

FCC Part 22 Transmitter Certification

Test Report

FCC ID: SO4YX500-CEL

FCC Rule Part: CFR 47 Part 22 Subpart H

ACS Report Number: 05-0343-22H-A

Manufacturer: Wireless Extenders
Equipment Type: Cell Band Bi-Directional Booster
Model: YX500-CEL

Test Begin Date: September 27, 2005

Test End Date: September 30, 2005

Report Issue Date: October 10, 2005



FOR THE SCOPE OF ACCREDITATION UNDER LAB Code 200612


Prepared by: _____
J. Kirby Munroe
Manager Wireless Certifications
ACS, Inc.


Reviewed by: _____
R. Sam Wismer
Engineering Manager
ACS, Inc.

This test report shall not be reproduced except in full. This report may be reproduced in part with prior written consent of ACS, Inc. The results contained in this report are representative of the sample(s) submitted for evaluation.

This report contains 31 pages

Table of Contents

1.0 Occupied Bandwidth

1.1 Uplink	3
1.2 Downlink	4

2.0 Spurious Emissions at Antenna Terminals and Inter-modulation Products

2.1 CDMA Uplink	6
2.2 TDMA Uplink	9
2.3 CW Uplink	12
2.4 GSM Uplink	14
2.5 CDMA Downlink	16
2.6 TDMA Downlink	19
2.7 CW Downlink	22
2.8 GSM Downlink	24

3.0 Band-edge

3.1 CDMA Uplink	26
3.2 TDMA Uplink	27
3.3 GSM Uplink	28
3.4 CDMA Downlink	29
3.5 TDMA Downlink	30
3.6 GSM Downlink	31

1.0 Occupied Bandwidth (Input vs. Output)

1.1 Uplink

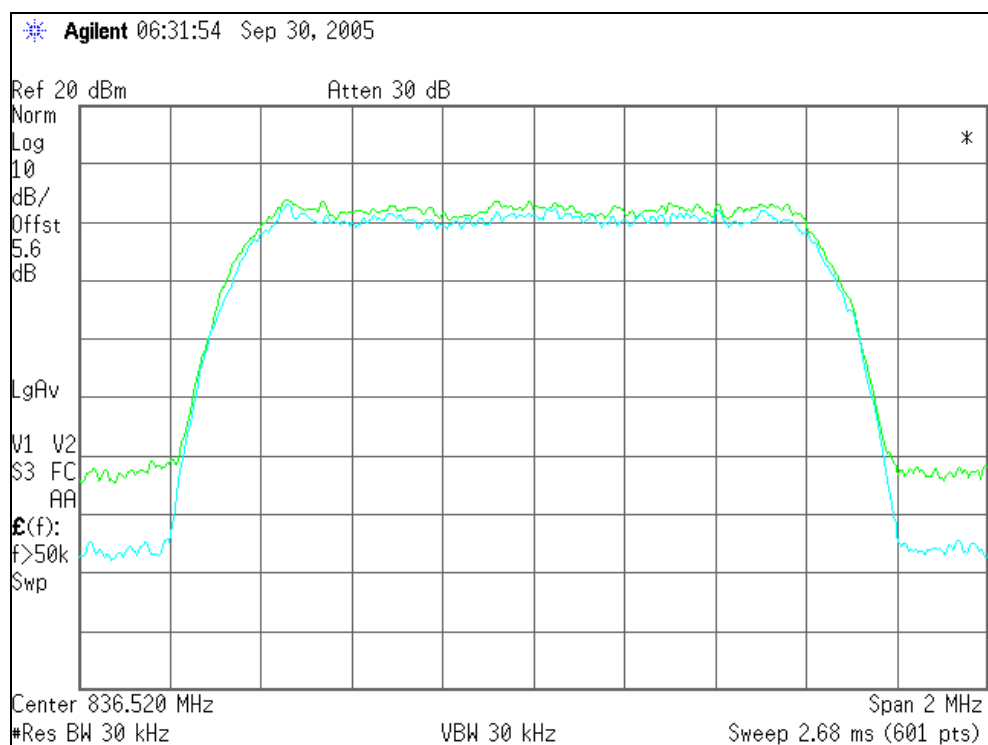


Figure 1: Occupied Bandwidth - Uplink CDMA Mid Channel

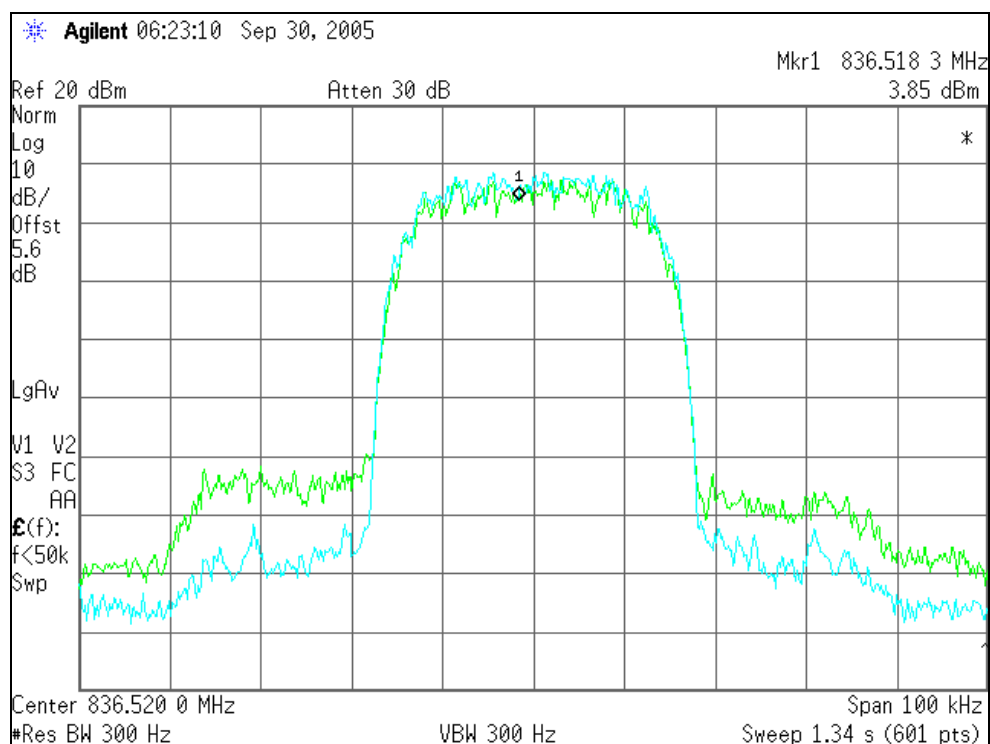
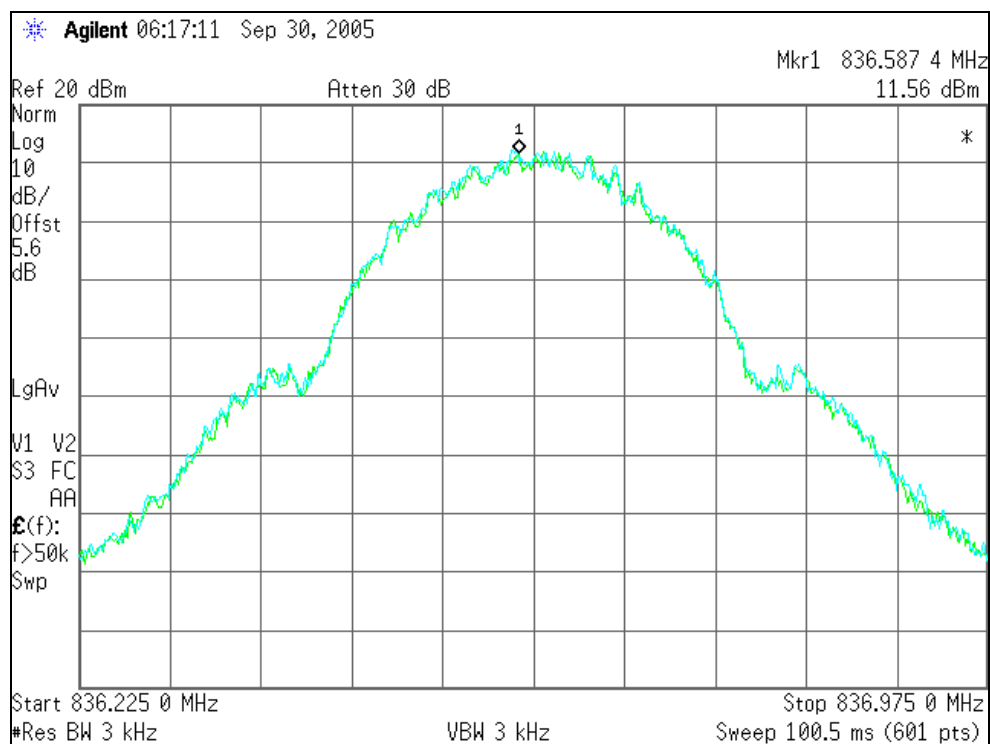
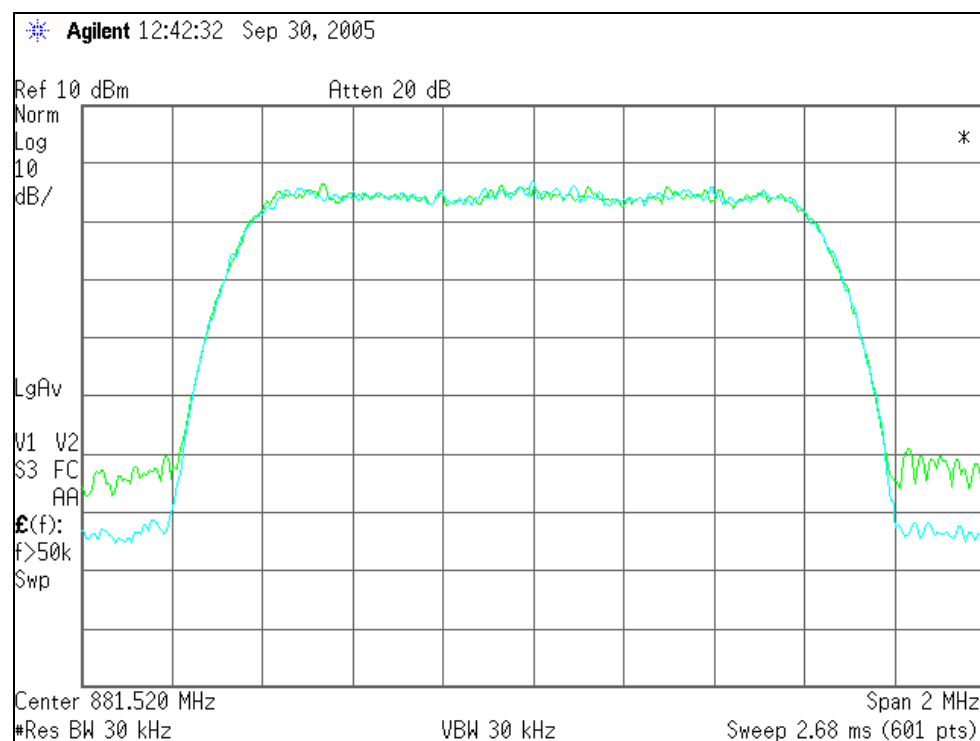


