	KA-BAND			Application													
	Item	unit	Comment	Fixed, central station (high powered)		VSAT			SNG			Maritime			Small diameter, On-The-Move Terminals , Atypical Construction, Advanced Technology		
Transmit specifications	**Diameter**	(m)		D >= 3.8	3.8 > D >= 1.8	1.8 > D >= 1.5	1.5 > D >= 1.0	D < 1.0	D> 1.2	1.2 > D >= 0.65	D < 0.65	n/a	1.2 > D >=0.65	D < 0.65	n/a	n/a	non-parabolic, non-maritime
	Diameter equivalent to			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	D>=1.1	D<1.1	The corresponding / adequate equivalent diameter with reference to antenna gain in the direction towards the satellite can be used for link analysis.
	D/λ		Reference frequency 30 GHz	D/λ >= 380.3	380.3 > D/λ >= 180.1	180.1 > D/λ >= 150.1	150.1 > D/λ >= 100.1	D/λ < 100.1	D/λ > 120.1	120.1 > D/λ >= 65	D/λ < 65	n/a	120.1 > D/λ >= 65	D/λ < 65	D/λ >= 110.1	D/λ < 110.1	
	Antenna sidelobe characteristics (aligned to geostationary arc)		Range end: +/- 9 deg, for each of the given off-axis gain requirements, 10% of the side-lobes are permitted to exceed the indicated mask by a maximum of 3 dB	29 - 25 log (θ)	29 - 25 log (θ)	29 - 25 log (θ)	29 - 25 log (θ)	29 - 25 log (θ)	29 - 25 log (θ)	29 - 25 log (θ)	29 - 25 log (θ)	n/a	29 - 25 log (θ)	29 - 25 log (θ)	29 - 25 log (θ)	29 - 25 log (θ)	Parameter evaluation on a Case-By-Case basis by individual satellite operators, based on the ITU Today adjacent satellite coordination process as defined in Article 9 of the Radio Regulations (RR), and the 6% delta T/T threshold for non-conformal antennas
	Measured Co-polar pattern - with radome if applicable (low- mid- end high frequncy band)		Antenna Gain patterns	AZ/EL plots	AZ/EL plots	AZ/EL plots	AZ/EL plots	AZ/EL plots	AZ/EL plots	AZ/EL plots	AZ/EL plots	Mandatory, further explained in section "Mandatory Test Data"	Mandatory, further explained in section "Mandatory Test Data"	Mandatory, further explained in section "Mandatory Test Data"	Mandatory, further explained in section "Mandatory Test Data"	Mandatory, further explained in section "Mandatory Test Data"	Mandatory, further explained in section "Mandatory Test Data"
	Spurious Emission (Carrier Off)		Shall not exceed 4dBW/4KHz	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable
	Starts at α	(Deg)	Definition of starting point	α = greater (1.0 , 100*λ/D)		α = greater (1.0 , 100*λ/D)			α = greater (1.0 , 100*λ/D)			n/a	α = greater (1.0 , 100*λ/D)	α = greater (1.0 , 100*λ/D)	α = 1 or 100*λ/D		Parameter evaluation on a Case-By-Case basis by individual satellite operators, dependent on application and operational environment
	X-pol isolation within 1 dB contour - linear polarization	(dB)	Individual satellite operator could implement lower values in exceptional circumstances with E.I.R.P. restrictions	27	27	27	27	27	27	27	27	n/a	27	27	27	27	24
	X-pol isolation within 1 dB contour - circular polarization	(dB)	Individual satellite operator could implement lower values in exceptional circumstances with E.I.R.P. restrictions	27	27	22	22	22	20	20	20	20	20	20	20	20	20
	Measured Cross-polar pattern		Antenna patterns to be provided with radome if applicable - transmit and receive	within 1 dB contour	within 1 dB contour	within 1 dB contour	within 1 dB contour	within 1 dB contour	within 1 dB contour	within 1 dB contour	within 1 dB contour	Mandatory, further explained in section "Mandatory Test Data"	Mandatory, further explained in section "Mandatory Test Data"	Mandatory, further explained in section "Mandatory Test Data"	Mandatory, further explained in section "Mandatory Test Data"	Mandatory, further explained in section "Mandatory Test Data"	Mandatory, further explained in section "Mandatory Test Data"
