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TEST REPORT N°: ARJX-19MY1975DTQDPB

EMC TEST REPORT

To :	Qingdao Dashang Electric Appliance Co.,Ltd.	Fax :	--
Attn :	--	Email :	--
Address :	No.70, Jinsheng One Road Jihongtan street, Chengyang District, Qingdao City, Shandong Province 266111, P.R.China		
Cc :	--	Fax/Email :	--
Attn :	--		
This document includes : 39 pages		Test date :	Aug. 20 to Sep.20, 2019

FACTORY NAME:	Qingdao Dashang Electric Appliance Co.,Ltd.	
ADDRESS :	No.70, Jinsheng One Road Jihongtan street, Chengyang District, Qingdao City, Shandong Province 266111, P.R.China	
PRODUCT :	Commercial Freezer	
TRADE MARK :	--	
TYPE REFERENCE :	BF60CP-76, BF120CP-76, BF180CP-76	
RATED VOLTAGE :	AC 220-240V, 50Hz	
RATED INPUT CURRENT :	BF60CP-76: 5.0A, BF120CP-76: 5.5A, BF180CP-76: 7.5A	
PROTECTION CLASS :	I	
TESTS REALISED :	On one sample of BF180CP-76 and BF120CP-76	

STANDARDS USED(DATE) :	EN 55014-1:2017 EN 55014-2:2015 EN 61000-3-2:2014 EN 61000-3-3:2013
CLAUSES EXAMINED :	All Clauses Relevant.

All the tests done in this report are subcontracted to Qingdao Product Quality Supervision & Testing Research Center

CONCLUSION :	The sample does satisfy the clauses examined .
Test done by:	Approved by:
Name : Tony MAO Date : Sep. 20, 2019	Name : Yi XU Date : Sep. 23, 2019

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.
 "All the modifications applied in this document are identified by a vertical line on the left at the place where information has been modified regarding to the previous edition of the document".

LCIE China Company Limited 必维欧亚电气技术咨询服务(上海)有限公司	Building 4, No. 518, Xin Zhuan Road, CaoHejing Songjiang High-Tech Park, Shanghai, CHINA	Tel: +86 21 6195 7000 Fax: +86 21 6195 7001 Email: contact@cn.bureauveritas.com
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1 TESTING PROGRAM

The tests have been carried out according to the requirements of the following standards:

Emission standard EN 55014-1:2017

- Measurement of the disturbance voltage levels.
- Measurement of the discontinuous disturbance levels.
- Measurement of the disturbance power levels.
- Measurement of the radiated disturbance levels.
- Measurement of the magnetic field levels.

Immunity standard EN 55014-2:2015

- Immunity to electrostatic discharges - publication IEC 61000-4-2.
- Immunity to fast transients/bursts - publication IEC 61000-4-4.
- Immunity to conducted disturbances induced by radio-frequency fields - publication IEC 61000-4-6.
- Immunity to radiated radio-frequency electromagnetic field with amplitude modulation - publication IEC 61000-4-3.
- Immunity to surges - publication IEC 61000-4-5.
- Immunity to voltage dips -publication IEC 61000-4-11.
- Immunity to voltage interruptions - publication IEC 61000-4-11.

Emission standard EN 61000-3-2:2014

- Measurement of the harmonic currents.

Emission standard EN 61000-3-3:2013

- Measurement of the voltage fluctuations and flickers.

Special Comment :	The model BF120CP-76 is similar as the model BF180CP-76 and BF60CP-76 except for the size and compressor. The model BF180CP-76 is similar as the model BF60CP-76 except for the size and the model BF180CP-76 has two compressor. So we did full test on model BF180CP-76. EMI test on model BF120CP-76.
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2 HISTORY OF FAILURE

None.



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3 EQUIPMENT CHARACTERISTICS

3.1 List of critical EMC components

Object / part No.	Manufacturer/ trademark	Type / model	Technical data
Compressor for BF180CP-76 and BF60CP-76	Secop GmbH	SC18CNX.2	220-240V, 50Hz, R290, Class I
Compressor for BF120CP-76	Secop GmbH	SC21CNX.2	220-240V, 50Hz, R290, Class I
LED lamp	SHENZHEN TIANCHENG LIGHTING CO.,LTD	5050	DC24V, 14W DC24V, 20W DC24V, 22W
Evaporator fan motor	Ebm-papst Motor (Shanghai) Co.,Ltd.	M4Q045-CA01-01/A30	230V-50Hz 0.20A 31/7W, Class B
Condenser fan motor	Hangzhou Weiguang Electronic Co.,Ltd.	YZF series	220-240V 0.25A 7.2/35W, Class B
Transformer in electronic thermostat	WUXI XINCHANG ELECTRONIC CO.,LTD	BCY-432-3025	220-240V 50/60Hz, Class B, CQC17001173661
PCB in electronic thermostat	ZHEJIANG ZAPON ELECTRONIC TECHNOLOGY CO.,LTD	Power Box mini_V1.1_20190216	PTI175V



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3.2 Picture of the sample

Front view for BF180CP-76:



Front view for BF120CP-76:





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Front view for BF60CP-76:



Back view:





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Side view:



Side view:



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**Building 4, No. 518, Xin Zhuan Road,
CaoHejing Songjiang High-Tech Park,
Shanghai, CHINA**

Tel: +86 21 6195 7000
Fax: +86 21 6195 7001
Email: contact@cn.bureauveritas.com



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Top view:



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Top LED lamp view for BF120CP-76:



LED lamp view for BF180CP-76 and BF120CP-76:





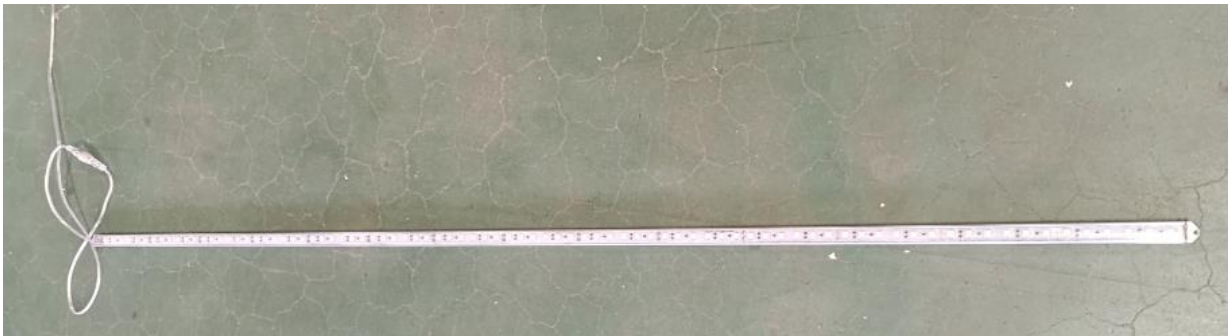
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LED lamp view for BF60CP-76:



LED lamp view:





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Inside view:





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Inside view:



Noted: BF180CP-76 used three inner fan motors, BF120CP-76 used two fan motors, BF60CP-76 used one fan motor.

