Authorisation Framework for Citizens Band Radiocommunications Devices

Maintenance History

Date	Change Details	Version
April 28, 2014	First draft for the first round of public consultation	0.1
June 30, 2014	Revised consultative document based on comments received from the first round of consultation	0.2
August 22, 2014	Revised consultative document based on comments received from the second round of consultation	0.3
September 9, 2014	Revised consultative document based on comments from Management	0.4
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1 Introduction

1.1 Background

The Citizens Band radiocommunications service, or CB radiocommunications (CB radio), is one of several personal radiocommunications 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 socialising and friendly chatter. The Citizens Band radiocommunications service, or CB radiocommunications (CB radio), is one of several personal radiocommunications 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 socialising and friendly chatter.

1.2 Purpose

The aim of this Authorisation Framework for Citizens Band Radiocommunications Devices (the Framework) is to inform the public about the authorisations required regarding the use of CB radiocommunications devices. The motivation for this authorisation approach has spawned from numerous requests from the public to utilise the service for personal use. These radios will be typically used by the public for personal communication and by non-governmental organisations (NGOs) assisting in disaster relief response.

This document is a subset of the *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

Base station refers to equipment normally fixed to a building.

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

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

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.

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.

Portable station refers to equipment intended to be carried.

Public correspondence is defined as content that is communicated or broadcast via national radio, television, newspapers and other media services.

Telephone patch is a device used to connect a CB radiocommunications device to a telephone land line.

Transmit power is the transmitter power expressed in watts (W), either mean or peak envelope, as measured at the transmitter output antenna terminals.

2 Review Cycle

This document will be modified periodically by the Authority 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 telecommunications sector or any appropriate industry forum may suggest changes to the document.

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

3 Consultation Process

In accordance with its *Procedures for Consultation in the Telecommunications and Broadcasting Sectors of Trinidad and Tobago*, the Authority sought the views of industry stakeholders on the first draft of this document. The document was revised with consideration of the comments and recommendations received in that first consultation phase (see Appendix I for those Decisions on Recommendations (DoRs) and issued for a second round of consultation. All subsequent revisions are reflected in this final version of the document.

4 Operation Licensing and Interference of Citizens Band Radiocommunications Devices

4.1 Operation of CB Radiocommunications Devices

CB radiocommunications services in Canada and the USA are 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 such services include:

i. Operation on the high frequency (HF) band within the frequency range of 26.965 - 27.405 MHz

ii. Forty (40) HF channels using AM modulation with channel 9 (27.065MHz) officially called the emergency channel

iii. A communication range of four miles

iv. Communication within a "neighbourhood" by family, friends and associates at recreational activities

v. Operation as a "push to talk" radio

vi. 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 Radiocommunications Devices

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

In Canada and the USA, CB radiocommunications users do not need a licence in order to operate. The following rules have been implemented by the Federal Communications Commission (FCC) for the safe operation of CB radiocommunications devices. The rules applied in Canada are equivalent to the rules enforced in the USA.

(1) 4 watt carrier power

(2) Single sideband (SSB) 12 watt peak envelope power (PEP)

4.3 Operator Certification Requirements for CB Radiocommunications Devices

Amateur radio operators are required to pass a test at different levels to obtain a certificate of successful completion. They must 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 radiocommunications 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 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

In its *Spectrum Management Policy and Authorisation Framework for the Telecommunications and Broadcasting Sectors of Trinidad and Tobago* (the Authorisation Framework), the Authority has defined three types of licences that may be granted. These are:

a. Spectrum licences

b. Station licences

c. Class licences

The Authority 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:

i. specific terms and conditions.

ii. 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.

Currently, zero fees are 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 minimise harmful interference[1] to other radio services. However, there may be instances where CB radio transmissions may cause harmful interference to other radiocommunications services, for example, when the output power of the CB radio is too high. In order to minimise the likelihood of these occurrences, the operators of CB radiocommunications devices shall:

i. use equipment certified by the Authority.

ii. not tamper with the CB devices and/or make modifications to the power output or the number of channels.

iii. not use any amplifier to boost the transmit power.

