

NOTES:

**§ 74.637 Emissions and emission limitations.**

(a) The mean power of emissions shall be attenuated below the mean transmitter power (PMEAN) in accordance with the following schedule:

(1) When using frequency modulation:

(i) On any frequency removed from the assigned (center) frequency by more than 50% up to and including 100% of the authorized bandwidth: At least 25 dB in any 100 kHz reference bandwidth (BREF);

(ii) On any frequency removed from the assigned (center) frequency by more than 100% up to and including 250% of the authorized bandwidth: At least 35 dB in any 100 kHz reference bandwidth;

(iii) On any frequency removed from the assigned (center) frequency by more than 250% of the authorized bandwidth: At least  $43 + 10 \log_{10}(\text{PMEAN in watts})$  dB, or 80 dB, whichever is the lesser attenuation, in any 100kHz reference bandwidth.

(2) For Digital Modulation:

(i) For operating frequencies below 15 GHz, in any 4 kHz reference bandwidth (BREF), the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 50 decibels:

$$A = 35 + 0.8(G - 50) + 10 \log_{10} B.$$

(Attenuation greater than 80 decibels is not required.)

Where:

A = Attenuation (in decibels) below the mean output power level.

G = Percent removed from the carrier frequency.

B = Authorized bandwidth in megahertz.

Compliance curves drawn at  $A(\text{dB}) = 35 + 0.8(G - 50) + 10 \log B - 13.9$

Where:

A= Attenuation required

G= percent of bandwidth removed from carrier

B=authorized Bandwidth in Mhz

Compliance curves include the compliance factor for measurements made with a 100KHz resolution bandwidth which is:

$$10 \log ( B_{RES} / B_{REF} ) = 10 \log ( 4E3 / 100E3 ) = -13.9\text{db}$$

**Reference Level Offset Note:**

**The following Measurements were made with the transmitter output connected to a 20 db directional coupler connected to the spectrum analyzer by a three foot coaxial cable. The thru path of the directional coupler was connected directly to a 30 db attenuator connected to a power meter used to monitor the output power. A 21dB reference level offset was entered into the spectrum analyzer in order to show the true output level of the Transmitter.**

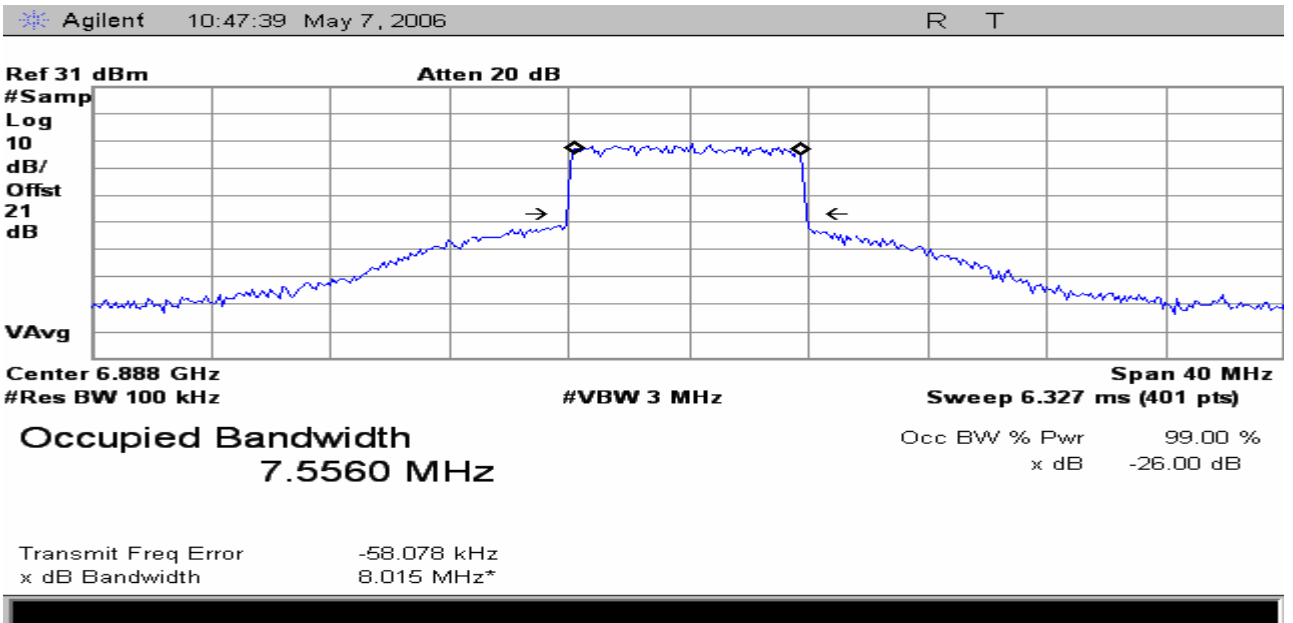
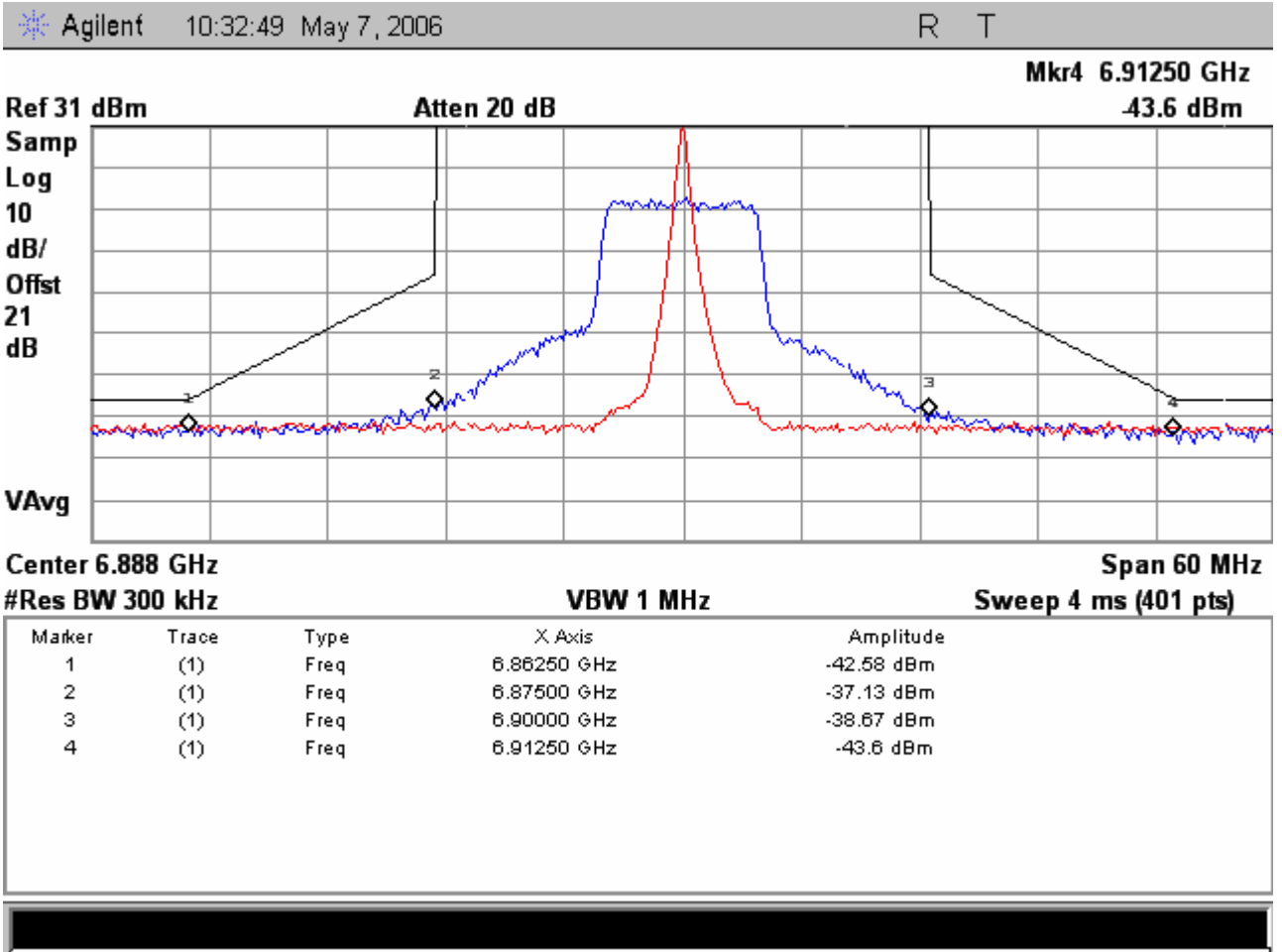


