Summary of advanced broadcast/transmission measurements provided with the SSA3000X/SVA1000X-AMK option

December 18, 2018

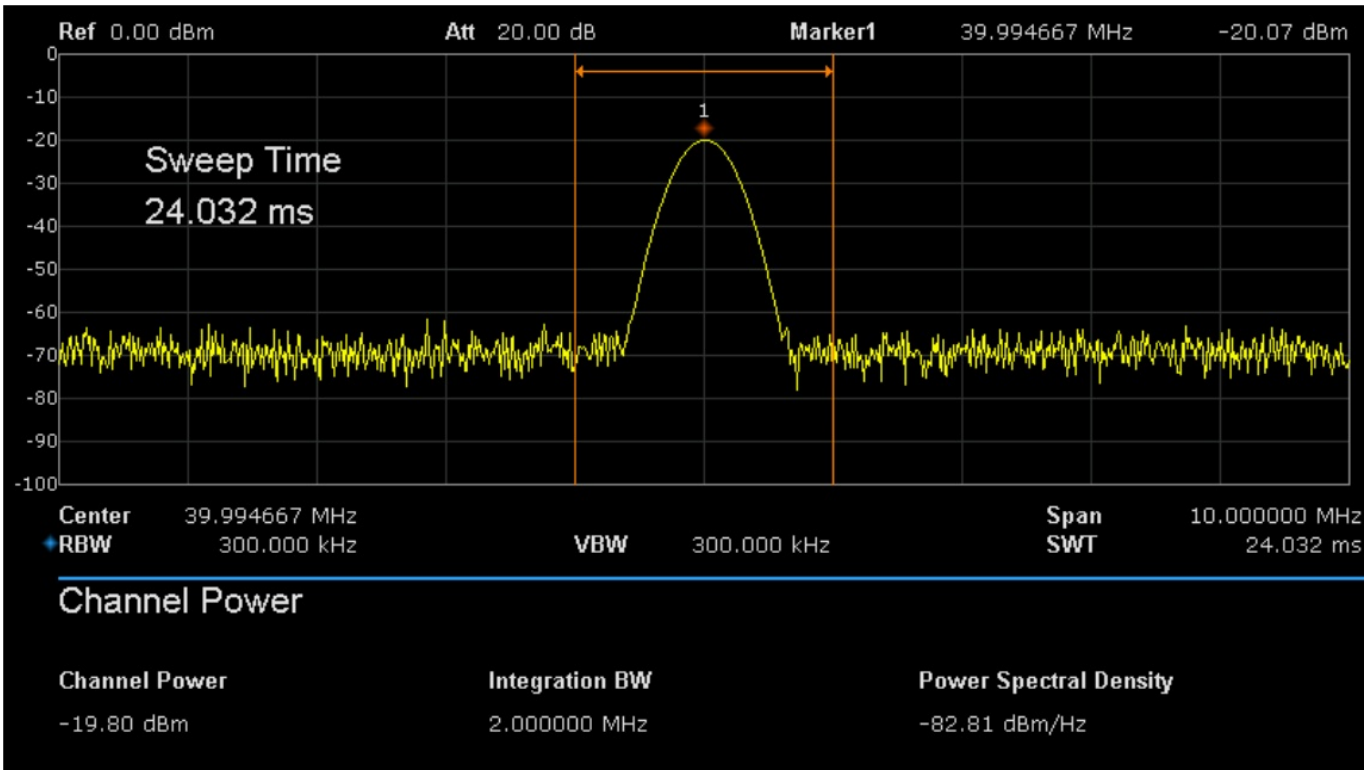
The SSA and SVA products feature optional advanced measurements that are ideal for broadcast and transmission measurement applications.

Here is a summary of the measurements included in the Advanced Measurement Kit (AMK) option:

NOTE: More details can be found in the SSA3000X and SVA1000X Users Guides.

Channel Power

Measure the power and power density within the specified channel bandwidth. When this function is enabled, the span and resolution bandwidth are automatically adjusted to smaller values. Select Channel Power and press Meas Setup to set the corresponding parameters.



