



Case Study

LMT, Latvia

THE REVOLUTIONARY SPECTRUM COMPACT

Introduction

Mobile operators are constantly challenged by rapid changes in the industry. Growing number of network users and other point-to-point radio links operating on the same frequency are amongst the most common aspects regarding interference issues. In order to resolve problems in backbone point-to-point radio network, as well as, to improve the existing network quality, LMT uses Spectrum Compact analyzer. Unlike other similar devices used for interference problem detection, SAF's Spectrum Compact offers unique technical characteristics which are supplemented with easy to use interface and sleek design.

Customer

LMT is the largest mobile service provider in Latvia. Their services operate on more than 1194 base stations providing network coverage on the entire area of Latvia. Data transmission is one of the main services provided by LMT. In order to remain its market leading position, LMT continuously improves its network capacity. To maintain wide geographical coverage, data transmission speed and quality LMT has to resolve any problems that are caused by interference.

LMT Network

Location: Latvia, entire area

Link distance: 600 m up to 35 km

Frequency bands in use: 6, 13, 18, 23, 26, 32, 38 GHz

Antenna diameter: 0.3 m-1.8 m



“Our main challenge is to increase base station capacity by detecting and eliminating any interference problems in backbone point-to-point radio network. Spectrum Compact is a great tool, that has significantly decreased our interference problems.”

- Gunars Afonins, Deputy Head of Transmission Division | LMT

Challenge

Dense urban deployment and the growing demand on telecommunication services create various interference problems for mobile operators. Resulting in degradation in signal quality and strength, mobile service providers are constantly researching new ways to enhance network and signal quality. In order to increase data capacity, LMT uses XPIC in combination with other links that operate in n+n configurations, making it more challenging to sustain superior connection to its clients.

On the contrary to Spectrum Compact, other devices with similar functions create unnecessary struggle for field engineers. Inconvenient weight and size, as well as the time consuming preparation that is required by predecessors in the field of spectrum analyzers, make it hard to resolve any problems that are caused by interference. Company's one of the main goals is to detect free channels and resolve any interference issues that are caused by overlapping frequencies.



One of the many LMT sites. Engineers perform frequency, polarization and bandwidth detection from ground level by simply pointing the horn antenna in the direction of antenna in question.

Solution

In order to resolve any possible and existing interference problems before and during installation, as well as to perform maintenance of point-to-point links, LMT uses SAF's spectrum analyzer Spectrum Compact. Prior to the use of Spectrum Compact, LMT's interference problem solving was complicated and almost non-existent. Detailed spectrum analysis was possible only with heavy, high-priced equipment and it required climbing the tower antenna, in order to find interference. Resolving these issues with Spectrum Compact creates a valuable addition to company's cost savings and reduces the work-load for field engineers. Spectrum Compact offers unique and convenient frequency detection from ground level. To find interference, LMT engineers perform link troubleshooting by simply positioning the waveguide adapter in the direction of incoming signal. These steps allow them to see which frequencies are being used, as well as, to find possible frequencies which get less impact from another links. Retrieved data of processed scans is saved and later used by LMT for future expansion planning.

With a market leading sensitivity of -105dBm/MHz Spectrum Compact is the world's only handheld spectrum analyzer. Along with its stand-alone functionality and precise frequency detection, Spectrum Compact provides customer with user friendly experience. Beside analyzer's data saving option and convenient size, Spectrum Compact has a competitive price, making it a strong player in the field of communications.



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