Central America and Caribbean:
Digital television planning technical criteria and assumptions

INITIAL CONSIDERATIONS

- Unless otherwise stated fixed reception (Rice channel) is considered.
- The considered TV systems are (Ref.: "*Television Systems*" in section 9.1 of the Preface to the BR IFIC):

  Digital systems:

  - U0: DVB-T (6MHz)
  - U1: DTMB (6MHz)
  - T1: DVB-T (8MHz)
  - T2: ATSC (6MHz)
  - T6: DVB-T2 (8MHz)
  - T7: DVB-T2 (6MHz)
  - T9: ISDB-T (6MHz)

  Analogue systems:

  - M (525 lines/6 MHz) with NTSC/PAL color encoding
  - N (625 lines/6 MHz) with PAL color encoding

- For adjacent channels, only lower (N-1) and upper (N+1) adjacent channels are considered, being N the wanted TV channel.
- Image channel interference from digital systems to analogue systems is not considered.
- For analogue systems, the considered interference is the modulated vision carrier of the signal.
- On all tables below, white cells indicate proposed values that should be confirmed due to a lack of a specific reference on ITU recommendations/reports.

MINIMUM FIELD STRENGTH

Table 1: DIGITAL SYSTEMS - MINIMUM FIELD STRENGTH (dB(µV/m)) for UHF (Fr = 650 MHz)

	WANTED SIGNAL						
	ATSC	**DVB-T** 64 QAM – 3/4 rate		**DVB-T2** 256 QAM – 2/3 rate (BT. 2033-1 Table 1)		**ISDB-T** 64 QAM – 3/4 rate (Report BT.2383-1: Note 15 to Table 27)	**DTMB** 64 QAM – 0.6 rate
		6MHz	**8MHz**	**6MHz**	**8MHz**		
Location and time (Report BT.2383-1: tables 10 and 32)	**50% locations 90% time**	**95% locations 50% time**		**95% locations 50% time**		**95% locations 90% time**	**95% locations 50% time**
Minimum field strength (dB(µV/m)) (in terms of Report BT.2383-1)	**41** Report BT.2383-1: table 25 For formula for FS (90% time) see Note 19 on page 25 of the Report ITU-R BT.2383-1.	**54.75** Calculated using formula from Recommendation BT.1368-12 (Attachment 1 to Annex 2), for Bandwidth = 5.71 MHz (Rec. BT.1306-7, Table 1 item b)	**56** Report BT.2383-1: table 19	**53.05** Calculated using formula from Recommendation BT.2033-1 (Attachment 1 to Annex 1), for Bandwidth = 5.83 MHz (Rec. BT.1877-1, Table 1)	**54.3** Rec. BT.2033-1: table 13 (fixed reception).	**55.7** (55 for f_r=600 MHz Report BT.2383-1: table 28) For formula for FS (90% time) see Note 19 on page 26 of the Report BT.2383-1.	**53.02** including 9.02 dB for 95% location probability factor. Calculated using Attachment 1 to Annex 4, table 109 of Rec. BT.1368-12 and reference C/N for fixed reception 19 dB according to Report BT.2383-1 Table 30.
	Correction factor for other frequencies according to formula under §11.4, Report BT.2383-1.						

Table 2: DIGITAL SYSTEMS - MINIMUM FIELD STRENGTH (dB(µV/m)) for VHF (Fr = 200 MHz)

	WANTED SIGNAL						
	ATSC	**DVB-T** 64 QAM – 3/4 rate		**DVB-T2** 256 QAM – 2/3 rate (BT. 2033-1 Table 1)		**ISDB-T** 64 QAM – 3/4 rate (Report BT.2383-1: Note 15 to Table 27)	**DTMB** 64 QAM – 0.6 rate
		6MHz (U0)	**8MHz** (T1)	**6MHz** (T7)	**8MHz** (T6)		
Location and time (Report BT.2383-1: tables 10 and 32)	**50% locations** **90% time**	**95% locations** **50% time**		**95% locations** **50% time**		**95% locations** **90% time**	**95% locations** **50% time**
Minimum field strength (dB(µV/m)) (in terms of Report BT.2383-1)	**35.79** Rec. BT.2036-1: §1.2.6 For formula for FS (90% time) see Note 19 on page 26 of the Report BT.2383-1.	**48.75** Calculated using formula from Recommendation BT.1368-12 (Attachment 1 to Annex 2), for Bandwidth = 5.71 MHz (Rec. BT.1306-7, Table 1 item b)	**50** Rec. BT.2036-1, Note 3 on page 3.	**46.73** Calculated using formula from Recommendation BT.2033-1 (Attachment 1 to Annex 1), for Bandwidth = 5.71 MHz (Rec. BT.1877-1, Table 1) Field strength reference value for 7 MHz: 47.4 on Rec. BT.2033-1: table 12 (fixed reception).	**47.98** Using formula from Recommendation BT.2033-1 (Attachment 1 to Annex 1), for Bandwidth = 7.61 MHz (Rec. BT.1877-1, Table 1) Field strength reference value for 7 MHz: 47.4 on Rec. BT.2033-1: table 12 (fixed reception).	**47.60** Refer to Table 84 on Rec. BT.1368-12. Taking into account that C/N = 20.1 (from Table 16 of Rec. BT.2036-1) → Emin = 40.5 – (22 – 20.1) = 38.6. Adding 9dB for 95% locations, Field strength=47.60dB For formula for FS (90% time) see Note 19 on page 26 of the Report BT.2383-1.	**46** including 9.02 dB for 95% location probability factor. Calculated using Attachment 1 to Annex 4, table 109 of Rec. BT.1368-12 and reference C/N for fixed reception 19 dB according to Report BT.2383-1 -Table 30.
	Correction factor for other frequencies according to formula under §11.4, Report BT.2383-1.						

Table 3: ANALOGUE SYSTEMS - MINIMUM FIELD STRENGTH (dB(µV/m))

	WANTED SIGNAL				
	Analogue (M/N)				
Location and time (Rec. SM-851-1: Table 1)	**50% locations** **50% time**				
Minimum median field strength (dB(µV/m)) (Rec. BT.417-5 Table 1 and Rec. SM-851-1: Table 1)	**Band I** (41-68 MHz)	**Band II** (76-100 MHz)	**Band III** (162-230 MHz)	**Band IV** (470-582 MHz)	**Band V** (582-960 MHz)
	48	**52**	**55**	**65**	**70**

PROTECTION RATIOS
DIGITAL ←→ DIGITAL
Table 4: CO-CHANNEL PROTECTION RATIOS (dB)