Defrosting heater view:





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Display panel view:



Inside view:





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Inside view for BF180CP-76:



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Inside view for BF180CP-76:

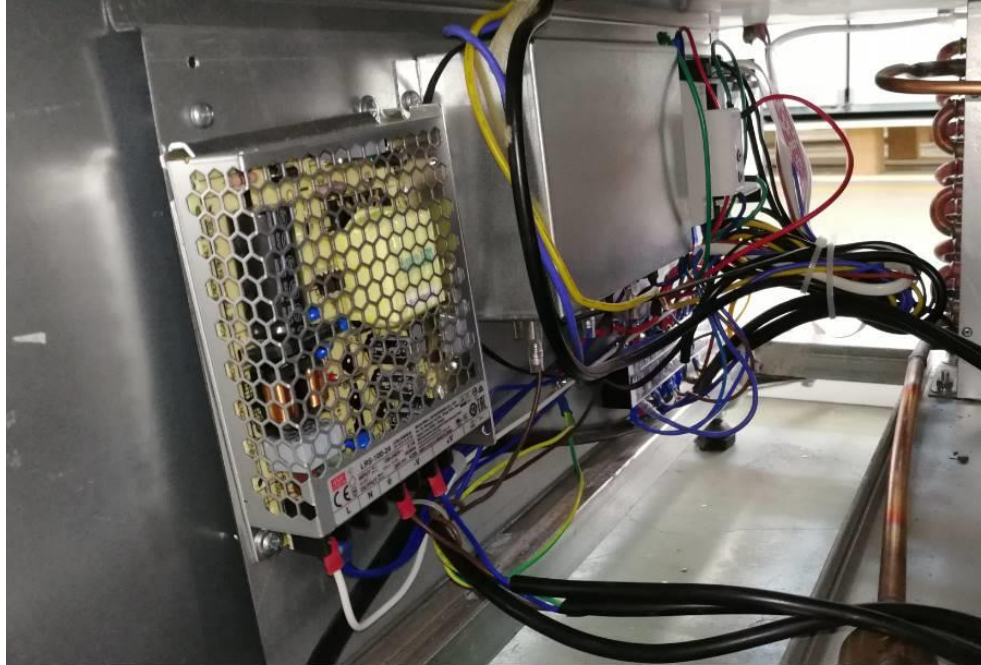




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Inside view for BF180CP-76:



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Inside view for BF120CP-76 and BF60CP-76:

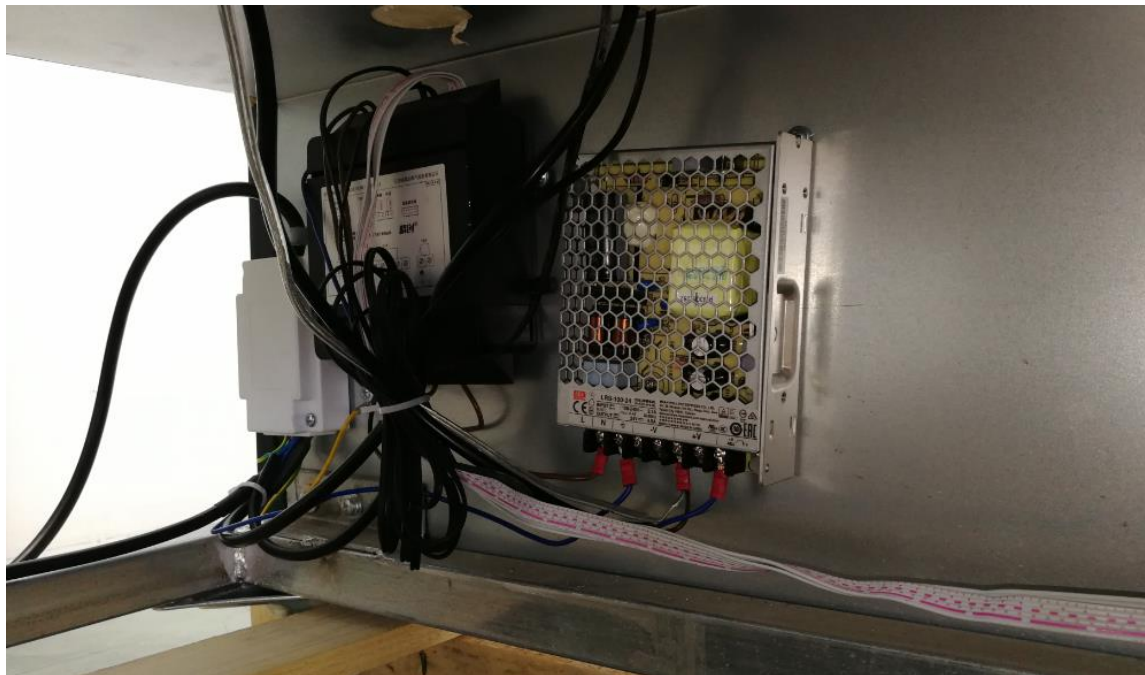




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Inside view for BF120CP-76:





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TEST REPORT N°: ARJX-19MY1975DTQDPB

Inside view:



Inside view:

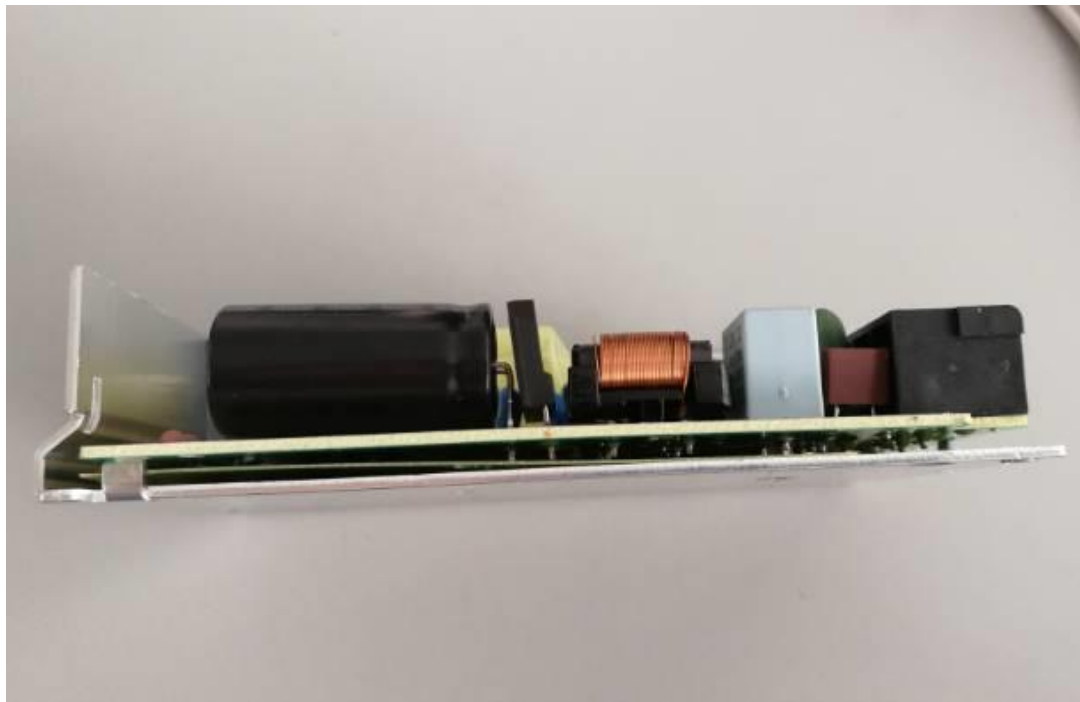




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Power supply view:

