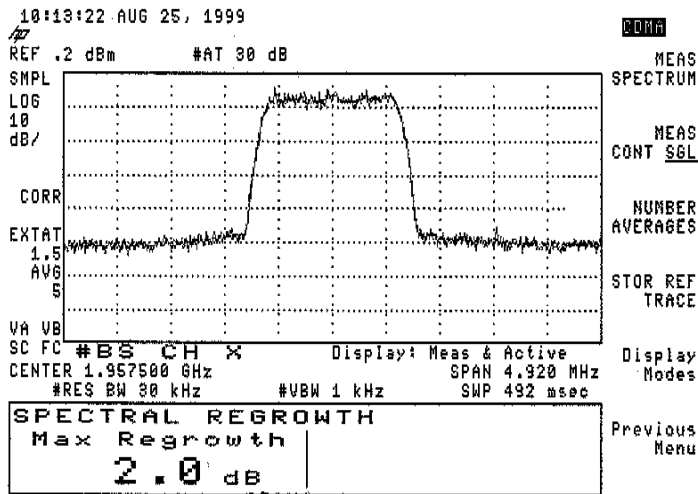
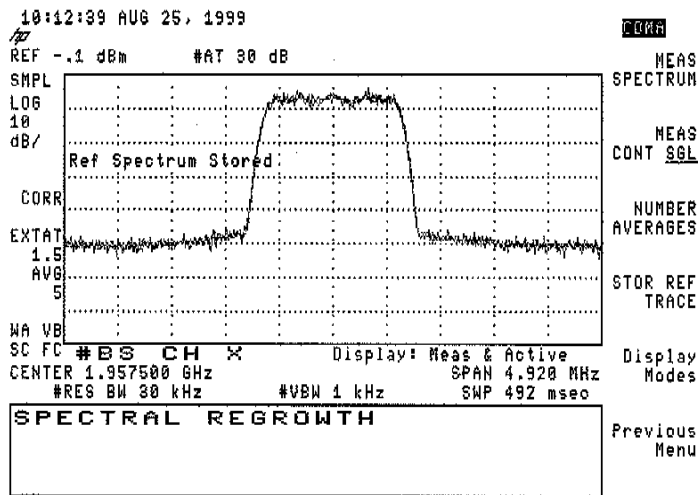
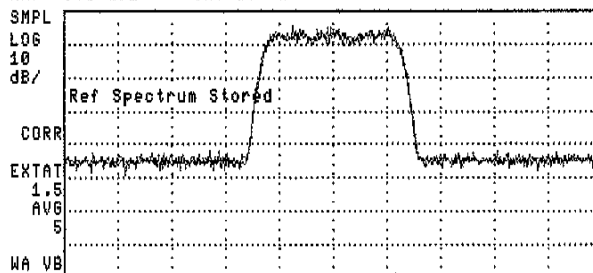


CDMA B Band



10:16:50 AUG 25, 1999

REF -5.8 dBm #AT 20 dB



SC FC #BS CH X Display: Meas & Active

CENTER 1.957500 GHz SPAN 4.920 MHz

#RES BW 30 kHz #VBW 1 kHz SWP 492 msec

SPECTRAL REGROWTH

CONF

MEAS SPECTRUM

MEAS CONT SGL

NUMBER AVERAGES

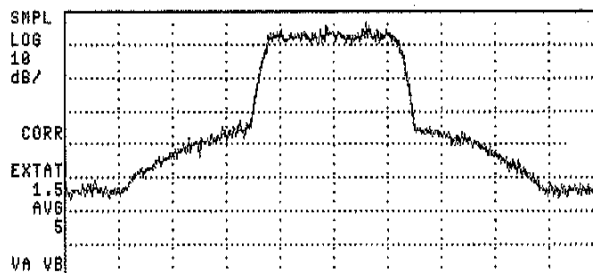
STOR REF TRACE

Display Modes

Previous Menu

10:17:05 AUG 25, 1999

REF 9.9 dBm #AT 30 dB



SC FC #BS CH X Display: Meas & Active

CENTER 1.957500 GHz SPAN 4.920 MHz

#RES BW 30 kHz #VBW 1 kHz SWP 492 msec

SPECTRAL REGROWTH

Max Regrowth

10.2 dB

CONF

MEAS SPECTRUM

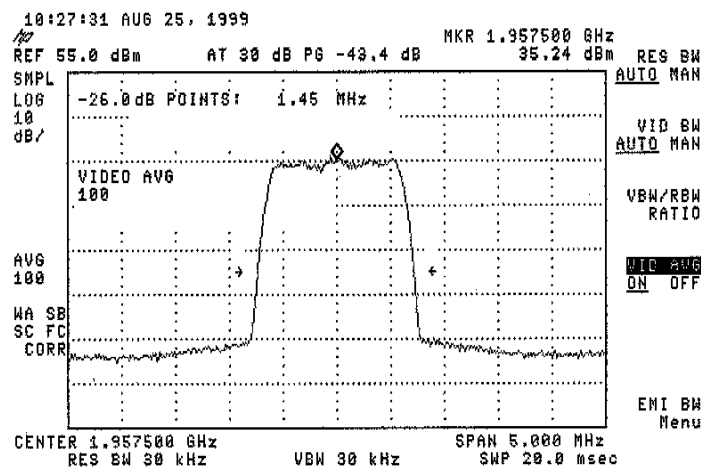
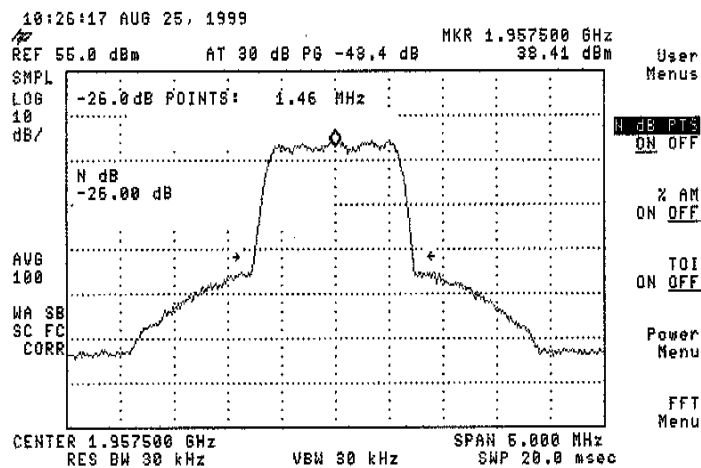
MEAS CONT SGL

NUMBER AVERAGES

STOR REF TRACE

Display Modes

Previous Menu



14:19:11 AUG 25, 1999

REF -10.0 dBm AT 10 dB PG -1.5 dB

SMPL
LOG
10
dB/

-26.0 dB POINTS: 1.43 MHz

VIDEO AVG:
100

AVG
100

WA SB
SC FC
CORR

RES BW
AUTO MAN

VID BW
AUTO MAN

VBW/RBW
RATIO

RED HGS
ON OFF

EMI BW
Menu

CENTER 1.877500 GHz RES BW 30 kHz VBW 30 kHz SPAN 5.000 MHz SWP 20.0 msec

14:22:37 AUG 25, 1999

REF -10.3 dBm #AT 20 dB

SMPL
LOG
10
dB/

CORR

EXTAT
0.0
AVG
5

VA VB

SC FC

#MS CH X

CENTER 1.877500 GHz

#RES BW 30 kHz

#VBW 1 kHz

SNP 492 msec

Display: Meas & Active

SPAN 4.920 MHz

SWP 492 msec

CONV

MEAS
SPECTRUM

MEAS
CONT SGL

NUMBER
AVERAGES

STOR REF
TRACE

Display
Modes

Previous
Menu

SPECTRAL REGROWTH
Max Regrowth
1.4 dB

14:23:35 AUG 25, 1999

REF -10.6 dBm #AT 20 dB

SMPL
LOG
10
dB/

CORR

EXTAT
0.0
AVG
5

VA VB

SC FC

#MS CH X

CENTER 1.877500 GHz

#RES BW 30 kHz

#VBW 1 kHz

SNP 492 msec

Display: Meas & Active

SPAN 4.920 MHz

SWP 492 msec

CONV

MEAS
SPECTRUM

MEAS
CONT SGL

NUMBER
AVERAGES

STOR REF
TRACE

Display
Modes

Previous
Menu

Ref Spectrum Stored

SPECTRAL REGROWTH

ATDE

<< Setup Common Parameter (CDMA) >>

Frequency

Channel & Frequency : [1092CH] = [1957.500000MHz]

Channel Spacing : [1.250000MHz]

Level

Reference Level : [10.0dBm]

Signal

Measuring Object : [Forward]

Data Rate : [9600bps/14400bps]

Modulation Analysis Length : [10] * 64 PNchip

Filter : [Filter+EQ]

PN Synchronization

PN Offset : [0] * 64 PNchip

τ Reference : [**Nothing**]

PN Trigger Edge : [Rise]

PN Trigger Delay : [0.000PNchip]

User Cal Factor

: [1.50dB]

TX Measure

→
All Measure

→
Modulation
Analysis

→
RF Power

→
Occupied
Bandwidth

→
Spurious
close to
the Carrier

→
Code Domain
Analysis

1 2

1

TX Measure				
---------------	--	--	--	--

Main Func
On **Off**

ATDE
<< All Measure (CDMA) >>

M Storage : Average (10/ 10)
U Page(1/5) Pass/Fail

All Measure

Frequency
Carrier Frequency : 1 957.499 999 6 MHz
Carrier Frequency Error : -0.000 4 kHz
Waveform Quality
ρ(Waveform Quality Factor) : 0.99435
RF Power
TX Power : 13.99 dBm
Occupied Bandwidth (FFT)
Occupied Bandwidth : 1.27 MHz
Spurious close to the Carrier (Spectrum)
Offset Frequency Lower Upper
750kHz : -42.37 dB -45.93 dB
885kHz : -45.87 dB -45.43 dB
900kHz : -46.25 dB -45.55 dB
1250kHz : -49.65 dB -48.50 dB
1980kHz : -60.51 dB -59.50 dB

Previous
Page

Next
Page

*
Storage
Mode

*
Calibration

Adjust
Range

→
Back
Screen

1

Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

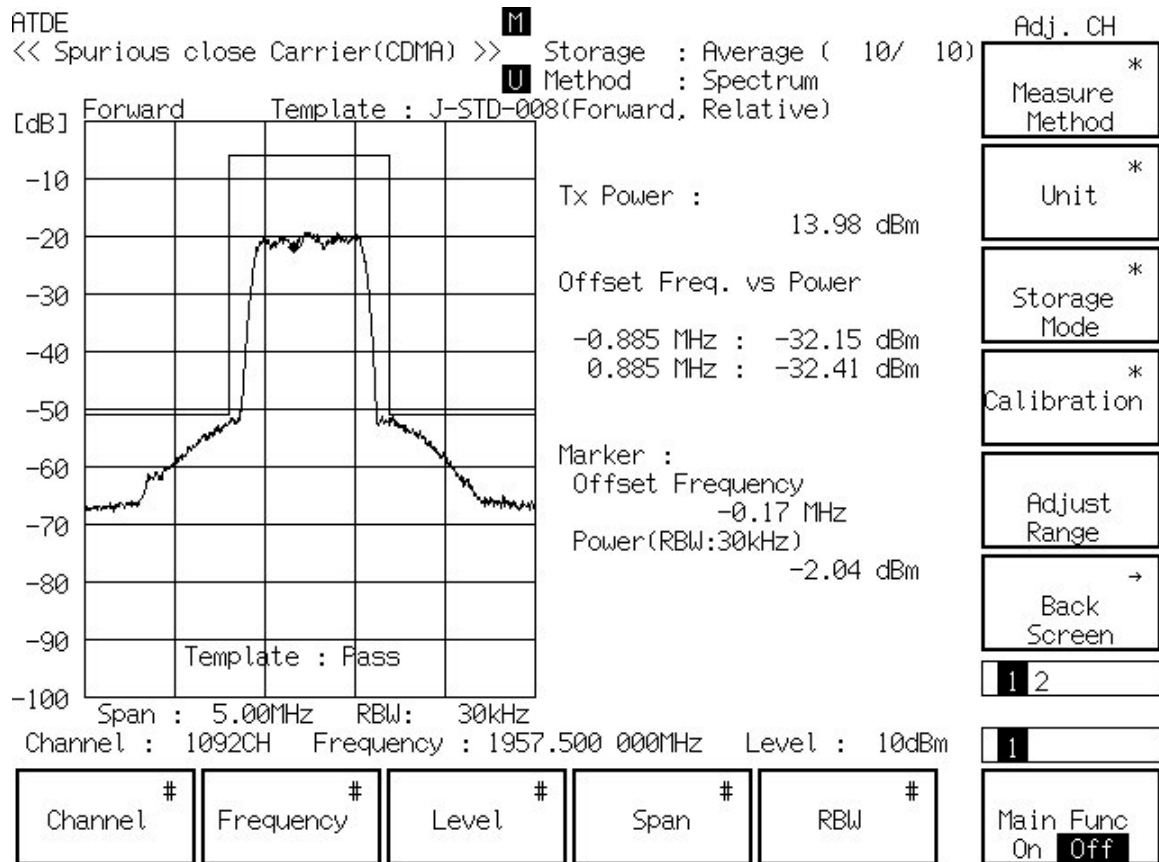
1

Channel #

Frequency #

Level #

Main Func
On Off



ATDE

<< Modulation Analysis (CDMA) >>

M

U

Storage : Average (10/ 10)

Mod. Anal.

