



## Test Report

Product Name : Smart Handheld  
Model No : M900DF  
FCC ID : HLZSHM900DF

Applicant : Acer Incorporated  
Address : 8F, 88, Sec. 1, Hsin Tai Wu Rd.,  
Hsichih, Taipei Hsien 221, Taiwan

Date of Receipt : 2009/12/09  
Issued Date : 2010/01/07  
Report No. : 09C210R-HPUSP07V01  
Report Version : V1.0

The test results relate only to the samples tested.  
The test report shall not be reproduced except in full without the written approval of Quietek Corporation.  
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

# Test Report Certification

Issued Date : 2010/01/07

Report No.: 09C210R-HPUSP07V01



Accredited by NIST (NVLAP)

NVLAP Lab Code: 200533-0

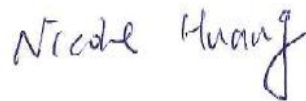
Product Name : Smart Handheld  
Applicant : Acer Incorporated  
Address : 8F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221,  
: Taiwan  
Manufacturer : Compal Communications, INC.  
Trade Name : acer  
Model No. : M900DF  
EUT Rated Voltage : AC 100-240V, 50-60Hz  
EUT Test Voltage : AC 120 V / 60 Hz  
Measurement Standard : FCC CFR Title 47 Part 2 22 24  
Measurement Reference : TIA/EIA 603-C  
Test Result : Complied

Test results relate only to the samples tested.

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Documented By :



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( Adm. Specialist / Nicole Huang)

Tested By :



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( Engineer / Vorana Chen)

Approved By :



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( Manager / Vincent Lin)

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## 1. GENERAL INFORMATION

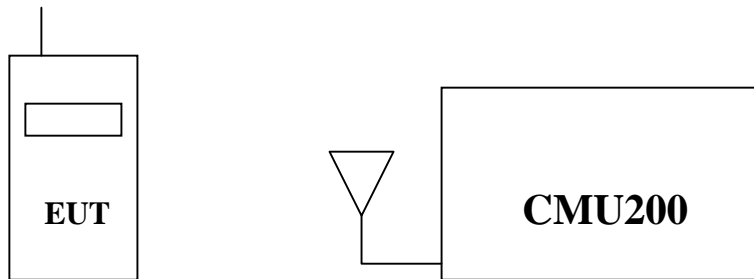
### 1.1. EUT Description

Product Name	Smart Handheld
Model No.	M900DF
Trade Name	acer
IMEI No.	353273-xx-xxxxxx-x
FCC ID.	HLZSHM900DF
Antenna Type	FPCB
TX Frequency	824MHz~849MHz(GSM 850/WCDMA Band V) 1850MHz ~ 1910MHz(PCS 1900/WCDMA Band II)
Rx Frequency	869MHz~894MHz(GSM 850/WCDMA Band V) 1930MHz ~ 1990MHz(PCS 1900/WCDMA Band II)
Function	GPRS/EGPRS/WCDMA/HSDPA/HSUPA
Hardware version	DVT1
Software version	1.002D.03

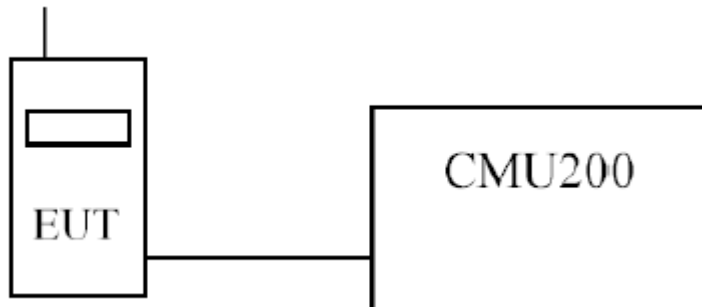
Component	
(1) Power Adapter	MFR: PHIHONG, M/N: PSAC05R-050 Input: AC 100-240V, 300mA, 50/60Hz, 12-18VA Output: DC 5.0V, 1.0A Cable Out: Non-Shielded, 1.4 m
(2) Earphone Cable	Cable: Non-Shielded, 1.8m

### 1.3. Configuration of tested System

(a) Configuration of Radiated measurement



(b) Configuration of Conducted measurement



### 1.4. EUT Setup Procedures

- (1) Setup the EUT and simulators as shown on 1.3
- (2) Turn on the power of all equipments.
- (3) The EUT was set to communicate with CMU200.
- (4) Repeat the above procedure (3).

**1.5. Test Facility**

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20
Humidity (%RH)	25-75	51
Barometric pressure (mbar)	860-1060	950-1000

Site Description: File on  
 Federal Communications Commission  
 FCC Engineering Laboratory  
 7435 Oakland Mills Road  
 Columbia, MD 21046  
 FCC Registration Number :92195



July 03, 2001 Accreditation on NVLAP  
 NVLAP Lab Code: 200533-0



Site Name: Quietek Corporation

LinKou Testing Laboratory:

No. 5, Ruei-Shu Valley, Ruei-Ping Tsuen,  
 Lin-Kou Shiang, Taipei,  
 Taiwan, R.O.C.  
 TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789  
 E-Mail : [service@quietek.com](mailto:service@quietek.com)

## 1.6. Type of Emission

GSM/GPRS/EGPRS: 300KG7W  
WCDMA/HSDPA/HSUPA: 4M20F9W

## 1.7. DC voltages and DC currents

GSM 850	EUT Transmitting (in maximum power) : DC voltage : 3.7V , DC current : 0.63A EUT Standby : DC voltage : 3.7V , DC current : 0.27A
GSM 850 GPRS	EUT Transmitting (in maximum power) : DC voltage : 3.7V , DC current : 0.50A EUT Standby : DC voltage : 3.7V , DC current : 0.25A
GSM 850 EGPRS	EUT Transmitting (in maximum power) : DC voltage : 3.7V , DC current : 0.41A EUT Standby : DC voltage : 3.7V , DC current : 0.26A
PCS 1900	EUT Transmitting (in maximum power) : DC voltage : 3.7V , DC current : 0.54A EUT Standby : DC voltage : 3.7V , DC current : 0.26A
PCS 1900 GPRS	EUT Transmitting (in maximum power) : DC voltage : 3.7V , DC current : 0.45A EUT Standby : DC voltage : 3.7V , DC current : 0.25A
PCS 1900 EGPRS	EUT Transmitting (in maximum power) : DC voltage : 3.7V , DC current : 0.44A EUT Standby : DC voltage : 3.7V , DC current : 0.26A
WCDMA V	EUT Transmitting (in maximum power) : DC voltage : 3.7V , DC current : 0.78A EUT Standby : DC voltage : 3.7V , DC current : 0.34A
WCDMA V HSDPA	EUT Transmitting (in maximum power) : DC voltage : 3.7V , DC current : 0.80A EUT Standby : DC voltage : 3.7V , DC current : 0.33A
WCDMA V HSUPA	EUT Transmitting (in maximum power) : DC voltage : 3.7V , DC current : 0.62A EUT Standby : DC voltage : 3.7V , DC current : 0.35A
WCDMA II	EUT Transmitting (in maximum power) : DC voltage : 3.7V , DC current : 0.99A EUT Standby : DC voltage : 3.7V , DC current : 0.27A
WCDMA II HSDPA	EUT Transmitting (in maximum power) : DC voltage : 3.7V , DC current : 1.03A EUT Standby : DC voltage : 3.7V , DC current : 0.34A
WCDMA II HSUPA	EUT Transmitting (in maximum power) : DC voltage : 3.7V , DC current : 0.94A EUT Standby : DC voltage : 3.7V , DC current : 0.34A



## 2. Peak Power Output

### 2.1. Test Equipment

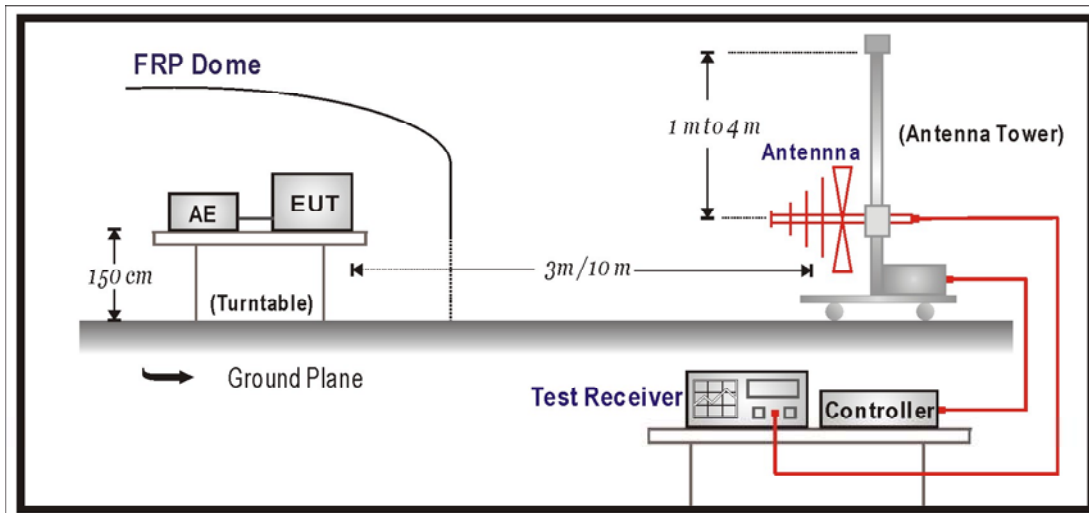
The following test equipments are used during the radiated emission test:

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒OATS 5	Test Receiver	R & S	ESCS 30 / 100122	Feb., 2009
	Universal Radio Communication Tester	R & S	CMU200 / 104846	May, 2009
	Spectrum Analyzer	Advantest	R3162 / 120300652	Feb., 2009
	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May., 2009
	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May., 2009
	Horn Antenna	ETS	3115 / 0005-6160	Jul., 2009
	Pre-Amplifier	QTK	QTK-AMP-01 / 0001	Jul., 2009

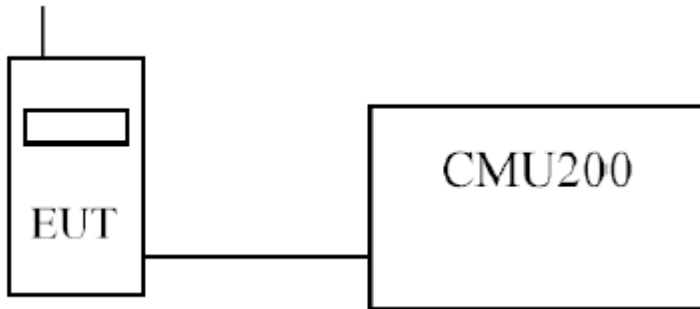
Note: All equipments that need to be calibrated are with calibration period of 1 year.

### 2.2. Test Setup

#### Radiated Power Measurement



**Conducted Power Measurement**



**2.3. Limits**

GSM850	<7W
PCS1900	<2W or +33dBm

**2.4. Test Procedure**

**➤RF Out Power (Radiated)**

The Spectrum Analyzer was tuned to the test frequency. The device was put into Transmit mode then rotated through 360 degrees until the highest power level was observed in both horizontal and vertical polarization. The device was then replaced with a substitution antenna, which input signal was adjusted until the received level matched that of the previously detected emission.

The EUT is tested with maximum rated TX power via the Base Station simulator.

**➤RF Out Power (Conducted)**

The EUT is tested with maximum rated TX power via the Base Station simulator, and the output power was measured at the antenna terminals of the EUT.

**2.5. Test Specification**

According to Part 2.1046, 22.913,24.232.

## 2.6. Test Result of Peak Power Output

Product	Smart Handheld		
Test Mode	RF Output Power (Conducted)		
Date of Test	2009/12/21	Test Site	CTR
Test Condition	GSM 850		

GSM 850				
Frequency (MHz)	Output Power (dBm)	Path Loss (dB)	Result (dBm)	Result (W)
824.2	31.76	0.2	31.96	1.57
836.4	31.92	0.2	32.12	1.63
848.8	31.94	0.2	32.14	1.64
PCS 1900				
Frequency (MHz)	Output Power (dBm)	Path Loss (dB)	Result (dBm)	Result (W)
1850.2	28.71	0.4	29.11	0.81
1880	28.97	0.4	29.37	0.86
1909.8	28.82	0.4	29.22	0.84
GPRS 850				
Frequency (MHz)	Output Power (dBm)	Path Loss (dB)	Result (dBm)	Result (W)
824.2	31.77	0.2	31.97	1.57
836.4	31.94	0.2	32.14	1.64
848.8	31.98	0.2	32.18	1.65
GPRS 1900				
Frequency (MHz)	Output Power (dBm)	Path Loss (dB)	Result (dBm)	Result (W)
1850.2	28.76	0.4	29.16	0.82
1880	28.98	0.4	29.38	0.87
1909.8	28.83	0.4	29.23	0.84

EGPRS 850				
Frequency (MHz)	Output Power (dBm)	Path Loss (dB)	Result (dBm)	Result (W)
824.2	25.36	0.2	25.56	0.36
836.4	25.55	0.2	25.75	0.38
848.8	25.63	0.2	25.83	0.38
EGPRS 1900				
Frequency (MHz)	Output Power (dBm)	Path Loss (dB)	Result (dBm)	Result (W)
1850.2	24.72	0.4	25.12	0.33
1880	24.98	0.4	25.38	0.35
1909.8	24.84	0.4	25.24	0.33
WCDMA V				
Frequency (MHz)	Output Power (dBm)	Path Loss (dB)	Result (dBm)	Result (W)
826.4	23.44	0.2	23.64	0.23
836.6	23.37	0.2	23.57	0.23
846.6	22.88	0.2	23.08	0.20
WCDMA II				
Frequency (MHz)	Output Power (dBm)	Path Loss (dB)	Result (dBm)	Result (W)
1852.4	23.72	0.4	24.12	0.26
1880	23.56	0.4	23.96	0.25
1907.6	22.96	0.4	23.36	0.22

WCDMA V HSDPA								
Frequency (MHz)	Set 1		Set 2		Set 3		Set 4	
	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)
826.4	23.36	0.22	22.91	0.20	22.75	0.19	22.42	0.17
836.6	23.27	0.21	22.55	0.18	22.42	0.17	22.40	0.17
846.6	22.83	0.19	22.07	0.16	22.19	0.17	21.92	0.16
$\beta_c$	2		12		15		15	
$\beta_d$	15		15		8		4	
$\Delta_{ACK}, \Delta_{NACK} \Delta_{CQI}$	8		8		8		8	
Cable loss: 0.2dB for 850MHz ; 0.4dB for 1900MHz								

All HSDPA testing was done in Set1 configuration.