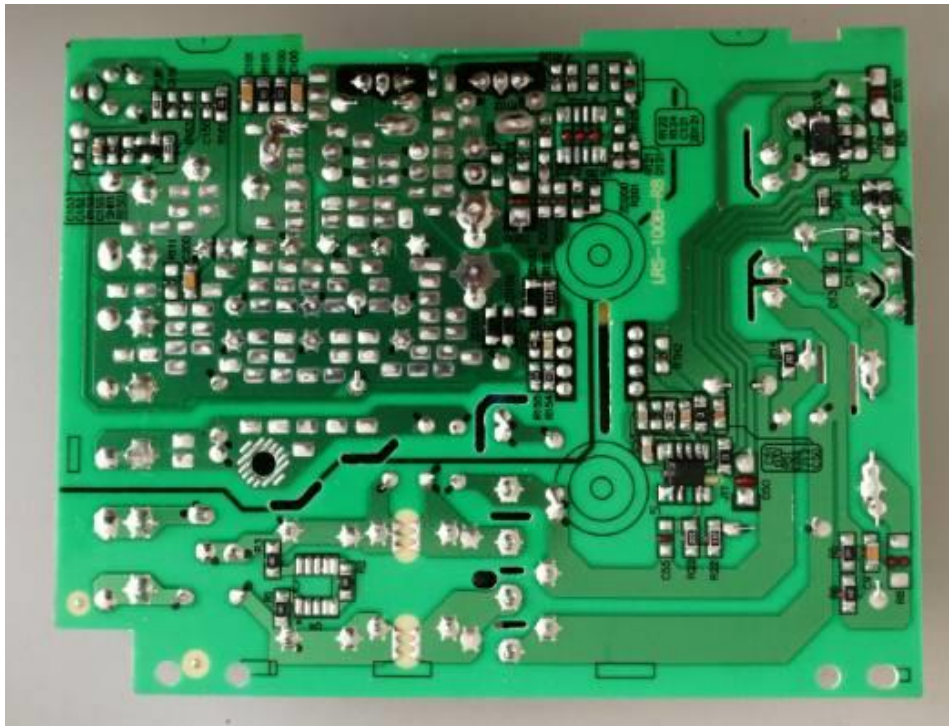




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TEST REPORT N°: ARJX-19MY1975DTQDPB

Power supply:

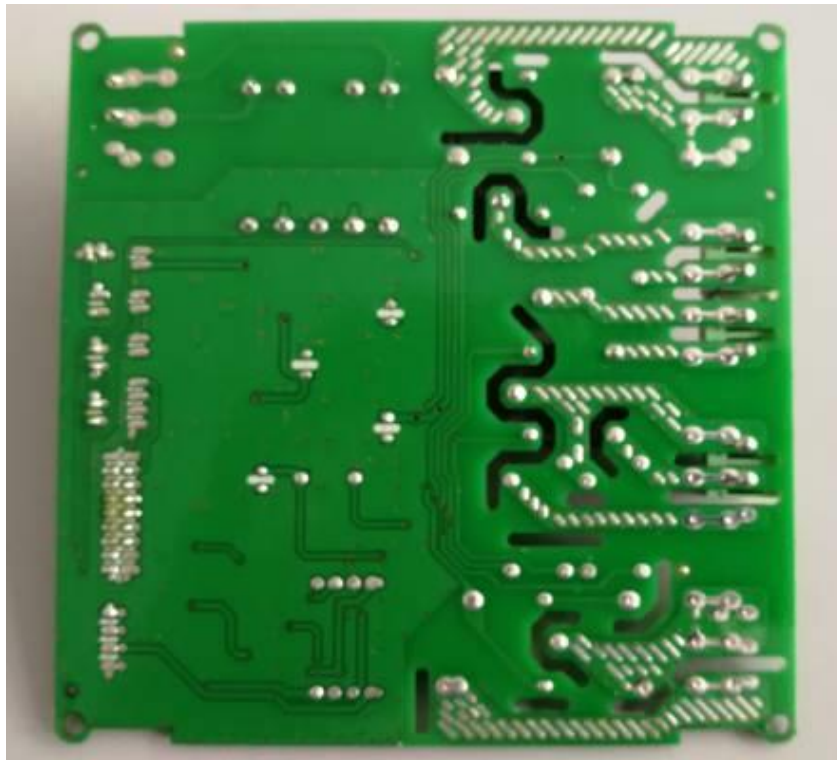




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Electronic thermostat:





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4 OPERATING CONDITIONS

The apparatus was placed in a shielded room, and was powered with an alternative current source through filters mounted on the shielded room wall. The apparatus was worked continuously.

Climatic conditions:

Temperature	:	20 °C-30 °C
Relative humidity	:	30 %-60 %
Atmospheric pressure	:	101 kPa

5 PERFORMANCE CRITERIA

- Criterion A : The apparatus operate as intended during the test. No degradation of performance or loss of function is allowed below the performance level.
- Criterion B : The apparatus operate as intended after the test. No change of operating state and the stored data are allowed. During the test, degradation of performance is allowed.
- Criterion C : Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.



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6 TEST RESULTS

6.1 EMISSION STANDARD EN 55014-1:2017

Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
4.3 4.3.2	<u>Continuous disturbances</u> <u>Magnetic field limits</u> Frequency range: 0.009 to 30 MHz	Operating conditions : according to the article 6 and Annex A <input type="checkbox"/> Magnetic field induced current (2m LAS) <input type="checkbox"/> Magnetic field strength (0.6m Loop antenna) Port(s) : • Enclosure Diagram No. < >	[]	[]	[X]	[]
4.3.3	<u>Disturbance voltage limits</u> Frequency range: 0.15 to 30 MHz	Port(s) : • Mains port Diagram No. <1>	[X]	[]	[]	[]
4.3.4.4	<u>Disturbance power limits</u> Frequency range : 30 to 300 MHz	Port(s) : • Mains port Diagram No. <2>	[X]	[]	[]	[1]
4.3.4.5	<u>Radiated disturbance limits</u> Frequency range: 30 to 1000 MHz	Measuring Distance: 3 m Port(s) : • Enclosure Diagram No. < >	[]	[]	[X]	[2]
4.4 4.4.2	<u>Discontinuous disturbances</u> <u>Discontinuous disturbances limits</u> Frequency range: 0.15 to 30 MHz	Operating conditions : according to the article 6 and Annex A Port(s) : • Mains port Table No. <1>	[X]	[]	[]	[3]

P : pass – F : Fail – NA : not applicable – Rem : remark



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6.2 IMMUNITY STANDARD EN 55014-2:2015

