ANNEX 2

Characteristics of satellite networks, earth stations or radio astronomy stations[2] (Rev.WRC-12)

Information relating to the data listed in the following Tables

In many cases the data requirements involve the use of standard symbols in submissions to the Radiocommunication Bureau. These standard symbols may be found in the "Preface to the BR International Frequency Information Circular", (BR IFIC) (Space Services), the ITU-R webpage and the Space Radiocommunication Stations on DVD-ROM. (In the Table, this is referred to simply as "the Preface".) Information relating to the provision of data may also be found in ITU-R Recommendations, for example, information on the mask data can be found in the most recent version of Recommendation ITU-R S.1503, and the most recent version of Recommendation ITU-R SM.1413 provides general information related to submission of data.

Key to the symbols used in Tables A, B, C and D

X	Mandatory information
+	Mandatory under the conditions specified in Column 2
O	Optional information
C	Mandatory if used as a basis to effect coordination with another administration
	The data item is not applicable to the corresponding notice

[2] The Radiocommunication Bureau shall develop and keep up-to-date forms of notice to meet fully the statutory provisions of this Appendix and related decisions of future conferences. Additional information on the items listed in this Annex together with an explanation of the symbols is to be found in the Preface to the BR IFIC (Space Services). (WRC-12)

Reading the Appendix 4 Tables

The rules used to link the sign with the text are based on the Table column headings covering specific procedures and specific services.

1 If any data item has a condition attached to it, then it has a "+".

A.6.c	if agreement has been reached, the related provision code (see the Preface)	+	A.6.c

C.8.f.1	the space station's nominal equivalent isotropically radiated power(s) (e.i.r.p.) on the beam axis Required only for a space-to-space link	+	C.8.f.1

2 Data items grouped under a common subheading that limits the range of procedures, services or frequency bands have a "X" as the conditional nature is shown in the subheading title.

A.4.b.5	**For space stations operating in a frequency band subject to the provisions of Nos. 9.11A, 9.12 or 9.12A, the data elements to characterize properly the orbital statistics of the non-geostationary-satellite system:**		A.4.b.5
A.4.b.5.a	the right ascension of the ascending node (Ω_j) for the j-th orbital plane, measured counter-clockwise in the equatorial plane from the direction of the vernal equinox to the point where the satellite makes its South-to-North crossing of the equatorial plane ($0° \leq \Omega_j < 360°$)	**X**	A.4.b.5.a

3 "In the case of", followed by a reference to the column heading, is used as shown below when the associated conditions are different for individual columns, or if the indication is not the same across all applicable columns.

A.3.a	the symbol for the operating administration or agency (see the Preface) that is in operational control of the space station, earth station or radio astronomy station In the case of Appendix **30B**, required only for notification under Article 8	**X**	+	A.3.a

Footnotes to Tables A, B, C and D

1 Not required for coordination under No. **9.7A**.

2 In calculating the maximum power density per Hz, see the most recent version of Recommendation ITU-R SF.675. For carriers below 15 GHz, the power density is averaged over the worst 4 kHz band. For carriers at or above 15 GHz, the power density is averaged over the worst 1 MHz band. (WRC-12)

Table of characteristics to be submitted for space and radio astronomy services
(Rev.WRC-12)

TABLE A

GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION (Rev.WRC-15)

Items in Appendix	*A - GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION*
A.1	**IDENTITY OF THE SATELLITE NETWORK, EARTH STATION OR RADIOASTRONOMY STATION**
A.1.a	the identity of the satellite network
A.1.b	the beam identification In the case of Appendix **30** or **30A**, required for modification, suppression or notification of Plan assignments In the case of Appendix **30B**, required for a network derived from the Allotment Plan
A.1.e	**Identity of the earth station or radio astronomy station:**
A.1.e.1	the type of earth station (specific or typical)
A.1.e.2	the name of the station
A.1.e.3	**For a specific earth station or radio astronomy station:**
A.1.e.3.a	the country or geographical area in which the station is located, using the symbols from the Preface
A.1.e.3.b	the geographical coordinates of each transmitting or receiving antenna site constituting the station latitude and longitude in degrees and minutes) For a specific earth station, seconds are to be provided if the coordination area of the earth station overlaps the territory of another administration
A.1.f	**Administration and intergovernmental organization symbol:**
A.1.f.1	the symbol of the notifying administration (see the Preface)
A.1.f.2	if the notice is submitted on behalf of a group of administrations, the symbols of each of the administrations in the group, submitting the information on the satellite network (see the Preface)
A.1.f.3	if the notice is submitted on behalf of an intergovernmental satellite organization, the symbol of that organization (see the Preface)
A.1.g	**Not used**
A.1.g.1	**Not used**
A.1.g.2	**Not used**

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
									A.1	
X	**X**	**X**	**X**	**X**		**X**	**X**	**X**	A.1.a	
						+	+	+	A.1.b	
									A.1.e	
					X				A.1.e.1	
					X				A.1.e.2	**X**
									A.1.e.3	
					X				A.1.e.3.a	**X**
					X				A.1.e.3.b	**X**
									A.1.f	
X	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	A.1.f.1	**X**
+	+	+	+	+		+	+	+	A.1.f.2	
+	+	+	+	+		+	+	+	A.1.f.3	
									A.1.g	
									A.1.g.1	
									A.1.g.2	

