DIGITAL EMC CO., LTD.

683-3, Yubang-Dong, Yongin-Si, Kyunggi-Do, Korea. 449-080
Tel: +82-31-321-2664 Fax: +82-31-321-1664
http://www.digitalemc.com

CERTIFICATION OF COMPLIANCE

EpiValley Co., Ltd.

Lordland EZ Tower #511, 513, Gumi-dong, Bundang-Gu, Sunganam-City, Kyunggi-Do, Korea

Dates of Tests: May 4 ~ 12, 2010
Test Report S/N: DRTFCC1005-0063
Test Site : DIGITAL EMC CO., LTD.

FCC ID. **R2NSWR-8225**

APPLICANT **EpiValley Co., Ltd.**

Classification	:	**Licensed Non-Broadcast Station Transmitter(TNB)**
FCC Rule Part(s)	:	**§27(M), §2**
EUT Type	:	**WiMAX Mobile Hostpot Router**
Model Name	:	**SWR-8225**
Serial number	:	**Identical prototype**
TX Frequency Range	:	**2501 ~ 2685MHz**
RX Frequency Range	:	**2501 ~ 2685MHz**
Max. RF Output Power	:	**QPSK - 0.219W Conducted(23.40 dBm)**
		16QAM - 0.224W Conducted(23.50 dBm)
Emission Designators:	:	**9M14G7D(QPSK)**
		9M13W7D(16QAM)
Date of Issue	:	**May 20, 2010**

TABLE OF CONTENTS

◈ MEASUREMENT REPORT

MEASUREMENT REPORT

1.1 Scope

Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission.

§2.1033 General Information

Applicant: **Infomark Co., Ltd.**
Address: #801, KINS Tower, 25-1, Jeongja-Dong, Bundang-Gu, Seongnam-Si, Gyonggi-Do, Korea
Attention: Heejun, Gu

- FCC ID: R2NSWR-8225
- FCC Classification(s): Licensed Non-Broadcast Station Transmitter(TNB)
- Equipment (EUT) Type: WiMAX Mobile Hostpot Router
- Quantity: Quantity production is planned
- Associated Channel BW: 10MHz
- Tx Freq. Range: 2501 ~2685 MHz
- Rx Freq. Range: 2501 ~2685 MHz
- Zone Format: PUSC
- DL : UL Symbol Ratio: 29 : 18
- Modulation(s): QPSK, 16QAM
- Code rates: QPSK1/2, QPSK3/4, 16QAM1/2, 16QAM3/4
- Antenna Type: PIFA Antenna
- FCC Rule Part(s): §27(M), §2
- Dates of Tests: May 4, 12, 2010
- Place of Tests: DIGITAL EMC
- Test Report S/N: DRTFCC1005-0063

2.1. GENERAL INFORMATION

This report contains the result of tests performed by:

DIGITAL EMC CO., LTD.
Address: 683-3, Yubang-Dong, Yongin-Si, Kyunggi-Do, Korea. 449-080
http://www.digitalemc.com E-mail : harveysung@digitalemc.com
Tel: +82-31-321-2664 Fax: +82-31-321-1664

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the "General requirements for the competent of calibration and testing laboratory".

Tested by: Engineer

Data	Name	Signature
May 20, 2010	Won-Jung LEE	

Reviewed by: Technical Director

Data	Name	Signature
May 20, 2010	Harvey Sung	

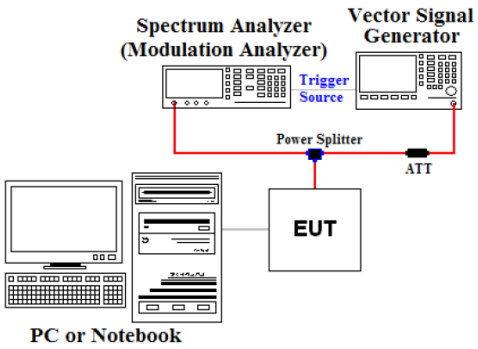
Applicant:

Company name	:	EpiValley Co., Ltd.
Address	:	Lordland EZ Tower #511, 513, Gumi-dong, Bundang-Gu, Sunganam-City, Kyunggi-Do, Korea
Date of order	:	April 16, 2010

3.1 DESCRIPTION OF TESTS

3.1.1 Test set-up configuration

The test set-up for RF testing is shown in the below picture. This device is connected to USB port of the notebook computer.



A PC(or Notebook) controls EUT to transmit rated output power under appropriate transmission mode and specific frequency.

A beceem diagnostic control panel(V.3.5.0) program is used for verifying a connection status between notebook computer and EUT and to control maximum transmitting power, channel selection, bandwidth.

A vector signal generator(VSG) of Agilent is used to supply the WiMAX signal sources to a EUT and an external trigger source to a spectrum analyzer. The trigger is set in such a way that the analyzer records power measurements only during the times in which the EUT is transmitting.

The WiMAX signal sources are provided by Beceem as below,

OBW	File name	
	PUSC Zone	AMC Zone
5MHz	N/A	N/A
	N/A	N/A
	N/A	N/A
	N/A	N/A
10MHz	T10D29U184Q12S175	N/A
	T10D29U184Q34S175	N/A
	T10D29U1816Q12S175	N/A
	T10D29U1816Q34S175	N/A

The WiMAX signal sources have 29:18 symbol ratio(Downlink : Uplink). This device will transmit control signaling at the first 3 uplink symbols and then use the rest of the uplink symbols for data traffic bursts in the uplink sub-frame. Measurements were taken in the 29:18 ratio, but since there was no energy in the control symbols, the effective power is only across 15 data symbols.

3.1 DESCRIPTION OF TESTS (Continued…)

3.1.2 Occupied Bandwidth Emission Limits

- Part §2.1049, §27.53.(m)(2)(V), (6)

(a) For fixed and temporary fixed digital stations, the attenuation shall be not less than 43 + 10 log (P) dB, unless a documented interference complaint is received from an adjacent channel licensee.

(b) Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

3.1.3 Spurious and Harmonic Emissions at Antenna Terminal

- Part§2.1051, §27.53.(m)(2)(V), (6)

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic.

3.1.4 Radiation Spurious and Harmonic Emissions

- Part §2.1053, §27.53.(m)(2)(V), (6)

Spurious and harmonic emissions between the lowest frequency generated in this device and up to 10^{th} harmonic of the highest generated in this device are measured at 3-meter OATS. The equipment under test is placed on a wooden turntable located at 3-meters from the receive antenna.

This test is based on the use of spectrum analyzer employing a RBW/VBW = 5MHz(OBW: 5MHz) and 10MHz(OBW: 10MHz) and peak detector mode.

The receive antenna height and turntable rotations are adjusted for the highest reading on the receive spectrum analyzer. A antenna is substituted in place of the EUT. This antenna is driven by a vector signal generator for spurious emissions. The level of the signal generator is adjusted to obtain the same spectrum analyzer's reading level when EUT existed. After that conducted power at the input terminal of the transmit antenna is measured and this conducted power is corrected with antenna gain in dBi. This spurious level was recorded.

Note: Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004

3.1 DESCRIPTION OF TESTS (Continued…)

3.1.5 Frequency Stability/Temperature Variation.

- Part §2.1055, §27.54

The frequency stability of the transmitter is measured by:

a) **Temperature** : The temperature is varied from -30°C to + 50°C using an environmental chamber with 10°C increments.
b) **Primary Supply Voltage** : The primary supply voltage is varied from 85% to 115% of the nominal voltage at the input to the device or at the power supply terminals if cables are not normally supplied.

Specification – The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

Time Period and Procedure:

1. The carrier frequency of the transmitter is measured at room temperature. (20°C to provide a reference).
2. The equipment is turned on in a "standby" condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

3.2 SUMMARY OF TESTS

FCC Part Section(s)	Parameter	Limit	Test Condition	Status (note 1)
I. Transmitter Test Items				
2.1049 27.53(m)(6)	Occupied Bandwidth	N/A	Conducted	C
2.1051 27.53(m)(2)(V),(6)	Band Edge	< 43+ $10\log_{10}(P)$		C
2.1051 27.53(m)(2)(V),(6)	Conducted Spurious Emissions	< 43+ $10\log_{10}(P)$		C
2.1046 27.50(h)(2)	Transmitter Output Power	< 2 Watts max.		C
2.1055 27.54	Frequency Stability	Fundamental emissions must stay within the authorized bands of operation.		C
2.1051 27.53(m)(2)(V),(6)	Radiated Spurious Emissions	< 43+ $10\log_{10}(P)$ for all out-of-band emissions	Radiated	C
II. Additional Test Results for JBP portion				
15.107	AC Conducted Emissions	< FCC 15.107 limits	Radiated	C note 2
15.109	General Field Strength Limits	< FCC 15.109 limits	Line Conducted	C note 2

Note 1: C=Comply NC=Not Comply NT=Not Tested NA=Not Applicable
Note 2: The JBP (Computing device peripheral) portion of this device was tested and approved by FCC DOC Procedure.

4.1 TEST DATA

4.1.1 Transmitter Output Power

- Measurement data

Bandwidth	Zone Format	Frequency (MHz)	QPSK 1/2 (dBm)	QPSK 3/4 (dBm)	16QAM 1/2 (dBm)	16QAM 3/4 (dBm)
10MHz	PUSC	2501	22.34	22.31	22.32	22.34
		2600	**23.40**	23.38	23.33	**23.50**
		2685	22.42	22.49	22.36	22.37

4.1.2 Occupied Bandwidth(99%)

- Measurement data

Bandwidth	Zone Format	Frequency (MHz)	QPSK 1/2 (MHz)	QPSK 3/4 (MHz)	16QAM 1/2 (MHz)	16QAM 3/4 (MHz)
10MHz	PUSC	2501	9.1093	9.1248	9.1133	**9.1336**
		2600	9.1265	**9.1373**	9.1228	9.1277
		2685	9.1196	9.1239	9.1318	9.1242

4.1 TEST DATA (Continued…)

4.1.3 Radiated Spurious Emissions

Field Strength of SPURIOUS Radiation

MODULATION SIGNAL	:	WIMAX	
ZONE FORMAT	:	PUSC	
BANDWIDTH	:	10	MHz
OPERATING FREQUENCY	:	2501	MHz
DISTANCE	:	3	m
LIMIT	:	43 + 10 $\log_{10}$ (W)	= -13dBm

Freq. (MHz)	**MODULATION TYPE**	**POL** (H/V)	**LEVEL@ ANTENNA TERMINALS** (dBm)	**SUBSTITUTE ANTENNA GAIN** (dBi)	**RESULT LEVEL** (dBm)	**Margin** (dB)
5002.00	QPSK 1/2	H	-49.94	10.92	-39.02	26.02
5002.00	QPSK 3/4	H	-49.92	10.92	-39.00	26.00
5002.00	16QAM 1/2	H	-50.49	10.92	-39.57	26.57
5002.00	16QAM 3/4	H	-50.50	10.92	-39.58	26.58
5002.00	QPSK 1/2	V	-51.45	10.92	-40.53	27.53
5002.00	QPSK 3/4	V	-52.44	10.92	-41.52	28.52
5002.00	16QAM 1/2	V	-51.04	10.92	-40.12	27.12
5002.00	16QAM 3/4	V	-51.72	10.92	-40.80	27.80
-	-	-	-	-	-	-

- RESULT LEVEL(dBm) = LEVEL@ ANTENNA TERMINALS(dBm) +SUBSTITUTE ANTENNA GAIN(dBi)

- MARGIN(dB) = -13dBm – RESULT LEVEL(dBm)

4.1 TEST DATA (Continued…)

4.1.3 Radiated Spurious Emissions (Continued…)

Field Strength of SPURIOUS Radiation

MODULATION SIGNAL	:	WIMAX	
ZONE FORMAT	:	PUSC	
BANDWIDTH	:	10	MHz
OPERATING FREQUENCY	:	2600	MHz
DISTANCE	:	3	m
LIMIT	:	43 + 10 $\log_{10}$ (W)	= -13dBm

Freq. (MHz)	**MODULATION TYPE**	**POL** (H/V)	**LEVEL@ ANTENNA TERMINALS** (dBm)	**SUBSTITUTE ANTENNA GAIN** (dBi)	**RESULT LEVEL** (dBm)	**Margin** (dB)
5200.00	QPSK 1/2	H	-46.23	10.99	-35.24	22.24
5200.00	QPSK 3/4	H	-46.94	10.99	-35.95	22.95
5200.00	16QAM 1/2	H	-45.84	10.99	-34.85	21.85
5200.00	16QAM 3/4	H	-46.51	10.99	-35.52	22.52
5200.00	QPSK 1/2	V	-41.53	10.99	-30.54	17.54
5200.00	QPSK 3/4	V	-41.27	10.99	-30.28	17.28
5200.00	16QAM 1/2	V	-41.00	10.99	-30.01	17.01
5200.00	16QAM 3/4	V	-40.89	10.99	-29.90	16.90
-	-	-	-	-	-	-

- RESULT LEVEL(dBm) = LEVEL@ ANTENNA TERMINALS(dBm) +SUBSTITUTE ANTENNA GAIN(dBi)
- MARGIN(dB) = -13dBm – RESULT LEVEL(dBm)

4.1 TEST DATA (Continued…)

4.1.3 Radiated Spurious Emissions (Continued…)

Field Strength of SPURIOUS Radiation

MODULATION SIGNAL	:	WIMAX	
ZONE FORMAT	:	PUSC	
BANDWIDTH	:	10	MHz
OPERATING FREQUENCY	:	2685	MHz
DISTANCE	:	3	m
LIMIT	:	$43 + 10 \log_{10}$ (W)	= -13dBm

Freq. (MHz)	**MODULATION TYPE**	**POL** (H/V)	**LEVEL@ ANTENNA TERMINALS** (dBm)	**SUBSTITUTE ANTENNA GAIN** (dBi)	**RESULT LEVEL** (dBm)	**Margin** (dB)
5370.00	QPSK 1/2	H	-40.43	11.05	-29.38	16.38
5370.00	QPSK 3/4	H	-40.56	11.05	-29.51	16.51
5370.00	16QAM 1/2	H	-40.47	11.05	-29.42	16.42
5370.00	16QAM 3/4	H	-40.27	11.05	-29.22	16.22
5370.00	QPSK 1/2	V	-40.93	11.05	-29.88	16.88
5370.00	QPSK 3/4	V	-41.30	11.05	-30.25	17.25
5370.00	16QAM 1/2	V	-41.03	11.05	-29.98	16.98
5370.00	16QAM 3/4	V	-41.21	11.05	-30.16	17.16
-	-	-	-	-	-	-

- RESULT LEVEL(dBm) = LEVEL@ ANTENNA TERMINALS(dBm) +SUBSTITUTE ANTENNA GAIN(dBi)
- MARGIN(dB) = -13dBm – RESULT LEVEL(dBm)

4.1 TEST DATA (Continued…)

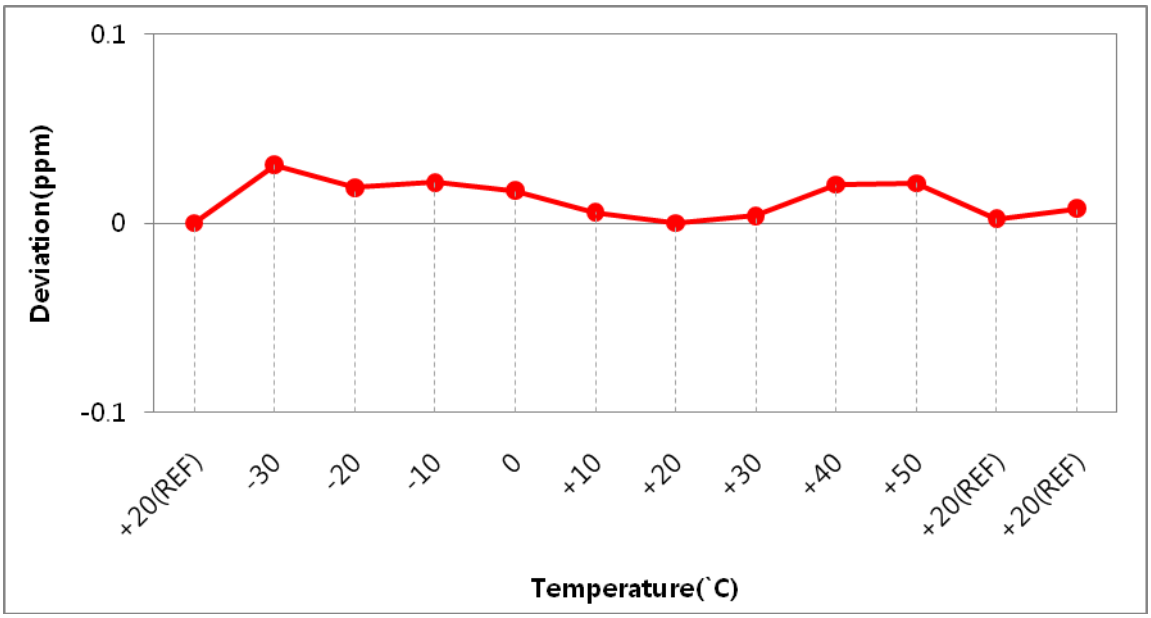
4.1.4 Frequency Stability

BANDWIDTH	:	10	MHZ
ZONE MODE	:	PUSC	
MODULATION TYPE	:	QPSK 3/4	
OPERATING FREQUENCY	:	2,599,999,969	Hz
REFERENCE VOLTAGE	:	3.7	V_{DC}

VOLTAGE (%)	POWER (VDC)	TEMP (℃)	FREQ (Hz)	Deviation (ppm)
100%	3.7	+20(Ref)	2,599,999,969	0.000
100%		-30	2,600,000,049	0.031
100%		-20	2,600,000,018	0.019
100%		-10	2,600,000,025	0.022
100%		0	2,600,000,014	0.017
100%		+10	2,599,999,984	0.006
100%		+20	2,599,999,969	0.000
100%		+30	2,599,999,979	0.004
100%		+40	2,600,000,022	0.020
100%		+50	2,600,000,024	0.021
85%	3.145	+20	-	-
115%	4.255	+20	2,599,999,975	0.002
BATT.ENDPOINT	3.300	+20	2,599,999,989	0.008

4.1 TEST DATA (Continued…)

4.1.4 Frequency Stability (Continued…)



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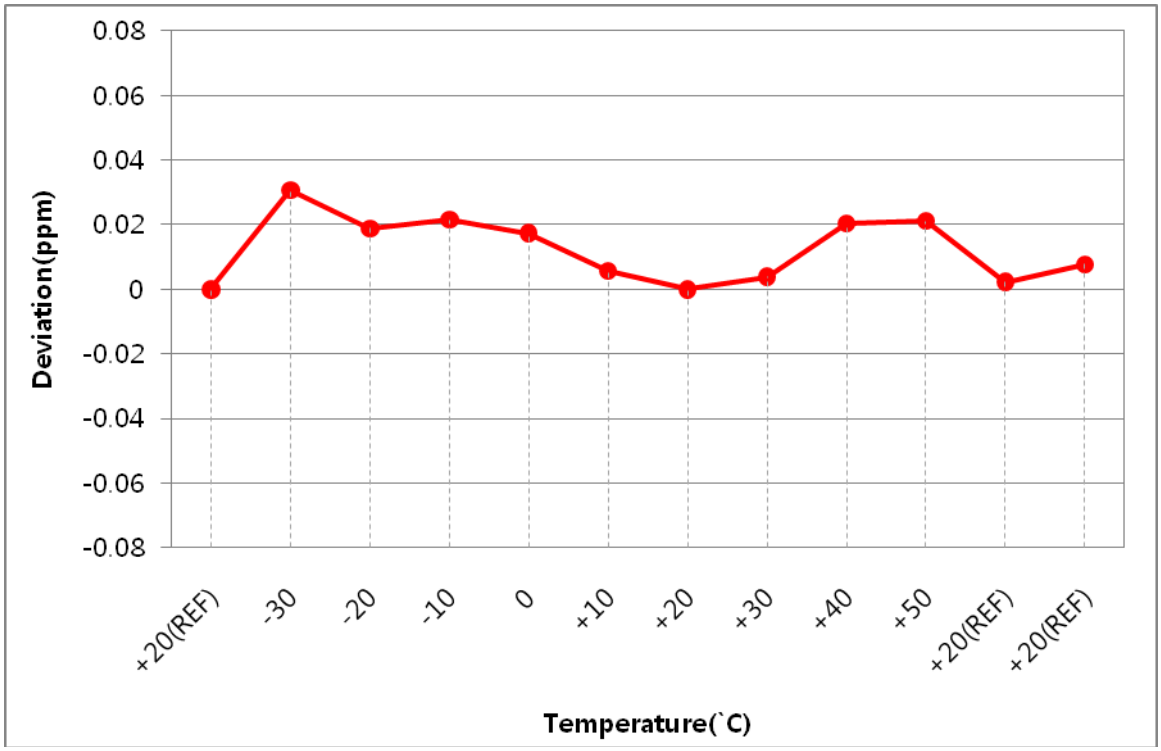


4.1 TEST DATA (Continued…)

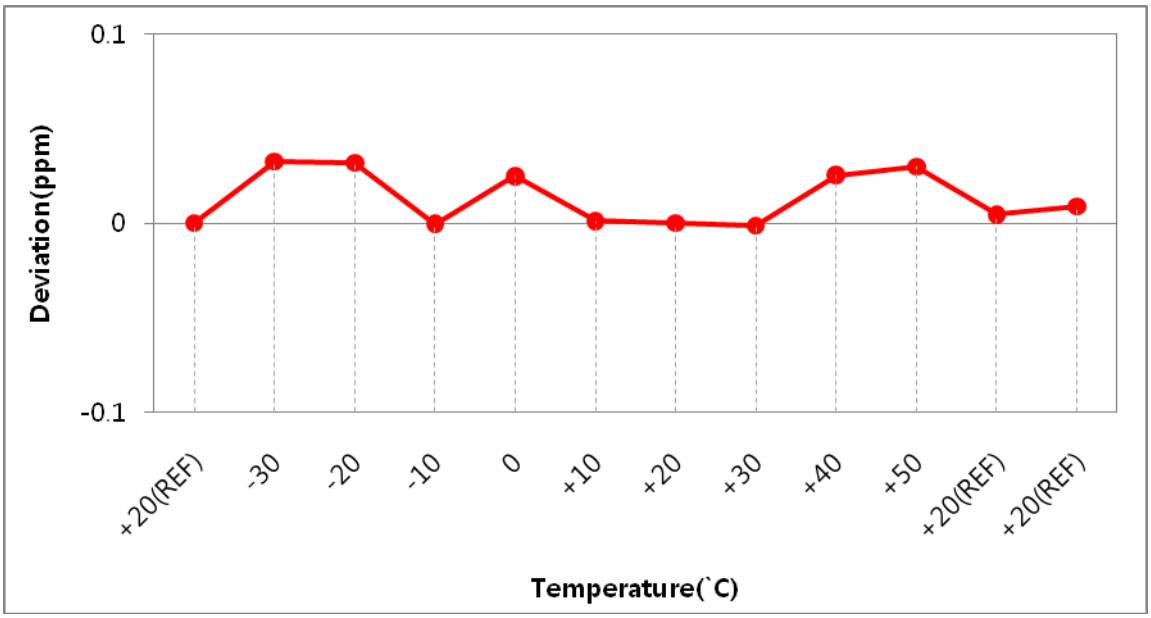
4.1.4 Frequency Stability (Continued…)

BANDWIDTH	:	10	MHZ
ZONE MODE	:	PUSC	
MODULATION TYPE	:	16QAM 3/4	
OPERATING FREQUENCY	:	2,599,999,970	Hz
REFERENCE VOLTAGE	:	3.7	V_{DC}

VOLTAGE (%)	POWER (VDC)	TEMP (℃)	FREQ (Hz)	Deviation (ppm)
100%	3.7	+20(Ref)	2,599,999,970	0.000
100%		-30	2,600,000,055	0.033
100%		-20	2,600,000,053	0.032
100%		-10	2,599,999,969	0.000
100%		0	2,600,000,035	0.025
100%		+10	2,599,999,973	0.001
100%		+20	2,599,999,970	0.000
100%		+30	2,599,999,967	-0.001
100%		+40	2,600,000,036	0.025
100%		+50	2,600,000,048	0.030
85%	3.145	+20	-	-
115%	4.255	+20	2,599,999,982	0.005
BATT.ENDPOINT	3.350	+20	2,599,999,993	0.009