WCDMA II HSDPA								
Frequency (MHz)	Set 1		Set 2		Set 3		Set 4	
	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)
1852.4	23.77	0.24	22.81	0.19	23.18	0.21	23.14	0.21
1880	23.34	0.22	23.52	0.22	22.35	0.17	22.28	0.17
1907.6	23.23	0.21	22.45	0.18	22.34	0.17	22.26	0.17
$\beta_c$	2		12		15		15	
$\beta_d$	15		15		8		4	
$\Delta_{ACK}, \Delta_{NACK} \Delta_{CQI}$	8		8		8		8	
Cable loss: 0.2dB for 850MHz ; 0.4dB for 1900MHz								

All HSDPA testing was done in Set1 configuration.

WCDMA V HSUPA										
Frequency (MHz)	Set 1		Set 2		Set 3		Set 4		Set 5	
	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)
826.4	22.89	0.19	21.31	0.14	21.99	0.16	22.18	0.17	23.09	0.20
836.6	22.32	0.17	21.38	0.14	21.74	0.15	21.99	0.16	22.95	0.20
846.6	21.77	0.15	20.99	0.13	21.73	0.15	21.58	0.14	22.76	0.19
$\beta_c$	11		6		15		2		15	
$\beta_d$	15		15		9		15		15	
$\Delta_{ACK}, \Delta_{NACK} \Delta_{CQI}$	8		8		8		8		8	
AGV	20		12		15		17		21	
Cable loss: 0.2dB for 850MHz ; 0.4dB for 1900MHz										

Note:All HSUPA testing was done in Set5 configuration.

WCDMA II HSUPA										
Frequency (MHz)	Set 1		Set 2		Set 3		Set 4		Set 5	
	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)	Power (dBm)	Power (Watts)
1852.4	22.99	0.20	21.30	0.13	22.52	0.18	22.43	0.17	22.16	0.16
1880	22.97	0.20	21.13	0.13	22.29	0.17	21.90	0.15	21.52	0.14
1907.6	22.01	0.16	21.38	0.14	21.64	0.15	21.49	0.14	22.24	0.17
$\beta_c$	11		6		15		2		15	
$\beta_d$	15		15		9		15		15	
$\Delta_{ACK}, \Delta_{NACK} \Delta_{CQI}$	8		8		8		8		8	
AGV	20		12		15		17		21	
Cable loss: 0.2dB for 850MHz ; 0.4dB for 1900MHz										

Note: All HSUPA testing was done in Set1 configuration.

Product	Smart Handheld		
Test Mode	RF Output Power (Radiated)		
Date of Test	2009/12/21	Test Site	OATS 5
Test Condition	GSM 850		

**Maximum Power-GSM 850 (Open)**

Frequency (MHz)	Raw Result (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBd)	Cable Loss (dB)	Result ERP (dBm)	Result ERP (W)
824.2	19.97	24.46	4.95	0.51	28.90	0.78
836.4	19.40	23.96	4.95	0.51	28.40	0.69
848.8	18.96	23.71	4.95	0.51	28.15	0.65

**Maximum Power-GSM 850 (Close)**

Frequency (MHz)	Raw Result (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBd)	Cable Loss (dB)	Result ERP (dBm)	Result ERP (W)
824.2	20.43	24.92	4.95	0.51	29.36	0.86
836.4	19.91	24.47	4.95	0.51	28.91	0.78
848.8	19.44	24.19	4.95	0.51	28.63	0.73

## Note:

1. The EUT meets the requirements of FCC CFR 47: Part 22, Section 22.913(a) for Effective Radiated Power.
2. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
3. Result ERP = Substitution Level + Substitution Antenna Gain - Cable Loss

Product	Smart Handheld		
Test Mode	RF Output Power (Radiated)		
Date of Test	2009/12/21	Test Site	OATS 5
Test Condition	GSM 850 GPRS		

**Maximum Power-GSM 850 GPRS (Close)**

Frequency (MHz)	Raw Result (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBd)	Cable Loss (dB)	Result ERP (dBm)	Result ERP (W)
824.2	21.02	25.51	4.95	0.51	29.95	0.99
836.4	20.22	24.78	4.95	0.51	29.22	0.84
848.8	19.49	24.24	4.95	0.51	28.68	0.74

## Note:

1. The EUT meets the requirements of FCC CFR 47: Part 22, Section 22.913(a) for Effective Radiated Power.
2. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
3. Result ERP = Substitution Level + Substitution Antenna Gain - Cable Loss



Product	Smart Handheld		
Test Mode	RF Output Power (Radiated)		
Date of Test	2009/12/21	Test Site	OATS 5
Test Condition	GSM 850 EGPRS		

**Maximum Power-GSM 850 EGPRS (Close)**

Frequency (MHz)	Raw Result (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBd)	Cable Loss (dB)	Result ERP (dBm)	Result ERP (W)
824.2	17.60	22.09	4.95	0.51	26.53	0.45
836.4	17.16	21.72	4.95	0.51	26.16	0.41
848.8	16.42	21.17	4.95	0.51	25.61	0.36

## Note:

1. The EUT meets the requirements of FCC CFR 47: Part 22, Section 22.913(a) for Effective Radiated Power.
2. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
3. Result ERP = Substitution Level + Substitution Antenna Gain - Cable Loss

Product	Smart Handheld		
Test Mode	RF Output Power (Radiated)		
Date of Test	2009/12/21	Test Site	OATS 5
Test Condition	PCS 1900		

**Maximum Power-PCS 1900 (Open)**

Frequency (MHz)	Reading Level (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBi)	Cable Loss (dB)	Result EIRP (dBm)	Result EIRP (W)
1850.2	21.48	19.78	8.81	1.02	27.57	0.57
1880.0	21.37	19.58	8.83	1.02	27.39	0.55
1909.8	21.24	19.34	8.84	1.02	27.16	0.52

**Maximum Power-PCS 1900 (Close)**

Frequency (MHz)	Reading Level (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBi)	Cable Loss (dB)	Result EIRP (dBm)	Result EIRP (W)
1850.2	20.83	19.13	8.81	1.02	26.92	0.49
1880.0	20.78	18.99	8.83	1.02	26.80	0.48
1909.8	20.49	18.59	8.84	1.02	26.41	0.44

**Note:**

1. The EUT meets the requirements of FCC CFR 47: Part 22, Section 22.913(a) for Effective Radiated Power.
2. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
3. Result ERP = Substitution Level + Substitution Antenna Gain - Cable Loss

Product	Smart Handheld		
Test Mode	RF Output Power (Radiated)		
Date of Test	2009/12/21	Test Site	OATS 5
Test Condition	PCS 1900 GPRS		

**Maximum Power-PCS 1900 GPRS (Open)**

Frequency (MHz)	Reading Level (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBi)	Cable Loss (dB)	Result EIRP (dBm)	Result EIRP (W)
1850.2	21.55	19.85	8.81	1.02	27.64	0.58
1880.0	21.57	19.78	8.83	1.02	27.59	0.57
1909.8	21.43	19.53	8.84	1.02	27.35	0.54

## Note:

1. The EUT meets the requirements of FCC CFR 47: Part 24, Section 24.232(b) for Effective Isotropically Radiated Power.
2. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
3. Result EIRP = Substitution Level + Substitution Antenna Gain - Cable Loss

Product	Smart Handheld		
Test Mode	RF Output Power (Radiated)		
Date of Test	2009/12/21	Test Site	OATS 5
Test Condition	PCS 1900 EGPRS		

**Maximum Power-PCS 1900 EGPRS (Open)**

Frequency (MHz)	Reading Level (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBi)	Cable Loss (dB)	Result EIRP (dBm)	Result EIRP (W)
1850.2	21.22	19.52	8.81	1.02	27.31	0.54
1880.0	21.16	19.37	8.83	1.02	27.18	0.52
1909.8	20.87	18.97	8.84	1.02	26.79	0.48

## Note:

1. The EUT meets the requirements of FCC CFR 47: Part 24, Section 24.232(b) for Effective Isotropically Radiated Power.
2. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
3. Result EIRP = Substitution Level + Substitution Antenna Gain - Cable Loss

Product	Smart Handheld		
Test Mode	RF Output Power (Radiated)		
Date of Test	2009/12/21	Test Site	OATS 5
Test Condition	WCDMA BAND V		

**Maximum Power- WCDMA BAND V (Open)**

Frequency (MHz)	Reading Level (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBd)	Cable Loss (dB)	Result ERP (dBm)	Result ERP (W)
826.4	14.146	18.646	4.95	0.51	23.09	0.20
836.6	12.119	16.684	4.95	0.51	21.12	0.13
846.6	14.357	19.064	4.95	0.51	23.50	0.22

**Maximum Power- WCDMA BAND V (Close)**

Frequency (MHz)	Reading Level (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBd)	Cable Loss (dB)	Result ERP (dBm)	Result ERP (W)
826.4	14.556	19.056	4.95	0.51	23.50	0.22
836.6	12.669	17.234	4.95	0.51	21.67	0.15
846.6	14.747	19.454	4.95	0.51	23.89	0.24

**Note:**

1. The EUT meets the requirements of FCC CFR 47: Part 22, Section 22.913(a) for Effective Radiated Power.
2. Receiver setting (Peak Detector) : RBW:5MHz; VBW:5MHz
3. Result ERP = Substitution Level + Substitution Antenna Gain - Cable Loss

Product	Smart Handheld		
Test Mode	RF Output Power (Radiated)		
Date of Test	2009/12/21	Test Site	OATS 5
Test Condition	WCDMA BAND V HSDPA		

**Maximum Power- WCDMA BAND V HSDPA (Close)**

Frequency (MHz)	Reading Level (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBd)	Cable Loss (dB)	Result ERP (dBm)	Result ERP (W)
826.4	14.314	18.814	4.95	0.51	23.25	0.21
836.6	12.779	17.344	4.95	0.51	21.78	0.15
846.6	15.105	19.812	4.95	0.51	24.25	0.27

## Note:

1. The EUT meets the requirements of FCC CFR 47: Part 22, Section 22.913(a) for Effective Radiated Power.
2. Receiver setting (Peak Detector) : RBW:5MHz; VBW:5MHz
3. Result ERP = Substitution Level + Substitution Antenna Gain - Cable Loss

Product	Smart Handheld		
Test Mode	RF Output Power (Radiated)		
Date of Test	2009/12/21	Test Site	OATS 5
Test Condition	WCDMA BAND V HSUPA		

**Maximum Power- WCDMA BAND V HSUPA (Close)**

Frequency (MHz)	Reading Level (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBd)	Cable Loss (dB)	Result ERP (dBm)	Result ERP (W)
826.4	15.537	20.037	4.95	0.51	24.48	0.28
836.6	13.529	18.094	4.95	0.51	22.53	0.18
846.6	15.763	20.47	4.95	0.51	24.91	0.31

**Note:**

1. The EUT meets the requirements of FCC CFR 47: Part 22, Section 22.913(a) for Effective Radiated Power.
2. Receiver setting (Peak Detector) : RBW:5MHz; VBW:5MHz
3. Result ERP = Substitution Level + Substitution Antenna Gain - Cable Loss

Product	Smart Handheld		
Test Mode	RF Output Power (Radiated)		
Date of Test	2009/12/21	Test Site	OATS 5
Test Condition	WCDMA BAND II		

**Maximum Power- WCDMA BAND II (Open)**

Frequency (MHz)	Reading Level (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBi)	Cable Loss (dB)	Result EIRP (dBm)	Result EIRP (W)
1852.4	18.164	16.464	8.81	1.02	24.25	0.27
1880	16.214	14.430	8.83	1.02	22.24	0.17
1907.6	15.326	13.442	8.84	1.02	21.26	0.13

**Maximum Power- WCDMA BAND II (Close)**

Frequency (MHz)	Reading Level (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBi)	Cable Loss (dB)	Result EIRP (dBm)	Result EIRP (W)
1852.4	17.454	15.754	8.81	1.02	23.54	0.23
1880	15.594	13.810	8.83	1.02	21.62	0.15
1907.6	14.516	12.632	8.84	1.02	20.45	0.11

**Note:**

1. The EUT meets the requirements of FCC CFR 47: Part 24, Section 24.232(b) for Effective Isotropically Radiated Power.
2. Receiver setting (Peak Detector) : RBW:5MHz; VBW:5MHz
3. Result EIRP = Substitution Level + Substitution Antenna Gain - Cable Loss



Product	Smart Handheld		
Test Mode	RF Output Power (Radiated)		
Date of Test	2009/12/21	Test Site	OATS 5
Test Condition	WCDMA BAND II HSDPA		