Figure 1  
Occupied Bandwidth measurement; Modulation overlaying Mask and measured Power Bandwidth. COFDM modulation, 8 MHz 16QAM color Bars with Audio Channel 1 , 7 GHz Band 25 MHz Channels

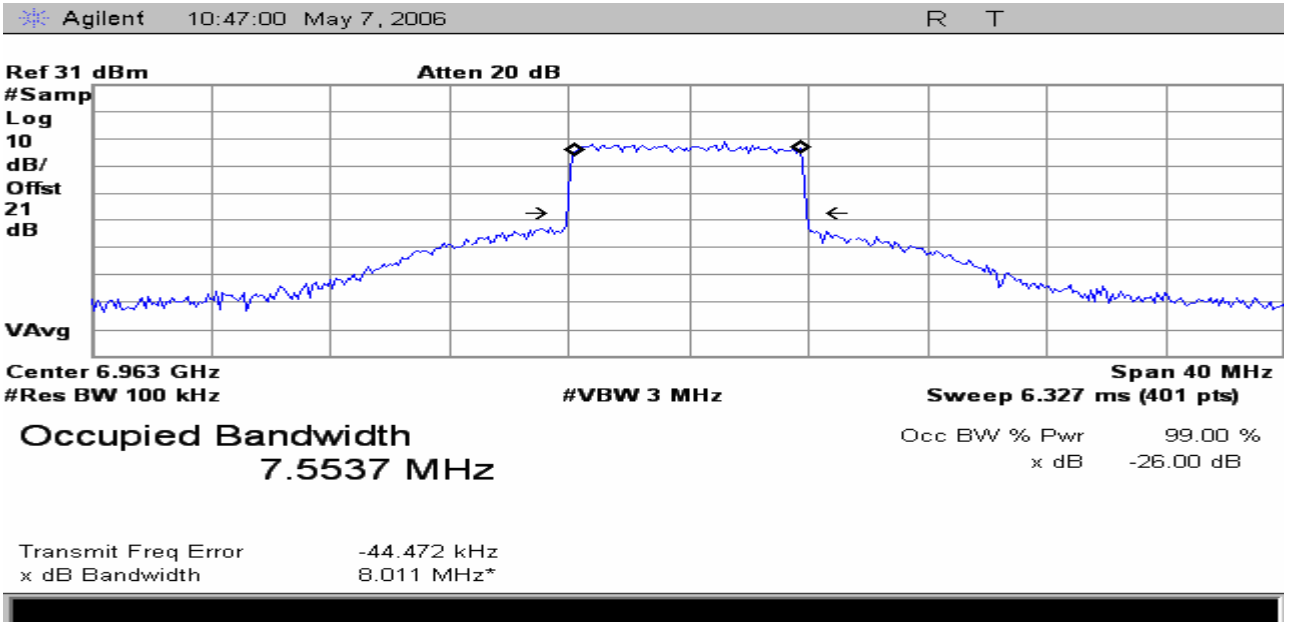
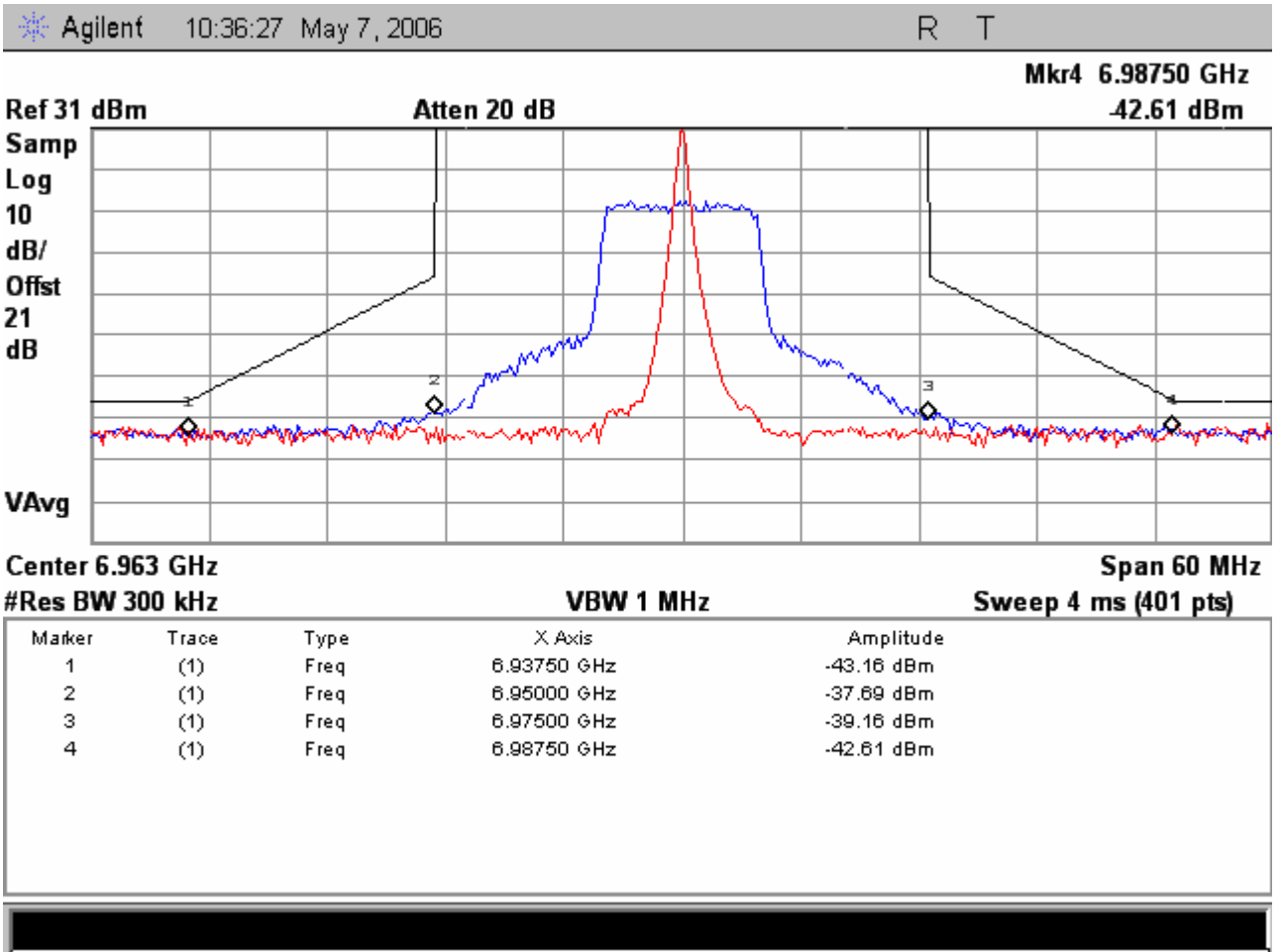


Figure 2  
 Occupied Bandwidth measurement; Modulation overlaying Mask and measured Power Bandwidth. COFDM modulation, 8 MHz 16 QAM, Color Bars with Audio Channel 4 , 7 GHz Band 25 MHz Channels

