



The Radio Equipment Directive

(and what it means to GNSS)

Dominic HAYES

European Commission

ICG11, Sochi, November 2016

The Radio Equipment Directive

- **"DIRECTIVE 2014/53/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL"**
- Collective work of EU member state frequency regulators
- Adopted by the European Parliament and the European Council
- Came into force 13 June 2016

<http://eur-lex.europa.eu/eli/dir/2014/53/oj>

Who, What, When, Where, How?

- You (manufacturers)
- Your equipment
- Now
- The EU
- Essential Requirements

What is a Directive?

- A legal act of the European Union
- It requires member states to do something, but doesn't specify how
- Subtle difference to a "European Regulation" which is a direct legal act
- Directives are required to be transposed into national law
- Directives set **essential requirements** to be satisfied before goods are sold in the EU such as: safety and health, and electromagnetic compatibility

Why Should I Care?

- Previously Directives (R&TTE and EMC) addressed only radio transmitters
- The Radio Equipment Directive (RED) covers safety and health, electromagnetic compatibility, but now also includes "efficient use of the radio spectrum" for all equipment including receivers – GNSS receivers!
- Any GNSS receiver sold in the EU must comply with the essential requirements of the RED

The Essential Requirements

Article 3.2

- "Radio equipment shall be so constructed that it both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference"
- It is usual to develop a European Norm (EN) to specify essential requirements
- Note: it is not the only way to demonstrate compliance – a "notified body" can make their own judgement (not done yet for GNSS)

Draft European Norm "EN 303 413"

- *GNSS receivers; Radio equipment operating in 1164 MHz to 1300 MHz and 1559 MHz to 1610 MHz*
- Being developed by the European Telecommunications Standards Institute (ETSI)
 - Technical Committee for Satellite Earth Stations TC-SES
 - Composed of interested industry players, eg Sony, Thales, Hughes Network Systems, GPSIA, and some regulators
- Defines technical requirements and test specifications
- Aims to be finalised by June 2017

Draft EN 303 413

Key point - defines:

- Adjacent frequency signal power level:

- 105dBm/MHz below 1559MHz

- 105dBm/MHz above 1610MHz

- 75dBm/MHz below 1164MHz

- 85dBm/MHz above 1300MHz

⇒ shall not degrade C/N_0 by more than **1dB**

Don't shoot the messenger!

Transitional Arrangements

- Until June 2017, new GNSS products placed on the market can alternatively be certified according to the existing applicable Directives, eg R&TTE and EMC Directives
- After June 2017, the RED will apply for **new** certifications in addition to other applicable Directives (eg EMC, LVD)
- Provided it is certified (CE marked, either R&TTE before 6/2017 or RED post 6/2017) equipment can be sold in the EU

What Can Manufacturers Do?

- Get involved
 - Download RED
(<http://eur-lex.europa.eu/eli/dir/2014/53/oj>)
 - ETSI (www.etsi.org)
help draft or steer the EN
 - REDCA (RED Compliance Association www.redca.eu)
learn more about what you need to do to comply