

ETSI EN 300 440-1 V1.6.1 (2010-08)

ETSI EN 300 440-2 V1.4.1 (2010-08)

TEST REPORT

For

Advanced Technologies SRL

Ion Heliade Radulescu nr 26, Bucharest 021255, ROMANIA

Tested Model: Xylo Q
Multiple Model: Xylo X

Report Type: Original Report	Product Type: Smartphone Xylo
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Report Number: RSZ160309002-22D	
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Advanced Technologies SRL*'s product, model number: *Xylo Q* or the "EUT" in this report was a *Smartphone Xylo*, which was measured approximately: 126.9 mm (L) × 64.1 mm (W) × 10.35 mm (H), rated with input voltage: DC 3.7V rechargeable Li-ion battery.

Note: The series product, model Xylo X and Xylo Q. Model Xylo Q was selected for fully testing, which was explained detailedly in the attached product similarity declaration letter.

**All measurement and test data in this report was gathered from production sample serial number: 1601567 (Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2016-03-09.*

Objective

This report is prepared on behalf of the *Advanced Technologies SRL* in accordance with ETSI EN 300 440-2 V1.4.1 (2010-08), Electromagnetic compatibility and Radio spectrum Matters (ERM); Short range devices; Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Part 2: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive.

The object is to determine compliance with ETSI EN 300 440-2 V1.4.1 (2010-08).

Related Submittal(s)/Grant(s)

No Related Submittals.

Test Methodology

All measurements contained in this report were conducted with ETSI EN 300 440-1.

Measurement uncertainty with radiated emission is 5.81 dB for 30MHz-1GHz and 4.88 dB for above 1GHz, 1.95dB for conducted measurement.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on October 31, 2013. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

EUT Exercise Software

No Exercise Software

Special Accessories

No special accessory.

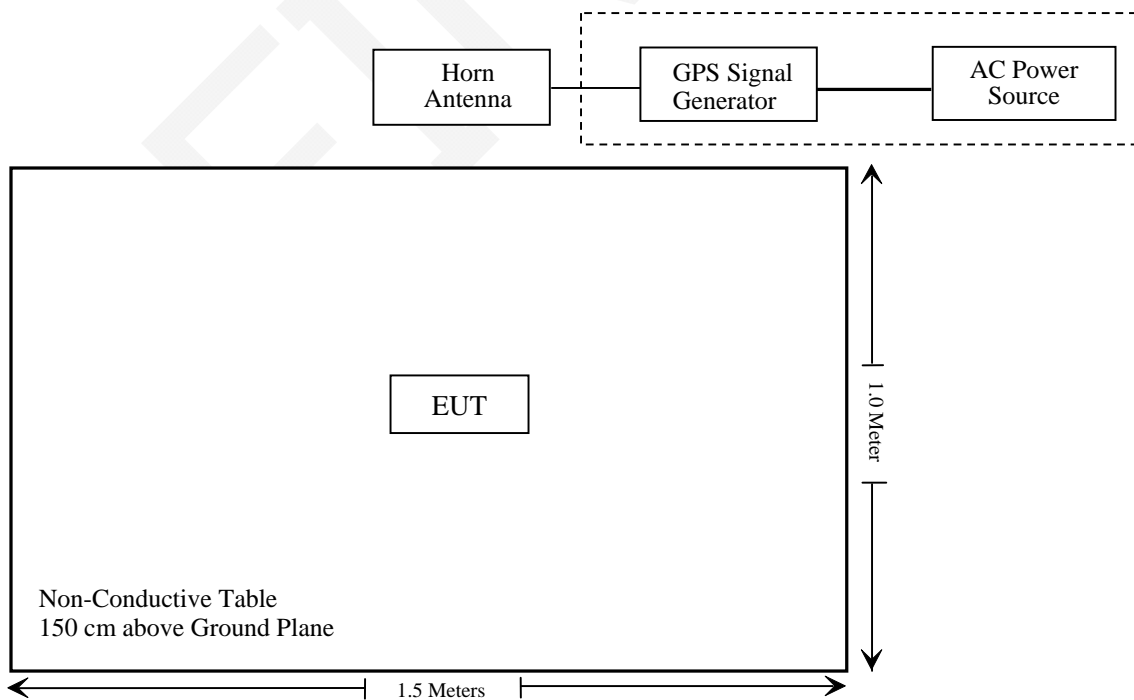
Equipment Modifications

No modifications were made to the unit tested.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
MEGURO	GPS Signal Generator	MSG-2050	N/A

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS**ETSI EN 300 440-2 V1.4.1 (2010-08)**

ETSI EN 300 440-2 V1.4.1 (2010-08)	Description of test	Result
§ 4.2.1.1	Equivalent isotropically radiated power	Not Applicable
§ 4.2.1.2	Permitted range of operating frequencies	Not Applicable
§ 4.2.1.3	Unwanted emission in the Spurious Emissions domain	Not Applicable
§ 4.2.1.4	Duty Cycle	Not Applicable
§ 4.2.2.3	Receiver Spurious Radiations	Compliance

Not Applicable: Testing is not required for the receiving sample.

