



# FCC and IC Test Report

## FCC Part 22, 24 / RSS 132,133

for  
Alcatel-Lucent

**OmniAccess 3500 Laptop Guardian PCMCIA card**

**Model Number: OA3530-S.**

**FCC ID: RUT-OA3530-S**

**IC-ID: 1737G-OA3530S**

TEST REPORT #:EMC\_ALCAT\_002\_07002\_CDMA\_FCC-22\_24Rev1  
DATE: 10/20/2007



FCC listed  
A2LA certified  
IC recognized #  
3462B

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Board of Directors: Dr. Harald Ansorge, Dr. Klaus Matkey, Hans Peter May



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## **Test Report Cover Sheet/Performance Test Data**

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TEST REPORT NUMBER: EMC\_ALCAT\_002\_07002\_CDMA\_FCC-22\_24Rev1

EQUIPMENT MODEL NUMBER: OA3530-S.

CERTIFICATION NO: 1737G-OA3530S

MANUFACTURER: 1737G

RADIO STANDARD SPECIFICATION NO. : RSS-132 and RSS-133

OPEN AREA TEST SITE INDUSTRY CANADA NUMBER: 3462B-1

FREQUENCY RANGE (or fixed frequency): 824.7 MHz to 848.31 MHz and 1851.25MHz to 1908.75MHz

R.F. POWER IN WATTS: 0.222W @ 836.5 MHz, 0.140W @ 1851.25 MHz

OCCUPIED BANDWIDTH (99% BW): 1.2635 MHz @ 850 MHz, 1.2874 MHz @ 1900 MHz

TYPE OF MODULATION: CDMA

EMISSION DESIGNATOR (TRC-43): 1M27F9W @ 850 MHz, 1M29F9W @ 1900 MHz

ANTENNA INFORMATION: Integral, Stamped metal

TRANSMITTER SPURIOUS (worst case): -25.54 dBm @ 1.58GHz (850MHz), -39.64 dBm @ 992.22 MHz (1900MHz)

RECEIVER SPURIOUS (worst case): 118.17 uV/m @ 265.21 MHz (850MHz), 120.78 uV/m @ 267.15 MHz (1900MHz)

### **ATTESTATION:**

**DECLARATION OF COMPLIANCE:** I declare that the testing was performed or supervised by me; that the test measurements were made in accordance with the above-mentioned Industry Canada standard(s); and that the equipment identified in this application has been subjected to all the applicable test conditions specified in the Industry Canada standards and all of the requirements of the standard have been met.

### **Signature:**

**Val Tankov**

Project Engineer

CETECOM Inc.

411 Dixon Landing Road

Milpitas, CA 95035

**Date: 2007-10-20**



## 1 Assessment

The following is in compliance with the applicable criteria specified in FCC rules Parts 2, 22 and 24 of Title 47 of the Code of Federal Regulations and in compliance with the applicable criteria specified in Industry Canada rules RSS132 and RSS133.

Company	Description	Model #
<b>Alcatel-Lucent</b>	OmniAccess 3500 is an intelligent wireless wide area network laptop data card, with an on-board processor, non-volatile memory, and a battery	<b>OA3530-S.</b>

Technical responsibility for area of testing:

**Peter Mu**

**(Project Engineer)**

**10/20/2007** **EMC & Radio**

**Date**

**Section**

**Name**

**Signature**

Project Leader:

**Val Tankov**

**(Project Engineer)**

**10/20/2007** **EMC & Radio**

**Date**

**Section**

**Name**

**Signature**

The test results of this test report relate exclusively to the test item specified in Identification of the Equipment under Test. The CETECOM Inc. USA does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM Inc USA.

## **2 Administrative Data**

### **2.1 Identification of the Testing Laboratory Issuing the SAR Assessment Report**

Company Name:	CETECOM Inc.
Department:	SAR
Address:	411 Dixon Landing Road Milpitas, CA 95035 U.S.A.
Telephone:	+1 (408) 586 6200
Fax:	+1 (408) 586 6299
Responsible Test Lab Manager:	Lothar Schmidt

### **2.2 Identification of the Client**

Applicant's Name:	Alcatel-Lucent
Address:	600 Mountain Ave., 2B-416. Murray Hill NJ 07974, USA
Contact Person:	Kyriacos Georgiades
Phone No.	+1 908 582 5641
Fax:	+1 908 582 5600
e-mail:	Georgiades@alcatel-lucent.com

### **2.3 Identification of the Manufacturer**

Manufacturer's Name:	Alcatel-Lucent
Manufacturer's Address:	600 Mountain Ave., 2b-416, Murray Hill / NJ 07974 USA

### 3 Equipment under Test (EUT)

#### 3.1 Specification of the Equipment under Test

Product Type	OmniAccess 3500 is an intelligent wireless wide area network laptop data card, with an on-board processor, non-volatile memory, and a battery.
Marketing Name:	OmniAccess 3500 Laptop Guardian PCMCIA card
Model No:	OA3530-S.
Hardware Revision :	Rev.B
Software Revision :	Rel.:1.2
FCC-ID:	RUT-OA3530-S
IC-ID :	1737G-OA3530S
Frequency Range:	824.7 MHz to 848.31 MHz and 1851.25MHz to 1908.75MHz
Number of Channels	<b>No. of Channels</b>
Type(s) of Modulation:	CDMA
Antenna Type:	Integral, Stamped metal
Conducted Output Power:	<b>Taken from Report No. 06U10171-1C (Average Readings):</b> <b>25.13dBm (0.326W) @ 836.5 MHz</b> <b>24.84dBm (0.305W) @ 1880 MHz</b>
Radiated Output Power:	<b>ERP 23.47dBm (0.222W) @ 836.5 MHz</b> <b>EIRP 21.46dBm (0.140W) @ 1851.25 MHz</b>

## **Subject of Investigation**

Measurements were performed for the OmniAccess 3500 (Model No. OA6860-S). The device under test is a Wireless Cellular/PCS PCMCIA card used with laptops to provide wireless data communication. Device was install in DELL Laptop model PP09S as a representative host system with highest radiated power. Data presented in this test report only includes Radiated emissions for transmit and receive, Radiated power, and AC conducted emissions on the OmniAccess 3500 PCMCIA. A separate test report no. 06U10171-1C has been provided to report the antenna port measurements. Data present for Industry Canada has been extracted from test report no. 06U10171-1C for the conducted power, 99% Bandwidth, and Emission designator.

The objective of the measurements done by Cetecom Inc. was to measure the performance of the EUT as specified by requirements listed in FCC rules Parts 2, 22 and 24 of Title 47 of the Code of Federal Regulations and Industry Canada RSP-100, RSS-132, and RSS-133. The maximization of portable equipment is conducted in accordance with ANSI C63.4.

## **4 Measurements**

### **4.1 RF Power Output**

#### **4.1.1 FCC 2.1046 Measurements required: RF power output.**

Power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on circuit elements as specified. The electrical characteristics of the radio frequency load attached to the output terminals when this test is made shall be stated.

#### **4.1.2 Limits:**

##### **4.1.2.1 §22.913(a) & RSS-129 (9.1) Effective radiated power limits.**

The effective radiated power (ERP) of mobile transmitters must not exceed 7 Watts.

##### **4.1.2.2 §24.232(b)(c) & RSS-133 (4.3) & (6.4) Power limits.**

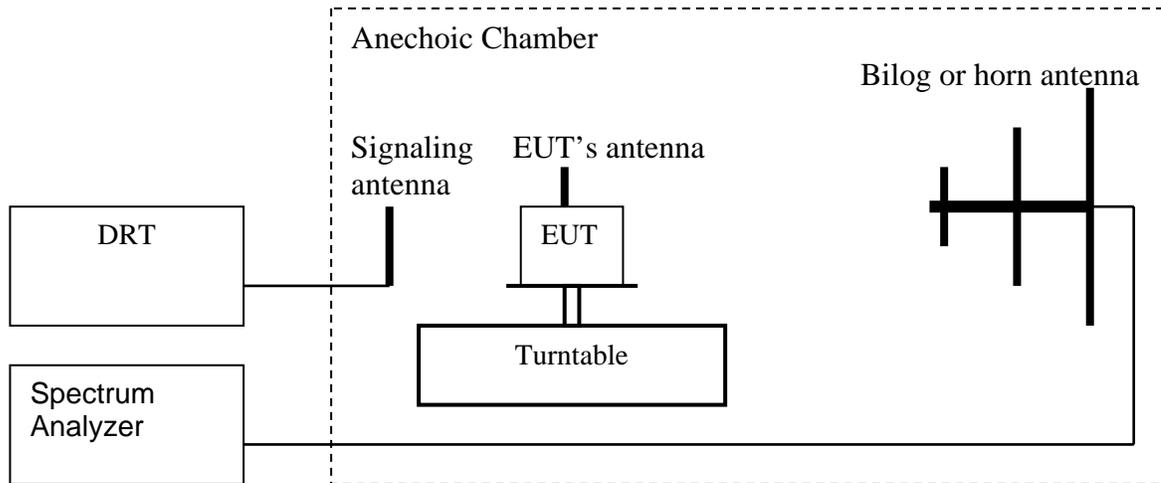
(b) Mobile/portable stations are limited to 2 Watts effective isotropic radiated power (EIRP).

(c) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms equivalent voltage. The measurement results shall be properly adjusted for any limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement over the full bandwidth of the channel.

### 4.1.3 Radiated Output Power measurement procedure:

Based on TIA-603C 2004

#### 2.2.17.2 Effective Radiated Power (ERP) or Effective Isotropic Radiated Power (EIRP)



1. Connect the equipment as shown in the above diagram with the EUT's antenna in a vertical orientation.
  2. Adjust the settings of the Digital Radiocommunication Tester (DRT) to set the EUT to its maximum power at the required channel.
  3. Set the spectrum analyzer to the channel frequency. Set the analyzer to measure peak hold with the required settings.
  4. Rotate the EUT 360°. Record the peak level in dBm (**LVL**).
  5. Replace the EUT with a vertically polarized half wave dipole or known gain antenna. The center of the antenna should be at the same location as the center of the EUT's antenna.
  6. Connect the antenna to a signal generator with known output power and record the path loss in dB (**LOSS**). **LOSS** = Generator Output Power (dBm) – Analyzer reading (dBm).
  7. Determine the ERP using the following equation:  

$$\mathbf{ERP\ (dBm) = LVL\ (dBm) + LOSS\ (dB)}$$
  8. Determine the EIRP using the following equation:  

$$\mathbf{EIRP\ (dBm) = ERP\ (dBm) + 2.14\ (dB)}$$
  9. Measurements are to be performed with the EUT set to the low, middle and high channel of each frequency band. **Spectrum analyzer settings = rbw=vbw=3MHz**
- (note: Steps 5 and 6 above are performed prior to testing and **LOSS** is recorded by test software. Steps 3, 4, 7 and 8 above are performed with test software.)

#### 4.1.4 ERP Results 850 MHz band:

Power Control Level	Burst Peak ERP
5	≤38.45dBm (7W)

Frequency (MHz)	Effective Radiated Power (dBm) <sup>Note 1</sup>		
	EVDO – Total Radiated power	EVDO – Peak EIRP	EVDO - ERP
824.70	19.68	24.95	22.81
836.52	20.55	25.61	23.47
848.31	19.91	24.71	22.57

Note 1: The results are taken from the OTA measurements for the EUT install in the Dell host device. Measurements were taken in EIRP. Converted EIRP to ERP by subtracting 2.14dB from EIRP.

#### 4.1.5 EIRP Results 1900 MHz band:

Power Control Level	Burst Peak EIRP
0	≤33dBm (2W)

Frequency (MHz)	Effective Isotropic Radiated Power (dBm)
	EVDO - EIRP
1851.25	21.46
1880	18.61
1908.75	21.36



**RF OUTPUT POWER ( 1900 MHz band)  
CHANNEL 25**

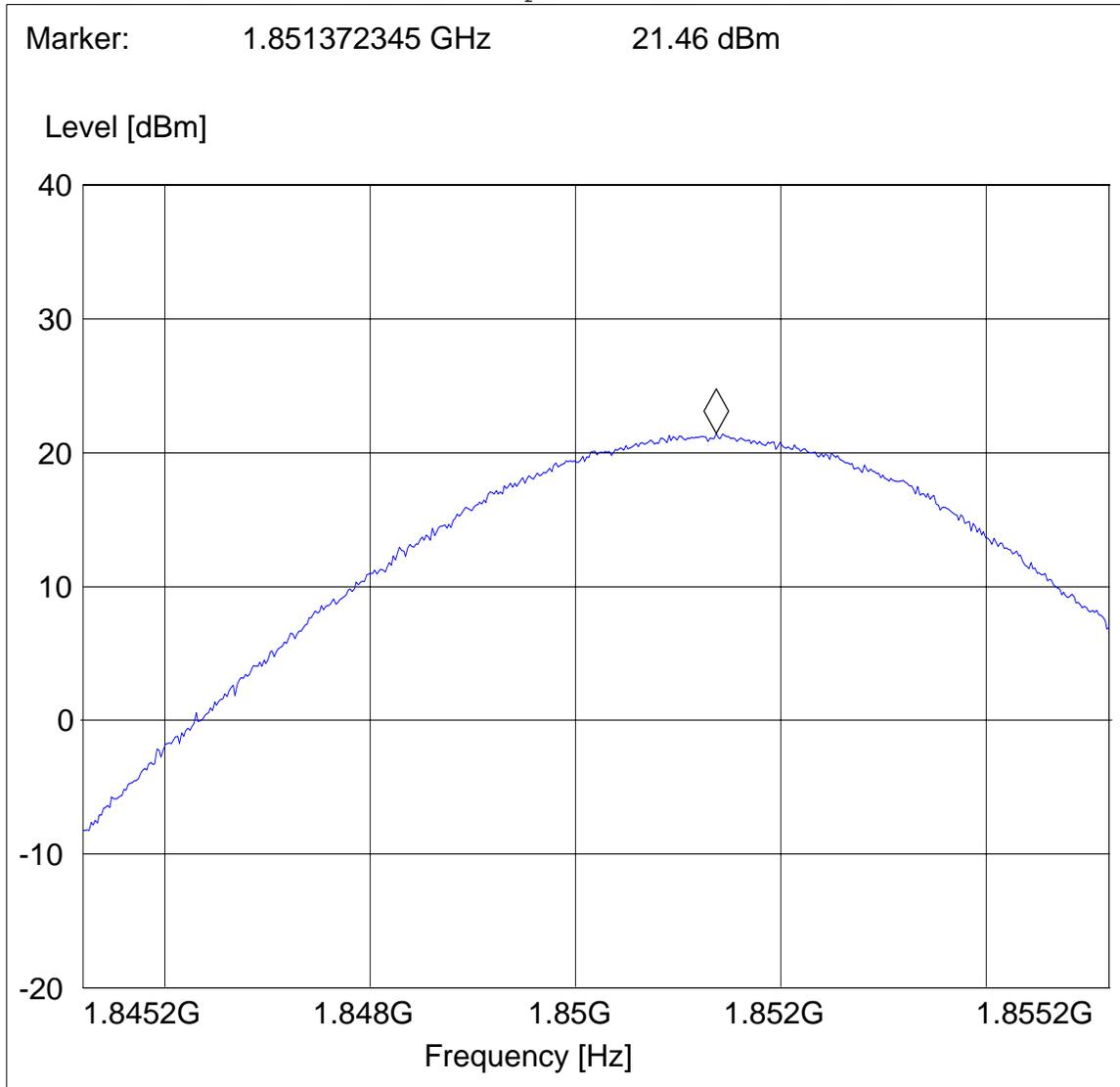
§24.232(b)(c) & RSS-133 (4.3) & (6.4)

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 1900, CH25  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@275

**SWEEP TABLE: "EIRP 1900 CH512"**

Short Description:		EIRP PCS 1900 for channel-512			
Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
1.8 GHz	1.9 GHz	MaxPeak	Coupled	3 MHz	DUMMY-DBM

Marker: 1.851372345 GHz 21.46 dBm





**RF OUTPUT POWER ( 1900 MHz band)  
CHANNEL 600**

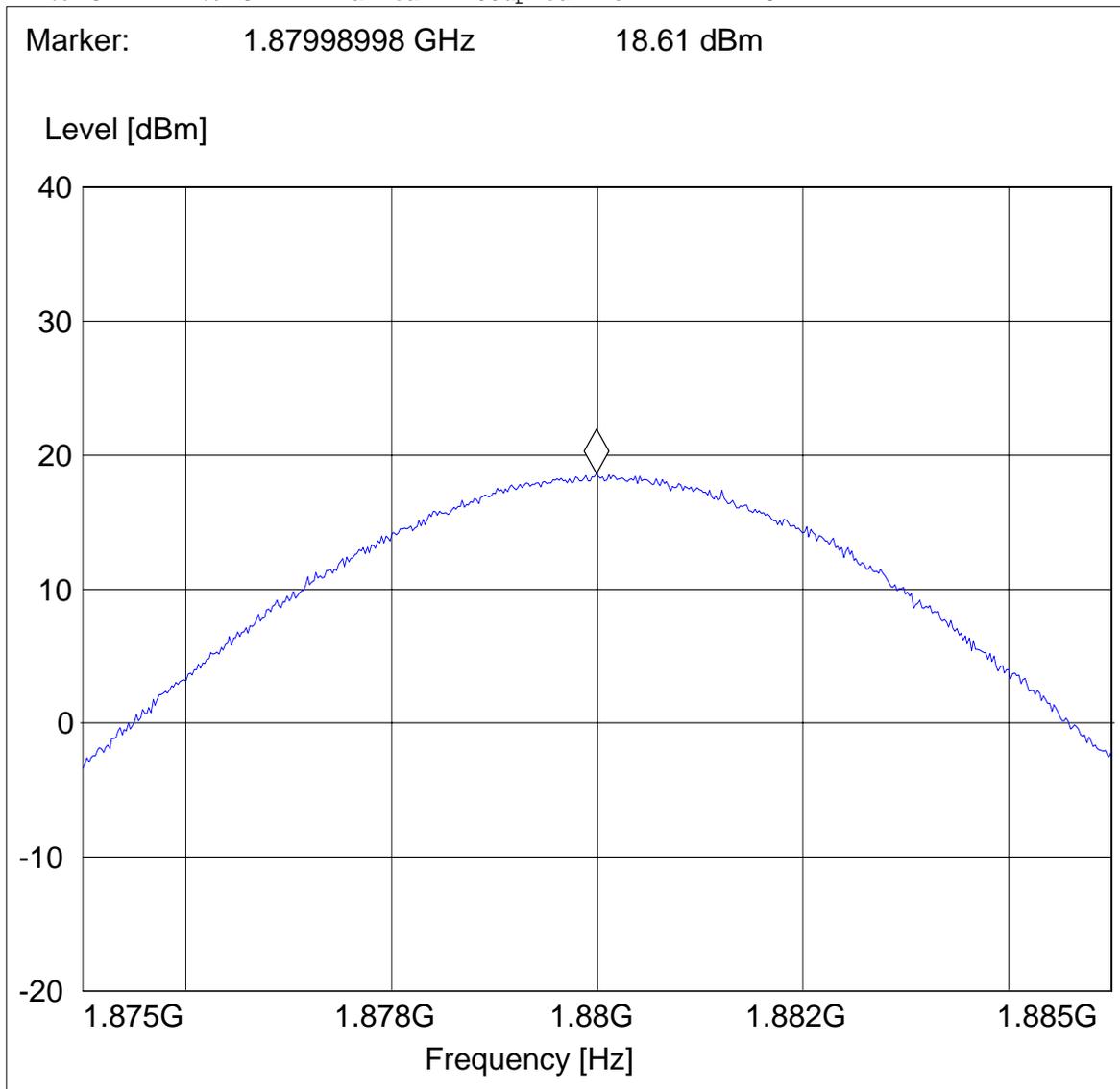
§24.232(b)(c) & RSS-133 (4.3) & (6.4)

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 1900, CH661  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@275

**SWEEP TABLE: "EIRP 1900 CH661"**

Short Description:		EIRP PCS 1900 for channel-661			
Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
1.9 GHz	1.9 GHz	MaxPeak	Coupled	3 MHz	DUMMY-DBM

Marker: 1.87998998 GHz 18.61 dBm





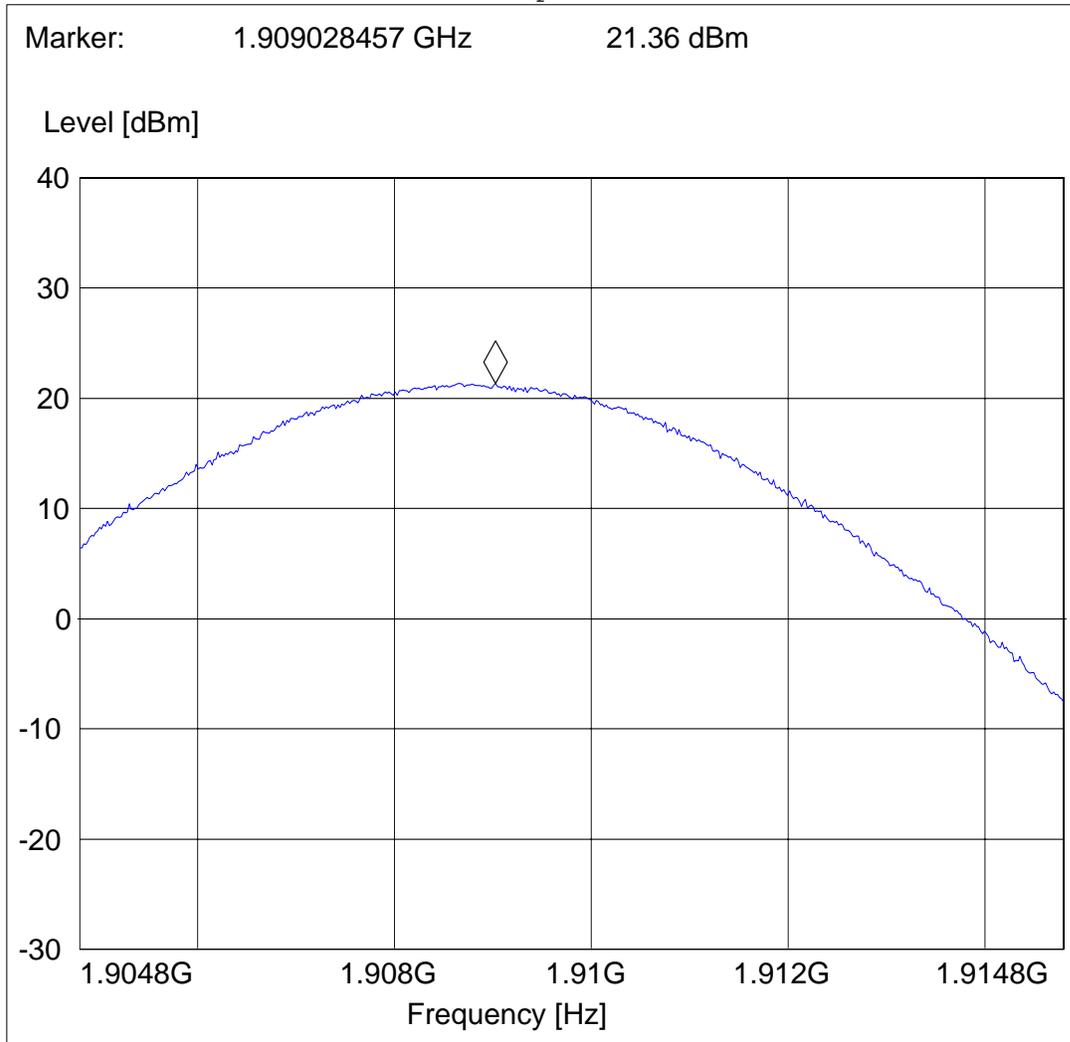
**RF OUTPUT POWER ( 1900 MHz band)  
CHANNEL 1175**

**§24.232(b)(c) & RSS-133 (4.3) & (6.4)**

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 1900, CH 1175  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@275

**SWEEP TABLE: "EIRP 1900 CH810"**

Short Description:		EIRP PCS 1900 for channel-810			
Start	Stop	Detector	Meas. Time	IF Bandw.	Transducer
1.9 GHz	1.9 GHz	MaxPeak	Coupled	3 MHz	DUMMY-DBM



#### **4.2 Occupied Bandwidth/Emission Bandwidth**

Refer to test report no. 06U10171-1C

#### **4.3 Frequency Stability**

Refer to test report no. 06U10171-1C

#### **4.4 Transmitter Spurious Emissions Conducted**

Refer to test report no. 06U10171-1C

## 4.5 Transmitter Spurious Emissions Radiated

### 4.5.1 FCC 2.1053 Measurements required: Field strength of spurious radiation.

- (a) Measurements shall be made to detect spurious emissions that may be radiated directly from the cabinet, control circuits, power leads or intermediate circuit elements under normal conditions of installation and operation. Curves or equivalent data shall be supplied showing the magnitude of each harmonic and other spurious emission.

