

# ATSC TRANSMITTER TEST REPORT

**300 W**

Spectrum Analyzer 10kHz RBW Noise Floor [dBm]	-120.0
Spectrum Analyzer 500kHz RBW Noise Floor [dBm]	-103.0
Noise floor proximity upper threshold [dBm]	-93.0
Noise floor proximity lower threshold [dBm]	-100.0

Min. Sample Level [dBm]	-26.8
Actual Sample Level [dBm]	-6.5

## ATSC TRANSMISSION MASK COMPLIANCE TEST Stringent Mask

Channel Power [dBm]	-6.5
Channel Number	36
Center Frequency [MHz]	605

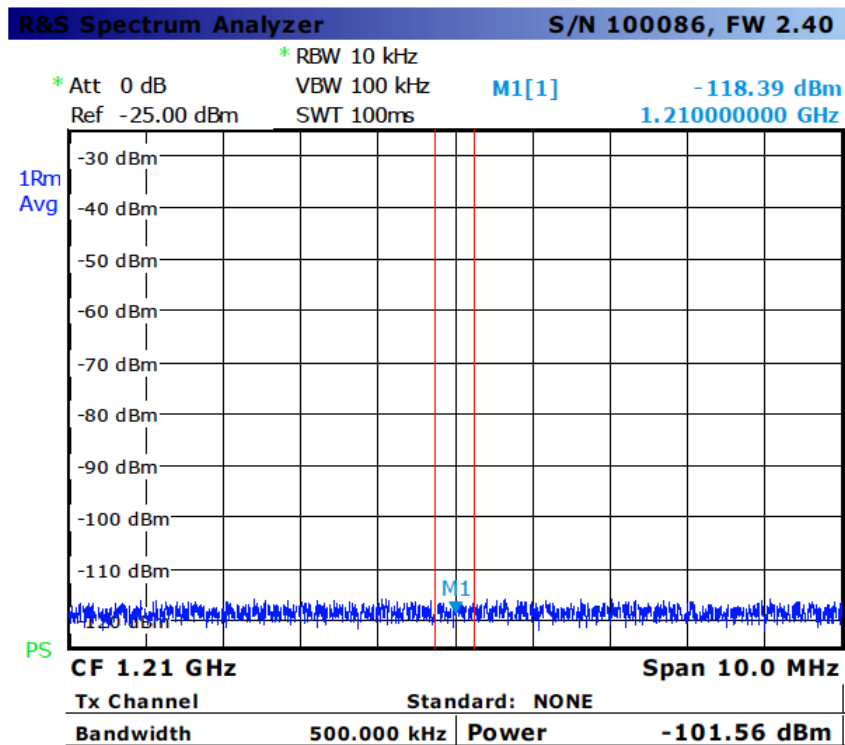
Delta Frequency [MHz]	Frequency [MHz]	Measured Amplitude [dBm]	Corrected for Noise Floor [dBm]	Bandstop Filter (dB)	Corrected Amplitude [dBm]	Amplitude below Channel Power [dB]	FCC Limit [dB]	Pass/Fail
3.25	608.25	-63.5	-63.5		-63.5	57.0	47.0	Pass
3.75	608.75	-70.1	-70.1		-70.1	63.6	49.9	Pass
4.25	609.25	-78.3	-78.3		-78.3	71.8	55.6	Pass
4.75	609.75	-79.5	-79.5		-79.5	73.0	61.4	Pass
5.25	610.25	-101.1	-103.0	2.9	-100.1	93.6	67.1	Pass
5.75	610.75	-101.1	-103.0	2.2	-100.8	94.3	71.9	Pass
6.25	611.25	-102.0	-103.0	1.8	-101.2	94.7	76.0	Pass
6.75	611.75	-102.2	-103.0	1.6	-101.4	94.9	76.0	Pass
7.25	612.25	-102.8	-103.0	1.4	-101.6	95.1	76.0	Pass
7.75	612.75	-103.0	-103.0	1.4	-101.6	95.1	76.0	Pass
8.25	613.25	-103.0	-103.0	1.4	-101.6	95.1	76.0	Pass
8.75	613.75	-103.0	-103.0	1.4	-101.6	95.1	76.0	Pass

-3.25	601.75	-63.2	-63.2		-63.2	56.7	47.0	Pass
-3.75	601.25	-71.3	-71.3		-71.3	64.8	49.9	Pass
-4.25	600.75	-78.4	-78.4		-78.4	71.9	55.6	Pass
-4.75	600.25	-79.2	-79.2		-79.2	72.7	61.4	Pass
-5.25	599.75	-101.7	-103.0	2.7	-100.3	93.8	67.1	Pass
-5.75	599.25	-101.8	-103.0	2.5	-100.5	94.0	71.9	Pass
-6.25	598.75	-102.2	-103.0	2.5	-100.5	94.0	76.0	Pass
-6.75	598.25	-102.4	-103.0	2.5	-100.5	94.0	76.0	Pass
-7.25	597.75	-102.5	-103.0	2.5	-100.5	94.0	76.0	Pass
-7.75	597.25	-102.5	-103.0	2.5	-100.5	94.0	76.0	Pass
-8.25	596.75	-102.6	-103.0	2.5	-100.5	94.0	76.0	Pass
-8.75	596.25	-102.6	-103.0	2.5	-100.5	94.0	76.0	Pass

