



**2nd ITU INTER-REGIONAL WORKSHOP
ON WRC-15 PREPARATION
(Geneva, 12 – 13 November 2014)**

**Aeronautical, maritime
& radiolocation issues
Panel-4 Discussions on
WRC-15 Agenda items
1.15, 1.16, 1.17,
1.18 & 1.5**

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WORKSHOP ON WRC-15
PREPARATION**

**GENEVA, SWITZERLAND
12-13 NOVEMBER 2014**

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CPM-15 Rapporteur for
Chapter 3 of the
CPM Report***

- **AI 1.5** to consider the use of frequency bands allocated to the fixed-satellite service not subject to Appendices 30, 30A and 30B for the control and non-payload communications of unmanned aircraft systems in non-segregated airspace
- **AI 1.15** to consider spectrum demands for on-board communication stations in the maritime mobile service
- **AI 1.16** to consider regulatory provisions and spectrum allocations to enable possible new automatic identification system technology applications and possible new applications to improve maritime radiocommunication
- **AI 1.17** to consider possible spectrum requirements and regulatory actions, including appropriate aeronautical allocations, to support wireless avionics intra-communications
- **AI 1.18** to consider a primary allocation to the radiolocation service for automotive applications in the 77.5-78.0 GHz frequency band

to consider spectrum demands for on-board communication stations in the maritime mobile service

■ Background

- 6 Frequencies assigned for on board communications
- Additional 4 channels available but subject to national regulation

■ Issues

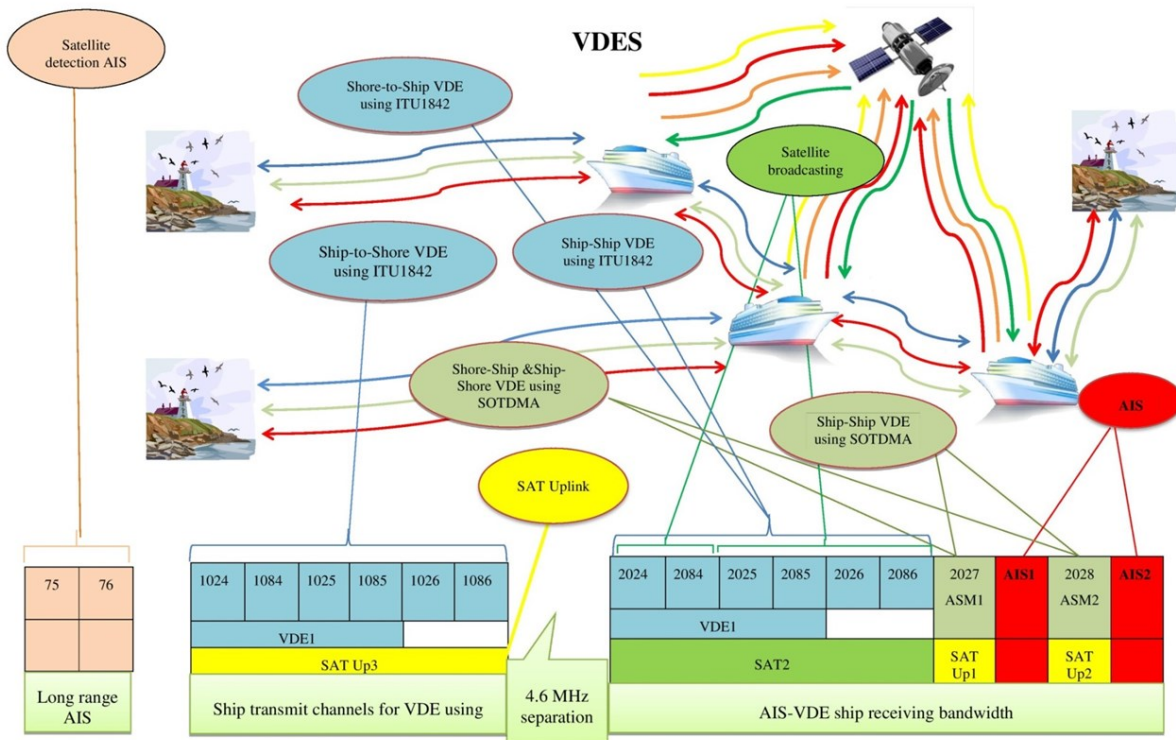
- Need or not for additional channels
- Implementation of 12.5 kHz channel spacing or not
- Use of continuous tone code squelch or not
- Use of some channels for land mobile systems

One draft Method to satisfy the agenda item

More efficient use of the existing frequency bands by:

- Use of digital modulation
- use of continuous tone coded squelch systems (CTCSS) and digital coded squelch (DCS)
- Additional channel by introducing 6.25 kHz spacing

to consider regulatory provisions and spectrum allocations to enable possible new Automatic Identification System (AIS) technology applications and possible new applications to improve maritime radiocommunication



Draft Methods to satisfy the agenda Item

Issue A: Application specific messages

- **Method A1** use of channels 2027 and 2028 of RR Appendix **18** for the application specific message (ASM) not necessary for the safety of navigation and ensure protection of AIS1, AIS2, 2027 and 2028 by not allowing ships to transmit on channels 2078, 2019, 2079 and 2020.
- **Method A2** identifies alternate channels 87 and 88 for the ASM channels and ensures the protection of AIS 1 and AIS 2 by power limitation on channels 2078, 2019, 2079 and 2020.