4.1 TEST DATA (Continued…)

4.1.4 Frequency Stability (Continued…)



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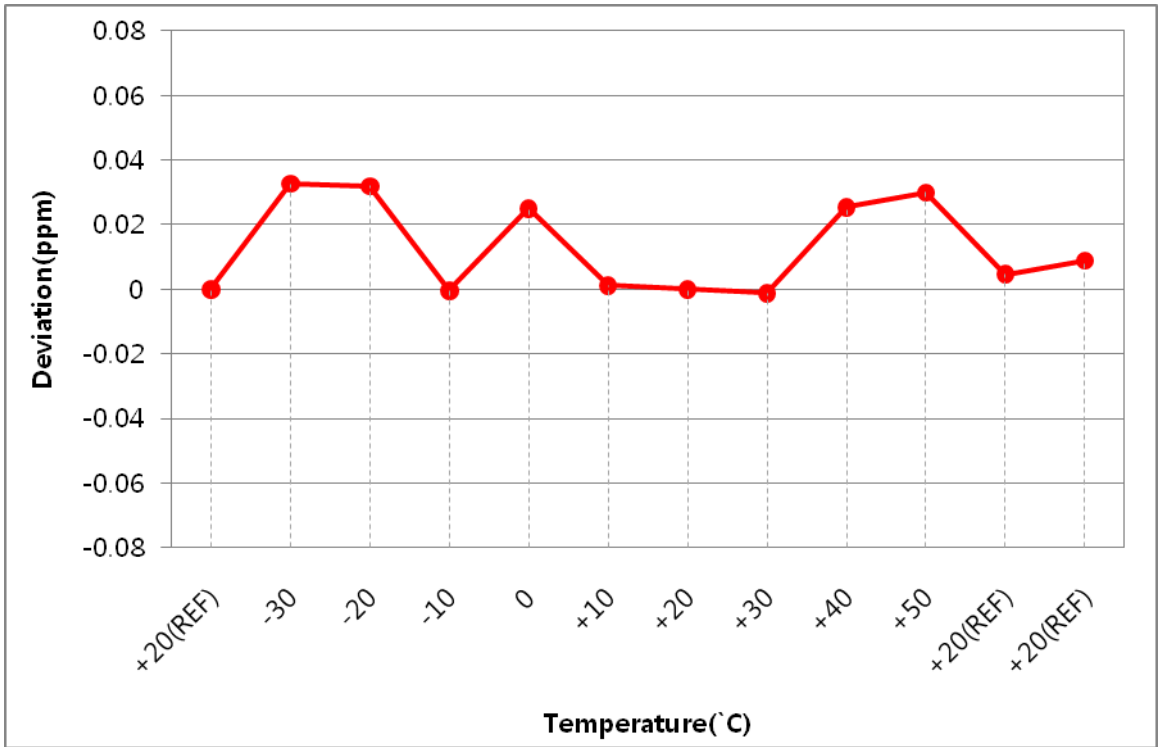
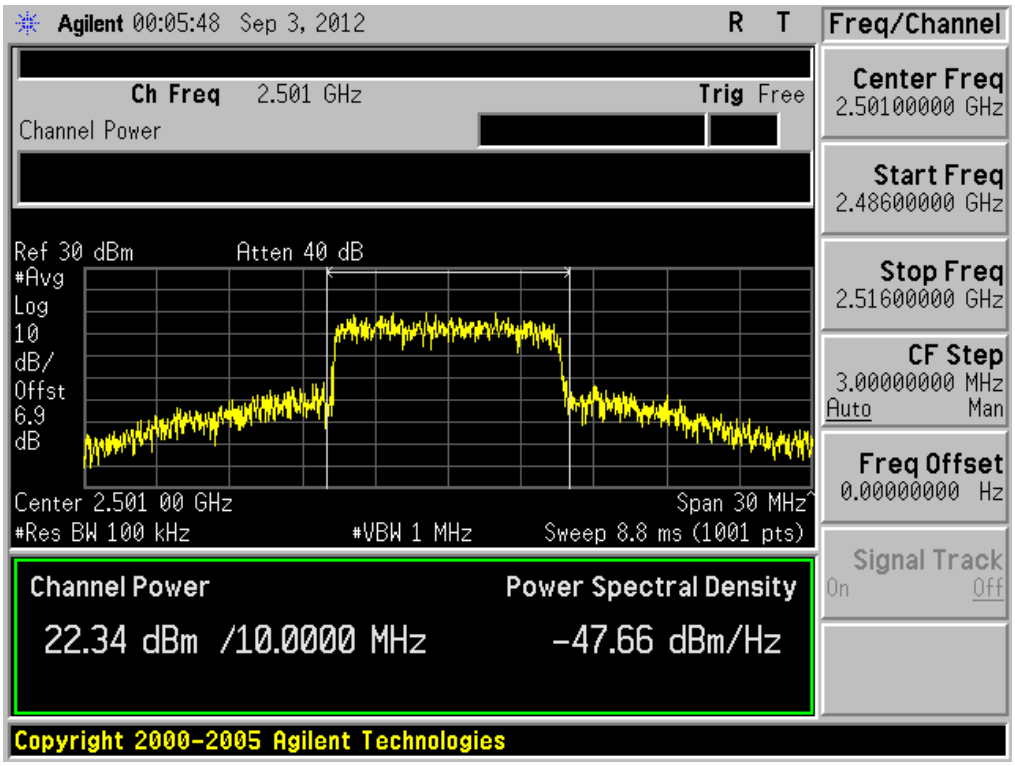


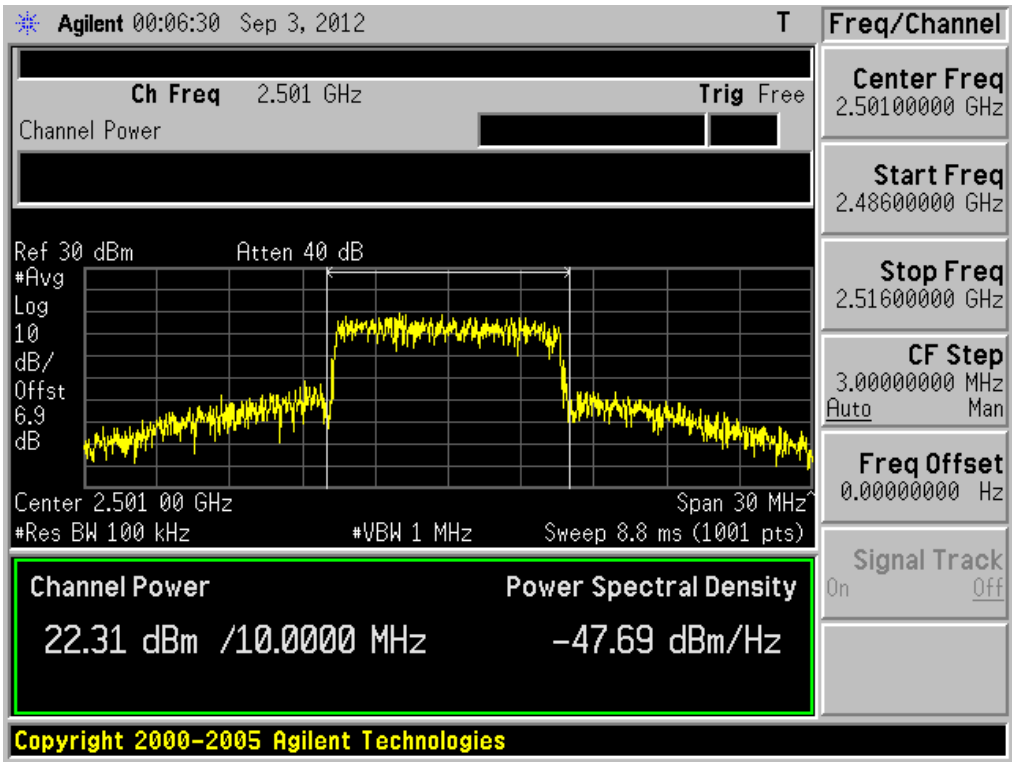
5.1 PLOTS OF EMISSIONS

5.1.1 Transmitter Output Power(BW: 10MHz)

- Lowest Channel(2501MHz) & PUSC Mode & QPSK 1/2



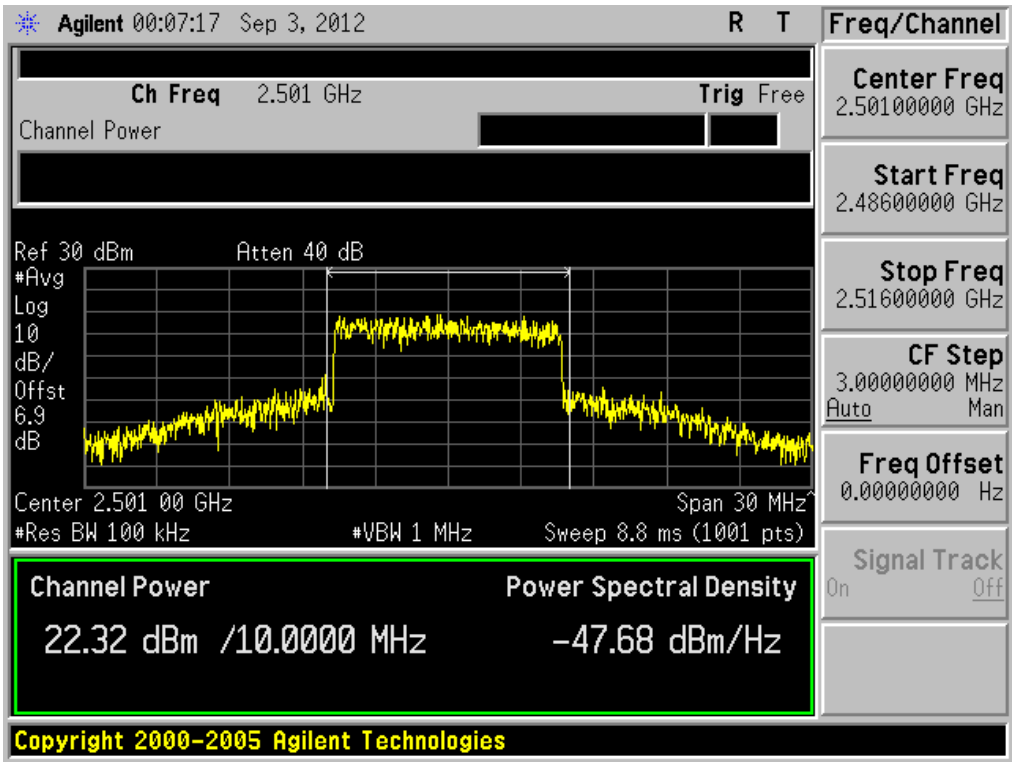
- Lowest Channel(2501MHz) & PUSC Mode & QPSK 3/4



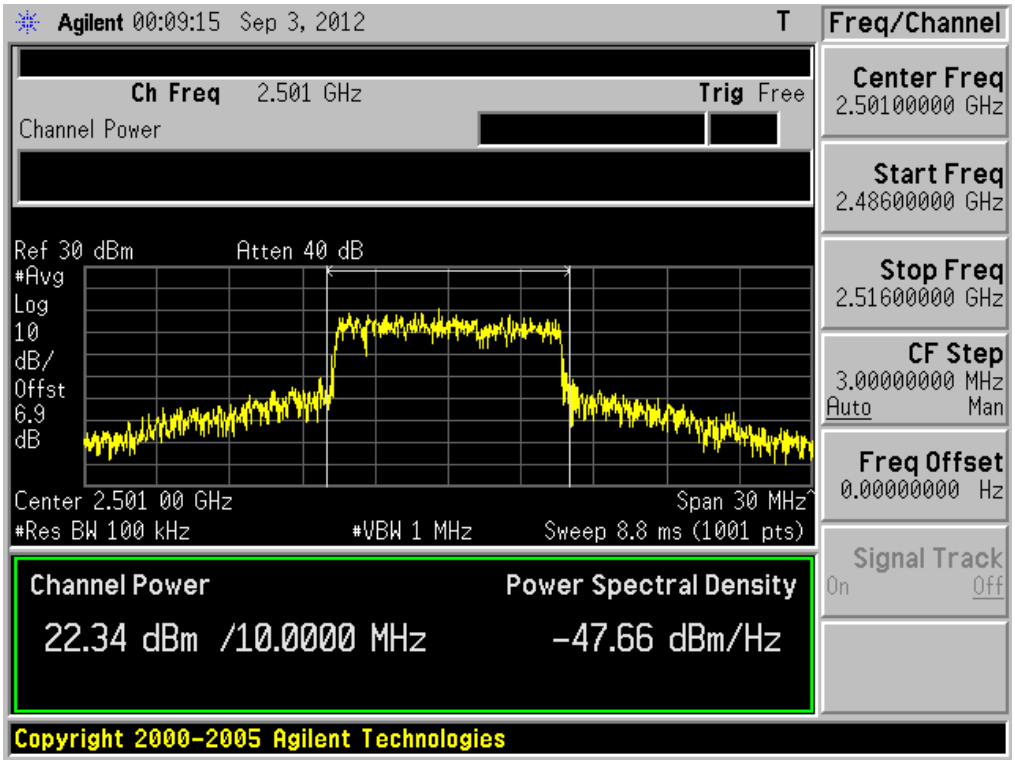
5.1 PLOTS OF EMISSIONS (Continued…)

5.1.1 Transmitter Output Power(BW: 10MHz) (Continued…)

- Lowest Channel(2501MHz) & PUSC Mode & 16QAM 1/2



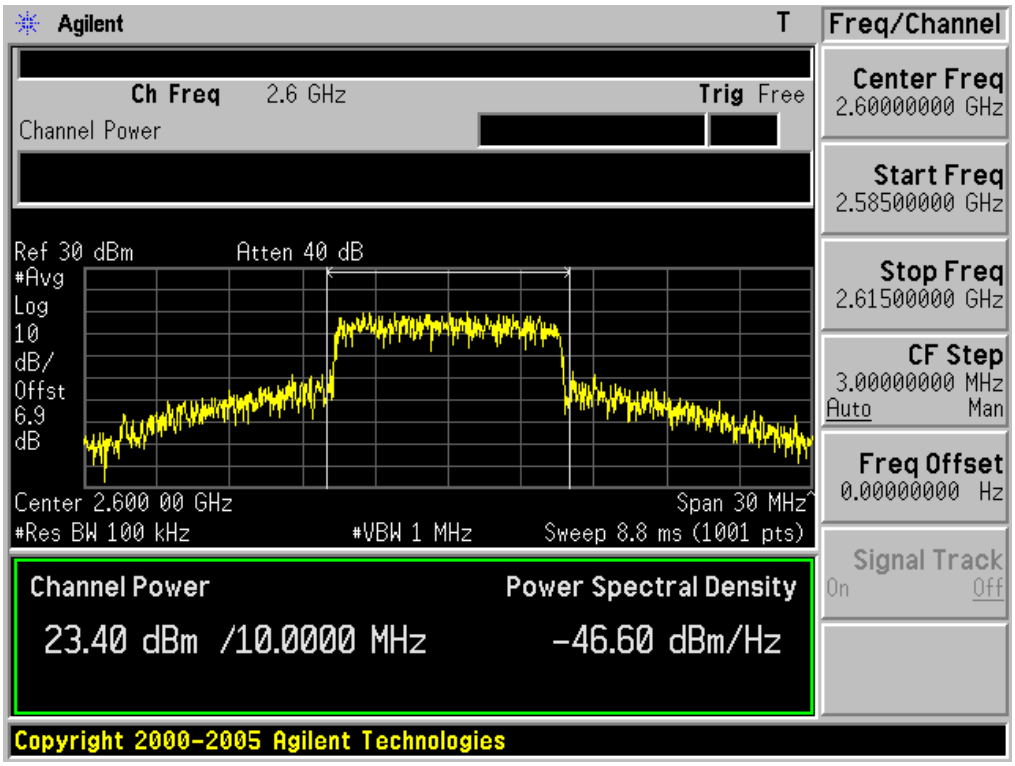
- Lowest Channel(2501MHz) & PUSC Mode & 16QAM 3/4



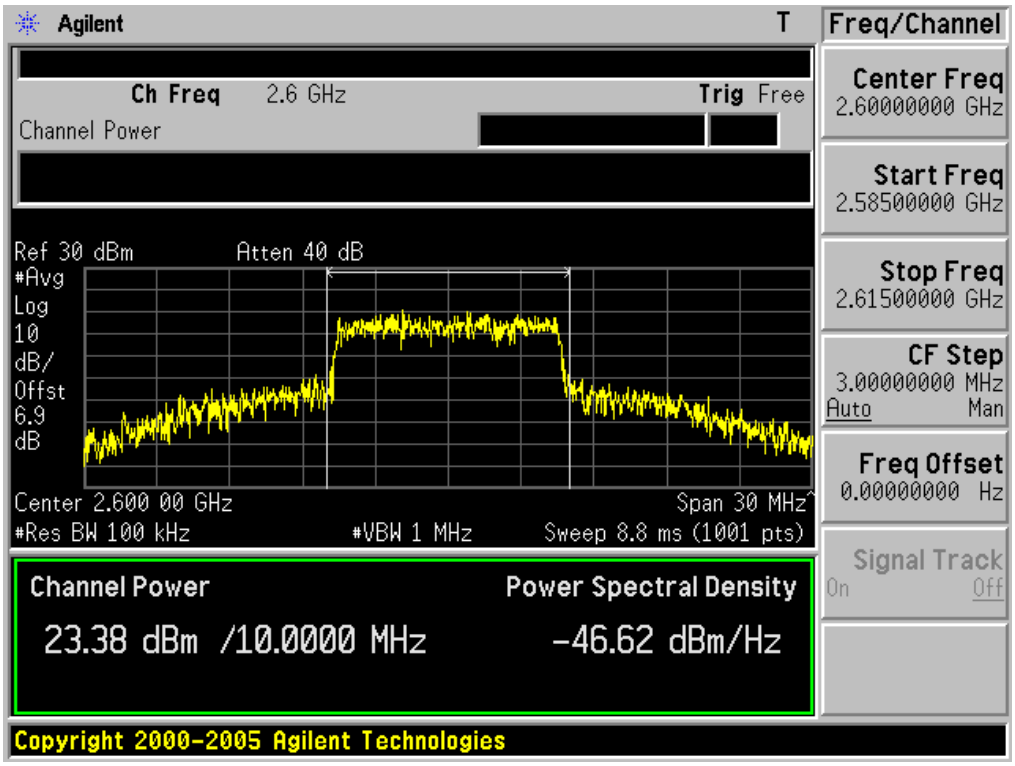
5.1 PLOTS OF EMISSIONS (Continued…)

5.1.1 Transmitter Output Power(BW: 10MHz) (Continued…)

- Middle Channel(2600MHz) & PUSC Mode & QPSK 1/2



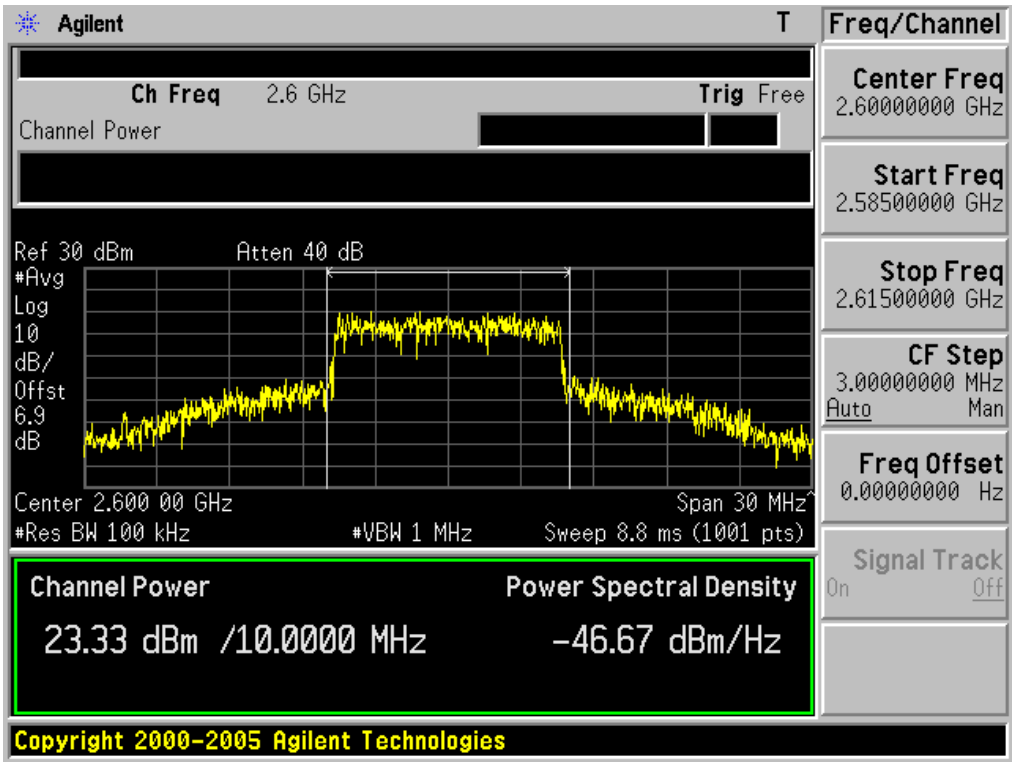
- Middle Channel(2600MHz) & PUSC Mode & QPSK 3/4



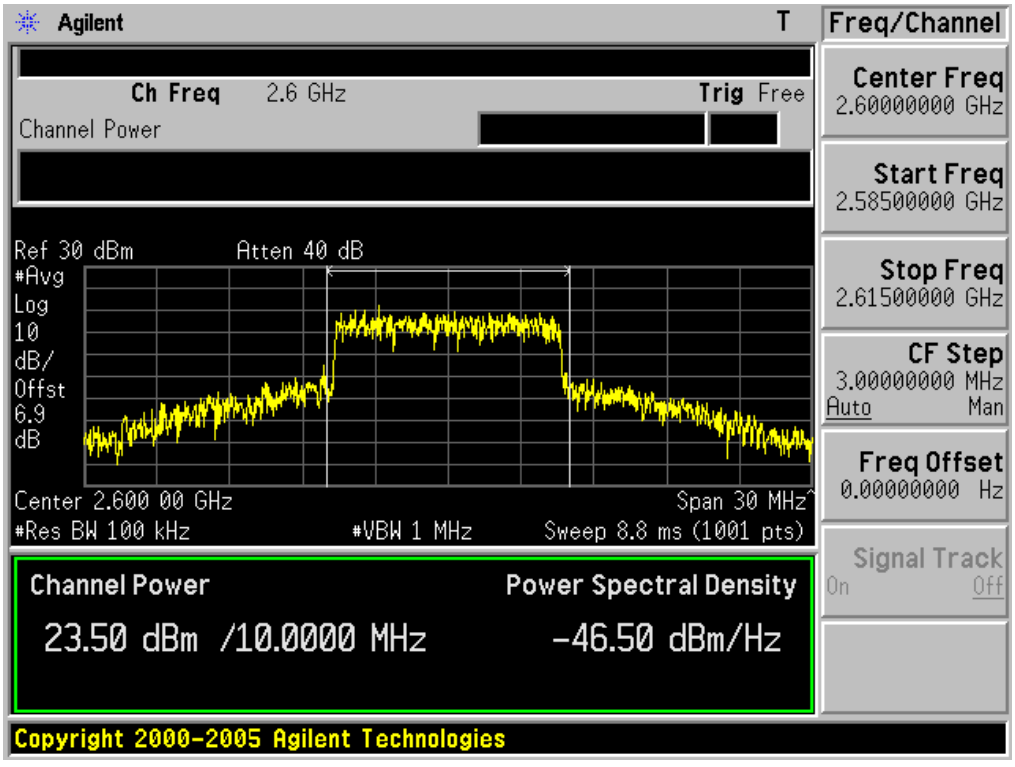
5.1 PLOTS OF EMISSIONS (Continued…)

