

Validation Rules for Earth Station Form of Notice - Ap4/III (Appendix 4 - annex 2)

The validation rules are specified in tabular form. These rules apply to ADD and MOD (merged) transactions. SUP transactions need no validation. A description of the various columns of the table are given below :

Name of column	Description of column
Val. Item No.	This is a unique number (in increasing sequence) that is allocated to each data-item that has been considered for validation. There are gaps in the numbering sequence to allow for additional data-items that may be added in the corresponding tables. The description of each data-item can be found in the document "Description of the SRS database" that is distributed on each SRS-on-CDROM publication. The 'table name' and 'field name' values provided in the next two columns, along with the 'Ap4 Ref.', can be used to locate the description of the data-item in the above-mentioned document.
Table Name	The name of the table in the SRS (or SNS) database containing this data-item is provided here.
Field Name	This column contains the name of the field in the specified table (see Table Name) that contains the value of this data-item.
Ap4 Ref.	The number of the data-item in Annex 2 of Appendix 4 of the Radio Regulations is provided in this column - this is the same number that is on the form of notice for the data-item. Only items with symbols X and + are presently validated.
Notice Type	This indicates the type of notice for which the specified data-item should be provided. Appendix 1 of the Annex to this document provides an explanation of the various notice types.
Data Format	The format of the data-item is described here. This is the format that is accepted by the Data Capture software SpaceCap and is described in the document "Description of the SRS database" that is distributed with the SRS-on-CDROM. It is provided here as reference.
Validation Rules	<p>The checks that are to be executed on each data-item are specified here. They are sequentially numbered from 1 (the validation rule number) and each validation rule is uniquely identified by its 'Val. Item No.' and the validation rule number. Rules with numbers greater than 3 have a letter before the rule (C, D, E, P) indicating the type of validation check, as explained below:</p> <ul style="list-style-type: none"> C : cross-check validation; the value of this data-item is to be checked against the values of other data-items D : duplicate check; this data-item cannot contain duplicate values as indicated in the validation rule E : extended check; the validation rule specifies a complex validation check on this data-item, involving calculations with other data-items P : dependency check; this data-item may be provided only if other data-items are provided / not provided. <p>At the end of each validation rule, there is a symbol in parentheses; this indicates the severity of the error if the rule fails. The two error levels are :</p> <ul style="list-style-type: none"> F the error is fatal and the transaction cannot pass validation if any fatal errors exist. W this is a warning to the user to check the flagged data item. A transaction with "warnings" can proceed further in the processing, if the user desires. <p>Reference is made in some of the rules to certain tables in the Preface which is the Preface to the International Frequency list and Space Radiocommunications Stations on CDROM and the Weekly Circular; in some cases, the validation rule contains a check that is described with reference to a table in the Annex of this document. For data-items that are required only for certain Notice Types (see above), a general rule no. 0 (see item 9999, rule 0) is used to indicate that the value should not be provided for other Notice Types as indicated in the error message.</p>

Earth Validation Rules

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1	notice	ntc_id	all		9(9)	<p>1: mandatory (F)</p> <p>2: must be numeric value between 76500000 and 399999999 (W)</p> <p>3: E: the value represented by the last 6 digits must be greater than 500000 - BR internal validation (F)</p> <p>4: E: check against item 11; 1st digit should be "0" (prior to 2000) or "1" (2000 or after) - BR internal validation (F)</p> <p>5: E: the 2nd and 3rd digits must be equal to the year portion (last 2 digits) of item 11 - BR internal validation (F)</p> <p>6.1: E: 4th to 6th digits have to be "520" if item 5 is "RR1060" or "RR1610" or "RS46" or "9.6" - BR internal validation (F)</p> <p>6.2: E: 4th to 6th digits have to be "500" if item 5 is "RR1488" or "11.2" or "RR1492" or "11.12" - BR internal validation (F)</p>
2	notice	ntc_type	all	A1e1	X(1)	<p>1: mandatory (F)</p> <p>2: symbol must be "S", "T" or "R" (F)</p> <p>3: E: if symbol is not "S", "T" or "R", then it must be either "G" or "N" (for satellite networks); if none of these, then validation is stopped (F)</p>
3	notice	adm_ref_id	all		X(20)	<p>1: for administration use, not to be validated</p>
4	notice	d_adm	all		9(8)	<p>1: for administration use, not to be validated</p> <p>2: must be a valid date</p>

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
5	notice	prov	all		X(12)	1: mandatory (F) 2: the symbol must be one of "RR1488", "RS46", "9.7A", "9.17", "11.2", "11.12", "REVREM", "REVADM" or "REVBR" - if none of these, then validation is stopped (F) 3: C: if this item = "9.7A", then item 2 must be = "S" (F) 4: C: if this item = "RR1492" or "11.12", then item 2 must be = "R" (F)
6	notice	act_code	all		X(1)	1: mandatory (F) 2: the symbol must be "A", "M", "S" or blank (F) 3: C: if this item is "M" or "S", then item 10 must be provided (F) 4: E: if this item = "M" or "S", then items 1000, 1002, 1003 to 1010 and 1011 must be provided
7	notice	adm	all	A1f	X(3)	1: mandatory (F) 2: the symbol must be present in the reference table "rf_adm" containing valid symbols for administrations; this corresponds to table 1A in the Preface (F)
8	notice	ntwk_org	all	A1f	X(3)	1: optional (W) 2: the symbol must be present in the reference table "rf_ntwkorg" containing valid symbols for satellite organizations; this corresponds to table 2 in the Preface (F) 3: E: check with item 7; must be a valid symbol for the notifying administration as indicated in table 2 in the Preface (F)
9	notice	ntf_occurs	all		X(1)	1: conditionally required (W) 2: the symbol must be "F" or "R" or blank (F) 3: C: this item must be provided if item 5 is "RR1488" or "S11.2" or "11.2" (F)
10	notice	tgt_ntc_id	all		9(9)	1: conditionally required (W) 2: must be a numeric value between 57500000 and 399999999 (F) 3: C: if this item contains a value (indicating the BR identification number of the satellite network to be modified or suppressed), then item 6 must be = "M" or "S" (F)

