

Government of India
Ministry of Communications
Department of Telecommunications
Wireless Planning & Coordination Wing

6th Floor, Sanchar Bhawan,
20, Ashoka Road, New Delhi 110001

Subject: Minutes of 3rd meeting of Working Group-2 (1 to 6 GHz) of NFAP review/ revision

Kindly refer to the 3rd meeting of Working Group-2 (1 to 6 GHz) of NFAP review/ revision committee held under the chairmanship of Sh. N K Bhola, Director(A), Wireless Monitoring Organization was held on 27.11.2024, and find enclosed the Minutes of Meeting for reference and further action please.

Enclosure: As above.

(Davender Singh Rawat)
Engineer, WPC Wing

To,

1. All Stakeholders
2. Sr. DWA (ISR) – for information
3. Director (IT) – for uploading in DoT website

**Minutes of 3rd meeting of Working Group-2 (1 to 6 GHz) of NFAP review/
revision**

Third meeting of Working Group-2 (WG-2) to review/ revise National Frequency Allocation Plan (NFAP) 2022 under the chairmanship of Sh. N K Bhola, Director(A), Wireless Monitoring Organization was held on 27.11.2024 in hybrid mode at Sanchar Bhawan, New Delhi. Stakeholders from various Government Departments, Telecom Service Providers, Manufactures, Academia, Associations etc. participated in the meeting.

2. In his opening address, the Chairman welcomed all participants. List of participants is enclosed at Annexure-I.

3. The draft NFAP document (1 to 6 GHz) where changes in the Allocation Table and RR footnotes were made as per ITU-RR 2024, has been presented in 2nd and 3rd WG-2 meetings for any comments/ suggestion.

4. Contributions received from IAFI and GMRT for amendment in IND footnotes have been deliberated in the meeting.

4.1 The suggestions on proposed changes IND footnotes, their justifications received till date are placed at Annexure-II for further deliberation.

5. The meeting concluded with thanks to the Chair and all the participants/ stakeholders.

Place: New Delhi

Date: 27.12.2024

List of Participants

S. No.	Name	Organization
1	N K Bhola	Chairman, Wireless Monitoring Organization
2	M K Pattanaik	WPC Wing
3	L D Meghwal	Sr. DD, WMO
4	R K Nagaich	DD, WMO
5	Sachin Kumar	WPC Wing
6	Davender Singh Rawat	WPC Wing
7	Yogesh Nandwani	WMO
8	Anurag Gupta	C-DoT
9	Rajeev Kumar	Doordarshan
10	A S Yadav	AAI
11	Umesh Kumar	AAI
12	Pravin Raybole	GMRT, NCRA-TIFR
13	Bharat Bhatia	ITU-APT Foundation of India (IAFI)
14	Yashwant Patil	Mt. Abu Intl. HAM Radio Club (MHRC)
15	Kantha Shree	C-PRAV Certification Service
16	Abhijit Panicker	COAI
17	Kshem Kapoor	COAI
18	Anil Tandan	DG, BIF
19	Debashish	BIF
20	Dileep Lakhera	Airtel
21	Dr. Sidharth Shukla	Airtel
22	Dr. Sendil Kumar	Ericsson
23	Jitendra	Qualcomm
24	M Rajith Ali	SIA-India
25	Munesh Gaur	Tata Communications Ltd. (TCL)
26	Suresh Kumar Karthikeyan	Susan Future Technologies
27	Suresh Warriar	Elena Geo
28	Ravi Tulsian	
29	Ahmed Raza	
30	B C Sahana	
31	Chetna Priyadarshini	
32	Upena Dalal	

Proposed modifications in IND footnotes by Stakeholders

Stakeholder	Proposed changes & Justification	Proposed modification in footnote	Existing footnotes of NFAP 2022	WG-2 comments and Proposed text for deliberation
IND 13 footnote				
GMRT, NCRA-TIFR	<p>(i) To add name of the village “Khordad” where Radio astronomy facility is located in Pune.</p> <p>(ii) To consistently include IND 13 in the Frequency Allocation Table for which it is applicable i.e. all frequencies between 50 to 1500 MHz.</p>	<p>The radio astronomy facility centered near the village of Khodad at the location given by Lat, Long = N19°05'26.31", E74°02'59.65" and spread out over a region of 30 KM, in Pune district needs to be protected from any radio emissions which may fall within the frequency bands allocated to radio astronomy service.</p> <p>In addition to bands listed in No. 5.149, the facility may also be protected to the extent feasible in the frequency bands between 50 and 1500 MHz. Any new proposed services and/ or spectrum allocations affecting this limited geographic region and frequency range may be done in coordination with GMRT, NCRA authorities on a case-by-case basis.</p>	<p>The facility use for radio astronomy service at Pune needs to be protected from any radio emissions which may fall within the frequency bands allocated to radio astronomy service. In addition to bands listed in No. 5.149, the facility may also be protected to the extent feasible in the frequency bands below 1500 MHz – especially in the ranges 68-74.8 MHz, 585-608 MHz, and 614-890 MHz bands.</p>	<p>GMRT facility being a highly sensitive radio astronomy facility, be protected from harmful emissions in the vicinity. However, need for coordinated frequency assignments near GMRT is not considered necessary.</p> <p>MOD IND 13: The radio astronomy facility centered near the village of Khodad at the location given by Lat: N19°05'26.31", Long: E74°02'59.65" and spread out over a region of 30 KM, in Pune district needs to be protected from any radio emissions. In addition to bands listed in No. 5.149, the facility may also be protected to the extent feasible in the frequency bands between 50 and 1500 MHz.</p>
IND 16 footnote				
Viasat India	1518-1559 MHz band is used in MSS to provide communications for the	The frequency band 1518-1559 MHz (space-to Earth) is used in the Mobile-Satellite Service (MSS) to provide communications for the		No change is required as proposed protection is already mentioned in Resolutions 212 (Rev.WRC-23) and 225 (Rev.WRC-23).

