SMEE
ZI des Blanchisseries – Rue de Taille
38500 VOIRON
Tél. 04 76 65 76 50 - FAX. 04 76 66 18 30
Email: labo@smee.fr – Web: www.smee.fr
FCC Registration Number: 0020356952 (FRN) Test Firm Registration Number: 171131

Matériel testé : *Equipment under test*:	**AccBridge315**

Constructeur:
Manufacturer:
SmartAcc Technology
13, rue des Coquelicots
31830 Plaisance du Touch -France

Rapport délivré à :
Issued to:
SmartAcc Technology (M. Rudi Lenzen)
13, rue des Coquelicots
31830 Plaisance du Touch -France

Référence de la proposition :
Proposal number:
052013-20619

Date de l'essai :
Date of test:
June 26th and 30th, 2013
August 30th, 2013

Objectif des essais :
Test purpose:
Qualification CEM suivant norme CFR FCC Part 15, Subpart B.
EMC qualification accordingly to standard CFR FCC Part 15, Subpart B. (Communications Receiver)

Lieu du test:
Test location:
SMEE CE-Mesures
38 VOIRON - France

Test réalisé par :
Test realized by:
Jérémy BLANCHER / Laurent CHAPUS

Conclusion :
Conclusion:
L'équipement satisfait aux prescriptions des normes citées en référence.
The appliance complies with requirements of above mentioned standards.

Ed.	Date	Modifications / Pages	Written by: Visa	Approved by: Visa
1 2	August 8th, 2013 August 30th, 2013	Initial Edition Added information	Jérémy Blancher	Laurent Chapus

Sommaire / *Contents*

1. *Normative references*

Standard : FCC CFR 47, PART 15, Subpart B
ANSI C63-4 (2009).
Requirements for unintentional radiators, class B digital device. (Communications receiver)

2. *Test synthesis*

<table>
<tr><th>ESSAI D'EMISSION /
EMISSION TEST</th><th colspan="3">LIMITES /
LIMITS</th><th>RESULTATS /
RESULTS</th></tr>
<tr><td rowspan="4">Emissions conduites sur les bornes d'alimentation /
Conducted emissions at power supply ports
150kHz-30MHz
Section 15.107</td><td>Freq</td><td>Quasi-Peak(dBµV)</td><td>Average (dBµV)</td><td rowspan="4">N/A (1)</td></tr>
<tr><td>150-500kHz</td><td>66 \ 56</td><td>56 \ 46</td></tr>
<tr><td>0.5-5MHz</td><td>56</td><td>46</td></tr>
<tr><td>5-30MHz</td><td>60</td><td>50</td></tr>
<tr><td rowspan="7">Emissions rayonnées /
Radiated emissions
30MHz-2GHz
Section 15.109</td><td colspan="3">Measure at 3m</td><td rowspan="7">PASS</td></tr>
<tr><td colspan="2">Freq</td><td>Limit (dBµV)</td></tr>
<tr><td colspan="2">30-88MHz</td><td>40.0 (QP)</td></tr>
<tr><td colspan="2">88-216MHz</td><td>43.5 (QP)</td></tr>
<tr><td colspan="2">216-960MHz</td><td>46.0 (QP)</td></tr>
<tr><td colspan="2">960MHz-1GHz</td><td>54.0 (QP)</td></tr>
<tr><td colspan="2">Above 1GHz</td><td>54.0 (AV)
74.0 (Pk)</td></tr>
</table>

(1): EUT not connected to AC main

3. *Equipment Under Test* (EUT)

Nom / *Identification*	**AccBridge315**	N°: N.C
Alimentation / *Power supply*	3V from Smartphone	
Auxiliaires / *Auxiliaries*	Battery pack with 3V voltage regulator, mounted on Smartphone's connector.	

