



ASIA-PACIFIC TELECOMMUNITY
**The 2nd Meeting of the APT Conference Preparatory
Group for WRC-19 (APG19-2)**
17 – 21 July 2017, Bali, Republic of Indonesia

Document:
APG19-2/INF-03
7 July 2017

Radiocommunication Bureau, International Telecommunication Union

UPDATES ON PREPARATIONS FOR CPM19-2, RA-19 AND WRC-19

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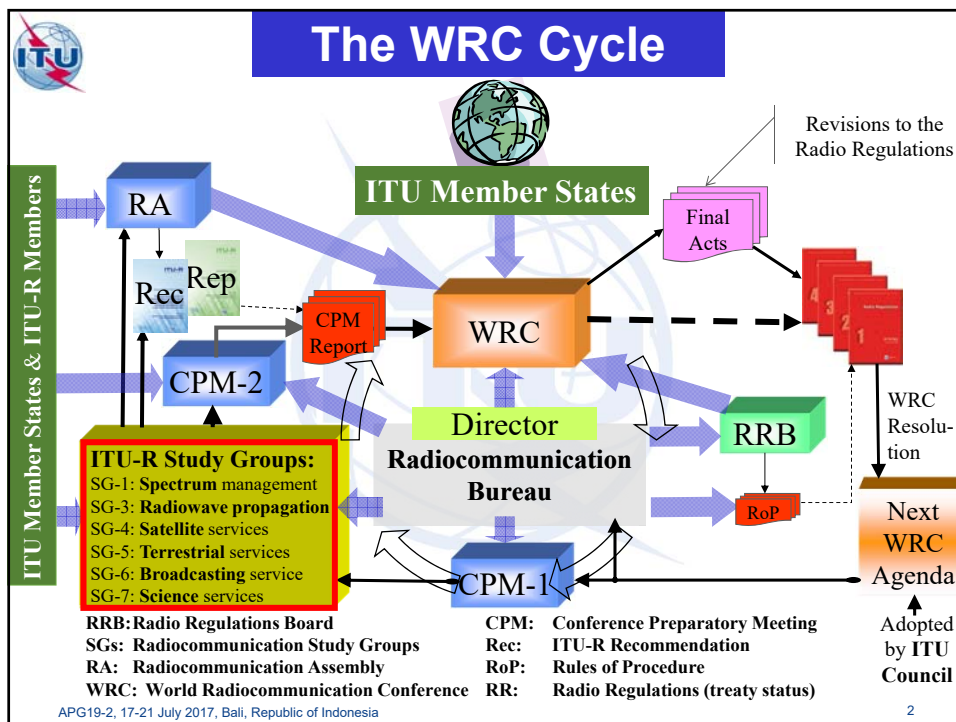
**2nd Meeting of the
APT Conference Preparatory Group
for WRC-19 (APG19-2)**

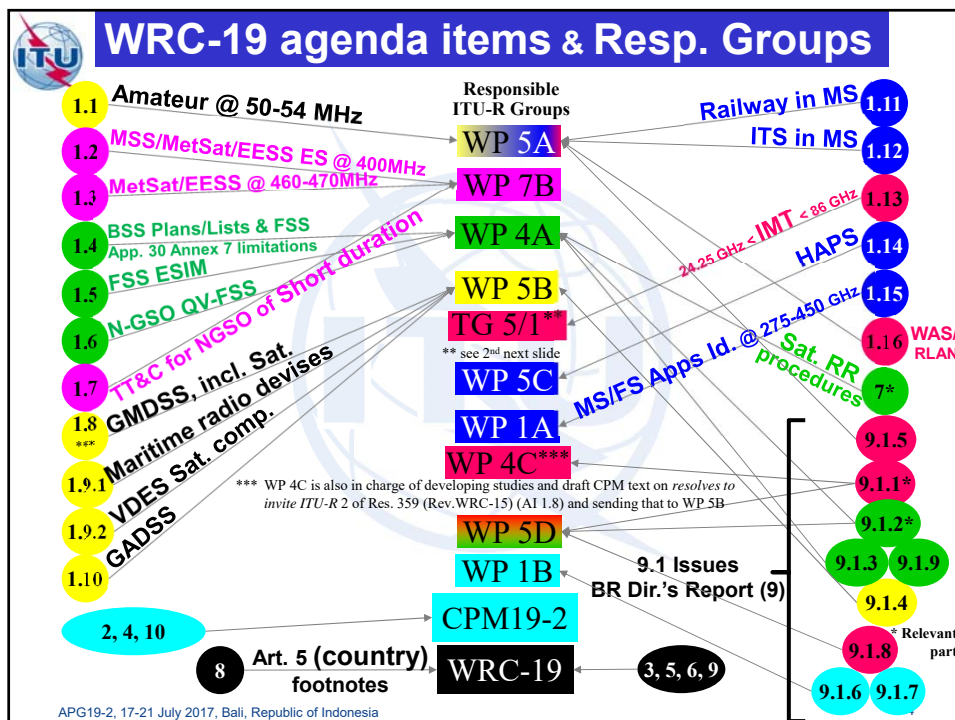
17-21 July 2017, Bali, Republic of Indonesia




Updates on Preparations for CPM19-2, RA-19 and WRC-19

Philippe Aubineau
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Radiocommunication Bureau, ITU








Agenda item 9.1 Issues

9.1.1	Res. 212 – Terrestrial & Satellite components of IMT <small>(Rev.WRC-15)</small> co-existence & compatibility @1885-2025 & 2110-2200 MHz
9.1.2	Res. 761 – IMT and BSS sound @ 1452-1492 MHz <small>(WRC-15)</small> in Regions 1 and 3
9.1.3	Res. 157 – Technical/Operational/Regulatory studies for <small>(WRC-15)</small> new N-GSO Sat. in “C-Band” allocated to FSS
9.1.4	Res. 763 – Stations on board sub-orbital vehicles <small>(WRC-15)</small>
9.1.5	Res. 764 – IbR of Rec. ITU-R M.1638-1 & M.1849-1 <small>(WRC-15)</small> (MS(RLAN))@5GHz & new radar characteristics)
9.1.6	Res. 958 – 1) Urgent studies on Wireless Power <small>(WRC-15)</small> Transmission (WPT) for electric vehicles
9.1.7	Res. 958 – 2) Managing unauthorized operations of <small>(WRC-15)</small> Earth Station terminals
9.1.8	Res. 958 – 3) Narrowband & BB machine-type <small>(WRC-15)</small> communication infrastructures
9.1.9	Res. 162 – FSS needs @ 51.4-52.4 GHz <small>(WRC-15)</small>