5.1.1 Transmitter Output Power(BW: 10MHz) (Continued…)

- Middle Channel(2600MHz) & PUSC Mode & 16QAM 1/2



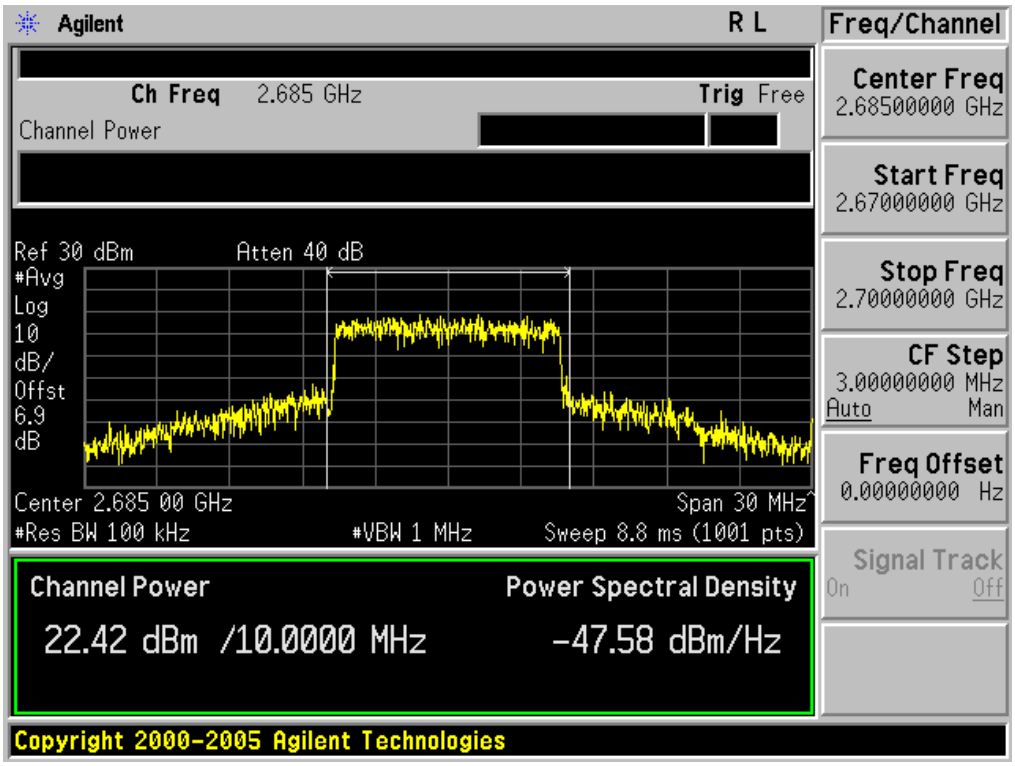
- Middle Channel(2600MHz) & PUSC Mode & 16QAM 3/4



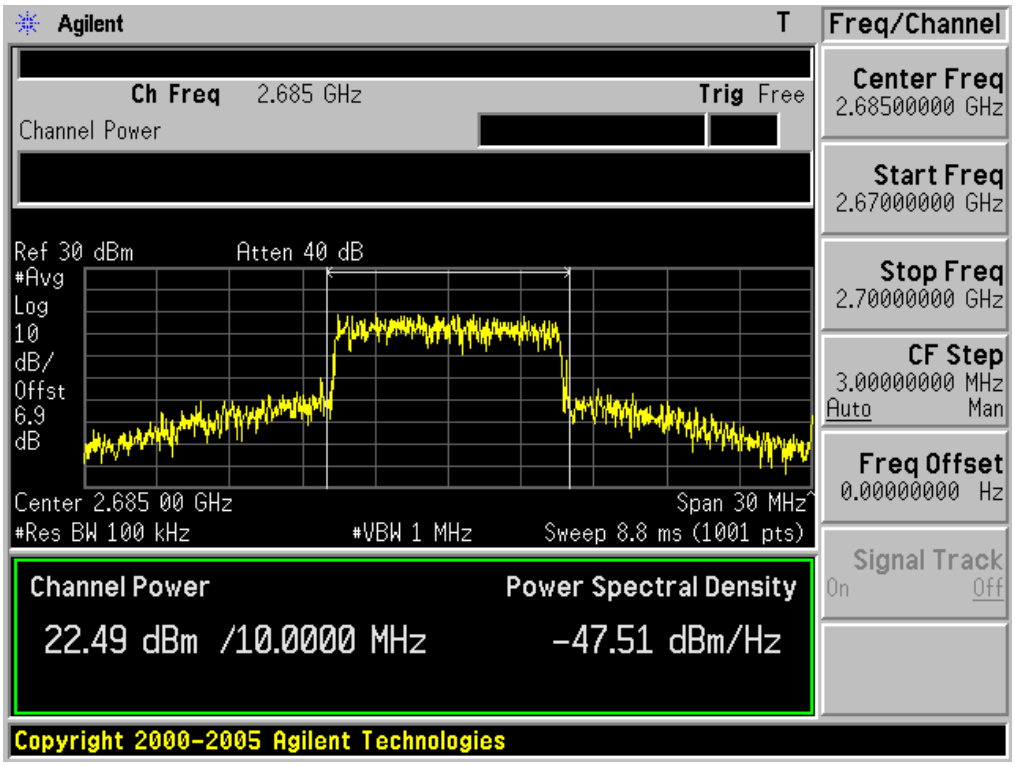
5.1 PLOTS OF EMISSIONS (Continued…)

5.1.1 Transmitter Output Power(BW: 10MHz) (Continued…)

- Highest Channel(2685MHz) & PUSC Mode & QPSK 1/2



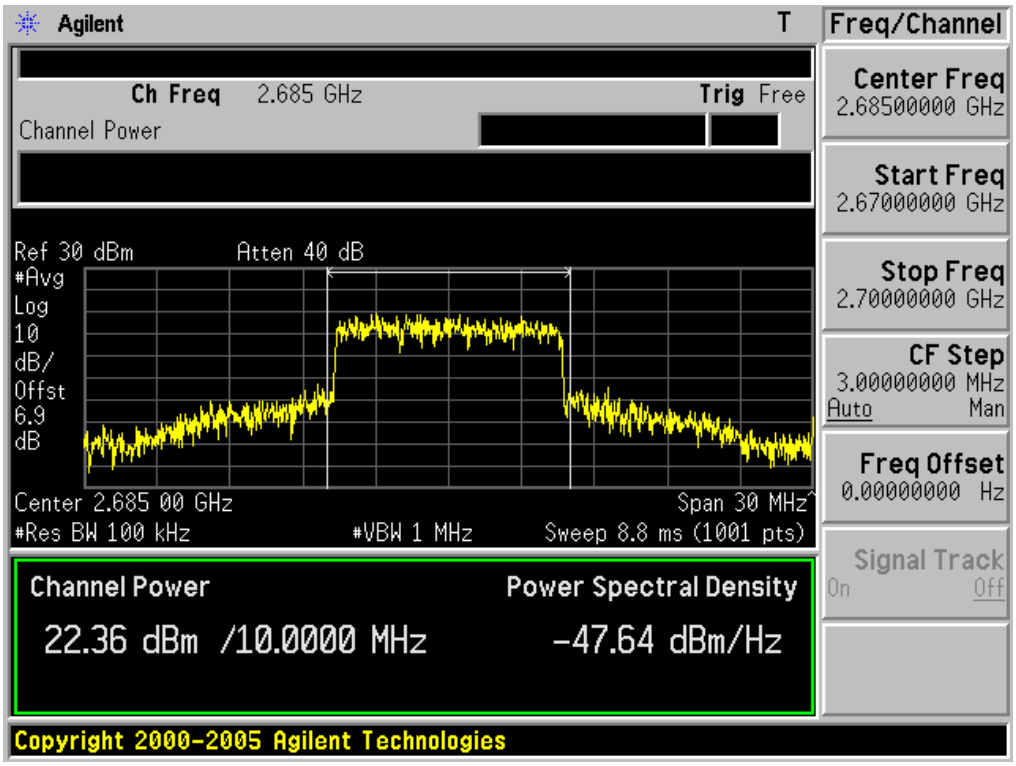
- Highest Channel(2685MHz) & PUSC Mode & QPSK 3/4



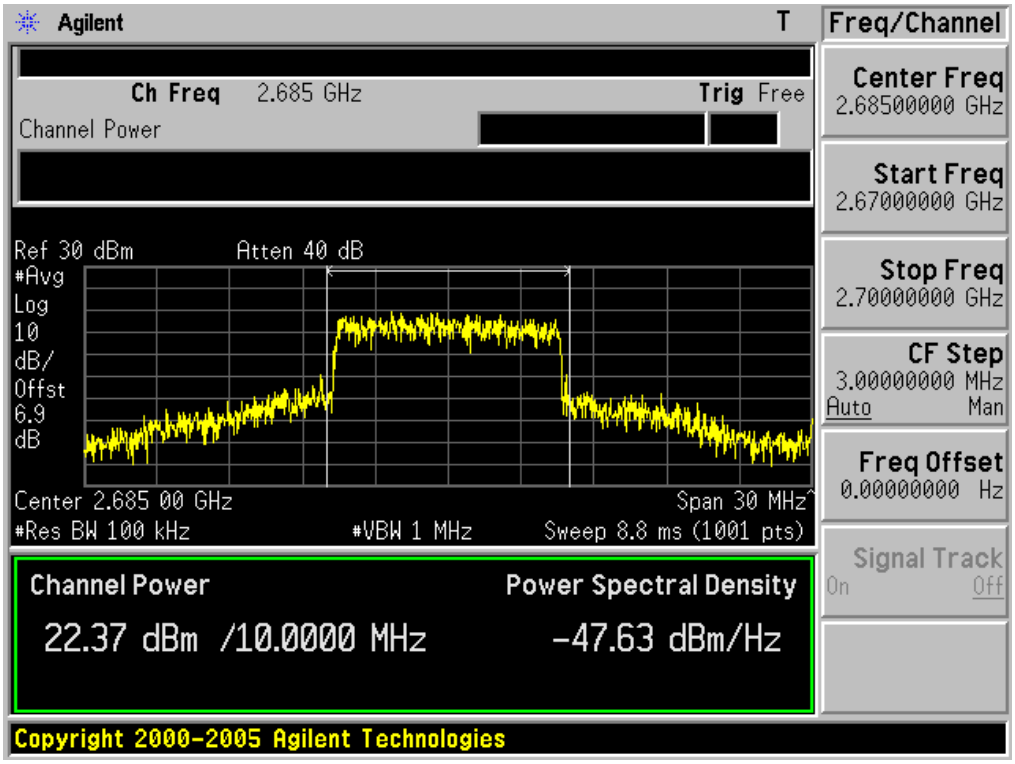
5.1 PLOTS OF EMISSIONS (Continued…)

5.1.1 Transmitter Output Power(BW: 10MHz) (Continued…)

- Highest Channel(2685MHz) & PUSC Mode & 16QAM 1/2



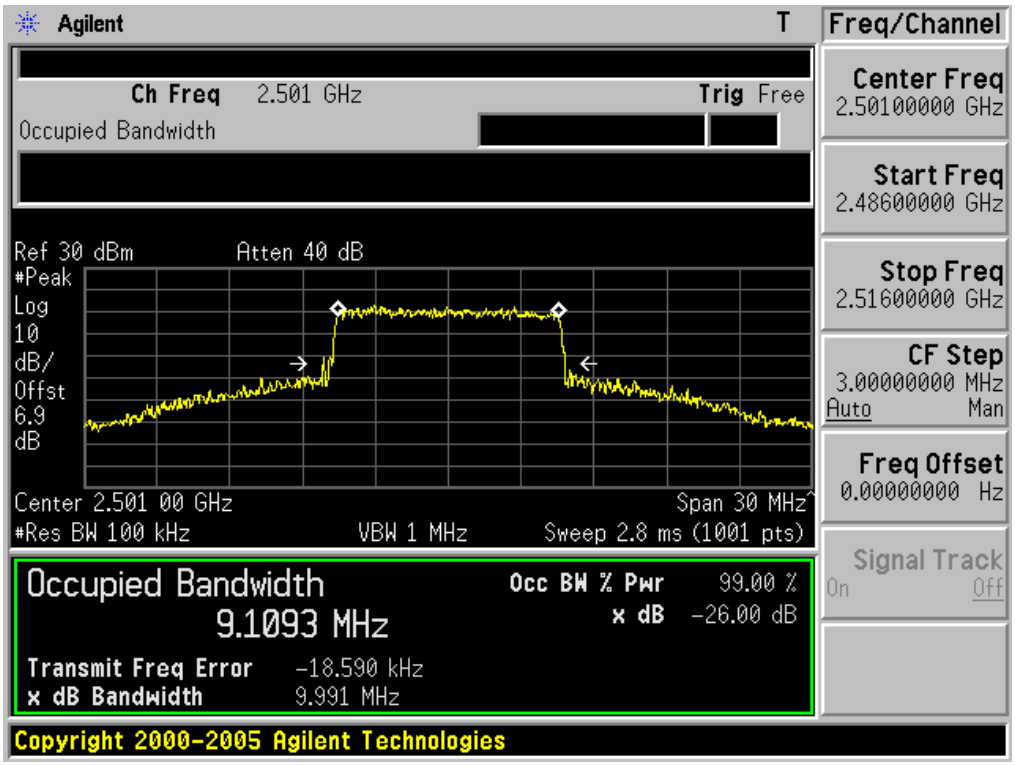
- Highest Channel(2685MHz) & PUSC Mode & 16QAM 3/4



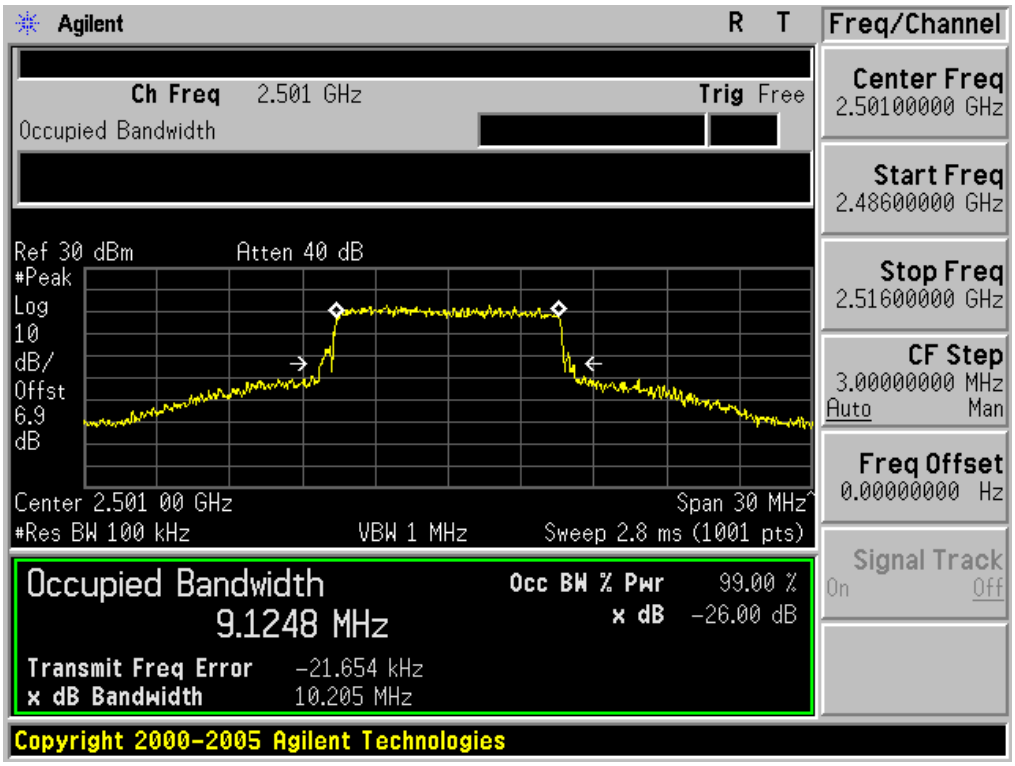
5.1 PLOTS OF EMISSIONS (Continued…)

5.1.2 Occupied Bandwidth(BW: 10MHz)

- Lowest Channel(2501MHz) & PUSC Mode & QPSK 1/2



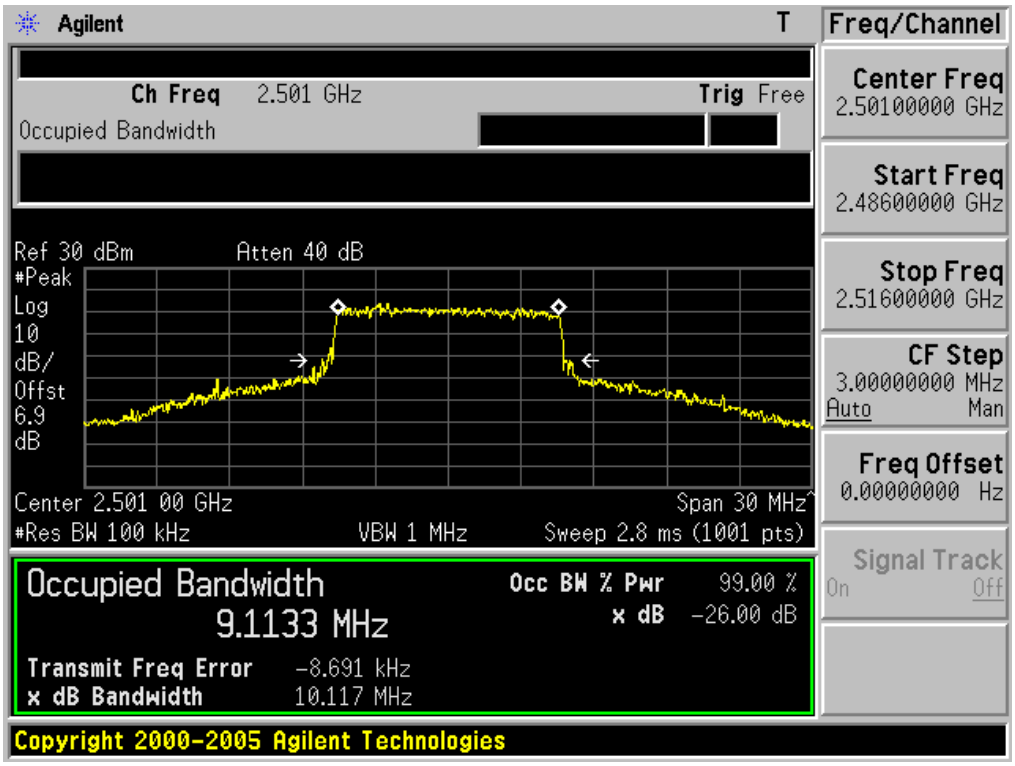
- Lowest Channel(2501MHz) & PUSC Mode & QPSK 3/4



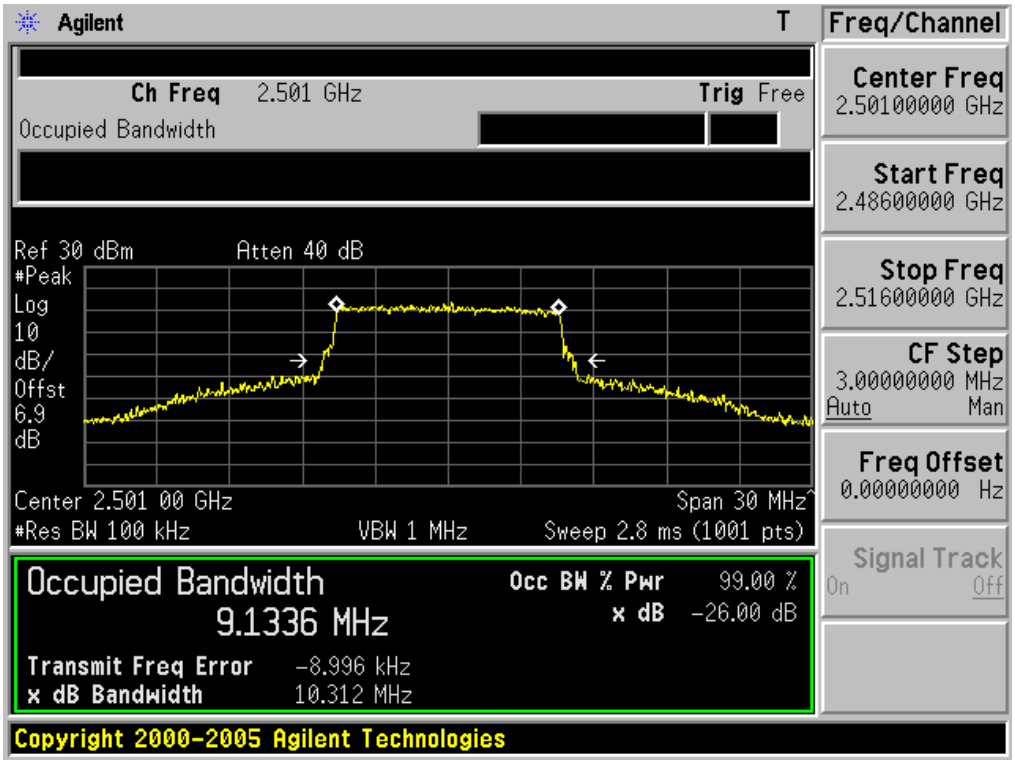
5.1 PLOTS OF EMISSIONS (Continued…)

5.1.2 Occupied Bandwidth(BW: 10MHz) (Continued…)

- Lowest Channel(2501MHz) & PUSC Mode & 16QAM 1/2



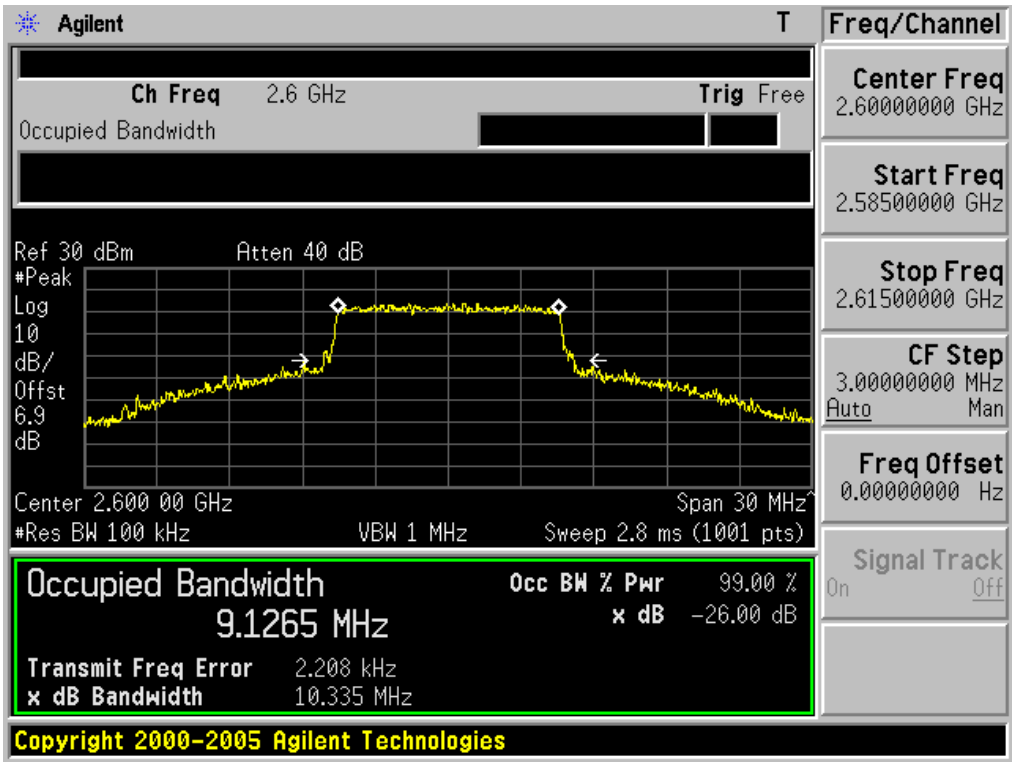
- Lowest Channel(2501MHz) & PUSC Mode & 16QAM 3/4