**Maximum Power- WCDMA BAND II HSDPA (Open)**

Frequency (MHz)	Reading Level (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBi)	Cable Loss (dB)	Result EIRP (dBm)	Result EIRP (W)
1852.4	18.399	16.699	8.81	1.02	24.49	0.28
1880	16.247	14.463	8.83	1.02	22.27	0.17
1907.6	15.404	13.520	8.84	1.02	21.34	0.14

## Note:

1. The EUT meets the requirements of FCC CFR 47: Part 24, Section 24.232(b) for Effective Isotropically Radiated Power.
2. Receiver setting (Peak Detector) : RBW:5MHz; VBW:5MHz
3. Result EIRP = Substitution Level + Substitution Antenna Gain - Cable Loss

Product	Smart Handheld		
Test Mode	RF Output Power (Radiated)		
Date of Test	2009/12/21	Test Site	OATS 5
Test Condition	WCDMA BAND II HSDPA		

**Maximum Power- WCDMA BAND II HSUPA (Open)**

Frequency (MHz)	Reading Level (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBi)	Cable Loss (dB)	Result EIRP (dBm)	Result EIRP (W)
1852.4	19.092	17.392	8.81	1.02	25.18	0.33
1880	17.381	15.597	8.83	1.02	23.41	0.22
1907.6	16.073	14.189	8.84	1.02	22.01	0.16

## Note:

1. The EUT meets the requirements of FCC CFR 47: Part 24, Section 24.232(b) for Effective Isotropically Radiated Power.
2. Receiver setting (Peak Detector) : RBW:5MHz; VBW:5MHz
3. Result EIRP = Substitution Level + Substitution Antenna Gain - Cable Loss

### 3. Occupied Bandwidth

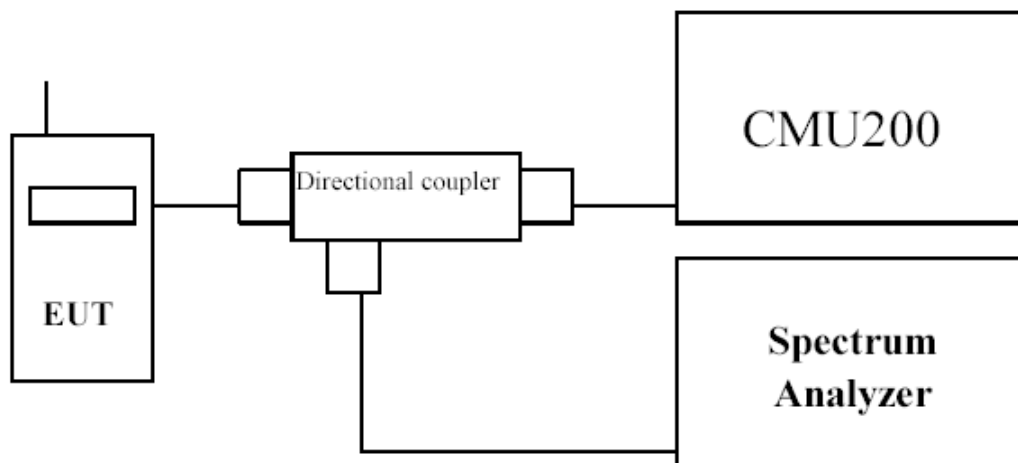
#### 3.1. Test Equipment

The following test equipments are used during the occupied bandwidth tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Spectrum Analyzer (9K-26.5GHz)	Agilent	N9020A / MY48010570	Apr ., 2009
Universal Radio Communication Tester	R & S	CMU200 / 104846	May, 2009
Directional coupler	Agilent	87300C / MY44300353	Aug., 2009
Directional coupler	Agilent	778D-012/ 50550	Aug., 2009

Note: All equipments upon which need to be calibrated are with calibration period of 1 year.

#### 3.2. Test Setup



#### 3.3. Test Procedure

The EUT is tested with maximum rated TX power via the Base Station simulator, and the occupied bandwidth was measured at the antenna terminals of the EUT.

The Resolution BW of the analyzer is set to 1 % of the emission bandwidth. The EUT's occupied bandwidth is measured as the width of the signal between two points, one below the carrier center frequency and one above the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

The plots below show the resultant display from the Spectrum Analyzer.

### **3.4. Test Specification**

According to Part 2.1049, 22.917(b), 24.238(b).

### 3.5. Test Result of Occupied Bandwidth

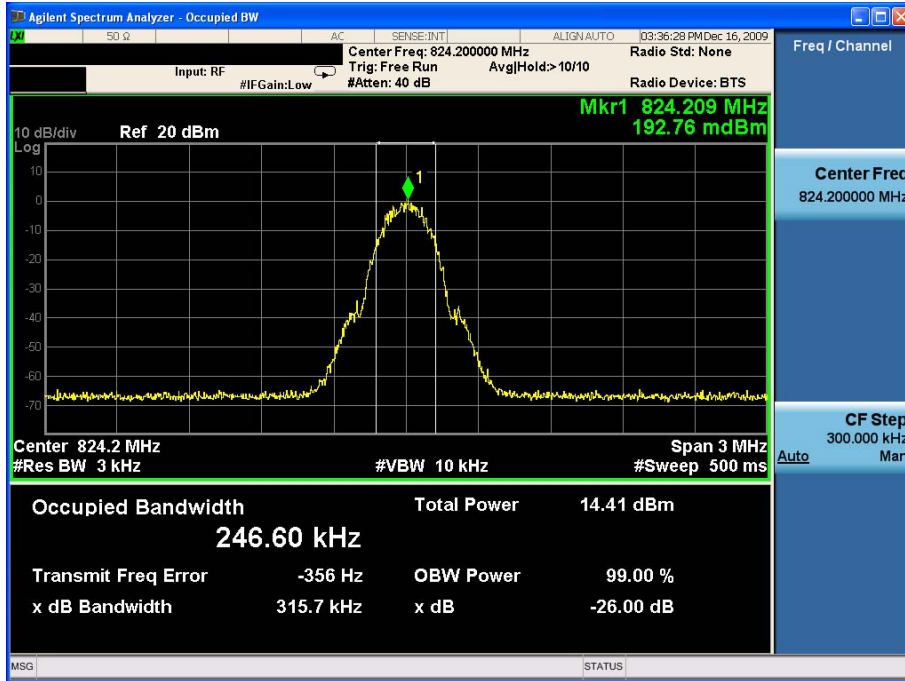
Product	Smart Handheld
Test Mode	Occupied Bandwidth
Test Site	CTR

Test Mode	Channel & TX Frequency (MHz)	99% Occupied Bandwidth (MHz)	26 dB bandwidth (MHz)	Required Limit (MHz)	Result
GSM 850	128(824.2)	246.60	315.7	N/A	Pass
	189(836.4)	248.44	309.5	N/A	Pass
	251(848.8)	244.46	309.3	N/A	Pass
GSM 850 GPRS	128(824.2)	244.98	315.8	N/A	Pass
	189(836.4)	246.33	311.1	N/A	Pass
	251(848.8)	248.26	313.9	N/A	Pass
GSM 850 EGPRS	128(824.2)	243.50	308.8	N/A	Pass
	189(836.4)	243.15	312.6	N/A	Pass
	251(848.8)	242.90	307.3	N/A	Pass
PCS 1900	512(1850.2)	244.20	314.2	N/A	Pass
	661(1880)	246.78	313.3	N/A	Pass
	810(1909.8)	243.09	312.1	N/A	Pass
PCS 1900 GPRS	512(1850.2)	246.28	310.9	N/A	Pass
	661(1880)	245.05	317.6	N/A	Pass
	810(1909.8)	243.77	313.6	N/A	Pass
PCS 1900 EGPRS	512(1850.2)	247.36	305.8	N/A	Pass
	661(1880)	243.30	309.6	N/A	Pass
	810(1909.8)	246.17	310.1	N/A	Pass
WCDMA V	4132(826.4)	4.1759	4.675	N/A	Pass
	4183(836.6)	4.1754	4.678	N/A	Pass
	4233(846.6)	4.1770	4.681	N/A	Pass
WCDMA V HSDPA	4132(826.4)	4.1777	4.677	N/A	Pass

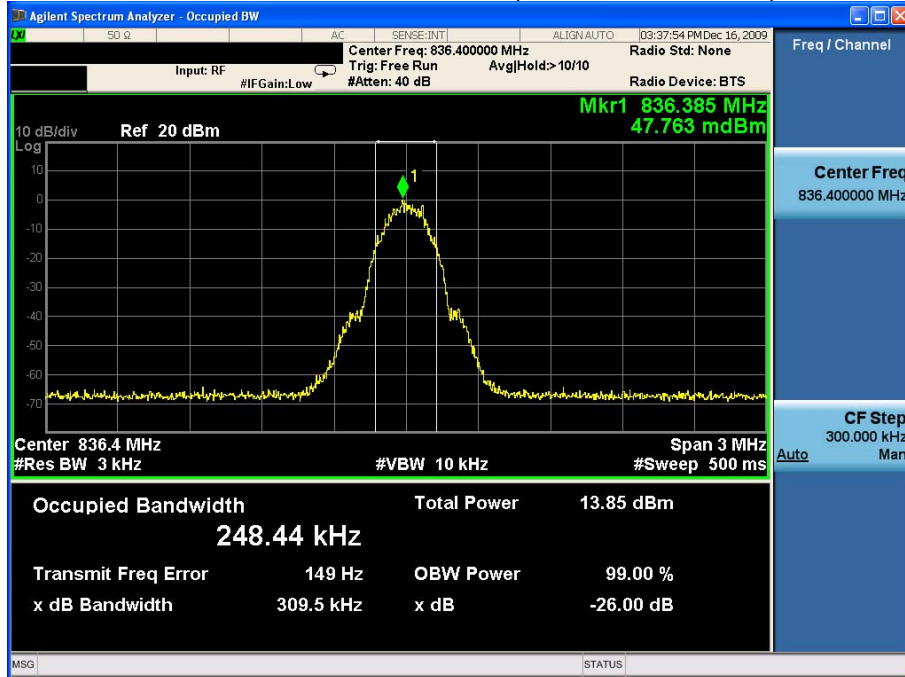
	4183(836.6)	4.1761	4.682	N/A	Pass
	4233(846.6)	4.1795	4.682	N/A	Pass
WCDMA V HSUPA	4132(826.4)	4.1829	4.688	N/A	Pass
	4183(836.6)	4.1809	4.686	N/A	Pass
	4233(846.6)	4.1876	4.691	N/A	Pass
WCDMA II	9262(1852.4)	4.1860	4.689	N/A	Pass
	9400(1880)	4.1838	4.684	N/A	Pass
	9538(1907.6)	4.1793	4.683	N/A	Pass
WCDMA II HSDPA	9262(1852.4)	4.1845	4.690	N/A	Pass
	9400(1880)	4.1847	4.689	N/A	Pass
	9538(1907.6)	4.1781	4.683	N/A	Pass
WCDMA II HSUPA	9262(1852.4)	4.1848	4.690	N/A	Pass
	9400(1880)	4.1863	4.683	N/A	Pass
	9538(1907.6)	4.1809	4.687	N/A	Pass

Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	GSM 850		

GSM 850 - Circuit Switched (GSM Mode CH 128)

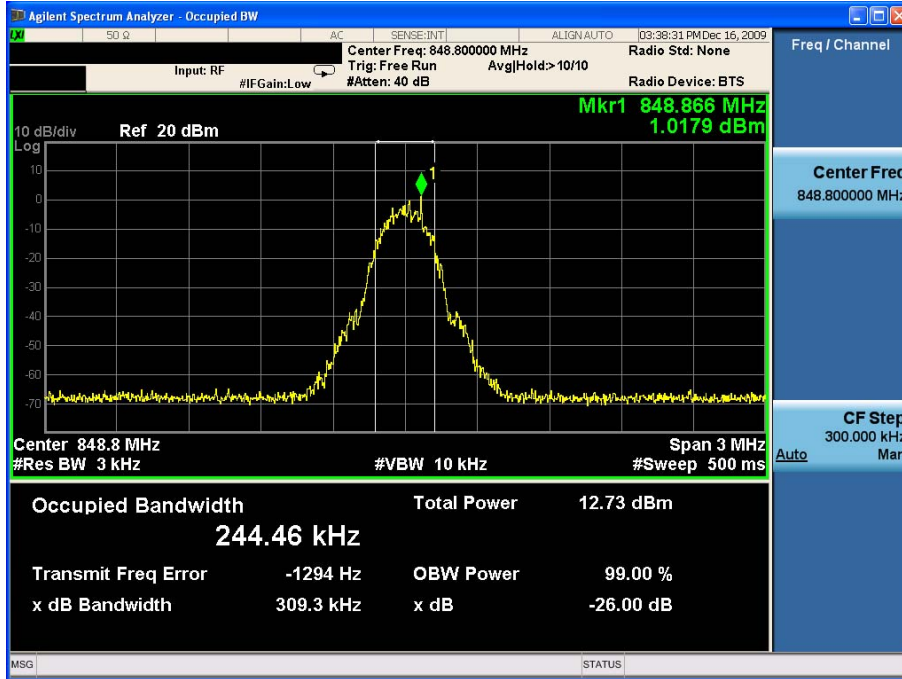


GSM 850 - Circuit Switched (GSM Mode CH189)



Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	GSM 850		

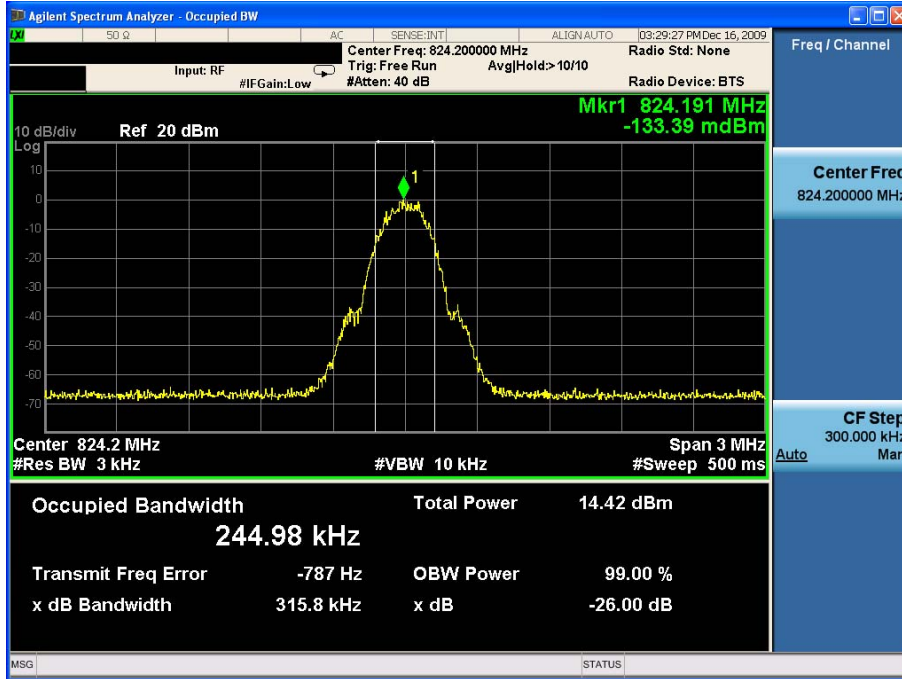
GSM 850 - Circuit Switched (GSM Mode CH 251)



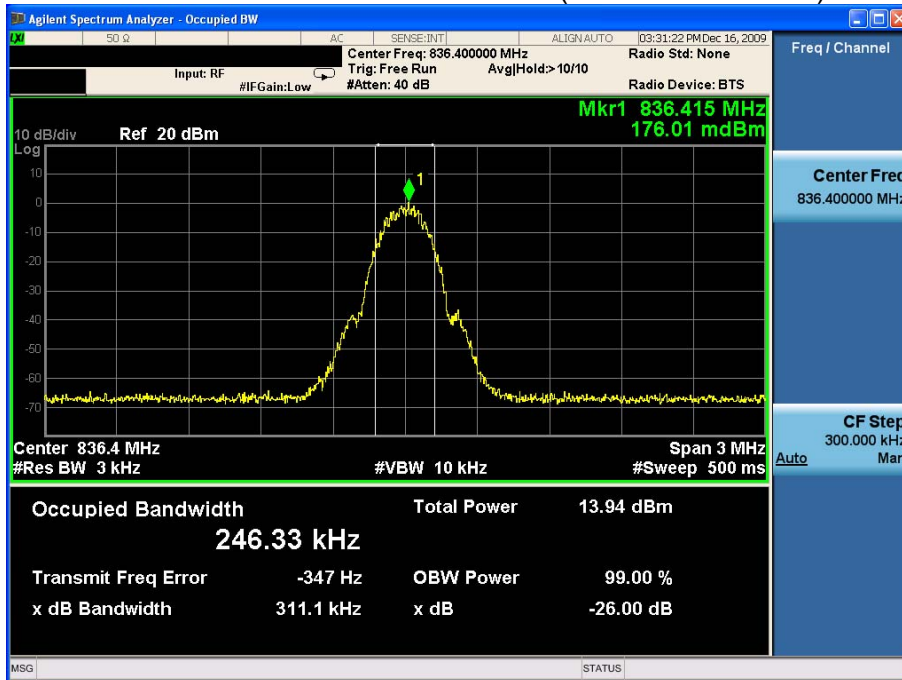


Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	GSM 850 GPRS		

GSM 850 GPRS - Packet Switched (GSM Mode CH 128)

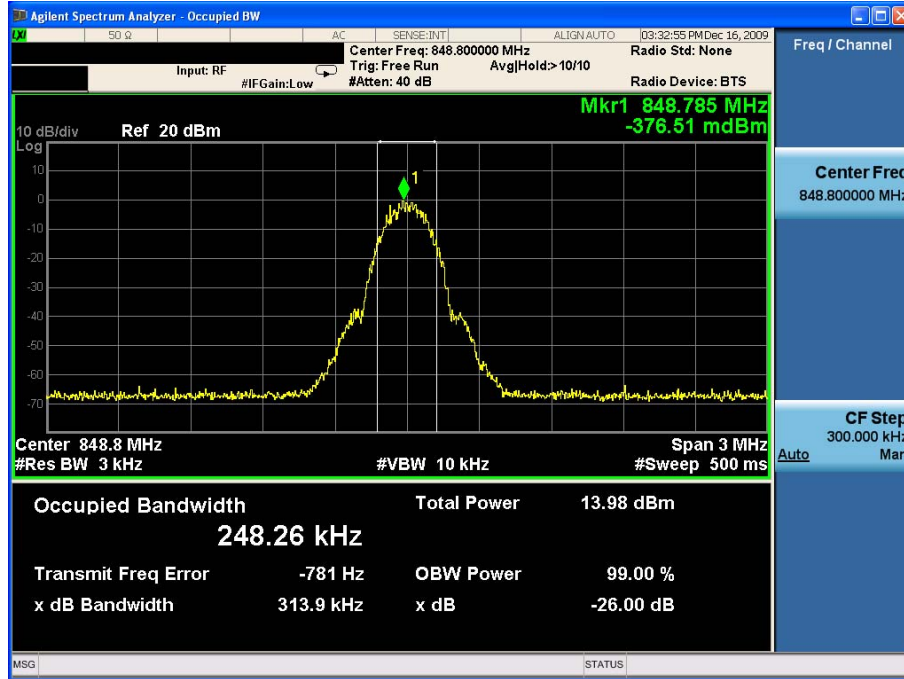


GSM 850 GPRS - Packet Switched (GSM Mode CH189)



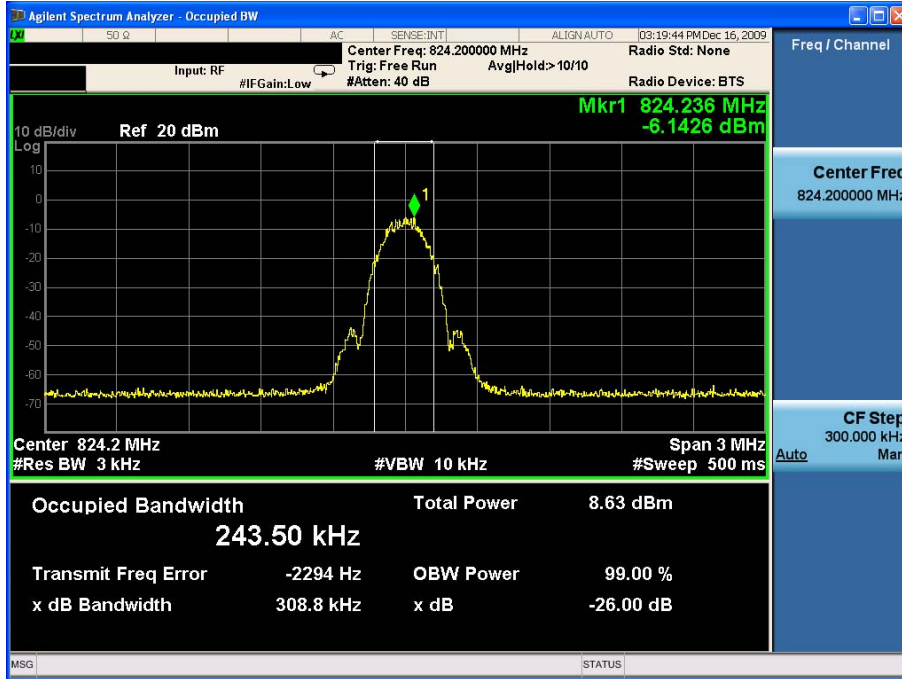
Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	GSM 850 GPRS		

GSM 850 GPRS - Packet Switched (GSM Mode CH 251)

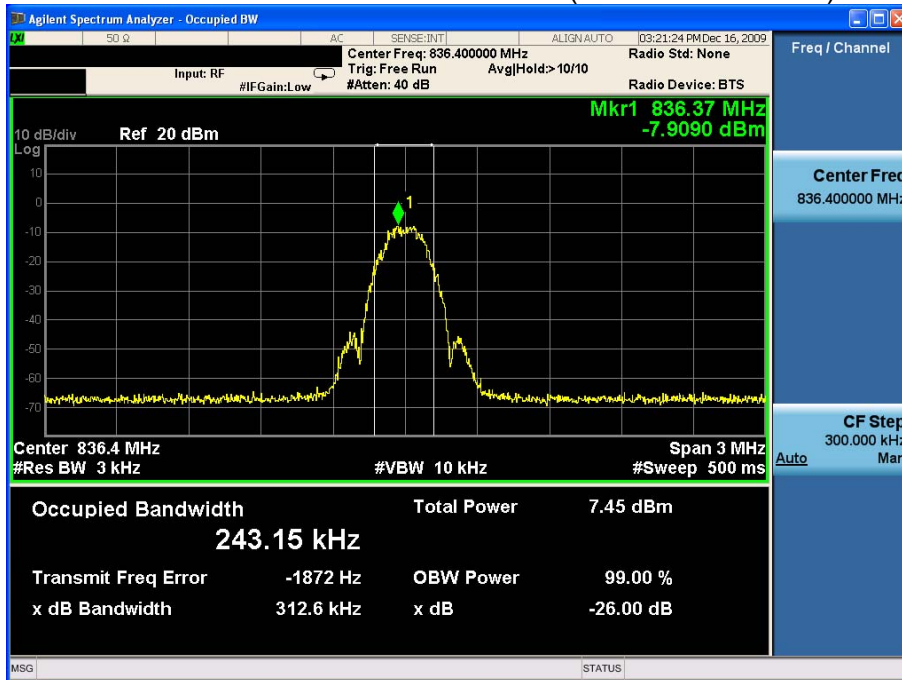


Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	GSM 850 EGPRS		

GSM 850 EGPRS - Packet Switched (GSM Mode CH 128)

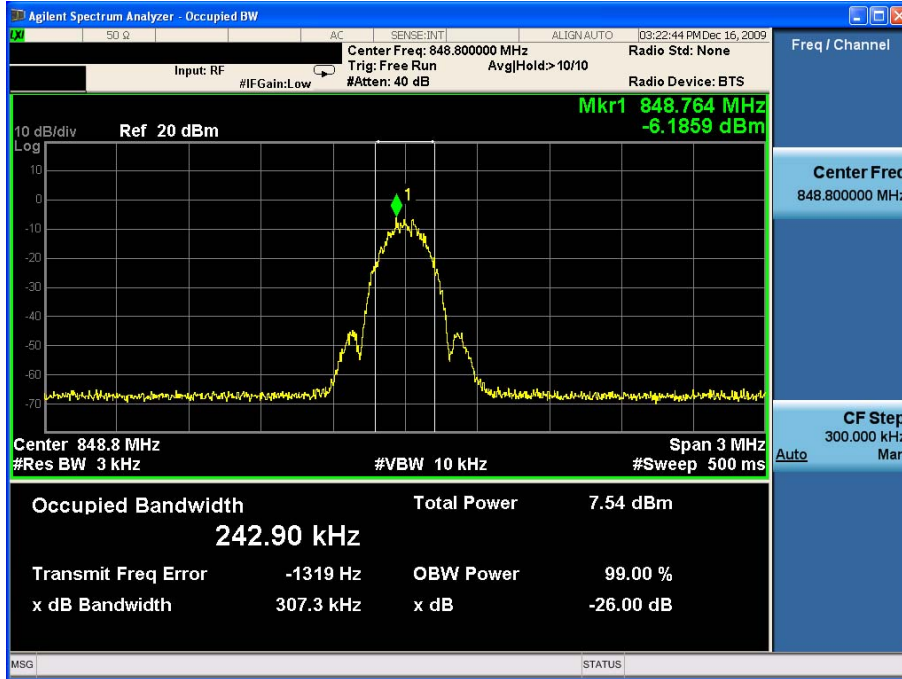


GSM 850 EGPRS - Packet Switched (GSM Mode CH189)



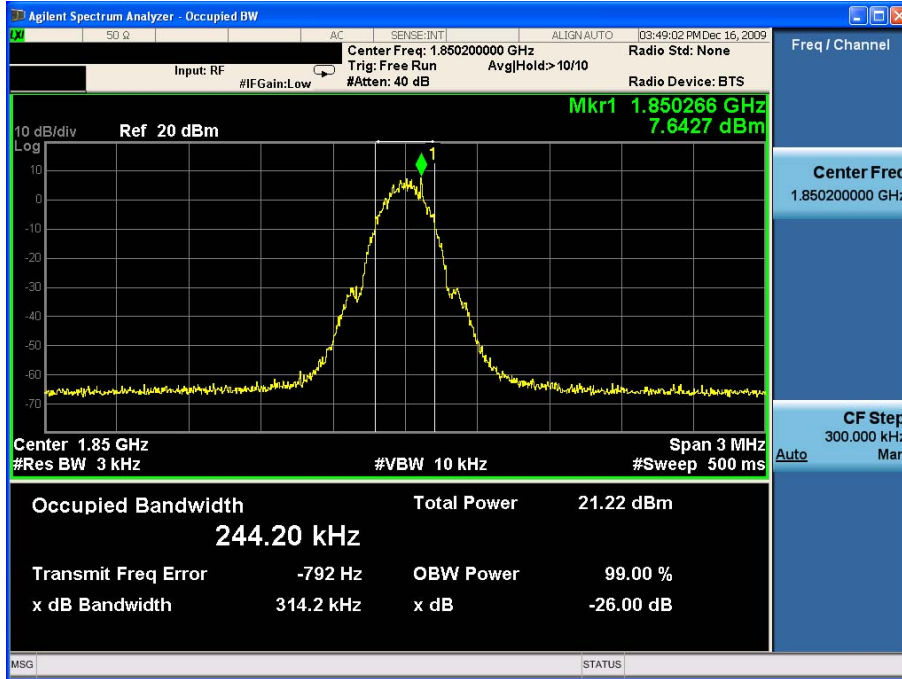
Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	GSM 850 EGPRS		

GSM 850 EGPRS - Packet Switched (GSM Mode CH 251)

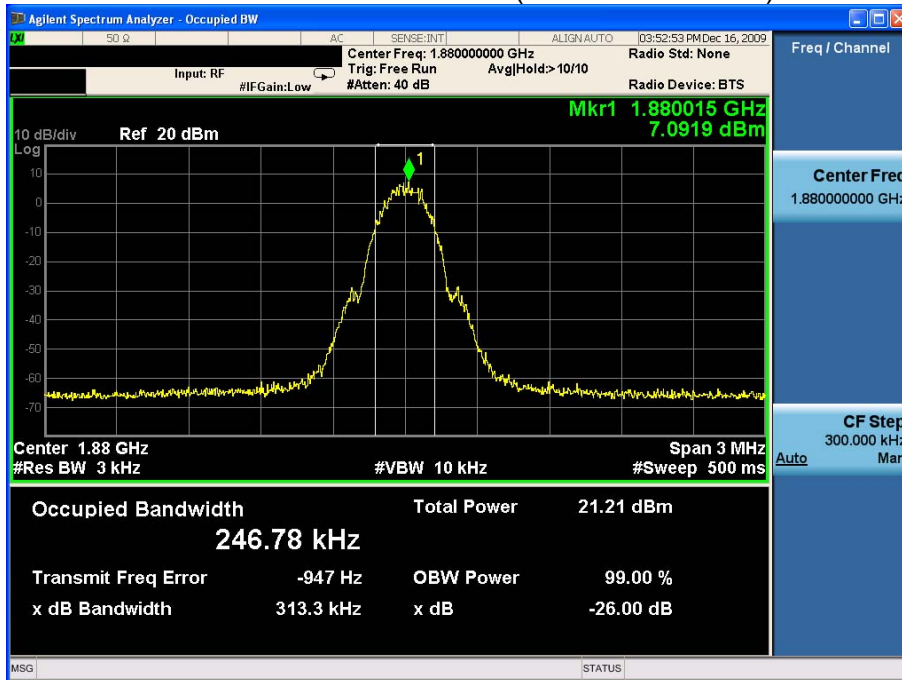


Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	PCS1900		

PCS1900 - Circuit Switched (PCS Mode CH 512)

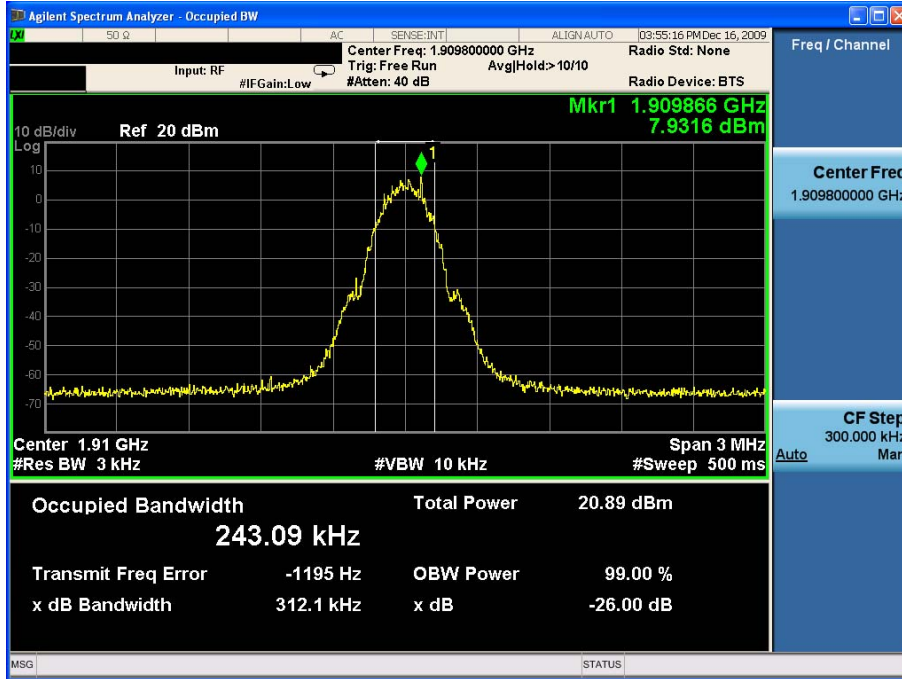


PCS1900 - Circuit Switched (PCS Mode CH661)



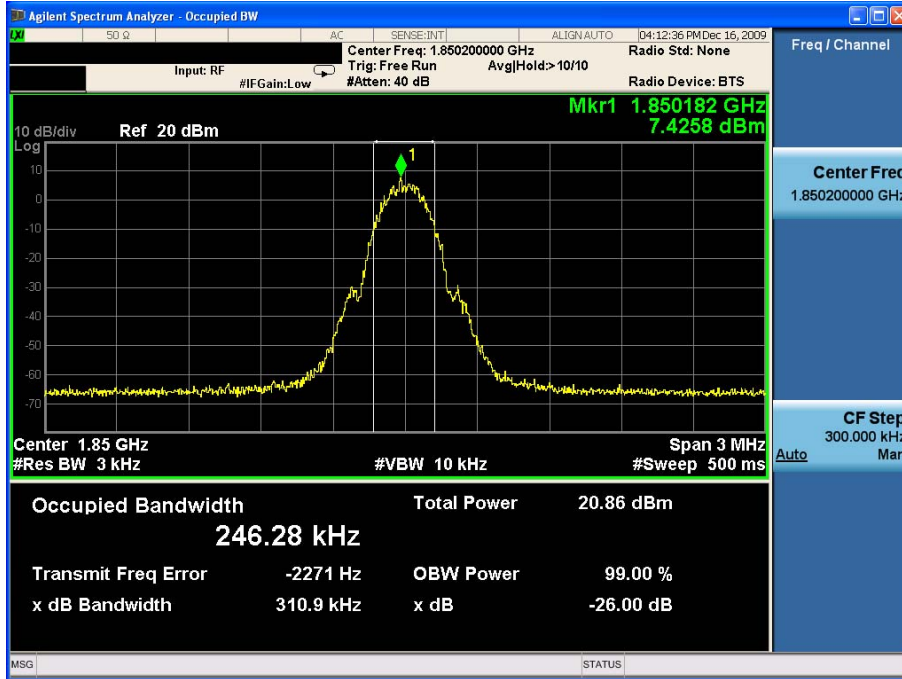
Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	PCS1900		

PCS1900 - Circuit Switched (PCS Mode CH 810)

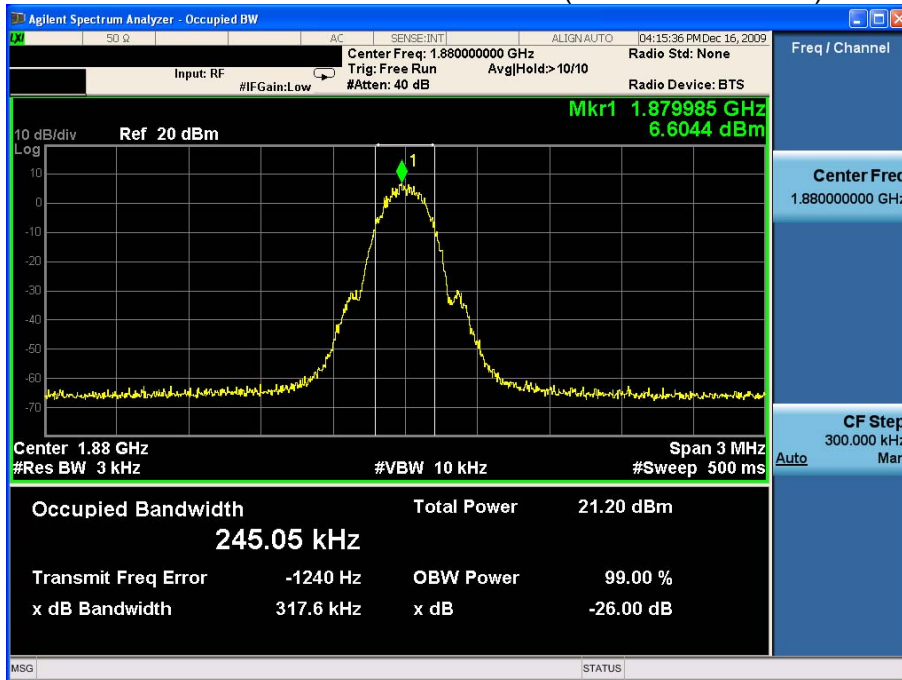


Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	PCS1900 GPRS		

PCS1900 GPRS - Packet Switched (PCS Mode CH 512)

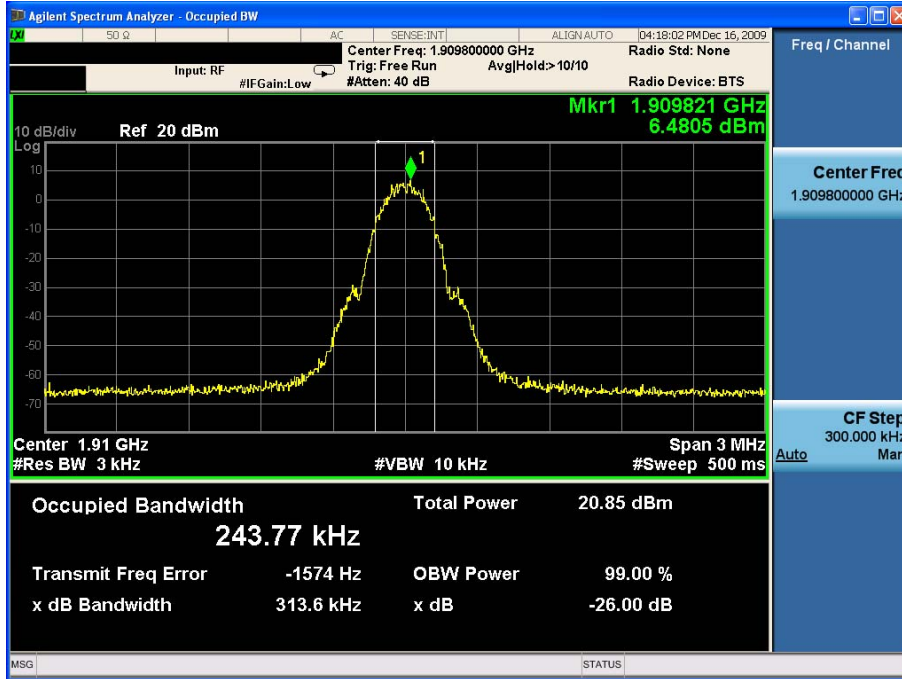


PCS1900 GPRS - Packet Switched (PCS Mode CH661)



Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	PCS1900 GPRS		

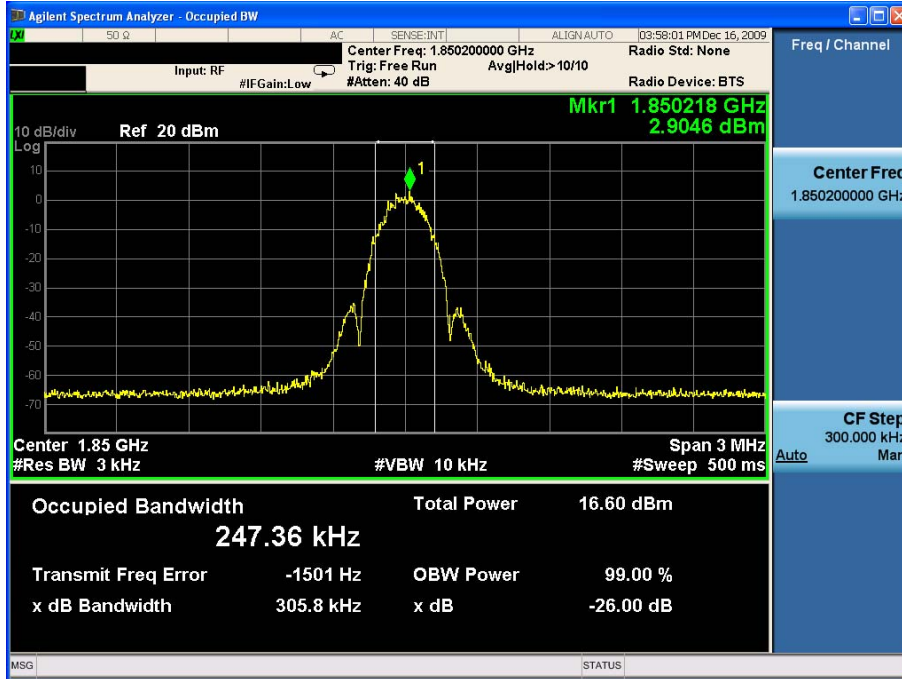
PCS1900 GPRS - Packet Switched (PCS Mode CH 810)



