



Consultative Document

**Migration Plan: 1800 MHz Band to
1900 MHz Band Allocated to Cellular
Mobile Services for the
Telecommunications Services of
Trinidad and Tobago (TSTT)**

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Maintenance History		
Date	Change Details	Version
June 6, 2007	Initial Draft	0.1
June 15, 2007	Consultative version	0.2

1 Introduction

The Authority published a document entitled, “Spectrum Plan for the Accommodation of Public Mobile Telecommunications Services” which identified the radio frequency spectrum available for the introduction of new entrants in the public domestic mobile telecommunications services market. Spectrum was allocated in the 800 MHz (824 – 849 MHz and 869 – 894 MHz) and 1900 MHz (1850 – 1910 MHz and 1930 – 1990 MHz) bands for the provision of public domestic mobile telecommunications services in Trinidad and Tobago.

Notwithstanding this, it was recognized at the time that the Telecommunications Services of Trinidad and Tobago (TSTT) operated a public mobile telecommunications network in the 1800 MHz band (1710 – 1785 MHz and 1805 – 1880 MHz), using GSM technology. Consequently, adequate spectrum was reserved in the 1900 MHz band to allow TSTT to migrate its network and operate in conformance with the Spectrum Plan while maintaining the use of its preferred technology. Further, TSTT’s Spectrum Licence contained a provision which provided for the grant of that reserved spectrum in return for TSTT’s release of the assigned 1800 MHz spectrum.

In keeping with the Spectrum Plan, TSTT now proposes and has requested that the Authority approve its plan to commence the migration process by shifting from a public mobile telecommunications network that operates in the 1800 MHz band to a network that will operate in the 1900 MHz band. It should also be noted that TSTT has deployed GSM technology in the 800 MHz band in the radio spectrum that was previously occupied by its TDMA network. Therefore, in addition to conformance with the Spectrum Plan, the acquisition of spectrum in the 1900 MHz band will also allow TSTT to benefit from the homogenous operation of a public domestic mobile network that is deployed using GSM technology, with spectrum in both the 800 MHz band and 1900 MHz band.

2 Purpose

This document seeks to establish the process by which TSTT shall migrate its public domestic mobile telecommunications network from the 1800 MHz band to the 1900 MHz band allocated for cellular mobile services.

3 Objectives

The objectives of this migration plan are to:

1. Align TSTT with the radio spectrum allocated for cellular mobile services in accordance with the Spectrum Plan for the Accommodation of Public Mobile Telecommunications Services;
2. Establish the process that will enable TSTT to migrate from operating a network in the 1800 MHz band to operating a network in the 1900 MHz band, without undue impairment to its subscribers; and
3. Establish the appropriate licence terms and conditions to support a fair and transparent process.

3 The Consultation Process

The Authority is seeking, in accordance with its “Procedures for Consultation in the Telecommunications Sector of Trinidad and Tobago” (<http://www.tatt.org.tt/pfc-m.html>), the views of industry stakeholders on this document. This document shall be made available to public telecommunications network providers and published for comment on the Authority’s website (www.tatt.org.tt). The consultation process shall be for a period of eight (8) weeks and comprise two (2) rounds of consultation, each of which shall be for a duration of two (2) weeks.

5 Considerations for Migration Plan

The Authority held discussions with TSTT and examined different proposals that presented varied approaches for this migration. The following considerations were noted:

- The migration should be technically feasible and reasonable.
- The migration should occur without unreasonable impairment to subscribers of TSTT and any concessionaire with whom it interconnects.
- The migration process should not offer TSTT any competitive advantage.
- The technical proposal for this migration would entail that TSTT maintain a total of 2 x 30 MHz of combined radio spectrum within the 1800 MHz and 1900 MHz bands from the commencement to the completion of the migration.
- The implementation of the migration should be completed within a three (3) year timeframe.
- After the end of the migration period, TSTT would have an assignment of a maximum of 2 x 20 MHz of spectrum in the 1900 MHz band and it would have surrendered all radio spectrum for cellular mobile services within the 1800 MHz band.
- The Authority would not renew 2 x 5 MHz of radio spectrum presently assigned to TSTT in the 800 MHz band after the statutory period of grant, in order to ensure that there is equity in assignment of radio spectrum in the 800 MHz and 1900 MHz bands for all public domestic mobile telecommunications service providers.