Apparatus category: II

Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
5.1	<u>Electrostatic discharges</u> Table 1 Enclosure Performance Criterion B	Contact discharges Level : ± 4 kV Application points : • Horizontal coupling plane	[X]	[]	[]	[4]
		• Vertical coupling plane	[X]	[]	[]	[4]
		• Screw	[X]	[]	[]	[4]
		Air discharges Level : ± 8 kV Application points : • Switch	[X]	[]	[]	[4]
		• Gap	[X]	[]	[]	[4]
		• Cable	[X]	[]	[]	[4]
5.2	<u>Fast transients/bursts</u> Table 4 Alternative current power input and output port(s) Performance Criterion B	Level : ± 1 kV Repetition rate : 5 kHz Testing time : 2 min Port(s) : • AC mains	[X]	[]	[]	[4]
5.3	<u>Injected current 0.15 to 230 MHz</u> Table 7 Alternative current power input and output port(s) Performance Criterion A Article 8.4	Voltage level : 3V (unmodulated signal) Modulation frequency : 1 kHz Modulation depth : 80 % Frequency Step : 1% Dwell Time: 2 s Application with CDN-M2/M3 Port(s) : • AC mains	[X]	[]	[]	[4]
5.5	<u>Radio-frequency electromagnetic fields 80 to 1000 MHz</u> Table 11 Enclosure Performance criteria A	Test field strength : 3 V/m (unmodulated signal) Modulation frequency : 1 kHz Modulation depth : 80 % Frequency Step : 1% Dwell Time : 2 s <input type="checkbox"/> Logperiodic antenna <input type="checkbox"/> GTEM: • Horizontal position • Vertical position	[] []	[] []	[X] [X]	[] []

P : pass - F : Fail - NA : not applicable - Rem : remark



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Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
5.6	Surges Table 12 Alternative current power input and output port(s) Performance Criterion B	Tr/Th(μ s) : 1.2/50 (8/20) Number of surges : 5 positive and 5 negative Phase angles : 90° and 270° Level : \pm 1 kV Port(s) : • Power input, between lines and neutral	[X]	[]	[]	[4]
		Level : \pm 2 kV Port(s) : • Power input, between lines and earth • Power input, between neutral and earth	[X] [X]	[] []	[] []	[4] [4]
5.7	Voltage dips and voltage interruptions Table 13 Alternative current power input port(s) Performance Criterion C	<u>Voltage interruptions</u> Test level : 0 % Ut Duration : 10 ms Phase angles : 0° and 180° Port(s) : • AC mains	[X]	[]	[]	[5]
		<u>Voltage dips</u> Test level : 40 % Ut Duration : 200 ms Phase angles : 0° Port(s) : • AC mains	[X]	[]	[]	[5]
		<u>Voltage dips</u> Test level : 70 % Ut Duration : 500 ms Phase angles : 0° Port(s) : • AC mains	[X]	[]	[]	[4]

P : pass - F : Fail - NA : not applicable - Rem : remark



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6.3 EMISSION STANDARD EN 61000-3-2:2014

TEST	TEST SPECIFICATION	RESULTS			
		P	F	NA	Rem
<u>Limits for harmonic currents emission</u>	Frequency range: 0 to 2 kHz Class of the apparatus : A Table No. <2>	[X]	[]	[]	[]

P : pass - F : Fail - NA : not applicable - Rem : remark

6.4 EMISSION STANDARD EN 61000-3-3:2013

TEST	TEST SPECIFICATION	RESULTS			
		P	F	NA	Rem
<u>Limitation of voltage fluctuations and flicker in low-voltage supply systems</u>	Frequency range: 0 to 2 kHz Table No. <3>	[X]	[]	[]	[]

P : pass - F : Fail - NA : not applicable - Rem : remark

Remark(s) :

1. The manufacturer chooses the disturbance power test method according to clause 4.3.4.2 in this standard.
2. The EUT does not contain any internal clock frequency or clock generator operating at frequency higher than 30MHz and the margin for the disturbance power test results between 200MHz and 300MHz fulfilled the margin's requirement in Table 8, the EUT is deemed to comply with this requirement without further testing.
3. The measured click rate is not more than five, and the duration of each click at 500 kHz is less than 10ms. So requirement of clause 5.4.3.4 is met for model BF180CP-76. No click was observed for model BF120CP-76.
4. During and after the test, there are no loss of function and no change of compressor, power consumption and operating state.
5. During the test, there is instantaneous change of compressor and light. After the test, any changes were self-recoverable.

7 CONCLUSION

The apparatus Commercial Freezer and models BF60CP-76, BF120CP-76, BF180CP-76 are in compliance with the requirements of the standards EN 55014-1:2017, EN 55014-2:2015, EN 61000-3-2:2014 and EN 61000-3-3:2013.



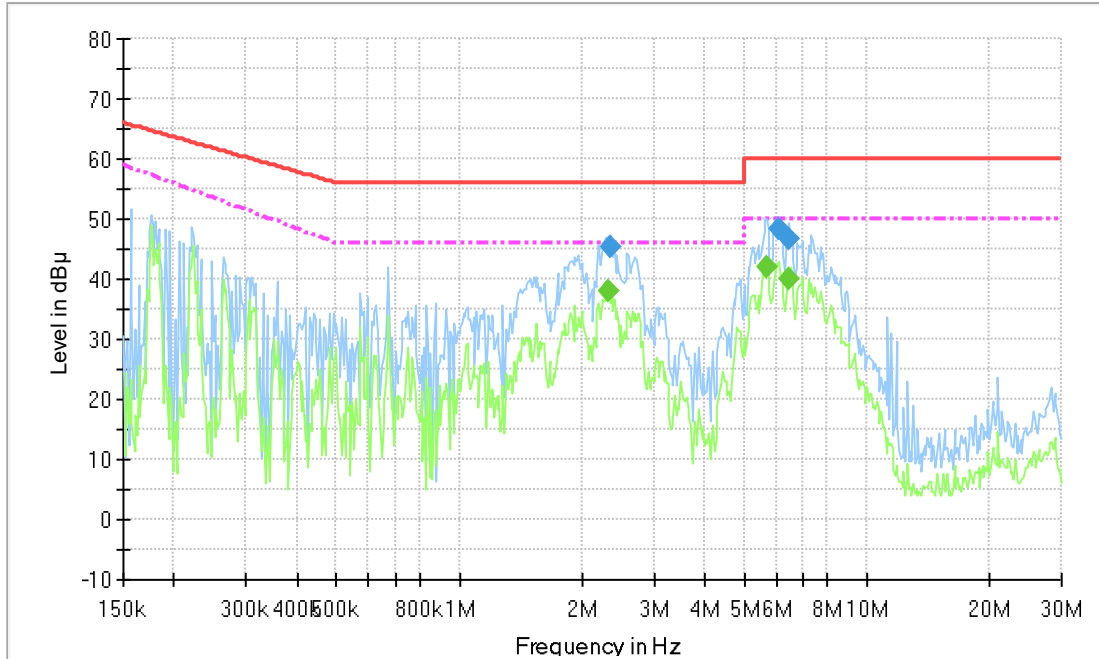
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Diagram No. 1: Conducted Emission

BF180CP-76, Power line-Line

Voltage with 2-Line-LISN(55014)jydq



Final Result 1

Frequency (MHz)	QuasiPeak (dB µV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)	Comment
2.344093	45.4	2000.0	9.000	On	L1	9.6	10.6	56.0	
6.050317	48.4	2000.0	9.000	On	L1	9.7	11.6	60.0	
6.448555	46.6	2000.0	9.000	On	L1	9.7	13.4	60.0	

Final Result 2

Frequency (MHz)	Average (dB µV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)	Comment
2.325489	37.9	2000.0	9.000	On	L1	9.6	8.1	46.0	
5.676673	41.9	2000.0	9.000	On	L1	9.7	8.1	50.0	
6.397376	40.0	2000.0	9.000	On	L1	9.7	10.0	50.0	