Figure 2: Occupied Bandwidth - Uplink TDMA Mid Channel

**Figure 3: Occupied Bandwidth - Uplink GSM Mid Channel**

1.2 Downlink

**Figure 4: Occupied Bandwidth - Downlink CDMA Mid Channel**

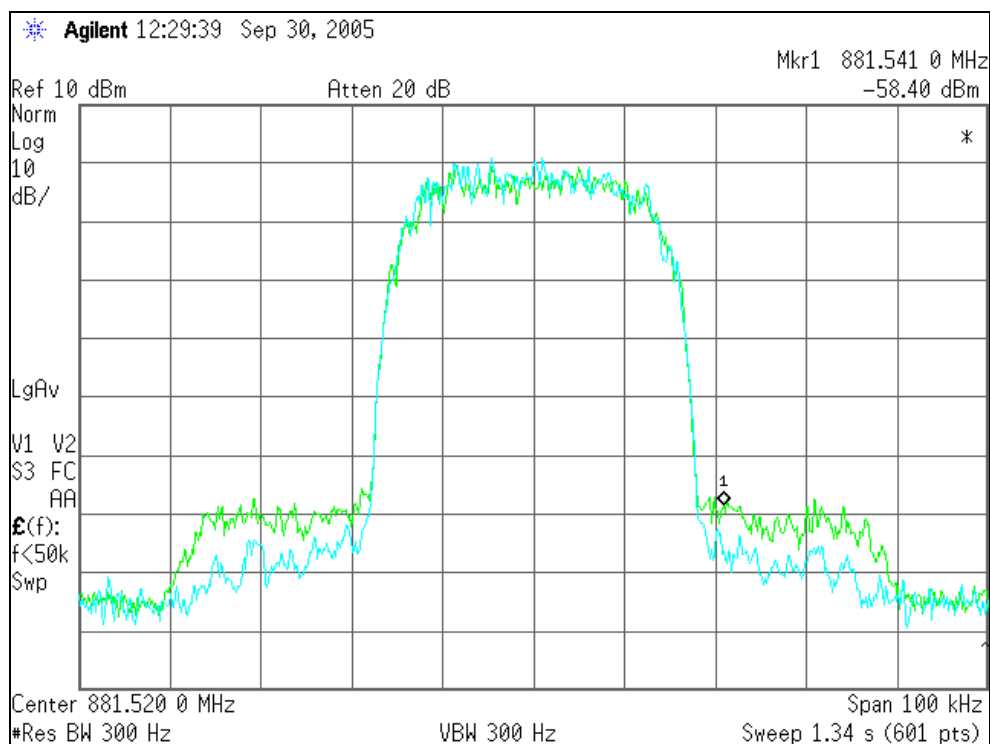


Figure 5: Occupied Bandwidth - Downlink TDMA Mid Channel

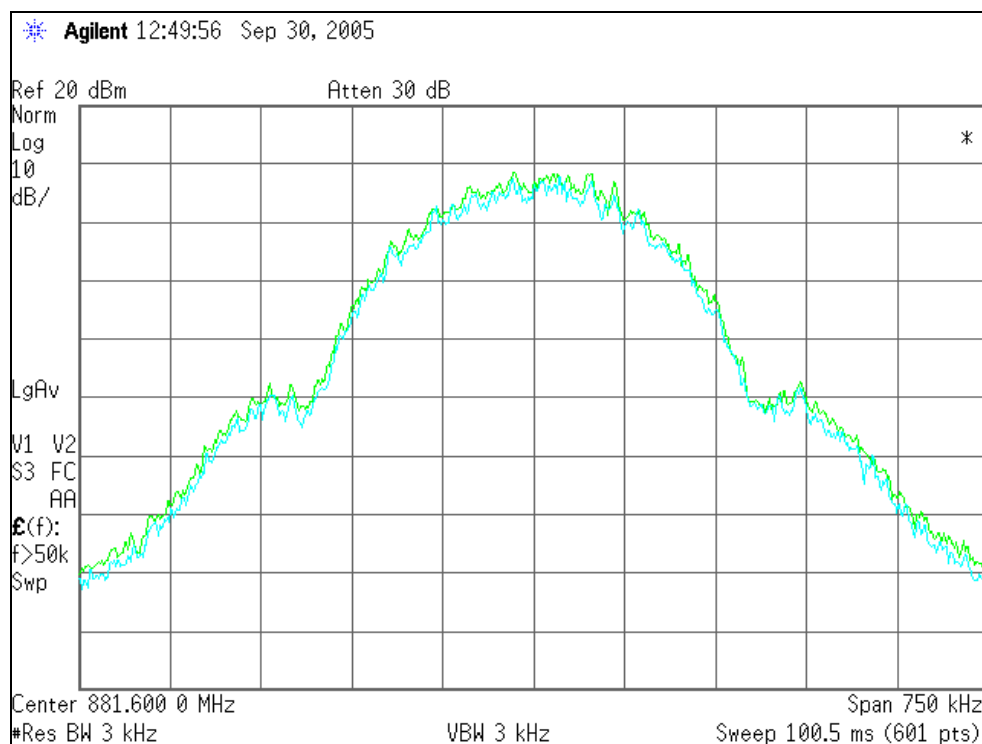


Figure 6: Occupied Bandwidth - Downlink GSM Mid Channel

2.0 Spurious Emissions at Antenna Terminals and Inter-modulation Products

2.1 CDMA Uplink

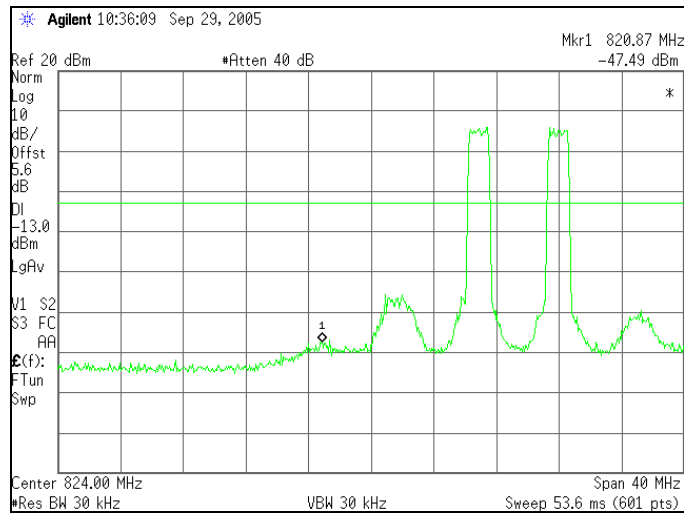


Figure 7: Spurious Emissions - Uplink CDMA Low Channel – In Band

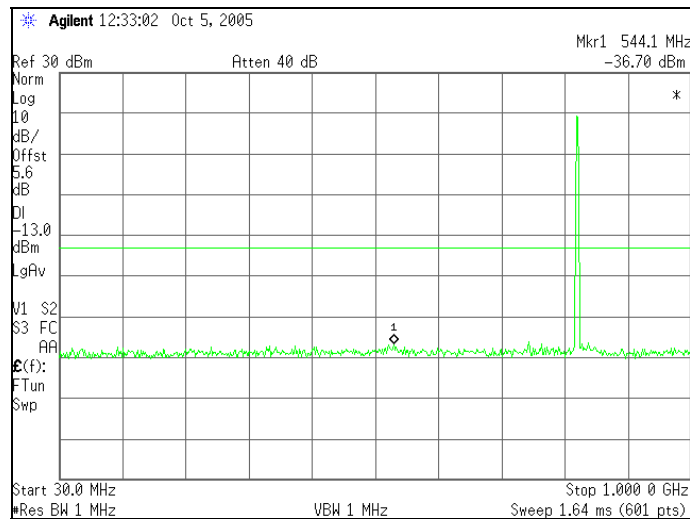


Figure 8: Spurious Emissions - Uplink CDMA Low Channel – 30 MHz to 2.9 GHz

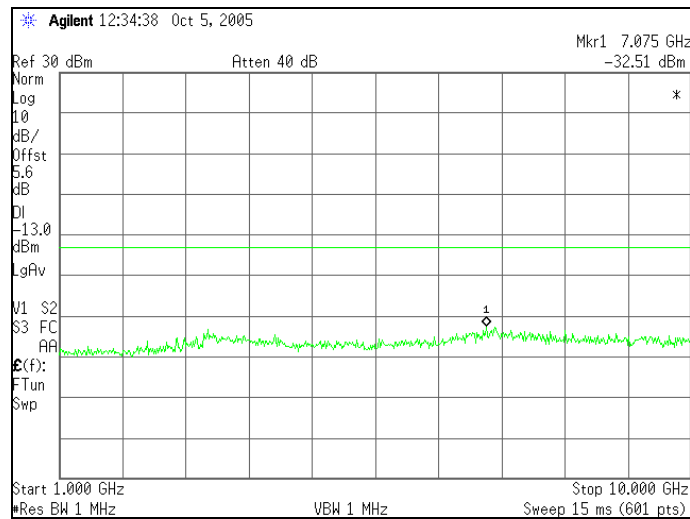
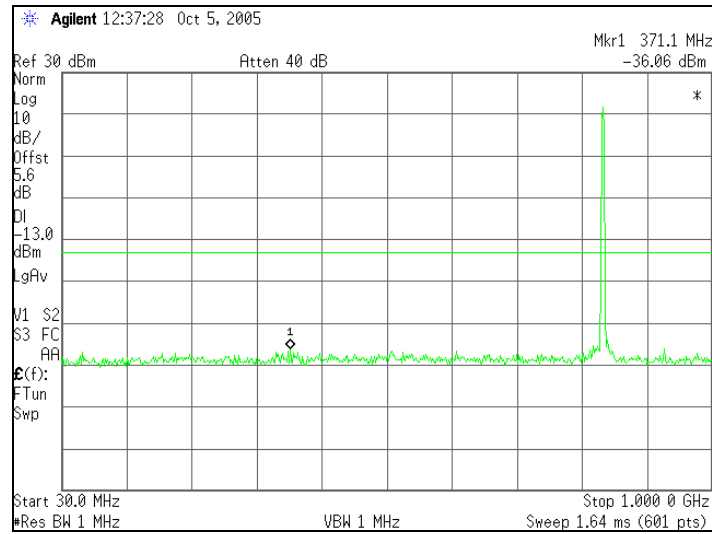
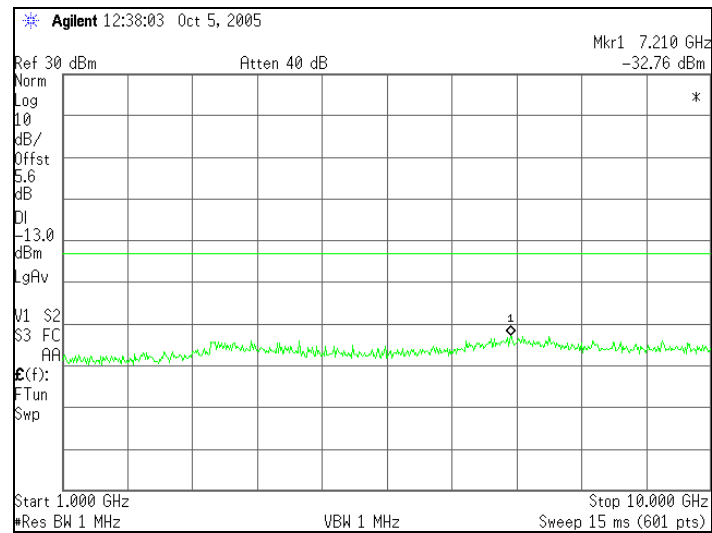


Figure 9: Spurious Emissions - Uplink CDMA Low Channel – 2.9 to 10 GHz

**Figure 10: Spurious Emissions - Uplink CDMA Mid Channel – 30 MHz to 2.9 GHz****Figure 11: Spurious Emissions - Uplink CDMA Mid Channel – 2.9 to 10 GHz**

