



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



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

"European UWB activities and worldwide UWB harmonization needs"

Dr. Michael Mahler

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

UWB applications in ECC/ETSI



Generic UWB
indoor (fixed use)

Mobile Device
in- & outdoor

Building
Material
Analysis

Automotive
and railway
vehicles (in &
outside)

Ground & Wall
probing radar

Automotive radar
(ShortRangeRadar)

Location
Tracking
(in- & outdoor
+ fixed)

Object
Discrimination
for Power tools

(Tank) Level
Probing radar

(on-board) Aircraft use

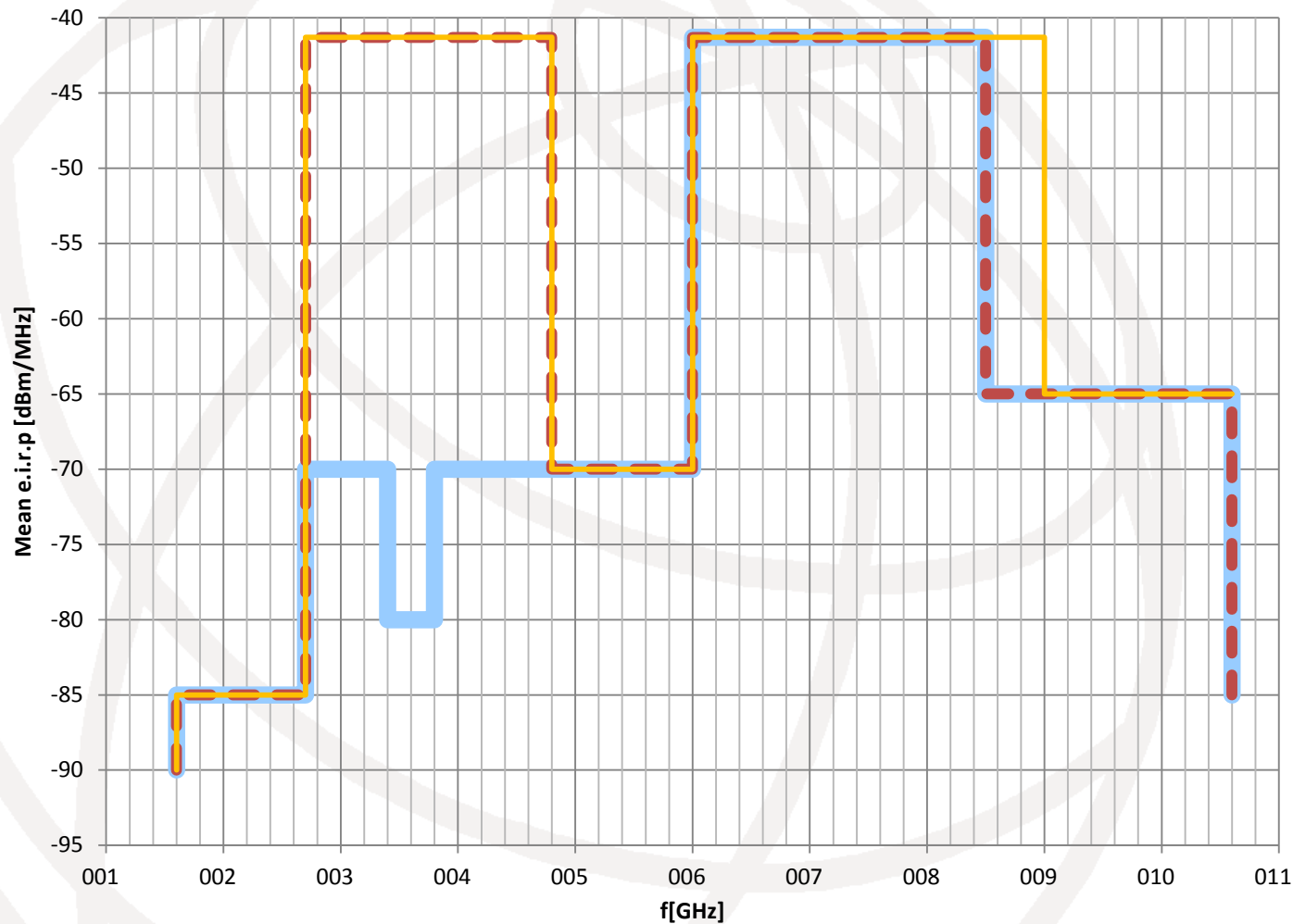
UWB? SRDs in
122 – 123GHz
507 – 64GHz
Other?