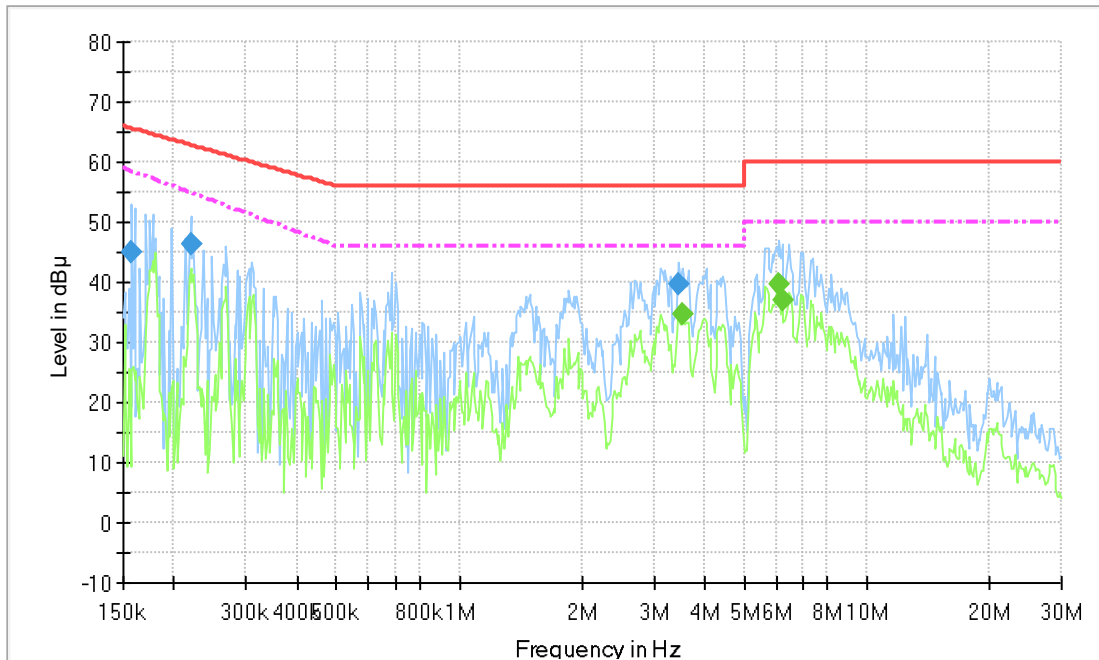


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BF180CP-76, Power line-Neutral

Voltage with 2-Line-LISN(55014)jydc



Final Result 1

Frequency (MHz)	QuasiPeak (dB µ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Comment
0.157346	44.9	2000.0	9.000	On	N	9.6	20.7	65.6	
0.219886	46.2	2000.0	9.000	On	N	9.5	16.6	62.8	
3.436215	39.7	2000.0	9.000	On	N	9.6	16.3	56.0	

Final Result 2

Frequency (MHz)	Average (dB µ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Comment
3.519346	34.6	2000.0	9.000	On	N	9.6	11.4	46.0	
6.098720	39.8	2000.0	9.000	On	N	9.7	10.2	50.0	
6.196690	37.2	2000.0	9.000	On	N	9.7	12.8	50.0	

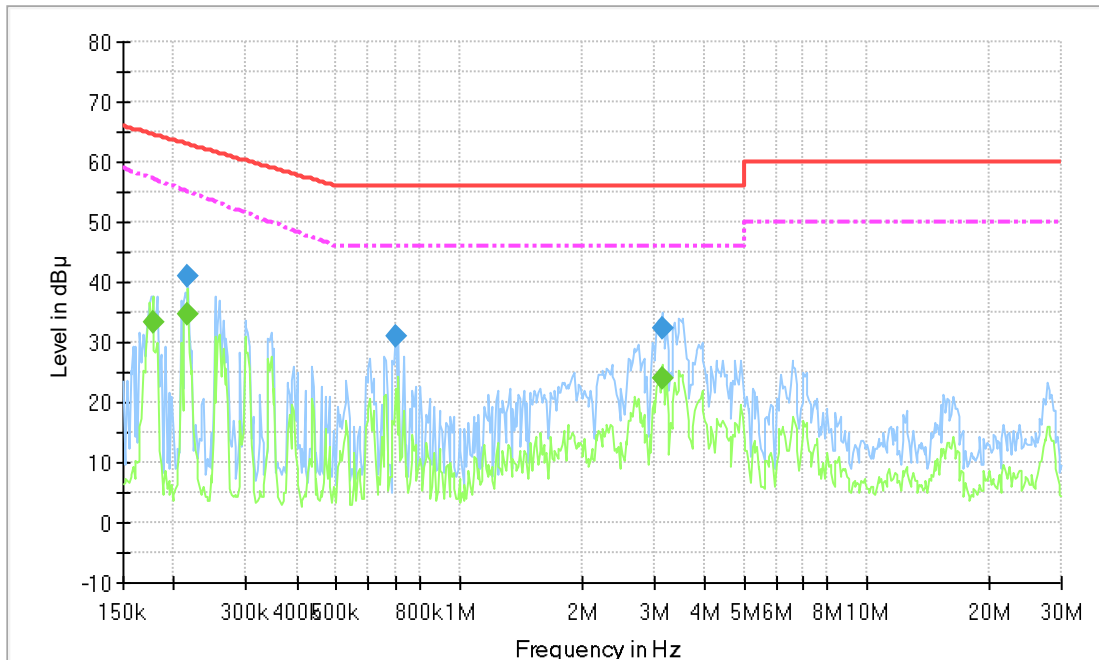


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BF120CP-76, Power line-Line

Voltage with 2-Line-LISN(55014)jydg



Final Result 1

Frequency (MHz)	QuasiPeak (dB µ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Comment
0.216409	41.1	2000.0	9.000	On	L1	9.6	21.9	63.0	
0.698191	31.1	2000.0	9.000	On	L1	9.6	24.9	56.0	
3.147854	32.2	2000.0	9.000	On	L1	9.6	23.8	56.0	

Final Result 2

Frequency (MHz)	Average (dB µ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Comment
0.177322	33.3	2000.0	9.000	On	L1	9.6	23.9	57.2	
0.216409	34.6	2000.0	9.000	On	L1	9.6	20.4	55.0	
3.147854	23.9	2000.0	9.000	On	L1	9.6	22.1	46.0	