### 4.5.2 Limits:

#### 4.5.2.1 §22.917 & RSS-129 (8.1.2) Emission limitations for cellular equipment.

The rules in this section govern the spectral characteristics of emissions in the Cellular Radiotelephone Service.

- (a) *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

(b) *Measurement procedure.* Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (*i.e.* 100 kHz of 1 percent of emission bandwidth, as specified). 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 below the transmitter power.

#### 4.5.2.2 §24.238 & RSS-133 (4.4) & (6.5) Emission limitations for Broadband PCS equipment.

The rules in this section govern the spectral characteristics of emissions in the Broadband Personal Communications Service.

- (a) *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

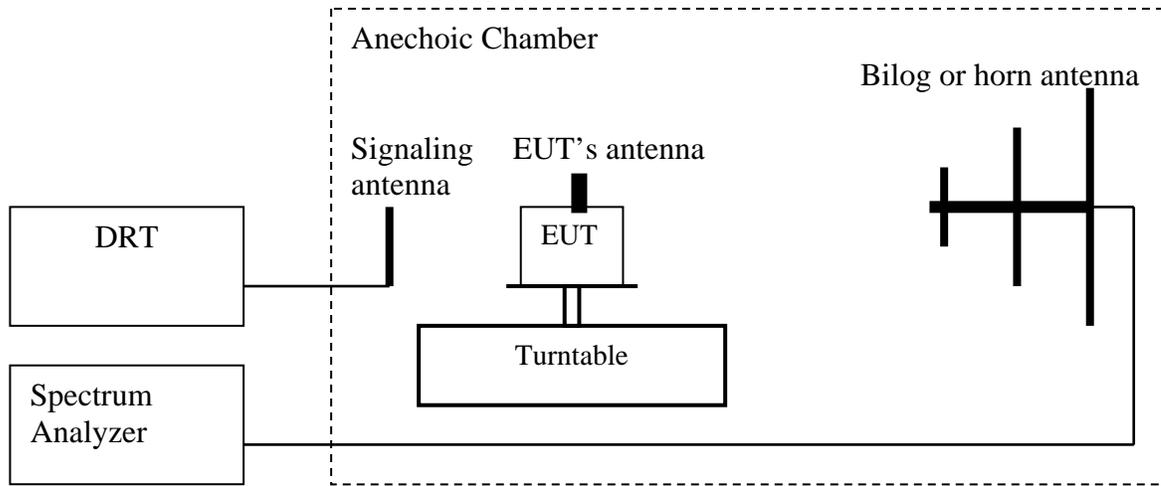
(b) *Measurement procedure.* Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required

measurement bandwidth (*i.e.* 100 kHz of 1 percent of emission bandwidth, as specified). 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 below the transmitter power.

#### 4.5.3 Radiated out of band measurement procedure:

##### Based on TIA-603C 2004

##### 2.2.12 Unwanted emissions: Radiated Spurious



1. Connect the equipment as shown in the above diagram with the EUT's antenna in a horizontal orientation.
2. Adjust the settings of the Digital Radiocommunication Tester (DRT) to set the EUT to its maximum power at the required channel.
3. Set the spectrum analyzer to measure peak hold with the required settings.
4. Place the measurement antenna in a horizontal orientation. Rotate the EUT 360°. Raise the measurement antenna up to 4 meters in 0.5 meters increments and rotate the EUT 360° at each height to maximize all emissions. Measure and record all spurious emissions (LVL) up to the tenth harmonic of the carrier frequency.
5. Replace the EUT with a horizontally polarized half wave dipole or known gain antenna. The center of the antenna should be at the same location as the center of the EUT's antenna.
6. Connect the antenna to a signal generator with known output power and record the path loss in dB (**LOSS**). **LOSS** = Generator Output Power (dBm) – Analyzer reading (dBm).
7. Determine the level of spurious emissions using the following equation:  
**Spurious** (dBm) = **LVL** (dBm) + **LOSS** (dB):
8. Repeat steps 4, 5 and 6 with all antennas vertically polarized.
9. Determine the level of spurious emissions using the following equation:  
**Spurious** (dBm) = **LVL** (dBm) + **LOSS** (dB):
10. Measurements are to be performed with the EUT set to the low, middle and high channel of each frequency band.

(**note:** Steps 5 and 6 above are performed prior to testing and **LOSS** is recorded by test software. Steps 3, 4 and 7 above are performed with test software.)

**Spectrum analyzer settings:**

Res B/W: 1 MHz

Vid B/W: 1 MHz

**Measurement Survey:**

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of the 850 & 1900 MHz bands. It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of 850 & 1900 MHz bands into any of the other blocks respectively. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this.

#### 4.5.4 Radiated out of band emissions results on EUT:

##### 4.5.4.1 RESULTS OF RADIATED TESTS 850 MHz band:

Harmonics	Tx ch-1013 Freq. (MHz)	Level (dBm)	Tx ch-384 Freq. (MHz)	Level (dBm)	Tx ch-777 Freq. (MHz)	Level (dBm)
2	1649.4	NF	1673.04	NF	1696.62	NF
3	2474.1	NF	2509.56	NF	2544.93	NF
4	3298.8	NF	3346.08	NF	3393.24	NF
5	4123.5	NF	4182.6	NF	4241.55	NF
6	4948.2	NF	5019.12	NF	5089.86	NF
7	5772.9	NF	5855.64	NF	5938.17	NF
8	6597.6	NF	6692.16	NF	6786.48	NF
9	7422.3	NF	7528.68	NF	7634.79	NF
10	8247	NF	8365.2	NF	8483.1	NF
NF = NOISE FLOOR						



**4.5.4.2 RADIATED SPURIOUS EMISSIONS (850 MHz band)**

**TX: 30MHz - 1GHz**

Spurious emission limit -13dBm

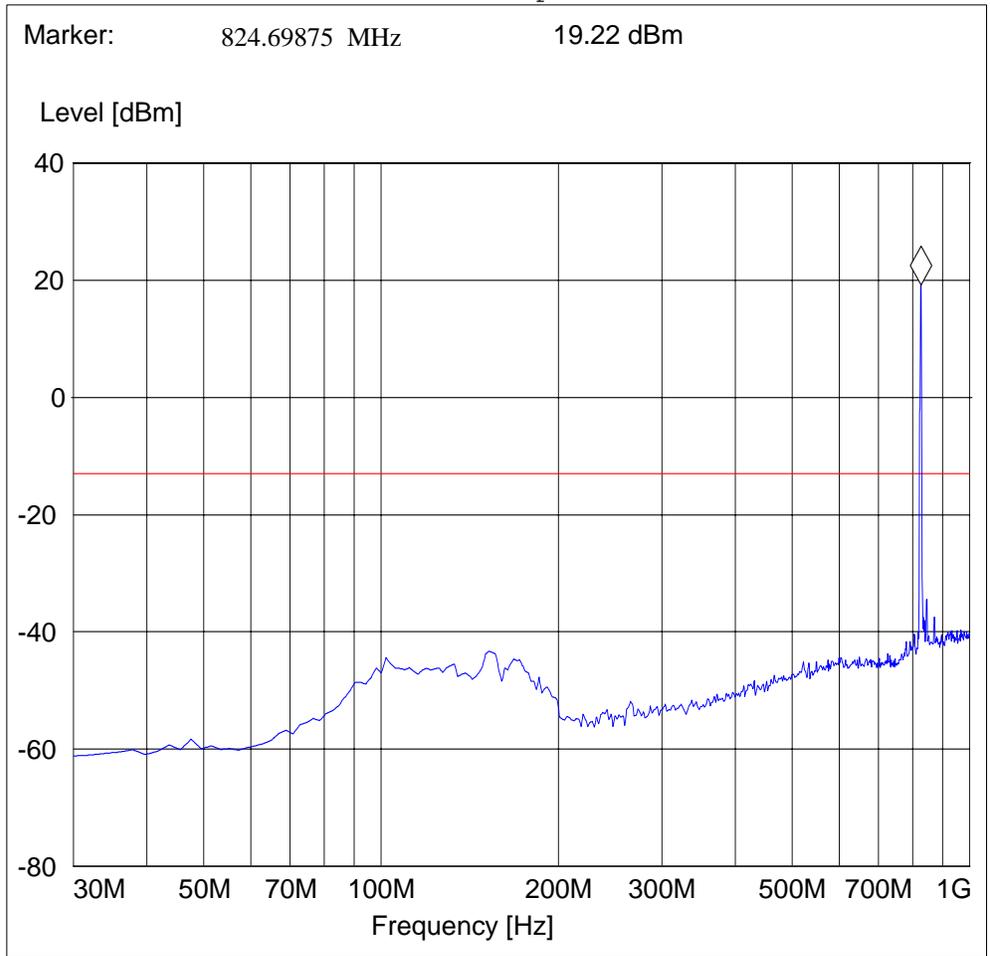
**Note:**

1. The peak above the limit line is the carrier freq.
2. This plot is valid for low, mid & high channels (worst-case plot)

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 850, CH1013  
 ANT Orientation: V  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT@237 MARKER PLACED ON UPLINK

**SWEEP TABLE: "FCC 22 Spur 30M-1G\_V"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	1 MHz	DUMMY-DBM





**TX: 30MHz - 1GHz**

Spurious emission limit -13dBm

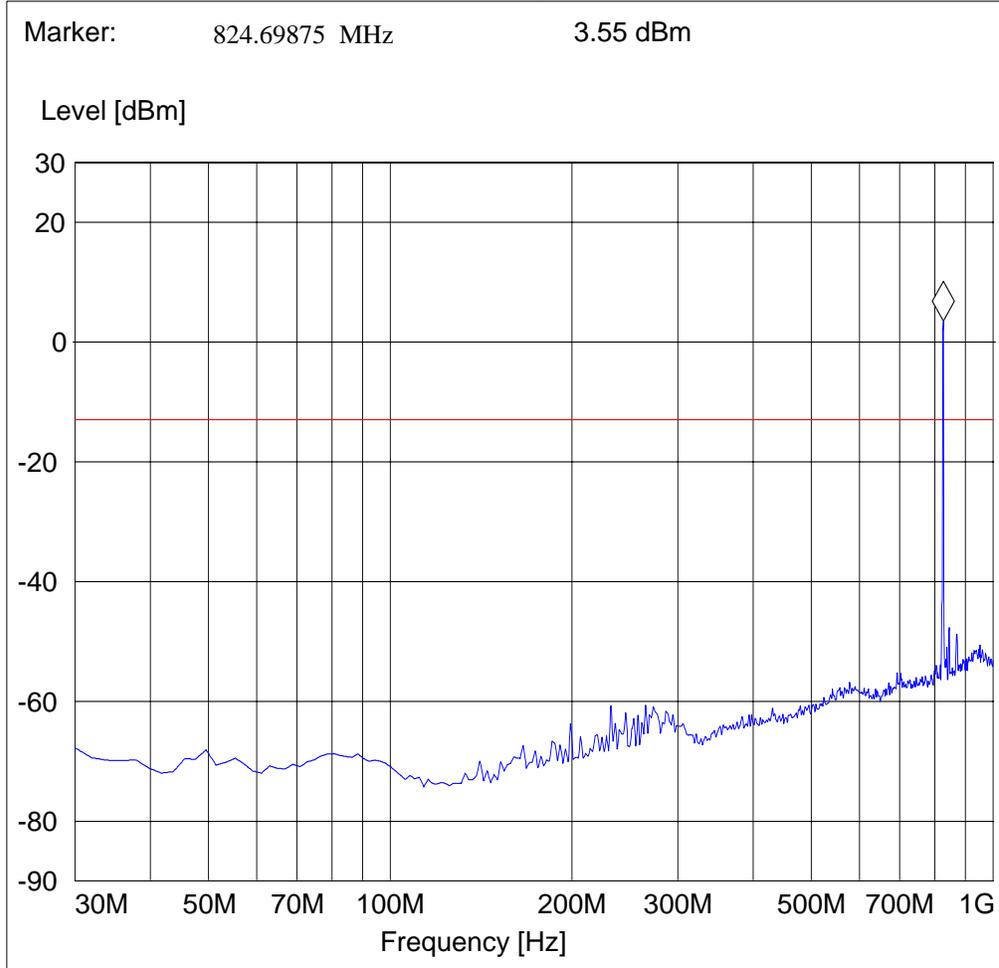
**Note:**

- 1. The peak above the limit line is the carrier freq.
- 2. This plot is valid for low, mid & high channels (worst-case plot)

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 850, CH1013  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@237 MARKER PLACED ON UPLINK

**SWEEP TABLE: "FCC 22 Spur 30M-1G\_H"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS (850 MHz band)**

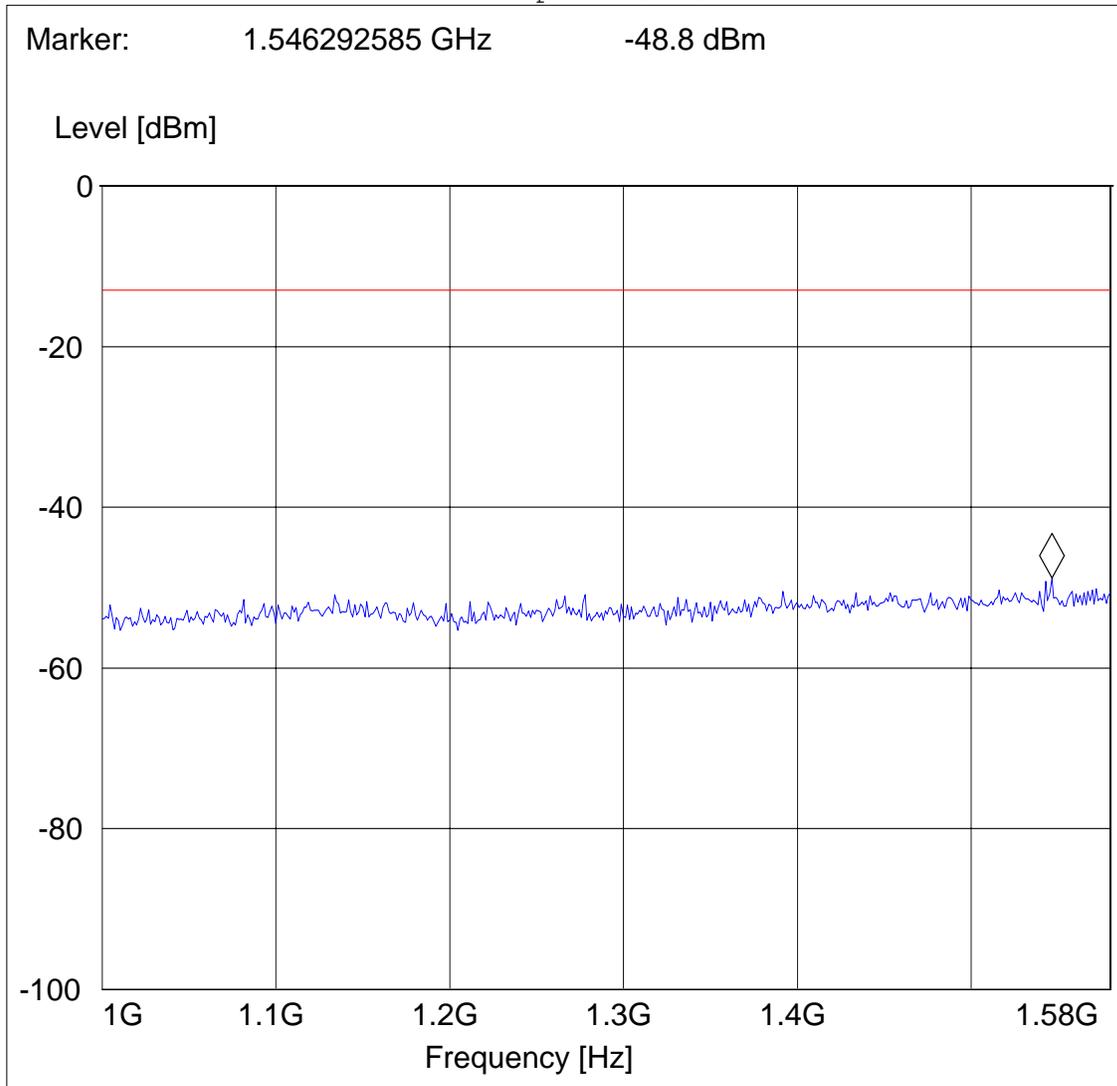
**Tx @ 824.70MHz: 1GHz – 1.58GHz**

Spurious emission limit -13dBm

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 850, CH 1013  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@237

**SWEEP TABLE: "FCC 22Spuri 1-1.58G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	1.6 GHz	MaxPeak	Coupled	1 MHz	DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS (850 MHz band)**

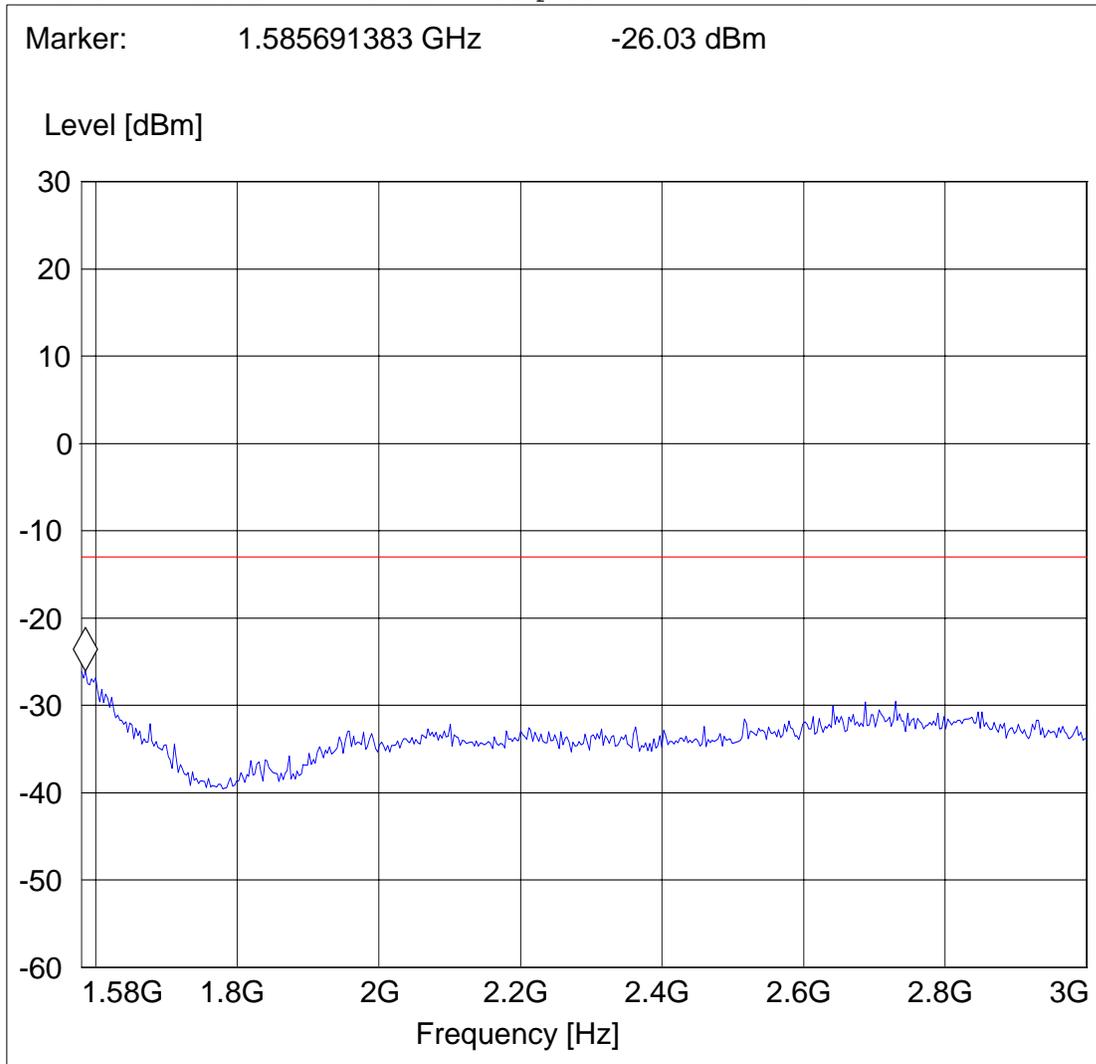
**Tx @ 824.70MHz: 1.58GHz – 3GHz**

Spurious emission limit –13dBm

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 850, CH1013  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@237

