

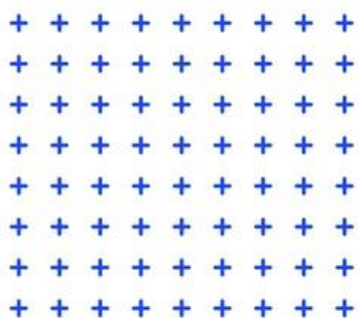
COTA APPLET



GUÍA DE INSTALACIÓN

IMOX

COTA Platform



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1. INTRODUCTION

This version of the Applet for COTA platform is used such as a channel for installing Operator's Android Application for getting information, communicate news, personalize and configure Terminals/Mobiles in open markets allowing adding new subscribers in a fast and profitable solution.

Once the Operator's Android Application is installed, there are the following benefits:

- Getting successfully in the configuration and integration of the Operator in thousands of Terminals/Mobiles with different characteristics that accomplish in the Operator's Network.
- Getting fast revenue thanks to the Application in open markets.
- Personalization and installation of strategic Applications from the Operator.
- Guarantee the best performance of Network use in Terminals/Mobiles in open markets thanks to Network Parameters Configuration.

2. REQUIREMENTS

2.1. APIs needed for SIM Cards Operating System

Java Card	2.1.2
UICC Version	R6

IMPORTANT:

If it is required, there is an applet prepared for R99/R5 with sim libraries, not UICC.

2.2. Events and UICC Toolkit Commands used by the Applet

- Event: FORMATTED SMS PP ENV.
- Proactive Command: Display Text.
- Proactive Command: Send SMS
- Proactive Command: Launch Browser.
- Proactive Command: Provide Local Information.



3. APPLET INSTALLATION

3.1. Applet Parameters

Applet Version	02.09
Package AID	A0 00 00 01 51 41 43 4C 02 09 22 05 43 50 41 00
Applet Class AID	A0 00 00 01 51 41 43 4C 00
Instance AID	A0 00 00 01 51 41 43 4C 00
TAR	43 50 41

3.2. Memory Requirement

- Non volatile Memory: 5.637 – 58 SMS-PP for downloading by SMS-OTA Classic.
- RAM - volatile: 101 bytes

3.2. UICC Toolkit Parameters

Access Domain: 00

Priority Level of the Toolkit application instance: FF

Maximum number of timers: 01

Maximum text length: 00

Maximum number of menu entries: 00

Position of the first menu entry: Identifier of the first menu entry

Maximum number of channels: 00

Minimum security level: No MSL

Non-volatile memory (Non-volatile memory used to install the applet):

Volatile memory for installation (Volatile memory used to install the applet):

Default Launch Browser URL:

<https://cota-sdk.mnc020.mcc334.pub.3gppnetwork.org:8181/applet/119?mcc=111&mnc=111>

UICC System Specific Parameters:

800BFF01000000000343504100

UICC Toolkit Application specific parameters:



0201000000000343504100

3.4. Application Specific Parameters

NUM	Parameter	Mandatory	Bytes	Value	Details
1	SMS Shortcode	YES	Variable	05 81 06 01 F4	<p>Shortcode reserved for IMOX: 60104</p> <p>Num digits: 05 TON/NPI: 81 Address: 60 01 F4 Nibble Swapped: 06 10 F4 Format according to standard 3GPP 23.040.</p> <p>Minimum: 4 bytes, number of digits + TON/NPI + 3 digits for address. Maximum: 12 bytes totally.</p>
2	Timer	YES	3 bytes	32 95 95	<p>Timer defined for production: 23 hours 59 minutes 59 seconds</p> <p>Timer: 235959 Nibble Swapped: 329595</p> <p>Timer for testing, suggested: 000200 – 2 minutes Nibble Swapped: 00 20 00</p> <p>Defining the value 00 00 00 is not possible; it is rejected by the applet. The value should be a valid hour, minute and second.</p>
3	SMS Retries	YES	2 bytes	0B 40	<p>Amount of Status Commands for waiting each retry taking into account the SMS with IMEI.</p> <p>The retries depends on receiving the administrative command "F9". The retries do not depend on the response for the Send SMS.</p>

