

Test Report

From

Kyocera Wireless Corp

FCC Part 22 & 24 Certification IC RSS-129 & 133
FCC ID: OVFKWC-KE4X4 Model: KE434

STATEMENT OF CERTIFICATION	
<i>The data, data evaluation and equipment configuration represented herein are a true and accurate representation of the measurements of the sample's radio frequency interference emissions characteristics as of the dates and at the times of the test under the conditions herein specified.</i>	
Test performed by:	Kyocera Wireless Corp 10300 Campus Point Drive CA 92121
Report Prepared by:	Vijay Parpia Engineer, Senior
Tests that required an OATS site were performed by TUV Product Services.	

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1 General Information

Applicant:	Kyocera Wireless Corp 10300 Campus Point Drive San Diego CA 92121			
FCC ID:	OVFKWC-KE4X4			
Product:	Dual-Band Tri-mode Cellular Phone			
Model Number:	KE434			
EUT Serial Number:	R3YM			
Type:	[] Prototype, [X] Pre-Production, [] Production			
Device Category:	Portable			
RF Exposure Environment:	General Population / Uncontrolled			
Antenna:	Fixed Helix			
Detachable Antenna:	Yes			
External Input:	Audio/Digital Data			
Quantity:	Quantity production is planned			
FCC Rule Parts:	§22H	§22H	§22.901(d)	§24E
Modes:	800 AMPS	800 CDMA	800 CDMA1X	1900 CDMA
Multiple Access Scheme:	FDMA	CDMA	CDMA	CDMA
TX Frequency (MHz):	824 - 849	824 – 849	824 - 849	1850 - 1910
Emission Designators:	40K0F8W, 40K0F1D, 1M25F9W			
Max. Output Power (W)	0.316 ERP	0.324 ERP		0.417 EIRP

Note: Max. power value is below or within 5% of original certified value

2 Product Description

The phone is a single board Tri-mode 1XRTT product that integrates Assisted GPS capability to meet the emergency location requirements of the FCC’s E911 Phase II mandate. The Tri-mode architecture is defined as 1900MHz (PCS CDMA), 800MHz (cellular CDMA and AMPS). The phone will support certain CDMA2000 radio-configurations (RC) as describes in original application (operation description).

Model KE434 belongs to the KE4X4 equipment family. It is identical in term of RF, PCB design and construction to the previous certified phones model KE414 and KE424C. The only difference is the front housing cosmetic design and front housing metal bracket. KE434 consist of a gray-scale LCD display.

3 Electronic Serial Numbers (ESN) Protection

The Trimode Phones,FCC ID: OVFKWC-KE4X4 uses ESN. The ESN is a unique identification number to each phone which is contained in the Numeric Assignment Module and is automatically transmitted to the base station whenever a call is placed. The ESN is stored in an EPROM and is isolated from fraudulent contact and tampering. Any attempt to change the ESN will render the portable phone inoperative.

The phone complies with all requirements for ESN under Part 22.919.

4 FCC Compliance Emergency 911

FCC § 22.921
When an emergency 911 call is originated by the user, the mobile will attempt to acquire any available system and originate the emergency call on that system, disregarding restrictions set by the roaming list. The FCC NPRM WT99-13, CC94-102 automatic analog A/B roaming option has been implemented for 911 emergency calls. Note that the KE434 has Global Positioning System (GPS) support.

5 TTY compliance

FCC § 255 of the Telecom Act
KE434 has been designed for TTY Compliance with Cellular Compatibility Standard.

6 Transmitter RF Power Output

6.1 Conducted Power

FCC: § 2.1046	IC: RSS-129 §7.1, RSS-133 §6.2
Measurement Procedures:	
The RF output power was measured using a Giga-tronics 8541C Universal Power Meter and HP 8594E Spectrum Analyzer that has the CDMA personality option. Terminated to a resistive coaxial load of 50 ohms.	

Mode	Frequency (MHz)	Channel	Power (dBm)
AMPS	824.04	991	25.04
	836.49	383	25.05
	848.97	799	25.06
CDMA 800	824.70	1013	25.09
	836.52	384	25.08
	848.31	777	25.09
CDMA 1900	1851.25	25	23.03
	1880.00	600	23.06
	1908.75	1175	23.04

6.2 Radiated Power

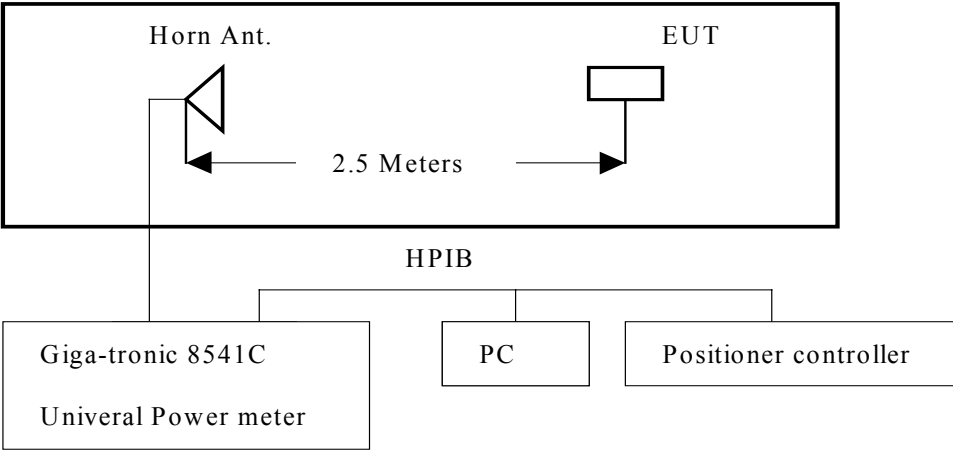
FCC: § 22.913, § 24.232	IC: RSS-129 §7.1 and §9.1, RSS-133 §6.2
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Measurement Procedures:

The EUT was positioned on a 2-axis non-conductive positioner inside a 10-meter anechoic chamber.

The EUT conducted power was set by the phone control software. During tests, the phone was rotated 360 degree in azimuth and elevation by an automated antenna measurement workstation. Maximum radiated power was recorded using a Giga-tronics 8541C Universal Power Meter. All measurement results are EIRP in dBm. For ERP, subtract 2.1 dB from the EIRP data.

Anechonic Chamber



Mode	Frequency (MHz)	Channel	Max. Power (dBm)	Ref.
AMPS	824.04	991	24.0	ERP
	836.49	383	24.1	
	848.97	799	25.0	
CDMA 800	824.70	1013	23.7	ERP
	836.52	384	24.0	
	848.31	777	25.1	
CDMA 1900	1851.25	25	25.7	EIRP
	1880.00	600	26.1	
	1908.75	1175	26.2	

Note: Max. power value is below or within 5% of original certified value

7 Transmitter Radiated Spurious Emissions Measured Data

FCC: § 2.1053, § 22.91, § 24.238	IC: RSS-129 §8.1, RSS-133 §6.3
Measurement Procedures: The radiated spurious emission test was performed at TUV in San Diego, California. The test report is attached in a separate attachment.	

8 Receiver Spurious Emissions

FCC: § 15.109	IC: RSS-129 §10, RSS-133 §9
Measurement Procedures: The receiver radiated spurious emission test was performed at TUV in San Diego, California. The test report is attached in a separate attachment.	

9 Block Edge Compliance

9.1 CDMA 1900 Mode

FCC: § 24.238a	IC: RSS-133 §6.3
Measurement Procedures: The RF output of the EUT was connected to the input of the spectrum analyzer with sufficient attenuation. During tests, the EUT was modulated with full rate.	

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Figure	Mode	Description
9.1-1	CDMA 1900	Block A Lower edge, Channel 25
9.1-2		Block A Upper edge, Channel 275
9.1-3		Block D Lower edge, Channel 325
9.1-4		Block D Upper edge, Channel 375
9.1-5		Block B Lower edge, Channel 425
9.1-6		Block B Upper edge, Channel 675
9.1-7		Block E Lower edge, Channel 725
9.1-8		Block E Upper edge, Channel 775
9.1-9		Block F Lower edge, Channel 825
9.1-10		Block F Upper edge, Channel 875
9.1-11		Block C Lower edge, Channel 925
9.1-12		Block C Upper edge, Channel 1175

