



# 2015 International Telemetry Conference



## ICTS REGION II REPORT

By the Region II (the Americas) Coordinator:

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Patuxent River Maryland, United States of America

36th Meeting of the International Consortium for Telemetry Spectrum  
Las Vegas USA, 28 October 2015



# Threats to AMT from WRC-15 AIs: The USA Perspective (Part 1)



- ❖ The primary threat for Aeronautical Mobile Telemetry (“AMT”) is at the imminent (2-27 November) World Radiocommunication Conference (“WRC”) 2015: Agenda Item (“AI”) 1.1 “*to seek additional spectrum for IMT*” (International Mobile Telecommunications 4<sup>th</sup>/5<sup>th</sup> generation broadband mobile/wireless networks), with the AMT L-Band (1435-1525 MHz) particularly exposed. Numerous administrations in International Telecommunication Union (“ITU”) Regions I & III (Europe/Africa & Asia/Pacific) have done studies supporting such additional allocations for IMT. Except for Russia and other nations aligned with Russia, few if any, ITU Region I & III administrations use the band for telemetry.



# Threats to AMT from WRC-15 AIs: The USA Perspective (Part 2)



- ❖ As a result of decisions made at the time of the last WRC in 2012, a Joint Task Group (“JTG”) was established comprised of experts from the satellite, broadcast, mobile, radar, aviation, etc. communities. The JTG was charged with developing a report (the so-called Conference Preparatory Meeting Report) for delegates to WRC-15 on methods to solve WRC-15 AI 1.1. Due to the stakes involved, their often contentious meetings were typically attended by several hundred delegates from numerous administrations. Nevertheless, a draft Report was prepared and subsequently approved by Study Group 5: Report ITU-R M.2324-0 (of 11/2014), *“Sharing studies between potential International Mobile Telecommunication systems and aeronautical mobile telemetry systems in the frequency band 1 429-1 535 MHz.”*



# Threats to AMT from WRC-15 AIs: The USA Perspective (Part 3)



- ❖ The USA has not opposed an allocation or identification for IMT in the band 1435-1525 MHz in Regions I & III. Rather, the USA seeks to maintain the protections and priority for AMT in this band in Region II (the Americas). As a result the USA submitted a study to the ITU-R demonstrating the risk of interference from IMT operations to flight test telemetry in Region II. Also, the USA has developed and secured ITU Radiocommunication Sector (ITU-R) approval of a new publication on the business of flight testing: Report ITU-R M. 2286, “*Operational Characteristics of Aeronautical Mobile Telemetry.*”



# Threats to AMT from WRC-15 AIs: The USA Perspective (Part 4)



- ❖ Meanwhile, the USA has submitted a proposal seeking a Comisión Interamericana de Telecomunicaciones (“CITEL”) position in favor of the ITU priority for AMT in Region II. North & South American nations prepare regional positions on telecommunications issues via CITEL.
- ❖ ITU Radio Regulation 5.343 gives priority to AMT over other uses of the mobile service in The Americas. The USA has also affirmed its plans for continued use of the L-Band for AMT. However, other CITEL administrations, like Mexico, Colombia and Brazil, indicated a preference to use 1427-1518 MHz for mobile broadband. (More about this later . . . )
- ❖ In August 2015 (Ottawa, Canada) CITEL agreed to identify 1427-1518 MHz for potential broadband use while reaffirming its commitment to AMT protection via RR 5.343.



# Threats to AMT from WRC-15 AIs: The USA Perspective (Part 5)



- ❖ The ITU and CITELE work has been carried out principally by Mr. Keane, Dr. Dan Jablonski (John Hopkins University Applied Physics Laboratory, USA) and Mr. de Souza with support from Mr. D. Ernst and Mr. S. Penna. Mr. Keane and Dr. Jablonski support the USA aerospace industry association for spectrum management (the Aerospace and Flight Test Radio Coordinating Council) and, with Mr. Ernst, the USA Department of Defense's Test Resource Management Center.
- ❖ Mr. Keane and Mr. Ernst have been active in ICTS affairs, and have found their work in and with the ICTS invaluable in terms of developing and maintaining contacts with numerous telemetry professionals in other nations and regions. Those influential contacts can be especially useful in international fora.



# Threats to AMT from WRC-15 AIs: The Brazilian Perspective (Part 1)



- ❖ A CITEEL Meeting (XXIV Meeting of Permanent Consultative Committee II: Radiocommunications) took place from 29 September to 3 October 2014 in Merida City, State of Yucatan, Mexico. At this Meeting, Mexico and Colombia offered specific regulatory text; i.e., a new footnote identifying 1427-1518 MHz for IMT as per WRC-15 AI 1.1.
- ❖ As the meeting progressed, other administrations such as Brazil, Uruguay, Costa Rica, Peru, Guatemala, and the Dominican Republic indicated support for Colombia and Mexico. This would be enough for an Inter-American Proposal (“IAP”). Brazil has also proposed identification of the band 1350-1400 MHz for IMT.