Items in Appendix	*A – GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION*
A.2	**DATE OF BRINGING INTO USE**
A.2.a	the date (actual or foreseen, as appropriate) of bringing the frequency assignment (new or modified) into use For a frequency assignment to a GSO space station, including frequency assignments in Appendices **30, 30A** and **30B**, the date of bringing into use is as defined in Nos. **11.44B** and **11.44.2** Whenever the assignment is changed in any of its basic characteristics (except in the case of a change under A.1.a, the date to be given shall be that of the latest change (actual or foreseen, as appropriate) Required only for notification
A.2.b	for a space station, the period of validity of the frequency assignments (see Resolution **4 (Rev.WRC-03)**)
A.2.c	the date (actual or foreseen, as appropriate) on which reception of the frequency band begins or on which any of the basic characteristics are modified
A.3	**OPERATING ADMINISTRATION OR AGENCY**
A.3.a	the symbol for the operating administration or agency (see the Preface) that is in operational control of the space station, earth station or radio astronomy station In the case of Appendix **30B**, required only for notification under Article 8
A.3.b	the symbol for the address of the administration (see the Preface) to which communication should be sent on urgent matters regarding interference, quality of emissions and questions referring to the technical operation of the network or station (see Article **15**) In the case of Appendix **30B**, required only for notification under Article 8
A.4	**ORBITAL INFORMATION**
A.4.a	**For a space station onboard a geostationary-satellite:**
A.4.a.1	the nominal geographical longitude on the geostationary-satellite orbit (GSO)
A.4.a.2	**Orbital tolerances**
A.4.a.2.a	the planned longitudinal tolerance easterly limit
A.4.a.2.b	the planned longitudinal tolerance westerly limit
A.4.a.2.c	the planned inclination excursion
A.4.a.4	**Not used**
A.4.a.4.a	**Not used**
A.4.a.4.b	**Not used**

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
									A.2	
			+	+	+	+	+	+	A.2.a	
		X	**X**	**X**					A.2.b	
									A.2.c	**X**
									A.3	
		X	**X**	**X**	**X**	**X**	**X**	+	A.3.a	**X**
		X	**X**	**X**	**X**	**X**	**X**	+	A.3.b	**X**
									A.4	
									A.4.a	
X			**X**			**X**	**X**	**X**	A.4.a.1	
									A.4.a.2	
			X			**X**	**X**	**X**	A.4.a.2.a	
			X			**X**	**X**	**X**	A.4.a.2.b	
			X					**X**	A.4.a.2.c	
									A.4.a.4	
									A.4.a.4.a	
									A.4.a.4.b	

Items in Appendix	*A – GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION*
A.4.b	**For space station(s) onboard non-geostationary satellite(s):**
A.4.b.1	the number of orbital planes
A.4.b.2	the reference body code
A.4.b.3	**For space stations of a non-geostationary fixed-satellite service system operating in the band 3 400-4 200 MHz:**
A.4.b.3.a	the maximum number of space stations (N_N) in a non-geostationary-satellite system simultaneously transmitting on a co-frequency basis in the fixed-satellite service in the Northern Hemisphere
A.4.b.3.b	the maximum number of space stations (N_S) in a non-geostationary-satellite system simultaneously transmitting on a co-frequency basis in the fixed-satellite service in the Southern Hemisphere
A.4.b.4	**For each orbital plane, where the Earth is the reference body:**
A.4.b.4.a	the angle of inclination (i_j) of the orbital plane with respect to the Earth's equatorial plane ($0° \leq i_j < 180°$)
A.4.b.4.b	the number of satellites in the orbital plane
A.4.b.4.c	the period
A.4.b.4.d	the altitude, in kilometres, of the apogee of the space station
A.4.b.4.e	the altitude, in kilometres, of the perigee of the space station
A.4.b.4.f	the minimum altitude of the space station above the surface of the Earth at which any satellite transmits
A.4.b.5	**For space stations operating in a frequency band subject to the provisions of Nos. 9.11A, 9.12 or 9.12A, the data elements to characterize properly the orbital statistics of the non-geostationary-satellite system:**
A.4.b.5.a	the right ascension of the ascending node (Ω_j) for the j-th orbital plane, measured counter-clockwise in the equatorial plane from the direction of the vernal equinox to the point where the satellite makes its South-to-North crossing of the equatorial plane ($0° \leq \Omega_j < 360°$)
A.4.b.5.b	the initial phase angle (ω_i) of the i-th satellite in its orbital plane at reference time $t = 0$, measured from the point of the ascending node ($0° \leq \omega_i < 360°$)
A.4.b.5.c	the argument of perigee (ω_p), measured in the orbital plane, in the direction of motion, from the ascending node to the perigee ($0° \leq \omega_p < 360°$)
A.4.b.6	**For space stations operating in a frequency band subject to Nos. 22.5C, 22.5D or 22.5F, the data elements to characterize properly the orbital operation of the non-geostationary-satellite system:**
A.4.b.6.a	**For each range of latitudes:**
A.4.b.6.a.1	the maximum number of non-geostationary satellites transmitting with overlapping frequencies to a given location
A.4.b.6.a.2	the associated start of the latitude range
A.4.b.6.a.3	the associated end of the latitude range
A.4.b.6.b	**Not used**
A.4.b.6.c	an indicator showing whether the space station uses station-keeping to maintain a repeating ground track

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
									A.4.b	
		X		X					A.4.b.1	
	X	X		X					A.4.b.2	
									A.4.b.3	
		X		X					A.4.b.3.a	
		X		X					A.4.b.3.b	
									A.4.b.4	
		X		X					A.4.b.4.a	
		X		X					A.4.b.4.b	
		X		X					A.4.b.4.c	
		X		X					A.4.b.4.d	
		X		X					A.4.b.4.e	
		X		X					A.4.b.4.f	
									A.4.b.5	
				X					A.4.b.5.a	
				X					A.4.b.5.b	
				X					A.4.b.5.c	
									A.4.b.6	
									A.4.b.6.a	
				X					A.4.b.6.a.1	
				X					A.4.b.6.a.2	
				X					A.4.b.6.a.3	
									A.4.b.6.b	
				X					A.4.b.6.c	