Frequency

Carrier Frequency

: 1 957.499 999 8 MHz

Carrier Frequency Error

: -0.000 2 kHz

Waveform Quality

ρ (Waveform Quality Factor)

: 0.99718

Modulation

RMS Vector Error

: 4.53 % (rms)

Peak Vector Error

: 11.35 %

Phase Error

: 1.82 deg. (rms)

Magnitude Error

: 3.23 % (rms)

Origin Offset

: -30.85 dB

Waveform
Display

Storage
Mode

Calibration

Adjust
Range

Back
Screen

1

Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

1

Channel #

Frequency #

Level #

Main Func
On Off

ATDE
<< RF Power (CDMA) >>

M

U

Storage : Average (10/ 10)

Tx Power :
14.09 dBm

RF Power

Window *

Marker *

Storage
Mode *

Calibration *

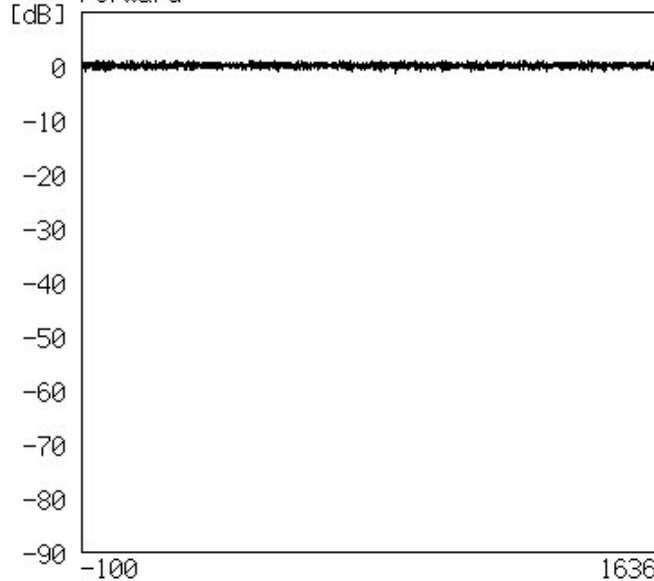
Adjust
Range

Back
Screen →

1 2

1

[dB] Forward



Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

Channel #

Frequency #

Level #

Main Func
On Off

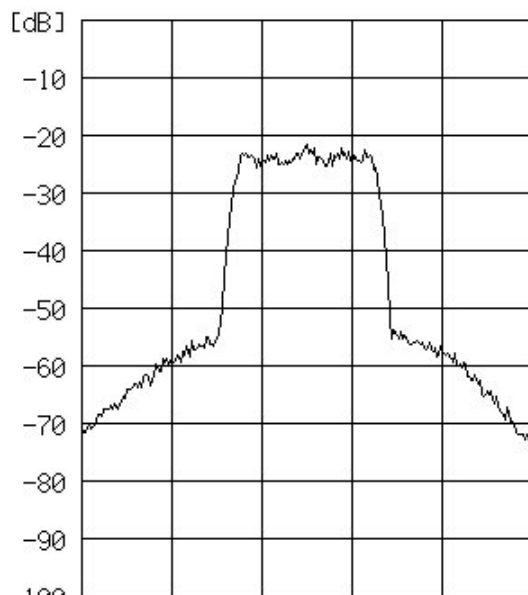
ATDE
<< Occupied Bandwidth (CDMA) >>

M

Storage : Average (10/ 10)
Method : FFT

Occ. BW

Measure
Method



OCC BW (99%) : 1.27 MHz

Upper Limit : 0.63 MHz

Lower Limit : -0.63 MHz

Center (Upper+Lower)/2 :
1957.500 MHz

Storage
Mode

Calibration

Adjust
Range

Back
Screen

1

Span : 3.91MHz
Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

1

Channel #

Frequency #

Level #

Main Func
On Off

ATDE

<< Spurious Emission (CDMA) >>

M

U Spurious : Spot

Spurious

*
Spurious
Mode

Frequency Table : Not Named

	RBW:3kHz	RBW:30kHz	RBW:1MHz
f 1 = 1 775.300 000 MHz :	-73.00 dBm	-62.87 dBm	-47.67 dBm
f 2 = 2 662.950 000 MHz :	-71.60 dBm	-61.48 dBm	-47.00 dBm
f 3 = - ----.---- --- MHz :			
f 4 = - ----.---- --- MHz :			
f 5 = - ----.---- --- MHz :			
f 6 = - ----.---- --- MHz :			
f 7 = - ----.---- --- MHz :			
f 8 = - ----.---- --- MHz :			
f 9 = - ----.---- --- MHz :			
f10 = - ----.---- --- MHz :			
f11 = - ----.---- --- MHz :			
f12 = - ----.---- --- MHz :			
f13 = - ----.---- --- MHz :			
f14 = - ----.---- --- MHz :			
f15 = - ----.---- --- MHz :			

*
Unit

*
Calibration

Adjust
Range

→
Back
Screen

1 2

Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

1

Channel #

Frequency #

Level #

Main Func
On Off

ATDE
<< Code Domain Analysis (CDMA) >>

M Measure : Continuous
U Storage : Normal

Code Domain

Vertical
Scale

Marker

Storage
Mode

Calibration

Adjust
Range

→
Back
Screen

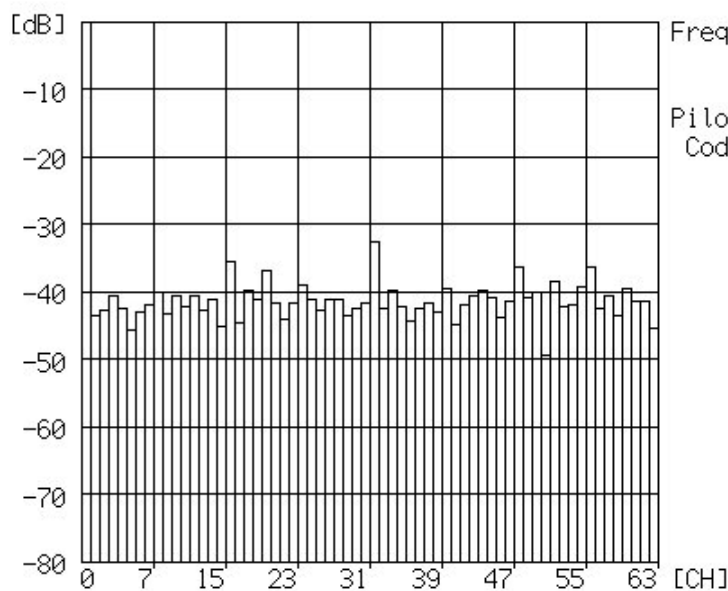
1

1

Main Func
On **Off**

Tx Power :
14.00 dBm
Frequency Error :
0.000 0 kHz

Pilot Channel
Code Domain Power :
-0.02 dB



Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

Channel #	Frequency #	Level #		

ATDE
<< Code Domain Analysis (CDMA) >>

M Measure : Continuous
U Storage : Normal

Code Domain

*
Vertical
Scale

*
Marker

*
Storage
Mode

*
Calibration

Adjust
Range

→
Back
Screen

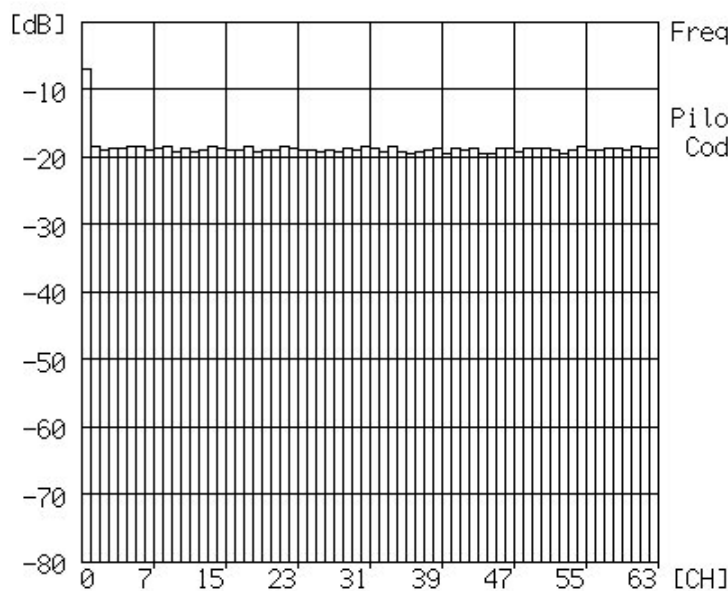
1

1

Main Func
On Off

Tx Power :
14.07 dBm
Frequency Error :
0.001 0 kHz

Pilot Channel
Code Domain Power :
-6.99 dB



Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

Channel #	Frequency #	Level #		
-----------	-------------	---------	--	--

ATDE
<< Waveform Display (CDMA) >>

M Measure : Continuous
Storage : Normal
U Trace : Constellation

Waveform

Trace ^{*}
Format

Marker ^{*}

Storage ^{*}
Mode

Calibration ^{*}

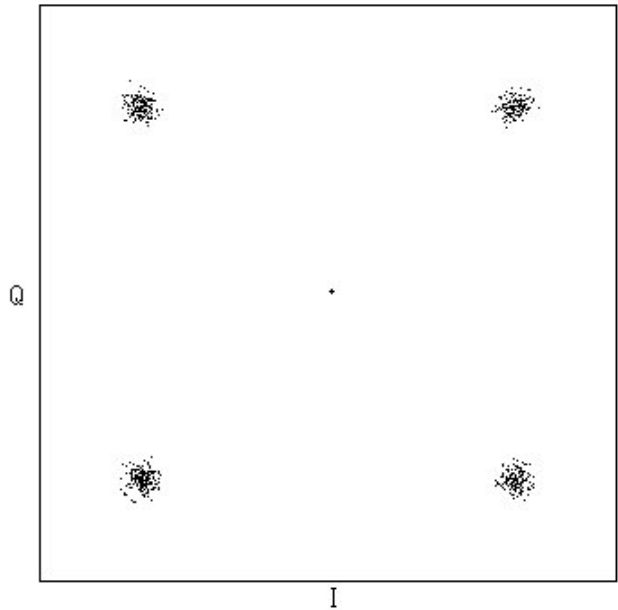
Adjust
Range

Back [→]
Screen

1

1

Main Func
On **Off**



Frequency :
1 957.500 000 1 MHz
Frequency Error :
0.000 1 kHz
 ρ : 0.99733

Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

Channel [#]

Frequency [#]

Level [#]

Main Func
On **Off**

ATDE

<< Spurious close Carrier(CDMA) >>

M

Storage : Average (10/ 10)

U

Method : Spectrum

Adj. CH

[dB]

Forward

Template : J-STD-008(Forward, Relative)

-10

-20

-30

-40

-50

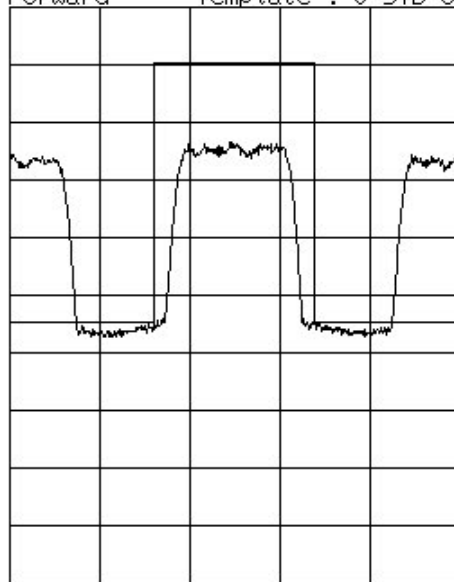
-60

-70

-80

-90

-100



Tx Power :

10.01 dBm

Offset Freq. vs Power

-0.885 MHz : -35.30 dBm

0.885 MHz : -34.79 dBm

Marker :

Offset Frequency

-0.17 MHz

Power(RBW:30kHz)

-5.24 dBm

Measure
Method

Unit

Storage
Mode

Calibration

Adjust
Range

Back
Screen

1 2

Span : 5.00MHz

RBW: 30kHz

Channel : 1092CH

Frequency : 1957.500 000MHz

Level : 10dBm

1

Channel #

Frequency #

Level #

Span #

RBW #

Main Func
On Off

ATDE

<< Modulation Analysis (CDMA) >>

M

U

Storage : Average (10/ 10)

Mod. Anal.

Frequency

Carrier Frequency : 1 957.500 000 0 MHz

Carrier Frequency Error : 0.000 0 kHz

Waveform Quality

ρ (Waveform Quality Factor) : 0.99520

Modulation

RMS Vector Error : 6.55 % (rms)

Peak Vector Error : 23.98 %

Phase Error : 3.09 deg. (rms)

Magnitude Error : 3.74 % (rms)

Origin Offset : -31.13 dB

→

Waveform Display

*

Storage Mode

*

Calibration

Adjust Range

→

Back Screen

1

Channel : 1092CH

Frequency : 1957.500 000MHz

Level : 10dBm

1

Channel #

Frequency #

Level #

Main Func

On Off

ATDE
<< RF Power (CDMA) >>

M

U

Storage : Average (10/ 10)

Tx Power :
10.07 dBm

RF Power

Window *

Marker *

Storage
Mode *

Calibration *

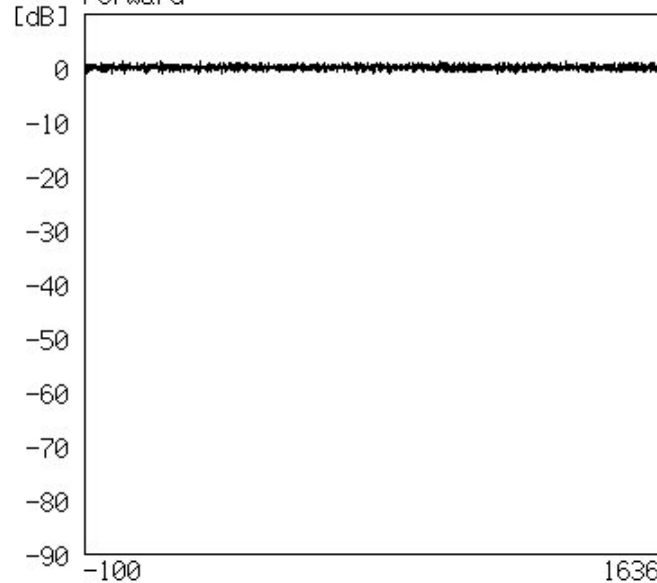
Adjust
Range

Back
Screen →

1 2

1

[dB] Forward



Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

Channel #	Frequency #	Level #		
-----------	-------------	---------	--	--

Main Func
On Off

ATDE

<< Occupied Bandwidth (CDMA) >>

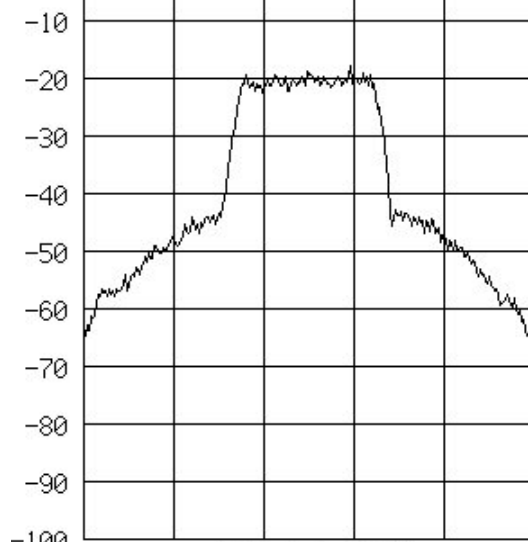
M

Storage : Average (10/ 10)
Method : FFT

Occ. BW

Measure
Method

[dB]



OCC BW (99%) : 1.28 MHz

Upper Limit : 0.64 MHz

Lower Limit : -0.64 MHz

Center (Upper+Lower)/2 :
1957.498 MHz

Storage
Mode

Calibration

Adjust
Range

Back
Screen

1

Span : 3.91MHz

Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

1

Channel #

Frequency #

Level #

Main Func
On Off

ATDE

<< Spurious Emission (CDMA) >>

M

U

Spurious : Spot

Spurious

*
Spurious
Mode

*
Unit

*
Calibration

Adjust
Range

→
Back
Screen

1 2

Frequency Table : Not Named

	RBW:3kHz	RBW:30kHz	RBW:1MHz
f 1 = 1 775.300 000 MHz :	-71.63 dBm	-62.30 dBm	-47.49 dBm
f 2 = 2 662.950 000 MHz :	-71.89 dBm	-62.23 dBm	-46.80 dBm
f 3 = - MHz :			
f 4 = - MHz :			
f 5 = - MHz :			
f 6 = - MHz :			
f 7 = - MHz :			
f 8 = - MHz :			
f 9 = - MHz :			
f10 = - MHz :			
f11 = - MHz :			
f12 = - MHz :			
f13 = - MHz :			
f14 = - MHz :			
f15 = - MHz :			

Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

1

Channel #	Frequency #	Level #		
-----------	-------------	---------	--	--

Main Func
On Off

ATDE
<< Code Domain Analysis (CDMA) >>

M Measure : Continuous
U Storage : Normal

Code Domain

Vertical
Scale

Marker

Storage
Mode

Calibration

Adjust
Range

→
Back
Screen

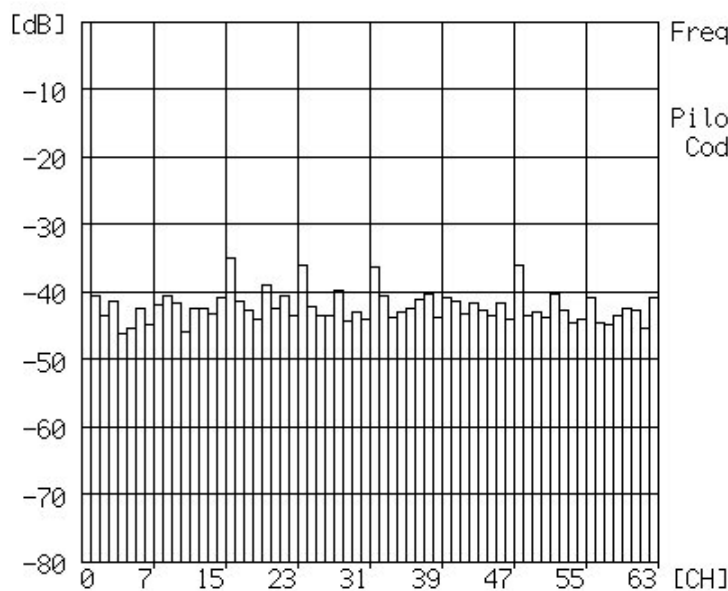
1

1

Main Func
On **Off**

Tx Power :
10.02 dBm
Frequency Error :
0.000 6 kHz

Pilot Channel
Code Domain Power :
-0.02 dB



Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

Channel #	Frequency #	Level #		
-----------	-------------	---------	--	--

ATDE
<< Code Domain Analysis (CDMA) >>

M Measure : Continuous
U Storage : Normal

Code Domain

*
Vertical
Scale

*
Marker

*
Storage
Mode

*
Calibration

Adjust
Range

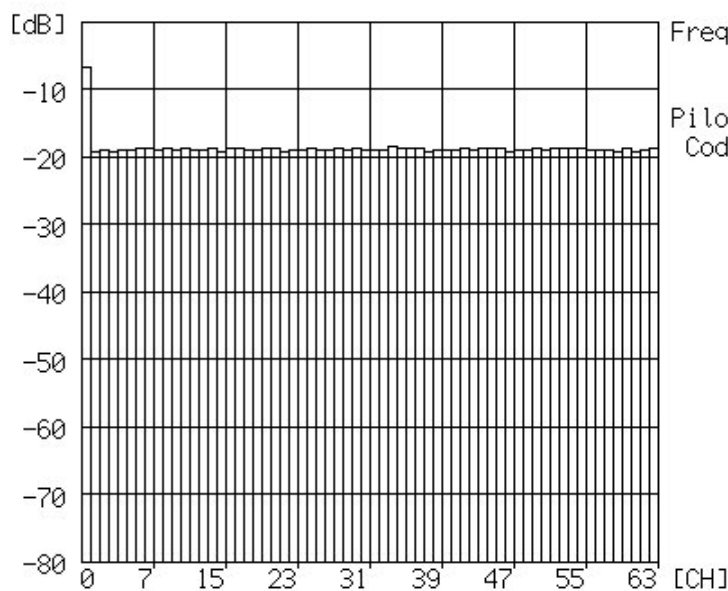
→
Back
Screen

1

1

Main Func
On Off

Tx Power :
9.95 dBm
Frequency Error :
-0.000 5 kHz
Pilot Channel
Code Domain Power :
-6.92 dB



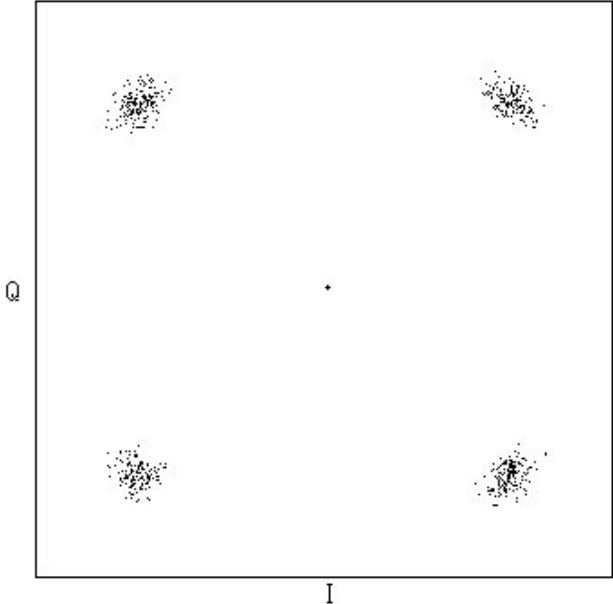
Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

Channel #	Frequency #	Level #		
-----------	-------------	---------	--	--

ATDE
<< Waveform Display (CDMA) >>

M Measure : Continuous
Storage : Normal
U Trace : Constellation

- Waveform
- Trace Format *
- Marker *
- Storage Mode *
- Calibration *
- Adjust Range
- Back Screen →
- 1



Frequency :
1 957.500 000 1 MHz
Frequency Error :
0.000 1 kHz
 ρ : 0.99544

Channel : 1092CH Frequency : 1957.500 000MHz Level : 10dBm

Channel #	Frequency #	Level #		
-----------	-------------	---------	--	--

1

Main Func
On Off

ATDE

<< Setup Common Parameter (CDMA) >>

Frequency

Channel & Frequency : [1092CH] = [1877.500000MHz]

Channel Spacing : [1.250000MHz]

Level

Reference Level : [10.0dBm]

Signal

Measuring Object : [Reverse]

Data Rate : [9600bps/14400bps]

Modulation Analysis Length : [615PNchip]

Filter : [Filtering]

PN Synchronization

PN Offset : [0] * 64 PNchip

τ Reference : [**Nothing**]

PN Trigger Edge : [Rise]

PN Trigger Delay : [0.000PNchip]

User Cal Factor

: [1.90dB]

TX Measure

→
All Measure

→
Modulation
Analysis

→
RF Power

→
Occupied
Bandwidth

→
Spurious
close to
the Carrier

→
Code Domain
Analysis

1 2

1

TX Measure				
---------------	--	--	--	--

Main Func
On **Off**

ATDE

<< All Measure (CDMA) >>

M

Storage : Average (10/ 10)

All Measure

U

Page(1/1)

Pass/Fail

Frequency

Carrier Frequency : 1 877.500 000 2 MHz

Carrier Frequency Error : 0.000 2 kHz Pass

Waveform Quality

ρ (Waveform Quality Factor) : 0.99560 Pass

RF Power

TX Power : 0.36 dBm Pass

Occupied Bandwidth (FFT)

Occupied Bandwidth : 1.26 MHz Pass

Spurious close to the Carrier (Spectrum)

Offset Frequency Lower Upper

750kHz : -48.50 dB -50.28 dB Pass

885kHz : -65.81 dB -64.60 dB Pass

900kHz : -65.29 dB -64.58 dB Pass

1250kHz : -67.80 dB -65.61 dB Pass

1980kHz : -69.58 dB -68.51 dB Pass

Total Judgement

Pass

Channel : 1092CH Frequency : 1877.500 000MHz Level : 5dBm

Channel #

Frequency #

Level #

Main Func
On Off

ATDE

<< Modulation Analysis (CDMA) >>

M

U

Storage : Average (10/ 10)

Mod. Anal.

Frequency

Carrier Frequency : 1 877.499 998 2 MHz

Carrier Frequency Error : -0.001 8 kHz

Waveform Quality

ρ(Waveform Quality Factor) : 0.99595

Modulation

RMS Vector Error : 6.18 % (rms)

Peak Vector Error : 23.68 %

Phase Error : 2.75 deg. (rms)

Magnitude Error : 3.87 % (rms)

Origin Offset : -30.71 dB

→

Waveform Display

*

Storage Mode

*

Calibration

Adjust Range

→

Back Screen

1

Channel : 1092CH

Frequency : 1877.500 000MHz

Level : 5dBm

1

Channel #

Frequency #

Level #

Main Func

On Off

ATDE
<< RF Power (CDMA) >>

M
U Storage : Average (10/ 10)

Tx Power :
0.35 dBm

RF Power

Window *

Marker *

Storage
Mode *

Calibration *

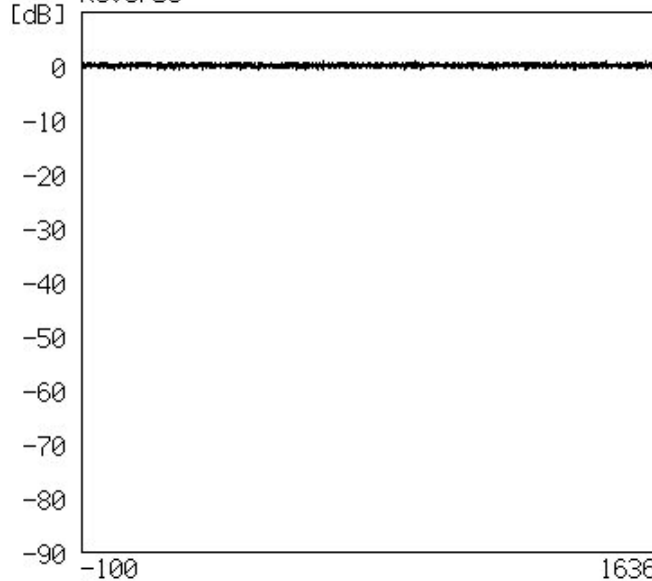
Adjust
Range

Back
Screen →

1 2

1

[dB] Reverse



Channel : 1092CH Frequency : 1877.500 000MHz Level : 5dBm

Channel #

Frequency #

Level #

Main Func
On Off

ATDE

<< Occupied Bandwidth (CDMA) >>

M

U

Storage : Average (10/ 10)

Method : FFT

Occ. BW

Measure
Method

[dB]

-10

-20

-30

-40

-50

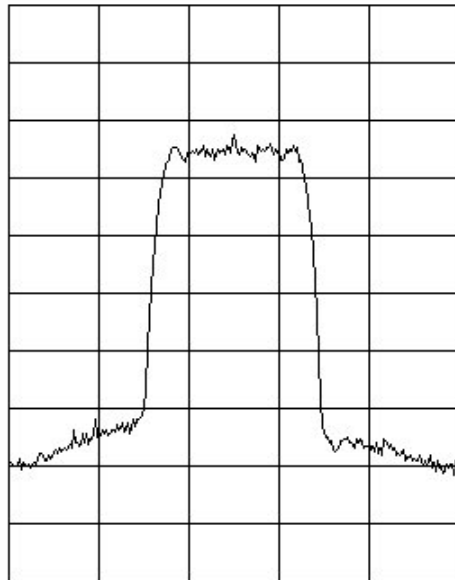
-60

-70

-80

-90

-100



Span : 3.91MHz

Channel : 1092CH Frequency : 1877.500 000MHz Level : 5dBm

OCC BW (99%) : 1.26 MHz

Upper Limit : 0.63 MHz

Lower Limit : -0.63 MHz

Center (Upper+Lower)/2 :
1877.501 MHz

Storage
Mode

Calibration

Adjust
Range

Back
Screen

1

1

Channel #

Frequency #

Level #

Main Func
On Off

ATDE

<< Spurious close Carrier(CDMA) >>

M

Storage : Average (10/ 10)

U

Method : Spectrum

Adj. CH

[dB]

Reverse

Template : J-STD-008(Reverse, Relative)

-10

-20

-30

-40

-50

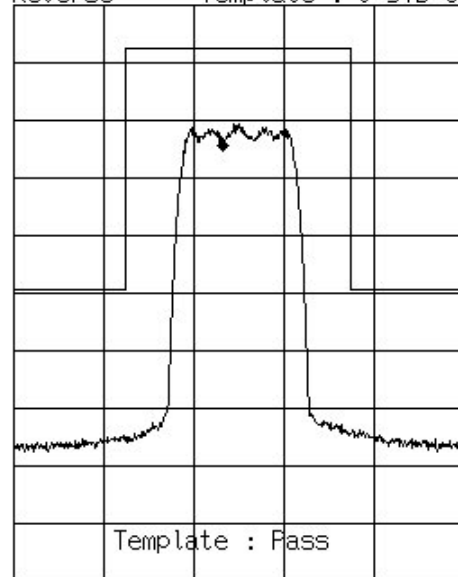
-60

-70

-80

-90

-100



Tx Power :

0.36 dBm

Offset Freq. vs Power

-1.250 MHz : -67.03 dBm

1.250 MHz : -66.48 dBm

Marker :

Offset Frequency

-0.17 MHz

Power(RBW:30kHz)

-16.45 dBm

Span : 5.00MHz RBW: 30kHz

Channel : 1092CH Frequency : 1877.500 000MHz Level : 5dBm

Channel #

Frequency #

Level #

Span #

RBW #

Main Func

On Off

Measure
Method

Unit

Storage
Mode

Calibration

Adjust
Range

Back
Screen

1 2

1

ATDE
<< Waveform Display (CDMA) >>

M Measure : Continuous
Storage : Normal
U Trace : Constellation

Waveform

Trace
Format

Marker

Storage
Mode

Calibration

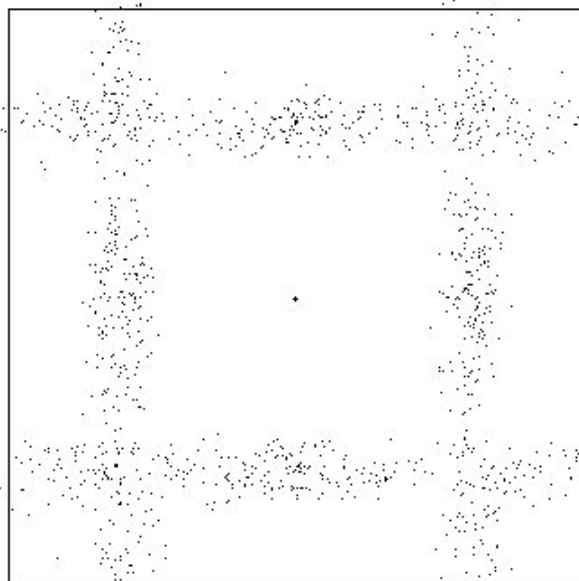
Adjust
Range

→
Back
Screen

1

1

Main Func
On **Off**



Frequency :
1 877.499 999 9 MHz
Frequency Error :
-0.000 1 kHz
 ρ : 0.99585

Channel : 1092CH Frequency : 1877.500 000MHz Level : 5dBm

Channel **#**

Frequency **#**

Level **#**

Main Func
On **Off**

<< Spurious Emission (CDMA) >>

U Spurious : Spot

Spot

Search

-58.43 dBm

```
f 3 = - ---.--- --- MHz :
f 4 = - ---.--- --- MHz :
f 5 = - ---.--- --- MHz :
f 6 = - ---.--- --- MHz :
f 7 = - ---.--- --- MHz :
f 8 = - ---.--- --- MHz :
f 9 = - ---.--- --- MHz :
f10 = - ---.--- --- MHz :
f11 = - ---.--- --- MHz :
f12 = - ---.--- --- MHz :
f13 = - ---.--- --- MHz :
f14 = - ---.--- --- MHz :
f15 = - ---.--- --- MHz :
```

return

Channel : 1092CH Frequency : 1877.500 000MHz Level : 5dBm

1

Main Func	On	Off
-----------	----	-----

Main Func	On	Off
-----------	----	-----

<< Spurious close Carrier(CDMA) >>

M

Storage : Average (10/ 10)