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Agenda item 7 updated list of issues

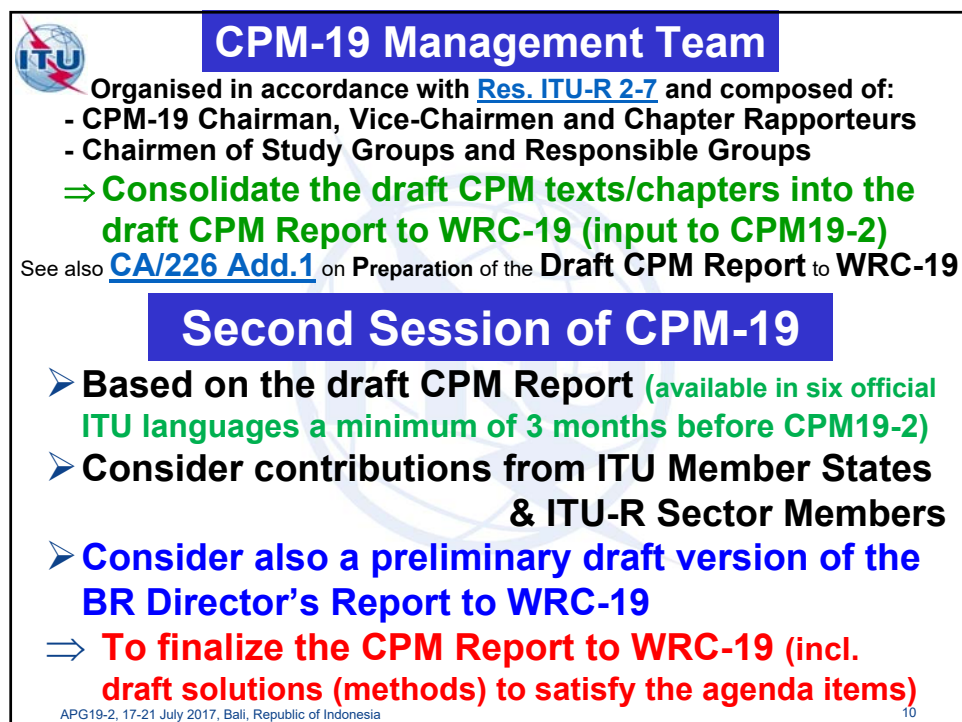
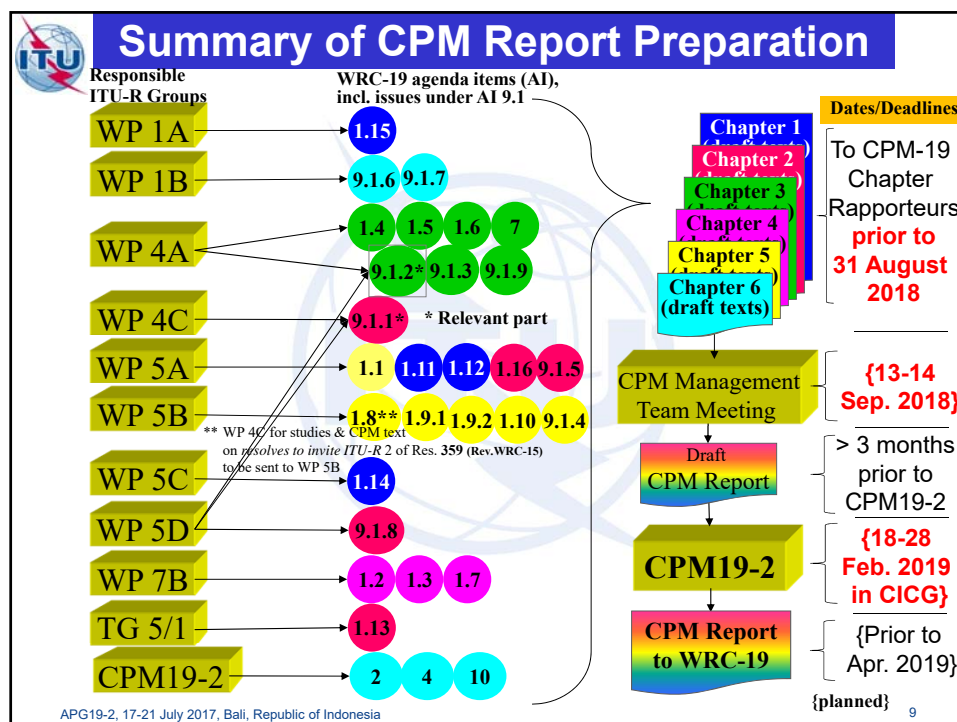
(after the May'17 meeting of WP 4A)

- A. **BiU frequency assignments** to NGSO sat. systems & consideration of a **milestone-based deployment approach** for NGSO FSS sat. systems in certain bands
- B. Application of **CA in Ka-band**, to determine **coordination requirements between FSS & other satellite services**
- C. Issues for which consensus was readily achieved in ITU-R
- D. **Ident. specific sat. networks & systems** to coordinate with, under RR Nos. **9.12, 9.12A and 9.13** [or 9.21]
- E. Harmonization of RR App. **30B** with RR App. **30 & 30A**
- F. Concerns with the **lack of implementation of certain RR provisions** that can lead to **difficulties** during the **process of entering an assignment into the RR App. 30B List**
- G. **Updating reference situation** for networks under RR App. **30 and 30A** when **provisional recording** is used
- H. Modifications to **RR App. 4 data elements** to be provided **for non-geostationary satellite networks/systems**