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
11	notice	d_rcv	all		9(8)	1: mandatory - BR internal validation (F) 2: must be a valid date, later than 1 January 1957 (inclusive) and prior to date of validation-run (exclusive) (F)
12	notice	f_int_ext	all		X(1)	1: mandatory (F) 2: the symbol must be one of "I" (internal), "E" (external), "W" (withdrawal by adm) or "Z" (withdrawal by BR) (F)
13	notice	ntf_rsn	all		X(1)	1: mandatory (F) 2: the symbol must be "N" or "D" ; check against item 5 for the corresponding values (F) 3.1: C: if value is "N", item 5 should be one of "RR1488", "RR1492", "11.2", "11.12" (F) 3.2: C: if value is "D", item 5 should be one of "RR1107", "9.7A" or "9.17" (F) 4: E: only Notification filings (N) and earth station Coordination filings (D) are presently validated (F)
14	notice	st_cur	all		X(2)	1: mandatory - BR internal validation (F) 2: symbol must be present in the Status Code Reference Table "rf_status" (F)
15	notice	plan_id	plan		X(5)	1: for space plans; rules to be added
16	notice	ntwk_pack	plan		X(4)	1: for space plans; rules to be added
17	notice	f_mod_type	all		X(1)	1: not validated now; rules to be added
18	notice	f_aa_type	all		X(1)	1: not validated now; rules to be added
19	notice	f_adm_proxi	all	A1f2	X(1)	1: optional (W) 2: the symbol must be "Y" or blank (F)
20	notice	f_aes_char	all	A18a	X(1)	1: conditionally required (W) 2: symbol must be "Y" or blank (F) 3: E: the symbol must be "Y" if the aircraft earth station operates in the aeronautical mobile-satellite service (AMSS) (item 631 = "TJ")in the frequency band 14 - 14.5 GHz (W)

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1000	e_stn	stn_name	all	A1e2	X(20)	<p>1: mandatory (F)</p> <p>2: symbol must be present in the earth station name reference table "rf_estn" (W)</p> <p>3: E: if the symbol is not present in the earth station name reference table "rf_estn", then the action-code (item 6) must be "A"; if action-code (item 6) = "M" or "S", then the severity of the error is F (W)</p>
1002	e_stn	ctry	all	A1e3a	X(3)	<p>1: conditionally required (W)</p> <p>2: symbol must be present in reference table "rf_ctry" corresponding to Table no. 1B of the preface (F)</p> <p>3.1: C: this item must be provided if item 2 = "S" or "R" - specific or radioastronomy station (F)</p> <p>3.2: C: this item must not be provided if item 2 = "T" -typical station (F)</p> <p>4: E: if it is different from the notifying administration (item 7), this symbol must be valid for the administration in item 7, as indicated in Table 1B of the preface (W)</p>
1003	e_stn	long_deg	all	A1e3b	9(3)	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 0 (inclusive) and 180 (inclusive) (F)</p> <p>3: C: this item must be provided if item 2 = "S" or "R"- specific or radioastronomy station (F)</p> <p>4: C: this item must not be provided if item 2 = "T" - typical station (F)</p> <p>5: C: check value against item 1004; values of 0W and 180W are not valid but 0E and 180E are valid (W)</p>
1004	e_stn	long_ew	all	A1e3b	X(1)	<p>1: conditionally required (W)</p> <p>2: symbol must be "E" or "W" (F)</p> <p>3: C: this item must be provided if item 2 = "S" or "R"- specific or radioastronomy station (F)</p> <p>4: C: this item must not be provided if item 2 = "T" - typical station (F)</p>
1005	e_stn	long_min	all	A1e3b	9(2)	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 0 (inclusive) and 60 (exclusive) (F)</p> <p>3: C: this item must be provided if item 2 = "S" or "R"- specific or radioastronomy station (F)</p> <p>4: C: this item must not be provided if item 2 = "T" - typical station (F)</p>

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1006	e_stn	long_sec	all	A1e3b	9(2)	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 0 (inclusive) and 60 (exclusive) (F)</p> <p>3: C: this item must be provided if item 2 = "S" or "R"- specific or radioastronomy station (F)</p> <p>4: C: this item must not be provided if item 2 = "T" - typical station (F)</p> <p>5: E: if item 1003 = 180, then items 1005 and 1006 should be = 0 (F)</p>
1007	e_stn	lat_deg	all	A1e3b	9(2)	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 0 (inclusive) and 90 (inclusive) (F)</p> <p>3: C: this item must be provided if item 2 = "S" or "R"- specific or radioastronomy station (F)</p> <p>4: C: this item must not be provided if item 2 = "T" - typical station (F)</p>
1008	e_stn	lat_ns	all	A1e3b	X(1)	<p>1: conditionally required (W)</p> <p>2: symbol must be "N" or "S" (F)</p> <p>3: C: this item must be provided if item 2 = "S" or "R"- specific or radioastronomy station (F)</p> <p>4: C: this item must not be provided if item 2 = "T" - typical station (F)</p>
1009	e_stn	lat_min	all	A1e3b	9(2)	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 0 (inclusive) and 60 (exclusive) (F)</p> <p>3: C: this item must be provided if item 2 = "S" or "R"- specific or radioastronomy station (F)</p> <p>4: C: this item must not be provided if item 2 = "T" - typical station (F)</p>
1010	e_stn	lat_sec	all	A1e3b	9(2)	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 0 (inclusive) and 60 (exclusive) (F)</p> <p>3: C: this item must be provided if item 2 = "S" or "R"- specific or radioastronomy station (F)</p> <p>4: C: this item must not be provided if item 2 = "T" - typical station (F)</p> <p>5: E: if item 1007 = 90, then items 1009 and 1010 must be equal to 0 (F)</p> <p>6: E: items 1003 - 1010 should be checked against the Earth Station reference table; if the earth station - item 1000 - exists in the reference table, the distance between these coordinates and the reference coordinates should not exceed 20 km (distance of 20 km to be confirmed) - BR internal validation, to be done (W)</p> <p>7: E: if item 1002 is valid, then the geographic coordinates must be within the boundaries of the country specified; this check is done using the IDWM - BR internal validation, to be done (W)</p>

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1011	e_stn	sat_name	axra	A4c1	X(20)	<p>1: mandatory (F)</p> <p>2: symbol should be present in the satellite name reference table "rf_sat" (F)</p> <p>3: E: there should be a filing in the database for a satellite network with the same sat_name (item 100/200) value and in the same category (item 13) as this filing ((network N and earth station N) or (network C and earth station D)) - BR internal validation, to be done (W)</p>
1012	e_stn	long_nom	axra	A4c2	S999.99	<p>1: conditionally required (W)</p> <p>2: must be numeric value in degrees between -179.99 (inclusive) and +180.00 (inclusive) (F)</p> <p>3: E: this item must be provided if item 1011 is a geostationary satellite - as indicated in the reference table "rf_sat" (F)</p> <p>4: E: this item, along with item 1011, should match the corresponding entry in the reference table "rf_sat" (F)</p> <p>5: E: if the satellite network filing with the same name (item 1011) is found and it is geostationary, then this item must be equal to the orbital position in that filing (item 101) - BR internal validation, to be done (W)</p>
1013	e_stn	diag_hor	ax97r	A7a	9(2)	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 1 (inclusive) and 99 (inclusive) (F)</p> <p>3: C: if this item is provided, then item 2 must be = "S" - specific station (F)</p>
1014	e_stn	elev_min	ax97r	A7b1	99.9	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between -90 (inclusive) and 90 (inclusive) (F)</p> <p>3: E: this item must not be provided if item 2 = "T" - typical station or if item 2 = "S" - specific station and the associated space station is non-geostationary (item 1012 is not provided) (F)</p> <p>4: E: this item must be provided if item 2 = "R" (radio-astronomy) or item 2 = "S" - specific station and the associated space station is geostationary (item 1012 is provided) (F)</p> <p>5: E: if the associated space station is geostationary (item 1012 is provided) compare this item with the calculated value of elevation angle using AZIMEL program method (using the geographical coordinates and nominal orbital longitude - items 1003-1010, 1012); the difference must be less than 0.1 - BR internal validation, to be done (W)</p>

