

W245AH Jackson, MS

(Permit File Number: BMPFT-20170419AHZ)

FCC Rule 73.317 Compliance Measurements

June 6, 2017

On June 6th 2017, Alpha Media, LLC made measurements of W245AH (96.9 MHz), Jackson, MS, to show compliance with FCC Rule 73.317. The measurements described here were made following construction of the translator station and as a condition to the FCC construction permit, file number BMPFT-20170419AHZ. A number of other FM translators and broadcast stations operate from this and nearby locations.

All measurements were made using a Coaxial Dynamics 87004 X-Tractor sample element plugged into a line section located on the output of a three port combiner, following a band pass filter at the output of the translator transmitter. All three co-located translators (W245AH, W278BW and W292EX) were simultaneously operated into the combiner and antenna system at their applicable power levels with normal modulation during the measurements.

Coaxial attenuators were inserted ahead of a Rigol DSA815 spectrum analyzer, which was used for the measurements.

A block diagram of the measurement setup is shown on page 2.

A reference plot of the W245AH unmodulated carrier is shown on page 3.

According to section 73.317(d) any emission appearing more than 600 kHz from the carrier must be at least $43+10\log(\text{power in watts})$ db or 80 db below the unmodulated carrier whichever is the lessor. The transmitter output power is 376 watts, thus the limit for section (d) is 69 db.

A number of signals were observed from other broadcast stations at nearby sites and are believed to be coming back down the transmission line from the antenna. **No harmonic emissions or other spurious emissions from W245AH were observed.** The only signal falling outside the 73.317(d) mask observed was identified as belonging to nearby WUSJ on 96.3 MHz. Page 3 also contains a plot showing these signals with the W245AH carrier removed from the air.

Page 4 shows the W245AH signal with mask lines outlining compliance. It is believed that W245AH is in full compliance with section 73.317 of the commission rules.

The following additional measurements were taken to display compliance with 73.317.

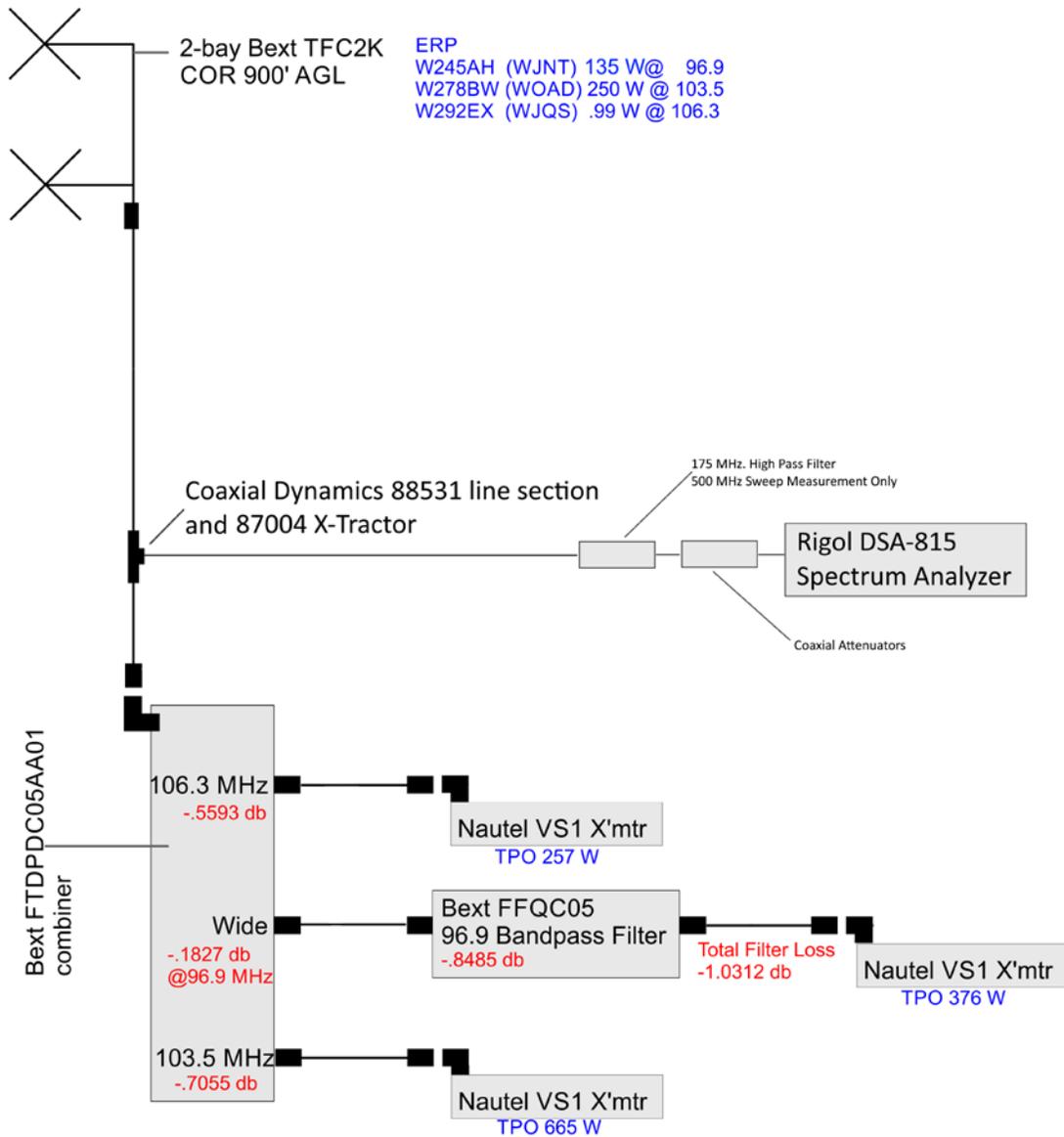
Page 5 shows a Sweep of the entire FM Broadcast Band.