ETSI EN 300 440-2 V1.4.1 (2010-08) §4.2.2.3 – RECEIVER SPURIOUS RADIATIONS

Applicable Standard

According to EN 300440-2§4.2.2.3.The spurious radiations, as defined in EN 300 440-1 [1], clause 8.3.1, shall not exceed the limits in EN 300 440-1 [1] clause 8.3.5. The power of any spurious emission shall not exceed 2 nW in the range 25 MHz to 1 GHz and shall not exceed 20 nW on frequencies above 1 GHz.

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on CISPR 16-4-2:2011, the expended combined standard uncertainty of radiation emissions at Bay Area Compliance Laboratories Corp. (Shenzhen) is 5.81 dB for 30MHz-1GHz.and 4.88 dB for above 1GHz, and it will not be taken into consideration for the test data recorded in the report.

EUT Setup

The radiated emission tests were performed in the 3-meter Chamber, using the setup accordance with ETSI EN 300 440-1. The specifications used were the ETSI EN 300 440-1 limits.

Spectrum Analyzer Setup

According to ETSI EN 300 440-1, the EUT was tested from 25 MHz to 16 GHz.

During the radiated emission test, the spectrum analyzer was set with the following configurations:

Frequency Range	RBW	Video B/W	Detector
Below 30 MHz	10 kHz	30 kHz	Peak
30 MHz – 1000 MHz	100 kHz	300 kHz	Peak
Above 1 GHz	1 MHz	3 MHz	Peak

Test Procedure

This method of measurement applies to receivers having a permanent antenna connector.

a) A test site selected from annex A which fulfils the requirements of the specified frequency range of this measurement shall be used. The test antenna shall be oriented initially for vertical polarization and connected to a measuring receiver. The bandwidth of the measuring receiver shall be adjusted until the sensitivity of the measuring receiver is at least 6 dB below the spurious emission limit given in clause 8.1.5. This bandwidth shall be recorded in the test report.

The receiver under test shall be placed on the support in its standard position and connected to an artificial antenna, see clause 6.2.

b) For carrier frequencies in the range 1 GHz to 20 GHz the frequency of the measuring receiver shall be adjusted over the frequency range 25 MHz to 10 times the carrier frequency, not exceeding 40 GHz. For carrier frequencies above 20 GHz the measuring receiver shall be tuned over the range 25 MHz up to twice the carrier frequency not exceeding 100 GHz. The frequency of each spurious component shall be noted. If the test site is disturbed by radiation coming from outside the site, this qualitative search may be performed in a screened room with reduced distance between the transmitter and the test antenna.

c) At each frequency at which a component has been detected, the measuring receiver shall be tuned and the test antenna shall be raised or lowered through the specified height range until the maximum signal level is detected on the measuring receiver.

d) The receiver shall be rotated up to 360° about a vertical axis, to maximize the received signal.

e) The test antenna shall be raised or lowered again through the specified height range until a maximum is obtained. This level shall be noted.

f) The substitution antenna (see clause A.3.2) shall replace the receiver antenna in the same position and in vertical polarization. It shall be connected to the signal generator.

g) At each frequency at which a component has been detected, the signal generator, substitution antenna and measuring receiver shall be tuned. The test antenna shall be raised or lowered through the specified height range until the maximum signal level is detected on the measuring receiver. The level of the signal generator giving the same signal level on the measuring receiver as in step e) shall be noted. This level, after correction due to the gain of the substitution antenna and the cable loss, is the radiated spurious component at this frequency.

h) The frequency and level of each spurious emission measured and the bandwidth of the measuring receiver shall be recorded in the test report.

i) Measurements b) to h) shall be repeated with the test antenna oriented in horizontal polarization.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2015-12-15	2016-12-14
HP	Amplifier	HP8447E	1937A01046	2015-05-06	2016-05-06
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2015-12-11	2016-12-11
Sunol Sciences	Bi-log Antenna	JB1	A040904-2	2014-12-07	2017-12-06
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2015-04-23	2016-04-23
Sunol Sciences	Horn Antenna	DRH-118	A052304	2014-12-29	2017-12-28
A.H. System	Horn Antenna	SAS-200/571	135	2015-08-18	2018-08-17
COM POWER	Dipole Antenna	AD-100	041000	2015-08-18	2016-08-18
HP	Signal Generator	8657A	3217A04699	2015-12-19	2016-12-18

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	23 °C
Relative Humidity:	51 %
ATM Pressure:	101.0 kPa

The testing was performed by Sonia Zhou on 2016-03-11.

