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| Summary:  |
| This ECO Bulletin provides a summary update on aspects of progress in spectrum management outside the CEPT. The items in this bulletin include:1. Update from APT (new and revised APT Recommendations and Reports, questionnaires and further on-going work, work on strategic plan);
2. FCC: Resulting order after the 600 MHz Incentive Auction;
3. BB-DA2G – Info about USA incl. some press information Europe;
4. FCC: New Proposed Rulemaking on “Restoring the Freedom of the Internet” or about “Net Neutrality”;
5. FCC: upcoming decisions on new spectrum
6. FCC: change of conditions in 3550-3700 MHz and proposals for 3700.-4200 MHz;
7. FCC: change of rules for NGSO FSS in 20/30 GHz (Ka-band);
8. Australia: ACMA spectrum Tune up: spectrum for 5G in mmwave bands;
9. Canada – Release of RSS-252 (ITS Devices operating in the 5850-5925 MHz band;
10. FCC: ‘Notice of Enquiry’ published in July 2017 – 6 GHz WAS/RLAN
 |
| Proposal: |
| ECC is invited to note this bulletin. More detailed input on some of the subjects covered is being input to the groups dealing with the respective subjects.Several of the issues covered in this bulletin should be noted or discussed in detail at the respective WG/ PT level. This includes information related to satellite issues (items 6 and 7), for CPG (items 1 and 8), for items in relation to SRD or SRD/MG activities (items 1, 5 and 9), PPDR (item 1 - APT), of general interest for WG FM on DA2G (item 3), or for PT1 (items 1, 2, 5, 6, 8). Item 10 is for FM57 and SE45. Some elements may be of interest for WG SE. Item 4 is for information of WG NaN. |
| Background: |
| The Office brings to each ECC meeting a bulletin on activities in radio communications in other world regions, where a regulatory dimension is raised (e.g. by innovative services or technology). The primary objective is to identify whether the ECC needs to investigate further or consider possible new actions. A secondary but more frequently addressed objective is to enable comparison to be made with the regulatory approach in other regions to subjects already treated by the ECC (including, where relevant, to the work of the CPG). |

# News from APT

The 22nd Meeting of APT Wireless Group (AWG-22) was held from 25 to 29 September 2017 in Busan, Republic of Korea.

AWG-22 discussed amongst other subjects the progress of APT Frequency Information System (AFIS), the implementation of the Strategic Plan of the APT for 2015-2017 and the Workplan of AWG. An in-session workshop on Railway Radiocommunication System was held during AWG-22. Further, an AWG Workshop on ‘Wireless Technology for Future Digital Transformation’ was also held during AWG-22.

New or revised APT Reports (approved and published in 09/2017)

