R&S® OSP-F7x
Modular Filter Bank
Selective suppression of carrier signals

In order to measure radiated spurious emissions from mobile terminal equipment that has a wireless interface, the carrier signal must be adequately suppressed. Narrow-stopband filters are used to suppress this frequency. The R&S® OSP-F7x is a filter bank for suppressing carrier frequencies. Its modular design allows it to be flexibly configured and easily expanded for various frequency bands.
Since wireless communications DUTs today usually support various frequency bands with varying bandwidths, a special filter must be switched between the antenna and the amplifier for each band.

Due to the many different technologies, flexible configuration of filter banks according to the DUTs to be tested is necessary. In addition, expandability for future requirements must be ensured.

The R&S®OSP-F7x concept satisfies these requirements. For application-specific configuration of up to 28 cutoff frequencies, the R&S®OSP-F7-B base filter bank unit can be expanded using the R&S®OSP-F7-E1 to E3 filter bank units.

Filters are available to cover all major wireless communications standards including GSM, Bluetooth®, WLAN, WCDMA (UMTS), CDMA and TD-SCDMA. Other filters and additional filter bank units are available upon request. The individual filter bank units are shielded to protect them from external RF.

Automatic measurements and a wide dynamic range in combination with the shielded filter bank units ensure high measurement accuracy and reproducibility.

The universal filter bank is a new R&S®TS8986 RSE test system component that can be easily integrated into R&S®EMC32 EMC software measurement routines.

The filter bank units are controlled by the universal R&S®OSP open switch and control platform. The filter bank can also be controlled by other test systems via the Ethernet interface at the R&S®OSP.
Application
Within a test system, such as the R&S®TS8996 RSE test system, the R&S®OSP open switch and control platform controls external antenna allocation as well as the filter banks to select the filter for suppressing the required carrier signal.

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The filter bank has a modular design, and consists of the R&S®OSP-F7-B base unit and the R&S®OSP-F7-E1 to E3 expansion units. The individual units contain the RF relays for switching between filters, the cabling, the mounting plate for up to six filters and the control cables for the R&S®OSP.

The detailed filter configuration is available upon request.

Configuration of the R&S®OSP-F7x filter bank for the R&S®TS8996 RSE test system

Specifications in brief (R&S®OSP-F7B, R&S®OSP-F7-E1 to E3)

<table>
<thead>
<tr>
<th>Specification</th>
<th>R&amp;S®OSP-F7-B</th>
<th>R&amp;S®OSP-F7-E1</th>
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<tbody>
<tr>
<td>Frequency range</td>
<td>30 MHz to 6 GHz</td>
<td>typ. 80 dB up to 3 GHz</td>
</tr>
<tr>
<td>Shielding effectiveness</td>
<td>R&amp;S®OSP-F7-B</td>
<td>R&amp;S®OSP-F7-E1</td>
</tr>
<tr>
<td>Dimensions (W × H × D)</td>
<td>without handles</td>
<td>483 mm x 310 mm x 542 mm (19.02 in x 12.21 in x 21.34 in)</td>
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<tr>
<td></td>
<td></td>
<td>7 HU, 19&quot;, depth &gt; 550 mm (21.65 in)</td>
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<tr>
<td>Weight</td>
<td>approx. 30 kg to 55 kg (66.14 lb to 121.25 lb)</td>
<td></td>
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Ordering information

<table>
<thead>
<tr>
<th>Designation</th>
<th>Type</th>
<th>Order No.</th>
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</thead>
<tbody>
<tr>
<td>Shielded Filter Unit for R&amp;S®OSP, base unit for Bluetooth® and GSM filter (RF relays incl. RF cable, preamplifier, control cable to R&amp;S®OSP)</td>
<td>R&amp;S®OSP-F7-B</td>
<td>1509.8634K02</td>
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<tr>
<td>Shielded Filter Unit for R&amp;S®OSP (expansion unit 1 for UMTS 1 to 6 filters)</td>
<td>R&amp;S®OSP-F7-E1</td>
<td>1509.8634K10</td>
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<tr>
<td>Shielded Filter Unit for R&amp;S®OSP (expansion unit 2 for UMTS 7 to 12 filters)</td>
<td>R&amp;S®OSP-F7-E2</td>
<td>1509.8634K20</td>
</tr>
<tr>
<td>Shielded Filter Unit for R&amp;S®OSP (expansion unit 3 for UMTS 13 to 14, CDMA or TD-SCDMA filters)</td>
<td>R&amp;S®OSP-F7-E3</td>
<td>1509.8634K30</td>
</tr>
<tr>
<td>19&quot; Rack for shielded filter units and R&amp;S®OSP (prepared for the integration of the filter units and the R&amp;S®OSP units)</td>
<td>R&amp;S®OSP-F-R39</td>
<td>1509.8634K50</td>
</tr>
<tr>
<td>Configuration and calibration of filters GSM, Bluetooth®, WLAN, WCDMA (UMTS), CDMA, TD-SCDMA, etc.</td>
<td>on request</td>
<td></td>
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</tbody>
</table>

1) Incl. RF relays, RF cable to R&S®OSP-F7-B, control cable to R&S®OSP.
About Rohde & Schwarz
Rohde & Schwarz is an independent group of companies specializing in electronics. It is a leading supplier of solutions in the fields of test and measurement, broadcasting, radiomonitoring and radiolocation, as well as secure communications. Established more than 75 years ago, Rohde & Schwarz has a global presence and a dedicated service network in over 70 countries. Company headquarters are in Munich, Germany.

Environmental commitment
- Energy-efficient products
- Continuous improvement in environmental sustainability
- ISO 14001-certified environmental management system

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