

Description of EPFD validation and results of examination

Input parameters

Mask link data

Mask Id.	Direction	Minimum frequency, MHz	Maximum frequency, MHz	Linked orbit IDs / Satellite IDs
1	↑	12750	14500	All
2	↓	10700	12750	All
3	↔	10700	12750	All
4	↑	27600	30000	All
5	↓	17800	18600	All
6	↔	17800	18400	All
7	↑	27500	27600	All
8	↓	19700	20200	1, 6, 11, 16, 21, 26, 31, 36 (sat IDs: 6, 16, 26, 36, 46) 2, 7, 12, 17, 22, 27, 32 (sat IDs: 2, 12, 22, 32, 42) 3, 8, 13, 18, 23, 28, 33 (sat IDs: 8, 18, 28, 38, 48) 4, 9, 14, 19, 24, 29, 34 (sat IDs: 4, 14, 24, 34, 44) 5, 10, 15, 20, 25, 30, 35 (sat IDs: 10, 20, 30, 40)
9	↓	19700	20200	1, 6, 11, 16, 21, 26, 31, 36 (sat IDs: 1 - 5, 7 - 15, 17 - 25, 27 - 35, 37 - 45, 47 - 49) 2, 7, 12, 17, 22, 27, 32 (sat IDs: 1, 3 - 11, 13 - 21, 23 - 31, 33 - 41, 43 - 49) 3, 8, 13, 18, 23, 28, 33 (sat IDs: 1 - 7, 9 - 17, 19 - 27, 29 - 37, 39 - 47, 49) 4, 9, 14, 19, 24, 29, 34 (sat IDs: 1 - 3, 5 - 13, 15 - 23, 25 - 33, 35 - 43, 45 - 49) 5, 10, 15, 20, 25, 30, 35 (sat IDs: 1 - 9, 11 - 19, 21 - 29, 31 - 39, 41 - 49)

Common SNS Data

Common

Frequency band	A.4.b.7.d.1 Exclusion zone type	A.4.b.7.d.1 Exclusion zone size, degrees
Ku	Y - topocentric angle (earth based)	20
Ka	Y - topocentric angle (earth based)	15
Ka-TT&C	Y - topocentric angle (earth based)	10

Orbits

Apogee/Perigee/Inclination	A.4.b.6.d Uses station keeping	A.4.b.6.e Uses specific precession
1200/1200/87.9	No keeping	Default

Uplink Ku

Frequency band	A.4.b.7.b Earth station density (1/km ²)	A.4.b.7.c Average distance (km)	A.4.b.7.a number of satellites receiving simultaneously
Ku	3.4E-06	539	2

<i>Ka</i>	1.7E-06	770	50
<i>Ka-TT&C</i>	2.5E-07	2000	20

Downlink

Frequency band	A.4.b.6.a Number of satellites transmitting to any latitude within corresponding range		
	From latitude	To latitude	Number
<i>Ku</i>	-90	90	1
<i>Ka</i>	-90	-70	32
	-70	-60	40
	-60	60	50
	60	70	40
	70	90	32
<i>Ka-TT&C</i>	-90	90	2

Group table

Beam(s)	Direction	Minimum frequency, MHz	Maximum frequency, MHz	A.4.b.7.cbis Minimum elevation angle
URA, URB, URC, URD	R	12750	14500	30
GRA, GRB, GRC, GRD	R	27500	30000	5 (Ka) 10 (Ka TTC&C)
UTA, UTB, UTC, UTD	E	10700	12750	30
GTA, GTB, GTC, GTD	E	17700	20200	5(Ka) 10 (Ka TTC&C)

