

QUESTION ITU-R 69-1/6

Conditions for a satisfactory television service in the presence of reflected signals

(1990-1993-2004)

The ITU Radiocommunication Assembly,

considering

- a) that reflected signals can be generated by re-radiating structures such as tall buildings or tall antenna structures;
- b) that receiving antenna directivity is sometimes ineffective in eliminating reflected signals;
- c) that reflected signals can be also generated on cable distribution systems and collective antenna systems;
- d) that reflected signals can impair the received television picture and can also adversely affect reception of additional broadcasting services;
- e) that it is possible to cancel reflected signals by means of automatic circuits in the receiver;
- f) that reflected signals may have a different effect on analogue and digital television signals,
- g) that reflected signals may have different effects depending on different digital modulation systems,

decides that the following Question should be studied

1 What ratio of direct-delayed reflected signal is required for satisfactory television reception including additional broadcasting services taking into account:

- polarity of reflected signals;
- displacement of reflected signals from wanted images;
- variability of reflected signals due to movement of reflecting objects, e.g., aircraft, wind turbines;
- variability of reflected signals due to movement of receiving and transmitting antenna?

- 2 What methods of calculation should be used to determine the ratio and displacement of the direct and reflected signals which result from antenna structures in the vicinity of television radiators, taking into account factors such as radiation, polarization, movement, etc.?
- 3 What methods to cancel reflected signals by means of automatic circuits in the television receiver should be envisaged?
- 4 What is the difference between the effects of reflected signals on analogue and digital television reception?
- 5 How is the effect of reflected signals determined by the type of different digital modulation system used?
- 6 What is the multipath margin required to compensate for wind turbines when developing recommended ratios and minimum field strength for planning DTTB services?
- 7 What is the preferred composition of the structure, aperture and turbine tip velocity of reflective structures to minimize multipath/Doppler effects?
- 8 What are the minimum distances between reflective structures and TV reception locations for television systems operating in the VHF and UHF bands?

NOTE 1 – See Recommendations ITU-R BT.804 and ITU-R BT.805.

further decides

- 1 that the results of the above studies should be included in (a) Recommendation(s);
- 2 that the above studies should be completed by 2006.

Category: S1