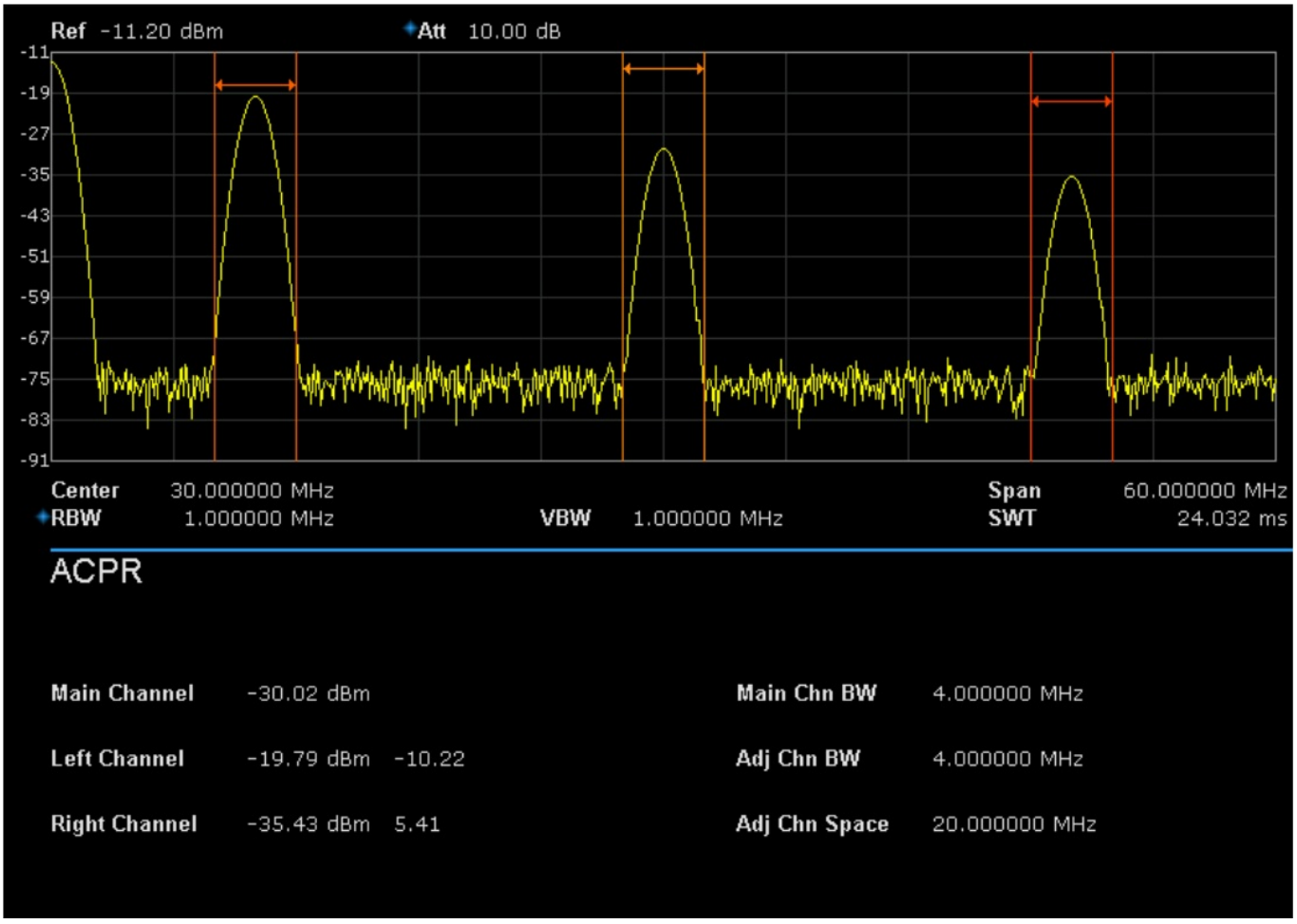
Measurement Results: Channel power and power spectral density.

- Channel Power: Power within the integration bandwidth.
- Power Spectral Density: Power (in dBm/Hz) normalized to 1 Hz within the integration bandwidth.

Measurement Parameters: Center Freq, integration bandwidth, Span, Span power.

ACPR

Measure the power of the main channel and adjacent channels as well as the power difference between the main channel and each of the adjacent channels. When this function is enabled, the span and resolution bandwidth of the analyzer are adjusted to smaller values automatically. Select ACPR and press Meas Setup to set the corresponding parameters.



Adjacent Channel Power Measurement: Main CH Power, Left channel power and Right channel power.

- Main CH Power: Displays the power within the bandwidth of the main power
- Left channel power: Display the power of channel to the left of the main channel and the power difference between the
  left channel and the main channel (in dBc)
- Right channel power: Display the power of the channel to the right of the main channel and the

power difference between
the right channel and the main channel (in dBc)

Measurement parameters: Center frequency, main channel bandwidth, adjacent channel bandwidth and channel spacing

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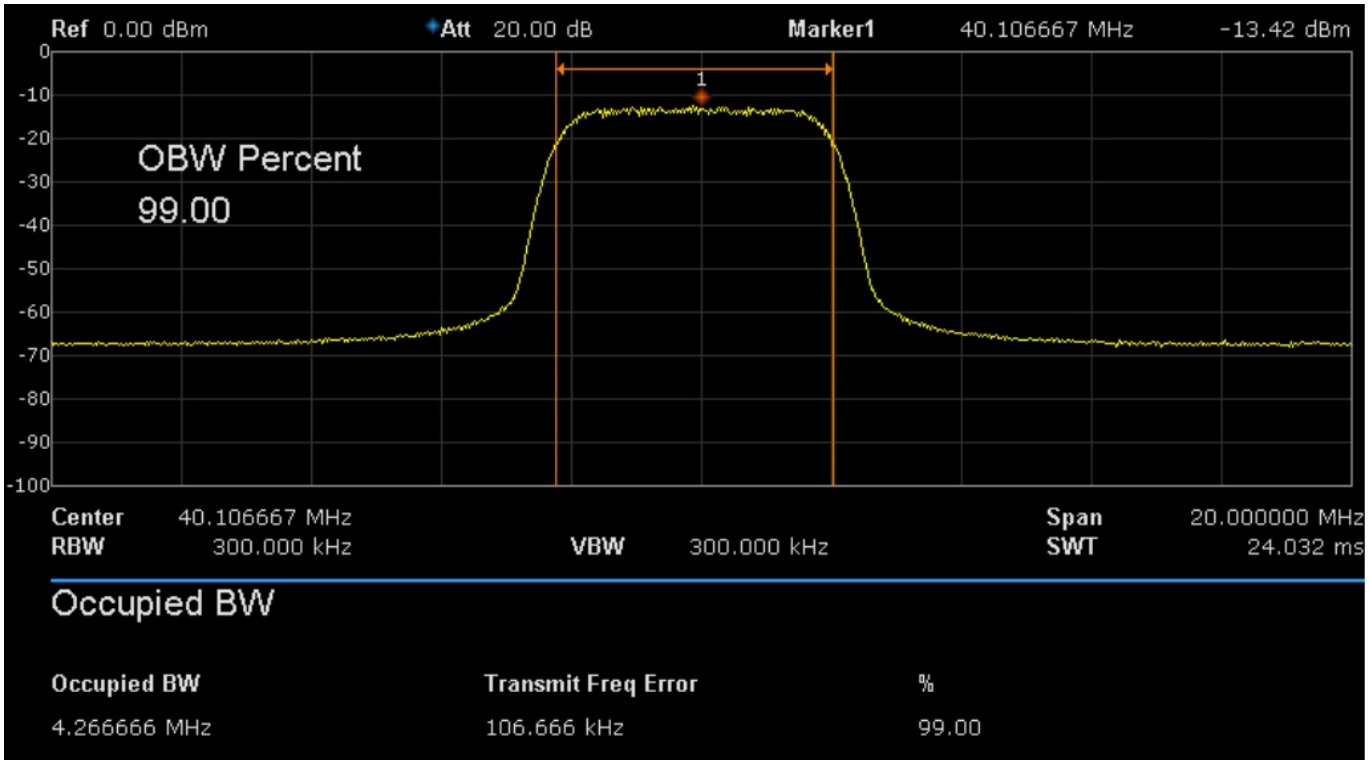
Occupied BW

Integrate the power within the whole span and calculate the bandwidth occupied by this power according to the specified power ratio. The OBW function also indicates the difference (namely "Transmit Freq Error") between the center frequency of the channel under measurement and the center frequency of the analyzer. Select Occupied BW and press Meas Setup to set the corresponding parameters.