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 Overlapping frequency bands** between some WRC-19 agenda items			
1.6 – NGSO FSS Res. 159 (WRC-15)	1.13 – IMT Res. 238 (WRC-15)	1.14 – HAPS Res. 160 (WRC-15)	9.1 (9.1.9) – FSS Res. 162 (WRC-15)
	24.25-27.5	24.25-27.5 (Reg. 2)	
37.5-39.5 (s-E*)	37-40.5	38-39.5 (globally)	
39.5-42.5 (s-E*)	40.5-42.5		
47.2-50.2 (E-s*)	47.2-50.2		
50.4-51.4 (E-s*)	50.4-52.6		51.4-52.4 (E-s*)
* E-s: Earth-to-space; s-E: space-to-Earth.			
** Frequency bands in GHz			
Studies to address mutual compatibility & sharing feasibility among the services/applications for which allocation/identification is envisaged under the corresponding Res. relating to the AI in the overlapping bands			
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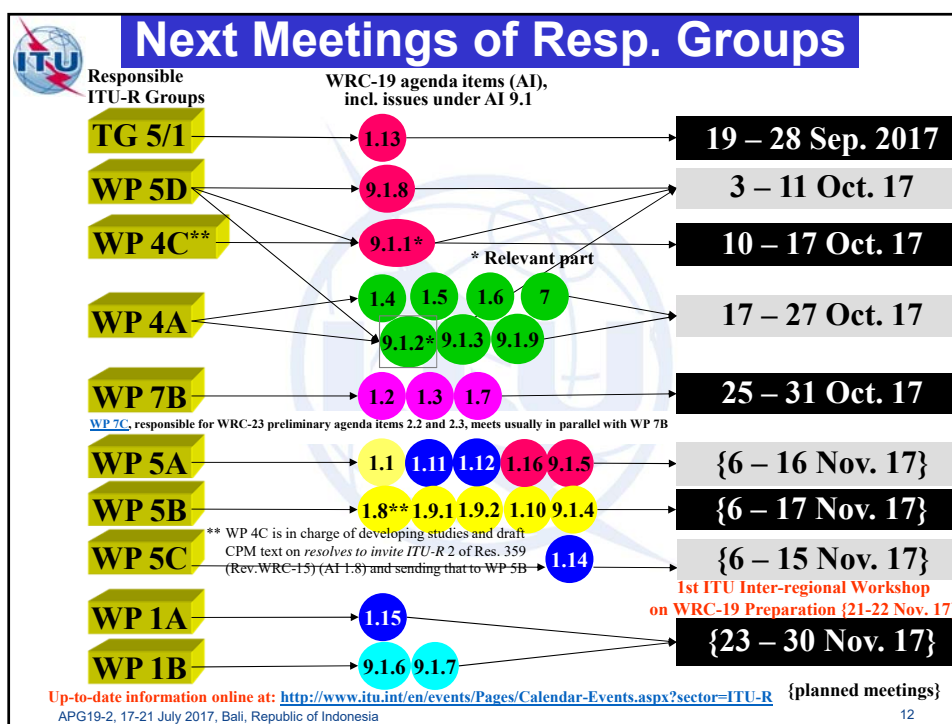
 WRC-23 preliminary items & Resp. Groups	
5 preliminary agenda items ▶ Res. 810 (WRC-15)	Responsible ITU-R Groups
2.1 Res. 361 (WRC-15) – Spectrum for GMDSS modernization & implementation of e-navigation	WP 5B
2.2 Res. 656 (WRC-15) – Possible new allocations for EESS (active) for spaceborne radar sounders @ 45 MHz	WP 7C
2.3 Res. 657 (WRC-15) – Spectrum needs & designation of radio services for space weather sensors	WP 7C
2.4 Res. 161 (WRC-15) – Possible new allocations for FSS @ 37.5-39.5 GHz	WP 4A
2.5 Res. 235 (WRC-15) – Spectrum use and needs of existing services @ 470-960 MHz in Region 1 and possible regulatory actions @ 470-694 MHz in Region 1	none
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ITU Preparation of WRC-19 agenda item 8

- Consider/take appropriate action on **requests from ADMs to delete their country footnotes** or to **have their country name deleted from footnotes**, if no longer required, taking into account Resolution **26 (Rev.WRC-07)**
- At least last two **WRCs adopted a similar approach**: see WRC-15 Doc. 142 (Rev.1) at: www.itu.int/md/R15-WRC15-C-0142
- ✓ **ADD of FN or MOD of FN addressed by Res. 26 (Rev. WRC-07) were considered under the relevant WRC agenda item**, as appropriate, and had to be re-submitted under that relevant AI. (would be better to submit them directly under the relevant AI)
- ✓ Other **ADD of FN** were **not considered!**
- ✓ Other **MOD of FN** to add ADM's name **were accepted**, until the end of the 1st week and treated under AI 8, under certain circumstances on a purely exceptional basis & if justified, **subject to the express condition of no objections** from affected countries
- ✓ **SUP of FN or MOD of FN to sup. ADM's name were accepted**, until end of the 2nd week, and considered under AI 8

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 Overview of the ITU-R Calendar towards WRC-19							
Year	January – March	April – June	July – September	October – December			
2015	CPM15-2	Last meetings of the Responsible Groups	WS on WRC-15	RA-15	WRC-15	CPM19-1	
2016	WP 5D (1 st)	WPs 7B & 7C (1 st)	WP 4C+WP 4A (2 nd)	WP 5D (3 rd)	WPs 7B & 7C (2 nd)	WPs 5A, 5B & 5C (2 nd)	WPs 1A & 1B (2 nd)
		WP 4C+WP 4A (1 st)					
		WPs 5A, 5B & 5C (1 st)					
		TG 5/1 (1 st)					
2017		WPs 1A & 1B (1 st)					
		WP 5D (2 nd)	CPM-19 Steering				
	WP 5D (4 th)	WPs 7B & 7C (3 rd)	TG 5/1 (3 rd)	WP 5D (6 th)	WP 4C+WP 4A (4 th)	WPs 7B & 7C (4 th)	WPs 5A, 5B & 5C (4 th)
		WP 4C+WP 4A (3 rd)					
2018		TG 5/1 (2 nd)					
		WPs 5A, 5B & 5C (3 rd)					
		WPs 1A & 1B (3 rd)					
		WP 5D (5 th)					
2019	[Responsible Groups Meetings] [TG 5/1 (4 th)]	[Responsible Groups Meetings] [TG 5/1 (5 th)]	[Responsible Groups Meetings] [TG 5/1 (6 th)]	[Responsible Groups Meetings] [WS on WRC-19]			
	CPM19-2	[Last meetings of the Responsible Groups]	[WS on WRC-19]	RA-19	WRC-19		