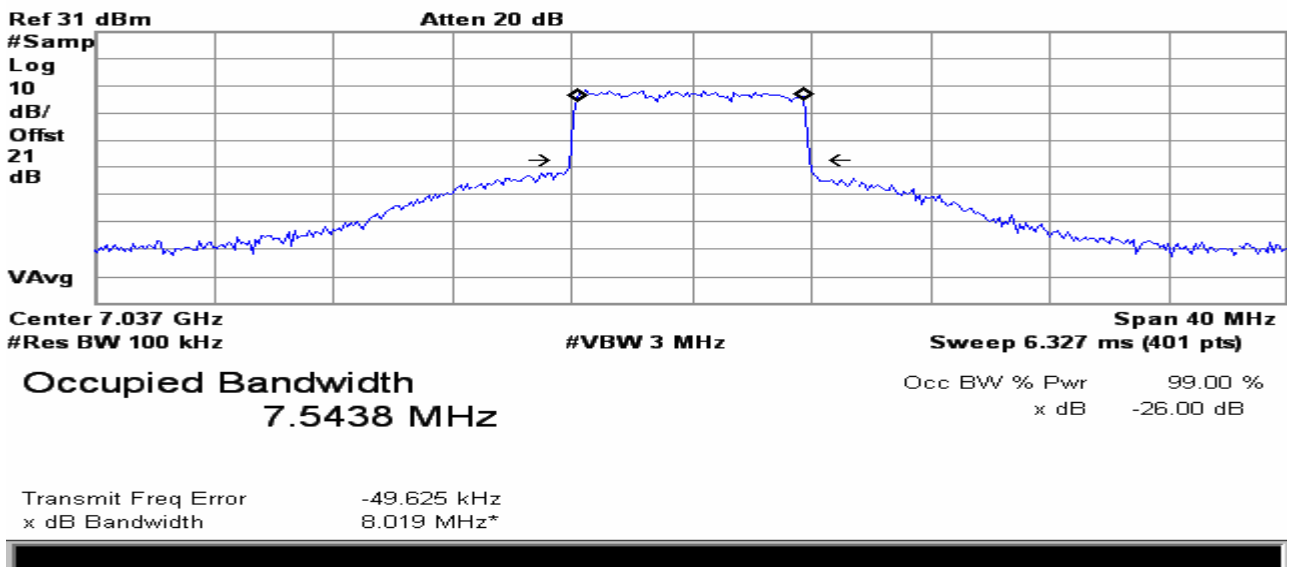
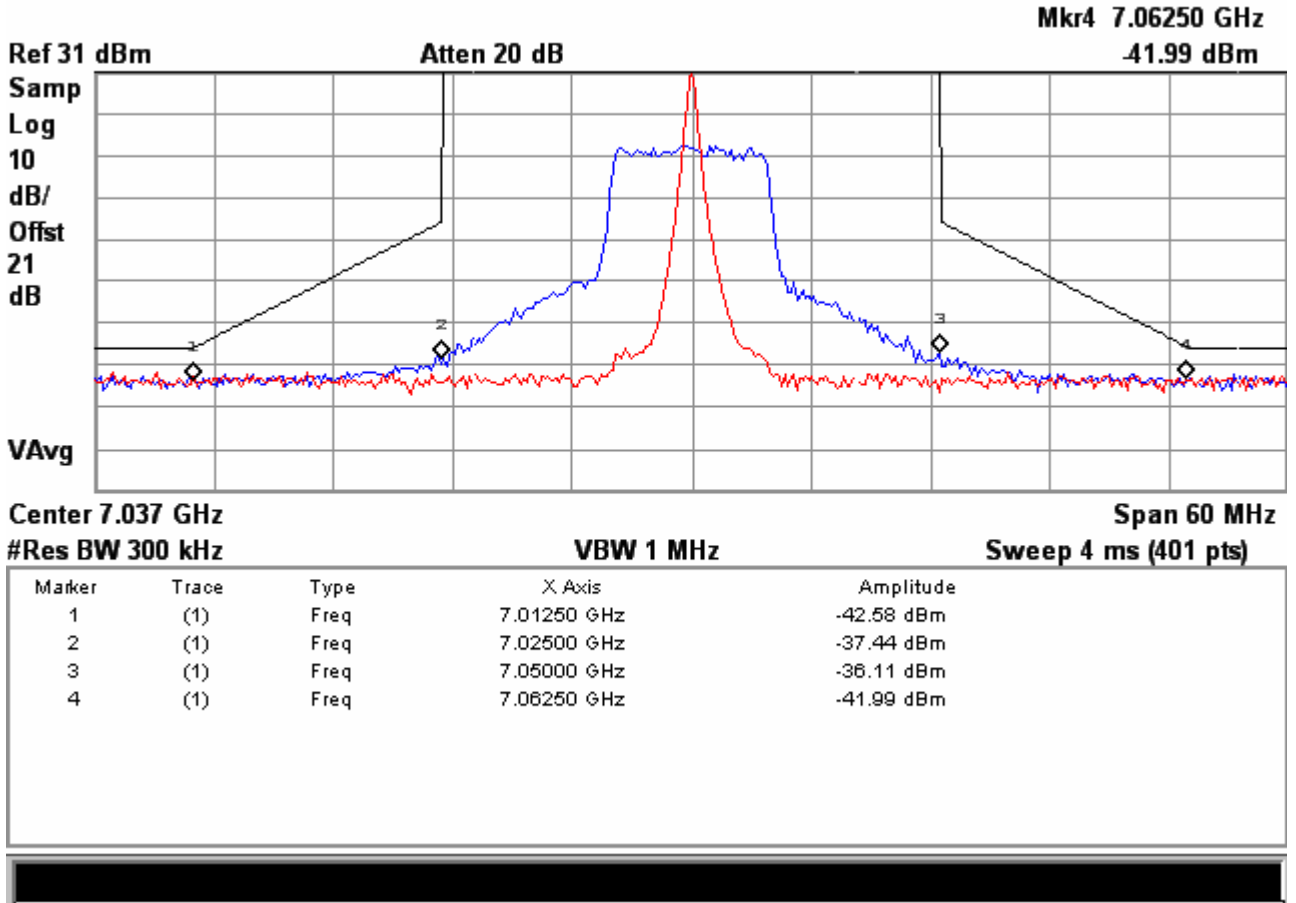


Figure 3  
Occupied Bandwidth measurement; Modulation overlaying Mask and measured Power Bandwidth. COFDM modulation, 8 MHz 16QAM, Color Bars with Audio