Figure 9.1-1 Block A Lower edge, Channel 25

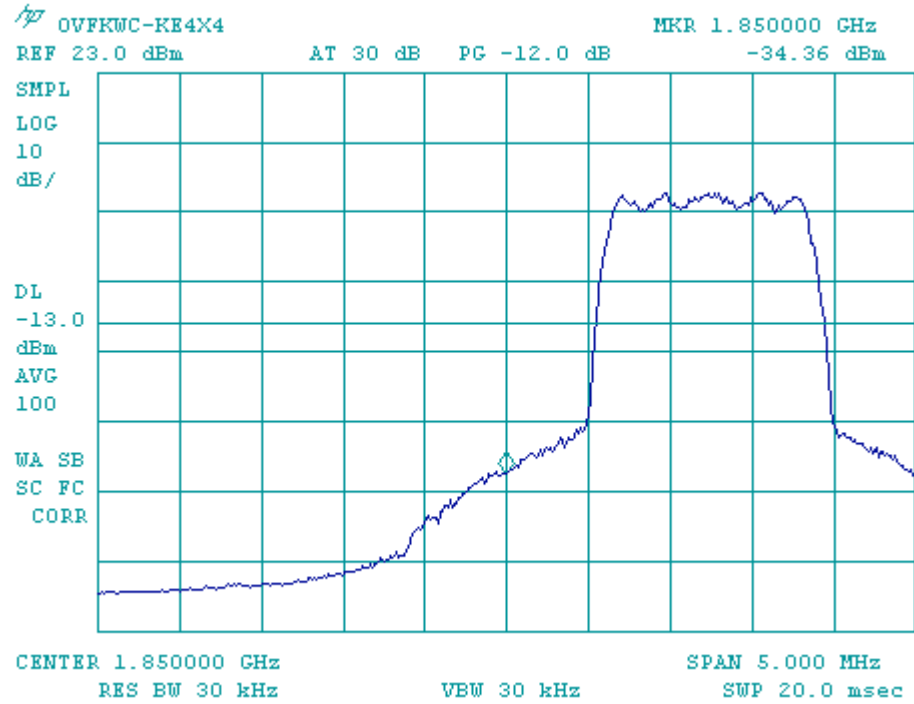


Figure 9.1-2 Block A Upper edge, Channel 275

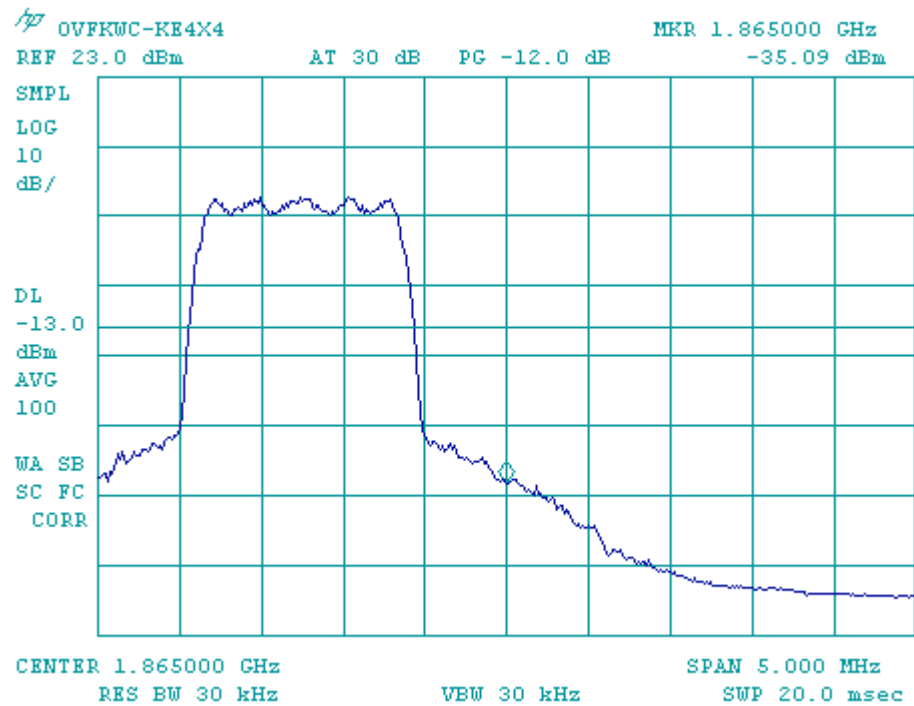


Figure 9.1-3 Block D Lower edge, Channel 325

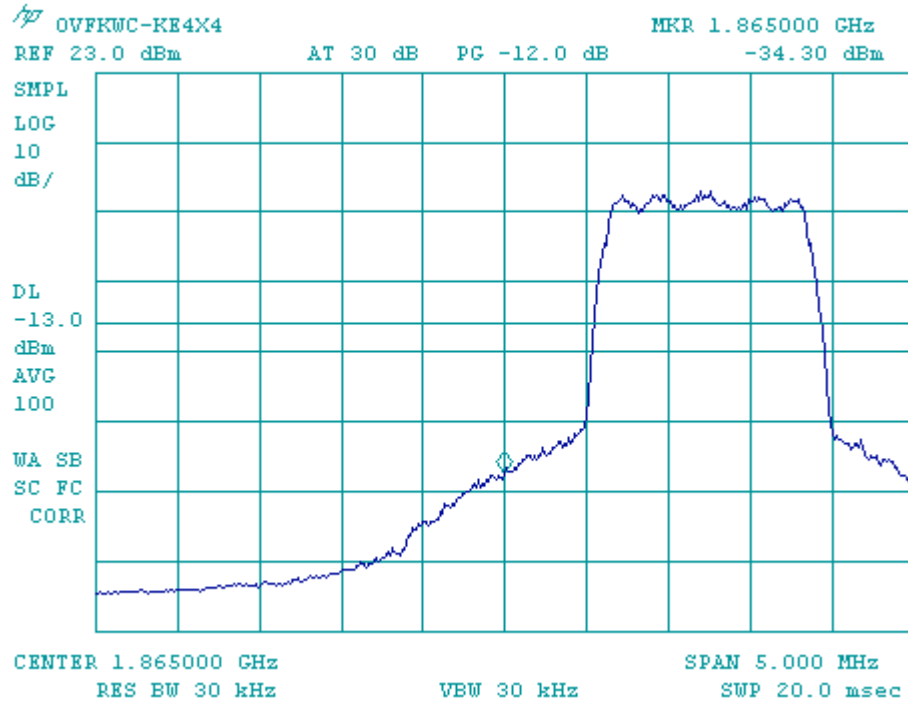


Figure 9.1-4 Block D Upper edge, Channel 375

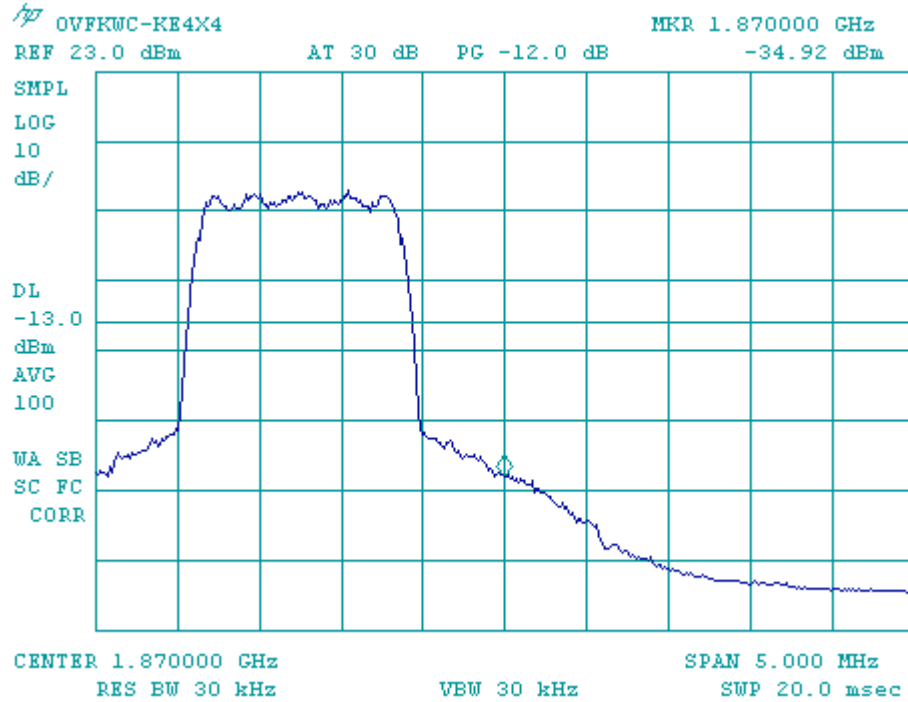


Figure 9.1-5 Block B Lower edge, Channel 425

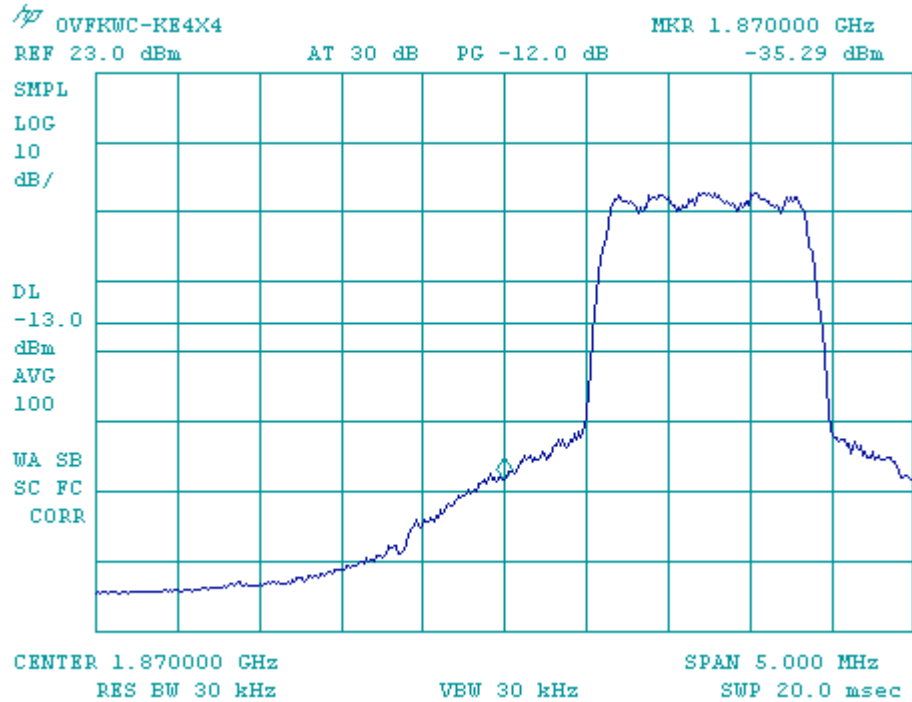


