



OneAdvisor 800 EMF Analyzer

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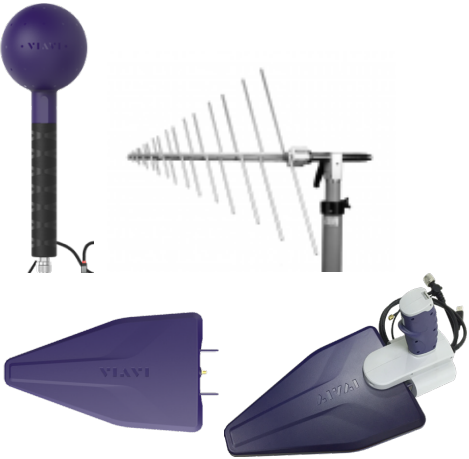
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1. Scope

This document describes how to configure the OneAdvisor 800 for EMF Analysis, including:

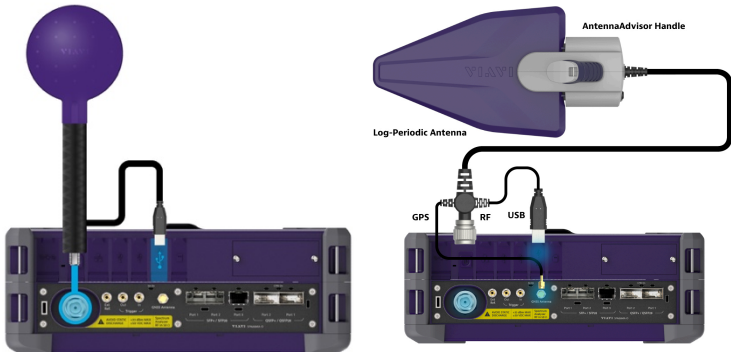
- Spectrum mode
- 5G NR Beam Analysis mode

The required products and parts to complete this procedure are as follows:

Description	Diagram
<p>OneAdvisor-800 with the following functions:</p> <ul style="list-style-type: none"> • ONA-SPA-EMF-SA: EMF Analyzer, Spectrum centric • ONA-SPA-EMF-5GNR: EMF Analyzer, 5G NR Beam centric 	
<p>Antennas</p> <ul style="list-style-type: none"> • Isotropic Antenna <ul style="list-style-type: none"> ○ G700050381: Isotropic Antenna, 400MHz (usable for 30 MHz) to 6 GHz. • Log Periodic Yagi Antenna <ul style="list-style-type: none"> ○ G700050366: Log periodic antenna, 650MHz to 4GHz ○ G700050367: Log periodic antenna, 650MHz to 6GHz ○ Schwarzbeck LPBA K9340/ K9340B • Antenna Advisor Handle <ul style="list-style-type: none"> ○ JD70050007 	

2. EMF Analyzer (Spectrum mode)

The following procedure describes the steps to perform EMF Analysis with OneAdvisor 800

Step	Description	Diagram
1	Power ON the instrument	Press and hold the ON/OFF button for 3 seconds
2	<p>Connect Antenna to N-type port on top of the instrument</p> <p>Connect USB cable for Isotropic Antenna then wait until you will see Isotropic Antenna Icon on top.</p>	

Step	Description	Diagram
3	Set Test Mode to EMF Analyzer, by selecting: <ul style="list-style-type: none"> {Test} {Radio Analysis} {EMF Analyzer} <p>Note: Initial screen does not show spectrum trace until the Measurement is started.</p>	<p style="text-align: center;">EMF Analyzer Test Mode</p>
4	Set the Center Frequency by selecting: <ul style="list-style-type: none"> {Settings} {Setup} {Frequency} Set Frequency Span, by selecting: <ul style="list-style-type: none"> Span Frequency Enter the Frequency Span 	<p style="text-align: center;">Center Frequency</p> <p style="text-align: center;">Frequency Span</p>
5	Set the Measurement Time by selecting: <ul style="list-style-type: none"> Frequency Setup Test Configuration Measurement Time Enter the desire Measurement Time 	<p style="text-align: center;">Measurement Time</p>
6	Set the limit by selecting: <ul style="list-style-type: none"> Setup Limit Set Standard Line Mode to On Standard Limit Line Select the Limit from the List Apply 	<p style="text-align: center;">Limit Configuration</p>

Step	Description	Diagram
7	Set the Antenna configuration by selecting: <ul style="list-style-type: none"> • Test Configuration • Antenna & Cable Loss • Antenna List EMF • Select the Antenna 	<p style="text-align: center;">Configure Antenna</p>
8	Start the EMF Spectrum Measurement by selecting: <ul style="list-style-type: none"> • Play <p>Note:</p> <ul style="list-style-type: none"> • Isotropic EMF Power: Averaged EMF Power taken from the current EMF trace. • Accumulated Isotropic EMF Power <ul style="list-style-type: none"> ○ Avg: Averaged EMF Power taken from the AVG Trace. ○ Max: Averaged EMF Power taken from the Max Hold Trace. <p>Min: Averaged EMF Power taken from the Min Hold Trace.</p>	<p>The screenshot shows the EMF Analyzer interface with the following data:</p> <ul style="list-style-type: none"> Center Freq: 2.800 000 000 GHz EMF Power: 64.41 dBuV/m Integrated BW: 1.23 MHz Accumulated EMF Power: <ul style="list-style-type: none"> Avg: 65.01 dBuV/m Max: 66.90 dBuV/m Min: 63.14 dBuV/m