Test Mode: Receiving

Frequency (MHz)	Receiver Reading (dBµV)	Turn Table Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	EN 300 440	
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable (dB)	Antenna Gain (dB)		Limit (dBm)	Margin (dB)
189.60	30.73	279	1.1	H	-66.3	0.29	0	-66.59	-57	9.59
189.60	31.08	61	2.5	V	-65.9	0.29	0	-66.19	-57	9.19
1458.46	41.05	112	1.9	H	-68.6	1.19	6.50	-63.29	-47	16.29
1458.46	40.49	233	1.2	V	-68.2	1.19	6.50	-62.89	-47	15.89

Note:

- 1) Absolute Level = SG Level - Cable Loss + Antenna Gain
- 2) Margin = Limit - Absolute Level

EXHIBIT A - CE PRODUCT LABELING

CE Label Format

CE 1313

Specifications: The marking set out above must be affixed to the apparatus or to its data plate and have a minimum height of 5 mm. The elements should be easily readable and indelible. They may be placed anywhere on the apparatus case or in its battery compartment. No tool should be needed to view the marking. 1313: 4 digit notified body number

Note: The label should contain the below content

- ① The name of the manufacturer or the person responsible for placing the apparatus on the market
- ② Type
- ③ Batch and/or serial numbers

Proposed Label Location on EUT



Model: Xylo Q

Model: Xylo X

