

## Description of EPFD validation and results of examination

### Input parameters

#### Mask link data

Mask Id.	Direction	Minimum frequency, MHz	Maximum frequency, MHz	Linked orbits id
1	↑	13750	14000	All
2	↑	12750	13250	All
3	↓	11700	12750	All
4	↑	14000	14500	All
5	↔	10700	12750	All
6	↓	10700	11700	All

### Service-links scenario

#### Common SNS Data

##### Common

A.4.b.7.d.1 Exclusion zone type	A.4.b.7.d.1 Exclusion zone size, degrees
Y - topocentric angle (earth based)	22

##### Orbits

Apogee/Perigee/Inclination	A.4.b.6.d Uses station keeping	A.4.b.6.e Uses specific precession
1130/1130/74	No keeping	Default

##### Uplink

A.4.b.7.b Earth station density (1/km <sup>2</sup> )	A.4.b.7.c Average distance (km)	A.4.b.7.a number of satellites receiving simultaneously
0.00038	51.3	1

##### Downlink

A.4.b.6.a Number of satellites transmitting to any latitude within corresponding range		
From latitude	To latitude	Number
-90	-50	1
-50	-20	1
-20	20	1
20	50	1
50	90	1

### TT&C Uplink Scenario (13.75-14 GHz)

#### Mask link data

Mask Id.	Direction	Minimum frequency, MHz	Maximum frequency, MHz	Linked orbits id
1	↑	13750	14000	All

#### Common SNS Data

##### Common

A.4.b.7.d.1 Exclusion zone type	A.4.b.7.d.1 Exclusion zone size, degrees
Y - topocentric angle (earth based)	12

##### Orbits

Apogee/Perigee/Inclination	A.4.b.6.d Uses station keeping	A.4.b.6.e Uses specific precession
1130/1130/74	No keeping	Default

##### Uplink

A.4.b.7.b Earth station density (1/km <sup>2</sup> )	A.4.b.7.c Average distance (km)	A.4.b.7.a number of satellites receiving simultaneously
7.716E-08	3600	5

##### Downlink

A.4.b.6.a Number of satellites transmitting to any latitude within corresponding range		
From latitude	To latitude	Number
-90	-50	1

-50	-20	1
-20	20	1
20	50	1
50	90	1

**Results**

<i>B1A</i>  <i>Beam designation</i>	<i>B2</i>  <i>Emi-Rcp</i>	<i>BR7a</i>  <i>Group id./ Target Group id.</i>	<i>GHz</i>	<i>Orbital planes id. no.</i>	<i>Mask ID</i>	<i>Article 22 Limit</i>	<i>Result</i>	<i>Article 22 Examination</i>
UA263	R	317856813 / 117641322 317856814 / 117641323 317856815 / 117641324 317856816 / 117641325 317856817 / 117641326 317856818 / 117641327 317856819 / 117641328	12.75-13.25	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UA279	R	317856820 / 117641329 317856821 / 117641330 317856822 / 117641331 317856823 / 117641332 317856824 / 117641333 317856825 / 117641334 317856826 / 117641335	12.75-13.25	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UA299	R	317856827 / 117641336 317856828 / 117641337 317856829 / 117641338 317856830 / 117641339 317856831 / 117641340 317856832 / 117641341 317856833 / 117641342	12.75-13.25	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UA324	R	317856834 / 117641343 317856835 / 117641344 317856836 / 117641345 317856837 / 117641346 317856838 / 117641347 317856839 / 117641348 317856840 / 117641349	12.75-13.25	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UA359	R	317856841 / 117641350 317856842 / 117641351 317856843 / 117641352 317856844 / 117641353 317856845 / 117641354 317856846 / 117641355 317856847 / 117641356	12.75-13.25	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UA403	R	317856848 / 117641357 317856849 / 117641358 317856850 / 117641359 317856851 / 117641360 317856852 / 117641361 317856853 / 117641362 317856854 / 117641363	12.75-13.25	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UB263	R	317856855 / 117641364	13.75-14	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UB279	R	317856856 / 117641365	13.75-14	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UB299	R	317856857 / 117641366	13.75-14	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UB324	R	317856858 / 117641367	13.75-14	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UB359	R	317856859 / 117641368	13.75-14	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UB403	R	317856860 / 117641369	13.75-14	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UC263	R	317856861 / 117641370 317856862 / 117641371 317856863 / 117641372 317856864 / 117641373 317856865 / 117641374 317856866 / 117641375 317856867 / 117641376	14-14.5	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UC279	R	317856868 / 117641377 317856869 / 117641378 317856870 / 117641379	14-14.5	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable

		317856871 / 117641380 317856872 / 117641381 317856873 / 117641382 317856874 / 117641383						
UC299	R	317856875 / 117641384 317856876 / 117641385 317856877 / 117641386 317856878 / 117641387 317856879 / 117641388 317856880 / 117641389 317856881 / 117641390	14-14.5	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UC324	R	317856882 / 117641391 317856883 / 117641392 317856884 / 117641393 317856885 / 117641394 317856886 / 117641395 317856887 / 117641396 317856888 / 117641397	14-14.5	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UC359	R	317856889 / 117641398 317856890 / 117641399 317856891 / 117641400 317856892 / 117641401 317856893 / 117641402 317856894 / 117641403 317856895 / 117641404	14-14.5	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UC403	R	317856896 / 117641405 317856897 / 117641406 317856898 / 117641407 317856899 / 117641408 317856900 / 117641409 317856901 / 117641410 317856902 / 117641411	14-14.5	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
UTTC	R	317856903 / 117641413 317856904 / 117641414 317856905 / 117641415 317856906 / 117641416	13.85-14	1 - 8	1, 2, 4	TABLE 22-2	Pass	Favorable
DA263	E	317856463 / 117640974 317856464 / 117640975 317856465 / 117640976 317856466 / 117640977 317856467 / 117640978 317856468 / 117640979 317856469 / 117640980 317856470 / 117640981 317856471 / 117640982 317856472 / 117640983 317856473 / 117640984 317856474 / 117640985 317856475 / 117640986 317856476 / 117640987	10.7-11.2	1 - 8	3, 5, 6	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DA263	E	317856477 / 117640988 317856478 / 117640989 317856479 / 117640990 317856480 / 117640991 317856481 / 117640992 317856482 / 117640993 317856483 / 117640994 317856484 / 117640995 317856485 / 117640996 317856486 / 117640997 317856487 / 117640998 317856488 / 117640999 317856489 / 117641000 317856490 / 117641001	11.2-11.7	1 - 8	3, 5, 6	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DA279	E	317856491 / 117641002 317856492 / 117641003 317856493 / 117641004 317856494 / 117641005 317856495 / 117641006 317856496 / 117641007 317856497 / 117641008 317856498 / 117641009 317856499 / 117641010	10.7-11.2	1 - 8	3, 5, 6	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable

		317856500 / 117641011 317856501 / 117641012 317856502 / 117641013 317856503 / 117641014 317856504 / 117641015						
DA279	E	317856505 / 117641016 317856506 / 117641017 317856507 / 117641018 317856508 / 117641019 317856509 / 117641020 317856510 / 117641021 317856511 / 117641022 317856512 / 117641023 317856513 / 117641024 317856514 / 117641025 317856515 / 117641026 317856516 / 117641027 317856517 / 117641028 317856518 / 117641029	11.2-11.7	1 - 8	3, 5, 6	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DA299	E	317856519 / 117641030 317856520 / 117641031 317856521 / 117641032 317856522 / 117641033 317856523 / 117641034 317856524 / 117641035 317856525 / 117641036 317856526 / 117641037 317856527 / 117641038 317856528 / 117641039 317856529 / 117641040 317856530 / 117641041 317856531 / 117641042 317856532 / 117641043	10.7-11.2	1 - 8	3, 5, 6	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DA299	E	317856533 / 117641044 317856534 / 117641045 317856535 / 117641046 317856536 / 117641047 317856537 / 117641048 317856538 / 117641049 317856539 / 117641050 317856540 / 117641051 317856541 / 117641052 317856542 / 117641053 317856543 / 117641054 317856544 / 117641055 317856545 / 117641056 317856546 / 117641057	11.2-11.7	1 - 8	3, 5, 6	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DA324	E	317856547 / 117641058 317856548 / 117641059 317856549 / 117641060 317856550 / 117641061 317856551 / 117641062 317856552 / 117641063 317856553 / 117641064 317856554 / 117641065 317856555 / 117641066 317856556 / 117641067 317856557 / 117641068 317856558 / 117641069 317856559 / 117641070 317856560 / 117641071	10.7-11.2	1 - 8	3, 5, 6	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DA324	E	317856561 / 117641072 317856562 / 117641073 317856563 / 117641074 317856564 / 117641075 317856565 / 117641076 317856566 / 117641077 317856567 / 117641078 317856568 / 117641079 317856569 / 117641080 317856570 / 117641081 317856571 / 117641082 317856572 / 117641083	11.2-11.7	1 - 8	3, 5, 6	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable

		317856573 / 117641084 317856574 / 117641085						
DA359	E	317856575 / 117641086 317856576 / 117641087 317856577 / 117641088 317856578 / 117641089 317856579 / 117641090 317856580 / 117641091 317856581 / 117641092 317856582 / 117641093 317856583 / 117641094 317856584 / 117641095 317856585 / 117641096 317856586 / 117641097 317856587 / 117641098 317856588 / 117641099	10.7-11.2	1 - 8	3, 5, 6	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DA359	E	317856589 / 117641100 317856590 / 117641101 317856591 / 117641102 317856592 / 117641103 317856593 / 117641104 317856594 / 117641105 317856595 / 117641106 317856596 / 117641107 317856597 / 117641108 317856598 / 117641109 317856599 / 117641110 317856600 / 117641111 317856601 / 117641112 317856602 / 117641113	11.2-11.7	1 - 8	3, 5, 6	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DA403	E	317856603 / 117641114 317856604 / 117641115 317856605 / 117641116 317856606 / 117641117 317856607 / 117641118 317856608 / 117641119 317856609 / 117641120 317856610 / 117641121 317856611 / 117641122 317856612 / 117641123 317856613 / 117641124 317856614 / 117641125 317856615 / 117641126 317856616 / 117641127	10.7-11.2	1 - 8	3, 5, 6	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DA403	E	317856617 / 117641128 317856618 / 117641129 317856619 / 117641130 317856620 / 117641131 317856621 / 117641132 317856622 / 117641133 317856623 / 117641134 317856624 / 117641135 317856625 / 117641136 317856626 / 117641137 317856627 / 117641138 317856628 / 117641139 317856629 / 117641140 317856630 / 117641141	11.2-11.7	1 - 8	3, 5, 6	RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DB263	E	317856631 / 117641142 317856632 / 117641143 317856633 / 117641144 317856634 / 117641145 317856635 / 117641146 317856636 / 117641147 317856637 / 117641148 317856645 / 117641156 317856646 / 117641157 317856647 / 117641158 317856648 / 117641159 317856649 / 117641160 317856650 / 117641161 317856651 / 117641162	11.7-12.2	1 - 8	3, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable

DB263	E	317856638 / 117641149 317856639 / 117641150 317856640 / 117641151 317856641 / 117641152 317856642 / 117641153 317856643 / 117641154 317856644 / 117641155 317856652 / 117641163 317856653 / 117641164 317856654 / 117641165 317856655 / 117641166 317856656 / 117641167 317856657 / 117641168 317856658 / 117641169	12.2-12.7	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DB279	E	317856659 / 117641170 317856660 / 117641171 317856661 / 117641172 317856662 / 117641173 317856663 / 117641174 317856664 / 117641175 317856665 / 117641176 317856673 / 117641184 317856674 / 117641185 317856675 / 117641186 317856676 / 117641187 317856677 / 117641188 317856678 / 117641189 317856679 / 117641190	11.7-12.2	1 - 8	3, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable
DB279	E	317856666 / 117641177 317856667 / 117641178 317856668 / 117641179 317856669 / 117641180 317856670 / 117641181 317856671 / 117641182 317856672 / 117641183 317856680 / 117641191 317856681 / 117641192 317856682 / 117641193 317856683 / 117641194 317856684 / 117641195 317856685 / 117641196 317856686 / 117641197	12.2-12.7	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DB299	E	317856687 / 117641198 317856688 / 117641199 317856689 / 117641200 317856690 / 117641201 317856691 / 117641202 317856692 / 117641203 317856693 / 117641204 317856701 / 117641212 317856702 / 117641213 317856703 / 117641214 317856704 / 117641215 317856705 / 117641216 317856706 / 117641217 317856707 / 117641218	11.7-12.2	1 - 8	3, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable
DB299	E	317856694 / 117641205 317856695 / 117641206 317856696 / 117641207 317856697 / 117641208 317856698 / 117641209 317856699 / 117641210 317856700 / 117641211 317856708 / 117641219 317856709 / 117641220 317856710 / 117641221 317856711 / 117641222 317856712 / 117641223 317856713 / 117641224 317856714 / 117641225	12.2-12.7	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DB324	E	317856715 / 117641226 317856716 / 117641227 317856717 / 117641228	11.7-12.2	1 - 8	3, 6	RR 22.5C4 RR 22.5C8	Pass Pass	Favorable