Channel 7 , 7 GHz Band 25 MHz Channels

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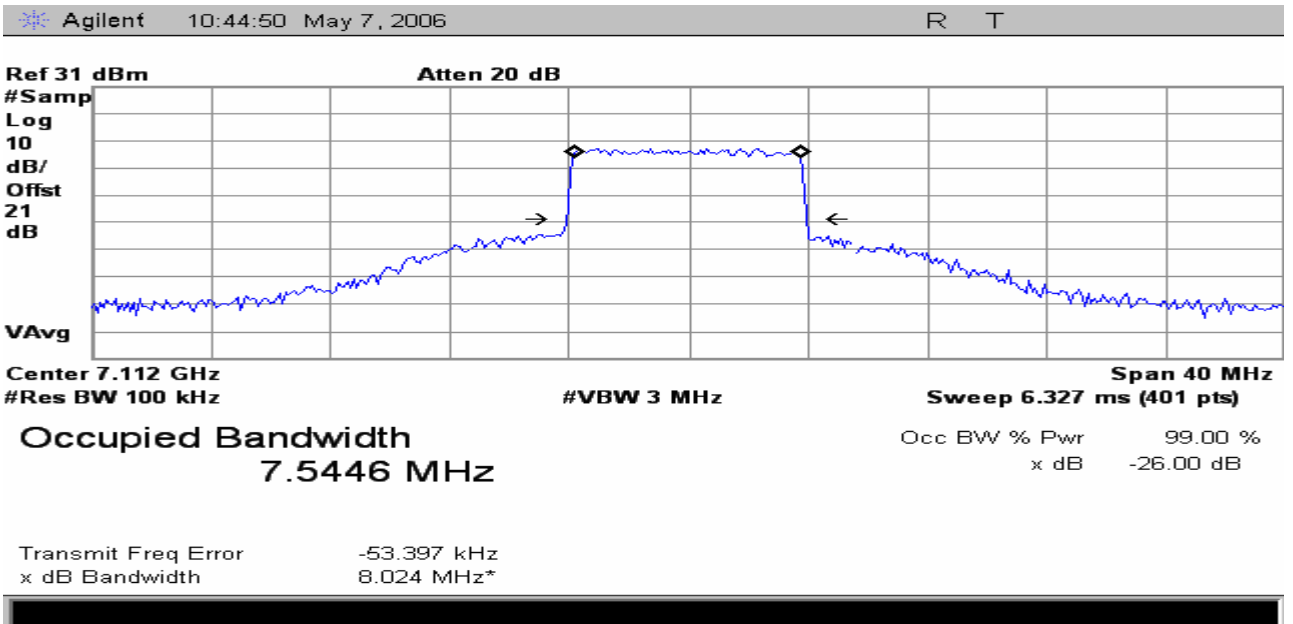
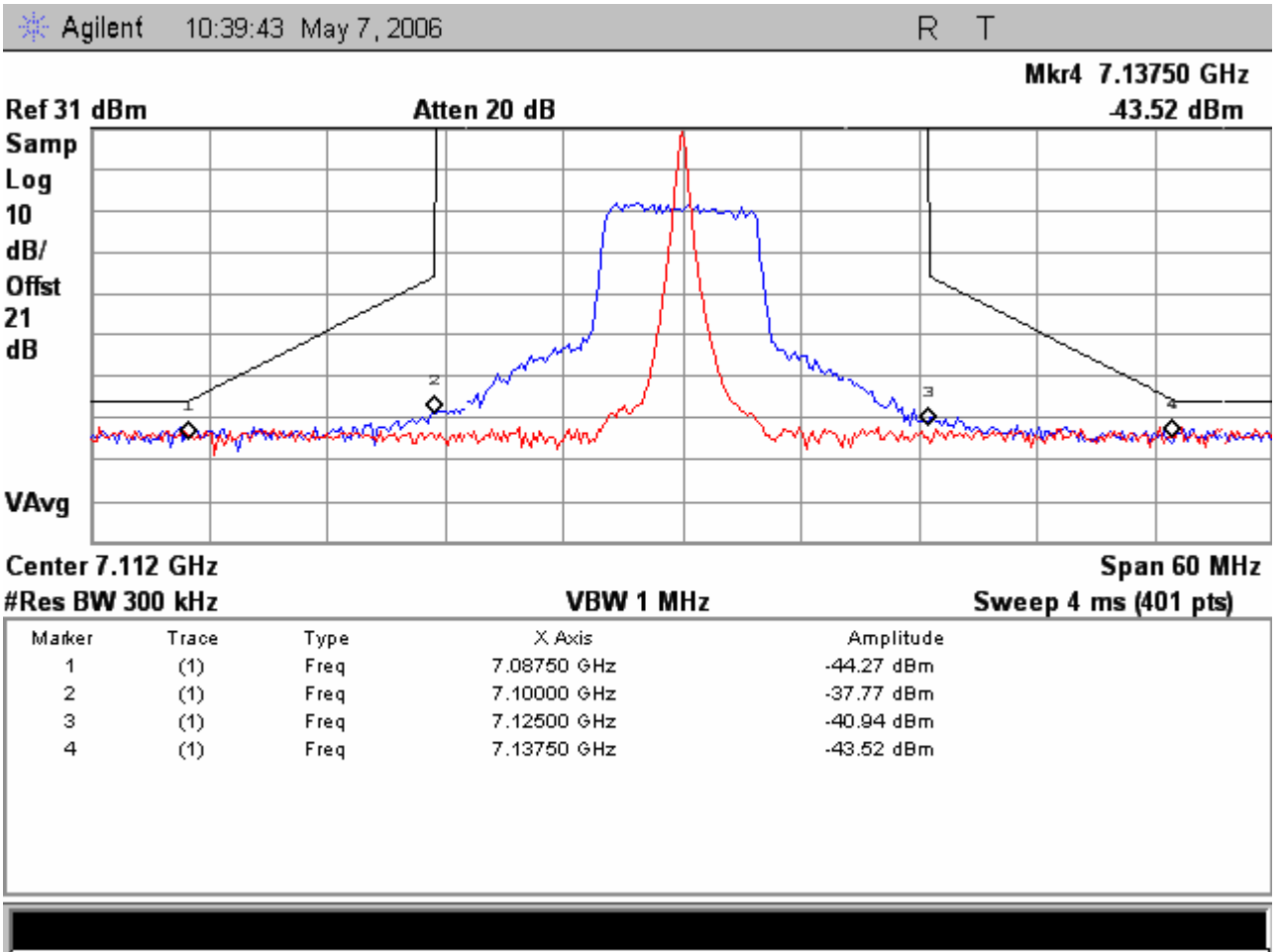


Figure 4  
Occupied Bandwidth measurement; Modulation overlaying Mask and measured Power Bandwidth. COFDM modulation, 8 MHz 16QAM, Color Bars with Audio

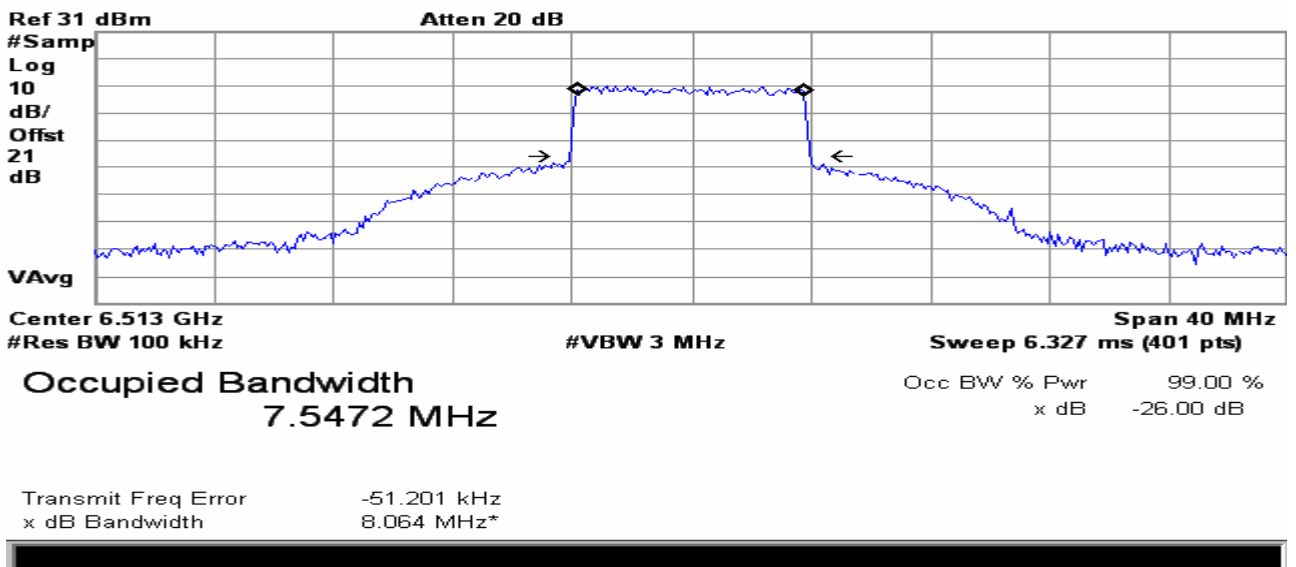
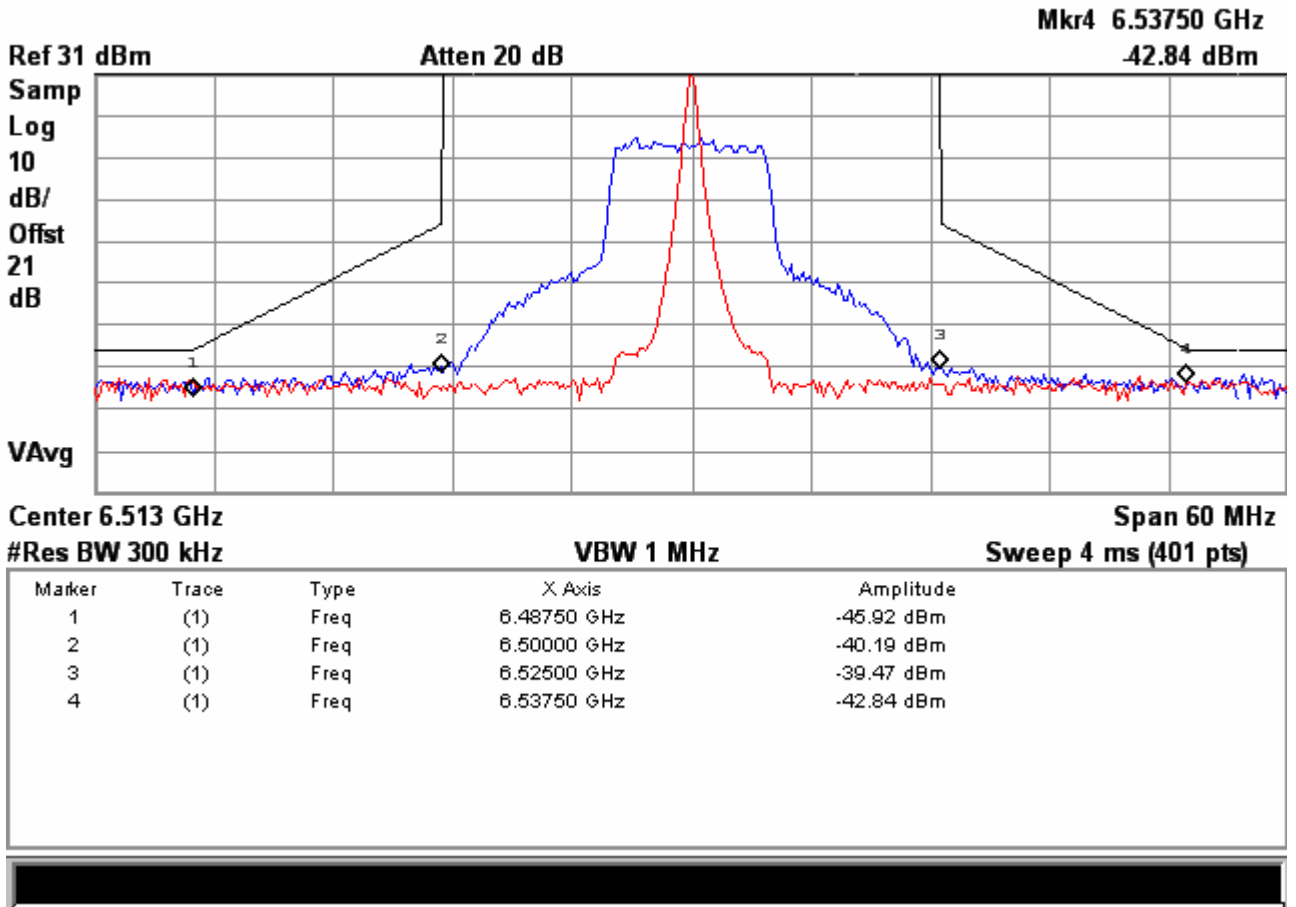


