



LCIE

TEST REPORT

N°: 166111-748285-A (FILE#1040217)

Version : 02

Subject Electromagnetic compatibility tests according to the standards:
FCC CFR 47 Part 15, Subpart B.
ANSI C63.4 (2014)
ICES-003 (2016)

Issued to DIGIGRAM DIGITAL
82/84 Allée Galilée
38330 - MONTBONNOT SAINT-MARTIN
FRANCE

Apparatus under test

↗ Product	Portable IP audio codec
↗ Trade mark	DIGIGRAM DIGITAL
↗ Manufacturer	DIGIGRAM DIGITAL
↗ Model under test	IQOYA TALK
↗ FCCID	IGTIQOYATALK
↗ Serial number	270100020074

Conclusion See Test Program chapter

Test date March 4, 2020 to March 10, 2020

Test location MOIRANS

Sample receipt date March 4, 2020

Composition of document 23 pages

Document issued on June 30, 2021

Written by :
Mamady FOFANA
Tests operator

Approved by :

Nathalie BUGANZA

Technical manager



This document shall not be reproduced, except in full, without the written approval of the LCIE. This document contains results related only to the items tested. It does not imply the conformity of the whole production to the items tested. Unless otherwise specified or rule defined by the test method, the decision of conformity doesn't take into account the uncertainty of measures. This document doesn't anticipate any certification decision.

LCIE

Laboratoire Central des Industries Electriques
Une société de Bureau Veritas

ZI Centr'alp
170 rue de Chatagnon
38430 Moirans FRANCE

Tél : +33 4 76 07 36 36
contact@lcie.fr
www.lcie.fr



PUBLICATION HISTORY

Version	Date	Author	Modification
01	March 25, 2020	Mamady FOFANA	Creation of the document
02	June 30, 2021	Mamady FOFANA	Add FCCID of EUT in first page

Each new edition of this test report replaces and cancels the previous edition. The control of the old editions of report is under responsibility of client.



SUMMARY

1.	TEST PROGRAM	4
2.	EQUIPMENT UNDER TEST: CONFIGURATION (DECLARED BY PROVIDER).....	5
3.	MEASUREMENT OF CONDUCTED EMISSION	10
4.	MEASUREMENT OF RADIATED EMISSION (30MHZ-6GHZ).....	17
5.	UNCERTAINTIES CHART	23



1. TEST PROGRAM

1.1. REQUIREMENTS FOR DISTURBANCE EMISSIONS

Standard:

- ✓ FCC Part 15, Subpart B (Digital Devices)
- ✓ ANSI C63.4 (2014)
- ✓ ICES-003 (2016)

EMISSION TEST	LIMITS			RESULTS (Comments)
Limits for conducted disturbance 150kHz-30MHz FCC §15.107	Access: AC power			PASS
	Frequency	Quasi-peak	Average	
	150-500kHz	66 to 56 dBµV	56 to 46 dBµV	
	0.5-5MHz	56 dBµV	46 dBµV	
	5-30MHz	60 dBµV	50 dBµV	
Radiated emissions 30MHz-1GHz FCC §15.109	Access: Enclosure port of ancillary equipment			PASS
	Frequency	Quasi-peak @10m		
	30MHz-88MHz	40.0 dBµV/m		
	88MHz-216MHz	43.5 dBµV/m		
	216MHz-960MHz	46.0 dBµV/m		
	Above 960MHz	54.0 dBµV/m		
Radiated emissions 1GHz- 6 GHz* FCC §15.109	Access: Enclosure port of ancillary equipment			PASS
	Frequency	Peak @3m	Average @3m	
	1- 6 GHz	74.0 dBµV/m	54.0 dBµV/m	

NP: Not Performed / NA: Not Applicable / NR: Not Requested by the customer (It cannot be taken into account for the declaration of conformity)

^o: Divergence, the last version is used to make it possible to test the product with the standard which describes the current state of the art and thus to answer as well as possible his environment of final use.

***§15.33:** The highest internal source of a testing device is defined like more the highest frequency generated or used in the testing device or on which the testing device works or agrees.

- If the highest frequency of the internal sources of the testing device is lower than 108 MHz, measurement must be only performed until 1GHz.

- If the highest frequency of the internal sources of the testing device ranges between 108 MHz and 500 MHz, measurement must be only performed until 2GHz.

- If the highest frequency of the internal sources of the testing device ranges between 500 MHz and 1 GHz, measurement must be only performed until 5GHz.

If the highest frequency of the internal sources of the testing device is above 1 GHz, measurement must be only performed until 5 times the highest frequency or 40 GHz, while taking smallest of both.

Special condition for intentional radiator:

- For a composite system comprised of a digital device using a clock frequency of 1 GHz as the highest frequency for the digital logic and an intentional radiator operating at 2.4 GHz, the composite is required to be investigated to the upper frequency of 24 GHz (in this case, 10 times the intentional radiator frequency is the higher frequency).
- For a composite system comprised of a digital device using a clock frequency of 2 GHz as the highest frequency for the digital logic and an intentional radiator operating at 913 MHz, the composite is required to be investigated to the upper frequency of 10 GHz (in this case, 5 times the unintentional radiator clock frequency is the higher frequency).

2. EQUIPMENT UNDER TEST: CONFIGURATION (DECLARED BY PROVIDER)

2.1. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES):

Equipment under test (EUT):
IQOYA TALK

Serial Number: 270100020074



Equipment Under Test

Power supply:

Name	Type	Rating	Reference / Sn	Comments
Supply1	AC	100-240V /50Hz-60Hz	ATS065T-P150	Configuration1
Supply2	Battery	7.50V 6400mAh 48.0Wh	RRC2057	Configuration2

Voltage table used for conducted emission:

Type	Measurement performed:	
☒ AC	☒ 120VAC/60Hz	☒ 240VAC/50Hz
☐ DC	☐ 120VAC/60Hz (Supply auxiliary)	☐ 240VAC/50Hz (Supply auxiliary)
☐ USB (Laptop auxiliary)	☐ 120VAC/60Hz (Laptop auxiliary)	☐ 240VAC/50Hz(Laptop auxiliary)



Voltage table used for radiated emission:

Type	Measurement performed:	
☒ AC	☐ 120VAC/60Hz	☒ 240VAC/50Hz
☐ DC	☐ 120VAC/60Hz (Supply auxiliary)	☐ 240VAC/50Hz (Supply auxiliary)
☐ USB (Laptop auxiliary)	☐ 120VAC/60Hz (Laptop auxiliary)	☐ 240VAC/50Hz(Laptop auxiliary)

Inputs/outputs - Cable:

Access	Type	Length used (m)	Declared <3m	Shielded	Under test	Comments
Supply1	L+N+PE	2	☐	☐	☒	tested
Access1	5 external antennas	2	☐	☐	☐	not tested
Access2	2 USBA - outputs	1.5	☐	☐	☐	not tested
Access 3	1x USBc outputs	3				
Access 4	2 Ethernet outputs	10	☒	☒	☐	Ethernet 1 tested
Access 5	1 relay output	3	☐	☐	☐	not tested
Access 6	2 analog or digital outputs	3	☐	☐	☐	not tested
Access 7	4 headphone inputs	3	☐	☐	☐	not tested
Access 8	3 microphone inputs	3	☐	☐	☐	not tested

