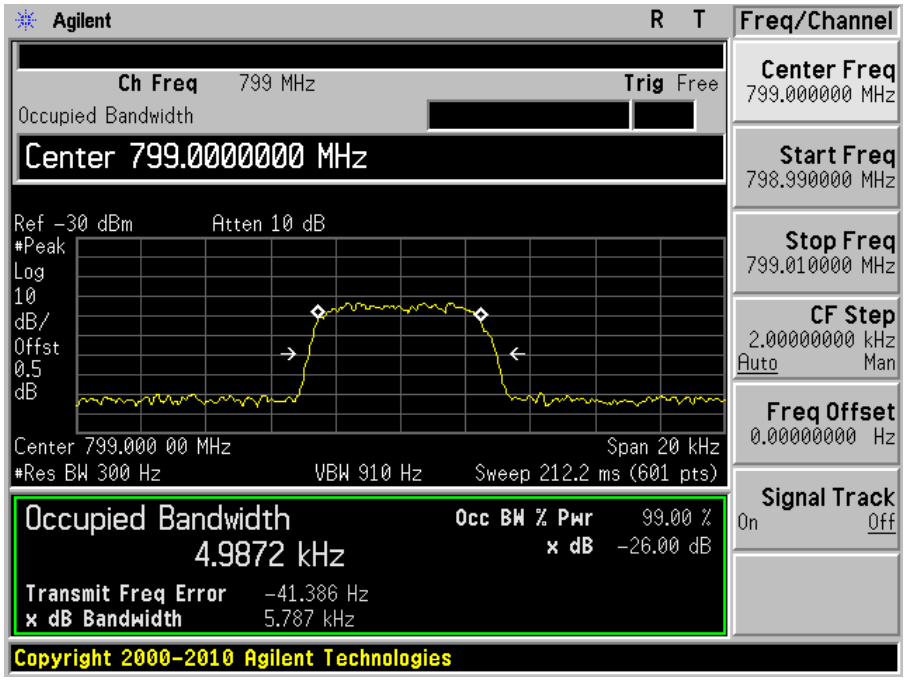
C4FM, Input, Middle Channel – 799.0 MHz



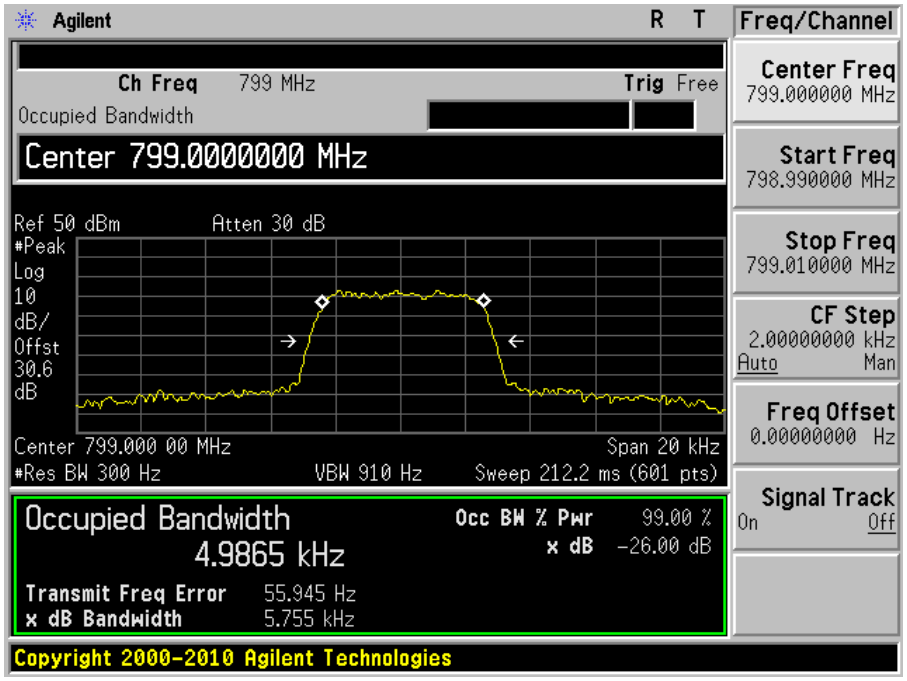
C4FM, Output, Middle Channel – 799.0 MHz



CQPSK, Input, Middle Channel – 799.0 MHz



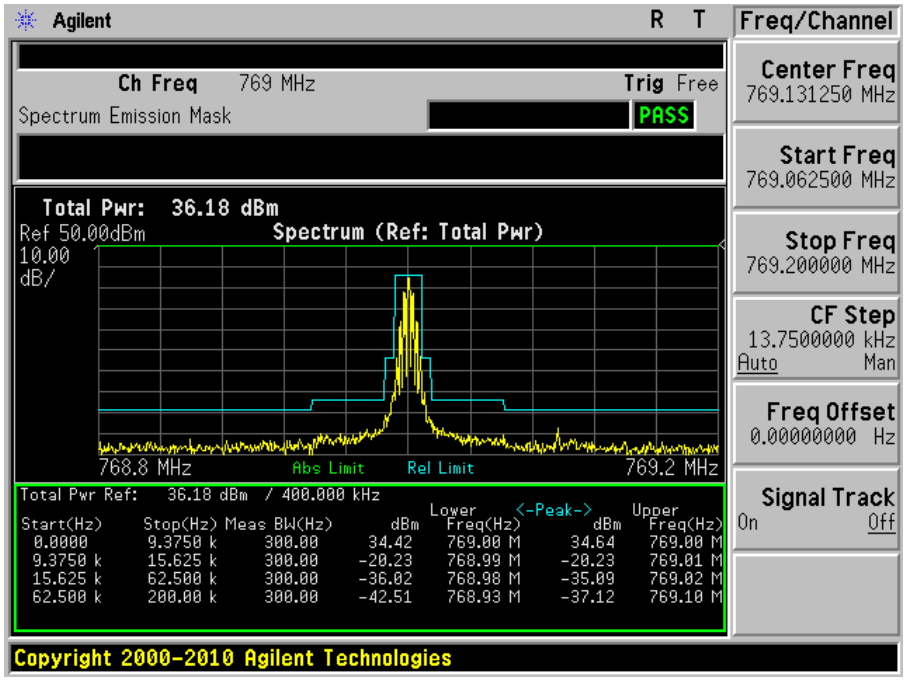
CQPSK, Output, Middle Channel – 799.0 MHz



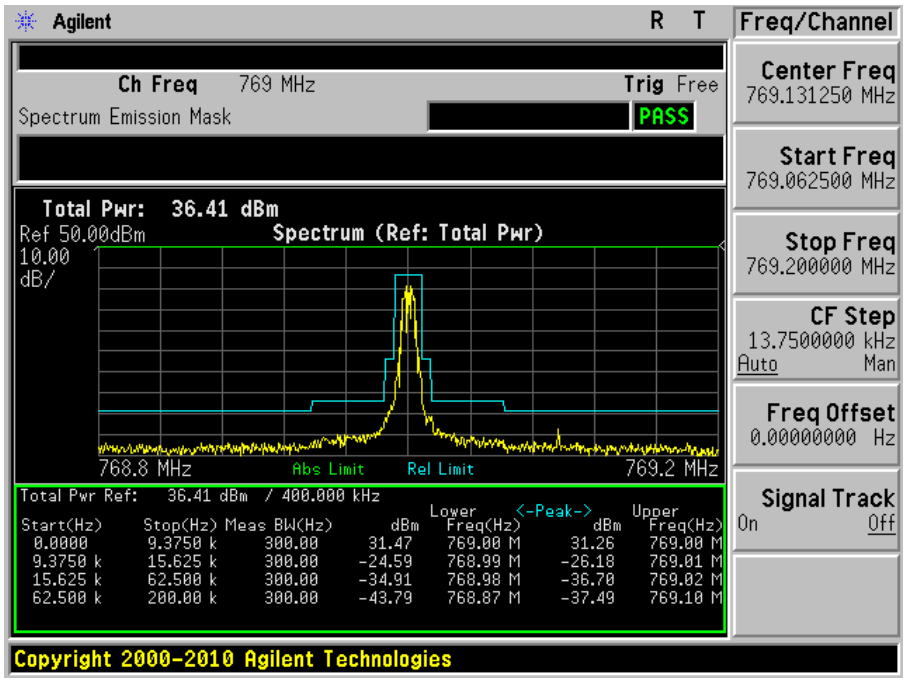
ACP (High Power)