Entrées-Sorties / *Input / Output*

	Câbles pour essai / *Cables for test*	Blindé / *Shielded*	Prévu pour >3m / *Intended for >3m*
DC mains	0.25m, 2wires	No	No

Version programme / *Firmware version*	NC
Mode de fonctionnement / *Running mode*	The tested sample is able to receive a modulated carrier at 315MHz from a SENSAL315
Programme de test / *Test program*	NC
Accessoire spécial / *Special accessory*	None
Fréquence max interne EST / *Max internal EUT frequency*	26MHz (clock) 315MHz (Receiver frequency)

4. *Test conditions*

Humidité relative / *Relative Humidity* : 55%
Température / *Temperature* : 22°C

Tension d'alimentation / *Power supply voltage*:
Equipment sous test / *Equipment under test*: 3Vdc from external battery

5. *Modifications of the equipment under test*

None

6. *Radiated Emission Measurement* (30MHz-2GHz)

ANSI C63.4	**TEST: Limits for radiated disturbance 30MHz –2GHz**	**Verdict**
Method: Measurements were made in 3-meter Open Area Test Site (OATS) that complies to CISPR 16 and ANSI C63.4 Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3 meter. The EUT was rotated 360° about its azimuth with the receive antenna located at various heights in horizontal and vertical polarities. Final measurements (quasi-peak, peak and average) were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4 m. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable. A pre-scan frequency identification of the EUT has been performed in a GTEM cell. The measured radiated field of the EUT is correlated to a measurement distance of 3m. (3-axis algorithm) The pre-characterization graphs are obtained in PEAK detection.		**PASS**

Laboratory Parameters:	Required prior to the test	During the test
Ambient Temperature	10 to 40 °C	25°C
Relative Humidity	10 to 90 %	55%
Fully configured sample scanned over the following frequency range	Frequency range on each side of line	Measurement Point
	30MHz – 2GHz	3 m distance

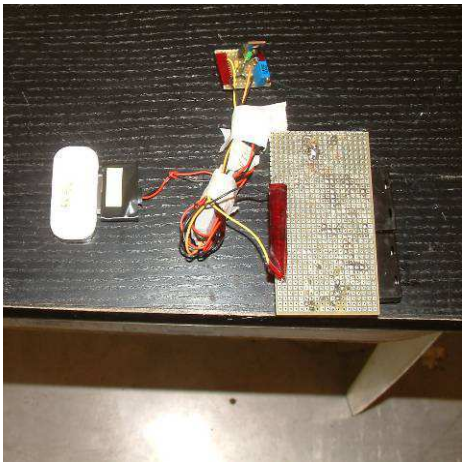
Limits – FCC Part 15.109		
Frequency	Limit (dBµV/m)	
	Level / Detector / Distance	Results
30-88 MHz	40.0 / QP / 3m	PASS
88-216 MHz	43.5 / QP / 3m	PASS
216-960 MHz	46.0 / QP / 3m	PASS
960-1000 MHz	54.0 / QP / 3m	PASS
Above 1GHz	54.0 / AV / 3m 74.0 / PK / 3m	PASS

Supplementary information:
Test location: SMEE – CE Mesures / Test date: July 26th & 30th, 2013 / August 30th, 2013 / Tested by: L. Chapus – J. Blancher
Power supply voltage: 3V from external battery

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Log-periodic antenna	TDK	PLP3003	ANT-101-001	2013/6	2014/6
Biconnic antenna	COM-POWER	AB- 900	ANT-101-003	2013/6	2014/6
RF cable	Div	2m	CAB-101-011	2013/3	2014/3
RF cable	Div	OATS/25m	CAB-101-019	2013/3	2014/3
RF cable	Div	OATS/10m	CAB-101-020	2013/3	2014/3
GTEM cell	TESEQ	750	GTE-101-001	2013/3	2014/3
OATS	Div	10m	SIT-101-001	2013/6	2014/6
Antenna mast	Innco- Systems	MA4000EP	MAT-101-001	-	-
Turntable	Innco- Systems	DS1200S	PLA-101-001	-	-

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Measuring Rec	Rohde&Schwarz	ESL3	REC-101-001	2012/6	2014/6
Ref. Comb generator	SMEE	EMR-10M	REF-111-002	-	-