Items in Appendix	*A – GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION*
A.4.b.6.d	if the space station uses station-keeping to maintain a repeating ground track, the time in seconds that it takes for the constellation to return to its starting position, i.e. such that all satellites are in the same location with respect to the Earth and each other
A.4.b.6.e	an indicator showing whether the space station should be modelled with a specific precession rate of the ascending node of the orbit instead of the J_2 term
A.4.b.6.f	if the space station is to be modelled with a specific precession rate of the ascending node of the orbit instead of the J_2 term, the precession rate in degrees/day, measured counter-clockwise in the equatorial plane
A.4.b.6.g	the longitude of the ascending node (θ_j) for the j-th orbital plane, measured counter-clockwise in the equatorial plane from the Greenwich meridian to the point where the satellite orbit makes its South-to-North crossing of the equatorial plane ($0° \leq \theta_j < 360°$) *Note* – For the evaluation of epfd a reference to a point on the Earth is used and hence the "longitude of the ascending node" is required. All satellites in the constellation must use the same reference time
A.4.b.6.h	the date (day:month:year) at which the satellite is at the location defined by the longitude of the ascending node (θ_j), (see Note under A.4.b.6.g)
A.4.b.6.i	the time (hours:minutes) at which the satellite is at the location defined by the longitude of the ascending node (θ_j), (see Note under A.4.b.6.g)
A.4.b.6.j	the longitudinal tolerance of the longitude of the ascending node
A.4.b.7	**For space stations operating in a frequency band subject to Nos. 22.5C, 22.5D or 22.5F, the data elements to characterize properly the performance of the non-geostationary-satellite system:**
A.4.b.7.a	the maximum number of non-geostationary satellites receiving simultaneously with overlapping frequencies from the associated earth stations within a given cell
A.4.b.7.b	the average number of associated earth stations with overlapping frequencies per square kilometre within a cell
A.4.b.7.c	the average distance, in kilometres, between co-frequency cells
A.4.b.7.d	**For the exclusion zone about the geostationary-satellite orbit:**
A.4.b.7.d.1	the type of zone (based on topocentric angle, satellite-based angle or other method for establishing the exclusion zone)
A.4.b.7.d.2	if the zone is based on a topocentric angle or a satellite-based angle, the width of the zone, in degrees
A.4.b.7.d.3	if an alternative method is used for establishing the exclusion zone, a detailed description of the avoidance mechanism
A.4.c	**For an earth station:**
A.4.c.1	the identity of the associated space station(s) with which communication is to be established
A.4.c.2	if communication is to be established with a geostationary space station, its orbital position

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
				+					A.4.b.6.d	
				X					A.4.b.6.e	
				+					A.4.b.6.f	
				X					A.4.b.6.g	
				X					A.4.b.6.h	
				X					A.4.b.6.i	
				X					A.4.b.6.j	
									A.4.b.7	
				X					A.4.b.7.a	
				X					A.4.b.7.b	
				X					A.4.b.7.c	
									A.4.b.7.d	
				X					A.4.b.7.d.1	
				+					A.4.b.7.d.2	
				+					A.4.b.7.d.3	
									A.4.c	
					X				A.4.c.1	
					+				A.4.c.2	

Items in Appendix	*A – GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION*
A.5	**COORDINATIONS**
A.5.a.1	the symbol of any administration (see the Preface) with which coordination has been successfully effected Required only in the case of notification
A.5.a.2	the symbol of any intergovernmental organization (see the Preface) with which coordination has been successfully effected Required only in the case of notification
A.5.b.1	the symbol of any administration (see the Preface) with which coordination has been sought but not completed
A.5.b.2	the symbol of any intergovernmental organization (see the Preface) with which coordination has been sought but not completed
A.5.c	the related provision code (see the Preface) under which coordination has been sought or completed if either A.5.a.1 (and A.5.a.2) or A.5.b.1 (and A.5.b.2) has been supplied
A.6	**AGREEMENTS**
A.6.a	if appropriate, the symbol of any administration or administration representing a group of administrations (see the Preface) with which agreement has been reached, including where the agreement is to exceed the limits prescribed in these Regulations
A.6.b	if appropriate, the symbol of any intergovernmental organization (see the Preface) with which agreement has been reached, including where the agreement is to exceed the limits prescribed in these Regulations
A.6.c	if agreement has been reached, the related provision code (see the Preface)
A.7	**SPECIFIC EARTH STATION OR RADIO ASTRONOMY STATION SITE CHARACTERISTICS**
A.7.a.1	the horizon elevation angle, in degrees, for each azimuth around the earth station
A.7.a.2	the distance, in kilometres, from the earth station to the horizon for each azimuth around the earth station
A.7.b.1	the planned minimum angle of elevation of the antenna's main beam axis, in degrees, from the horizontal plane For determining the minimum elevation angle of an earth station, due regard should be given to possible inclined-orbit operation of the associated geostationary space station In the case of an earth station, required for operation to geostationary satellites
A.7.b.2	the planned maximum angle of elevation of the antenna's main beam axis, in degrees, from the horizontal plane
A.7.c.1	the start azimuth for the planned range of operating azimuthal angles for the antenna's main beam axis, in degrees, clockwise from True North For determining the start azimuth of an earth station, due regard should be given to possible inclined-orbit operation of the associated geostationary space station In the case of an earth station, required for operation to geostationary satellites