Auxiliary equipment used during test:

Type	Reference	Sn	Comments
laptop	HP EliteBook 8530p	2CE922FM71	/
4 headphone	/	/	/
Load box	/	/	/
Audio sources	IQOYA X/LINK-ST	VB2331A0101	/

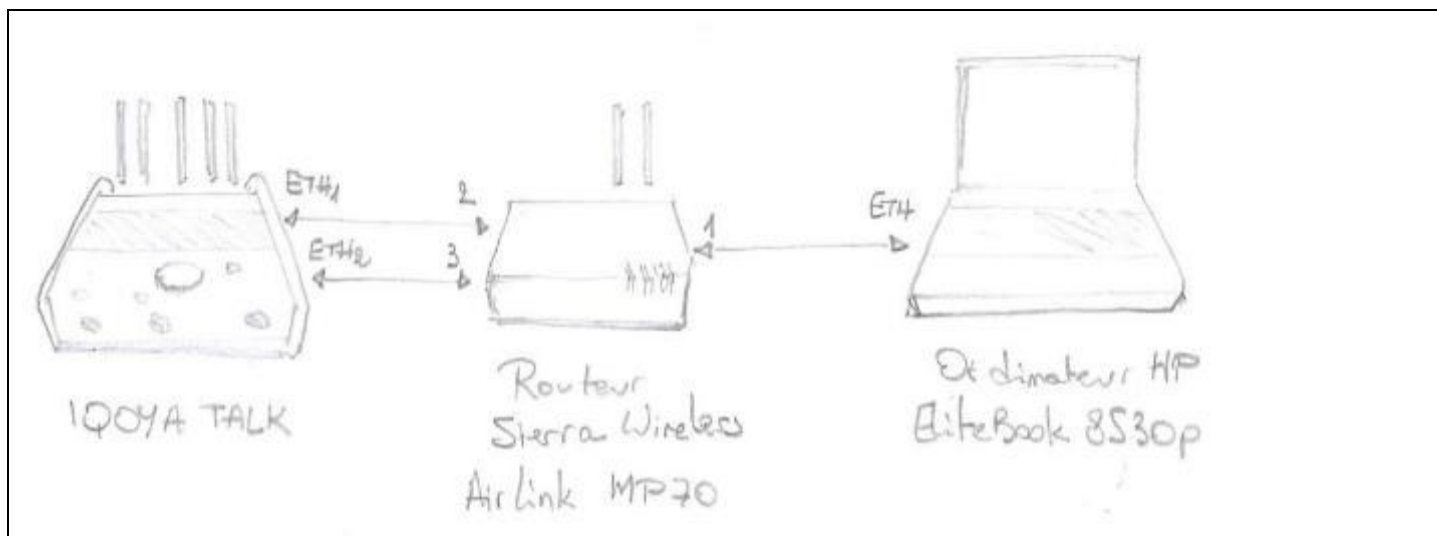
2.2. EUT CONFIGURATION – RUNNING MODE

Hardware information			
Highest internal frequency (PLL, Quartz, Clock, Microprocessor...):	F_{Highest}:	800	MHz
Sensitive frequencies: (in addition to stepped frequencies for 61000-4-3 and 61000-4-6)	None declared by provider		
Firmware (if applicable):	V. :	v01.05c001	
Software (if applicable):	V. :	NA	
Time necessary for the EUT to be exercised and to respond:	Dwell:	2	s

Test configuration

Radiated emission and Conducted emission

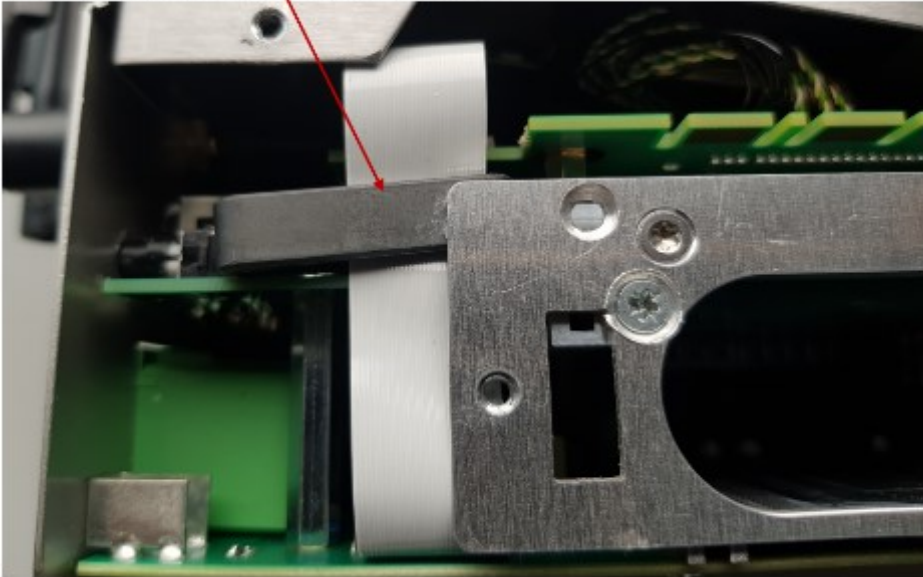
- First putty connection::
 - `cd /home/root/CEM/`
 - `./CEM.sh -lan`



2.3. EQUIPMENT MODIFICATIONS

☐ None ☒ Modification:

FERRITE ON THE RIBBON CABLE (Référence :7427210)



2.4. SPECIAL ACCESSORIES

None

2.5. 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 with a sample calculation is as follow:

$$FS = RA + AF + CF - AG$$

Where

- FS = Field Strength
- RA = Receiver Amplitude
- AF = Antenna Factor
- CF = Cable Factor
- AG = Amplifier Gain

Assume a receiver reading of 52.5dB μ V is obtained. The antenna factor of 7.4 and a cable factor of 1.1 is added. The amplifier gain of 29dB is subtracted, giving field strength of 32 dB μ V/m.

$$FS = 52.5 + 7.4 + 1.1 - 29 = 32 \text{ dB}\mu\text{V/m}$$

The 32 dB μ V/m value can be mathematically converted to its corresponding level in μ V/m.

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm } [(32\text{dB}\mu\text{V/m})/20] = 39.8 \mu\text{V/m}.$$



2.6. CALIBRATION DATE

The calibration intervals are extended at 12+2 months. This extended interval is based on the fact that there is sufficient calibration data to statistically establish a trend or based on experience of use of the test equipment to assure good measurement results for a longer period

3. MEASUREMENT OF CONDUCTED EMISSION

3.1. ENVIRONMENTAL CONDITIONS

Date of test : March 10, 2020
Test performed by : Mamady FOFANA
Atmospheric pressure (hPa) : 999
Relative humidity (%) : 35
Ambient temperature (°C) : 23

3.2. TEST SETUP

Mains terminals

The EUT and auxiliaries are set:

☒ 80cm above the ground on the non-conducting table (Table-top equipment)

☐ 10cm above the ground on isolating support (Floor standing equipment)

The distance between the EUT and the LISN is 80cm. The EUT is 40cm away for the vertical ground plane.

The EUT is powered by V_{nom} .

The EUT is powered through a LISN (measure). Auxiliaries are powered by another LISN.





