



## I FICHA TÉCNICA

# Carga Terminal de 75 Ohmios

Referencia: CX75

Carga terminal para protección final de sistemas de distribución de señales sobre redes de coaxial. Introduce una carga para prevenir cortos circuitos, potencias reflejadas, señales parásitas e inclusive, suciedad en los puertos de los distintos dispositivos.

### ESPECIFICACIONES TÉCNICAS

Item	Parámetro	Unidad
Número de parte	ER0114	
Referencia	CX75	
Tipo de conector	F - Macho	
Banda de Operación	0-3000	MHz
Impedancia	75	$\Omega$
Norma de referencia	IEC-61169	
Embalaje	Bolsa x 100 Unid.	

**DECLARACIÓN DE CONFORMIDAD DE PRODUCTO**  
**N°071020214-2**

El presente documento constituye la declaración de conformidad y cumplimiento de especificaciones bajo los requerimientos de la norma ISO 17050, de un producto fabricado y/o comercializado por Tecnesya SAS para aplicaciones del Reglamento Interno de Telecomunicaciones - RITEL en Colombia, bajo las siguientes características:

**Producto:** Carga terminal 75 Ohmios.

**Referencia:** CX75.

**Marca:** RITEC.

**Resolución aplicable:** 5405 de 2018, 5993 de 2020 y 6771 de 2022 de la CRC.

**Norma de referencia:** IEC 61169:24

El presente documento se expide a los 10 días del mes de enero de 2023.

Cordialmente,



Diego R. Sierra O.  
Director de Calidad - RITEC

**TECNESYA SAS.****TEST REPORT**

Prepared For:	TECNESYA SAS. Avenida Carrera 50 # 1B-25, Bogotá, Colombia
Product Name:	ELECTRONIC PARTS
Model :	Wall Plate: TEK1, Compression Connectors: CC6, Terminal charge 75OHM: CT75
Prepared By :	BST Testing (Shenzhen) Co.,Ltd  No.7, New Era Industrial Zone, Guantian, Bao' an District, Shenzhen, Guangdong, China
Test Date:	Sep. 24, 2021 - Oct. 08, 2021
Date of Report :	Oct. 11, 2021
Report No.:	BSTXD210921019802SR

**TEST REPORT****IEC61169:24****Radio-frequency connectors -****Part 24: Sectional specification - Radio frequency coaxial connectors with screw coupling, typically for use in 75 Ω cable networks (type F)**

Testing Laboratory Name .....: BST Testing (Shenzhen) Co.,Ltd

Address .....: No.7, New Era Industrial Zone, Guantian, Bao'an District, Shenzhen, Guangdong, China

Testing location .....: BST Testing (Shenzhen) Co.,Ltd

Applicant's Name .....: TECNESYA SAS.

Address .....: Avenida Carrera 50 # 1B-25, Bogotá, Colombia

Manufacturer .....: CHANGZHOU ELEC IMP&amp;EXP CORP. LTD.

Address .....: No.38th Building XinChengDiJing, MeiYuan Road,HuTang Town WuJing district,ChangZhou Ctiy

## Test specification

Standard.....: IEC 61169-24-2019

Procedure deviation .....: N/A

Non-standard test method .....: N/A

Test item description .....: ELECTRONIC PARTS

Trademark .....: Tecnesya

Model and/or type reference .....: Wall Plate: TEK1,  
Compression Connectors: CC6,  
Terminal charge 75OHM: CT75

Rating(s).....: /

## Test case verdicts

Test case does not apply to the test object ...: N/A

Test item does meet the requirement .....: P(ass)

Test item does not meet the requirement .....: F(ail)