Figure 5  
Occupied Bandwidth measurement; Modulation overlaying Mask and measured Power Bandwidth. COFDM modulation, 8 MHz 16QAM, Color Bars with Audio

Channel 14 , 7 GHz Band 25 MHz Channels

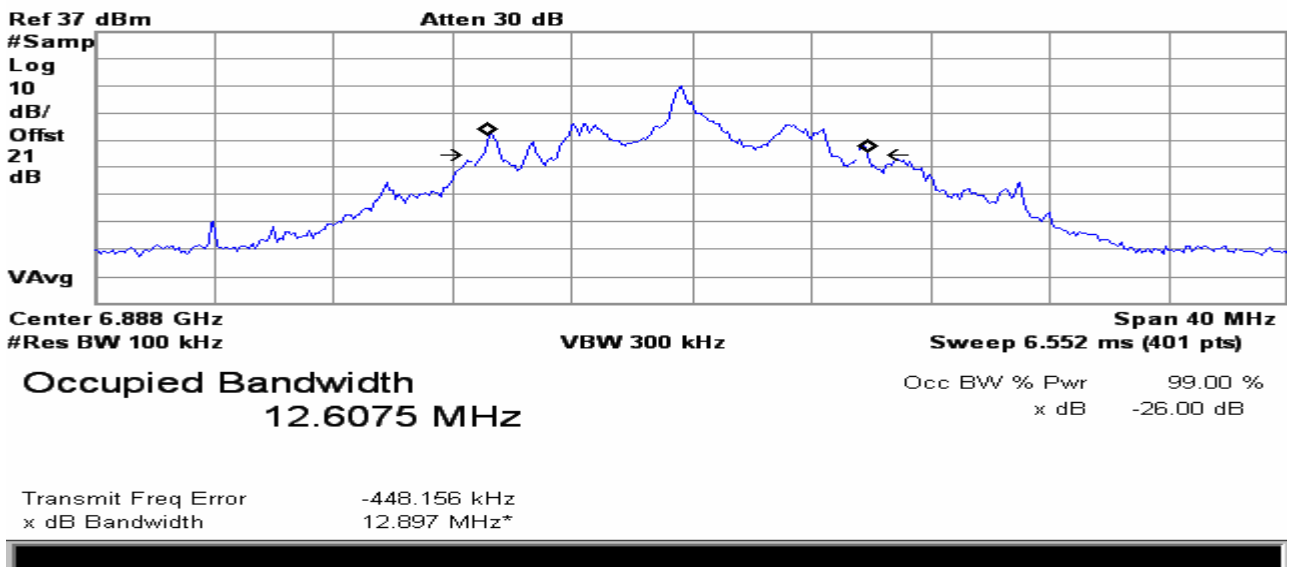
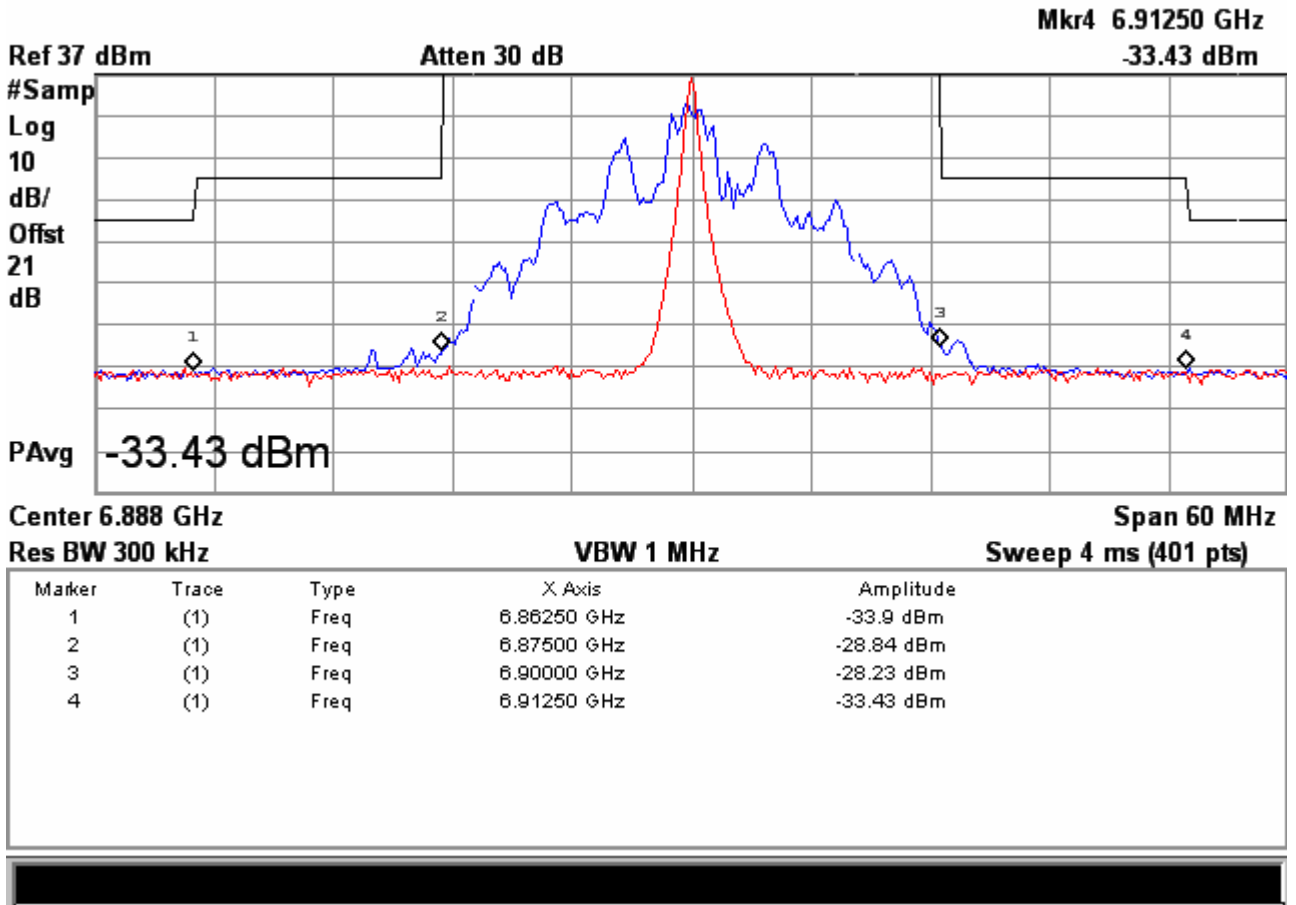


Figure 6  
Occupied Bandwidth measurement; Modulation overlaying Mask and measured Power Bandwidth. FM , +/- 3 MHz Deviation ,Color Bars with Audio