Figure 9.1-6 Block B Upper edge, Channel 675

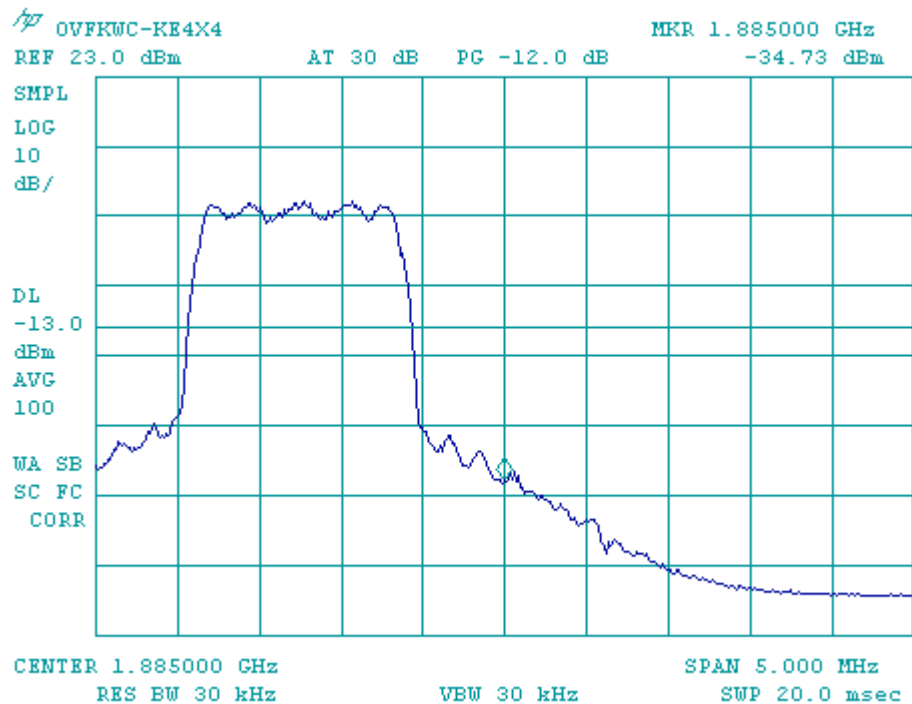


Figure 9.1-7 Block E Lower edge, Channel 725

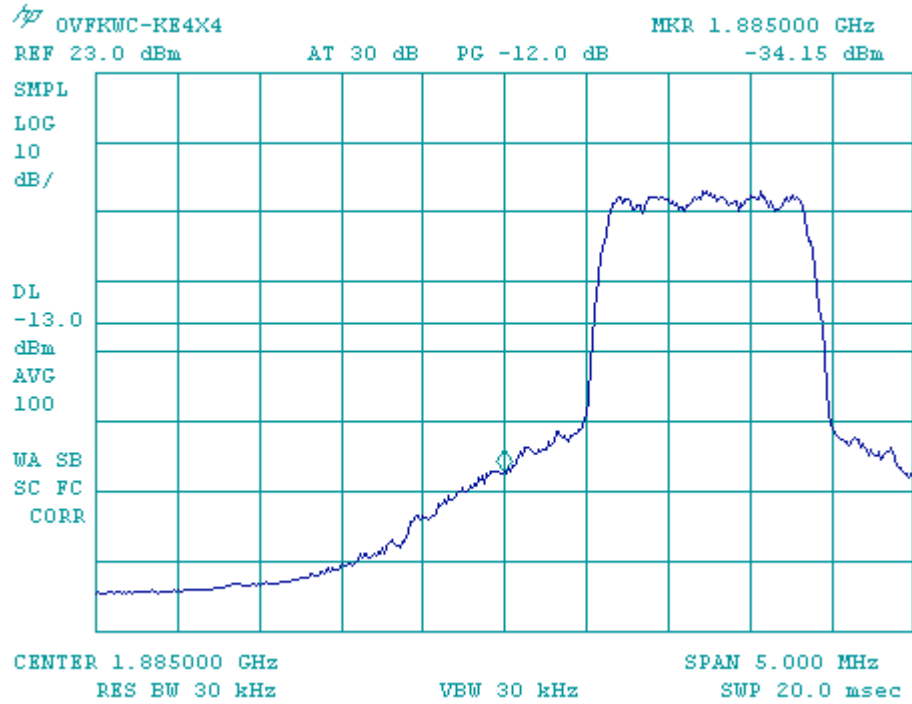


Figure 9.1-8 Block E Upper edge, Channel 775

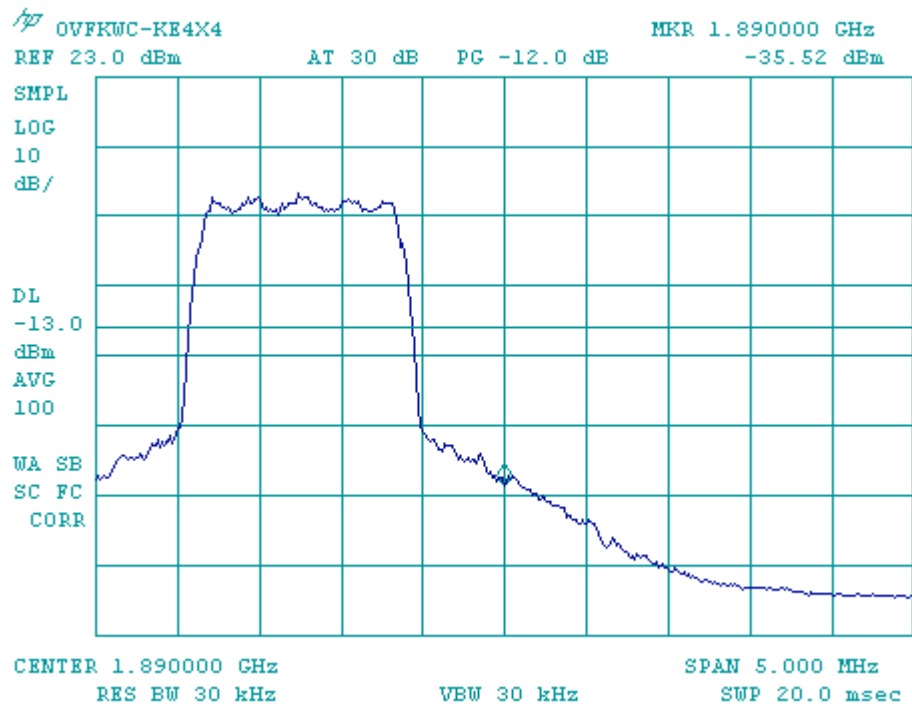


Figure 9.1-9 Block F Lower edge, Channel 825

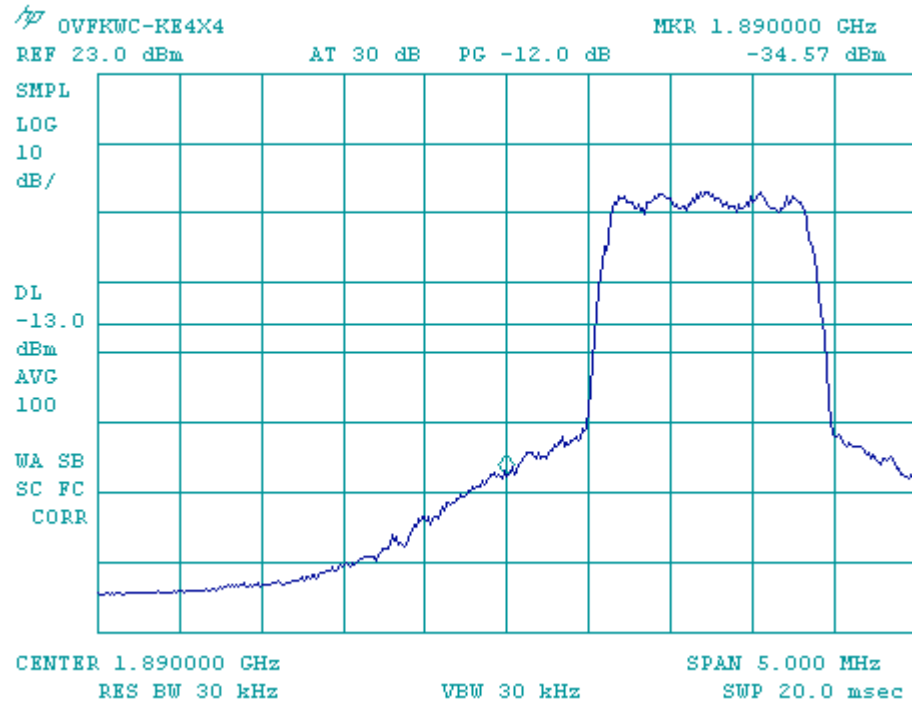


Figure 9.1-10 Block F Upper edge, Channel 875

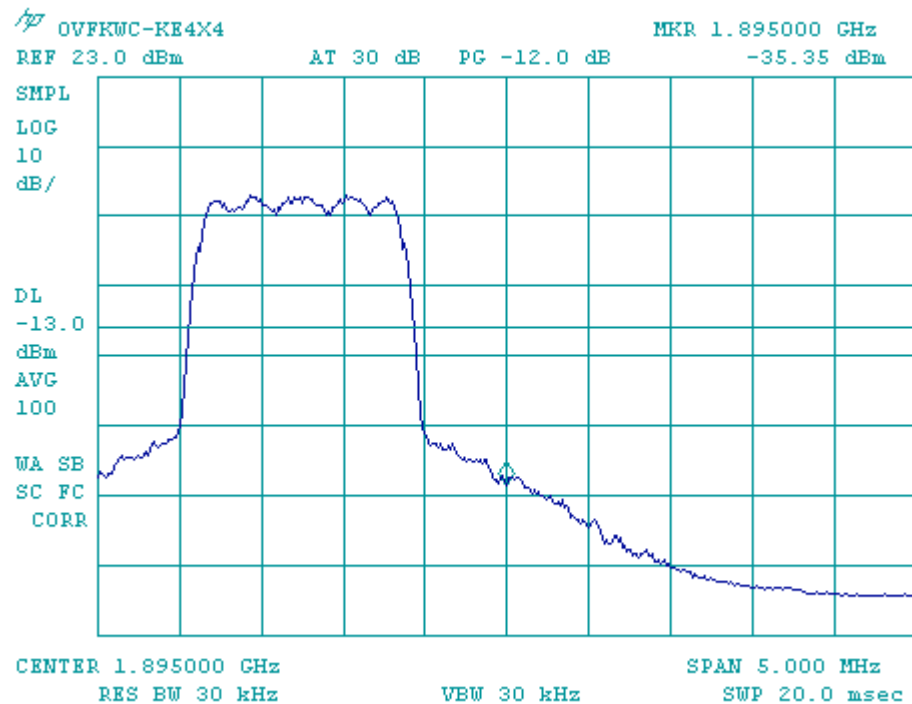