Downlink: 763-775 MHz

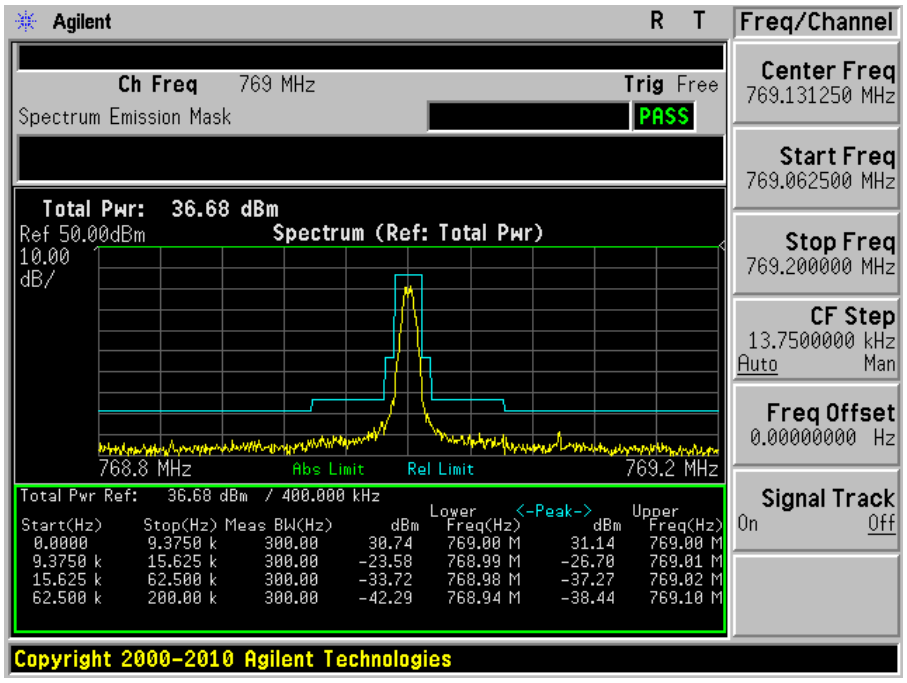
Voice, Middle Channel – 769.0 MHz



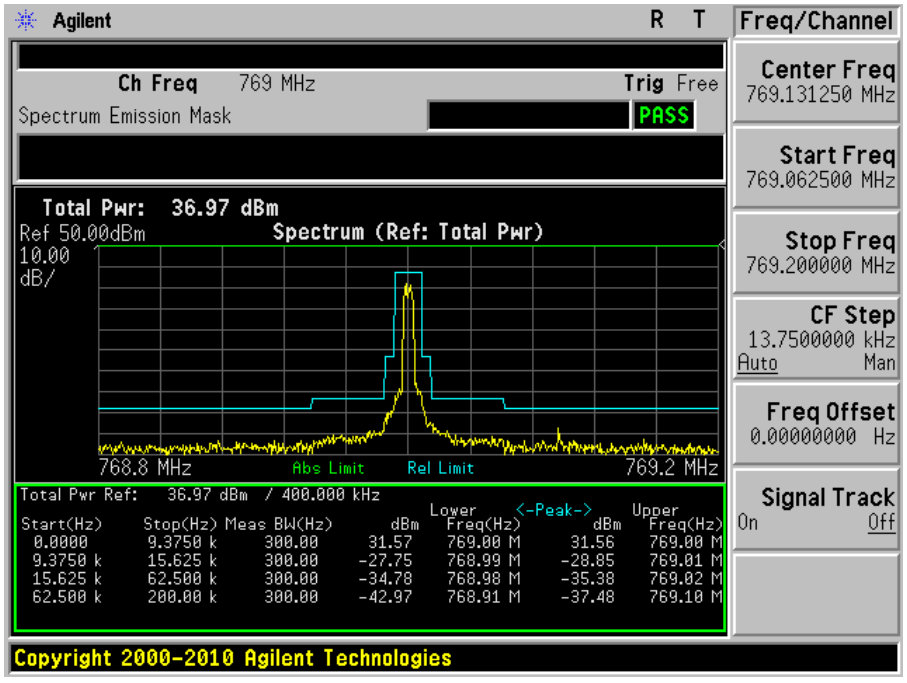
Data, Middle Channel – 769.0 MHz



C4FM, Middle Channel – 769.0 MHz

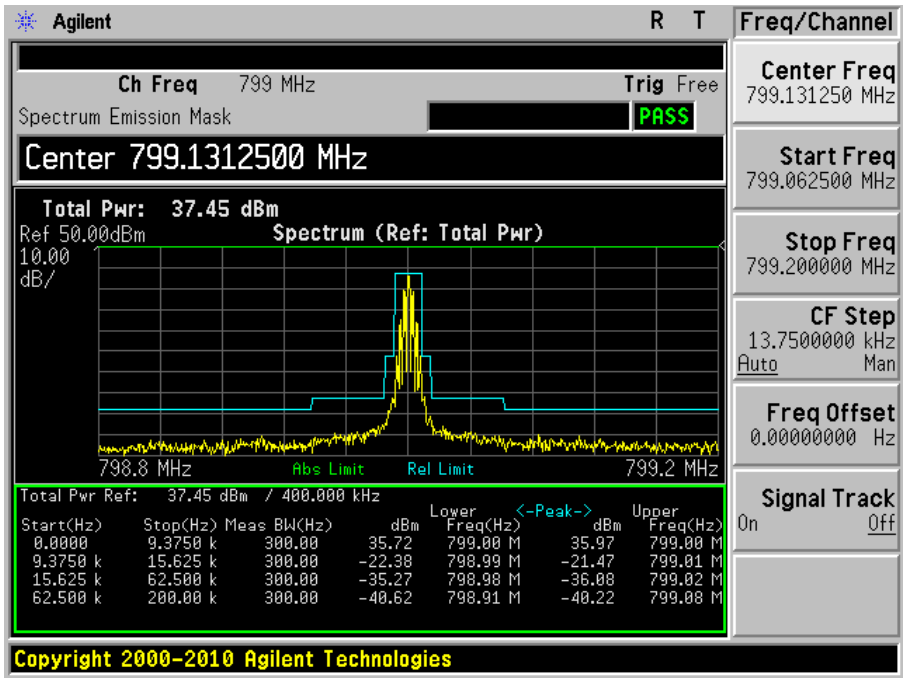


CQPSK, Middle Channel – 769.0 MHz

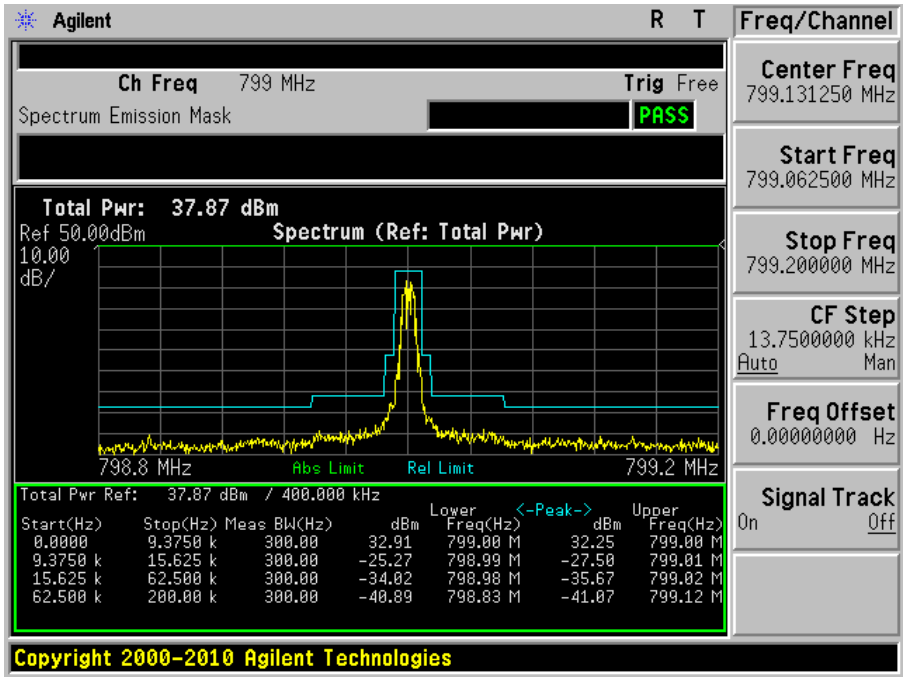