[...] = planned meetings WS on WRC-19 = ITU Inter-regional Workshop on WRC-19 Preparation

Up-to-date information online at: www.itu.int/en/events/Pages/Calendar-Events.aspx?sector=ITU-R

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 ITU-R Preparatory Studies for WRC-19 www.itu.int/go/rcpm-wrc-19-studies				
Resolution 809 (WRC-15) contains the WRC-19 agenda.				
WRC-19 agenda item (Chapter)	Issue	WRC Resolution (*)	Responsible Group(s)	Information from Responsible Group(s)
1		-	-	-
1.1 (5)		Res. 658 (WRC-15)	WP 5A	Doc. 5A/298 Sections 3.3 & 4 and Annexes 4 (c), 5 (b), 14 & 15
1.2 (4)		Res. 765 (WRC-15)	WP 7B	Doc. 7B/170 Section 3.3.1 and Annexes 1 (c), 2 (b), & 18
1.3 (4)		Res. 766 (WRC-15)	WP 7B	Doc. 7B/170 Section 3.3.2 and Annexes 3 (c), 4 (b), & 19
1.4 (3)		Res. 557 (WRC-15)	WP 4A	Doc. 4A/196 Section 4.1.1 and Annexes 5 & 26 (b)
1.5 (3)		Res. 158 (WRC-15)	WP 4A	Doc. 4A/196 Section 4.1.2 and Annexes 16 to 20 & 27 (b)
1.6 (3)		Res. 159 (WRC-15)	WP 4A	Doc. 4A/196 Section 4.1.3 and Annexes 4, 8, 9 & 28 (b)
1.7 (4)		Res. 659 (WRC-15)	WP 7B	Doc. 7B/170 Section 3.1.6 and Annexes 5 (c), 6 (b), 7, 8, 9 & 20
1.8 (5)		Res. 359 (Rev. WRC-15)	WP 5B (1)	Doc. 5B/195 Sections 2.1.1 & 3.3.1.2 and Annexes 1 (c) & 2 (b) Doc. 4C/43 Sections 3.2.4 & 4.2
1.9 / 1.9.1 (5)		Res. 362 (WRC-15)	WP 5B	Doc. 5B/195 Sections 2.1.1 & 3.3.1.3 and Annexes 3 (c), 4 (b), 19, 23, 33 & 36 Circular Letter 5/LCCE/64
1.9 / 1.9.2 (5)		Res. 360 (Rev. WRC-15)	WP 5B	Doc. 5B/195 Sections 2.1.1 & 3.3.1.4 and Annexes 5 (c), 6 (b) & 26
1.10 (5)		Res. 426 (WRC-15)	WP 5B	Doc. 5B/195 Sections 2.1.1 & 3.2.1.1 and Annex 8
1.11 (1)		Res. 236 (WRC-15)	WP 5A	Doc. 5A/298 Sections 3.4, 3.7 & 4 and Annexes 6 (c), 7 (b) & 16

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WRC Regional Preparation

Pursuant to [Resolution 72 \(Rev. WRC-07\)](#)

See details @ www.itu.int/go/wrc-19-regional

Regional preparation for WRC-19

YOU ARE HERE HOME > ITU-R > CONFERENCES AND MEETINGS > WRC > WRC-19 > REGIONAL PREPARATION FOR WRC-19



Asia-Pacific
Telecommunity (APT)



Arab Spectrum
Management Group
(ASMG)



African
Telecommunications Union
(ATU)



European Conference of Postal
and Telecommunications
Administrations (CEPT)



Inter-American
Telecommunication
Commission (CITEL)




Regional Commonwealth
in the Field of
Communications (RCC)

Resolution 72 (Rev. WRC-07)

Asia-Pacific Telecommunity (APT) 2 nd APG-19: 17-21 July 2017, Bali, Indonesia	Arab Spectrum Management Group (ASMG) 22 nd ASMG: [tbd]
African Telecommunications Union (ATU) 2 nd APM-19: 11-15 Sep. 2017, Dakar, Senegal	European Conference of Postal and Telecommunications Administrations (CEPT) 5 th CPG-19: [8-11 Jan 2018, Budapest, Hungary]
Inter-American Telecommunication Commission (CITEL) 30 th PCC.II: [27 Nov.-1 Dec. 2017, Barranquilla, CLM]	Regional Commonwealth in the Field of Communications (RCC) 4 th RCC WG: 11-14 Sep. 2017, Samarkand, UZB

Informal Group (Chairman: Mr. T. Al Awadhi, tariq.alawadhi@tra.gov.ae)

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ITU Inter-Regional Workshops on WRC-19 Preparation

1st Workshop
[21-22]*
Nov. 2017

- To be scheduled halfway through the preparatory cycle
- ⇒ Presentation and review of the on-going preparatory studies of the ITU-R responsible groups for CPM-19
- ⇒ Presentation of the organization, preliminary views, draft priorities and positions of the regional groups

* Subject to the confirmation of the dates of the ITU-R SG 5 meeting currently planned on 20 Nov. 2017 **

2nd Workshop
[Q4 2018]**

- To be scheduled few months prior to CPM19-2
- ⇒ Presentation of the Draft CPM Report to WRC-19 (explanation of the draft Methods to satisfy the WRC-19 agenda items)
- ⇒ Presentation and review of the regional groups' draft views, positions and common proposals