| Reference  | Topic |
| --- | --- |
| [APT/AWG/REP-07(Rev.5)](http://www.apt.int/sites/default/files/Upload-files/AWG/APT-AWG-REP-07Rev.5_APT_Report_on_SRD.docx) | Revision of the APT Report 07 on Survey on Operation of Short-Range Devices (SRDs) |
| [APT/AWG/REP-73(Rev.1)](http://www.apt.int/sites/default/files/Upload-files/AWG/APT-AWG-REP-73Rev.1_APT_Report_PPDR_Spectrum_Harmonization.docx) | Revision of the APT Report 73 on Harmonization of Frequency Ranges Use by Wireless PPDR Applications in Asia-Pacific Region |
| [APT/AWG/REP-74](http://www.apt.int/sites/default/files/Upload-files/AWG/APT-AWG-REP-74_APT_Report_Geo_Location_DB_CRS.docx) | New APT Report 74 on study on Geo-Location Database as an enable technology of CRS |
| [APT/AWG/REP-75](http://www.apt.int/sites/default/files/Upload-files/AWG/APT-AWG-REP-75_APT_Report_Inbnd_Full_Duplex_FWS.docx) | APT Report on In Band Full Duplex technology for Fixed Wireless System |
| [APT/AWG/REP-76](http://www.apt.int/sites/default/files/Upload-files/AWG/APT-AWG-REP-76_APT_Report_WPT_for_EVs.docx) | APT Report on Frequency Ranges Used for Non-beam WPT for EVs |
| [APT/AWG/REP-77](http://www.apt.int/sites/default/files/Upload-files/AWG/APT-AWG-REP-77_APT_Report_Survey_Maritime_Mobile_Services.docx) | APT Report on Survey on the Usage of the Bands 457.5125 - 457.5875 MHz and 467.5125 - 467.5875 MHz by the Maritime Mobile Service in Asia Pacific Region (informing about possibilities to use digital technology in APT countries)) |
| [APT/AWG/REP-78](http://www.apt.int/sites/default/files/Upload-files/AWG/APT-AWG-REP-78_APT_Report_RSTT_System_Description.docx) | APT Report on System Description, Technologies and Implementation of Railway Radiocommunication Systems Between Train and Trackside (RSTT) |
| [APT/AWG/REP-79](http://www.apt.int/sites/default/files/Upload-files/AWG/APT-AWG-REP-79_APT_Report_Arrangement_470-698_MHz.docx) | APT Report on Frequency Arrangements for IMT in the Band 470-698 MHz |
| [APT/AWG/REP-80](http://www.apt.int/sites/default/files/Upload-files/AWG/APT-AWG-REP-80_APT_Report_Spectrum_Monitoring_at_Border_Areas.docx) | APT Report on Spectrum Monitoring Methodology at the Border Areas |

A new draft APT Recommendation was approved for circulation amongst the APT members:

* [Draft APT Recommendation on Frequency Ranges for Non-Beam WPT for Mobile Devices](http://www.apt.int/sites/default/files/Upload-files/AWG/AWG-22%20Circulars/AWG-22-REC-1_WPT_Freq_Mobile_Devices.docx)

The draft Recommendation includes:

Frequency range for operation of non-beam WPT systems

|  |  |
| --- | --- |
| **Frequency range** | **Suitable non-beam WPT technologies and applications** |
| 6 765‑6 795 kHzNote: See RR No. **5.138** | Magnetic resonant technology for mobile devices |

AWG-22 agreed to distribute several questionnaires:

* [Questionnaire on regulatory information for implementation of IMT network in Asia-Pacific region](http://www.apt.int/sites/default/files/Upload-files/AWG/AWG-22%20Circulars/AWG22-Q1_IMT_Regulatory.docx);
* [Questionnaire on current status and future plan of implementation and deployment of IoT in Asia-Pacific region](http://www.apt.int/sites/default/files/Upload-files/AWG/AWG-22%20Circulars/AWG22-Q2_IoT.docx);
* [Questionnaire on non-beam WPT in non-ism band](http://www.apt.int/sites/default/files/Upload-files/AWG/AWG-22%20Circulars/AWG22-Q3_WPT_Non-ISM.docx).

The APT secretariat continued updating the implementation status on the APT Strategic Plan for 2015-2017 based on the outcomes of the APT Work Programme. The implementation status will be submitted to MC-41 for endorsement.

This includes the following developments:

* The usage of ITS in APT countries” (work towards APT Report 18 (Rev.2)), a working document is available. The purpose is to provide APT member countries with practical information on the currently used ITS technologies, frequency bands, status of commercialisation of the service and others with the purpose of reaching harmonization to the greatest extent;
* To develop an APT Report which helps APT members understand the potential and capabilities in integrating satellite solutions into the next generation access technologies environment in the Asia Pacific region. Finalise a draft APT Report for approval at AWG-24 in 2018;
* Provide information on various potential services and applications, and success factors to deliver services and applications for public use of unmanned aircraft, disaster relief case studies and future challenges. Finalise a new APT Report for approval at AWG-23 in 2018 and possibly development of a new survey report if necessary;
* Develop a new APT Report on the Technical Characteristics, Operating Provisions and Regulatory Provisions on the broadband Wireless Air-to-Ground Communications Links with Passenger Aircraft. APT AWG consider developing harmonized arrangements for technical characteristics, operating provisions and regulatory provisions for air-to-ground mobile broadband links to passenger aircraft, to enable seamless passenger flight operations across the entire region, and aligned with similar developments already occurring in other regions. Completion of the APT Report until AWG-24 in 2018;
* To consider the possibility of making optional the use of the controlled equipment within the Mobile communication system onboard the aircraft. Completion of the APT Report until AWG-24 in 2018;
* Implementation of the bands 108 – 117.975 MHz, 328.6-335.4 MHz and 960-1164 MHz for the aeronautical radionavigation systems in APT region. Completion of the APT Report until AWG-24 in 2018;
* System deployment and relevant testing studies of Railway Radiocommunication System between Train and Trackside (RSTT) in APT countries. New APT Report until AWG-24 in 2018 (follow-on action after APT Report 78 approved). AWG-22 developed a working document which introduces experiences on the deployment of railway radiocommunication systems in APT countries, as well as relevant study results on radio propagation characteristics under high speed movement in typical scenarios. This may be useful to know for FM56. In addition, another new APT Report on railway radiocommunication systems for passengers’ access to information and Internet services until AWG-24 in 2018;
* For AWG-23, it is planned to review on narrowband UHF digital mobile radio technologies for PPDR applications and develop a working document towards a draft APT/AWG Recommendation/Report on UHF narrowband PPDR applications and system having interoperability for unified communications (based on DMR - Digital Mobile Radio for narrowband PPDR applications and systems). For AWG-24 to finalise a new APT/AWG Report on narrowband PPDR applications and systems in the UHF in region 3. APT AWG continues studying the present status of international standardization of PS (Public Safety)-LTE technologies by 3GPP and relevant implementation activities in some countries in the world including the Asia-Pacific Region. It also summarizes technical subjects that are important for implementation of PS-LTE networks.
* For 2018: finalise new APT/AWG Recommendations/Reports on harmonized frequency arrangement for IMT in the bands 3 300-3 400 MHz; 4 800-4 990 MHz. Finalise a draft APT/AWG Report on studies on frequency arrangement(s) for IMT in the band 1 427 – 1 518 MHz.

Two draft APT Recommendations which were developed at AWG-21 **failed** to receive the required numbers of endorsements from APT Members (the basic reason was that circulars go to the APT contact point. In many cases those contact points did not forward those to the relevant department or just ignored. Hence, APT did not receive the official endorsements in time. There was no subject-wise complaint or opposition). This concerns the draft APT Recommendation on Licensed Shared Access (LSA) and the draft APT Recommendation on PPDR (frequency arrangements in the range 694-894 MHz for BB- PPDR), which will be reviewed at AWG-23 in 2018.

The name of the AWG TG SRD has been changed to TG IoT at AWG-22 to reflect changes in the field of SRD towards SRD in data networks and new application fields (IoT/M2M etc). The TG IoT will work on a new APT Report on IoT by AWG-245.

The recent APT e-Newsletters are available under: <http://www.apt.int/Publications> (last edition from September 2017).

**(of interest for ECC PT1, WG FM (incl. PTs and SRD/MG), and WG SE)**

# FCC: Resulting order after the 600 MHz incentive auction

With the order [FCC-17-887](https://apps.fcc.gov/edocs_public/attachmatch/DA-17-887A1_Rcd.pdf), published on 11 September 2017, the FCC modified the Table of Frequency Allocations in Part 2 of the Commission's rules, as well as four Part 27 rules, to make them correspond to the results of the broadcast television incentive auction.