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
									A.5	
			+	+	+[1]				A.5.a.1	
			+	+	+[1]				A.5.a.2	
			O	**O**	**O**				A.5.b.1	
			O	**O**					A.5.b.2	
			+	+	+[1]				A.5.c	
									A.6	
			+	+	+[1]	+	+	+	A.6.a	
			+	+	+[1]	+	+	+	A.6.b	
			+	+	+[1]	+	+	+	A.6.c	
									A.7	
					+[1]				A.7.a.1	
					O				A.7.a.2	
					+[1]				A.7.b.1	**X**
									A.7.b.2	**X**
					+[1]				A.7.c.1	**X**

Items in Appendix	*A – GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION*
A.7.c.2	the end azimuth for the planned range of operating azimuthal angles for the antenna's main beam axis, in degrees, clockwise from True North For determining the end azimuth of an earth station, due regard should be given to possible inclined-orbit operation of the associated geostationary space station In the case of an earth station, required for operation to geostationary satellites
A.7.d	the altitude, in metres, of the antenna above mean sea level
A.7.e	the minimum angle of elevation of the antenna's main beam axis, in degrees, from the horizontal plane for each azimuth around the earth station Required for earth stations operating with non-geostationary space stations
A.7.f	the antenna diameter, in metres Required only for fixed-satellite service earth stations operating in the frequency bands 13.75-14 GHz, 14.5-14.75 GHz (in countries listed in Resolution **163 (WRC-15)** not for feeder links for the broadcasting-satellite service), 14.5-14.8 GHz (in countries listed in Resolution **164 (WRC-15)** not for feeder links for the broadcasting-satellite service), 24.65-25.25 GHz (Region 1) and 24.65-24.75 GHz (Region 3)
A.8	**Not used**
A.9	**Not used**
A.10	**EARTH STATION COORDINATION AREA DIAGRAMS**
A.10.a	the diagrams shall be drawn to an appropriate scale, indicating, for both transmission and reception, the location of the earth station and its associated coordination areas, or the coordination area related to the service area in which it is intended to operate the mobile earth station Required only for notification
A.11	**REGULAR HOURS OF OPERATION**
A.11.a	the start time UTC
A.11.b	the stop time UTC
A.12	**RANGE OF AUTOMATIC GAIN CONTROL, in dB**
A.13	**REFERENCES TO THE PUBLISHED SPECIAL SECTIONS OF THE BUREAU'S INTERNATIONAL FREQUENCY INFORMATION CIRCULAR (see the Preface)**
A.13.a	the reference and number of the advance publication information in accordance with No. **9.1** or No. **9.1A**
A.13.b	the reference and number of the coordination request in accordance with No. **9.6** In the case of notification of an earth station, the reference to the Special Section of the associated satellite network has to be provided In the case of notification of an earth station coordinated under No. **9.7A**, the coordination Special Section number of this earth station has to be provided
A.13.c	the reference and number of the information in accordance with Article 4 of Appendix **30**
A.13.d	the reference and number of the information in accordance with Article 4 of Appendix **30A**
A.13.e	the reference and number of the information in accordance with Article 6 of Appendix **30B**

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
					+[1]				A.7.c.2	X
					+[1]				A.7.d	
					+				A.7.e	
					+[1]				A.7.f	
									A.8	
									A.9	
									A.10	
					+				A.10.a	
									A.11	
						X	X		A.11.a	
						X	X		A.11.b	
							X		**A.12**	
									A.13	
			X	X	X				A.13.a	
			X	X	X				A.13.b	
						X			A.13.c	
							X		A.13.d	
					X			X	A.13.e	

Items in Appendix	*A – GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION*
A.14	**FOR STATIONS OPERATING IN A FREQUENCY BAND SUBJECT TO Nos. 22.5C, 22.5D OR 22.5F: SPECTRUM MASKS**
A.14.a	**For each e.i.r.p. mask used by the non-geostationary space station:**
A.14.a.1	the mask identification code
A.14.a.2	the lowest frequency for which the mask is valid
A.14.a.3	the highest frequency for which the mask is valid
A.14.a.4	the mask pattern defined in terms of the power in the reference bandwidth for a series of off-axis angles with respect to a specified reference point
A.14.b	**For each associated earth station e.i.r.p. mask:**
A.14.b.1	the mask identification code
A.14.b.2	the lowest frequency for which the mask is valid
A.14.b.3	the highest frequency for which the mask is valid
A.14.b.4	the minimum elevation angle at which any associated earth station can transmit to a non-geostationary satellite
A.14.b.5	the minimum separation angle between the geostationary-satellite orbit arc and the associated earth station main beam-axis at which the associated earth station can transmit towards a non-geostationary satellite
A.14.b.6	the mask pattern defined in terms of the power in the reference bandwidth for a series of off-axis angles with respect to a specified reference point
A.14.c	**For each pfd mask used by the non-geostationary space station:** *Note* – The space station pfd mask is defined by the maximum power flux-density generated by any space station in the interfering non-geostationary-satellite system as seen from any point on the surface of the Earth
A.14.c.1	the mask identification code
A.14.c.2	the lowest frequency for which the mask is valid
A.14.c.3	the highest frequency for which the mask is valid
A.14.c.4	the type of mask
A.14.c.5	the mask pattern of the power flux-density defined in three dimensions
A.15	**COMMITMENT REGARDING COMPLIANCE WITH ADDITIONAL OPERATIONAL EQUIVALENT POWER FLUX-DENSITY, epfd↓, LIMITS**
A.15.a	a commitment that the filed for system will meet the additional operational epfd↓ limits that are specified in Table **22-4A1** under No. **22.5I** Required only for non-geostationary-satellite systems operating in the fixed-satellite service in the bands 10.7-11.7 GHz (in all Regions), 11.7-12.2 GHz (Region 2), 12.2-12.5 GHz (Region 3), and 12.5-12.75 GHz (Regions 1 and 3)