Figure 9.1-11 Block C Lower edge, Channel 925

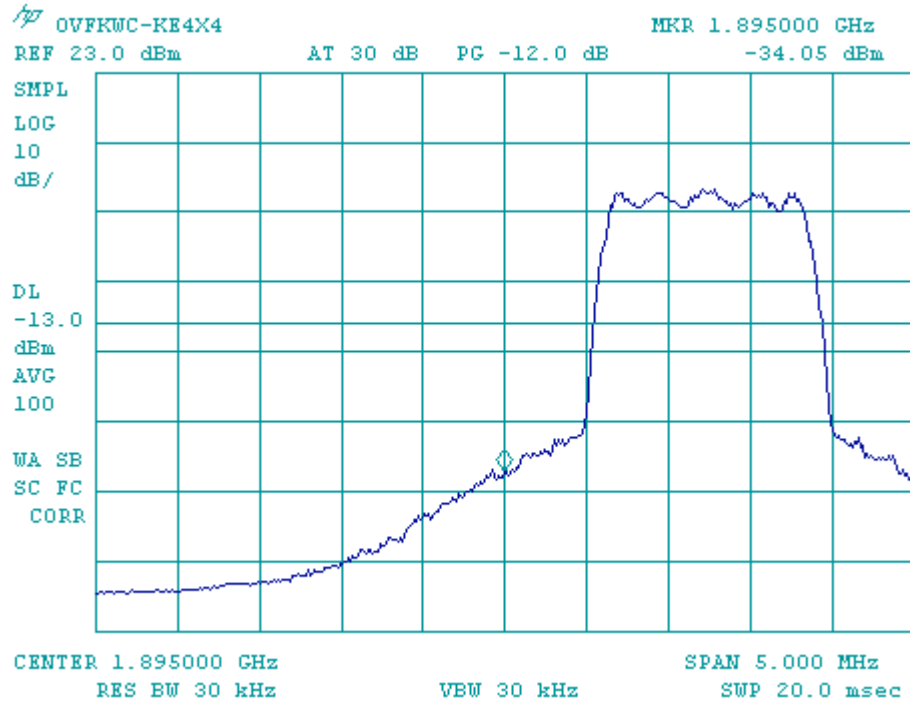
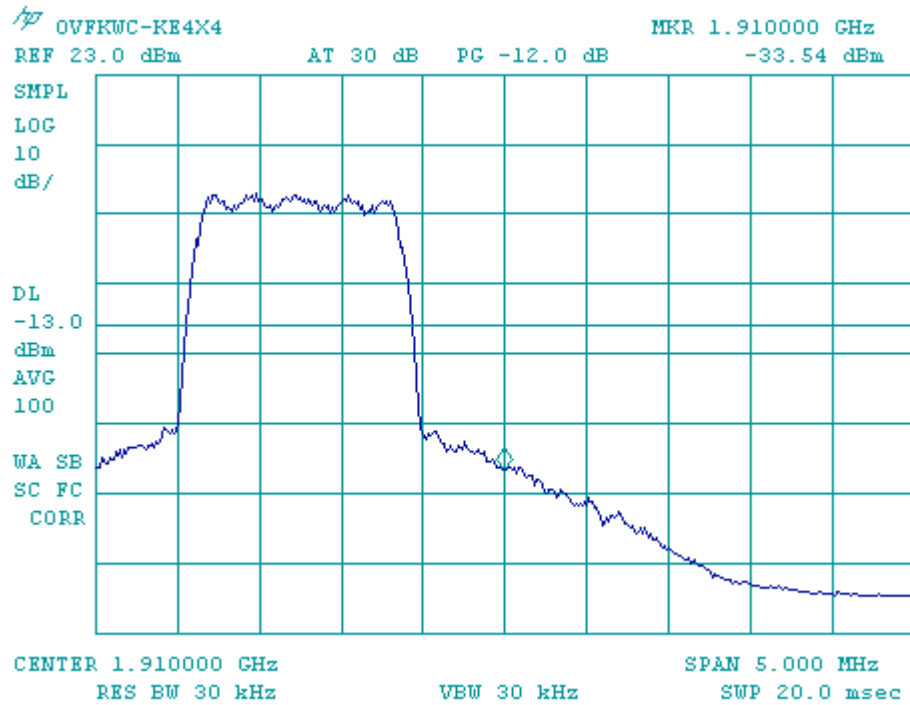


Figure 9.1-12 Block C Upper edge, Channel 1175



9.2 CDMA 800 Mode

FCC: § 22.917	IC: RSS-129
Measurement Procedures: The RF output of the EUT was connected to the input of the HP8594E spectrum analyzer with sufficient attenuation. During tests, the EUT was modulated with full rate.	