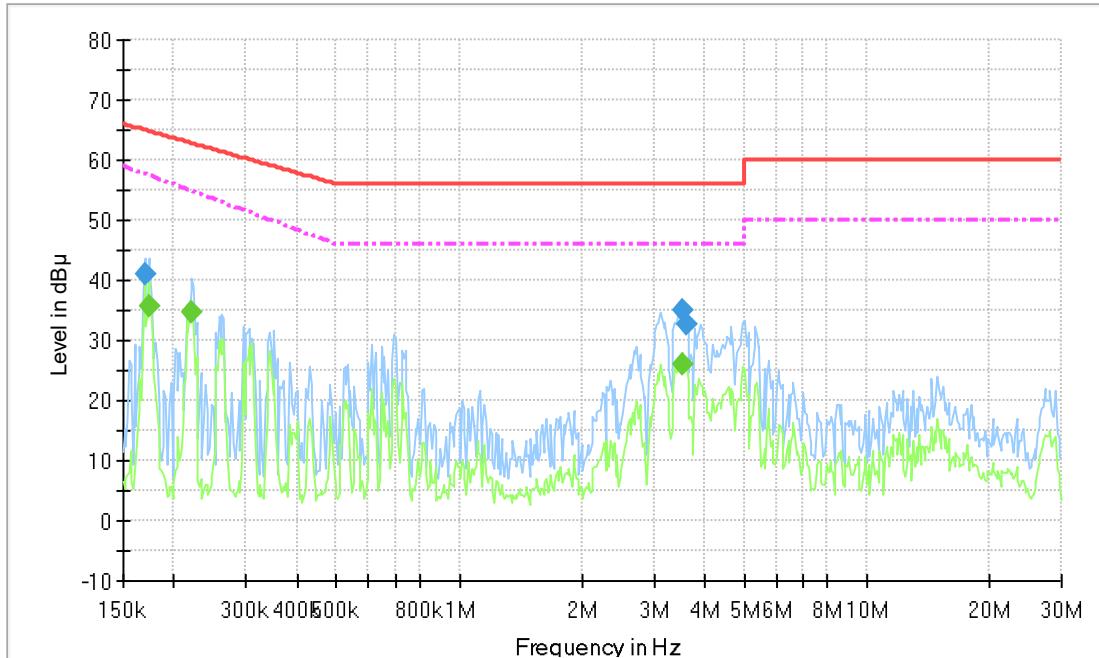


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BF120CP-76, Power line-Neutral

Voltage with 2-Line-LISN(55014)jydg



Final Result 1

Frequency (MHz)	QuasiPeak (dB µ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Comment
0.169044	40.9	2000.0	9.000	On	N	9.5	24.1	65.0	
3.519346	34.9	2000.0	9.000	On	N	9.6	21.1	56.0	
3.604488	32.8	2000.0	9.000	On	N	9.6	23.2	56.0	

Final Result 2

Frequency (MHz)	Average (dB µ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Comment
0.173133	35.8	2000.0	9.000	On	N	9.5	21.7	57.5	
0.219886	34.5	2000.0	9.000	On	N	9.5	20.4	54.9	
3.547501	26.0	2000.0	9.000	On	N	9.6	20.0	46.0	



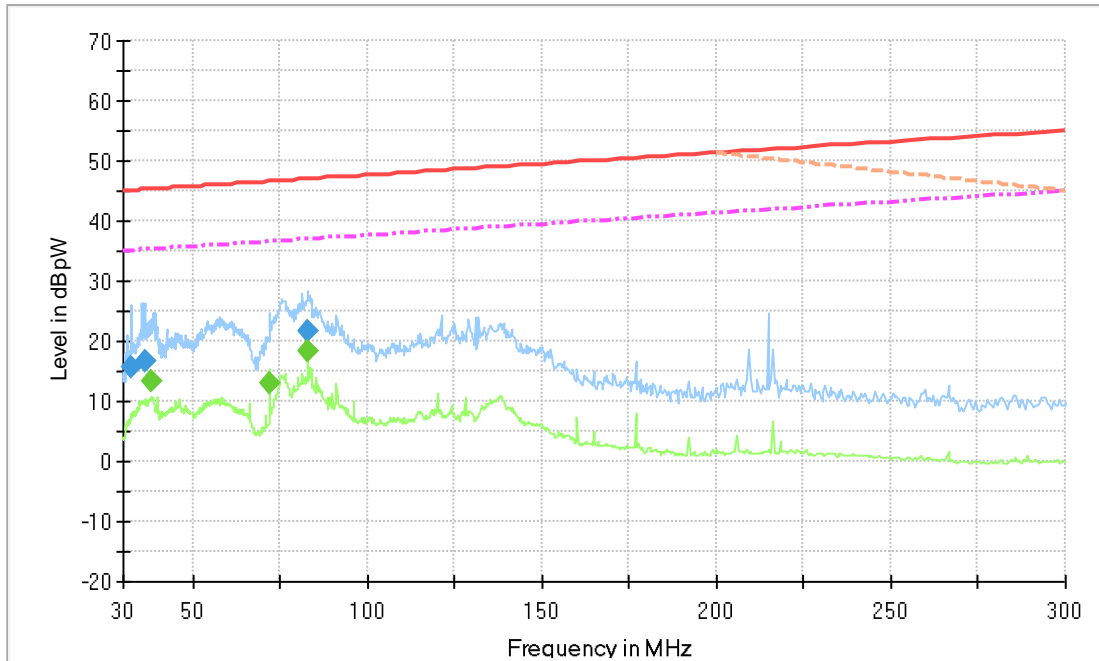
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Diagram No. 2: Disturbance Power

BF180CP-76, Power line

EMI Power with Scans



Final Result 1

Frequency (MHz)	QuasiPeak (dBpW)	Meas. Time (ms)	Bandwidth (kHz)	Slide bar position (cm)	Corr. (dB)	Margin (dB)	Limit (dBpW)	Comment
32.496016	15.6	2000.0	120.000	500.00	9.1	29.5	45.1	
36.053849	16.6	2000.0	120.000	500.00	10.7	28.6	45.2	
82.779689	21.8	2000.0	120.000	191.00	9.2	25.2	47.0	

Final Result 2

Frequency (MHz)	Average (dBpW)	Meas. Time (ms)	Bandwidth (kHz)	Slide bar position (cm)	Corr. (dB)	Margin (dB)	Limit (dBpW)	Comment
38.281001	13.2	2000.0	120.000	500.00	11.1	22.1	35.3	
71.975267	13.0	2000.0	120.000	154.00	8.0	23.6	36.6	
82.945249	18.2	2000.0	120.000	140.00	9.2	18.8	37.0	