3rd Workshop
[Q3 2019]**

- To be scheduled few months prior to WRC-19
- ⇒ Presentation of the CPM & Dir. Reports to WRC-19
- ⇒ Presentation and review of the regional groups' draft views, positions and common proposals

** Updated information on meeting dates to be provided later on at: www.itu.int/en/events/Pages/Calendar-Events.aspx?sector=ITU-R

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1st Workshop – Outline of tentative draft Programme

Day 1 ([Tuesday, 21 November 2017]*)	Day 2 ([Wednesday, 22 November 2017]*)
<p>0930 – 1020 hours: Opening Session Overview of the ITU preparation for CPM19-2, R9-15 and WRC-19, and Organizations of the regional groups</p> <p>1020 – 1040 hours: Break</p> <p>1040 – 1230 hours: Session 1 Review of the WRC-19 agenda items related to issues on broadband applications in the mobile service (agenda items 1.13 & 9.1 (issues 9.1.1, 9.1.2 & 9.1.8))¹</p> <p>1230 – 1400: Lunch Break</p> <p>1400 – 1520 hours: Session 2 Review of the WRC-19 agenda items related to other issues on broadband applications in the mobile service and issues on amateur and land mobile services (agenda items 1.1, 1.11, 1.12, 1.16 & 9.1 (issue 9.1.5))¹</p> <p>1520 – 1540: Break</p> <p>1540 – 1700 hours: Session 3 Review of the WRC-19 agenda items related to issues on maritime, aeronautical, land mobile and fixed services (agenda items 1.8, 1.9.1, 1.9.2, 1.10, 1.14 & 1.15 & 9.1 (issue 9.1.4))¹</p>	<p>0900 – 1000 hours: Session 4 Review of the WRC-19 agenda items related to the science issues (agenda items 1.2, 1.3 & 1.7)¹</p> <p>1000 – 1015: Break</p> <p>1015 – 1200 hours: Session 5 Review of the WRC-19 agenda items related to the satellite issues (agenda items 1.4, 1.5, 1.6, 7 (issues) & 9.1 (issues 9.1.3 & 9.1.9))¹</p> <p>1200 – 1400: Lunch Break</p> <p>1400 – 1515 hours: Session 6 Discussions on WRC-19 agenda items with overlapping frequency bands (agenda items 1.6, 1.13, 1.14 & 9.1 (issue 9.1.9) and 1.12, 1.16)¹</p> <p>1515 – 1530: Break</p> <p>1530 – 1615 hours: Session 7 Review of the WRC-19 agenda items related to the general and other issues (agenda items 2, 4, 8 & 9.1 (issues 9.1.6 & 9.1.7), 10)¹</p> <p>1615 – 1630: Break</p> <p>1630 – 1700 hours: Concluding and closing session</p>

* Subject to the confirmation of the dates of the ITU-R SG 5 meeting currently planned on 20 Nov. 2017

¹ Presentation & explanation of on-going ITU-R preparatory studies for WRC-19 by the resp. groups & of the preliminary draft common views, positions and/or proposals from the regional groups (African Group/ATU, APT-APG, Arab Group/ASMG, CITEL-PCC.II, RCC, CEPT-CPG) & organizations like ICAO, IMO, WMO, or other entities, as appropriate – Timing & ordering of the AI/issues is indicative at this stage & may change subsequently as deemed appropriate

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New Conference Proposals Interface for WRC-19

www.itu.int/net4/Proposals/CPI/WRC19/Main

➤ Preliminary version to be used for preparation of draft documents with proposed actions (MOD, ADD, etc.) to RR-2016 texts

My browser

All WRC-19 | Text / provision N° | ☐ on provision number only

WRC-19 Collapse all

- ARTICLES
- APPENDICES
- RESOLUTIONS
- RECOMMENDATIONS
- GENERAL MATTERS

My skeleton

0 item

Agenda item

#	Ag. item	Action	Provision	Mapping
List of the WRC-19 agenda items (issues)				

2016 Edition of the Radio Regulations

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Include RR text(s) in a draft document

(main steps)

Additional information can be found in relevant parts of the [CPI User Guide for WRC-15](#)

1 RR text search

2 agenda item/(issue) selection

3 RR text view

4 Action selection (e.g. MOD) for "My skeleton"

5 Repeat steps 1 to 4 to add other RR text(s) (provisions, etc.)

6 Save my skeleton

Vol.1/Chp. II/Art. 5/Sec. IV/5.167A

5.167A Additional allocation: in Indonesia and Thailand, the frequency band 50-54 MHz is also allocated to the fixed, mobile and broadcasting services on a primary basis. (WRC-15)

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Draft Doc. created with CPI for WRC-19

- Sample Doc. generated by CPI when clicking on **Save my skeleton** *. The Doc. is also attached to an email sent by CPI to the User
- Using WRC-19 and ITU-R Study Group Document Templates
- No button yet in CPI to submit WRC-19 proposals (will be in a future version)

Sample Doc. part not relevant at this stage

Sample RR texts correctly formatted

World Radiocommunication Conference (WRC-19)
Geneva, 28 October - 22 November 2019
INTERNATIONAL TELECOMMUNICATION UNION

PLENARY MEETING Document 4012-E
6 March 2017
Original: English

European Common Proposals
PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda item 1.1

1 on the basis of proposals from administrations, taking account of the results of WRC-15 and the Report of the Conference Preparatory Meeting, and with due regard to the requirements of existing and future services in the frequency bands under consideration, to consider and take appropriate action in respect of the following items:

1.1 to consider an allocation of the frequency band 50-54 MHz to the amateur service in Region 1, in accordance with Resolution 658 (WRC-15):

ARTICLE 5
Frequency allocations


Section IV - Table of Frequency Allocations
(See No. 2.1)

MOD EUR/4012/1
5.167A Additional allocation: in Indonesia and Thailand, the frequency band 50-54 MHz is also allocated to the fixed, mobile and broadcasting services on a primary basis. (WRC-15)

Reasons:

* An intermediate screen appears to enter the name of the country/regional group and the Doc. suffix number. This information is not necessary at this stage and can be ignored by clicking on "Save my skeleton".