NUM	Parameter	Mandatory	Bytes	Value	Details
					<p>Each Status Command is 30 seconds.</p> <p>Value suggested for production: 0x0B 40 = 2.880 Status Commands => 1.440 minutes => 24 hours.</p> <p>Valor suggested for testing: 00 06 => 3 minutes.</p> <p>Defining the value 00 00 means no retries. The maximum value between each retry is 0x7F FF => 32.767 in decimal => 16.383 minutes => 273 hours => 11 days.</p>
4	MCC	YES	3	31 31 31	<p>MCC = Mobile Country Code Operator's country value according to GSM in ASCII.</p> <p>It is being used in the destination URL for Launch Browser UICC Toolkit command.</p> <p>Examples: https://es.wikipedia.org/wiki/MCC/MNC:</p>
5	MNC	YES	3	31 31 31	<p>MNC = Mobile Network Code Operator's network value according to GSM in ASCII.</p> <p>It is being used in the destination URL for Launch Browser UICC Toolkit command.</p> <p>Examples: https://es.wikipedia.org/wiki/MCC/MNC:</p>
6	Timer Activation	YES	1 byte	31	31 = Timer activated from the beginning

NUM	Parameter	Mandatory	Bytes	Value	Details
	By Default				<p>(EVENT_PROFILE_DOWNLOAD).</p> <p>Anything different = Timer not activated from the beginning, example 0x30. (EVENT_PROFILE_DOWNLOAD). The Timer is activated by an administrative command.</p> <p>If the Timer is activated by default, there is no SMS with IMEI.</p>
7	Display Text Retries	YES	1 byte	31	<p>31 = When there is no response or error in the Pop Up Display Text, the 2 retries are activated loading the Timer with the defined value.</p> <p>Anything different = no retries for Display Text, example 0x30.</p>
8	Update URL Supported	YES	1 byte	01	<p>01 = Allow update URL by OTA SMSPP.</p> <p>Anything different = not allowed example 0x30. By default, it is suggested the value 0x30.</p>
9	SMS APK Notification	YES	2 bytes	4E C0	<p>Maximum amount of Status Commands for waiting each APK Notification to the applet. If this maximum is reached, an SMS is being sent to the Server for notification. Each Status Command is 30 seconds.</p> <p>Value suggested for production: 0x4E C0 = 20.160 Status Commands => 7 days => 1 week.</p> <p>Valor suggested for testing: 00 06 => 3 minutes.</p> <p>Defining the value 00 00 means no</p>



NUM	Parameter	Mandatory	Bytes	Value	Details
					notification. The maximum value is 0x7F FF => 32.767 in decimal => 16.383 minutes => 273 hours => 11 days.
10	LOCI Notification	YES	2 bytes	00 00	Status Commands taking into account LOCI Notification to the Server with SMS. - No Notification: 00 00 - 1 day: If it is needed 24 hours, this means $24 \times 60 = 1.440$ minutes => $\times 2$ => 2.880 Status Commands => 0x0B 40 - Maximum 11 days: $0x7F\ FF = 32.767 / 2$ => 16.383 minutes. 16.383 minutes / 60, maximum hours => 273 hours. 273 hours / 24, maximum days => 11 days maximum. - 1 week = 7 days $2.880 \text{ per day} \times 7 \text{ days} = 20.160$ Status Commands 20160 => 0x4E C0
11	LOCI for APK	YES	2 bytes	00 00	Status Commands taking into account LOCI request so that it is saved for answering APK - No request: 00 00 - 1 day: If it is needed 24 hours, this means $24 \times 60 = 1.440$ minutes => $\times 2$ => 2.880 Status Commands => 0x0B 40 - Maximum 11 days: $0x7F\ FF = 32.767 / 2$ => 16.383 minutes. 16.383 minutes / 60, maximum hours => 273 hours. 273 hours / 24, maximum days => 11 days maximum. - 1 week = 7 days $2.880 \text{ per day} \times 7 \text{ days} = 20.160$ Status Commands