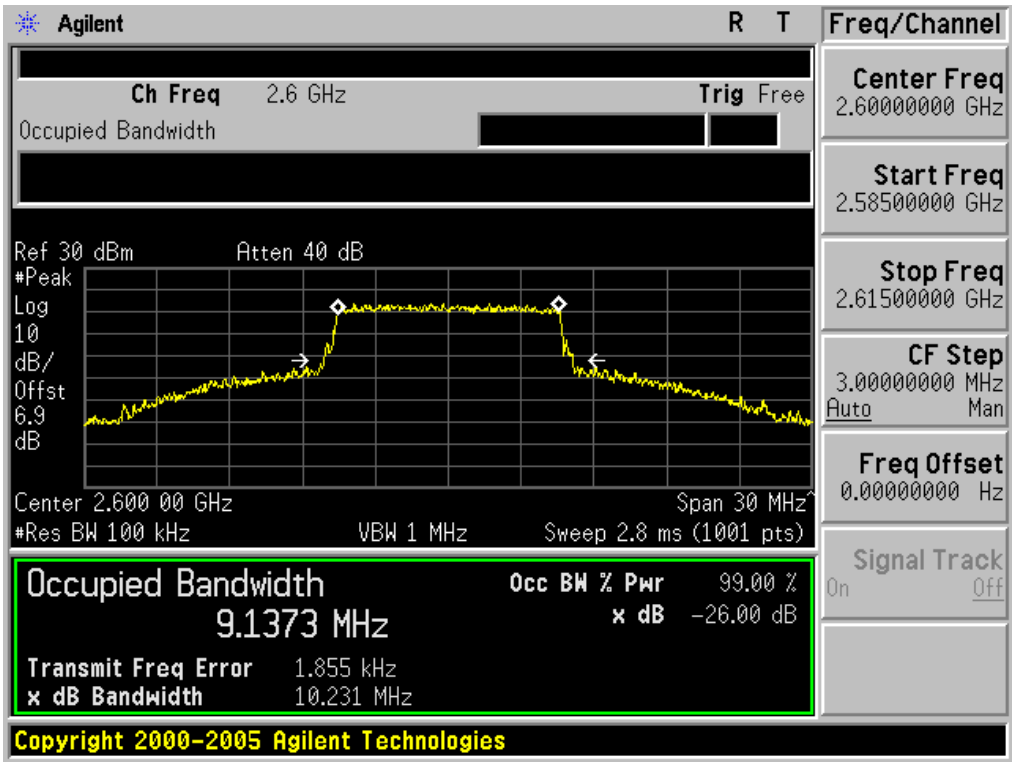
5.1 PLOTS OF EMISSIONS (Continued…)

5.1.2 Occupied Bandwidth(BW: 10MHz) (Continued…)

- Middle Channel(2600MHz) & PUSC Mode & QPSK 1/2



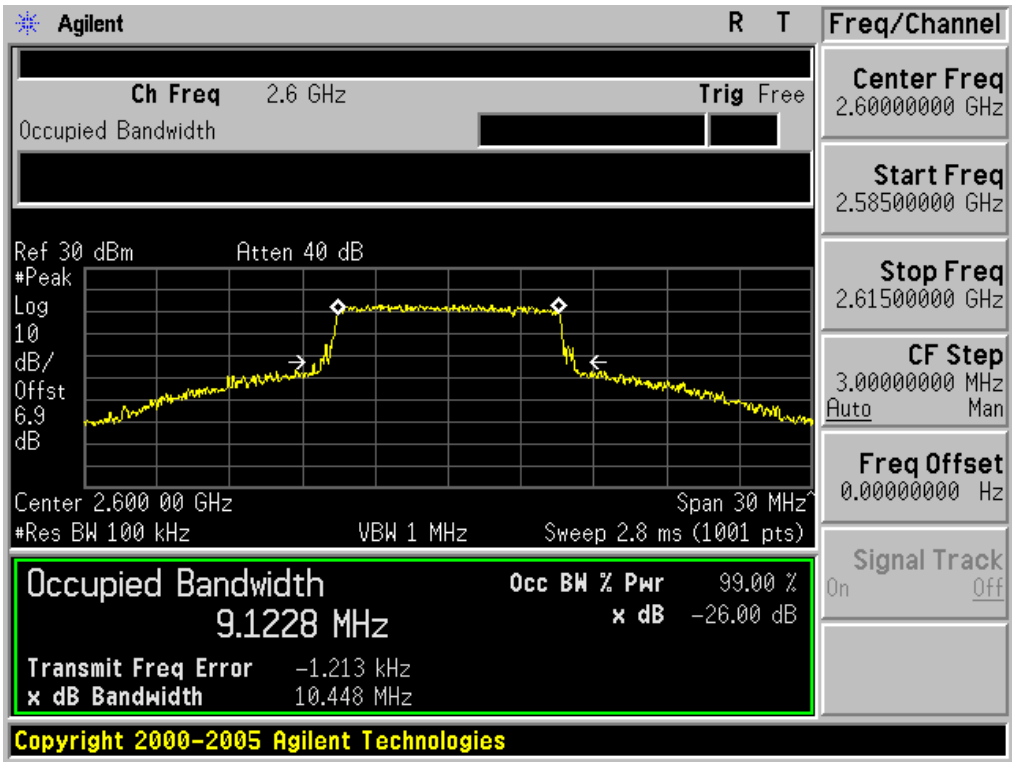
- Middle Channel(2600MHz) & PUSC Mode & QPSK 3/4



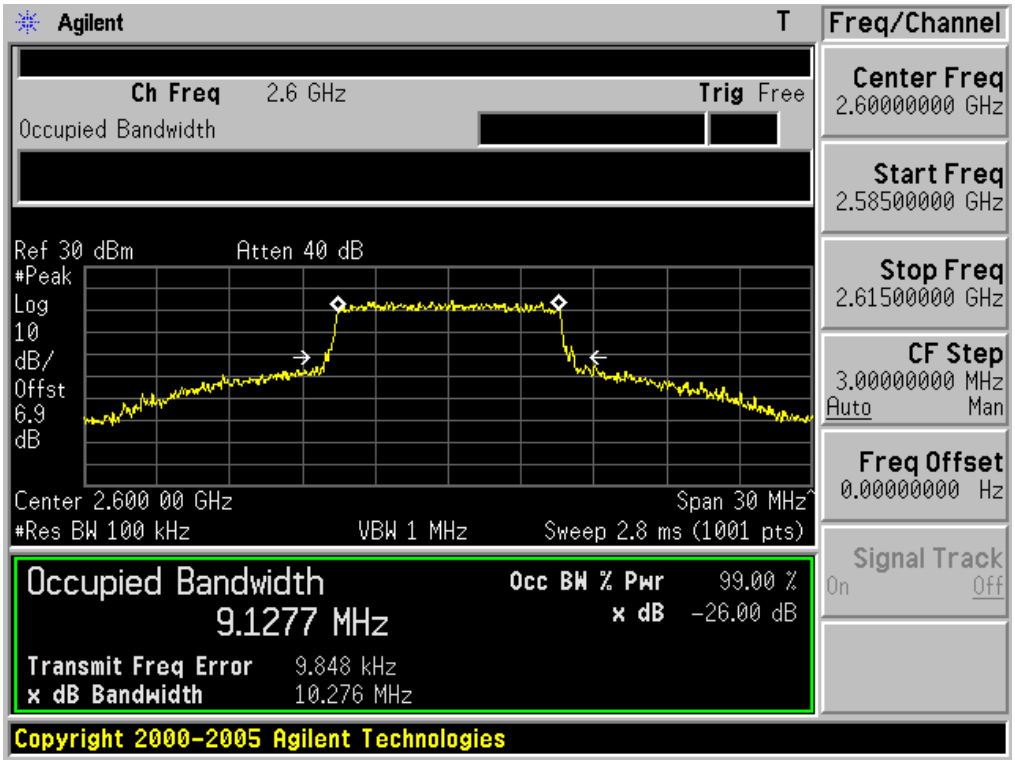
5.1 PLOTS OF EMISSIONS (Continued…)

5.1.2 Occupied Bandwidth(BW: 10MHz) (Continued…)

- Middle Channel(2600MHz) & PUSC Mode & 16QAM 1/2



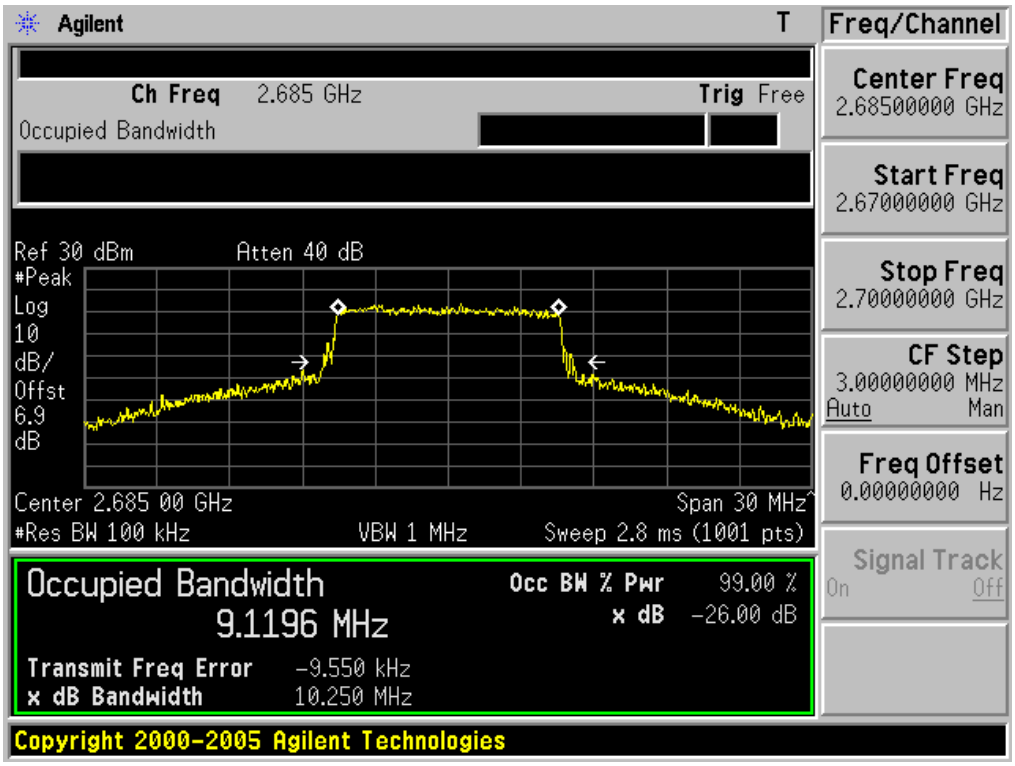
- Middle Channel(2600MHz) & PUSC Mode & 16QAM 3/4



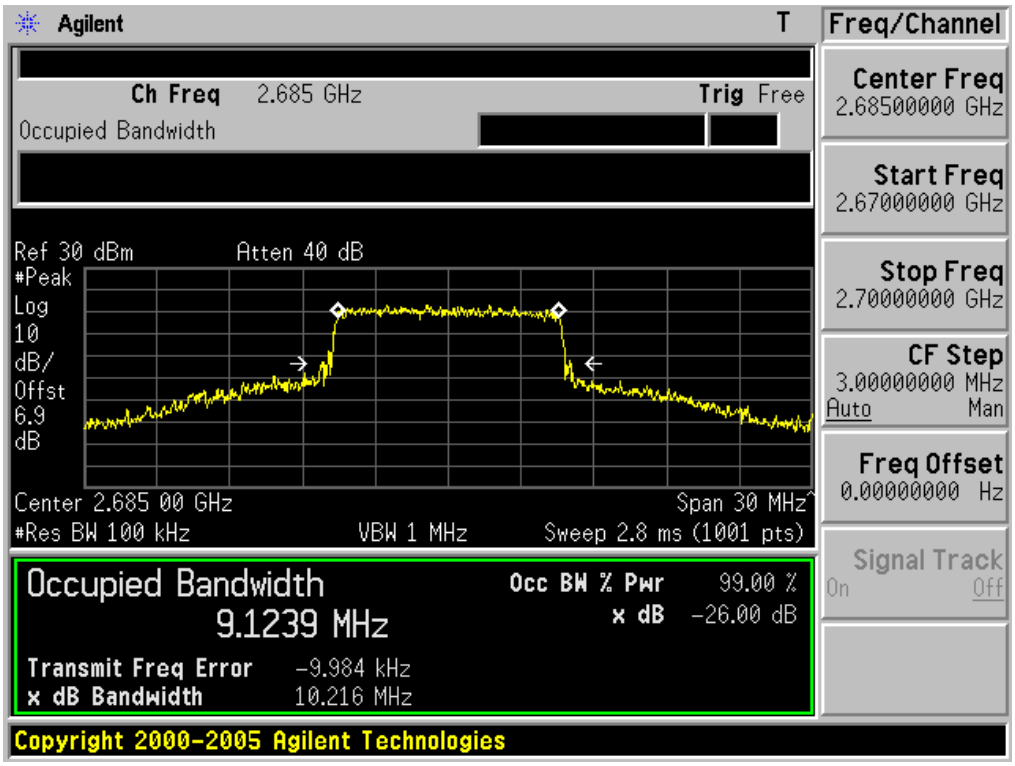
5.1 PLOTS OF EMISSIONS (Continued…)

5.1.2 Occupied Bandwidth(BW: 10MHz) (Continued…)

- Highest Channel(2685MHz) & PUSC Mode & QPSK 1/2



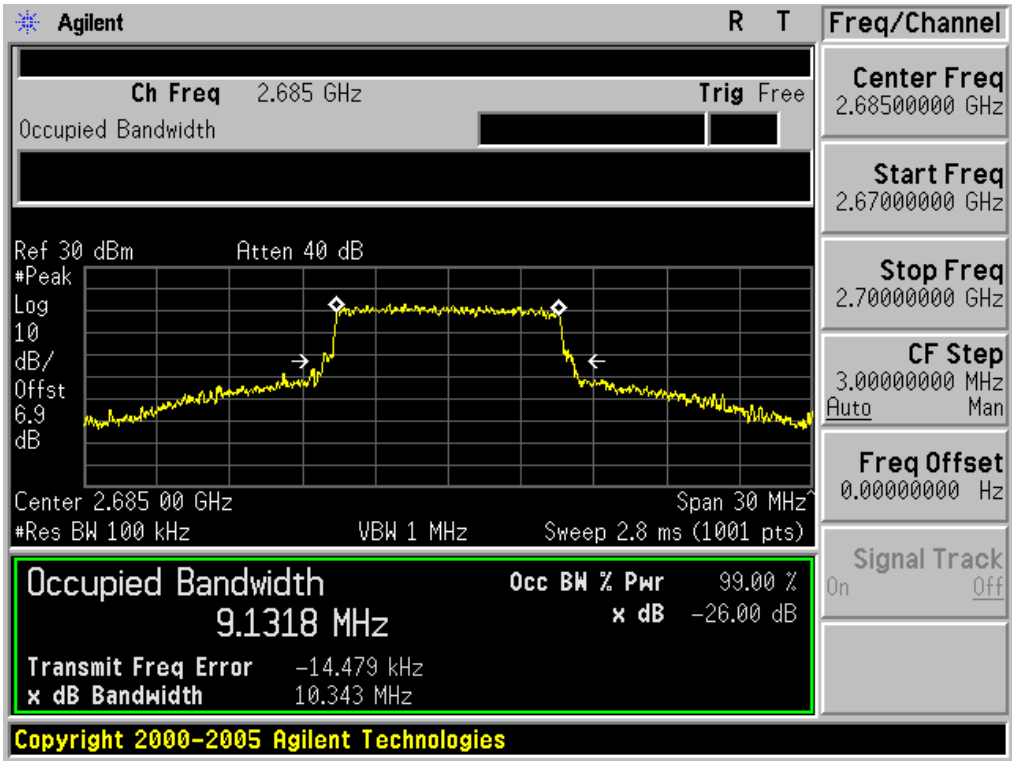
- Highest Channel(2685MHz) & PUSC Mode & QPSK 3/4



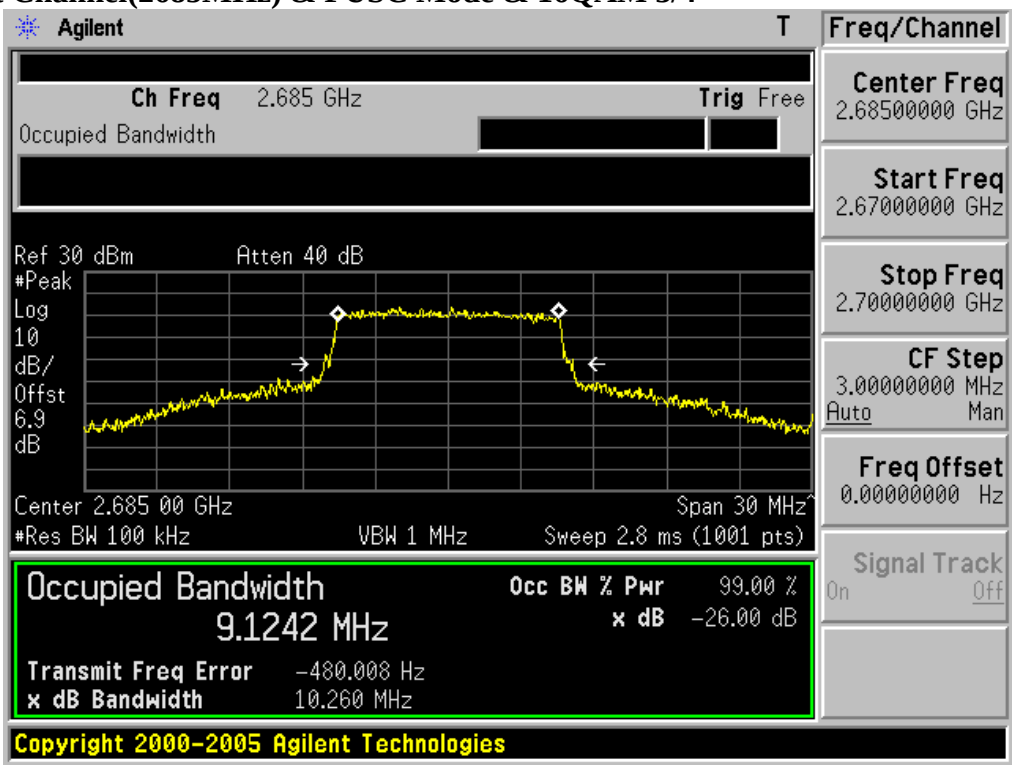
5.1 PLOTS OF EMISSIONS (Continued…)

5.1.2 Occupied Bandwidth(BW: 10MHz) (Continued…)

- Highest Channel(2685MHz) & PUSC Mode & 16QAM 1/2



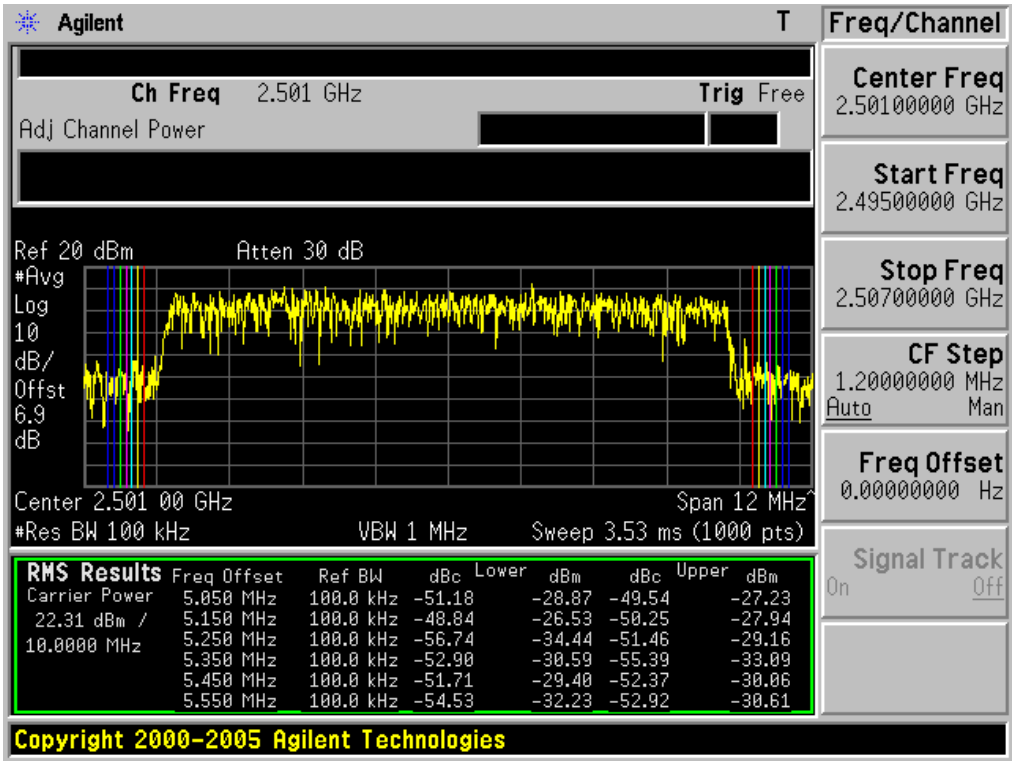
- Highest Channel(2685MHz) & PUSC Mode & 16QAM 3/4