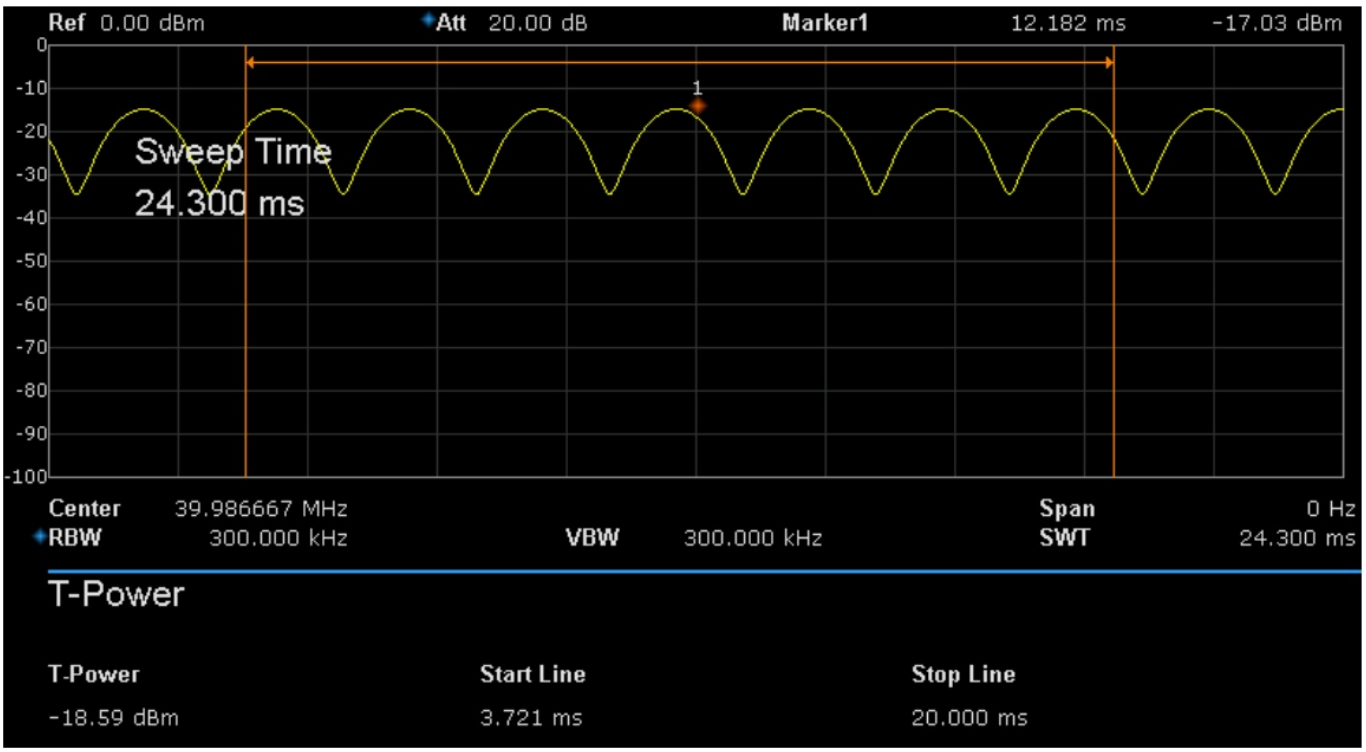


OBW measurement: Occupied bandwidth and transmit frequency error.

- Occupied Bandwidth: Integrate the power within the whole span and then calculate the bandwidth occupied by the power according to the specified power ratio.
- Transmit Frequency Error: The difference between the center frequency of the channel and the center frequency of the analyzer.

T-Power

The system enters zero span mode and calculates the power within the time domain. The types of powers available including: Peak, Average and RMS. Select T-Power and press Meas Setup to set the corresponding parameters.