FCC 600 MHz Band Plan



1. Based on the results of the incentive auction, the FCC deleted the primary fixed and mobile service allocations and Part 27 cross reference from the 512 608 MHz band and return the band to its pre-auction allocation status;
2. The FCC revised the entries for the 614 698 MHz band by deleting the primary broadcasting service allocation and removing the Part 73 cross reference to account for post-auction fixed and mobile use by 600 MHz service wireless licensees that will operate under Part 27 of the rules and new footnote NG33. This change reflects use of these frequencies for broadcasting during and after the 39-month post-auction transition period;
3. In addition, the FCC revised the text of three non-Federal Government footnotes (NG5, NG14, and NG149) that provide for limited flexible use of the television broadcast bands, including the 614 698 MHz band, by providing a cross reference to new footnote NG33;
4. Licensed low power television (LPTV) and TV translator station operations on a secondary basis in the 614-698 MHz band under Part 74 Subpart G,
5. Licensed fixed broadcast auxiliary service (BAS) operations (which include TV studio-transmitter link (STL), TV relay, and TV translator relay station operations) on a secondary basis in the 614-698 MHz band under Part 74 Subpart F, and licensed wireless microphone and other low power auxiliary station (LPAS) operations and wireless assist video device (WAVD) operations on a secondary basis under Part 74 Subpart H, as well as unlicensed wireless microphone operations under Part 15 on a non-interference basis, on frequencies in the 614-698 MHz band, and unlicensed white space device operations under Part 15 on a non-interference basis on frequencies in the 614-698 MHz band.

**(Relevant for ECC, ECC PT1, WGFM, FM51)**

# Broadband DA2G – USA incl. press information Europe

Following the information in earlier ECO bulletins, here an update about the developments in the USA on BB-DA2GC and some press information about Europe:

Europe: September 2017:

<https://www.ainonline.com/aviation-news/air-transport/2017-09-19/nokia-fielding-european-air-ground-data-network> (Nokia working together with Inmarsat, Deutsche Telekom, Thales);

<http://www.getconnected.aero/2017/09/inmarsat-ean-satellite-commercial-service/> (Inmarsat)

Europe: July 2017:

<http://www.telegraph.co.uk/technology/2017/07/02/inmarsat-dismisses-court-challenge-in-flight-satellite-wi-fi/>

<https://www.broadbandtvnews.com/2017/07/05/viasat-takes-legal-action-against-european-commission/>

(ViaSat, Eutelsat and Panasonic bringing EC to Court about 2 GHz MSS)

September 2017: Viasat

<https://runwaygirlnetwork.com/2017/09/25/viasat-vows-to-continue-the-fight-to-prevent-european-aviation-network/> Quote: “Now what we have seen from our own analysis, over 95% of the signal and data will be transmitted from terrestrial, and less than 5% from the satellite.”

October 2017: <https://www.spaceintelreport.com/viasat-continue-legal-battle-vs-inmarsat-satelliteterrestrial-network-despite-uk-regulatory-ruling/>

Echostar (Bought the 2GHz MSS licence from Solaris) does with Thales something different, i.e. PPDR via satellite:

<https://www.broadbandtvnews.com/2017/06/22/echostar-teams-up-with-thales-for-mobile-satellite-service-in-europe/>

USA: Smartsky – August 2017: starting to deploy DA2G:

<http://www.getconnected.aero/2017/08/smartsky-4g-lte-atg-network-deployed/>

<http://www.satellitetoday.com/telecom/2017/08/04/smartsky-begins-deployment-4g-lte-air-ground-network/> using 2.4 GHz and has secured the funding.

October: <https://runwaygirlnetwork.com/2017/10/28/press-release-smartsky-4g-lte-demo-flights-impress-at-nbaa/>

and Gogo (3 October) does the same: 2.4 GHz

<http://www.fiercewireless.com/tech/gogo-to-use-2-4-ghz-unlicensed-for-ground-based-system>

End of October: <https://www.prnewswire.com/news-releases/gogo-conducts-first-successful-test-flight-on-its-next-generation-atg-network-300545891.html>

This actually confirms the earlier observations about the USA and networks deployments are under development using the 2.4 GHz band.