Results

B1A Beam designation	B2 Emi-Rcp	BR7a Group id./ Target Group id.	GHz	Orbital planes id. no.	Mask ID	Article 22 Limit	Result	Article 22 Examination
GRA	R	320767057 / 120751546 320767058 / 120751547 320767059 / 120751548 320767060 / 120751549 320767061 / 120751550	27.5-28.6	1 - 36	4	TABLE 22-2	Pass	Favorable
GRA	R	320767062 / 120751686 320767063 / 120751688 320767064 / 120751690 320767065 / 120751692 320767066 / 120751694	29.5-30	1 - 36	7	TABLE 22-2	Pass	Favorable
GRB	R	320767067 / 120751551 320767068 / 120751552 320767069 / 120751553 320767070 / 120751554 320767071 / 120751555	27.5-28.6	1 - 36	4	TABLE 22-2	Pass	Favorable
GRB	R	320767072 / 120751696 320767073 / 120751698 320767074 / 120751700 320767075 / 120751702 320767076 / 120751704	29.5-30	1 - 36	7	TABLE 22-2	Pass	Favorable
GRC	R	320767077 / 120751556 320767078 / 120751557 320767079 / 120751558 320767080 / 120751559 320767081 / 120751560	27.5-28.6	1 - 36	4	TABLE 22-2	Pass	Favorable
GRC	R	320767082 / 120751706 320767083 / 120751708 320767084 / 120751710 320767085 / 120751712 320767086 / 120751714	29.5-30	1 - 36	7	TABLE 22-2	Pass	Favorable
GRD	R	320767087 / 120751561 320767088 / 120751562 320767089 / 120751563 320767090 / 120751564 320767091 / 120751565	27.5-28.6	1 - 36	4	TABLE 22-2	Pass	Favorable
GRD	R	320767092 / 120751716 320767093 / 120751718 320767094 / 120751720	29.5-30	1 - 36	7	TABLE 22-2	Pass	Favorable

		320767095 / 120751722 320767096 / 120751724						
URA	R	320767097 / 120751501 320767098 / 120751502 320767099 / 120751503 320767100 / 120751504 320767101 / 120751505	12.75- 13.25	1 - 36	1	TABLE 22-2	Pass	Favorable
URA	R	320767102 / 120751625 320767103 / 120751626 320767104 / 120751627 320767105 / 120751628	14-14.5	1 - 36	1	TABLE 22-2	Pass	Favorable
URA	R	320767106 / 120751629	13.75-14.5	1 - 36	1	TABLE 22-2	Pass	Favorable
URB	R	320767107 / 120751506 320767108 / 120751507 320767109 / 120751508 320767110 / 120751509 320767111 / 120751510	12.75- 13.25	1 - 36	1	TABLE 22-2	Pass	Favorable
URB	R	320767112 / 120751630 320767113 / 120751631 320767114 / 120751632 320767115 / 120751633	14-14.5	1 - 36	1	TABLE 22-2	Pass	Favorable
URB	R	320767116 / 120751634	13.75-14.5	1 - 36	1	TABLE 22-2	Pass	Favorable
URC	R	320767117 / 120751511 320767118 / 120751512 320767119 / 120751513 320767120 / 120751514 320767121 / 120751515	12.75- 13.25	1 - 36	1	TABLE 22-2	Pass	Favorable
URC	R	320767122 / 120751635 320767123 / 120751636 320767124 / 120751637 320767125 / 120751638	14-14.5	1 - 36	1	TABLE 22-2	Pass	Favorable
URC	R	320767126 / 120751639	13.75-14.5	1 - 36	1	TABLE 22-2	Pass	Favorable
URD	R	320767127 / 120751590 320767128 / 120751591 320767129 / 120751592 320767130 / 120751593 320767131 / 120751594	12.75- 13.25	1 - 36	1	TABLE 22-2	Pass	Favorable
URD	R	320767132 / 120751805 320767133 / 120751806 320767134 / 120751807 320767135 / 120751808	14-14.5	1 - 36	1	TABLE 22-2	Pass	Favorable
URD	R	320767136 / 120751809	13.75-14.5	1 - 36	1	TABLE 22-2	Pass	Favorable
GTA	E	320766863 / 120751566 320766864 / 120751567 320766865 / 120751568 320766866 / 120751569	17.7-17.95	1 - 36	5, 6	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
GTA	E	320766867 / 120751725 320766870 / 120751729 320766873 / 120751733 320766876 / 120751737	17.8-18.3	1 - 36	5, 6	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
GTA	E	320766868 / 120751726 320766871 / 120751730 320766874 / 120751734 320766877 / 120751738	18.3-18.6	1 - 36	5, 6	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
GTA	E	320766869 / 120751728 320766872 / 120751732 320766875 / 120751736 320766878 / 120751740 320766879 / 120751744	19.7-20.2	1 - 36	8, 9	TABLE 22-1C	Pass	Favorable
GTB	E	320766880 / 120751571 320766881 / 120751572 320766882 / 120751573 320766883 / 120751574	17.7-17.95	1 - 36	5, 6	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
GTB	E	320766884 / 120751745 320766887 / 120751749 320766890 / 120751753 320766893 / 120751757	17.8-18.3	1 - 36	5, 6	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
GTB	E	320766885 / 120751746 320766888 / 120751750 320766891 / 120751754 320766894 / 120751758	18.3-18.6	1 - 36	5, 6	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable

GTB	E	320766886 / 120751748 320766889 / 120751752 320766892 / 120751756 320766895 / 120751760 320766896 / 120751764	19.7-20.2	1 - 36	8, 9	TABLE 22-1C	Pass	Favorable
GTC	E	320766897 / 120751576 320766898 / 120751577 320766899 / 120751578 320766900 / 120751579 320766901 / 120751580	17.7-17.95	1 - 36	5, 6	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
GTC	E	320766902 / 120751765 320766905 / 120751769 320766908 / 120751773 320766911 / 120751777 320766914 / 120751781	17.8-18.3	1 - 36	5, 6	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
GTC	E	320766903 / 120751766 320766906 / 120751770 320766909 / 120751774 320766912 / 120751778 320766915 / 120751782	18.3-18.6	1 - 36	5, 6	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
GTC	E	320766904 / 120751768 320766907 / 120751772 320766910 / 120751776 320766913 / 120751780 320766916 / 120751784	19.7-20.2	1 - 36	8, 9	TABLE 22-1C	Pass	Favorable
GTD	E	320766917 / 120751581 320766918 / 120751582 320766919 / 120751583 320766920 / 120751584 320766921 / 120751585	17.7-17.95	1 - 36	5, 6	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
GTD	E	320766922 / 120751785 320766925 / 120751789 320766928 / 120751793 320766931 / 120751797 320766934 / 120751801	17.8-18.3	1 - 36	5, 6	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
GTD	E	320766923 / 120751786 320766926 / 120751790 320766929 / 120751794 320766932 / 120751798 320766935 / 120751802	18.3-18.6	1 - 36	5, 6	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
GTD	E	320766924 / 120751788 320766927 / 120751792 320766930 / 120751796 320766933 / 120751800 320766936 / 120751804	19.7-20.2	1 - 36	8, 9	TABLE 22-1C	Pass	Favorable
UTA	E	320766937 / 120751516 320766939 / 120751518 320766941 / 120751520 320766943 / 120751522 320766945 / 120751524	10.7-11.45	1 - 36	2, 3	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
UTA	E	320766938 / 120751517 320766940 / 120751519 320766942 / 120751521 320766944 / 120751523 320766946 / 120751525	11.7-12.2	1 - 36	2	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable
UTA	E	320766947 / 120751605 320766948 / 120751606 320766949 / 120751607 320766950 / 120751608 320766951 / 120751609	12.5-12.75	1 - 36	2, 3	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
UTA	E	320766952 / 120751640 320766955 / 120751643 320766958 / 120751646 320766961 / 120751649 320766964 / 120751652	10.95-11.2	1 - 36	2, 3	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
UTA	E	320766953 / 120751641 320766956 / 120751644 320766959 / 120751647 320766962 / 120751650 320766965 / 120751653	11.45-11.7	1 - 36	2, 3	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
UTA	E	320766954 / 120751642 320766957 / 120751645 320766960 / 120751648	12.2-12.7	1 - 36	2, 3	RR 22.5C4 RR 22.5C8 TABLE 22-1A	Pass Pass	Favorable