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Figure	Mode	Description
9.2-1	CDMA 800	Block A Lower edge, Channel 1013
9.2-2		Block A Upper edge, Channel 310
9.2-3		Block B Lower edge, Channel 357
9.2-4		Block B Upper edge, Channel 643
9.2-5		Block A Lower edge, Channel 690
9.2-6		Block B Lower edge, Channel 740
9.2-7		Block A Upper edge, Channel 693
9.2-8		Block B Upper edge, Channel 777

Figure 9.2-1 Block A Lower edge, Channel 1013

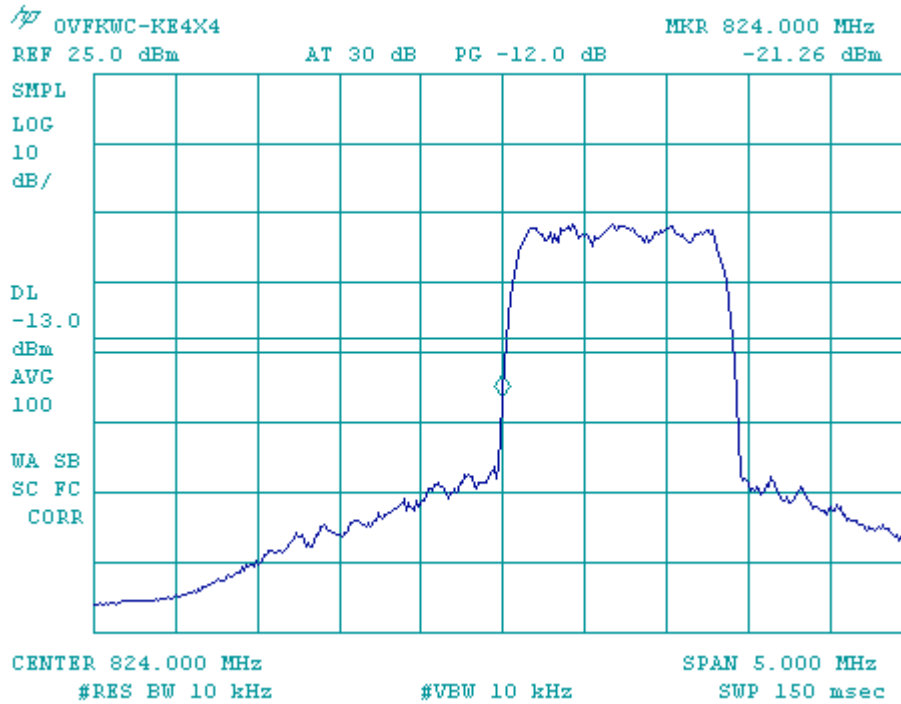


Figure 9.2-2 Block A Upper edge, Channel 310

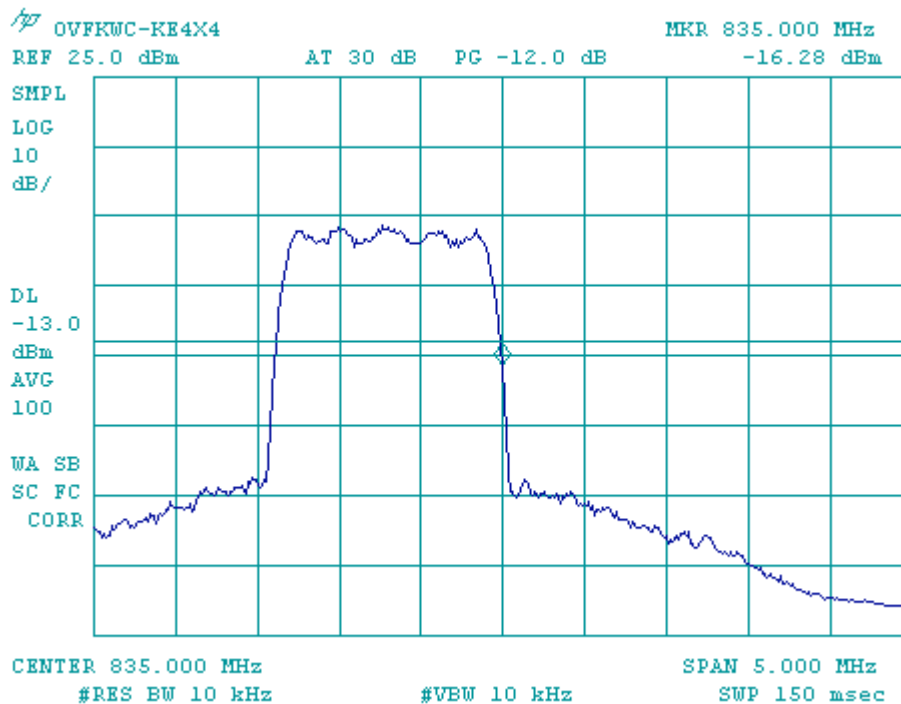


Figure 9.2-3 Block B Lower edge, Channel 357

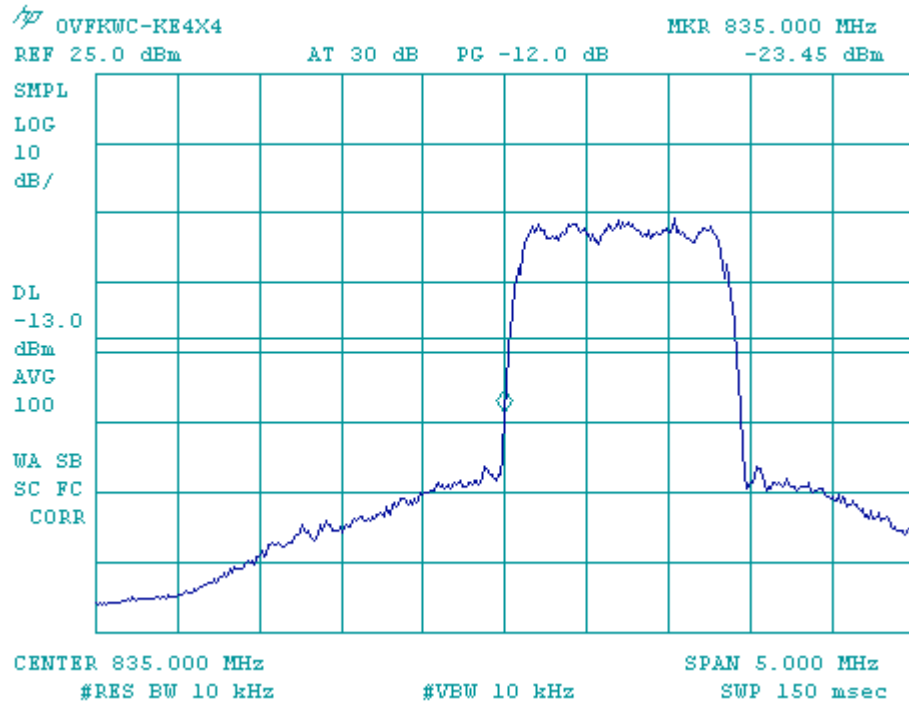


Figure 9.2-4 Block B Upper edge, Channel 643

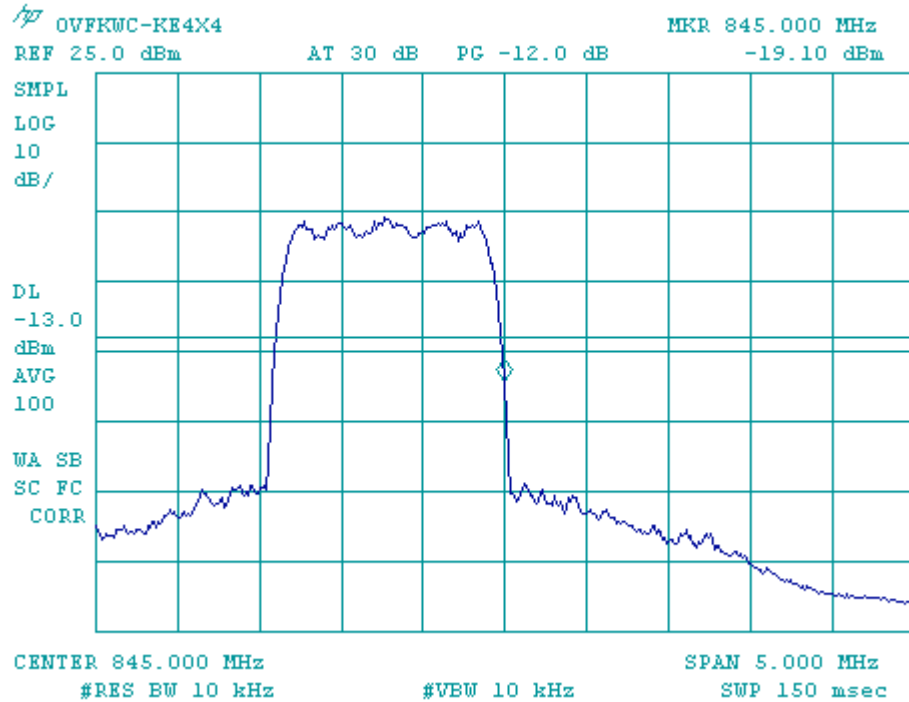


Figure 9.2-5 Block A Lower edge, Channel 690

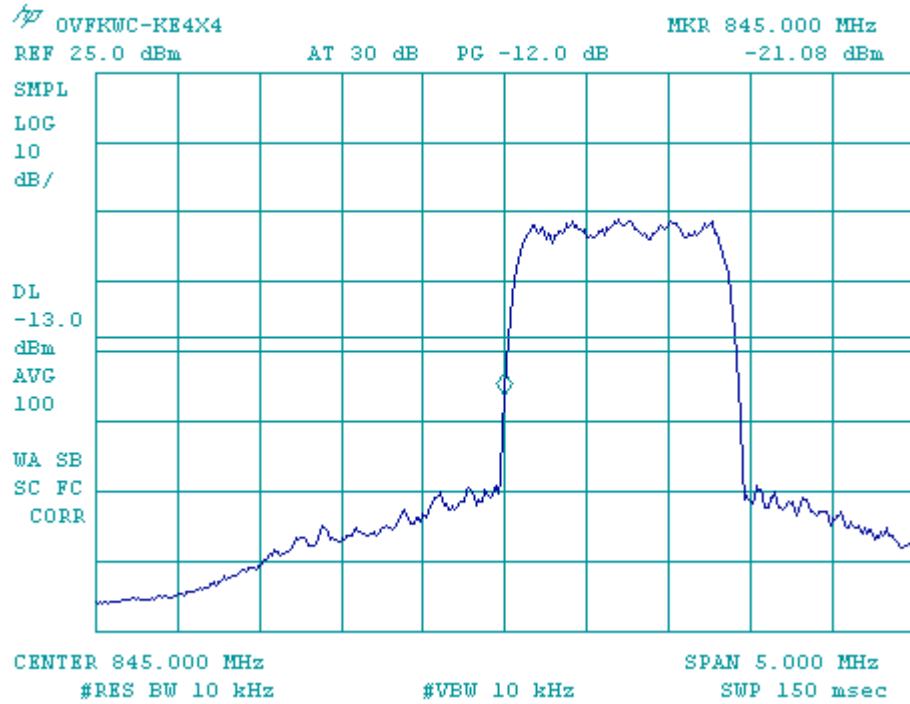