Uplink: 793-805 MHz

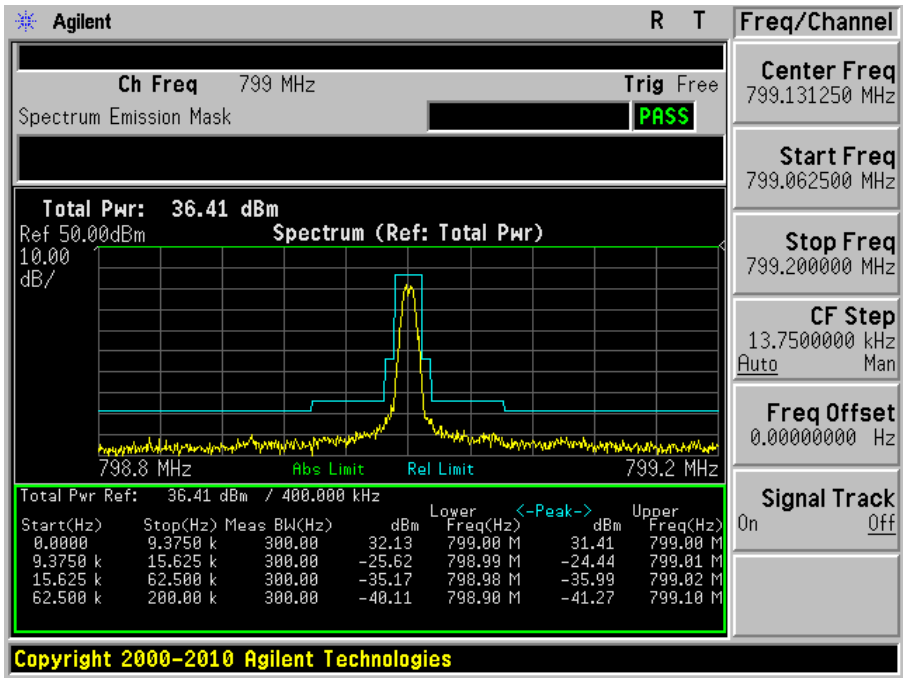
Voice, Middle Channel – 799.0 MHz



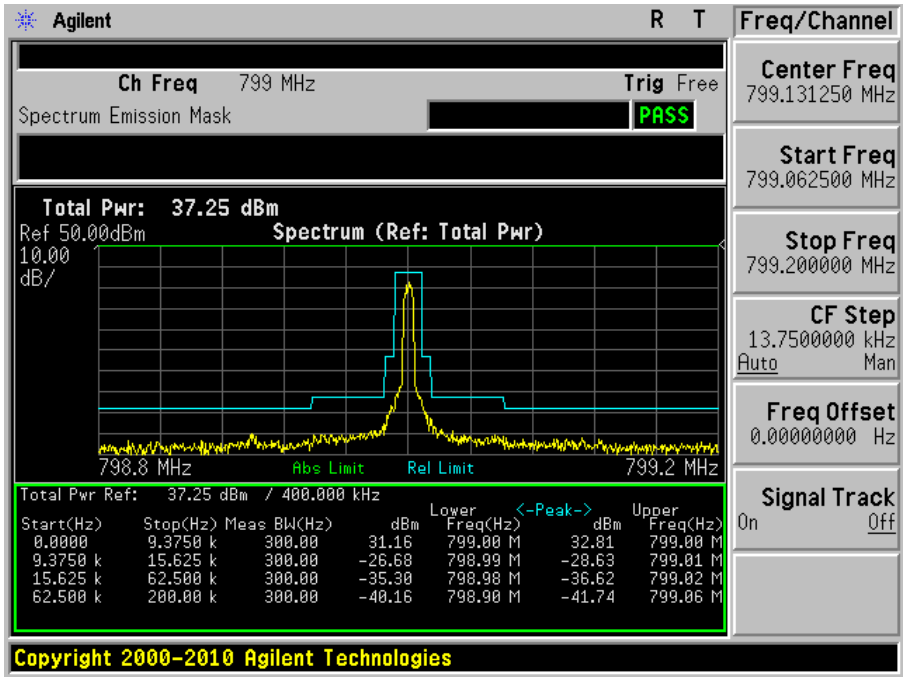
Data, Middle Channel – 799.0 MHz



C4FM, Middle Channel – 799.0 MHz



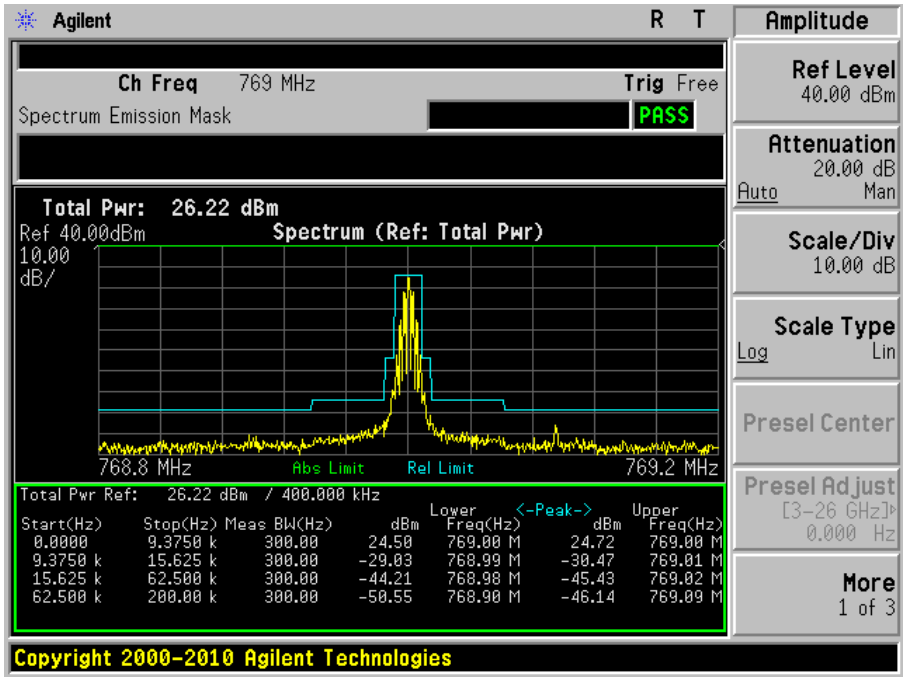
CQPSK, Middle Channel – 799.0 MHz



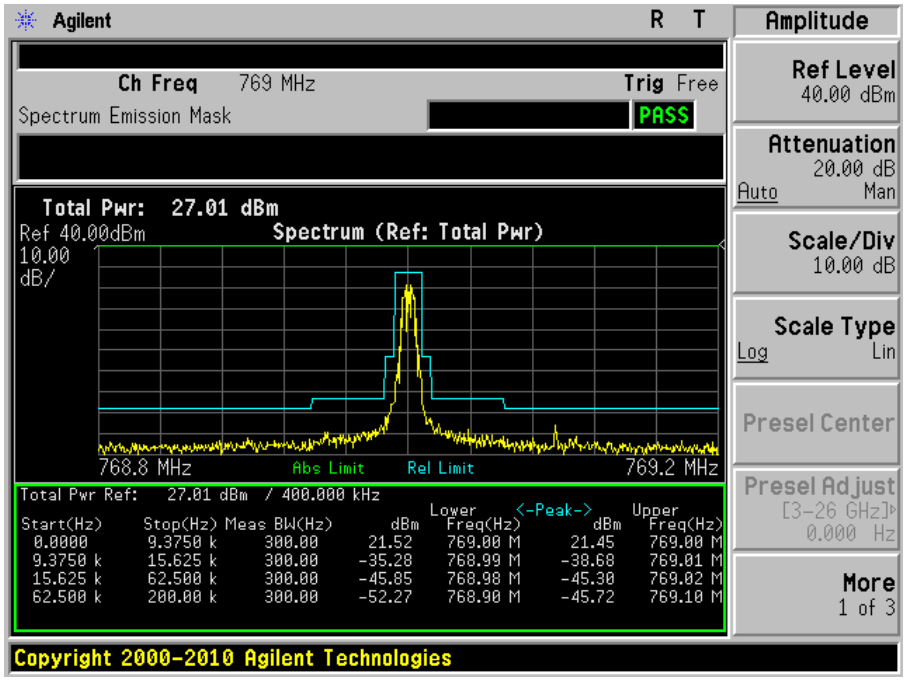
ACP (Low Power)

