|  |  |
| --- | --- |
| **Plenary** |  **Doc. ECC(18)006** |
| **47th Meeting** |
| **Lisbon, 27 February – 2 March 2018** |
|  |
| **Date issued:**  | **21 February 2018** |
| **Source:**  | **ECO** |
| **Subject:**  | **ECO Bulletin on on-going/new issues in other regions or organisations** |
| Group membership required to read? (Y/N)N |
|  |
| **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. UWB worldwide – an overview;
2. FCC: Change of conditions proposed for licensed services in 3550-3700 MHz and proposal from INTELSAT and INTEL for spectrum above 3700 MHz
3. FCC Chairman issued statement of support for SPACEX’s STARLINK constellation (also some information about OneWeb);
4. Brazil and Thailand: frequencies for wireless microphones;
5. Taiwan and Hongkong: New regulation for UHF RFID;
6. Pakistan accepting RE-D test reports;
7. FCC: rules/possibilities for Medical Data Acquisition applications sharing spectrum in UHF;
8. FCC: vehicular radars in 76-81 GHz – more use cases possible;
9. China: New bands opened for 5G (3300 3600 MHz and 4800 5000 MHz);
10. FCC: Notice of Proposed Rulemaking above 95 GHz (‘Spectrum Horizons’) incl. FCC presentation for spectrum above 24.25 GHz;
11. ITS: USA: Recent statement of the Department of Transportation and the NHTSA (National Highway Traffic Safety Administration);
12. Broadband Direct-Air-to-Ground (and related) developments towards broadband services in aircraft passenger cabins;
13. First commercial 5G trial at the Winter Olympics in South Korea
14. First LTE-Railway service on a high-speed train goes live in South Korea;
15. FCC: restoring the ‘Freedom of the Internet’ – Final Vote.
 |
| **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 for FM44 (items 2 and 3, partly item 12), for CPG (items 9, 10, 11, and 13), for items in relation to SRD or SRD/MG activities (items 1, 5, 7, 8, 10, and 11), for PT1 (items 2, 9, 10, and 13). Item 14 may be for information in FM56. Some elements may be of interest for WG SE. Item 15 is of interest for 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). |

1. **UWB worldwide – an overview**

The following provides some overview about UWB regulations worldwide. Since 2016, some amendments were published, in particular in Brazil, Japan, Korea, Singapore, Australia and New Zealand.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Region** | **Country** | **Indoor** | **Fixed Outdoor** | **Automotive** | **Radar** |
| **Americas, North** | **Canada** | YesRSS-220 | No | ? | Ground probing: RSS-220In-wall: RSS-220]Through-wall: RSS-220Surveillance: RSS-220Medical Imaging: RSS-220 |
| **US** | Yes§15.517§15.519 | With Waiver only | Yes §15.250] | Ground probing: §15.509Through-wall,Surveillance,Medical Imaging,Vehicular. |
| **Europe** | **CEPT** | YesETSI EN 302 065-1 | PartlyETSI EN 302 065-2 | Yes ETSI EN 302 065-3 | Ground probing: ETSI EN 302 066 |
| **Middle East** | **Saudi Arabia** | Yes | Partly | Yes |  |
| **Asia** | **Australia** | Yes | Partly | Yes |  |
| **China** | Yes | Yes | Yes |  |
| **Japan** | Yes | No | ? |  |
| **Korea** | Yes | No | Yes |  |
| **Malaysia** | Yes | Partly | Yes |  |
| **New Zealand** | Yes | No | Yes |  |
| **Singapore** | Yes | No | Yes | GPR |

**Australia**: Australian Communications and Media Authority (ACMA): Radio communications (Low Interference Potential Devices) Class Licence 2015 including Variation Notice 2016 (No. 1);

**Brazil**: National Telecommunications Agency RESOLUTION No. 680 OF JUNE 27, 2017

**China:** Ministry of Industry and Information Technology (MIIT): MIIT File 354;

**Japan:** The UWB rules are defined in ARIB STD-T91;

**Korea**: The regulatory body is called "RAPA - Korea Radio Promotion Association" (www.rapa.or.kr) and the regulation can be checked at [www.spectrum.or.kr](http://www.spectrum.or.kr); Ministry of Science and ICT - Notification No.2018-4, "Technical standards of radio equipment for radio stations that can be used without notification”.

**Malaysia:** Regulatory authority: Communications and Multimedia Commission. Rules are defined in SKMM SRSP-549 UWB

**New Zealand:** Commerce Commission of New Zealand (ComCom). The rules can be found in New Zealand Gazette, 2/2/20

**Saudi Arabia:** The Communications and Information Technology Commission of Saudi Arabia (CITC). The rules are as stated in CITC RI085 Issue 1

**USA:** UWB rules in the United States of America are defined in part 15, subpart F of the FCC Code of Federal Regulations. The following subsections of part 15 are particularly relevant.

|  |  |
| --- | --- |
| **Subsection of the CFR part 15** | **Description** |
| 15.509 | GPR and wall imaging systems |
| 15.510 | Through wall imaging systems |
| 15.511 | Surveillance systems |
| 15.513 | Medical imaging systems |
| 15.515 | Vehicular radar systems |
| 15.517 | Indoor systems |
| 15.519 | Hand-held UWB systems |
| 15.521 | Technical requirements applicable to all UWB devices |

The FCC also published a FAQ document - [UWB FAQ KDB](https://rheintech.us4.list-manage.com/track/click?u=ea8729ded10d990820bca7414&id=9f397567b7&e=56b0e30a9b) on January 29, 2018.

**(for information in WG FM, SRD/MG due to the work on the update of the UWB regulation under the permanent mandate for UWB)**

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

As reported in the last ECO Bulletin to ECC #46, Intelsat and Intel made a common proposal to the FCC on 2 October 2017 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)’.

The satellite operators most impacted by a decision in this direction in the USA would be Intelsat and SES Global.

It was reported in several satellite magazines on 2 February 2018 that SES Global has teamed up with Intelsat on a proposal to the FCC.

The proposal sets a commercial and technical framework that would enable wireless operators to quickly access approximately 100 MHz of C-band downlink spectrum in the USA, speeding the deployment of next generation 5G services, including another 100 MHz for joint-use.

The proposal also received negative responses from other satellite operators in the USA but those have a much smaller market share.

The strategy behind this move is to maintain and secure the existing C-band satellite ecosystem while continuously developing 5G based on satellite is being included in the 5G standards. For example, satellite access is specifically identified in the 3GPP service requirements for 5G systems due to active participation from the satellite proponents in these fora. The effort is an attempt to integrate better with the terrestrial telecom ecosystem. The key offering is global coverage, to complement terrestrial coverage rather than direct competition. Use cases of interest include rural coverage, transport (all types), IoT and safety.

The proponents of the proposal (Intelsat and now also SES Global) deny any relation to the European situation which is considered different. However, items such as priority for satellite use (FSS earth stations), sharing with terrestrial 5G (e.g. local networks) may be studied, spectrum up to 3.8 GHz for terrestrial 5G, continued protection of some incumbent FSS use and long-term SAT migration to the 3.8-4.2 GHz range seems to be issues on the table for discussions on both sides of the Atlantic.

**(for information in ECC PT1, WGFM, FM44; due to work on draft ECC Report 280 on 5G over satellite – for PC approval at ECC#47)**

1. **FCC Chairman issued statement of support for SpaceX’s Starlink constellation (also: OneWeb)**

The head of the U.S. Federal Communications Commission (FCC) has endorsed SpaceX's ambitious plan to provide internet service using about 4000 satellites. The first prototypes of those satellites are due to launch in February/March 2018 (Microsat-2a and Microsat-2b).

In the [statement](https://transition.fcc.gov/Daily_Releases/Daily_Business/2018/db0214/DOC-349224A1.pdf) on 14 February 2018, the ECC Chairman requested the other four FCC commissioners to give a green light to Starlink. Over the past year, the FCC has approved requests by [OneWeb,](https://www.fcc.gov/document/fcc-grants-oneweb-us-access-broadband-satellite-constellation) [Space Norway](https://www.fcc.gov/document/space-norway-ngso-market-access-grant), and [Telesat](https://www.fcc.gov/document/telesat-ngso-market-access-grant) to access the United States market to provide broadband services using satellite technology.