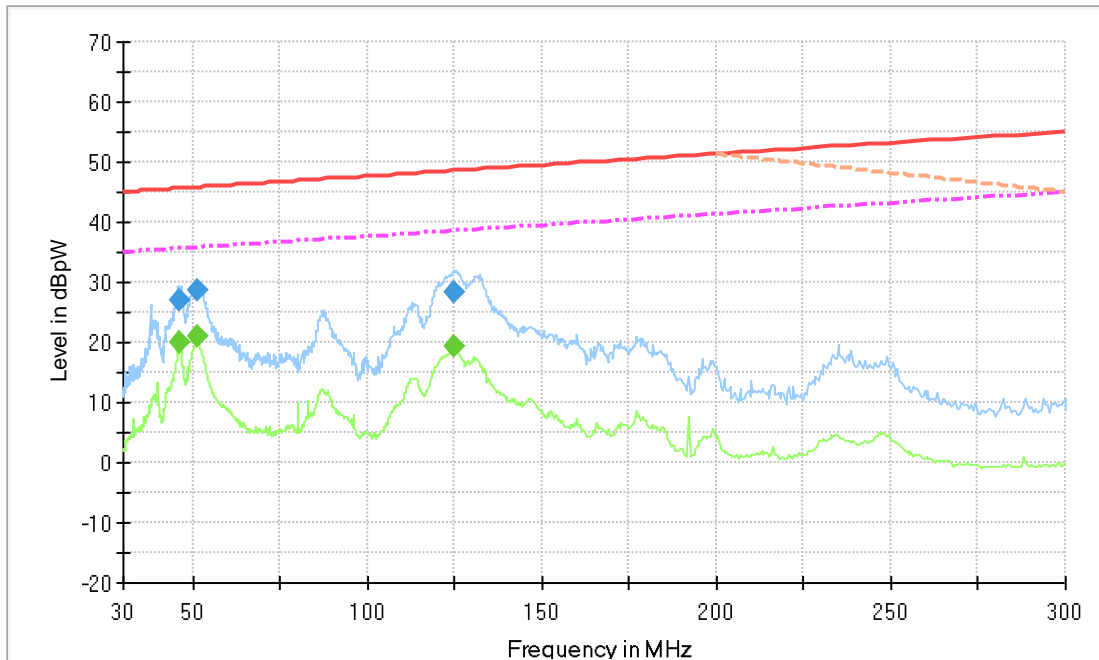


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BF120CP-76, Power line

EMI Power with Scans



Final Result 1

Frequency (MHz)	QuasiPeak (dBpW)	Meas. Time (ms)	Bandwidth (kHz)	Slide bar position (cm)	Corr. (dB)	Margin (dB)	Limit (dBpW)	Comment
46.282502	27.0	2000.0	120.000	500.00	9.3	18.6	45.6	
51.247257	28.7	2000.0	120.000	500.00	7.9	17.1	45.8	
124.682846	28.4	2000.0	120.000	500.00	8.4	20.1	48.5	

Final Result 2

Frequency (MHz)	Average (dBpW)	Meas. Time (ms)	Bandwidth (kHz)	Slide bar position (cm)	Corr. (dB)	Margin (dB)	Limit (dBpW)	Comment
46.097926	19.9	2000.0	120.000	213.00	9.3	15.7	35.6	
51.042881	21.0	2000.0	120.000	500.00	7.9	14.8	35.8	
124.682846	19.5	2000.0	120.000	160.00	8.4	19.0	38.5	



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TEST REPORT N°: ARJX-19MY1975DTQDPB

**Table No. 1: Discontinuous Disturbance
BF180CP-76**

First Pass	Rx1 150KHz	Rx2 500KHz	Rx3 1.4MHz	Rx4 30MHz
Short	0	0	0	0
Long	0	0	0	0
Fast Long (< 20ms)	0	0	0	0
Total Clicks	0	0	0	0
Continuous Events	0	0	0	0
Switch Op	2	2	2	2
2 Click	0	0	0	0
Continuous Time	0.00	0.00	0.00	0.00
Limit dBuV	120.00	120.00	120.00	120.00
N	0.00	0.00	0.00	0.00
Offsets	30dB	30dB	30dB	30dB
Pass	1	1	1	1
Limit dBuV	120.00	120.00	120.00	120.00
Allowed Clicks	0	0	0	0

Second Pass	Rx1 150KHz	Rx2 500KHz	Rx3 1.4MHz	Rx4 30MHz
2th pass Short	0	0	0	0
2th pass Long	0	0	0	0
2th Total Clicks	0	0	0	0
2th Continuous Events	0	0	0	0
2th 2 Click	0	0	0	0
2th Continuous Time	0.00	0.00	0.00	0.00

Status Pass



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First Pass	Rx1 150KHz	Rx2 500KHz	Rx3 1.4MHz	Rx4 30MHz
Short	0	0	0	0
Long	0	0	0	0
Fast Long (< 20ms)	0	0	0	0
Total Clicks	0	0	0	0
Continuous Events	0	0	0	0
Switch Op	0	0	0	0
2 Click	0	0	0	0
Continuous Time	0.00	0.00	0.00	0.00
Limit dBuV	120.00	120.00	120.00	120.00
N	0.00	0.00	0.00	0.00
Offsets	30dB	30dB	30dB	30dB
Pass	1	1	1	1
Limit dBuV	120.00	120.00	120.00	120.00
Allowed Clicks	0	0	0	0

Second Pass	Rx1 150KHz	Rx2 500KHz	Rx3 1.4MHz	Rx4 30MHz
2th pass Short	0	0	0	0
2th pass Long	0	0	0	0
2th Total Clicks	0	0	0	0
2th Continuous Events	0	0	0	0
2th 2 Click	0	0	0	0
2th Continuous Time	0.00	0.00	0.00	0.00

Status Pass



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TEST REPORT N°: ARJX-19MY1975DTQDPB

Table No. 2: Harmonic Emission

BF180CP-76

Average harmonic current results

Hn	leff [A]	% of Limit	Limit [A]	Result
1	6.781			
2	371.005E-3	34.352	1.08	PASS
3	510.696E-3	22.204	2.30	PASS
4	55.063E-3	12.805	430.00E-3	PASS
5	181.562E-3	15.927	1.14	PASS
6	23.776E-3	7.925	300.00E-3	PASS
7	132.824E-3	17.250	770.00E-3	PASS
8	14.358E-3	6.243	230.00E-3	PASS
9	94.771E-3	23.693	400.00E-3	PASS
10	10.086E-3	5.482	184.00E-3	PASS
11	79.617E-3	24.126	330.00E-3	PASS
12	7.420E-3	4.839	153.33E-3	PASS
13	60.511E-3	28.815	210.00E-3	PASS
14	6.436E-3	4.897	131.43E-3	PASS
15	36.158E-3	24.105	150.00E-3	PASS
16	6.168E-3	5.364	115.00E-3	PASS
17	14.597E-3	11.029	132.35E-3	PASS
18	5.780E-3	5.655	102.22E-3	PASS
19	10.380E-3	8.766	118.42E-3	PASS
20	5.712E-3	6.208	92.00E-3	PASS
21	8.247E-3	5.131	160.71E-3	PASS
22	5.617E-3	6.716	83.64E-3	PASS
23	14.819E-3	10.098	146.74E-3	PASS
24	5.647E-3	7.367	76.66E-3	PASS
25	16.284E-3	12.062	135.00E-3	PASS
26	6.205E-3	8.768	70.77E-3	PASS
27	8.968E-3	7.175	124.99E-3	PASS
28	5.327E-3	8.106	65.71E-3	PASS
29	8.255E-3	7.093	116.39E-3	PASS
30	5.227E-3	8.522	61.33E-3	PASS
31	9.083E-3	8.343	108.87E-3	PASS
32	4.541E-3	7.898	57.50E-3	PASS
33	5.004E-3	4.893	102.27E-3	PASS
34	4.092E-3	7.561	54.12E-3	PASS
35	4.702E-3	4.876	96.44E-3	PASS
36	3.621E-3	7.084	51.11E-3	PASS
37	4.534E-3	4.971	91.21E-3	PASS
38	3.435E-3	7.094	48.42E-3	PASS
39	4.996E-3	5.774	86.53E-3	PASS
40	3.253E-3	7.071	46.00E-3	PASS



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TEST REPORT N°: ARJX-19MY1975DTQDPB