# Threats to AMT from WRC-15 AIs: The Brazilian Perspective (Part 2)



- ❖ Brazil has been operating AMT in 1452-1472 MHz, but Anatel (the Brazilian Telecommunication Agency) identified the range of 1350-1525 MHz as a suitable band to implement IMT in accordance with the WRC-15 AI 1.1. The Brazilian IMT team (GSMA and Qualcomm) persuaded Anatel to conduct sharing studies between IMT and AMT in adjacent bands.
- ❖ Anatel presented these sharing studies to the JTG (slide #3) and at the November 2013 CITELECOM, Mr. de Souza participating. They determined the Brazilian 20 MHz-wide AMT band shall remain inside the range 1435-1525 MHz, but chances are that it will be moved from 1452-1472 MHz to another band in order to accommodate IMT's supplementary down link. It is the opinion of the Brazilian ICTS Chapter that their administration is most likely to get part of the 1350-1525 MHz band for IMT, but not the total band Brazil had proposed at the CITELECOM meeting.





# Threats to AMT from WRC-15 AIs: The Brazilian Perspective (Part 3)



- ❖ Brazil's 5091-5150 MHz C-Band is closer to France's C-Band than the USA's 5091-5150 & 4400-4940 MHz C-Bands. Some AMT C-Band flight testing has begun, but Brazil is still developing the ground segment. At the last CITEL meeting, Brazil and three other countries voted to remove the limitation imposed to satellite feeder-links in C-Band use to 2018 without any harm to AMT.
- ❖ Lastly, AMT is temporarily allocated in the 2230-2260 MHz and 2330-2360 MHz S-Band. These are now the most heavily-used AMT bands in Brazil.



# Other Notable ICTS Region II Activities



- ❖ Several ICTS Members (Mr. Keane, Mr. Chalfant, Dr. Jablonski, Mr. Hoschar and Mr. Ryan) are participating in the DoD's 1755-1780 MHz Band Advanced Wireless Service-3 (AWS-3) Portal Working Group. A DoD Portal is being set up to coordinate/facilitate/accommodate industry requests to deploy their Long Term Evolution systems inside designated exclusion zones (like those hosting AMT operations) prior to the completion of our transition/migration of the recently reallocated 1755-1780 MHz band. This Portal will be managed via the Early Entry Portal Analysis Capability (EEPAC). AMT operations would be protected from these commercial systems by maintaining our official AMT interference thresholds with the commercial systems.



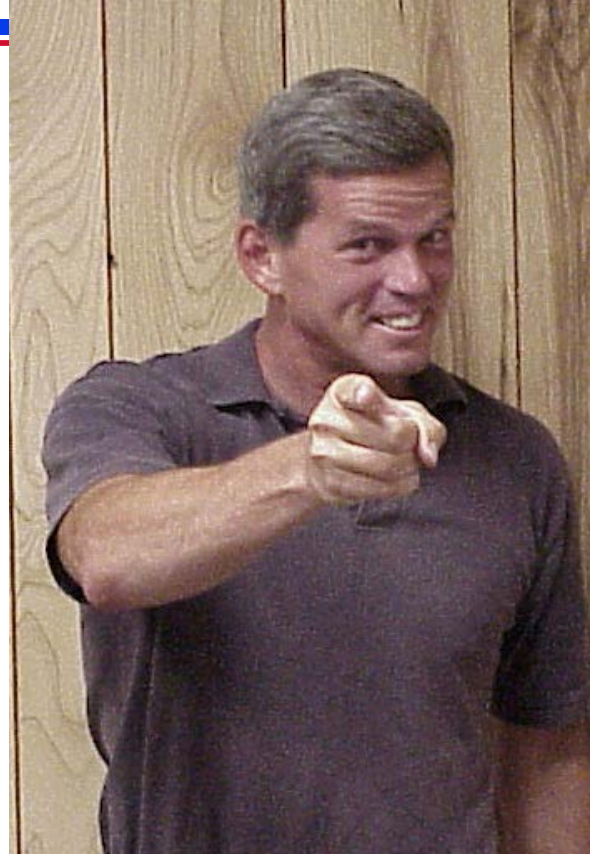
# Other Notable ICTS Region II Activities



- ❖ However, in late July 2015, without consulting any AMT experts, the EEPAC Team decided to discard both the jointly-coordinated Commerce Spectrum Management Advisory Committee recommendations & highly respected international AMT Standard ITU-R M.1459 in favour of weaker interference thresholds. The ICTS Members intervened and presented their case in the form of a White Paper authored by Dr. Jablonski: *“Interference from LTE User Equipment to Aeronautical Mobile Telemetry Ground Stations: A comparison of generic I/N protection criteria with the power flux density protection criteria of ITU-R Recommendation M.1459.”* of 5 August 2015. By mid-September Dr. Jablonski, working with the EEPAC Team, successfully implemented the ITU standard by modifying the back end of the threshold computations.



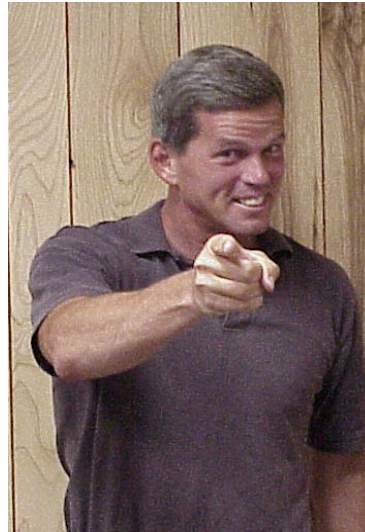
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