KA-BAND				Application														
Transmit specifications for antennas only	Item	unit	Comment	Fixed, central station (high powered)		VSAT			SNG			Maritime			Small diameter, On-The-Move Terminals , Atypical Construction, Advanced Technology		
	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	D> 1.2	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>=0.4	D< 0.4	The corresponding / adequate equivalent diameter with reference to antenna gain in the direction towards the satellite can be used for link analysis. For low profile and flat antennas, D is the smaller dimention of the aperture as it is projected to the satellite direction.
	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	D/λ > 120.1	120.1 > D/λ >=65	D/λ <65	D/λ >=40	D/λ < 40	
	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 - Please indicate mask with chosen specification (FCC, ITU, ETSI etc.)	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)	29 - 25 log (θ)	29 - 25 log (θ)	29 - 25 log (θ)	32 - 25 log (θ)	39 - 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- and high frequency band). At least one frequency in the operational 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"
	Startset 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)			α = greater (1.0, 100*λ/D)	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 polarisation	(dB)	Individual satellite operator could implement lower values in exceptional circumstances with E.I.R.P. restrictions	25	25	25	25	25	25	25	25	25	25	25	25	25	20
	X-pol isolation within 1 dB contour - circular polarisation	(dB)	Individual satellite operator could implement lower values in exceptional circumstances with E.I.R.P. restrictions	20	20	20	20	20	20	20	20	20	20	20	20	18	18
	Measured Cross-polar pattern		Antenna patterns to be provided with radome if applicable - transmit and receive	within 1 dB contour (linear polarisation, only boresight at Circular polarisation)	within 1 dB contour (linear polarisation, only boresight at Circular polarisation)	within 1 dB contour (linear polarisation, only boresight at Circular polarisation)	within 1 dB contour (linear polarisation, only boresight at Circular polarisation)	within 1 dB contour (linear polarisation, only boresight at Circular polarisation)	within 1 dB contour (linear polarisation, only boresight at Circular polarisation)	within 1 dB contour (linear polarisation, only boresight at Circular polarisation)	within 1 dB contour (linear polarisation, only boresight at Circular polarisation)	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 polarized feed)			within 1°	within 1°	within 1°	within 1°	within 1°	within 1°	within 1°	within 1°	within 1°	within 1°	within 1°	within 1°	within 1°	within 1°
	Azimuth / Elevation fine adjustment mechanics		Mis-pointing must cause less than 1 dB reduction of carrier EIRP towards satellite	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable	n/a	n/a	n/a	n/a	n/a	n/a
	Tracking (mandatory)			yes	n/a	n/a	n/a	n/a	n/a	n/a	n/a	yes	yes	yes	yes	yes	yes
	Structural Stability			picture required					picture required			picture required			picture required		
	Windload operational	(km/h)	Wind speed for maximum 3 dB reduction of carrier EIRP towards satellite	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	-30 to 50 deg C	-30 to 50 deg C	-30 to 50 deg C	n/a	n/a	n/a	According to equipment specification for aircraft, land-mobile, rail and maritime	According to equipment specification for aircraft, land-mobile, rail and maritime	According to equipment specification for aircraft, land-mobile, rail and maritime
	Investigate the possible influence on the antenna pattern introduced by the de-icing		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			Mandatory	Highly recommended	n/a	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
	To issue a look-up table for polarisation / 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
	Maximum deviation from direction to satellite	(deg)	Angle determined by maximum 3 dB reduction of carrier EIRP towards satellite	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Applicable	Applicable	Applicable	Applicable	Applicable	Applicable, only 1 dB max. carrier reduction
	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			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	yes	yes	yes	yes - n/a for airborne antennas	yes - n/a for airborne antennas	yes - n/a for airborne antennas
	Antenna Tx Gain at mid band frequency	(dBi)	For information only	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	Antenna Tx frequency range	(GHz)	For information only	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Additional TX specification for antennas plus RF electronics (ODU)	Spurious Emission (Carrier Off)		Shall not exceed 4dBW/4KHz	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable	applicable
	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
	Maximum E.I.R.P. rating	(dBW)	Required value from every manufacturer	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	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	0.25	0.25
	E.I.R.P. stability	(dB)	Integrated into antenna system mobile/maritime	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1	1	1	1	1	1
	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	+/-0.5°	+/-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	100 ms	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	± 0.2 within 1 sec	± 0.2 within 1 sec	± 0.2 within 1 sec	± 0.2 within 1 sec	± 0.2 within 1 sec	± 0.2 within 1 sec
Receive specifications	Transmit earth stations must be equipped with a receive chain which allows pointing optimisation and tracking prior to and during transmissions			yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	Antenna RX gain at mid band frequency	(dBi)	For information only	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	Antenna RX frequency range	(GHz)	For information only	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	Add G/T value	(dB/K)	G/T referred to LNB input at 20° Elevation at 25°C (addition testing required at 10°c and 40°C) ambient temperature: Mid-Band Gain figure to be used Measurements includes OMT/Polarizer losses, for information only	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
General Remark	The individual satellite companies participating in this certification process are subject to trade control and sanctions laws that may restrict their ability to review and approve equipment proposed by certain vendors.																