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Thank you for your attention

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*Conference Preparatory Meeting (CPM) for WRC-19:
www.itu.int/ITU-R/go/rcpm, Email: rcpm@itu.int*

Additional slides on

- **CPM-19 webpage, leadership, draft Report structure**
- **Topics and items on the Agenda for WRC-19**
- **Preparation for RA-19**
- **Radio services and other abbreviations**

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CPM-19

www.itu.int/ITU-R/go/rcpm


Chairman
 Mr K. AL-AWADHI (UAE), E-mail: khalid.alawadi@tra.gov.ae


Vice-Chairmen, CPM


Mr M. AL BADI (OMA),	E-mail: <u>albadi@tra.gov.om</u>
Ms C. BEAUMIER (CAN),	E-mail: <u>chantal.beaumier@canada.ca</u>
Mr X. GAO (CHN),	E-mail: <u>gaoxiaoyang@chinasatcom.com</u>
Mr V. GOEL (IND),	E-mail: <u>viresh.goel@gmail.com</u>
Mr A. KÜHN (D),	E-mail: <u>alexander.kuehn@bnetza.de</u>
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Mr T. SHAFIEE (IRN),	E-mail: <u>shafiee@cra.ir</u>
Mr. A. V. VASSILIEV (RUS),	E-mail: <u>alexandre.vassiliev@ties.itu.int</u>

(see details at www.itu.int/go/ITU-R/cvc/CPM)

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	Draft CPM Report – ToC	
	(see Annex 6 to CA/226)	
	Chapters of the draft CPM Report	WRC-19 Agenda items
1.	Land mobile and fixed services	1.11, 1.12, 1.14, 1.15
2.	Broadband applications in the mobile service	1.13, 1.16, 9.1 (9.1.1, 9.1.5, 9.1.8)
3.	Satellite services	1.4, 1.5, 1.6, 7, 9.1 (9.1.2, 9.1.3, 9.1.9)
4.	Science services	1.2, 1.3, 1.7
5.	Maritime, aeronautical and amateur services	1.1, 1.8, 1.9.1, 1.9.2, 1.10, 9.1 (9.1.4)
6.	General issues	2, 4, 9.1 (9.1.6, 9.1.7), 10
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	CPM Chapter Rapporteurs	
<u>Chapters</u>	<u>Rapporteurs</u>	
1. Land mobile and fixed services	Ms K. ZHU (CHN), Email: Zhukeer@miit.gov.cn	
2. Broadband applications in the mobile service	Mr J. ARIAS FRANCO (MEX), Email: jose.arias@ift.org.mx	
3. Satellite services	Mr N. VARLAMOV (RUS), Email: vnv73@mail.ru	
4. Science services	Mr V. MEENS (F), Email: vincent.meens@cnes.fr	
5. Maritime, aeronautical and amateur services	Mr W. EL SAYED (EGY), Email: wsayed@ntra.gov.eg	
6. General issues	Mr P.N. NGIGE (KEN), Email: ngige@cck.go.ke	
(see details at www.itu.int/en/ITU-R/study-groups/rcpm/Pages/cpm-19-chp-rapporteurs.aspx)		
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**Structure of the draft CPM texts for
an agenda item in a given chapter**

(see Annexes 6 and 11 to [CA/226](#))


Chapter N
Agenda Item 1.XY

[Relevant WRC Resolutions if any]
N/1.XY/1 Executive Summary*
N/1.XY/2 Background*
N/1.XY/3 Summary and Analysis of the results of ITU-R studies, including a list of relevant ITU-R Recommendations
N/1.XY/4 Method(s) to satisfy the Agenda Item**
N/1.XY/5 Regulatory and procedural considerations**

(see the Proposed detailed Structure for the Draft CPM Report to WRC-19 at:
<http://www.itu.int/oth/R0A0A00000A/en>)

* Not more than half a page of text ** Not applicable to issues under agenda item 9.1, instead:
N/9.1.X/4 Conclusions

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**Topics and items on the Agenda
for the 2019 World
Radiocommunication Conference**

**WRC
2019**

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Topics on the WRC-19 Agenda

17 specific & 11 standing items ▶ [Res.809 \(WRC-15\)](#)

Fix. & Mob. BB Apps
 (24.25 < IMT < 86 GHz, **Maritime (GMDSS modernization (+Sat.), use of radio devices, VDES Sat component)**
 HAPS, Apps.Id>275 GHz, **Aeronautical (GADSS needs)**
 WAS/RLAN @ 5 GHz)

Amateur in R1 @ 50-54 MHz
 (4WW allocation)

New Transport systems
 (harmonized bands for railways, ITS)

Earth resources & Climate monitoring
 Weather forecast, DCS improvement, TT&C for N-GSO Sat. of short duration

Satellite issues
 (BSS/FSS @12 GHz, ESIM, regul. for N-GSO FSS @ 37.5 to 51.4 GHz)

Regulatory issues
 (Sat. regulations, harmonization of spectrum use, etc.)

WRC 2019

Note: WRC-19 agenda item numbers indicated in italic

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Broadband applications in the MS
 (WRC-19 agenda items 1.13 and 1.16)

The following bands, which are already allocated to mobile, will be studied with a view to an **IMT-2020** identification:

- 24.25 – 27.5 GHz
- 37 – 40.5 GHz
- 42.5 – 43.5 GHz
- 45.5 – 47 GHz
- 47.2 – 50.2 GHz
- 50.4 – 52.6 GHz
- 66 – 76 GHz
- 81 – 86 GHz

The following bands will also be studied, although they **do not currently have global mobile allocations**:

- 31.8 – 33.4 GHz
- 40.5 – 42.5 GHz
- 47 - 47.2 GHz

▶ [Res. 238 \(WRC-15\)](#)

Appropriate regulatory actions, incl. additional MS allocations, for **WAS/RLAN** will be studied in the bands between **5 150-5 925 MHz**

▶ [Res. 239 \(WRC-15\)](#)