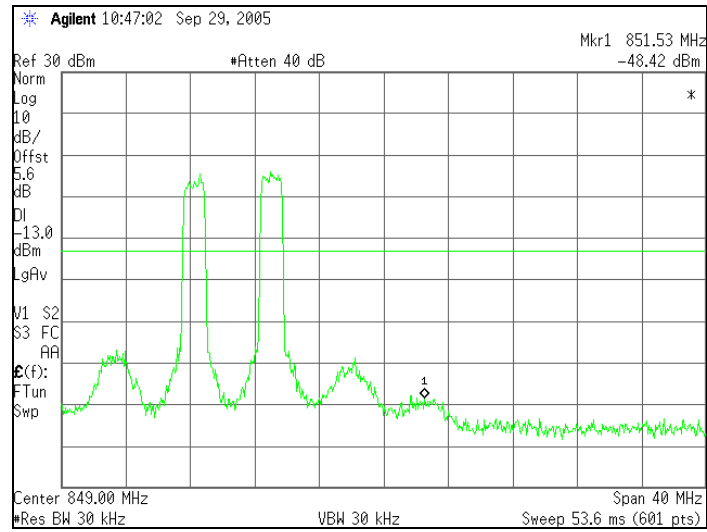


Figure 12: Spurious Emissions - Uplink CDMA High Channel – In Band

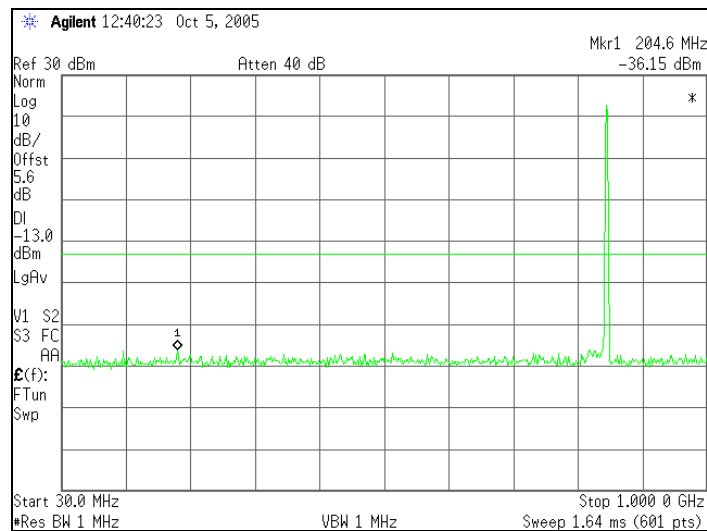


Figure 13: Spurious Emissions - Uplink CDMA High Channel – 30 MHz to 2.9 GHz

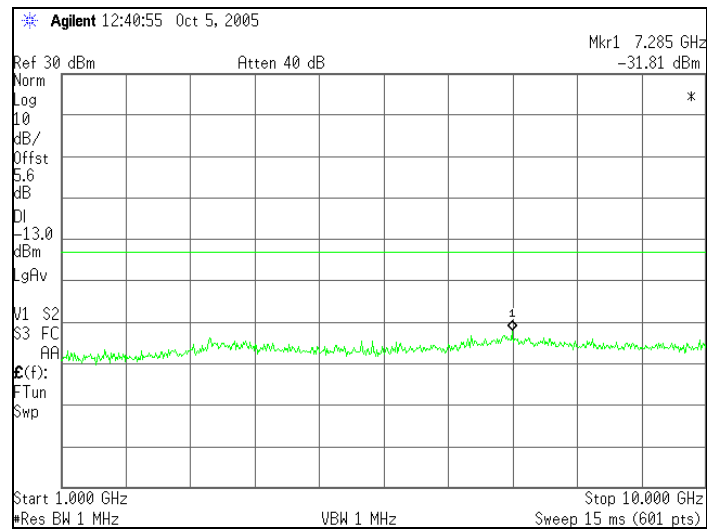


Figure 14: Spurious Emissions - Uplink CDMA High Channel – 2.9 to 10 GHz

2.2 TDMA Uplink

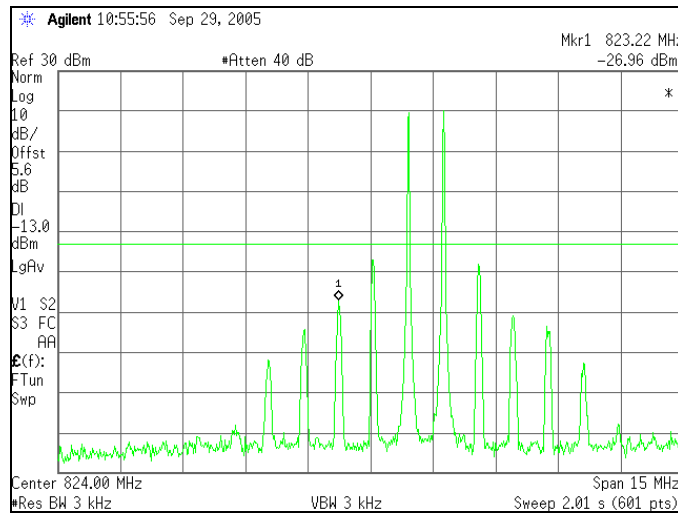


Figure 15: Spurious Emissions - Uplink TDMA Low Channel – In Band

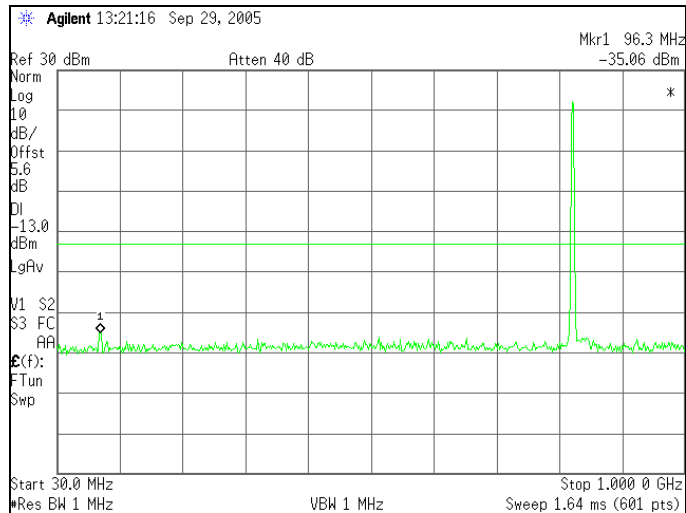


Figure 16: Spurious Emissions - Uplink TDMA Low Channel – 30 MHz to 2.9 GHz

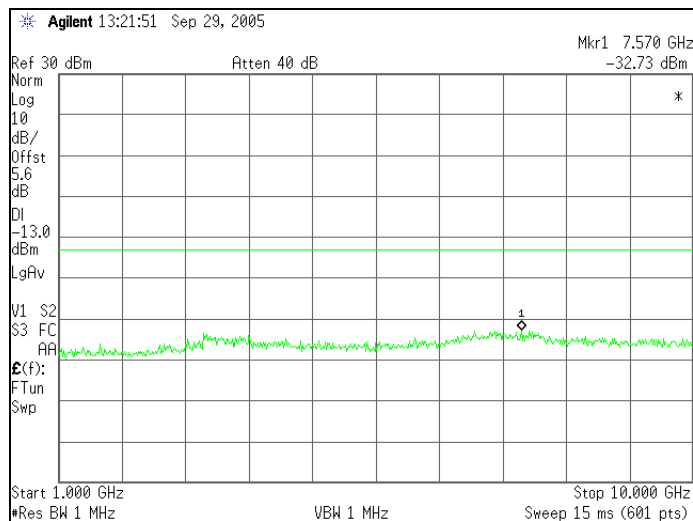


Figure 17: Spurious Emissions - Uplink TDMA Low Channel – 2.9 to 10 GHz

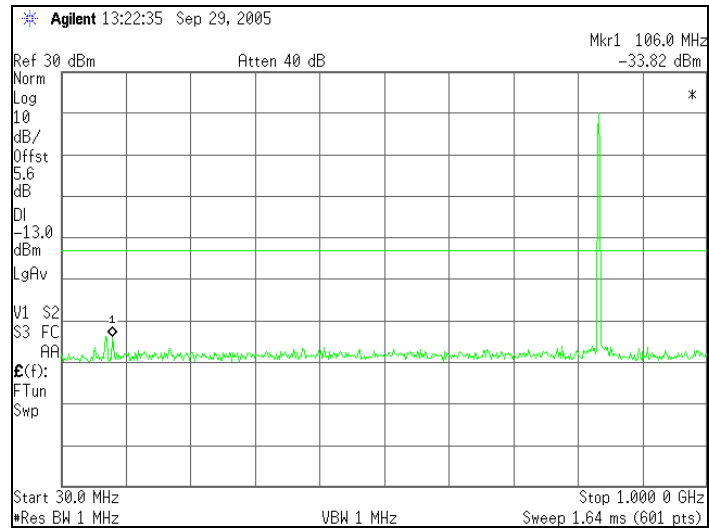


Figure 18: Spurious Emissions - Uplink TDMA Mid Channel – 30 MHz to 2.9 GHz

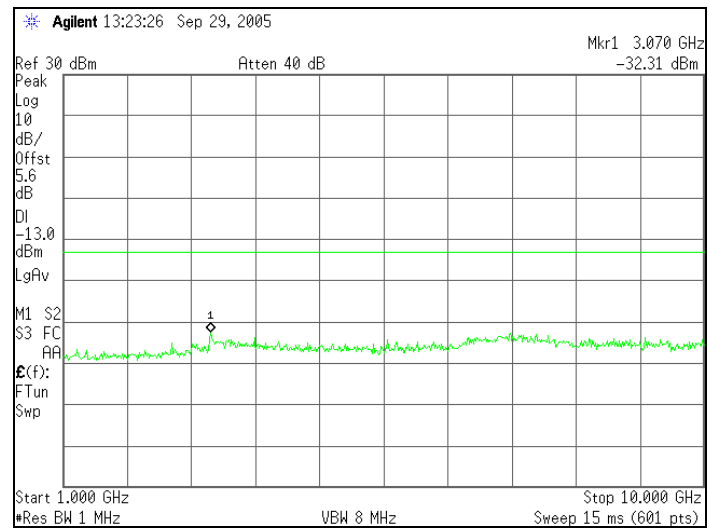


Figure 19: Spurious Emissions - Uplink TDMA Mid Channel – 2.9 to 10 GHz

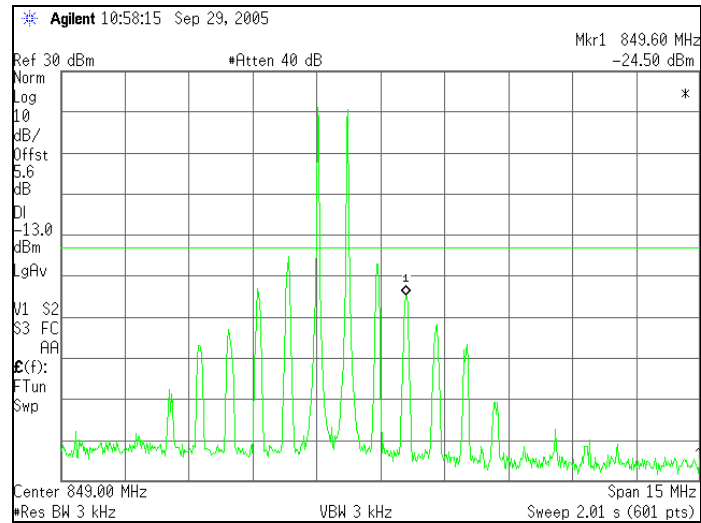


Figure 20: Spurious Emissions - Uplink TDMA High Channel – In Band

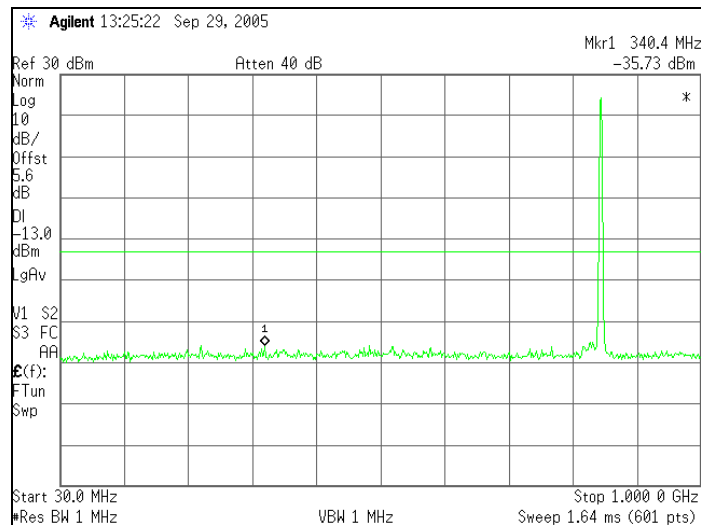


Figure 21: Spurious Emissions - Uplink TDMA High Channel – 30 MHz to 2.9 GHz

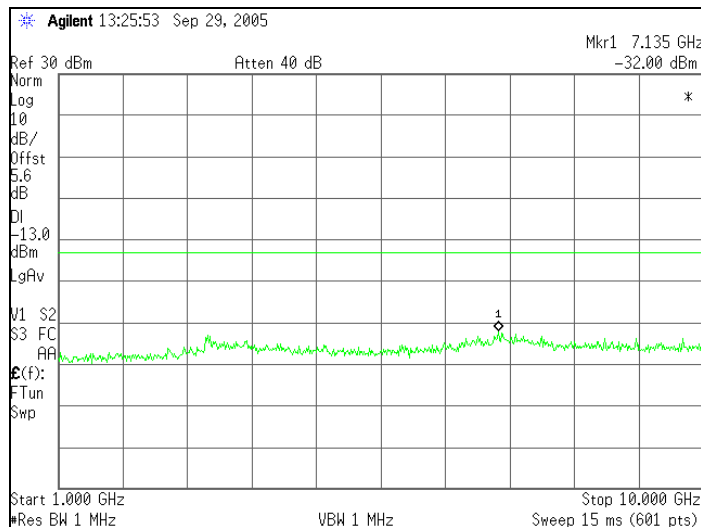


Figure 22: Spurious Emissions - Uplink TDMA High Channel – 2.9 to 10 GHz

2.3 CW Uplink – Covers FM (GSM and F1D)

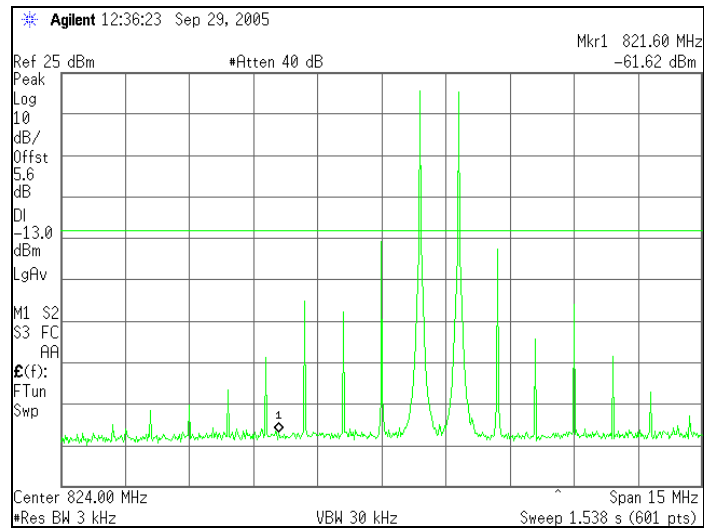


Figure 23: Spurious Emissions - Uplink CW Low Channel – In Band

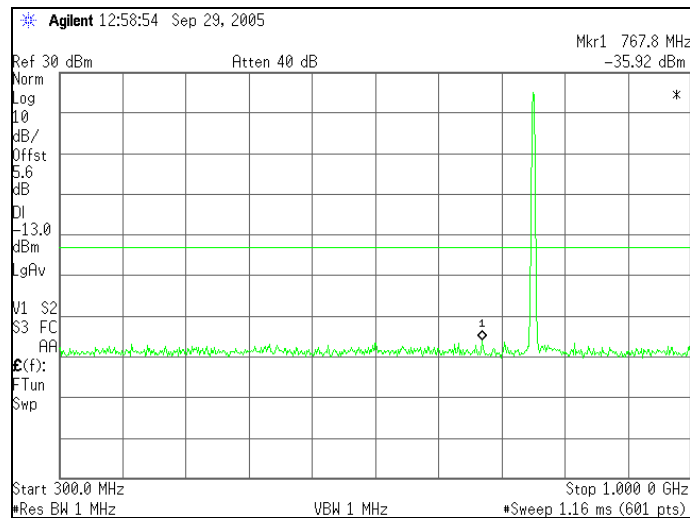


Figure 24: Spurious Emissions - Uplink CW Low Channel – 30 MHz to 2.9 GHz

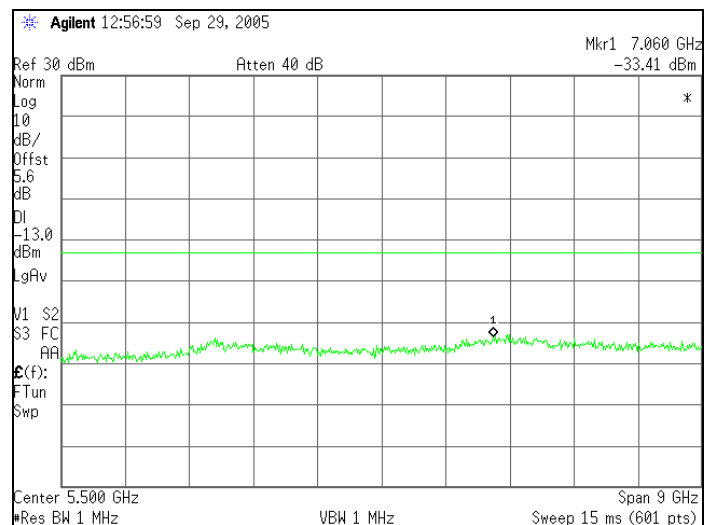


Figure 25: Spurious Emissions - Uplink CW Low Channel – 2.9 to 10 GHz