L C I E



Test setup



3.3. TEST METHOD

The product has been tested according to ANSI C63.4 and FCC Part 15 subpart B. The product has been tested with a voltage sets (see the table voltage in §2.2) and compared to the FCC Part 15 subpart B. Measurement bandwidth was 9kHz from 150kHz to 30MHz. This was followed by a Quasi-Peak, i.e. CISPR measurement for any strong signal. If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary. The LISN (measure) is 50Ω / 50μH. The Peak data are shown on plots in annex 1. Quasi-Peak and Average measurements are detailed in a table with frequencies and levels measured. Interconnecting cables and equipment's were moved to position that maximized emission. A summary of the worst case emissions found in all test configurations and modes is shown on the following page.

Measurements are performed on the phase (L1) and neutral (N) of power line voltage (for example). Graphs are obtained in PEAK detection. Measures are also performed in Quasi-Peak and Average for any strong signal.

3.4. TEST EQUIPMENT LIST

TEST EQUIPMENT USED					
Description	Manufacturer	Model	Identifier	Cal_Date	Cal_Due
BAT EMC	NEXIO	v3.19.1.18	L1000115		
EMC comb generator	LCIE SUD EST	—	A3169098		
LISN	ROHDE & SCHWARZ	ENV216	C2320123	05/19	05/20
LISN	ROHDE & SCHWARZ	ENV216	C2320291	02/19	03/20
Spectrum Analyzer 9kHz - 30MHz	ROHDE & SCHWARZ	ESHS10	A2642028	01/20	01/22
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	08/18	08/20
Transient limiter	ROHDE & SCHWARZ	ESH3-Z2	A7122204	02/19	03/20
Load 50Ω	—	6GHz	A7152021	02/19	03/20
Load 50Ω - BNC	AEROFLEX	—	A7152071	02/19	03/20
Load 50Ω	—	—	A7152032	05/19	05/20
Coupling Decoupling Network	TESEQ	CDN T8	C2320140	02/19	03/20
Probe - Current	SCHAFFNER	CSP9160	A1290017	10/19	10/20

3.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

☒ None ☐ Divergence:

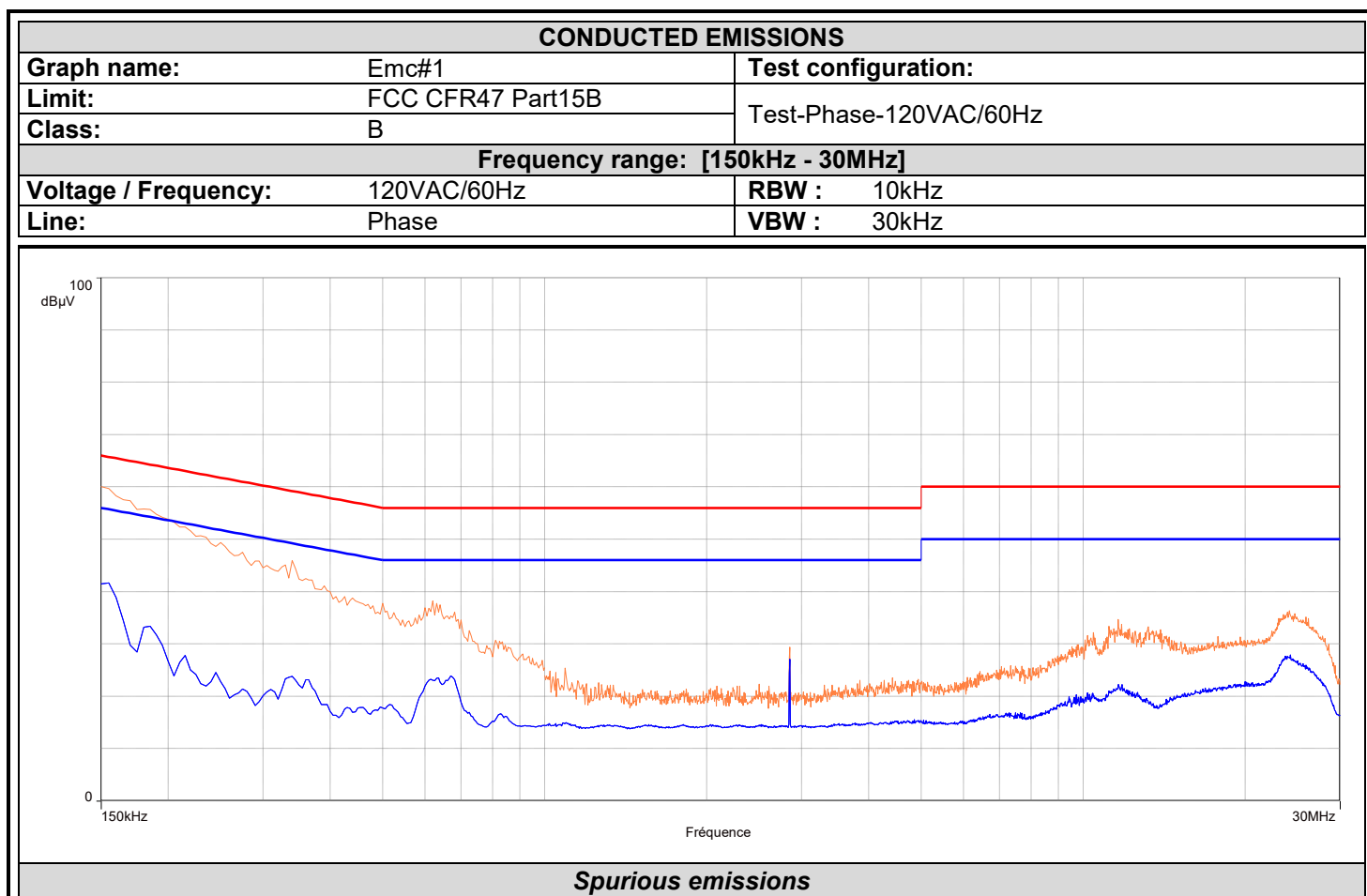
3.6. TEST RESULTS

AC tests Results:

Measurements are performed on the phase (L1) and neutral (N) of the power line.

Results: (PEAK detection)

Graph identifier	Line	Comments
Emc# 1	Phase	120VAC/60Hz
Emc# 2	Neutral	120VAC/60Hz
Emc# 3	Phase	240VAC/50Hz
Emc# 4	Neutral	240VAC/50Hz