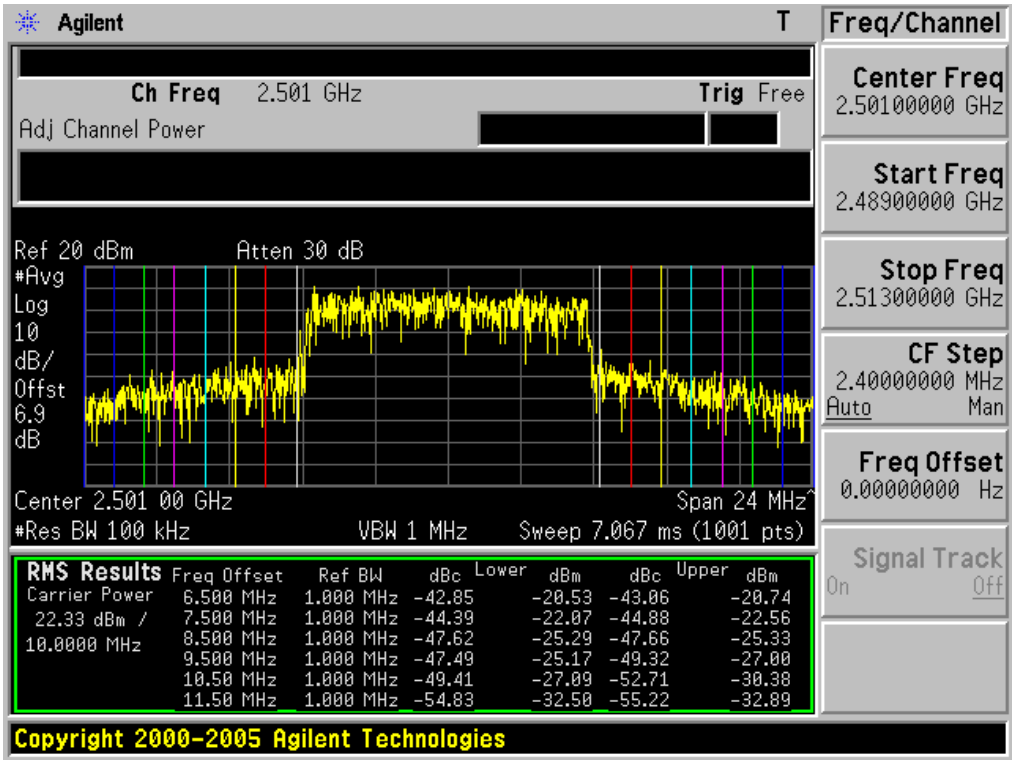


5.1 PLOTS OF EMISSIONS (Continued…)

5.1.3 Band Edge(BW: 10MHz)

- Lowest Channel(2501MHz) & PUSC Mode & QPSK 1/2

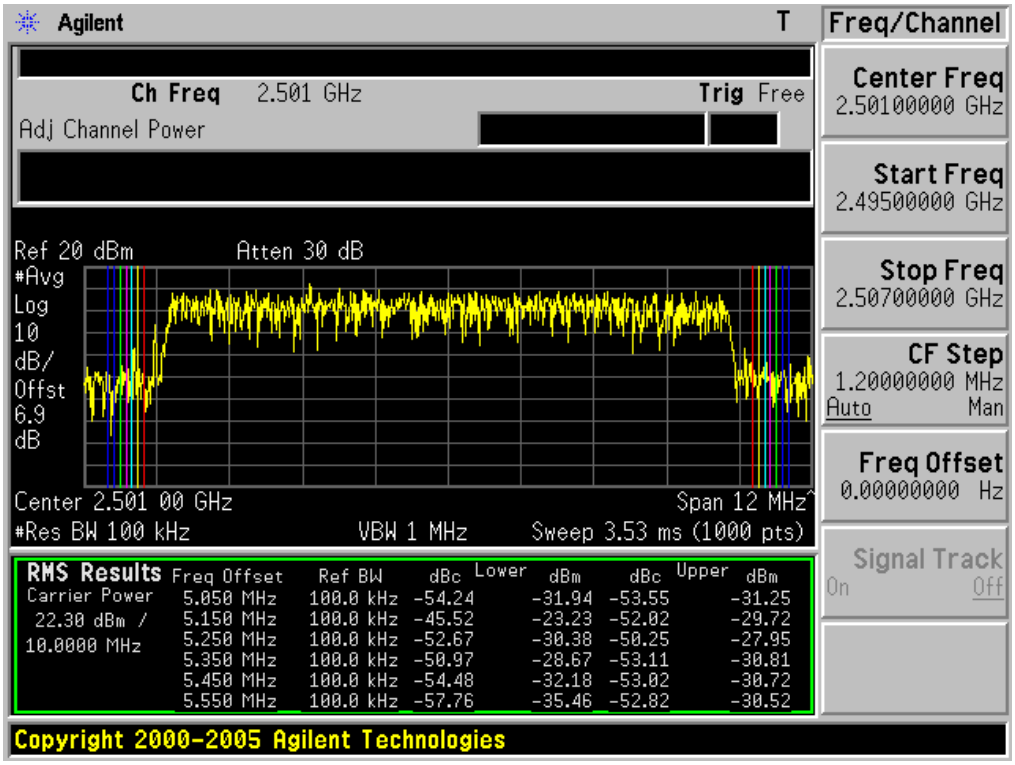


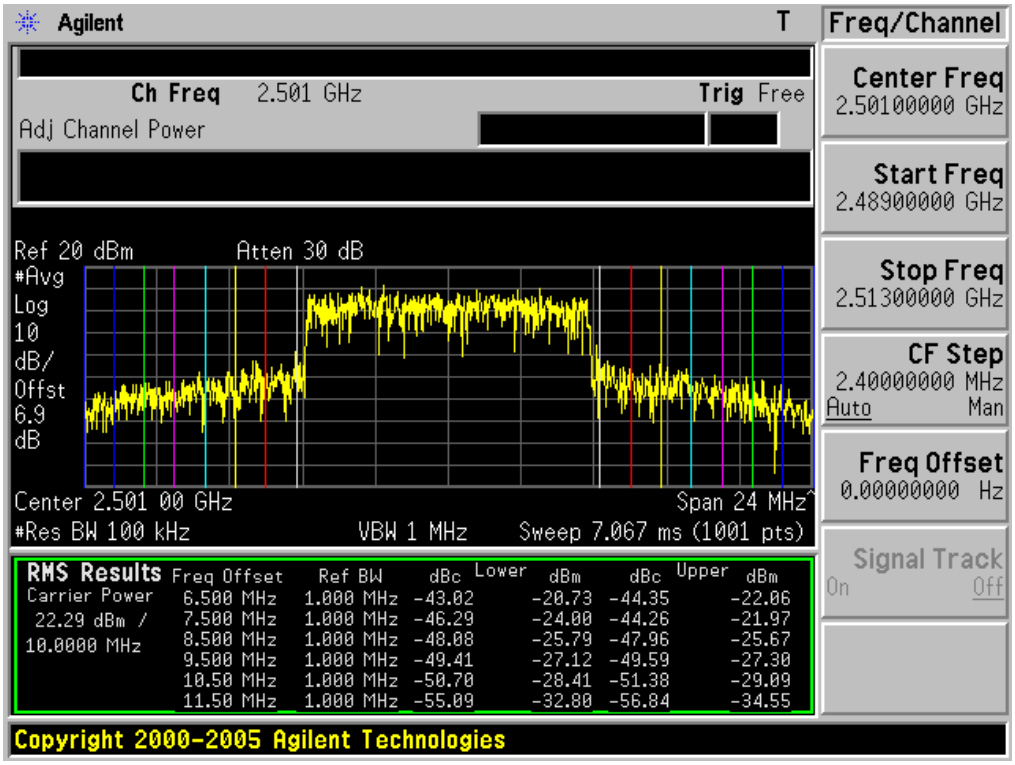


5.1 PLOTS OF EMISSIONS (Continued…)

5.1.3 Band Edge(BW: 10MHz) (Continued…)

- Lowest Channel(2501MHz) & PUSC Mode & QPSK 3/4

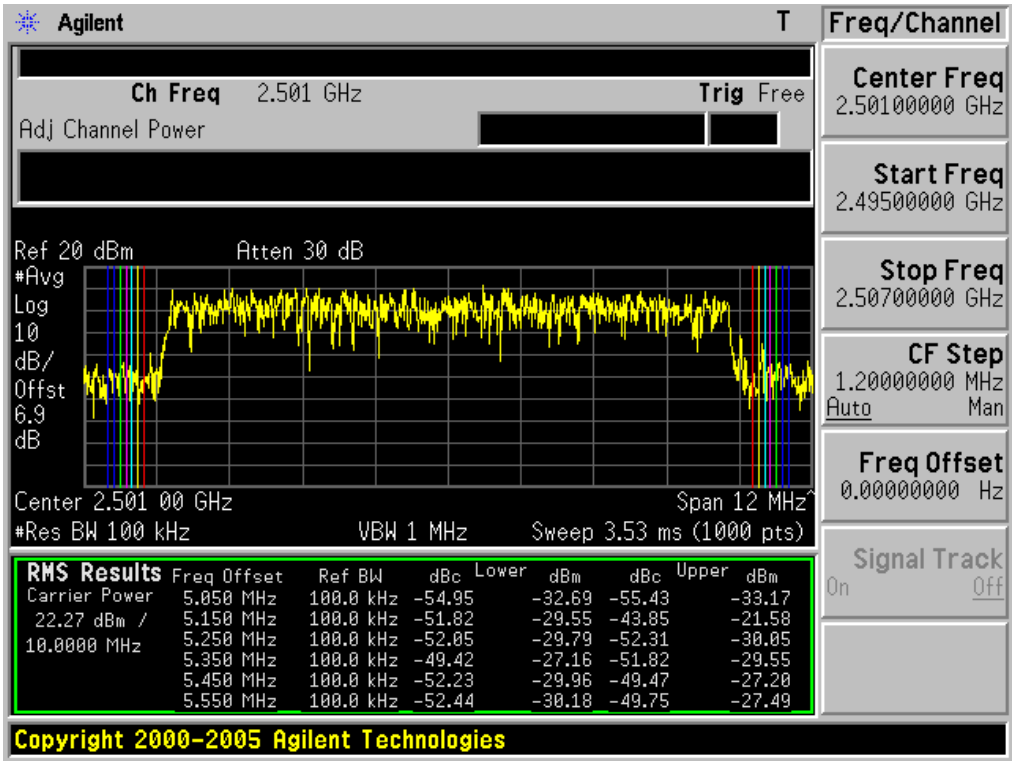


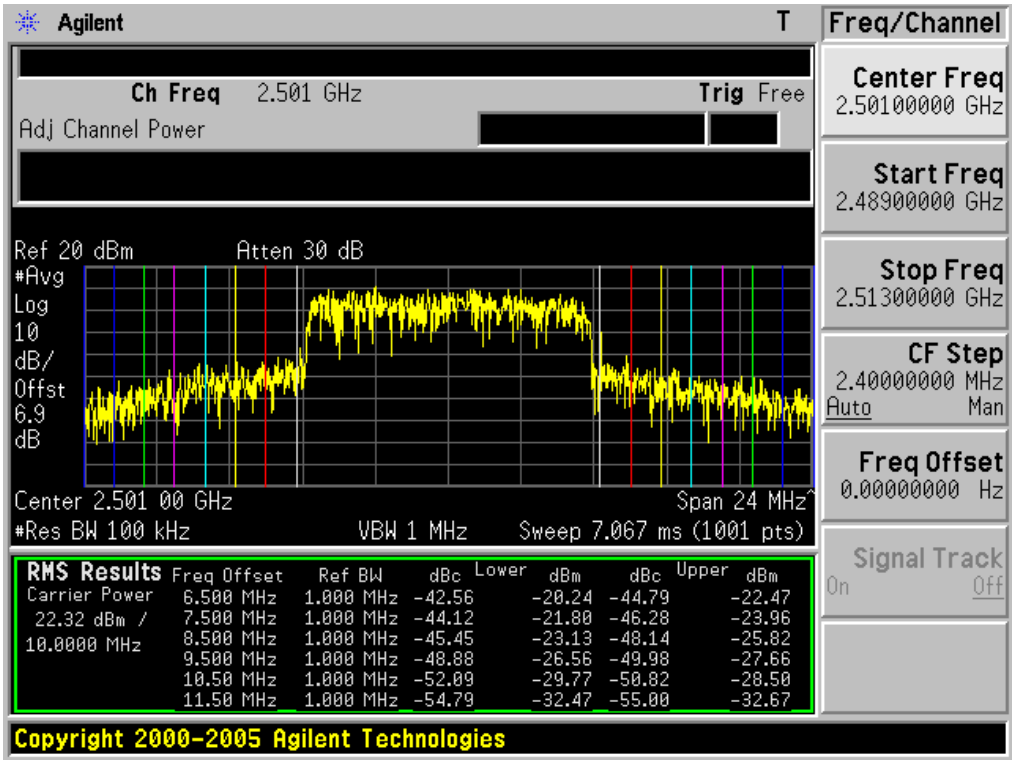


5.1 PLOTS OF EMISSIONS (Continued…)

5.1.3 Band Edge(BW: 10MHz) (Continued…)

- Lowest Channel(2501MHz) & PUSC Mode & 16QAM 1/2

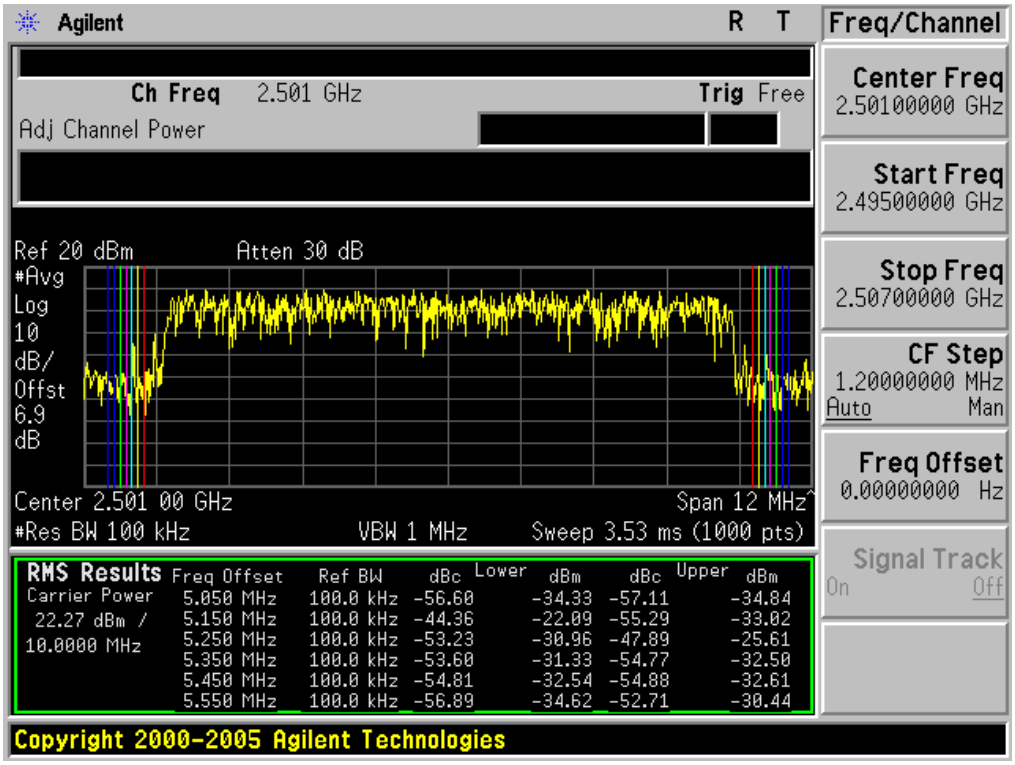


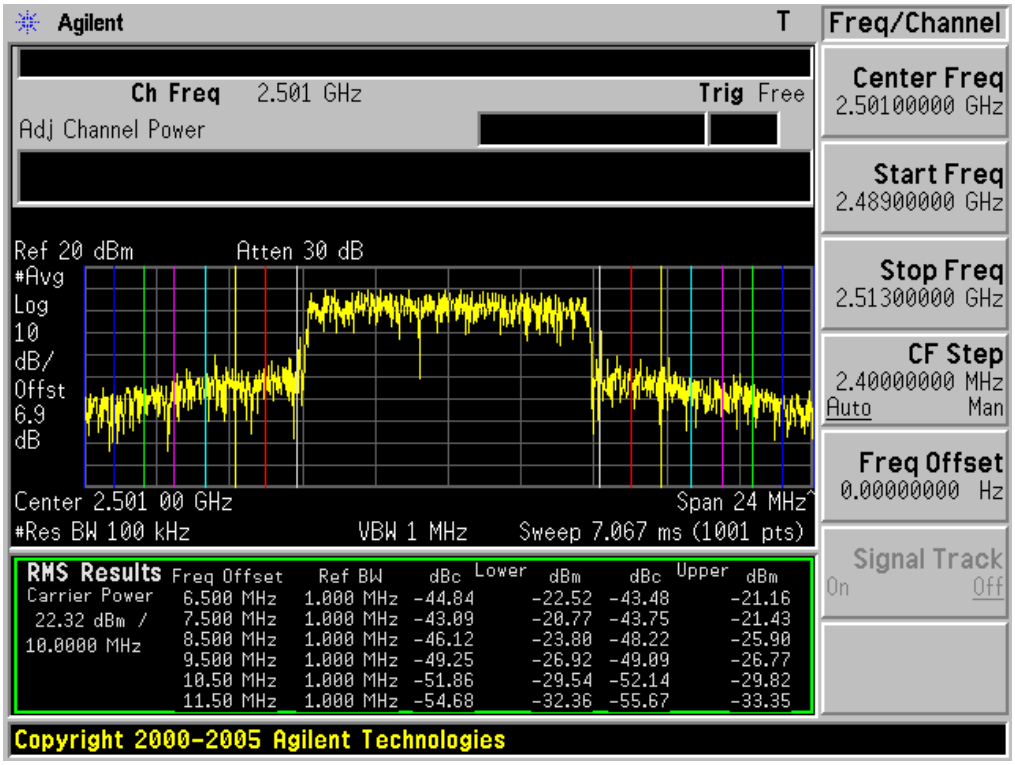


5.1 PLOTS OF EMISSIONS (Continued…)

5.1.3 Band Edge(BW: 10MHz) (Continued…)

- Lowest Channel(2501MHz) & PUSC Mode & 16QAM 3/4

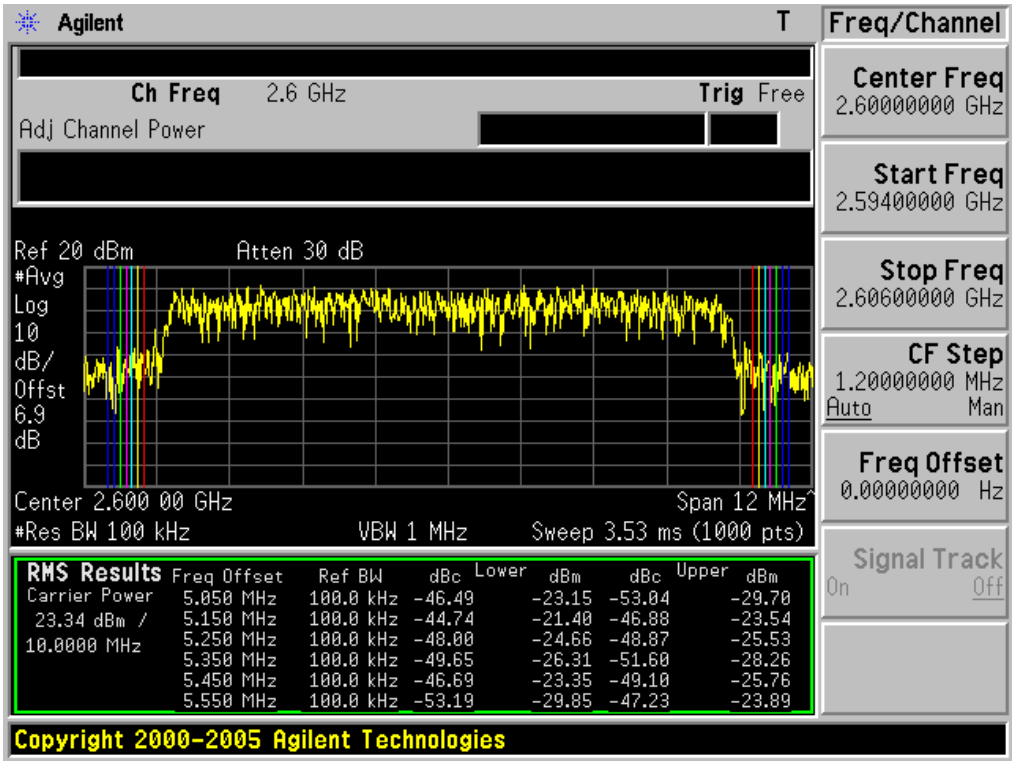


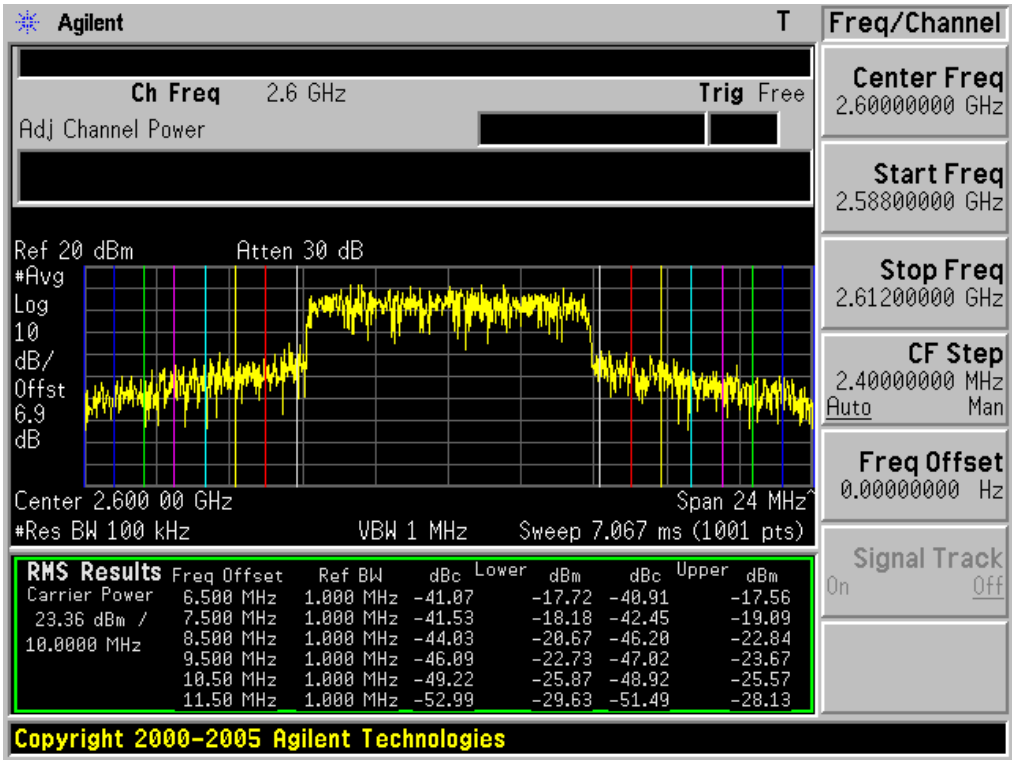


5.1 PLOTS OF EMISSIONS (Continued…)

5.1.3 Band Edge(BW: 10MHz) (Continued…)

- Middle Channel(2600MHz) & PUSC Mode & QPSK 1/2

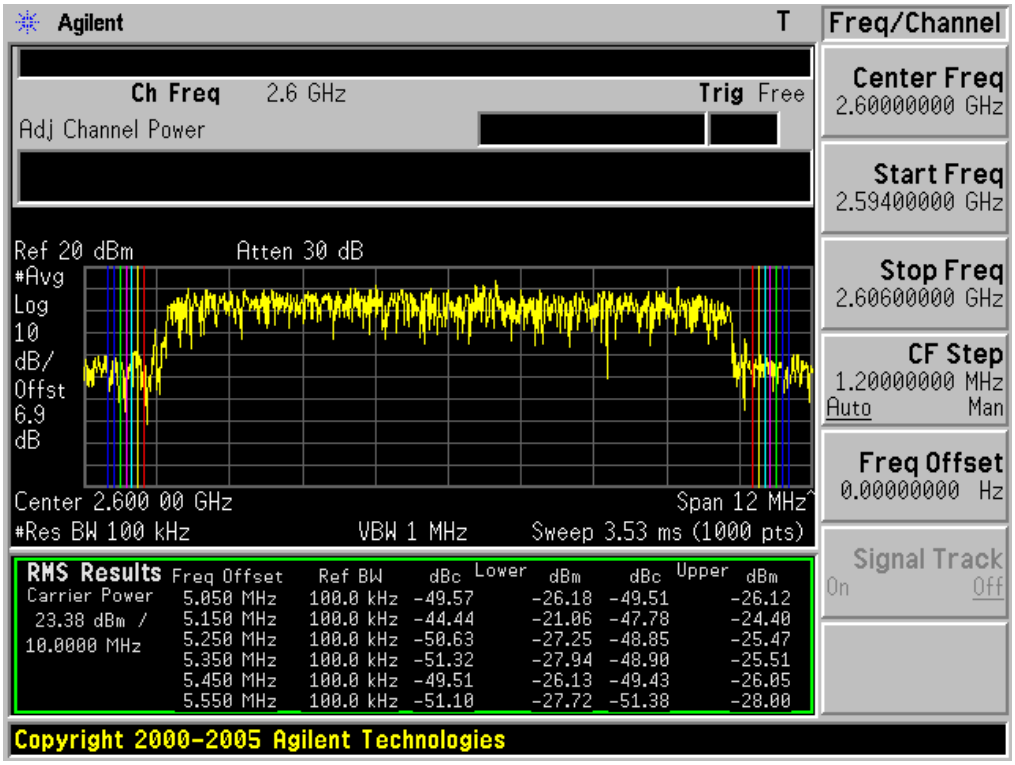


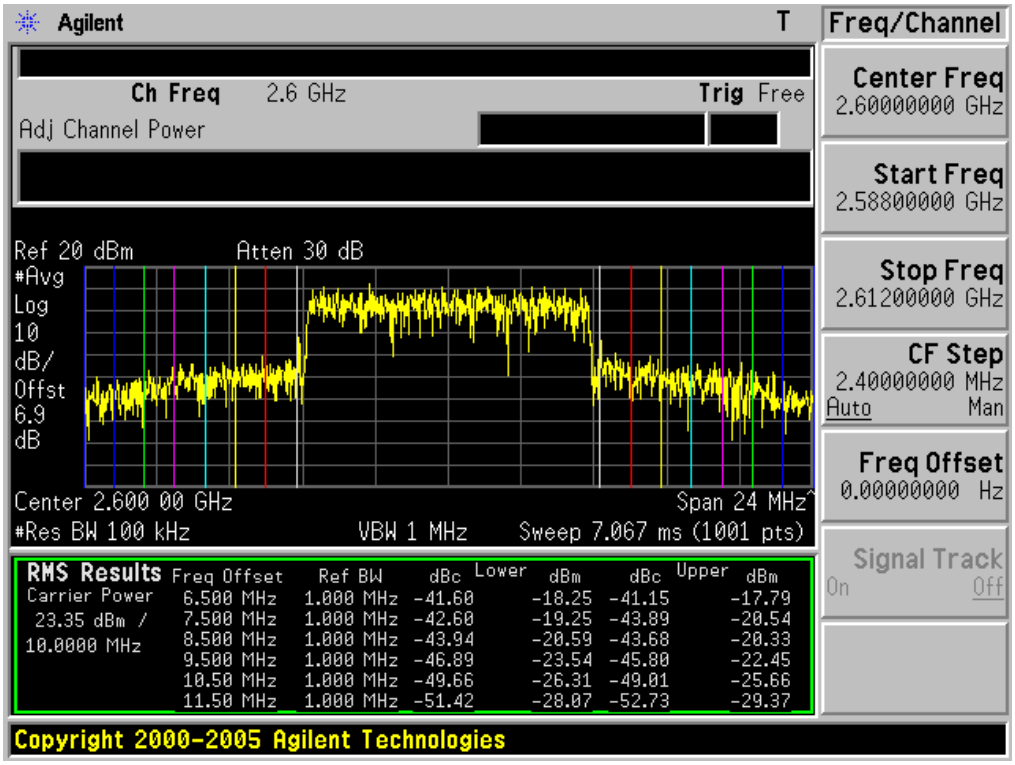


5.1 PLOTS OF EMISSIONS (Continued…)

5.1.3 Band Edge(BW: 10MHz) (Continued…)

- Middle Channel(2600MHz) & PUSC Mode & QPSK 3/4

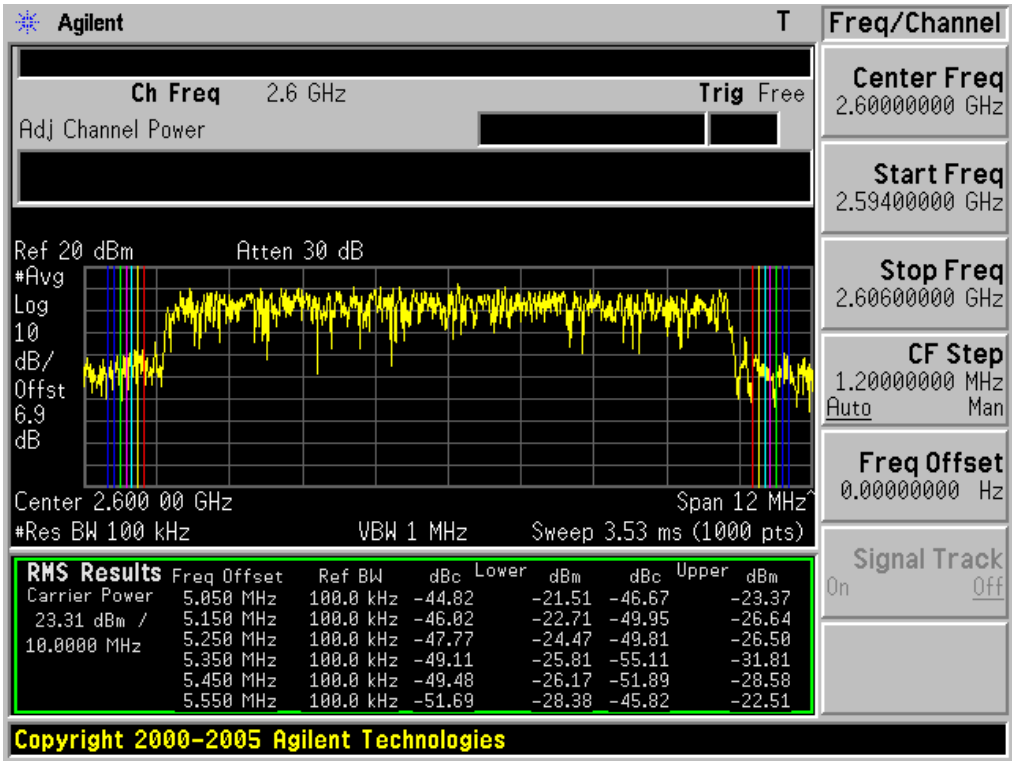


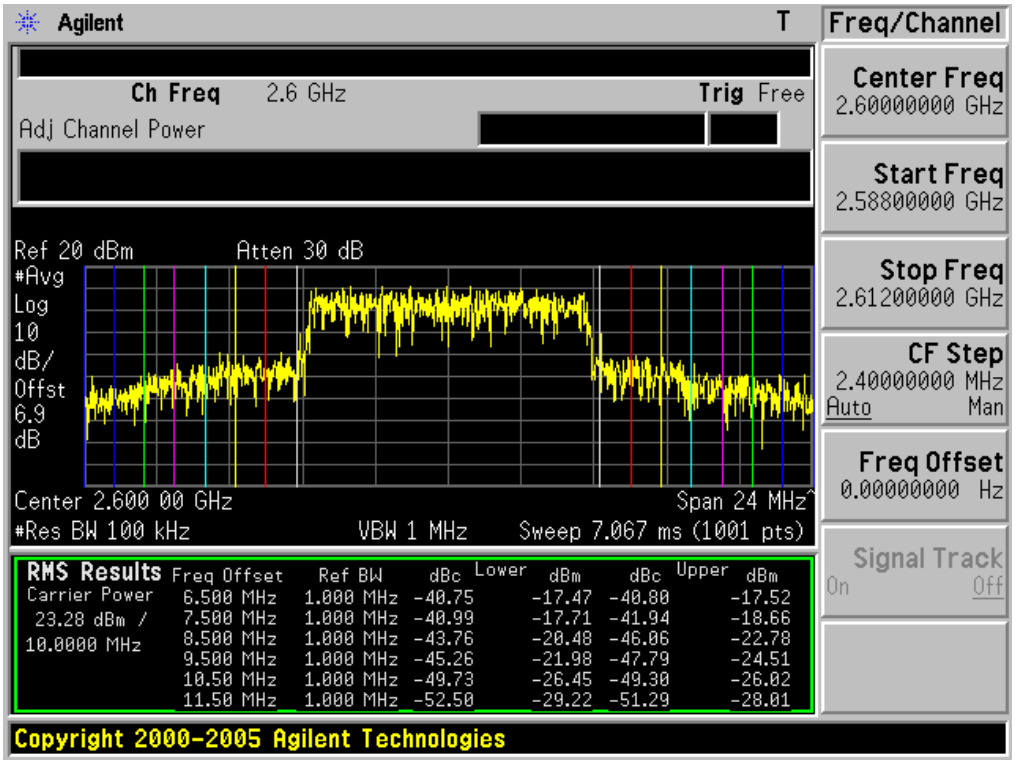


5.1 PLOTS OF EMISSIONS (Continued…)

5.1.3 Band Edge(BW: 10MHz) (Continued…)

- Middle Channel(2600MHz) & PUSC Mode & 16QAM 1/2

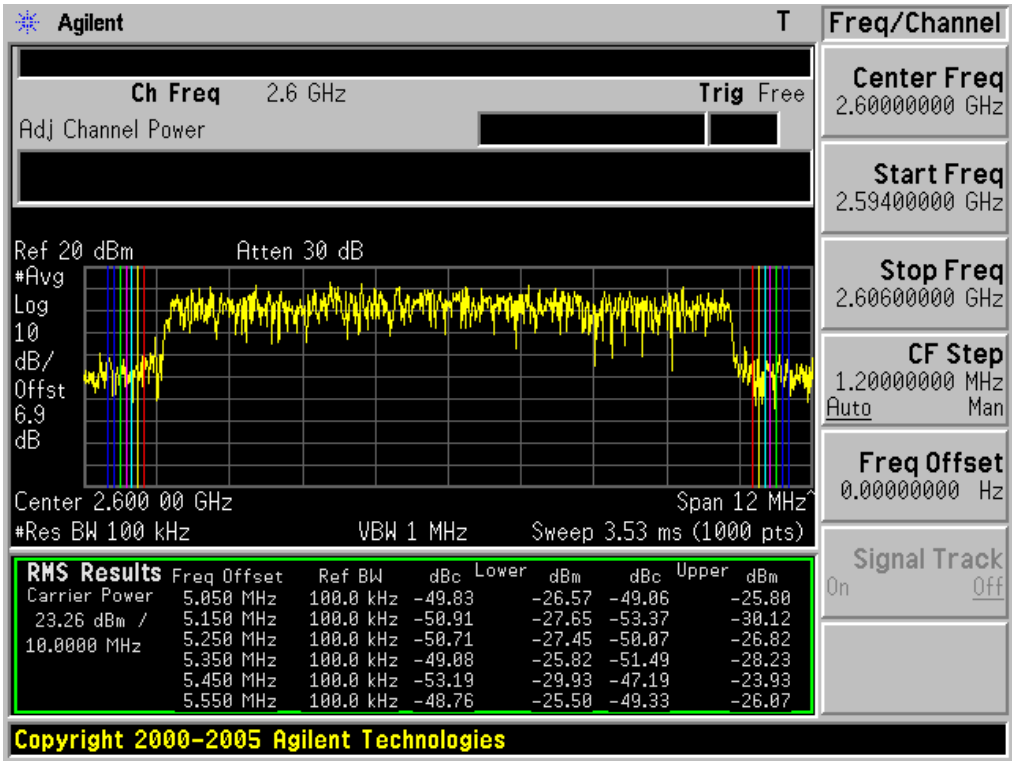


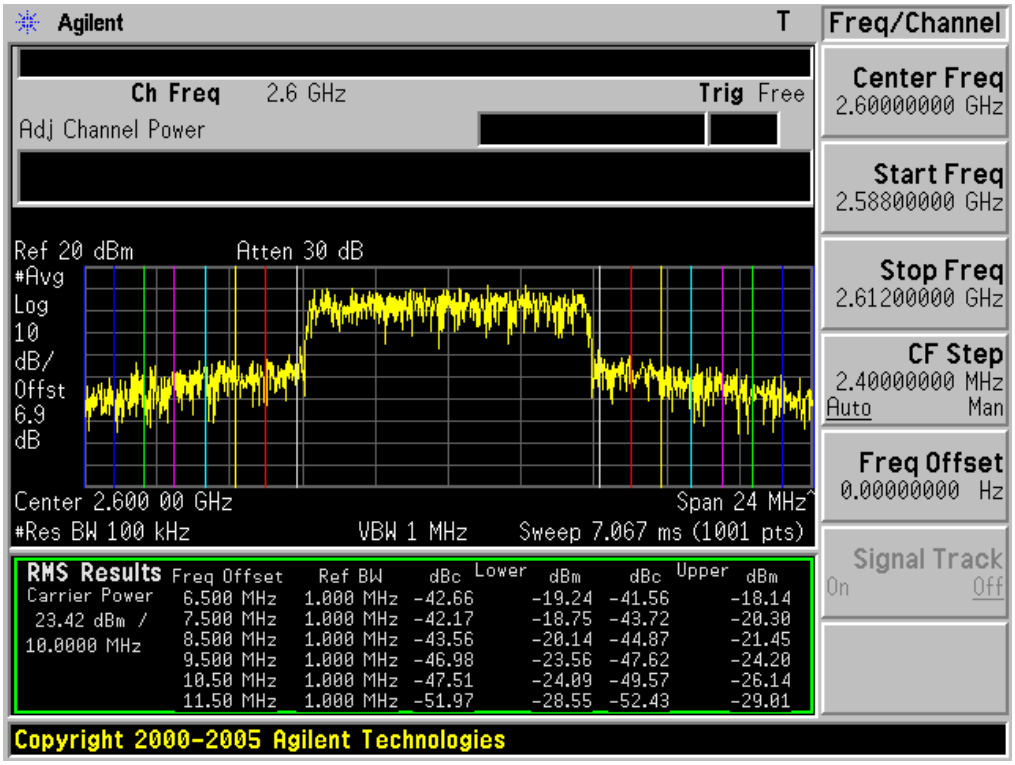


5.1 PLOTS OF EMISSIONS (Continued…)

5.1.3 Band Edge(BW: 10MHz) (Continued…)

- Middle Channel(2600MHz) & PUSC Mode & 16QAM 3/4

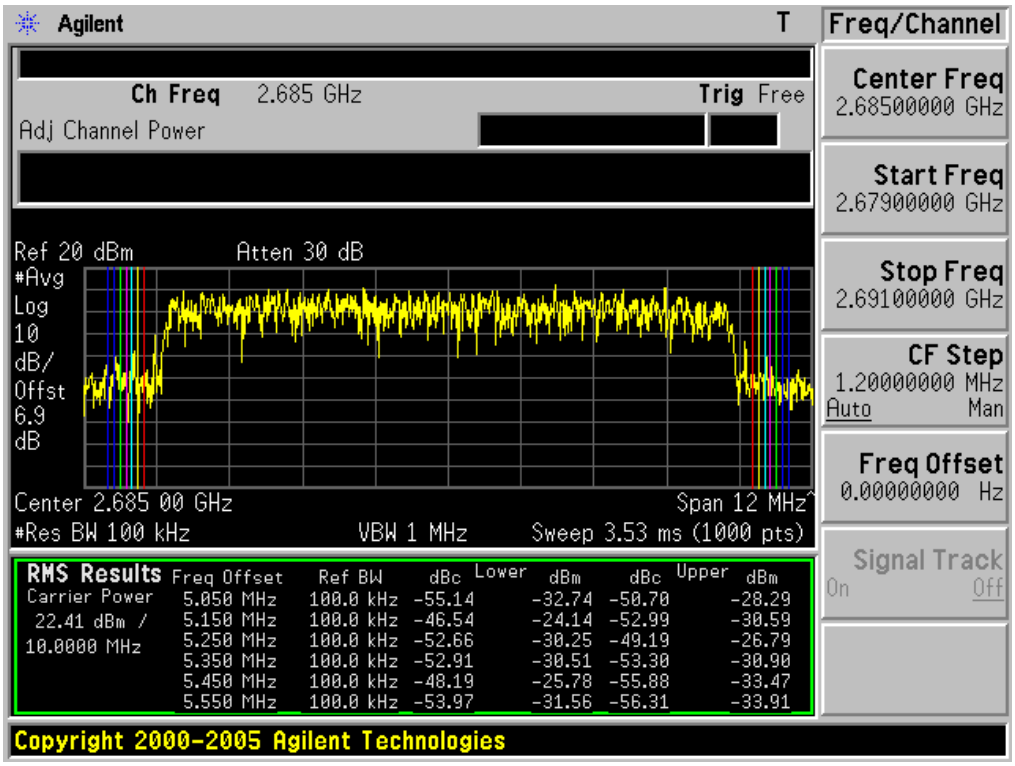


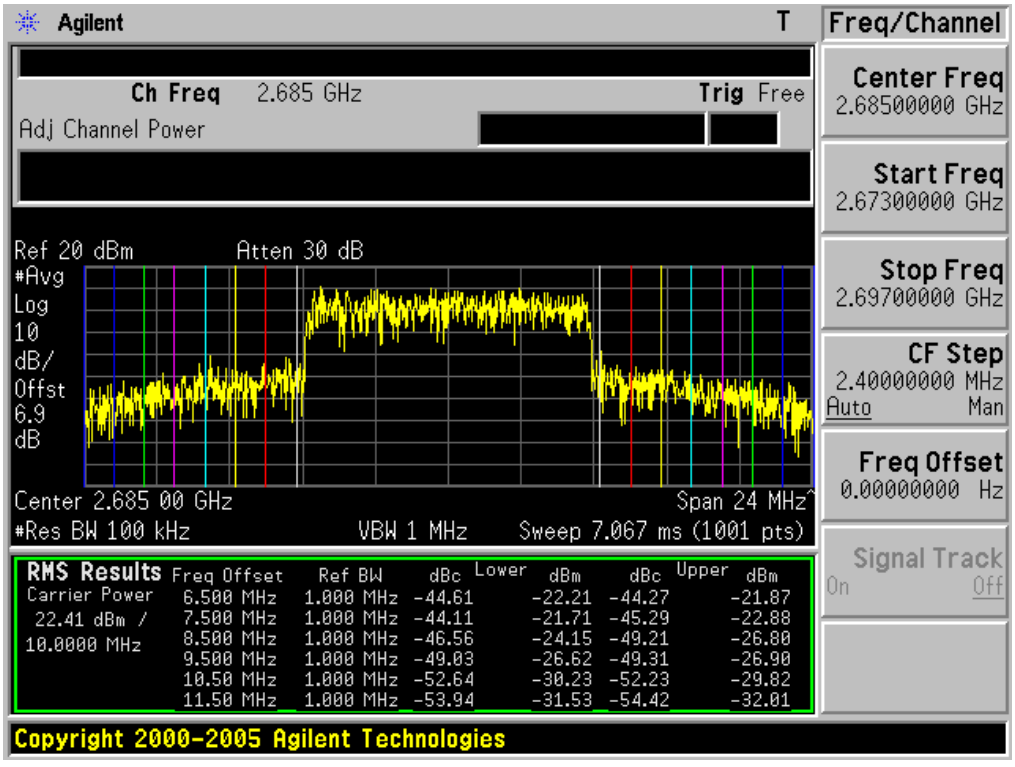


5.1 PLOTS OF EMISSIONS (Continued…)

5.1.3 Band Edge(BW: 10MHz) (Continued…)

- Highest Channel(2685MHz) & PUSC Mode & QPSK 1/2

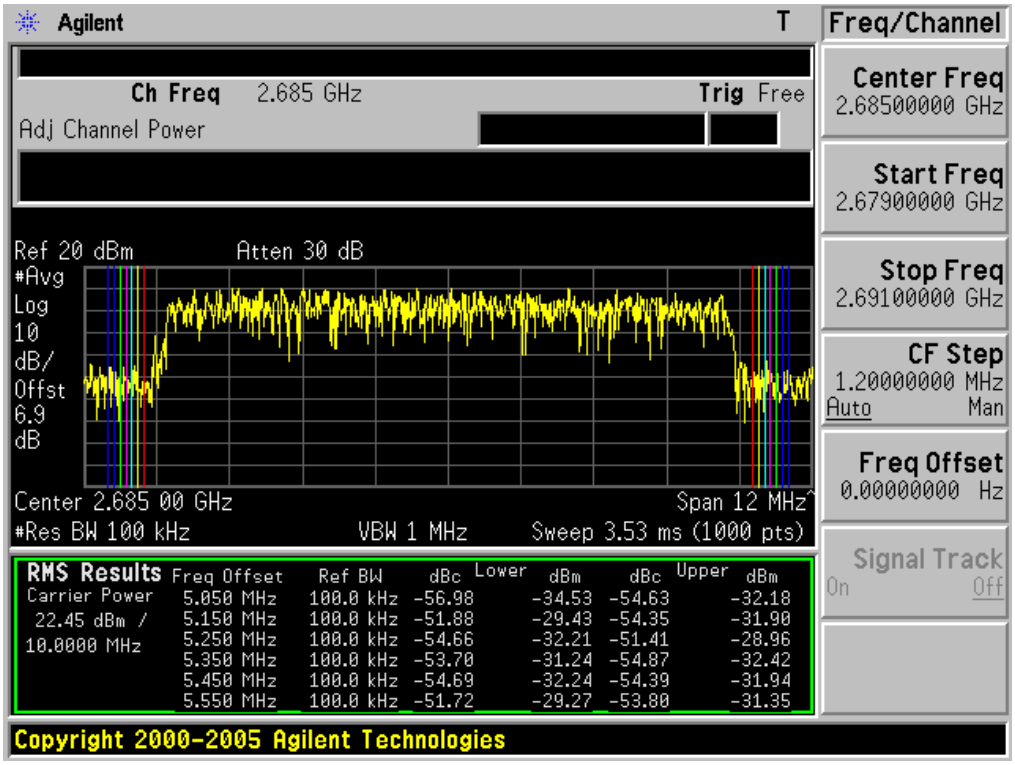


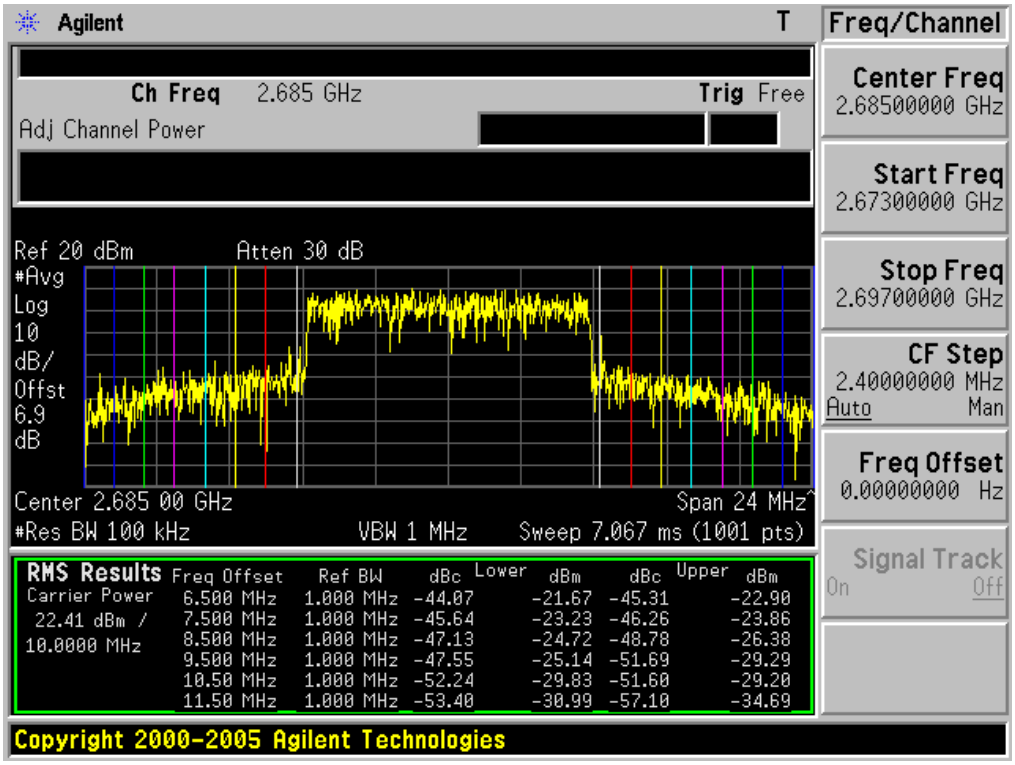


5.1 PLOTS OF EMISSIONS (Continued…)

5.1.3 Band Edge(BW: 10MHz) (Continued…)

- Highest Channel(2685MHz) & PUSC Mode & QPSC 3/4

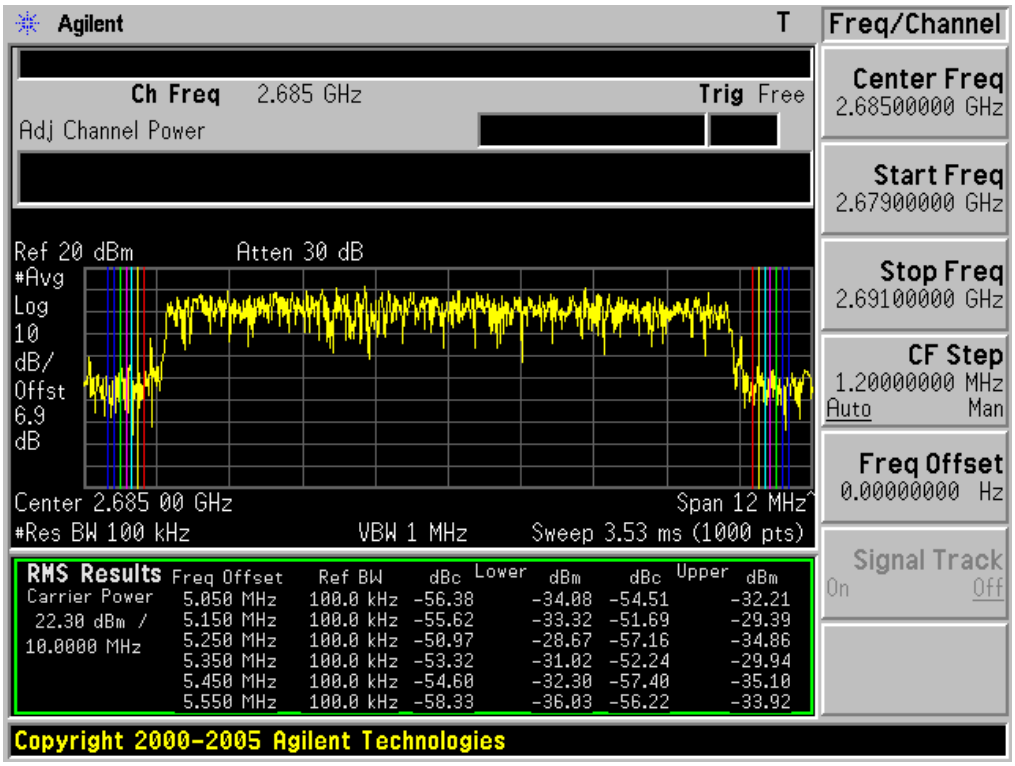


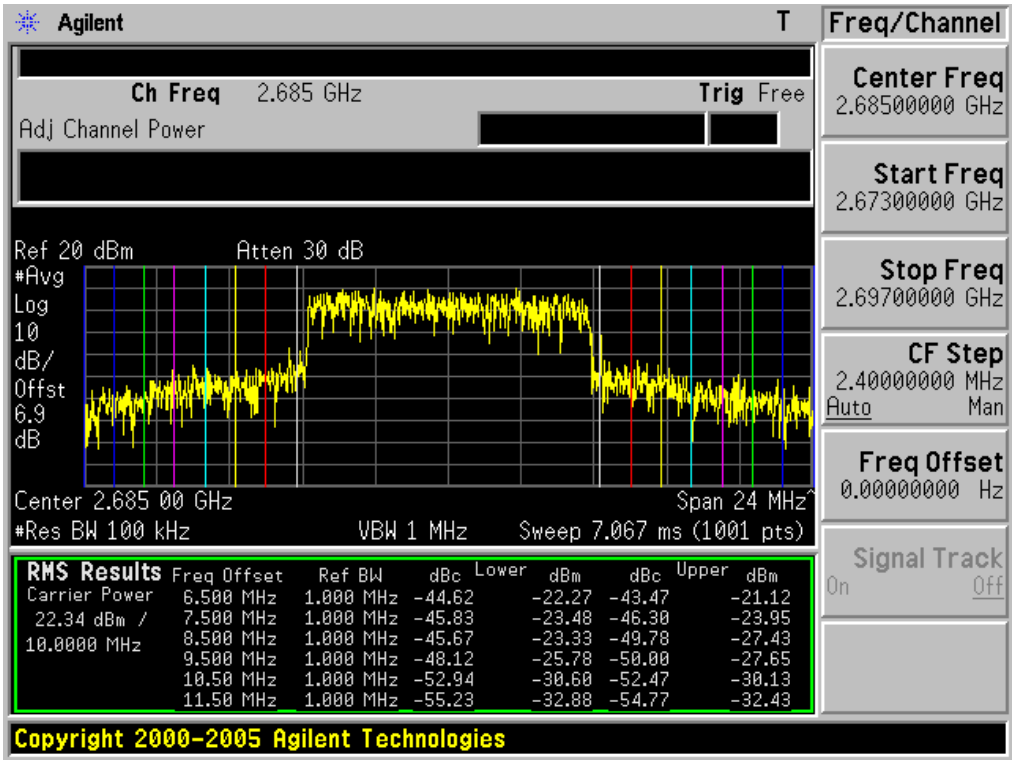


5.1 PLOTS OF EMISSIONS (Continued…)

5.1.3 Band Edge(BW: 10MHz) (Continued…)

- Highest Channel(2685MHz) & PUSC Mode & 16QAM 1/2

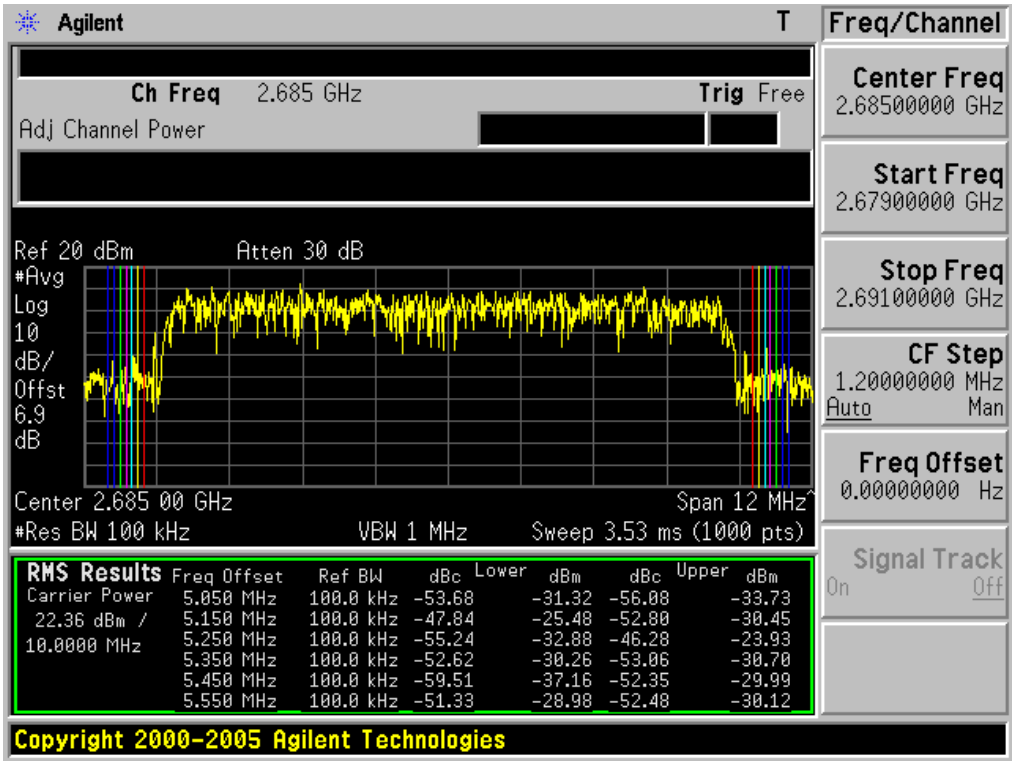


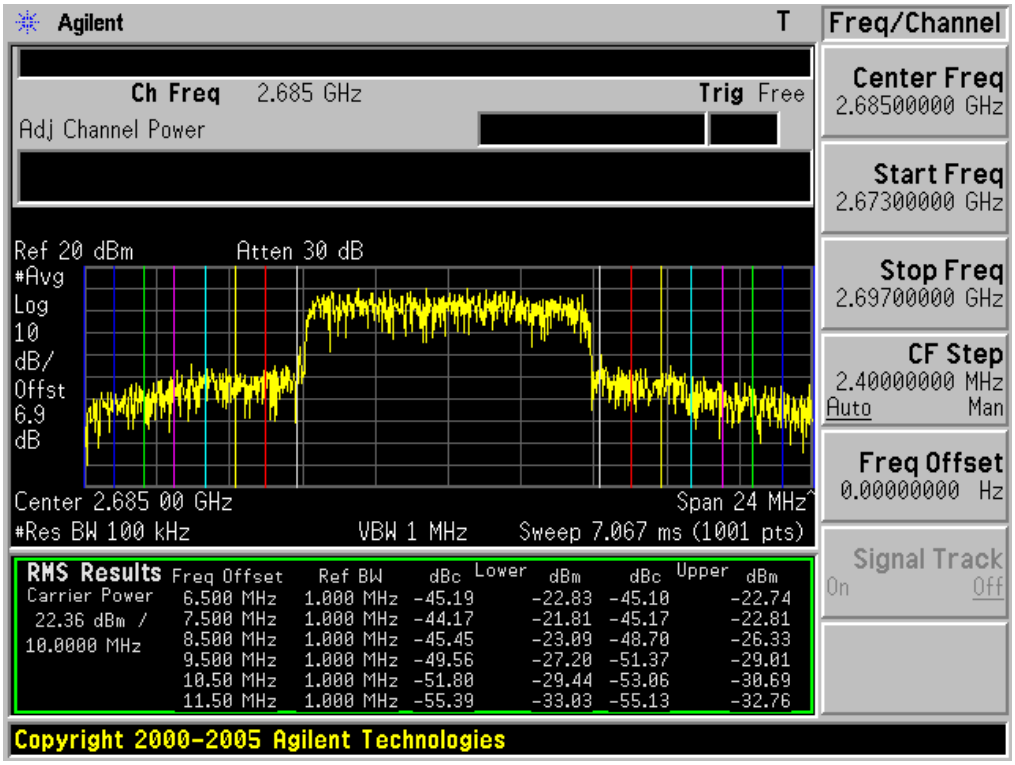


5.1 PLOTS OF EMISSIONS (Continued…)

5.1.3 Band Edge(BW: 10MHz) (Continued…)

- Highest Channel(2685MHz) & PUSC Mode & 16QAM 3/4

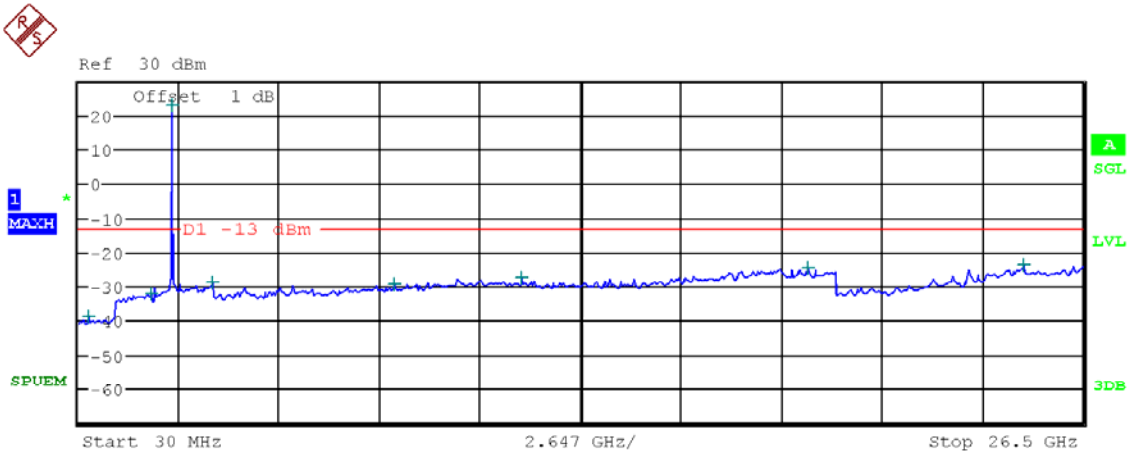




5.1 PLOTS OF EMISSIONS (Continued…)

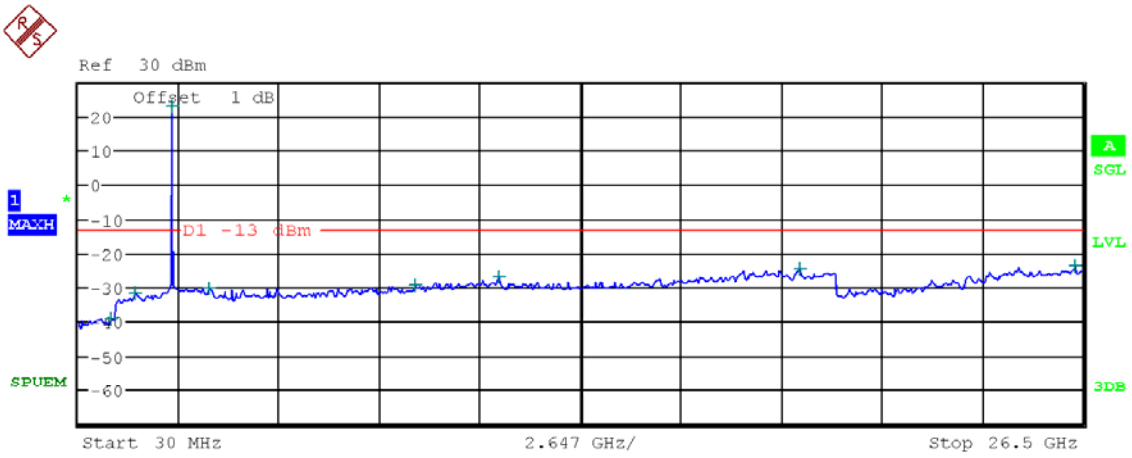
5.1.4 Conducted Spurious Emissions(BW: 10MHz)

- Lowest Channel(2501MHz) & PUSC Mode & QPSK 1/2



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	100.00 k	285.110000 M	-38.95	-200.00
1.000 G	2.000 G	1.00 M	1.929000 G	-32.33	-200.00
2.000 G	3.000 G	1.00 M	2.502500 G	22.92	-200.00
3.000 G	6.000 G	1.00 M	3.542250 G	-28.98	-200.00
6.000 G	9.000 G	1.00 M	8.350200 G	-29.21	-200.00
9.000 G	12.000 G	1.00 M	11.706300 G	-27.65	-200.00
12.000 G	20.000 G	1.00 M	19.262400 G	-24.89	-200.00
20.000 G	26.500 G	1.00 M	24.939350 G	-23.78	-200.00

- Lowest Channel(2501MHz) & PUSC Mode & QPSK 3/4

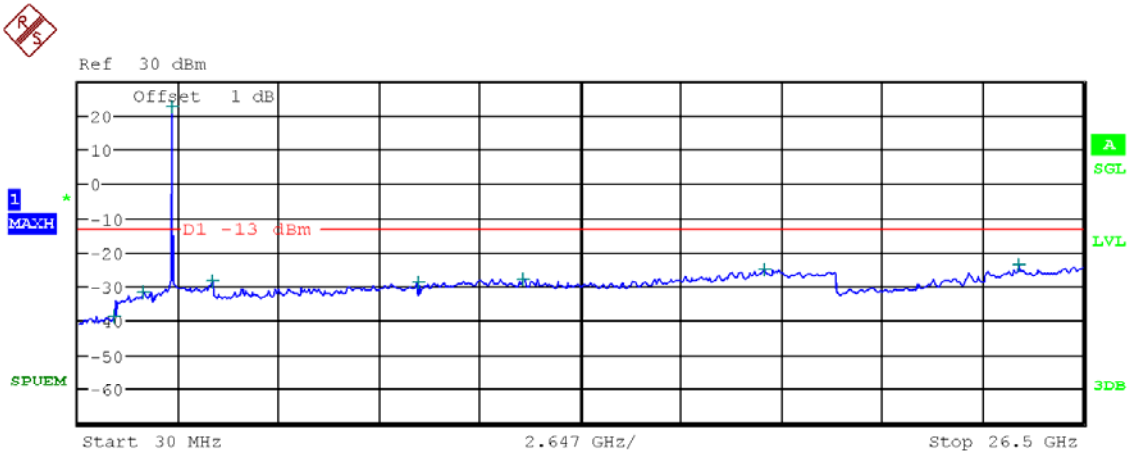


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	100.00 k	870.990000 M	-39.11	-200.00
1.000 G	2.000 G	1.00 M	1.498000 G	-31.74	-200.00
2.000 G	3.000 G	1.00 M	2.498000 G	22.53	-200.00
3.000 G	6.000 G	1.00 M	3.457500 G	-30.10	-200.00
6.000 G	9.000 G	1.00 M	8.909700 G	-29.47	-200.00
9.000 G	12.000 G	1.00 M	11.108100 G	-27.18	-200.00
12.000 G	20.000 G	1.00 M	19.016000 G	-24.85	-200.00