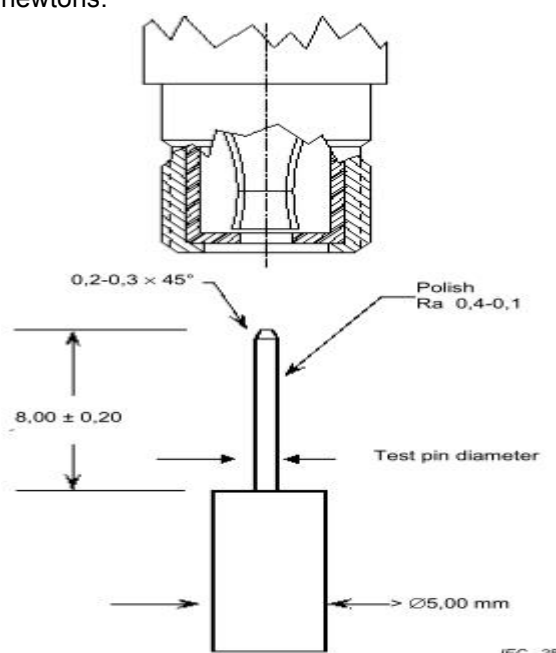
IEC61169:24			
Clause	Requirement + Test	Result - Remark	Verdict
1	<p>Scope</p> <p>This part of IEC 61 1 69, which is a sectional specification (SS), provides information and rules for the preparation of detail specifications (DS) for RF coaxial connectors with screw coupling, typically for use in 75 <math>\Omega</math> cable networks (type F).</p> <p>It describes the interface dimensions with gauging information and the mandatory tests selected from IEC 61 1 69-1 , applicable to all DS relating to type F connectors.</p> <p>This specification indicates the recommended performance characteristics to be considered when writing a DS and covers test schedules and inspection requirements.</p>		P
2	<p>Normative references</p> <p>The following referenced documents are indispensable for the application of this document.</p> <p>For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.</p>		P
3	<p>Terms and definitions</p> <p>No terms and definitions are listed in this document.</p> <p>ISO and IEC maintain terminological databases for use in standardization at the following addresses:</p> <ul style="list-style-type: none"><li>• IEC Electropedia: available at <a href="http://www.electropedia.org/">http://www.electropedia.org/</a></li><li>• ISO Online browsing platform: available at <a href="http://www.iso.org/obp">http://www.iso.org/obp</a></li></ul>		P
4	Interface dimensions		P
4.1	Dimensions		