Spurious emissions

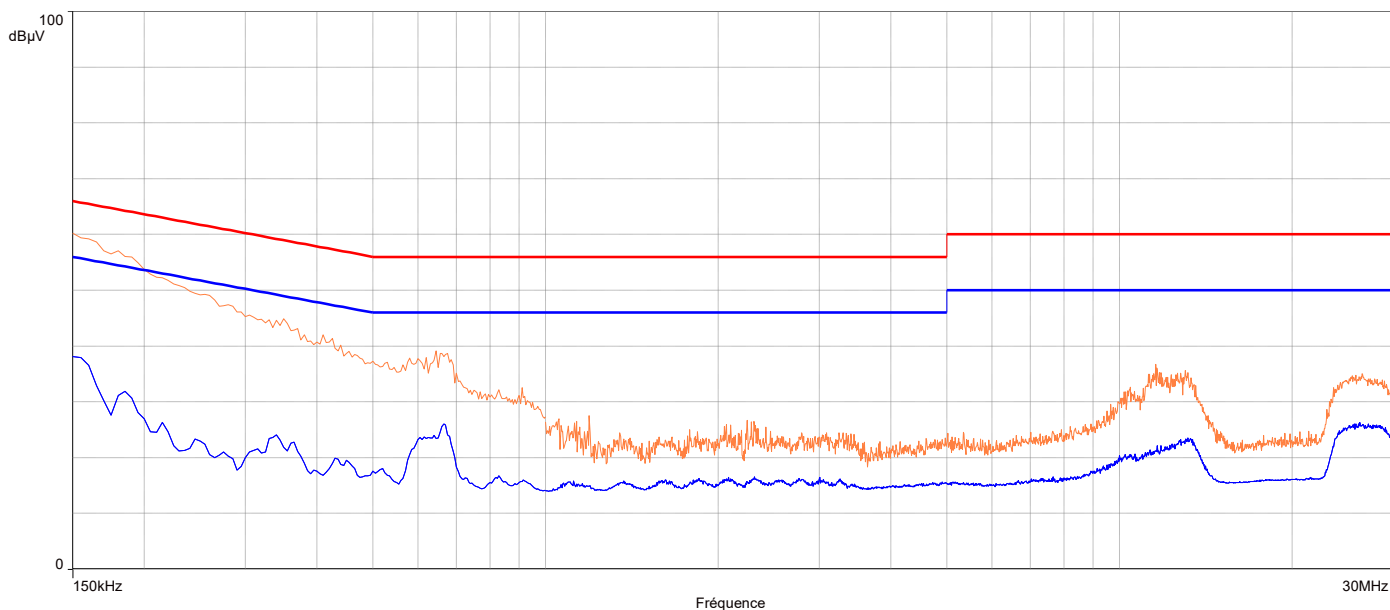
Frequency (MHz)	Mes.QPeak (dBμV)	LimQP (dBμV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBμV)	LimAvg (dBμV)	Mes.Avg-LimAvg (dB)	Line	Correction (dB)
0.150	47.0	66.0	-19.0	38.1	56.0	-17.9	Phase 1	19.4
0.340	35.2	59.2	-24.0	23.1	49.2	-26.1	Phase 1	19.5
0.620	30.4	56.0	-25.6	22.3	46.0	-23.7	Phase 1	19.5
1.092	17.9	56.0	-38.1	11.8	46.0	-34.2	Phase 1	19.5
2.852	13.1	56.0	-42.9	8.7	46.0	-37.3	Phase 1	19.7
11.612	27.2	60.0	-32.8	20.6	50.0	-29.4	Phase 1	20.4
24.188	31.4	60.0	-28.6	26.4	50.0	-23.6	Phase 1	21.2



L C I E

CONDUCTED EMISSIONS

Graph name:	Emc#2	Test configuration:
Limit:	FCC CFR47 Part15B	Test-Neutral-120VAC/60Hz
Class:	B	
Frequency range: [150kHz - 30MHz]		
Voltage / Frequency:	120VAC/60Hz	RBW : 10kHz
Line:	Neutral	VBW : 30kHz

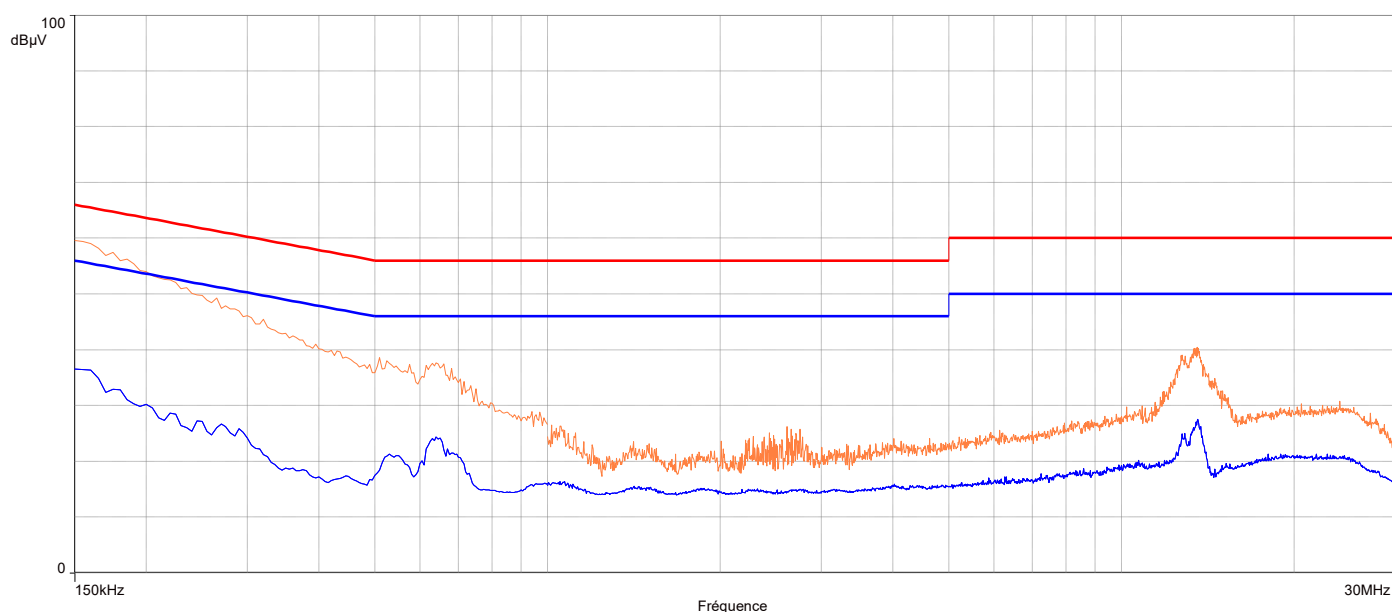


Spurious emissions

Frequency (MHz)	Mes.QPeak (dBμV)	LimQP (dBμV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBμV)	LimAvg (dBμV)	Mes.Avg-LimAvg (dB)	Line	Correction (dB)
0.150	52.5	66.0	-13.5	36.5	56.0	-19.5	Neutre	19.4
0.255	40.8	61.6	-20.8	21.0	51.6	-30.6	Neutre	19.4
0.375	33.9	58.4	-24.4	19.5	48.4	-28.8	Neutre	19.5
0.645	31.0	56.0	-25.0	23.7	46.0	-22.3	Neutre	19.5
2.248	19.5	56.0	-36.5	12.8	46.0	-33.2	Neutre	19.6
11.584	29.4	60.0	-30.6	20.2	50.0	-29.8	Neutre	20.4
26.476	29.9	60.0	-30.1	24.7	50.0	-25.3	Neutre	21.3