**(of interest for WG FM)**

# FCC New Proposed rulemaking on “Restoring the freedom in the InterneT” or about ‘Net Neutrality’

The proposed new rules in the USA are intended to restore the determination that mobile broadband is not a "commercial mobile service" subject to ‘heavy-handed’ regulation as well as restore the authority of the Federal Trade Commission – to police the privacy practices of ISPs.

<https://ecfsapi.fcc.gov/file/05230656804377/FCC-17-60A1.pdf>

After consultation, the FCC will not be voting on this in November 2017 and some changes are still under considerations, i.e. it may not be an adoption that would totally roll back the earlier 2015’s net neutrality rules.

This situation is a result of a huge number of comments received during the NPRM consultation process. The main criticisms are:

* The freedom of major Internet access providers to block, throttle, alter (including stripping encryption), and redirect requests for information from the Internet;
* No obligation on net neutrality (the principle that all traffic on the Internet should be treated equally by Internet access providers);
* It is destroying net neutrality, it will be much harder for individuals and small businesses to reach an audience;
* Using the Internet as it is known today will become almost impossible.
* On the other side, the provision of any kind of ‘commercial mobile services’ is not possible for ISPs without prior acceptance coming from the Trade Commission.

The developments in the USA put into perspective the situation in Europe since the entering into force of [Regulation (EU) 2015/2120](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R2120&from=EN) which aims to strengthen net neutrality by requiring internet service providers (ISPs) to treat all web traffic equally, without favouring some services over others. The European regulation did require clarification on some aspects including a provision that would have allowed ISPs to create "fast lanes" for "specialized services," and another that would have allowed for zero-rating, under which certain services and apps would be exempt from counting against monthly data limits. Also, a "traffic management" provision would have allowed telecoms to prioritise internet traffic from some services over others. Those provisions were clarified by the publication of BEREC’s guidelines to NRAs on the implementation of the regulations ([BoR\_(16)\_127](http://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/6160-berec-guidelines-on-the-implementation-b_0.pdf)). WG NaN’s project team on technical regulatory issues (PT TRIS) is following these discussions closely.

 **(ECC WG NaN, NaN PT TRIS)**

# FCC: Upcoming Decision on ‘1700 MHz of new spectrum’

The FCC at its next open meeting on 16 November will consider an order that would ‘make available 1700 MHz of additional spectrum’ for flexible terrestrial wireless use and provide 4 GHz for satellite use. The meeting is scheduled for Thursday, Nov. 16. It is said that this is in support of 5G innovation.

More in detail:

* maintain the spectrum allocations adopted in the 28 GHz, 37 GHz, and 39 GHz bands, with several minor modifications to the rules that were previously established (this is in the 28 GHz (27.5-28.35 GHz), 37 GHz (37-38.6 GHz) and 39 GHz (38.6-40 GHz) bands);
* maintain 4 GHz of spectrum in the 48.2-50.2 GHz and 40-42 GHz bands as core satellite bands, including end user devices;
* maintain the unlicensed use of the 64-71 GHz band, and modify Part 15 rules to allow unlicensed operation on board most aircraft during flight in the 57-71 GHz band;
* focus development of the 70/80 GHz bands on fixed and other newer, innovative uses.
* adjust the earth station siting rules and satellite interference standards to ensure flexibility in deployment while limiting the potential for interference between satellite and mobile users.

The FCC will continue to seek comment on bands above 95 GHz.

Recent filings in the commission’s proceeding on spectrum bands above 24 GHz indicate the tensions remain high between the terrestrial wireless industry and the satellite industry. Nearly a dozen proposed satellite constellations or projects are before the commission with far more ambitious plans than previous years. Not all of them are expected to come to fruition, but many satellite proponents believe 5G services also must include satellites.

A group of eight satellite companies, including Boeing, OneWeb and Hughes, submitted a revised proposal on 19 October 2017 saying they think it addresses concerns raised by terrestrial interests throughout the proceeding and strikes a fair and spectrally efficient balance between the needs of Fixed Satellite Service (FSS) and terrestrial use operators in the 28 and 39 GHz bands and provides a framework that is suitable for sharing in the 47 GHz and 50 GHz bands.