IEC61169:24																																								
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4.1.1	<p>Connector “F” type female socket (indoor) physical dimensions Figure 1 shows a connector “F” type female socket (indoor).</p> <p><b>Figure 1 – Connector “F” type female socket (indoor)</b> (for dimensions, see Table 1)</p> <p><b>Table 1 – Connector “F” type female socket (indoor)</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Description</th> <th rowspan="2">Reference</th> <th colspan="2">mm</th> <th rowspan="2">Remarks</th> </tr> <tr> <th>Min.</th> <th>Max.</th> </tr> </thead> <tbody> <tr> <td>Reference plane opening inner diameter</td> <td>A</td> <td>3,90</td> <td>7,4</td> <td>1, 4</td> </tr> <tr> <td>Reference plane outer diameter</td> <td>B</td> <td>7,50</td> <td>8,50</td> <td></td> </tr> <tr> <td>Positive contact point depth</td> <td>C</td> <td>-</td> <td>4,70</td> <td>2</td> </tr> <tr> <td>Port minimum full thread length</td> <td>D</td> <td>7,50</td> <td>-</td> <td>3</td> </tr> <tr> <td>Minimum center contact depth</td> <td>E</td> <td>9,00</td> <td>-</td> <td>4</td> </tr> <tr> <td>Center conductor guide inner diameter</td> <td>F</td> <td>1,2</td> <td>1,5</td> <td></td> </tr> </tbody> </table> <p>1 No protrusion of the dielectric beyond the reference plane is permitted. 2 Recommended mating male center conductor diameter: 0,025 in (0,64 mm) min. to 0,042 in. (1,07 mm) max. 3 Thread relief not to exceed two full threads. 4 Center contact geometry optional.</p>	Description	Reference	mm		Remarks	Min.	Max.	Reference plane opening inner diameter	A	3,90	7,4	1, 4	Reference plane outer diameter	B	7,50	8,50		Positive contact point depth	C	-	4,70	2	Port minimum full thread length	D	7,50	-	3	Minimum center contact depth	E	9,00	-	4	Center conductor guide inner diameter	F	1,2	1,5		<p>“F” type Reference plane opening inner diameter: 4.5mm  Reference plane outer diameter :8.0mm  Center conductor guide inner diameter : 1.3mm</p>	P
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4.1.2	<p>Connector “F” type male plug (indoor) physical dimensions Figure 2 shows a connector “F” type male plug (indoor).</p> <p><b>Figure 2 – Connector “F” type male plug (indoor)</b> (for dimensions, see Table 2)</p> <p><b>Table 2 – Connector “F” type male plug (indoor)</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Description</th> <th rowspan="2">Reference</th> <th colspan="2">mm</th> <th rowspan="2">Remarks</th> </tr> <tr> <th>Min.</th> <th>Max.</th> </tr> </thead> <tbody> <tr> <td>Inner conductor length</td> <td>A</td> <td>6,35</td> <td>8,63</td> <td></td> </tr> <tr> <td>Length of nut</td> <td>B</td> <td>4,00</td> <td>7,29</td> <td>1,2</td> </tr> <tr> <td>Maximum envelope dimension</td> <td>C</td> <td>-</td> <td>16,61</td> <td></td> </tr> <tr> <td>Inner conductor diameter</td> <td>D</td> <td>0,64</td> <td>1,13</td> <td></td> </tr> <tr> <td>Sealing surface diameter for seal ring</td> <td>E</td> <td>10,41</td> <td>11,04</td> <td></td> </tr> <tr> <td>Reference plane opening inner diameter</td> <td>F</td> <td>-</td> <td>5,84</td> <td>1, 2</td> </tr> <tr> <td>Reference plane opening outer diameter</td> <td>G</td> <td>7,88</td> <td></td> <td></td> </tr> </tbody> </table> <p>1 No protrusion of the dielectric beyond the reference plane is permitted. 2 The mating of the F female socket to the reference plane is not impeded. 3 Gasket seal optional, if used, does not avoid to meet all performance requirements.</p>	Description	Reference	mm		Remarks	Min.	Max.	Inner conductor length	A	6,35	8,63		Length of nut	B	4,00	7,29	1,2	Maximum envelope dimension	C	-	16,61		Inner conductor diameter	D	0,64	1,13		Sealing surface diameter for seal ring	E	10,41	11,04		Reference plane opening inner diameter	F	-	5,84	1, 2	Reference plane opening outer diameter	G	7,88			<p>Inner conductor length:7.0mm</p> <p>Length of nut:5.2mm</p> <p>Reference plane opening inner diameter :5.5mm</p> <p>Reference plane opening outer diameter :7.95mm</p>	P
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IEC61169:24			
Clause	Requirement + Test	Result - Remark	Verdict