Figure 9.2-6 Block B Lower edge, Channel 740

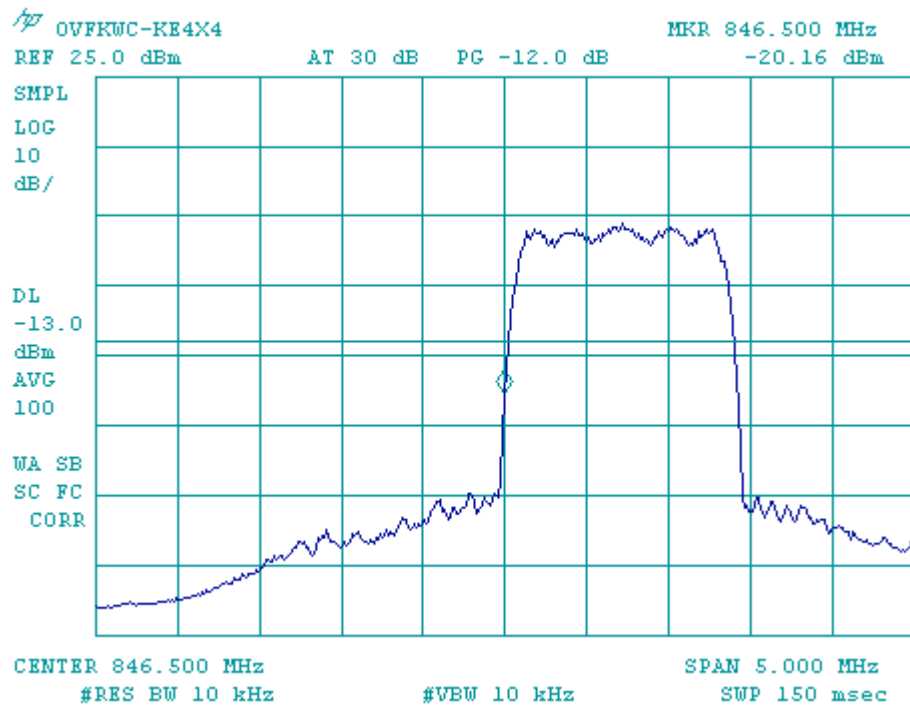


Figure 9.2-7 Block A Upper edge, Channel 693

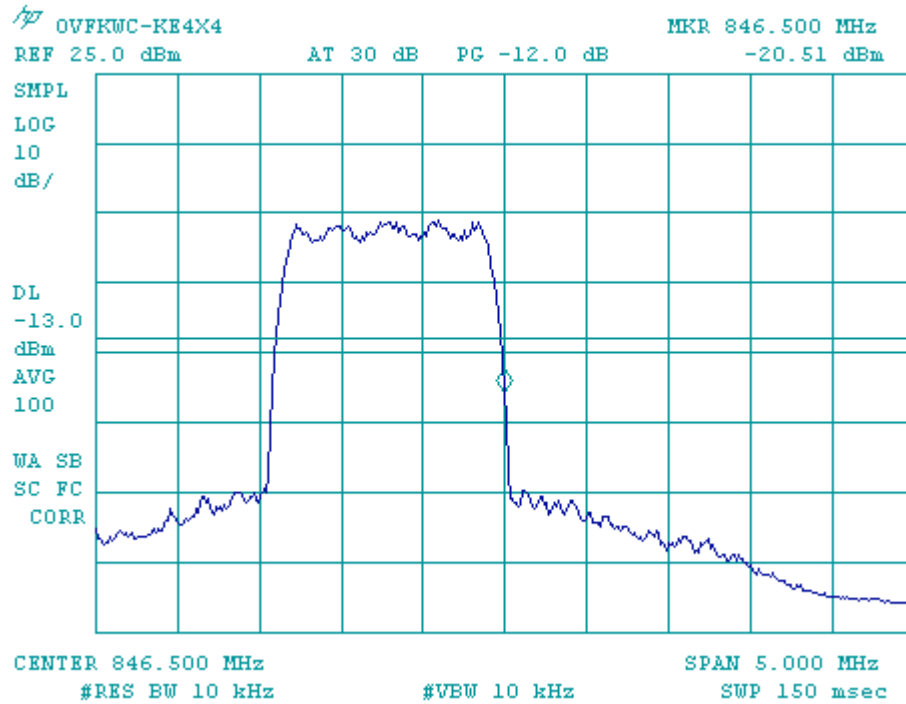
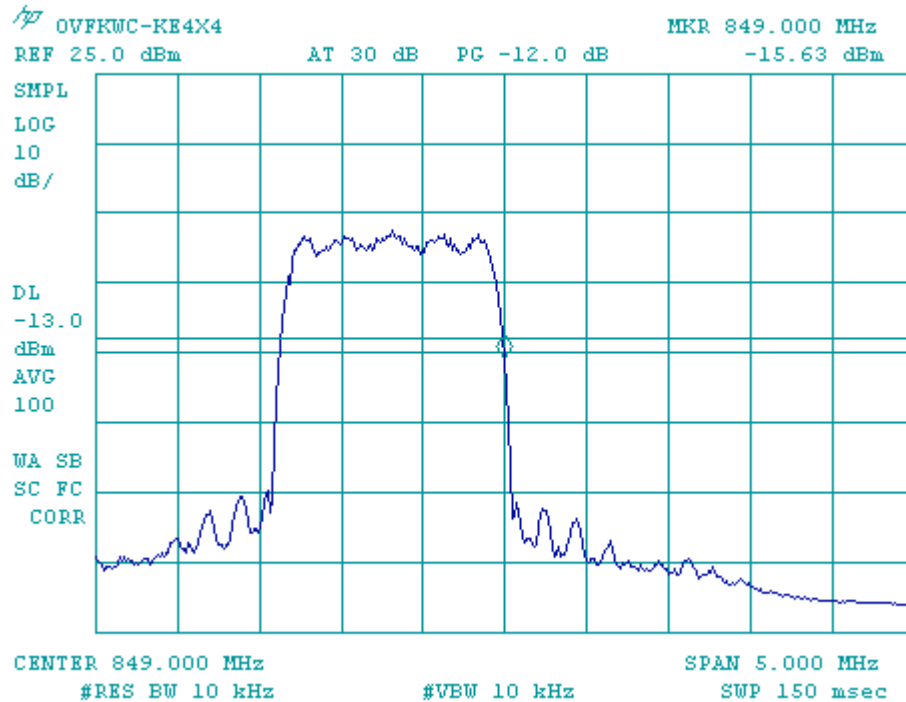


Figure 9.2-8 Block B Upper edge, Channel 777



9.3 AMPS Mode

FCC: § 22.917	IC: RSS-129
Measurement Procedures: The RF output of the EUT was connected to the input of the spectrum analyzer with sufficient attenuation. The spectrum with no modulation was recorded. For Amps: Modulate with ST + SAT	

List of Figures

Figure	Mode	Description
9.3-1	AMPS	Block A Lower edge, Channel 991
9.3-2		Block A Upper edge, Channel 332
9.3-3		Block B Lower edge, Channel 335
9.3-4		Block B Upper edge, Channel 665
9.3-5		Block A Lower edge, Channel 668
9.3-6		Block B Lower edge, Channel 718
9.3-7		Block A Upper edge, Channel 715
9.3-8		Block B Upper edge, Channel 799