Draft Methods to satisfy the agenda Item

Issue B: New applications for the maritime radiocommunication –
terrestrial component

- **Method B1** identifies the channels 24, 84, 25, 85 for the terrestrial component of the VDES.
- **Method B2** identifies the possibility to use the channels 24, 84, 25, 85, 26, 86 for the terrestrial component of the VDES.

Draft Methods to satisfy the agenda Item

Issue C: New applications for the maritime radiocommunication – satellite component

- Method C1** Secondary allocation for the MMSS (Earth-to-space and space-to-Earth) on a number of VDES Channels.
To ensure protection of mobile and fixed services, it's proposed that a new pfd mask be introduced in Annex 1 to RR Appendix 5 to protect MS and FS.
MOD of RR No. **5.208B** is also proposed to protect RAS

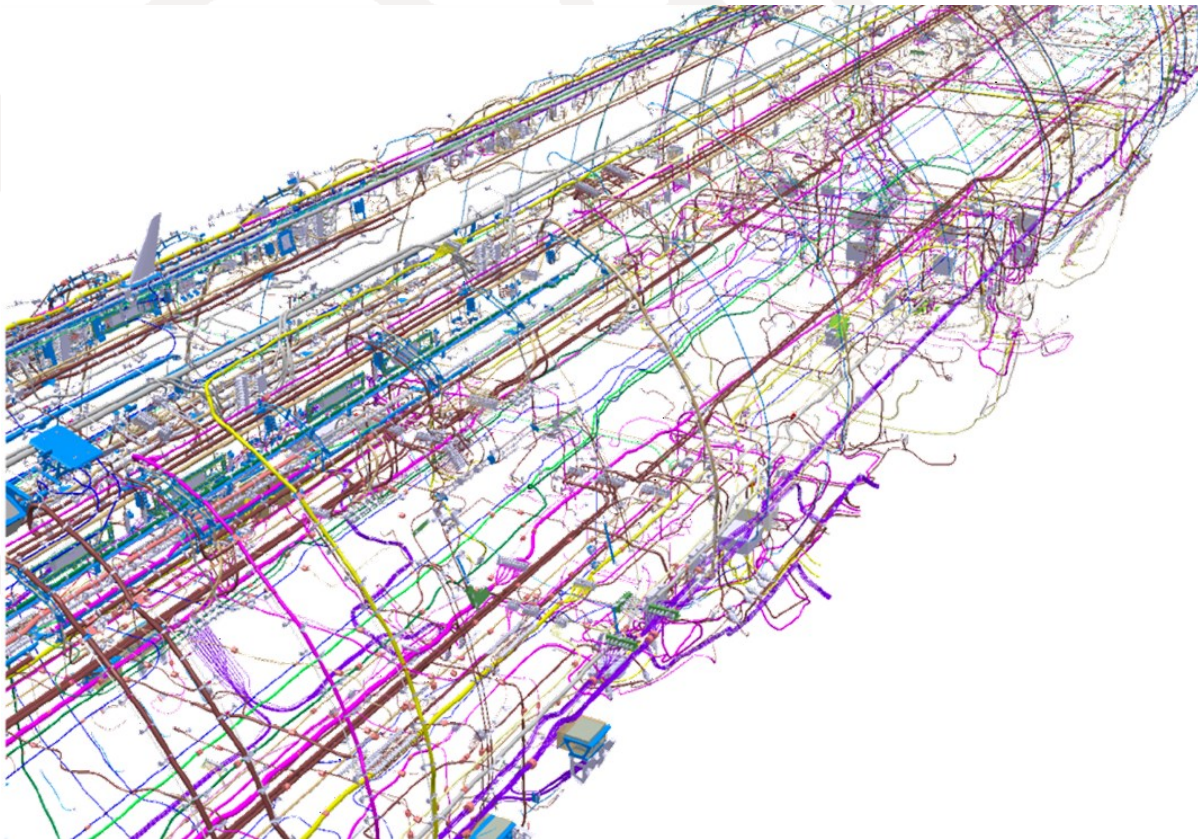
- Method C2** Use of the frequency bands 148 - 150 MHz (Earth-to-space) and 137-138 MHz (space-to-Earth) for the which is currently allocated to the mobile satellite service.
No additional allocations or RR changes are required.