Downlink: 763-775 MHz

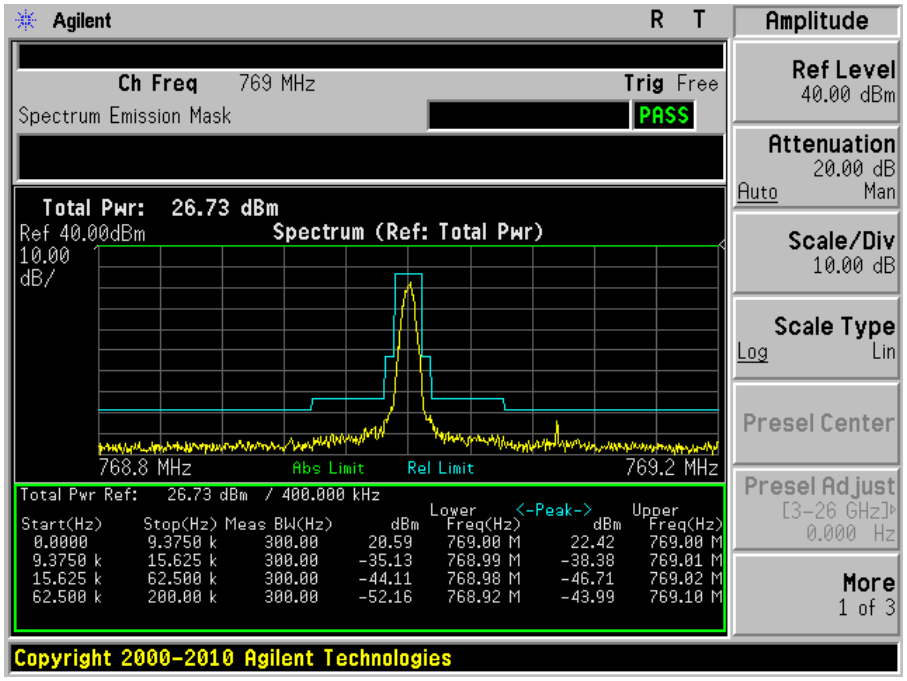
Voice, Middle Channel – 769.0 MHz



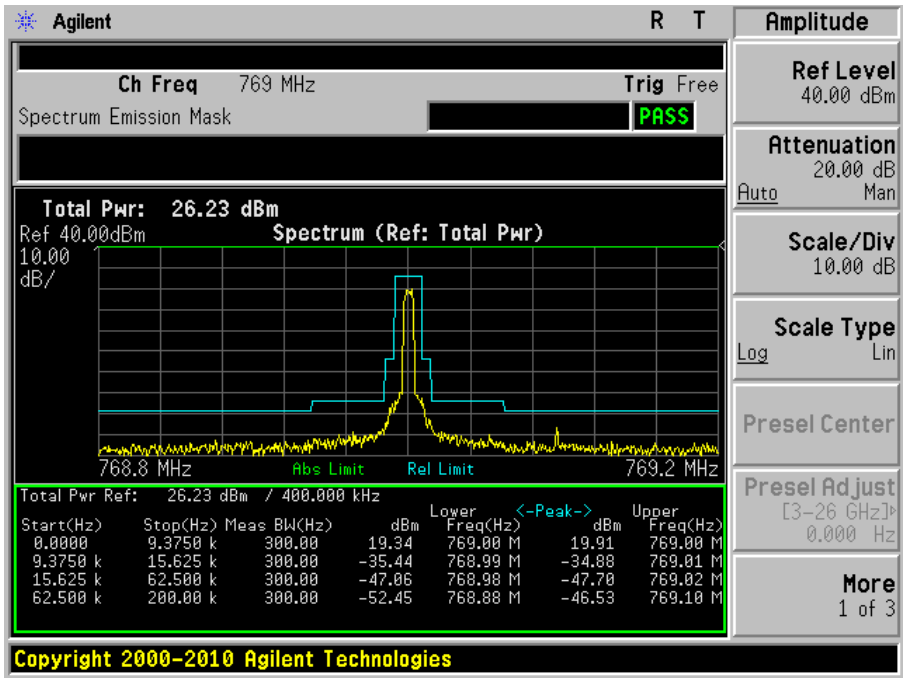
Data, Middle Channel – 769.0 MHz



C4FM, Middle Channel – 769.0 MHz

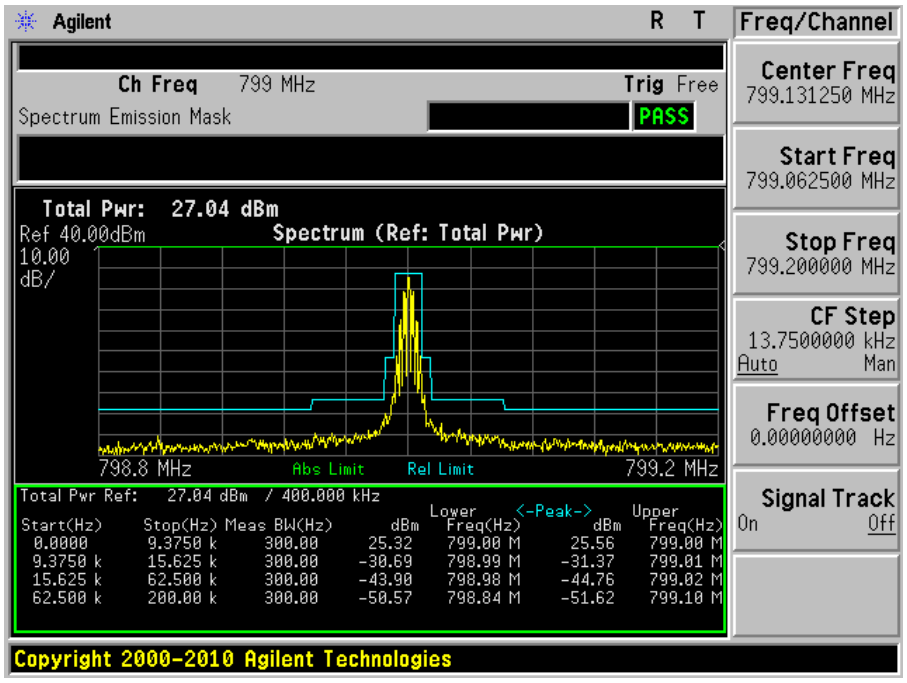


CQPSK, Middle Channel – 769.0 MHz

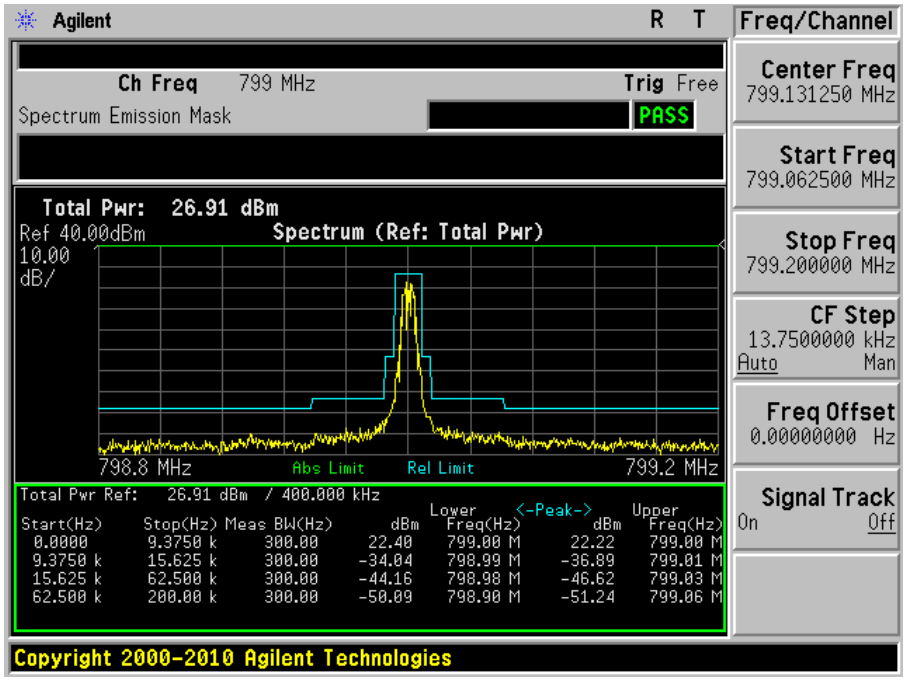


Uplink: 793-805 MHz

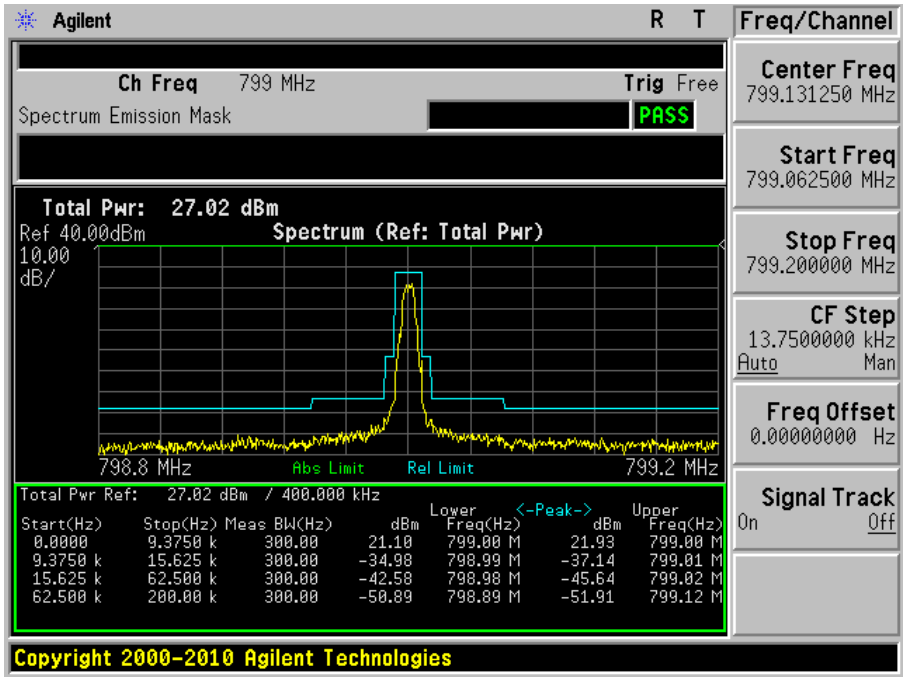
Voice, Middle Channel – 799.0 MHz



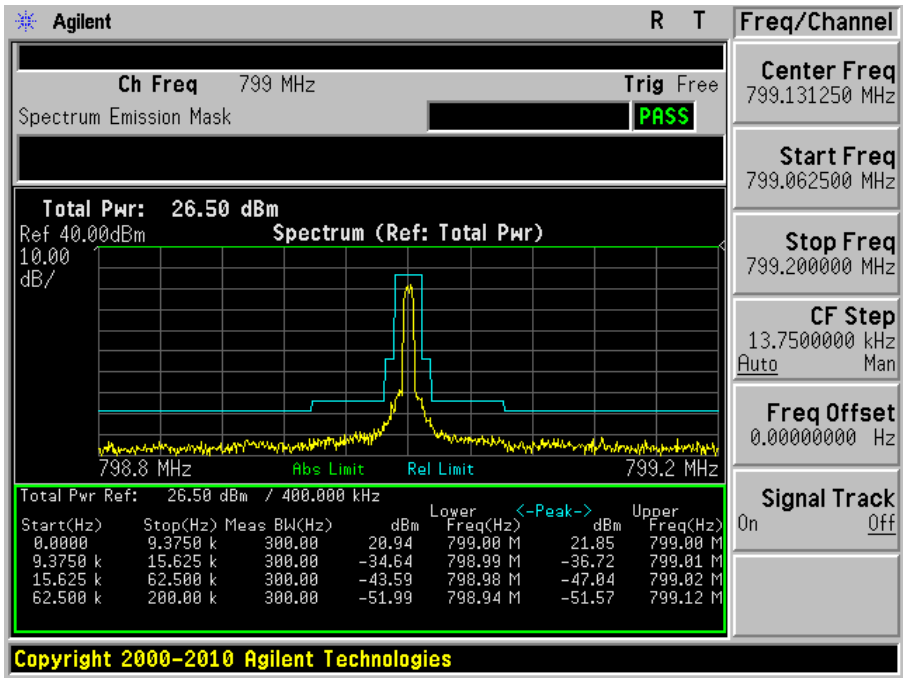
Data, Middle Channel – 799.0 MHz



C4FM, Middle Channel – 799.0 MHz



CQPSK, Middle Channel – 799.0 MHz



7 FCC §2.1051 & §90.543 - Spurious Emissions at Antenna Terminals

7.1 Applicable Standard

According to FCC §90.543: (c) Out-of-band emission limit. On any frequency outside of the frequency ranges covered by the ACP tables in this section, the power of any emission must be reduced below the mean output power (P) by at least 43 + 10log (P) dB measured in a 100 kHz bandwidth for frequencies less than 1 GHz, and in a 1 MHz bandwidth for frequencies greater than 1 GHz.