UWB generic rule in ECC



Example: mean power spectrum mask, average over 1ms, with / without mitigation



- Generic without Mitigation
- Generic LDC
- Generic DAA

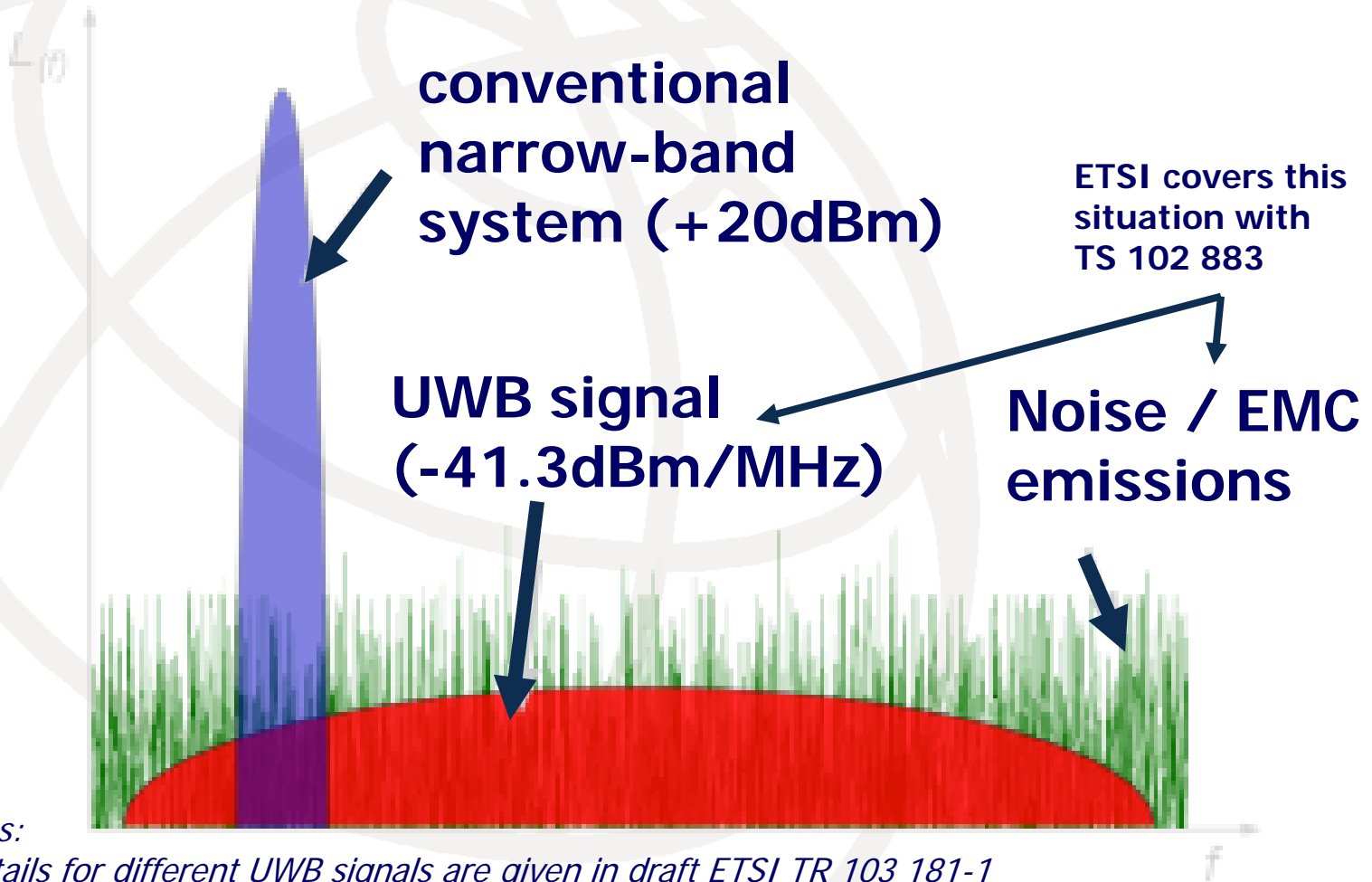
Note: peak limit: 0dBm/50MHz