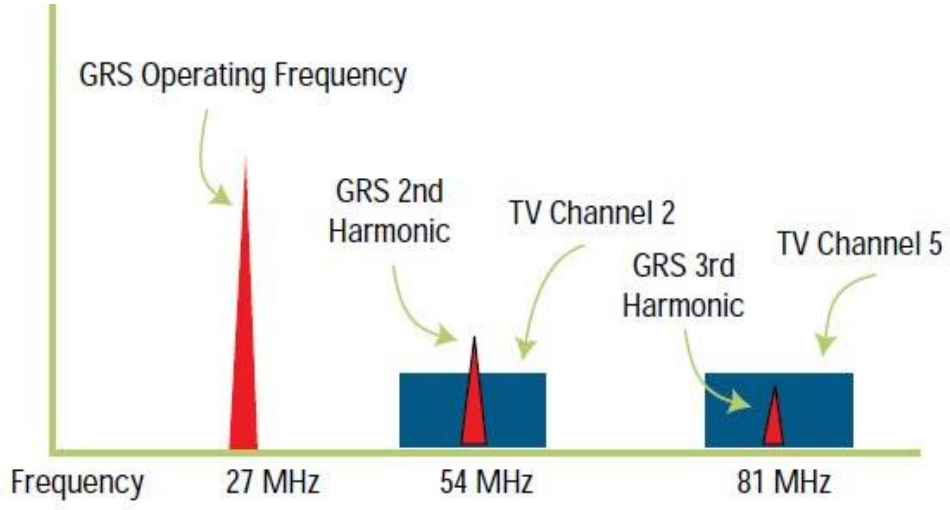

Figure 1. Possible harmonic interference that can be caused by CB radios

[1] Reference is made to Industry Canada's website http://www.ic.gc.ca document, *Archived—Cutting Through Interference from Radio Transmitters - A Guide for Radio Operators.*

5 Authorisation of CB and Emergency Communication in Trinidad and Tobago

5.1 Designation of Channels for Emergency Communication

CB radiocommunications devices can be utilised for emergency HF communication in Trinidad and Tobago. In light of this, the Authority is tasked with providing spectrum for a draft National Emergency Communication Plan being prepared by the Office of Disaster Preparedness and Management (ODPM), a division of the Ministry of National Security. In order to assist the ODPM, regional corporations, CB radio operators directly involved in emergency relief operations, and first responders in communicating critical information as it pertains to local and national disasters or other emergencies, the Authority is proposing that the following five channels (3, 5, 7, 9, 7, 11) be used for emergency communication only in the event of local or national emergencies as outlined in Appendix 1.

6 Authorisation of CB Radiocommunications Devices in Trinidad and Tobago

6.1 Framework Methodology

The Authority has considered the administrative and financial implications of station licensing users of CB radiocommunications devices and has found that the licensing of such equipment places an unnecessary burden both on the CB operators and the Authority. Recognising 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 types of equipment.

There are also other contributing factors which favour a light-handed approach to regulating CB radiocommunications devices. These are:

a. the convenience of consumer use

b. technical operating parameters considered low-interference potential

c. mass market

d. off-the-shelf availability of these devices

e. fixed, mobile and portable stations are allowed for CB radiocommunications

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

The Authority shall use the Class Licence Regime[2] to authorise the use of CB radiocommunications devices, through its 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//device 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 the Authority's website http://tatt.org.tt document *Class Licence Regime* https://tatt.org.tt/Portals/0/Documents/Class%20Licensing%20Regime.pdf

6.2 Framework Guidelines

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

CB Radiocommunications Framework Guidelines:

The Authority shall:

1. *authorise CB radiocommunications 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 radiocommunications devices to be used for personal or non-commercial communication.*

4. *allow the use of only fixed, mobile and portable CB radiocommunications devices certified by the Authority, in accordance with the* Equipment Standardization Framework.

5. *prohibit the modification of all CB radiocommunications devices.*

6. *allow the frequencies allocated to CB radiocommunications 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 operate on AM (A3) — 4 watts (carrier power) SSB — 12 watts (peak envelope power).*

9. *prohibit CB operators from integrating their CB radiocommunications devices to the Public Switched Telephone Network or rebroadcasting any transmission over this medium.*

10. *restrict CB radiocommunications devices to voice communication only.*

11. *allow CB radio fixed antenna systems 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.*

CB Radiocommunications Framework Guidelines: (cont'd)

The Authority shall:

12. *not certify the use of fixed, mobile or portable CB radiocommunications devices which do not conform to these Framework guidelines.*

13. *not assign call signs or CB handles (code names) to individuals.*

14. *not allow the use of call signs issued by the Authority, for example, amateur or maritime radio, on the CB radiocommunications device channels while communicating.*

15. *not permit the use of CB radiocommunications devices for public correspondence.*

16. *not permit the use of CB radiocommunications devices for obscene, derogatory or inappropriate transmissions.*

17. *mandate that CB operators refrain from causing harmful interference to other CB radiocommunications devices or any other broadcast receiver (e.g., television and AM/FM receivers).*

18. *not protect, nor shall the users of CB radiocommunications devices claim protection from, harmful interference caused by similar or other radiocommunications devices.*

19. *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.*

20. *require all operators of CB radiocommunications devices to give priority access to ODPM, regional corporations, CB radio operators directly involved in emergency relief operations and first responders to the following five channels (3,5,7,9,11), in the event of local or national emergencies to assist in emergency communications*.