EXHIBIT B - EUT PHOTOGRAPHS

Model: Xylo Q

EUT – Front View



EUT – Rear View



EUT – Top View



EUT – Bottom View



EUT –Left Side View



EUT – Right Side View



EUT –Cover off View 1



EUT –Cover off View 2



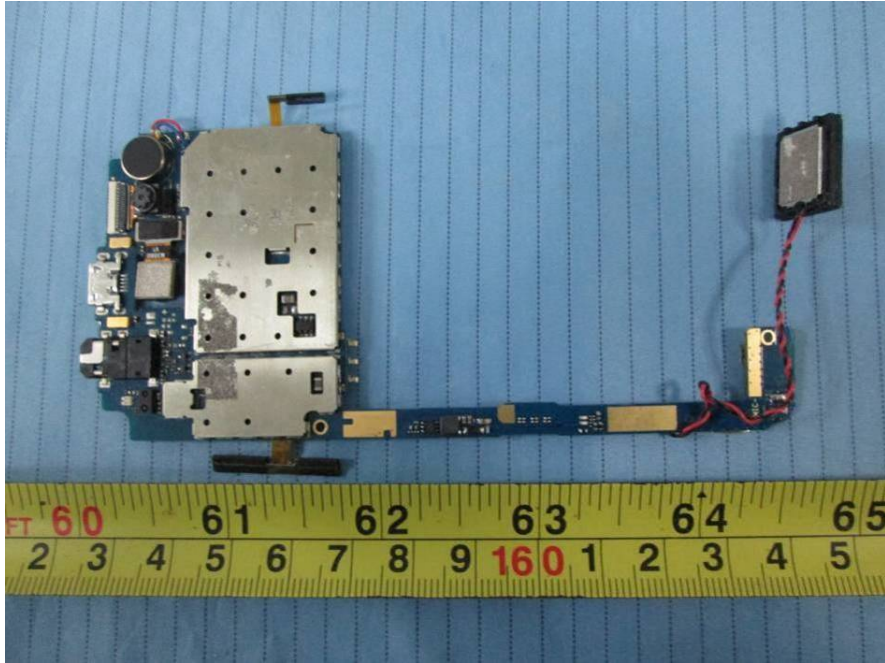
EUT –Cover off View 3



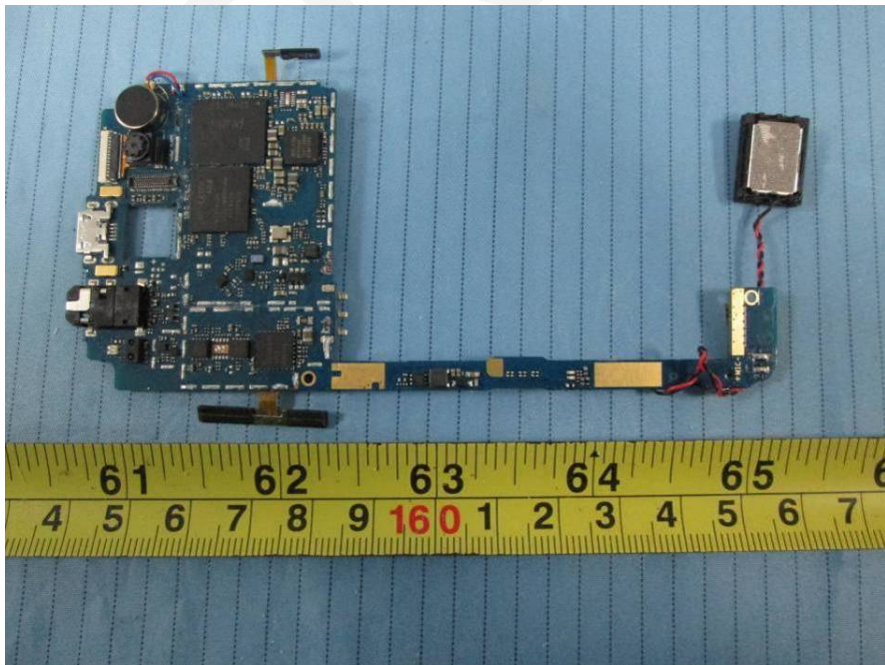
EUT –Cover off View 4



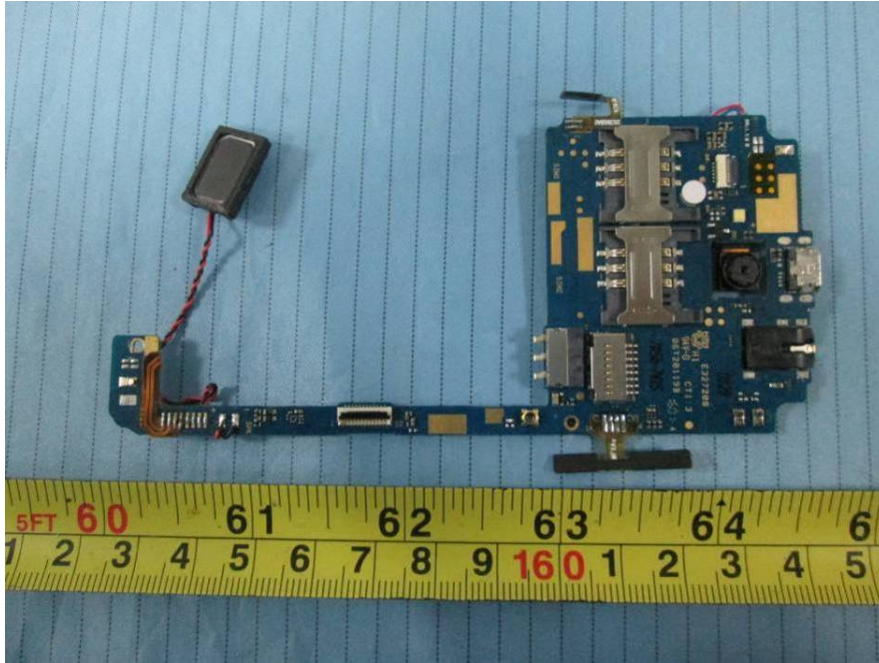
EUT – Main Board Top View



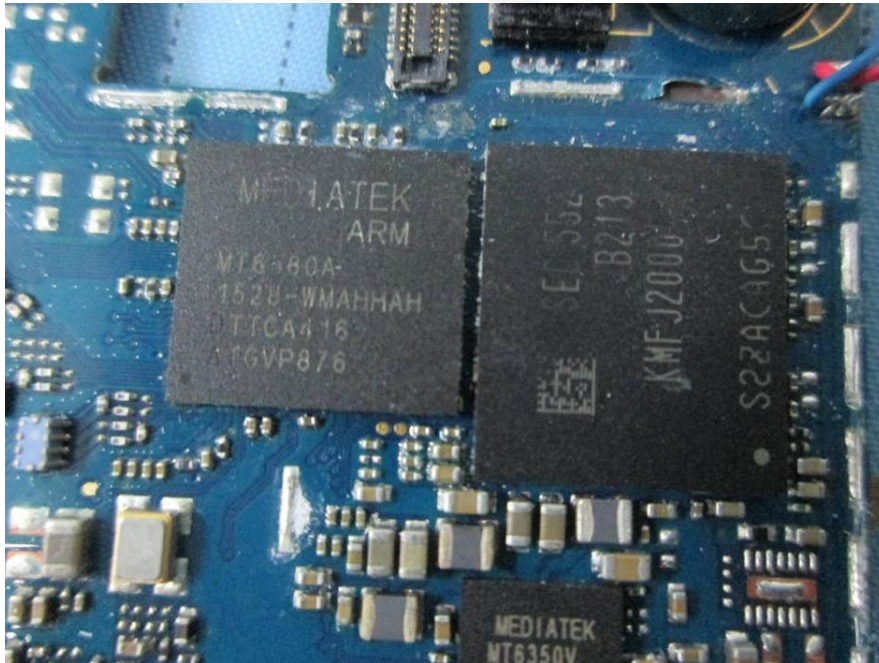
EUT – Main Board Top Shielding off View



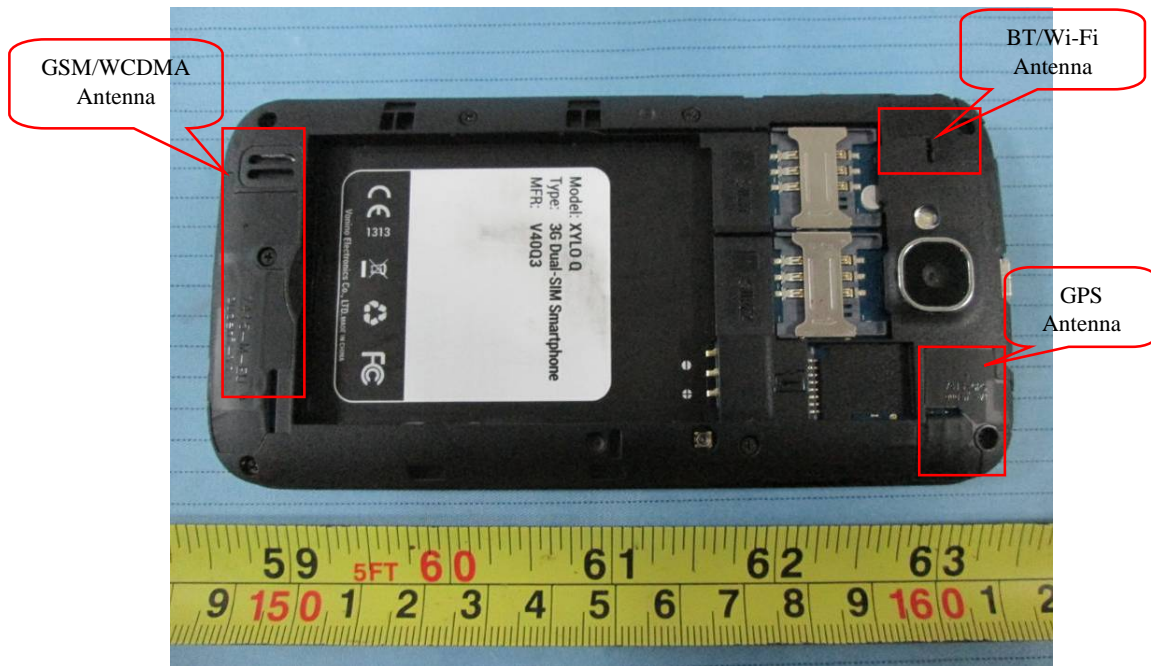
EUT – Main Board Bottom View



EUT – IC Chip View