U

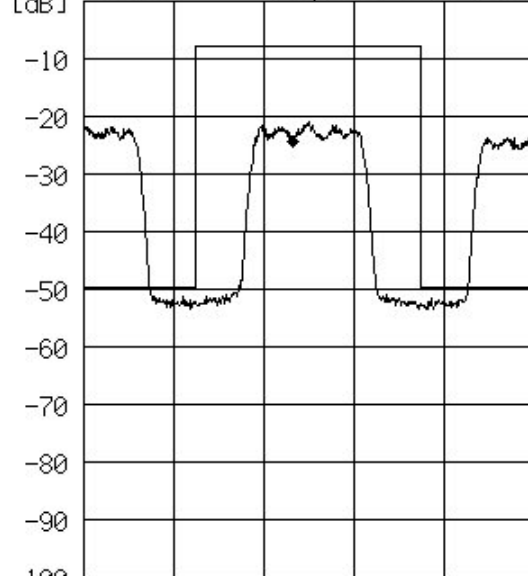
Method : Spectrum

Adj. CH

[dB]

Reverse

Template : J-STD-008(Reverse, Relative)



Tx Power :

0.07 dBm

Offset Freq. vs Power

-1.250 MHz : -44.60 dBm

1.250 MHz : -44.96 dBm

Marker :

Offset Frequency

-0.17 MHz

Power (RBW:30kHz)

-16.40 dBm

Span : 5.00MHz RBW: 30kHz

Channel : 1092CH Frequency : 1877.500 000MHz Level : 5dBm

Measure
Method

Unit

Storage
Mode

Calibration

Adjust
Range

Back
Screen

1	2
---	---

1

Channel	#
---------	---

Frequency #

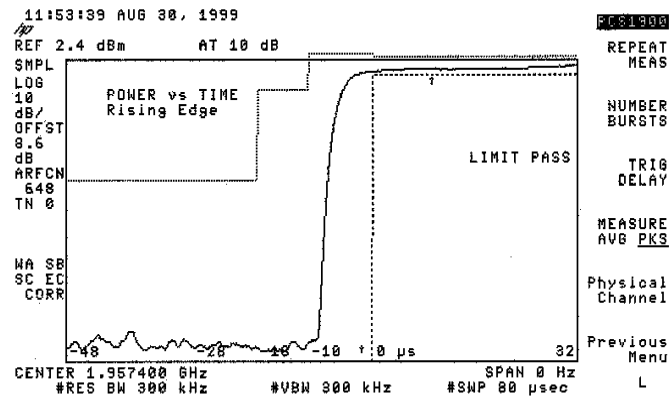
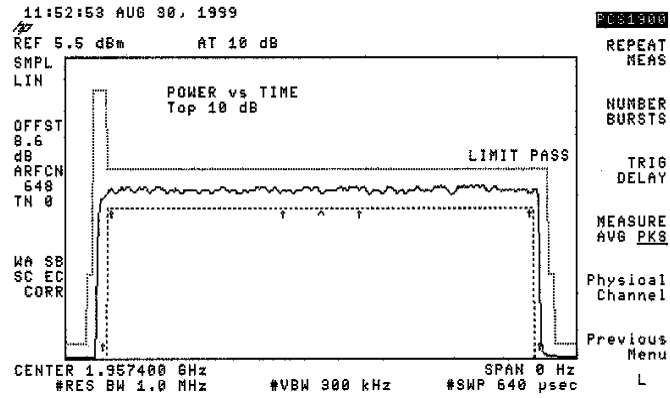
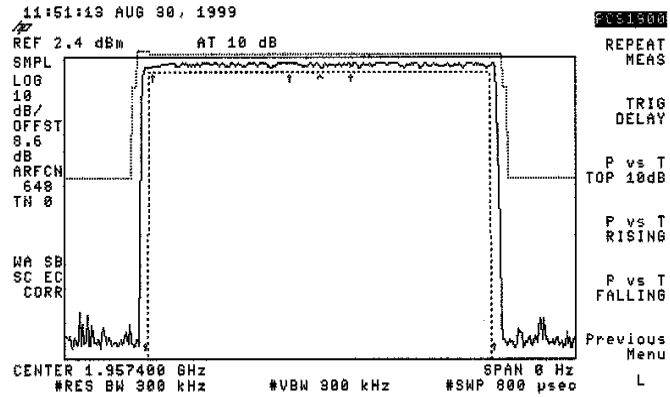
Level	#
-------	---

Span	#
------	---

RBW	#
-----	---

Main Func	On	Off
-----------	----	-----

GSM B Band



11:53:55 AUG 30, 1999

PC81400

REF 2.4 dBm AT 10 dB

SNPL

REPEAT
MEAS

LOG

10

dB/

OFFST

8.6

dB

ARFCN

648

TN 0

NUMBER
BURSTS

TRIG
DELAY

MEASURE
Ave PKS

Physical
Channel

Previous
Menu

L

WA SB

SC EC

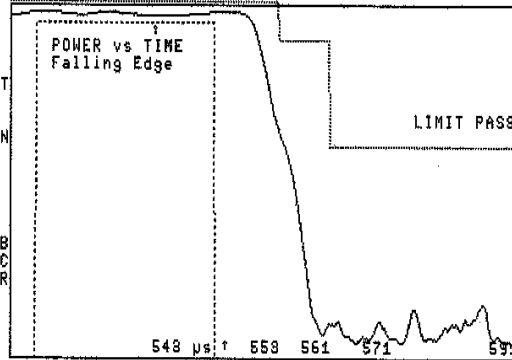
CORR

CENTER 1.957400 GHz

#RES BW 300 kHz

#VBW 300 kHz

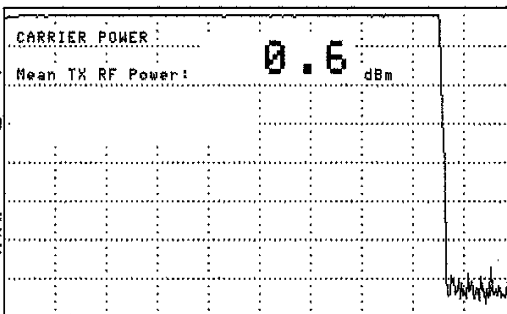
SPAN 0 Hz
#SWP 80 μ sec



12:01:05 AUG 30, 1999

REF 2.7 dBm AT 10 dB

SMPL
LO8
10
dB/
OFFST
8.6
dB
ARFCN
648
TN 0



CENTER 1.957400 GHz #RES BW 1.0 MHz #VBW 300 kHz #SMP 640 psec

PC31300

REPEAT
MEAS

NUMBER
BURSTS

Physical
Channel

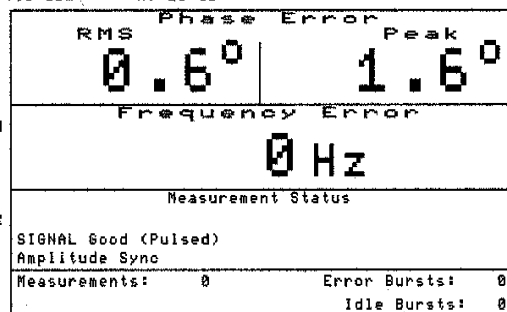
Previous
Menu

L

12:09:54 AUG 30, 1999

REF -4.0 dBm AT 10 dB

ARFCN
648
TN 0



FREQ 1957.400 MHz

PC31300

REPEAT
MEAS

NUMBER
BURSTS

MEASURE
AVG PKS

STD DEV
ON OFF

Physical
Channel

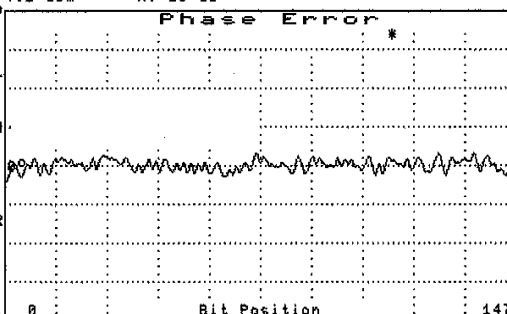
Previous
Menu

L

12:14:54 AUG 30, 1999

REF -4.1 dBm AT 10 dB

OFFST
8.6
dB
ARFCN
648
TN 0



Status: SIGNAL Good
Phase: RMS: 0.7° Pk: 2.2° Error: -1 Hz

PC31300

REPEAT
MEAS

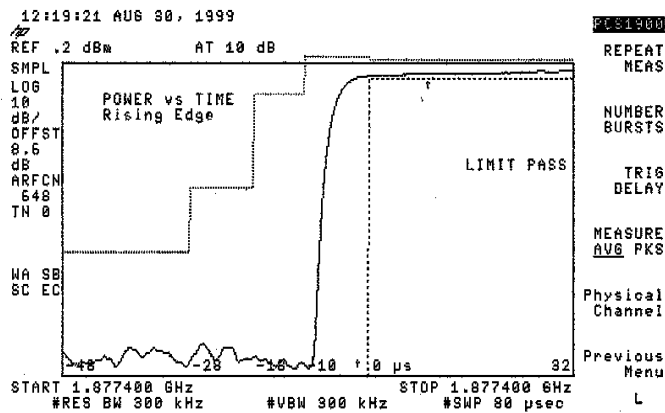
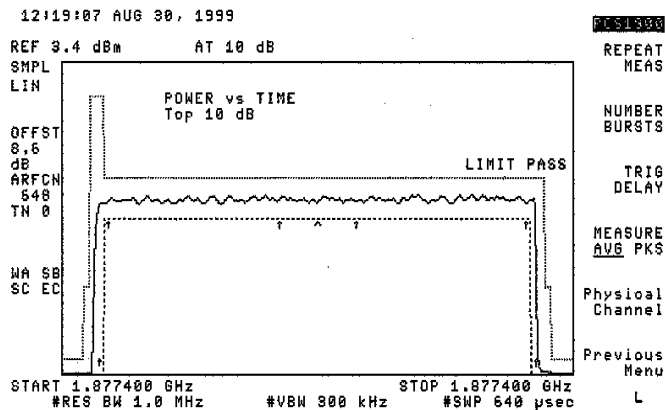
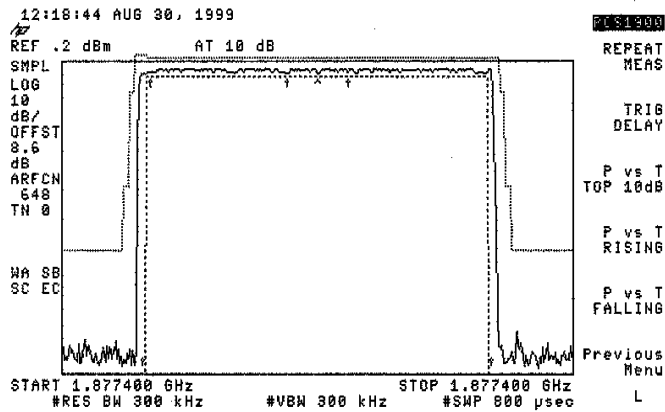
NUMBER
BURSTS

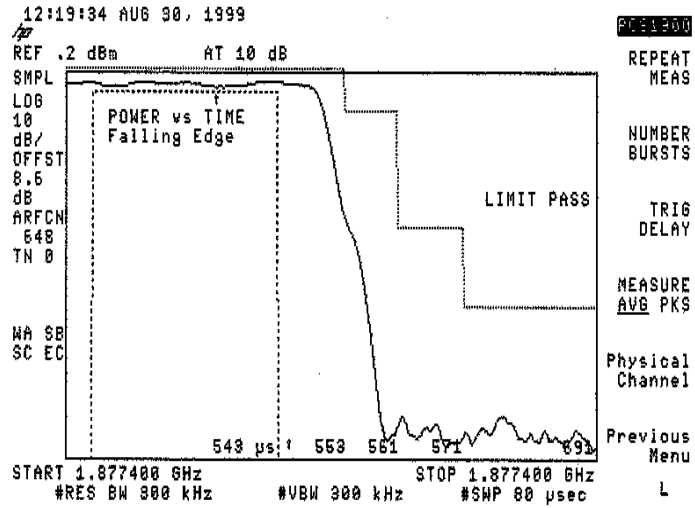
MEASURE
AVG PKS

Zoom

Physical
Channel

Previous
Menu

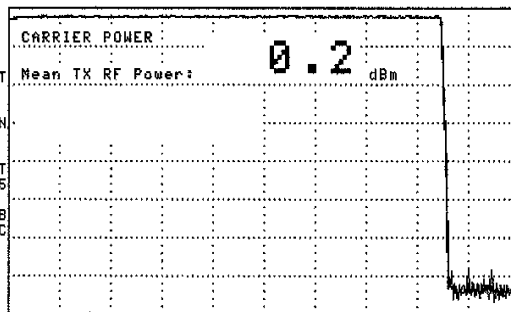




13:25:14 AUG 30, 1999

REF 2.4 dBm AT 10 dB

SMPL
LOG
10
dB/
OFFST
8.6
dB
ARFCN
648
TN 0
BURST
5
VA WB
SC EC



CENTER 1.877400 GHz SPAN 0 Hz
#RES BW 1.0 MHz #VBW 300 kHz #SWP 640 μ sec

PCS1900

REPEAT
MEAS

NUMBER
BURSTS

Physical
Channel

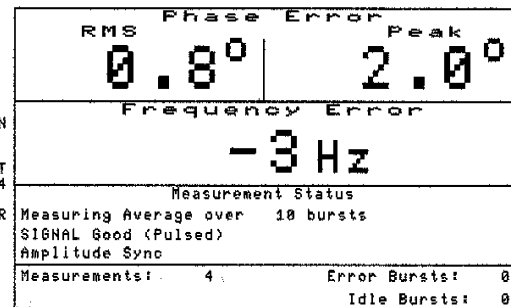
Previous
Menu

L

13:25:56 AUG 30, 1999

REF -2.4 dBm AT 10 dB

ARFCN
648
TN 0
BURST
4
COLOR
0



Phase: RMS: 0.7° Pk: 1.9° FREQ 1877.400 MHz
Error: 3 Hz

PCS1900

REPEAT
MEAS

NUMBER
BURSTS

MEASURE
AVG PKS

STD DEV
ON OFF

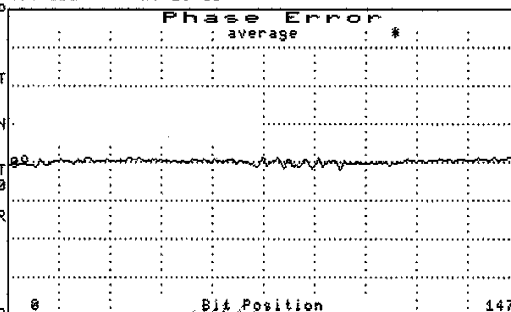
Physical
Channel

Previous
Menu

13:26:55 AUG 30, 1999

REF -2.4 dBm AT 10 dB

OFFST
8.6
dB
ARFCN
648
TN 0
BURST
10
COLOR
0



Status: SIGNAL Good FREQ 1877.400 MHz
Phase: RMS: 0.7° Pk: 2.0° Error: -3 Hz

PCS1900

REPEAT
MEAS

NUMBER
BURSTS

MEASURE
AVG PKS

Zoom

Physical
Channel

Previous
Menu

FLS1900

REF 1.4 dBm AT 10 dB

REPEAT
MEAS

SMPL
LOG
10
dB/
OFFST
8.6
dB
ARFCN
648
TN 0

TRIG
DELAY

P vs T
TOP 10dB

P vs T
RISING

P vs T
FALLING

[Previous](#)
[Menu](#)

2

CENTER 1.877400 GHz SPAN 0 Hz
#RES BW 300 kHz #VBW 300 kHz #SWP 800 psec

13:07:53 AUG 30, 1999

PC51900

REF 4.7 dBm AT 10 dB

REPEAT
MEAS

SMPL
LIN

OFFST
8.5
dB
ARFCN
648
TN 0

NUMBER
BURSTS

TRIG
DELAY

MEASURE
AVG PKSPhysical
Channel

[Previous](#)
[Menu](#)

f.