7.2 Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.

7.3 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date
Agilent	Spectrum Analyzer	E4440A	US42221851	2012-02-28

Statement of Traceability: **BACL Corp.** attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.

7.4 Test Environmental Conditions

Temperature:	23.3 °C
Relative Humidity:	60 %
ATM Pressure:	101.3 kPa

The testing was performed by Lionel Lara on 2012-07-30 in the RF Site.

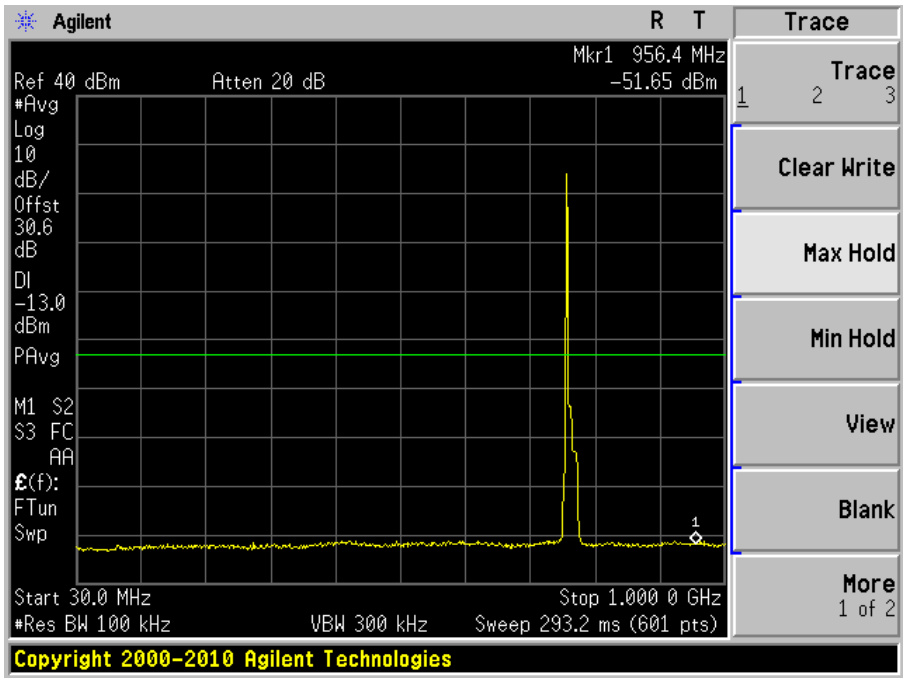
7.5 Test Results

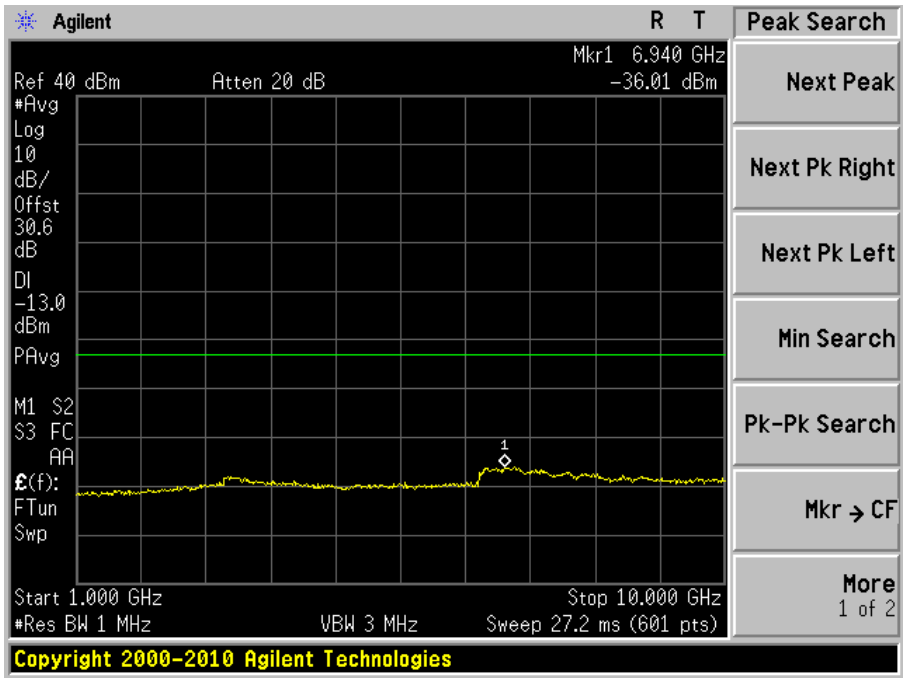
Please refer to the following plots.

