TABLE VII-7 – *Wideband statistics of aeronautical mobile-ground links[[1]](#footnote-1)+*

Frequency *f* (GHz) \_ \_ \_ \_ \_ \_

Polarization (L/C) \_

Polarization tilt angle *p* (degrees) \_ \_ \_ \_

**Signal source**

Ground Station latitude (–90…+90) (degrees)\_ \_

Ground Station longitude (–90…+90) (degrees) \_ \_

TX antenna gain towards mobile (dBi) \_ \_ \_

TX 3 dB beamwidth *r* (degrees) \_ \_ \_ \_ \_

Local ground site characteristics(5)

TX antenna height ag *ht* (m) \_ \_ \_

**Aeronautical mobile station**

RX Aircraft Type \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

RX country(1) \_ \_

RX Path Type (linear, oval, etc.)(2)

RX start latitude (–90..+90) (degrees) \_ \_ \_ \_ \_ \_ \_

RX start longitude (0..360) (degrees) E \_ \_ \_ \_ \_ \_ \_

RX end latitude (–90..+90) (degrees) \_ \_ \_ \_ \_ \_ \_

RX end longitude (0..360) (degrees) E \_ \_ \_ \_ \_ \_ \_

RX average altitude amsl *hgr* (m) \_ \_ \_ \_ \_

RX antenna type \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

RX 3 dB beamwidth *r* (degrees) \_ \_ \_ \_ \_

RX antenna gain (dBi) \_ \_ \_

RX noise figure \_ \_ \_ \_ \_

RX dynamic range (dB) \_ \_ \_ \_ \_

RX integration time (s) \_ \_ \_ \_

Data sampling interval (s) \_ \_ \_ \_ \_ \_ \_

Calibration interval (days) \_ \_ \_ \_ \_

Data resolution (dB) \_ \_ \_ \_ \_ \_ \_

Multipath temporal delay resolution (ns) \_\_\_\_\_\_

**Measurement:** Experiment No. \_ \_ \_

Start date (yyyy.mm.dd) \_ \_ \_ \_ \_ \_ \_ \_

End date (yyyy.mm.dd) \_ \_ \_ \_ \_ \_ \_ \_

Duration *d* (days) (3) \_ \_ \_ \_ \_ \_ \_

Average elevation angle (degrees) \_ \_ \_

Range of elevation angles (degrees) \_\_\_\_\_\_\_\_\_

Average velocity of aircraft (m/s) \_ \_ \_

**Environment**

Weather conditions(4)

Ground temperature ranges at TX \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

Land mobile terrain type(5) \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

Land mobile building type(5) \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

Land mobile vegetation type(5) \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

Land mobile surface shape(6) \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

Sea state \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

90% mean delay CDF (s) \_ \_ \_

10% mean delay CDF (s) \_ \_ \_

80% value of delay spread CDF, S80 (s) \_ \_ \_

90% value of delay spread CDF, S90 (s) \_ \_ \_

**Table: (7)**

RMS Delay Spread (ns) at percentage of CDF

|  |  |
| --- | --- |
|  | RMS Delay Spread  Threshold 25 dB from Maximum Impulse in Power Delay Profile |
| At 10% of CDF |  |
| At 50% of CDF |  |
| At 80% of CDF |  |
| At 90% of CDF |  |
| At 95% of CDF |  |
| At 99% of CDF |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Correlation bandwidth (MHz)  for percentage correlation | | |
|  | 90% | 50% | 37% |
| At 20% of CDF | – | – | – |
| At 10% of CDF | – | – | – |
| At 5% of CDF | – | – | – |
| At 1% of CDF | – | – | – |

**References:**

[1] R. J. C. Bultitude, “Estimating Frequency Correlation Functions From Propagation Measurements on Fading Radio Channels: A Critical Review,” IEEE Journal on Selected Areas in Communications, vol. 20, no. 6, pp. 1133-1143, August 2002.

[2] A. Gehring, M. Steinbauer, I. Gaspard, M. Grigat, “Empirical Channel Stationarity in Urban Environments,” *4th European Personal & Mobile Comm. Conf. (EPMCC 2001)*, Vienna, Austria, 20-22 February 2001.

**Comments:**

*Correlation bandwidth was computed using the frequency correlation estimate (FCE) as in reference [1]. All FCEs were computed over the estimated value of the median stationarity distance (SD) for the given flight test environment. The SD was computed using measured power delay profiles via the method defined in reference [2]; this SD is essentially the correlation function of the averaged power delay profile.*

(1) Use ISO 3166-1 alpha-2 country codes.

(2) Description of oval, or other flight track shapes

(3) Duration is the total time of valid measurements for this dataset, expressed as a real number (e.g. 8157.312 hours).   
The ratio of duration to the period identified by the start and the end dates of this dataset is the availability (e.g. start=2001/1/1, end=2001/12/31, duration= 8157.312 hours corresponds to 93.12 % availability). (4) Weather conditions can be one or more of the following: clear, partly cloudy, rain, fog, snow, sleet, hail, etc.

(5) See Annex 3 for environment types.

(6) Terrain surface shape can be given as: FL: flat, HI: hilly, MO: mountainous.

(7) Submissions should comply with the acceptance criteria specified in Rec. ITU-R P.311.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. + In addition to the tables provided in this document the submitter is requested to provide the data files according to the instructions available on ITU-R SG 3 Web page: [Study Group 3 databanks – DBSG3](http://www.itu.int/ITU-R/index.asp?category=study-groups&rlink=sg3-dtbank-dbsg3&lang=en). [↑](#footnote-ref-1)