<p>4.2.1</p>	<p>Mating socket centre conductor acceptance diameter test          In order to verify that the centre female contact of the socket does not suffer from mechanical deformation when mated with the full range of indicated inner conductor diameters, a test has been devised. This test measures the force required to insert and withdraw a selection of precision test pins into and out of the “F” female socket under test. The test apparatus should be so designed as to enable accurate alignment of the “F” female socket under test with the precision test pin. The apparatus should hold either the socket or the test pin in a fixed position, and the moving part of the apparatus should be fitted with an instrument capable of measuring the insertion and withdrawal force.          Using the test sequence shown below, the insertion and withdrawal force shall be measured and recorded in newtons.</p>  <p>Figure 3 - Gauge for the centre socket conductor</p> <p>Table 3 - Test sequence for the centre socket conductor</p> <table border="1"> <thead> <tr> <th>Test sequence</th> <th>1<sup>st</sup> test</th> <th>2<sup>nd</sup> test</th> <th>3<sup>rd</sup> test</th> <th>4<sup>th</sup> test</th> <th>5<sup>th</sup> test</th> <th>6<sup>th</sup> test</th> </tr> </thead> <tbody> <tr> <td>Test pin diameter</td> <td>0,635 +/- 0,005 mm</td> <td>0,850 +/- 0,005 mm</td> <td>1,136 +/- 0,005 mm</td> <td>0,635 +/- 0,005 mm</td> <td>1,136 +/- 0,005 mm</td> <td>0,635 +/- 0,005 mm</td> </tr> </tbody> </table> <p>The insertion force required to insert the test pin into the socket centre female contact shall not exceed 20 N under all circumstances.          The withdrawal force required to withdraw the test pin from the socket centre female contact shall be a minimum of 0,3 N under all circumstances.</p>	Test sequence	1 <sup>st</sup> test	2 <sup>nd</sup> test	3 <sup>rd</sup> test	4 <sup>th</sup> test	5 <sup>th</sup> test	6 <sup>th</sup> test	Test pin diameter	0,635 +/- 0,005 mm	0,850 +/- 0,005 mm	1,136 +/- 0,005 mm	0,635 +/- 0,005 mm	1,136 +/- 0,005 mm	0,635 +/- 0,005 mm	<p>15 N Test pin          Diameter : 0,855mm</p>	<p>P</p>
Test sequence	1 <sup>st</sup> test	2 <sup>nd</sup> test	3 <sup>rd</sup> test	4 <sup>th</sup> test	5 <sup>th</sup> test	6 <sup>th</sup> test											
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4.2.2	Mating port centre conductor acceptance electrical test After completion of the mechanical tests described in 3.2.1 , the centre conductor contact resistance, when re-mated with a male “F” plug whose centre conductor diameter is 0,635 mm, shall not exceed 1 0 mΩ with an applied test ampere rate of 1 A.	0,635 mm 5 mΩ	P																																																																																																																												
4.2.3	Reference plane electrical contact The electrical contact shall be made by the mating of the reference plane face of the “F” female socket with the mating face of the “F” male plug and not by the threads alone.		P																																																																																																																												
5	Quality assessment procedures		P																																																																																																																												
5.1	General The following subclauses provide recommended ratings, performance and test conditions to be considered when writing a detail specification (DS). They also provide an appropriate schedule of tests with minimum levels of conformance inspection.		P																																																																																																																												
5.2	Ratings and characteristics The RF connectors defined in this standard are designed for use with a variety of flexible and semi-rigid coaxial cables and in microwave integrated circuits and similar uncabled applications. Rating and characteristics are given in Table 4.	Straight styles: Min. 30 dB up to 1 GHz	P																																																																																																																												
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5.4.1	Acceptance tests Table 5 describes the acceptance tests to be performed. <b>Table 5 – Acceptance tests</b> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">IEC 61169-1:2013 Subclause</th> <th colspan="4">Assessment level M (higher)</th> <th colspan="4">Assessment level H (lower)</th> </tr> <tr> <th>Test required</th> <th>IL</th> <th>AQL %</th> <th>Period</th> <th>Test required</th> <th>IL</th> <th>AQL %</th> <th>Period</th> </tr> </thead> <tbody> <tr> <td colspan="11"><b>Group A1</b></td> </tr> <tr> <td>Visual examination</td> <td>9.1.1</td> <td>a</td> <td>II</td> <td>1,0</td> <td></td> <td>a</td> <td>S3</td> <td>1,5</td> <td></td> <td></td> </tr> <tr> <td colspan="11"><b>Group B1</b></td> </tr> <tr> <td>Outline dimensions</td> <td>9.1.2</td> <td>a</td> <td>S4</td> <td>0,4</td> <td></td> <td>a</td> <td>S3</td> <td>4,0</td> <td></td> <td></td> </tr> <tr> <td>Mechanical compatibility</td> <td>9.1.2.2</td> <td>a</td> <td>II</td> <td>1,0</td> <td></td> <td>a</td> <td>S3</td> <td>1,5</td> <td></td> <td></td> </tr> <tr> <td>Engagement and separation</td> <td>9.3.6</td> <td>a</td> <td>S4</td> <td>0,40</td> <td>Lot</td> <td>a</td> <td>S3</td> <td>1,5</td> <td>Lot</td> <td></td> </tr> <tr> <td>Insertion force (resilient contacts)</td> <td>9.3.4</td> <td>ia</td> <td>II</td> <td>1,0</td> <td></td> <td>ia</td> <td>S3</td> <td>1,5</td> <td></td> <td></td> </tr> <tr> <td>Sealing, non-hermetic</td> <td>9.4.7</td> <td>ia</td> <td>II</td> <td>0,65</td> <td>by</td> <td>ia</td> <td>S3</td> <td>1,0</td> <td>by</td> <td></td> </tr> <tr> <td>Sealing, hermetic</td> <td>9.4.8</td> <td>ia</td> <td>II</td> <td>0,015</td> <td></td> <td>ia</td> <td>S3</td> <td>0,025</td> <td></td> <td></td> </tr> <tr> <td>Voltage proof</td> <td>9.2.6</td> <td>a</td> <td>S4</td> <td>0,40</td> <td>lot</td> <td>a</td> <td>II</td> <td>4,0</td> <td>lot</td> <td></td> </tr> <tr> <td>Solderability</td> <td>9.3.2.2</td> <td>ia</td> <td>S4</td> <td>0,40</td> <td></td> <td>ia</td> <td>S3</td> <td>4,0</td> <td></td> <td></td> </tr> <tr> <td>Insulation resistance</td> <td>9.2.5</td> <td>a</td> <td>S4</td> <td>0,40</td> <td></td> <td>a</td> <td>S3</td> <td>4,0</td> <td></td> <td></td> </tr> </tbody> </table> <p>Details of symbols, abbreviations and procedures:            IL inspection level            AQL acceptable quality level            a suggested as applicable            ia test suggested (if technically applicable)</p>				IEC 61169-1:2013 Subclause	Assessment level M (higher)				Assessment level H (lower)				Test required	IL	AQL %	Period	Test required	IL	AQL %	Period	<b>Group A1</b>											Visual examination	9.1.1	a	II	1,0		a	S3	1,5			<b>Group B1</b>											Outline dimensions	9.1.2	a	S4	0,4		a	S3	4,0			Mechanical compatibility	9.1.2.2	a	II	1,0		a	S3	1,5			Engagement and separation	9.3.6	a	S4	0,40	Lot	a	S3	1,5	Lot		Insertion force (resilient contacts)	9.3.4	ia	II	1,0		ia	S3	1,5			Sealing, non-hermetic	9.4.7	ia	II	0,65	by	ia	S3	1,0	by		Sealing, hermetic	9.4.8	ia	II	0,015		ia	S3	0,025			Voltage proof	9.2.6	a	S4	0,40	lot	a	II	4,0	lot		Solderability	9.3.2.2	ia	S4	0,40		ia	S3	4,0			Insulation resistance	9.2.5	a	S4	0,40		a	S3	4,0			IL II AQL: 1%	P
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Dimensions piece-parts and materials	9.1.2	a	1*	1	3 years	a	1*	1	3 years																																																																																																																																																																																																																																																																																																																																
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Mechanical endurance	9.3.15	a		1	3 years	a	3	1	3 years																																																																																																																																																																																																																																																																																																																																
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5.5.1	<p>Quality conformance inspection This shall consist of test groups A1 and B1 on a lot-by-lot basis.</p>		P																																																																																																																																																																																																																																																																																																																																						



IEC61169:24			
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5.5.2	Qualification approval and its maintenance This shall consist of three consecutive lots passing test groups A1 and B1 followed by selection of specimens from the lots as appropriate. These specimens shall successfully pass the specified periodic D tests.	Groups A1	P
6	Instructions for preparation of detail specifications		P
6.1	General Detail specifications (DS) writers shall use the appropriate BDS pro-forma. The following pages comprise the pro-forma BDS dedicated for use with 75 Ω type F connectors. As such, it will already have entered on it information relating to a) the basic specification number applicable to all the detail specifications covering connector styles of the type covered by the sectional specification; b) the connector series designation. The specification writer should enter the details relating to the connector style/variant(s) to be covered as indicated. The numbers in brackets on the BDS pro-forma correspond to the following indications which shall be given.	75 Ω type F connectors	P
6.2	Identification of the component (1 ) Enter the following details: - Style: The style designation of the connector including type of fixing and sealing, if applicable. - Attachment: By deletion of the inapplicable options of cable/wire: given for centre and outer conductors. - Special features and markings: As applicable. (2) Enter details of assessment level and the climatic category. (3) A reproduction of the outline drawing and details of the panel piercing, if applicable. It shall provide the maximum envelope dimensions, also the position of the reference plane and, in the case of a fixed connector, the position of the mounting plane(s) relative to the front face of the connector. (4) Any maximum panel thickness limitations for fixed connectors shall be stated. (5) Particulars of all variants covered by the DS. As appropriate, the information shall include: - cable types (or sizes) applicable to each variant; - alternative plated or protective finishes; - details of alternative mounting flanges having either tapped or plain mounting holes; - details of alternative solder spills or solder buckets including, when applicable, those for use with microwave integrated circuit (MIC) components.	Meet	P