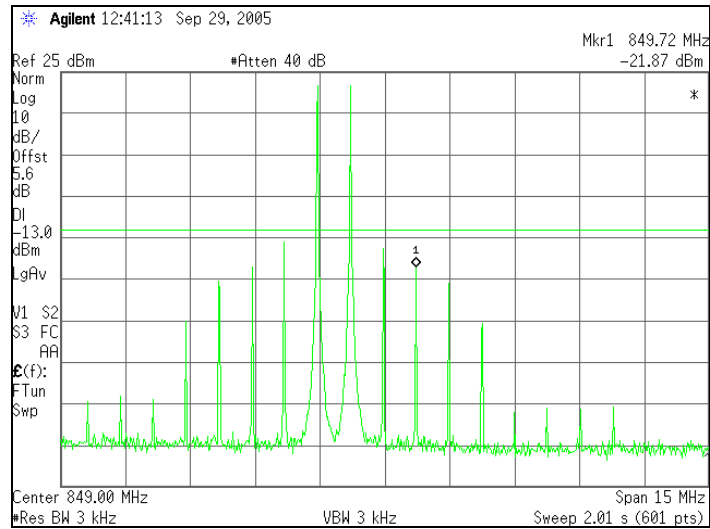


Figure 26: Spurious Emissions - Uplink CW High Channel – In Band

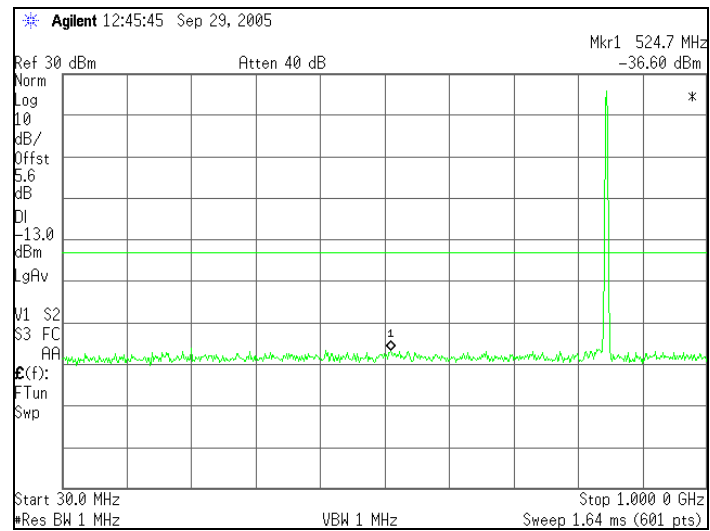


Figure 27: Spurious Emissions - Uplink CW High Channel – 30 MHz to 2.9 GHz

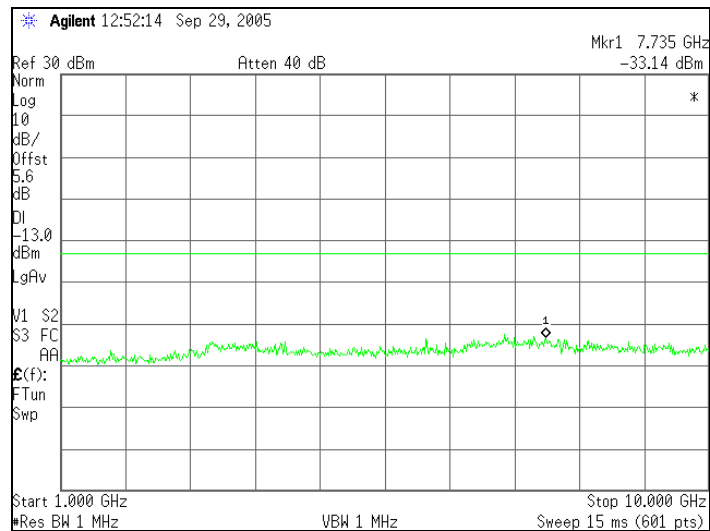


Figure 28: Spurious Emissions - Uplink CW High Channel – 2.9 to 10 GHz

2.4 GSM Uplink

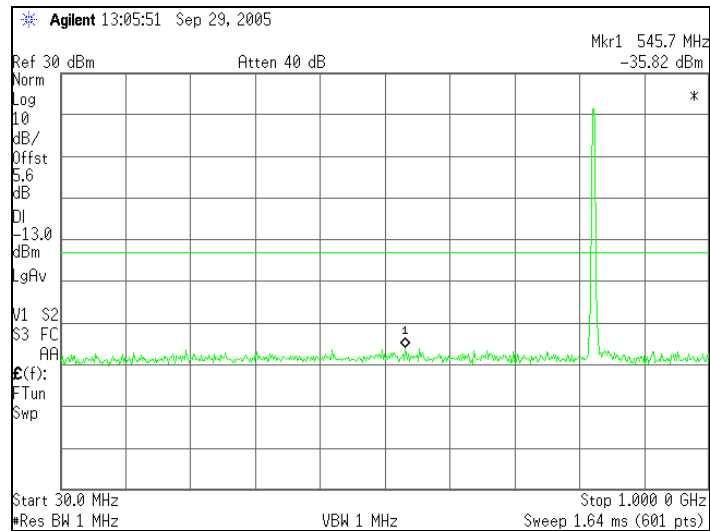


Figure 29: Spurious Emissions - Uplink GSM Low Channel – 30 MHz to 2.9 GHz

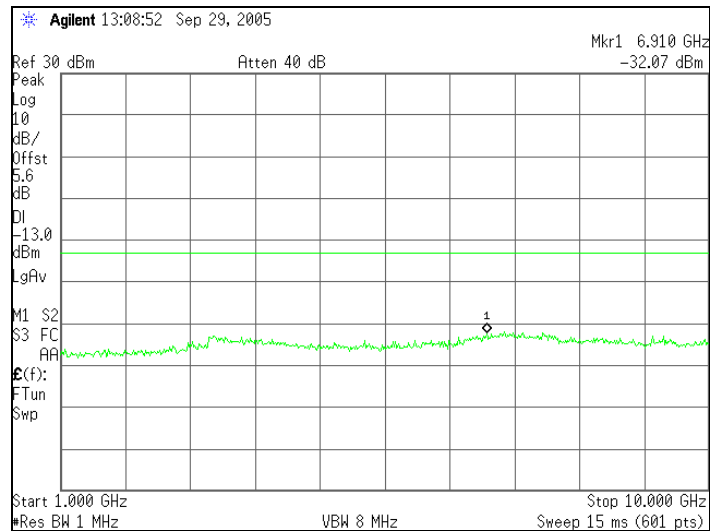


Figure 30: Spurious Emissions - Uplink GSM Low Channel – 2.9 to 10 GHz

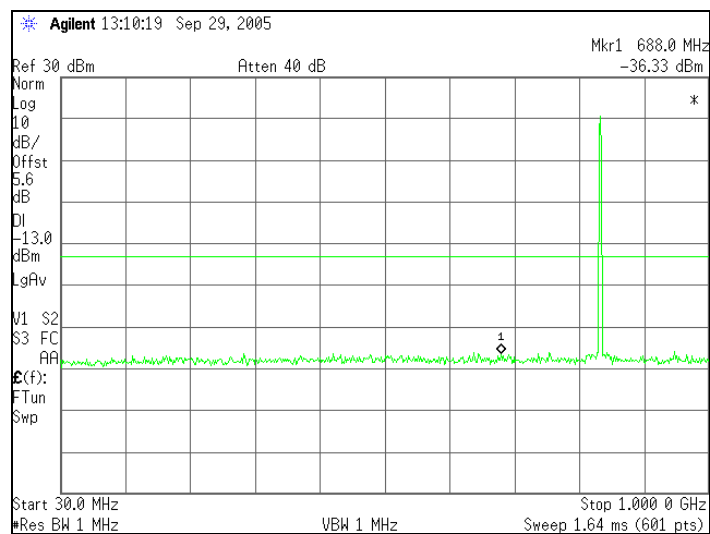
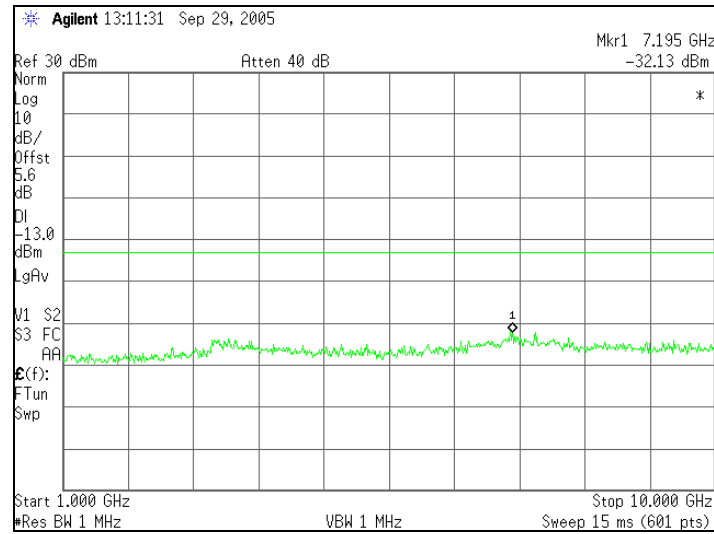
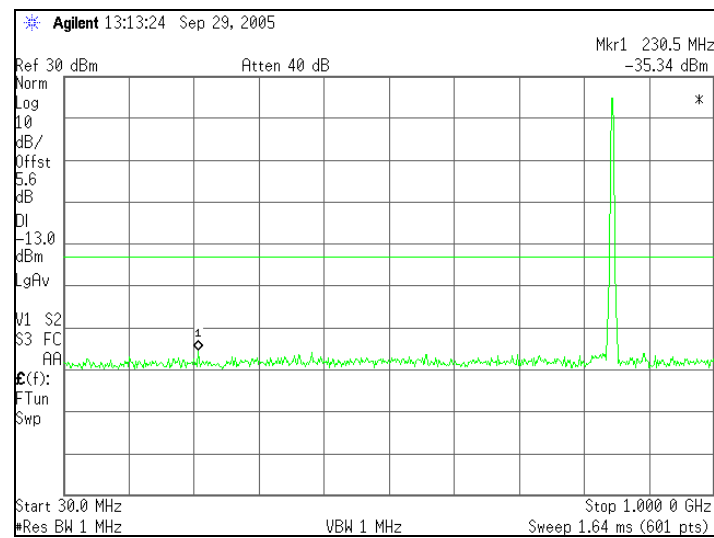
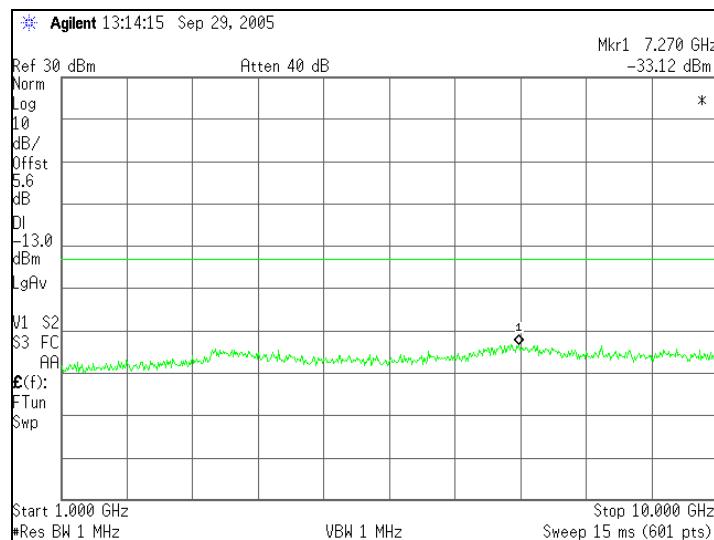


Figure 31: Spurious Emissions - Uplink GSM Mid Channel – 30 MHz to 2.9 GHz

**Figure 32: Spurious Emissions - Uplink GSM Mid Channel – 2.9 to 10 GHz****Figure 33: Spurious Emissions - Uplink GSM High Channel – 30 MHz to 2.9 GHz****Figure 34: Spurious Emissions - Uplink GSM High Channel – 2.9 to 10 GHz**

2.5 CDMA Downlink

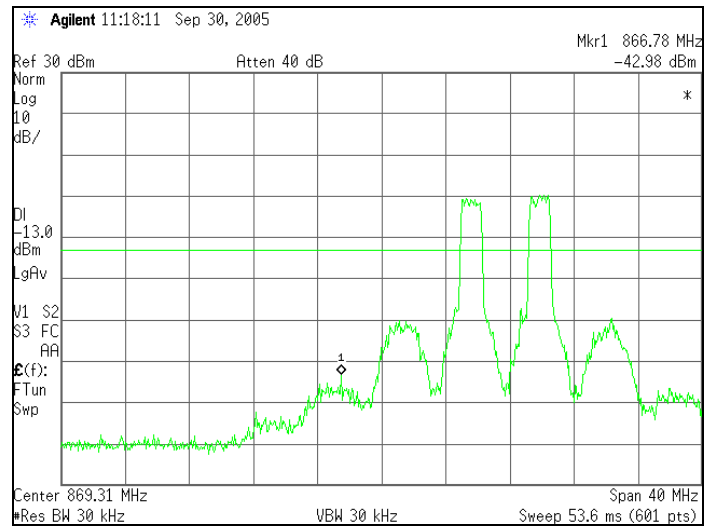


Figure 35: Spurious Emissions - Downlink CDMA Low Channel – In Band

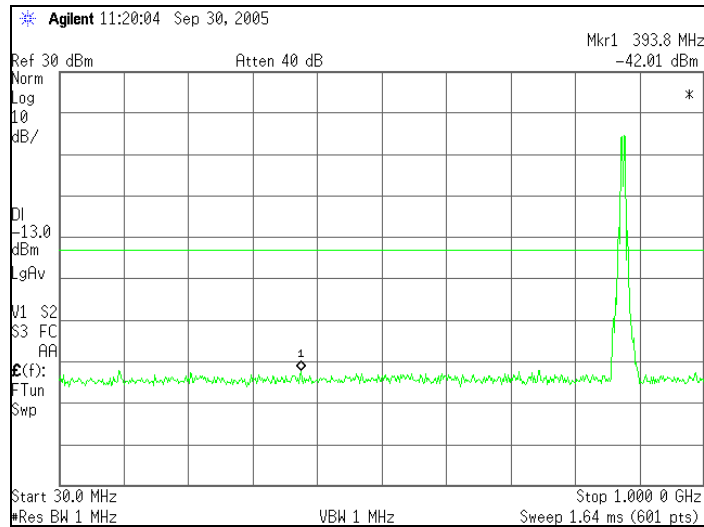


Figure 36: Spurious Emissions - Downlink CDMA Low Channel – 30 MHz to 2.9 GHz

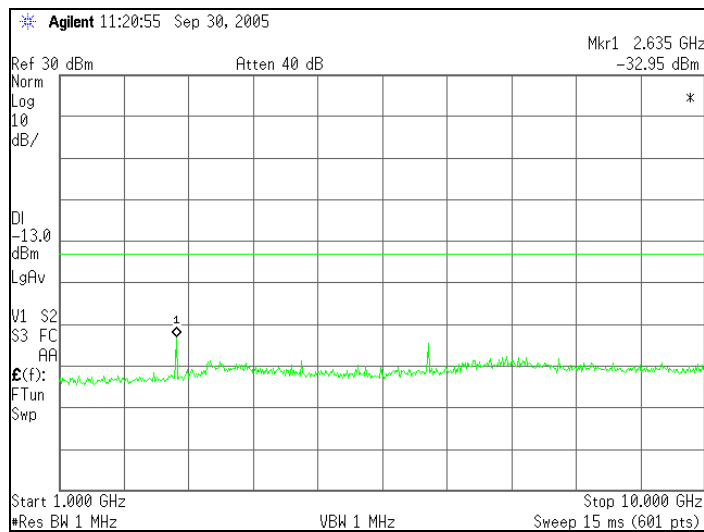
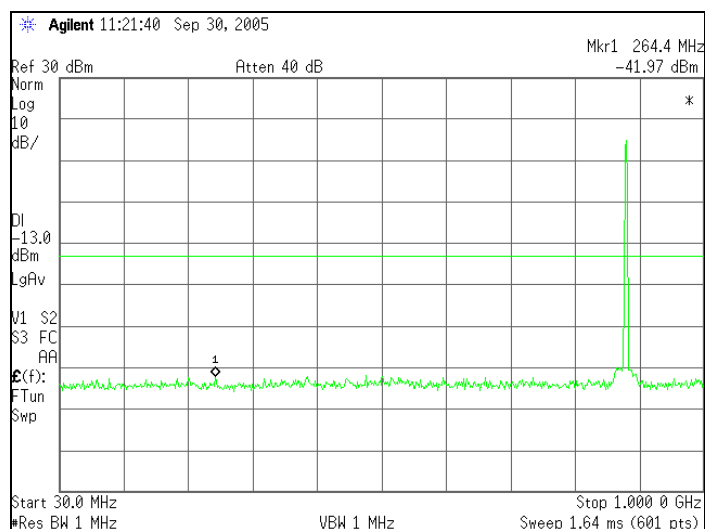
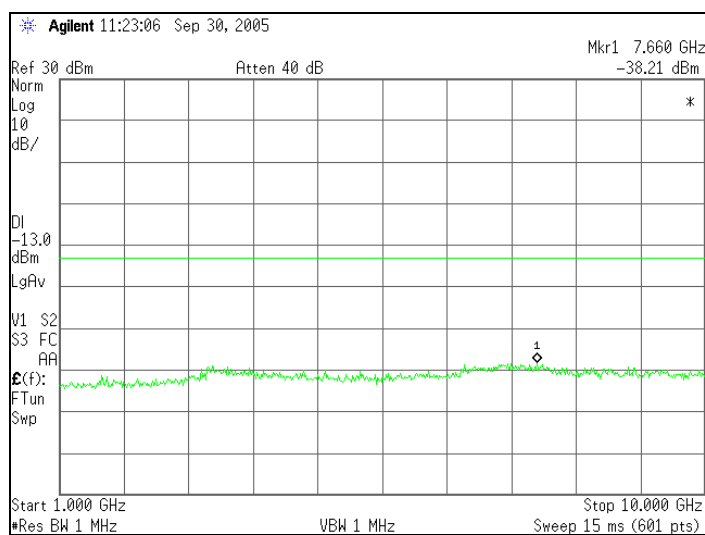


Figure 37: Spurious Emissions - Downlink CDMA Low Channel – 2.9 to 10 GHz

**Figure 38: Spurious Emissions - Downlink CDMA Mid Channel – 30 MHz to 2.9 GHz****Figure 39: Spurious Emissions - Downlink CDMA Mid Channel – 2.9 to 10 GHz**

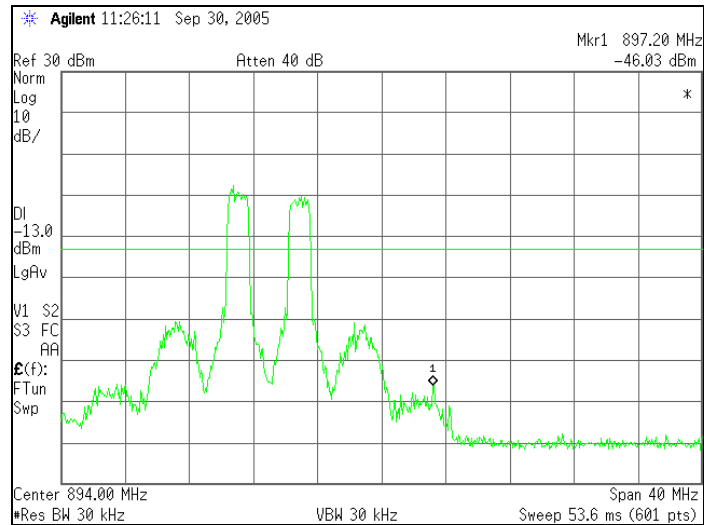


Figure 40: Spurious Emissions - Downlink CDMA High Channel – In Band

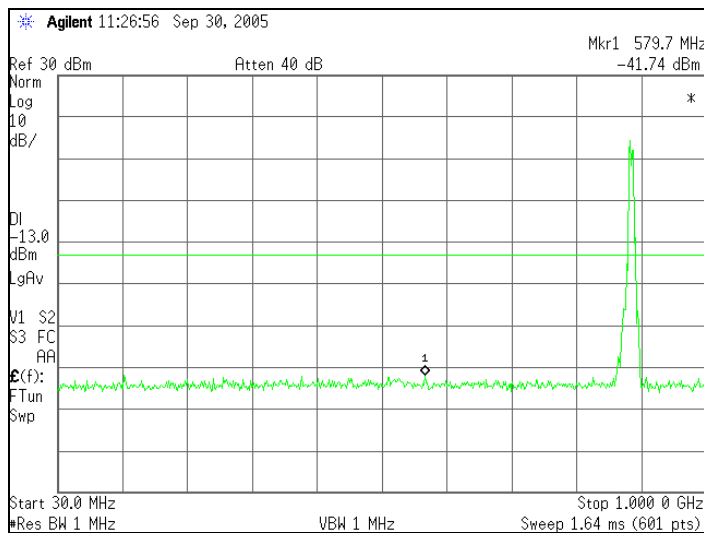


Figure 41: Spurious Emissions - Downlink CDMA High Channel – 30 MHz to 2.9 GHz

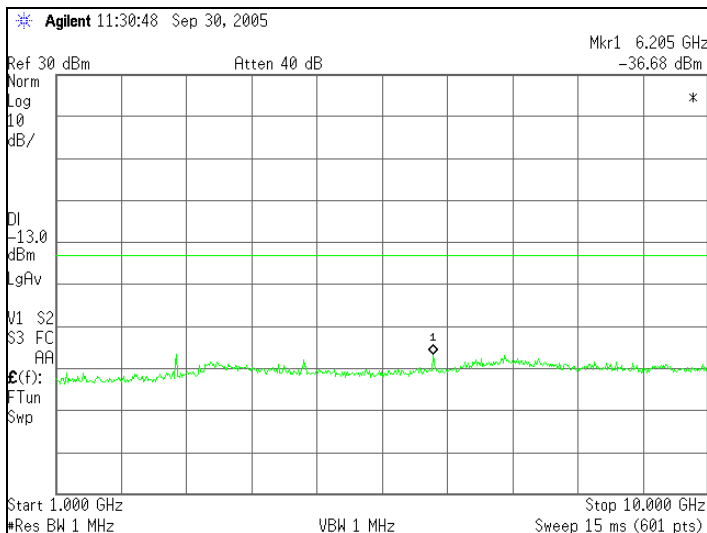


Figure 42: Spurious Emissions - Downlink CDMA High Channel – 2.9 to 10 GHz

2.6 TDMA Downlink

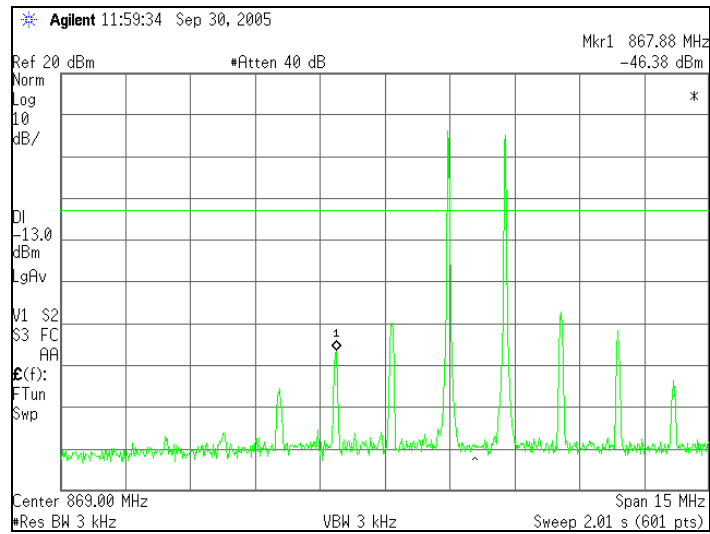


Figure 43: Spurious Emissions - Downlink TDMA Low Channel – In Band

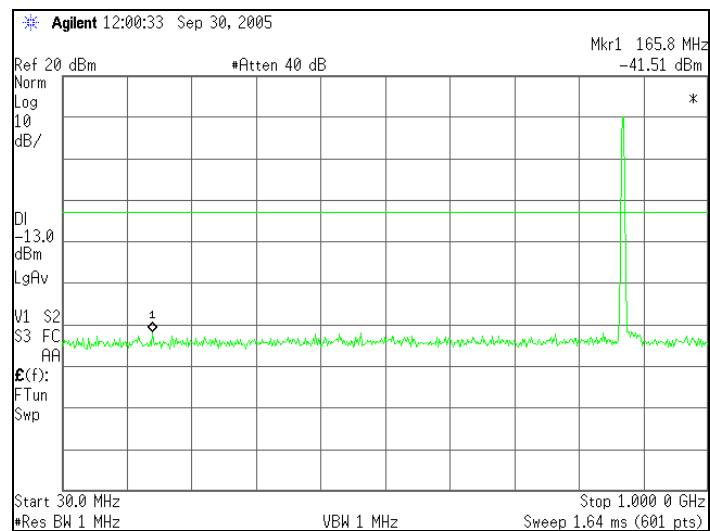


Figure 44: Spurious Emissions - Downlink TDMA Low Channel – 30 MHz to 2.9 GHz

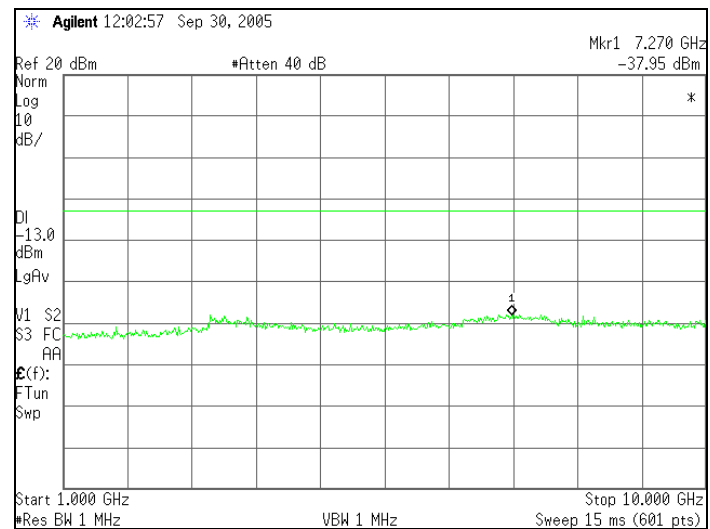
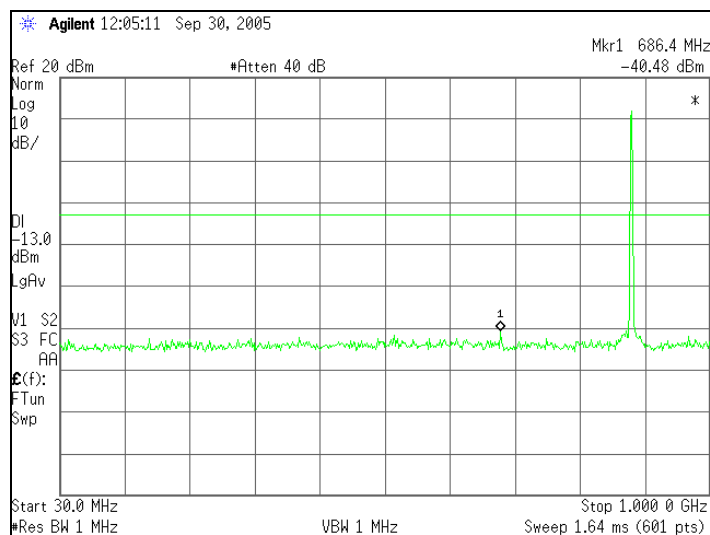
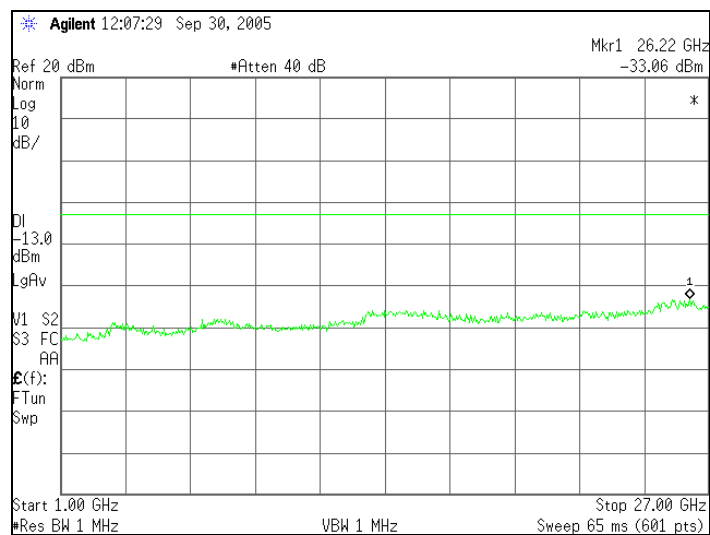


Figure 45: Spurious Emissions - Downlink TDMA Low Channel – 2.9 to 10 GHz

**Figure 46: Spurious Emissions - Downlink TDMA Mid Channel – 30 MHz to 2.9 GHz****Figure 47: Spurious Emissions - Downlink TDMA Mid Channel – 2.9 to 10 GHz**