Channel 1 , 7 GHz Band 25 MHz Channels

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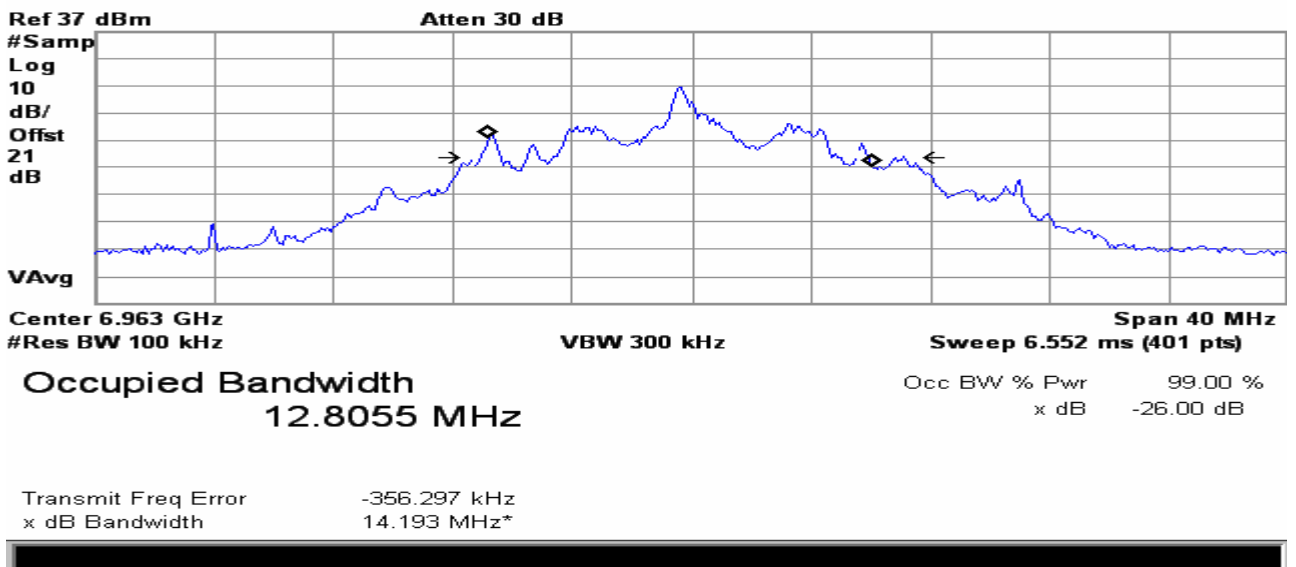
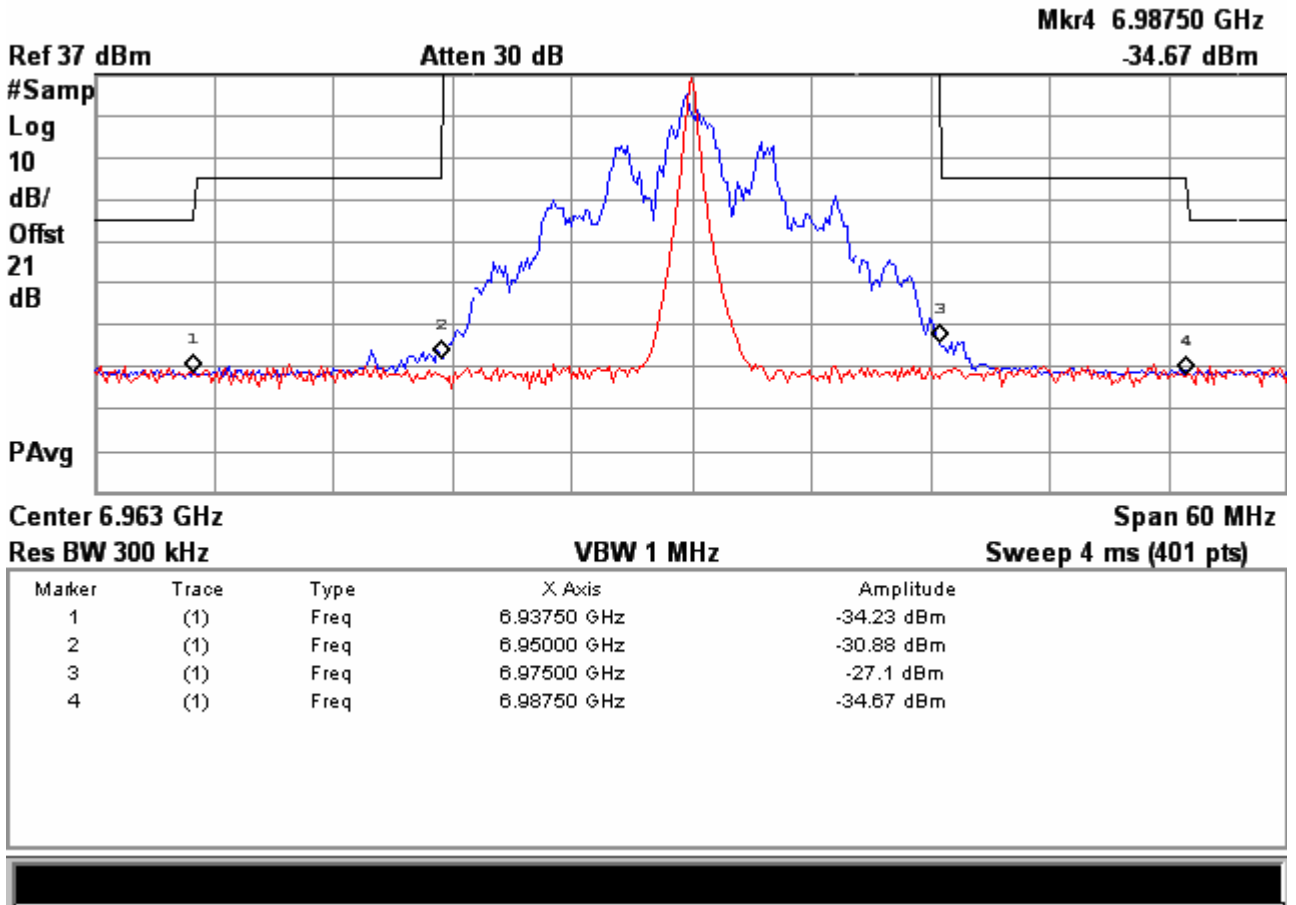


Figure 7  
Occupied Bandwidth measurement; Modulation overlaying Mask and measured Power Bandwidth. FM , +/- 3 MHz Deviation ,Color Bars with Audio