	GMDSS and needs to be protected.	Global Maritime Distress and Safety System (GMDSS) and needs to be protected, and ensured that there is no interference from any adjacent or in-band IMT services with necessary guard-band and protection measures in place.		No modification
Susan Technologies	To add 5.388A Justification: As per Resolution 221 (REV.WRC-23) and Resolution 218 (WRC-23), frequency bands 1 710-1 980 MHz, 2 010-2 025 MHz, 2 110-2 170 MHz and 2 500-2 655 MHz are identified for worldwide use by HIBS.	--		Inclusion of HIBS as a new technology within IMT bands should be included in NFAP. MOD IND 16: See IND 16
IAFI	Restructuring of table of IMT bands: Some of the rows of table (frequency ranges) may be merged where there is a continuity of frequency bands.	--		Merging of frequency ranges earmarked for IMT usage may be accepted. MOD IND 16: See IND 16
IND 27 footnote				
AAI	To delete IND 27. Justification: 2700-2900 MHz band is exclusively allocated for ARNS on Primary basis and is being used for Primary Approach	--	Subject to ensuring protection to Aeronautical radionavigation service and Radio location service, the band 2700-2900 MHz may also be used for Microwave Multipoint Distribution System (MMDS), including broadband	The frequency band is exclusively allocated for radionavigation. Proponent could not establish international precedence for use of this band for FWA. Further consensus could not be achieved, and modification was opposed by AAI and strategic users. Hence, deletion of

	Radar (PAR) which fall under critical systems for safety of life services as well as for defence purposes.		applications. International recognition for such purpose is not affordable	IND 27 is proposed as suggested by AAI. DEL IND 27
IAFI	To modify footnote by accommodating Fixed Wireless Access also. Justification: Broadband application may co-exist at the places where AAI is not operating in 2700-2900 MHz band.	Subject to ensuring protection to Aeronautical radionavigation service and Radio location service, the band 2700-2900 MHz may also be used for Microwave Multipoint Distribution System (MMDS), including Fixed Wireless Access, and broadband applications. International recognition for such purpose is not affordable.		
Tata Communications Limited	To use Enterprise application in 2700-2900 MHz band in coordination with AAI. Justification: Broadband application may co-exist at the places where AAI is not operating in 2700-2900 MHz band.	No text proposed.		
IND 28A (new) footnote				
IAFI	Usage of FWA PTP application with higher EIRP in 5150-5250 MHz & 5725-5875 MHz band.	Use of frequency bands 5150-5250 MHz, and 5725- 5875 MHz for point-to-point (PMP) Wireless Access Services (WAS) with Transmit power up to 1W (30dBm) per base and CPE Radio Unit. Higher EIRP of 47 dBm in the frequency band 5.725 to 5.875 GHz		Any change in parameters of delicensed band is not in scope of the Working Group. Hence, addition of new footnote is not feasible at this stage. No modification

		and 53 dBm in the frequency band 5.150 to 5.250 GHz will be allowed only for CPEs only.		
Tata Communications Limited		No text proposed.		
IND 29 footnote				
IAFI	To enable C-V2X communication.	Subject to not causing harmful interference to existing usage in the frequency band 5 875 to 5 925 MHz by the services to which it has been allocated in the RR on co-primary basis, the band may also be used for C-V2X technologies/Intelligent Transport Systems under the Mobile service. This specific usage shall generally utilize low-power transmitters, communicating over shared radio frequencies and shall not require an individual assignment for each user.	Subject to not constraining the use of the frequency band 5 875 to 5 925 MHz by the services to which it has been allocated in the RR, the band may also be considered for V2X technologies/Intelligent Transport Systems.	V2X/ITS constitutes all the existing technologies and is a broader term. MOD IND 29: Subject to not causing harmful interference to existing usage in the frequency band 5 875 to 5 925 MHz by the services to which it has been allocated in the RR on co-primary basis, the band may also be considered for V2X technologies/Intelligent Transport Systems.

Revised table for IND 16 (1 to 6 GHz)

S. No.	Band	Footnotes identifying the band for IMT	IND Notes
4	1 427-1 518 MHz	5.341C, 5.346A	
5	1 710-2 025 MHz	5.384A, 5.388, 5.388A	
6	2 025-2 200 MHz	5.388, 5.388A	
7	2 300-2 450 MHz	5.384A	
8	2 500-2 690 MHz	5.384A	
9	3 300-3 400 MHz	5.429F	Notes below
10	3 400-3 500 MHz	5.432B, 5.433A	Notes below
11	3 500-3 600 MHz	5.432B, 5.433A	
12	3 600-3 670 MHz		Notes below

No modifications in the Notes relating to 1 to 6 GHz.