OneWeb LLC, formerly called WorldVu Satellites, announced that Virgin Galactic and Qualcomm had agreed to invest in OneWeb’s 650-720 -satellite system. Under the name WorldVu, OneWeb has secured ITU authorisation for a Ku-band network at 1200 kilometers in altitude with in-service deadlines in 2018 and 2020 (the worldwide NGSO constellation is also thought to use not only Ku-band but also Ka-band frequencies). OneWeb will in particular need to avoid the large number of Ku-band telecommunications satellites operating in higher orbit, and will be particularly challenged to operate around the equator given that most Ku-band satellites are in geostationary orbit.

OneWeb (WorldVu Satellites Limited) submitted [a filing to the FCC](http://licensing.fcc.gov/myibfs/download.do?attachment_key=1324032) on 4 January 2018 to amend the MEO component of its non-geo-stationary satellite orbit (NGSO) system.  OneWeb wants to increase the number of satellites to be deployed in the MEO orbit from 1,280 to 2,560 and wants to add Ku-, Ka- and E- frequency bands to these MEO satellites.  OneWeb's request follows a change in FCC rules that came into effect after OneWeb initially requested authorisation for 1,280 MEO satellites back in March 2017.

**(for information in WGFM, FM44; ref. draft ECC Report 279 and draft ECC Decision (18)EE on NGSO Ku-band in PC)**

1. **Brazil and Thailand - Frequency Bands for Wireless Microphones**

Brazil - ANATEL Replaces Act 11542/2017

On January 2, 2018, Brazil regulator, *ANATEL*, published Act 14448/2017 for Restricted Radiocommunication Equipment, replacing Article 1 of Act 11542. The main changes are for the use for wireless microphones from 614-806 MHz to 614-698 MHz only.

Thailand’s *National Broadcasting and Telecommunications Commission (NBTC)* recently issued a document detailing the criteria for frequency band usage for wireless microphones as a supplement to the new standard for wireless microphones. Major points are detailed below:

1. The 803-806 MHz band can be used for wireless microphones effective immediately.
2. Use of the 694-703 MHz and 748-758 MHz bands will be permitted starting January 1, 2021.
3. The three new bands are all license-exempt.

**(for information in WGFM, FM51, SRD/MG)**

1. **Taiwan and Hong kong – New Regulation for UHF RFID**

Taiwan - Technical Regulation for Low-power Radio-frequency Devices:

On January 10, 2018, Taiwanese Regulator *National Communications Commission (NCC)* published the definitive version of Technical Regulation LP0002 for Low-power Radio-frequency, effective immediately upon publication. The main changes are as follows:

* Additional frequency bands available for RFID devices from 922-928 MHz to 920-928 MHz.
* Allocation of 920-925 MHz for ‘other IoT devices’.

Hong Kong – New Publication for 920–925 MHz Devices

In December 2017, Hong Kong’s *Communications Authority* published HKCA 1078, a new specification for Radio Equipment operating at 920-925 MHz for the provision of Public Telecommunication Services. This new specification co-exists in parallel with specification HKCA 1049, which applies to RFID equipment operating in the same frequency range of 920-925 MHz. Due to the publication of HKCA 1078, it is now possible to apply for Type Approval for ‘Radio Equipment for the provision of Public Telecommunication Services’ operating at 920-925 MHz, provided that the technical requirements outlined in Section 4 of this regulation are met. RFID equipment operating at 920-925 MHz can continue to be approved in Hong Kong in compliance with HKCA 1049.

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

1. **Pakistan - Implementation of New Type Approval Regulation**

On December 31, 2017, Pakistan’s Regulator, Pakistan Telecommunication Authority (PTA), implemented a new Type Approval regulation with immediate effect. **Test reports issued to RE Directive 2014/53/EU will now be accepted for Type Approval.**

**(for general information, as an example, test reports under RE-D are more and more accepted also outside Europe, in particular in the Asian and Pacific region)**

1. **FCC: Rules for Medical Data Acquisition applications**

Medical data acquisition applications are possible under the following rules:

* Part 95 Subpart H Channel 37 band (608-614 MHz). Part 95 Subpart H - Wireless Medical Telemetry Service is a licensed service requiring a registration process prior to operation as stated in Section 95.2309. WMTS operation is also permitted in the 1395-1400 MHz band, and in portions of the 1427-1432 MHz band, where the available frequencies vary by geographic location.