Channel 4 , 7 GHz Band 25 MHz Channels



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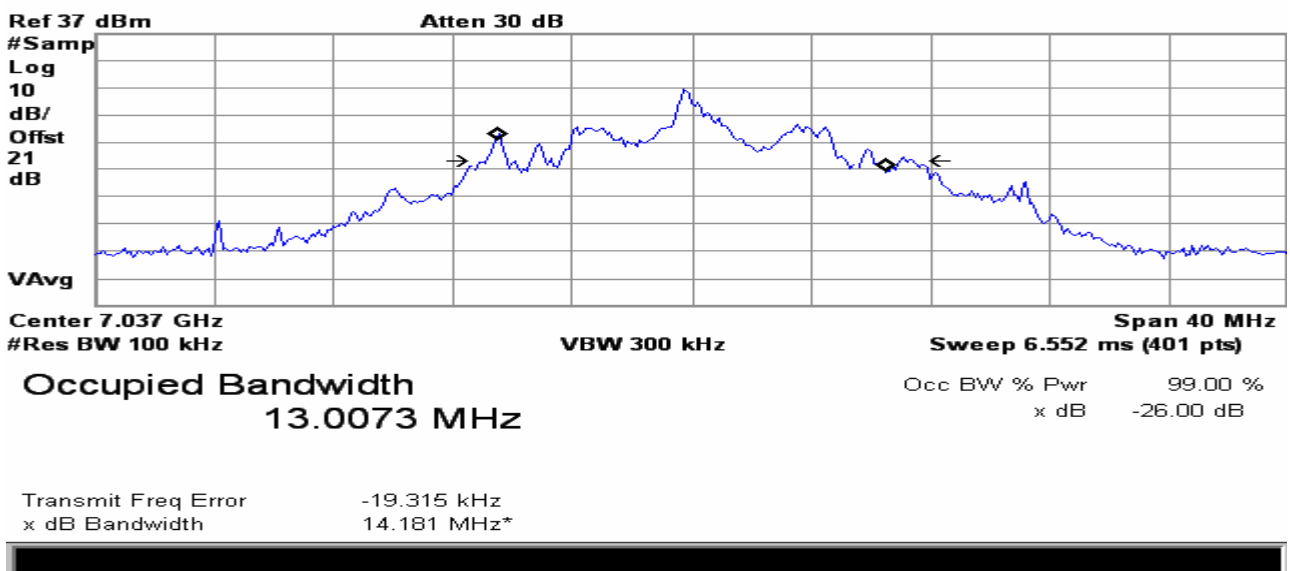
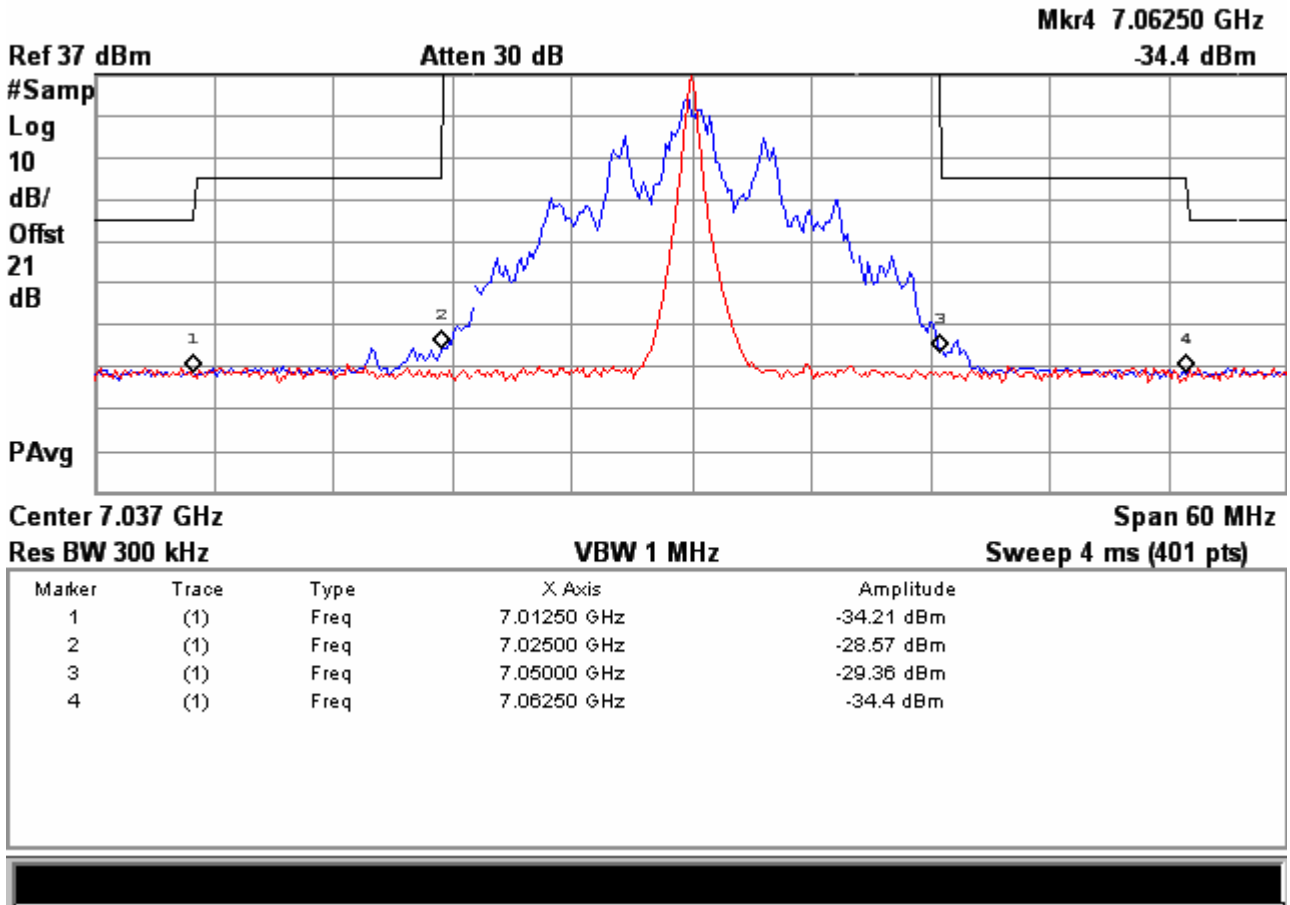


Figure 8  
Occupied Bandwidth measurement; Modulation overlaying Mask and measured Power Bandwidth. FM , +/- 3 MHz Deviation ,Color Bars with Audio

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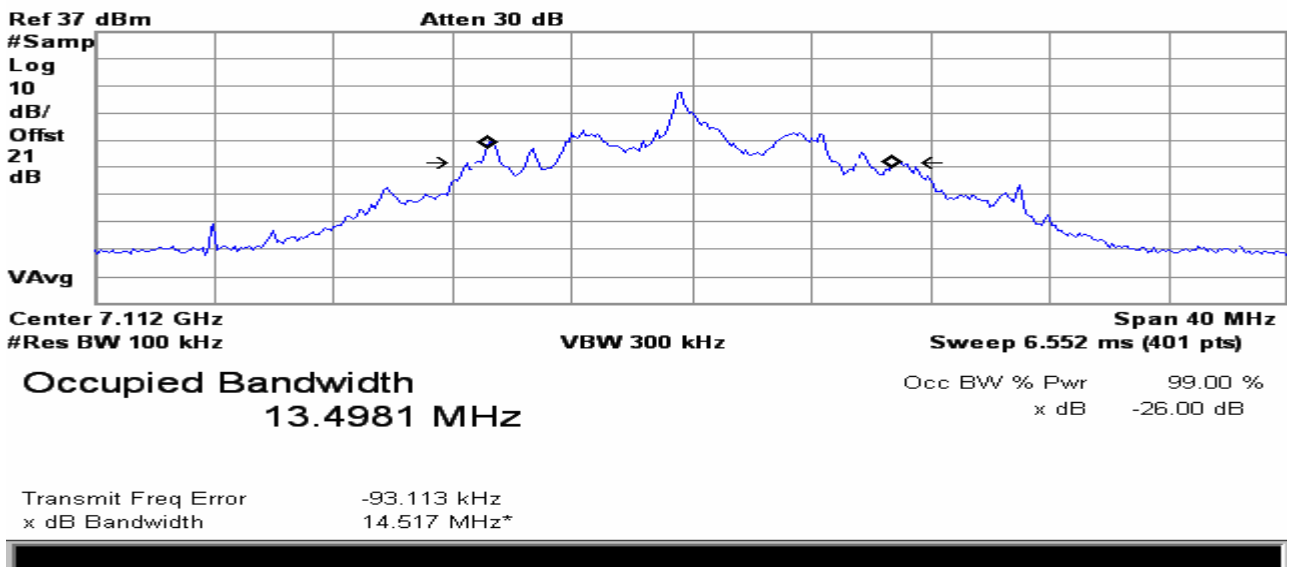
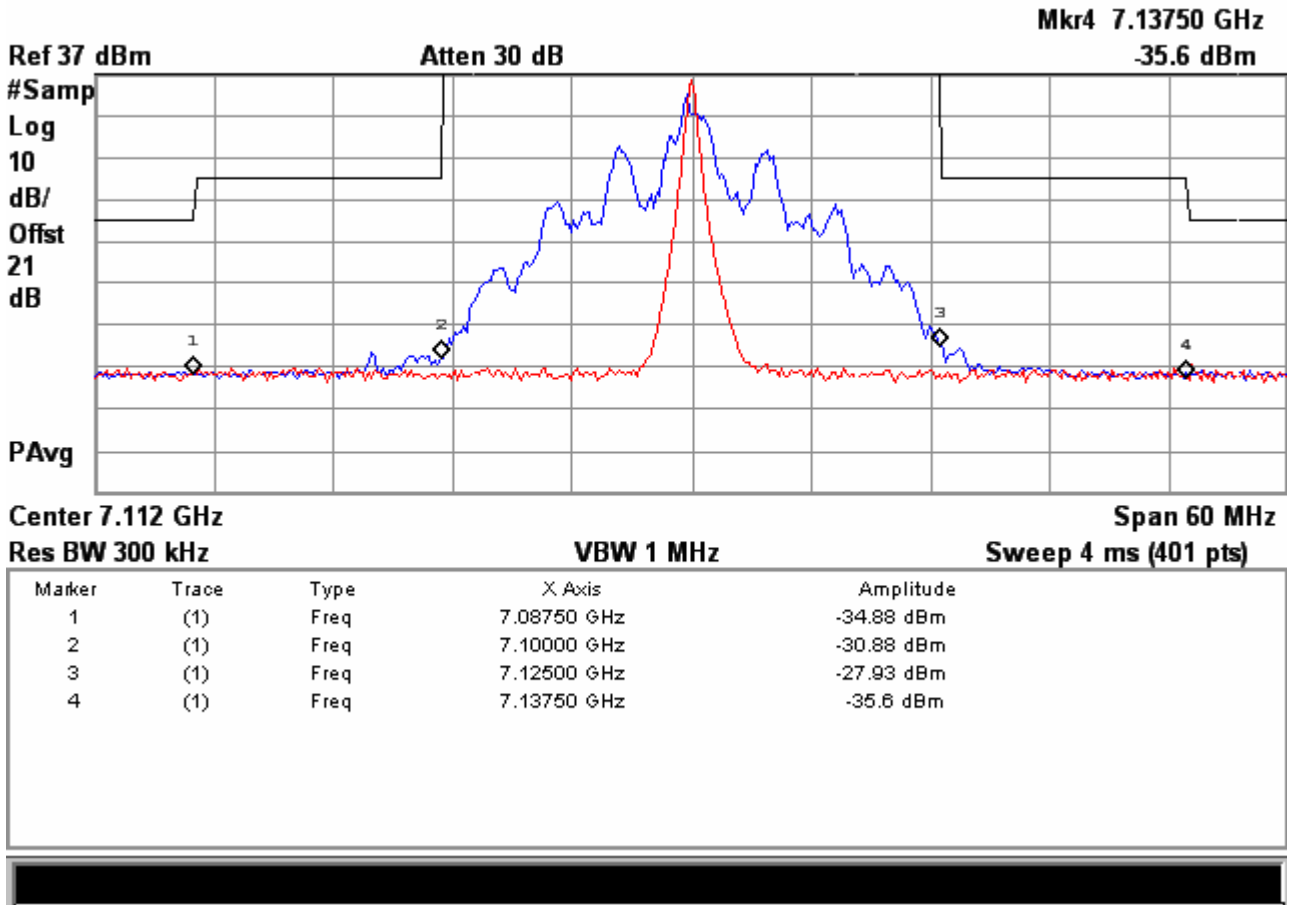


