

**ITU WORKSHOP on  
SHORT RANGE DEVICES (SRDs)  
AND ULTRA WIDE BAND (UWB)  
(Geneva, 3 June 2014\*)**

**RES-54**

**The importance of SRD  
harmonization**

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**ITU WORKSHOP ON  
SHORT RANGE DEVICES AND  
ULTRA WIDE BAND**

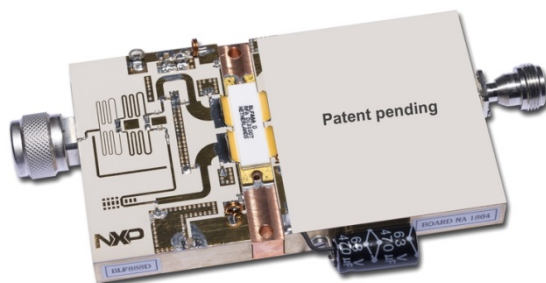
**GENEVA, SWITZERLAND  
3 JUNE 2014**

[www.itu.int/go/ITU-R/RWP1B-SRD-UWB-14](http://www.itu.int/go/ITU-R/RWP1B-SRD-UWB-14)



*\* in conjunction with the June 2014 block of  
meetings of ITU-R Study Group 1*

- Background to RES-54
- The importance of RES-54
- The challenge of finding a frequency band (an example)
- Conclusion





# The start of harmonization (1)



- Before RA-07, an ITU-R Recommendation that did not recommend anything
- Collection of national/regional information
- RA-07 proposal for an ITU-R Resolution
- Reasons:
  - economies of scale
  - technological advances/ tuning ranges
  - spectrum sharing
  - integrated in consumer products/crossing borders



# The start of harmonization (2)



- **RA-07 adopted ITU-R Res 54**
- **ITU-R Res 54 recommends studies**
  - **enable implementation of advanced technologies for SRDs**
  - **collect information SRD using advanced spectrum access/ tuning range techniques**
  - **mechanism, that may ease the use of relevant frequency bands/ tuning ranges**
  - **preferably on a global or regional basis**



- **WP 1B developed Rec ITU-R SM.1896 in 2011**
  - contains frequency ranges to be used as recommended ranges for SRDs applications requiring operation on a global or regional harmonised basis
- **Report ITU-R SM.2153**
  - yearly updated
- **RA-12 update of Res 54**
  - study harmonization of technical and operating parameters
  - study measurement procedures to verify these parameters
  - study requirements SRD to promote efficient spectrum use
  - study deployment in specific bands, harmonised globally or regionally

- Possible solutions for a product requiring worldwide use such as a hearing aid, medical implant or RFID/EAS system

	regulatory challenge	technical challenge
Tuning range	Availability of tuning range in all countries	Is the hardware suitable for use in a tuning range?
	Conditions under which available	What about local interference?
	Cognitive approach supported ?	QOS
Shared Frequency (band)	Are studies available for preferred band?	Are technical sharing solutions realistic ? (cost)
	Is global harmonization possible?	What about local interference?
	Cognitive approach supported ?	QOS
UWB	Power levels not harmonised	Is the power level suitable?
	Is the specific deployment scenario allowed everywhere?	QOS



## ■ Specific challenges for cognitive use

regulatory challenge	technical challenge
Database availability	Speed of sensing system
Database responsibility	Sensitivity of sensing system (receiver cost)
	High levels of integration restrict power supply
	Technical overhead in relation to product cost



## ■ And what about ISM bands?

Suitable for many applications

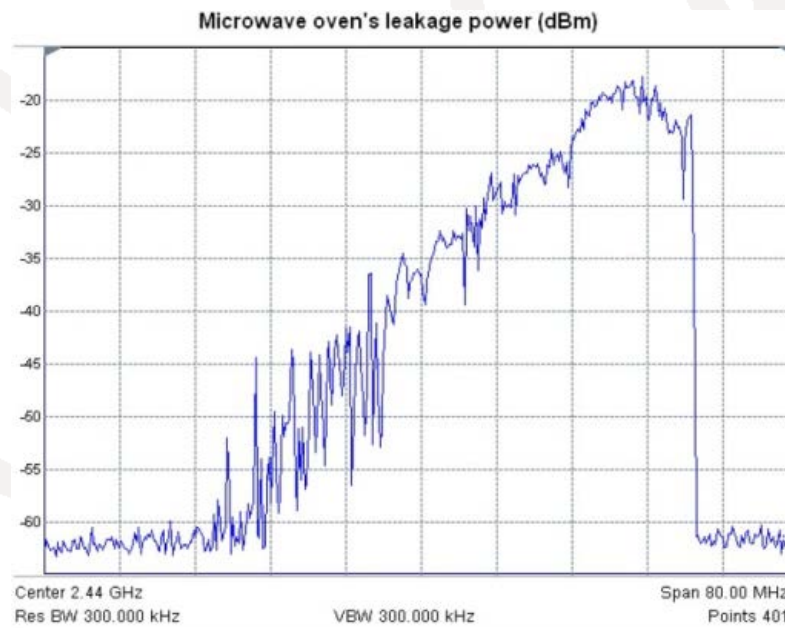
Worldwide harmonised

Sharing environment not suitable for all technologies / applications

Interference from ISM equipment, unpredictable environment

Unpredictable increased average noise level in ISM environment

Frequency ranges limited in number and bandwidth







# Conclusion



- **First steps towards harmonization**
- **Important to continue studies**
- **Identify frequency bands**
- **Identify common technical and operating parameters**
- **Enable advanced technologies**
- **Strategy for the future?**

