

On **23/09/2022** document No. **TR09220013 [0]** is applied to the following elements:

<b>REFERENCE</b>	<b>DESCRIPTION</b>
<b>494702</b>	COAXIAL ATMOSPHERIC SURGE ARRESTOR 90V

# Test Report

## EMC

Document No.: **IEI23092200001**

Date: **23-09-2022**

Mark: 

Reference: **494702**

Description: **COAXIAL ATMOSPHERIC SURGE ARRESTOR 90V**

Made to: **Televes**

**Test Data**

Id	Description	Start Date	End Date	Conclusions
2681	Measurement EMC for COAXIAL ATMOSPHERIC SURGE ARRESTOR 90V	21-09-2022	23-09-2022	

**Standards**

Standard	Title	Part	Section
EN 50083-2:2012 + A1:2015 IEC 60728-2:2018	Cable networks for television signals, sound signals and interactive services.	Part 2: Electromagnetic compatibility for equipment.	

**Standard Paragraphs**

Standard	Paragraph	Title
EN 50083-2:2012	4.5.3.2	Measurement of screening effectiveness of passive equipment, in the frequency range from 30 MHz to 1000 MHz, using the absorbing clamp method
EN 50083-2:2012	4.5.3.3	Measurement of screening effectiveness of passive equipment, in the frequency range from 950 MHz to 25 GHz, using the substitution method

**Measurements made**

No.	Res.	Measure	DUTs	Standard Applied	Standard Method	Standard Limit
1	✓	Screening effectiveness (30MHz - 1000MHz)	6139	EN 50083-2:2012 Paragraph: 4.5.3.2	EN 50083-2:2012	EN 50083-2:2012
2	✓	Screening effectiveness (950MHz - 25GHz)	6139	EN 50083-2:2012 Paragraph: 4.5.3.3	EN 50083-2:2012	EN 50083-2:2012

**D.U.T.**

Id	Trade Mark	Reference	Model	Manufacturer	D.U.T.
6139	Televes	494702		Televes	COAXIAL ATMOSPHERIC SURGE ARRESTOR 90V

Made by:

Antonio Iglesias Nogueira

Checked By:

Olalla Daponte Villanueva

Approved by:

Eduardo Castro Ares

Mark:



Summary	Pag. 2
D.U.T. Description Id. 6139	Pag. 4
1. Measurement of screening effectiveness of passive equipment, in the frequency range from 30 MHz to 1000 MHz, using the absorbing clamp method	Pag. 5
2. Measurement of screening effectiveness of passive equipment, in the frequency range from 950 MHz to 25 GHz, using the substitution method	Pag. 8

**D.U.T. Description Id. 6139**

**Administrative Data**

D.U.T. Id: **6139**

In Date: **21-09-2022**

Out Date: **23-09-2022**

**Product Data**

D.U.T.: **COAXIAL ATMOSPHERIC SURGE ARRESTOR 90V**

Trade Mark: **Televes**

Reference: **494702**

Manufacturer: **Televes**

State Development: **Production**

Description: **COAXIAL ATMOSPHERIC SURGE ARRESTOR 90V**

**Technical Data**

Type: **Passive**

No. of Ports: **3**

Chassis: **Atmospheric surge arrestor**

Port	Type	Range	Direction	Connector	Comments
1	Chassis			Enclosure	
2	Radio Frequency		Input	F Connector	
3	Radio Frequency		Output	F Connector	

**D.U.T. Images**



Name: **20220922\_131006**



Name: **20220922\_131030**

**1. Measurement of screening effectiveness of passive equipment, in the frequency range from 30 MHz to 1000 MHz, using the absorbing clamp method**

**Measure**

TSP Id.: **PEE-INM-015** Date: **21-09-2022**

Title: **Screening effectiveness. Automatic absorbing clamp method**

**Standard**

TSP Id.: **NOR-APAR-299**

Standard: **EN 50083-2:2012** Paragraph: **4.5.3.2**

Title: **Cable networks for television signals, sound signals and interactive services. Part 2: Electromagnetic compatibility for equipment.**

Paragraph: **Measurement of screening effectiveness of passive equipment, in the frequency range from 30 MHz to 1000 MHz, using the absorbing clamp method**