			WANTED DIGITAL SIGNAL						
			ATSC	**DVB-T** 64 QAM – 3/4 rate		**DVB-T2** 256 QAM – 2/3 rate (BT. 2033-1 Table 1)		**ISDB-T** 64 QAM – 3/4 rate (Report BT.2383-1: Note 15 to Table 27)	**DTMB** 64 QAM – 0.6 rate
				6MHz	**8MHz**	**6MHz**	**8MHz**		
INTERFERING DIGITAL SIGNAL	**ATSC**		**23** Rec. BT.1368-12: Table 3 Considering S/N=16 dB (Rec. BT.2036-1, Table 11: Minimum S/N=15.19)	**21**	**Overlapping:** **21** + correction[1]	**21**	**Overlapping:** **20** + correction[1]	**21**	**18**
	DVB-T 64 QAM – 3/4 rate	**6MHz**	**23**	**21** Rec. BT.1368-12: Table 15	**Overlapping:** **21** + correction[1]	**21**	**Overlapping:** **20** + correction[1]	**21**	**18**
		8MHz	**Overlapping:** **23** + correction[1]	**Overlapping:** **21** + correction[1]	**21** Rec. BT.1368-12: Table 15	**Overlapping:** **21** + correction[1]	**20**[3]	**Overlapping:** **21** + correction[1]	**Overlapping:** **18** + correction[2] Rec. BT.1368-12, Page 26
	DVB-T2 256 QAM – 2/3 rate	**6MHz**	**23**	**21**[3]	**Overlapping:** **21** + correction[1]	**21** Rec. BT.2033-1: Table 21	**Overlapping:** **20** + correction[1]	**21**	**18**
		8MHz	**Overlapping:** **23** + correction[1]	**Overlapping:** **21** + correction[1]	**21**[3]	**Overlapping:** **21** + correction[1]	**20** Rec. BT.2033-1: Table 2	**Overlapping:** **21** + correction[1]	**Overlapping:** **18** + correction[2] Rec. BT.1368-12, Page 26
	ISDB-T 64 QAM – 3/4 rate		**23**	**21**	**Overlapping:** **21** + correction[1]	**21** Rec. BT.2033-1: Table 23	**Overlapping:** **20** + correction[1]	**21** Rec. BT.1368-12: Table 67	**18**
	DTMB 64 QAM – 0.6 rate		**23**	**21** Rec. BT.1368-12: Table 16	**Overlapping:** **21** + correction[2] Rec. BT.1368-12, Page 26	**21**	**Overlapping:** **20** + correction[2] Rec. BT.1368-12, Page 26	**21**	**18** Rec. BT.1368-12: Table 90

[1] For overlapping channels and digital system combinations where DTMB system is not involved, in the absence of specific references on ITU recommendations/reports, the use of formula on page 25 of Rec. BT.1368-12 (for DVB-T systems and overlapping less than 1MHz.) is proposed: PR = CCI + 10 $\log_{10}$ (BO/BW)

[2]For overlapping channels, for DVB-T vis-à-vis DTMB, the PR should be extrapolated from the co-channel PR of the wanted signal using formula on page 26 of Rec. BT.1368-12: PR = CCI + 10 $\log_{10}$ ((0.855784*BO + 1.153725)/BW) .
CCI: co-channel PR (value indicated on the table) | BO: overlapping bandwidth (MHz) | BW: bandwidth of the wanted signal | If formulas in notes 1 and 2 above give a PR < -30dB then the value -30dB should be used.

[3] Using as PR the respective C/N value (Report BT.2254-2 §3.4.2.1).

Table 5: ADJACENT CHANNEL PROTECTION RATIOS (dB)

			WANTED DIGITAL SIGNAL						
			ATSC	**DVB-T** 64 QAM – 3/4 rate		**DVB-T2** 256 QAM – 2/3 rate (BT. 2033-1 Table 1)		**ISDB-T** 64 QAM – 3/4 rate (Report BT.2383-1: Note 15 to Table 27)	**DTMB** 64 QAM – 0.6 rate
				6MHz	**8MHz**	**6MHz**	**8MHz**		
INTERFERING DIGITAL SIGNAL	**ATSC**		N-1: **-20** N+1: **-20** Rec. BT.1368-12: Table 4	N-1: **-27.2** N+1: **-27.2**		N-1: **-36** N+1: **-36**		N-1: **-26** N+1: **-27**	N-1: **-29** N+1: **-29**
	DVB-T 64 QAM – 3/4 rate	**6MHz**	N-1: **-20** N+1: **-20**	N-1: **-27.2** N+1: **-27.2**		N-1: **-36** N+1: **-36**		N-1: **-26** N+1: **-27**	N-1: **-29** N+1: **-29**
		8MHz			N-1: **-27.2** N+1: **-27.2** Rec. BT.1368-12: Table 17 and Table 50 (correction factor)		N-1: **-33** N+1: **-30**		
	DVB-T2 256 QAM – 2/3 rate	**6MHz**	N-1: **-20** N+1: **-20**	N-1: **-27.2** N+1: **-27.2**		N-1: **-36** N+1: **-36** Rec. BT.2033-1: Table 22		N-1: **-27** N+1: **-27** Rec. BT.1368-12: Table 69bis (ISDB-T 64QAM - 7/8 rate)	N-1: **-29** N+1: **-29**
		8MHz			N-1: **-27.2** N+1: **-27.2**		N-1: **-33** N+1: **-30** Rec. BT.2033-1: Table 3		
	ISDB-T 64 QAM – 3/4 rate		N-1: **-20** N+1: **-20**	N-1: **-27.2** N+1: **-27.2**		N-1: **-39** N+1: **-39** Rec. BT.2033-1: Table 24		N-1: **-26** N+1: **-29** Rec. BT.1368-12: Table 69 (ISDB-T 64QAM - 7/8 rate)	N-1: **-29** N+1: **-29**
	DTMB 64 QAM – 0.6 rate		N-1: **-20** N+1: **-20**	N-1: **-27.2** N+1: **-27.2** Rec. BT.1368-12: Table 18 and Table 50 (correction factor)		N-1: **-36** N+1: **-36**		N-1: **-26** N+1: **-27**	N-1: **-29** N+1: **-29** Rec. BT.1368-12: Table 91

Note 1: **Gray cells** correspond to overlapping channels. Refer to Table 4 “co-channel protection ratios”.

DIGITAL ↔ ANALOGUE

Table 6: CO-CHANNEL PROTECTION RATIOS FOR DIGITAL WANTED SIGNAL (dB)

		WANTED DIGITAL SIGNAL				
		ATSC	**DVB-T (6MHz)**[1] 64 QAM – 3/4 rate	**DVB-T2 (6MHz)** [1] 256 QAM – 2/3 rate (BT. 2033-1 Table 1)	**ISDB-T** 64 QAM – 3/4 rate (Report BT.2383-1: Note 15 to Table 27)	**DTMB** 64 QAM – 0.6 rate
INTERFERING ANALOGUE SIGNAL	**SYSTEM M**	**7** Rec. BT.1368-12: Table 6	**3**[2]	**3** Rec. BT.2033-1: Table 25	**5** Rec. BT.1368-12: Table 71	**5** Rec. BT.1368-12: Table 93
	SYSTEM N				**7**[3]	

[1] For 8MHz bandwidths the Protection ratios can be found on the table "overlapping channel protection ratios for digital wanted signal" (Table 10)

[2] In the assumption that the DVB-T value is the same as the one reported for DVB-T2 256QAM

[3] MERCOSUR (Technical Commission of Argentina, Brazil, Paraguay and Uruguay) – 2nd meeting: 21-23 November 2011

Note: Gray cells correspond to system combinations that do not apply in the region.

Table 7: CO-CHANNEL PROTECTION RATIOS FOR ANALOGUE WANTED SIGNAL (dB)

		WANTED ANALOGUE SIGNAL			
		SYSTEM M		SYSTEM N	
		Tropospheric interference	Continuous interference	Tropospheric interference	Continuous interference
INTERFERING DIGITAL SIGNAL	**ATSC**	**34** Rec. BT.1368-12: Table 10	**44** Rec. BT.655-7 - Annex 1 §2.1		
	DVB-T (6MHz) [1] 64 QAM – 3/4 rate	**34**[2]	**40**[2]		
	DVB-T2 (6MHz) [1] 256 QAM – 2/3 rate	**34**[2]	**40**[2]		
	ISDB-T 64 QAM – 3/4 rate	**39** Rec. BT.1368-12: Table 77	**44** Rec. BT.1368-12: Table 77	**34**[3]	**40**[4]
	DTMB 64 QAM – 0.6 rate	**35** Rec. BT.1368-12: Table 99	**41** Rec. BT.1368-12: Table 99		

[1] For 8MHz bandwidths the Protection ratios can be found on the table "overlapping channel protection ratios for analogue wanted signal" (Table 11)

[2] In the assumption that the values for DVB-T and DVB-T2 6MHz are the same as the ones reported for 7 and 8 MHz

[3] MERCOSUR (Technical Commission of Argentina, Brazil, Paraguay and Uruguay) – 2nd meeting: 21-23 November 2011

[4] Argentina: *Decreto 835/2011*

Note: Gray cells correspond to system combinations that do not apply in the region.

Table 8: ADJACENT PROTECTION RATIOS FOR DIGITAL WANTED SIGNAL (dB)

		WANTED DIGITAL SIGNAL				
		ATSC	**DVB-T (6MHz)[1]** 64 QAM – 3/4 rate	**DVB-T2 (6MHz)[1]** 256 QAM – 2/3 rate (BT. 2033-1 Table 1)	**ISDB-T** 64 QAM – 3/4 rate (Report BT.2383-1: Note 15 to Table 27)	**DTMB** 64 QAM – 0.6 rate
INTERFERING ANALOGUE SIGNAL	**SYSTEM M**	N-1: **-48** N+1: **-49** Rec. BT.1368-12: Tables 7 and 8	N-1: **-32[2]** (PAL G, B1) N+1: **-38[2]** (for 64QAM 2/3, PAL/SECAM) Rec. BT.1368-12: Tables 20 and 21	N-1: **-32[3]** (PAL G, B1) N+1: **-38[3]** (for 64QAM 2/3, PAL/SECAM) Rec. BT.1368-12: Tables 20 and 21	N-1: **-31** N+1: **-33** Rec. BT.1368-12: Tables 73 and 75	N-1: **-37** N+1: **-43** Rec. BT.1368-12: Tables 95 and 96
	SYSTEM N				N-1: **-31** N+1: **-33**	

[1] For 8MHz bandwidths the Protection ratios can be found on the table “overlapping channel protection ratios for digital wanted signal” (Table 10)

[2] In the assumption that the values for DVB-T 6MHz are the same as the ones reported for 7 and 8 MHz

[3] In the assumption that the DVB-T2 values are the same as the ones reported for DVB-T

Note: Gray cells correspond to system combinations that do not apply in the region.

Table 9: ADJACENT PROTECTION RATIOS FOR ANALOGUE WANTED SIGNAL (dB)

		WANTED ANALOGUE SIGNAL			
		SYSTEM M		SYSTEM N	
		Tropospheric interference	Continuous interference	Tropospheric interference	Continuous interference
INTERFERING DIGITAL SIGNAL	**ATSC**	N-1: **-16** N+1: **-17** Rec. BT.1368-12: Table 10	N-1: **-6** N+1: **-7** Rec. BT.655-7 - Annex 1 §2.1		
	DVB-T (6MHz) [1] 64 QAM – 3/4 rate	N-1: **-9**[2] N+1: **-8**[2]	N-1: **-5**[2] N+1: **-5**[2]		
	DVB-T2 (6MHz) [1] 256 QAM – 2/3 rate	N-1: **-9**[2] N+1: **-8**[2]	N-1: **-5**[2] N+1: **-5**[2]		
	ISDB-T 64 QAM – 3/4 rate	N-1: **-6** N+1: **-6** Rec. BT.1368-12: Table 77	N-1: **-3** N+1: **-3** Rec. BT.1368-12: Table 77	N-1: **-11**[3] N+1: **-11**[3]	N-1: **-1** N+1: **-1** Rec. BT.655-7 – Appendix 2 to Annex 1 §2 (tropospheric + 10 dB)
	DTMB 64 QAM – 0.6 rate	N-1: **-8** N+1: **-8** Rec. BT.1368-12: Tables 101, 103, 105	N-1: **-4** N+1: **-4** Rec. BT.1368-12: Tables 101, 103, 105		

[1] For 8MHz bandwidths the Protection ratios can be found on the table "overlapping channel protection ratios for analogue wanted signal" (Table 11)

[2] In the assumption that the values for DVB-T and DVB-T2 6MHz are the same as the ones reported for 7 and 8 MHz.

[3] MERCOSUR (Technical Commission of Argentina, Brazil, Paraguay and Uruguay) – 2nd meeting: 21-23 November 2011

Note: Gray cells correspond to system combinations that do not apply in the region.

Table 10: OVERLAPPING CHANNEL PROTECTION RATIOS FOR DIGITAL WANTED SIGNAL (dB)

		WANTED DIGITAL SIGNAL												
		DVB-T (8MHz)[1] 64 QAM – 3/4 rate and DVB-T2 (8MHz)[1] 256 QAM – 2/3 rate												
		Δf (frequency of the unwanted analogue vision carrier minus centre frequency of the wanted DVB-T signal)												
		-9.75	-9.25	-8.75	-8.25	-6.75	-3.95	-3.75	-2.75	-0.75	2.25	3.25	4.75	5.25
INTERFERING ANALOGUE SIGNAL	SYSTEM M	-37[2]	-14[2]	-8[2]	-4[2]	-2[2]	1[2]	3[2]	3[2]	3[2]	2[2]	-1[2]	-29[2]	-36[2]

[1] For 6MHz bandwidths the Protection ratios can be found on the table “Co-channel protection ratios for digital wanted signal” (Table 4)

[2] In the absence of specific values on ITU recommendations/reports, the PR from Table 22 of Rec. BT.1368-12 (DVB-T 8MHz signal interfered by an overlapping PAL B signal) are proposed for both, DVB-T and DVB-T2 interfered by an overlapping system M signal

Table 11: OVERLAPPING CHANNEL PROTECTION RATIOS FOR ANALOGUE WANTED SIGNAL (dB)

		WANTED ANALOGUE SIGNAL (SYSTEM M)		
		Δf (centre frequency of the unwanted DVB-T signal minus frequency of the wanted analogue vision carrier)	**Tropospheric interference**	**Continuous interference**
INTERFERING DIGITAL SIGNAL	**DVB-T (8MHz)**[1] 64 QAM – 3/4 rate and **DVB-T2 (8MHz)**[1] 256 QAM – 2/3 rate	-8.25	**-20**[2]	**-15**[2]
		-5.25	**-13**[2]	**-9**[2]
		-4.75	**-11**[2]	**-4**[2]
		-4.25	**5**[2]	**13**[2]
		-3.75	**24**[2]	**30**[2]
		-3.25	**29**[2]	**36**[2]
		-2.25	**33**[2]	**39**[2]
		-1.25	**34**[2]	**40**[2]
		2.75	**34**[2]	**40**[2]
		4.75	**34**[2]	**40**[2]
		5.75	**30**[2]	**37**[2]
		6.75	**27**[2]	**34**[2]
		7.75	**25**[2]	**32**[2]
		8.75	**5**[2]	**11**[2]
		10.75	**-15**[2]	**-12**[2]
		12.75	**-15**[2]	**-12**[2]

[1] For 6MHz bandwidths the Protection ratios can be found on the table “Co-channel protection ratios for analogue wanted signal” (Table 7)

[2] In the absence of specific values on ITU recommendations/reports, the PR from Table 106 of Rec. BT.1368-12 (analogue vision signal interfered by an overlapping DTMB 8MHz signal) are proposed for analogue M system interfered by overlapping DVB-T 8MHz or DVB-T2 8MHz signals.

ANALOGUE ←→ ANALOGUE

Table 12: CO-CHANNEL PROTECTION RATIOS FOR ANALOGUE WANTED SIGNAL (dB)

INTERFERING ANALOGUE SIGNAL (M, N SYSTEM)	WANTED ANALOGUE SIGNAL			
	SYSTEM M		**SYSTEM N**	
	Tropospheric interference	**Continuous interference**	**Tropospheric interference**	**Continuous interference**
	45 Rec. BT.655-7 – Appendix 1 to Annex 1 §1.1 (carriers separated by less than 1000 MHz)	**55** Rec. BT.655-7 – Appendix 1 to Annex 1 §2 (tropospheric + 10 dB)	**45** Rec. BT.655-7 – Appendix 2 to Annex 1 §1.1 (carriers separated by less than 1000 MHz)	**55** Rec. BT.655-7 – Appendix 2 to Annex 1 §2 (tropospheric + 10 dB)
	OFFSET SYSTEMS (applies only to same-line systems: M interfered by M or N interfered by N)			
	Different offsets: ±1/2, ±3/2, ±5/2… LF (≃±7kHz, ±23kHz, ±39kHz…) → **25** ±1/3, ±2/3, ±4/3… LF (≃±5kHz, ±10kHz, ±21kHz…) → **28** (Rec. BT.655-7 - Appendix 1 to Annex 1 §1.2) **Same offsets → 45**	**35 | 38 | 55** Rec. BT.655-7 – Appendix 1 to Annex 1 §2 (tropospheric + 10 dB)	**Different offsets**: Carriers separated by multiples of a 12th of the line frequency up to ±36/12 f_{line} → **22 to 45** (Rec. BT.655-7: Table 6) **Same offsets → 45**	**Different offsets**: Carriers separated by multiples of a 12th of the line frequency up to ±36/12 f_{line} → **27 to 52** (Rec. BT.655-7: Table 6) **Same offsets → 55**
	For system M, for offsets not included in Rec. 655-7, it is proposed to take the 'worst case' and use PR corresponding to non-offset systems			

Table 13: ADJACENT CHANNEL PROTECTION RATIOS FOR ANALOGUE WANTED SIGNAL (dB)

	WANTED ANALOGUE SIGNAL			
	SYSTEM M		SYSTEM N	
	Tropospheric interference	Continuous interference	Tropospheric interference	Continuous interference
INTERFERING ANALOGUE SIGNAL (M,N SYSTEM)	N-1: **-13 + correction** N+1: **-10** Rec. BT.655-7 - Appendix 1 to Annex 1 §2.1 and §2.2	N-1: **-3 + correction** N+1: **0** Rec. BT.655-7 – Appendix 1 to Annex 1 §2 (tropospheric + 10 dB)	N-1: **-12** (it is proposed to use the same value as for N+1)	N-1: **-2** (it is proposed to use the same value as for N+1)
			N+1: **-12** Rec. BT.655-7 - Appendix 2 to Annex 1 §2.2	N+1: **-2** Rec. BT.655-7 – Appendix 2 to Annex 1 §2 (tropospheric + 10 dB)

Table 14: OVERLAPPING CHANNEL PROTECTION RATIOS FOR ANALOGUE WANTED SIGNAL (dB)

	WANTED ANALOGUE SIGNAL					
	SYSTEM M (NTSC/PAL)			SYSTEM N (PAL)		
	$F_u - F_w$ (MHz.)	Tropospheric[1] interference	Continuous[2] interference	$F_u - F_w$ (MHz.)	Tropospheric[3] interference	Continuous[4] interference
INTERFERING ANALOGUE SIGNAL (M,N SYSTEM	-1.5	**0**	**10**	3.6 – 4.8	**28 to 45** (offsets from 0 to 12/12)	**34 to 53**[4] (offsets from 0 to 12/12)
	-1	**30**	**40**			
	-0.75	**40**	**50**			
	0.3	**50**	**60**			
	1	**50**	**60**			
	2.5	**37**	**47**			
	3	**45**	**55**	5.7 – 6.0	**15 to 25** (offsets from 0 to 12/12)	**21 to 35**[4] (offsets from 0 to 12/12)
	3.5	**50** (45 for PAL)	**60** (55 for PAL)			
	3.7	**50** (45 for PAL)	**60** (55 for PAL)			
	4.1	**45**	**55**			
	4.5	**15**	**25**			

[1] Rec. BT.655-7 - Table 4

[2] Rec. BT.655-7 – Appendix 1 to Annex 1 §2: *"… For continuous interference, the values should be increased by 10 dB…"*

[3] Rec. BT.655-7 –Table 12 (no specific mention of system N)

[4] Rec. BT.655-7 – Table 13 (no specific mention of system N)