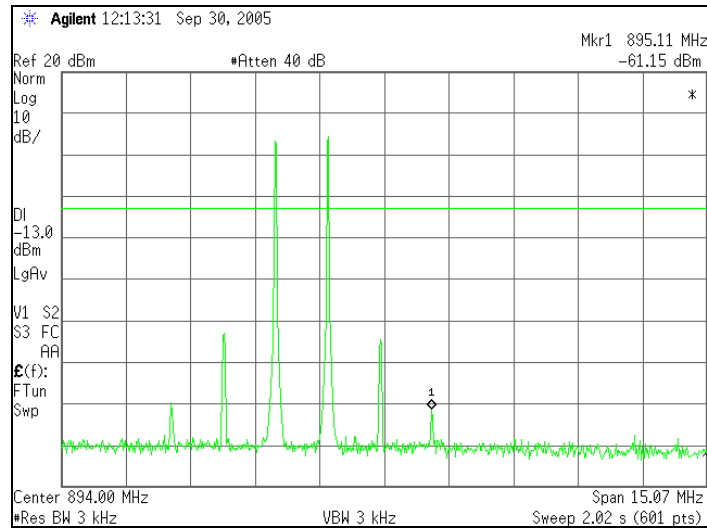


Figure 48: Spurious Emissions - Downlink TDMA High Channel – In Band

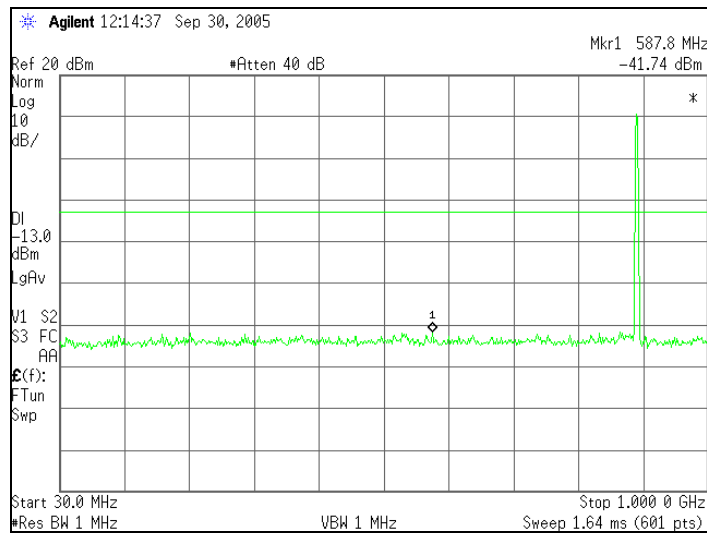


Figure 49: Spurious Emissions - Downlink TDMA High Channel – 30 MHz to 2.9 GHz

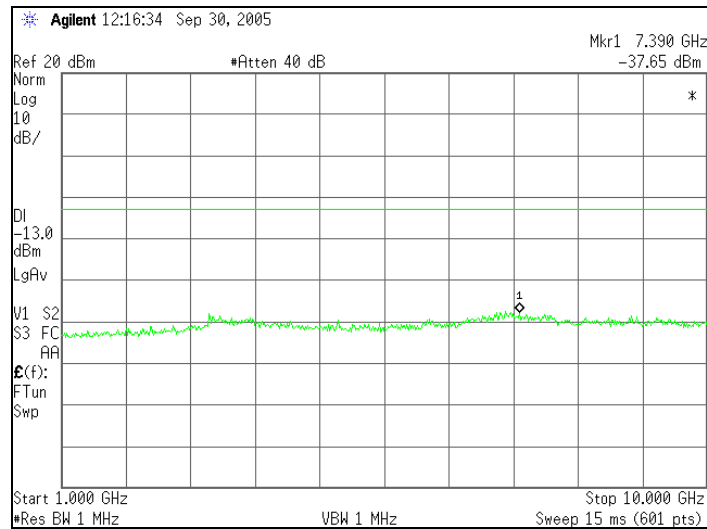


Figure 50: Spurious Emissions - Downlink TDMA High Channel – 2.9 to 10 GHz

2.7 CW Downlink – Covers FM (GSM and F1D)

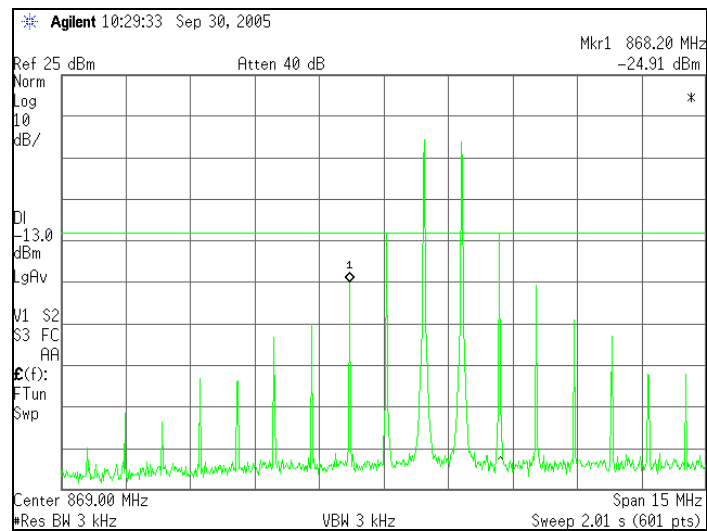


Figure 51: Spurious Emissions – Downlink CW Low Channel – In Band

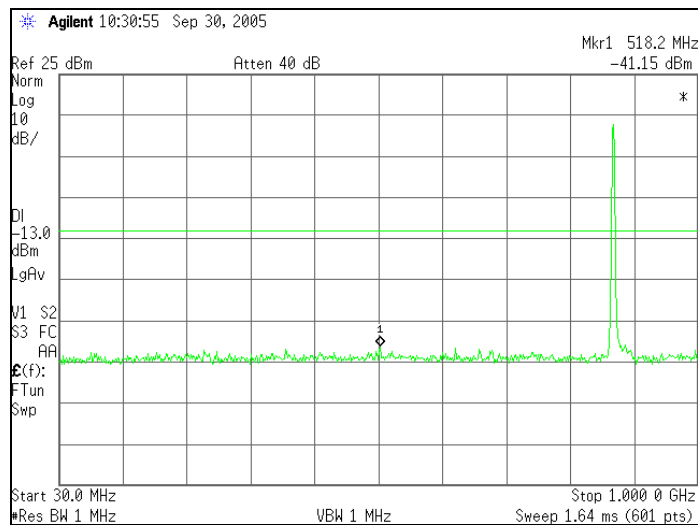


Figure 52: Spurious Emissions – Downlink CW Low Channel – 30 MHz to 2.9 GHz

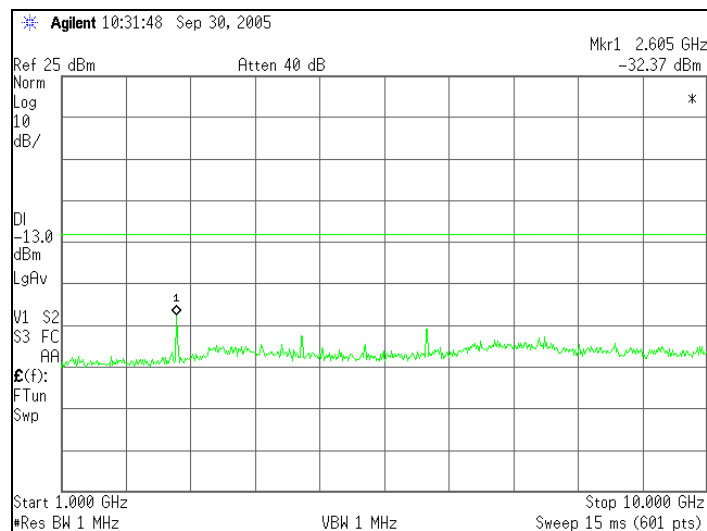


Figure 53: Spurious Emissions – Downlink CW Low Channel – 2.9 to 10 GHz

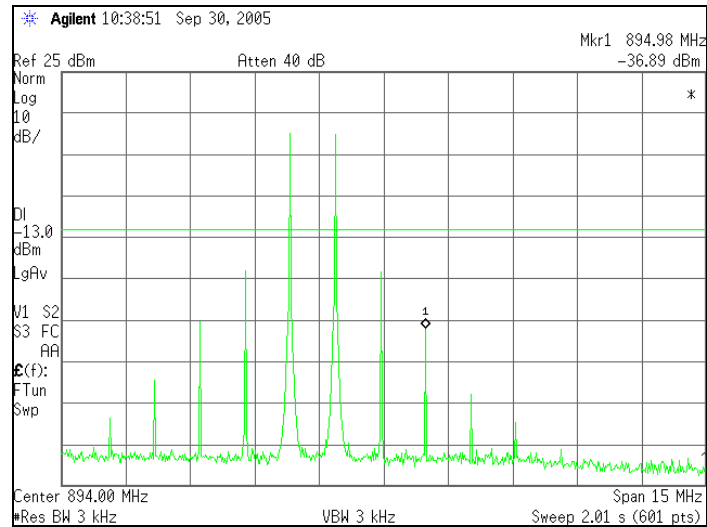


Figure 54: Spurious Emissions – Downlink CW High Channel – In Band

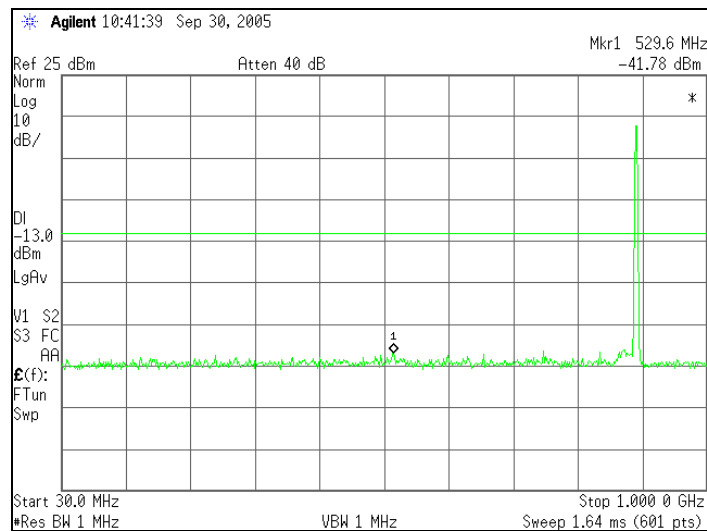


Figure 55: Spurious Emissions – Downlink CW High Channel – 30 MHz to 2.9 GHz

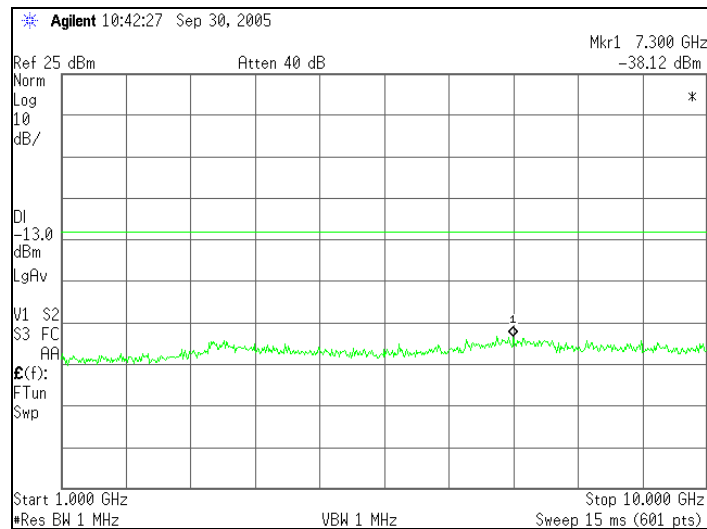


Figure 56: Spurious Emissions – Downlink CW High Channel – 2.9 to 10 GHz

2.8 GSM Downlink

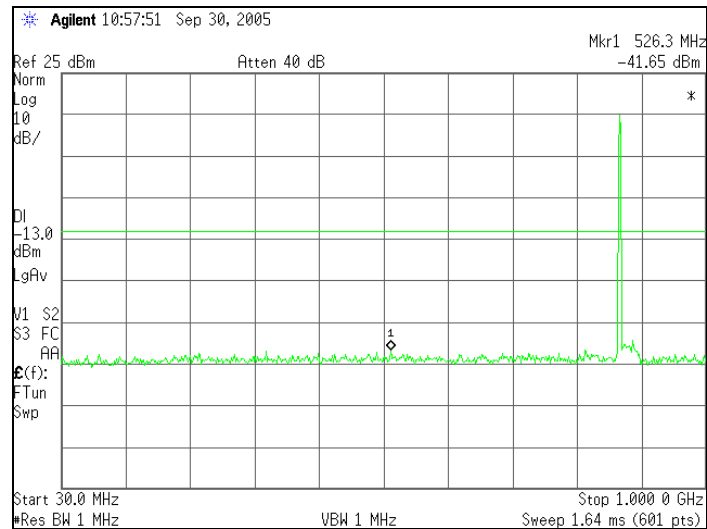


Figure 57: Spurious Emissions - Downlink GSM Low Channel – 30 MHz to 2.9 GHz

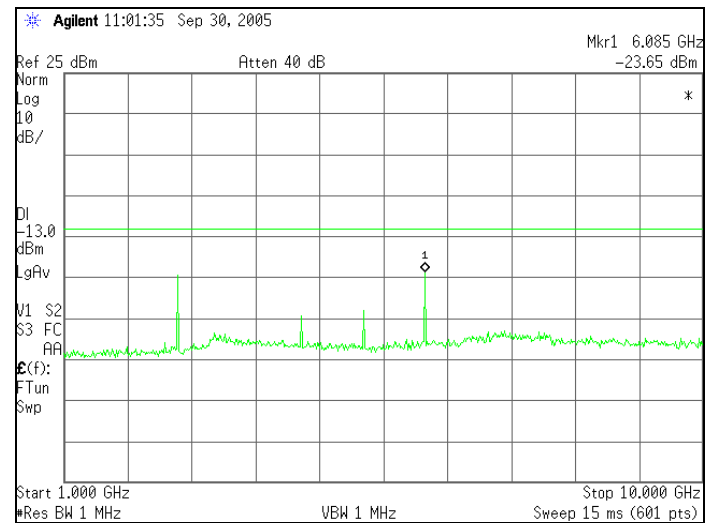


Figure 58: Spurious Emissions - Downlink GSM Low Channel – 2.9 to 10 GHz

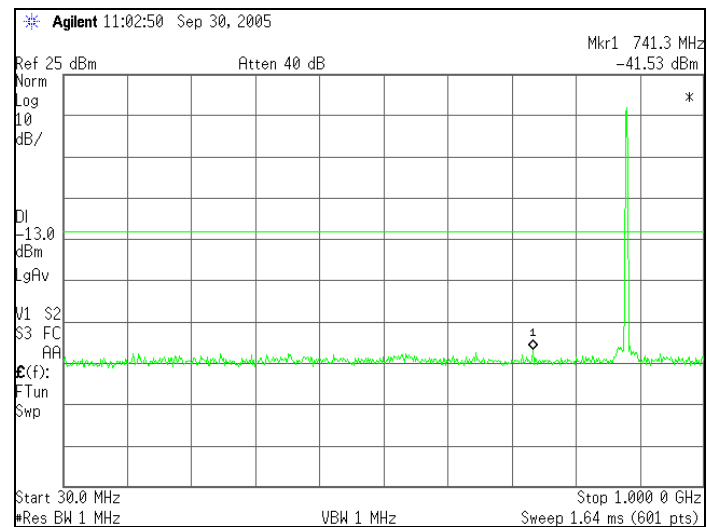


Figure 59: Spurious Emissions - Downlink GSM Mid Channel – 30 MHz to 2.9 GHz

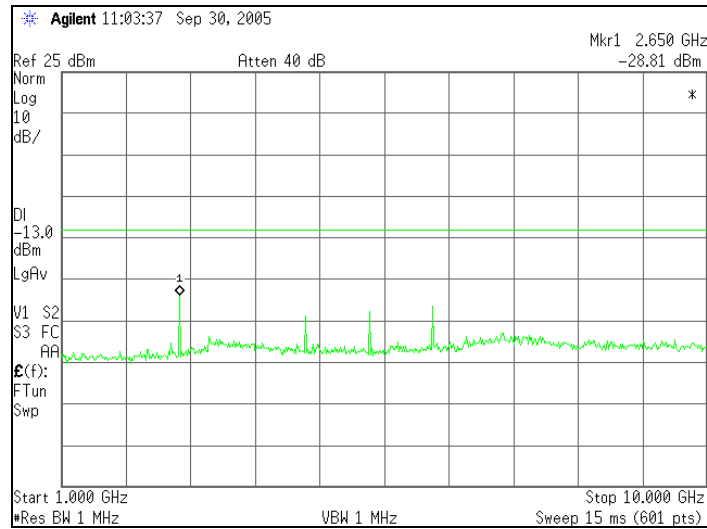


Figure 60: Spurious Emissions - Downlink GSM Mid Channel – 2.9 to 10 GHz

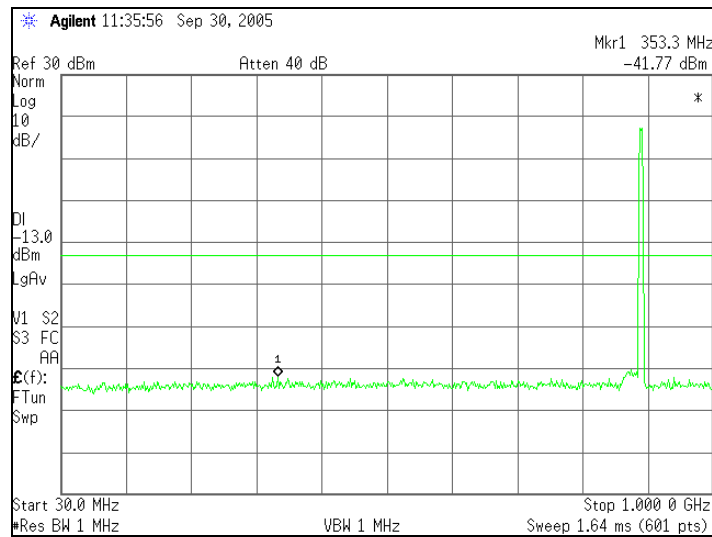


Figure 61: Spurious Emissions - Downlink GSM High Channel – 30 MHz to 2.9 GHz

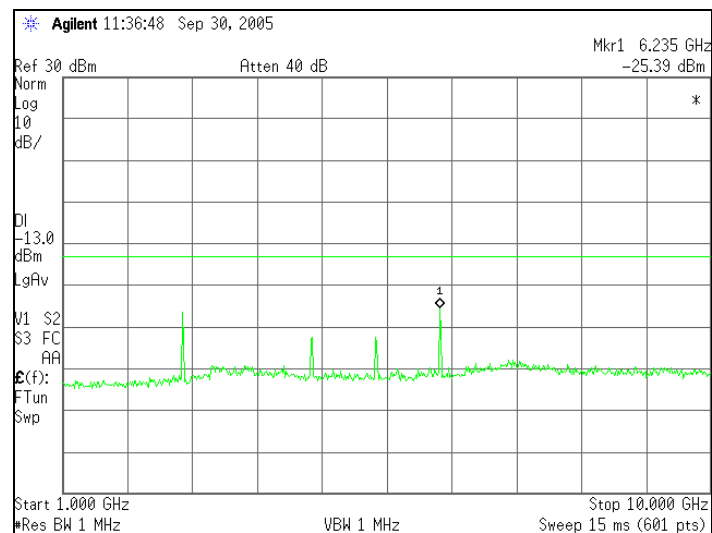


Figure 62: Spurious Emissions - Downlink GSM High Channel – 2.9 to 10 GHz

3.0 Band-edge

3.1 CDMA Uplink

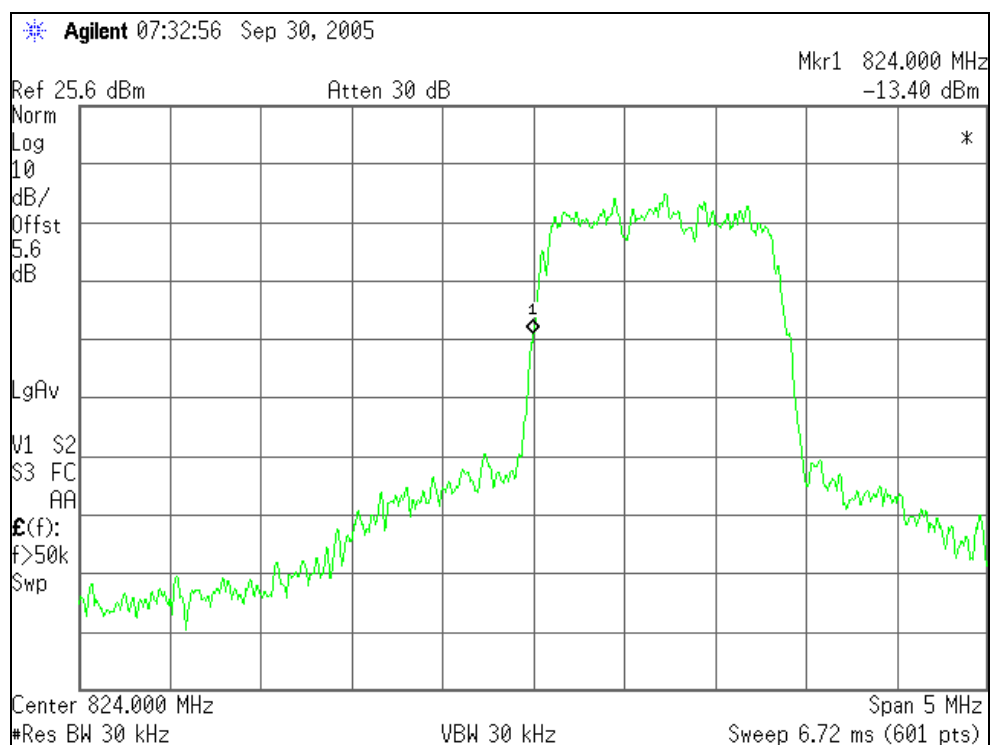


Figure 63: Band-Edge Uplink CDMA Low Channel

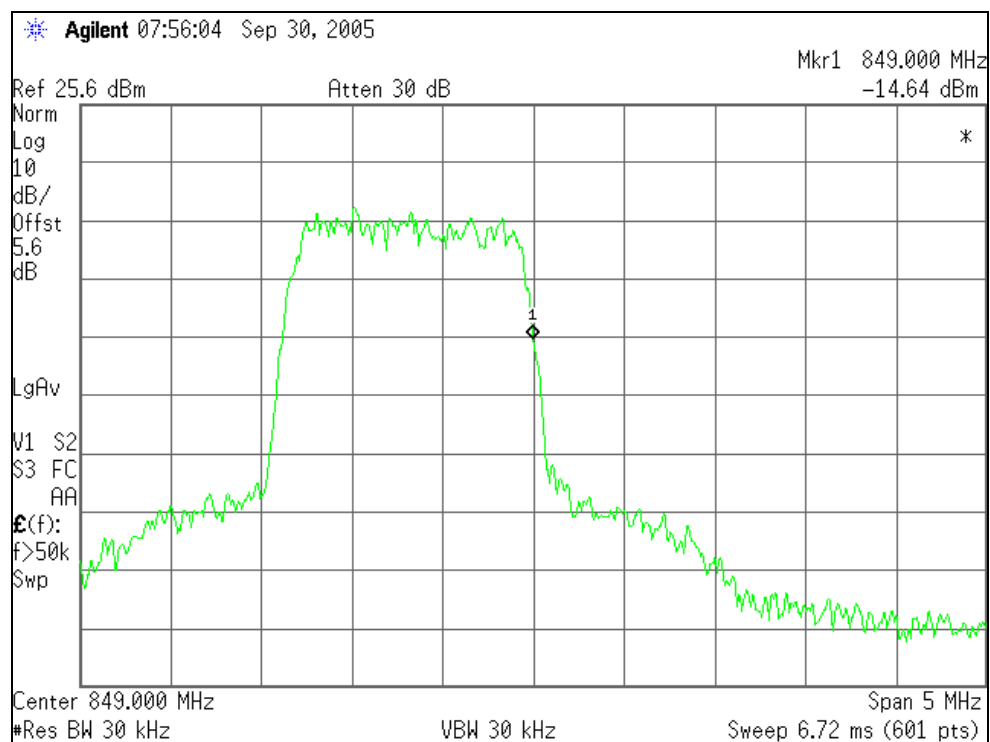


Figure 64: Band-Edge Uplink CDMA High Channel

3.2 TDMA Uplink

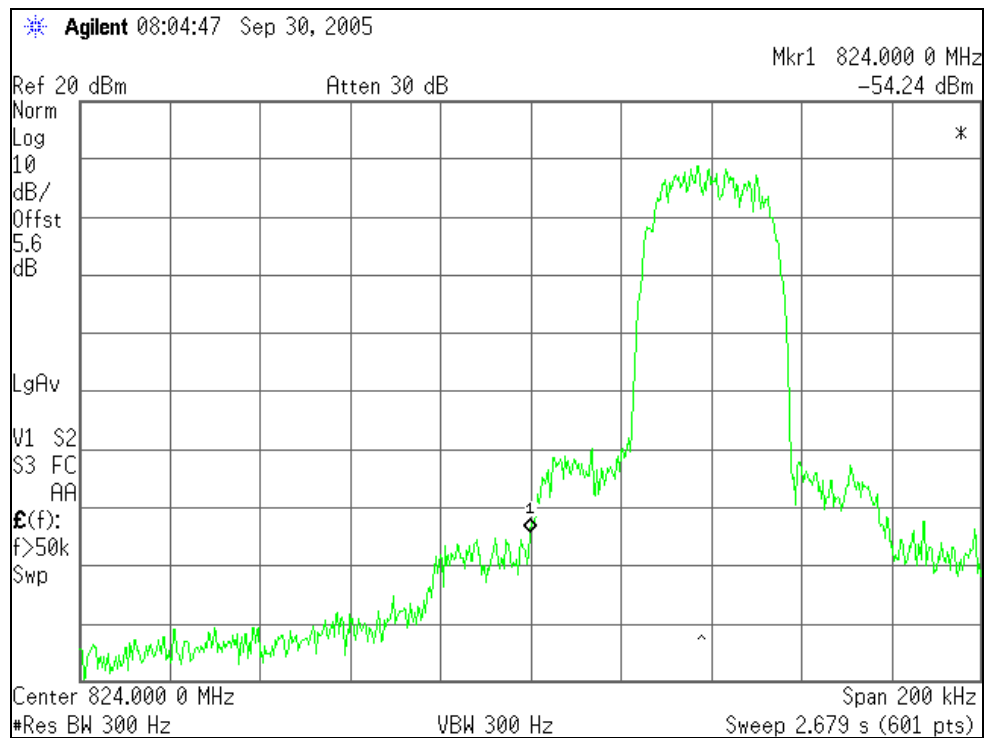


Figure 65: Band-Edge Uplink TDMA Low Channel

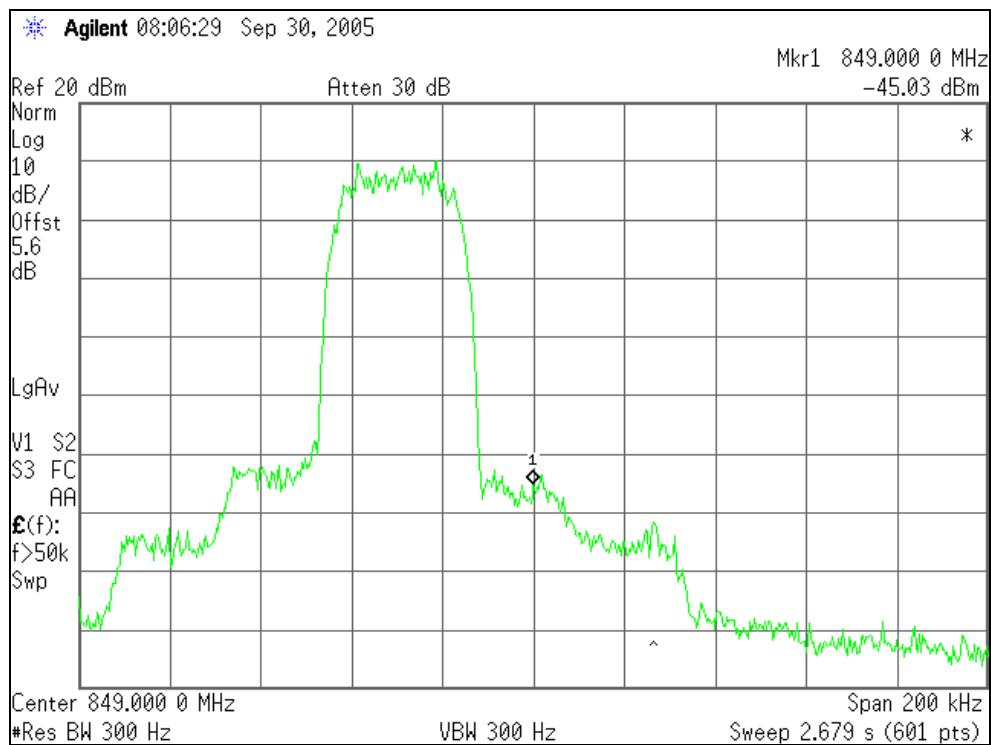


Figure 66: Band-Edge Uplink TDMA High Channel

3.3 GSM Uplink

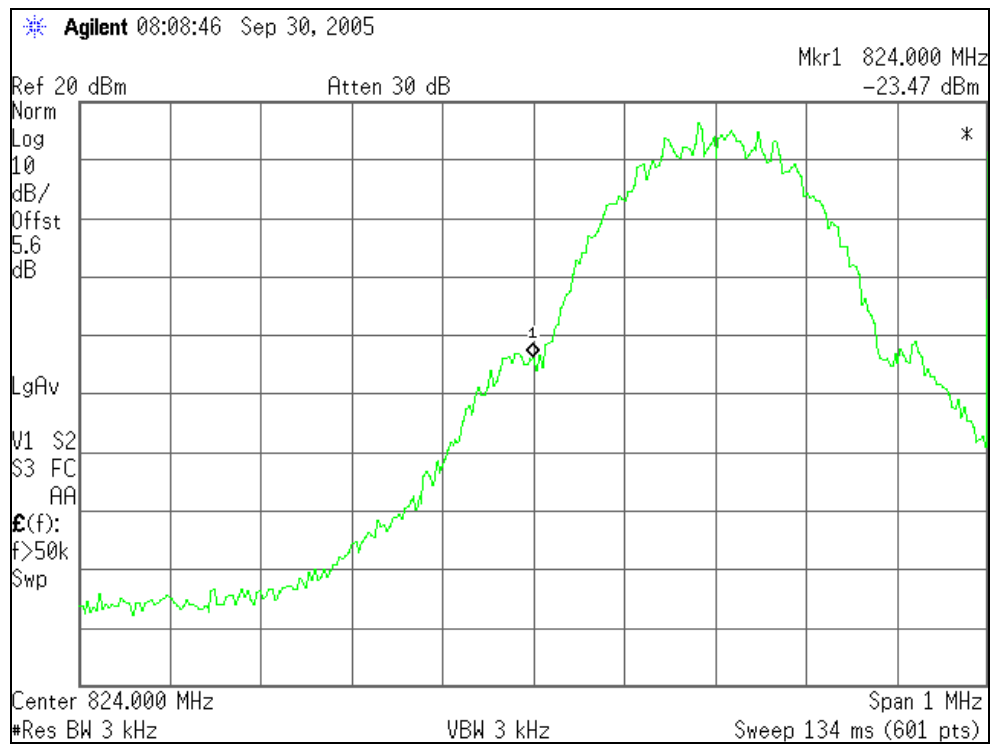


Figure 67: Band-Edge Uplink GSM Low Channel

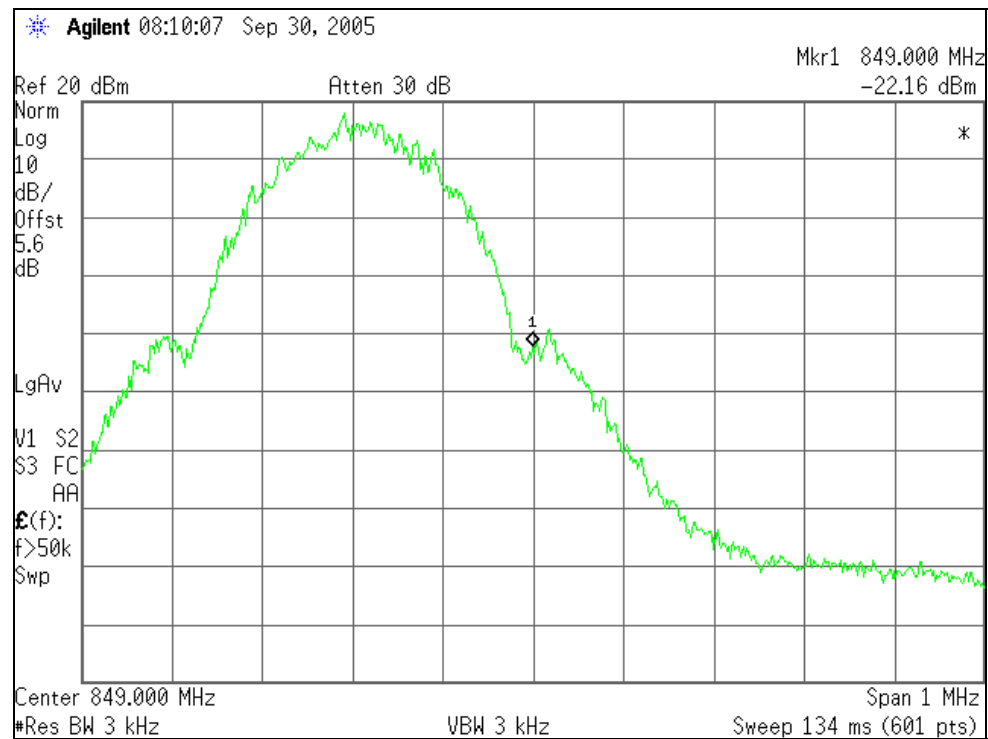


Figure 68: Band-Edge Uplink GSM High Channel

3.4 CDMA Downlink

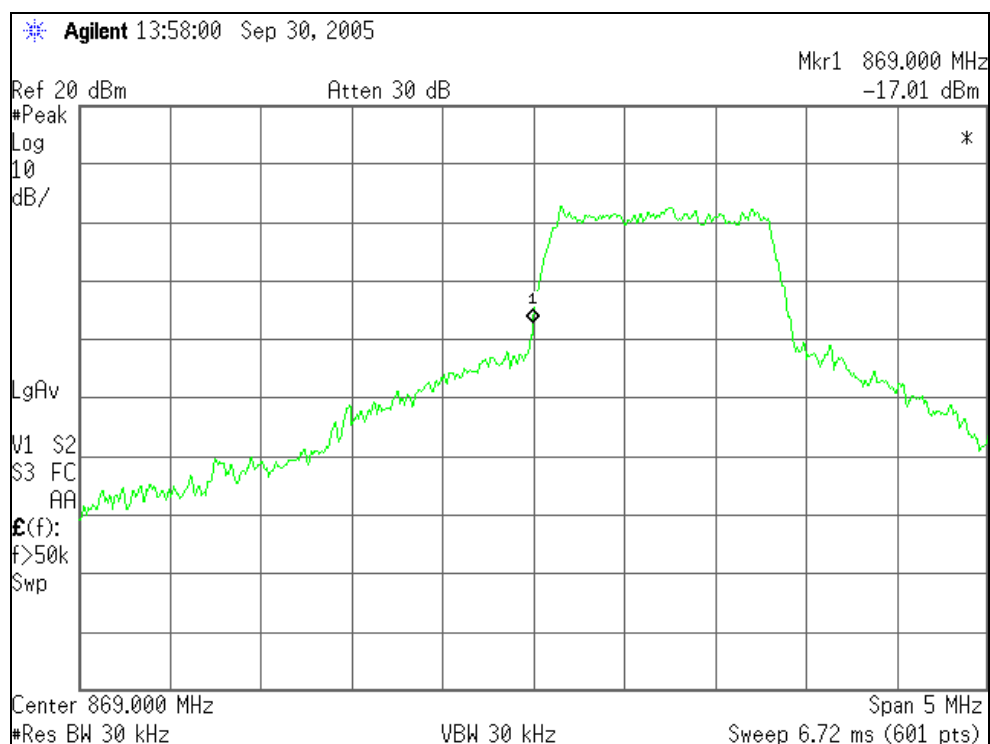


Figure 69: Band-Edge Downlink CDMA Low Channel

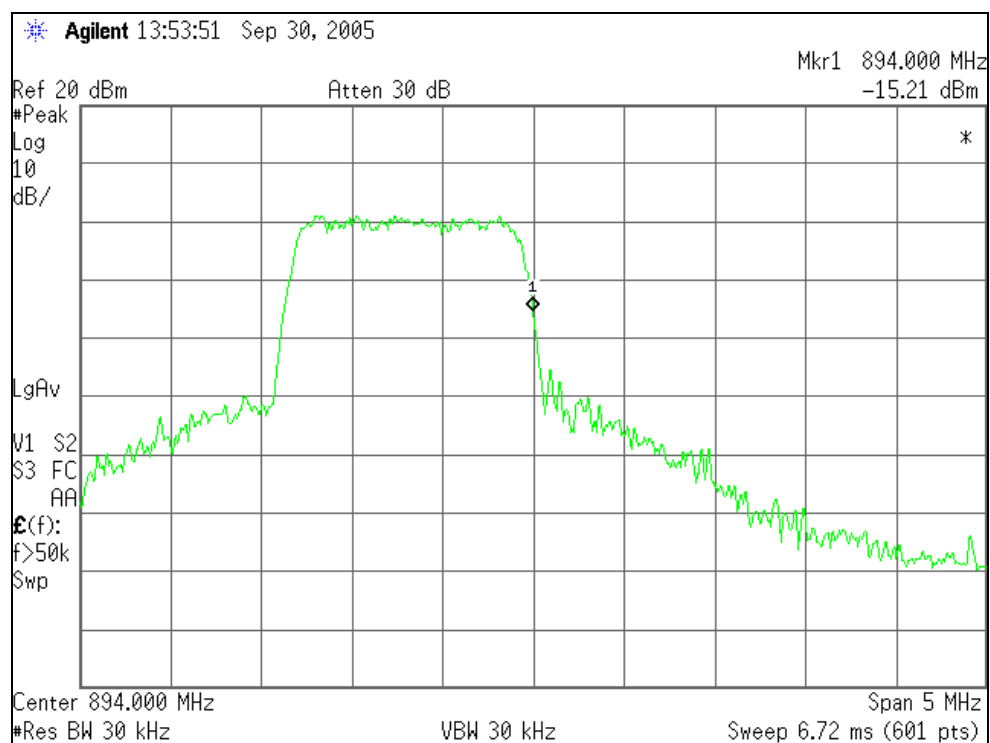


Figure 70: Band-Edge Downlink CDMA High Channel

3.5 TDMA Downlink

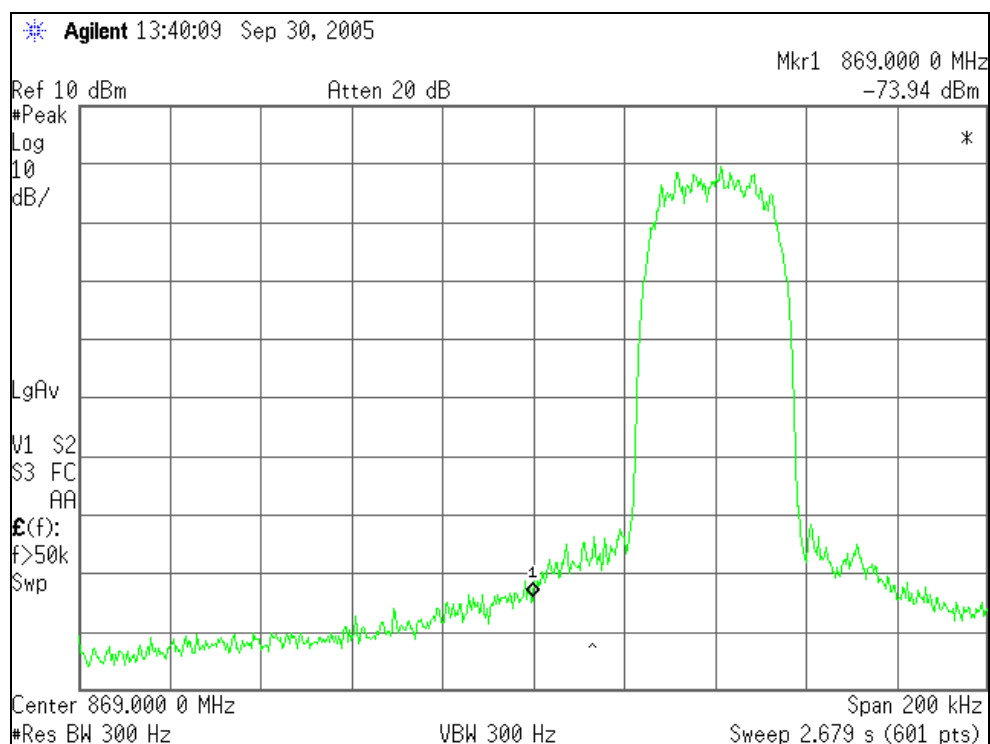


Figure 71: Band-Edge Downlink TDMA Low Channel

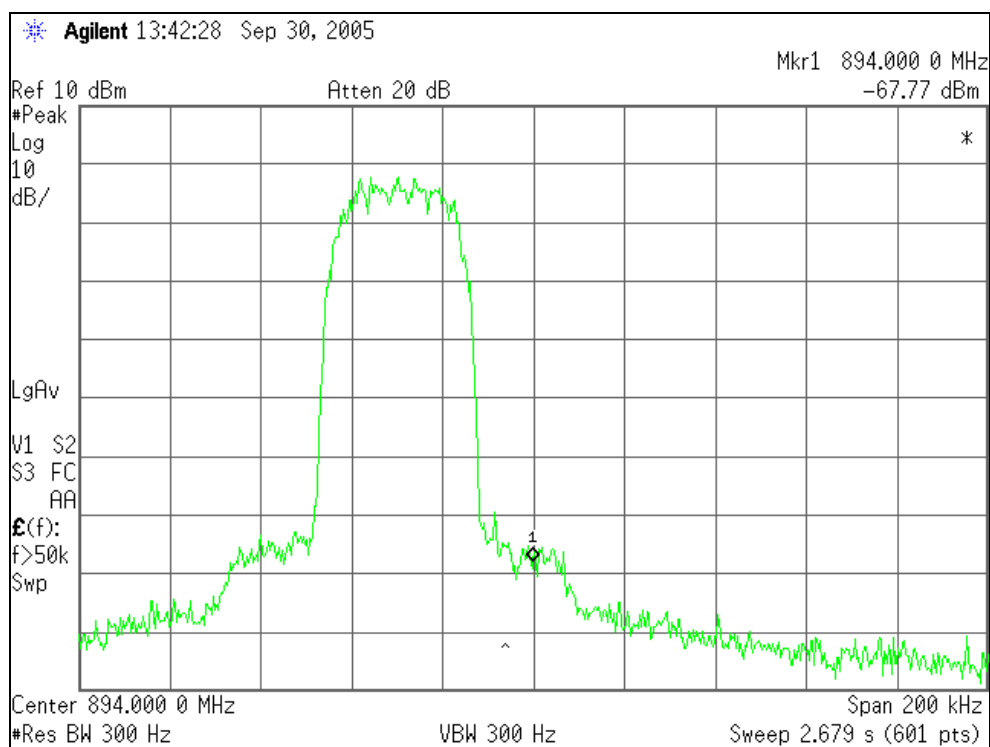


Figure 72: Band-Edge Downlink TDMA High Channel

3.6 GSM Downlink

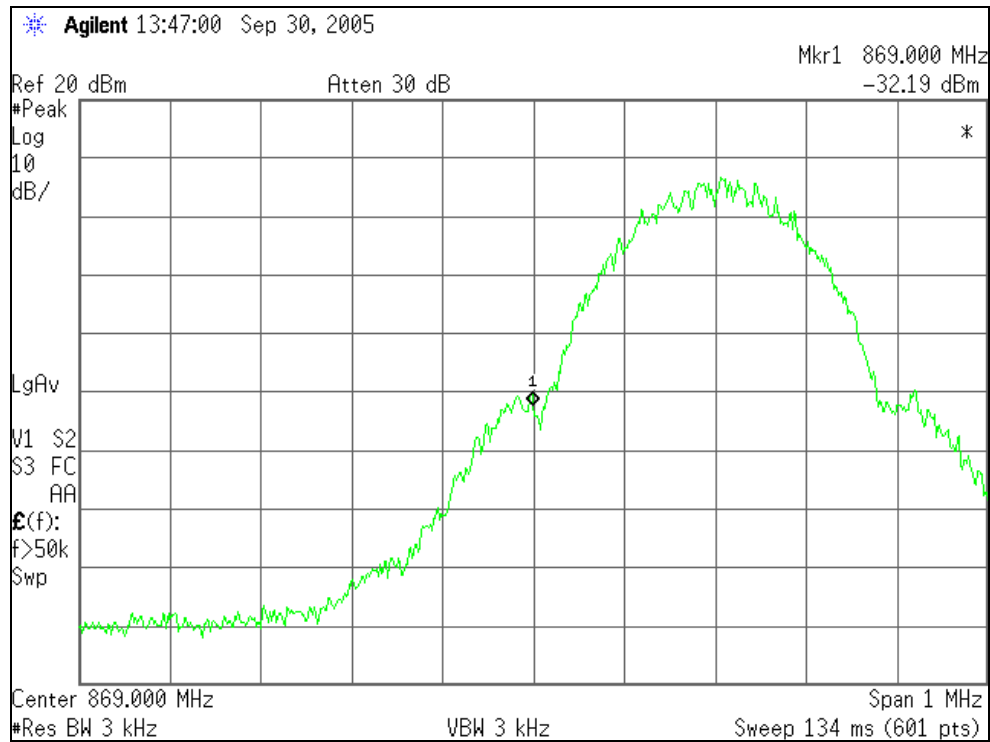


Figure 73: Band-Edge Downlink GSM Low Channel

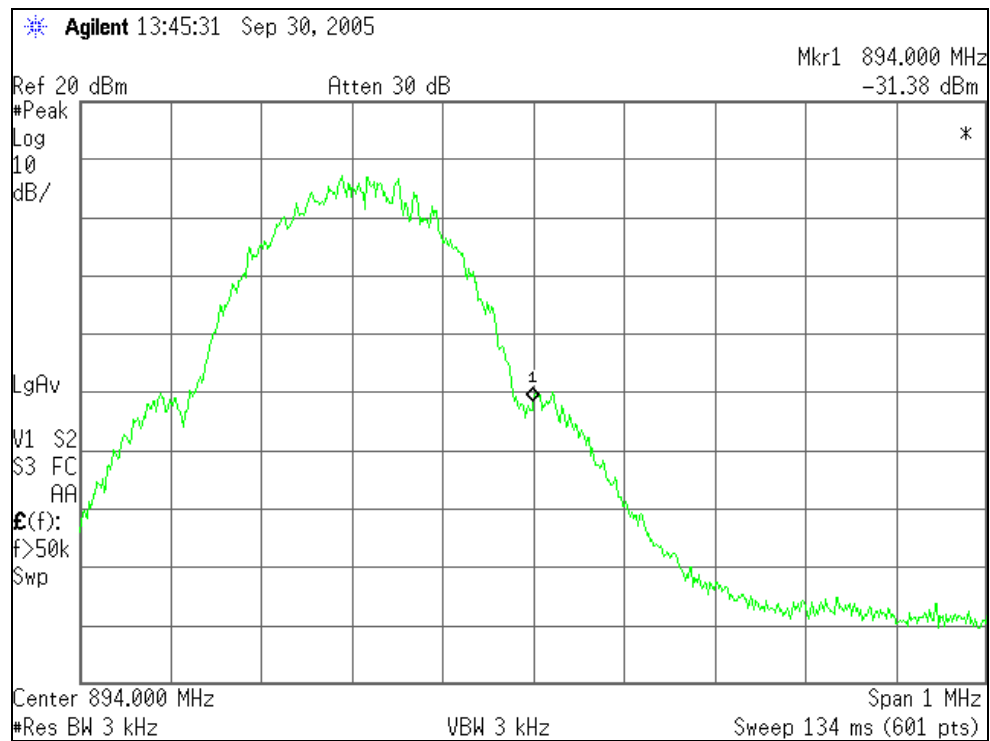


Figure 74: Band-Edge Downlink GSM High Channel

END REPORT