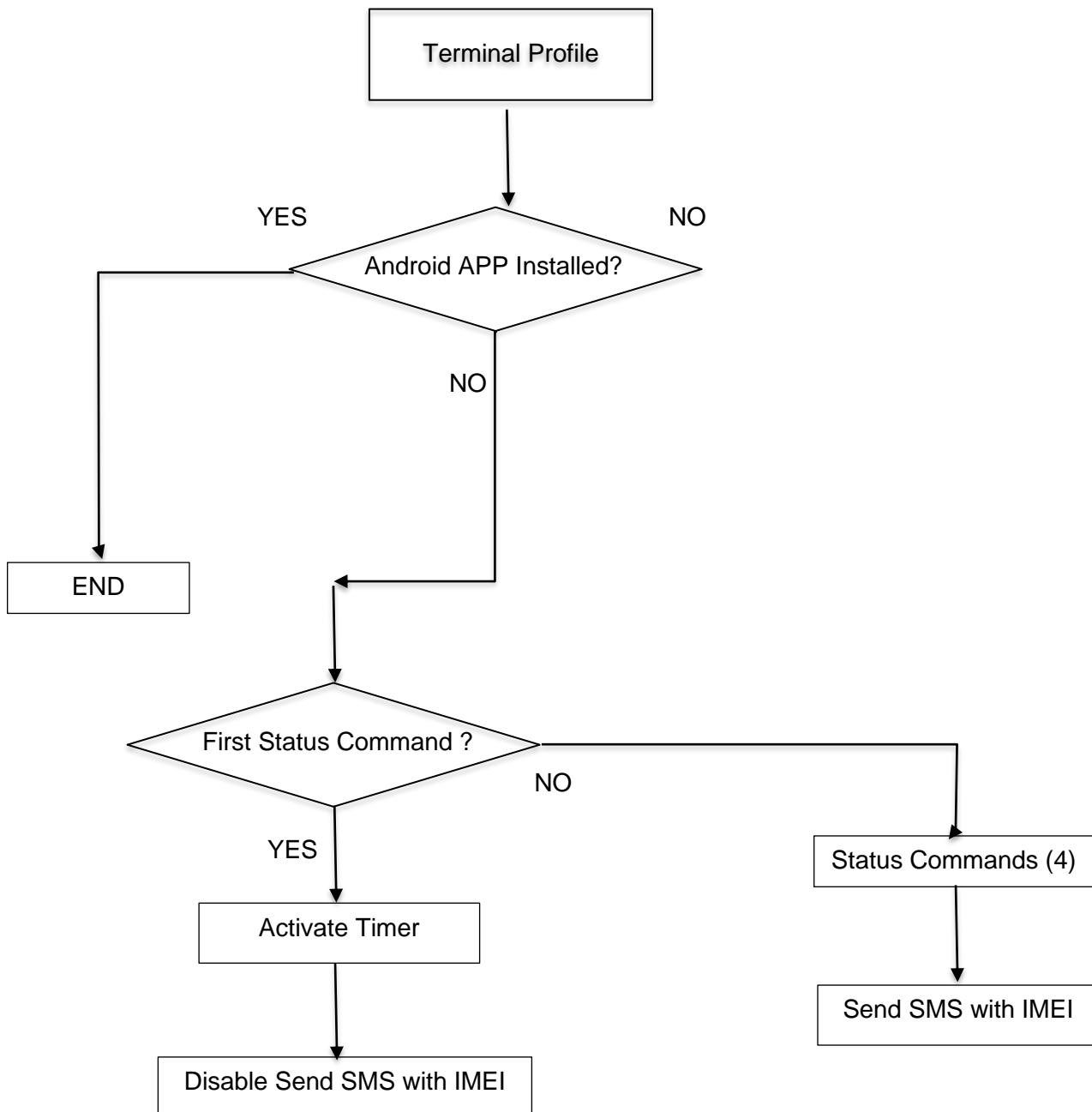
NUM	Parameter	Mandatory	Bytes	Value	Details
					20160 => 0x4E C0
12	TPDA SMPP Validation	YES	1 byte	00	This byte defines whether the applet validates the source TPDA from SMPP. E1 = this means no validation. Any other value such as 00, this means validation. By default, the TPDA is validated.
13	Change IMEI – PopUp Activation	YES	1 byte	31	This byte defines whether the applet starts Timer when the IMEI has changed or not. If it is changed the Mobile, new IMEI, it can be started the initial Timer so that the default PopUp is showed. 0x31 = Yes, changed IMEI starts Timer for PopUp. Any other value does nothing, for example, 0x30.

Example for Testing:

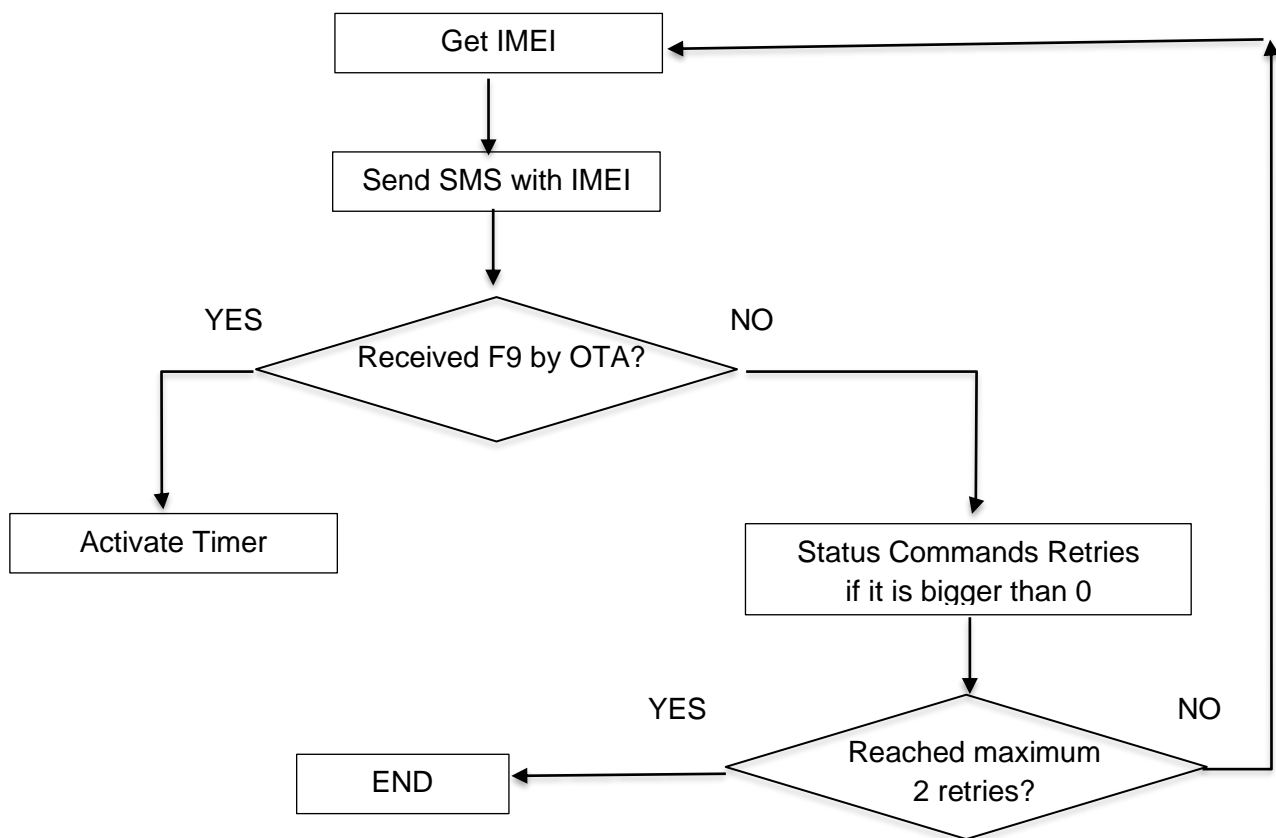
0x05 81 06 01 F4 00 20 00 00 06 31 31 31 31 31 31 31 01 00 00 00 00 00 00 00 31

4. APPLET FLOWS

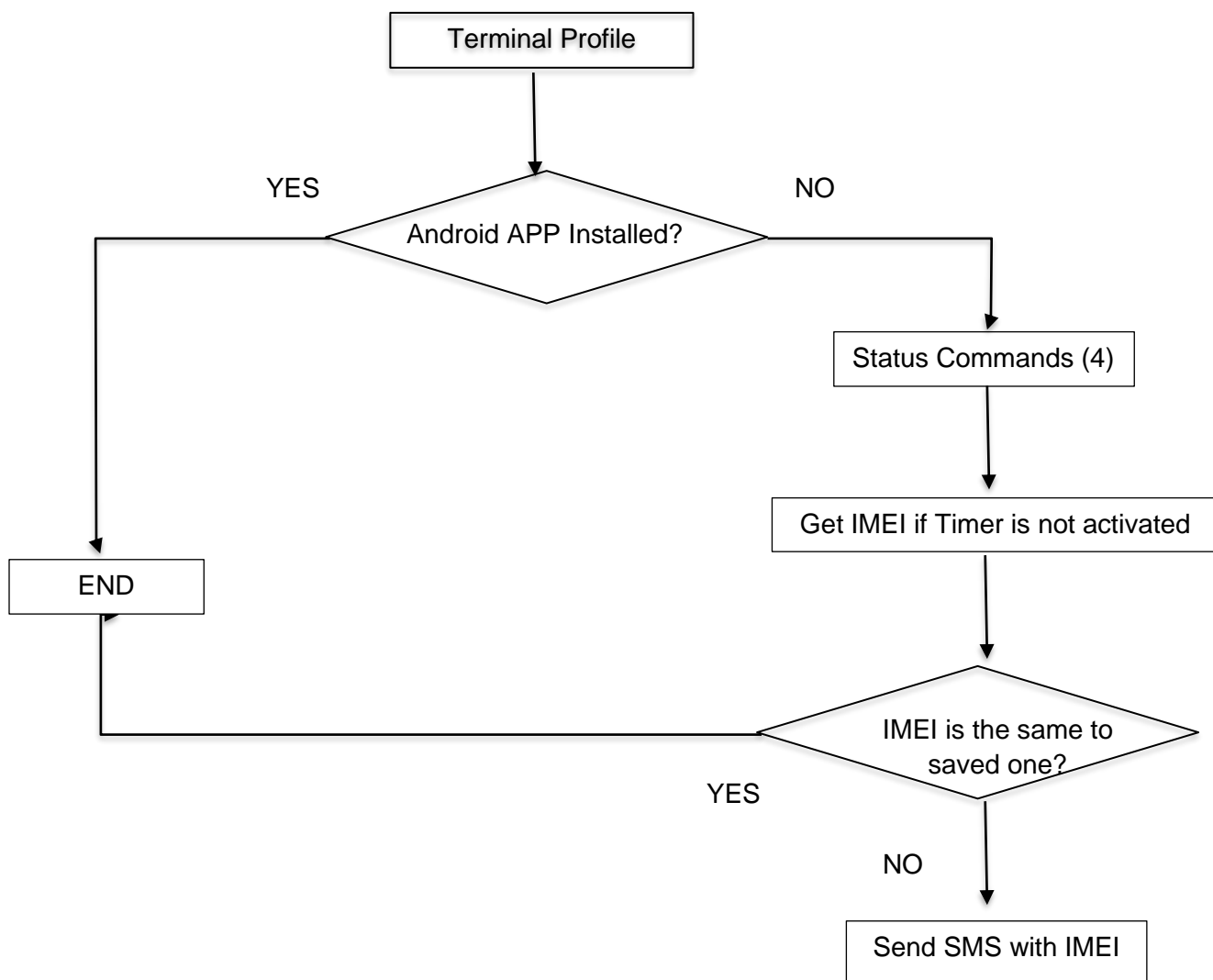
4.1. Applet First Run



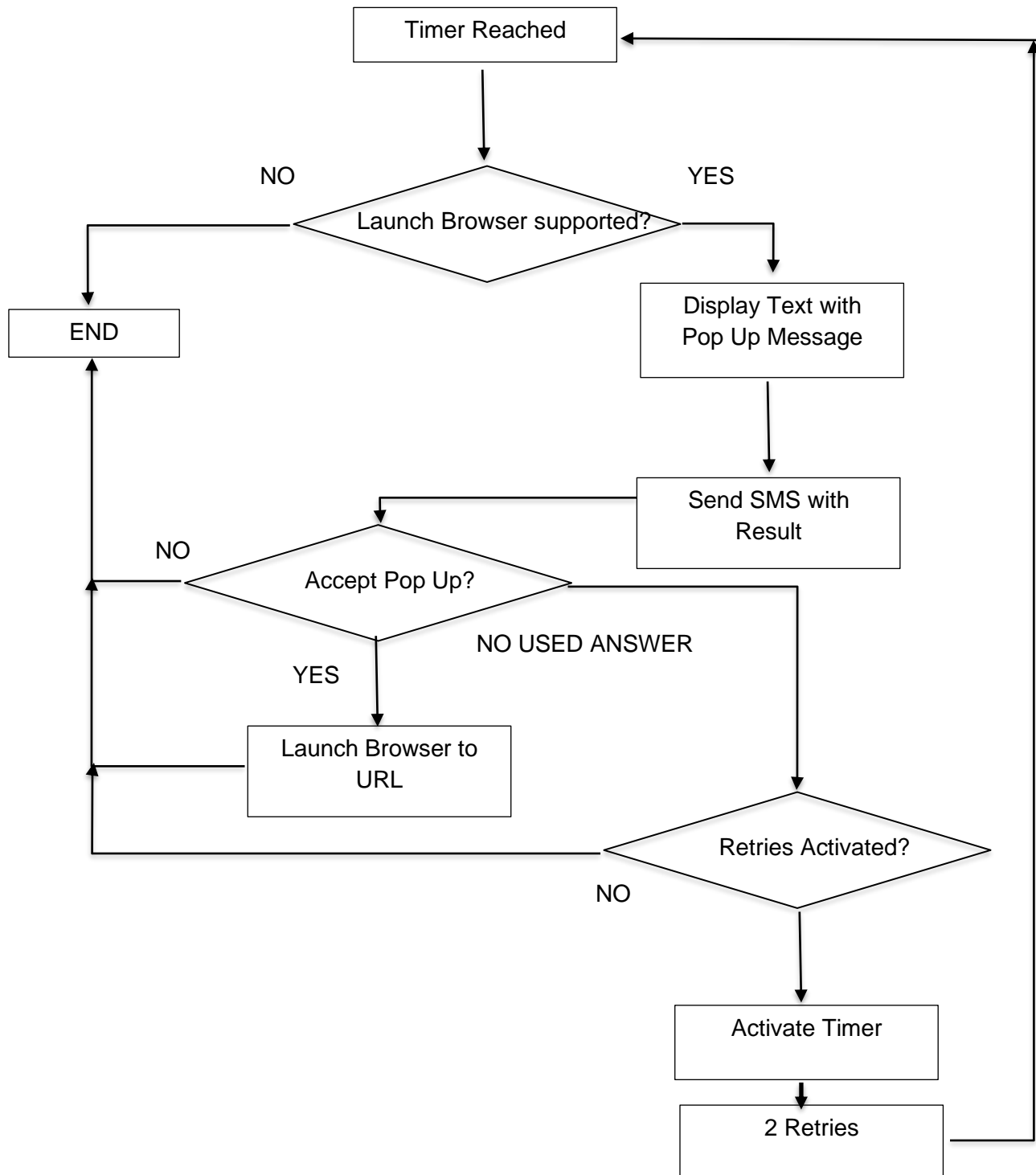
4.2. Send SMS with IMEI



4.3. Change Terminal



4.4. Pop Up





5. OTA Messages

The application manages the following OTA Messages:

5.1. F0: Pop Up Message

The applet can receive the following SMSPP so that the Pop Up Message, Display Text, is showed:

0xF0

This Pop Up is only displayed taking into account that the mobile supports Launch Browser. If the Mobile does not support Launch Browser, no Pop Up is showed.

Example:

Envelope

0x80 C2 00 00 32 D1 30 02 02 83 81 06 04 81 06 01 F4 0B 24 40 05 81 06 01 F4 7F F6 00 00
00 00 00 00 00 14 02 70 00 00 0F 0D 00 21 00 00 43 50 41 00 00 00 01 22 00 F0

5.2. F1: Change Pop Up Message

The applet can receive the following SMSPP so that the Pop Up Message can be changed:
0xF1 [LENGTH] [MESSAGE]

When the length is bigger than 127 bytes (0x7F), it must be added 0x81 before.

Examples:

0xF1 0B 48 65 6C 6C 6F 20 77 6F 72 6C 64

Length: 0x0B (length 11 bytes)

Message: "Hello world"

0xF1 81 B3 45 73 74 65 20 65 73 20 75 6E 20 74 65 78 74 6F 20 65 78 74 65 6E 73 6F 20 70
61 72 61 20 70 72 6F 62 61 72 20 73 75 20 6C 6F 6E 67 69 74 75 64 2E 20 45 6C 20 74 65 78
74 6F 20 64 65 20 68 6F 6C 61 20 6D 75 6E 64 6F 20 65 72 61 20 64 65 6D 61 73 69 61 64 6F
20 63 6F 72 74 6F 2E 20 41 67 72 65 67 61 6D 6F 73 20 75 6E 20 74 65 78 74 6F 20 6D 61 73
20 6C 61 72 67 6F 20 70 61 72 61 20 61 6D 70 6C 69 61 72 6C 6F 2E 20 45 73 74 65 20 74 65



78 74 6F 20 64 65 20 76 69 73 75 61 6C 69 7A 61 63 69 6F 6E 20 65 73 20 63 6F 72 72 65 63 74 6F 2E

Length: 0x81 B3 (length 179 bytes)

Message: "Este es un texto extenso para probar su longitud. El texto de hola mundo era demasiado corto. Agregamos un texto mas largo para ampliarlo. Este texto de visualizacion es correcto."

5.3. F9: Activate Timer

The applet can receive a SMSPP for Timer activation.

The options are:

0xF9 31 = Activate Timer with the value defined in the Install for Install of the applet.

0xF9 [Timer Value] = Activate Timer with the new value sent in the SMSPP with "Timer Value".

Examples:

Envelope: Activate Timer with default value installed

0x80 C2 00 00 33 D1 31 02 02 83 81 06 04 81 06 01 F4 0B 25 40 05 81 06 01 F4 7F F6 00 00 00 00 00 00 15 02 70 00 00 10 0D 00 21 00 00 43 50 41 00 00 00 01 22 00 F9 31

Envelope: Activate Timer with value 23 hs, 59 min, 29 sec

0x80 C2 00 00 35 D1 33 02 02 83 81 06 04 81 06 01 F4 0B 27 40 05 81 06 01 F4 7F F6 00 00 00 00 00 00 17 02 70 00 00 12 0D 00 21 00 00 43 50 41 00 00 00 01 22 00 F9 32 95 95

5.4. F2: Update URL - Optional

The applet can receive the following SMSPP so that the URL for Launch Browser command can be changed:

0xF2 [LENGTH] [URL]

This command depends on the activation from install for install, parameter number 8th, "Update URL Supported".

If it is supported the SMSPP is accepted, otherwise it is rejected.

Example:

0xF2 1F 68 74 74 70 73 3A 2F 2F 77 77 77 2E 77 61 73 68 69 6E 67 74 6F 6E 70 6F 73 74 2E 63 6F 6D 2F



Length: 0x1F (length 31 bytes)

URL:

<https://www.washingtonpost.com/>