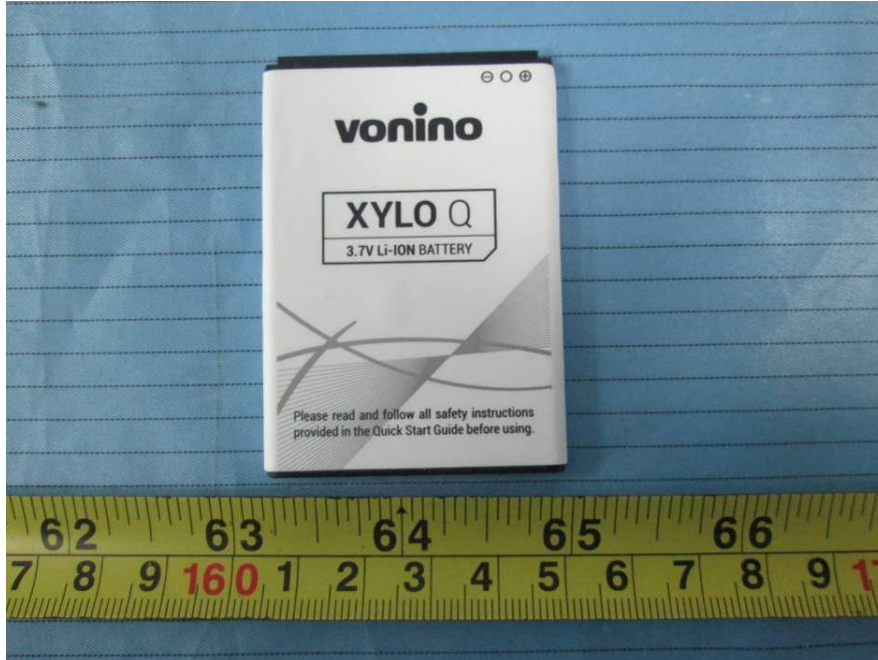
EUT – Antenna View



EUT – Battery Top View

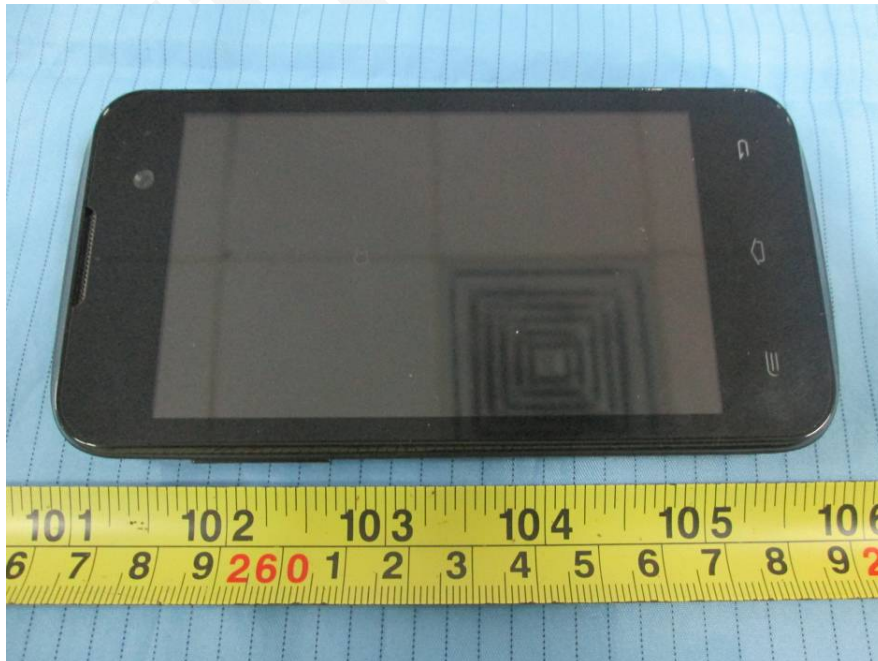


EUT – Battery Bottom View



Model: Xylo X

EUT – Front View



EUT – Rear View



EUT – Top View



EUT – Bottom View



EUT –Left Side View



EUT – Right Side View



EUT –Cover off View 1



EUT –Cover off View 2



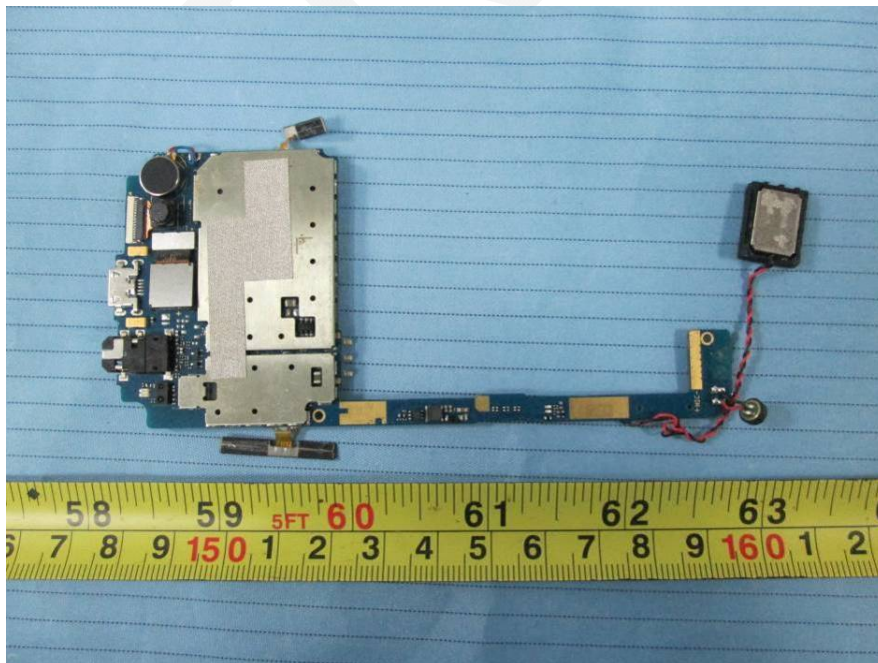
EUT –Cover off View 3



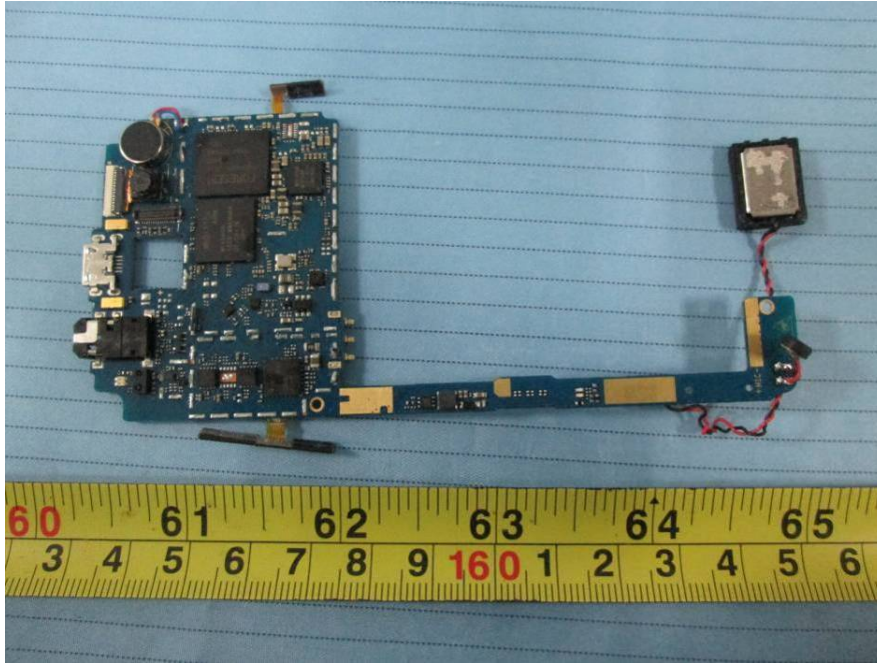
EUT –Cover off View 4



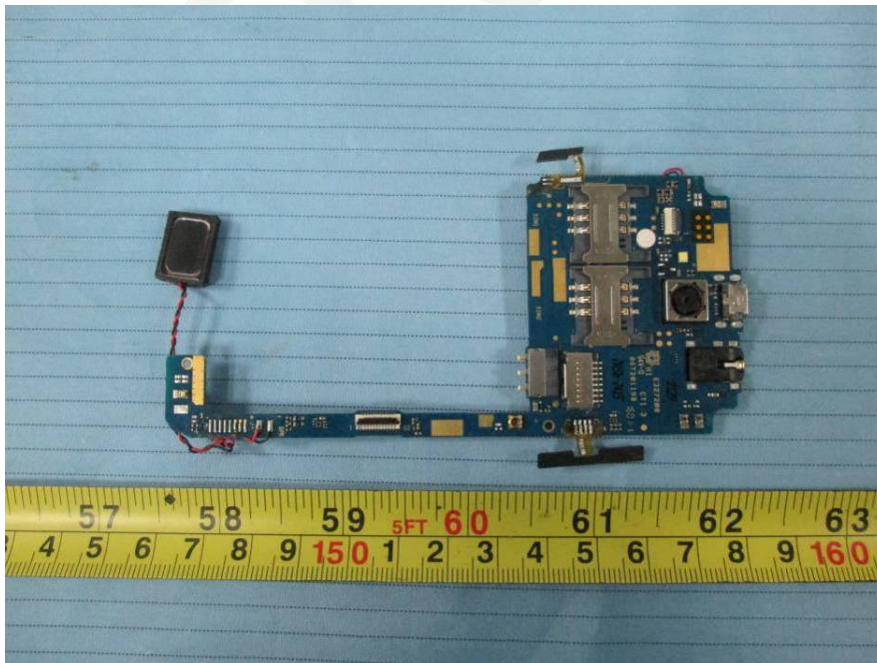
EUT – Main Board Top View



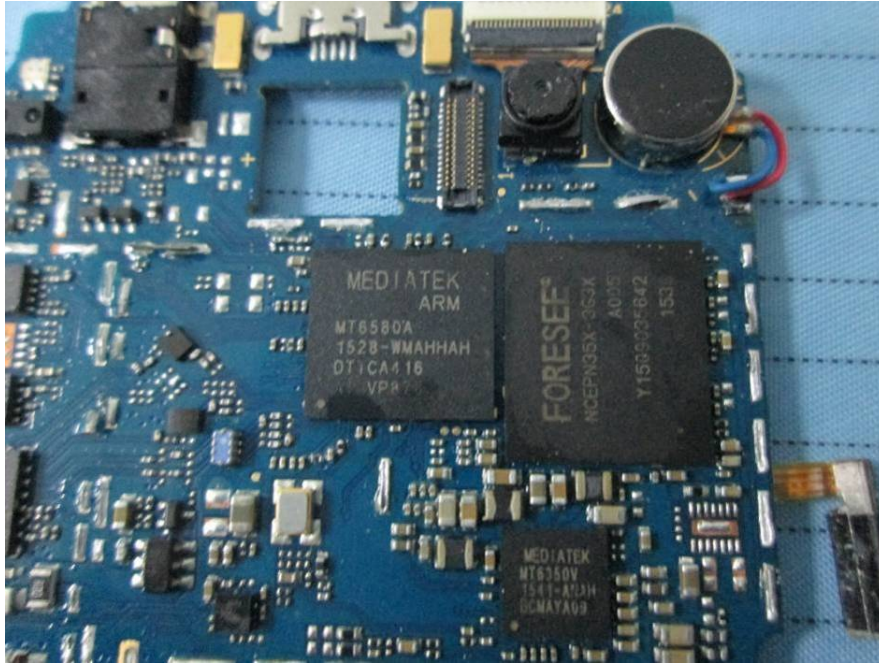
EUT – Main Board Top Shielding off View



