

REFERENCE STANDARD

Pursuant to section 133(1) of the Radiocommunications Act 1989, and acting under delegated authority from the Secretary of Commerce, I give the following notice:

FM RADIO BROADCASTING – Inter-modulation in Radio Receiver Apparatus

Recognising:

1. That inter-modulation generated in radio receiver apparatus can reduce the quality of radio broadcast reception in the frequency range 88 MHz to 108 MHz.
2. That the standard international practice for broadcasting services is to use the field strengths from transmitters as the criteria for determining service, rather than the performance of individual receivers which can vary significantly.
3. That where substantially the same geographic area is served by transmissions from multiple sites, there is an increased potential for receiver generated inter-modulation to occur.

Noting:

1. That ITU-R Recommendation 412-7 does not adequately address radio receiver generated inter-modulation as it gives no recommended field strength criteria that can be readily applied.
2. That the Australian Broadcasting Authority has issued Technical Planning Guidelines relating to field strengths required for an adequate service and the relativity of field strengths to prevent adverse reception affects like receiver generated inter-modulation.

The Secretary issues the following Reference Standard:

1. Within the coverage area (see notes) of an FM broadcast transmission in the frequency range 88 MHz to 108 MHz:
 - (a) radio receiver apparatus of no more than 1% of the population in that coverage area should be subject to a field strength greater than 110 dB μ V/m.
 - (b) no new transmission in the same frequency range should present a field strength to radio receiver apparatus, within the coverage area, that exceeds the field strength of existing transmissions for more than 10% of the coverage area by:
 - i. 24 dB if the frequency on the new licence is within 2 MHz of the frequency on the existing licence.
 - ii. In all other cases 40 dB.

2. This Reference Standard has effect from Monday 26 July 1999

Dated at Wellington this 19th day of July, 1999.

KATHARINE MOODY,
Manager,
Radio Spectrum Management,
Ministry of Commerce.

Notes:

(1) The coverage area is defined by area enclosed by a contour of field strengths as defined in Section 1.2 of ITU-R Rec BS 412-7. For the purposes of this Reference Standard the minimum field strength is 66 dB μ V/m, and the field strength of 74 dB μ V/m is applicable where the coverage area has a predominance of buildings exceeding two stories high.

(2) The term 'coverage area' as defined in this Reference Standard is not a 'receive coverage area' as defined in section 49(1)(c)(ii) of the Radiocommunications Act 1989