### Harmonic and Spurious Energy

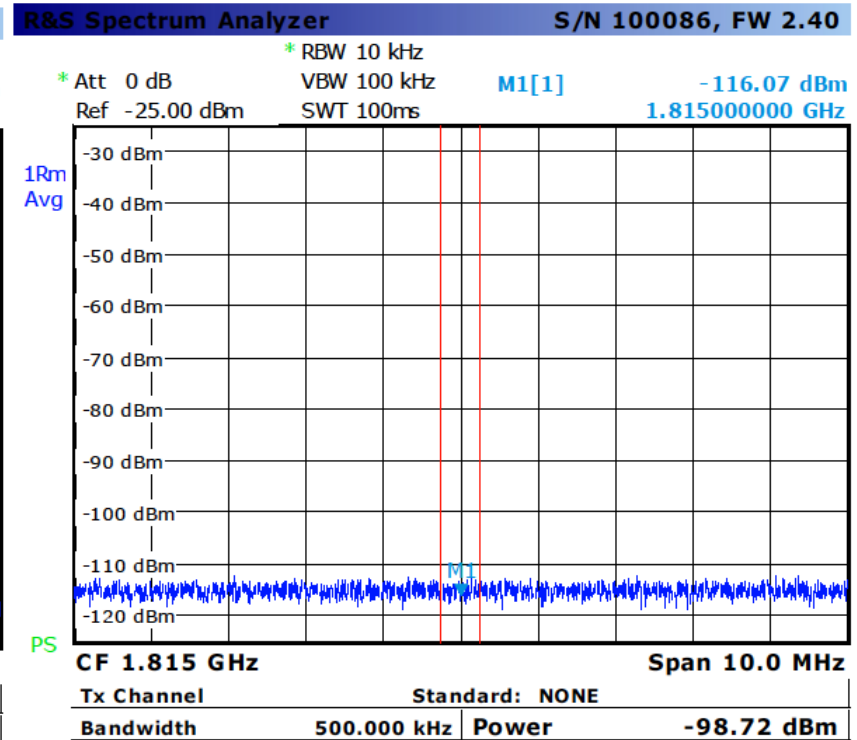
The DTV transmitter harmonic and spurious energy was measured using the setup of Figure 1. The harmonic measurement values were recorded using the R & S ETL or the Agilent 4404B. The high pass filter was used in the coupled signal path to permit the spectrum analyzer attenuation to be minimized without the spectrum analyzer being overloaded by the channel 36 signal. Power measurements using a 500 kHz channel power bandwidth were taken at harmonics up to the 10<sup>th</sup> and the largest signal level 500 kHz segment of the energy was recorded in the table following the next page. The measured values were converted back to an equivalent power at the transmitter output using the directional coupler factor, cable loss, and compared with the total power of the channel 36 signal, and recorded in the table.

Screen shots of the conducted harmonic energy at the worst case conditions (2<sup>nd</sup> and 3<sup>rd</sup> harmonics) were taken and are provided in the figures on the following page.



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Figure 11--2<sup>nd</sup> Harmonic Energy



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Figure 12—3<sup>rd</sup> Harmonic Energy

# ATSC TRANSMISSION MASK COMPLIANCE TEST

## Stringent Mask

### Harmonics

Channel Power [dBm]	54.8
Channel Number	36
Center Frequency [MHz]	605

Harmonic	Frequency [MHz]	Measured Amplitude [dBm]	HPF & Cable Loss [dB]	Coupling Value [dB]	Corrected Amplitude [dBm]	Amplitude below Channel Power[dB]	FCC Limit [dB]	Pass/Fail
2 <sup>nd</sup>	1210.00	-101.7	5.1	50.0	-46.6	101.4	76.0	Pass
3 <sup>rd</sup>	1815.00	-98.5	5.9	46.0	-46.6	101.4	76.0	Pass
4 <sup>th</sup>	2420.00	-97.8	7.4	42.8	-47.6	102.4	76.0	Pass
5 <sup>th</sup>	3025.00	-91.5	9.2	37.7	-44.6	99.4	76.0	Pass
6 <sup>th</sup>	3630.00	-92.2	9.5	37.0	-45.7	100.5	76.0	Pass
7 <sup>th</sup>	4235.00	-91.0	12.0	31.0	-48.0	102.8	76.0	Pass
8 <sup>th</sup>	4840.00	-91.0	13.1	16.1	-61.8	116.6	76.0	Pass
9 <sup>th</sup>	5445.00	-91.0	13.8	18.4	-58.8	113.6	76.0	Pass
10 <sup>th</sup>	6050.00	-91.0	15.1	20.5	-55.4	110.2	76.0	Pass