Figure 9  
Occupied Bandwidth measurement; Modulation overlaying Mask and measured Power Bandwidth. FM , +/- 3 MHz Deviation ,Color Bars with Audio

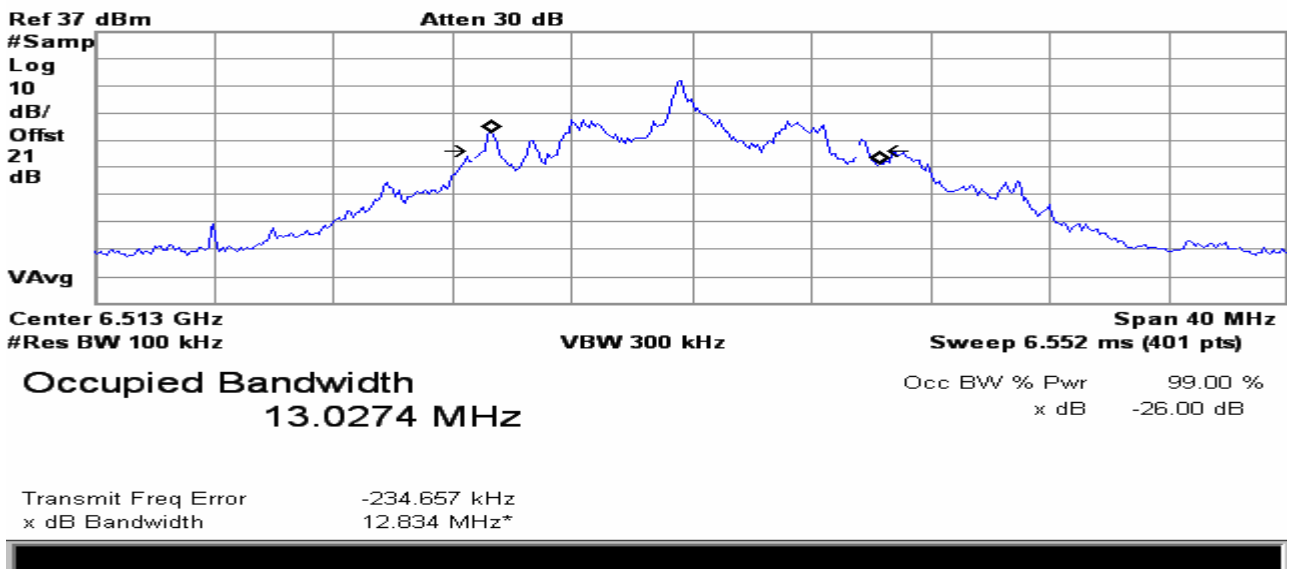
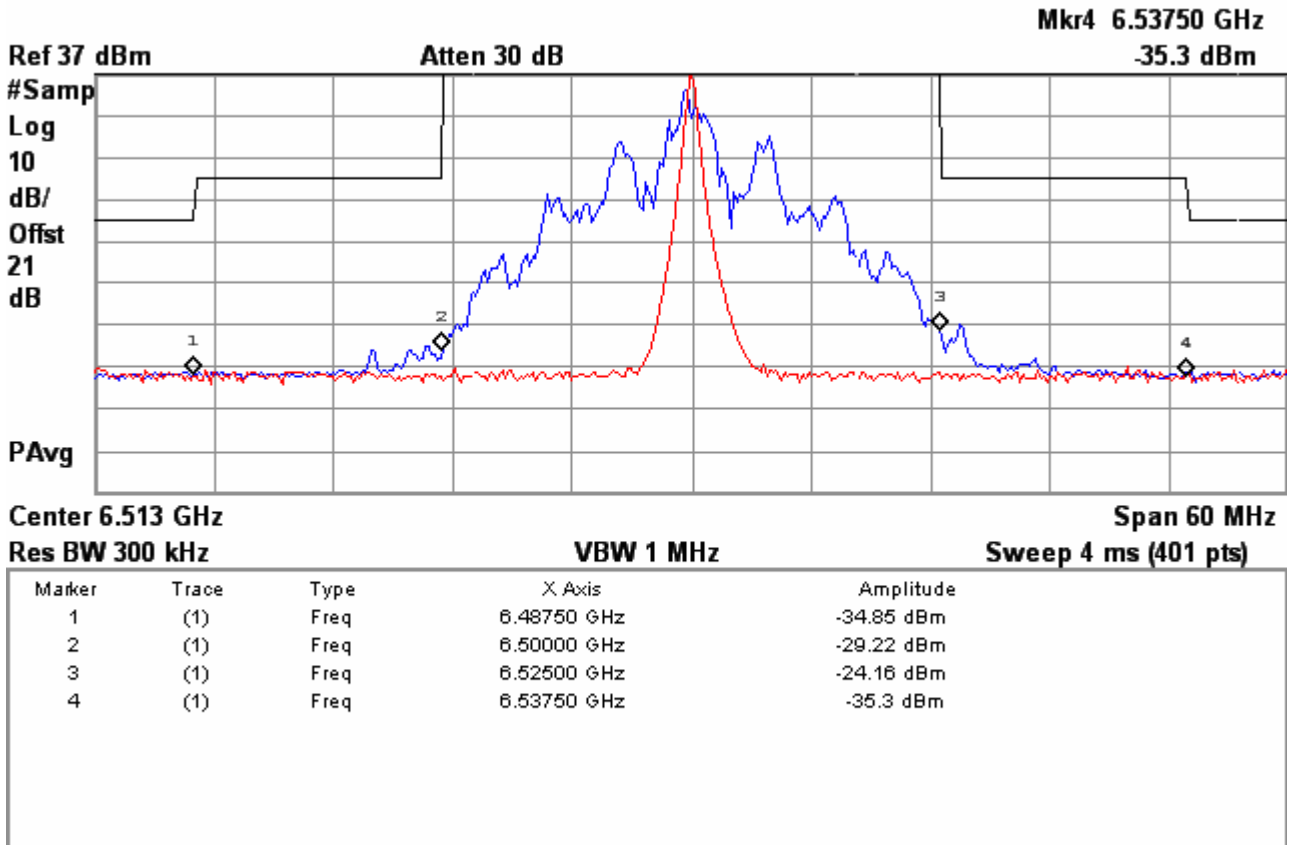


Figure 10  
Occupied Bandwidth measurement; Modulation overlaying Mask and measured Power Bandwidth. FM , +/- 3 MHz Deviation ,Color Bars with Audio

Channel 14 , 7 GHz Band 25 MHz Channels