

## Description of EPFD validation and results of examination

### Input parameters

#### Mask link data KU

Mask Id.	Direction	Minimum frequency, MHz	Maximum frequency, MHz	Linked orbit IDs / Satellite IDs
1	↓	10700	12750	All
2	↑	12750	14500	All
4	↔	10700	12750	All

#### Mask link data Ka

Mask Id.	Direction	Minimum frequency, MHz	Maximum frequency, MHz	Linked orbit IDs / Satellite IDs
1	↑	27500	30000	All
2	↓	17800	18600	All
4	↔	17800	18400	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)	18

##### Orbits

Apogee/Perigee/Inclination	A.4.b.6.d Uses station keeping	A.4.b.6.e Uses specific precession
590/590/53.2 600/600/53 610/610/97.6 620/620/70 8062/8062/0	No keeping	Default

### Ka Band

#### 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
1E-05	316	8

#### Downlink

A.4.b.6.a Number of satellites transmitting to any latitude within corresponding range		
From latitude	To latitude	Number
-90	90	8

### Ku Band

#### 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
3.906E-05	160	1

#### Downlink

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

#### Group table

Beam(s)	Direction	Minimum frequency, MHz	Maximum frequency, MHz	A.4.b.7.cbis Minimum elevation angle
UPMEO	R	27500	30000	25
UP1	R	27500	28600	25
UPKU3, UPKUMEO3	R	14000	14500	25
UPKU2, UPKUMEO2	R	13750	14000	25
UPKU1, UPKUMEO1	R	12750	13250	25
UP3	R	29500	30000	25

DN4, DNME02	E	19700	20200	25
DNME0	E	17800	18600	25
DNKU3, DNKU4, DNKUMEO3, DNKUMEO4	E	12700	12750	25
DNKU2, DNKUMEO2	E	11700	12700	25
DNKU1, DNKUMEO1	E	10700	11700	25
DN1	E	17700	18600	25

## 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
UP1	R	321765585 / 121672400 321765586 / 121672401 321765587 / 121672402 321765588 / 121672403	27.5-28.6	1 - 190	1	TABLE 22-2	Pass	Favorable
UP3	R	321765589 / 121672408 321765590 / 121672409 321765591 / 121672410 321765592 / 121672415	29.5-30	1 - 190	1	TABLE 22-2	Pass	Favorable
UPKU1	R	321765593 / 121672451 321765594 / 121672452 321765595 / 121672453	12.75- 13.25	1 - 190		TABLE 22-2	Pass	Favorable
UPKU2	R	321765596 / 121672454	13.75-14	1 - 190		TABLE 22-2	Pass	Favorable
UPKU3	R	321765597 / 121672455 321765598 / 121672456 321765599 / 121672457	14-14.5	1 - 190		TABLE 22-2	Pass	Favorable
UPKUMEO1	R	321765600 / 121672458 321765601 / 121672459 321765602 / 121672460	12.75- 13.25	191		TABLE 22-2	Pass	Favorable
UPKUMEO2	R	321765603 / 121672461	13.75-14	191		TABLE 22-2	Pass	Favorable
UPKUMEO3	R	321765604 / 121672462 321765605 / 121672463 321765606 / 121672464	14-14.5	191		TABLE 22-2	Pass	Favorable
UPMEO	R	321765607 / 121672314 321765608 / 121672315 321765609 / 121672316 321765610 / 121672317 321765611 / 121672318 321765620 / 121672337 321765621 / 121672338 321765622 / 121672339 321765623 / 121672340 321765624 / 121672341	27.5-28.6	191	1	TABLE 22-2	Pass	Favorable
UPMEO	R	321765612 / 121672329 321765613 / 121672330 321765614 / 121672331 321765615 / 121672332 321765616 / 121672333 321765617 / 121672334 321765618 / 121672335 321765619 / 121672336 321765625 / 121672352 321765626 / 121672353	29.5-30	191	1	TABLE 22-2	Pass	Favorable
DN1	E	321765467 / 121672419 321765468 / 121672420 321765469 / 121672421 321765479 / 121672431	17.95-18.2	1 - 190	2, 4	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
DN1	E	321765470 / 121672422 321765471 / 121672423 321765472 / 121672424 321765473 / 121672425 321765474 / 121672426 321765475 / 121672427 321765480 / 121672432 321765481 / 121672433	17.7-17.95	1 - 190	2, 4	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
DN1	E	321765476 / 121672428 321765477 / 121672429	18.2-18.6	1 - 190	2, 4	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable

		321765478 / 121672430 321765482 / 121672434						
DN4	E	321765483 / 121672443 321765484 / 121672444 321765485 / 121672445 321765486 / 121672450	19.7-20.2	1 - 190	3	TABLE 22-1C	N/A	Qualified Favourable
DNKU1	E	321765487 / 121672465 321765488 / 121672466 321765489 / 121672467 321765490 / 121672468 321765491 / 121672469 321765492 / 121672470	10.7-11.2	1 - 190		RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DNKU1	E	321765493 / 121672471 321765494 / 121672472 321765495 / 121672473 321765496 / 121672474 321765497 / 121672475 321765498 / 121672476	11.2-11.7	1 - 190		RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DNKU2	E	321765499 / 121672477 321765500 / 121672478 321765501 / 121672479 321765505 / 121672483 321765506 / 121672484 321765507 / 121672485	11.7-12.2	1 - 190		RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable
DNKU2	E	321765502 / 121672480 321765503 / 121672481 321765504 / 121672482 321765508 / 121672486 321765509 / 121672487 321765510 / 121672488	12.2-12.7	1 - 190		RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DNKU3	E	321765511 / 121672489	12.7-12.75	1 - 190		RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DNKU4	E	321765512 / 121672490	12.7-12.75	1 - 190		RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DNKUMEO1	E	321765513 / 121672491 321765514 / 121672492 321765515 / 121672493 321765516 / 121672494 321765517 / 121672495 321765518 / 121672496	10.7-11.2	191		RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DNKUMEO1	E	321765519 / 121672497 321765520 / 121672498 321765521 / 121672499 321765522 / 121672500 321765523 / 121672501 321765524 / 121672502	11.2-11.7	191		RR 22.5C4 TABLE 22-1A TABLE 22-3	Pass Pass Pass	Favorable
DNKUMEO2	E	321765525 / 121672503 321765526 / 121672504 321765527 / 121672505 321765531 / 121672509 321765532 / 121672510 321765533 / 121672511	11.7-12.2	191		RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable
DNKUMEO2	E	321765528 / 121672506 321765529 / 121672507 321765530 / 121672508 321765534 / 121672512 321765535 / 121672513 321765536 / 121672514	12.2-12.7	191		RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DNKUMEO3	E	321765537 / 121672515	12.7-12.75	191		RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D TABLE 22-3	Pass Pass Pass Pass Pass	Favorable
DNKUMEO4	E	321765538 / 121672516	12.7-12.75	191		RR 22.5C4 RR 22.5C8 TABLE 22-1A TABLE 22-1D	Pass Pass Pass Pass	Favorable

						TABLE 22-3	Pass	
DNMEO	E	321765539 / 121672365 321765540 / 121672366 321765541 / 121672367 321765542 / 121672368 321765543 / 121672369 321765549 / 121672385 321765550 / 121672386 321765551 / 121672387 321765552 / 121672388 321765553 / 121672389 321765559 / 121691701 321765561 / 121691728 321765563 / 121691731 321765565 / 121691734 321765567 / 121691737 321765569 / 121691740 321765571 / 121691743 321765573 / 121691746	17.8-18.1	191	2, 4	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
DNMEO	E	321765544 / 121672375 321765545 / 121672376 321765546 / 121672377 321765547 / 121672378 321765548 / 121672379 321765554 / 121672395 321765555 / 121672396 321765556 / 121672397 321765557 / 121672398 321765558 / 121672399 321765560 / 121691702 321765562 / 121691729 321765564 / 121691732 321765566 / 121691735 321765568 / 121691738 321765570 / 121691741 321765572 / 121691744 321765574 / 121691747	18.1-18.6	191	2, 4	TABLE 22-1B TABLE 22-3	Pass Pass	Favorable
DNMEO2	E	321765575 / 121672531 321765576 / 121672532 321765577 / 121672533 321765578 / 121672534 321765579 / 121672535 321765580 / 121672536 321765581 / 121672537 321765582 / 121672538 321765583 / 121672539 321765584 / 121672540	19.7-20.2	191	3	TABLE 22-1C	N/A	Qualified Favourable

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.