A fact sheet describing the second order and notice from the FCC, released on 26 October 2017, can be found under

<http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db1026/DOC-347449A1.pdf>.

**(for information in ECC PT1, WG FM, FM44)**

# FCC: Change of conditions proposed for licensed services in 3550-3700 MHz aND PROPOSAL FROM iNTELsat AND iNTEL FOR SPECTRUM ABOVE 3700 mhZ

In a [Notice of Proposed Rulemaking (Notice)](http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db1024/FCC-17-134A1.pdf) (24 October 2017), the FCC seeks comments on several proposed changes to the rules governing Priority Access Licenses (PALs) that will be issued in 3550-3700 MHz band (3.5 GHz Band)—including longer license terms, renewability, larger geographic license areas, and auction methodology. It is recognised that several countries have moved forward with policies that would make this band available for 5G. The FCC says the intention is to ensure that the service rules governing bands that are critical for 5G network deployments—including the 3.5 GHz Band—keep up with technological advancements, create incentives for investment, encourage efficient spectrum use, support a variety of different use cases, and promote robust network deployments in both urban and rural communities.

Intelsat and Intel made a common proposal to the FCC on 2 October that would allow incumbent satellite operators to collaborate with terrestrial networks on ways to clear C-band spectrum in 3700-4200 MHz based on 5G needs and the presence of existing FSS systems. Satellite operators would retain ownership of the spectrum, and auction the right for joint use of frequencies with terrestrial companies in cleared areas. See the Intelsat-Intel ‘[Fact Sheet](http://www.intelsat.com/wp-content/uploads/2017/10/FINALIntel_IntelsatFactSheetFormatted.pdf)’.

*“Intelsat and Intel urge the Commission to allow co-primary terrestrial mobile operations in the 3700-4200 MHz band through commercial agreements between terrestrial mobile interests and primarily affected FSS satellite operators,”* Intelsat and Intel wrote. “*Those FSS satellite operators, in turn, will work cooperatively to identify geographic areas of the country where they could undertake the complicated and costly process of clearing portions of the C-band for terrestrial use in defined areas by, for example, moving their services and customers to a portion of the 3700-4200 MHz band, physically moving ground antennas outside of identified geographic areas, or other means, as appropriate.”*

The resolution Intelsat and Intel propose would be specific to geographic regions based on the demand for services from the different infrastructures. In their statement, the companies recognize spectrum clearing would involve “significant cost, including lost opportunities” for incumbent satellite operators. Terrestrial companies using satellite spectrum would remunerate satellite operators for those financial burdens.

The satellite operators most impacted by a decision in this direction in the USA would be Intelsat and SES Global. Other satellite operators may investigate the proposal at this stage.

The proposal follows a request from the FCC in August 2017 – a notice of intent, for ideas on how to optimise the use of spectrum which starts from 3.7 GHz in the C-band. The FCC has not decided yet on a conclusion; whether the protection of incumbent uses in earth stations, or whether it be market mechanisms.

**(for information in ECC PT1, WGFM, FM44)**

# FCC: Change of the rules for NGSO FSS in Ka-Band

The FCC updated their rules governing NGSO FSS to “better reflect current technology and to promote additional operational flexibility”. The report and order amends the NTFA to better accommodate NGSO and GSO satellite operations in the Ka-band (20/30 GHz) and streamlines the NGSO milestone rules for deployment. It also eliminates the international geographic cover requirements in order to provide greater flexibility to NGSO FSS operators, according to the same article, and it adopts a new threshold to characterize circumstances where a default mechanism will govern spectrum sharing between operators.

There are at least 11 different organisations vying to provide satellite-based broadband across the USA, as was reported in the last ECO bulletin.

See the FCC [Fact Sheet](https://apps.fcc.gov/edocs_public/attachmatch/DOC-346584A1.pdf) about the new rules issued on 7 September 2017.