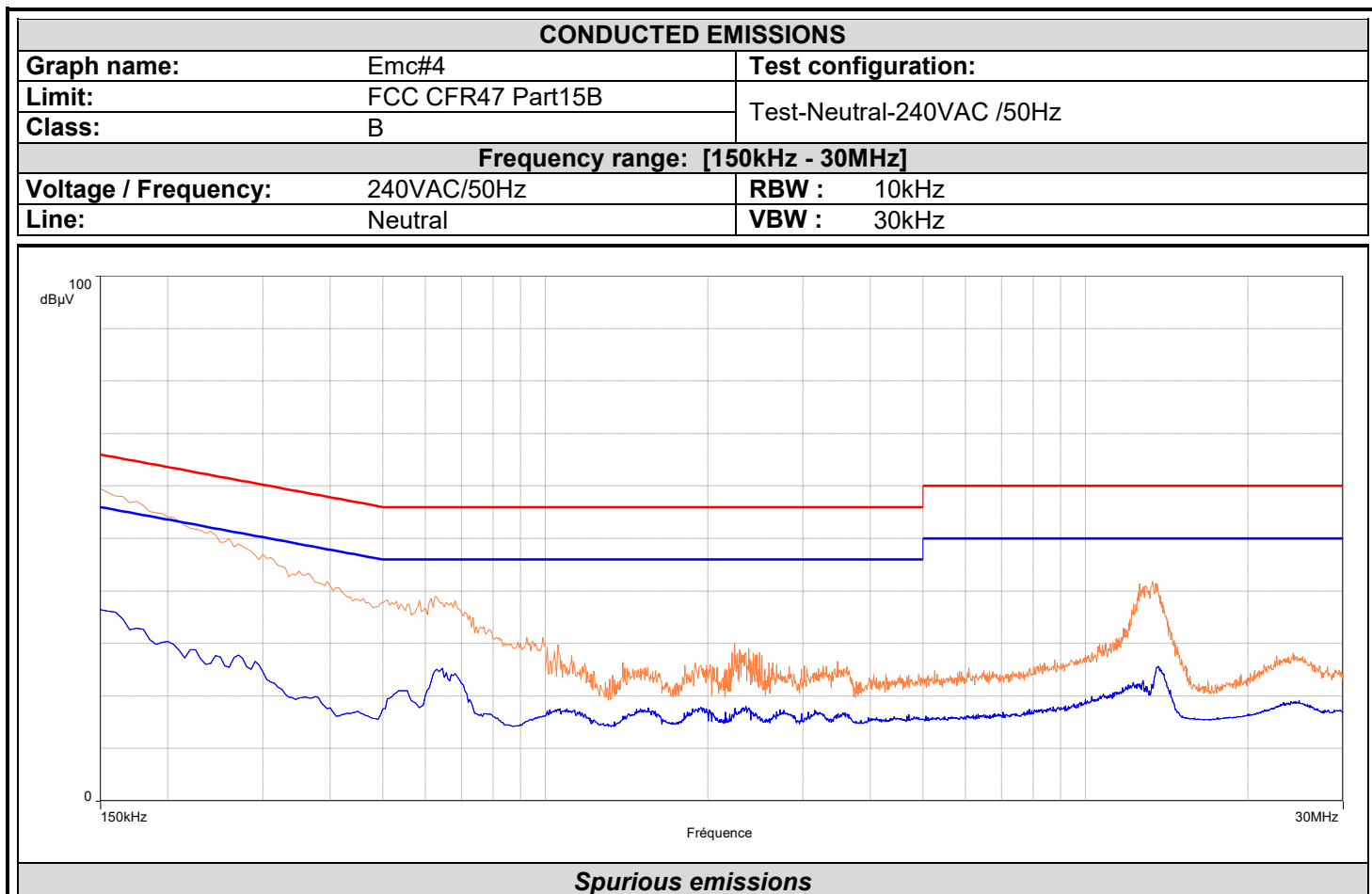
CONDUCTED EMISSIONS

Graph name:	Emc#3	Test configuration:	
Limit:	FCC CFR47 Part15B	Test-Phase-240VAC/50Hz	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	240VAC/50Hz	RBW :	10kHz
Line:	Phase	VBW :	30kHz



Spurious emissions

Frequency (MHz)	Mes.QPeak (dBμV)	LimQP (dBμV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBμV)	LimAvg (dBμV)	Mes.Avg-LimAvg (dB)	Line	Correction (dB)
0.155	51.2	65.7	-14.5	35.9	55.7	-19.9	Phase 1	19.4
0.175	48.5	64.7	-16.2	32.3	54.7	-22.4	Phase 1	19.4
0.265	40.1	61.3	-21.2	25.9	51.3	-25.4	Phase 1	19.4
0.660	31.1	56.0	-24.9	21.5	46.0	-24.5	Phase 1	19.5
2.616	15.9	56.0	-40.1	9.9	46.0	-36.1	Phase 1	19.7
12.696	32.8	60.0	-27.2	22.0	50.0	-28.0	Phase 1	20.4
13.564	35.0	60.0	-25.0	26.3	50.0	-23.7	Phase 1	20.5



Frequency (MHz)	Mes.QPeak (dBμV)	LimQP (dBμV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBμV)	LimAvg (dBμV)	Mes.Avg-LimAvg (dB)	Line	Correction (dB)
0.150	51.6	66.0	-14.4	36.7	56.0	-19.3	Neutre	19.4
0.260	41.0	61.4	-20.4	25.4	51.4	-26.0	Neutre	19.4
0.680	31.0	56.0	-25.0	22.8	46.0	-23.2	Neutre	19.5
0.990	21.0	56.0	-35.0	14.2	46.0	-31.8	Neutre	19.5
2.240	21.8	56.0	-34.2	14.4	46.0	-31.6	Neutre	19.6
2.492	20.2	56.0	-35.8	13.0	46.0	-33.0	Neutre	19.7
12.596	33.4	60.0	-26.6	20.9	50.0	-29.1	Neutre	20.4
13.292	35.1	60.0	-24.9	20.9	50.0	-29.1	Neutre	20.5

3.7. CONCLUSION

The sample of the equipment **IQOYA TALK**, Sn: **270100020074**, tested in the configuration presented in this test report **satisfies** to requirements of class B limits of the standard FCC Part15B and ICES-003, for conducted emissions.

4. MEASUREMENT OF RADIATED EMISSION (30MHz-6GHz)

4.1. ENVIRONMENTAL CONDITIONS

Date of test	: March 4, 2020	March 5, 2020
Test performed by	: Mamady FOFANA	Mamady FOFANA
Atmospheric pressure (hPa)	: 972	974
Relative humidity (%)	: 35	36
Ambient temperature (°C)	: 22	24

4.2. TEST SETUP

The installation of EUT is identical for pre-characterization measures in a 3 meters semi- anechoic chamber and for measures on the 10 meters Open site.

