

# R&S®ARGUS – ITU SMS4DC integrated spectrum monitoring/man- agement system Application

R&S®ARGUS – the first spectrum monitoring system that integrates the new SMS4DC ITU spectrum management application.

Dialog window in R&S®ARGUS to define parameters for a query of the ITU SMS4DC license data base.

## Your task

Spectrum monitoring knows exactly how the world really is – spectrum management knows exactly how the world should be. Therefore, to make optimum use of the limited frequency spectrum, it is very important to enable the spectrum monitoring and spectrum management systems to exchange data with each other.

## Our solution

R&S®ARGUS is the standard software for monitoring and evaluation in accordance with ITU recommendations. Suitable instruments and analysis tools are available for each of the ITU requirements. The R&S®ARGUS measurement modes reflect typical work flows and are designed to simplify daily measurement routines. Numerous statistics enable the detailed investigation of measured values and the compilation of concise, informative reports.

For many years, R&S®ARGUS has successfully integrated spectrum management applications. Due to the R&S®ARGUS open interface, numerous reference projects with all major suppliers as well as various customer-specific solutions have been implemented. Information exchange, i.e. the request for data and the requested data, is handled via files in XML format.

The same tried-and-tested procedure has been adopted for the integration of SMS4DC, the new spectrum management application from the ITU.

Monitoring operators can retrieve the information they need from spectrum management. Management operators can define required monitoring tasks. These measurements include, for example scans, direction finding, occupancy and even recordings of the demodulated audio signal.

75 Years of  
Driving  
Innovation

  
**ROHDE & SCHWARZ**

## Application

Communications between spectrum monitoring and spectrum management work in both directions. Each operator can request data from the other side.

In R&S®ARGUS, the monitoring operator can precisely define parameters for a query of the license database. Depending on the individual task, this information can be data regarding occupied or unassigned frequencies. This selection can further be filtered, e.g. by location, service type or license state. Subsequently, this management information can be used, for example to detect and identify new, unlicensed transmitters or to verify whether licensed transmitters operate within their assigned limits.

In SMSM4DC, the management operator can define measurement tasks for R&S®ARGUS. A dialog window provides information about the available monitoring sites and the associated equipment. The operator can thus conveniently select what to measure, and when and where to perform the measurement. Depending on the definition, the measurement is carried out fully automatically or manually by a local R&S®ARGUS operator. Each configured R&S®ARGUS monitoring station can be utilized.

At the end of the measurement, the results are made available to SMS4DC, where the management operator can further process and evaluate them.

Dialog window in SMS4DC to define a measurement task.

**SMS4DC : Order Report**

General Setting | Date and Time Setting | Result Setting

Order Type : OR  
Order ID : OR090928151920636  
Order Name : FM MUC  
Execution Type : Automatic  
Sub-Order Task : Scan

Measurement Parameter :	Occupancy :	Threshold :
Level	<None>	0
Offset	<None>	0
	<None>	0
	<None>	0

LV F0

Fixed Frequency : 89.5 MHz  
Frequency Range :  
Start : 88.0 MHz  
Stop : 108.0 MHz  
Step Width : 100.0 kHz  
No. of Meas. Points : 501

Measurement Location :  
Latitude : 48 N 07 47.701  
Longitude : 011 E 36 16.301

Select a Device by Double Click : (Last GSP-Order: 16, September 2009)

- Measurement Unit(s)
  - Unit(Station) Name: Rohde & Schwarz HQ
  - Unit(Station) Name: UMS100-99992
  - Unit(Station) Name: Airport
  - Unit(Station) Name: Mobile 1
  - Unit(Station) Name: ArgusWebCU

Receiver and Direction Finder Setting ( Rohde\_Schwarz HQ :: HK309-EM100 )

IF Bandwidth : 120 kHz RF Attenuation : Off  
IF Attenuation : Normal Preamp: Off  
Demodulation : FM Meas. Time (ms) : Default  
Detector : Average Mode : Normal  
IF Span : 200 kHz

Frequency List... Transmitter List... Suppress List...

Create Order

## Rohde & Schwarz GmbH & Co. KG

Europe, Africa, Middle East +49 89 4129 137 74

customersupport@rohde-schwarz.com

North America 1 888 TEST RSA (1 888 837 8772)

customer.support@rsa.rohde-schwarz.com

Latin America +1 410 910 7988 | customersupport.la@rohde-schwarz.com

Asia/Pacific +65 65 13 04 88 | customersupport.asia@rohde-schwarz.com

www.rohde-schwarz.com

R&S® is a registered trademark of Rohde & Schwarz GmbH & Co. KG

Trade names are trademarks of the owners

R&S®ARGUS – ITU SMS4DC | PD 5214.3269.92 | Version 01.01 | October 2009

Data without tolerance limits is not binding | Subject to change

Printed in Germany (as)