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 **Other LMS & FS Systems & Apps.**
(WRC-19 agenda items 1.14 and 1.15)

 Studies for considering **appropriate regulatory actions for HAPS***, within existing FS alloc. at 47.2-47.5, 47.9-48.2 & 31.0-31.3**/27.9-28.2** GHz (**outside Reg. 2, +5 ADMs @6.5/6.5 MHz) or study new bands: 38-39.5 GHz & 21.4-22*** & 24.25-27.5*** GHz (*high-altitude platform stations (HAPS); *** in Region 2)


► [**Res. 160 \(WRC-15\)**](#)


Studies towards an **identification** for use by administrations for **LMS and FS applications** operating in the frequency range **275-450 GHz**

► [**Res. 767 \(WRC-15\)**](#)

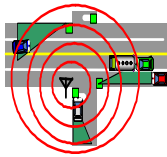
 Super-proximity communication between circuit board
Super-proximity communication between chips

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 **New transport systems in the MS**
(WRC-19 agenda items 1.11 & 1.12)

 Studies to take necessary actions, as appropriate, to facilitate **global or regional harmonized bands to support railway radiocommunication systems** between train & trackside within existing MS allocations


► [**Res. 236 \(WRC-15\)**](#)

 Studies to consider possible **global or regional harmonized bands**, to the maximum extent possible, for **implementation of evolving ITS*** within existing MS allocations


► [**Res. 237 \(WRC-15\)**](#)

* Intelligent Transport systems (ITS)


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Maritime issues
(WRC-19 agenda items 1.8, 1.9.1 & 1.9.2)




Studies to consider possible **regulatory actions** to **support GMDSS** (Global Maritime Distress and Safety Systems) **modernization** and the introduction of **additional satellite systems** into the GMDSS ► [**Res. 359 \(Rev.WRC-15\)**](#)



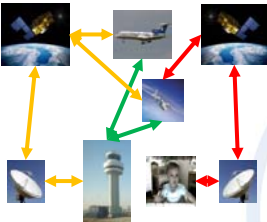
Studies to consider **regulatory actions** within the band **156-162.05 MHz** for **autonomous maritime radio devices** to protect the GMDSS and AIS (Automatic Identification System) ► [**Res. 362 \(WRC-15\)**](#)

Studies to consider RR MODs, including **new MMSS (E-s & s-E)** allocations, preferably **within 156.0125-157.4375 MHz & 160.6125-162.0375 MHz** of RR App. 18, to **enable a new VDES** (VHF data exchange system) **satellite component** ► [**Res. 360 \(Rev.WRC-15\)**](#)


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Aeronautical and Amateur issues
(WRC-19 agenda items 1.10 & 1.1)




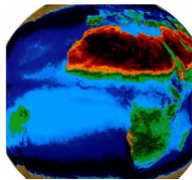
Studies to consider **spectrum needs & regulatory provisions** for **introduction and use of the GADSS** (Global Aeronautical Distress and Safety System) ► [**Res. 426 \(WRC-15\)**](#)




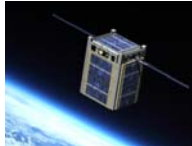
Studies for consideration of an allocation of the band **50-54 MHz** to the **amateur service in Region 1** (towards a worldwide allocation for harmonized weak signal communications) ► [**Res. 658 \(WRC-15\)**](#)

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 **Science issues**
(WRC-19 agenda items 1.2, 1.3 and 1.7)


 Studies to consider **in-band power limits** for earth stations in **MetSat & EESS @ 401-403 MHz** and in the **MSS @ 399.9-400.05 MHz** for DCS*
▶ [Res. 765 \(WRC-15\)](#)

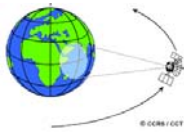
Studies to consider possible upgrading of the **2ndary MetSat (s-E)** allocation to **1^{mary}** status & a possible **1^{mary} EESS (s-E)** allocation @ **460-470 MHz** for DCS
▶ [Res. 766 \(WRC-15\)](#) 

 Study spectrum needs for **TT&C in the SOS** for non-GSO satellites with short duration missions & consider, if necessary, new SOS allocations
▶ [Res. 659 \(WRC-15\)](#)

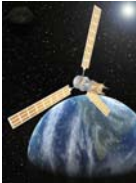
* Data Collection Systems (DCS) are used to monitor and predict climate change, monitor oceans, weather and water resources, weather forecasting and assisting in protecting biodiversity, improving maritime security
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 **Satellite issues**
(WRC-19 agenda items 1.4, 1.5, 1.6 & 7)

 Consider results of studies on review, and possible revision if necessary, of **RR App. 30 Annex 7 limitations**, incl. orbital position limitations
▶ [Res. 557 \(WRC-15\)](#)


Studies to consider the **use of the bands 17.7-19.7 GHz (s-E) and 27.5-29.5 GHz (E-s)** by earth stations in motion communicating with GSO space stations in the **FSS** and take appropriate action ▶ [Res. 158 \(WRC-15\)](#)

 Studies on development of a **regulatory framework for non-GSO FSS systems** that may operate in the bands **37.5-39.5 GHz (s-E), 39.5-42.5 GHz (s-E), 47.2-50.2 GHz (E-s) and 50.4-51.4 GHz (E-s)**
▶ [Res. 159 \(WRC-15\)](#)

 **Satellite Regulatory issues**
▶ [Res. 86 \(Rev.WRC-07\)](#)

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RA-15 > some key study topics > RA-19