Channel 37 (608-614 MHz) is a coordinated, shared channel for WMTS devices under Section 95.2309 generally, and the National Astronomy and Observatory Centers (NRAO) under Section 95.2309(f).

Other general information on medical telemetry devices can be found on the FCC webpage: [Sharing of Analog and Digital Television Spectrum by Medical Telemetry Devices](https://rheintech.us4.list-manage.com/track/click?u=ea8729ded10d990820bca7414&id=d562a46cc3&e=56b0e30a9b).

This could be seen as an example of sharing between the RAS and Medical Data Acquisition applications, e.g. in healthcare facilities and with sufficient distance to RAS sites. Note that there are also opportunities within the VHF frequency ranges in the USA for medical data acquisition but no new licences were issued for such VHF use since years.

**(for information in WGFM, SRD/MG – currently developing a new Annex in Rec. 70-03 for Medical Data Acquisition applications)**

1. **FCC: Vehicular Radar Deployment 76-81 GHz**

The 76-81GHz vehicular radars per FCC Part 15, now Part 95 Subpart M, become increasingly more important since the radar sensor market in the automotive field is using more and more these frequencies and with the potential to expand the market beyond automobiles. The FCC recently consolidated the rules for 76-81 GHz vehicular radar operations into [47CFR§95 Subpart M](https://rheintech.us4.list-manage.com/track/click?u=ea8729ded10d990820bca7414&id=90c70a633c&e=56b0e30a9b) (replacing 47CFR§15.253, and revising other Part 15 sections).

Per 47CFR§95.3331, radar systems operating in the 76-81 GHz band may operate as vehicular radars, or as fixed or mobile radars in airport air operations areas, including but not limited to FOD (foreign object detection) radars and aircraft-mounted radars for ground use only. Per 47CFR§95.3333, notwithstanding the provisions of 47CFR§95.3331, 76-81 GHz Band Radar Service is prohibited aboard aircraft in flight. Aircraft-mounted radars shall be equipped with a mechanism that will prevent operations once the aircraft becomes airborne.

Noting the exception as stated, the FCC will allow vehicular radar sensors to be mounted and deployed on “terrestrial transportation vehicles” including but not limited to railroad train locomotives and train cars; monorails and trams; construction vehicles; farming vehicles such as tractors and harvesters; motorcycles, scooters and motorbikes; mobile scissor-lifts and mobile work platforms; and boats and ships operated within territorial waters of the United States, provided the overall installation complies with the conditions of the grant and the relevant technical standards for operation.

Japan also implemented the 77-81 GHz SRR application in 2017 (ARIB standard STD-T111 - 79 GHz Band High-Resolution Radar). China is still in process of implementing but with strong indications that this process is going to be finalised in 2018.

Note that within the ECC, ECC/DEC/(04)03 is under review in WGFM/SRD/MG. and ETSI is in process of preparing an ETSI SRDoc. A common regulation 76-81 GHz, in support of the trend towards single chip solutions 76-81 GHz, and setting out of the regulation in a way to enable more use cases (such as in the USA) could potentially be considered. There is also Decision 2004/545/EC in relation to ECC/DEC/(04)03.

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

1. **China – New Bands Opened for 5G**

On November 9, 2017, China’s Ministry of Industry and Information Technology (MIIT) formally released a notification regarding the new frequency ranges (3300‑3600 MHz and 4800‑5000 MHz) opening for the fifth generation (5G) mobile communications system. Highlights are as follows:

* New frequency ranges permitted for 5G system are 3300‑3600 MHz and 4800‑5000 MHz; 3300-3400 MHz is for indoor use only.
* Frequency ranges mentioned above shall not cause interference with other wireless devices and radio astronomical business.
* Application for 5G frequency usage is regulated by State Radio Regulatory Commission (SRRC).
* Application scheme, radio technical parameters and station regulations will be further discussed and released by SRRC in the near future.

**(for information in ECC PT1, CPG)**

1. **FCC: Notice of Proposed Rulemaking – ET Docket No. 18-21 - spectrum above 95 GHz (‘Spectrum Horizons’) incl. FCC presentation above 24.25 GHz**

The FCC is beginning to see an uptick in interest in these bands. Currently, the FCC has no rules to permit licensed or unlicensed communications use in these spectrum bands, other than by amateur operators or on an experimental basis.

