PRELIMINARY

NATO MILITARY ASSESSMENT

for Export to CEPT

The NATO Capability Panel 3 has developed and agreed a military assessment for several agenda items of the WRC-19. The following list of assessments is provided to the CPG in order to update the CEPT briefs of the relevant agenda items.

These assessments don't constitute a NATO position. A NATO preliminary position is expected to be submitted to the CPG and subordinated PTs at the beginning of 2018.

In consequence, and in order to avoid any misinterpretation, the following sentence should be added to each assessment in the briefs:

"**This NATO military assessment summary is a common military assessment of the NATO Nations on the potential impacts and benefits of Agenda Item X.X (number of Agenda Item). It does not constitute a common position of the NATO Nations.**"

AI 1.1: 50 MHz Amateurs in R1
NATO Military Assessment
The whole range 30.005 - 87.5 MHz is essential for NATO military tactical communication. A diminished access to the whole band would reduce the ability to fulfil combined missions.

AI 1.2: Earth stations 400 MHz
NATO Military Assessment
The frequency bands 401-403 MHz and 399.9-400.5 MHz are in use to support NATO military operations in the various allocated services by dedicated military and non-military applications, such as Data Collection System (DCS). Currently undefined power limits in these frequency bands represent a potential threat to in-band systems used in support of NATO military operations.

AI 1.3: Update EESS and MetSat 460 MHz
NATO Military Assessment
Several NATO nations are using the band 460 - 470 MHz for various types of military applications, mostly in the mobile service (PMR) on a shared basis with other users depending on countries.

AI 1.6: Non-GSO FSS Q/V band
NATO Military Assessment
There does not seem to be any impact on military capabilities at this stage.

AI 1.7: Short Duration Space Ops
NATO Military Assessment
From a military perspective, there are no suitable existing space operations service (SOS) allocations below 1 GHz for this application. Sharing and compatibility studies conducted in accordance with invites 3 of ITU-R Resolution 659 (WRC-15) should take into account the military tactical, mobile, and radiolocation systems operating in and adjacent to the frequency bands 150.05 - 174 MHz and 400.15 - 420 MHz.

AI 1.8: GMDSS
NATO Military Assessment
Maritime safety enhancements are critical to military operations. Modernization measures and other enhancements should be able to co-exist with existing standard equipment installed on ships. Sharing and compatibility studies should take into account the unique interference environment on-board vessels and within certain frequency ranges.

AI 1.9.1: GMDSS AIS
NATO Military Assessment
The protection of GMDSS or AIS from autonomous maritime radio devices could be beneficial to military ship operations.

AI 1.10: GADSS
NATO Military Assessment
This agenda item currently has no direct impact on NATO military usage, but constraints due to safety aspects, could be added to military systems in existing aeronautical bands

AI 1.11: Train to Trackside
NATO Military Assessment
There is no identified threat to NATO military capability from this Agenda Item at this stage.

AI 1.12: ITS
NATO Military Assessment
The frequency band 5850-5925 MHz is not a NATO harmonised frequency band. It is however used by some NATO nations for dedicated military applications in the fixed, fixed satellite, radiolocation, and mobile services in support of NATO military operations. While current regulation for ITS and WAS/RLAN type applications in 5850-5925 MHz is without prejudice to military systems used in this frequency band, it is essential, from a military perspective, that any evolution of the regulation allows the continuation of the operation for military systems in-band and ensure the protection of the NATO harmonised band for radiolocation applications below 5850 MHz.

AI 1.13: IMT 2020
NATO Military Assessment
This is a High Priority WRC AI for NATO which mainly operates satellite services across the entire 24.25 - 86 GHz frequency range, with the exceptions of the 47 - 50.2 GHz range where there are no NATO harmonised bands. Additionally, NATO operates fixed strategic and mobile communications in 25.25 - 27.5GHz and in the radiolocation service in 33.4 - 36 GHz. Two essential NATO bands 30 - 31 GHz and 43.5 - 45.5 GHz may be impacted by adjacent bands selected for IMT studies. The important NATO bands 24.05 - 24.25 GHz and 33.4 - 36 GHz may be impacted by adjacent bands selected for IMT studies and 25.25 - 27.5 GHz may be directly impacted by bands identified for IMT. Additionally, the planned NATO band 81 - 84 GHz is also directly impacted by a frequency band identified for possible IMT use. From a military perspective, studies will need to show that sharing of the proposed IMT bands with existing services is possible and that the introduction of IMT in these bands has no harmful impact on military usage in these and adjacent NATO harmonised bands.

AI 1.14: HAPS
NATO Military Assessment
From a military perspective, care must be taken to ensure the adequate protection of critical space assets and to avoid encroachment into military frequency bands including the 38 - 39.5 GHz band currently used or planned for use by NATO.

AI 1.16: RLAN 5GHz
NATO Military Assessment
The 5 250 - 5 850 MHz frequency range is allocated to the radiolocation service and, as reported in EFIS, at the CEPT level, this entire band is used for a number of different tactical and weapon system radars, reflecting the NJFA that defines the 5 GHz range as an “essential requirement for land, airborne and naval radars”. Moreover, NATO has also released in 2005 a still valid policy document detailing the role and the importance of radiolocation radars that operate throughout the full range between 5250 and 5850 MHz. In parts of 5250 - 5850 MHz where regulation already authorize RLAN, military radars could not anymore operate in their most advanced operational modes (in particular frequency hopping) due to the lack of ability of the DFS mechanism to effectively detect and thus protect radars. From a military perspective, the extension of RLAN bands would thus require a demonstration of the effectiveness of mitigation techniques needed to ensure the protection of the radars.

AI 7: Satellite Procedures
NATO Military Assessment
The issues currently being studied under this AI are of no immediate threat to NATO at this time; however, NATO will monitor the issues under study, develop NATO military Assessments and Positions for the issues of interest to NATO, and present a logical defence of its continued use of access and frequency bands covered by this AI should any proposed regulatory actions threaten NATO’s access to satellite resources.

AI 9.1 – Issue 9.1.1: IMT/MSS ~2 GHz
NATO Military Assessment
From a military perspective, studies under this issue present a limited risk on NATO military usage in adjacent bands.

AI 9.1 – Issue 9.1.2: IMT/BSS
NATO Military Assessment
From a military perspective, studies under this issue present a limited risk on NATO military usage in adjacent bands.

AI 9.1 – Issue 9.1.3: Non-GSO FSS C-band
NATO Military Assessment
At the moment, it is not clear if NATO could benefit from non-GSO systems to operate in these bands allocated to FSS. But the existing military applications are relying on large portions of the bands under study. The risk that possible changes to the RR could downgrade military capabilities is high at the moment. Furthermore consistency in C-band (4 - 8 GHz) epfd requirements and limits with respect to Ku (12 - 18 GHz) and Ka (26.5 - 40 GHz) bands should be ensured.

AI 9.1 – Issue 9.1.4: Spaceplanes
NATO Military Assessment
There is a potential impact of the AI to the NATO military operations.

AI 9.1 – Issue 9.1.5: 5 GHz RLAN FN
NATO Military Assessment
Modifications made in Recommendation ITU-R M. 1638-1 provide relevant information on currently deployed military radars (information previously missing in Rec. ITU-R M. 1638-0). The characteristics of radars included in ITU-R M.1638-1 are required within ITU-R and/or CEPT in order to ensure currently deployed radar characteristics are considered in the sharing studies. These air, land and naval radars are indispensable for the NATO-wide operation of tactical and weapon systems and include frequency hopping radars, e.g. Air Defence High Power Radars accomplishing a variety of missions in particular as part of the NATO Integrated Air and Missile Defence System (NATINAMDS).

AI 9.1 – Issue 9.1.6: Wireless power transmissions
NATO Military Assessment
As candidate frequency bands or individual frequencies for WPT applications are 19-21 kHz, 59-61 kHz, 79-90 kHz and 100-300 kHz under discussion. The range 14-148.5 KHz is a NATO harmonised band and essential to NATO and is in military use for naval communications and tactical non-directional beacons. From a military perspective, studies will need to show compatibility with applications of the existing services and that the introduction of WPT systems for electric vehicles has no harmful impact on military usage.

AI 9.1 – Issue 9.1.7: Unauthorised VSATs Terminals
NATO Military Assessment
From a military perspective, it is important to safeguard the current conditions for military use of mobile satellite uplink transmissions and that decisions under this issue will not negatively impact NATO military operations or expand to address message content or cybersecurity issues.

AI 9.1 – Issue 9.1.8: Machine-type communication
NATO Military Assessment
Given that this technology is fairly new, from a military perspective, any regulatory changes may cause undue risk to military systems, specifically those operating in NJFA bands and would be premature.

AI 9.1 – Issue 9.1.9: FSS uplink 50 GHz
NATO Military Assessment
The frequency band 51.4 - 52.4 GHz is not listed in the NJFA and limited military usage is identified for this band. The aimed allocation would achieve balance between uplink and downlink which should improve FSS usage efficiency that could possibly benefit to military operations in the future.