Spurious Emissions, High Power

Downlink: 763-775MHz

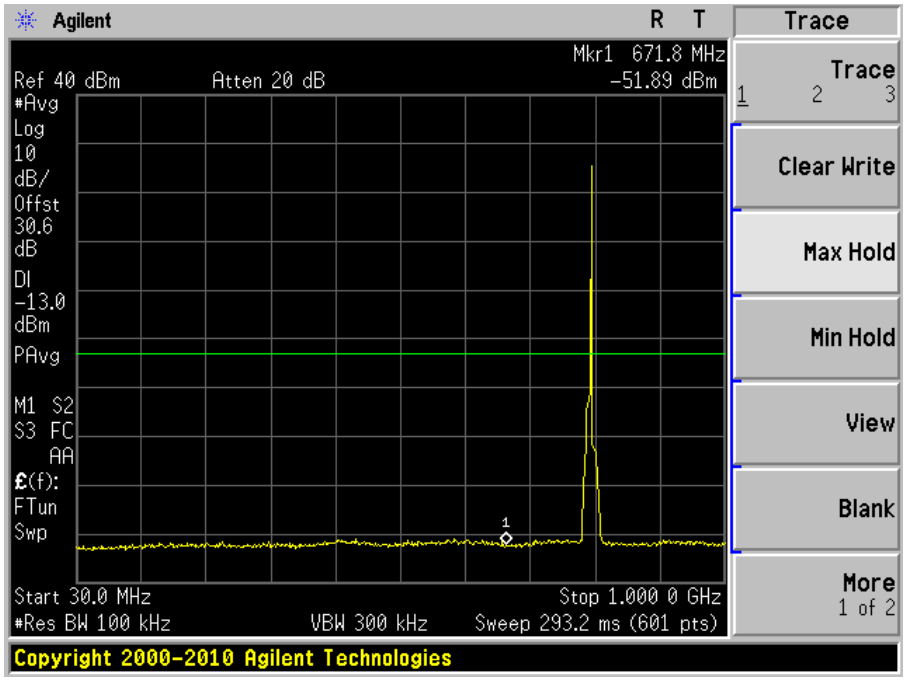
CW, Low Channel – 763.1 MHz

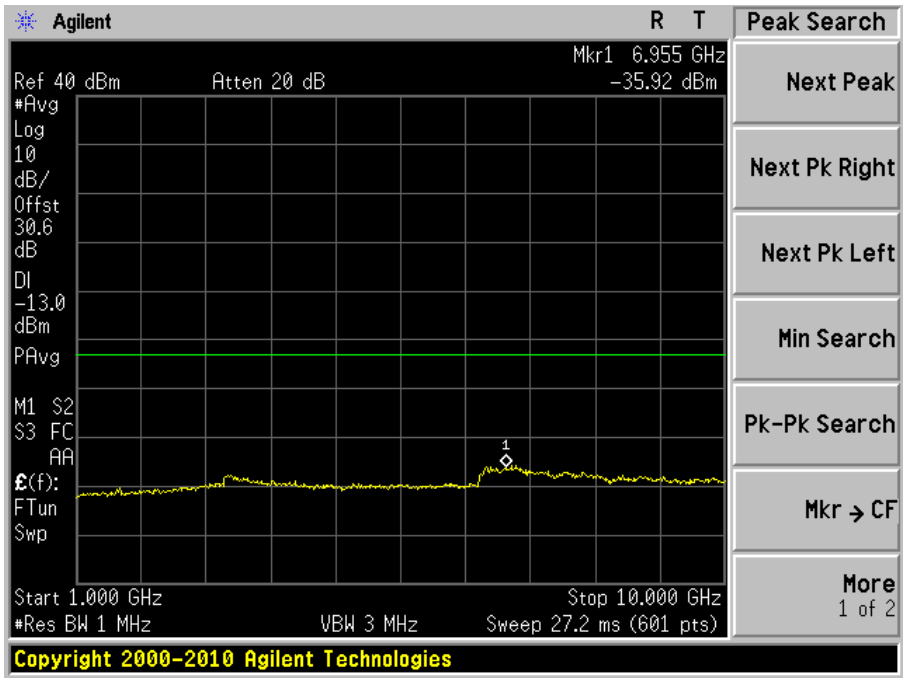




Uplink: 793-805MHz

CW, Middle Channel – 799.0 MHz

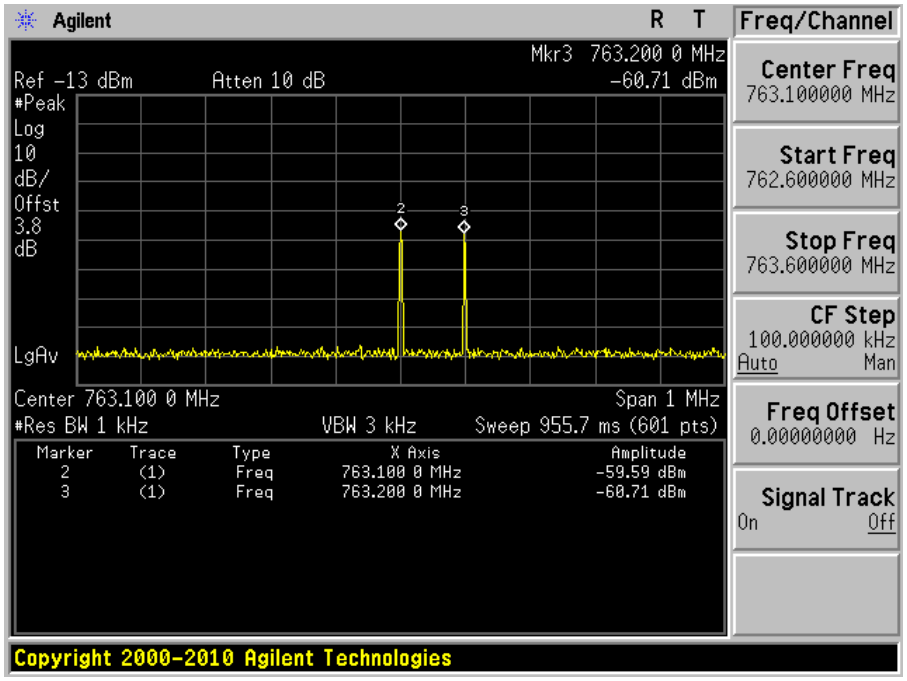




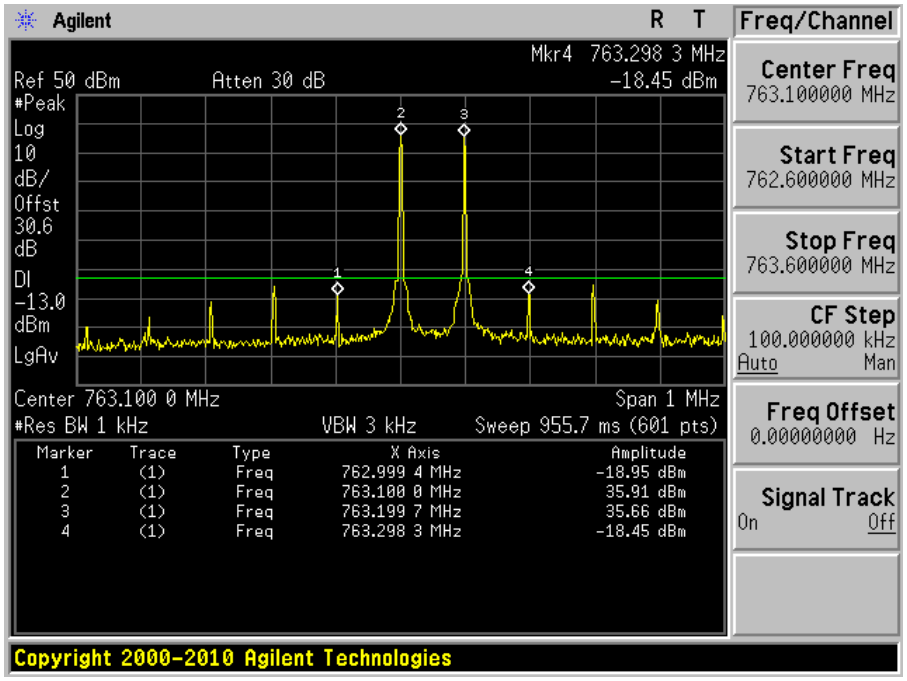
Intermodulation, High Power

Downlink: 763-775MHz

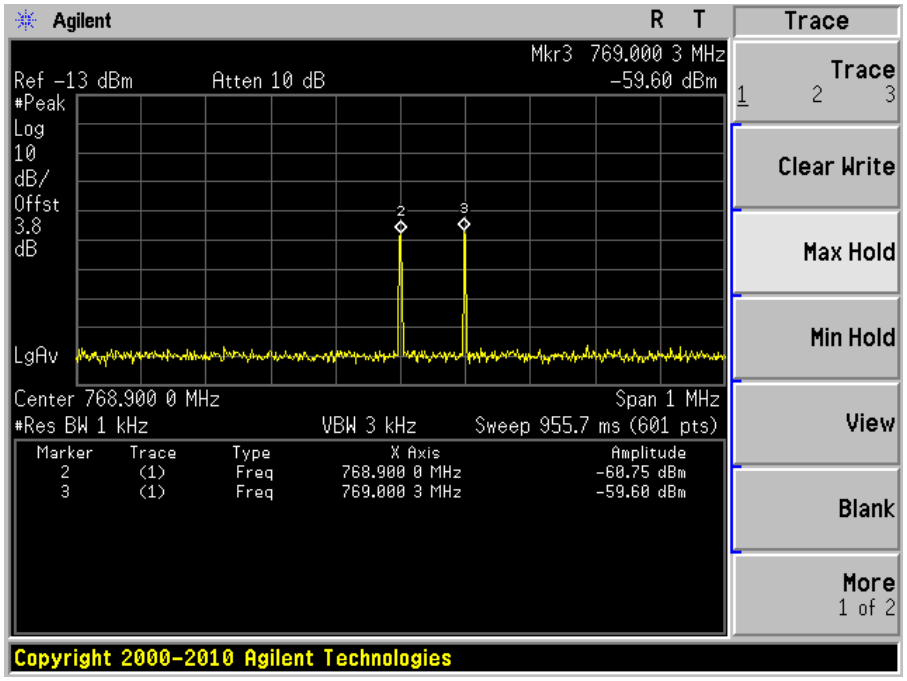
Input, Low Channel



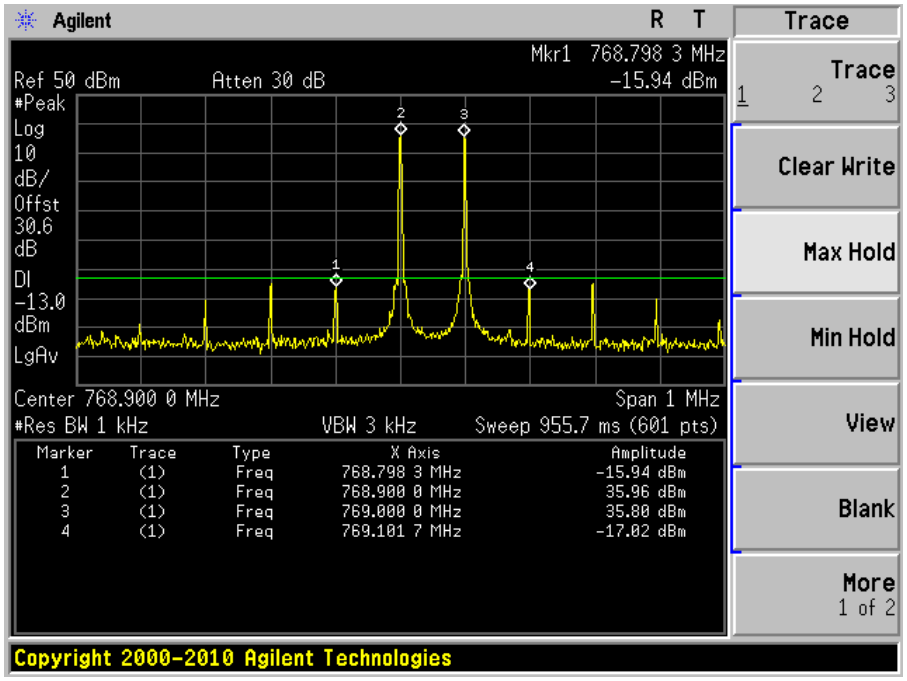
Output, Low Channel



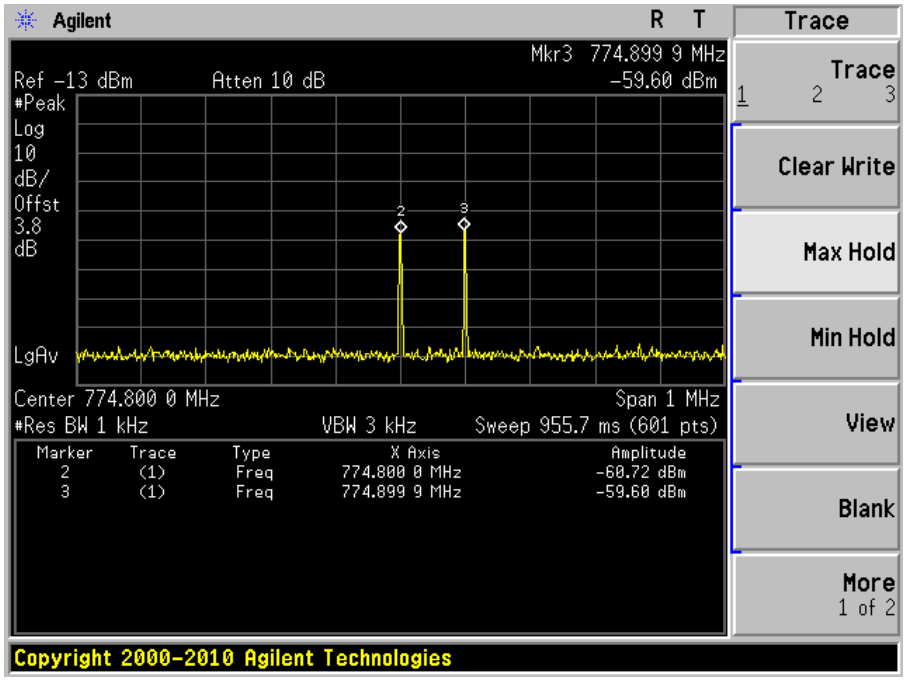
Input, Middle Channel



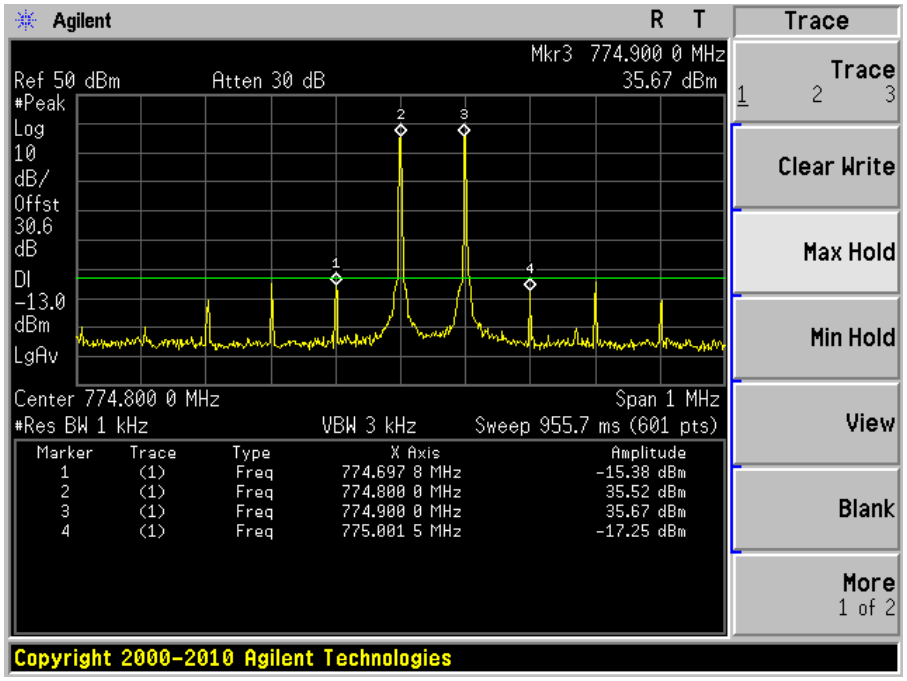
Output, Middle Channel



Input, High Channel

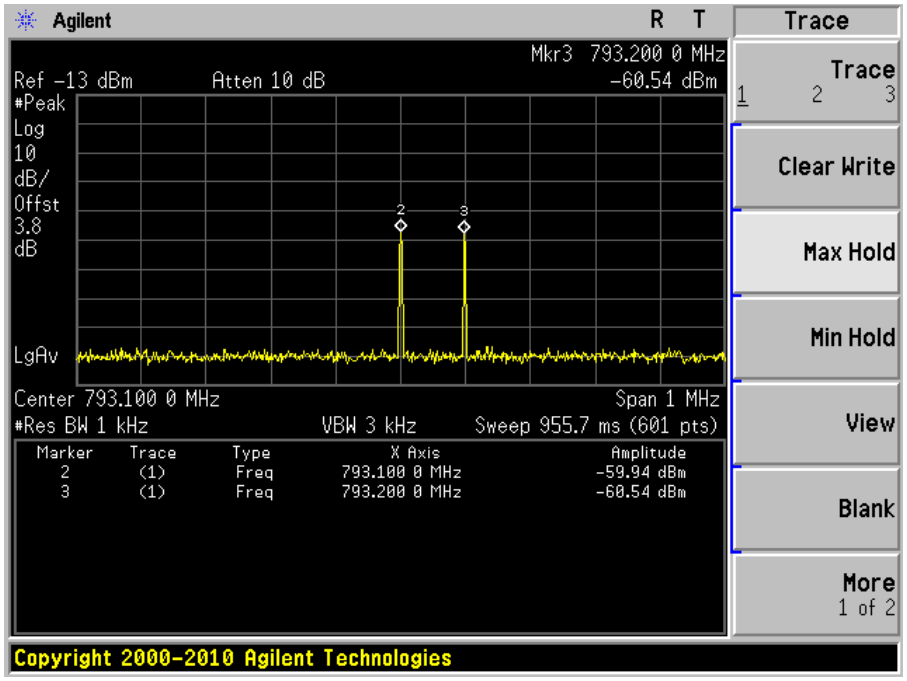


Output, High Channel

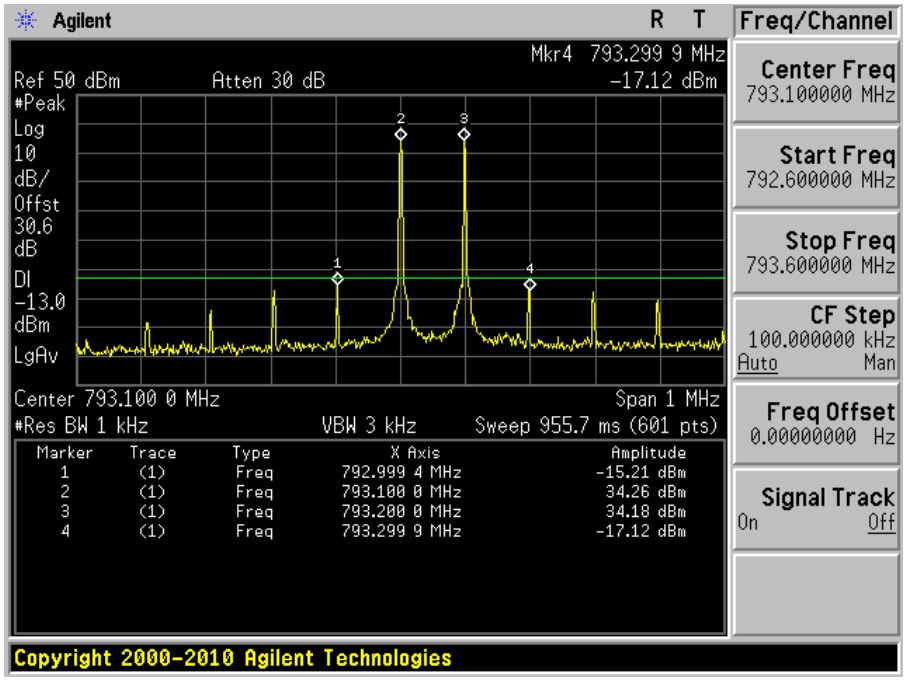


Uplink: 793-805MHz

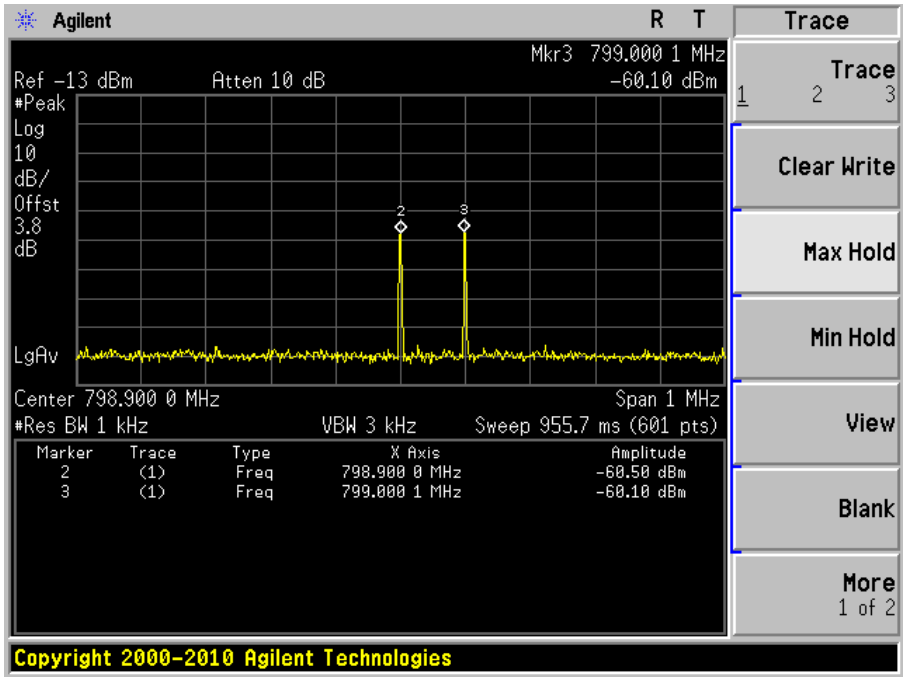
Input, Low Channel



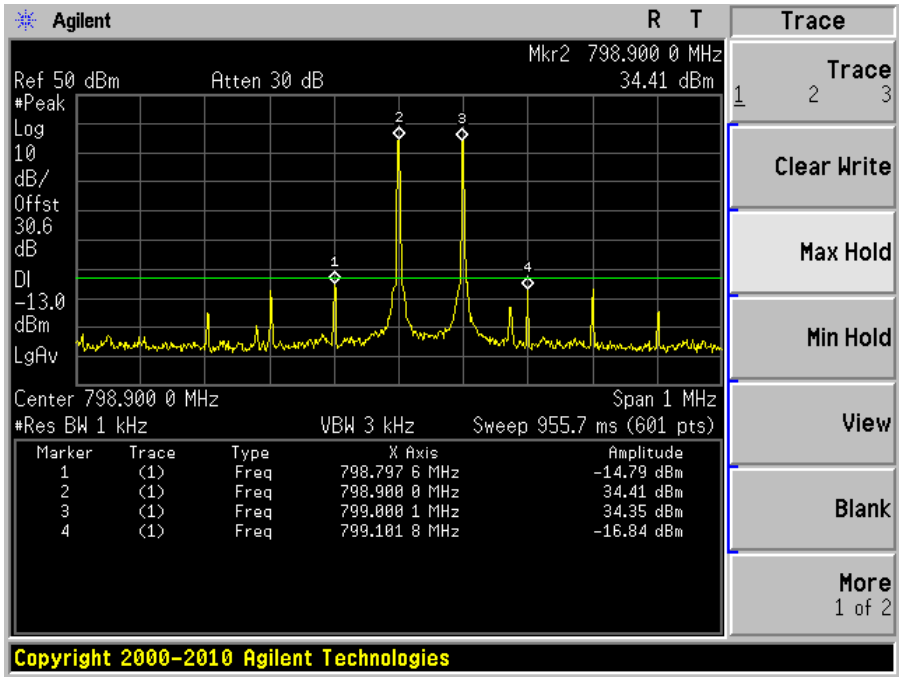
Output, Low Channel



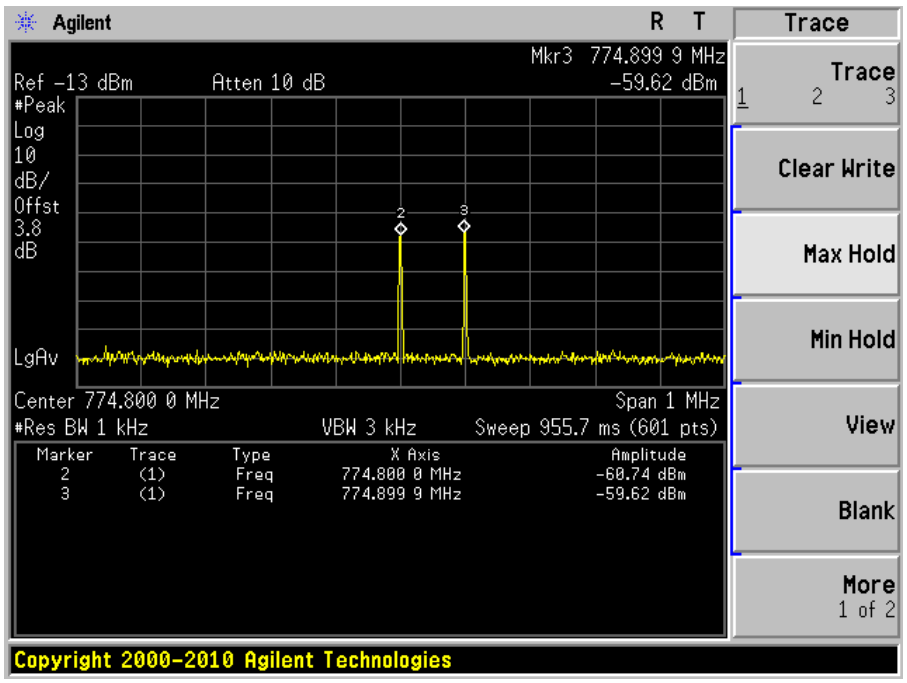
Input, Middle Channel



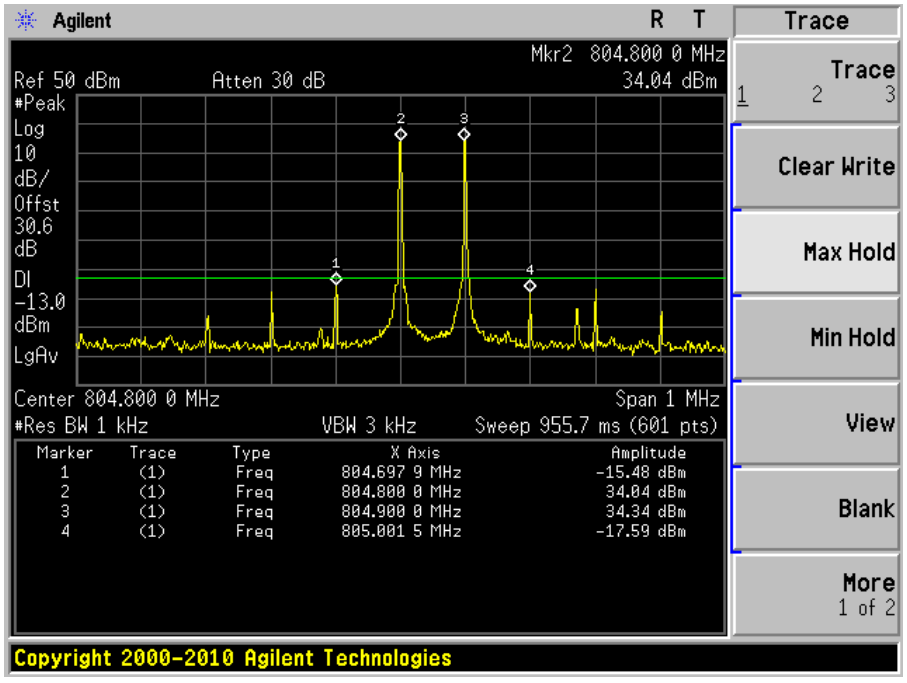
Output, Middle Channel



Input, High Channel



Output, High Channel



8 FCC §2.1053 & §90.543 – Field Strength of Spurious Radiation

8.1 Applicable Standard