3. EMF Analyzer (5G NR Beam Analysis)

Step	Description	Diagram
1	Power ON the instrument	Press and hold the ON/OFF button for 3 seconds
2	Connect Antenna to N-type port on top of the instrument Connect USB cable for Isotropic Antenna then wait until you will see Isotropic Antenna Icon on top.	

<p>3</p> <p>Set EMF 5G NR Beam Analysis by selecting:</p> <ul style="list-style-type: none"> • Measurements • 5G NR Beam Analysis • Done <p>Initial screen does not show spectrum trace until the Measurement is started.</p>		<p style="text-align: center;">EMF 5G NR Analysis Measurement Mode</p>
<p>4</p> <p>Set the Center Frequency by selecting:</p> <ul style="list-style-type: none"> • {Settings} • {Setup} • {Frequency} 		<p style="text-align: center;">Center Frequency</p>
<p>5</p> <p>Set the 5G carrier bandwidth and subcarrier spacing by selecting:</p> <ul style="list-style-type: none"> • {Frequency} • {Setup} • {Manual Configuration} • {Bandwidth/SSB SCS} • Select the bandwidth and subcarrier spacing • {Apply} <p>Search for the SSB by selecting:</p> <ul style="list-style-type: none"> • {Configuration} • {SSB Auto Search} to Start 		<p style="text-align: center;">5G Carrier Bandwidth and Subcarrier Spacing</p> <p style="text-align: center;">SSB Search</p>

6	Set the Measurement Time by selecting: <ul style="list-style-type: none"> • Frequency • Setup • Test Configuration • Measurement Time • Enter the desire Measurement Time 	<p style="text-align: center;">Measurement Time</p>
7	Set the limit by selecting: <ul style="list-style-type: none"> • Setup • Limit • Set Standard Line Mode to On • Standard Limit Line • Select the Limit from the List • Apply 	<p style="text-align: center;">Limit Configuration</p>
8	The measurement can be set as individual or accumulated: <ul style="list-style-type: none"> • Measurement Mode • Select Accumulated or Single • Apply <p>Note:</p> <ul style="list-style-type: none"> • Isotropic EMF Power <ul style="list-style-type: none"> ○ Instant Isotropic EMF power • Accumulated Isotropic EMF Power. <ul style="list-style-type: none"> ○ Avg: Average of Extrapolated Accumulated Isotropic EMF Power ○ Max: Peak of Extrapolated Accumulated Isotropic EMF Power ○ Min: Min of Extrapolated Accumulated Isotropic EMF Power 	 <p style="text-align: center;">EMF 5G NR Beam Analysis</p>

4. EMF Analyzer (5G NR Traffic Analysis)

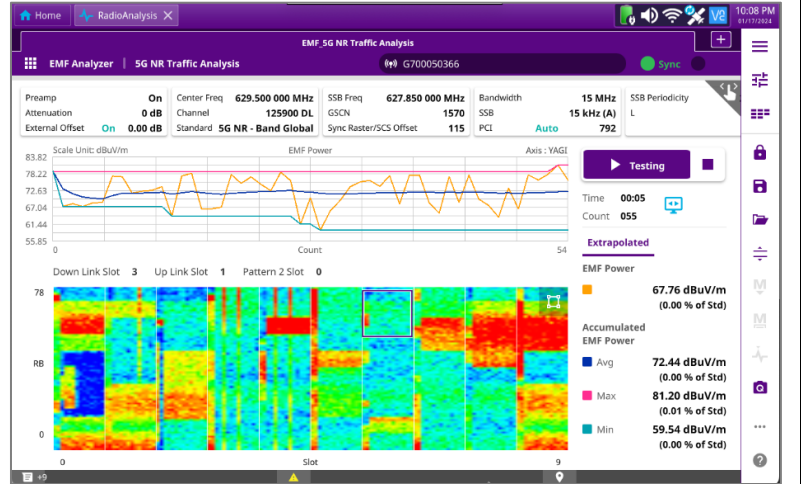
Step	Description	Diagram
1	Power ON the instrument	Press and hold the ON/OFF button for 3 seconds

