FAQ Document: SignalShark 5G Analyzer

1. What is the SignalShark 5G Analyzer and how does it support 5G measurements?

A1: SignalShark is a specialized signal analyzer designed to perform efficient 5G New Radio (NR) measurements with the 5G Analyzer option installed. It offers real-time signal evaluation and supports advanced features like EMF (Electromagnetic Field) extrapolation to maximum load conditions, even in complex environments.

More details here: [SignalShark 5G](#)

2. How does the 5G EMF Extrapolation function improve measurement processes?

A2: The 5G EMF Extrapolation module offers several advantages:

- Extrapolation to Maximum Load Without Operator Information: The system does not require data from the mobile network operator.
- Simplified Frequency Reading: Channel center frequency is easily readable, unlike the SSB center frequency.
- No Angle Measurements Needed: Eliminates error-prone angle calculations.
- Consideration of Reflections: Uses an isotropic antenna for accurate results.
- Non-Line-of-Sight (NLOS) Measurements: Delivers reliable results even in NLOS conditions.

3. Are the SRM-3006 antennas compatible with the SignalShark 5G Analyzer?

A3: Yes, the SignalShark 5G Analyzer is compatible with SRM-3006 antennas, making it versatile for various measurement setups. An upgrade possibility until 8 GHz for existing 6 GHz SRM antennas is available (in the near future).

4. Is the SignalShark 5G Analyzer able to handle multiple user equipment connected to the same base station?

A4: Yes, it accurately measures field strength even when several devices are connected to the same base station, ensuring correct results in realistic network scenarios.

5. How does the analyzer ensure isotropic measurements?

A5: Isotropic measurements require capturing three axes (X, Y, Z) The analyzer records spectrogram data for each axis, which contains the necessary information about the power components of the resource blocks over frequency and time. The Narda isotropic antennas ensure compliant measurements according to the standards.

6. How long does a SignalShark 5G Analyzer measurement take, and why is it efficient?

A6: The measurement process is highly efficient, taking only a few seconds due to minimal preparation time. Additionally, the analyzer directly displays extrapolated values, eliminating the need for manual calculations.

7. Can this method apply to Non-Line-of-Sight (NLOS) environments?

A7: The SignalShark 5G Analyzer is designed to handle NLOS conditions effectively. It considers reflections and uses isotropic measurements to deliver accurate results, even when line-of-sight is not possible.

8. Can I perform measurements for multiple network operators simultaneously?

A8: If the channels are close enough together, several channels can be recorded simultaneously. However, the evaluation must currently be carried out separately for each channel. It should be noted that a beam must be drawn onto the measuring antenna for each provider with a suitable user equipment.

9. What are the benefits of not requiring angle measurements or conversions from antenna patterns?

A9: By avoiding angle measurements, the SignalShark 5G Analyzer reduces the potential for errors and simplifies the setup process. Users do not need to worry about incorrect antenna pattern conversions, making the workflow more efficient and reliable.

10. Can the analyzer measure traffic generated by mobile devices?

A10: Yes, the 5G Analyzer measures traffic generated by mobile devices but does not perform decoding in this mode.

11. Can saved measurements be re-evaluated with different settings?

A11: Yes, measurements can be saved and re-evaluated using different extrapolation settings. This feature allows for flexibility in analyzing data and adjusting settings to achieve optimal accuracy.

12. How does the analyzer ensure accurate EMF exposure measurements?

A12: The analyzer uses the following techniques:

- Isotropic Antenna: Measures true traffic and accounts for environmental reflections.
- Direct Extrapolation: Displays results immediately without manual computation.

Short Measurement Time: Saves time and increases productivity compared to traditional methods that could take several hours.

13. What are the uncertainties associated with measurements?

A13: The uncertainties will be detailed in the technical datasheet.

14. How does the SignalShark handle DSS / none-standalone 4G/5G networks?

A14: For DSS and none-standalone, the process is identical to standalone mode, as long as the device is served by the 5G cell during testing. In a later version, this can be verified by a connected user equipment.

15. Can this method apply to beamforming antenna sites?

A15: Yes, the method supports beamforming environments, especially when using advanced antennas like those compatible with the SignalShark.

For further information and technical documentation, visit the SignalShark 5G Analyzer product page.