**SWEEP TABLE: "FCC 22Spuri 1.58-3G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.6 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS (850 MHz band)**

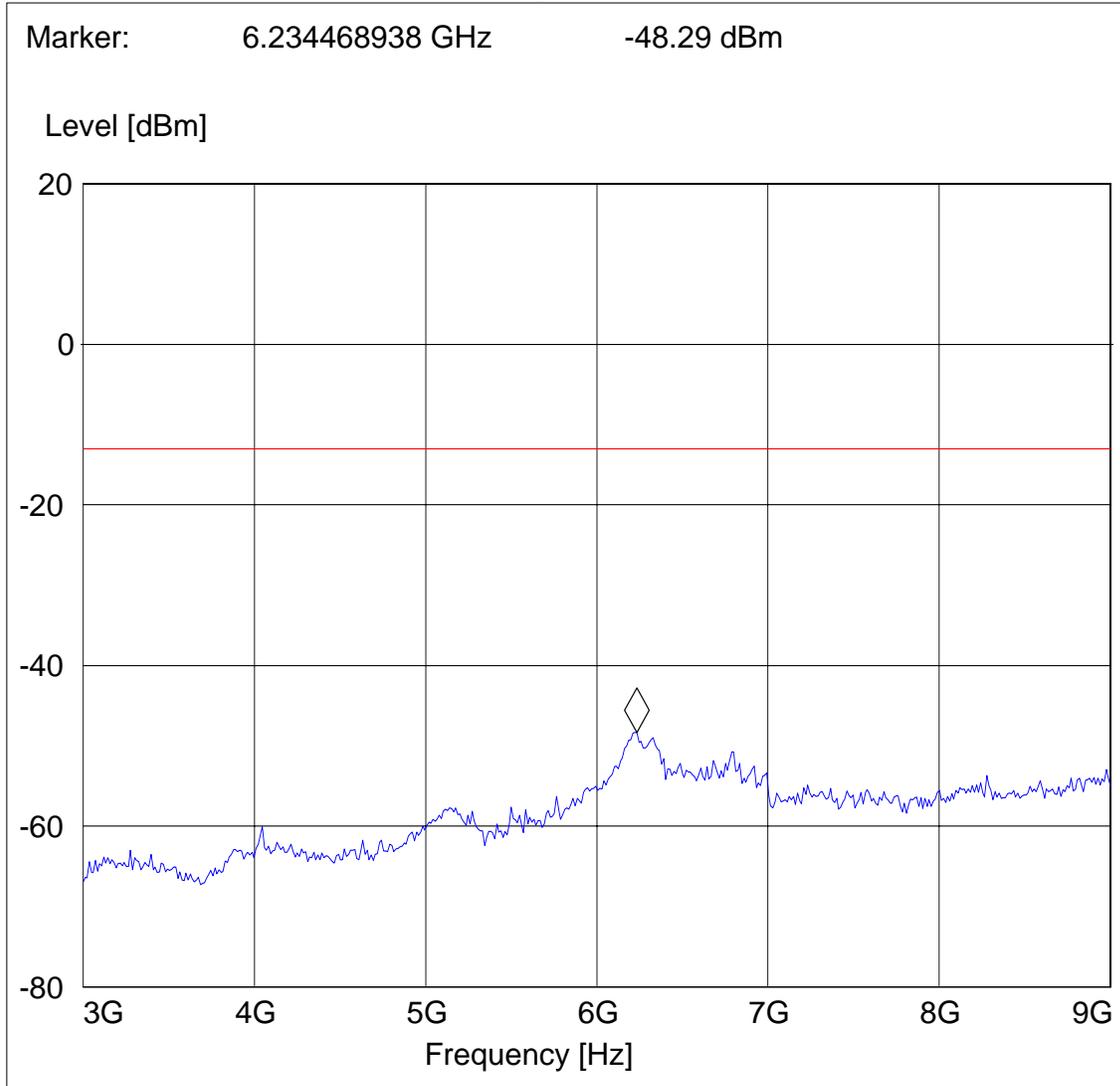
**Tx @ 824.70MHz: 3GHz – 9GHz**

Spurious emission limit –13dBm

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 850, CH1013  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@237

**SWEEP TABLE: "FCC 22Spuri 3-9G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
3.0 GHz	9.0 GHz	MaxPeak	Coupled	1 MHz	DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS (850 MHz band)**

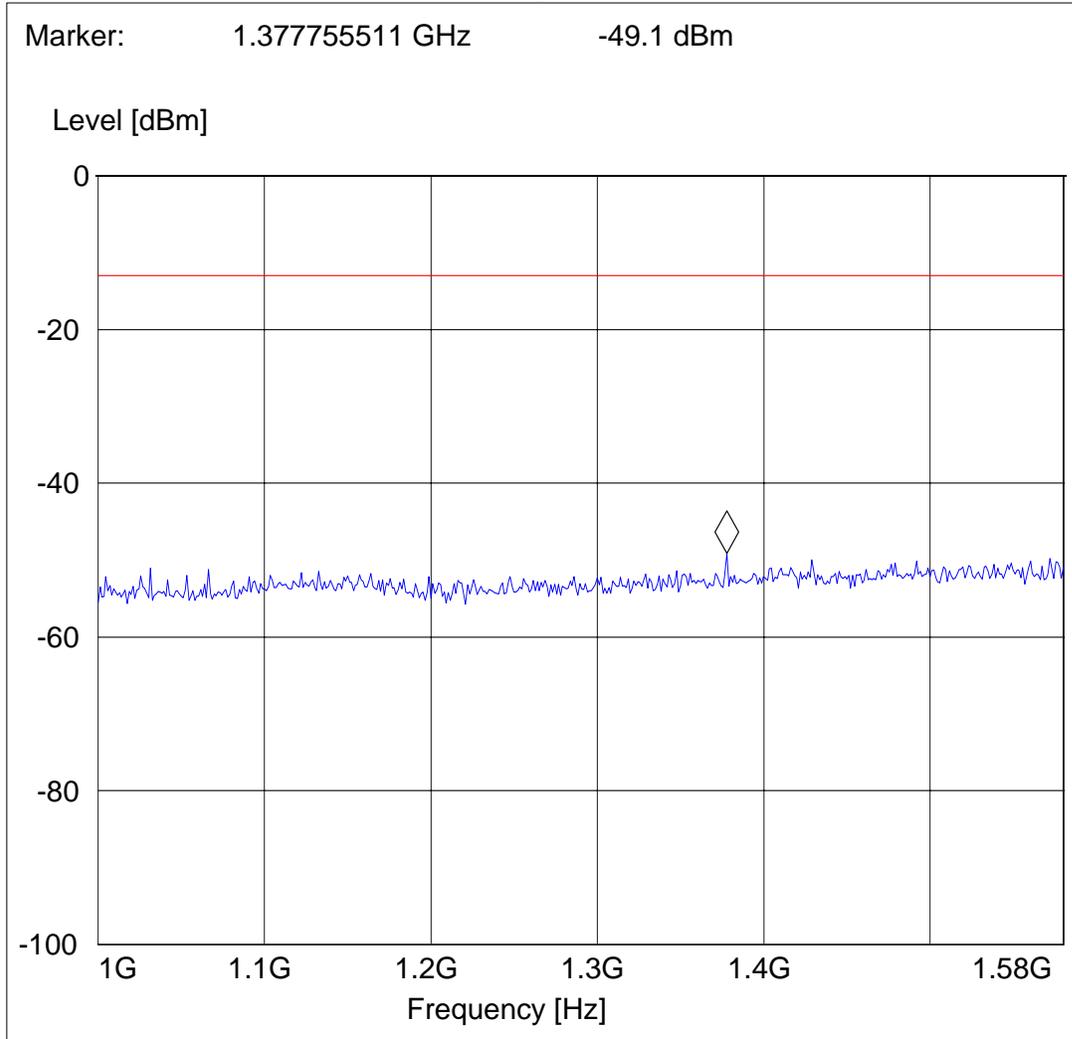
**Tx @ 836.5MHz: 1GHz – 1.58GHz**

Spurious emission limit –13dBm

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 850, CH384  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT@237

***SWEEP TABLE: "FCC 22Spuri 1-1.58G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	1.6 GHz	MaxPeak	Coupled	1 MHz	DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS (850 MHz band)**

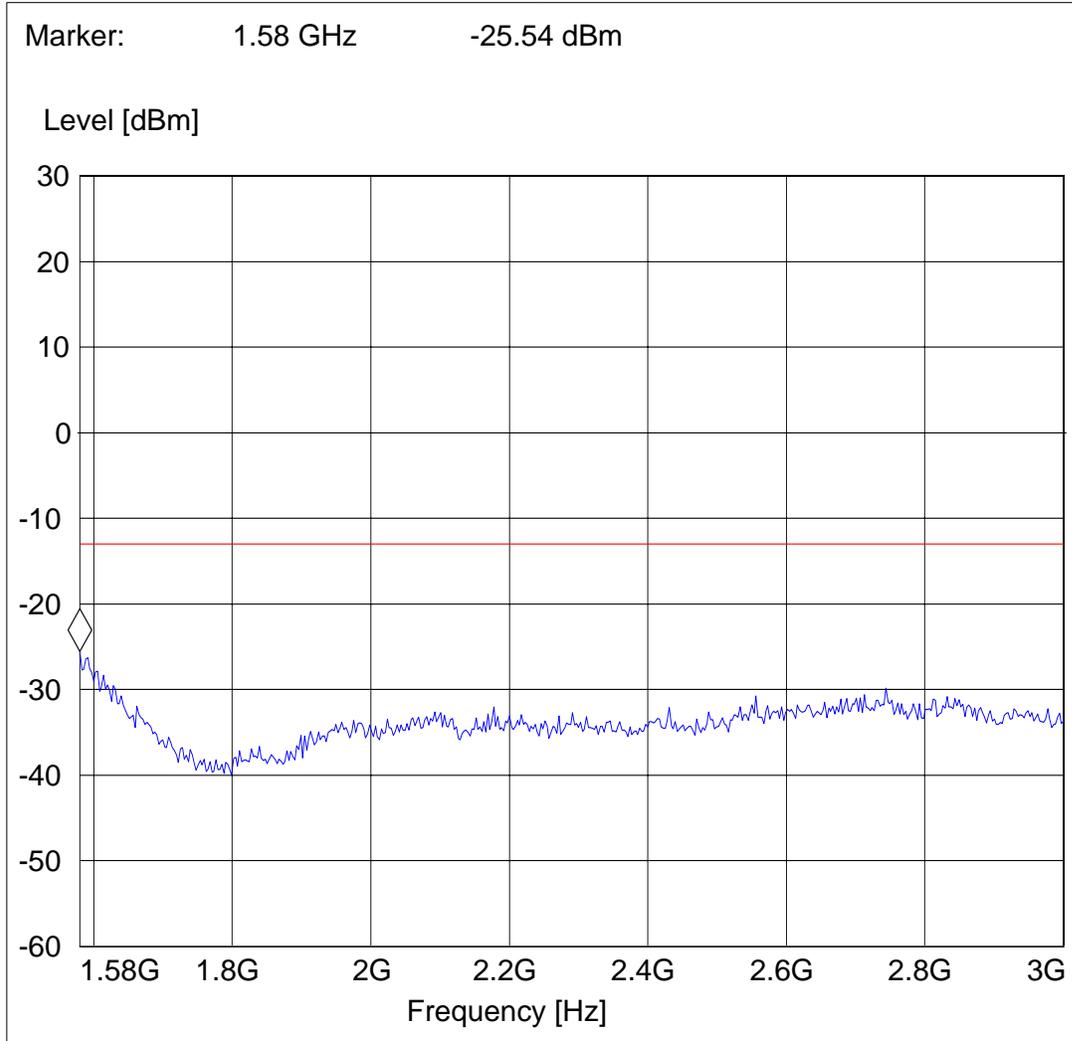
**Tx @ 836.5MHz: 1.58GHz – 3GHz**

Spurious emission limit –13dBm

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 850, CH384  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@237

**SWEEP TABLE: "FCC 22Spuri 1.58-3G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.6 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS (850 MHz band)**

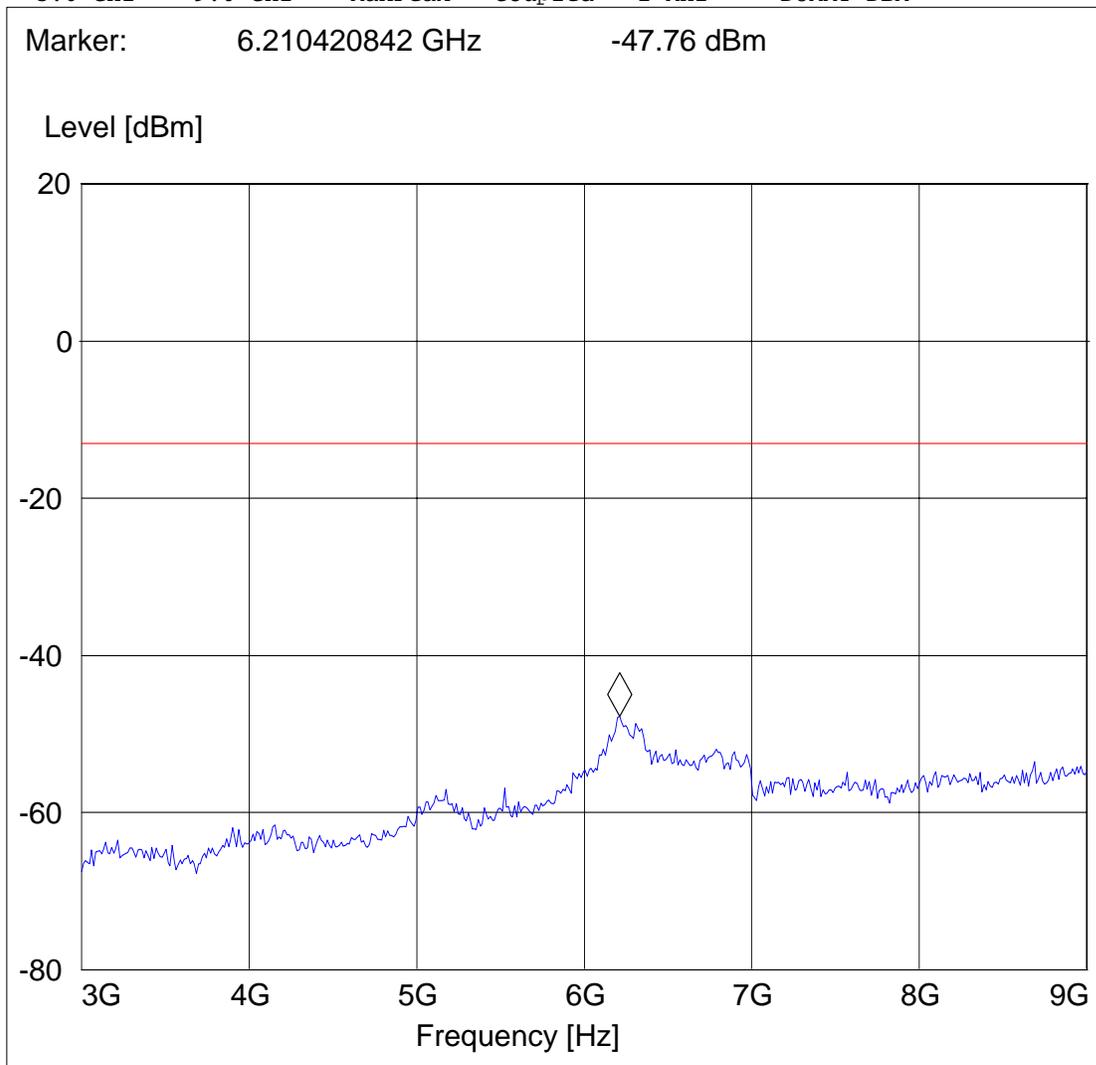
**Tx @ 836.5MHz: 3GHz – 9GHz**

Spurious emission limit –13dBm

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 850, CH384  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT@237

**SWEEP TABLE: "FCC 22Spuri 3-9G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
3.0 GHz	9.0 GHz	MaxPeak	Coupled	1 MHz	DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS ( 850 MHz band)**

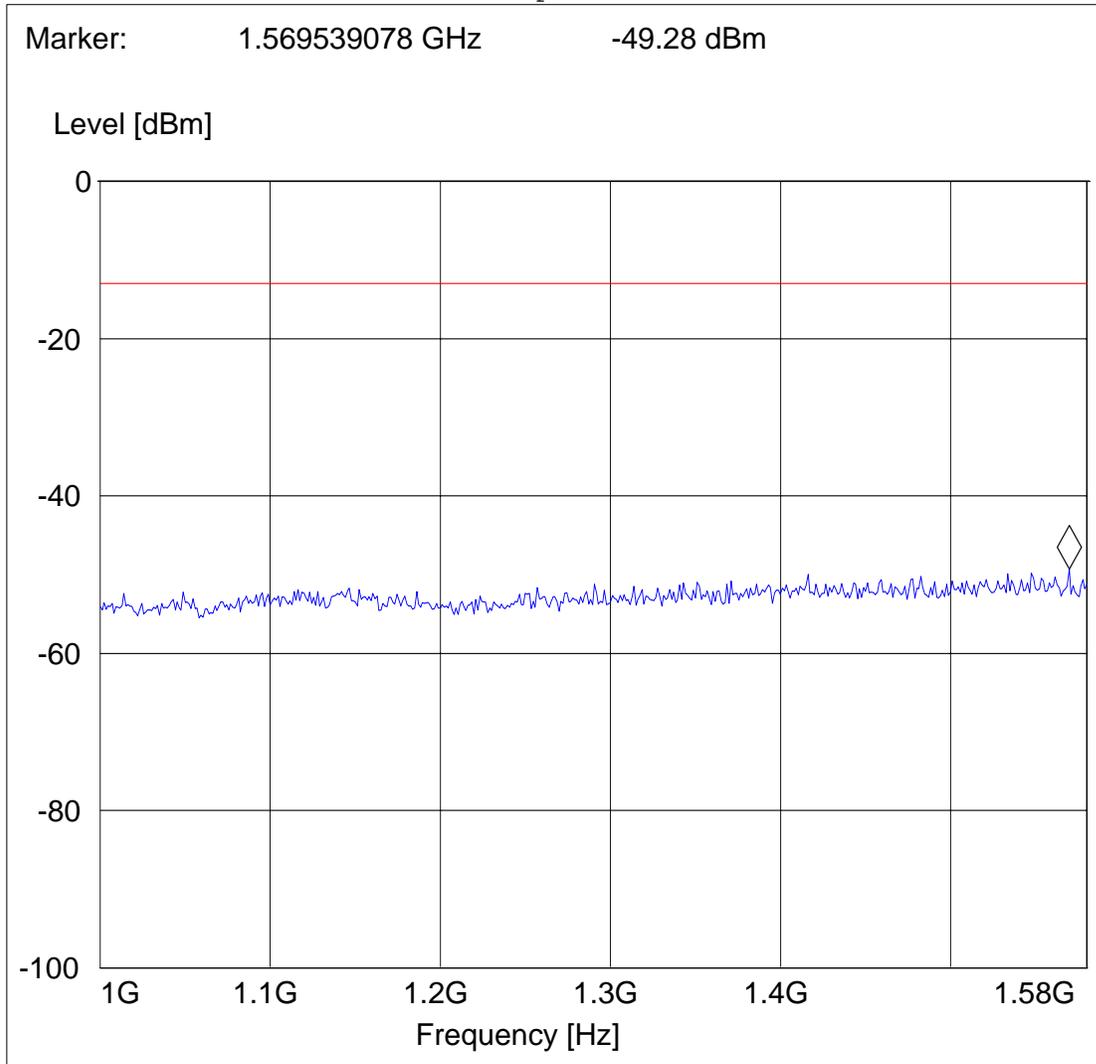
**Tx @ 848.31 MHz: 1GHz – 1.58GHz**

Spurious emission limit –13dBm

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 850, CH777  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@237

**SWEEP TABLE: "FCC 22Spuri 1-1.58G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	1.6 GHz	MaxPeak	Coupled	1 MHz	DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS (850 MHz band)**

**Tx @ 848.31 MHz: 1.58GHz – 3GHz**

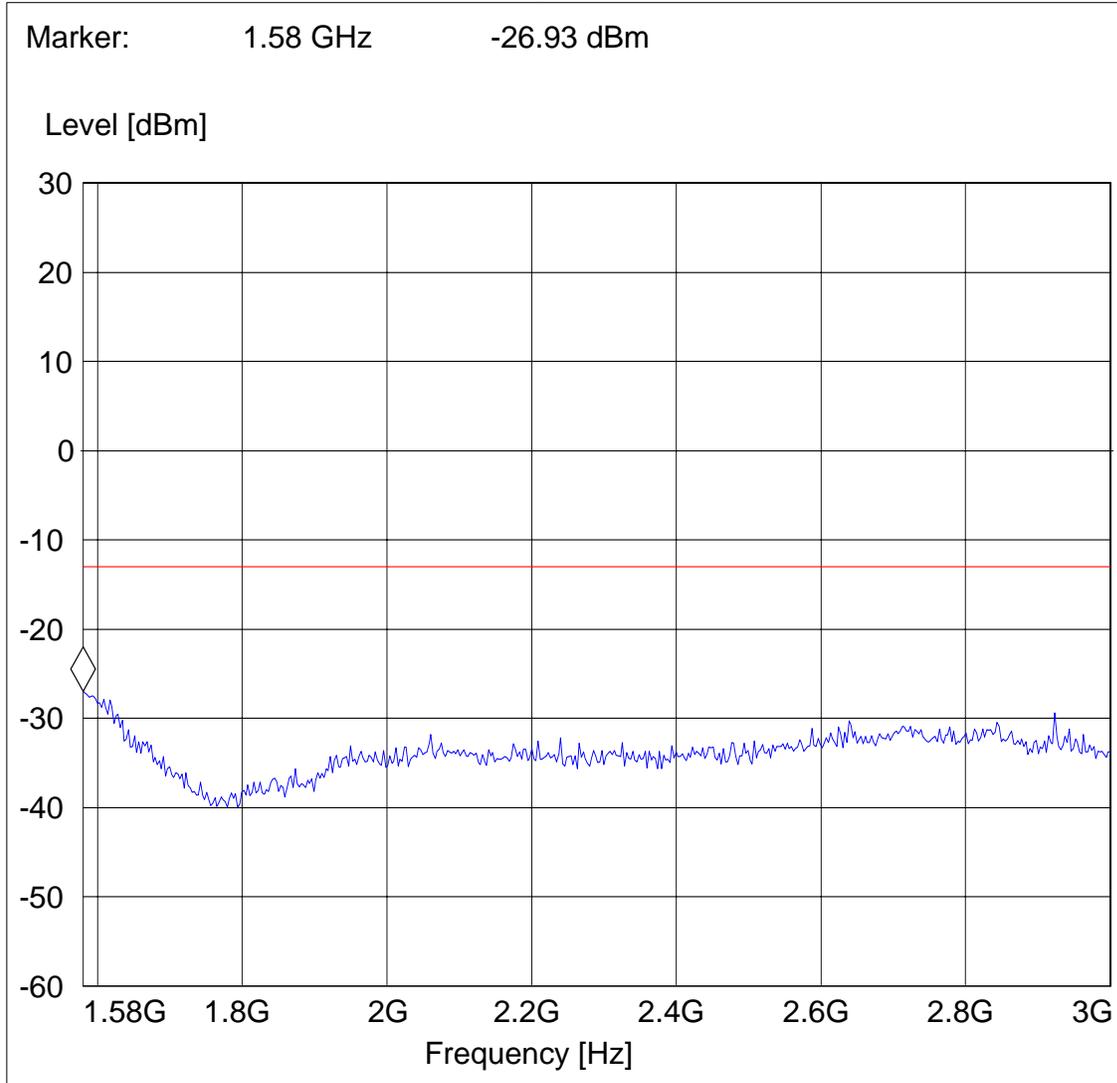
Spurious emission limit –13dBm

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 850, CH777  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT@237

**SWEEP TABLE: "FCC 22Spuri 1.58-3G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.6 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	DUMMY-DBM

Marker: 1.58 GHz -26.93 dBm





**RADIATED SPURIOUS EMISSIONS ( 850 MHz band)**

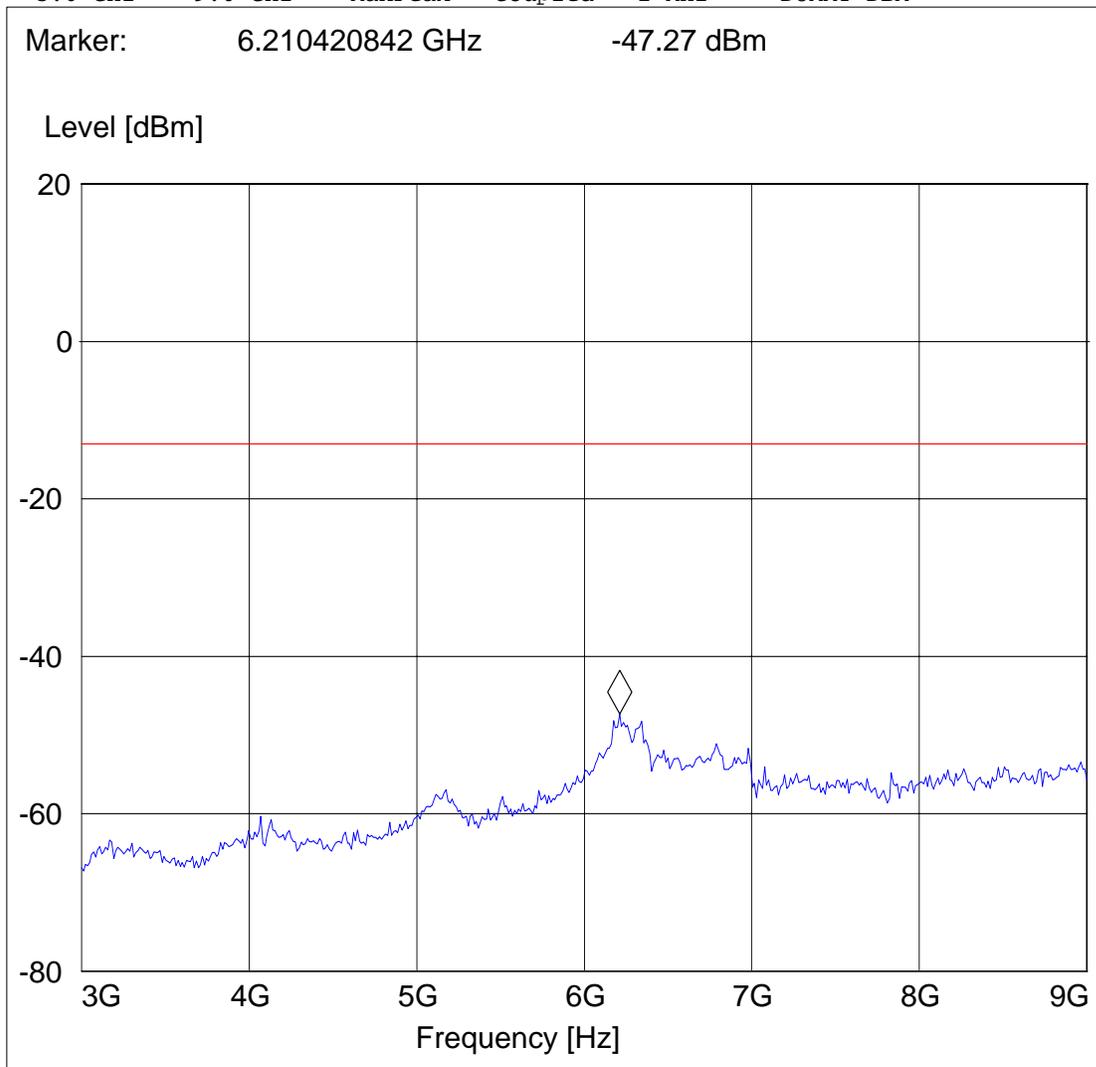
**Tx @ 848.31 MHz: 3GHz – 9GHz**

Spurious emission limit –13dBm

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 850, CH777  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@237

**SWEEP TABLE: "FCC 22Spuri 3-9G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
3.0 GHz	9.0 GHz	MaxPeak	Coupled	1 MHz	DUMMY-DBM



**4.5.4.3 RESULTS OF RADIATED TESTS 1900 MHz band:**

Harmonic	Tx ch-25 Freq.(MHz)	Level (dBm)	Tx ch-600 Freq. (MHz)	Level (dBm)	Tx ch-1175 Freq. (MHz)	Level (dBm)
2	3702.5	NF	3760	NF	3817.5	NF
3	5553.75	NF	5640	NF	5726.25	NF
4	7405	NF	7520	NF	7635	NF
5	9256.25	NF	9400	NF	9543.75	NF
6	11107.5	NF	11280	NF	11452.5	NF
7	12958.75	NF	13160	NF	13361.25	NF
8	14810	NF	15040	NF	15270	NF
9	16661.25	NF	16920	NF	17178.75	NF
10	18512.5	NF	18800	NF	19087.5	NF
NF = NOISE FLOOR						



4.5.4.4 RADIATED SPURIOUS EMISSIONS ( 1900 MHz band)

TX: 30MHz - 1GHz

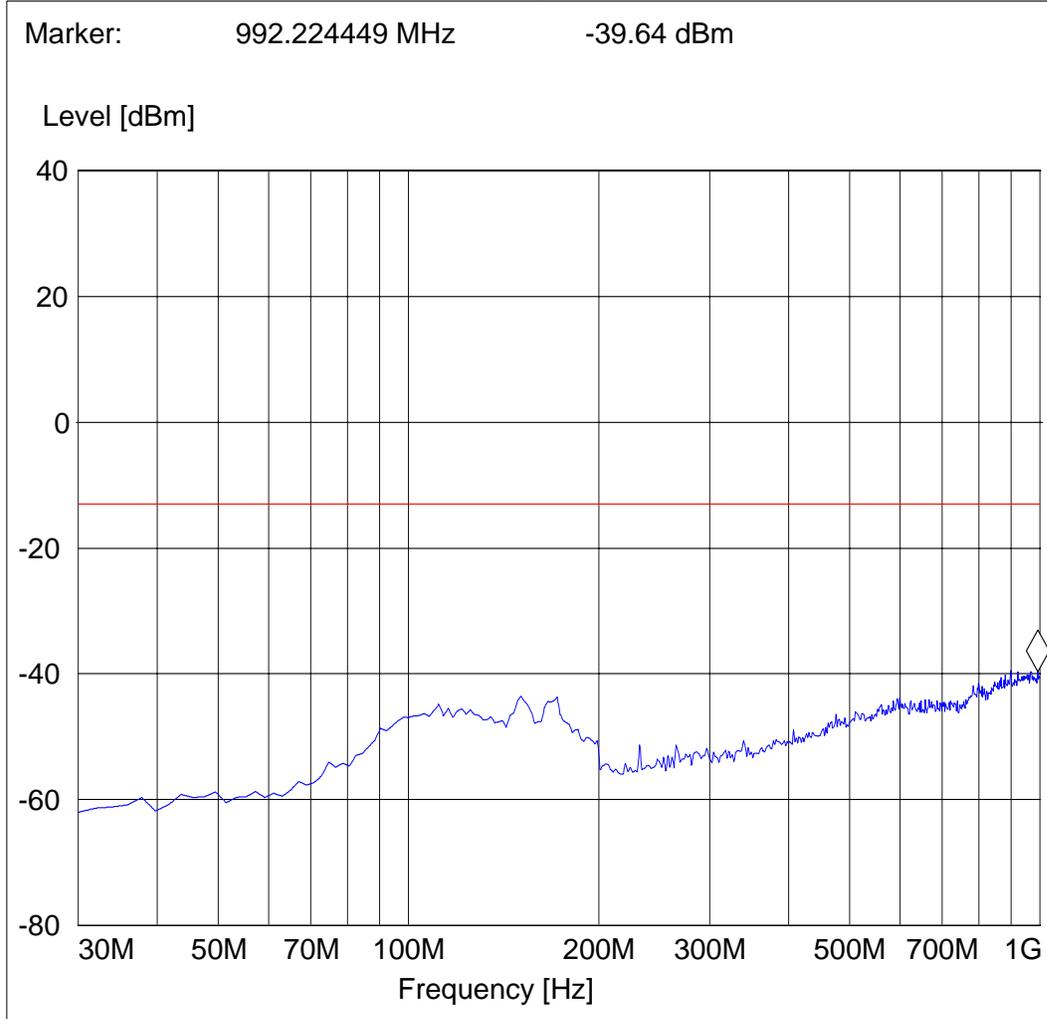
Spurious emission limit -13dBm

Note: This plot is valid for low, mid & high channels (worst-case plot)

EUT: OMNI ACCESS 3500
Customer: ALCATEL LUCENT
Test Mode: EV-DO 1900,CH25
ANT Orientation: V
EUT Orientation: H
Test Engineer: SAM
Power Supply: AC ADAPTER+DELL LAPTOP
Comments: TT@275

SWEEP TABLE: "FCC 24 Spur 30M-1G\_V"

Table with 6 columns: Start Frequency, Stop Frequency, Detector, Meas. Time, IF Bandw., Transducer. Row 1: 30.0 MHz, 1.0 GHz, MaxPeak, Coupled, 1 MHz, DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS ( 1900 MHz band)**

**TX: 30MHz - 1GHz**

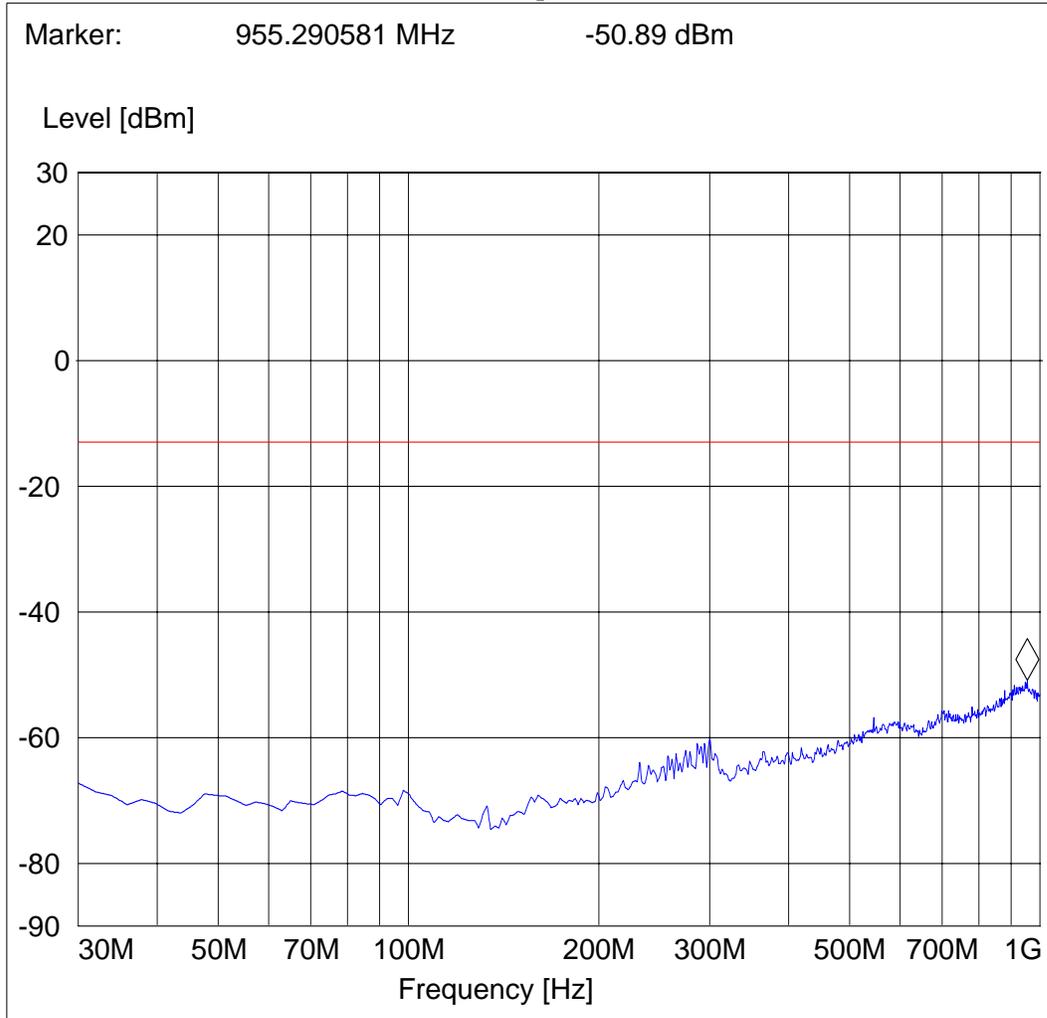
Spurious emission limit -13dBm

**Note: This plot is valid for low, mid & high channels (worst-case plot)**

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 1900,CH25  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT@275

**SWEEP TABLE: "FCC 24 Spur 30M-1G\_H"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS (1900 MHz band)**

**Tx @ 1851.25 MHz: 1GHz – 3GHz**

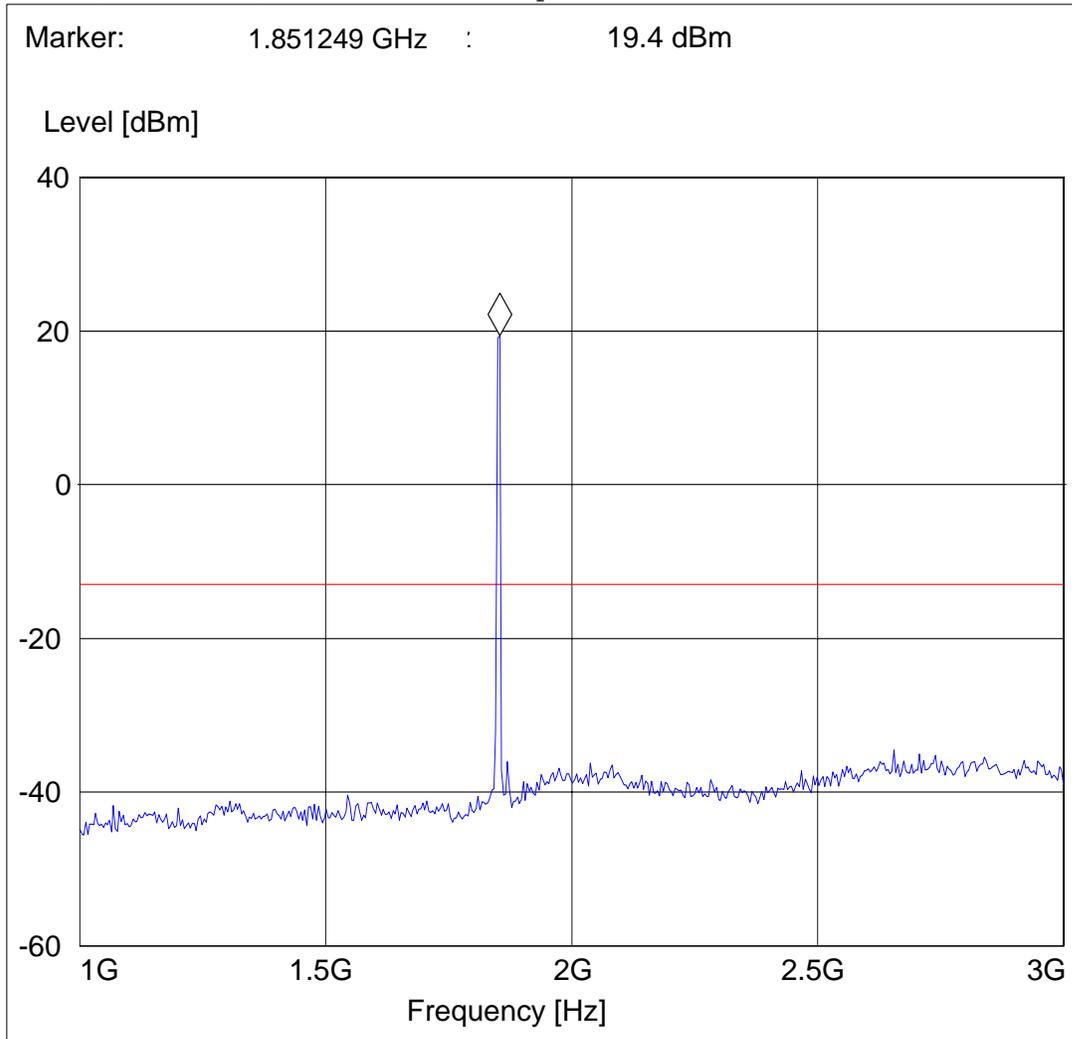
Spurious emission limit -13dBm

**Note: The peak above the limit line is the carrier freq. at ch-25.**

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 1900,CH25  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT@275 MARKER PLACED ON UPLINK

**SWEEP TABLE: "FCC 24Spuri 1-3G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS (1900 MHz band)**

**Tx @ 1851.25 MHz: 3GHz – 18GHz**

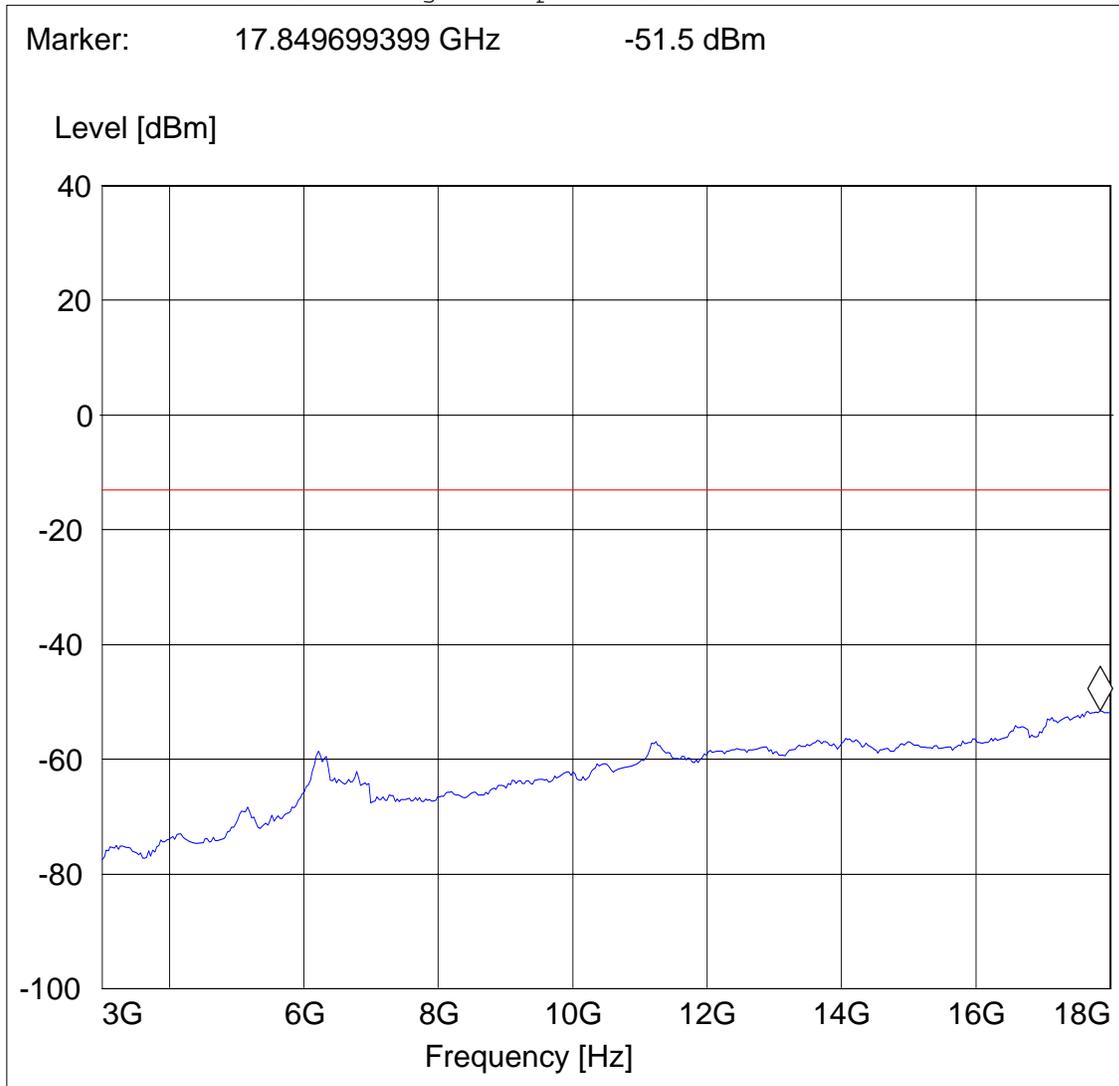
Spurious emission limit -13dBm

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 1900,CH25  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@275

**SWEEP TABLE: "FCC 24Spuri 3-18G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
3.0 GHz	18.0 GHz	Average	Coupled	1 MHz	DUMMY-DBM

Marker: 17.849699399 GHz -51.5 dBm





**RADIATED SPURIOUS EMISSIONS (1900 MHz band)**

**Tx @ 1851.25 MHz: 18GHz – 19GHz**

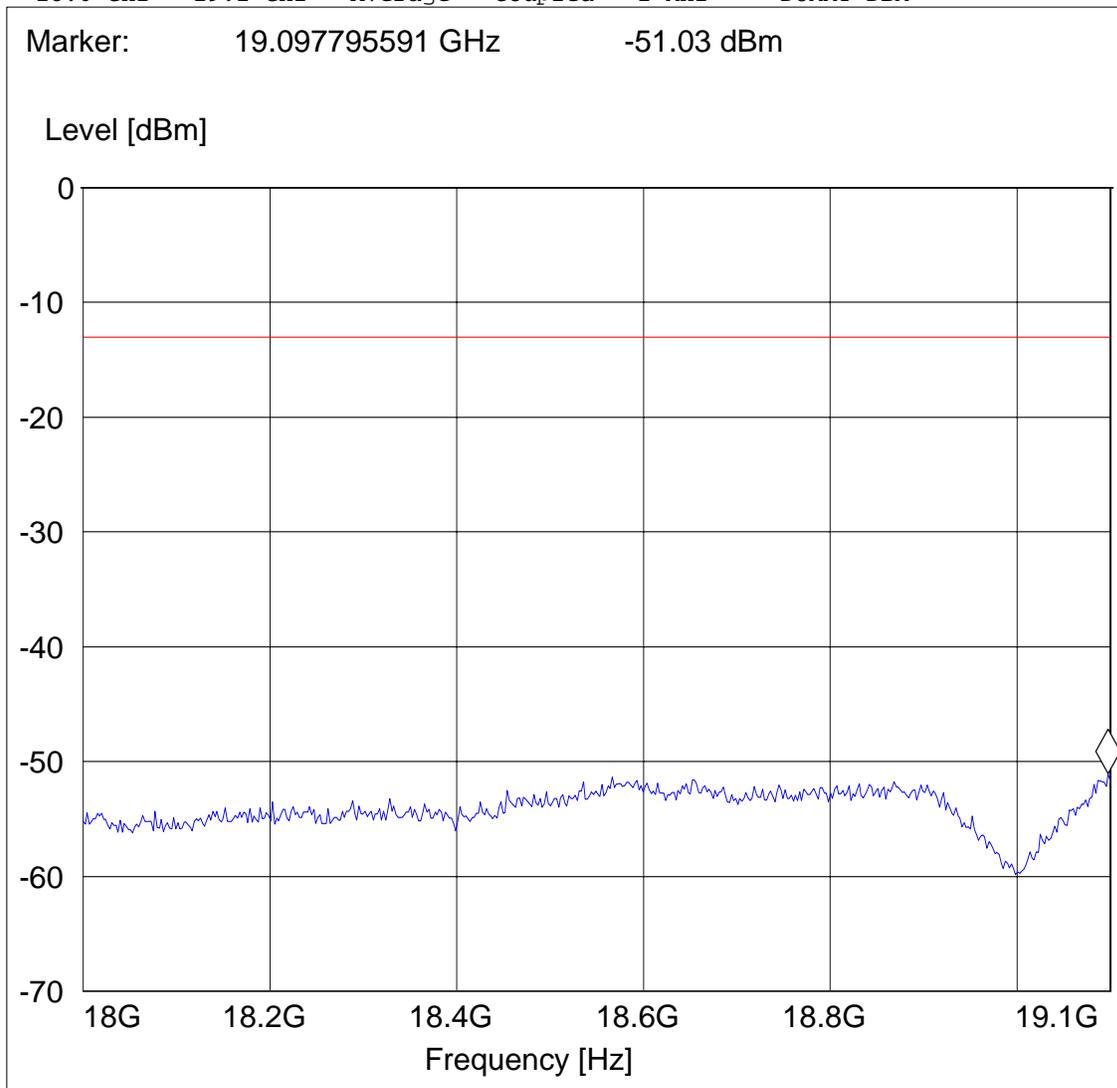
Spurious emission limit -13dBm

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 1900,CH25  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT@275

**SWEEP TABLE: "FCC 24spuri 18-19.1G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
18.0 GHz	19.1 GHz	Average	Coupled	1 MHz	DUMMY-DBM

Marker: 19.09779591 GHz -51.03 dBm





**RADIATED SPURIOUS EMISSIONS (1900 MHz band)**

**Tx @ 1880.0MHz: 1GHz – 3GHz**

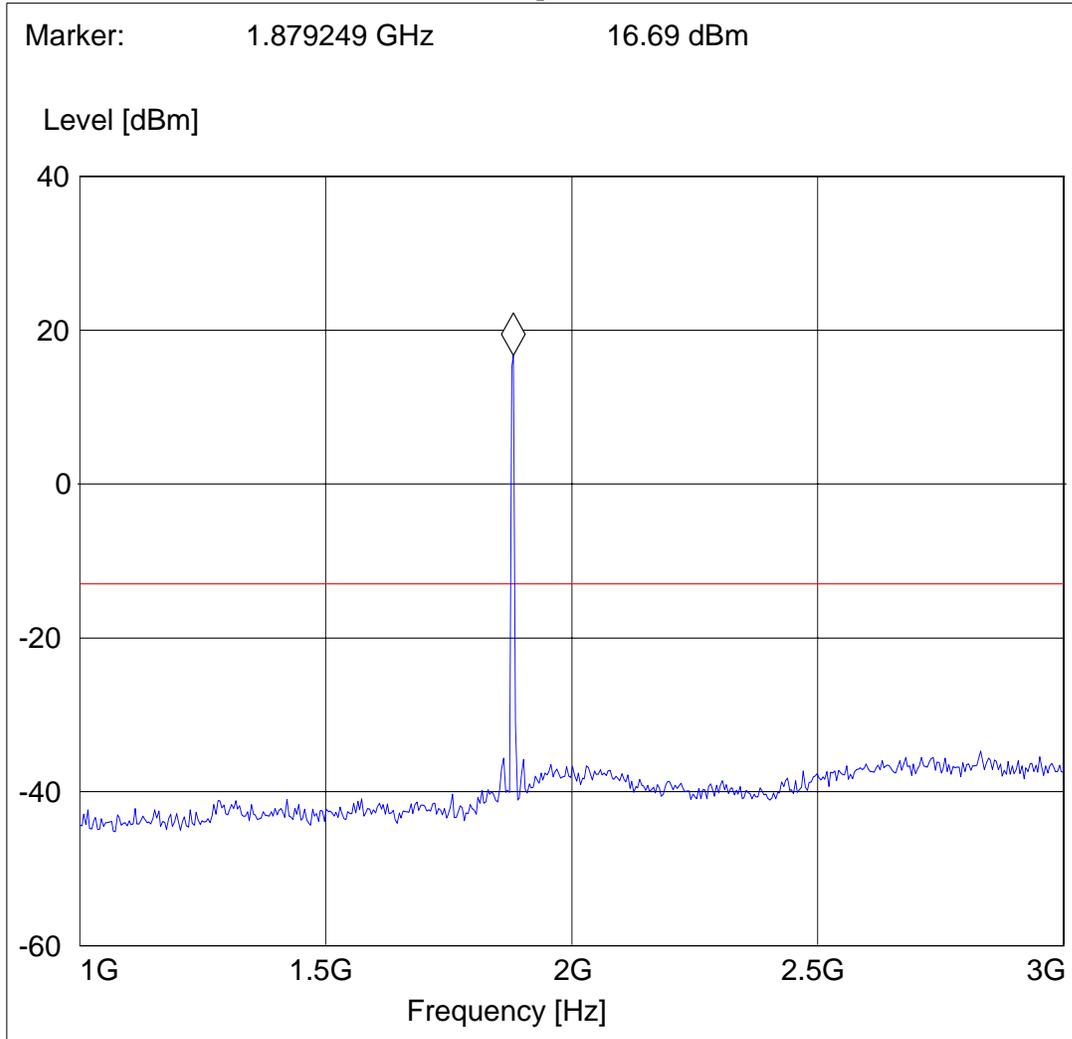
Spurious emission limit –13dBm

**Note: The peak above/close to the limit line is the carrier freq. at ch-660.**

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 1900,CH600  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT@275 MARKER PLACED ON UPLINK

**SWEEP TABLE: "FCC 24Spuri 1-3G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS (1900 MHz band)**

**Tx @ 1880.0MHz: 3GHz – 18GHz**

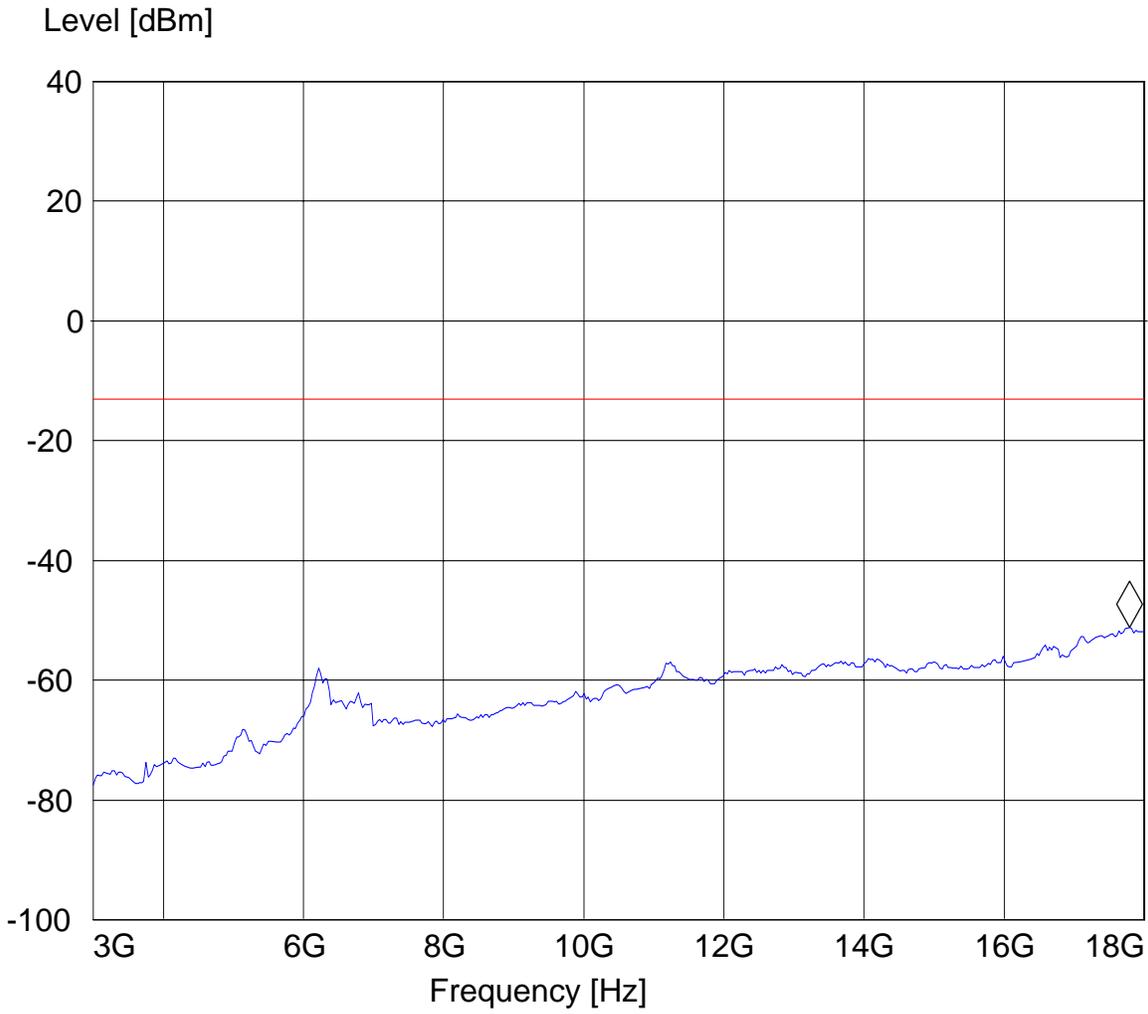
Spurious emission limit –13dBm

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 1900,CH600  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT@275

**SWEEP TABLE: "FCC 24Spuri 3-18G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
3.0 GHz	18.0 GHz	Average	Coupled	1 MHz	DUMMY-DBM

Marker: 17.789579158 GHz -51.19 dBm





**RADIATED SPURIOUS EMISSIONS (1900 MHz band)**

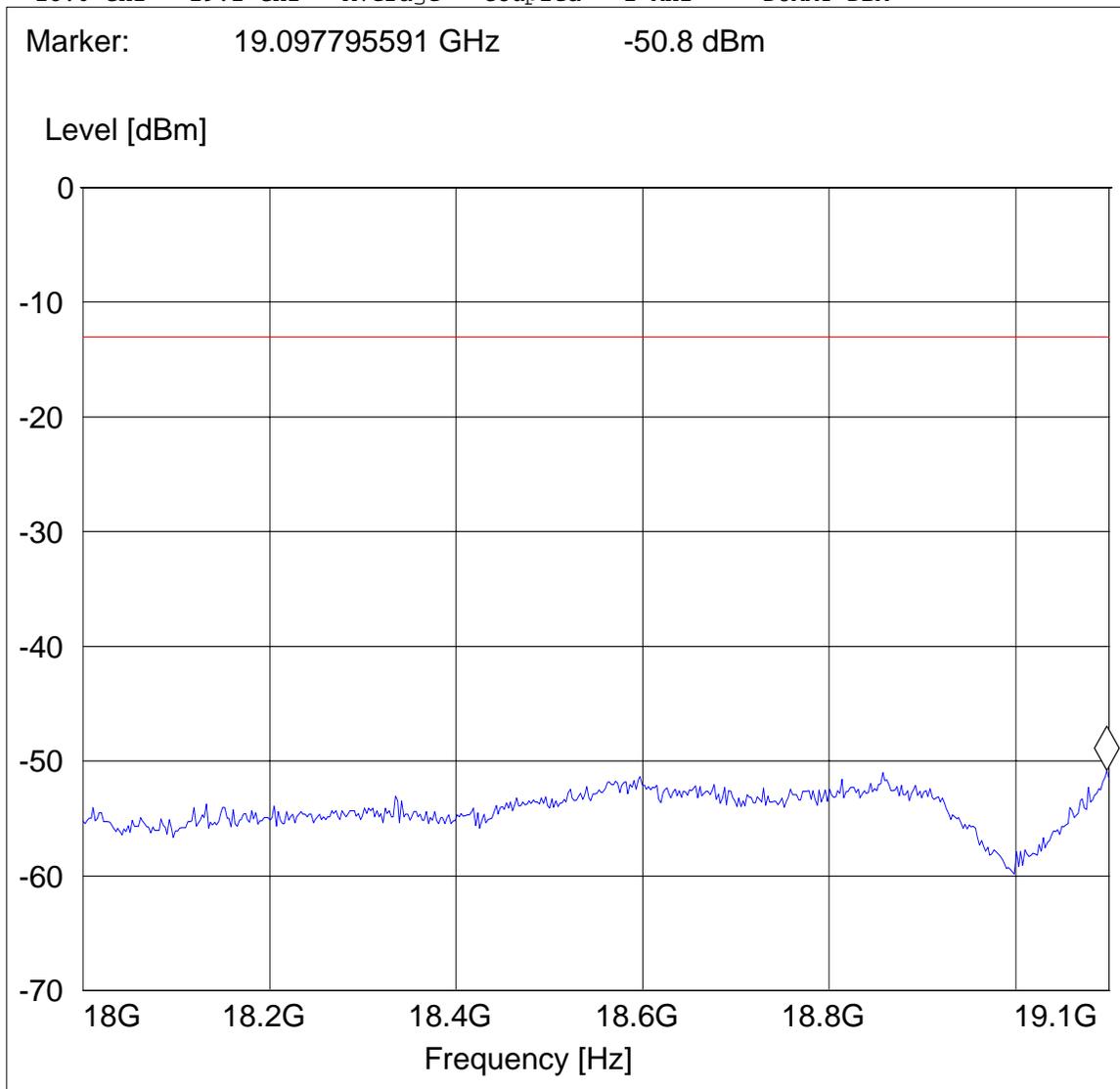
**Tx @ 1880.0MHz: 18GHz – 19GHz**

Spurious emission limit –13dBm

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 1900,CH600  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@275

**SWEEP TABLE: "FCC 24spuri 18-19.1G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
18.0 GHz	19.1 GHz	Average	Coupled	1 MHz	DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS (1900 MHz band)**

**Tx @ 1908.75 MHz: 1GHz – 3GHz**

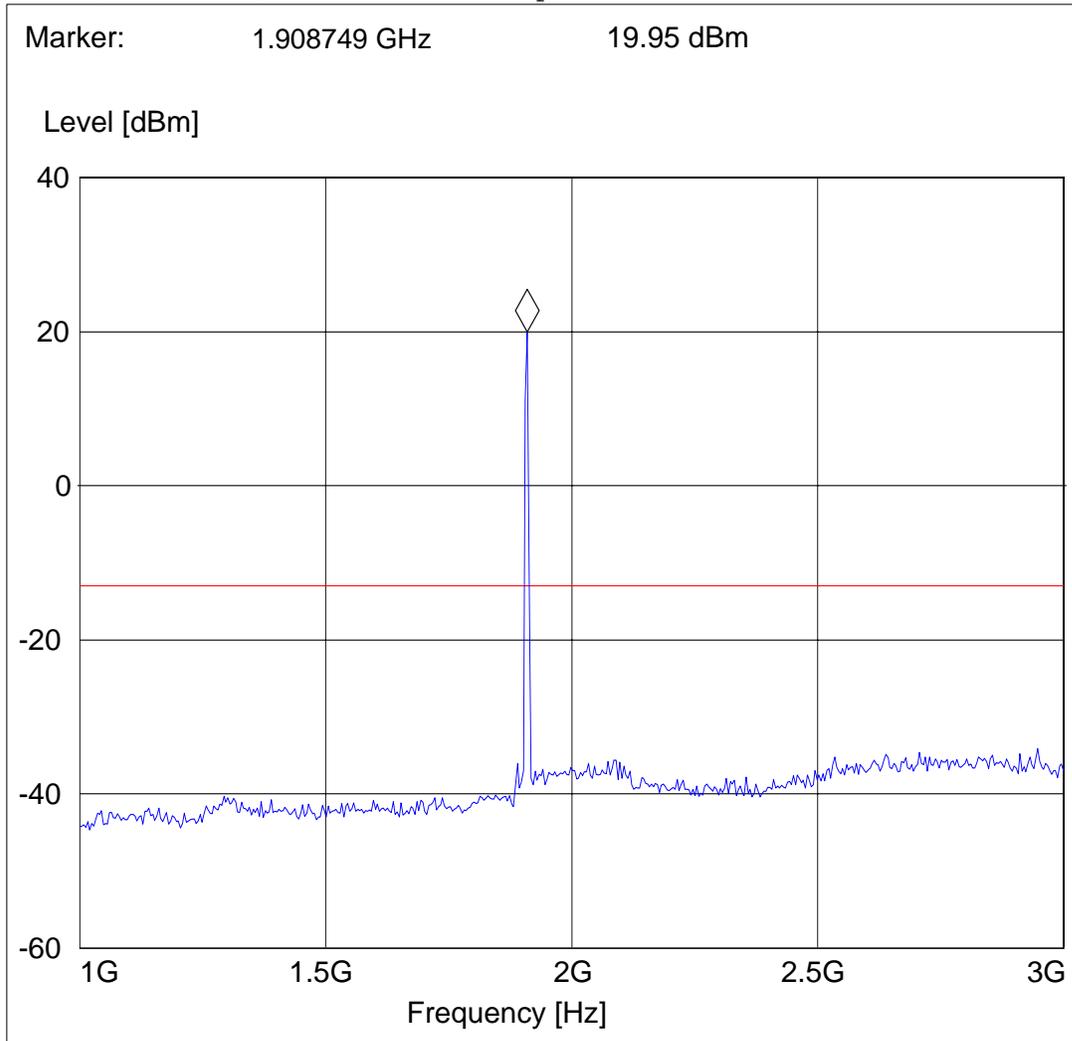
Spurious emission limit -13dBm

**Note: The peak above the limit line is the carrier freq. at ch-1175.**

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 1900,CH1175  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT@275 MARKER PLACED ON UPLINK

**SWEEP TABLE: "FCC 24Spuri 1-3G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	DUMMY-DBM





**RADIATED SPURIOUS EMISSIONS (1900 MHz band)**

**Tx @ 1908.75 MHz: 3GHz – 18GHz**

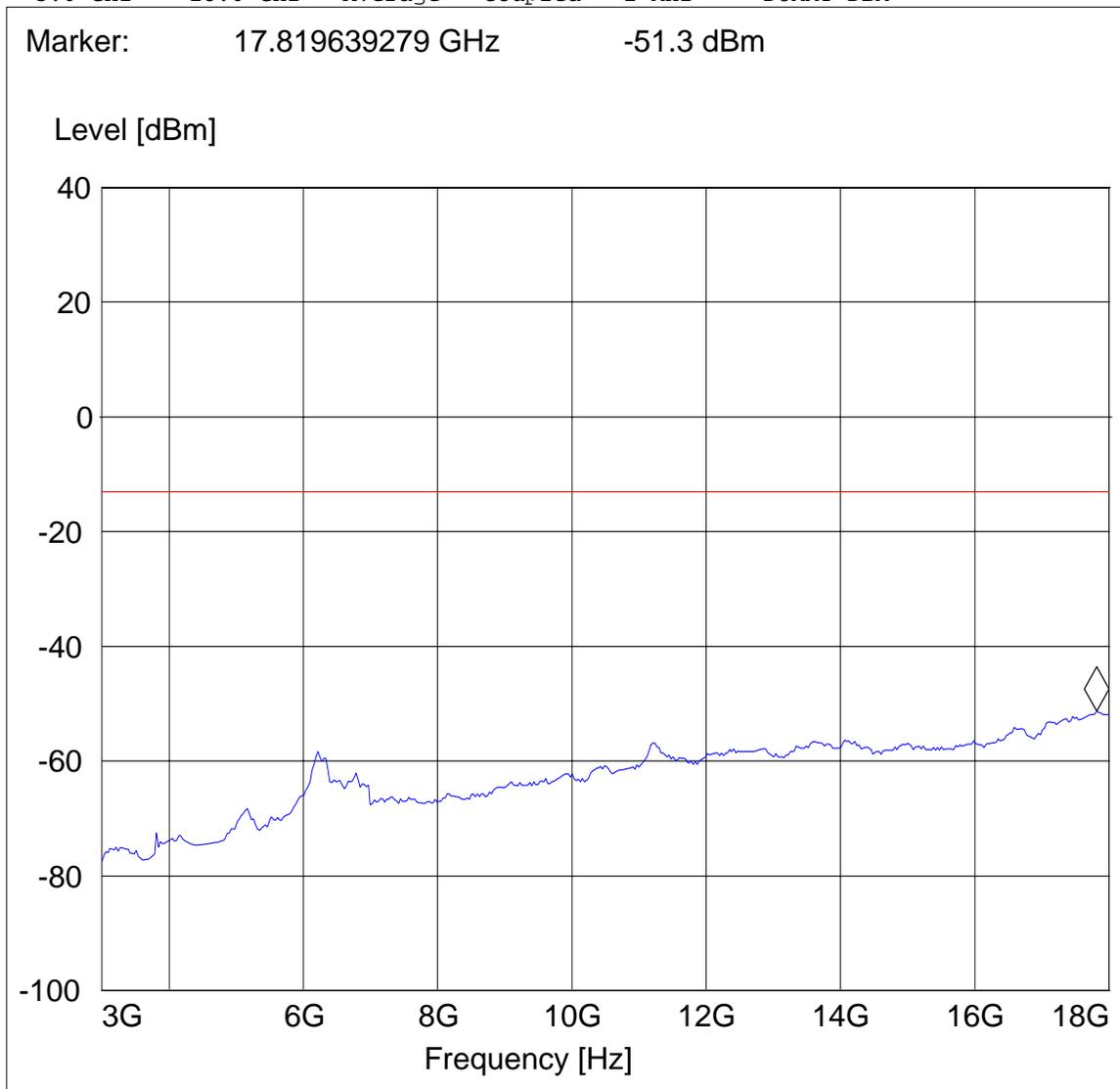
Spurious emission limit –13dBm

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 1900,CH1175  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@275

**SWEEP TABLE: "FCC 24Spuri 3-18G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
3.0 GHz	18.0 GHz	Average	Coupled	1 MHz	DUMMY-DBM

Marker: 17.819639279 GHz -51.3 dBm





**RADIATED SPURIOUS EMISSIONS (1900 MHz band)**

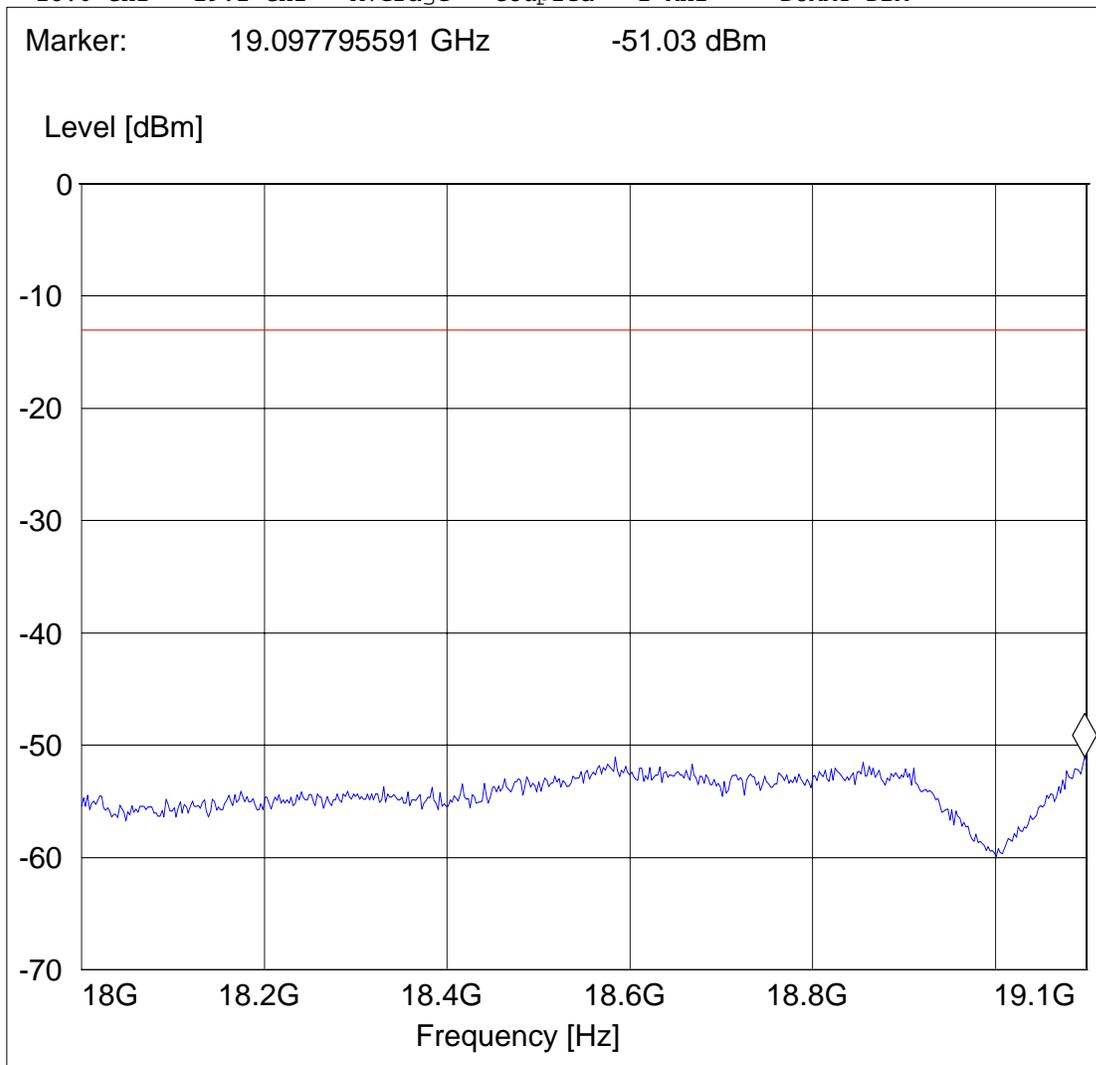
**Tx @ 1908.75 MHz: 18GHz – 19.1GHz**

Spurious emission limit –13dBm

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 1900,CH1175  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT@275

**SWEEP TABLE: "FCC 24spuri 18-19.1G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
18.0 GHz	19.1 GHz	Average	Coupled	1 MHz	DUMMY-DBM



## 4.6 Receiver Spurious Emissions Radiated

### 4.6.1 Limits:

#### 4.6.1.1 **FCC §15.109 & RSS-129 (10) Emission limitations for cellular equipment.**

The rules in this section govern the spectral characteristics of emissions in the Cellular Radiotelephone Service.

EUT in Idle mode & hooked up with any available ancillary equipment (Limit: FCC-15.109 Class B) Per FCC section 15.31(m) receiver has to be tested on the low, middle, and high channel.  
Per RSS-129 (10) states that receiver emissions are to be performed at the middle channel up to the 3rd harmonic of the LO.

#### 4.6.1.2 **IC § RSS-133 (4.5) & (6.7) Emission limitations for Broadband PCS equipment.**

The rules in this section govern the spectral characteristics of emissions in the Broadband Personal Communications Service.

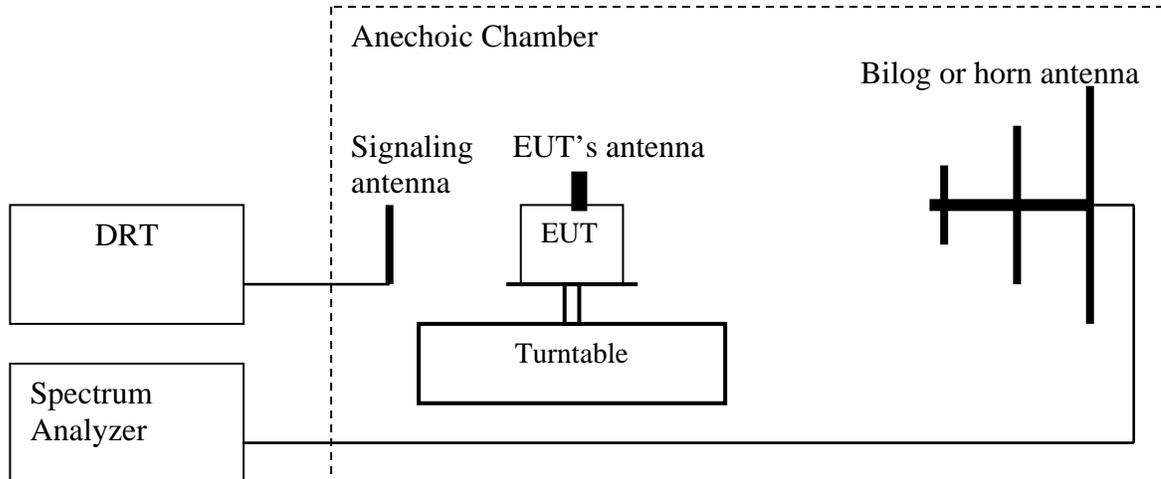
EUT in Idle mode & hooked up with any available ancillary equipment (Limit: FCC-15.109 Class B) Per FCC section 15.31(m) receiver has to be tested on the low, middle, and high channel.  
Per RSS-129 (10) states that receiver emissions are to be performed at the middle channel up to the 3rd harmonic of the LO.

**Note: Per 15.111 Receivers that operate or tune between 30 to 960 MHz must show compliance to section 15.109 limits. All other receivers operating below 30 MHz or above 960 MHz are exempt from testing. No such exclusion exists in the RSS standards, so all receivers are to be tested.**

#### 4.6.2 Radiated receiver measurement procedure:

Based on ANSI63.4: 2004

##### 2.2.12 Unwanted emissions: Radiated Spurious



1. Connect the equipment as shown in the above diagram with the EUT's antenna in a horizontal orientation.
2. Adjust the settings of the Digital Radiocommunication Tester (DRT) to set the EUT to its maximum power at the required channel.
3. Set the spectrum analyzer to measure peak hold with the required settings.
4. Place the measurement antenna in a horizontal orientation. Rotate the EUT 360°. Raise the measurement antenna up to 4 meters in 0.5 meters increments and rotate the EUT 360° at each height to maximize all emissions. Measure and record all spurious emissions (LVL) up to the tenth harmonic of the carrier frequency.
5. Replace the EUT with a horizontally polarized half wave dipole or known gain antenna. The center of the antenna should be at the same location as the center of the EUT's antenna.
6. Repeat steps 4, 5 and 6 with all antennas vertically polarized.
7. Determine the level of spurious emissions using the following equation:  
**Spurious** (dBuV/m) = **LVL** (dBuV) + **LOSS** (dB/m):
8. Measurements are to be performed with the EUT set to the low, middle and high channel of each frequency band.

(**note:** Steps 5 and 6 above are performed prior to testing and **LOSS** is recorded by test software. Steps 3, 4 and 7 above are performed with test software.)

**Spectrum analyzer settings:**

Below 1GHz: RBW=VBW=100 kHz, Detector: QP

Above 1GHz: RBW=VBW= 1MHz, Detector: Peak

**Measurement Survey:**

For FCC receiver radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of the 850 MHz band. For Industry Canada receiver radiated emissions measurements were made only at the middle carrier frequencies of the 1900 MHz band. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this.

#### 4.6.2.1 RESULTS OF RADIATED TESTS -850:

Harmonics	Tx ch-1013 Freq. (MHz)	Level (dBuV/m)	Tx ch-384 Freq. (MHz)	Level (dBuV/m)	Tx ch-777 Freq. (MHz)	Level (dBuV/m)
1	824.70	NF	836.52	41	848.31	NF
2	1649.4	NF	1673.04	NF	1696.62	NF
3	2474.1	NF	2509.56	NF	2544.93	NF
4	3298.8	NF	3346.08	NF	3393.24	NF
5	4123.5	NF	4182.6	NF	4241.55	NF
NF = NOISE FLOOR						



**4.6.2.2 RADIATED SPURIOUS EMISSIONS ( 850 MHz band)**

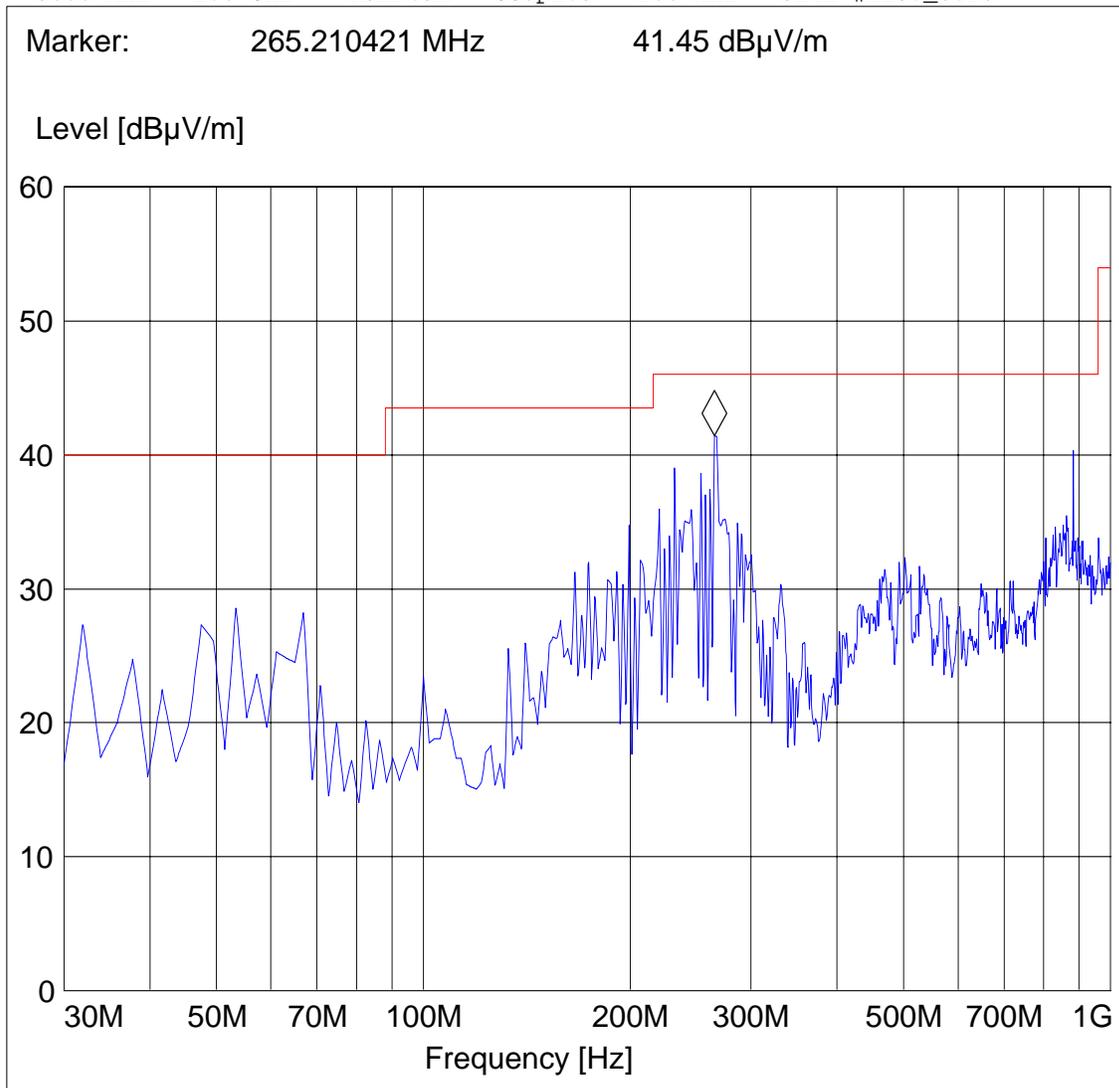
**RX: 30MHz - 1GHz**

**Note: This plot is valid for low, mid & high channels (worst-case plot)**

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 850, IDLE MODE (Middle Channel)  
 ANT Orientation: V  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT360 R

**SWEEP TABLE: "CANADA RE\_30M-1G\_Ver"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	3141-#1186_Vert





**RADIATED SPURIOUS EMISSIONS (850 MHz band)**

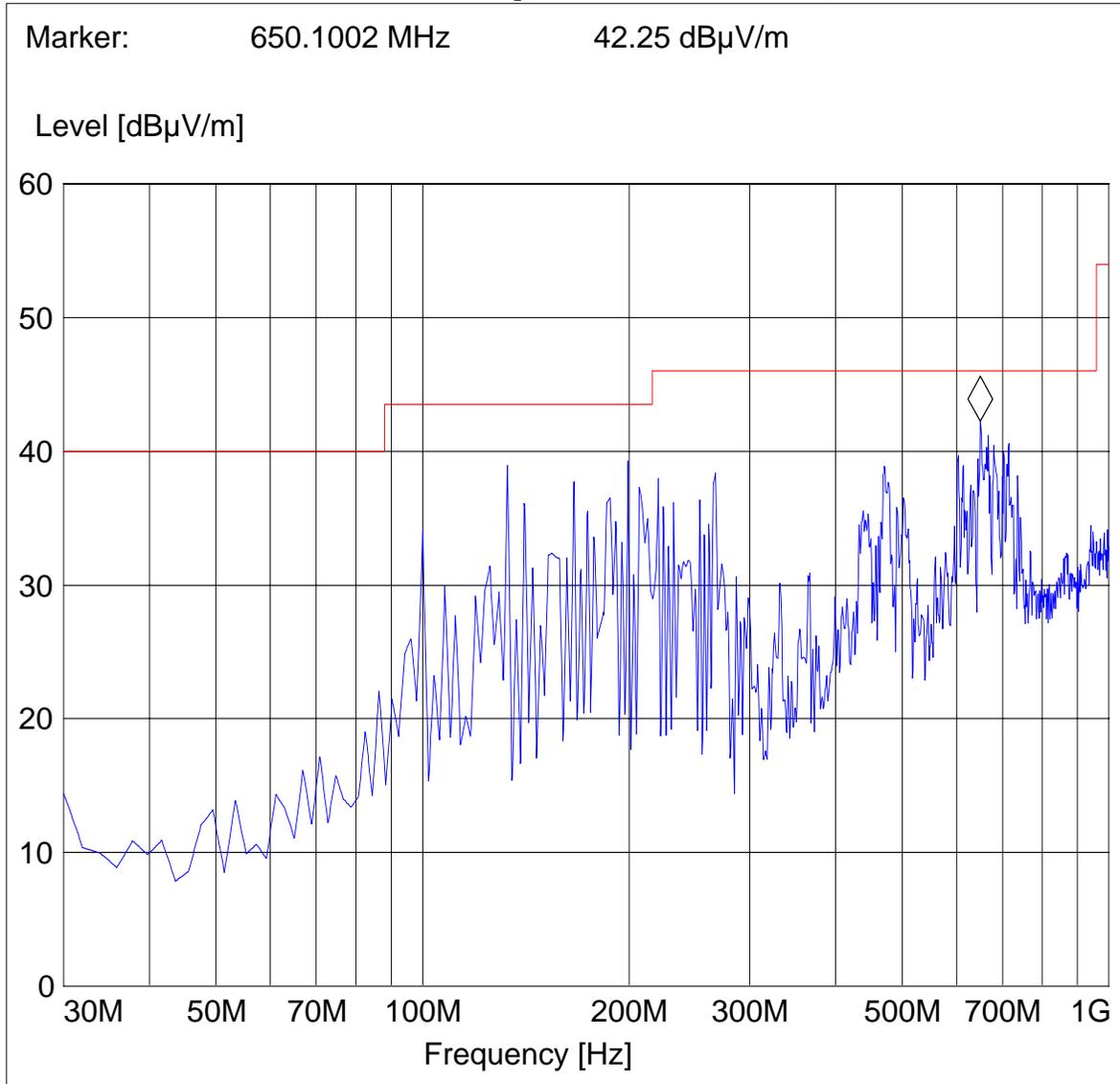
**RX: 30MHz - 1GHz**

**Note: This plot is valid for low, mid & high channels (worst-case plot)**

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 850, IDLE MODE (middle channel)  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT360 R

**SWEEP TABLE: "CANDA RE\_30M-1G\_Hor"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	3141-#1186_Horz





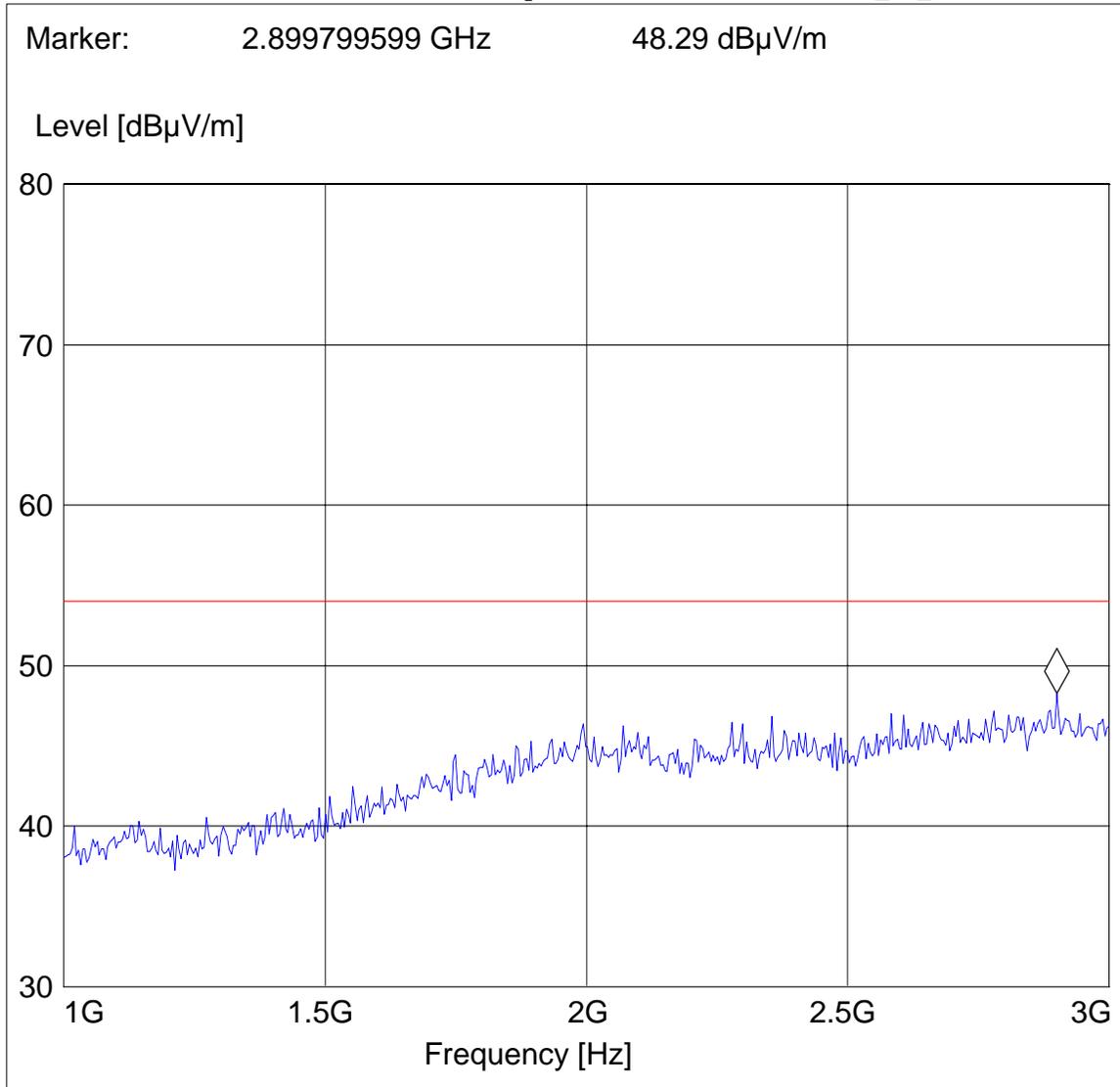
**RADIATED SPURIOUS EMISSIONS (850 MHz band)**

**Rx Mode: 1 – 3 GHz (This applies to low, middle, and high, worst case plot)**

EUT: OMNI ACCESS 3500  
Customer: ALCATEL LUCENT  
Test Mode: EV-DO 850, IDLE MODE (middle channel)  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: SAM  
Power Supply: AC ADAPTER+DELL LAPTOP  
Comments: TT@237

**SWEEP TABLE: "CANADA RE\_1-3G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert





**RADIATED SPURIOUS EMISSIONS (850 MHz band)**

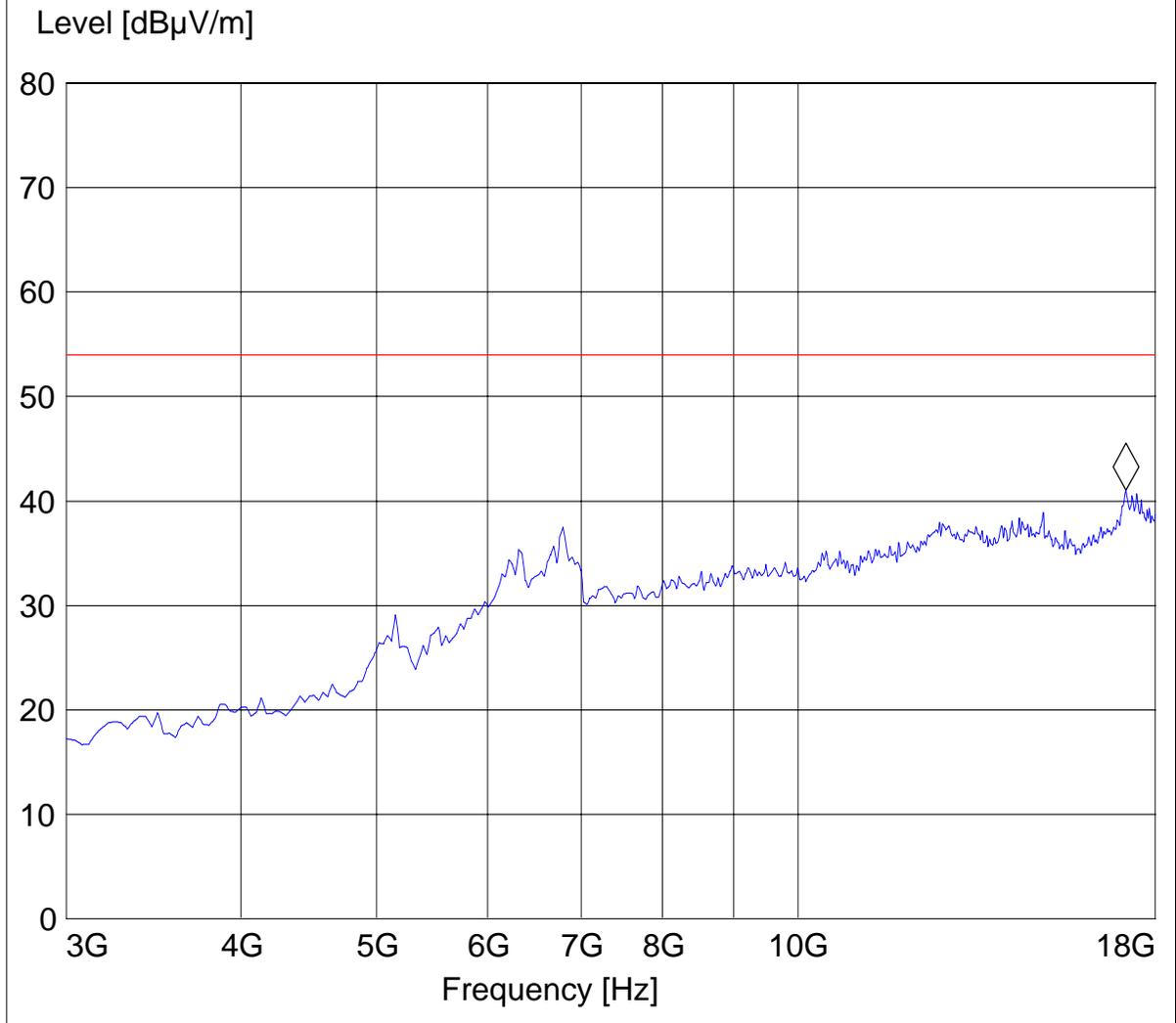
**Rx Mode: 3 – 9 Ghz (This applies to low, middle, and high, worst case plot)**

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 850, IDLE MODE (Middle Channel)  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT@237

**SWEEP TABLE: "CANADA RE\_3-18G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 17.148296593 GHz 41.07 dBµV/m



**4.6.2.3 RESULTS OF RADIATED TESTS 1900 MHz band:**

<b>Harmonic</b>	<b>Tx ch-660 Freq. (MHz)</b>	<b>Level (dBuV/m)</b>
<b>1</b>	<b>1880</b>	NF
<b>2</b>	<b>3760</b>	NF
<b>3</b>	<b>5640</b>	NF
<b>4</b>	<b>7520</b>	NF
<b>5</b>	<b>9400</b>	NF
NF = NOISE FLOOR		



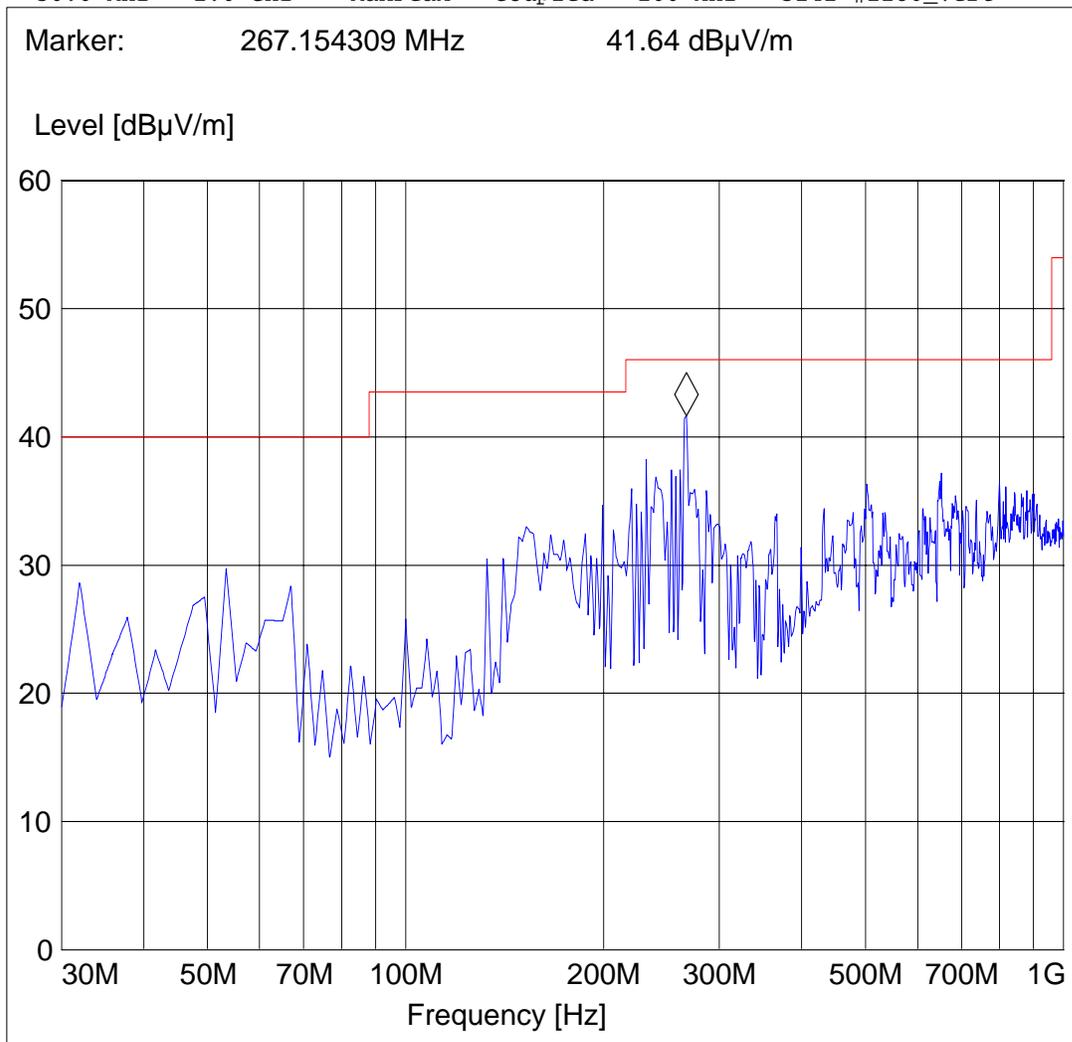
**4.6.2.4 RADIATED SPURIOUS EMISSIONS (1900 MHz band)**

**RX: 30MHz - 1GHz**

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 1900, IDLE MODE (Middle channel)  
 ANT Orientation: V  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT360 R

**SWEEP TABLE: "CANADA RE\_30M-1G\_Ver"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	3141-#1186_Vert



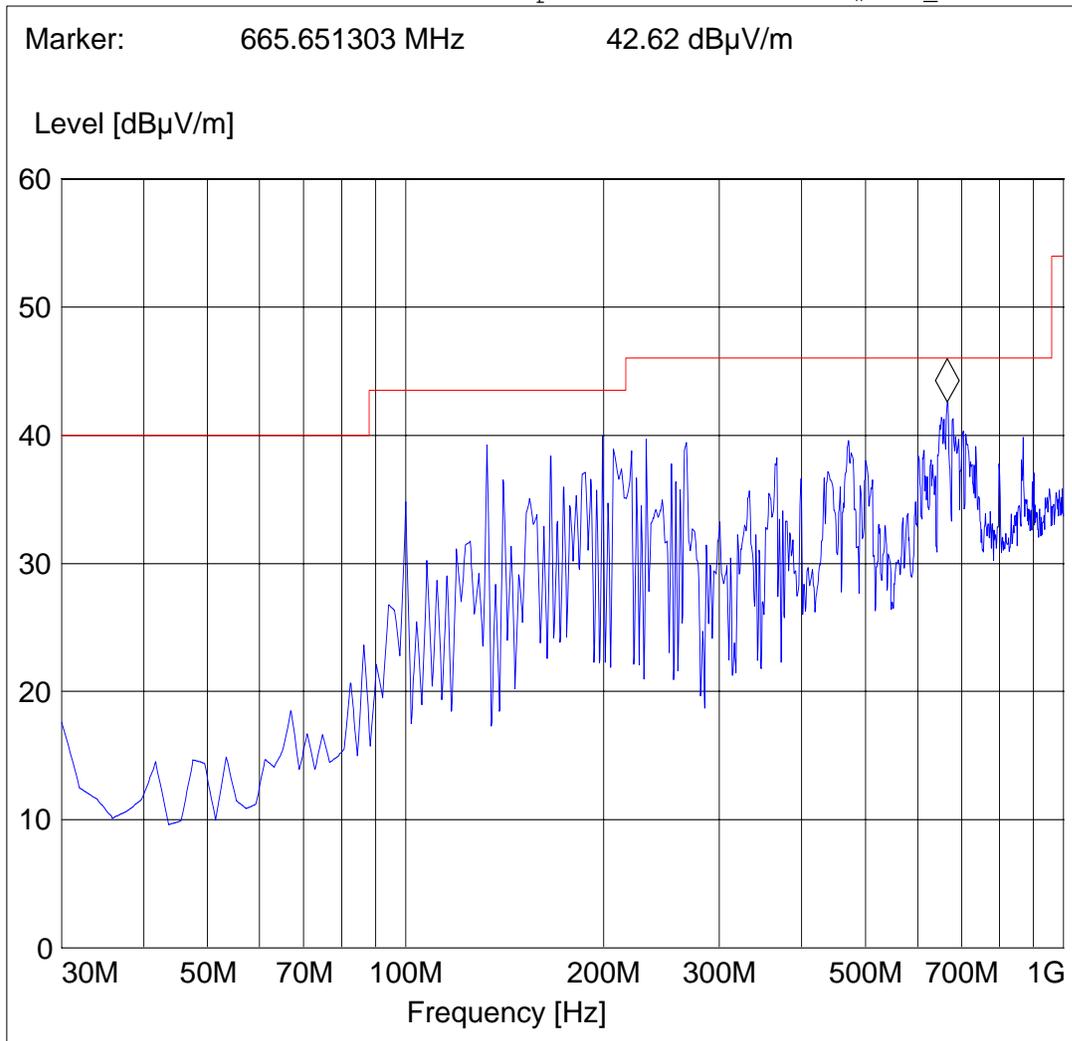


**RADIATED SPURIOUS EMISSIONS (1900 MHz band)  
RX: 30MHz - 1GHz**

EUT: OMNI ACCESS 3500  
 Customer: ALCATEL LUCENT  
 Test Mode: EV-DO 1900, IDLE MODE (middle channel)  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: SAM  
 Power Supply: AC ADAPTER+DELL LAPTOP  
 Comments: TT360 R

**SWEEP TABLE: "CANDA RE 30M-1G\_Hor"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	3141-#1186_Horz





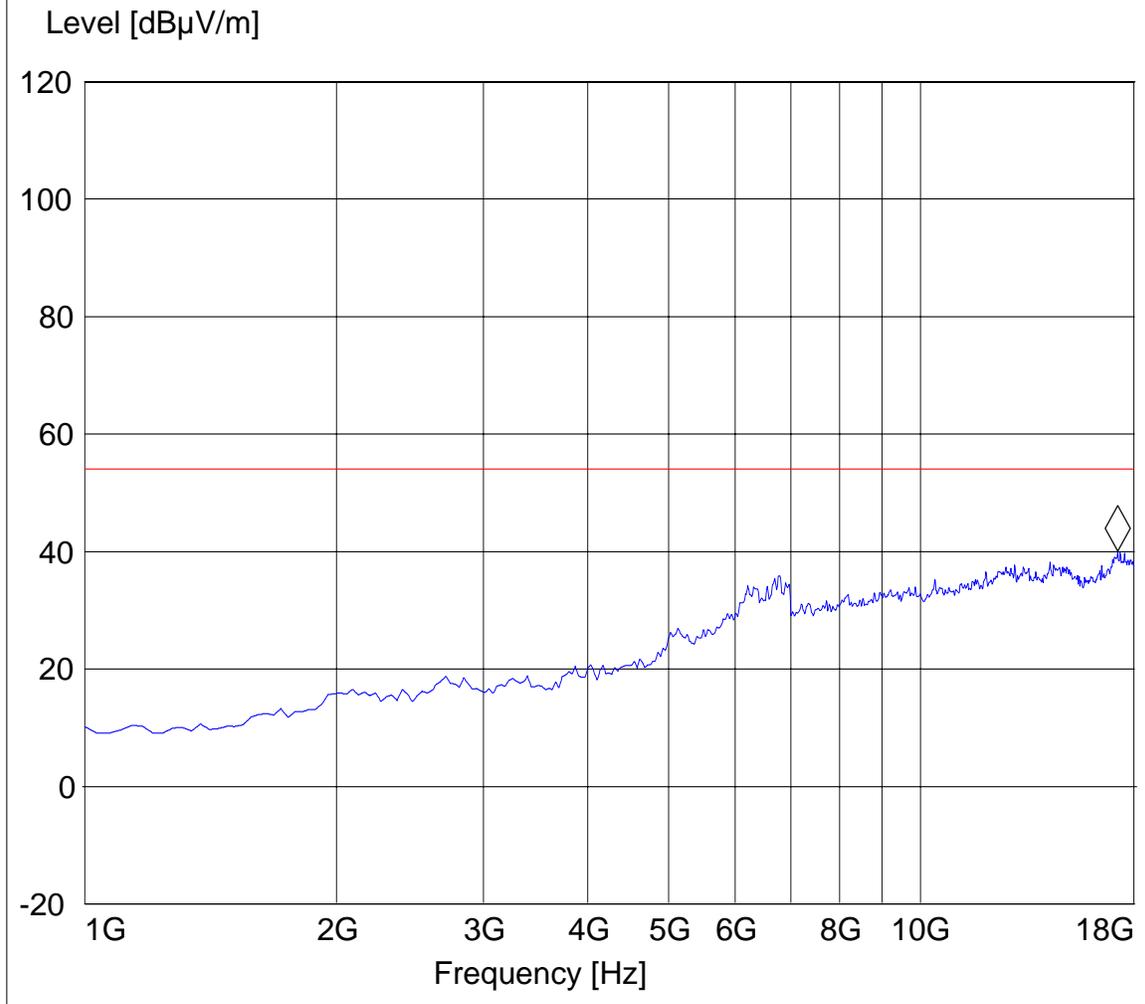
**RADIATED SPURIOUS EMISSIONS(1900 MHz band)  
Rx @ 1880.0MHz: 1GHz – 18GHz**

EUT / Description: OMNI ACCESS 3500  
 Manufacturer: ALCATEL LUCENT  
 Test mode: EV-DO1900, IDLE MODE (Middle Channel)  
 ANT Orientation: : H  
 EUT Orientation:: H  
 Test Engineer: SAM  
 Voltage: AC ADAPTER+DELL LAPTOP  
 Comments::

**SWEEP TABLE: "CANADA RE\_1-18G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 17.216432866 GHz 40.11 dBµV/m



## 4.7 AC LINE CONDUCTED EMISSIONS

### §15.107 revised as of Aug. 20, 2002 & RSS-GEN (7.2.2)

NOTE: Test setup should be according ANSI C63.4 (Page 30/36). Both transmit and receive must be tested. For transmit test the channel with the highest power. For receive test the channel that produce worst radiated emission level only.

(Please do not repeat if already covered under part 24 or 15.247)

	Frequency (MHz)	
Frequency Range	150KHz – 30MHz	
LISN Setting	Result Saved	Result (Fail/Pass)
<b>TRANSMIT MODE</b>		
Line	TXLISN-L	PASS
Neutral	TXLISN-N	PASS
<b>RECEIVE MODE</b>		
Line	RXLISN-L	PASS
Neutral	RXLISN-N	PASS

Technical specification : 15.107 & RSS-GEN (7.2.2) Limit

Frequency Range (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 to .5	66 to 56	56 to 46
.5 to 5	56	46
5 to 30	60	50

Note: Per Section 15.107(d) only performed if device is normally connected to the AC mains either by an external AC adaptor or DC supply. In this case AC conducted emissions is to be performed on the external AC adaptor or DC supply. If the device uses a rechargeable adaptor and the device could be used while charging, conducted measurements must be perform. If the device receives its power from a host device, conducted measurements are to be performed on the host device. Battery operated devices are exempt from testing even if an external DC supply is being used.

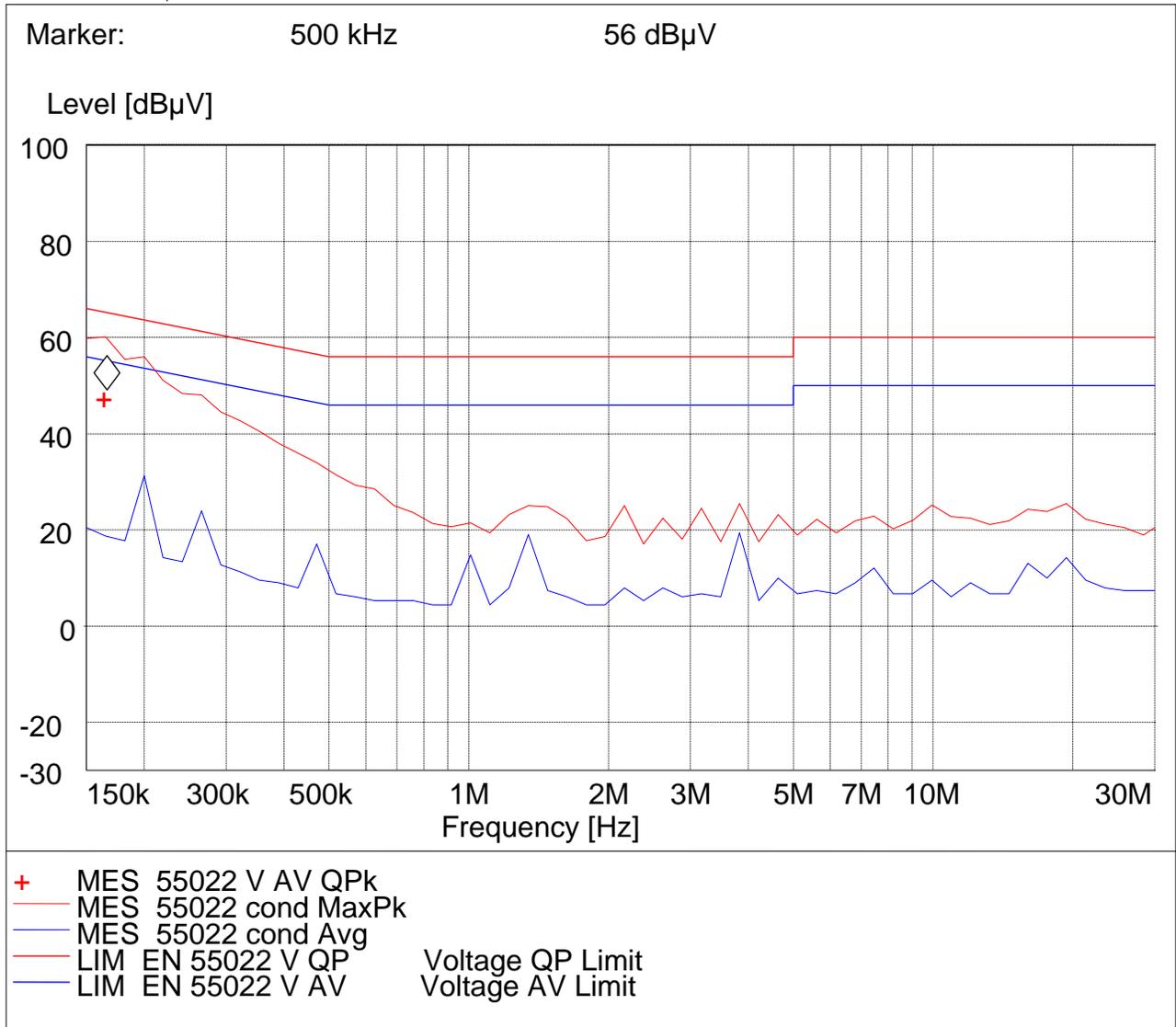


**Voltage Mains Test (Line), Receive**

EUT: OMNI ACCESS 3500  
 Manufacturer: ALCATEL LUCENT  
 Operating Condition: EV-DO 1900,CH600 (Rx)  
 ANT Orientation:: N/A  
 EUT Orientation:: H  
 Test Engineer:: Satya Radhakrishna  
 Power Supply: : AC Adapter  
 Comments: : 110 V Line

**SWEEP TABLE: "55022 cond"**

Short Description: EN 55022 for 150KHz-30MHz  
 Unit: dBµV



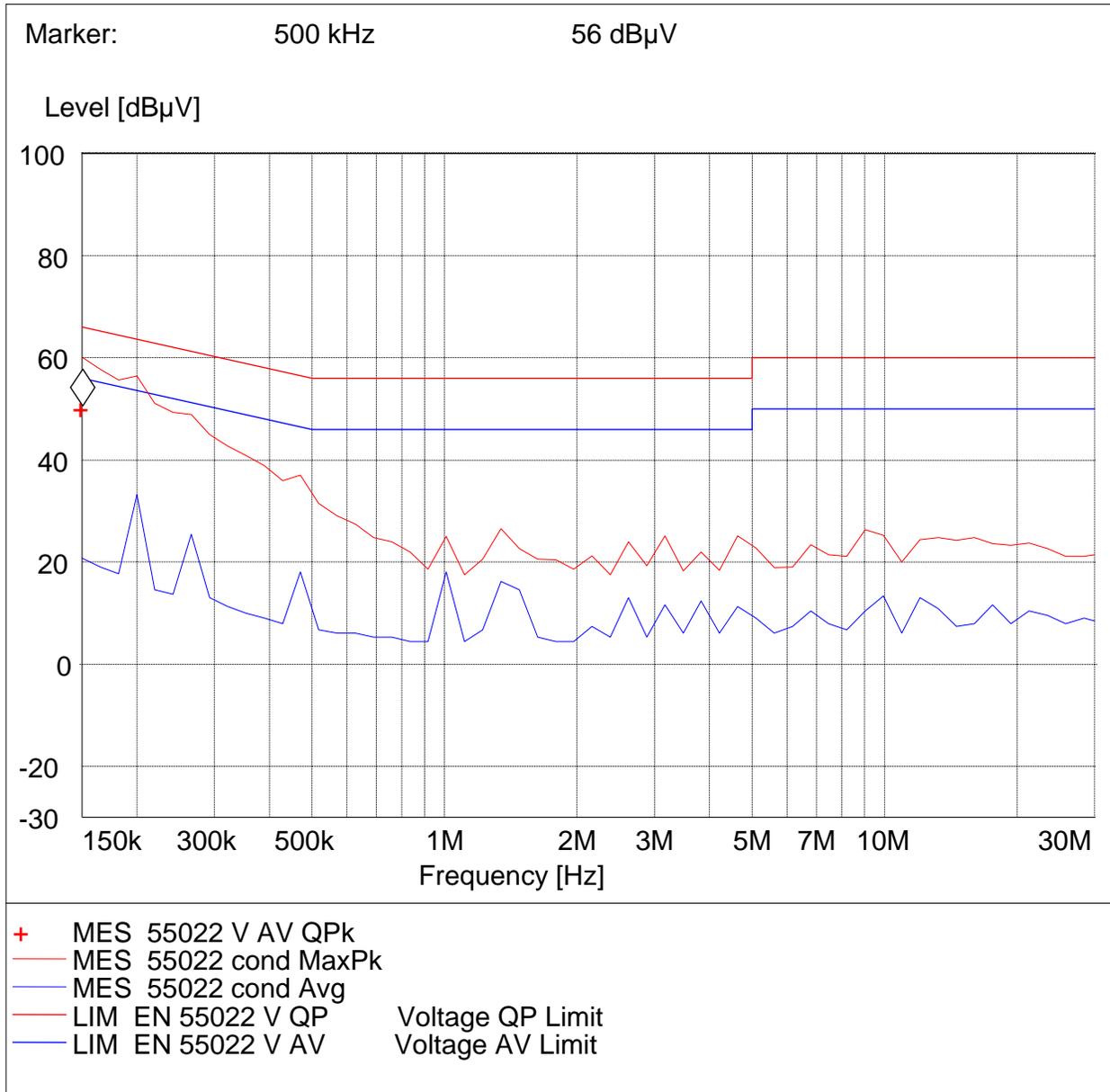


**Voltage Mains Test (Neutral), Receive**

EUT: OMNI ACCESS 3500  
 Manufacturer: ALCATEL LUCENT  
 Operating Condition: EV-DO 1900,CH600 (Rx)  
 ANT Orientation:: N/A  
 EUT Orientation:: H  
 Test Engineer:: Satya Radhakrishna  
 Power Supply: : AC Adapter  
 Comments: : 110 V Neutral

**SWEEP TABLE: "55022 cond"**

Short Description: EN 55022 for 150KHz-30MHz  
 Unit: dBμV



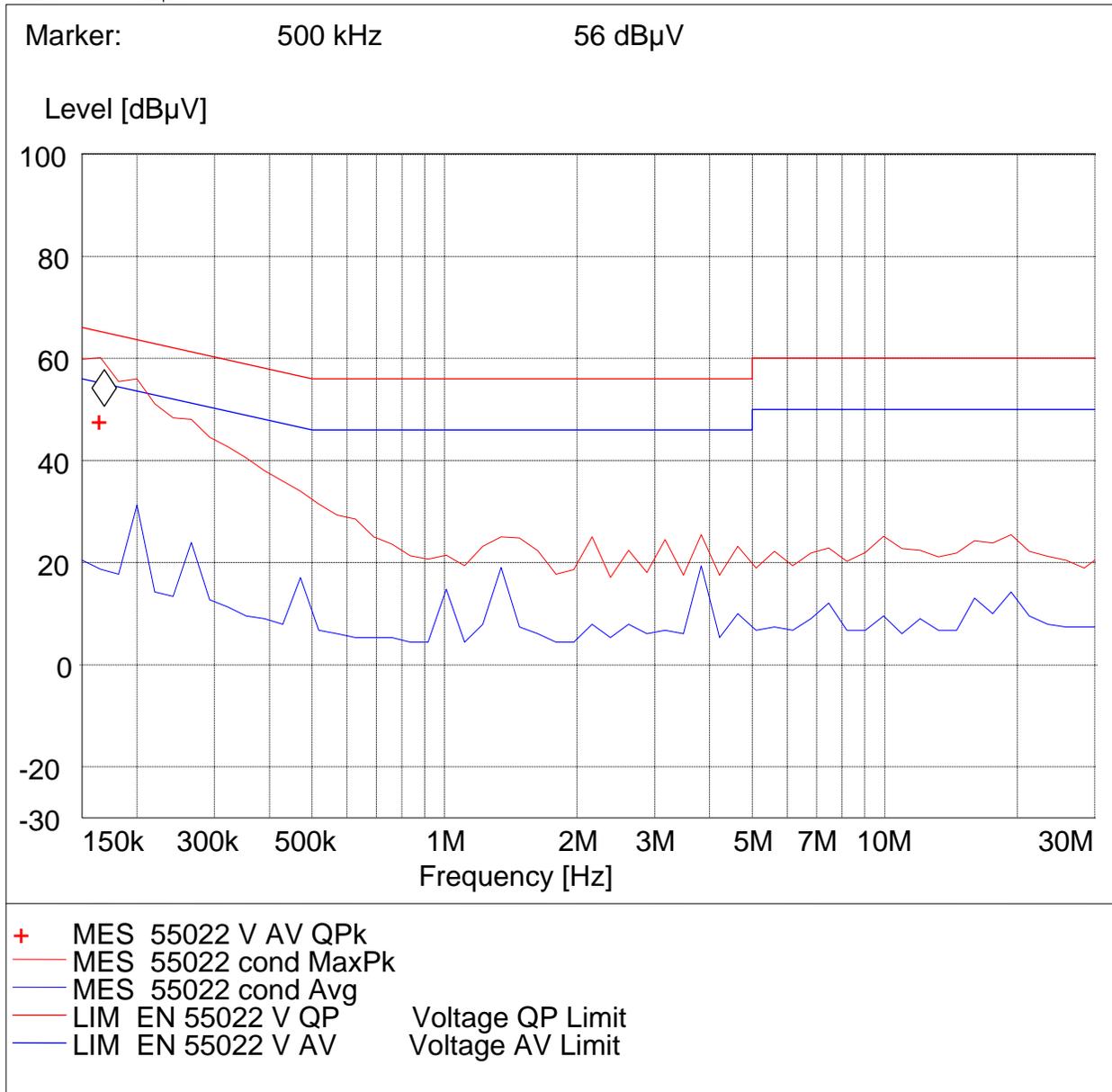


Voltage Mains Test (Line), Transmit

EUT: OMNI ACCESS 3500
Manufacturer: ALCATEL LUCENT
Operating Condition: EV-DO 1900,CH600
ANT Orientation:: N/A
EUT Orientation:: H
Test Engineer:: Satya Radhakrishna
Power Supply: : AC Adapter
Comments: : 110 V Line

SWEEP TABLE: "55022 cond"

Short Description: EN 55022 for 150KHz-30MHz
Unit: dBuV



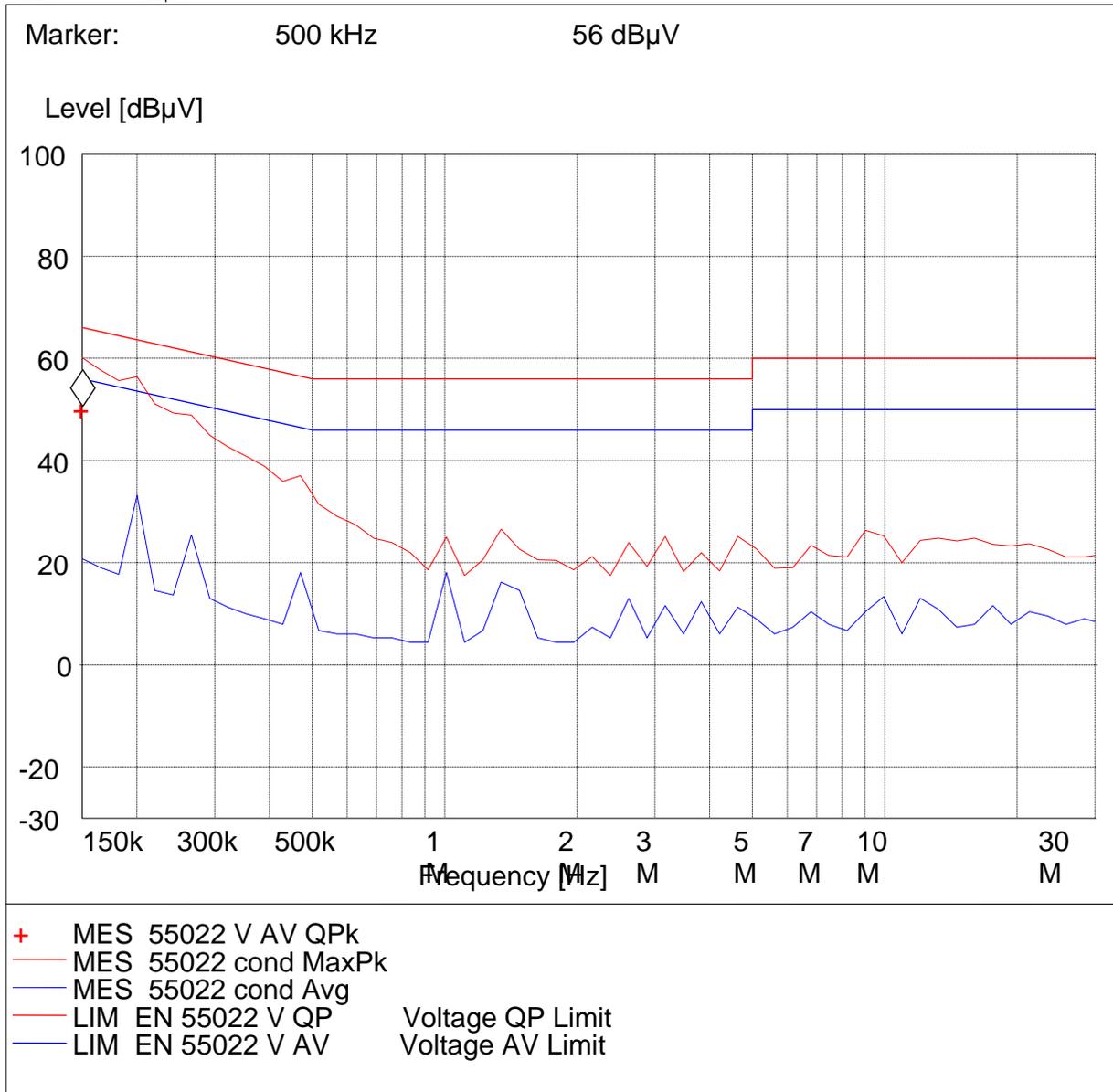


Voltage Mains Test (Neutral), Transmit

EUT: OMNI ACCESS 3500
Manufacturer: ALCATEL LUCENT
Operating Condition: EV-DO 1900,CH600
ANT Orientation:: N/A
EUT Orientation:: H
Test Engineer:: Satya Radhakrishna
Power Supply: : AC Adapter
Comments: : 110 V Neutral

SWEEP TABLE: "55022 cond"

Short Description: EN 55022 for 150KHz-30MHz
Unit: dBuV



## 5 TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS

No	Instrument/Ancillary	Type	Manufacturer	Serial No.	Cal Due	Interval
01	Spectrum Analyzer	ESIB 40	Rohde & Schwarz	100107	May 2008	1 year
02	Spectrum Analyzer	FSEM 30	Rohde & Schwarz	100017	August 2008	1 year
03	Signal Generator	SMY02	Rohde & Schwarz	836878/011	May 2008	1 year
04	Power-Meter	NRVD	Rohde & Schwarz	0857.8008.02	May 2008	1 year
05	Biconilog Antenna	3141	EMCO	0005-1186	June 2008	1 year
06	Horn Antenna (1-18GHz)	SAS-200/571	AH Systems	325	June 2008	1 year
07	Horn Antenna (18-26.5GHz)	3160-09	EMCO	1240	June 2008	1 year
08	Power Splitter	11667B	Hewlett Packard	645348	n/a	n/a
09	Climatic Chamber	VT4004	Voltsch	G1115	May 2008	1 year
10	High Pass Filter	5HC2700	Trilithic Inc.	9926013	n/a	n/a
11	High Pass Filter	4HC1600	Trilithic Inc.	9922307	n/a	n/a
12	Pre-Amplifier	JS4-00102600	Miteq	00616	May 2008	1 year
13	Power Sensor	URV5-Z2	Rohde & Schwarz	DE30807	May 2008	1 year
14	Digital Radio Comm. Tester	CMD-55	Rohde & Schwarz	847958/008	May 2008	1 year
15	Universal Radio Comm. Tester	CMU 200	Rohde & Schwarz	832221/06	May 2008	1 year
16	LISN	ESH3-Z5	Rohde & Schwarz	836679/003	May 2008	1 year
17	Loop Antenna	6512	EMCO	00049838	July 2008	2 years

## 6 BLOCK DIAGRAMS

### Radiated Testing

#### ANECHOIC CHAMBER

