

1 INTRODUCTION

The purpose of this questionnaire is to summarise the requirements that need to be considered to meet the stringent pointing/tracking accuracy performance of a Ka-Band (26.2 to 27 GHz) Antenna system. It will be used for receiving a wideband signal from a satellite located at the geostationary orbit. The Antenna is to have a diameter of 6.3m or less and is to be deployed within the European territory and may be mounted on a building having a height of approximately 20m.

1.1 Technical Considerations

There are some very important technical challenges presented by this application in order to meet the specified accuracy within the link budget. These have been summarized below as a set of questions that the supplier needs to take into account. The technical note EUM/MTG/TEN/10/0264 gives an initial analysis of particular considerations being analysed by EUMETSAT in the frame of MTG.

- a. Will the Antenna system meet the G/T better than 34 dB/K at 30° Elevation and clear sky conditions?*
- b. Is the pointing accuracy better than or equal to 20 mill degrees?*
- c. Under what environmental conditions is the “full operational performance” met?*
- d. What “survival” conditions are met by the antenna?*
- e. Can this accuracy be met under the following wind conditions: 110 km/h gusting to 130 km/h?*
- f. If performance is degraded, can this be quantified?*
- g. Is there any development/tailoring required to adapt to this band?*
- h. If possible, please provide a ROM price for the Antenna and pointing/tracking sub-system.*
- i. Has your Organisation installed similar antennas on buildings, and if so which major recommendations should be taken into account in the preparation of the building?*

1.2 Additional Information

The satellites will be located at the GEO orbital arc - within the *nominal longitude range* between 10°W and 10°E - either in isolation or may be co-located. The details of this deployment scenario are presented below:

Inclination up to +/- 1° with a longitude width of up to +/-0.5° is the typical control window for an isolated satellite – full performance must be met;

Inclination up to +/-0.5° with a longitude width of +/-0.05° is the typical control window for each of 2 collocated or closely located satellites (full performance);

Inclination beyond 1° and up to +/-2.5° In this case degraded (satellite) performance is acceptable.

Any questions concerning this RFI should be addressed to Mr. Paolo Prati and Mr. Abbas Khan via e-mail (paolo.prati@eumetsat.int; abbas.khan@eumetsat.int) or fax (+49 6151 807681, + 49 6151 807681).

Your set of information, answers and all supporting documents shall reach for the attention of Mr. Paolo Prati at the following address:

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