UWB interference potential



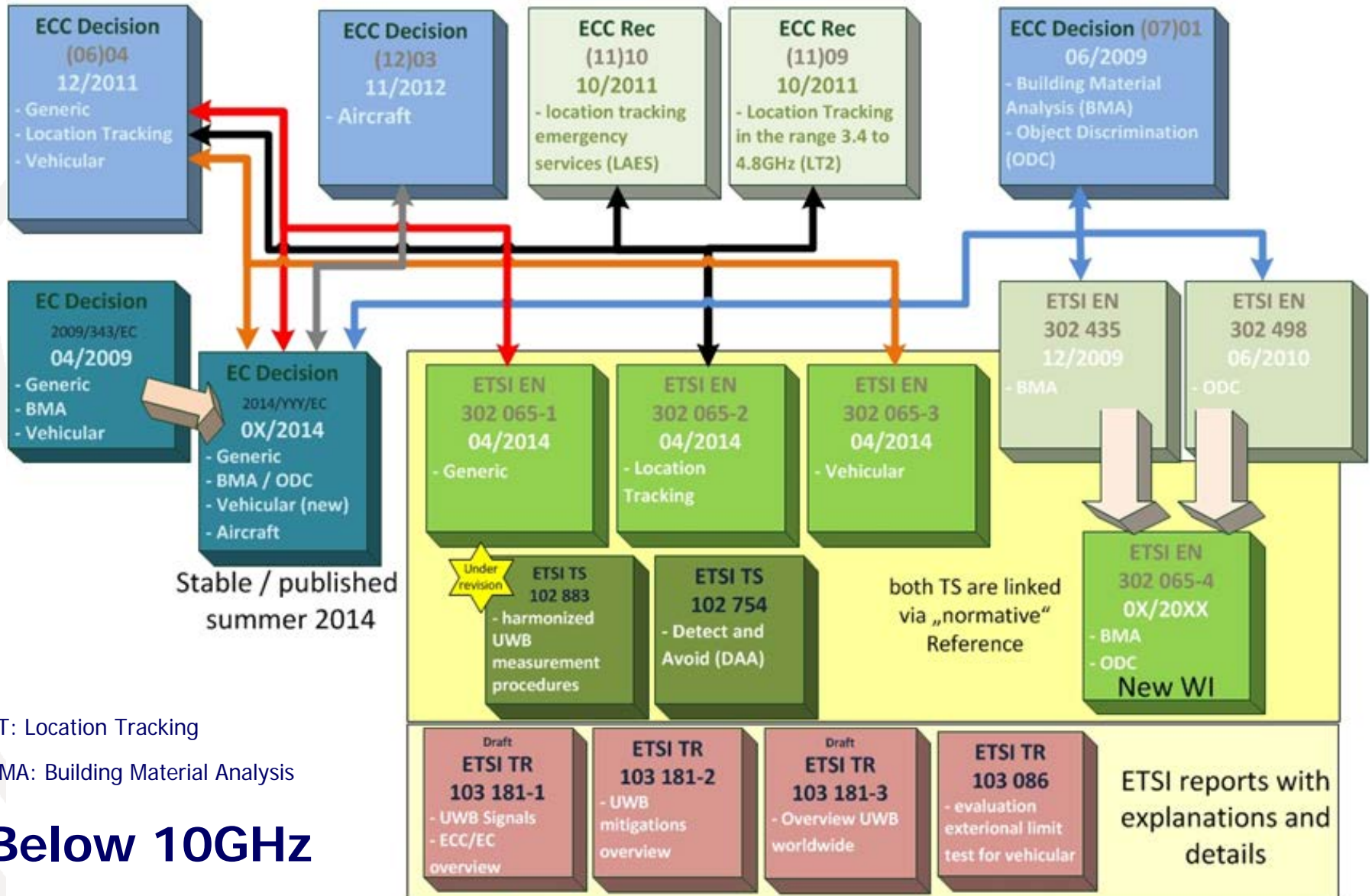
UWB has lower PSD than an unintentional emission



Notes:

- Details for different UWB signals are given in draft ETSI TR 103 181-1
- TS 102 883: Ultra Wide Band (UWB); Measurement Techniques