6 Procedures for Migration

TSTT shall effect the migration of its public domestic mobile telecommunications network from the 1800 MHz band to the 1900 MHz band in accordance with the following procedures:

- 6.1 A licence application shall be submitted, via the form attached in Appendix I, for an initial 2 x 10 MHz of radio spectrum in the 1900 MHz band.
- 6.2 Upon receipt of licence application and payment of application fee, the Authority shall consider and if appropriate grant a licence for the abovementioned radio spectrum within five (5) working days (the “new licence”). The 1800 MHz spectrum grant contained in TSTT’s spectrum licence dated 30 December 2005 shall be cancelled, and re-assigned in the new licence, which shall also contain such terms and conditions as are required for the administration of TSTT’s migration from the 1800 MHz band to the 1900MHz band..
- 6.3 During the period of migration, TSTT will from time to time be entitled to acquire additional radio spectrum in the 1900 MHz band, the surrender of equivalent radio spectrum in the 1800 MHz band shall first be effected, via the Notice of Surrender form attached in Appendix II. This form shall be submitted to the Authority at least ten (10) working days prior to the surrender date.
- 6.4 Upon receipt of a Notice of Surrender, the Authority shall grant the additional radio spectrum within the notice period of ten (10) working days, by issuing an appropriate amendment to Schedule B of the new licence.
- 6.5 The acquisition of additional radio spectrum in the 1900 MHz band shall follow parts 6.3 and 6.4 above, until a total of 2 x 20 MHz of spectrum in the 1900 MHz band has been assigned.

7 Terms and Conditions of Migration

The following terms and conditions shall apply during the period of migration:

- 7.1 The Authority shall assign radio spectrum in the 1800 MHz and 1900 MHz band with consideration to the technical migration proposal that has been endorsed.
- 7.2 The total quantum of radio spectrum granted within the 1800 MHz and 1900 MHz bands shall not cumulatively exceed 2 x 30 MHz from the commencement to completion of the migration.
- 7.3 The migration period shall be completed before December 31st, 2010, at which time, if not earlier TSTT's total spectrum usage in the 1800 and 1900 MHz bands shall be 2 x 20 MHz of 1900 MHz spectrum.
- 7.4 The licence fee payable to the Authority during the migration shall be based on TSTT's total spectrum usage.
- 7.5 Within fourteen (14) days of each grant of radio spectrum in the 1900 MHz band, TSTT shall confirm by way of a download from its network, that its usage of frequencies in the 1800 MHz and 1900 MHz bands is in conformance with the current licensed spectrum. Such download shall be provided to the Authority in writing and electronically in such format as the Authority may specify. .
- 7.6 TSTT shall be required to permit the Authority to witness the download of the frequencies in use by the network as required by part 7.5.

Appendix I

LICENCE APPLICATION FORM



Telecommunications Authority of
Trinidad and Tobago
BEN Court
76 Boundary Road,
San Juan

Tel: (868) 675-8288
Fax: (868) 674- 1055
Email: info@tatt.org.tt
Website: www.tatt.org.tt

RADIOCOMMUNICATIONS LICENCE APPLICATION FORM

Form L1

Instructions:

1. Two (2) printed copies of this application must be completed and submitted.
2. Please write in BLOCK CAPITAL letters with the use of a pen.
3. Please refer to the Instructions sheet to help you complete this application.

A. GENERAL INFORMATION		
Applicant:		
Contact Information Name of Individual and Position:		
Mailing Address:		
Telephone:	Fax:	Email:

B. BASIS OF APPLICATION	
<input type="checkbox"/> New Application	<input type="checkbox"/> Renewal
<input type="checkbox"/> Amendment	<input type="checkbox"/> Submitted with Form C10 (Concession Application)

Section C: Where the applicant is submitting this application in connection with an application for a concession to operate a public telecommunications network or to provide public telecommunications or broadcasting services, the applicant shall append a copy of the Concession Application (Form C10) and need not reproduce any information required in Section C of this application that is included in the concession application.

C. COMPANY INFORMATION	
C.1 Company Information:	
Sole Trader <input type="checkbox"/>	Limited Liability <input type="checkbox"/>
Partnership <input type="checkbox"/>	Other <input type="checkbox"/>
If other, please specify:	

Company Registration No.:	
Trinidad and Tobago Company Registration Number (if different from above)	
Company VAT Registration Number:	
Company BIR Number:	Company Registration Date:
Place of Incorporation:	
Registered address or principal place of business:	
Trinidad and Tobago Registered address or principal place of business (if different from above):	
Registered Name:	
Trading or business name (if different from registered name):	
Description of principal business activity of the company:	
<p>Please provide the following information:</p> <ul style="list-style-type: none"> (i) Size of company (including number of staff, company locations, etc). (ii) Full names and addresses of all directors, identifying executive and non-executive positions. (iii) Provide disclosure of any criminal record or personal bankruptcy of any person listed in (c). (iv) Identify all shareholders of the company. If a public company identify all shareholders owning more than 5% of the outstanding allocated and registered shares, including their names, addresses and shareholding (by number and class of shares). (v) Provide a diagram of the ownership and corporate structure of the company, showing any parent, subsidiary or holding companies. (vi) Attach audited financial statements of the company for the past 3 years, any certificate of incorporation or corporate registration and a copy of the company's articles or memorandum of association 	

C.2 Consortium Information

The following additional information is required where an applicant is part of a consortium or joint venture:

- (i) The role and contribution of each consortium member in terms of resources, experience or expertise.
- (ii) The nature of the relationship between members including a copy of the details of any joint venture agreement, memorandum of understanding or shareholder agreement.
- (iii) Company information in accordance with Part 1 above for each consortium member.