Draft Methods to satisfy the agenda Item

Issue D: VDES regional solution

- Method D provides a regional VDES solution, utilizing channels 80, 21, 81, 22, 82, 23 and 83.

to consider possible spectrum requirements and regulatory actions, including appropriate aeronautical allocations, to support wireless avionics intra-communications



Draft Methods to satisfy the agenda Item

All Methods propose to allocate the band **4 200 – 4 400 MHz** to the
Aeronautical Mobile (R) Service

Method A

- The use of WAIC Systems shall be in accordance with a new Resolution
- Three options of the Resolution are proposed, one contains limits for the emissions of WAIC Systems
- Alternatively a footnote containing all regulatory provisions given in the Resolution is proposed

Method B

- A footnote contains all regulatory provisions given under Method A, additionally the same limits as under one of the options of Method A are proposed to be in an ITU-R Recommendations which will be incorporated by reference into the RR

to consider a primary allocation to the radiolocation service for automotive applications in the 77.5-78.0 GHz frequency band

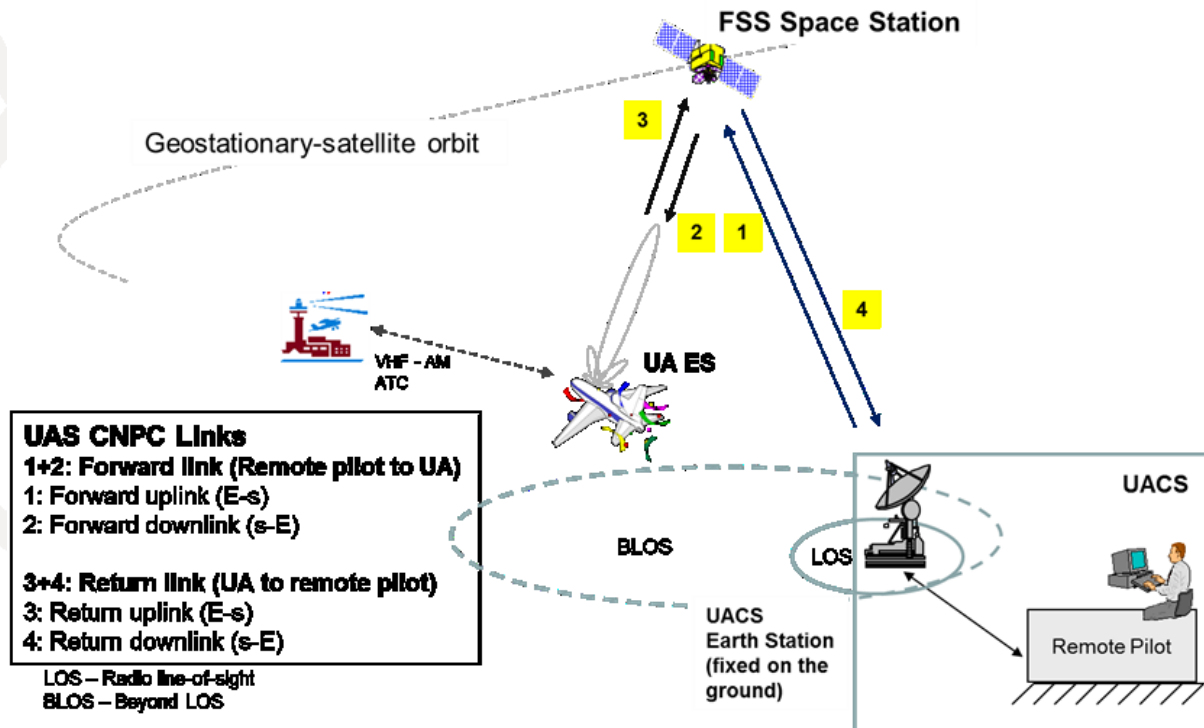
- The Bands 76 – 77.5 GHz and 78 – 81 GHz are allocated to RLS
- Filling the gap 77.5 – 78 GHz would allow for high resolution radars demanding an occupied bandwidth of up to 4GHz

Draft Methods to satisfy the agenda Item

Primary allocation to the RLS in the band 77.5 – 78 GHz

- Method A: Limitation to automotive radars
- Method B: no limitation

- to consider the use of frequency bands allocated to the fixed-satellite service not subject to RR Appendices **30**, **30A** and **30B** for the control and non-payload communications of unmanned aircraft systems in non-segregated airspace



Draft Methods to satisfy the agenda Item

- **Method A** - a footnote and associated resolution to identify the conditions under which systems operating in the FSS could provide UA CNPC links
- **Method B** – No Change to the RR