According to FCC §90.543: (c) Out-of-band emission limit. On any frequency outside of the frequency ranges covered by the ACP tables in this section, the power of any emission must be reduced below the mean output power (P) by at least 43 + 10log (P) dB measured in a 100 kHz bandwidth for frequencies less than 1 GHz, and in a 1 MHz bandwidth for frequencies greater than 1 GHz.

8.2 Test Procedure

The transmitter was placed on Styrofoam on the turntable, and it was normal transmitting with 50ohm termination which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = 10 lg (TXpwr in Watts/0.001) – the absolute level

8.3 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date
Agilent	Spectrum Analyzer	E4440A	US42221851	2012-02-28
Sunol Science Corp	System Controller	SC99V	122303-1	N/R
Sunol Science Corp	Combination Antenna	JB3	A020106-3	2012-06-18
EMCO	Horn Antenna	3115	9511-4627	2011-10-03
Hewlett Packard	Pre-amplifier	8447D	2944A06639	2012-06-09
Mini-Circuits	Pre-amplifier	ZVA-183-S	570400946	2012-05-09
A.R.A	Horn antenna	DRG-118/A	1132	2012-01-04
Agilent	Signal Generator	E4438C	MY45091309	2012-05-03

Statement of Traceability: **BACL Corp.** attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.

8.4 Test Environmental Conditions

Temperature:	26 °C
Relative Humidity:	46 %