Equivalent Standards: **UNE-EN 50083-2:2013  
IEC 60728-2:2018**

**Standard Method | Standard Limit**

Standard: **EN 50083-2:2012**

Title: **Cable networks for television signals, sound signals and interactive services. Part 2: Electromagnetic compatibility for equipment.**

Equivalent Standards: **UNE-EN 50083-2:2013  
IEC 60728-2:2018**

**Measure D.U.Ts**

Id	Trade Mark	Reference	Model	Manufacturer	D.U.T.
6139	Televes	494702		Televes	COAXIAL ATMOSPHERIC SURGE ARRESTOR 90V

**Environmental Conditions**

Temperature: **22.1°C** Humidity: **52.1%** Atmospheric Pressure: **1003mbar**

**Used Equipment**

Id	Equipment	Trade Mark	Model	Serial No.
97	Controller INN-CO 1000	INN-CO	CO 1000	CO 1000/266/10901005/L
74	Generator HP8648A 100KHz – 1000MHz	HP	8648A	36424U00647
98	Automatic measuring system INN-CO KMS 5300	INN-CO	KMS 5300	KMS 5300/051/10901005/L
61	Absorbing clamp R&S MDS21	R&S	MDS21	100 232
41	Measurement receiver R&S ESPI 3 9KHz-3GHz	R&S	ESPI-ref 1142.8007.03	100044

**Measure Data**

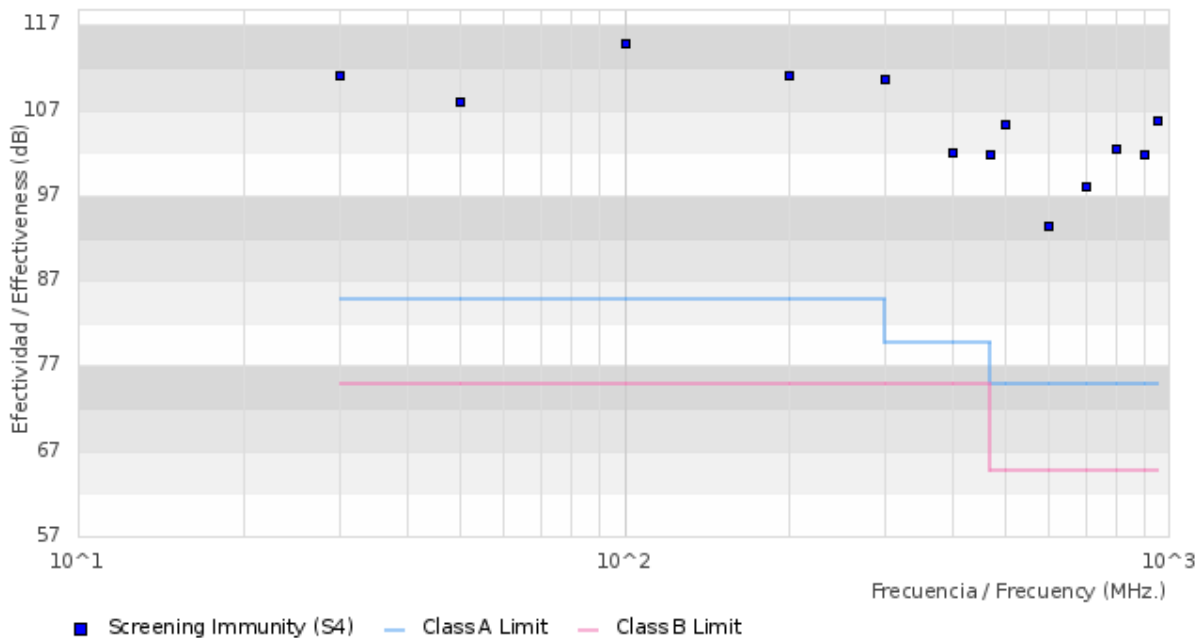
Port No.:	<b>2</b>	Measure No.:	<b>1</b>	Measure Date:	<b>22-09-2022</b>
Type:	<b>Radio Frequency</b>	Direction:	<b>Input</b>		
Connector:	<b>F Connector</b>				