Page 6 shows a 100 MHz wide sweep.

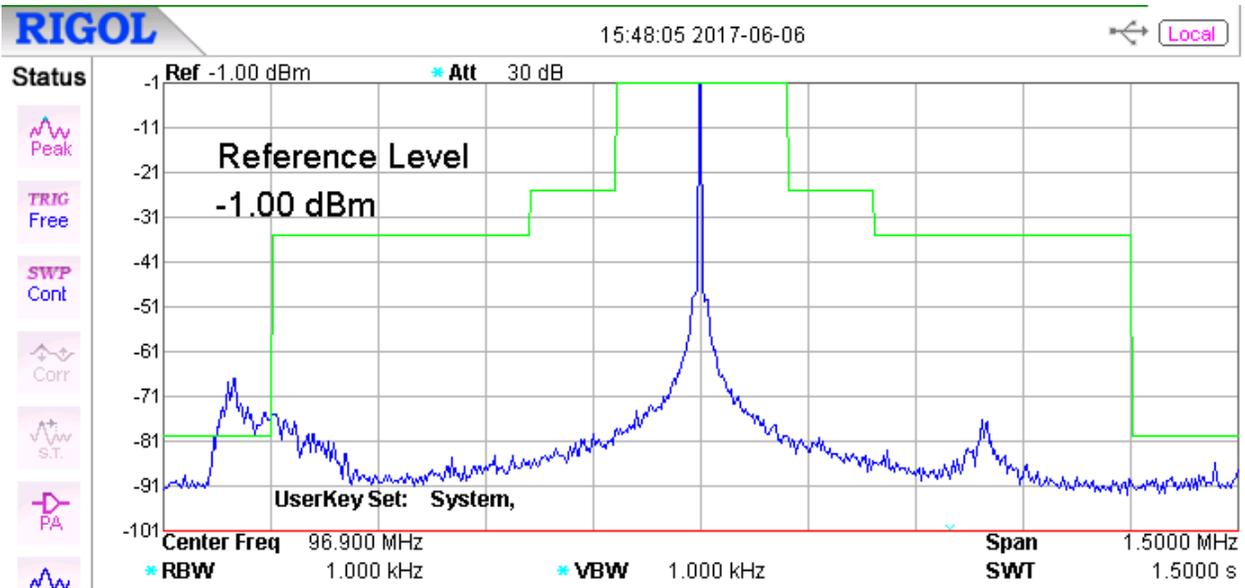
Page 7 shows a 500 MHz wide sweep with a Chris Scott & Associates 175 MHz high pass filter inserted to prevent spectrum analyzer overload.