ATM Pressure:	101.1 kPa

The testing was performed by Lionel Lara on 2012-07-31 in 5 meter chamber 3.

8.5 Test Results

Worst Margin: **-27.71 dB** at **1598 MHz** in the **Vertical** polarization.

Please see following table for detailed results.

Downlink: 763-775 MHz, High Power

CW, Low Channel – 763.1 MHz

Indicated		Azimuth Degrees	Test Antenna		Substituted					Limit (dBm)	Margin (dB)
Freq. (MHz)	Amp. (dBuV)		Height (cm)	Polar (H/V)	Freq. (MHz)	Level (dBm)	Antenna Cord. (dBi)	Cable Loss (dB)	Absolute Level (dBm)		
1526.2	37.97	287	150	H	1526.2	-62.19	8.57	1.34	-54.96	-13	-41.96
1526.2	43.57	171	150	V	1526.2	-56.59	8.57	1.34	-49.36	-13	-36.36

Note: All other emissions at noise floor level.

Uplink: 793-805 MHz, High Power

CW, Midldle Channel – 799.0 MHz

Indicated		Azimuth Degrees	Test Antenna		Substituted					Limit (dBm)	Margin (dB)
Freq. (MHz)	Amp. (dBuV)		Height (cm)	Polar (H/V)	Freq. (MHz)	Level (dBm)	Antenna Cord. (dBi)	Cable Loss (dB)	Absolute Level (dBm)		
1598	48.02	291	150	H	1598	-50.52	9.11	1.34	-42.75	-13	-29.75
1598	50.06	196	150	V	1598	-48.48	9.11	1.34	-40.71	-13	-27.71
3196	38.11	330	131	H	3196	-58.71	9.88	1.8	-50.63	-13	-37.63
3196	38.43	328	166	V	3196	-58.39	9.88	1.8	-50.31	-13	-37.31