**Data Table**

Band	Frequency (MHz)	Level (dB)	Class A Limit	Class B Limit
-	<b>30.10</b>	111.21	85.00	75.00
<b>TV Band I (Channels 2 - 4)</b>	<b>50.10</b>	108.26	85.00	75.00
<b>FM Radio Band II</b>	<b>100.60</b>	115.13	85.00	75.00
<b>TV Band III (Channels 5 - 12)</b>	<b>200.01</b>	111.36	85.00	75.00
<b>High S Band</b>	<b>300.00</b>	110.82	85.00	75.00
<b>Hyperband</b>	<b>400.10</b>	102.18	80.00	75.00
<b>TV Band IV (Channels 21 - 69)</b>	<b>470.00</b>	102.11	80.00	75.00
<b>TV Band IV (Channels 21 - 69)</b>	<b>500.01</b>	105.45	75.00	65.00
<b>TV Band IV (Channels 21 - 69)</b>	<b>600.00</b>	93.61	75.00	65.00
<b>TV Bands V (Channels 37 - 69)</b>	<b>700.00</b>	98.19	75.00	65.00
<b>TV Bands V (Channels 37 - 69)</b>	<b>800.00</b>	102.73	75.00	65.00
-	<b>900.00</b>	102.00	75.00	65.00
-	<b>950.00</b>	105.94	75.00	65.00

**Graph**

COAXIAL ATMOSPHERIC SURGE ARRESTOR 90V - Port No 2 Radio Frequency Input F Connector



**Measure Data**

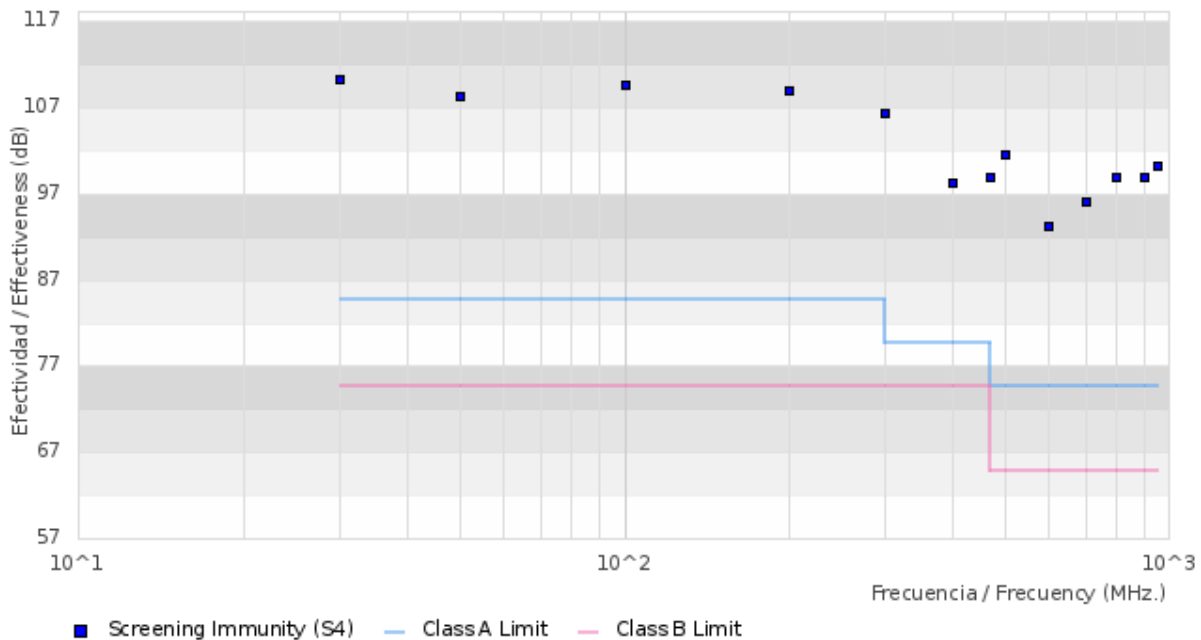
Port No.:	<b>3</b>	Measure No.:	<b>1</b>	Measure Date:	<b>22-09-2022</b>
Type:	<b>Radio Frequency</b>	Direction:	<b>Output</b>		
Connector:	<b>F Connector</b>				