		317856718 / 117641229 317856719 / 117641230 317856720 / 117641231 317856721 / 117641232 317856729 / 117641240 317856730 / 117641241 317856731 / 117641242 317856732 / 117641243 317856733 / 117641244 317856734 / 117641245 317856735 / 117641246				TABLE 22-1A TABLE 22-1D	Pass Pass	
DB324	E	317856722 / 117641233 317856723 / 117641234 317856724 / 117641235 317856725 / 117641236 317856726 / 117641237 317856727 / 117641238 317856728 / 117641239 317856736 / 117641247 317856737 / 117641248 317856738 / 117641249 317856739 / 117641250 317856740 / 117641251 317856741 / 117641252 317856742 / 117641253	12.2-12.7	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass N/A	Favorable
DB359	E	317856743 / 117641254 317856744 / 117641255 317856745 / 117641256 317856746 / 117641257 317856747 / 117641258 317856748 / 117641259 317856749 / 117641260 317856757 / 117641268 317856758 / 117641269 317856759 / 117641270 317856760 / 117641271 317856761 / 117641272 317856762 / 117641273 317856763 / 117641274	11.7-12.2	1 - 8	3, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable
DB359	E	317856750 / 117641261 317856751 / 117641262 317856752 / 117641263 317856753 / 117641264 317856754 / 117641265 317856755 / 117641266 317856756 / 117641267 317856764 / 117641275 317856765 / 117641276 317856766 / 117641277 317856767 / 117641278 317856768 / 117641279 317856769 / 117641280 317856770 / 117641281	12.2-12.7	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DB403	E	317856771 / 117641282 317856772 / 117641283 317856773 / 117641284 317856774 / 117641285 317856775 / 117641286 317856776 / 117641287 317856777 / 117641288 317856785 / 117641296 317856786 / 117641297 317856787 / 117641298 317856788 / 117641299 317856789 / 117641300 317856790 / 117641301 317856791 / 117641302	11.7-12.2	1 - 8	3, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable
DB403	E	317856778 / 117641289 317856779 / 117641290 317856780 / 117641291 317856781 / 117641292 317856782 / 117641293 317856783 / 117641294	12.2-12.7	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable

		317856784 / 117641295 317856792 / 117641303 317856793 / 117641304 317856794 / 117641305 317856795 / 117641306 317856796 / 117641307 317856797 / 117641308 317856798 / 117641309						
DC263	E	317856799 / 117641310	12.7-12.75	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DC279	E	317856800 / 117641311	12.7-12.75	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DC299	E	317856801 / 117641312	12.7-12.75	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DC324	E	317856802 / 117641313	12.7-12.75	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DC359	E	317856803 / 117641314	12.7-12.75	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DC403	E	317856804 / 117641315	12.7-12.75	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DD263	E	317856805 / 117641316	12.7-12.75	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DD279	E	317856806 / 117641317	12.7-12.75	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DD299	E	317856807 / 117641318	12.7-12.75	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DD324	E	317856808 / 117641319	12.7-12.75	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DD359	E	317856809 / 117641320	12.7-12.75	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DD403	E	317856810 / 117641321	12.7-12.75	1 - 8	3, 5, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass N/A	Favorable
DTTC	E	317856811 / 117641412	12.15-12.2	1 - 8	3, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable



DTTC	E	317856812 / 117641417	12.2-12.25	1 - 8	3, 6	RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable
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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.