Respectfully Submitted,

George A. Thomas, Jr. PG-8-13631
Ridgeland, MS Market Chief Engineer
Alpha Media, LLC



Transmission System Diagram



Amplitude

Auto Scale

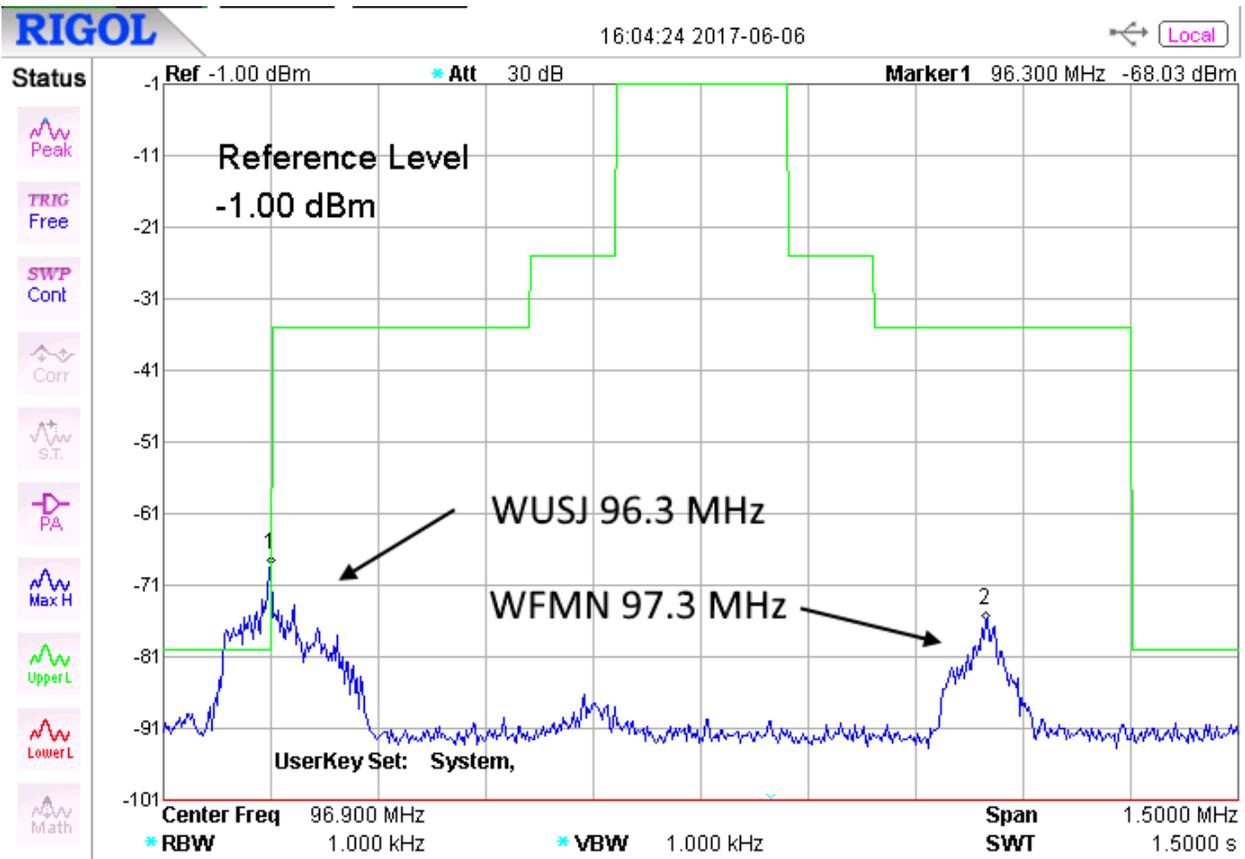
Ref Level
-1.00 dBm

Input Att.
30 dB
Auto Manual

Scale/Div
10.00 dB

Scale Type
Log Lin

W245AH - Unmodulated Carrier Reference -1db



Amplitude

Auto Scale

Ref Level
