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Draft Consultative Document

Authorisation Framework for Citizen Band Radiocommunication Devices

Maintenance History		
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1 Introduction

1.1 Background

The Citizen Band Radio Service or CB radiocommunications is one of several personal radio communication services. It is intended to be used for two-way voice communication by hobbyists and the general public. These devices may offer long range communication depending on atmospheric conditions.

CB Radio is commonly used by truck drivers and motorists for everything from relaying information regarding road conditions and other travel information, to basic socializing and friendly chatter.

1.2 Purpose

This framework seeks to inform the public on authorizations required regarding the use of personal radiocommunication devices used in the Citizen Band (CB) Radiocommunication Service. The motivation for this authorisation approach has spawned from numerous requests from the public to utilize the service for personal use. These radios will be typically used by the public for personal communication and Non-Governmental Organisations (NGOs) assisting in disaster relief response.

This document is a subset of the National Spectrum Plan and should be considered as part of the entire National Spectrum Plan.

1.3 Relevant Legislation

Section (18)(1)(i) of the Telecommunications Act Chap 47:31 ('the Act') mandates the Telecommunications Authority of Trinidad and Tobago ('the Authority') to *“plan, supervise, regulate and manage the use of the radio frequency spectrum, including-the licensing and registration of radio frequencies and call signs to be used by all stations*

operating in Trinidad and Tobago or on any ship, aircraft, or other vessel or satellite registered in Trinidad and Tobago”.

Additionally Section 36(1), states:

No person shall-

- (a) establish, operate or use a radio-communication service;*
- (b) install, operate or use any radio transmitting equipment; or*
- (c) establish, operate or use any radio-communication service on board any ship, aircraft, or other vessel in the territorial waters or territorial airspace of Trinidad and Tobago, other than a ship of war or a military aircraft or satellite registered in Trinidad and Tobago without a licence granted by the Authority*

1.4 **Definitions**

Effective Isotropic Radiated Power (EIRP) is the power that the transmitter appears to have if the transmitter was an isotropic radiator, i.e., if it radiates in all directions.

Effective Radiated Power (ERP) is the peak transmitted power output of the system in a given direction.

Effective Carrier Power (ECP) is the average unmodulated power supplied to a transmission line.

Fixed Station refers to equipment intended to be used in a fixed location.

Integral Antenna is a permanent fixed antenna, which may be built in and designed as an indispensable part of the equipment.

Mobile Station refers to equipment normally fixed in a vehicle.

Base Station refers to equipment normally fixed to a building.

Portable Station refers to equipment intended to be carried.

Telephone Patch is a device used to connect a CB radiocommunication device to a telephone land line.

Transmit Power (TP) RF transmitter power expressed in Watts (W), either mean or peak envelope, as measured at the transmitter output antenna terminals.

CB Handle is a code name used by a CB operator for identification.

2 Review Cycle

This document will be modified periodically by the Authority in order to adapt to the needs of the telecommunications industry and to meet changing and unforeseen circumstances. When such need for modification is required, the Authority shall announce its intention to review the document and any interested party or entity in the telecommunication sector or any appropriate industry forum may suggest changes to the document.

Questions or concerns regarding the maintenance of this spectrum plan should be directed to the Authority via email at technical@tatt.org.tt.

3 Consultation Process

The Authority will seek the views and opinions of the general public and other stakeholders regarding the proposals made in this document in accordance with its “Procedures for Consultation in the Telecommunications Sector of Trinidad and Tobago” (<http://www.tatt.org.tt/pfc-m.html>). The document will be revised with considerations given to the comments and recommendations made during the consultation process.

This document will be made available for the first round of public consultation, carded for four (4) weeks, as recommended by the Authority’s procedures.

4 Operation Licensing and Interference of Citizen Band Radiocommunication Devices

4.1 Operation of CB Radiocommunication Devices

Citizen Band Radiocommunication Services in the USA and Canada is used for personal communication, hobbies and various extracurricular activities. In Trinidad and Tobago, it will be used for similar purposes and by NGOs for assistance in disaster relief and other activities. The main characteristics of these services include:

- i. It operates in the High Frequency (HF) band within the frequency range of 26.965 - 27.405 MHz.
- ii. It consists of 40 HF channels using AM modulation with channel 9 (27.065MHz) officially called the Emergency channel.
- iii. It has a typical communication range of four miles.
- iv. It is typically used to communicate within a 'neighbourhood' by family, friends and associates at recreational activities.
- v. It is 'push to talk' radio.
- vi. It operates on AM (A3) modulation on 4 Watts (carrier power) and single side band operation of (SSB) 12 Watts (peak envelope power)

4.2 Licensing of CB Radiocommunication Devices

In Canada, USA, Japan, Australia, New Zealand, UK and the majority of Europe a licence-exempt approach is used for the operation of CB radiocommunication devices.

In the USA and Canada, CB radiocommunication users do not require a licence in order to operate. The following rules have been implemented by the FCC for the safe operation of CB Radiocommunication devices. The rules applied in Canada are equivalent to the rules enforced in the USA.

- (1) 4 Watts carrier power
- (2) Single Sideband (SSB) 12Watts Peak Envelope Power (PEP)

4.3 Operator Certification requirements for CB Radiocommunication Devices.

Amateur radio operators are required to pass a test at different levels to obtain a certificate of successful completion. Then, apply for a licence from the Authority for privileges to transmit on the various bands. The Authority will not require any certification or testing of CB operators in order to transmit using a CB radiocommunication device. Through the Equipment Certification process, CB operators may be granted a Class Licence if the equipment meets the specifications of this framework.

4.4 Licence exempt versus TATT Class Licence Regime

The Federal Communications Commission (FCC) in the United States of America defines Licence exempt as follows:

“Spectrum that is designated as "unlicensed" or "licensed-exempt," users can operate without an FCC license but must use certified radio equipment and must comply with the technical requirements, including power limits, of the FCC's [Part 15 Rules](#). Users of the license-exempt bands do not have exclusive use of the spectrum and are subject to interference”. Extracted from <http://www.fcc.gov/encyclopedia/accessing-spectrum>

The Authority in its Spectrum Management Policy and Authorisation Framework for the Telecommunications and Broadcasting Sectors of Trinidad and Tobago (‘Authorisation Framework’) defined three (3) types of licences that may be granted. These are:

- Spectrum Licence
- Station Licence
- Class Licence

The Authorisation Framework recognised the need to develop a class licensing regime for the use of low power, low interference potential and mass-market consumer devices which operate within specific technical and operational parameters.

As such, the Class Licence will authorise users of such devices to operate in designated spectrum band(s) on a shared basis, subject to:

- Specific terms and conditions; and
- Specific technical operating parameters.

The class licensing process is intended to be a simplified authorisation process such that minimal administrative and financial burdens are imposed on the Authority and users of class licensed devices.

There is currently zero fee imposed by the Authority for a Class Licence, thus reducing the administrative and financial burdens in licencing these devices for use in Trinidad and Tobago. Users will only be required to get their equipment certified through the Equipment Certification process and not have to fill out any additional forms to apply for a separate licence or be required to pay any annual fees to the Authority.

4.5 Interference

CB service has been designed specifically to minimize harmful interference¹ to other radio services. However, there may be instances where CB radio transmissions may cause harmful interference to other radiocommunication services, for example when the output power of the CB radio is too high. In order to minimize the likelihood of these occurrences, the operators of CB radiocommunication devices shall:

- Use equipment certified by the Authority.
- Not tamper with the CB devices and/or make modifications to the power output or the number of channels.
- Not use any amplifier to boost the transmit power.

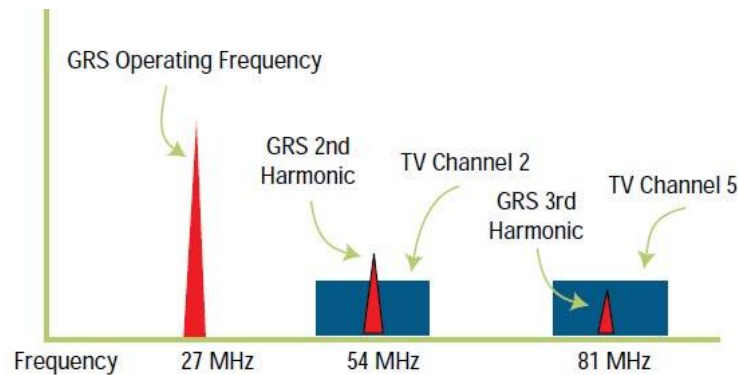


Figure1. Possible Harmonic Interference that can be caused by CB Radios¹

1 ¹ Reference is made to Industry Canada website <http://www.ic.gc.ca> document “Archived—Cutting Through...Interference from Radio Transmitters - A Guide for Radio Operators” <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01378.html>

5 Authorisation of CB Radiocommunication Devices in Trinidad and Tobago

5.1 Framework Methodology

The Authority has considered the administrative and financial implications of station licensing users of CB radiocommunication devices and has found that the licensing of such equipment places an unnecessary burden both on the CB operators and the Authority. Recognizing that the financial and administrative burden of station licensing such users outweighs the possible revenues that could be collected, the Authority is of the view that a ‘light handed’ approach is better suited for regulating such type of equipment. Additionally, there are other contributing factors which favour a ‘light handed’ approach to regulating CB radiocommunication devices. These are:

- the convenience of consumer use;
- technical operating parameters considered low interference potential;
- mass market;
- off-the-shelf availability of these devices; and
- Fixed, Mobile and portable stations are allowed for CB radiocommunication.

The Authority shall adopt a similar licensing approach to that employed internationally (as described in Section 2.2) for the use of CB radiocommunication devices. The terms and conditions for use of these devices shall be adopted from North America.

The Authority shall use the Class Licence Regime² to authorise the CB radiocommunication devices through the Equipment Certification process. Individuals seeking to obtain a Class Licence shall be required to complete the Equipment Certification form (Form EC_01) and submit it to the Authority. The Authority will then ensure that the radio complies with the framework guidelines outlined hereunder. It

should be noted that in order for an individual to obtain a Class Licence the Authority will follow the guidelines stipulated in the Class Licence regime posted on its website

<https://tatt.org.tt/Portals/0/Documents/Class%20Licensing%20Regime.pdf>

2 Reference is made to Telecommunications Authority of Trinidad and Tobago website <http://tatt.org.tt> document “Class Licence Regime” <https://tatt.org.tt/Portals/0/Documents/Class%20Licensing%20Regime.pdf>

5.2 Framework Guidelines

In view of the above, the Authority shall adopt the following framework guidelines for the use of CB radios:

CB Radiocommunication Framework Guidelines:

The Authority shall:

- (1) *Authorise CB radiocommunication devices in accordance with its Class Licensing Regime.*
- (2) *Require registration of all fixed stations as stipulated in section 3.4 of the Authority’s Class Licensing Regime.*
- (3) *Permit CB radiocommunication devices to be used for personal or non-commercial communication.*
- (4) *Allow the use of **only** Fixed, mobile and portable CB radiocommunication devices certified by the Authority in accordance with the Equipment Standardization Framework.*
- (5) *Prohibit the modification of all CB radiocommunication devices.*
- (6) *Allow the frequencies allocated to CB radiocommunication devices to be shared amongst all users.*
- (7) *Prohibit the use of any external amplifier for boosting the output power above 4 Watts.*
- (8) *Limit the maximum ERP of CB devices to operates on AM (A3)—4 Watts (carrier power) SSB—12 Watts (peak envelope power).*

CB Radiocommunication Framework Guidelines:

The Authority shall:

- (9) Authorise CB radiocommunication devices in accordance with its Class Licensing Regime.*
- (10) Prohibit CB operators from integrating their CB radiocommunication devices to the Public Switched Telephone Network or rebroadcasting of any transmission over this medium.*
- (11) Restrict CB radiocommunication devices to voice communication only.*
- (12) Allow CB Radio fixed antenna system to be erected 5 meters higher than the highest point of the building or tree on which it is mounted; however, the highest point of the antenna must be no more than 18 meters above the ground. Fixed antennas shall comply with Town and Country Planning regulations. Fixed antennas located near airports shall also comply with the Civil Aviation Authority's restrictions.*
- (13) Not certify the use of fixed, mobile or portable CB radiocommunication devices which do not conform to these framework guidelines.*
- (14) Not assign call signs or CB handles (code names) to individuals.*
- (15) Not allow the use of call signs issued by the Authority, for example amateur radio, maritime on the CB radiocommunication device channels while communicating.*
- (16) Not permit use of CB radiocommunication devices for public correspondence.*
- (17) Not permit the use of CB radiocommunication devices for obscene, derogatory or inappropriate transmissions.*
- (18) Only permit the use of CB radiocommunication devices by persons 18 years and over. Persons under 18 years of age must be supervised by a person 18 years and over.*
- (19) Mandate that CB operators refrain from causing harmful interference to other CB radiocommunication devices or any other broadcast receiver (e.g. Television and AM/FM Receivers).*
- (20) Not protect, nor shall the users of CB radiocommunication devices claim protection from, harmful interference caused by similar or other radiocommunication devices.*
- (21) Amend Table 1, Second Schedule, Telecommunications (Fee) Regulations, 2006 by deleting the reference to "CB Station Licence" and removing the licence and application fees payable.*

6 Annex 1 - CB Radiocommunication Devices Channel Numbers and Frequency

Channel No.	(MHz)
1	26.965
2	26.975
3	26.985
4	27.005
5	27.015
6	27.025
7	27.035
8	27.055
9	27.065
10	27.075
11	27.085
12	27.105
13	27.115
14	27.125
15	27.135
16	27.155
17	27.165
18	27.175
19	27.185
20	27.205
21	27.215
22	27.225
23	27.255
24	27.235
25	27.245
26	27.265
27	27.275
28	27.285
29	27.295
30	27.305
31	27.315
32	27.325
33	27.335
34	27.345
35	27.355
36	27.365
37	27.375
38	27.385
39	27.395
40	27.405

7 References

References were made to:

1. FCC Website:
<http://www.ecfr.gov/cgi-bin/text-Document?SID=fa371e73c1c4307e56567fa81a9e85fe&node=47:5.0.1.1.5.4&rgn=div6>
Document “Subpart D—Citizens Band (CB) Radio Service”
<http://www.ecfr.gov/cgi-bin/text-idx?SID=fa371e73c1c4307e56567fa81a9e85fe&node=47:5.0.1.1.5.4&rgn=div6>
2. Industry Canada Website:
<http://www.ic.gc.ca/eic/site/icgc.nsf/eng/home>
Document “Cutting Through...Interference from Radio Transmitters -Guidefor Radio Operators”
<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01378.html>
3. FCC Website:
<http://www.fcc.gov/>
Document “FCC Encyclopaedia accessing spectrum”
<http://www.fcc.gov/encyclopedia/accessing-spectrum>
4. Reference is made to Telecommunications Authority of Trinidad and Tobago Website:
<http://tatt.org.tt>
Document “Class Licence Regime”
<https://tatt.org.tt/Portals/0/Documents/Class%20Licensing%20Regime.pdf>