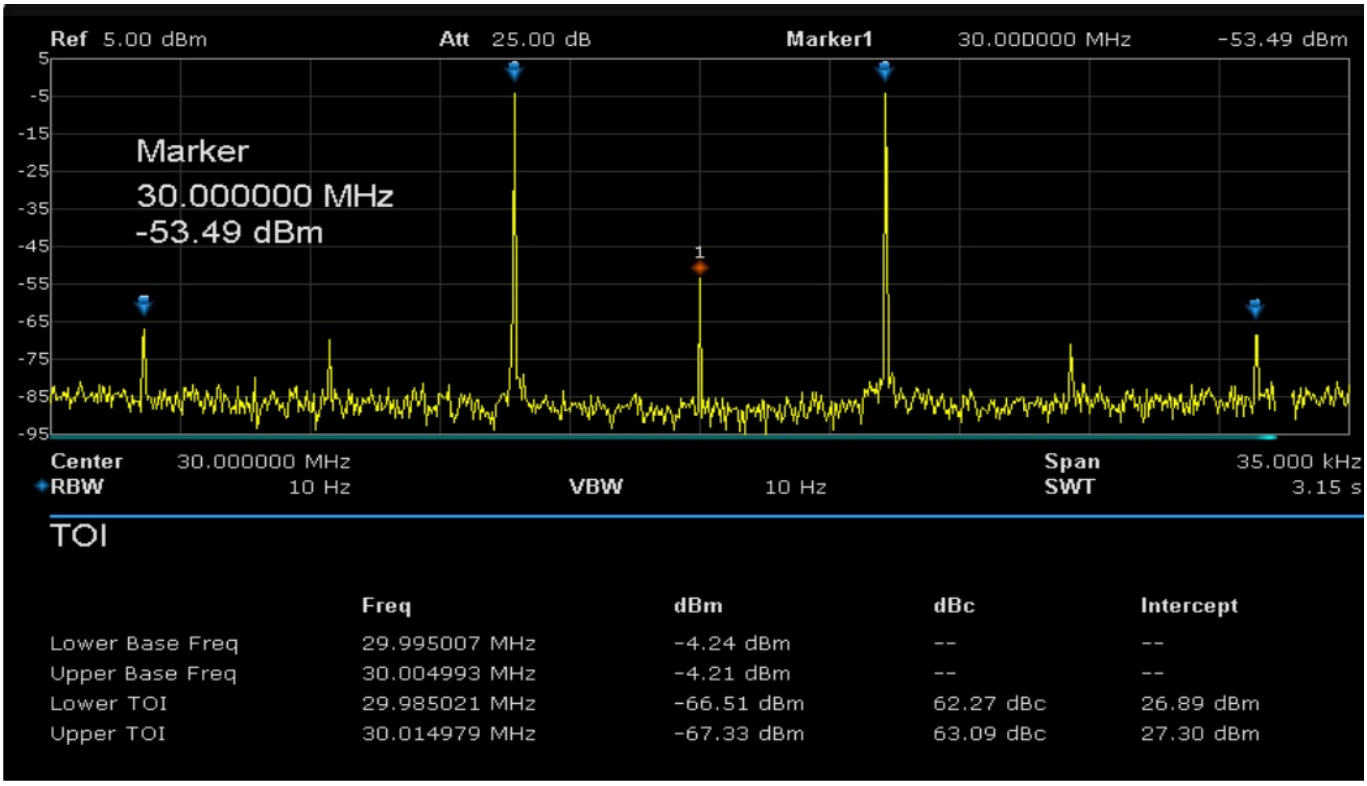


T-Power: The power of the signal from the start line to the stop line.

Measurement Parameter: Center frequency, start line, stop line.

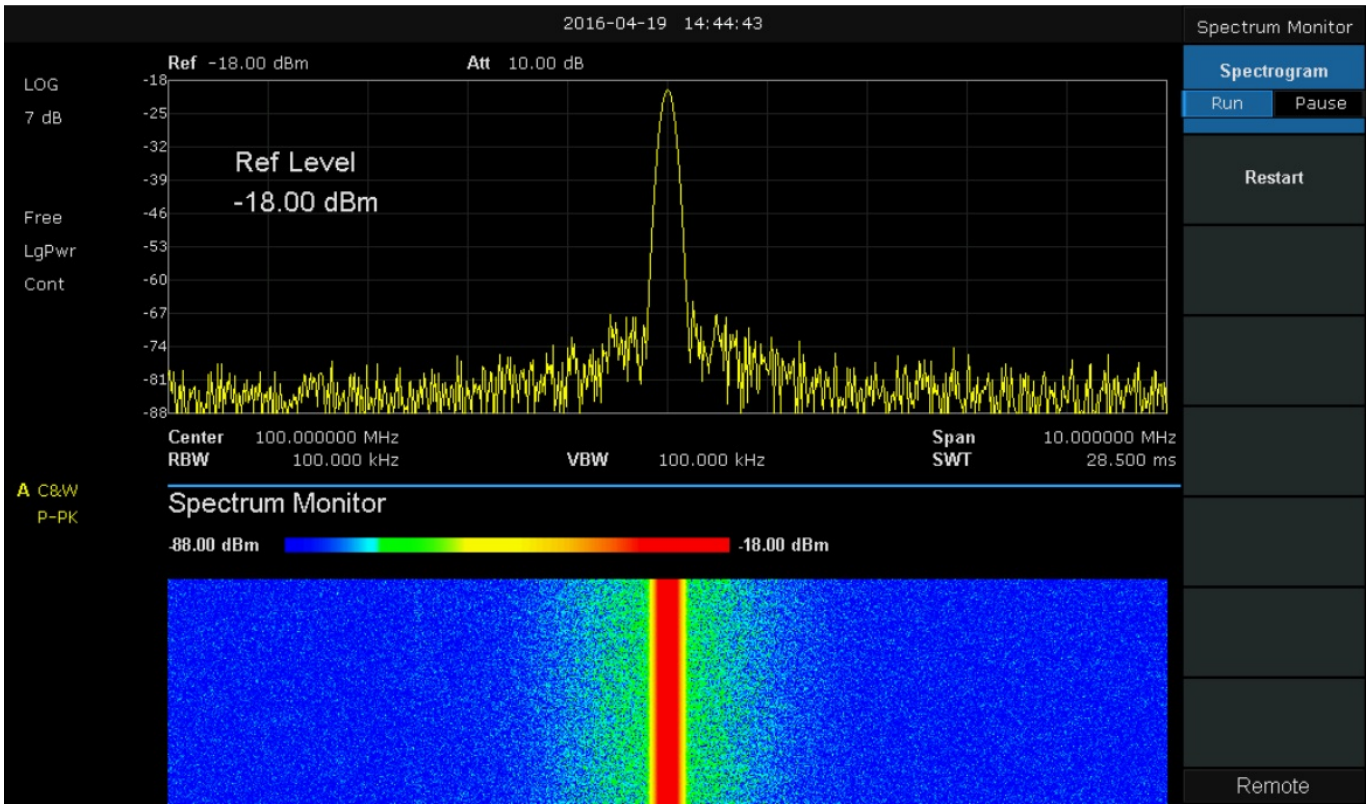
TOI

Automatic measurement of IP3 (Third-order Intercept Point), including the power of the fundamental wave and the Third order in the power domain. Calculate the adjustable Intercept Point.



Spectrum Monitor

Display the power of scanned spectra using color grading as well as collect a “waterfall” chart showing successive scans with respect to time. Select Spectrum Monitor and press Meas Setup to set the corresponding parameters.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Spectrum Monitor
Ref -18.00 dBm
Att 10.00 dB
LOG
7 dB
Free
LgPwr
Cont
Ref Level
-18.00 dBm
-18
-25
-32
-39
-46
-53
-60
-67
-74
-81
-88
Center 100.000000 MHz
RBW 100.000 kHz
VBW 100.000 kHz
Span 10.000000 MHz
SWT 28.500 ms
A C&W
P-PK
Spectrum Monitor
-88.00 dBm
-18.00 dBm
Spectrogram
Run
Pause
Restart
Remote

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