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
									A.14	
									A.14.a	
				X					A.14.a.1	
				X					A.14.a.2	
				X					A.14.a.3	
				X					A.14.a.4	
									A.14.b	
				X					A.14.b.1	
				X					A.14.b.2	
				X					A.14.b.3	
				X					A.14.b.4	
				X					A.14.b.5	
				X					A.14.b.6	
									A.14.c	
				X					A.14.c.1	
				X					A.14.c.2	
				X					A.14.c.3	
				X					A.14.c.4	
				X					A.14.c.5	
									A.15	
				+					A.15.a	

Items in Appendix	*A – GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION*
A.16	**COMMITMENT REGARDING COMPLIANCE WITH OFF-AXIS POWER LIMITATIONS, POWER FLUX-DENSITY (pfd) LIMITS OR SEPARATION DISTANCE**
A.16.a	a commitment that the associated earth stations operating with a geostationary-satellite network in the fixed-satellite service meet the off-axis power limitations given in Nos. **22.26** to **22.28** or **22.32** (as appropriate) under the conditions specified in Nos. **22.30**, **22.31** and **22.34** to **22.39** Required only where the earth stations are subject to those power limitations
A.16.b	a commitment by administrations that the filed system will meet the single entry power flux-density limits that are specified in No. **5.502** Required only for specific earth station antennas less than 4.5 m in diameter operating with geostationary space stations in the fixed-satellite service in the band 13.75-14 GHz
A.16.c	a commitment by administrations that the earth station associated with the filed system will meet the separation distance as specified in No. **5.509E** and the power flux-density limits that are specified in No. **5.509D**
A.17	**COMPLIANCE WITH POWER FLUX-DENSITY, pfd, LIMITS**
A.17.a	a commitment of compliance with per-satellite power-flux density level produced at the Earth's surface of −129 dB(W/(m^2 · MHz)) in any 1 MHz band under free space propagation conditions Required only for satellite systems operating in the radionavigation-satellite service in the band 1 164-1 215 MHz
A.17.b.1	the calculated aggregate power flux-density produced at the Earth's surface by any geostationary radionavigation-satellite system in the frequency band 4 990-5 000 MHz in a 10 MHz bandwidth, as defined in *resolves* 1 of Resolution **741 (Rev.WRC-15)** Required only for geostationary-satellite systems operating in the radionavigation-satellite service in the frequency band 5 010-5 030 MHz
A.17.b.2	the calculated aggregate power flux-density produced at the Earth's surface by all space stations within any radionavigation-satellite service system in the band 5 030-5 150 MHz in a 150 kHz bandwidth, as defined in No. **5.443B** Required only for satellite systems operating in the radionavigation-satellite service in the band 5 010-5 030 MHz
A.17.b.3	the equivalent power flux-density produced at the Earth's surface by all space stations within any non-geostationary radionavigation-satellite service system in the frequency band 4 990-5 000 MHz in a 10 MHz bandwidth, as defined in *resolves* 2 of Resolution **741 (Rev.WRC-15)** Required only for non-geostationary-satellite systems operating in the radionavigation-satellite service in the frequency band 5 010-5 030 MHz

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
									A.16	
			+						A.16.a	
					+				A.16.b	
			+						A.16.c	
									A.17	
			+	+					A.17.a	
			+						A.17.b.1	
			+	+					A.17.b.2	
				+					A.17.b.3	

Items in Appendix	*A – GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION*
A.17.c	**Not used**
A.17.d	the mean power flux-density produced at the Earth's surface by any spaceborne sensor, as defined in No. **5.549A** for the frequency band 35.5-36 GHz or in Table **21-4** for the frequency band 9 900-10 400 MHz Required only for satellite systems operating in • the Earth exploration-satellite service (active) or space research service (active) in the frequency band 35.5-36 GHz • the Earth exploration-satellite service (active) in the frequency band 9 900-10 400 MHz
A.17.e.1	the calculated equivalent power flux-density produced at the site of a radio astronomy station in the band 42.5-43.5 GHz, as defined in No. **5.551H** Required only for non-geostationary-satellite systems operating in the fixed-satellite service and broadcasting-satellite service in the band 42-42.5 GHz
A.17.e.2	the calculated power flux-density produced at the site of a radio astronomy station in the band 42.5-43.5 GHz, as defined in No. **5.551I** Required only for geostationary-satellite systems operating in the fixed-satellite service and broadcasting-satellite service in the band 42-42.5 GHz
A.18	**COMPLIANCE WITH NOTIFICATION OF AIRCRAFT EARTH STATION(S)**
A.18.a	a commitment that the characteristics of the aircraft earth station (AES) in the aeronautical mobile-satellite service are within the characteristics of the specific and/or typical earth station published by the Bureau for the space station to which the AES is associated Required only for the band 14-14.5 GHz, when an aircraft earth station in the aeronautical mobile-satellite service communicates with a space station in the fixed-satellite service
A.19	**COMPLIANCE WITH § 6.26 OF ARTICLE 6 OF APPENDIX 30B**
A.19.a	a commitment that the use of the assignment shall not cause unacceptable interference to, nor claim protection from, those assignments for which agreement still needs to be obtained Required if the notice is submitted under § 6.25 of Article 6 of Appendix **30B**

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
									A.17.c	
			+	+					A.17.d	
				+					A.17.e.1	
			+						A.17.e.2	
									A.18	
			+	+					A.18.a	
									A.19	
								+	A.19.a	

TABLE B

CHARACTERISTICS TO BE PROVIDED FOR EACH SATELLITE ANTENNA BEAM OR EACH EARTH STATION OR RADIO ASTRONOMY ANTENNA (Rev.WRC-15)

Items in Appendix	*B - CHARACTERISTICS TO BE PROVIDED FOR EACH SATELLITE ANTENNA BEAM OR EACH EARTH STATION OR RADIO ASTRONOMY ANTENNA*
B.1	**IDENTIFICATION AND DIRECTION OF THE SATELLITE ANTENNA BEAM**
B.1.a	the designation of the satellite antenna beam For an earth station, the designation of the satellite antenna beam of the associated space station
B.1.b	an indicator showing whether the antenna beam, under B.1.a, is fixed or whether it is steerable and / or reconfigurable
B.2	**TRANSMISSION / RECEPTION INDICATOR FOR THE BEAM OF THE SPACE STATION OR THE ASSOCIATED SPACE STATION**
B.2*bis*	**CONTINUOUS/NON-CONTINUOUS TRANSMISSION INDICATOR FOR THE BEAM OF THE SPACE STATION**
B.2*bis*.a	an indicator specifying whether the space station only transmits when visible from the notified service area In the case of advance publication, required only for frequency assignments of a non-geostationary satellite transmitting beam In the case of notification or coordination of a non-geostationary-satellite network, required only for frequency assignments of a non-geostationary satellite transmitting beam of a satellite network not subject to Nos. **22.5C**, **22.5D** or **22.5F**
B.2*bis*.b	in case of non-continuous transmission in item B.2*bis*.a, the minimum elevation angle above which transmissions occur when the space station is visible from the notified service area In the case of notification or coordination of a non-geostationary-satellite network, only for frequency assignments of a non-geostationary satellite transmitting beam of a satellite network not subject to Nos. **22.5C**, **22.5D** or **22.5F**
B.3	**SPACE STATION ANTENNA CHARACTERISTICS**
B.3.a	**For each space station antenna:**
B.3.a.1	the maximum co-polar isotropic gain, in dBi Where a steerable beam (see No. **1.191**) is used, if the effective boresight area (see No. **1.175**) is identical with the global service area, the maximum antenna gain, in dBi, is applicable to all points on the Earth's visible surface
B.3.a.2	if a non-elliptical beam, the maximum cross-polar isotropic antenna gain, in dBi

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
									B.1	
		X	**X**	**X**	**X**	**X**	**X**	**X**	B.1.a	
		X	**X**	**X**		**X**	**X**	**X**	B.1.b	
		X	**X**	**X**	+[1]			**X**	**B.2**	
									B.2*bis*	
		+		+					B.2*bis*.a	
		O		**O**					B.2*bis*.b	
									B.3	
									B.3.a	
		X	**X**	**X**		**X**	**X**	**X**	B.3.a.1	
						+	+		B.3.a.2	

Items in Appendix	*B – CHARACTERISTICS TO BE PROVIDED FOR EACH SATELLITE ANTENNA BEAM OR EACH EARTH STATION OR RADIO ASTRONOMY ANTENNA*
B.3.b	**Antenna gain contours:**
B.3.b.1	the co-polar antenna gain contours plotted on a map of the Earth's surface, preferably in a radial projection from the satellite onto a plane perpendicular to the axis from the centre of the Earth to the satellite The space station antenna gain contours shall be drawn as isolines of the isotropic gain, at least for −2, −4, −6, −10 and −20 dB and at 10 dB intervals thereafter, as necessary, relative to the maximum antenna gain, when any of these contours is located either totally or partially anywhere within the limit of visibility of the Earth from the given geostationary satellite Whenever possible, the gain contours of the space station antenna should also be provided in a numerical format (e.g. equation or table) Where a steerable beam (see No. **1.191**) is used, if the effective boresight area (see No. **1.175**) is less than the global service area, the contours are the result of moving the boresight of the steerable beam around the limit defined by the effective boresight area and are to be provided as described above but shall also include the 0 dB relative gain isoline. In addition, for a steerable beam, except for the case of Appendix **30B**, see also No. **21.16** (and its associated Rules of Procedure) The antenna gain contours shall include the effects of the planned inclination excursion, longitudinal tolerance and the planned pointing accuracy of the antenna *Note* – Taking due account of applicable technical restrictions and allowing some reasonable degree of flexibility for satellite operations, administrations should, to the extent practicable, align the areas the satellite steerable beams could cover with the service area of their networks with due regard to their service objectives. In the case of Appendix **30**, **30A** or **30B**, required only for non-elliptical beams
B.3.b.2	if a non-elliptical beam, the cross-polar gain contours shall be provided as defined under B.3.b.1
B.3.c	**Antenna radiation patterns:**
B.3.c.1	the co-polar antenna radiation pattern In the case of geostationary space stations required only where the antenna radiation beam is directed towards another satellite In the case of Appendix **30**, **30A** or **30B**, required only for elliptical antenna beams
B.3.c.2	if an elliptical beam, the cross-polar antenna radiation pattern
B.3.d	the pointing accuracy of the antenna In the case of Appendix **30**, **30A** or **30B**, required only for elliptical beams
B.3.e	if the space station is operating in a frequency band allocated in the Earth-to-space direction and in the space-to-Earth direction, the gain of the antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth. In the case of Appendix **30**, required only in the frequency band 12.5-12.7 GHz
B.3.f	**For a space station submitted in accordance with Appendix 30, 30A or 30B:**
B.3.f.1	the boresight or aim point of the antenna beam (longitude and latitude)
B.3.f.2	**For each elliptical beam:**
B.3.f.2.a	the rotational accuracy, in degrees
B.3.f.2.b	the major axis orientation, in degrees, anticlockwise from the Equator
B.3.f.2.c	the major axis, in degrees, at the half-power beamwidth
B.3.f.2.d	the minor axis, in degrees, at the half-power beamwidth