7 References

References were made to:

FCC. Document "Subpart D—Citizens Band (CB) Radio Service" https://www.ecfr.gov/cgi-bin/text-idx?SID=233e6fd76e992814a610161d3af55359&mc=true&node=sp47.5.96.d&rgn=div6 (accessed 2014)

Industry Canada. Cutting Through…Interference from Radio Transmitters -Guide for Radio Operators http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01378.html (accessed 2014)

FCC. FCC Encyclopaedia accessing spectrum http://www.fcc.gov/encyclopedia/accessing-spectrum(accessed 2014)

TATT. Class Licence Regime https://tatt.org.tt/Portals/0/Documents/Class%20Licensing%20Regime.pdf (accessed 2014)

Appendix 1 — CB Radiocommunications Devices: Channel Numbers and Frequencies

Channel No.	(MHz)	Channel Designation
1	26.965	
2	26.975	
3	26.985	Reserved for emergency communication in the event of a local or national emergencies
4	27.005	
5	27.015	Reserved for emergency communication in the event of local or national emergencies
6	27.025	
7	27.035	Reserved for emergency communication in the event of local or national emergencies
8	27.055	
9	27.065	Reserved for emergency communication only
10	27.075	
11	27.085	Reserved for emergency communication in the event of a local or national emergencies
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	

Appendix 2 — Decisions on Recommendations (DoRs) from the First Round of Consultation on the *Authorisation Framework for Citizens Band Radiocommunications Devices*

The following summarises the comments and recommendations received from stakeholders on the first draft of the *Authorisation Framework for Citizens Band Radiocommunications Devices* (the Framework), dated April 28, 2014, and the decisions made by the Telecommunications Authority of Trinidad and Tobago (the Authority), as incorporated in this revised document, dated June 27, 2014.

Document Sub-Section	Submission Made By: Stakeholder Category[3]	Comments Received	Recommendations Made	TATT's Decisions
Section 1				
1.2 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.	REACT	The Radio Emergency Associated Communications Teams (REACT), a voluntary, registered non-profit organization, takes the opportunity to congratulate TATT and extend appreciation for the attention given to the licensing of CB radiocommunications. The availability of CB equipment serves to enhance the capabilities of emergency radio communications organizations such as REACT in its work with the regional corporations and the ODPM in the area of disaster relief response.		Noted. The Authority welcomes the contribution made by REACT and all its members in developing a policy that will assist in improving their radiocommunications options and those of other users of CB radiocommunications services. REACT is asked to note that the Authority proposes to issue Class Licences to CB stations, which is different from issuing a license to individual CB stations or operators.

[3] Regional regulatory or Governmental agencies, existing service and/or network providers and affiliates, potential service and/or network providers and affiliates, service/ network provider associations/clubs/groups and the general public

Document Sub-Section	Submission Made By: Stakeholder Category[3]	Comments Received	Recommendations Made	TATT's Decisions
4.4 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. **5.1 The** Authority shall use the Class Licence Regime 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.	REACT	(a) It is assumed that an individual purchasing a new CB radio from a local dealer (e.g. Radio Shack), will proceed with the Equipment Certification process after (and not before) the acquisition. Clarification is sought to confirm that this is the correct interpretation. (b) It is assumed that an individual purchasing a second-hand CB radio from an individual (say), will need to also follow the Equipment Certification process upon taking possession from the previous owner. Clarification is sought to confirm that this is the correct interpretation.		Local dealers will be responsible for getting their equipment certified before it is imported into the country. This is standard for all telecommunications equipment imported. It will not be necessary for the user to come to the Authority to apply for additional equipment certification. However, users do have the option to import their equipment. In order to import any transmitting equipment, including CB equipment, one must first apply for and obtain the Authority's equipment certification approval. The user must ensure that the current owner has obtained equipment certification from the Authority or that the equipment is on the Authority's list of certified equipment (see TATT's website www.tatt.org.tt).
5.2 (8) Limit the maximum ERP of CB devices to operates on AM (A3)—4 Watts (carrier power) SSB—12 Watts (peak envelope	REACT	Some equipment available on the market includes FM emission, and should pose no difficulties when used.	REACT requests the approval of FM mode – 4 Watts, in addition to the other stated modes.	The Authority has researched the recommendation and has found that, in Canada and the USA, FM CB operation is not allowed. The Authority is acceding to the recommendations for ITU Region

Document Sub-Section	Submission Made By: Stakeholder Category[3]	Comments Received	Recommendations Made	TATT's Decisions
power).				2 only. As such, the Authority will not allow CB operation in FM mode.
5.2 (11) Restrict CB radiocommunication devices to voice communication only.	REACT	In emergencies and disaster communications, data can be used more efficiently and effectively to transmit critical information. Standby/call channels should be established and standardized.	REACT requests to allow the use of channel 40 (27.405) for data transmission using digital modes. Channels 37-39 (27.375 – 27.395) should be allocated for SSB. TATT should assign two call channels. REACT suggests channel 20 (27.205) AM and channel 38 (27.385) SSB modulation.	Based on the Authority's research, data transmission on CB radiocommunications devices is not allowed in Canada and the USA. The Authority shall adopt ITU Region 2 policies only. As such, the Authority will not allow CB operation in FM mode. This Framework allows the use of AM and SSB CB radiocommunications devices. When necessary, users may choose their modulation schemes, at their own preference, to improve reception. The Authority recognises that CB is often used as a communication tool during emergency situations and also at large events which require radiocommunications. The Authority also recognises that the Draft National Emergency Communications Plan includes the use of CB radiocommunications devices, both by the regional corporations

Document Sub-Section	Submission Made By: Stakeholder Category[3]	Comments Received	Recommendations Made	TATT's Decisions
				and at the National Emergency Operations Center (NEOC). Consequently, section 5 of this Framework has been added to make provision for the designation of channels only in the event of local and national emergencies, consistent with the Authority's commitment to provide spectrum for the Draft National Emergency Communications Plan.
5.2 (14) The Authority shall Not assign call signs or CB handles (code names) to individuals.	REACT	It is anticipated that conflicts could arise including disputes and inappropriate choices of call signs.	REACT suggests that TATT should be responsible for assigning call signs which can possibly be issued during the equipment certification process as it is assumed that all CB users will need to follow the Equipment Certification process at least once.	The Authority has taken the decision to class licence CB radiocommunications devices and, as such, call signs are not issued under the Class Licence Regime. Additionally, if the Authority issues call signs, this will create an administrative and financial burden on the Authority and may require a licence and a remittance fee to be charged to the users. Stations established at the regional corporations and at the NEO C will be allowed to assign their own call signs. For example, the NEOC will be permitted to assign its own call sign.

Document Sub-Section	Submission Made By: Stakeholder Category[3]	Comments Received	Recommendations Made	TATT's Decisions
5.2 (17) The Authority shall Not permit the use of CB radiocommunication devices for obscene, derogatory or inappropriate transmissions.	REACT		Add: Including advertising, sales political and religious content.	This issue has been addressed in the Framework's guidelines 16 and 17 relating to "public correspondence". The document has been amended, providing a definition of public correspondence in the list of definitions found in section 1.4.
5.2 (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.	REACT	REACT has Junior members in the age range of 11 to 17.	REACT requests that the supervision level be relaxed to allow for Junior REACTers who have been suitably trained to operate without close supervision and semi-autonomously at a distance, but under the general guidance of adult/senior REACT members 18 years and over.	The Authority agrees with the removal of the age restrictions, as the real issue is one of misuse, which is already captured in guidelines 16 and 17. The Framework has been amended accordingly.

Appendix 3 — Decisions on Recommendations (DoRs) from the Second Round of Consultation on the *Authorisation Framework for Citizens Band Radiocommunications Devices*

The following summarises the comments and recommendations received from stakeholders on the second draft of the *Authorisation Framework for Citizens Band Radiocommunications Devices* (the Framework), dated June 2014.

Document Sub-Section	Submission Made By: Stakeholder Category[4]	Comments Received	Recommendations Made	TATT's Decisions
Section 1				
none	S.P.E.R.O.T.T. (South professional emergency radio operators of Trinidad and Tobago). Ken Arjoon Snr. President of SPEROTT	We the members of SPEROTT would like to thank TATT for recognizing the importance of CB radios in Trinidad and Tobago. We have reviewed the documents and is in agreement with the framework for citizen band radiocommunication devices thus far.		The Authority welcomes and thanks SPEROTT for their comments.

[4] Regional regulatory or Governmental agencies, existing service and/or network providers and affiliates, potential service and/or network providers and affiliates, service/network provider associations/clubs/groups and the general public