CENTER 1.877400 GHz SPAN 0 Hz
#RES BW 1.0 MHz #VBW 300 kHz #SWP 640 psec

13:08:53 AUG 30, 1999

PCS1986

REF 1.4 dBm AT 10 dB

REPEAT
MEAS

```

SMPL
LOS
10
dB/
OFFST
8.6
dB
ARFCN
648
TN 0

```

NUMBER
BURSTS

TRIG
DELAY

MEASURE
AVG PKS

Physical Channel

[Previous](#)
[Menu](#)

1

CENTER 1.877400 GHz SPAN 0 Hz
#RES BW 300 kHz #VBW 300 kHz #SWP 80 μ sec

13:14:25 AUG 30, 1999

PC11200

REF 1.5 dBm AT 10 dB

REPEAT
MEAS

SMPL
LOG
10
dB/
OFFST
0.6
dB
ARFCN
648
TN 0

NUMBER
BURSTS

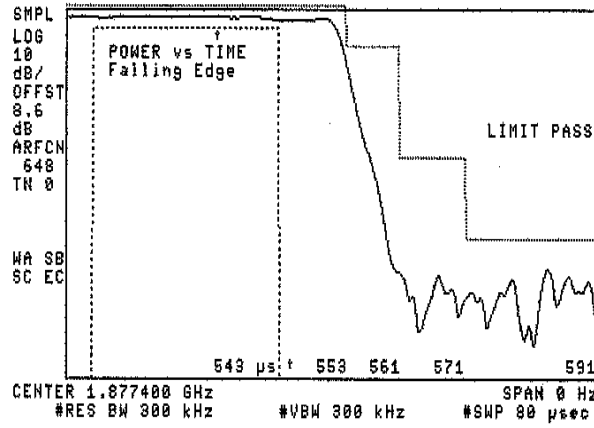
TRIG
DELAY

MEASURE
AVG PKS

Physical
Channel

Previous
Menu

L



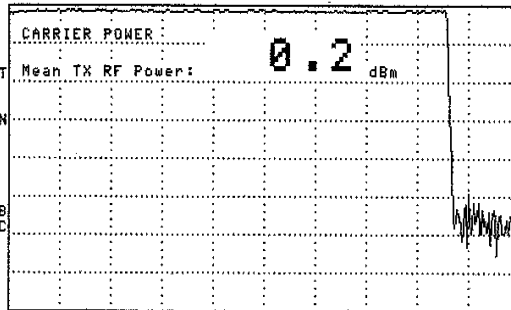
13:19:21 AUG 30, 1999

REF 1.7 dBm AT 10 dB

SMPL
LOG
10
dB
OFFST
8.6
dB
ARFCN
648
TN 0

HA SB
SC EC

CENTER 1.877400 GHz
#RES BW 1.0 MHz #VBW 300 kHz #SPAN 0 Hz
#SNP 640 μ sec



PCSI900

REPEAT
MEAS

NUMBER
BURSTS

Physical
Channel

Previous
Menu

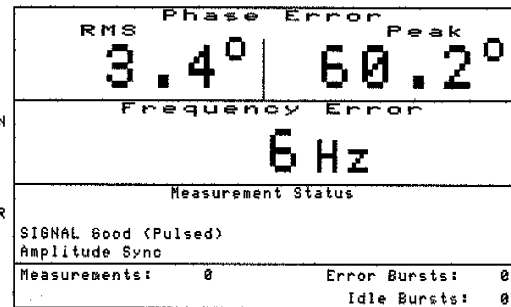
L

13:21:48 AUG 30, 1999

REF -2.4 dBm AT 10 dB

ARFCN
648
TN 0

COLOR
0



PCSI900

REPEAT
MEAS

NUMBER
BURSTS

MEASURE
AVG PKS

STD DEV
ON OFF

Physical
Channel

Previous
Menu

L

FREQ 1877.400 MHz

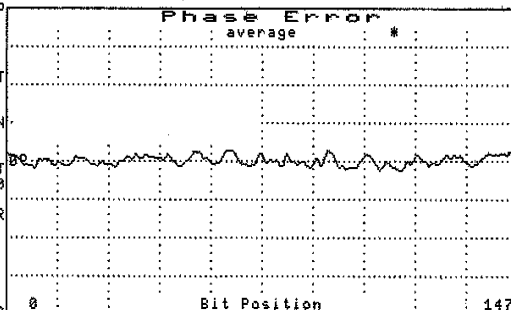
13:24:08 AUG 30, 1999

REF -2.4 dBm AT 10 dB

OFFST
8.6
dB
ARFCN
648
TN 0
BURST
10

COLOR
0

Status: SIGNAL Good
Phase: RMS: 1.7° Pk: 4.3°
FREQ 1877.400 MHz
Error: 8 Hz



PCSI900

REPEAT
MEAS

NUMBER
BURSTS

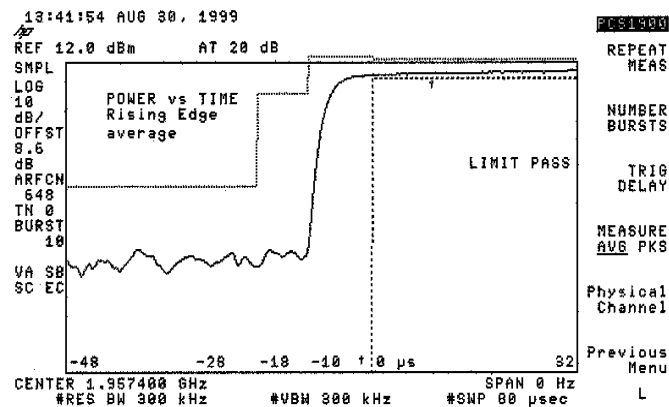
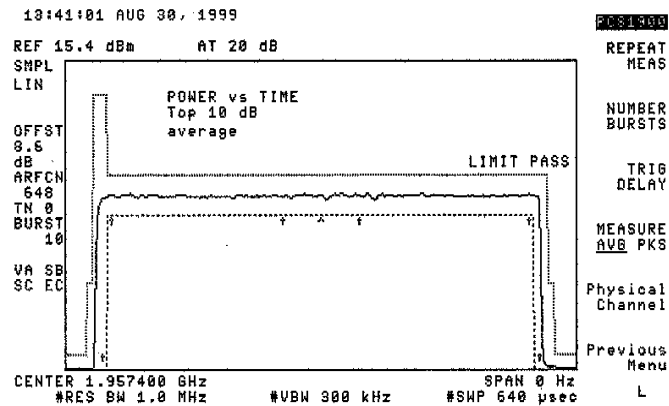
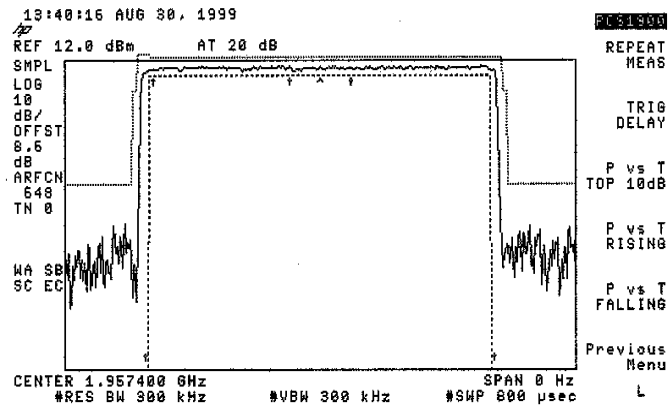
MEASURE
AVG PKS

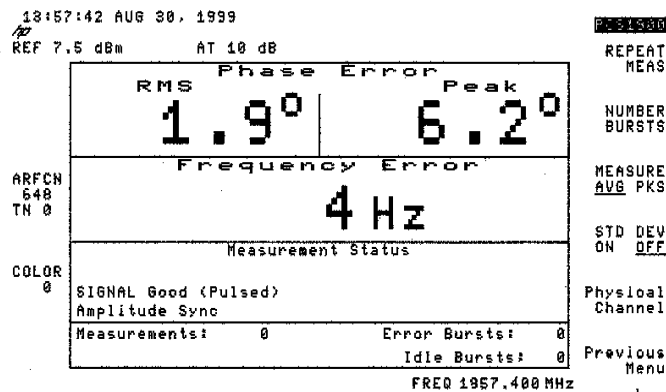
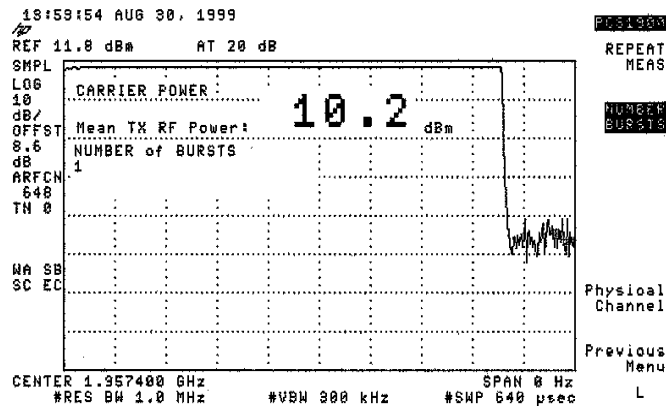
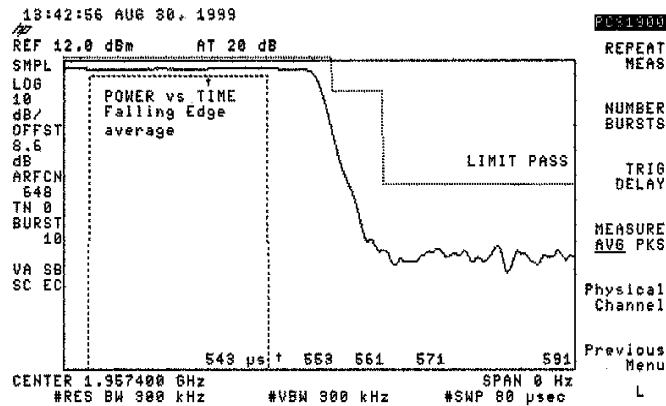
Zoom

Physical
Channel

Previous
Menu

L





14:01:15 AUG 30, 1999

REF 7.2 dBm

AT 10 dB

PCS1900

REPEAT
MEAS

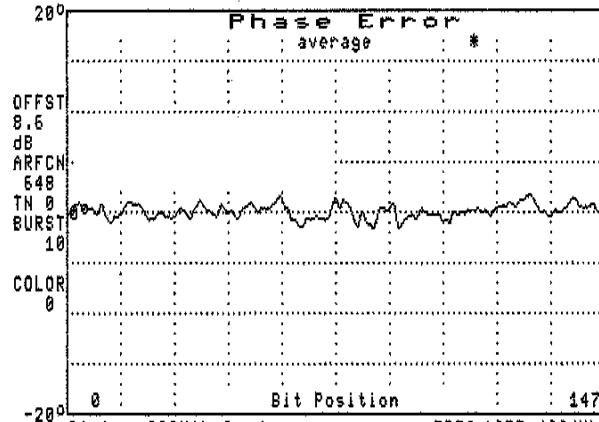
NUMBER
BURSTS

MEASURE
AVG PKS

Zoom

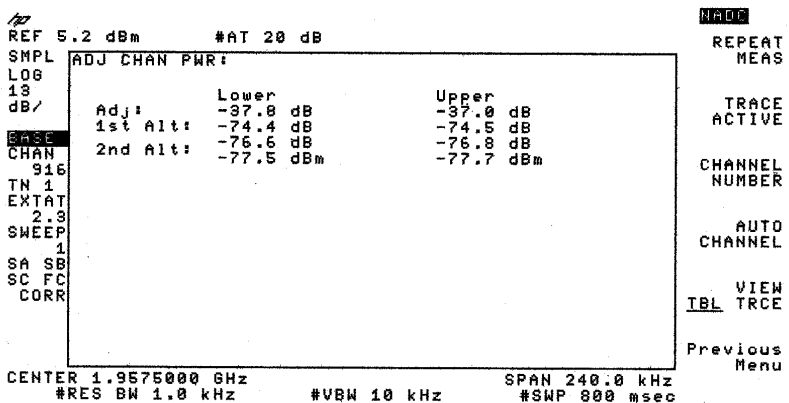
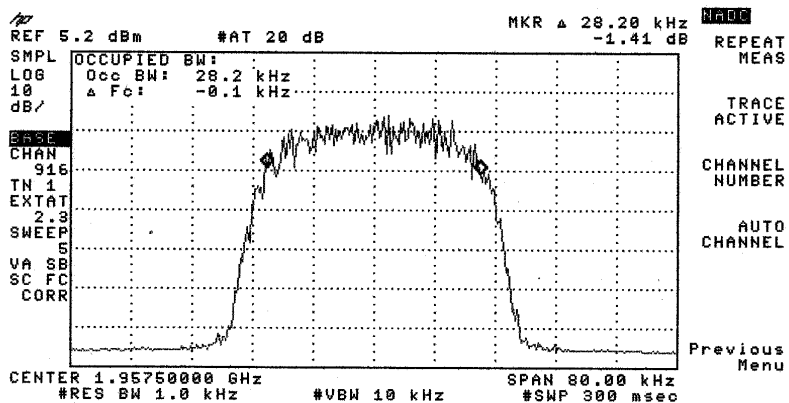
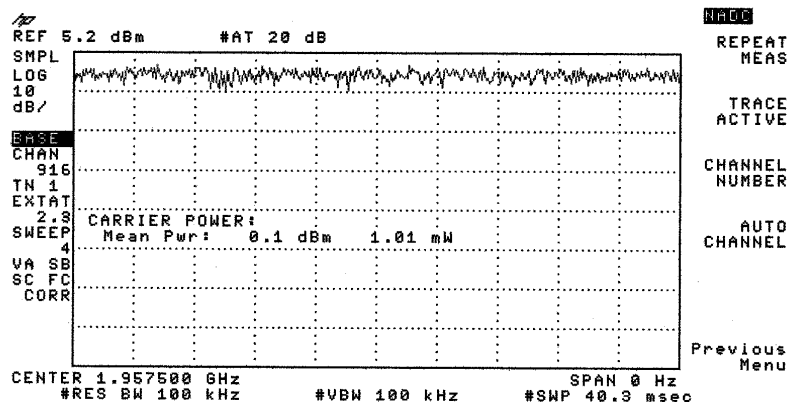
Physical
Channel

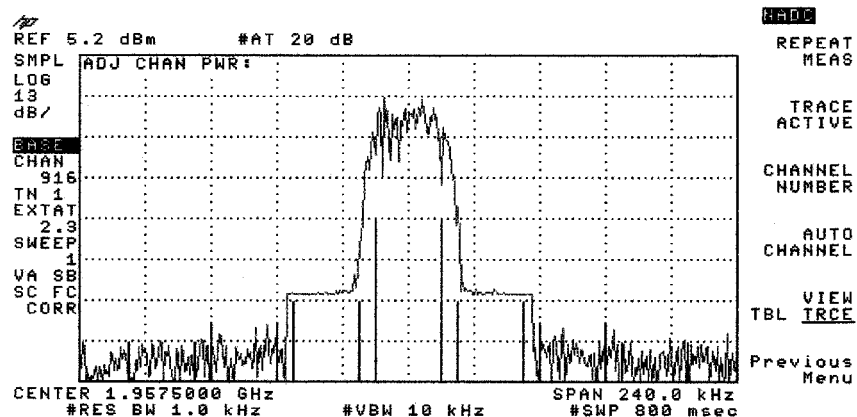
Previous
Menu



Status: SIGNAL Good
Phase: RMS: 2.0' Pk: 5.3' Error: 3 Hz
FREQ 1957.400 MHz

TDMA B Band





STATISTICS for sample of 10 timeslots:

	Mean	Std dev	Max	Min
RMS EVM (%):	1.1	0.44	1.9	0.7
RMS MAG ERR (%):	0.7	0.03	0.8	0.6
RMS PHASE ERR (°):	0.4	0.34	1.0	0.0

RMS EVM Uncertainty (for N=10)

Temp. Range 20-30 °C:	1.5 %	> RMS EVM >	0.5 %
Temp. Range 0-55 °C:	1.5 %	> RMS EVM >	0.5 %

	Mean
ORIGIN OFFSET (dB):	-36.1
FREQUENCY ERROR (Hz):	1.7
DROOP (dB/symbol):	-0.0000

CHANNEL 916	FREQ 1957.50 MHz	SYNC WORD 1
BASE	TRIG FRAME	EVM CORR

MODULATN ACCURACY

SINGLE CONT

FULL PARTIAL

Demod Main

More 1 of 2

MODULATION ACCURACY: [single timeslot]

Measurement complete

RMS EVM:	1.1 %
RMS MAG ERR:	0.7 %
RMS PHASE ERR:	0.5 °
PEAK EVM:	6.9 %
ORIGIN OFFSET:	-37.4 dB
FREQUENCY ERR:	-9.0 Hz
DROOP (dB/sym):	0.0000

CHANNEL 916	FREQ 1957.50 MHz	SYNC WORD 1
BASE	TRIG FRAME	EVM CORR

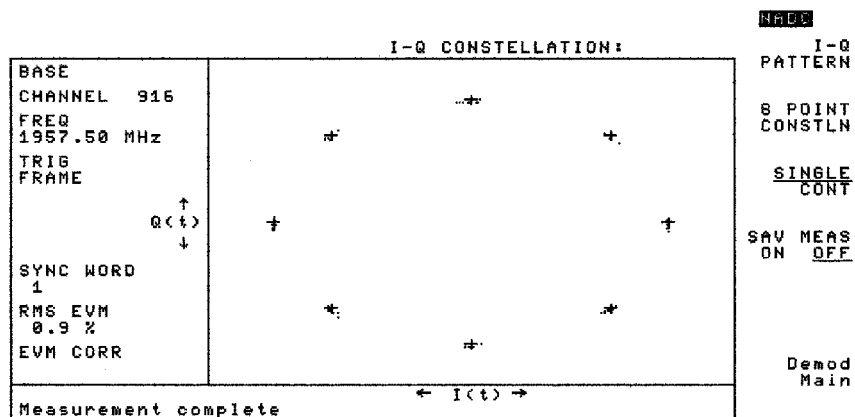
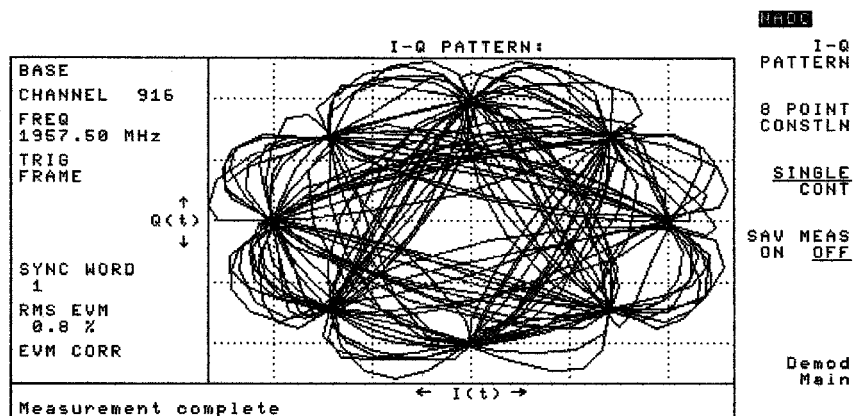
MODULATN ACCURACY

SINGLE CONT

FULL PARTIAL

Demod Main

More 1 of 2



DIGITAL DEMODULATOR STATUS:

BASE CONT CHANNEL 916 CF 1957.50 MHz TRIG FRAME WRD SYNC ON TIMESLOT NUM 1 CORRECTION: 1.0457 ° 1.3706 % DLP REV 961021 DSP FW REV 961027 SA FW REV 980615	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">FT Acquisition Status (1=OK):</td> <td style="text-align: right;">1</td> </tr> <tr> <td>FT Time Record Status:</td> <td style="text-align: right;">0</td> </tr> <tr> <td>FT Acquisition Sync Number:</td> <td style="text-align: right;">1</td> </tr> <tr> <td>FT Acquisition Sync errors:</td> <td style="text-align: right;">0</td> </tr> <tr> <td>FT Sync Bit Location:</td> <td style="text-align: right;">36826</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td>Measurement Status (0=OK):</td> <td style="text-align: right;">0</td> </tr> <tr> <td>Measurement Time Record Status:</td> <td style="text-align: right;">0</td> </tr> <tr> <td>Time Slot (SYNC WORD) Number:</td> <td style="text-align: right;">1</td> </tr> <tr> <td>Sync Match (1=PERFECT MATCH):</td> <td style="text-align: right;">1</td> </tr> <tr> <td>Sync Word Errors:</td> <td style="text-align: right;">0</td> </tr> <tr> <td>Pass 1&2 Bit Compare Errors:</td> <td style="text-align: right;">0</td> </tr> <tr> <td>IQ Null Flag:</td> <td style="text-align: right;">1</td> </tr> <tr> <td>IQ Null Count:</td> <td style="text-align: right;">1</td> </tr> <tr> <td>Low Magnitude Points:</td> <td style="text-align: right;">4</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td>RMS EVM (%):</td> <td style="text-align: right;">0.7</td> </tr> <tr> <td>PEAK EVM (%):</td> <td style="text-align: right;">5.7</td> </tr> <tr> <td>ORIGIN OFFSET (dB):</td> <td style="text-align: right;">-35.2</td> </tr> <tr> <td>FREQUENCY ERROR (Hz):</td> <td style="text-align: right;">1.8</td> </tr> <tr> <td>DROOP (dB/symbol):</td> <td style="text-align: right;">-0.0000</td> </tr> </table>	FT Acquisition Status (1=OK):	1	FT Time Record Status:	0	FT Acquisition Sync Number:	1	FT Acquisition Sync errors:	0	FT Sync Bit Location:	36826			Measurement Status (0=OK):	0	Measurement Time Record Status:	0	Time Slot (SYNC WORD) Number:	1	Sync Match (1=PERFECT MATCH):	1	Sync Word Errors:	0	Pass 1&2 Bit Compare Errors:	0	IQ Null Flag:	1	IQ Null Count:	1	Low Magnitude Points:	4			RMS EVM (%):	0.7	PEAK EVM (%):	5.7	ORIGIN OFFSET (dB):	-35.2	FREQUENCY ERROR (Hz):	1.8	DROOP (dB/symbol):	-0.0000
FT Acquisition Status (1=OK):	1																																										
FT Time Record Status:	0																																										
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FT Acquisition Sync errors:	0																																										
FT Sync Bit Location:	36826																																										
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Measurement Time Record Status:	0																																										
Time Slot (SYNC WORD) Number:	1																																										
Sync Match (1=PERFECT MATCH):	1																																										
Sync Word Errors:	0																																										
Pass 1&2 Bit Compare Errors:	0																																										
IQ Null Flag:	1																																										
IQ Null Count:	1																																										
Low Magnitude Points:	4																																										
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FREQUENCY ERROR (Hz):	1.8																																										
DROOP (dB/symbol):	-0.0000																																										

Modulatn

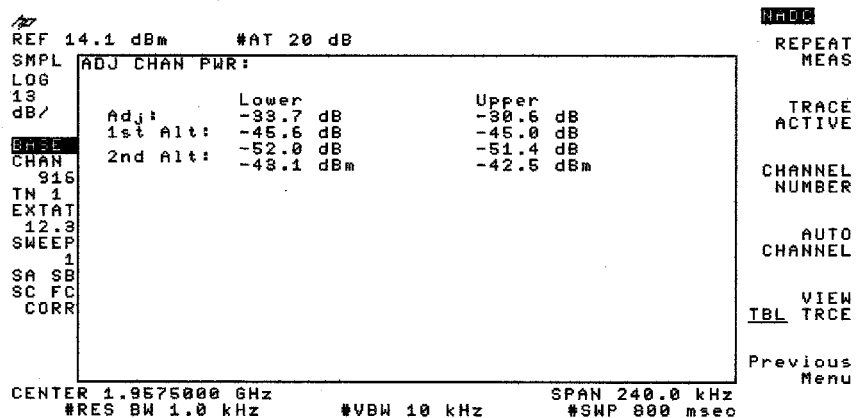
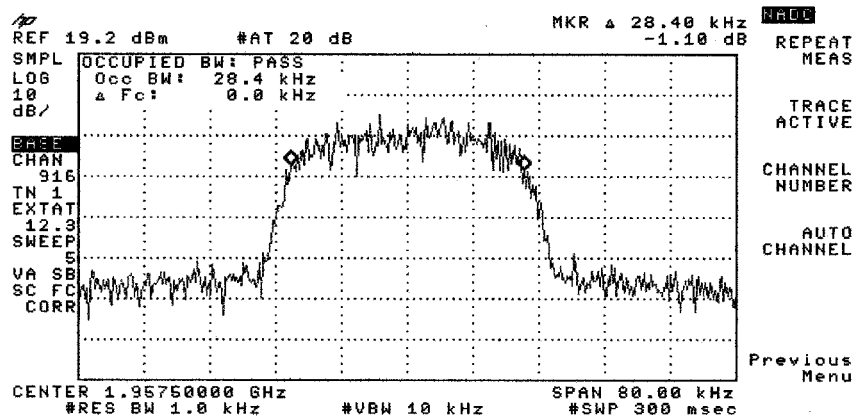
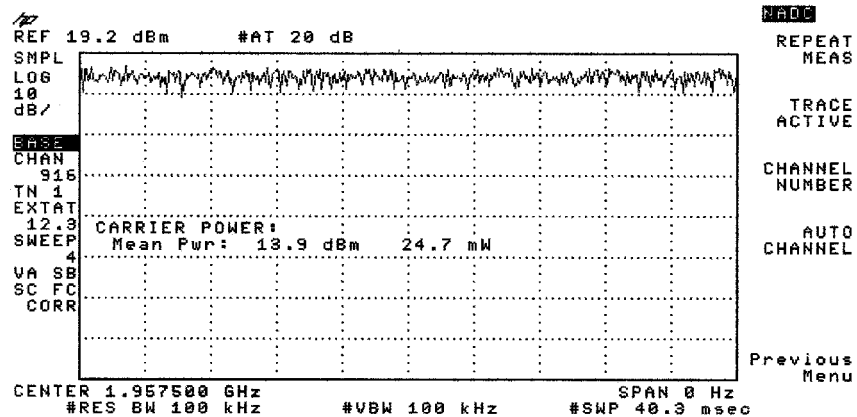
Graphs

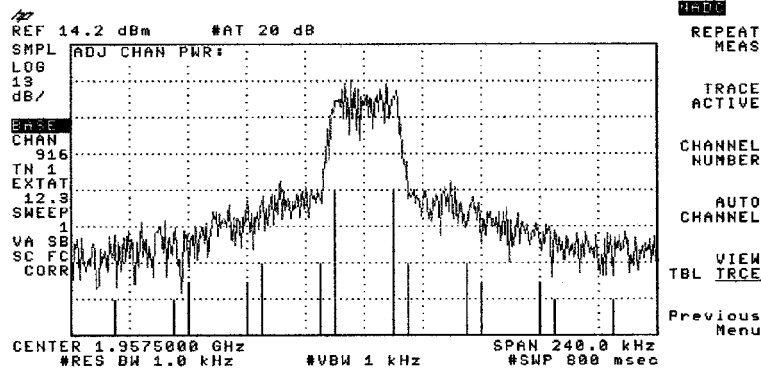
Data

STATUS

Demod
Config

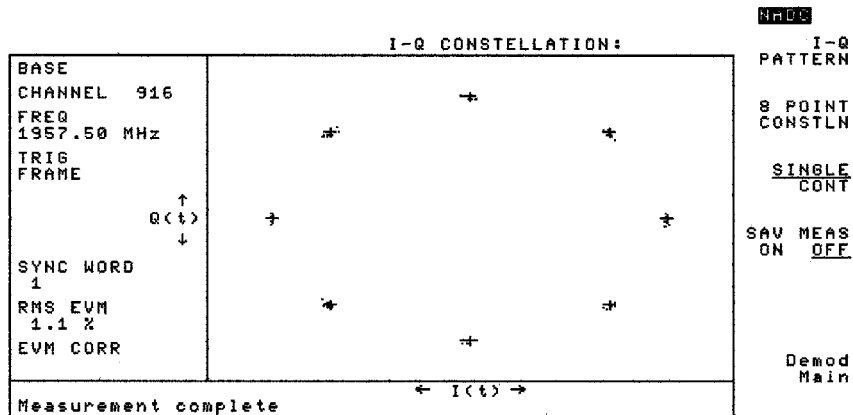
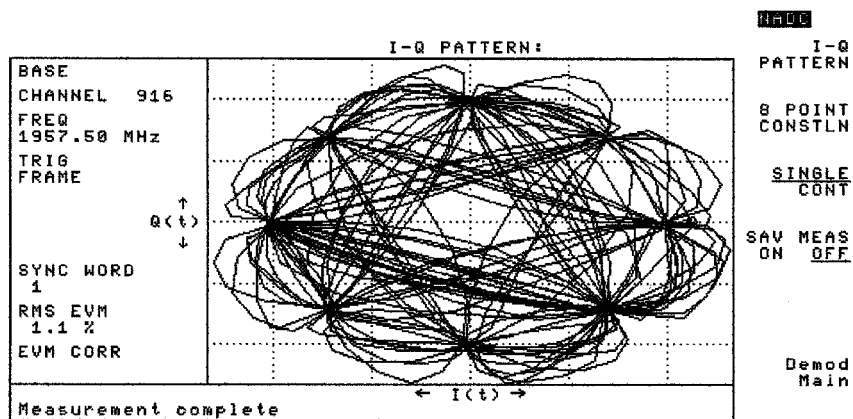
Main
Menu





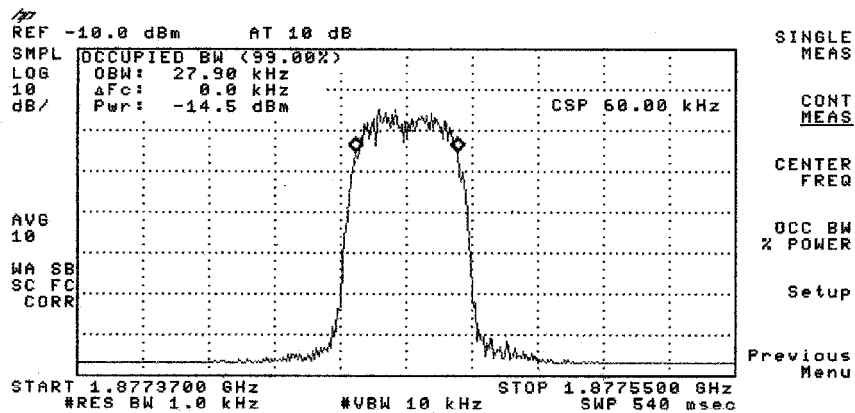
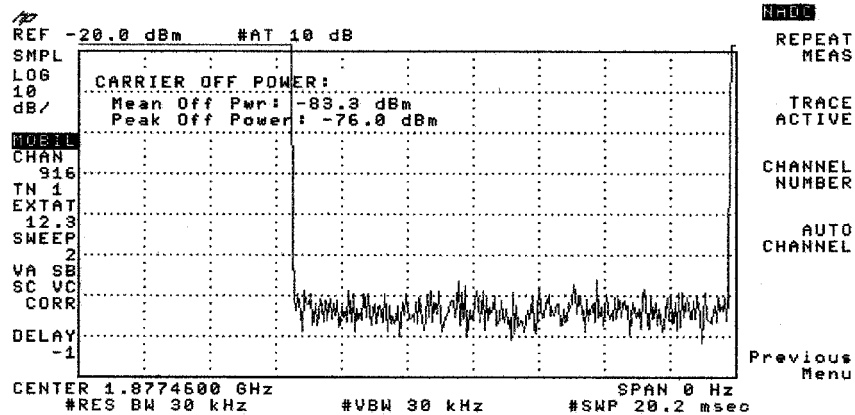
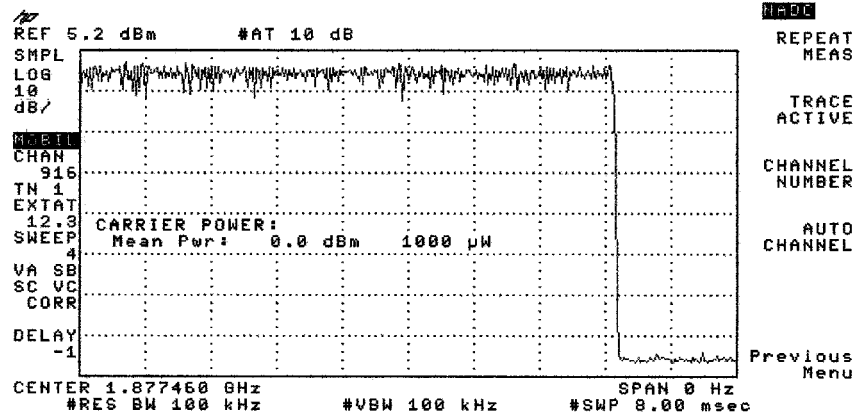
MODULATION ACCURACY: [single timeslot]				MODULATN ACCURACY
Measurement complete				
RMS EVM:	1.2 %			<u>SINGLE</u>
RMS MAG ERR:	1.1 %			CONT
RMS PHASE ERR:	0.3 °			<u>FULL</u>
PEAK EVM:	7.1 %			PARTIAL
ORIGIN OFFSET:	-37.0 dB			
FREQUENCY ERR:	-7.6 Hz			Demod Main
DROOP (dB/sym):	-0.0000			More 1 of 2
CHANNEL 916	FREQ 1957.50 MHz	SYNC WORD 1		
BASE	TRIG FRAME	EVM CORR		

STATISTICS for sample of 10 timeslots:					MODULATN ACCURACY
	Mean	Std dev	Max	Min	
RMS EVM (%):	2.0	0.67	3.4	1.4	<u>SINGLE</u>
RMS MAG ERR (%):	1.1	0.13	1.4	1.0	CONT
RMS PHASE ERR (°):	0.9	0.44	1.8	0.5	<u>FULL</u>
RMS EVM Uncertainty (for N=10)					PARTIAL
Temp. Range 20-30 °C:	2.7 %	> RMS EVM	>	1.0 %	
Temp. Range 0-55 °C:	2.7 %	> RMS EVM	>	1.0 %	
Mean					Demod Main
ORIGIN OFFSET (dB):	-35.9				
FREQUENCY ERROR (Hz):	2.1				
DROOP (dB/symbol):	-0.0000				More 1 of 2
CHANNEL 916	FREQ 1957.50 MHz	SYNC WORD 1			
BASE	TRIG FRAME	EVM CORR			

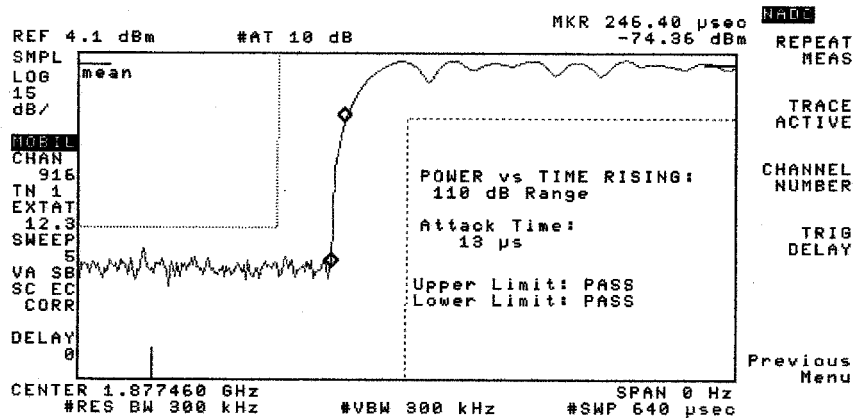
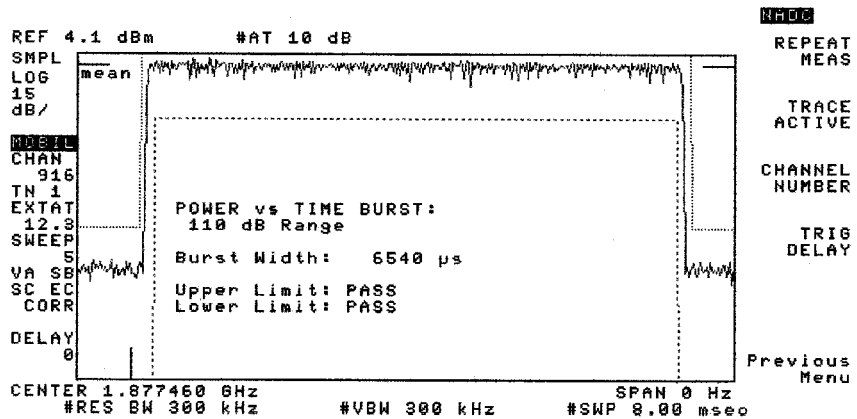
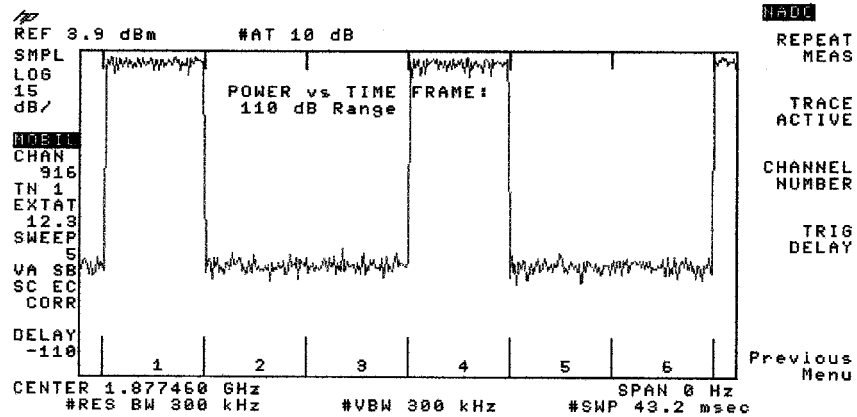


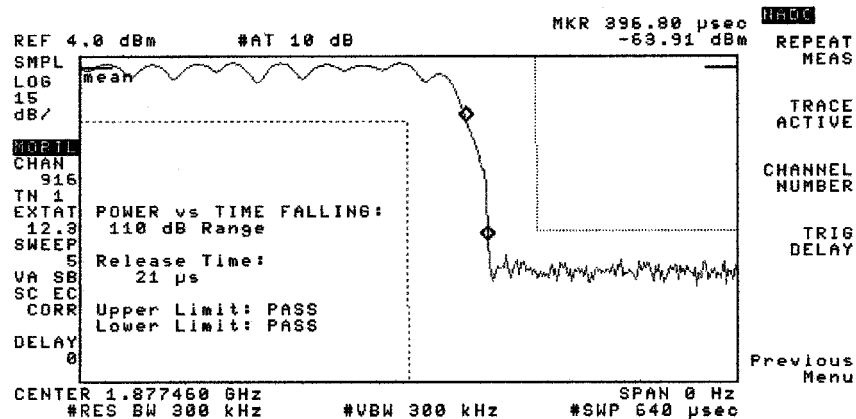
DIGITAL DEMODULATOR STATUS:

BASE	FT Acquisition Status (1=OK):	1	Modulatn
CONT	FT Time Record Status:	0	
CHANNEL 916	FT Acquisition Sync Number:	1	
CF 1957.50 MHz	FT Acquisition Sync errors:	0	
TRIG FRAME	FT Sync Bit Location:	36826	Graphs
NRD SYNC ON	Measurement Status (0=OK):	0	
TIMESLOT NUM 1	Measurement Time Record Status:	0	
CORRECTION:	Time Slot (SYNC WORD) Number:	1	
1.0457 °	Sync Match (1=PERFECT MATCH):	1	Data
1.4547 %	Sync Word Errors:	0	
DLP REV	Pass 162 Bit Compare Errors:	0	
961021	IQ Null Flag:	1	
DSP FW REV	IQ Null Count:	1	STATUS
951027	Low Magnitude Points:	10	
SA FW REV	RMS EVM (%):	1.1	
980615	PEAK EVM (%):	6.6	
	ORIGIN OFFSET (dB):	-35.9	Demod Config
	FREQUENCY ERROR (Hz):	-5.7	
	DR00P (dB/symbol):	0.0001	Main Menu



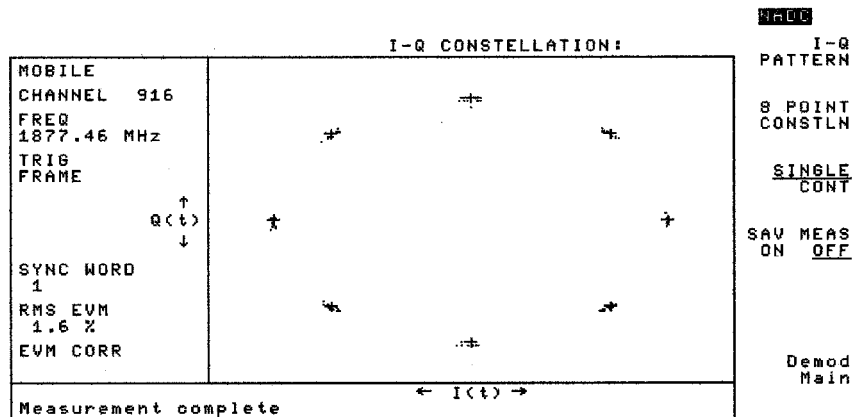
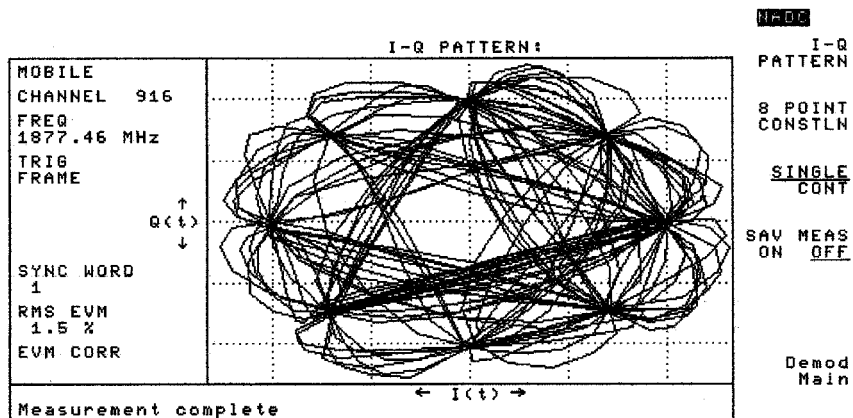
* +12.3 dB Atten





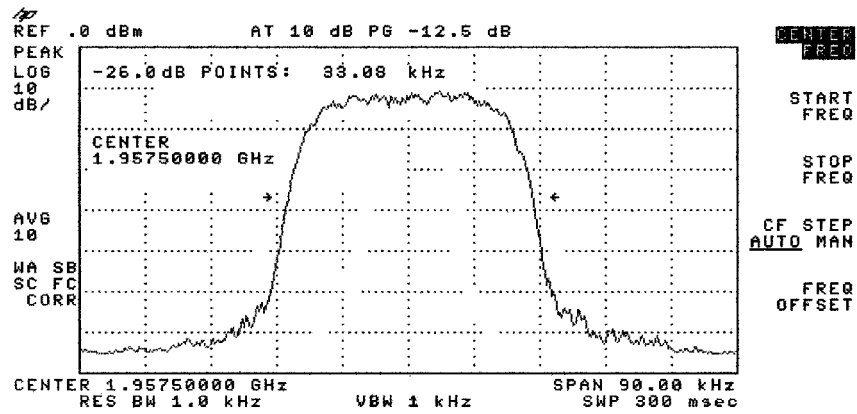
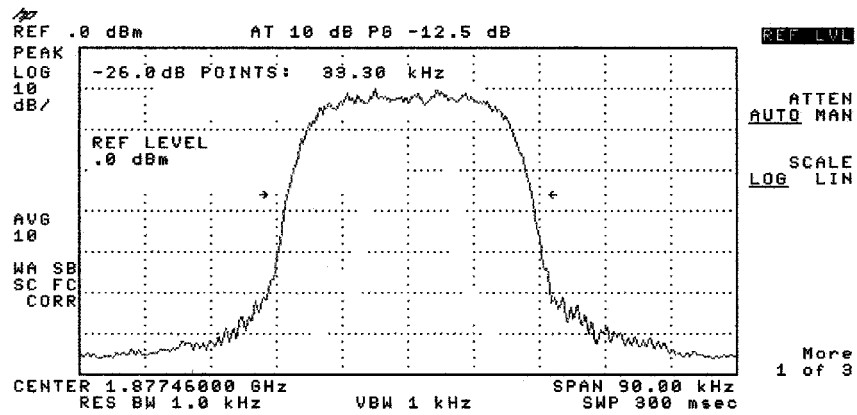
MODULATION ACCURACY: [single burst]				MODULATN ACCURACY
Measurement complete				
RMS EVM:	1.9 %			<u>SINGLE</u>
RMS MAG ERR:	0.9 %			CONT
RMS PHASE ERR:	0.9 °			
PEAK EVM:	13.9 %			<u>FULL</u>
ORIGIN OFFSET:	-34.0 dB			PARTIAL
FREQUENCY ERR:	1.2 Hz			
DROOP (dB/sym):	0.0000			
CHANNEL 916	FREQ 1877.46 MHz	SYNC WORD 1		<u>1 BURST</u>
MOBILE	TRIG FRAME	EVM CORR		10 BURST
				Demod Main
				More
				1 of 2

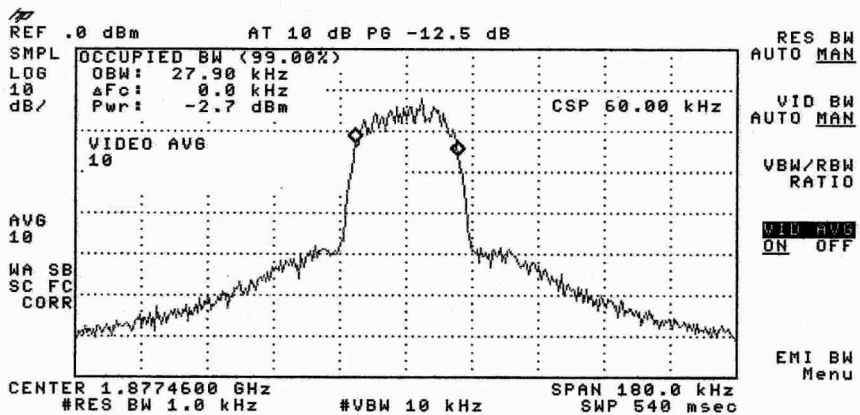
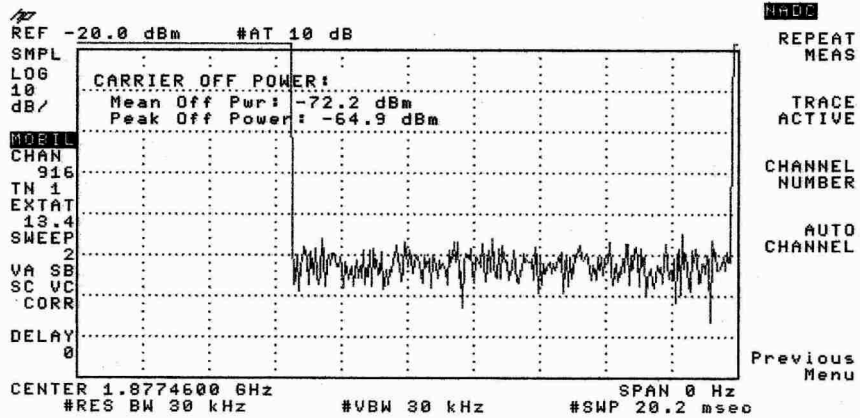
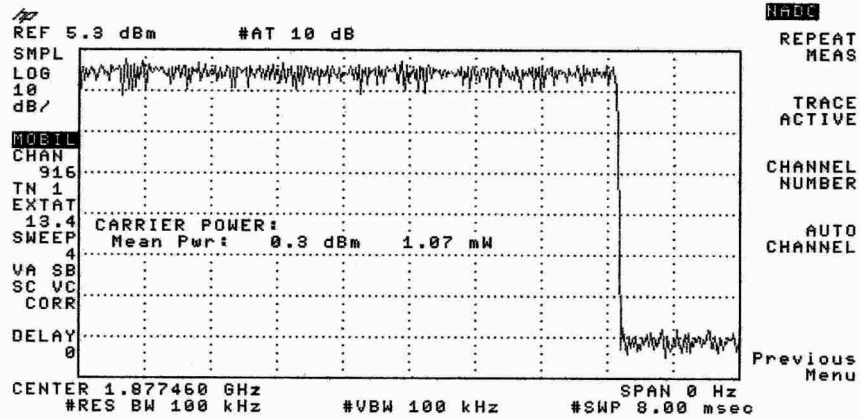
MODULATION ACCURACY: [10 symbol, 10 burst averaged]				MODULATN ACCURACY
Measurement complete				
RMS EVM:	4.9 %			<u>SINGLE</u>
RMS MAG ERR:	0.8 %			CONT
RMS PHASE ERR:	2.8 °			
[single (full) burst measured]:				
ORIGIN OFFSET:	-34.1 dB			<u>1 BURST</u>
FREQUENCY ERR:	-3.3 Hz			10 BURST
DROOP (dB/sym):	0.0001			
CHANNEL 916	FREQ 1877.46 MHz	SYNC WORD 1		Demod Main
MOBILE	TRIG FRAME			More
				1 of 2

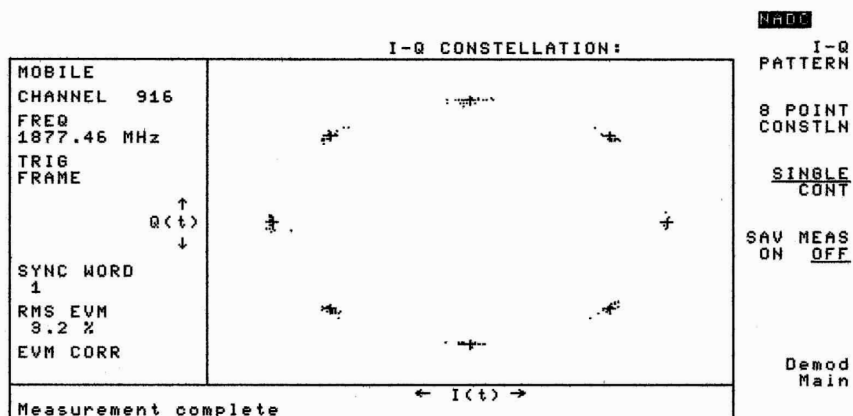
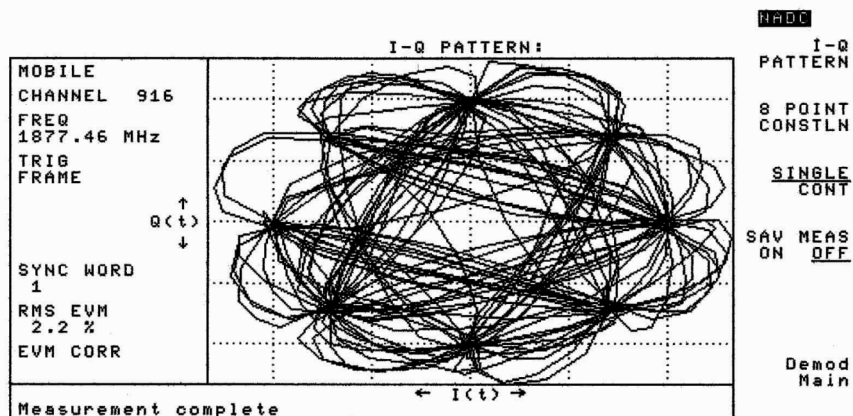


DIGITAL DEMODULATOR STATUS:

MOBILE	FT Acquisition Status (1=OK):	1	Modulatn
BURST	FT Time Record Status:	0	
CHANNEL 916	FT Acquisition Sync Number:	1	Graphs
CF 1877.46 MHz	FT Acquisition Sync errors:	0	
TRIG FRAME	FT Sync Bit Location:	36798	Data
WRD SYNC ON	Measurement Status (0=OK):	0	
TIMESLOT NUM 1	Measurement Time Record Status:	0	STATUS
CORRECTION:	Time Slot (SYNC WORD) Number:	1	
1.0457 °	Sync Match (1=PERFECT MATCH):	1	Demod Config
1.6760 %	Sync Word Errors:	0	
DLP REV	Pass 1&2 Bit Compare Errors:	0	Main Menu
961021	IQ Null Flag:	1	
DSP FW REV	IQ Null Count:	1	Demod Config
961027	Low Magnitude Points:	8	
SA FW REV	RMS EVM (%):	1.6	Main Menu
980615	PEAK EVM (%):	7.3	
	ORIGIN OFFSET (dB):	-35.5	Main Menu
	FREQUENCY ERROR (Hz):	-5.6	
	DRDOP (dB/symbol):	-0.0000	

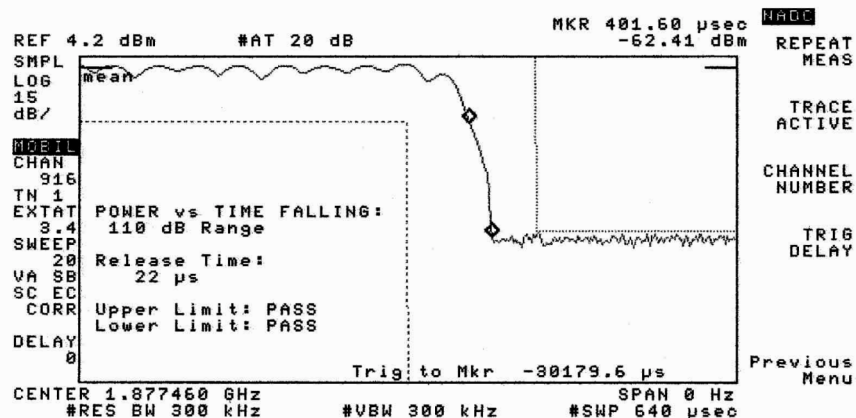






DIGITAL DEMODULATOR STATUS:

MOBILE	FT Acquisition Status (1=OK):	1	Modulatn
BURST	FT Time Record Status:	0	
CHANNEL 916	FT Acquisition Sync Number:	1	Graphs
CF 1877.46 MHz	FT Acquisition Sync errors:	0	
TRIG FRAME	FT Sync Bit Location:	36798	Data
WRD SYNC ON	Measurement Status (0=OK):	0	
TIMESLOT NUM 1	Measurement Time Record Status:	0	STATUS
CORRECTION:	Time Slot (SYNC WORD) Number:	1	
1.0457 %	Sync Match (1=PERFECT MATCH):	1	Demod Config
1.6706 %	Sync Word Errors:	0	
DLP REV	Pass 1&2 Bit Compare Errors:	0	Main Menu
951021	IQ Null Flag:	1	
DSP FW REV	IQ Null Count:	1	
951027	Low Magnitude Points:	9	
SA FW REV	RMS EVM (%):	3.2	
980615	PEAK EVM (%):	12.5	
	ORIGIN OFFSET (dB):	-41.7	
	FREQUENCY ERROR (Hz):	-5.9	
	DROOP (dB/symbol):	0.0002	

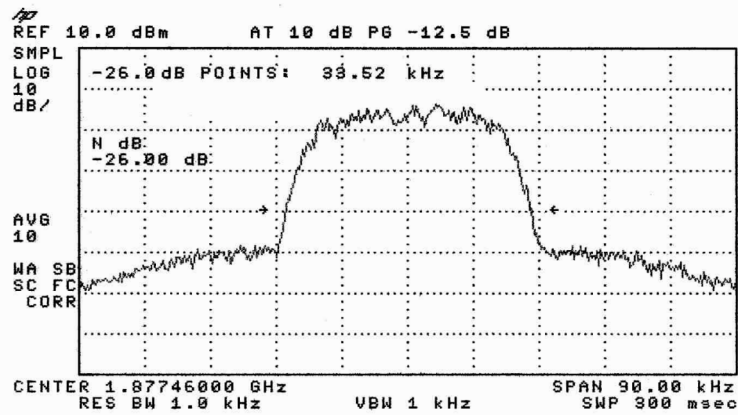


MODULATION ACCURACY: [single burst]			
Measurement complete			
RMS EVM:	1.8 %		
RMS MAG ERR:	1.1 %		
RMS PHASE ERR:	0.8 0		
PEAK EVM:	8.4 %		
ORIGIN OFFSET:	-35.1 dB		
FREQUENCY ERR:	-2.6 Hz		
DROOP (dB/sym):	-0.0001		
CHANNEL 916	FREQ 1877.46 MHz	SYNC WORD 1	
MOBILE	TRIG FRAME	EVM CORR	

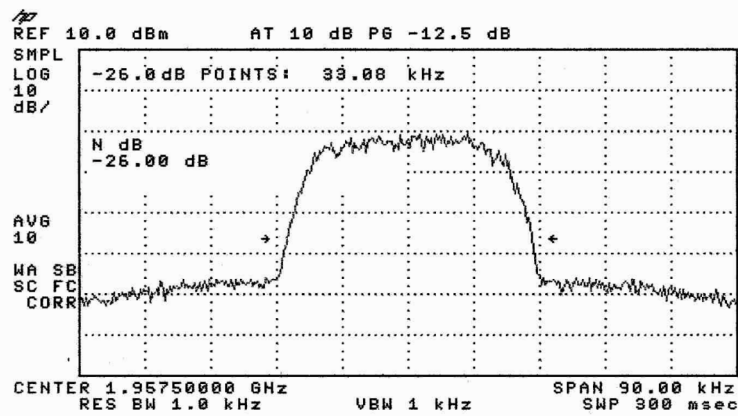
HA00
AVERAGE
ON OFF
EVM CORR
ON OFF
SAV MEAS
ON OFF
Evm Cal
Demod
Main
More
2 of 2

MODULATION ACCURACY: [10 symbol, 10 burst average]			
Measurement complete			
RMS EVM:	4.9 %		
RMS MAG ERR:	1.0 %		
RMS PHASE ERR:	2.8 0		
[single (full) burst measured]:			
ORIGIN OFFSET:	-36.5 dB		
FREQUENCY ERR:	0.3 Hz		
DROOP (dB/sym):	0.0003		
CHANNEL 916	FREQ 1877.46 MHz	SYNC WORD 1	
MOBILE	TRIG FRAME		

HA00
MODULATN
ACCURACY
SINGLE
CONT
1 BURST
10 BURST
Demod
Main
More
1 of 2



User
 Menus
 N dB PTS
 ON OFF
 % AM
 ON OFF
 TOI
 ON OFF
 Power
 Menu
 FFT
 Menu



User
 Menus
 N dB PTS
 ON OFF
 % AM
 ON OFF
 TOI
 ON OFF
 Power
 Menu
 FFT
 Menu