UWB framework in ECC/EC/ETSI-1

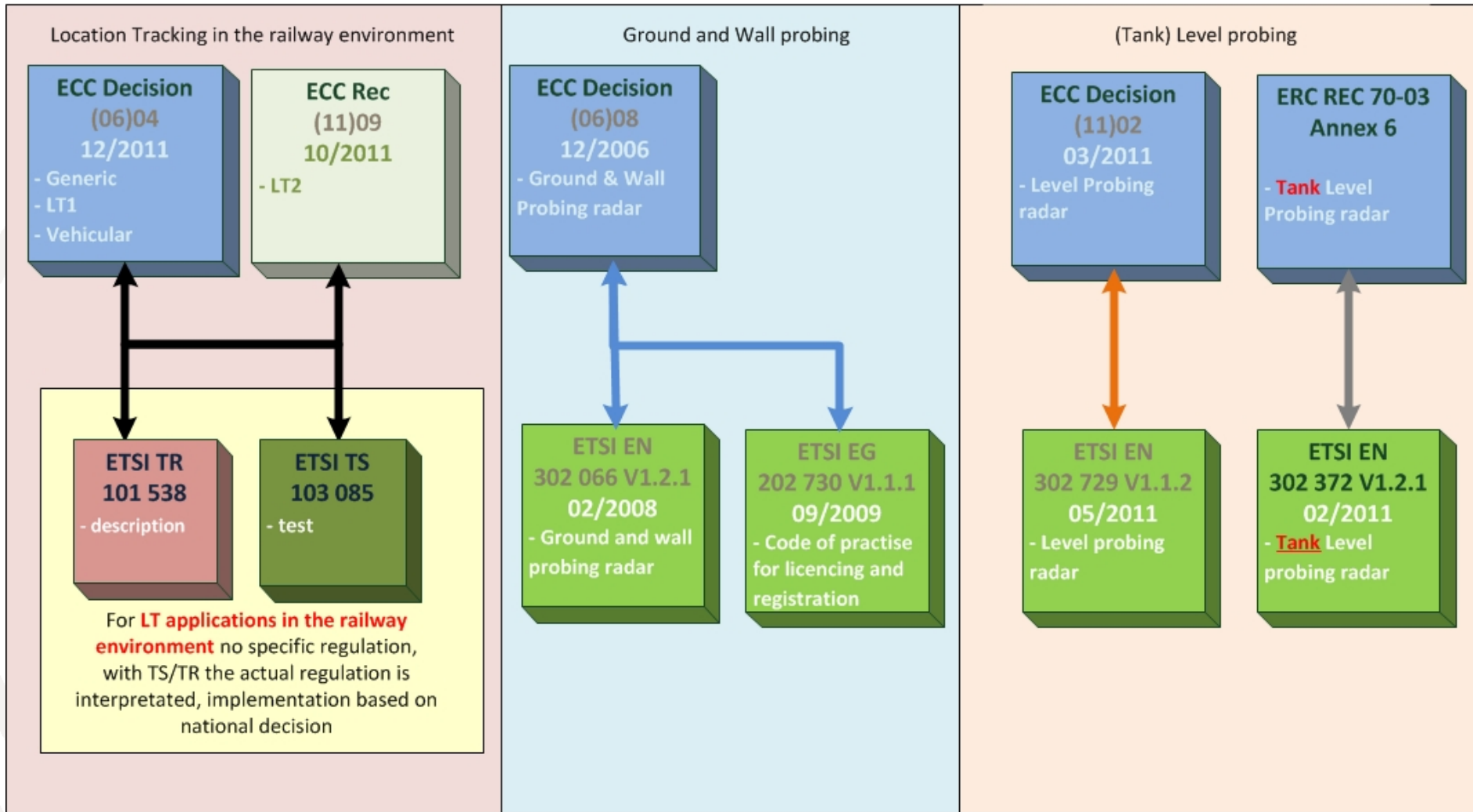


LT: Location Tracking

BMA: Building Material Analysis

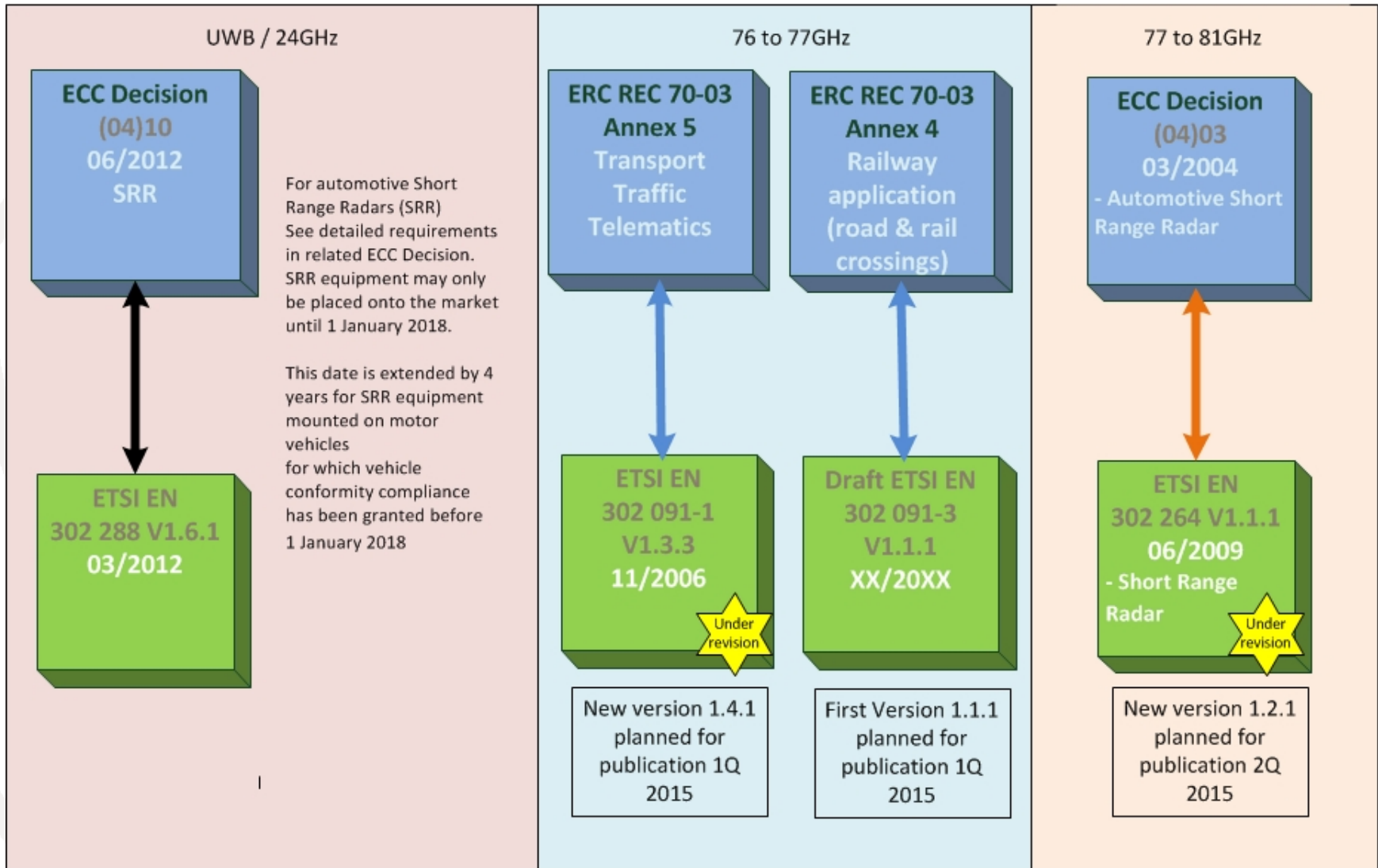
Below 10GHz

UWB framework in ECC/EC/ETSI-2



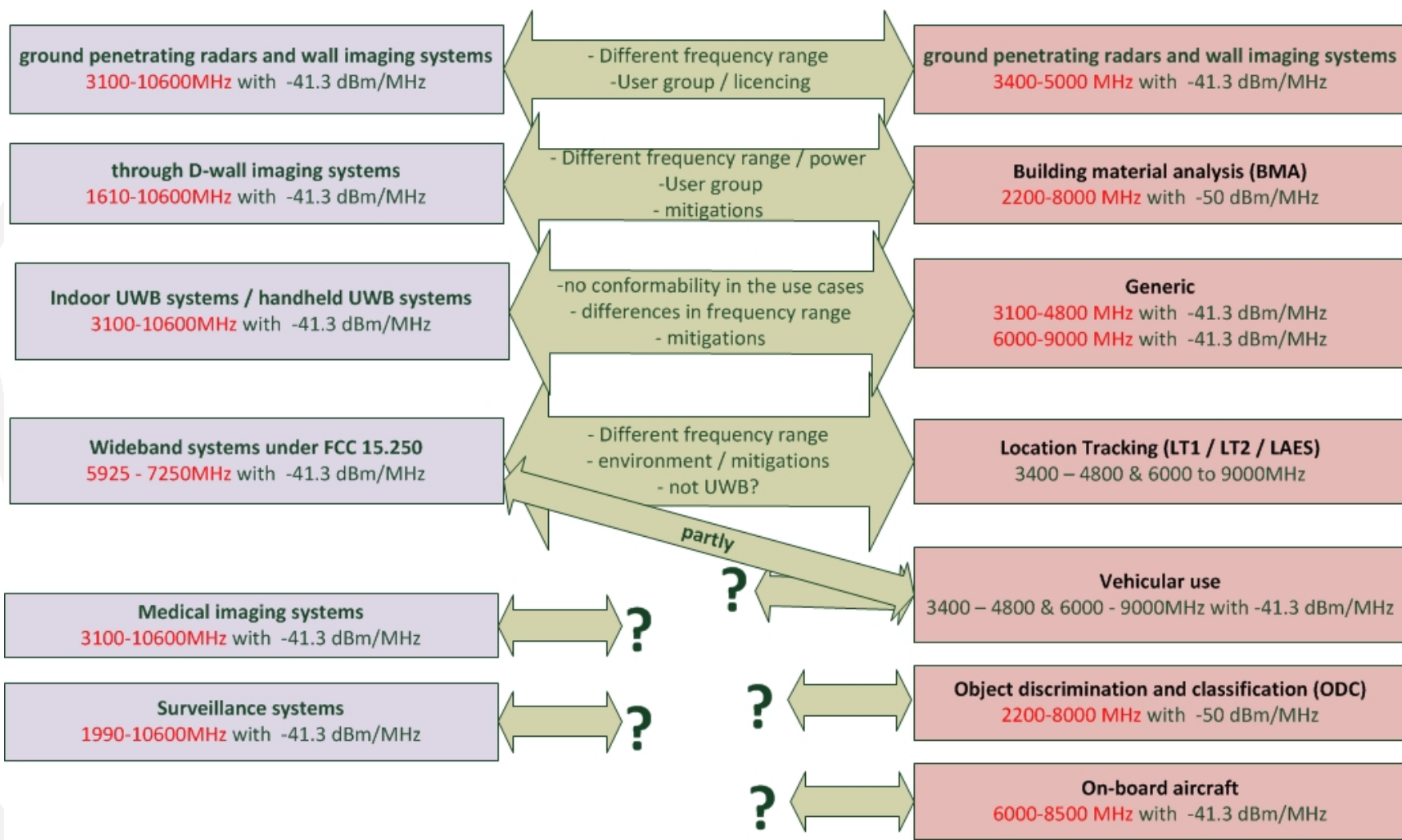
Below 10GHz and specific

UWB framework in ECC/EC/ETSI-3



Vehicular / range radar applications

Example: comparison FCC versus CEPT/ECC



FCC part 15 (15.250 and 15.500)

ECC/EC and ETSI

Note: For details, see Draft ETSI TR 103 181-1 & -3

→ no certification process defined in many countries

→ if defined, rules vary for:

- frequency ranges
- application restrictions (e.g. vehicle, tracking, medical...)
- user restrictions (e.g. public, professional, government,..)
- environment restrictions (indoor & outdoor)
- mitigation techniques
- signal definitions

minimum
BW requirement



modulation requirement
(on/off) during "test"

- conformance testing procedure



planned till the end of 2014:

- finalization of TR 103 181-1 (UWB signals - ECC/EC regulation)
- finalization of TR 103 181-3 (UWB situation worldwide)
- finalization of TS 102 883 (UWB measurement for LDC, "slow" signals)
- stable Draft EN 302 065-4 (BMA and ODC)

- validation results (TR/TS work) and decision on:
 - necessary amendments in ETSI standards
 - amendments to the existing or new regulations ?
 - new work items for new applications / Use-cases ?
e.g. medical, assisted healthcare, object identification, material investigation, outdoor use,..

- Next ETSI TC ERM/TG UWB meetings:
 - 9th/10th September 2014
 - 12th/13th November 2014




Dr.-Ing. Michael Mahler

Chairman ETSI TG ERM TG UWB and TG SRR



Robert Bosch GmbH
External Affairs, Governmental and Political Relations
Frequency Affairs (C/AGT)
Postfach 10 60 50
70049 Stuttgart
GERMANY
www.bosch.com

 +49 (0)711 811 47863

 +49 (0)151 14290544

 michael.mahler@de.bosch.com

