Subject	Common set of technical arguments for “safe coexistence”		
Society	REF	Country:	France
Committee:	C5	Paper number:	
Authors:	F4GKR – F6ETI		

Title

Common set of technical arguments to defend possible amateur and operator coexistence.

Introduction

We are facing stronger and stronger pressure from Regulators to reduce amateur allocations in the 500 to 6000 MHz spectrum portion. French amateurs are about to loose the 2300 to 2400 MHz band and discussions are ongoing with regulators to try to keep a reduced segment. Racing against new entrants who can pay for the spectrum is not an easy task and strong arguments are required to ask for “interference free” coexistence.

Background

Defending amateur access requires technical arguments to try to demonstrate that a possible coexistence would not lead to strong interferences with licensed users. In our case the introduction of new OFDM-based services raises questions on possible interferences created by amateur service.
Regulators are requested to investigate the possible coexistence and more particularly the level of interferences that could come from an amateur transmission close to – or in the middle of- an OFDM licensed link.

Technically speaking, assessing a potential coexistence is not an easy task. The usual way is to estimate the resulting level of ‘signal to interference’ (interference would here be our amateur transmission) and check if this level is still high enough to keep a low error rate for the licensed user.

Such estimation makes sense for mono-carrier transmissions but is not the best approach for multi-carrier transmissions like OFDM, and cannot take into account system level error correction techniques widely used in LTE-like communication systems. We are clearly lacking of competences or detailed knowledge of proposed commercial services to be able to build strong or unquestionable arguments towards a possible coexistence. In many cases, Regulators are facing the same competence issue and often do not have technical tools to estimate what could be the possible coexistence schemes.

Key point and proposal

In the technical discussions with the Regulators, there is a need for valuable proposals, backed by strong arguments that cannot be challenged by private operators seeking licenses.

C5 might be a good place to set a “technical working group” in charge of studying possible coexistence scenarios and – when Societies have the relevant skills within their members – conduct technical studies to build technical guidelines that could be submitted to National Regulators.

C5 Wiki could then be a repository of “technical arguments” and “technical proposals”, available for each Society in its discussions with Regulators.