	Polarization Alignment Accuracy (not applicable for circular polarised)			within 1°	within 1°	within 1°	within 1°	within 1°	within 1°	within 1°	within 1°	n/a	within 1°	within 1°	within 1°	within 1°	within 1°
	Azimuth / Elevation fine adjustment mechanics			n/a	n/a	to reduce mispointing to 0.5 deg	to reduce mispointing to 0.5 deg	to reduce mispointing to 0.5 deg	to reduce mispointing to 0.5 deg	to reduce mispointing to 0.5 deg	to reduce mispointing to 0.5 deg	n/a	n/a	n/a	n/a	n/a	n/a
	Transmit E.I.R.P. indicator	(dB)	At discretion of individual satellite operator	yes	yes	n/a	n/a	n/a	yes	yes	yes	n/a	n/a	n/a	n/a	n/a	n/a
	Tracking (mandatory)			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	yes	yes	yes	yes	yes
	Structural Stability			picture required					picture required				picture required		picture required		
	Windload operational	(km/h)		55 km/h	55 km/h	55 km/h	55 km/h	55 km/h	55 km/h	55 km/h	55 km/h	n/a	n/a	n/a	n/a	n/a	n/a
	Min/max temp	(deg C)	Unit reflector should be able to sustain these temperatures for multiple hours	-30 to 50 deg C	-30 to 50 deg C	-30 to 50 deg C	-30 to 50 deg C	-30 to 50 deg C	-20 to 45 deg C	-20 to 45 deg C	-20 to 45 deg C	n/a	n/a	n/a	-25 to 55 deg C	-25 to 55 deg C	-25 to 55 deg C
	Maximum E.I.R.P. rating	(dBW)	Required value from every manufacturer	n/a	n/a	yes	yes	yes	yes	yes	yes	n/a	yes	yes	yes	yes	yes
	Investigate the possible influence on the antenna pattern introduced by the de-icing system		Highly recommended	yes	yes	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Installation of an Antenna Control Unit			Highly recommended	Highly recommended	n/a	n/a	Highly recommended	Highly recommended	Highly recommended	Mandatory in antenna system	Mandatory in antenna system	Mandatory in antenna system	Mandatory in antenna system	Mandatory in antenna system	Mandatory in antenna system	Mandatory in antenna system
	To issue a look-up table for polarization / skew angle off-set to the antenna operator		Special antenna types	n/a	n/a	n/a	n/a	n/a	yes	yes	yes	n/a	n/a	n/a	n/a	n/a	n/a
	E.I.R.P. Adjustment Resolution in the Full Range of HPA power	(dB)		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	E.I.R.P. stability	(dB)	Integrated into antenna system mobile/maritime	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	n/a	1.5	1.5	1.5	1.5	1.5
	Maximum deviation from direction to satellite	(deg)		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	+/- 0.5°	+/- 0.5°	+/- 0.5°	+/- 0.5°	+/- 0.5°
	Automatic carrier mute, mandatory if mispointing exceeds	(deg)	mobile, auto-acquiring On-The-Move systems only	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	+/- 0.5°	+/- 0.5°	+/- 0.5°	+/- 0.5°	+/- 0.5°
	Time within which the automatic carrier mute will have to take place	(ms)	mobile, auto-acquiring On-The-Move systems only	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	100 ms	100 ms	100 ms	100 ms	100 ms
	Transmission to resume at (or less than) angle	(deg)	mobile, auto-acquiring On-The-Move systems only	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	+/- 0.2	+/- 0.2	+/- 0.2	+/- 0.2	+/- 0.2
	Software may not be modifiable by operator		SNG's and mobile, auto-acquiring On-The-Move systems only - This includes data for the tracking mechanism, the acquisition, for mis-pointing and power levels to the antenna flange etc. It includes any unit where software is installed, like BUC, modem and ACU, or other components	n/a	n/a	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	Radome in production must be identical to the radome with which the antenna system has been tested			yes	yes	n/a	n/a	n/a	n/a	n/a	yes	yes	yes	yes	yes	yes	yes
Receive specifications	Transmit earth stations must be equipped with a receive chain which allows pointing optimization and tracking prior to and during transmissions			yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes