



Practical Principle and Technical Standards for AM Planning

NBTC Thailand – 11.05.2015

- The Practical Principle and Technical Standards for AM Planning consists of the following study, based on the document “*TOR-radio v10 27 08-55_ENG_edit.doc*”:
 - *3.6 Develop a radio frequency plan for AM radio to be used for public, local, and commercial services (local, regional, and national levels) including conditions for use of radio frequency. The radio frequency plan has to cover the following topics (at least):*
 - *3.6.1 Plan the radio frequency channels*
 - *3.6.2 Determine the radio frequency channels for each service area in the specified portion for public, community, and commercial services (local, regional, and national levels) aiming for high efficiency, least impact to the existing licenses, and facilitating the transition to digital systems.*
 - *3.6.3 Determine relevant technical parameters*
 - *3.6.4 Conditions for use of radio frequency, including rule for use of radio frequency along border areas.*

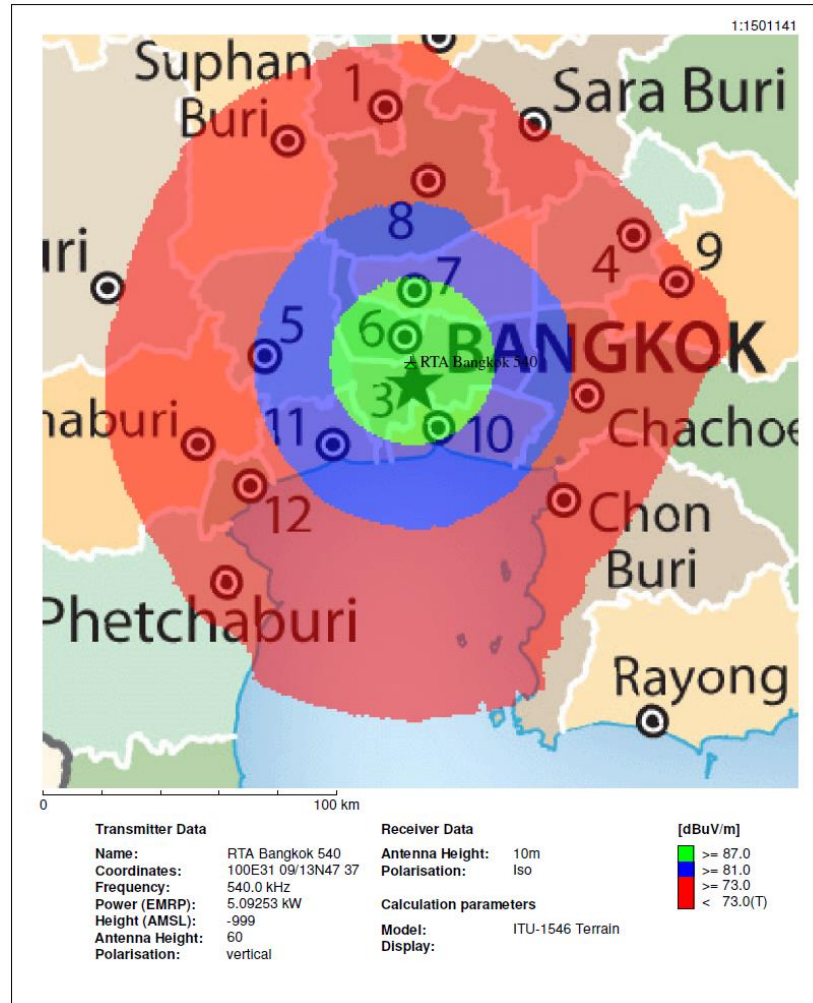
- The Consultant recommends that Thailand adopt the existing GE75 plan. Since Medium Wave propagation must consider large areas in excess of thousands of kilometres, it is recommended that all surrounding countries follows the same coordination regulations. This was the intention of the GE75 plan.
- The GE75 plan also include Emission Standards, protection ratios, minimum field strength values, and other relevant technical information.
 - As shown in Figure 23 of GE75, Thailand location is defined with ITU Region 3, zone B. Therefore, the nominal usable field strength values (relative to 1 $\mu\text{V}/\text{m}$) are (paragraph 4.6 of GE75):

• Daytime ground-wave service:	73 dB
• Night ground-wave service (rural areas):	81 dB
• Night ground-wave service (urban areas):	87 dB
 - Daytime ground-wave service: 73 dB
 - Night ground-wave service (rural areas): 81 dB
 - Night ground-wave service (urban areas): 87 dB



- As described in the GE75 plan, the protection ratios that should be utilised for the coordination of MF (AM) broadcasting are the following:
 - Co-channel: 30 dB (for a stable wanted signal, statistical variability of 50%)
 - Adjacent channel: 9 dB (for a limited degree of modulation compression)

AM Planning – Coverage Example



	Thailand NBTC AM Plan	
	Service Coverage	
	LS telcom for NBTC	sysadmin 07/04/2015



- In order to provide the spectrum definition for the Public, Commercial and Community station's usage, the Consultant is proposing the implementation of the following plan:
 - Stations operating at 5 kW or less than 5 kW of transmitter power (40 stations) should be reserved for Community operation (which corresponds to 20.73% of all stations in operation)
 - Stations operating above 5 kW (10 kW and more), should be reserved for Public and Commercial operation (this corresponds to 153 stations, so 79.27%).



- The coverage for 193 AM stations has been simulated and analysed, and resulting population counts have been provided.

- The Consultant recommends:
 - NBTC should ensure that AM broadcasting services transmission are operating as per the technical parameters provided in section 3.3 of the report.
 - NBTC should follow and respond to international coordination requests in order to ensure that existing AM stations in Thailand keep their protection.

Disclaimer



Copyright (c) 2015 by LS telcom Limited

This document must neither be copied wholly or partly, nor published or re-sold without prior written permission of LS telcom. The information contained in this document is proprietary to LS telcom. The information shall only serve for documentation purposes or as support for education and training purposes and for the operation and maintenance of LS telcom products. It must be treated strictly confidential and must neither be disclosed to any third party nor be used for other purposes, e.g. software development, without the written consent of LS telcom.

This document may contain product names, e. g. MS Windows, MS Word, MS Excel and MS Access, which are protected by copyright or registered trademarks / brand names in favour of their respective owners.

LS telcom make no warranty or representation relating to this document and the information contained herein. LS telcom are not responsible for any costs incurred as a result of the use of this document and the information contained herein, including but not limited to, lost profits or revenue, loss of data, costs of recreating data, the cost of any substitute equipment or program, or claims by any third party.