D. SERVICE INFORMATION

- (i) Where applicable, the applicant must provide detailed documentation describing any radiocommunications services it intends to provide.
- (ii) Where applicable, the applicant must identify the radiotransmitting equipment and any other facilities it will use in delivering the radiocommunications services, including a detailed description of any equipment installations it intends to make.
- (iii) The applicant must also include a statement explaining its business activities relevant to this application and how the radiotransmitting equipment or radiocommunications services that are the subject of this application relate to those business activities.

E. TECHNICAL RESPONSIBILITY

The applicant must identify the technical staff or contractors responsible for the design, implementation and ongoing operation, use and maintenance of the radiotransmitting equipment.

1. Design and implementation

Name:

Address:
.....

Telephone: Fax:

Mobile I: Email:.....

2. Operation, use and maintenance

Name:

Address:
.....

Telephone: Fax:

Mobile : Email:

For each such person, the applicant must describe the technical qualifications and experience of the person and, where the person is not a permanent employee of the applicant, include a letter from the person confirming the information provided and accepting technical responsibility for the design and implementation and/or operation, use and maintenance of the applicant's equipment.

The applicant should provide any other information relevant to demonstrating that the radiotransmitting equipment will be operated and used by sufficiently experienced personnel, to avoid harmful interference and otherwise to assure ongoing compliance with any licence granted pursuant to this application.

E. DECLARATION AND SIGNATURE

I, the undersigned, do hereby declare that the information provided in this application is correct and accurate to the best of my knowledge. I acknowledge and agree that submitting an application to the Telecommunications Authority of Trinidad and Tobago does not mean that a concession will be granted, and that consideration of this application is a matter for the exercise of the Authority's discretion acting in accordance with the Telecommunications Act, 2001.

Applicant:

Name of individual authorised to sign on behalf of company (Block Capitals):

.....

Title:

Signature:

Date:

G. ATTACHMENTS

Quantity	Form	Description
	AL-SP	Spectrum Licence
	AL-PP	Point -to-Point Link
	AL-PM	Point-to-Multipoint Link
	AL-LM	Land Mobile System
	AL-MA	Marine Radio
	AL-AE	Aeronautical Radio



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SPECTRUM LICENCE TECHNICAL SPECIFICATIONS

Form AL-SP

Instructions:

4. Two (2) printed copies of this application must be completed and submitted.
5. Please write in BLOCK CAPITAL letters with the use of a pen.
6. Please refer to the Instructions sheet to help you complete this application.

PART 1 Spectrum Details	
Total Bandwidth (MHz)	
Frequency Range (MHz)	
Class of Emission	
Operation Type (Continuous / Intermittent)	
Hours of Operation	

PART 2 Station / Antenna Details *	
For multiple stations, this information may be submitted as an attached document	
Geographical Location of Station(s) (degrees, minutes, seconds)	
Height above ground (m)	
Elevation above sea level (m)	
Effective Radiated Power (ERP) / W	
Antenna Details	Type of Antenna
	Make and Model
	Gain (dB)
	Beamwidth (degrees)
	Polarization

Remarks:
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Appendix II

NOTICE OF SURRENDER FORM



Telecommunications Authority of
Trinidad and Tobago
BEN Court
76 Boundary Road,
San Juan

Tel: (868) 675-8288
Fax: (868) 674- 1055
Email: info@tatt.org.tt
Website: www.tatt.org.tt

NOTICE OF SURRENDER OF RADIO FREQUENCY SPECTRUM

Instructions:

7. One (1) printed copy of this notice must be completed and submitted.
8. Please either write in BLOCK CAPITAL letters with the use of a pen or type.
9. Please enter into Part A the general information of licensee.
10. Please enter into Part B the specific radio frequency spectrum to be surrendered.
11. Please enter into Part C the requested radio frequency spectrum.
12. Please complete Part D as required.

A. GENERAL INFORMATION		
Name of Licensee:		
Contact Information Name of Individual and Position:		
Mailing Address:		
Telephone:	Fax:	Email:

B. RADIO FREQUENCY SPECTRUM SURRENDER DETAILS

	Base Station Transmit / MHz	Base Station Receive / MHz
Frequency Range		
Total Bandwidth		

C. RADIO FREQUENCY SPECTRUM REQUEST DETAILS

	Base Station Transmit / MHz	Base Station Receive / MHz
Frequency Range		
Total Bandwidth		

Remarks:

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D. DECLARATION AND SIGNATURE

I, the undersigned, do hereby declare that the information provided in this form is correct and accurate to the best of my knowledge. I agree that the radio frequency spectrum identified in Part B will be surrendered on the day of, and acknowledge that the radio frequency spectrum identified in Part C shall be granted on the aforementioned date of surrender.

Name of individual authorised to sign on behalf of company (Block Capitals):

.....

Title:

Signature:

Date: