Appendix C – CALIBRATION

The focus/light calibration is the more important step, for this you will need:

- ✓ Vertical support (supplied in the KIT)
- ✓ Area card (smart card, supplied in the KIT)

1) Checking the CARD
- Choose the card with a blue square
- Using a ruler, check the width, in this sample, are 40 mm (Figure 1). The cards should be printed, in a 100% scale inkjet, without reducing or enlarge. Preferably on matte paper, high or medium resolution.
- To calibrate, set aside a card with the figure filled and another with contoured figure (Figure 2).
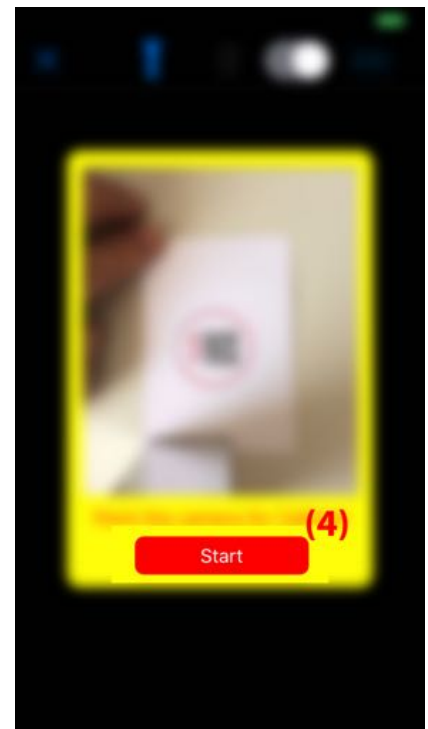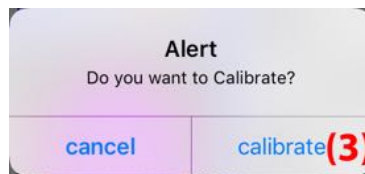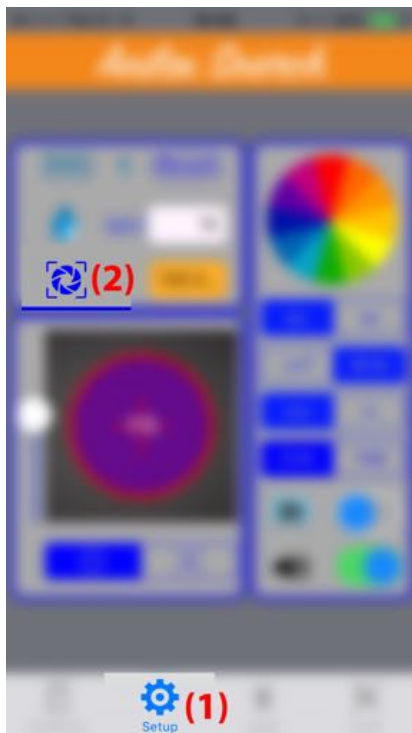

Figure 1

Figure 2

2) place the phone on the aluminum support, position the card as shown in Figure 3.

Figure 3

3) In the APP, go to SETUP (1) and tap the FOCUS/LIGHT calibration icon (2), confirm (3), you have a card positioned, tap start (4).
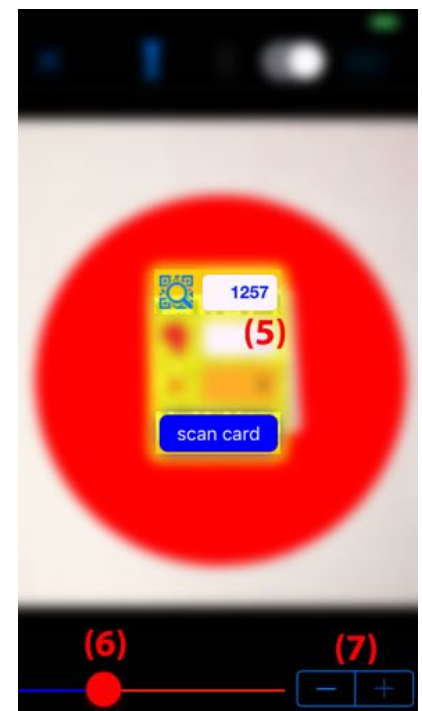

4) The APP must recognize the QRCode, if that doesn't happen (5), use the tolerance slider (6). If the white paper becomes too red, try turn on the light (flashlight/torch).

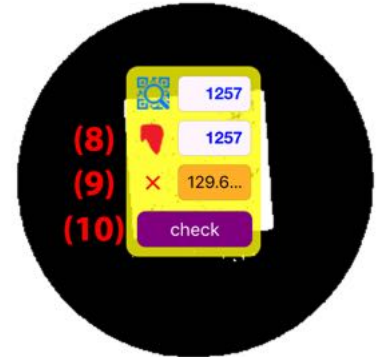Press SCAN CARD to start the process.

TIP:
- Use a card with an image which meets best the screen, a very small image will have less precision, an image too large will generate a false reading because it will be cut.
- If the card seems out of focus, activate the autofocus.
- Use the zoom [+ | -] to meets best the screen.

Practical tests have shown that using a tolerance (6) among 70 ~ 80% creates a great factor for medium and low lighting situations.

5) In a good reading, the image, now in black at the under the yellow feedback box, will be complete and correctly formed. The value of the area is transferred to the internal calculation; it generates a factor (8) between the height of the support and enlightenment obtained through the tolerance slider (9).
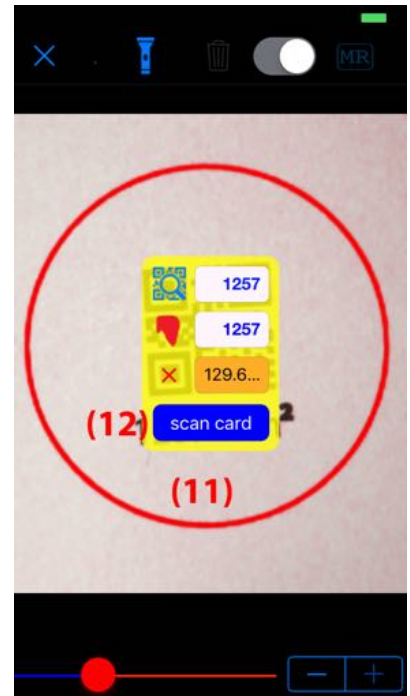
Tap CHECK (10) to continue the process

6) Now, using the same figure, but just outlined (11), we will check if the calibration is correct. Press SCAN CARD (12) to continue the process.

IMPORTANT:
- DO NOT CHANGE THE TOLERANCE IN THE SLIDER (6).
- IF THE FLASHLIGHT/TORCH WAS USED AT 1ST READING, USE IT AGAIN.
- IF THE CONTOUR BROKE, CANCEL ALL (X), REPEAT WITH A GREATER TOLERANCE OR USING THE FLASHLIGHT/TORCH.
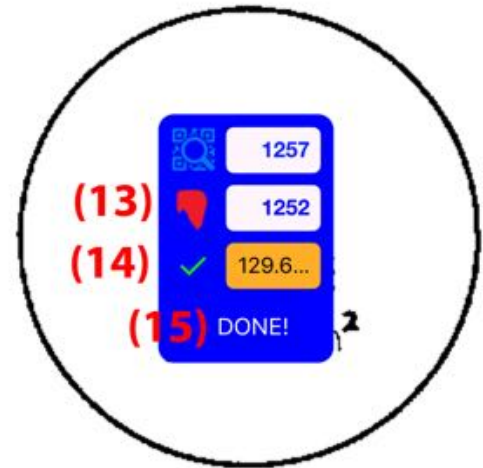
7) If everything worked out, the card will be scanned and the area will be calculated (13), you can compare with the value of reference (5).

The button DONE (15) and the green tick confirms the success.
Tap DONE and save the new factor (14).

- The tolerance between the first measurement (references) and the second (calculated) is at 5%, below this the APP consider done.

TIPS (BLOTS/SPOTS):

- ❖ Use 70˜80% in the tolerance light slider, this improve the capture without the torch in several low light ambient.
- ❖ Calibrate all times before start a new jobs, small modifications can disturb the scanner, per sample: to change the smartphone cover, change the aluminum support, loose the support rubber, the blot paper crumpled etc.
- ❖ The biggest villain without doubt is the light, per sample, in the same window, the 8:00h sunlight is different from the 12:00h light, our eye adapts but the camera doesn't always so easy, anyway the calibration spend ~2 minutes.
- ❖ If you have doubt in a area/volume result, re-calibrate the APP, this spends a minimum time and warranty a perfect result.
- ❖ Ever use the aluminum support, this warranty the same scale.
- ❖ **THE OUTLINE WITH BLUE PEN IS ESSENTIALLY IMPORTANT, IT SHOWS TO THE APP WHERE YOU SHOULD CONSIDER THE SPOT. NO OUTLINE SPOTS GENERATE WRONG VALUES CALCULATION.**

START

QRCODE identified?

No → Point the camera to QRCode
Pulse AutoFocus
Try Zoom + -
Turn on the Torch
Change the Card

Yes

Scan Card

The scan is correct>

No → IMPROVE THE LIGHT CONDITIONS

Yes

Change to outlined card

Scan Card

The scan is correct>

No → IMPROVE THE LIGHT CONDITIONS

Yes

DONE