		320766963 / 120751651 320766966 / 120751654				TABLE 22-1D TABLE 22-3	Pass Pass Pass	
UTB	E	320766967 / 120751526 320766969 / 120751528 320766971 / 120751530 320766973 / 120751532 320766975 / 120751534	10.7-11.45	1 - 36	2, 3	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
UTB	E	320766968 / 120751527 320766970 / 120751529 320766972 / 120751531 320766974 / 120751533 320766976 / 120751535	11.7-12.2	1 - 36	2	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable
UTB	E	320766977 / 120751610 320766978 / 120751611 320766979 / 120751612 320766980 / 120751613 320766981 / 120751614	12.5-12.75	1 - 36	2, 3	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
UTB	E	320766982 / 120751655 320766985 / 120751658 320766988 / 120751661 320766991 / 120751664 320766994 / 120751667	10.95-11.2	1 - 36	2, 3	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
UTB	E	320766983 / 120751656 320766986 / 120751659 320766989 / 120751662 320766992 / 120751665 320766995 / 120751668	11.45-11.7	1 - 36	2, 3	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
UTB	E	320766984 / 120751657 320766987 / 120751660 320766990 / 120751663 320766993 / 120751666 320766996 / 120751669	12.2-12.7	1 - 36	2, 3	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
UTC	E	320766997 / 120751536 320766999 / 120751538 320767001 / 120751540 320767003 / 120751542 320767005 / 120751544	10.7-11.45	1 - 36	2, 3	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
UTC	E	320766998 / 120751537 320767000 / 120751539 320767002 / 120751541 320767004 / 120751543 320767006 / 120751545	11.7-12.2	1 - 36	2	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable
UTC	E	320767007 / 120751615 320767008 / 120751616 320767009 / 120751617 320767010 / 120751618 320767011 / 120751619	12.5-12.75	1 - 36	2, 3	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
UTC	E	320767012 / 120751670 320767015 / 120751673 320767018 / 120751676 320767021 / 120751679 320767024 / 120751682	10.95-11.2	1 - 36	2, 3	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
UTC	E	320767013 / 120751671 320767016 / 120751674 320767019 / 120751677 320767022 / 120751680 320767025 / 120751683	11.45-11.7	1 - 36	2, 3	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
UTC	E	320767014 / 120751672 320767017 / 120751675 320767020 / 120751678 320767023 / 120751681 320767026 / 120751684	12.2-12.7	1 - 36	2, 3	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
UTD	E	320767027 / 120751595 320767029 / 120751597 320767031 / 120751599 320767033 / 120751601 320767035 / 120751603	10.7-11.45	1 - 36	2, 3	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
UTD	E	320767028 / 120751596 320767030 / 120751598 320767032 / 120751600 320767034 / 120751602 320767036 / 120751604	11.7-12.2	1 - 36	2	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable

UTD	E	320767037 / 120751620 320767038 / 120751621 320767039 / 120751622 320767040 / 120751623 320767041 / 120751624	12.5-12.75	1 - 36	2, 3	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
UTD	E	320767042 / 120751810 320767045 / 120751813 320767048 / 120751816 320767051 / 120751819 320767054 / 120751822	10.95-11.2	1 - 36	2, 3	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
UTD	E	320767043 / 120751811 320767046 / 120751814 320767049 / 120751817 320767052 / 120751820 320767055 / 120751823	11.45-11.7	1 - 36	2, 3	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
UTD	E	320767044 / 120751812 320767047 / 120751815 320767050 / 120751818 320767053 / 120751821 320767056 / 120751824	12.2-12.7	1 - 36	2, 3	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable

Notes:

1. Findings are promulgated as favorable when all applicable limits in Article 22 are met for given group of frequency assignments in all applicable scenarios.
2. The Result column can be either Pass or Fail (see Rec. ITU-R S.1503-2). N/A (Non Applicable) refers to the case when an applicable Article 22 limit is not examined in the current scenario.
3. Qualified Favorable is established due to continuous application of Resolution 85 (WRC-03) on request by the notifying administration.