**(for information in WGFM, FM44)**

# Australia: Spectrum tune-up: Spectrum for 5G broadband in mmWave bands

To further progress consideration of the mmWave bands, the Australian regulator ACMA conducted a spectrum tune-up on 5 September 2017, which included speakers from both the ACMA and industry.

At the event, the ACMA launched a consultation process on spectrum for 5G broadband in mmWave bands. The process closed 20 October 2017.

A website with links to presentations including some overviews about the interests and also remarks on the worldwide situation can be found under: [ACMA Link](file:///C%3A%5CUsers%5Cweber%5CAppData%5CLocal%5CMicrosoft%5CWindows%5CTemporary%20Internet%20Files%5CContent.Outlook%5CGM3V57SD%5CACMA%20Link).

**(for information in ECC PT1 and WGFM)**

# Canada – Release of RSS-252 (ITS Devices operating in 5850-5925 MHz Band)

In September 2017, Canada’s ISED (Innovation, Science and Economic Development) published [Radio Standards Specification RSS-252, issue 1, Intelligent Transportation Systems – Dedicated Short Range Communications (DSRC) – On-Board Unit (OBU)](http://rheintech.us4.list-manage.com/track/click?u=ea8729ded10d990820bca7414&id=9fb4efdc71&e=56b0e30a9b), establishing the certification requirements for license-exempt Dedicated Short Range Communication (DSRC) On-Board (OBU) devices. These devices operate in the 5850-5925 MHz frequency range. RSS-252 refers to ITS specifications based on IEEE 802.11/ ETSI G5.

In this regard, it should be noted that e.g. the ARIB standard for ITS in Japan, the TTA standard in Korea and also the IMDA standard in Singapore refer to the media access control to be CSMA/CA, i.e. IEEE 802.11/ ETSI G5.

**(for information in WGFM and SRD/MG)**

# FCC: ‘Notice of Inquiry’ published on 14 July 2017 – 6 GHz WAS/RLAN

Similar to the work in FM57 and SE45, a process has also started in the USA for additional WAS/RLAN spectrum in the 6 GHz range. The FCC is asking the industry to comment on new spectrum ideas. The FCC’s NOI can be read under: <http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0713/DOC-345789A1.pdf>. With this, the FCC is asking detailed questions about three specific frequency ranges: bands: 3.7-4.2 GHz (see also the proposal from Intelsat and Intel under item 6); 5.925-6.425 GHz; and 6.425-7.125 GHz.

The situation for the USA is set out in the fact sheet:

* there are more than 1500 earth stations and some 27000 point-to-point radio licenses (FS) using the 5.925-6.425 GHz band today in the USA;
* The 6.425-7.125 GHz bands are less used in the USA. The FCC says 65 FSS earth stations and about 23000 point-to-point radio licenses are currently using this band.
* the FCC is asking for ideas as to how these bands may be shared for unlicensed use;’
* the FCC is also concerned about whether or not the current DFS rules have been useful while not currently contemplating changes to the DFS rules. The FCC seeks to better understand whether DFS is providing meaningful access to spectrum.

Apple, Google, Facebook, Broadcom, Qualcomm and others have filed a [report](https://ecfsapi.fcc.gov/file/10030766909973/Mid%20Band%20NOI%20Comments%20%2810%202%2017%29.pdf) with the FCC to ask for more WAS/RLAN spectrum (dated 2 October 2017).

The availability of 6 GHz for unlicensed use is thought to coincide with the introduction of the new 802.11ax standard. The IEEE 802.11 task group has already voted to extend 802.11ax to include the 6 GHz band.

The industry proposal to the FCC considers establishing multiple 6 GHz sub-bands, with the intention that technical rules and interference protections for each segment of the band are appropriate to incumbents operating in the frequencies. Taken together, the four sub-bands can be referred to as one 6 GHz band.

* U-NII-5: 5925-6425 MHz
* U-NII-6: 6425-6525 MHz
* U-NII-7: 6525-6875 MHz
* U-NII-8: 6875-7125 MHz

**(for information in WGFM, WGSE, FM57 and SE45)**