Photo of test setup for Radiated Emission Measurement

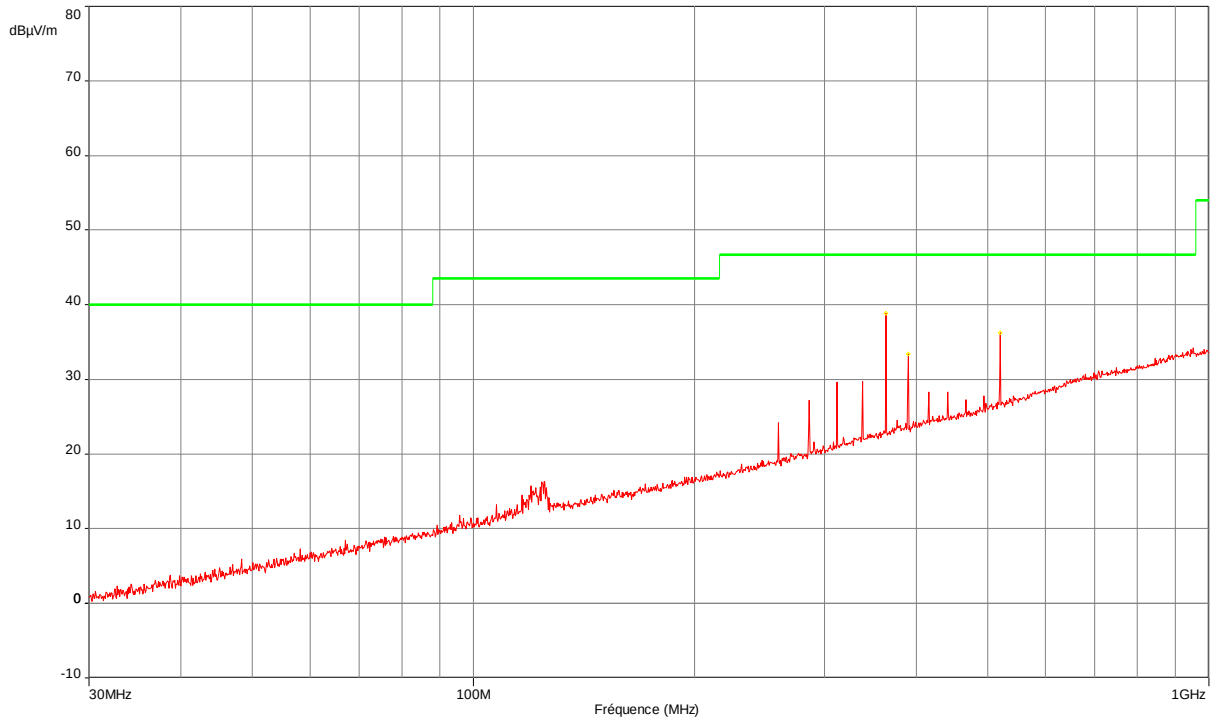


Tabulated Results for Radiated Disturbance (3m measurement)										
FREQ	**Meter reading**	**Meter reading**	**Total factor**	**Field level**	**Field level**	**Pol**	**Antenna height**	**Table angle**	**Limit**	**Margin**
MHz	(QP) dBµV	(Pk) dBµV	dB	(QP) dBµV/m	(Pk) dBµV/m		cm	Degree	(QP) dBµV/m	dB
363,950	10,8	14,9	19,0	**29,8**	33,9	H	100	40	46	**-16,2**
390,000	9,0	14,3	19,5	**28,5**	33,8	H	100	240	46	**-17,5**
519,950	9,7	13,6	22,8	**32,5**	36,4	H	175	180	46	**-13,5**

Supplementary information:
Frequency list measured on the Open Area Test Site has been created with pre-scan results.