The goal of this Spectrum Horizons proceeding would be to enable innovators and entrepreneurs to develop technology that can make effective use of this spectrum. Because the FCC cannot predict how technology will develop in this space, it would propose multiple options (licensed, unlicensed, and experimental) to encourage the deployment of new services and devices in this space and promote innovation.

The Notice of Proposed Rulemaking issued on 1 February 2018 seeks comments amongst others:

* on adopting rules for fixed point-to-point use of up to 102.2 GHz of spectrum in various bands;
* on a proposal to base these rules on existing 70/80/90 GHz rules under which licensees obtain a nationwide non-exclusive license and register each link with a database manager;
* - on the deployment of point-to-multipoint systems and mobile services in this spectrum;
* on making up to 15.2 GHz of spectrum available for unlicensed use in several band segments;
* on a proposal to base these rules on the existing rules for unlicensed use of the 57-71 GHz band;
* on creating a new category of experimental licenses for the 95 GHz to 3 THz range.

See: <https://transition.fcc.gov/Daily_Releases/Daily_Business/2018/db0201/DOC-348982A1.pdf>

A presentation from Mr Tom Sullivan, Chief, FCC International Bureau, given at the European 5G Conference on 12-13 February 2018 is considered helpful to understand the actions at bands above 24.25 GHz:



**(for information in ECC PT1, CPG, WGFM, SRD/MG, WGSE, SE19)**

1. **ITS: USA: Recent Statement of the Department of Transportation and NHTSA**

The following statement was recently released by the Department of Transportation (DOT) and NHTSA (National Highway Traffic Safety Administration):

“The DOT and NHTSA have not made any final decision on the proposed rulemaking concerning a V2V mandate. Any reports to the contrary are mistaken. In all events, DOT hopes to use the dedicated spectrum for transportation lifesaving technologies. Safety is the Department’s number one priority.

NHTSA is still reviewing and considering more than 460 comments submitted during a consultation process and other relevant new information to inform its next steps. An update on these actions will be provided when a decision is made at the appropriate time, taking into consideration the rich comments received in response to the proposed action published in December 2016. While DOT withdrew or revised 13 rules this year, V2V is not one of them, and it remains on DOT’s [significant rulemaking report](https://www.transportation.gov/regulations/report-on-significant-rulemakings).”

A specific timeline was not indicated for a connected car rule, under questioning from lawmakers in January 2018. It is said that NHTSA does not want to pick winners and losers amid a debate between 5G and DSRC (this is IEEE 802.11p/ETSI G5) technologies but the aim would be that dedicated spectrum will in fact be reserved and applied to vehicle safety technologies.

In this regard, the situation in the USA seems to be quite similar to the on-going discussions in Europe.

Please note that the significant rulemaking report also includes several items on Unmanned Aircraft Systems (UAS), though there may not be a strict relation to spectrum use.

**(for information in WGFM, SRD/MG, WGSE, SE24, CPG)**

1. **Broadband-Direct-Air-to-Ground**

A number of recent official statements and press releases were noted in the context of steps towards DA2G systems:

* The Telecom Regulatory Authority of India (TRAI) issued a green signal to inflight WiFi and mobile Internet connectivity within the country’s airspace; several global players in the space have expressed interest in entering the Indian market. One among them is Gogo, a provider of inflight Internet and other connectivity services for commercial as well as business aircraft. As per reports, the company’s expansion plans in India are already underway.
* In addition, a recent article from Gogo in the USA reveals that ‚,Gogo Wants U.S. Airlines to Know Satellite Wi-Fi Isn’t the Only Answer‘ that Gogo pushes ahead with increasing their network capacities with a DA2G terrestrial network in the USA (and perhaps parts of Canada). See: <https://skift.com/2018/02/14/gogo-wants-u-s-airlines-to-know-satellite-wi-fi-isnt-the-only-answer/> . Like Smartsky in the USA, it seems that such a terrestrial network is based on using the 2.4 GHz band and beamforming antennas with a LTE-based terrestrial network.
* Meanwhile, Inmarsat and Deutsche Telekom demonstrate the European Aviation Network satellite and ground integration in flight, and have successfully completed the first flight trials to test both the satellite and complementary ground network for their European Aviation Network (EAN) service; a solution to combine space and ground based components to deliver high-speed inflight broadband to airlines. They stated that the recent flights demonstrated that EAN meets its design performance in practice; a significant milestone for the project consortium, as well as European airlines and their passengers. Inmarsat and Deutsche Telekom conducted the evaluation with partners Cobham, Thales and Nokia, on an aircraft which was flown across Germany, Belgium, France and Spain, covering approximately 5000 km of European airspace, to test integration of the Mobile Satellite Services (MSS) and Complementary Ground Component (CGC) terminals. Inmarsat’s EAN satellite, which completed its in-orbit tests last month after being launched by Arianespace, works seamlessly with a complementary network of around 300 LTE-based ground stations, operated by Deutsche Telekom, using an Advanced Integrated Services Manager (AISM) platform. International Airlines Group (IAG), which includes world-renowned airline brands such as British Airways, Iberia, Aer Lingus and Vueling, is the launch customer for the new service.
* According to a notice issued by the Civil Aviation Administration of China on Jan 16, domestic airlines can now make their own decisions on whether to permit the use of personal electronic devices on domestic flights. Many foreign airlines allow the use of cellphones in flight mode, but before Jan 17 passengers had to turn off their phones during domestic flights to be in accordance with China's civil aviation regulations.
* A second operator in the USA, SmartSky, received FAA approval of the first supplemental type certificate (STC) for SmartSky Networks’ pioneering an airborne 4G LTE network (using 60 MHz with beamforming antennas within the 2.4 GHz band) at the end of January 2018.

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

1. **FIRST COMMERCIAL 5G TRIAL AT THE WINTER OLYMPICS IN SOUTH KOREA**

The first large scale commercial “showcase” of 5G technology is currently underway at the Winter Olympics in Pyeongchang, South Korea (9-25 February 2018) as part of collaboration between KT, Samsung and Intel.

A range of use cases are being explored, with a focus on providing new viewer experiences including the use of 360 degree cameras and Virtual Reality to allow viewers to watch events from the competitors’ perspective. These experiences are available at special areas within the Olympic Park as well as in other cities. Additionally, self-driving shuttle buses incorporating 5G technology are in operation inside the Olympic Park.

Outside the venues, 5G machine type communications are being trialed in nearby rural areas to ward off wild boars, building on existing 4G systems with improved reaction times and accuracy.

Following the trial KT is planning early commercial 5G deployments in 2019. Similar 5G showcases are expected at other upcoming events including the 2020 Summer Olympics in Tokyo, Japan.

1. **First LTE-Railway Service on a H igh-speed Train Goes Live in South Korea**

On 21 December 2017, Samsung and KT announced that the LTE-Railway (LTE-R) network for a new high-speed train line in South Korea is in operation. The activation represents the world’s first application of LTE-R technology to a high-speed train, with the new line traveling up to 250km/h. The network includes key features such as Mission-Critical Push-to-talk (MCPTT) based on the 3GPP standards Release 13, group calls and VoLTE – between train personnel and control centers. In specific, the usage is sharing capacities of Samsung’s radio access network operating in 700 MHz, a LTE-based Public Protection and Disaster Relief (PPDR) network.

**(for information in WGFM, FM56, CPG)**

1. **FCC: restoring the ‚Freedom of the Internet – final vote**

On December 14, 2017, the FCC voted to restore the longstanding, bipartisan light-touch regulatory framework which was in place before the Obama administration issued some network neutrality rules in 2015.

The following FCC webpage informs about this process in the USA: <https://www.fcc.gov/restoring-internet-freedom> ; the document published on 4 January is <https://apps.fcc.gov/edocs_public/attachmatch/FCC-17-166A1.pdf>.

ISPs will be permitted ,within reason‘ to throttle and prioritise traffic. Despite many comments made throughout the process, no substantial changes are said to be observed in the final rule.

Consumer associations in the USA are afraid that no guarantees for free and open access to any website or service are anchored in the ‚light ruling’. Possibilities are given to ISPs to request consumers to pay extra for access to your favorite websites, subscription to ‚additional services‘, or simply for ‚more bandwidth‘.