-1.00 dBm

Input Att.
30 dB
Auto Manual

Scale/Div
10.00 dB

Scale Type
Log Lin

Units
dBm

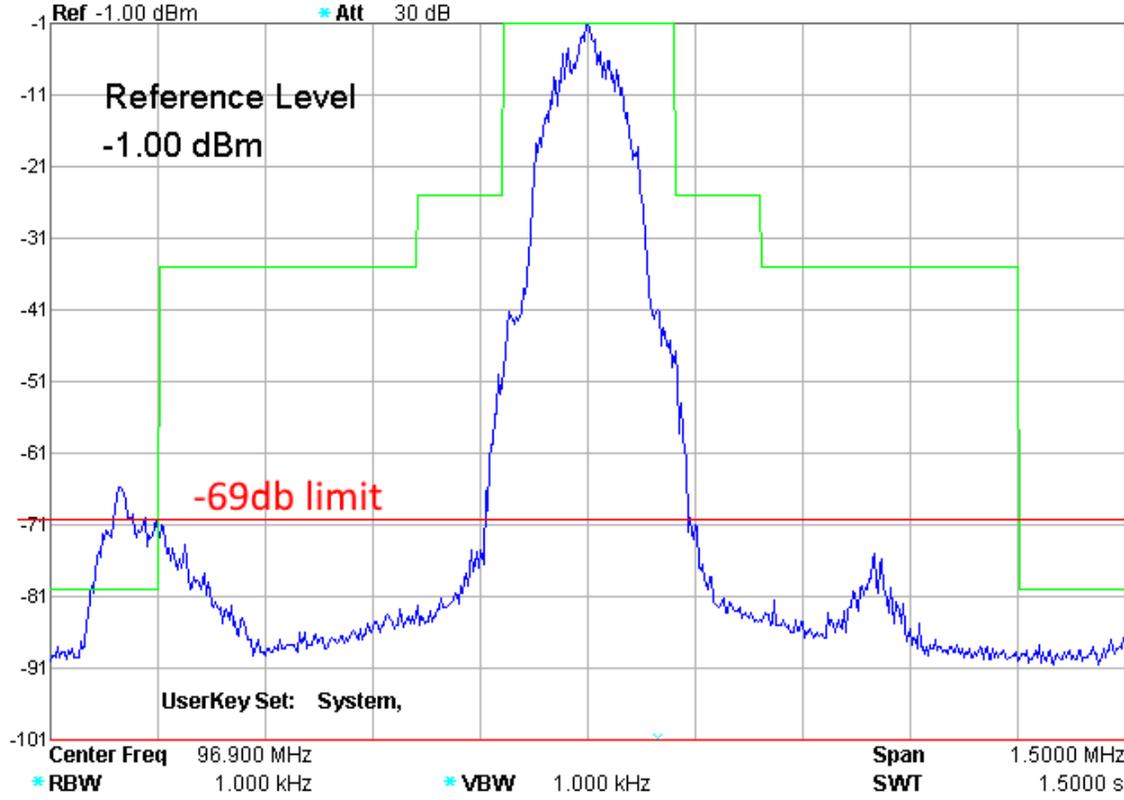
Ref Offset
0.00 dB

1/2

WUSJ - 96.3 MHz and WFMN - 97.3 MHz
referenced to W245AH Unmodulated Carrier

Status

- Peak
- TRIG Free
- SWP Cont
- Corr
- S.T.
- PA
- Max H
- UpperL
- LowerL
- Math



Amplitude

Auto Scale

Ref Level

-1.00 dBm

Input Att.

30 dB

Auto Manual

Scale/Div

10.00 dB

Scale Type

Log Lin

Units

dBm

Ref Offset

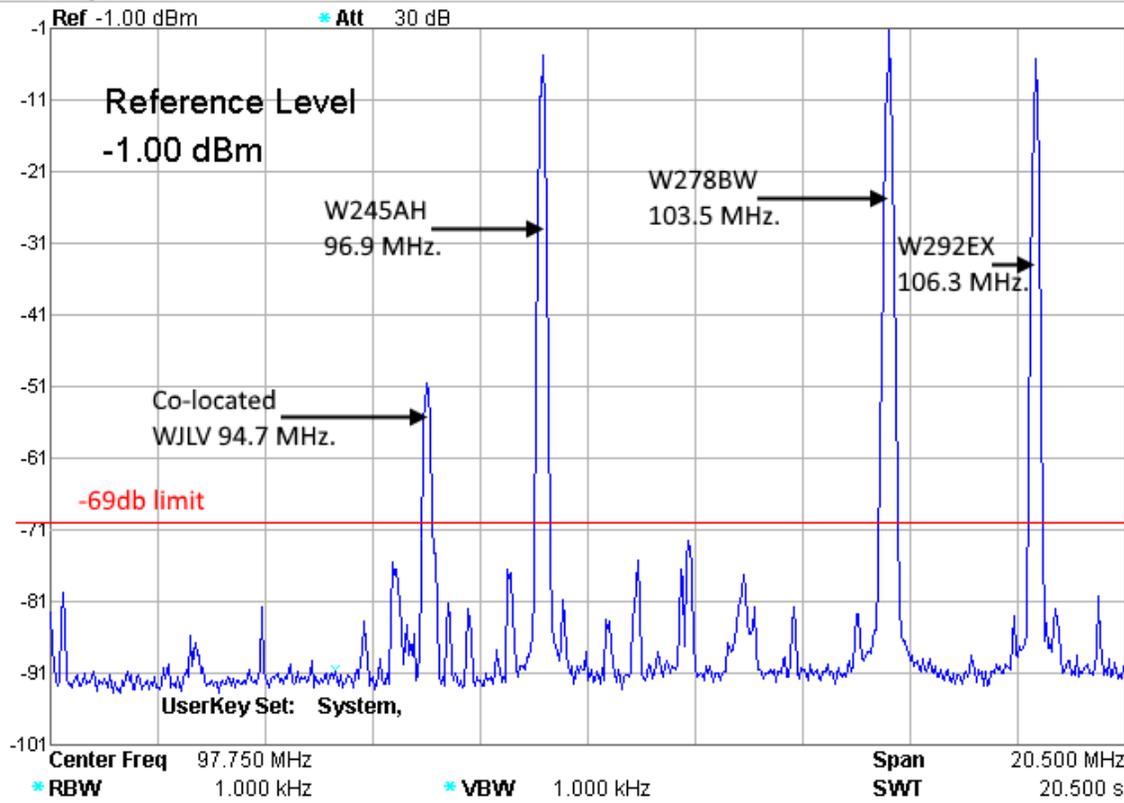
0.00 dB

1/2

W245AH - 73.317 Compliance Measurement

Status

- Peak
- TRIG Free
- SWP Cont
- Corr
- S.T.
- PA
- Max H
- Blank
- Blank
- Math



Amplitude

Auto Scale

Ref Level

-1.00 dBm

Input Att.