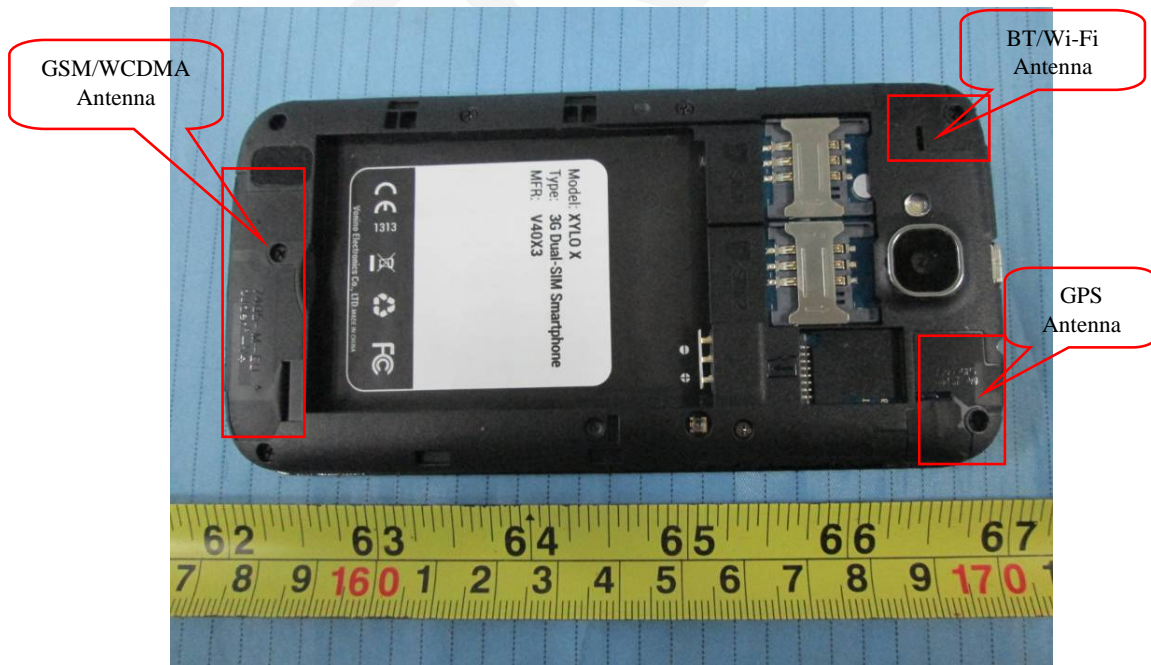
EUT – Main Board Bottom View



EUT – IC Chip View



EUT – Antenna View



EUT – Battery Top View



EUT – Battery Bottom View

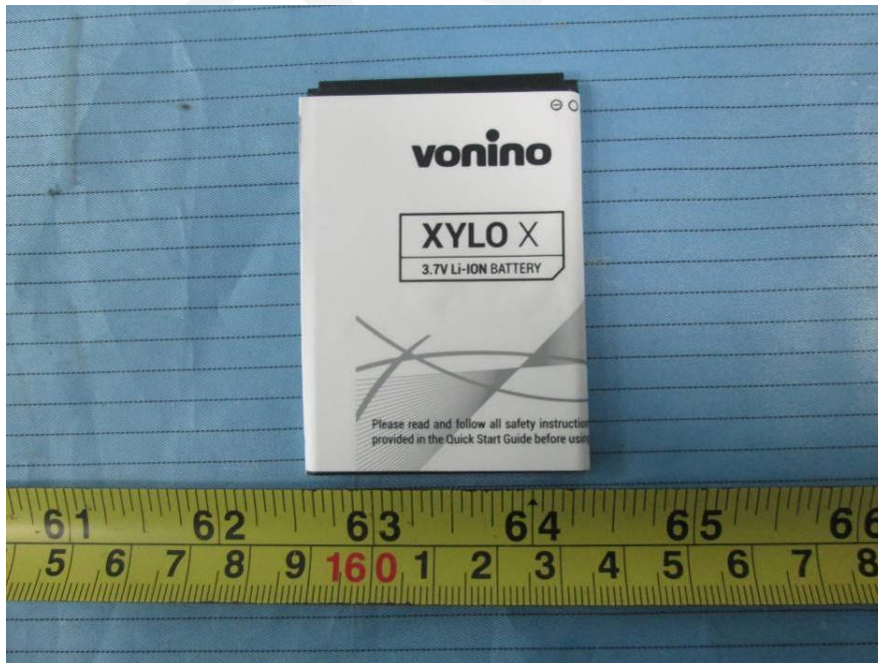


EXHIBIT C - TEST SETUP PHOTOGRAPHS

Radiated Spurious Emissions Test View (Below 1GHz)



Radiated Spurious Emissions Test View (Above 1GHz)



PRODUCT SIMILARITY DECLARATION LETTER

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2016-3-30

Product Similarity Declaration

To Whom It May Concern,

We, Advanced Technologies SRL, hereby declare that we have a product named as Smartphone Xylo (Model number: Xylo Q) was tested by BACL, meanwhile, for our marketing purpose, we would like to list a series models (Xylo X) on reports and certificate. the difference of these models is the memory of flash, since the model Xylo Q is 512M and Xylo X is 1G. The pixels of camera are different since Xylo Q is equipped with 200W and Xylo X is equipped with 500W. No other changes are made to them.

We confirm that all information above is true, and we'll be responsible for all the consequences. Please contact me if you have any question.

Signature:

Marius

Purchasing Manager

******* END OF REPORT *******