20.000 G	26.500 G	1.00 M	26.286800 G	-23.82	-200.00

5.1 PLOTS OF EMISSIONS (Continued…)

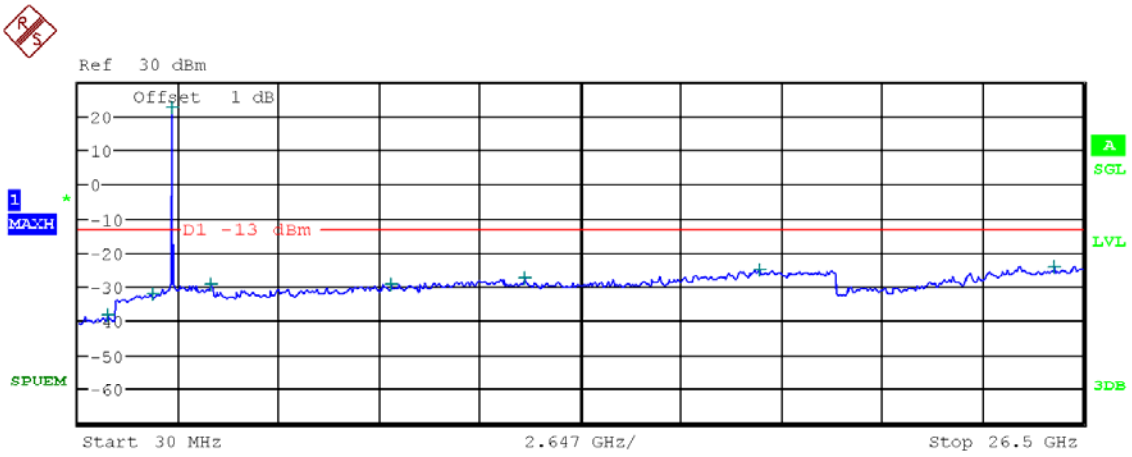
5.1.4 Conducted Spurious Emissions(BW: 10MHz) (Continued…)

- Lowest Channel(2501MHz) & PUSC Mode & 16QAM 1/2



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	100.00 k	972.840000 M	-38.57	-200.00
1.000 G	2.000 G	1.00 M	1.744000 G	-31.60	-200.00
2.000 G	3.000 G	1.00 M	2.501000 G	22.39	-200.00
3.000 G	6.000 G	1.00 M	3.539250 G	-28.30	-200.00
6.000 G	9.000 G	1.00 M	8.981700 G	-29.15	-200.00
9.000 G	12.000 G	1.00 M	11.756700 G	-27.90	-200.00
12.000 G	20.000 G	1.00 M	18.091200 G	-25.08	-200.00
20.000 G	26.500 G	1.00 M	24.787900 G	-23.68	-200.00

- Lowest Channel(2501MHz) & PUSC Mode & 16QAM 3/4

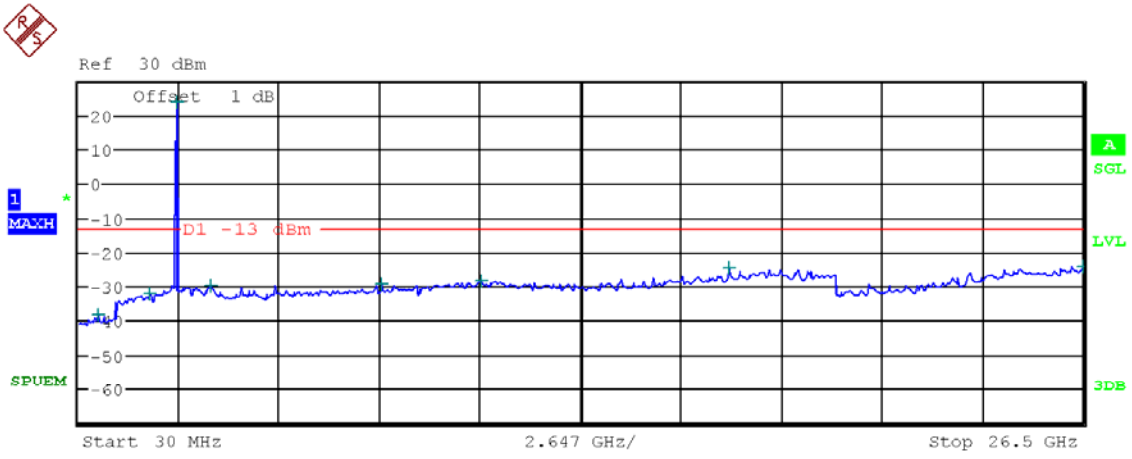


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	100.00 k	800.180000 M	-38.43	-200.00
1.000 G	2.000 G	1.00 M	1.999500 G	-32.28	-200.00
2.000 G	3.000 G	1.00 M	2.498500 G	22.18	-200.00
3.000 G	6.000 G	1.00 M	3.523500 G	-29.42	-200.00
6.000 G	9.000 G	1.00 M	8.272500 G	-29.45	-200.00
9.000 G	12.000 G	1.00 M	11.794500 G	-27.53	-200.00
12.000 G	20.000 G	1.00 M	17.991200 G	-25.05	-200.00
20.000 G	26.500 G	1.00 M	25.738850 G	-24.11	-200.00

5.1 PLOTS OF EMISSIONS (Continued…)

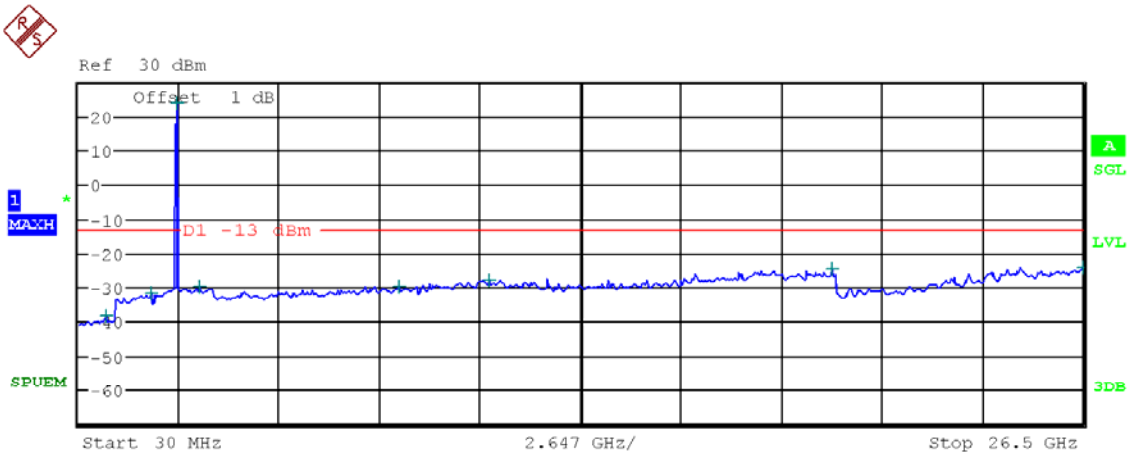
5.1.4 Conducted Spurious Emissions(BW: 10MHz) (Continued…)

- Middle Channel(2600MHz) & PUSC Mode & QPSK 1/2



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	100.00 k	536.340000 M	-38.31	-200.00
1.000 G	2.000 G	1.00 M	1.903500 G	-32.23	-200.00
2.000 G	3.000 G	1.00 M	2.601000 G	23.79	-200.00
3.000 G	6.000 G	1.00 M	3.492750 G	-29.65	-200.00
6.000 G	9.000 G	1.00 M	8.011800 G	-29.23	-200.00
9.000 G	12.000 G	1.00 M	10.633200 G	-28.34	-200.00
12.000 G	20.000 G	1.00 M	17.165600 G	-24.67	-200.00
20.000 G	26.500 G	1.00 M	26.492200 G	-24.18	-200.00

- Middle Channel(2600MHz) & PUSC Mode & QPSK 3/4

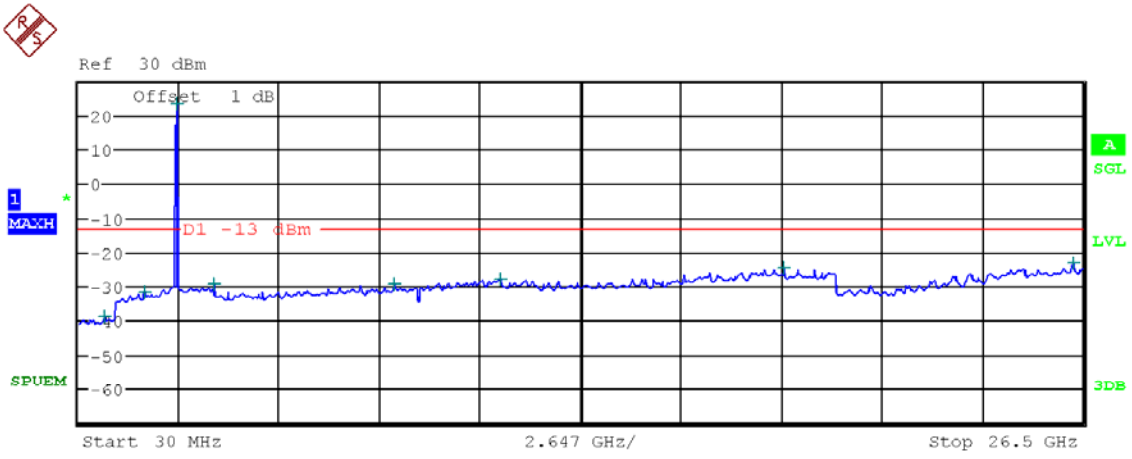


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	100.00 k	748.770000 M	-38.43	-200.00
1.000 G	2.000 G	1.00 M	1.922000 G	-31.91	-200.00
2.000 G	3.000 G	1.00 M	2.599500 G	23.64	-200.00
3.000 G	6.000 G	1.00 M	3.230250 G	-29.86	-200.00
6.000 G	9.000 G	1.00 M	8.469000 G	-29.70	-200.00
9.000 G	12.000 G	1.00 M	10.865700 G	-27.77	-200.00
12.000 G	20.000 G	1.00 M	19.889600 G	-24.81	-200.00
20.000 G	26.500 G	1.00 M	26.492850 G	-24.02	-200.00

5.1 PLOTS OF EMISSIONS (Continued…)

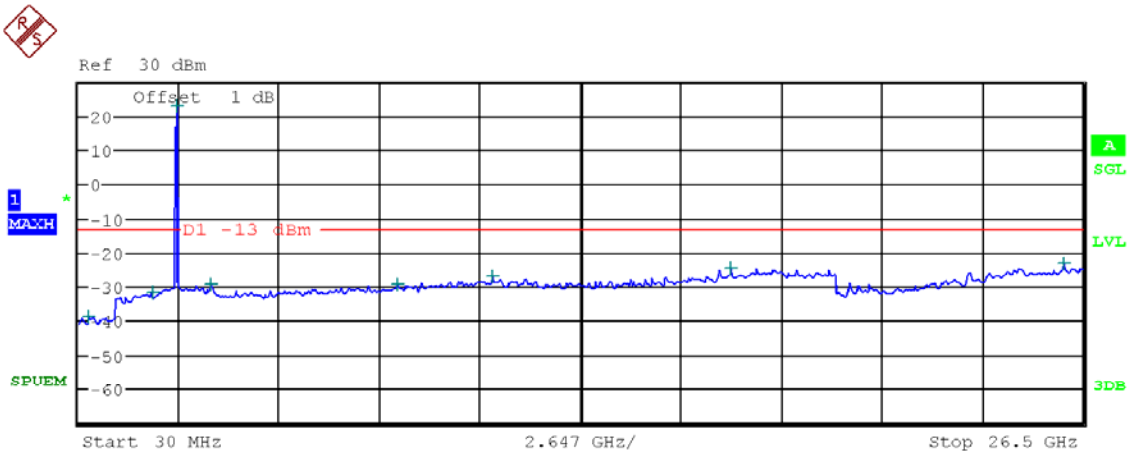
5.1.4 Conducted Spurious Emissions(BW: 10MHz) (Continued…)

- Middle Channel(2600MHz) & PUSC Mode & 16QAM 1/2



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	100.00 k	702.210000 M	-38.94	-200.00
1.000 G	2.000 G	1.00 M	1.771500 G	-31.55	-200.00
2.000 G	3.000 G	1.00 M	2.599000 G	23.34	-200.00
3.000 G	6.000 G	1.00 M	3.595500 G	-29.40	-200.00
6.000 G	9.000 G	1.00 M	8.349300 G	-29.53	-200.00
9.000 G	12.000 G	1.00 M	11.135100 G	-28.10	-200.00
12.000 G	20.000 G	1.00 M	18.592000 G	-24.69	-200.00
20.000 G	26.500 G	1.00 M	26.253000 G	-23.12	-200.00

- Middle Channel(2600MHz) & PUSC Mode & 16QAM 3/4

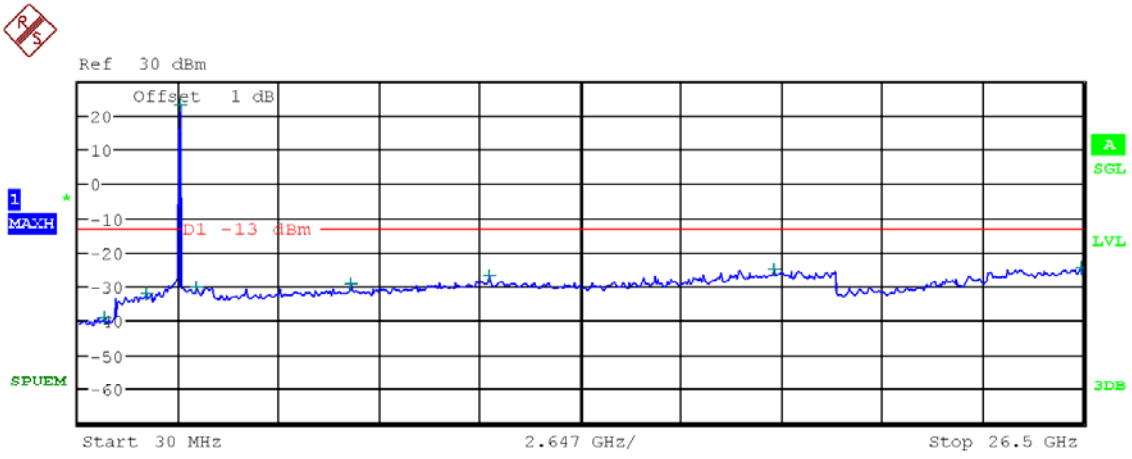


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	100.00 k	288.020000 M	-38.67	-200.00
1.000 G	2.000 G	1.00 M	1.966000 G	-31.92	-200.00
2.000 G	3.000 G	1.00 M	2.600500 G	22.86	-200.00
3.000 G	6.000 G	1.00 M	3.514500 G	-29.53	-200.00
6.000 G	9.000 G	1.00 M	8.424900 G	-29.42	-200.00
9.000 G	12.000 G	1.00 M	10.936200 G	-26.86	-200.00
12.000 G	20.000 G	1.00 M	17.217600 G	-24.80	-200.00
20.000 G	26.500 G	1.00 M	26.000150 G	-23.40	-200.00

5.1 PLOTS OF EMISSIONS (Continued…)

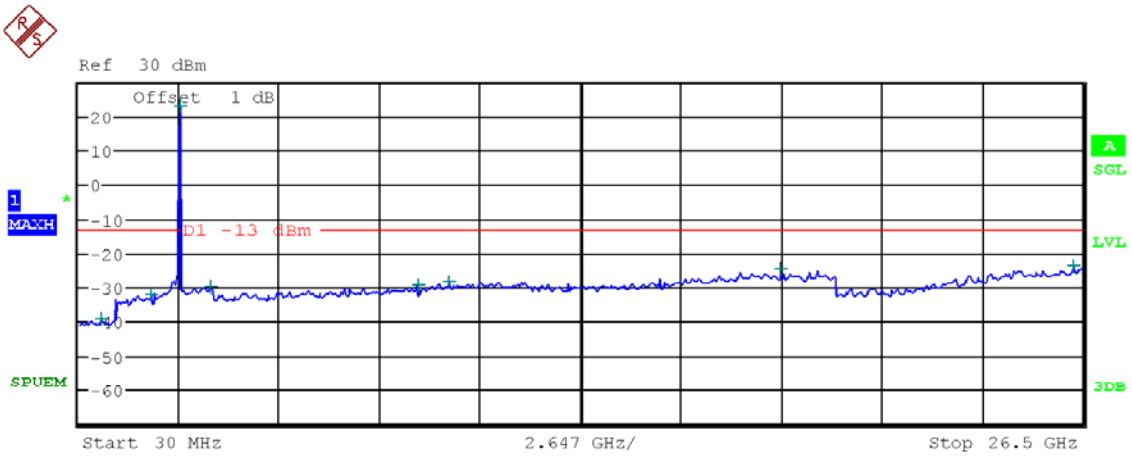
5.1.4 Conducted Spurious Emissions(BW: 10MHz) (Continued…)

- Highest Channel(2685MHz) & PUSC Mode & QPSK 1/2



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	100.00 k	725.490000 M	-39.36	-200.00
1.000 G	2.000 G	1.00 M	1.800000 G	-32.24	-200.00
2.000 G	3.000 G	1.00 M	2.688000 G	22.85	-200.00
3.000 G	6.000 G	1.00 M	3.140250 G	-30.43	-200.00
6.000 G	9.000 G	1.00 M	7.202700 G	-29.59	-200.00
9.000 G	12.000 G	1.00 M	10.861800 G	-27.13	-200.00
12.000 G	20.000 G	1.00 M	18.344800 G	-25.27	-200.00
20.000 G	26.500 G	1.00 M	26.458400 G	-24.55	-200.00

- Highest Channel(2685MHz) & PUSC Mode & QPSK 3/4

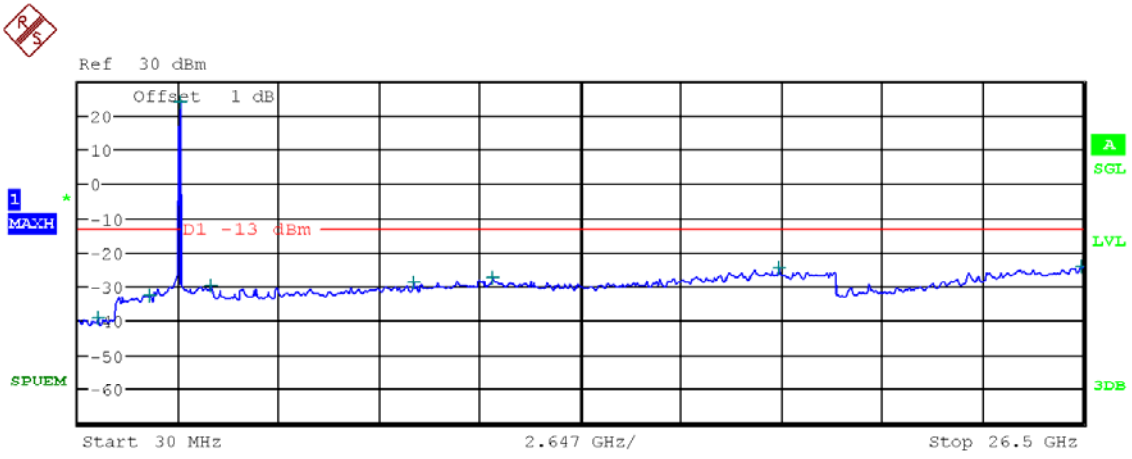


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	100.00 k	644.010000 M	-39.26	-200.00
1.000 G	2.000 G	1.00 M	1.920500 G	-32.21	-200.00
2.000 G	3.000 G	1.00 M	2.682500 G	22.76	-200.00
3.000 G	6.000 G	1.00 M	3.498750 G	-29.67	-200.00
6.000 G	9.000 G	1.00 M	8.963400 G	-29.36	-200.00
9.000 G	12.000 G	1.00 M	9.781200 G	-28.24	-200.00
12.000 G	20.000 G	1.00 M	18.514400 G	-24.89	-200.00
20.000 G	26.500 G	1.00 M	26.237400 G	-23.91	-200.00

5.1 PLOTS OF EMISSIONS (Continued…)

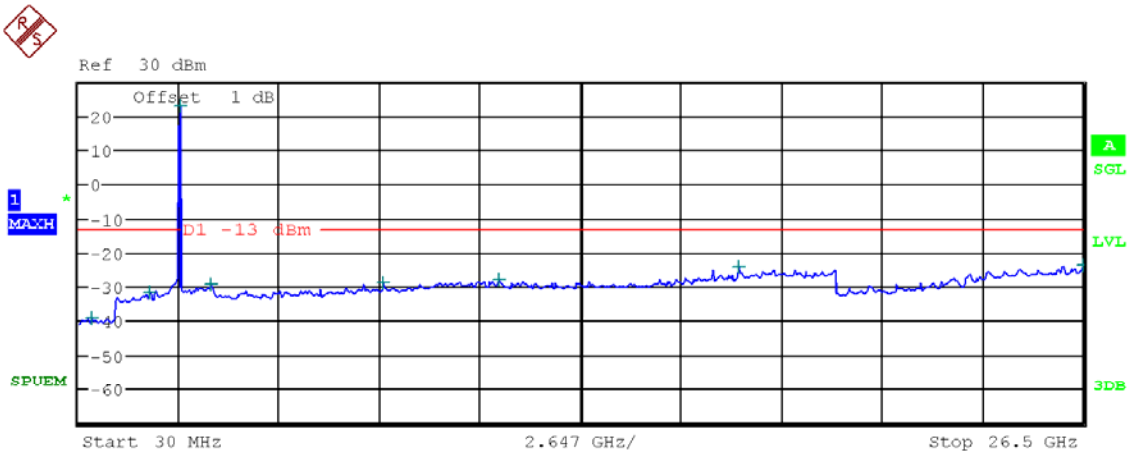
5.1.4 Conducted Spurious Emissions(BW: 10MHz) (Continued…)

- Highest Channel(2685MHz) & PUSC Mode & 16QAM 1/2



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	100.00 k	536.340000 M	-39.35	-200.00
1.000 G	2.000 G	1.00 M	1.875500 G	-32.64	-200.00
2.000 G	3.000 G	1.00 M	2.688000 G	23.54	-200.00
3.000 G	6.000 G	1.00 M	3.518250 G	-29.70	-200.00
6.000 G	9.000 G	1.00 M	8.840400 G	-29.04	-200.00
9.000 G	12.000 G	1.00 M	10.913400 G	-27.72	-200.00
12.000 G	20.000 G	1.00 M	18.484800 G	-24.81	-200.00
20.000 G	26.500 G	1.00 M	26.453850 G	-24.01	-200.00

- Highest Channel(2685MHz) & PUSC Mode & 16QAM 3/4



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
30.000 M	1.000 G	100.00 k	369.500000 M	-39.26	-200.00
1.000 G	2.000 G	1.00 M	1.914000 G	-31.89	-200.00
2.000 G	3.000 G	1.00 M	2.685500 G	22.55	-200.00
3.000 G	6.000 G	1.00 M	3.522750 G	-29.27	-200.00
6.000 G	9.000 G	1.00 M	8.045700 G	-29.13	-200.00
9.000 G	12.000 G	1.00 M	11.104200 G	-28.20	-200.00
12.000 G	20.000 G	1.00 M	17.423200 G	-24.45	-200.00
20.000 G	26.500 G	1.00 M	26.493500 G	-23.89	-200.00

6.1 LIST OF TEST EQUIPMENT

	Type	Manufacturer	Model	Cal.Due.Date (dd/mm/yy)	Next.Due.Date (dd/mm/yy)	S/N
☒	Spectrum Analyzer	Agilent	E4440A	25/09/09	25/09/10	MY45304199
☒	Spectrum Analyzer	Rohde Schwarz	FSQ26	25/02/10	25/02/11	200347
☐	Spectrum Analyzer(RE)	H.P	8563E	13/10/09	13/10/10	3551A04634
☐	Power Meter	H.P	EPM-442A	02/07/09	02/07/10	GB37170413
☐	Power Sensor	H.P	8481A	02/07/09	02/07/10	3318A96332
☐	Power Divider	Agilent	11636B	13/10/09	13/10/10	56471
☒	Power Splitter	Anritsu	K241B	13/10/09	13/10/10	20611
☐	Power Splitter	Anritsu	K241B	02/07/09	02/07/10	017060
☐	Frequency Counter	H.P	5342A	13/07/09	13/07/10	2119A04450
☒	TEMP & HUMIDITY Chamber	JISCO	KR-100/J-RHC2	10/10/09	10/10/10	30604493/021031
☒	Digital Multimeter	H.P	34401A	12/03/10	12/03/11	3146A13475, US36122178
☐	Multifuction Synthesizer	HP	8904A	06/10/09	06/10/10	3633A08404
☒	Signal Generator	Rohde Schwarz	SMR20	12/03/10	12/03/11	101251
☐	Signal Generator	H.P	ESG-3000A	02/07/09	02/07/10	US37230529
☐	Vector Signal Generator	Rohde Schwarz	SMJ100A	11/01/10	11/01/11	100148
☐	Vector Signal Generator	Rohde Schwarz	SMBV100A	23/02/10	23/02/11	255571
☐	Audio Analyzer	H.P	8903B	02/07/09	02/07/10	3011A09448
☐	Modulation Analyzer	H.P	8901B	02/07/09	02/07/10	3028A03029
☐	8960 Series 10 Wireless Comms. Test Set	Agilent	E5515C	02/07/09	02/07/10	GB43461134
☐	Universal Radio communication Tester	Rohde Schwarz	CMU 200	12/03/10	12/03/11	106760
☐	Bluetooth Tester	TESCOM	TC-3000B	02/07/09	02/07/10	3000B000268
☐	Thermo hygrometer	BODYCOM	BJ5478	28/01/10	28/01/11	090205-3
☒	Thermo hygrometer	BODYCOM	BJ5478	28/01/10	28/01/11	090205-2
☐	Thermo hygrometer	BODYCOM	BJ5478	28/01/10	28/01/11	090205-4
☐	AC Power supply	DAEKWANG	5KVA	12/03/10	12/03/11	20060321-1
☒	DC Power Supply	HP	6622A	12/03/10	12/03/11	3448A03760
☒	DC Power Supply	HP	6633A	12/03/10	12/03/11	3524A06634
☐	BAND Reject Filter	Microwave Circuits	N0308372	06/10/09	06/10/10	3125-01DC0352
☐	BAND Reject Filter	Wainwright	WRCG1750	06/10/09	06/10/10	2
☐	High-Pass Filter	ANRITSU	MP526D	06/10/09	06/10/10	M27756
☐	High-pass filter	Wainwright	WHKX2.1	N/A	N/A	1
☒	High-Pass Filter	Wainwright	WHKX3.0	N/A	N/A	9
☐	High-Pass Filter	Wainwright	WHNX5.0	N/A	N/A	8
☐	High-Pass Filter	Wainwright	WHNX8.5	N/A	N/A	1
☐	Tunable Notch Filter	Wainwright	WRCT800.0 /960.0-0.2/40-8SSK	N/A	N/A	32
☐	Tunable Notch Filter	Wainwright	WRCD1700.0 /2000.0-0.2/40-10SSK	N/A	N/A	53
☐	Tunable Notch Filter	Wainwright	WRCT1900.0/ 2200.0-5/40-10SSK	N/A	N/A	30
☒	HORN ANT	ETS	3115	17/06/09	17/06/10	6419
☐	HORN ANT	ETS	3115	23/09/09	23/09/10	21097
☐	HORN ANT	A.H.Systems	SAS-574	10/06/09	10/06/10	154
☐	HORN ANT	A.H.Systems	SAS-574	10/06/09	10/06/10	155

6.1 LIST OF TEST EQUIPMENT (Continued…)

	Type	Manufacturer	Model	Cal.Due.Date (dd/mm/yy)	Next.Due.Date (dd/mm/yy)	S/N
☐	Dipole Antenna	Schwarzbeck	VHA9103	06/10/09	06/10/10	2116
☐	Dipole Antenna	Schwarzbeck	VHA9103	06/10/09	06/10/10	2117
☐	Dipole Antenna	Schwarzbeck	UHA9105	05/10/09	05/10/10	2261
☐	Dipole Antenna	Schwarzbeck	UHA9105	05/10/09	05/10/10	2262
☐	LOOP Antenna	ETS	6502	14/09/09	14/09/10	3471
☐	Coaxial Fixed Attenuators	Agilent	8491B	02/07/09	02/07/10	MY39260700
☒	Attenuator (3dB)	WEINSCHEL	56-3	16/12/09	16/12/10	Y2342
☐	Attenuator (3dB)	WEINSCHEL	56-3	16/12/09	16/12/10	Y2370
☐	Attenuator (10dB)	WEINSCHEL	23-10-34	01/10/09	01/10/10	BP4386
☐	Attenuator (10dB)	WEINSCHEL	23-10-34	11/01/10	11/01/11	BP4387
☐	Attenuator (20dB)	WEINSCHEL	86-20-11	06/10/09	06/10/10	432
☐	Attenuator (10dB)	WEINSCHEL	31696	06/10/09	06/10/10	446
☐	Attenuator (10dB)	WEINSCHEL	31696	06/10/09	06/10/10	408
☐	Attenuator (40dB)	WEINSCHEL	57-40-33	01/10/09	01/10/10	NN837
☐	Attenuator (30dB)	JFW	50FH-030-300	12/03/10	12/03/11	060320-1
☐	Type N Coaxial CIRCULATOR	NOVA MICROWAVE	0088CAN	02/07/09	02/07/10	788
☐	Type N Coaxial CIRCULATOR	NOVA MICROWAVE	0185CAN	02/07/09	02/07/10	790
☐	Type N Coaxial CIRCULATOR	NOVA MICROWAVE	0215CAN	02/07/09	02/07/10	112
☒	Amplifier (30dB)	Agilent	8449B	10/10/09	10/10/10	3008A01590
☐	Amplifier	EMPOWER	BBS3Q7ELU	02/11/09	02/11/10	1020
☐	RF Power Amplifier	OPHIRRF	5069F	02/07/09	02/07/10	1006
☐	EMI TEST RECEIVER	R&S	ESU	29/01/10	29/01/11	100014
☐	BILOG ANTENNA	SCHAFFNER	CBL6112B	02/06/09	02/06/10	2737
☐	Amplifier (22dB)	H.P	8447E	29/01/10	29/01/11	2945A02865
☐	EMI TEST RECEIVER	R&S	ESCI	12/05/10	12/05/11	100364
☒	LOG-PERIODIC ANT.	Schwarzbeck	UHALP9108A	30/05/09	30/05/10	590
☒	BICONICAL ANT.	Schwarzbeck	VHA 9103	02/06/09	02/06/10	2233
☐	LOG-PERIODIC ANT.	Schwarzbeck	UHALP 9108 A-1	07/10/09	07/10/10	1098
☐	BICONICAL ANT.	Schwarzbeck	VHA 9103	06/10/09	06/10/10	91031946
☐	Low Noise Pre Amplifier	TSJ	MLA-100K01-B01-2	12/03/10	12/03/11	1252741
☒	Amplifier (25dB)	Agilent	8447D	12/03/10	12/03/11	2944A10144
☐	Amplifier (25dB)	Agilent	8447D	03/07/09	03/07/10	2648A04922
☐	Spectrum Analyzer(CE)	H.P	8591E	12/03/10	12/03/11	3649A05889
☐	LISN	Kyoritsu	KNW-407	29/01/10	29/01/11	8-317-8
☐	LISN	Kyoritsu	KNW-242	29/01/10	29/01/11	8-654-15
☐	CVCF	NF Electronic	4420	12/03/10	12/03/11	304935/337980
☐	50 ohm Terminator	HME	CT-01	12/01/10	12/01/11	N/A
☐	RFI/FIELD Intensity Meter	Kyoritsu	KNM-2402	03/07/09	03/07/10	4N-170-3
☒	Spectrum Analyzer	Agilent	N9020A	01/07/09	01/07/10	US46470430
☒	Vector Signal Generator	Agilent	N5182A	14/07/09	14/07/10	MY49060318

7.1 EMISSION DESIGNATOR

A. Emission Designator

- Bandwidth: 10MHz

QPSK Modulation

Emission Designator = 9M14G7D

WiMAX BW = 9.1373 MHz
G = Phase Modulation
7 = Quantized/Digital Information
D = Data Transmission

16QAM Modulation

Emission Designator = 9M13W7D

WiMAX BW = 9.1336 MHz
W = Composite – Quadrature Amplitude Modulation
7 = Quantized/Digital Information
D = Data Transmission

8.1 CONCLUSION

The data collected shows that the **EpiValley Co., Ltd.** WiMAX Mobile Hostpot Router (**FCC ID: R2NSWR-8225)** complies with all the requirements of Parts 2 and 27 of the FCC rules.