<p>2</p>	<p>Connect Antenna to N-type port on top of the instrument</p> <p>Connect USB cable for Isotropic Antenna then wait until you will see Isotropic Antenna Icon on top.</p>	
<p>3</p>	<p>Set EMF 5G NR Beam Analysis by selecting:</p> <ul style="list-style-type: none"> • Measurements • 5G NR Traffic Analysis • Done <p>Initial screen does not show spectrum trace until the Measurement is started.</p>	<p style="text-align: center;">EMF 5G NR Traffic Analysis Measurement Mode</p>
<p>4</p>	<p>Set the Center Frequency by selecting:</p> <ul style="list-style-type: none"> • {Settings} • {Setup} • {Frequency} 	<p style="text-align: center;">Center Frequency</p>
<p>5</p>	<p>Set the 5G carrier bandwidth and subcarrier spacing by selecting:</p> <ul style="list-style-type: none"> • {Frequency} • {Setup} • {Manual Configuration} • {Bandwidth/SSB SCS} 	<p style="text-align: center;">5G Carrier Bandwidth and Subcarrier Spacing</p>

	<ul style="list-style-type: none"> Select the bandwidth and subcarrier spacing {Apply} <p>Search for the SSB by selecting:</p> <ul style="list-style-type: none"> {Configuration} {SSB Auto Search} to Start 	<p>SSB Search</p>																												
<p>6</p>	<p>Set the Antenna Type and Axis for the measurement:</p> <ul style="list-style-type: none"> Manual Configuration Antenna & Cable Loss Antenna List EMF Select the Antenna to be used from the list Apply 	<p>Antenna Type</p> <table border="1"> <thead> <tr> <th colspan="4">Antenna List</th> </tr> <tr> <th></th> <th>Antenna Type</th> <th>Frequency (MHz)</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>Standard</td> <td>G700050381</td> <td>30.00 - 6000.00</td> <td>Isotropic E Field (AGOS)</td> </tr> <tr> <td rowspan="5">Custom</td> <td>USLP_9143</td> <td>300.00 - 7000.00</td> <td>Log Periodic Broadband (Schwarzbeck)</td> </tr> <tr> <td>USLP_9143B</td> <td>450.00 - 8000.00</td> <td>Log Periodic Broadband (Schwarzbeck)</td> </tr> <tr> <td>G700050366</td> <td>200.00 - 4000.00</td> <td>Log Periodic Broadband (VIAVI)</td> </tr> <tr> <td>G700050367</td> <td>300.00 - 6000.00</td> <td>Log Periodic Broadband (VIAVI)</td> </tr> <tr> <td>USLP_9142</td> <td>800.00 - 5000.00</td> <td>Log Periodic Broadband (Schwarzbeck)</td> </tr> </tbody> </table> <p>Antenna List</p>	Antenna List					Antenna Type	Frequency (MHz)	Type	Standard	G700050381	30.00 - 6000.00	Isotropic E Field (AGOS)	Custom	USLP_9143	300.00 - 7000.00	Log Periodic Broadband (Schwarzbeck)	USLP_9143B	450.00 - 8000.00	Log Periodic Broadband (Schwarzbeck)	G700050366	200.00 - 4000.00	Log Periodic Broadband (VIAVI)	G700050367	300.00 - 6000.00	Log Periodic Broadband (VIAVI)	USLP_9142	800.00 - 5000.00	Log Periodic Broadband (Schwarzbeck)
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<p>7</p>	<p>Set the 5G NR traffic measurement area from the allocation map:</p> <ul style="list-style-type: none"> Area Icon Move the position bar within the frame allocation map, horizontal for slot and vertical for resource block (RB). <p>Note: In case of isotropic antenna it is possible to define the test area for each antenna axis (X, Y, Z)</p>	<p>Set the 5G NR Traffic Area</p>																												

		<p style="text-align: center;">5G NR Traffic Area</p>
8	Set the Measurement Time by selecting: <ul style="list-style-type: none"> • Frequency • Setup • Test Configuration • Measurement Time • Enter the desire Measurement Time 	<p style="text-align: center;">Measurement Time</p>
9	Set the limit by selecting: <ul style="list-style-type: none"> • Setup • Limit • Set Standard Line Mode to On • Standard Limit Line • Select the Limit from the List • Apply 	<p style="text-align: center;">Limit Configuration</p>
10	The measurement can be set as individual or accumulated: <ul style="list-style-type: none"> • Measurement Mode • Select Accumulated or Single • Apply <p>Note:</p> <ul style="list-style-type: none"> • Isotropic EMF Power <ul style="list-style-type: none"> ○ Instant Isotropic EMF power • Accumulated Isotropic EMF Power. <ul style="list-style-type: none"> ○ Avg: Average of Extrapolated Accumulated Isotropic EMF Power 	<p style="text-align: center;">Measurement Mode</p>

- Max: Peak of Extrapolated Accumulated Isotropic EMF Power
- Min: Min of Extrapolated Accumulated Isotropic EMF Power



EMF 5G NR Traffic Analysis

5. Technical Support

Technical support is provided by:

- Phone: 1-844-GO-VIAVI (1-844-468-4284) options 3-2-3
- Email: diagnostics.tac@viavisolutions.com

Regularly new firmware updates for the OneAdvisor-800 are released and it is recommended to keep the instrument in the latest firmware to provide all the enhancements and bug fixes.

- For additional information of cell site test go to: <http://www.viavisolutions.com/en/products/network-test-and-certification/cell-site-test>