**Data Table**

Band	Frequency (MHz)	Level (dB)	Class A Limit	Class B Limit
-	<b>30.10</b>	110.62	85.00	75.00
<b>TV Band I (Channels 2 - 4)</b>	<b>50.10</b>	108.53	85.00	75.00
<b>FM Radio Band II</b>	<b>100.60</b>	109.79	85.00	75.00
<b>TV Band III (Channels 5 - 12)</b>	<b>200.01</b>	109.16	85.00	75.00
<b>High S Band</b>	<b>300.00</b>	106.67	85.00	75.00
<b>Hyperband</b>	<b>400.10</b>	98.52	80.00	75.00
<b>TV Band IV (Channels 21 - 69)</b>	<b>470.00</b>	99.16	80.00	75.00
<b>TV Band IV (Channels 21 - 69)</b>	<b>500.01</b>	101.78	75.00	65.00
<b>TV Band IV (Channels 21 - 69)</b>	<b>600.00</b>	93.43	75.00	65.00
<b>TV Bands V (Channels 37 - 69)</b>	<b>700.00</b>	96.29	75.00	65.00
<b>TV Bands V (Channels 37 - 69)</b>	<b>800.00</b>	99.23	75.00	65.00
-	<b>900.00</b>	99.09	75.00	65.00
-	<b>950.00</b>	100.38	75.00	65.00

**Graph**

COAXIAL ATMOSPHERIC SURGE ARRESTOR 90V - Port No 3 Radio Frequency Output F Connector





**2. Measurement of screening effectiveness of passive equipment, in the frequency range from 950 MHz to 25 GHz, using the substitution method**

**Measure**

TSP Id.: **PEE-INM-019** Date: **21-09-2022**

Title: **Screening effectiveness. Automatic FI measurements in anechoic chamber**

**Standard**

TSP Id.: **NOR-APAR-300**

Standard: **EN 50083-2:2012** Paragraph: **4.5.3.3**

Title: **Cable networks for television signals, sound signals and interactive services. Part 2: Electromagnetic compatibility for equipment.**

Paragraph: **Measurement of screening effectiveness of passive equipment, in the frequency range from 950 MHz to 25 GHz, using the substitution method**

Equivalent Standards: **UNE-EN 50083-2:2013 IEC 60728-2:2018**

**Standard Method | Standard Limit**

Standard: **EN 50083-2:2012**

Title: **Cable networks for television signals, sound signals and interactive services. Part 2: Electromagnetic compatibility for equipment.**

Equivalent Standards: **UNE-EN 50083-2:2013 IEC 60728-2:2018**

**Measure D.U.Ts**

Id	Trade Mark	Reference	Model	Manufacturer	D.U.T.
6139	Televes	494702		Televes	COAXIAL ATMOSPHERIC SURGE ARRESTOR 90V

**Environmental Conditions**

Temperature: **22.1°C** Humidity: **52.1%** Atmospheric Pressure: **1003mbar**

**Used Equipment**

Id	Equipment	Trade Mark	Model	Serial No.
593	Antenna HyperLOG 20600 EMI (20MHz - 6GHz)	Aaronia AG	HyperLOG 20600 EMI	201731
43	Anechoic chamber Albatros M-CDC Model B83117	Albatross Projects	B83117-A1431-T162	22180
149	FSM Controller INN-CO 2000	INN-CO 2000	CO 2000	CO 2000/366/12680506/L
138	Signal generator R&S (9KHz-3.3GHz)	R&S	SML03-ref 1090.3000.13	102478
63	Measurement receiver R&S ESIB (20Hz-26.5GHz)	R&S	ESIB-ref 1088.7490.26	100338

**Measure Data**

Port No.:	<b>2</b>	Measure No.:	<b>1</b>	Measure Date:	<b>22-09-2022</b>
Type:	<b>Radio Frequency</b>	Direction:	<b>Input</b>		
Connector:	<b>F Connector</b>				

**Data Table**

Band	Frequency (MHz)	Level (dB)	Class A Limit	Class B Limit
-	<b>950.00</b>	65.36	55.00	50.00
-	<b>1000.00</b>	68.30	55.00	50.00
-	<b>1100.00</b>	69.60	55.00	50.00
-	<b>1200.00</b>	65.87	55.00	50.00
-	<b>1300.00</b>	63.73	55.00	50.00
-	<b>1600.00</b>	64.92	55.00	50.00
-	<b>1900.00</b>	65.59	55.00	50.00
-	<b>2150.00</b>	60.81	55.00	50.00

**Graph**

COAXIAL ATMOSPHERIC SURGE ARRESTOR 90V - Port No 2 Radio Frequency Input F Connector