Figure 9.3-1 Block A Lower edge, Channel 991

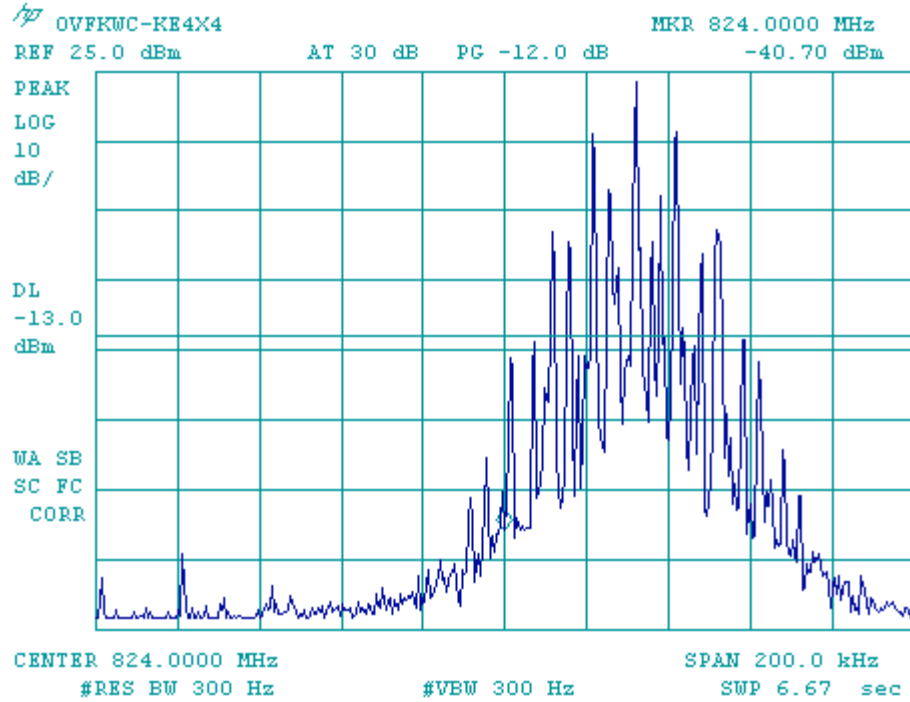


Figure 9.3-2 Block A Upper edge, Channel 332

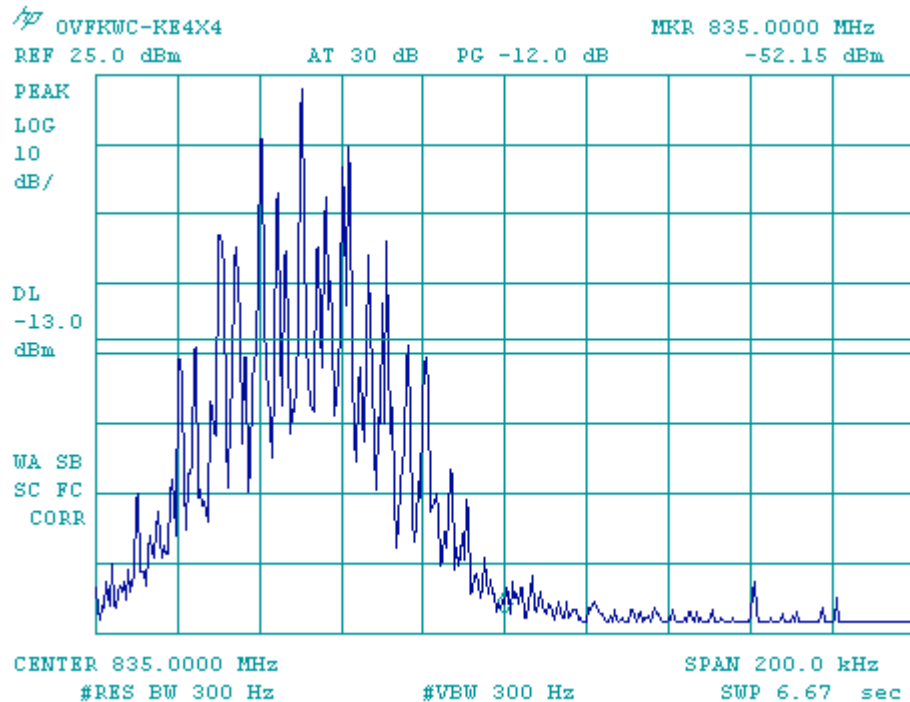


Figure 9.3-3 Block B Lower edge, Channel 335

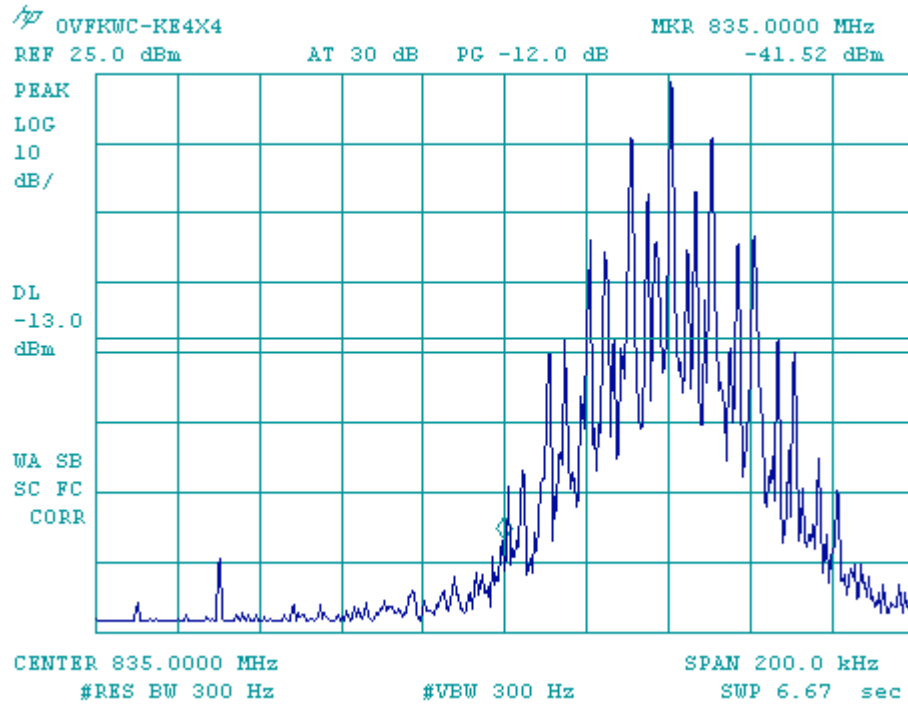


Figure 9.3-4 Block B Upper edge, Channel 665

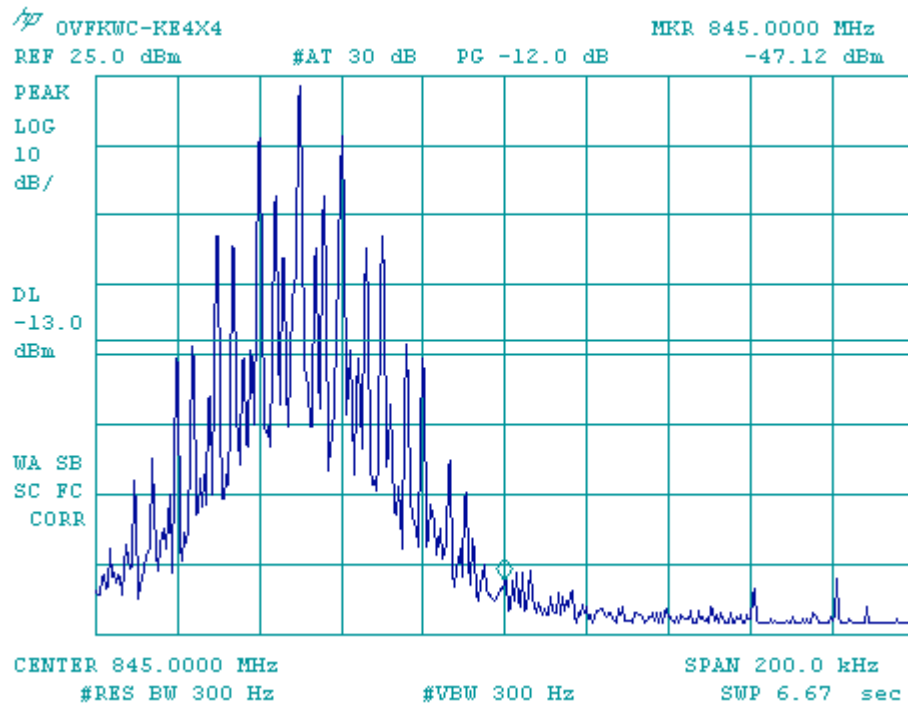


Figure 9.3-5 Block A Lower edge, Channel 668

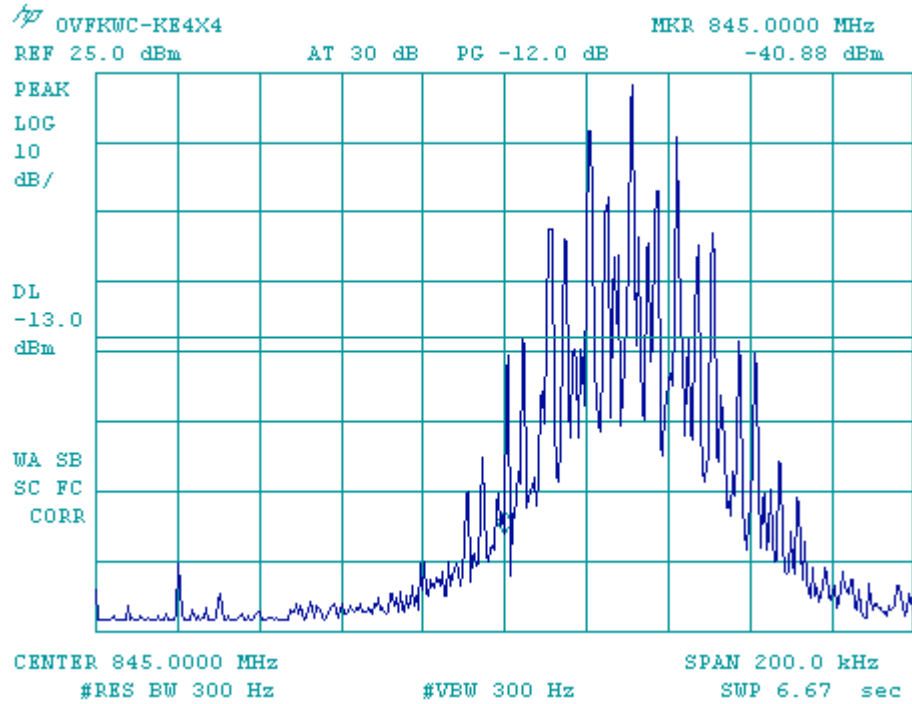


Figure 9.3-6 Block B Lower edge, Channel 718

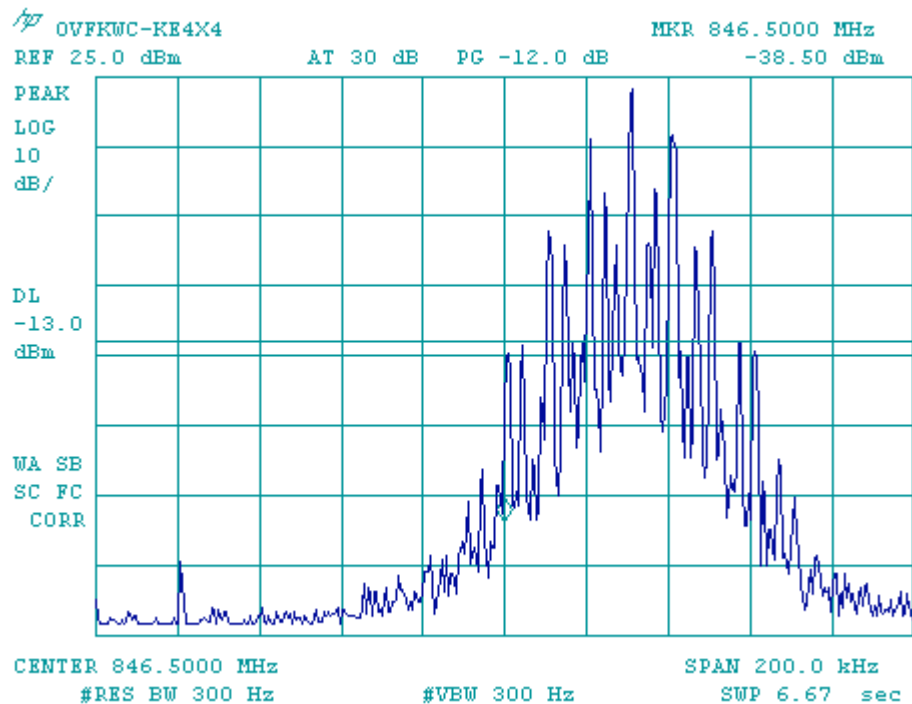


Figure 9.3-7 Block A Upper edge, Channel 715