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1015	e_stn	azm_fr	ax97r	A7c1	999.9	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 0 (exclusive) and 360 (inclusive) (F)</p> <p>3: E: this item must not be provided if item 2 = "T" - typical station or if item 2 = "S" - specific station and the associated space station is non-geostationary (item 1012 is not provided) (F)</p> <p>4: E: this item must be provided if item 2 = "R" (radio-astronomy) or item 2 = "S" - specific station and the associated space station is geostationary (item 1012 is provided) (F)</p>
1016	e_stn	azm_to	ax97r	A7c2	999.9	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 0 (exclusive) and 360 (inclusive) (F)</p> <p>3: E: this item must not be provided if item 2 = "T" - typical station or if item 2 = "S" - specific station and the associated space station is non-geostationary (item 1012 is not provided) (F)</p> <p>4: E: this item must be provided if item 2 = "R" (radio-astronomy) or item 2 = "S" - specific station and the associated space station is geostationary (item 1012 is provided) (F)</p> <p>5: E: calculate the azimuthal sector by subtracting the "from" value (item 1015) from the "to" value (item 1016); if this value is negative, add 360 to it; the resulting sector must be less than or equal to 180 (W)</p> <p>6: E: if the associated satellite network filing is found (rule 1011/3), compute the theoretical azimuthal angles using the longitudinal tolerance (items 102,103) and inclination excursion (item 104) of that satellite network using the AZIMEL program method and compare them to items 1015,1016; the difference must be less than 0.1 - BR internal validation, to be done (W)</p>
1017	e_stn	ant_alt	ax97r	A7d	S9(5)	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 0 (exclusive) and 10000 (inclusive) (F)</p> <p>3: C: this item must be provided if item 2 = "S" - specific station (F)</p> <p>4: C: this item must not be provided if item 2 = "T" - typical station (F)</p>
1018	e_stn	elev_max	ra	A7b2	99.9	<p>1: mandatory (F)</p> <p>2: must be a numeric value between -90 (inclusive) and 90 (inclusive) (F)</p> <p>3: C: value must be > item 1014 (F)</p>

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1019	e_stn	lat_dec	all		S9(2).9(4)	1: conditionally required; BR Internal use (W) 2: must be a numeric value between -90 (inclusive) and 90 (inclusive) (F) 3: C: this item must be provided if item 2 = "S" or "R" - specific or radio-astronomy station (F) 4: C: this item must not be provided if item 2 = "T" - typical station (F) 5: E: the value must be derived from the latitude part of the geo coordinates - items 1007..1010 (F)
1020	e_stn	long_dec	all		S9(3).9(4)	1: conditionally required; BR Internal use (W) 2: must be a numeric value between -180 (exclusive) and 180 (inclusive) 3: C: this item must be provided if item 2 = "S" or "R" - specific or radio-astronomy station (F) 4: C: this item must not be provided if item 2 = "T" - typical station (F) 5: E: the value must be derived from the longitude part of the geo coordinates - items 1003..1006 (F)
1021	e_stn	f_pfd_se	axra	A16b	X(1)	1: conditionally required (W) 2: symbol must be "Y" or blank (F) 3: E: the symbol must be "Y" if this earth station operates with a geostationary space station (item 1012 not = null) and has a transmitting beam (item 1030 = "E") with antenna diameter less than 4.5 meters (item 1044 < 4.5) in the Fixed Satellite Service (item 1631 = "TC") in the band 13.75 - 14 GHz (F)
1025	hor_elev	azm	ax97r	A7a	999.9	1: conditionally required (W) 2: must be a numeric value between 0 (inclusive) and 360 (exclusive) (F) 3: C: if this item is provided, then item 2 must be = "S" (F) 4: E: this item must be provided if item 1013 is not provided (F) 5: E: this item must not be provided if item 1013 is provided (F) 6: E: the first azm value must be = 0 (F)
1026	hor_elev	elev_ang	ax97r	A7a1	S99.9	1: conditionally required (W) 2: must be a numeric value between -90 (exclusive) and 90 (inclusive) (F) 3: C: if this item is provided, then item 2 must be = "S" (F) 4: C: this item must not be provided if item 1025 is not provided (F) 5: E: this item must be provided if item 1013 is not provided (F) 6: E: this item must not be provided if item 1013 is provided (F)

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1027	hor_elev	hor_dist	ax97r	A7a2	99.9	1: optional (W) 2: must be a numeric value between 0 (exclusive) and 99.9 (inclusive) (F) 3: C: this item must not be provided if item 1025 is not provided (F)
1030	e_ant	emi_rcp	all	B2	X(1)	1: mandatory (F) 2: the symbol must be "E" (emission) or "R" (reception) (F) 3: E: if this item = "E", then item 5 must NOT be one of "9.7A", "11.12" or "RR1492" - for these provisions, only receiving beam is allowed - (F)
1031	e_ant	beam_name	all	B1a	X(8)	1: mandatory (F) 2: must be a non-blank alphanumeric symbol (F) 3: E: if item 1032 is "M" then the beam-name symbol must be an existing beam in the SNS for the target network; if not, check item 1033 - BR internal validation, to be done (F) 4: E: if the satellite network filing for the associated space station is found as indicated in rule 1011/3, this beam-name (item 1031) must be present in that filing (item 501) with the compatible value for the emi-rcp indicator (items 500 and 1030); if item 500 = "E" then item 1030 must be "R" and vice-versa - BR internal validation, to be done (W)
1032	e_ant	act_code	all		X(1)	1: conditionally required (W) 2: the symbol must be "A", "R", "M", "S" or blank (F) 3: C: if this item is not blank, then item 6 must be "M" (F)
1033	e_ant	beam_old	all	B1	X(8)	1: optional (W) 2: must be a non-blank alphanumeric symbol (F) 3: C: if this item is non-blank, then item 1032 must be "M" or "R" (F) 4: E: this beam-name symbol should be present as an existing beam in the SNS database for the target network - BR internal validation (F)
1034	e_ant	gain	axra	B5a	S99.9	1: mandatory (F) 2: must be a numeric value between -6 (inclusive) and 70 (inclusive) (W)