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
									B.3.b	
			X			+	+	+	B.3.b.1	
						+	+		B.3.b.2	
									B.3.c	
		X	+	X		+	+	+	B.3.c.1	
						+	+		B.3.c.2	
			X			+	+	+	B.3.d	
			+			+	+		B.3.e	
									B.3.f	
						X	X	X	B.3.f.1	
									B.3.f.2	
						X	X	X	B.3.f.2.a	
						X	X	X	B.3.f.2.b	
						X	X	X	B.3.f.2.c	
						X	X	X	B.3.f.2.d	

Items in Appendix	*B - CHARACTERISTICS TO BE PROVIDED FOR EACH SATELLITE ANTENNA BEAM OR EACH EARTH STATION OR RADIO ASTRONOMY ANTENNA*
B.4	**ADDITIONAL CHARACTERISTICS FOR NON-GEOSTATIONARY SPACE STATION ANTENNA**
B.4.a.1	the reference number of each orbital plane in which the space station antenna characteristics are used
B.4.a.2	if the antenna characteristics of a space station are not common to every satellite in the specified orbital plane, the reference number of each satellite in the specified orbital plane, on which the space station antenna characteristics are used
B.4.a.3	**For a space station submitted in accordance with Nos. 9.11A, 9.12, 9.12A or for active or passive sensors on board a non-geostationary-satellite network not subject to coordination under Section II of Article 9:**
B.4.a.3.a	**For the orientation angles of the satellite transmitting and receiving antenna beams:**
B.4.a.3.a.1	the orientation angle alpha, in degrees, (see the most recent version of Recommendation ITU-R SM.1413)
B.4.a.3.a.2	the orientation angle beta, in degrees, (see the most recent version of Recommendation ITU-R SM.1413)
B.4.b	**For a space station submitted in accordance with Nos. 9.11A, 9.12 or 9.12A:**
B.4.b.1	**Not used**
B.4.b.1.a	**Not used**
B.4.b.1.b	**Not used**
B.4.b.2	the satellite antenna gain $G(\theta_e)$ as a function of elevation angle (θ_e) at a fixed point on the Earth
B.4.b.3	the spreading loss as a function of elevation angle (to be determined by equations or provided in graphical format)
B.4.b.4	**For each beam:**
B.4.b.4.a	the maximum beam peak e.i.r.p./4 kHz
B.4.b.4.b	the average beam peak e.i.r.p./4 kHz
B.4.b.4.c	the maximum beam peak e.i.r.p./1 MHz
B.4.b.4.d	the average beam peak e.i.r.p./1 MHz
B.4.b.5	the calculated peak value of power flux-density produced within ±5° inclination of the geostationary-satellite orbit Required only for the fixed-satellite service (space-to-Earth) in the band 6 700-7 075 MHz
B.5	**EARTH STATION ANTENNA CHARACTERISTICS**
B.5.a	the isotropic gain, in dBi, of the antenna in the direction of maximum radiation (see No. **1.160**)
B.5.b	the half-power beamwidth, in degrees
B.5.c	either the measured radiation pattern of the antenna or the reference radiation pattern to be used for coordination For coordination under No. **9.7A**, the reference radiation pattern is to be provided
B.5.d	antenna dimension aligned with the geostationary arc (D_{GSO}), in metres (see the most recent version of Recommendation ITU-R S.1855) except in the case of Appendix **30** or **30A**
B.6	**RADIO ASTRONOMY STATION ANTENNA CHARACTERISTICS**
B.6.a	the antenna type (see the Preface)
B.6.b	the antenna dimensions (see the Preface)
B.6.c	the effective area of the antenna (see the Preface)

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
									B.4	
		X		**X**					B.4.a.1	
		+		+					B.4.a.2	
									B.4.a.3	
									B.4.a.3.a	
		X		**X**					B.4.a.3.a.1	
		X		**X**					B.4.a.3.a.2	
									B.4.b	
									B.4.b.1	
									B.4.b.1.a	
									B.4.b.1.b	
				X					B.4.b.2	
				X					B.4.b.3	
				X					B.4.b.4	
				X					B.4.b.4.a	
				X					B.4.b.4.b	
				X					B.4.b.4.c	
				X					B.4.b.4.d	
				+					B.4.b.5	
									B.5	
					X				B.5.a	
					+[1]				B.5.b	
					X				B.5.c	
					O				B.5.d	
									B.6	
									B.6.a	**X**
									B.6.b	**X**
									B.6.c	**X**

TABLE C

CHARACTERISTICS TO BE PROVIDED FOR EACH GROUP OF FREQUENCY ASSIGNMENTS FOR A SATELLITE ANTENNA BEAM OR AN EARTH STATION OR RADIO ASTRONOMY ANTENNA (Rev.WRC-15)

Items in Appendix	*C - CHARACTERISTICS TO BE PROVIDED FOR EACH GROUP OF FREQUENCY ASSIGNMENTS FOR A SATELLITE ANTENNA BEAM OR AN EARTH STATION OR RADIO ASTRONOMY ANTENNA*
C.1	**FREQUENCY RANGE**
C.1.a	the lower limit of the frequency range within which the carriers and the bandwidth of the emission will be located for each Earth-to-space or space-to-Earth service area, or for each space-to-space relay
C.1.b	the upper limit of the frequency range within which the carriers and the bandwidth of the emission will be located for each Earth-to-space or space-to-Earth service area, or for each space-to-space relay
C.2	**ASSIGNED FREQUENCY (FREQUENCIES)**
C.2.a.1	the assigned frequency (frequencies), as defined in No. **1.148** – in kHz up to 28 000 kHz inclusive – in MHz above 28 000 kHz to 10 500 MHz inclusive – in GHz above 10 500 MHz If the basic characteristics are identical, with the exception of the assigned frequency, a list of frequency assignments may be provided In the case of advance publication, required only for active sensors In the case of geostationary and non geo-stationary satellite networks, required for all space applications except passive sensors In the case of Appendix **30B**, required only for notification under Article 8
C.2.a.2	the channel number
C.2.b	the centre of the frequency band observed – in kHz up to 28 000 kHz inclusive – in MHz above 28 000 kHz to 10 500 MHz inclusive – in GHz above 10 500 MHz In the case of satellite networks, required only for passive sensors
C.2.c	if the frequency assignment is to be filed under No. **4.4**, an indication to that effect
C.3	**ASSIGNED FREQUENCY BAND**
C.3.a	the bandwidth of the assigned frequency band, in kHz (see No. **1.147**) In the case of advance publication, required only for active sensors In the case of geostationary and non geo-stationary satellite networks, required for all space applications except passive sensors In the case of Appendix **30B**, required only for notification under Article 8
C.3.b	the bandwidth of the frequency band, in kHz, observed by the station In the case of satellite networks, required only for passive sensors
C.4	**CLASS OF STATION AND NATURE OF SERVICE**
C.4.a	the class of station, using the symbols from the Preface
C.4.b	the nature of service performed, using the symbols from the Preface

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
									C.1	
X	**X**	**X**						**X**	C.1.a	
X	**X**	**X**						**X**	C.1.b	
									C.2	
		+	+	+	**X**	**X**	**X**	+	C.2.a.1	
						X	**X**		C.2.a.2	
		+	+	+					C.2.b	**X**
		+	+	+	+				C.2.c	+
									C.3	
		+	+	+	**X**	**X**	**X**	+	C.3.a	
		+	+	+					C.3.b	**X**
									C.4	
		X	**X**	**X**	**X**	**X**	**X**	**X**	C.4.a	**X**
		X	**X**	**X**	**X**				C.4.b	**X**

Items in Appendix	*C - CHARACTERISTICS TO BE PROVIDED FOR EACH GROUP OF FREQUENCY ASSIGNMENTS FOR A SATELLITE ANTENNA BEAM OR AN EARTH STATION OR RADIO ASTRONOMY ANTENNA*
C.5	**RECEIVING SYSTEM NOISE TEMPERATURE**
C.5.a	the lowest total receiving system noise temperature, in kelvins, referred to the output of the receiving antenna of the space station In the case of satellite networks, required for all space applications except for active or passive sensors
C.5.b	the lowest total receiving system noise temperature, in kelvins, referred to the output of the receiving antenna of the earth station under clear-sky conditions This value shall be indicated for the nominal value of the angle of elevation when the associated transmitting station is onboard a geostationary satellite and, in other cases, for the minimum value of the angle of elevation
C.5.c	the overall receiving system noise temperature, in kelvins, referred to the output of the receiving antenna
C.5.d	**For active sensors:**
C.5.d.1	the system noise temperature at the output of the signal processor
C.5.d.2	the receiver noise bandwidth
C.6	**POLARIZATION**
C.6.a	the type of polarization (see the Preface) In the case of circular polarization, this includes the sense of polarization (see Nos. **1.154** and **1.155**) In the case of a space station submitted in accordance with Appendix **30** or **30A**, see § 3.2 of Annex 5 to Appendix **30**
C.6.b	if linear polarization is used, the angle, in degrees, measured counter-clockwise in a plane normal to the beam axis from the equatorial plane to the electric vector of the waves as seen from the satellite In the case of a space station submitted in accordance with Appendix **30** or **30A**, see § 3.2 of Annex 5 to Appendix **30**
C.7	**NECESSARY BANDWIDTH AND CLASS OF EMISSION** *(in accordance with Article **2** and Appendix **1**)* For advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article **9**, changes to this information within the limits specified under C.1 shall not affect consideration of notification under Article **11** Not required for active or passive sensors
C.7.a	the necessary bandwidth and the class of emission: for each carrier In the case of Appendix **30B**, required only for notification under Article 8
C.7.b	the carrier frequency or frequencies of the emission(s)
C.8	**POWER CHARACTERISTICS OF THE TRANSMISSION** *Not required for passive sensors*
C.8.a	**For the case where individual carriers can be identified:**
C.8.a.1	the maximum value of the peak envelope power, in dBW, supplied to the input of the antenna for each carrier type Required if neither C.8.b.1 nor C.8.b.3.a is provided

Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9	Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station (including notification under Appendices 30A or 30B)	Notice for a satellite network in the broadcasting-satellite service under Appendix 30 (Articles 4 and 5)	Notice for a satellite network (feeder-link) under Appendix 30A (Articles 4 and 5)	Notice for a satellite network in the fixed-satellite service under Appendix 30B (Articles 6 and 8)	Items in Appendix	Radio astronomy
									C.5	
		+	+	+			**X**	**X**	C.5.a	
					X				C.5.b	
									C.5.c	**X**
									C.5.d	
		X	**X**	**X**					C.5.d.1	
		X	**X**	**X**					C.5.d.2	
									C.6	
		X	**X**	**X**	+[1]	**X**	**X**		C.6.a	
		+	+	+	+[1]	+	+		C.6.b	
									C.7	
		X	**X**	**X**	**X**	**X**	**X**	+	C.7.a	
		X	**C**	**C**	**C**				C.7.b	
									C.8	
									C.8.a	
		+	+	+	**C**				C.8.a.1	