30 dB

Auto Manual

Scale/Div

10.00 dB

Scale Type

Log Lin

Units

dBm

Ref Offset

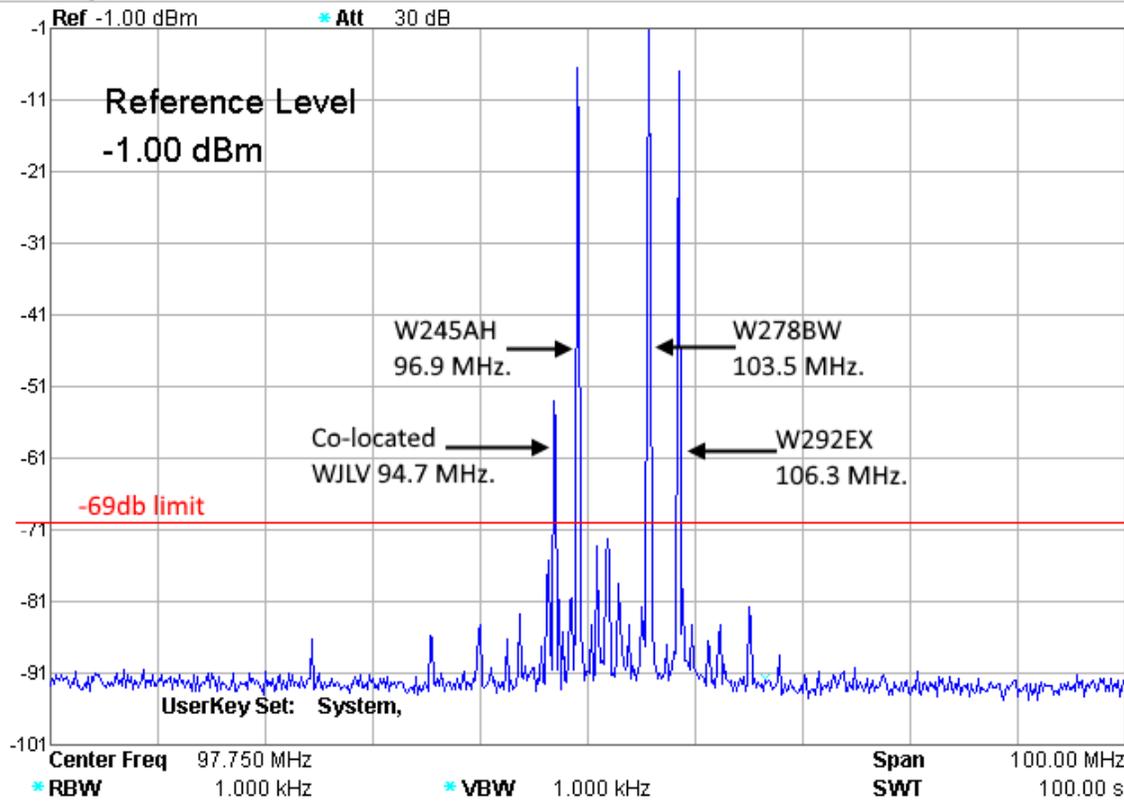
0.00 dB

1/2

20.5 MHz Wide FM Band Sweep

Status

- Peak
- TRIG Free
- SWP Cont
- Corr
- S.T.
- PA
- Max H
- Blank
- Blank
- Math



Amplitude

Auto Scale

Ref Level

-1.00 dBm

Input Att.

30 dB

Auto Manual

Scale/Div

10.00 dB

Scale Type

Log Lin

Units

dBm

Ref Offset

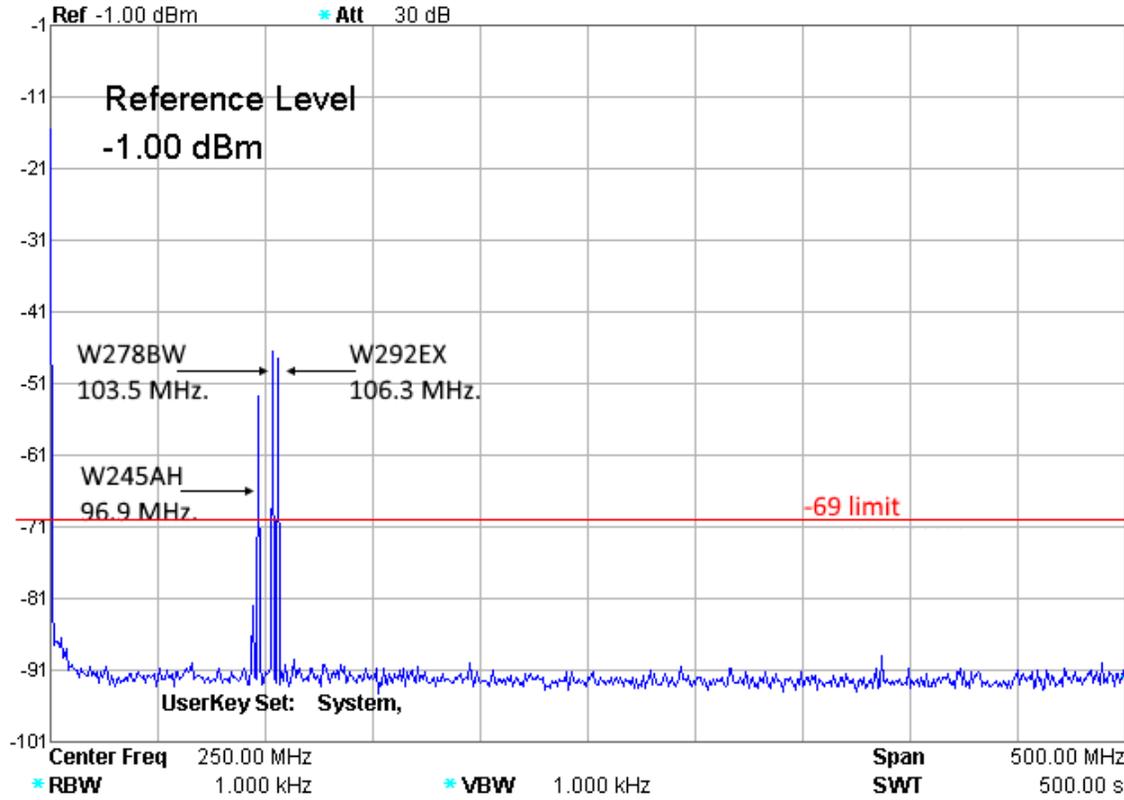
0.00 dB

1/2

100 MHz Wide Band Sweep

Status

- Peak
- TRIG Free
- SWP Cont
- Corr
- S.T.
- PA
- Max H
- Blank
- Blank
- Math



Amplitude

Auto Scale

Ref Level

-1.00 dBm

Input Att.

30 dB

Auto Manual

Scale/Div

10.00 dB

Scale Type

Log Lin

Units

dBm

Ref Offset

0.00 dB

1/2

500 MHz Wide Band Sweep

(Measurement made with Chris Scott & Associates 175 MHz High Pass Filter inserted)