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1035	e_ant	bmwidth	ax97r	B5b	999.99	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 0 (inclusive) and 999.99 (inclusive) (F)</p> <p>3: C: if this item is not provided, then item 1036 must be "ND" (F)</p> <p>4: E: value must be within the range from the minimum allowable to the maximum allowable calculated as per Appendix 6 of the Annex (W)</p>
1036	e_ant	ant_type	all	B5c2a	X(12)	<p>1: conditionally required (W)</p> <p>2: the symbol must be a standard antenna radiation pattern as defined in the reference table ant_type; valid values are : "REC-465", "REC-509", "REC-580", "REC-694", "REC-1091", "REC-1295", "REC-1213", "AP28", "AP29", "29-25LOG(FI)", "27-25LOG(FI)", "32-25LOG(FI)", "APS7", "AP7", "AP8", "AP30B", "A-25*LOG(FI)" or "ND" (F)</p> <p>3: C: if this item is provided, then item 1037 must not be provided (F)</p> <p>4: C: if value = "A-25*LOG(FI)" or "AP30B", then item 1038 must be provided (F)</p> <p>5: E: if item 5 = "9.7A", then this item must be provided (F)</p> <p>6: E: if item 5 = "11.12" or "RR1492", then only item 1036 or 1037 (and not 1038 .. 1042) must be provided (F)</p>
1037	e_ant	diag_e	all	B5c1	9(2)	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 1 (inclusive) and 99 (inclusive) (F)</p> <p>3: C: if this item is not provided, then item 1045 must be provided (F)</p>
1038	e_ant	coefa	all	B5c	99.9	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 0 (exclusive) and 99.9 (inclusive) (F)</p> <p>3: C: if this item is provided, then item 1037 must not be provided (F)</p>
1039	e_ant	coefb	all	B5c	99.9	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 0 (exclusive) and 99.9 (inclusive) (F)</p> <p>3: C: if this item is provided, then item 1037 must not be provided (F)</p>
1040	e_ant	coefc	all	B5c	99.9	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 0 (exclusive) and 99.9 (inclusive) (F)</p> <p>3: C: if this item is provided, then item 1037 must not be provided (F)</p>

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1041	e_ant	coefd	all	B5c	99.9	1: conditionally required (W) 2: must be a numeric value between 0 (exclusive) and 99.9 (inclusive) (F) 3: C: if this item is provided, then item 1037 must not be provided (F)
1042	e_ant	phi1	all	B5c	99.9	1: conditionally required (W) 2: must be a numeric value between 0 (exclusive) and 99.9 (inclusive) (F) 3: C: if this item is provided, then item 1037 must not be provided (F) 4: E: if one of items 1038 to 1042 is present, then all of these items must be provided, except if item 1036 = "A-25*LOG(FI)" or "AP30B" (F) 5: E: items 1038 .. 1042 can all be provided only if item 1036 is not provided (F)
1043	e_ant	diag_crdn	ax97r	A10a	9(2)	1: conditionally required (W) 2: must be a numeric value between 1 (inclusive) and 99 (inclusive) (F) 3: E: this item must be provided if there are frequencies in the frequency bands allocated with equal rights to space and terrestrial services or bi-directional bands - frequency table provided in Appendix 4 (F)
1044	e_ant	ant_diam	ax97r	A7f	9(3).99	1: conditionally required (W) 2: must be a numeric value between 1.2 (inclusive) and 40 (inclusive) (W) 3: E: if there are frequencies for the transmitting antenna (item 1030 = "E") in the band 13.75 - 14 GHz for FSS (item 1631 = "TC"), then this item is mandatory (F) 4: E: value must be > 1.2 meters if associated space station is geostationary (item 1012 not = null); if non-geostationary space station (item 1012 = null), value must be > 4.5 meters; refer No. 5.502
1045	e_ant	pattern_id	all	B5c2a	9(4)	1: conditionally required (W) 2: must be a numeric value between 0 (exclusive) and 9999 (inclusive) (F) 3: C: if this item is provided, then item 1037 must not be provided (F) 4: E: value must exist as a primary key in the antenna pattern reference table <ant_type> (F) 5: E: value must be added by BR as a primary key in the antenna pattern reference table <rf_ant_type> (F)
1046	e_ant	diag_e_x	plan	B5c1b	9(2)	1: for space plans; rules to be added

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1047	e_ant	pattern_id_x	plan	B5c2b	9(4)	1: for space plans; rules to be added
1060	e_ant_elev	azm	ax97r	A7e1	999.9	1: conditionally required (W) 2: must be a numeric value between 0 (inclusive) and 360 (exclusive) (F) 3: C: this item must be provided if the associated space station is non-geostationary - item 1012 is not provided (F) 4: C: this item must not be provided if the associated space station is geostationary - item 1012 is provided (F)
1061	e_ant_elev	elev_ang	ax97r	A7e2	S99.9	1: conditionally required (W) 2: must be a numeric value between -90 (inclusive) and 90 (inclusive) (F) 3: C: this item must be provided if the associated space station is non-geostationary - item 1012 is not provided (F) 4: C: this item must not be provided if the associated space station is geostationary - item 1012 is provided (F) 5: C: this item must not be provided if item 1060 is not provided (F)
1600	grp	grp_id	all		9(9)	1: mandatory - BR internal validation (F) 2: must be a numeric value between 1 (inclusive) and 999999999 (inclusive) (F) 3: D: value must be unique in the set of all grp_id values (F)
1601	grp	act_code	all		X(1)	1: conditionally required (F) 2: the symbol must be "A", "M", "R", "S" or blank (F) 3: C: if this item is not blank, then item 1032 must be "M" (F)
1602	grp	page_no	all		9(4)	1: optional (W) 2: must be a numeric value - for BR internal use (W)

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1603	grp	d_inuse	all	A2a	9(8)	<p>1: mandatory (F)</p> <p>2: must be a valid date (F)</p> <p>3.1: E: if item 13 = "N", this date must not be later than the date of receipt (item 11) plus three years (F)</p> <p>3.2: E: if item 13 = "N", this date must not be earlier than the date of receipt (item 11) minus 3 months (W)</p> <p>4.1: E: if item 13 = "D", this date must not be later than the date of receipt (item 11) plus five and half years and 15 days (W)</p> <p>4.2: E: if item 13 = "D", this date must not be earlier than the date of receipt (W)</p>
1605	grp	op_agcy	all	A3a	9(3)	<p>1: mandatory (F)</p> <p>2: must be a numeric value between 0 (inclusive) and 999 (inclusive) (W)</p> <p>3: E: value should be present in the reference table "rf_op_agcy" corresponding to Table 12A/12B of the Preface; if providing a new value, please enter 0 (zero) and provide the details as an attachment (F)</p> <p>4: E: value must be added by BR as a primary key in the operating agency reference table <rf_op_agcy> (F)</p>
1606	grp	adm_resp	all	A3b	X(2)	<p>1: mandatory (F)</p> <p>2 : must be a symbol with 1 or 2 characters (F)</p> <p>3: E: symbol must be present in the table "rf_admresp" corresponding to Table 12A/12B of the Preface for the operating agency indicated in item 1605 (F)</p>
1610	gpub	seq_no	axra	A13	9(4)	<p>1: mandatory (F)</p> <p>2: must contain a numeric value between 1 (inclusive) and 9999 (inclusive) (F)</p> <p>3: D: the value must be unique and ascending for all occurrences for this group - BR Internal data (F)</p>

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1611	gpub	pub_ref	axra	A13	X(12)	<p>1: mandatory (F)</p> <p>2: must be a non-blank alphanumeric symbol (F)</p> <p>3: C: if the symbol is one of "API/A", "AR11/A", "SPA-AA", "RES46/A", "RES33/A", "AP30/A", "RR1042", "RES SPA2-3AA", "SPA-AJ", "RES SPA2-3AJ", then ntf_rsn (item 13) must be = "D" or "N" (F)</p> <p>4: C: if the symbol is one of "CR/C", "AR11/C", "AR14/C", "RES46/C", "RES33/C", "AP30/C", then ntf_rsn (item 13) must be = "N" (F)</p>
1612	gpub	pub_no	axra	A13	9(4)	<p>1: mandatory (F)</p> <p>2: must contain a numeric value between 1 (inclusive) and 9999 (inclusive) (F)</p> <p>3: E: the special section information consisting of items 1611 and 1612 must be present in the reference table for the corresponding special sections (F)</p>
1620	provn	seq_no	axra	A5/A6	9(4)	<p>1: mandatory (F)</p> <p>2: must contain a numeric value between 1 (inclusive) and 9999 (inclusive) (F)</p> <p>3: D: the value must be unique and ascending for all occurrences of a particular value of item 1621 for this group - BR Internal data (F)</p>
1621	provn	coord_prov	axra	A5/A6	X(12)	<p>1: mandatory (F)</p> <p>2: the symbol must be one of "RR1107", "RR1109", "RR1110", "RR1111", "RR1111A", "RR1130", "RR1528", "RR1142", "RR1143", "RR1144", "RR1610", "RS46#3.1", "NI", "9.17", "9.17A", "9.7A", "9.15", "AP5#6.E.1", "AP5#6.E.2", "AP5#6.E.3", "9.21", "9.33", "9.46", "9.47", "9.48", "9.49", "9.60", "9.65", "11.32A", "11.43D" (F)</p>
1622	provn	agree_st	axra	A5/A6	X(1)	<p>1: mandatory (F)</p> <p>2: the symbol must be "R" or "O" (F)</p> <p>3: C: if this item = "R", then item 13 must be = "D" (F)</p> <p>4: C: if this item = "O" or "R", then item 13 must be = "N" (F)</p>

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1623	provn	adm	axra	A5/A6	X(3)	<p>1: optional (W)</p> <p>2: the symbol must be present in the reference table "rf_adm" corresponding to table no. 1A in the Preface (but only as an administration) (F)</p> <p>3: C: if this item = blank, then item 1621 must be one of "RR1109", "RR1110", "RR1111", "RR1111A", "APS5.6E1", "APS5.6E2", "APS5.6E3", "AP5#6.E.1", "AP5#6.E.2" or "AP5#6.E.3"(W)</p> <p>4: D: there must be no duplicate administration/satellite network organisation pairs (items 1623 / 1624) for the same provision in item 621 (F)</p> <p>5: E: the coordination/agreement information consisting of items 1621, 1622, 1623 and 1624 must not be duplicated for the group (F)</p>
1624	provn	ntwk_org	axra	A5/A6	X(3)	<p>1: optional (W)</p> <p>2: symbol must be present in the reference table "rf_ctryorg" corresponding to Table 1B and Table 2 in the Preface (F)</p> <p>3: E: if provided, then the corresponding symbol of the notifying administration in this table must be the same as item 1623 (this item should be a valid symbol for the administration) (F)</p>
1625	grp	remark	all		X(30)	1: optional: not to be validated
1630	srv_cls	seq_no	all		9(4)	<p>1: mandatory (F)</p> <p>2: must contain a numeric value between 1 (inclusive) and 9999 (inclusive) (F)</p> <p>3: D: the value must be unique and ascending for all occurrences for this group - BR Internal data (F)</p>

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1631	srv_cls	stn_cls	all	C4a	X(2)	<p>1: mandatory (F)</p> <p>2: the symbol must be one of the following : TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TQ, TR, TT, TU, TW, TX, TY, TZ, RA, UA, UB, UD, UE, UH, UK, UM, UN, UR, UT, UV, UW, UY or VA; corresponding to Table 3 in the Preface (F)</p> <p>3.1: C: if value = "TD", then item 1030 must be "E" - uplink only (F)</p> <p>3.2: C: if value = "TR", then item 1030 must be "R" - downlink only (F)</p> <p>3.3: C: if value = "RA", then item 2 must be= "R" - radioastronomy (F)</p> <p>4: E: if item 5 = "9.7A", then this item must be = "TC" (F)</p> <p>5: E: each symbol must be valid for the corresponding class of station symbol of the associated satellite group to which this earth station belongs - this correspondence is given in Appendix 7 of the Annex (F)</p>
1632	srv_cls	nat_srv	axra	C4b	X(2)	<p>1: mandatory (F)</p> <p>2: the symbol must be one of "CO", "CP", "CR", "CV" or "OT"; corresponding to Table 3 in the Preface (F)</p> <p>3: D: there must be no duplicate class-of-station / nature-of-service pairs (item 1631 / 1632) for the group (F)</p> <p>4: E: the symbol must be the same as the nature-of-service - item 632 - associated with the corresponding class-of-station - item 631 - of the associated satellite group found in rule 1631/4 (F)</p>
1635	grp	tgt_grp_id	all		9(9)	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between 1 (inclusive) and 999999999 (inclusive) (F)</p> <p>3: C: if this item contains a value (representing the BR identification number of the group to be modified, replaced or suppressed), then item 1601 must be = "M", "R" or "S" (F)</p>
1640	grp	polar_type	ax97r	C6a	X(2)	<p>1: mandatory (F)</p> <p>2: the symbol must be present in reference table "rf_polar" corresponding to Table 5 of the Preface (F)</p>

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1641	grp	polar_ang	ax97r	C6b	999.99	1: conditionally required (W) 2: must be a numeric value between 0 (inclusive) and 360 (exclusive) (F) 3: C: if this item is not provided, then item 1640 must not be = "L" 4: C: if this item is provided, then item 1640 must be = "L" (F)
1642	grp	bdwidth	all	C3a/C3b9(8)		1: mandatory (F) 2: must be a numeric value between 1 (inclusive) and 3,000,000 (inclusive) (F) 3: E: value must be less than or equal to the maximum possible value as determined by using the highest assigned frequency notified for the group and Appendix 5 of the Annex (W)
1643	grp	noise_t	all	C5a	9(6)	1: conditionally required (W) 2: must be a numeric value between 30 (inclusive) and 3000 (inclusive) (W) 3: C: this item must be provided if item 1030 = "R" (F) 4: C: this item must not be provided if item 1030 = "R" (F) 5: E: this item should have the same value for all groups within this receiving beam (W) 6: E: the ratio of gain (item 1034) to noise-temp (item 1643) must be > 44 db/K if item 5 = "9.7A" (W)
1644	grp	pwr_max	ax97r	C8g1	S99.9	1: optional; used to effect coordination with another administration; not validated
1655	grp	f_no_intfr	all	C2c	X(1)	1: optional (W) 2: symbol must be either "Y" or blank (F)
1658	grp	elev_min	ra	C13c	S99.9	1: mandatory (F) 2: must be a numeric value between -90 (inclusive) and 90 (inclusive) (F)
1660	grp	observ_cls	ra	C13a	X(2)	1: mandatory (F) 2: symbol must be one of A or B (F)
1661	grp	reg_op_fr	plan	A11a	9(4)	1: optional (W) 2: must be a numeric value representing hours in UTC format from 0000 (inclusive) to 2359 (inclusive) (F)

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1662	grp	reg_op_to	plan	A11b	9(4)	1: optional (W) 2: must be a numeric value representing hours in UTC format from 0000 (inclusive) to 2359 (inclusive) (F)
1663	grp	ra_stn_type	ra	C13b	X(1)	1: mandatory (F) 2: symbol must be either "S" or "V" (F)
1668	emiss	seq_no	axra	C7a	9(4)	1: mandatory (F) 2: must contain a numeric value between 1 (inclusive) and 9999 (inclusive) (F) 3: D: the value must be unique and ascending for all occurrences for this group - BR Internal data (F)

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1669	emiss	design_emi	axra	C7a	X(9)	<p>1: mandatory (F)</p> <p>2: E: the symbol must contain 9 alphanumeric characters, which are validated in two parts from left to right - the first four characters (necessary bandwidth) and the next five characters (class of emission) (F)</p> <p>3.1: E: the first character must be numeric, ranging from 1 (inclusive) to 9 (inclusive) or "H" (F)</p> <p>3.2: E: the next three characters can be numeric (0 to 9 inclusive) or "H", "K", "M" or "G"; however, there must be only one alphabetic character ("H", "K", "M", "G") in the set of the first four characters (F)</p> <p>3.3: E: the necessary-bandwidth portion of this item (the first four characters) is converted to a frequency value in kilohertz by using the unit specified by the alphabetic character (H - hertz, K - kilohertz, M - megahertz, G - gigahertz) and its position in the four character sequence as an implied decimal point (for eg. 36M0 is 36.0 megahertz or 36000 kilohertz); this value should be less than or equal to the assigned frequency band - item 1642 - (F)</p> <p>4.1: E: 5th character - must be alphabetic but not one of "E", "I", "O", "S", "T", "U", "Y", "Z" (F)</p> <p>4.2: E: 6th character - must be one of "0", "1", "2", "3", "7", "8", "9", "X" (F)</p> <p>4.3: E: 7th character - must be one of "A", "B", "C", "D", "E", "F", "N", "W", "X" (F)</p> <p>4.4: E: 8th character - must be one of "A", "B", "C", "D", "E", "F", "G", "H", "J", "K", "L", "M", "N", "W", "X" and "-" (F)</p> <p>4.5: E: 9th character - must be one of "N", "C", "F", "T", "W", "X" and "-" (F)</p> <p>5: E: items 1671, 1672 and 1673 should be validated against the corresponding values notified for the same transmitting or receiving earth station for the associated satellite under form ApS4/II; if this is a receiving earth station antenna - item 1030 = "R" -, these items should be equal to corresponding items for the transmitting space station under ApS4/II; if this is a transmitting earth station antenna - item 500 = "E" -, item 1671 should be equal to the corresponding item for the receiving space station under ApS4/II (W)</p>
1670	emiss	pwr_tot_pk	ax97r	C8a1	S99.9	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between -30 (inclusive) and +40 (inclusive) (W)</p> <p>3: C: if this value is provided, then item 1030 = "E" - transmitting antenna (F)</p> <p>4: C: if this value is not provided, then item 1030 = "R" - receiving antenna (F)</p>

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1671	emiss	pwr_ds_max	ax97r	C8a2	S99.9	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between -99.9 (inclusive) and -10 (inclusive) (W)</p> <p>3: C: if this value is provided, then item 1030 = "E" - transmitting antenna (F)</p> <p>4: C: if this value is not provided, then item 1030 = "R" - receiving antenna (F)</p>
1672	emiss	pwr_min_pk	ax97r	C8c1	S99.9	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between -20 (inclusive) and +40 (inclusive) (W)</p> <p>3: C: if this value is provided, then item 1030 = "E" - transmitting antenna (F)</p> <p>4: C: if this value is not provided, then item 1030 = "R" - receiving antenna OR item 1677 must be provided (F)</p> <p>5: C: value must be less than or equal to item 1670 (F)</p> <p>6: E: if the frequencies for the group - item 1753 - are in the band 13.75-14 GHz for FSS - item 1631 = "TC" - then this item is mandatory (F)</p>
1673	emiss	pwr_ds_min	ax97r	C8c3	S99.9	<p>1: conditionally required (W)</p> <p>2: must be a numeric value between -99.9 (inclusive) and -10 (inclusive) (W)</p> <p>3: C: if this value is provided, then item 1030 = "E" - transmitting antenna (F)</p> <p>4: C: if this value is not provided, then item 1030 = "R" - receiving antenna OR item 1678 must be provided (F)</p> <p>5: C: value must be less than or equal to item 1671 (F)</p> <p>6.1: E: if frequency - item 1751/1752 - is < 15 GHz and necessary bandwidth (NB - item 1669/3.3) is <= 4 kHz (?) then this item should be = item 1672 - 36 (W)</p> <p>6.2: E: if frequency - item 1751/1752 - is >= 15 GHz and NB is <= 1000 kHz (?) then this item should be = item 1672 - 60 (W)</p> <p>6.3: E: in all other cases this item 1673 should be >= item 1672 - [30+10*log (NB)] (W)</p> <p>7: E: if the frequencies for the group - item 1723 - are in the band 13.75-14 GHz for FSS - item 1631 = 'TC' - then this item is mandatory (F)</p>

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1674	emiss	c_to_n	ax97r	C8e1	S99.9	1: conditionally required (W) 2: must be a numeric value between -20 (inclusive) and +30 (inclusive) (W) 3: C: if this value is provided, then item 1030 = "R" - receiving antenna (F) 4: C: if this value is not provided, then item 1030 = "E" - transmitting antenna OR item 1679 must be provided (F)
1675	emiss	pwr_ds_nbw	plan	C8h/C8i	S99.9	1: for space plans; rules to be added
1676	emiss	f_emi_type	ax97r	C8a/C8b	X(1)	1: optional; not to be validated 2: must be a 1-character symbol
1677	emiss	attch_pep	ax97r	C8c2	9(2)	1: conditionally required (W) 2: must be a numeric value between 1 (inclusive) and 99 (inclusive) (F)
1678	emiss	attch_mpd	ax97r	C8c4	9(2)	1: conditionally required (W) 2: must be a numeric value between 1 (inclusive) and 99 (inclusive) (F)
1679	emiss	attch_c2n	ax97r	C8e2	9(2)	1: conditionally required (W) 2: must be a numeric value between 1 (inclusive) and 99 (inclusive) (F)
1750	assgn	seq_no	all	C2a	9(4)	1: mandatory (F) 2: must contain a numeric value between 1 (inclusive) and 9999 (inclusive) (F) 3: D: the value must be unique and ascending for all occurrences for this group - BR Internal data (F)
1751	assgn	freq_sym	all	C2a	X(1)	1: mandatory (F) 2: symbol must be "K", "M" or "G" (F) 3: check this symbol against frequency value in item 1752 (F) 3.1: C: if this item is "K", then the value in item 1752 should be between 5000 (exclusive) and 27500 (inclusive) (F) 3.2: C: if this item is "M", then the value in item 1752 should be between 27.5 (exclusive) and 10500 (inclusive) (F) 3.3: C: if this item is "G", then the value in item 1752 should be between 10.5 (exclusive) and 400 (inclusive) (F)

Val. ItemN	Table Name	Field Name	Notice Type	Ap4 Ref.	Data Format	Validation Rules
1752	assgn	freq_assgn	all	C2a	9(5).9(5)	<p>1: mandatory (F)</p> <p>2: must be a numeric value between 10.5 (inclusive) and 27500 (inclusive) (F)</p> <p>3: E: there must not be any duplicate frequency / symbol pairs in the list of assigned frequencies for the group (F)</p> <p>4: E: there should be no overlap in the list of assigned frequencies for the group; i.e. for each frequency in the sorted list of assigned frequencies, the lower and upper limits are calculated, using the bandwidth - item 1642 - , as (assigned frequency +/- bandwidth/2); the upper limit of each assigned frequency should be less than or equal to the lower limit of the next assigned frequency in the sorted list (W)</p>
1753	assgn	freq_mhz	all		9(6).9(6)	<p>1: mandatory; for BR Internal use (F)</p> <p>2: must be a numeric value between 27.5 (inclusive) and 400000 (inclusive) (F)</p> <p>3: E: the value must be equal to the assigned frequency in megahertz derived from items 1751 and 1752 according to rule 1751/3 (F)</p>

Appendix 1 : Notice Code values

NOTICE CODE	DESCRIPTION
all	all notice types
ax97a	all earth notices except those submitted under 9.7a
ax97r	all earth notices except those submitted under 9.7a and radio-astronomy
axiss	all space notices except for ISS (inter-satellite-service - ES in item 631)
axra	all earth notices except the radio-astronomy notices
earth	all earth notices
opt	optional for notice
ra	radio-astronomy notices only
space	all space notices

Appendix 2 : Values for Maximum Isotropic Gain as a function of Assigned Frequency

Lowest Frequency for this Beam	Minimum Allowable Gain Value	Highest Frequency for this Beam	Maximum Allowable Gain Value
1000 .. 3000 MHz	-6 dB	1000 .. 3000 MHz	25 dB
3400 .. 9000 MHz	17 dB	3400 .. 9000 MHz	30 dB
10.1 .. 30 GHz	19 dB	10.1 .. 30 GHz	45 dB
> 30 GHz	20 dB	> 30 GHz	65 dB

Appendix 3 : Calculation of the two test beamwidths

Calculate the two test beamwidths using the maximum isotropic gain (item 504) as follows: beamwidth $\theta_1 = 65.0 / (D/\lambda)$ where $D/\lambda = 10^{((G_{\max} - 7.7)/20.0)}$ and G_{\max} is the maximum isotropic gain in dB and beamwidth $\theta_2 = \sqrt{(27000/g_{\max})}$ where $g_{\max} = 10.0^{(G_{\max} / 10.0)}$.

Appendix 4 : list of frequency bands with bi-directional utilization

(GSO diagram is needed – updated 02/11/1999)

(updated 03.05.2004 : removal of “S” in references to Radio Regulations)

(updated 19.08.2004 : band 17.3 – 17.7 GHz (WRC-03) added and merged into band 17.7 – 18.4 GHz)

(updated 14.09.2004 : band 1675 – 1710 MHz removed and replaced by band 1670 – 1675 MHz (WRC-03))

(updated 20.01.2005 : bands 47.5 – 47.9 GHz, 48.2 – 48.54 GHz, 49.44 – 50.2 GHz added (WRC-03))

(updated 26.01.2005 : band 81 - 84 GHz added (WRC-2000), 74 – 75.5 GHz removed (WRC-2000))

Freq. from (MHz)	Freq. To (MHz)	Remarks
28.0	29.7	AMATEUR-SATELLITE
30.005	30.010	SPACE OPERATION (satellite identification) SPACE RESEARCH
39.986	40.020	Space Research
40.980	41.015	Space Research
117.975	137.000	Aeronautical Mobile-satellite 5.198 available for AP4 received before 1/1/99
117.975	136.000	Aeronautical Mobile-satellite 5.198 available for AP4 received after 1/1/99

144.0	146.0	AMATEUR-SATELLITE
149.900	150.050	RADIONAVIGATION-SATELLITE LAND MOBILE-SATELLITE (Earth-to-space) 5.224 B - allocation until 01/01/2015
235.000	322.000	Mobile-satellite 5.254
335.40	399.90	Mobile-satellite 5.254
399.90	400.05	RADIONAVIGATION-SATELLITE LAND MOBILE-SATELLITE (Earth-to-space)
400.05	400.15	STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1)
401.000	402.000	SPACE OPERATION (space-to-Earth) Earth Exploration Satellite (Earth-to-space) Meteorological-Satellite (Earth-to-space)
435.000	438.000	Amateur-Satellite 5.282
806.000	890.000	in Reg. 3 - MOBILE SATELLITE except aeronautical mobile-satellite (R) 5.320 in Reg. 2 - MOBILE SATELLITE service 5.317 (except Brazil and USA)
942.000	960.000	in Reg. 3 - MOBILE SATELLITE except aeronautical mobile-satellite (R) 5.320

1260.000	1270.000	Amateur-satellite service 5.282
1525.000	1535.000	Earth Exploration-Satellite
1613.800	1626.500	Mobile-Satellite service (space-to-Earth) MOBILE SATELLITE service (Earth-to-space)
1670.000	1675.000	METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (Earth-to-space)
1770.000	1790.000	METEOROLOGICAL-SATELLITE SERVICE 5.387
2025.000	2110.00	SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) SPACE RESEARCH (Earth-to-space) (space-to-space)
2200.000	2290.00	SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) SPACE RESEARCH (Earth-to-space) (space-to-space)
2400.00	2450.00	Amateur-satellite service 5.282
2655.00	2690.00	FIXED-SATELLITE (Reg. 2) (Earth-to-space and space-to-Earth)
3400.00	3410.00	Amateur-satellite (Regions 2 and 3) 5.282
5000.00	5150.00	AERONAUTICAL MOBILE-SATELLITE (R) 5.367

5150.00	5216.50	RADIODETERMINATION-SATELLITE 5.446
5250.00	5255.00	Space research
5650.00	5725.00	SPACE RESEARCH
5830.00	5850.00	FIXED-SATELLITE Service (Reg. 1) (Earth-to-space) Amateur-satellite service (space-to-Earth)
6700.00	7075.00	FIXED-SATELLITE (Earth-to-space) (space-to-Earth)
8025.00	8400.00	FIXED-SATELLITE (Earth-to-space) EARTH EXPLORATION-SATELLITE (space-to-Earth)
9975.00	10025.00	Meteorological-satellite service (weather radars) 5.479
10450.00	10500.00	Amateur-satellite service
10700.00	11700.00	FIXED-SATELLITE Service (in Reg. 1) (Earth-to-space) and (space-to-Earth)
12500.00	12750.00	FIXED-SATELLITE Service (in Reg. 1) (Earth-to-space) and (space-to-Earth)
12750.00	13250.00	FIXED-SATELLITE (Earth-to-space) Space research (deep space) (space-to-Earth)
13400.00	14300.00	FIXED-SATELLITE (Earth-to-space) Space research

14300.00	14400.00	FIXED-SATELLITE (Earth-to-space) Radionavigation-satellite
14400.00	14470.00	FIXED-SATELLITE (Earth-to-space) Space research (space-to-Earth)
14500.00	15350.00	Space research
15430.00	15630.00	FIXED-SATELLITE (space-to-Earth) and (Earth-to-space) available for AP4 received after 1/1/99
15450.00	15650.00	FIXED-SATELLITE (space-to-Earth) and (Earth-to-space) available for AP4 received before 1/1/99 5.511D
15630.00	15650.00	FIXED-SATELLITE (space-to-Earth) and (Earth-to-space) available for advance information (AP4) received before 22.11.97 and AP4 received after 1/1/99 5.511D
17300.00	18400.00	FIXED-SATELLITE (space-to-Earth) (Earth-to-space)
19300.00	19700.00	FIXED-SATELLITE (space-to-Earth) and (Earth-to-space)
24000.00	24050.00	AMATEUR-SATELLITE
24650.00	24750.00	INTER-SATELLITES (in Reg.1) RADIOLOCATION-SATELLITE (Earth-to-space) (in Reg.1)
25250.00	25500.00	INTER-SATELLITES Standard frequency and time signal-satellite (Earth-to-space)

25500.00	27000.00	Earth Exploration-Satellite (space-to-Earth) Standard-frequency and Time Signal-Satellite (Earth-to-space) (in Reg.1)
27000.00	27500.00	FIXED-SATELLITE (Earth-to-space) (in Regions 2 and 3) INTER-SATELLITES (in Regions 2 and 3)
27500.0	27501.00	Space-to-Earth (beacon transmissions intended for up-link power control) 5.538 FIXED-SATELLITE (Earth-to-space)
27501.00	29999.00	FIXED-SATELLITE (Earth-to-space) and (space-to-Earth) 5.540
29999.00	30000.00	Space-to-Earth (beacon transmissions intended for up-link power control) 5.538 FIXED-SATELLITE (Earth-to-space)
30000.00	31000.00	FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Standard-frequency and Time Signal-Satellite (space-to-Earth)
31000.00	31300.00	Standard-frequency and Time Signal-Satellite (Earth-to-space) Space research
32000.00	32300.00	INTER-SATELLITES SPACE RESEARCH (space-to-Earth)
34700.00	35200.00	Space Research
40000.00	40500.00	EARTH EXPLORATION-SATELLITE (Earth-to-space)

		FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth)
43500.00	47000.00	MOBILE-SATELLITE RADIONAVIGATION-SATELLITE
47000.00	47200.00	AMATEUR-SATELLITE
47500.00	47900.00	FIXED-SATELLITE Service (in Reg. 1) (Earth-to-space) and (space-to-Earth)
48200.00	48540.00	FIXED-SATELLITE Service (in Reg. 1) (Earth-to-space) and (space-to-Earth)
49440.00	50200.00	FIXED-SATELLITE Service (in Reg. 1) (Earth-to-space) and (space-to-Earth)
65000.00	66000.00	EARTH EXPLORATION-SATELLITE SPACE RESEARCH
66000.00	71000.00	MOBILE-SATELLITE RADIONAVIGATION-SATELLITE
75500.00	76000.00	AMATEUR-SATELLITE Space research (space-to-Earth)
76000.00	81000.00	Amateur-satellite Space research (space-to-Earth)

81000.00	84000.00	FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) SPACE RESEARCH (space-to-Earth) AMATEUR-SATELLITE (attribution modified by WRC 2000 – Note S5.560A
95000.00	100000.00	MOBILE-SATELLITE RADIONAVIGATION-SATELLITE
134000.00	142000.00	MOBILE-SATELLITE RADIONAVIGATION-SATELLITE
142000.00	144000.00	AMATEUR-SATELLITE
144000.00	149000.00	Amateur-satellite
190000.00	200000.00	MOBILE-SATELLITE RADIONAVIGATION-SATELLITE
241000.00	248000.00	Amateur-satellite
248000.00	250000.00	AMATEUR-SATELLITE
252000.00	265000.00	MOBILE-SATELLITE RADIONAVIGATION-SATELLITE

Appendix 5 : Values for Assigned Frequency Band as a function of Assigned Frequency

Highest Frequency for this Group	Maximum Allowable Value of Assigned Frequency Band
10.0 MHz	100 000 kHz
30.0 GHz	1 000 000 kHz
> 30.0 GHz	3 000 000 kHz

Appendix 6 : Calculation of minimum and maximum beamwidths

Calculate the two test beamwidths (θ_1, θ_2) as indicated in Appendix 3. The minimum allowable beamwidth $\theta_{\min} = (0.9) (\min \theta_1, \theta_2)$; if θ_{\min} is greater than 360, it is set to 360. The maximum allowable beamwidth $\theta_{\max} = (1.1) (\max \theta_1, \theta_2)$. If θ_{\max} is greater than 360, it is set to 360.

Appendix 7 : Correspondence between Earth Station Class of Station and Space Station Class of Station

Earth Station Class of Station	Corresponding Space Station Class of Station
TA	EA
TB	EJ
TC	EC
TD	ED
TE	(EI)
TF	EF
TG	EG

TH	EH
TI	EG
TJ	EJ
TK	EK
TL	EF
TM	EM
TN	EN
TO	EO
TQ	EQ
TR	ER
TT	ET
TU	EU
TW	EW
TX	EQ
TY	EU
TZ	EO
UA	EI
UB	EB
UD	ED
UE	EE
UH	EH
UK	EK
UM	EM
UN	EN
UR	ER
UT	ET
UV	EV
UW	EW
UY	EY
VA	EI