

SOMAP

GLOBAL VSAT FORUM

MAY 2017

Satellite
operator's
Minimum
Antenna
Performance
Requirements

- 1) Only applicable to NEW antenna models, so introduced to the market after the implementation date**

- 2) Applicable to ALL antenna types and sizes within satellite communication**

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Result 1: A Matrix

- 1) Designed for C-Band, Ku-Band, Ka-Band**
- 2) applicable to ALL antenna types and sizes within satellite communication**

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C-BAND						
Item	unit	Comment	Fixed, central station (high powered)		VSAT	
Diameter	(m)		D >= 4.5	D < 4.5	4.5 > D >= 2.4	2.4 > D >= 1.2
Diameter equivalent to	(m)		n/a	n/a	n/a	n/a
D/λ		Reference frequency 6.025 GHz	D/λ >= 90	D/λ < 90	90.4 > D/λ >= 48.2	48.2 > D/λ >= 24.1
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	32 - 25 log (θ)	29 - 25 log (θ)	32 - 25 log (θ)	32 - 25 log (θ)
Measured Co-polar pattern - with radome if applicable (low- mid- end high frequency band)		Antenna Gain patterns	AZ/EL plots	AZ/EL plots	AZ/EL plots	AZ/EL plots
Spurious Emission (Carrier Off)		Shall not exceed 4dBW/4KHz	applicable	applicable	applicable	applicable
Starts at α	(Deg)	Definition of starting point	α = 1 or 100*λ/D		α = 1 or 100*λ/D	
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	26	26	22	18
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	30	30	30	27

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The SOMAP matrix is not intended to represent a new standard, replacing ITU, FCC, ETSI, etc.

The participating satellite operators keep their individual minimum antenna performance requirements in place

On a highly recommended basis, so not to be met on a mandatory basis

The SOMAP matrix is intended for exceptions

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Result 2: A list of test data and questions - COTM only

- 1) To be requested / answered on a mandatory basis**
- 2) applicable to ALL Comms-On-The-Move antenna models, also re-branded products**

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Result 3: Kind request to manufacturers to provide more performance data on product datasheets

A list with performance data, structural data and overall product information was designed, which would contribute to an efficient antenna approval process

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Implementation date:

September 1st, 2018

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Main goal of the industry

A clean RF spectrum

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Expectations for the future

- 1) **Clarity in the antenna approval process**
- 2) **Gradual increase in product quality of COTM systems**
- 3) **Less turnaround time from satellite operators in approval process**

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SOMAP group Contact details

SOMAP@gvf.org

(Temporary)

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