Frequency band investigated:	30MHz-1GHz
RBW:	120kHz
Measurement distance:	3m
Limit:	FCC Part 15, Clause 15.109 (Class B)
Final measurement detector:	Quasi-Peak
Wide Measurement Uncertainty:	± 5.2dB (k=2)
Result:	PASS
Field Strength Calculation:	The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation is as follow: FS = RA + AF + CF – AG Where FS = Field Strength RA = Receiver Amplitude AF = Antenna Factor CF = Cable Factor AG = Amplifier Gain Total factor (dB) is AF + CF – AG Margin value = Emission level – Limit value

Graphical representation of Radiated Emission (Pre-scan, 3m)
30M-1GHz

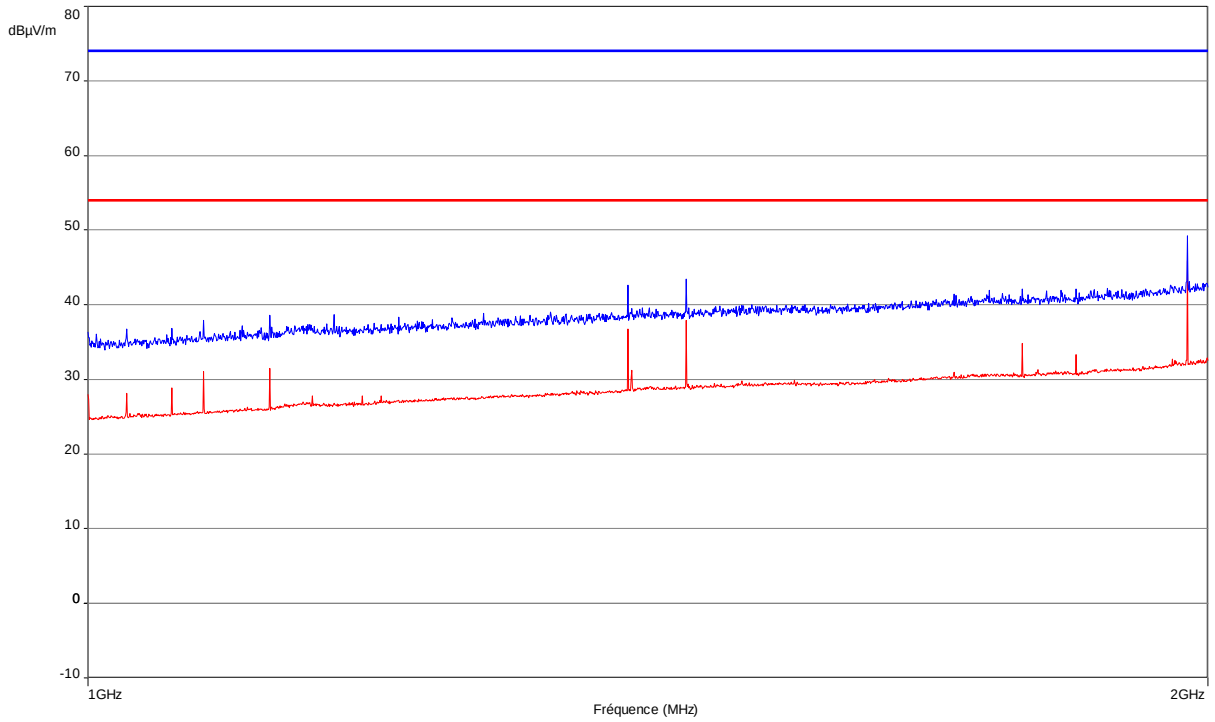


Frequency (MHz)	Level (dBµV/m)
363.95	38.9
390.00	33.4
519.95	36.3

Note: Pre-scan graph only for identification purpose.

----: Measure (Peak)	------ : Quasi-Peak limit

Graphical representation of Radiated Emission (Pre-scan, 3m)
1-2GHz



Frequency (MHz)	Level (dBµV/m)	
1975.00	49.0 (PK)	External noise

Note: Pre-scan graph only for identification purpose.

----: Measure / Limit (AV)	----: Measure / Limit (PK)