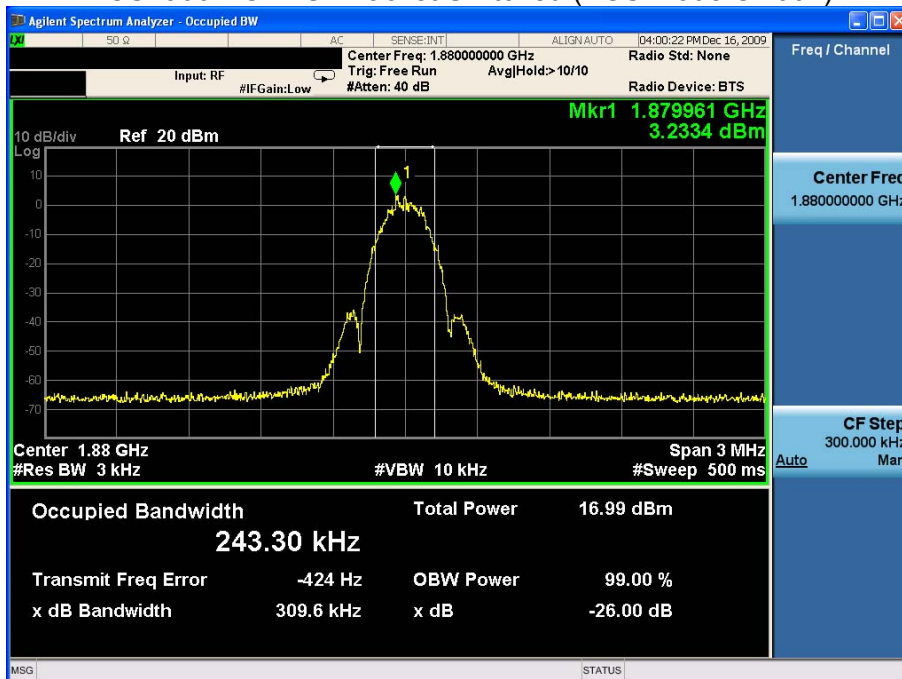


Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	PCS1900 EGPRS		

PCS1900 EGPRS - Packet Switched (PCS Mode CH 512)

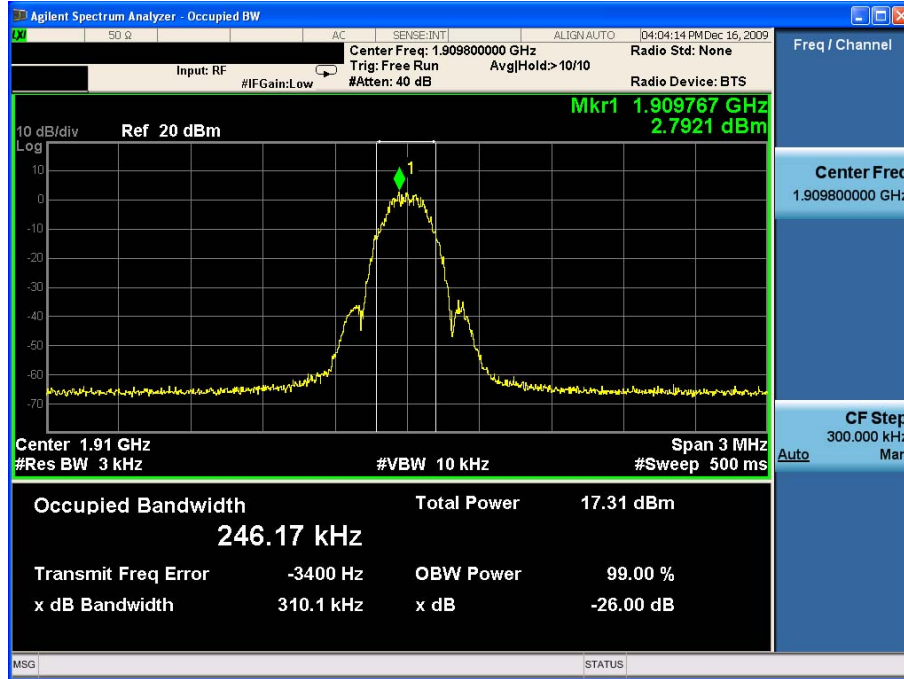


PCS1900 EGPRS - Packet Switched (PCS Mode CH661)



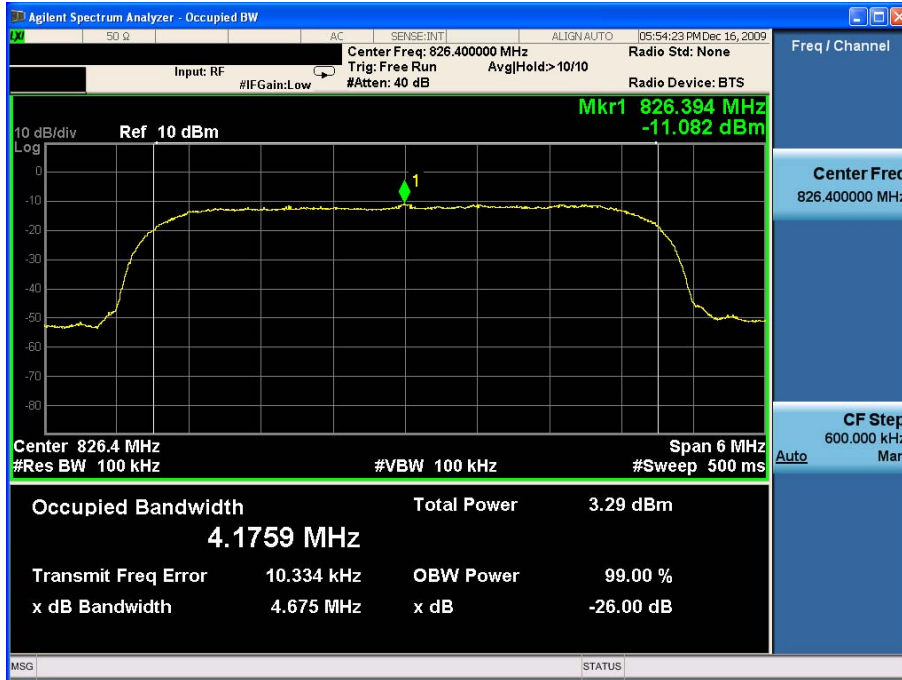
Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	PCS1900 EGPRS		

PCS1900 EGPRS - Packet Switched (PCS Mode CH 810)

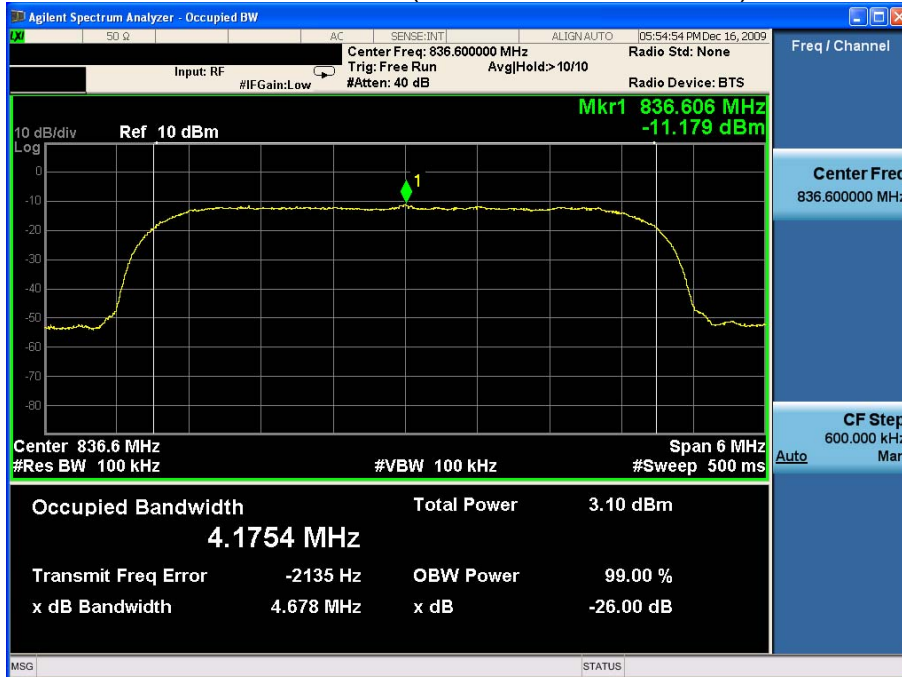


Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	WCDMA BAND V		

WCDMA BAND V (WCDMA Mode CH 4132)

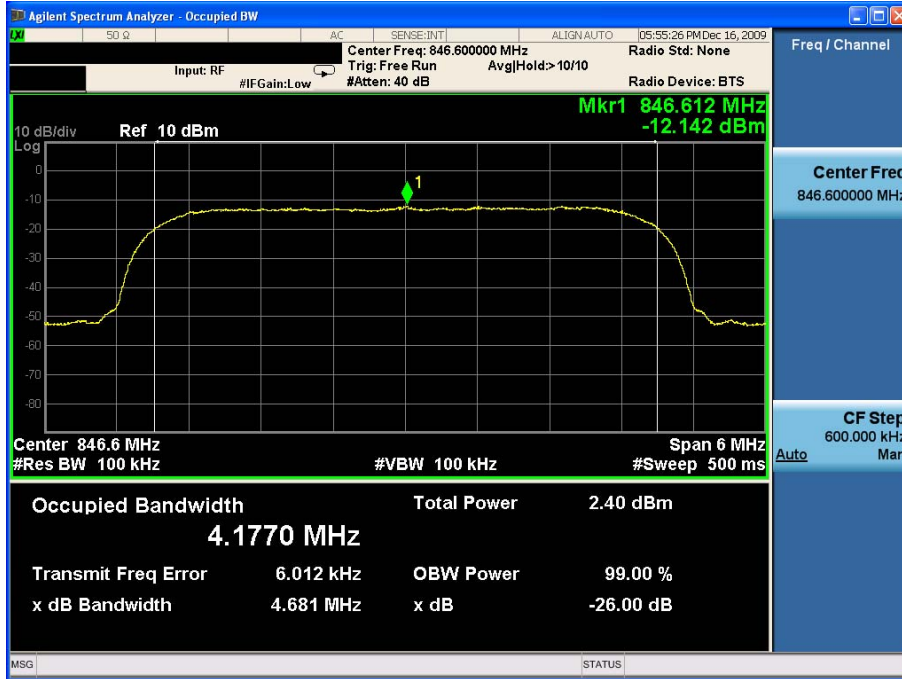


WCDMA BAND V (WCDMA Mode CH 4183)



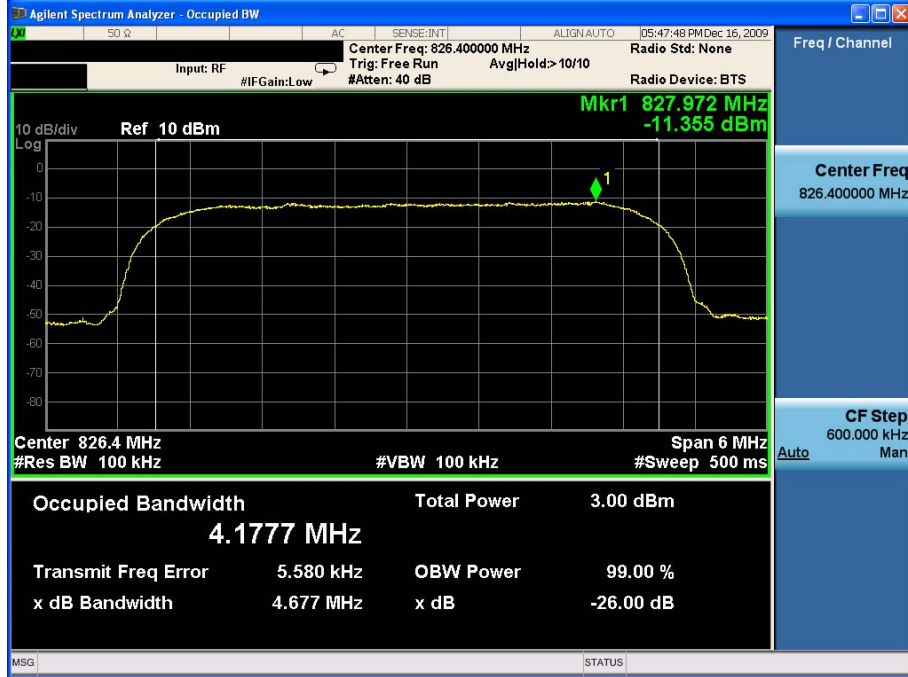
Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	WCDMA BAND V		

WCDMA BAND V (WCDMA Mode CH 4233)

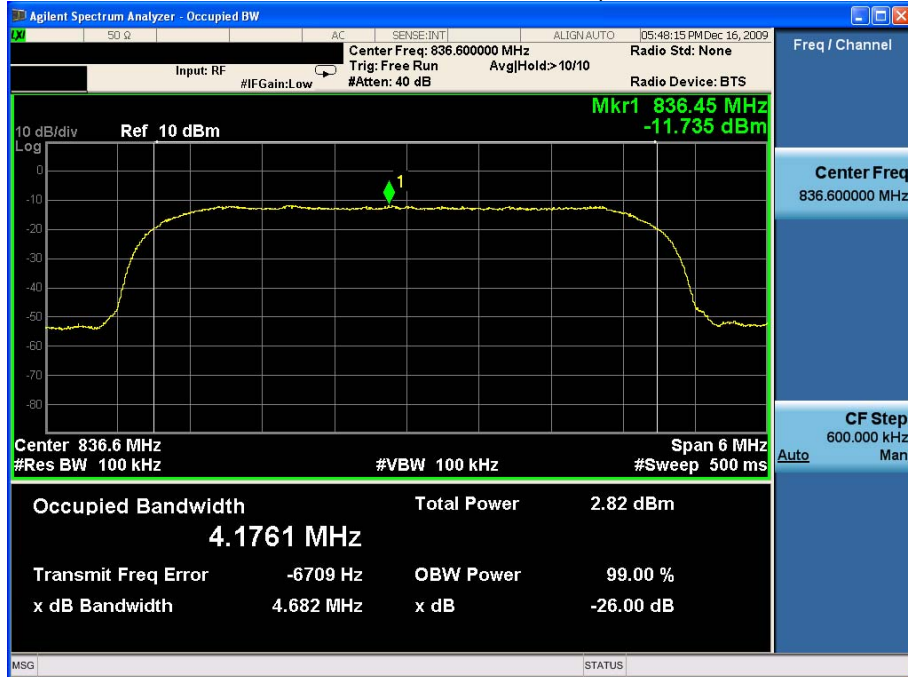


Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	WCDMA BAND V HSDPA		

WCDMA BAND V HSDPA - Packet Switched (HSDPA Mode CH 4132)

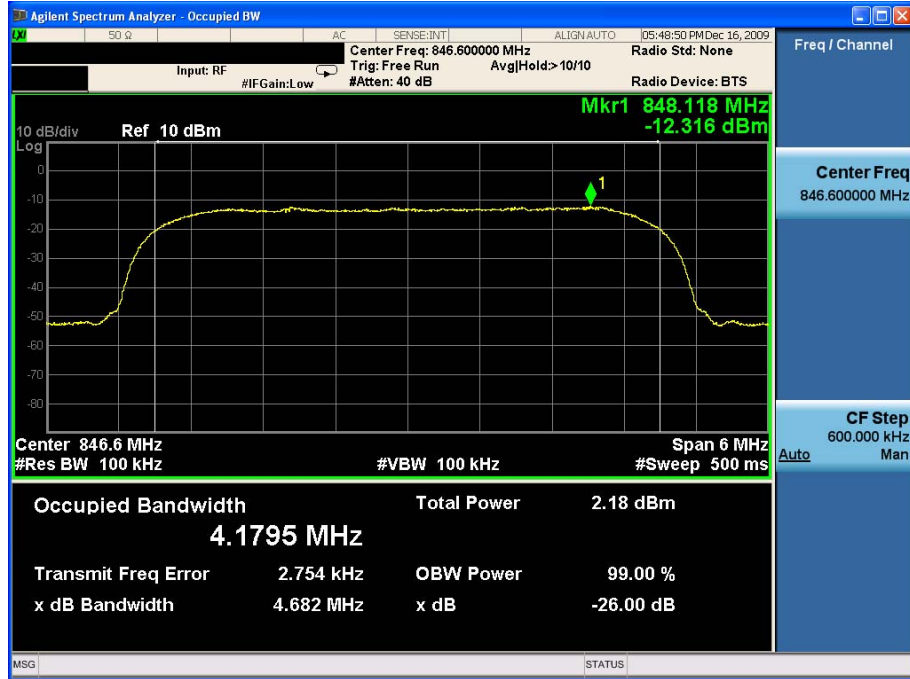


WCDMA BAND V HSDPA - Packet Switched (HSDPA Mode CH 4183)



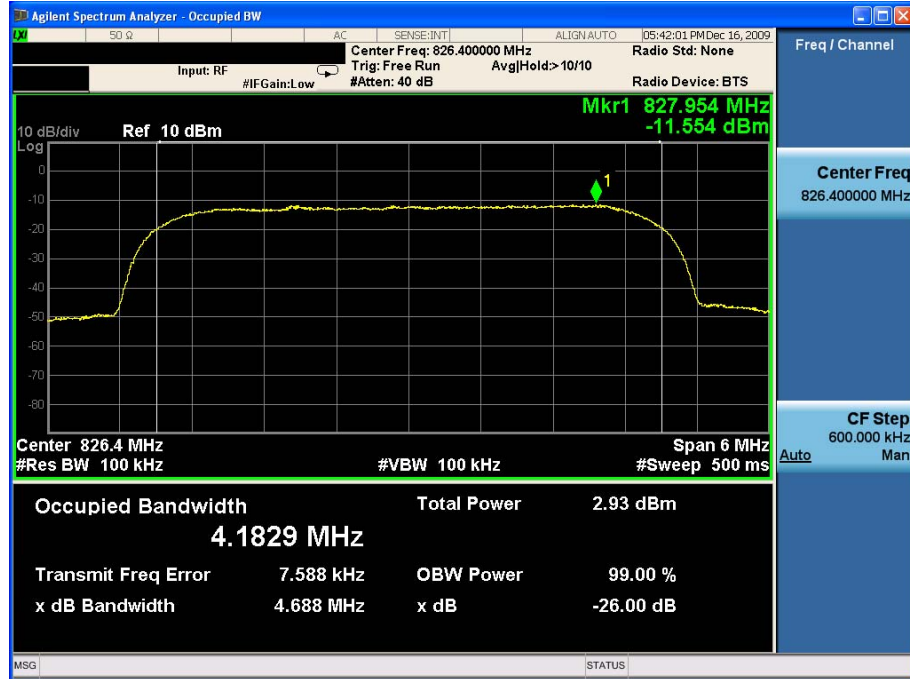
Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	WCDMA BAND V HSDPA		

WCDMA BAND V HSDPA - Packet Switched (HSDPA Mode CH 4233)

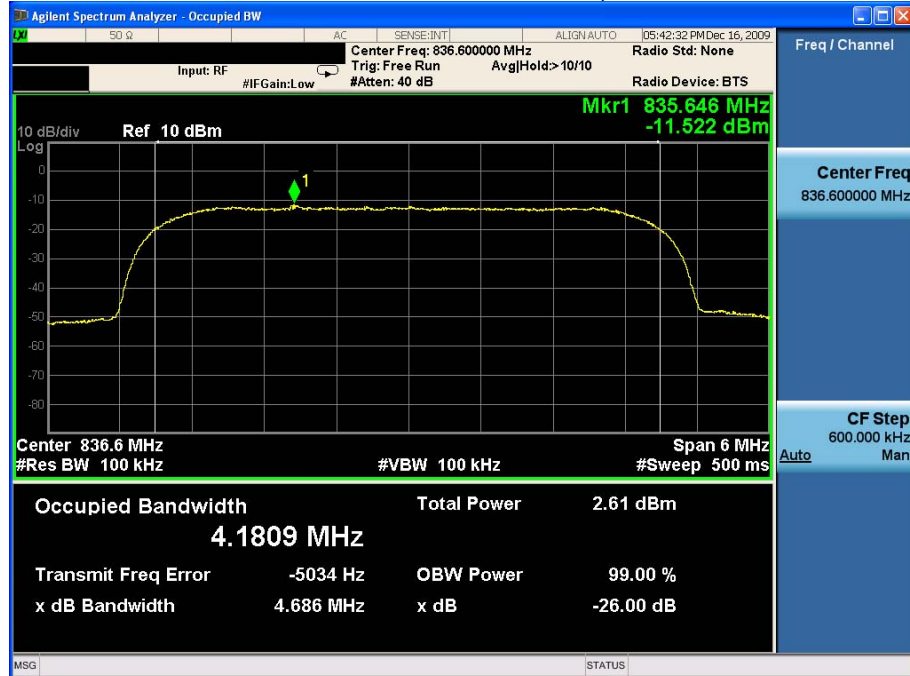


Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	WCDMA BAND V HSUPA		

WCDMA BAND V HSUPA - Packet Switched (HSUPA Mode CH 4132)

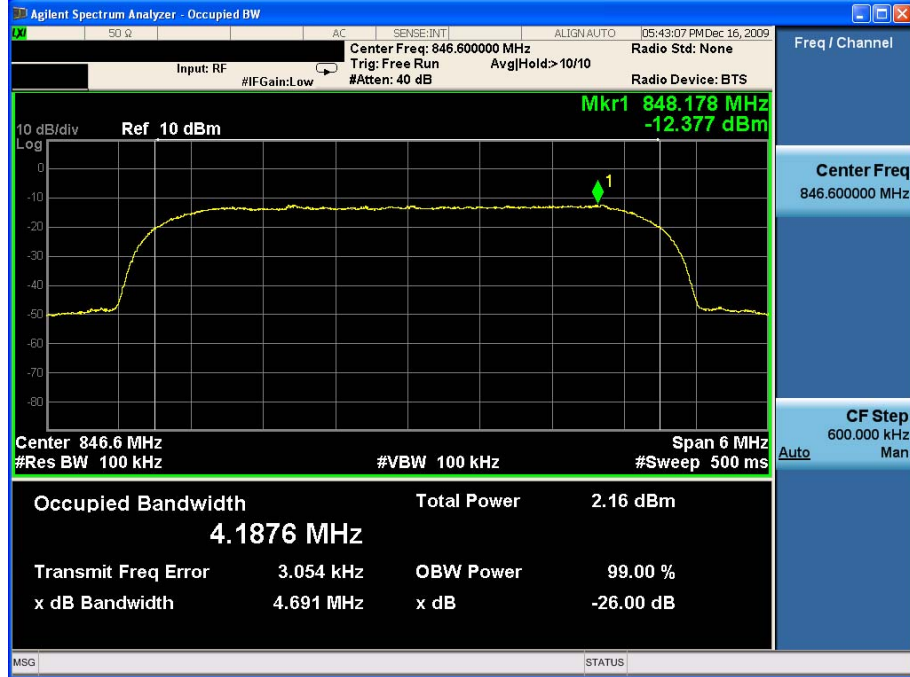


WCDMA BAND V HSUPA - Packet Switched (HSUPA Mode CH 4183)



Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	WCDMA BAND V HSUPA		

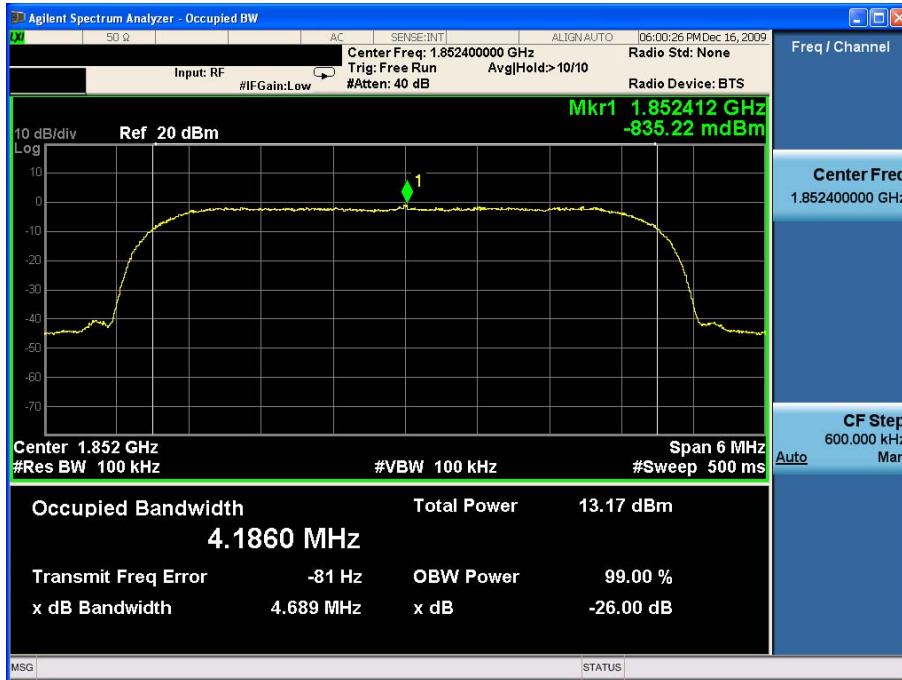
WCDMA BAND V HSUPA - Packet Switched (HSUPA Mode CH 4233)



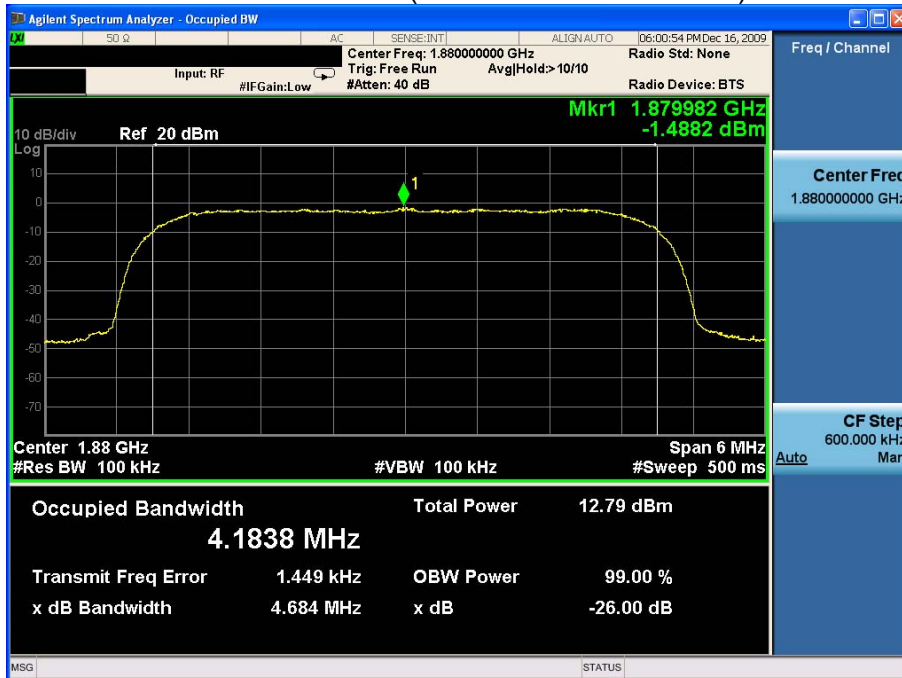


Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	WCDMA BAND II		

WCDMA BAND II (WCDMA Mode CH 9262)

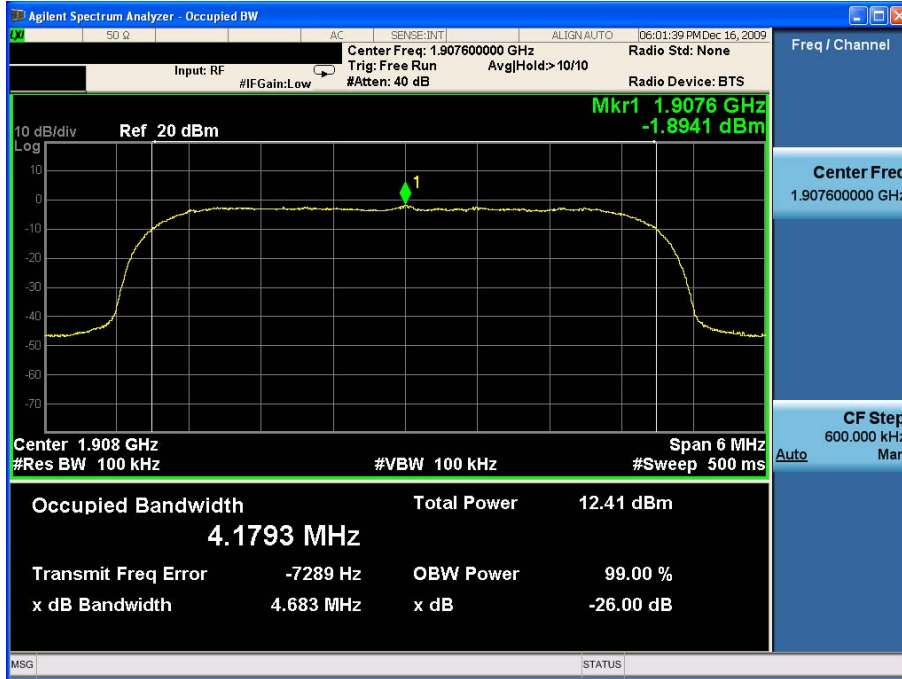


WCDMA BAND II (WCDMA Mode CH 9400)



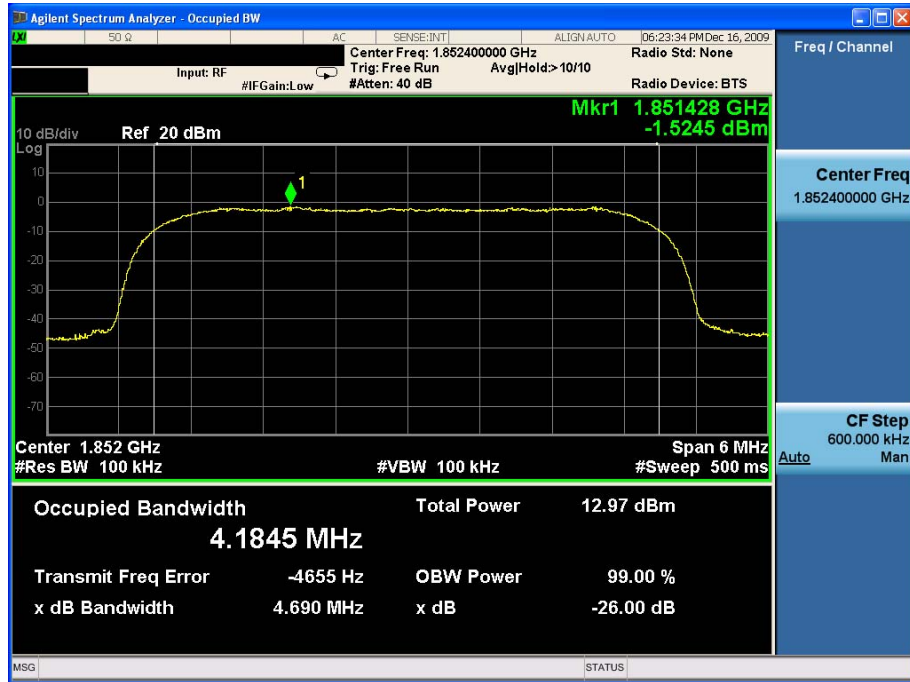
Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	WCDMA BAND II		

WCDMA BAND II (WCDMA Mode CH 9538)

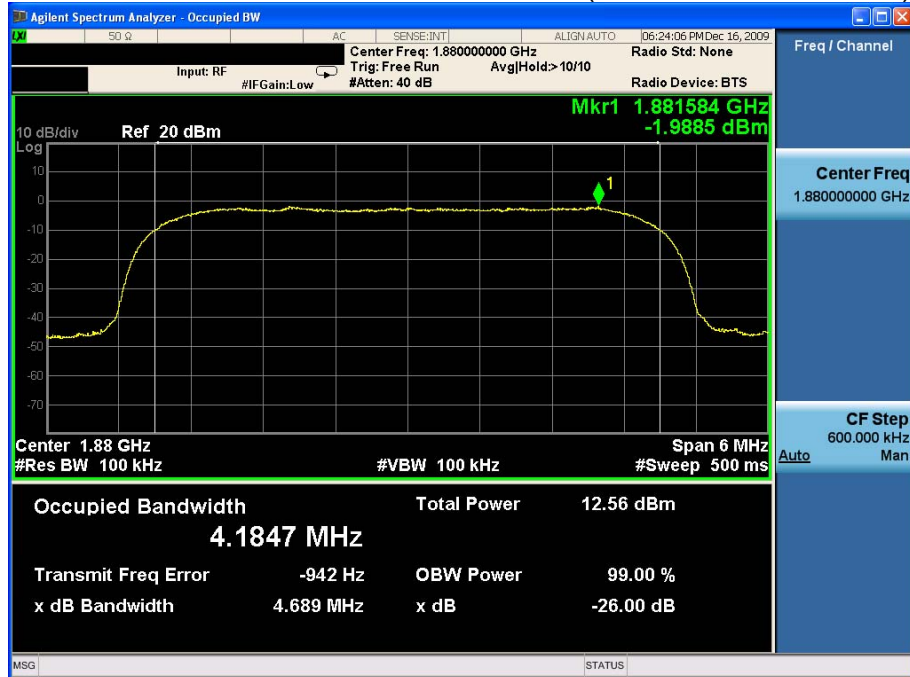


Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	WCDMA BAND II HSDPA		

WCDMA BAND II HSDPA - Packet Switched (HSDPA Mode CH9262)

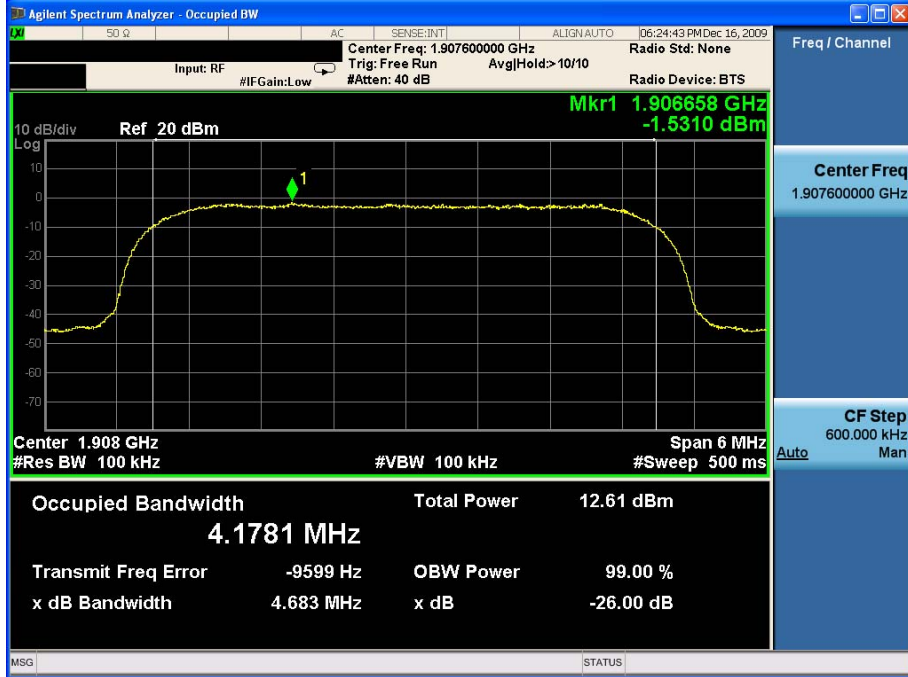


WCDMA BAND II HSDPA - Packet Switched (HSDPA Mode CH 9400)



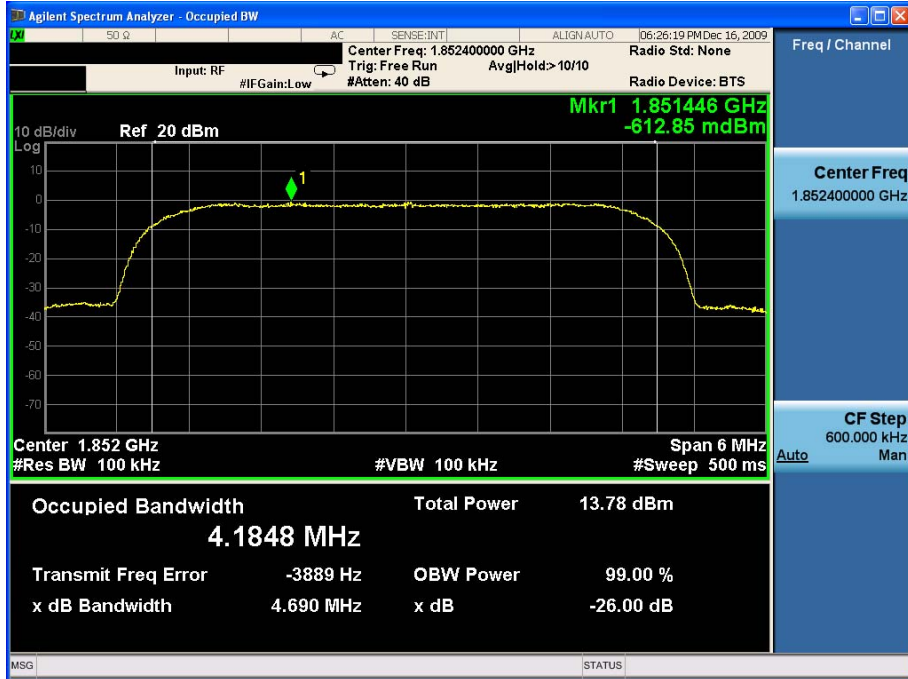
Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	WCDMA BAND II HSDPA		

WCDMA BAND II HSDPA - Packet Switched (HSDPA Mode CH 9538)

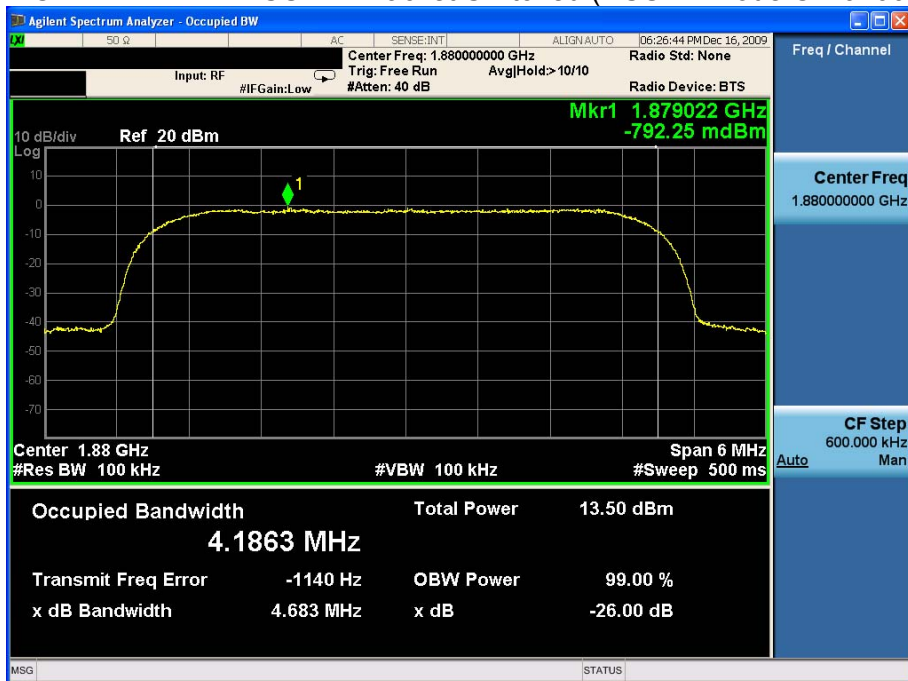


Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	WCDMA BAND II HSUPA		

WCDMA BAND II HSUPA - Packet Switched (HSUPA Mode CH 9262)



WCDMA BAND II HSUPA - Packet Switched (HSUPA Mode CH 9400)



Product	Smart Handheld		
Date of Test	2009/12/16	Test Site	CTR
Test Condition	WCDMA BAND II HSUPA		

WCDMA BAND II HSUPA - Packet Switched (HSUPA Mode CH 9538)