- In response to updated **ITU-R Resolutions** (www.itu.int/pub/R-RES) related to, e.g.:
 - Harmonization of **Short-range devices (SRDs)** – [Res. ITU-R 54-2](#)
 - **Disaster prediction, detection, mitigation & relief** – [Res. ITU-R 55-2](#) (now incl. 53-1)
 - Implementation and use of **Cognitive radio systems (CRS)** – [Res. ITU-R 58-2](#)
 - Terrestrial **Electronic News Gathering (ENG)** systems – [Res. ITU-R 59-2](#)
- [Res. ITU-R 64](#) – Guidelines for the management of **unauthorized operation of earth station terminals** (referred to in WRC-15 Res. 958 (i.e. AI 9.1, issue 9.1.7))
- [Res. ITU-R 65](#) – Principles for the process of **future development of IMT for 2020 and beyond** (see also [Circular Letter 5/LCCE/59](#) of 22 March 2016)
- [Res. ITU-R 56-2](#) – **Naming for IMT** (incl. IMT-2000, IMT-Advanced & IMT-2020)
- [Res. ITU-R 66](#) – **Studies related** to wireless systems and applications for the development of the **Internet of Things (IoT)**
- [Res. ITU-R 67](#) – Telecommunication/ICT **accessibility for persons with disabilities and persons with specific needs**
- [Res. ITU-R 68](#) – Improving the dissemination of knowledge concerning the **applicable regulatory procedures for small satellites**, incl. **nano- & pico-satellites**
- [Res. ITU-R 69](#) – Development and deployment of **international public telecommunications via satellite in developing countries**

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RA-15 > ITU-R Study Groups > RA-19


- **Rev. Working Methods** - streamline & clarify procedures ([Res. ITU-R 1-7](#))
- **Unchanged basic Structure of Study Groups** (see [Res. ITU-R 4-7](#))
- **Updated Work Programme & Questions** (see [Res. ITU-R 5-7](#))
- **ITU-R collaboration with:**
 - ITU-T (new possibility of **Intersector Rap. Groups (IRG)**, [Res. ITU-R 6-2](#))
 - ITU-D (substantial **areas of mutual interest** identified, [Res. ITU-R 7-3](#),
e.g.: **SM, BB & IMT, CRS, LSA, DSA**)
 - **Other relevant organizations**, incl. **ISO, IEC & CISPR** ([Res. ITU-R 9-5](#))
- **Study Groups (SG) and sub-groups (e.g. Working Parties):**
 - List of **SG Chairmen and Vice-Chairmen** [online](#)
 - List of **sub-groups Chairmen and Vice-Chairmen** [online](#)
 - **Assignment of texts to the Sub-Groups on:**

Spectrum Management (SG 1, Doc. 1/1) Satellite Services (SG 4, Doc. 4/1) Broadcasting Service (SG 6, Doc. 6/1)	Radiowave Propagation (SG 3, Doc. 3/1) Terrestrial Services (SG 5, Doc. 5/1) Science Services (SG 7, Doc. 7/1)
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 Radio service abbreviations (1/2)		
Abbreviations	Radio services	RR definition
AMS	aeronautical mobile service	No. 1.32
AM(R)S	aeronautical mobile (route) service	No. 1.33
AMSS	aeronautical mobile-satellite service	No. 1.35
AMS(R)S	aeronautical mobile-satellite (route) service	No. 1.36
ARNS	aeronautical radionavigation service	No. 1.46
ARNSS	aeronautical radionavigation-satellite service	No. 1.47
ARS	amateur service	No. 1.56
ARSS	amateur-satellite service	No. 1.57
BS	broadcasting service	No. 1.38
BSS	broadcasting-satellite service	No. 1.39
EESS	Earth exploration-satellite service	No. 1.51
FS	fixed service	No. 1.20
FSS	fixed-satellite service	No. 1.21
ISS	inter-satellite service	No. 1.22
LMS	land mobile service	No. 1.26
LMSS	land mobile-satellite service	No. 1.27
MetAids	meteorological aids service	No. 1.50
MetSat	meteorological-satellite service	No. 1.52


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 Radio service abbreviations (2/2)		
Abbreviations	Radio services	RR definition
MMS	maritime mobile service	No. 1.28
MMSS	maritime mobile-satellite service	No. 1.29
MRNS	maritime radionavigation service	No. 1.44
MRNSS	maritime radionavigation-satellite service	No. 1.45
MS	mobile service	No. 1.24
MSS	mobile-satellite service	No. 1.25
RAS	radio astronomy service	No. 1.58
RDS	radiodetermination service	No. 1.40
RDSS	radiodetermination-satellite service	No. 1.41
RLS	radiolocation service	No. 1.48
RLSS	radiolocation-satellite service	No. 1.49
RNS	radionavigation service	No. 1.42
RNSS	radionavigation-satellite service	No. 1.43
SOS	space operation service	No. 1.23
SFTSS	standard frequency and time signal service	No. 1.53
SFTSSS	standard frequency and time signal-satellite service	No. 1.53
SRS	space research service	No. 1.55

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 Other abbreviations (1/2)		
Abbreviations	Description	RR Nos.
AIS	Automatic Identification System	-
Apps	Applications	-
Art. or AP/App	An Article or an Appendix of the RR	-
BB	Broadband	-
BR	ITU Radiocommunication Bureau	-
DCS	Data Collection System	-
E-s, s-E	Earth-to-space, space-to-Earth	-
ES	Earth station	No. 1.63
ESIM	ES In Motion	-
GMDSS	Global Maritime Distress and Safety System	-
GSO	Geostationary-Satellite Orbit	No. 1.190
HAPS	High Altitude Platform Station	No. 1.66A
HF VHF UHF	High Frequency: 3 to 30 MHz Very High Frequency: 30 to 300 MHz Ultra High Frequency: 300 to 3000 MHz	No. 2.1

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 Other abbreviations (2/2)		
Abbreviations	Description	RR Nos.
IMT	International Mobile Telecommunications	-
ITS	Intelligent Transport Systems	-
ITU	International Telecommunication Union	-
ITU-R	ITU Radiocommunication Sector	-
R1, R2, R3	RR Regions 1, 2 or 3	Nos. 5.2 to 5.9
Rec. / Rap.	Recommendation / Report	-
Res.	Resolution	-
RLAN	Radio Local Area Network(s)	-
RR	ITU Radio Regulations	-
RRB	ITU Radio Regulations Board	-
TT&C	Telemetry, Tracking and Command	(See Nos. 1.131-1.136)
VDES	VHF Data Exchange System	-
WAS	Wireless Access System(s)	-
WRC	World Radiocommunication Conference	-

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