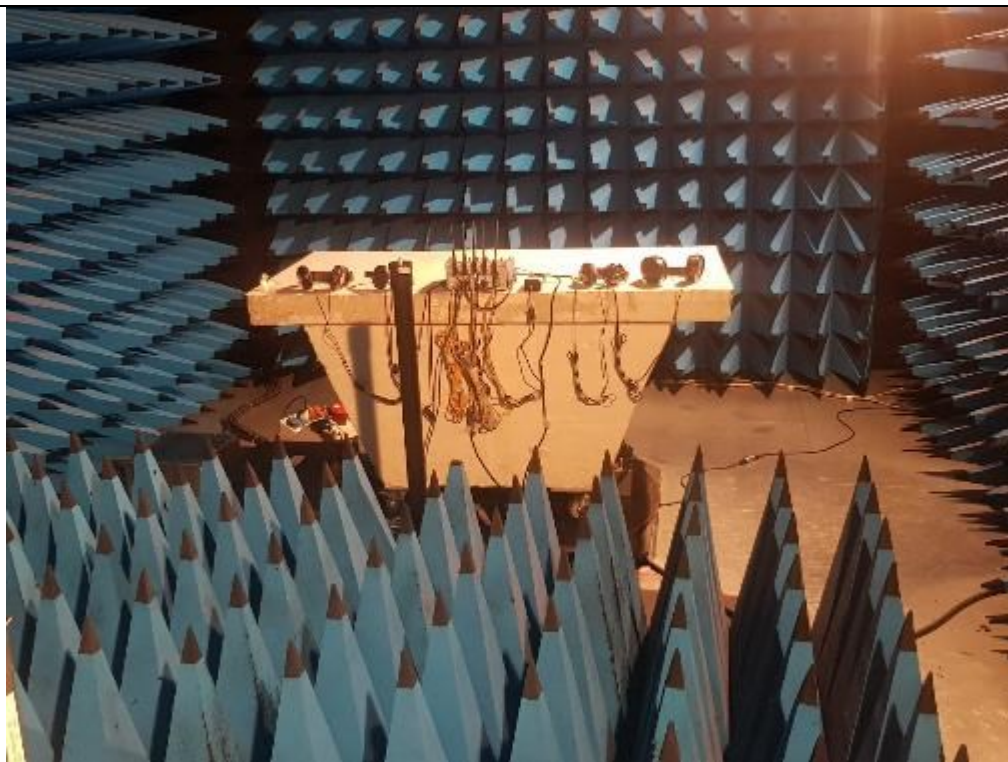
The EUT and auxiliaries are set:

- ☒ 80cm above the ground on the non-conducting table (Table-top equipment)
- ☐ 10cm above the ground on isolating support (Floor standing equipment)

The EUT is powered by V_{nom} .



Test setup on OATS



Test setup in anechoic chamber

4.3. TEST METHOD

The product has been tested according to ANSI C63.4, FCC part 15 subpart B.

Pre-characterisation measurement: (30MHz – 6 GHz)

A pre-scan of all the setup has been performed in a 3 meters semi-anechoic chamber for frequency from 30MHz to 1GHz. Test is performed in horizontal (H) and vertical (V) polarization during the test for maximized the emission measurement. Continuous linear turntable azimuth search was performed with 360 degrees range. Measurement performed on all axis of EUT used in normal configuration.

The pre-characterization graphs are obtained in PEAK detection and PEAK/AVERAGE from 1GHz to 6 GHz.

Characterization on 10 meters open site from 30MHz to 1GHz:

Radiated Emissions were measured on an open area test site. A description of the facility is on file with the FCC. The product has been tested at a distance of **10 meters** from the antenna and compared to the FCC part 15 subpart B limits. Measurement bandwidth was 120kHz from 30 MHz to 1GHz. Test is performed in horizontal (H) and vertical (V) polarization, during the test for maximized the emission measurement. The height antenna is varied from 1m to 4m. Continuous linear turntable azimuth search was performed with 360 degrees range. Measurement performed on all axis of EUT used in normal configuration. A summary of the worst case emissions found in all test configurations and modes is shown. Frequency list has been created with anechoic chamber pre-scan results.



Characterization on 3 meters full anechoic chamber from 1GHz to 6 GHz:

The product has been tested at a distance of **3 meters** from the antenna and compared to the FCC part 15 subpart B limits. Measurement bandwidth was 1MHz from 1GHz to 6 GHz.

Test is performed in horizontal (H) and vertical (V) polarization. Continuous linear turntable azimuth search was performed with 360 degrees range. Measurement performed on all axis of EUT used in normal configuration. A summary of the worst case emissions found in all test configurations and modes is shown. The height antenna is

☒ On mast, varied from 1m to 4m

☐ Fixed and centered on the EUT (EUT smaller than the beamwidth of the measurement antenna)

Frequency list has been created with anechoic chamber pre-scan results.

4.4. TEST EQUIPMENT LIST

TEST EQUIPMENT USED					
Description	Manufacturer	Model	Identifier	Cal_Date	Cal_Due
Amplifier 10kHz - 18GHz	LCIE SUD EST	—	A7085028	10/19	10/20
Antenna Bi-Log XWing	TESEQ	CBL6144	C2040146	03/17	03/20
Antenna horn 18GHz	AINFO	LB	C2042078	12/19	12/21
BAT EMC	NEXIO	v3.19.1.18	L1000115		
Cable 5m	SUCOFLEX	18GHz	A5329918	09/19	09/20
Emission Cable	MICRO-COAX	18GHz	A5329655	07/19	07/20
Emission Cable	MICRO-COAX	18GHz	A5329654	07/19	07/20
HF Radiated emission comb generator	LCIE SUD EST	—	A3169088		
Radiated emission comb generator	BARDET	—	A3169050		
Receiver 20Hz – 8GHz	ROHDE & SCHWARZ	ESU8	A2642019	12/17	03/20
Semi-Anechoic chamber #2 (BF)	SIEPEL	—	D3044015_BF	06/19	06/22
Semi-Anechoic chamber #2 (VSWR)	SIEPEL	—	D3044015_VSWR	06/19	06/22
Table C2/OATS	LCIE	—	F2000438		
Thermo-hygrometer (C2)	LACROSS Techn.	WS-2357	B4206015	10/18	10/20
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	08/18	08/20
Turntable chamber (Cage#2)	ETS Lingren	Model 2165	F2000404		
Turntable controller (Cage#2)	ETS Lingren	Model 2066	F2000393		
Antenna Bi-log	CHASE	CBL6111A	C2040051	06/19	06/20
Antenna mast (OATS)	ETS Lingren	2071-2	F2000392		
Cable (OATS)	—	1GHz	A5329623	03/19	03/20
Emission Cable	SUCOFLEX	6GHz	A5329061	02/19	03/20
OATS	—	—	F2000409	02/19	03/20
Radiated emission comb generator	BARDET	—	A3169050		
Receiver 20Hz – 8GHz	ROHDE & SCHWARZ	ESU8	A2642019	12/17	03/20
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	08/18	08/20
Turntable (OATS)	ETS Lingren	Model 2187	F2000403		
Turntable / Mast controller (OATS)	ETS Lingren	Model 2066	F2000372		

4.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

☒ None ☐ Divergence:

4.6. TEST RESULTS

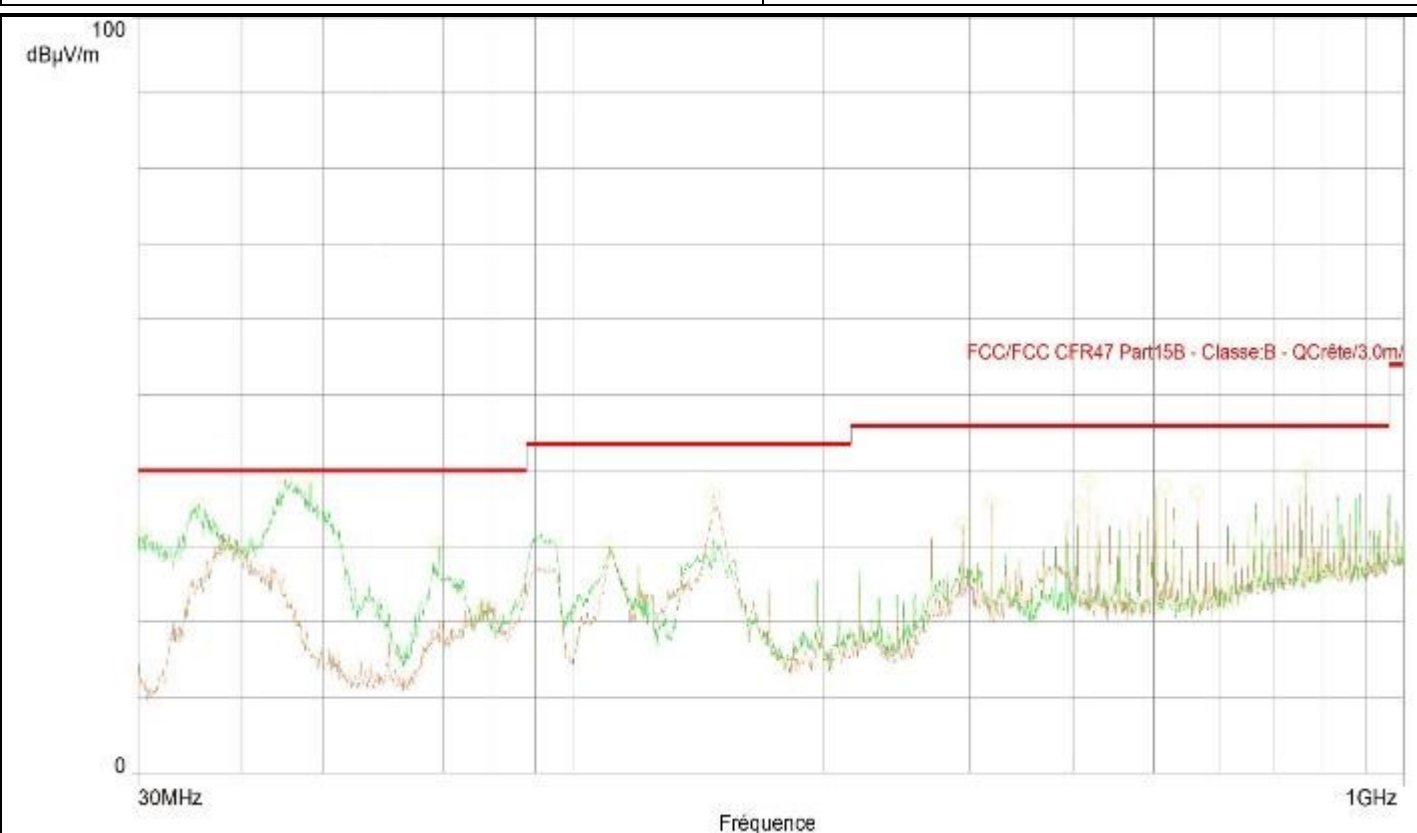
Pre-characterisation measurement (30MHz-1GHz): pre-scan measurement at 3m (PEAK detection, graph examples)

See graphs:

Graph identifier	Polarization	EUT position	Comments
Emr# 1	Horizontal /Vertical	Axis XY	See below

RADIATED EMISSIONS

Graph name:	Emr#1	Test configuration:	
Limit:	FCC CFR47 Part15B	Test [0.03-1]GHz	
Class:	B		
Frequency range: [30MHz - 1GHz]			
Antenna polarization:	Horizontal /Vertical	RBW :	100kHz
Azimuth:	0° - 360°	VBW :	300kHz



Spurious emissions



Frequency (MHz)	Peak Level (dBμV/m)	Polarization	Correction (dB)
147.487	36.8	Horizontal	-15.8
294.920	33.0	Horizontal	-10.9
319.440	35.9	Horizontal	-10.0
405.520	35.5	Horizontal	-7.0
417.800	38.5	Horizontal	-6.7
516.040	37.9	Horizontal	-4.9
565.280	37.1	Horizontal	-4.5
750.000	36.9	Horizontal	-1.7
30.476	31.6	Vertical	-19.8
35.423	35.6	Vertical	-17.0
44.994	39.1	Vertical	-15.5
48.326	38.7	Vertical	-15.3
68.964	30.2	Vertical	-14.7
110.665	30.0	Vertical	-16.7
761.800	40.0	Vertical	-1.6

QUALIFICATION (30MHz-1GHz): 10 meters measurement on the Open Area Test Site.
Frequency list has been created with semi-anechoic chamber pre-scan results.
Measurements are performed using a QUASI-PEAK detection.

Test Frequency (MHz)	Meter Reading dB(μV)	Detector (Pk/QP/Av)	Polarity (V/H)	Azimuth (Degrees)	Antenna Height (cm)	Gain/Loss Factor (dB)	Transducer Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
30,476	17,7	QP	V	360	100	-	19,4	37,0	40,0	-3,0
147,487	28,8	QP	V	258	100	-	13,4	42,1	43,5	-1,4
147,487	21,5	QP	V	307	100	-	13,4	34,9	43,5	-8,6
319,483	24,5	QP	V	360	100	-	17,0	41,5	46,0	-4,5
417,800	23,7	QP	V	0	100	-	20,8	44,5	46,0	-1,5
516,010	21,5	QP	V	0	100	-	23,1	44,6	46,0	-1,4
38,790	23,5	QP	V	0	100	-	15,0	38,5	40,0	-1,5
35,423	19,0	QP	V	360	100	-	16,8	35,8	40,0	-4,2
44,994	16,5	QP	V	360	100	-	11,7	28,2	40,0	-11,8
68,779	16,6	QP	V	0	155	-	7,5	24,2	40,0	-15,8
110,000	16,0	QP	V	0	100	-	13,1	29,1	43,5	-14,4
761,800	17,5	QP	V	360	243	-	28,2	45,7	46,0	-0,3
294,920	17,0	QP	V	0	131	-	16,5	33,5	46,0	-12,5
405,520	17,5	QP	V	0	100	-	20,4	37,9	46,0	-8,1
565,280	17,9	QP	V	360	104	-	25,3	43,1	46,0	-2,9

*Note: Measure have been done at 10m distance and corrected according to requirements of 15.209.e)
(M@3m = M@10m+10.5dB)*

Pre-characterisation measurement (1GHz-6GHz): pre-scan measurement at 3m (PEAK and AVERAGE detection, graph examples)

See graphs:

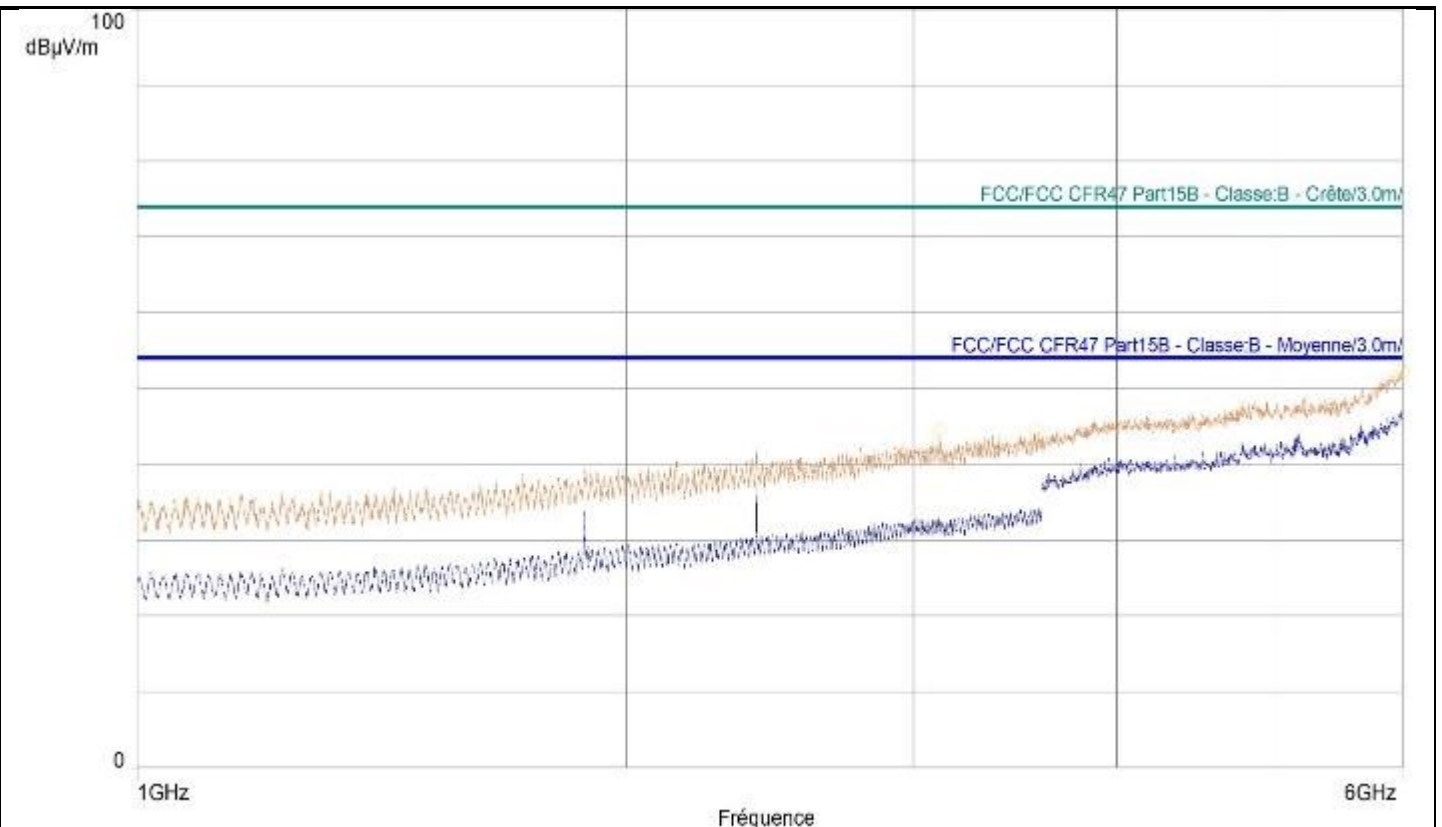
Graph identifier	Polarization	EUT position	Comments
Emr# 2	Horizontal /Vertical	Axis XY	See below



L C I E

RADIATED EMISSIONS

Graph name:	Emr#2	Test configuration:	
Limit:	FCC CFR47 Part15B	Test (H+V)[1-6]GHz	
Class:	B		
Frequency range: [1GHz - 6GHz]			
Antenna polarization:	Horizontal /Vertical	RBW :	1MHz
Azimuth:	0° - 360°	VBW :	3MHz



Spurious emissions

QUALIFICATION (1GHz-6 GHz): 3 meters measurement in full anechoic chamber. The frequency list is created from the results obtained during the pre-characterization in anechoic chamber. Measurements are performed using a PEAK and AVERAGE detection.

No Frequencies

4.7. CONCLUSION

The sample of the equipment **IQOYA TALK**, Sn: **270100020074**, tested in the configuration presented in this test report **satisfies** to requirements of class B limits of the standard FCC Part15B and ICES-003, for radiated emissions.



5. UNCERTAINTIES CHART

Type de mesure / Kind of measurement	Incertitude élargie laboratoire / Wide uncertainty laboratory (k=2) $\pm x$	Incertitude limite du CISPR / CISPR uncertainty limit $\pm y$
Mesure des perturbations conduites en tension sur le réseau d'énergie (monophasé /triphase) 10kHz-150kHz <i>Measurement of conducted disturbances in voltage on the power port (single & three phases) 10kHz-150kHz</i>	3.27dB	3.8dB
Mesure des perturbations conduites en tension sur le réseau d'énergie (monophasé /triphase) 150kHz-30MHz <i>Measurement of conducted disturbances in voltage on the power port (single & three phases) 150kHz-30MHz</i>	3.29dB	3.4dB
Mesure des perturbations conduites en tension sur le réseau de télécommunication <i>Measurement of conducted disturbances in voltage on the telecommunication port.</i>	3.26dB	5dB
Mesure des perturbations discontinues conduites en tension <i>Measurement of discontinuous conducted disturbances in voltage</i>	3.33dB	3.4dB
Mesure des perturbations conduites en courant <i>Measurement of conducted disturbances in current</i>	2.67dB	2.9dB
Mesure du champ électrique rayonné en cage de Faraday semi-anéchoïque de 30MHz à 1GHz <i>Measurement of radiated electric field in half-anechoic Faraday room From 30MHz to 1GHz</i>	5.06dB	5.3dB
Mesure du champ électrique rayonné en cage de Faraday semi-anéchoïque de 1GHz à 6GHz <i>Measurement of radiated electric field in half-anechoic Faraday room From 1GHz to 6GHz</i>	5.18dB	5.2dB
Mesure du champ électrique rayonné en cage de Faraday semi-anéchoïque de 6GHz à 18GHz <i>Measurement of radiated electric field in half-anechoic Faraday room From 6GHz to 18GHz</i>	5.21dB	5.5dB
Mesure du champ électrique rayonné sur le site en espace libre de Moirans 30MHz – 1GHz. <i>Measurement of radiated electric field on the Moirans open area test site 30MHz – 1GHz.</i>	5.2dB	6.3dB
Mesure du champ électrique rayonné IN SITU de 30 à 1000 MHz <i>IN SITU measurement of radiated electric field from 30 to 1000MHz</i>	A l'étude / Under consideration	5.2dB
Mesure de la puissance perturbatrice <i>Measurement of disturbance power</i>	3.32dB	4.5dB
Mesure des harmoniques de courant <i>Measurement of current harmonics</i>	11.11%	/
Mesure du flicker <i>Flicker measurement</i>	9.26%	/

Les valeurs d'incertitudes calculées du laboratoire étant inférieures aux valeurs d'incertitudes limites établies par le CISPR, la conformité de l'échantillon est établie directement par les niveaux limites applicables. Ce tableau regroupe l'ensemble des incertitudes maximales pour les essais réalisables dans le laboratoire, qu'ils aient été ou non réalisés dans le cadre du présent rapport / *The uncertainty values calculated by the laboratory are lower than limit uncertainty values defined by the CISPR. The conformity of the sample is directly established by the applicable limits values. This table includes all uncertainties maximum feasible for testing in the laboratory, whether or not made in this report*

Note - L'incertitude de mesure instrumentale est déterminée selon la CISPR 16-4-2. / *The instrumentation measurement uncertainty is determined according to CISPR16-4-2*