Maximum harmonic current results

Hn	leff [A]	% of Limit	Limit [A]	Result
1	8.098			
2	663.009E-3	40.926	1.62	PASS
3	635.586E-3	18.423	3.45	PASS
4	153.645E-3	23.821	645.00E-3	PASS
5	228.824E-3	13.382	1.71	PASS
6	95.086E-3	21.130	450.00E-3	PASS
7	158.712E-3	13.741	1.15	PASS
8	61.746E-3	17.897	345.00E-3	PASS
9	118.397E-3	19.733	600.00E-3	PASS
10	51.433E-3	18.635	276.00E-3	PASS
11	102.508E-3	20.709	495.00E-3	PASS
12	42.389E-3	18.431	229.99E-3	PASS
13	79.434E-3	25.217	315.00E-3	PASS
14	34.549E-3	17.524	197.15E-3	PASS
15	51.995E-3	23.109	225.00E-3	PASS
16	34.140E-3	19.791	172.50E-3	PASS
17	38.170E-3	19.227	198.52E-3	PASS
18	28.880E-3	18.835	153.33E-3	PASS
19	29.465E-3	16.588	177.63E-3	PASS
20	26.290E-3	19.050	138.00E-3	PASS
21	27.197E-3	16.923	160.71E-3	PASS
22	23.994E-3	19.124	125.46E-3	PASS
23	30.673E-3	20.903	146.74E-3	PASS
24	21.762E-3	18.925	114.99E-3	PASS
25	28.052E-3	20.779	135.00E-3	PASS
26	21.730E-3	20.470	106.16E-3	PASS
27	23.992E-3	19.194	124.99E-3	PASS
28	18.103E-3	18.367	98.57E-3	PASS
29	22.651E-3	19.462	116.39E-3	PASS
30	18.811E-3	20.448	92.00E-3	PASS
31	17.885E-3	16.428	108.87E-3	PASS
32	17.655E-3	20.470	86.25E-3	PASS
33	17.395E-3	17.009	102.27E-3	PASS
34	15.921E-3	19.612	81.18E-3	PASS
35	17.174E-3	17.809	96.44E-3	PASS
36	15.843E-3	20.665	76.66E-3	PASS
37	17.233E-3	18.892	91.21E-3	PASS
38	15.533E-3	21.387	72.63E-3	PASS
39	17.470E-3	20.188	86.53E-3	PASS
40	14.411E-3	20.885	69.00E-3	PASS



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Average harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	4.862			
2	431.835E-3	39.985	1.08	PASS
3	355.894E-3	15.474	2.30	PASS
4	46.999E-3	10.930	430.00E-3	PASS
5	139.899E-3	12.272	1.14	PASS
6	18.438E-3	6.146	300.00E-3	PASS
7	105.119E-3	13.652	770.00E-3	PASS
8	12.214E-3	5.311	230.00E-3	PASS
9	82.083E-3	20.521	400.00E-3	PASS
10	9.146E-3	4.971	184.00E-3	PASS
11	73.440E-3	22.255	330.00E-3	PASS
12	6.696E-3	4.367	153.33E-3	PASS
13	54.428E-3	25.918	210.00E-3	PASS
14	6.524E-3	4.963	131.43E-3	PASS
15	38.654E-3	25.770	150.00E-3	PASS
16	4.940E-3	4.295	115.00E-3	PASS
17	24.728E-3	18.684	132.35E-3	PASS
18	6.915E-3	6.764	102.22E-3	PASS
19	10.864E-3	9.174	118.42E-3	PASS
20	4.631E-3	5.034	92.00E-3	PASS
21	7.589E-3	4.722	160.71E-3	PASS
22	6.189E-3	7.399	83.64E-3	PASS
23	11.686E-3	7.964	146.74E-3	PASS
24	4.771E-3	6.224	76.66E-3	PASS
25	7.666E-3	5.679	135.00E-3	PASS
26	5.225E-3	7.383	70.77E-3	PASS
27	8.451E-3	6.761	124.99E-3	PASS
28	3.760E-3	5.723	65.71E-3	PASS
29	9.209E-3	7.913	116.39E-3	PASS
30	3.354E-3	5.469	61.33E-3	PASS
31	6.369E-3	5.850	108.87E-3	PASS
32	3.693E-3	6.423	57.50E-3	PASS
33	4.318E-3	4.222	102.27E-3	PASS
34	3.908E-3	7.220	54.12E-3	PASS
35	4.688E-3	4.862	96.44E-3	PASS
36	4.138E-3	8.096	51.11E-3	PASS
37	3.259E-3	3.573	91.21E-3	PASS
38	4.470E-3	9.232	48.42E-3	PASS
39	4.979E-3	5.754	86.53E-3	PASS
40	4.597E-3	9.992	46.00E-3	PASS



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TEST REPORT N°: ARJX-19MY1975DTQDPB

Maximum harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	5.051			
2	468.225E-3	28.903	1.62	PASS
3	371.241E-3	10.761	3.45	PASS
4	52.274E-3	8.104	645.00E-3	PASS
5	142.090E-3	8.309	1.71	PASS
6	19.953E-3	4.434	450.00E-3	PASS
7	108.710E-3	9.412	1.15	PASS
8	14.306E-3	4.147	345.00E-3	PASS
9	84.208E-3	14.035	600.00E-3	PASS
10	10.564E-3	3.828	276.00E-3	PASS
11	75.482E-3	15.249	495.00E-3	PASS
12	7.387E-3	3.212	229.99E-3	PASS
13	57.620E-3	18.292	315.00E-3	PASS
14	7.245E-3	3.675	197.15E-3	PASS
15	42.236E-3	18.772	225.00E-3	PASS
16	5.301E-3	3.073	172.50E-3	PASS
17	27.719E-3	13.962	198.52E-3	PASS
18	8.011E-3	5.224	153.33E-3	PASS
19	13.692E-3	7.708	177.63E-3	PASS
20	5.249E-3	3.804	138.00E-3	PASS
21	11.490E-3	7.149	160.71E-3	PASS
22	7.328E-3	5.841	125.46E-3	PASS
23	12.333E-3	8.404	146.74E-3	PASS
24	5.402E-3	4.697	114.99E-3	PASS
25	8.113E-3	6.010	135.00E-3	PASS
26	6.265E-3	5.901	106.16E-3	PASS
27	9.112E-3	7.290	124.99E-3	PASS
28	4.114E-3	4.173	98.57E-3	PASS
29	9.815E-3	8.433	116.39E-3	PASS
30	3.984E-3	4.331	92.00E-3	PASS
31	7.419E-3	6.814	108.87E-3	PASS
32	4.008E-3	4.647	86.25E-3	PASS
33	4.973E-3	4.863	102.27E-3	PASS
34	4.353E-3	5.362	81.18E-3	PASS
35	5.632E-3	5.840	96.44E-3	PASS
36	4.458E-3	5.815	76.66E-3	PASS
37	4.511E-3	4.945	91.21E-3	PASS
38	4.818E-3	6.634	72.63E-3	PASS
39	5.928E-3	6.850	86.53E-3	PASS
40	5.046E-3	7.313	69.00E-3	PASS



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Table No. 3: Voltage flicker and fluctuation

BF180CP-76

	EUT values	Limit	Result
Pst	NA	NA	NA
Plt	NA	NA	NA
dc [%]	0.324	3.30	PASS
dmax [%]	2.324	6.00	PASS
dt [s]	0.000	0.50	PASS

BF120CP-76

	EUT values	Limit	Result
Pst	NA	NA	NA
Plt	NA	NA	NA
dc [%]	0.011	3.30	PASS
dmax [%]	0.343	6.00	PASS
dt [s]	0.000	0.50	PASS

---END---