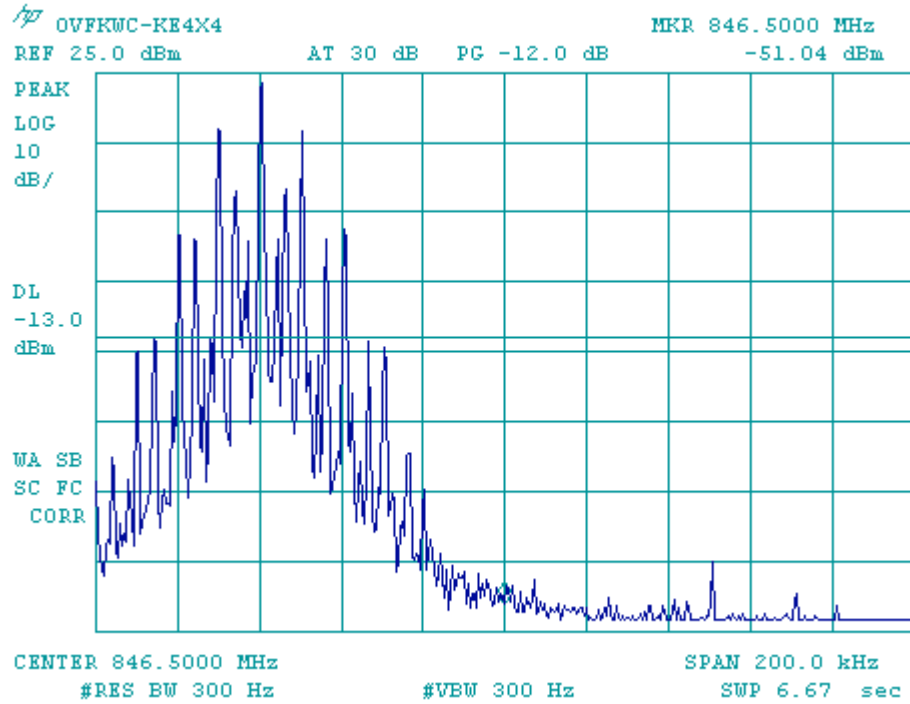
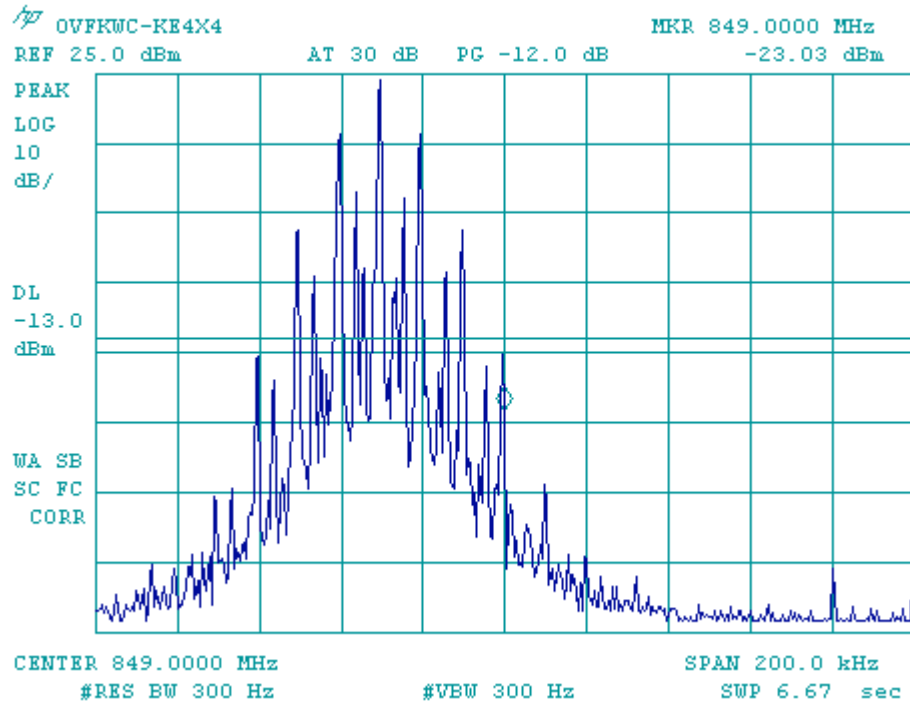


Figure 9.3-8 Block B Upper edge, Channel 799



10 Exposure of Humans to RF Fields (SAR)

The SAR Test Report is showed in a separate attachment as Exhibit 9.

11 Test Equipment

Description	Manufacturer	Model Number	Serial Number	Cal Due Date
Power Meter	Giga-tronics	8541C	1835203	01/04/04
Spectrum Analyzer	Hewlett Packard	8593EM	3710A00203	04/15/04
Spectrum Analyzer	Hewlett Packard	8594E	3810A06429	11/19/03
Wireless Communications Test Set	Agilent	8960	GB41251014	11/15/03