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Clause	Requirement + Test	Result - Remark	Verdict
6.3	<p>Performance (6) Performance data listing the most important characteristics of the connector, taking into account the recommended values in 5.2 of this specification. Deviations from the minimum requirements shall be clearly indicated. Non-applicable parameters shall be marked 'na' .</p>		P
6.4	<p>Marking, ordering information and related matters (7) Insert marking and ordering information as appropriate, together with details of related documents and any invoked structural similarity.</p>		P
6.5	<p>Selection of tests, test conditions and severities (8) 'na' shall be used to indicate non-applicable tests. All tests marked 'a' by the detail specification writer shall be mandatory. When using the normal procedure with a dedicated BDS, the letter 'a' - for applicable - shall be entered in the 'test required' column against each of the tests indicated as being mandatory in the test schedule as in 5.4 of this specification. Any additional tests required at the discretion of the specification writer shall also be indicated by an 'a' . The specification writer shall also indicate, when necessary, details of deviations from the standard test methods and test conditions, including any relevant deviations given in the test schedule of the sectional specification.</p>		P





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Clause	Requirement + Test	Result - Remark	Verdict

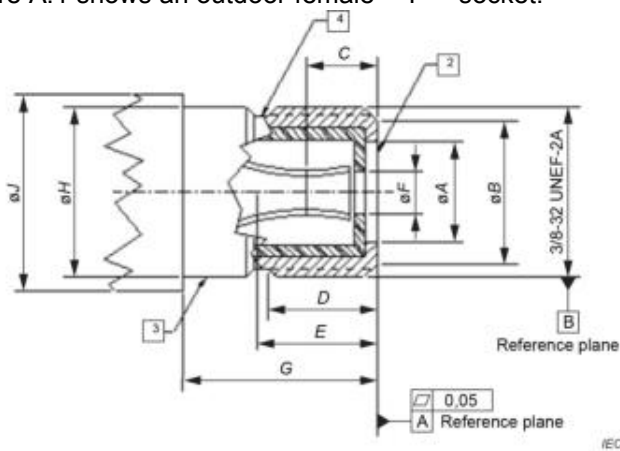
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## **ANNEX B:**

Photo-document

IEC61169:24			
Clause	Requirement + Test	Result - Remark	Verdict



Photo 1

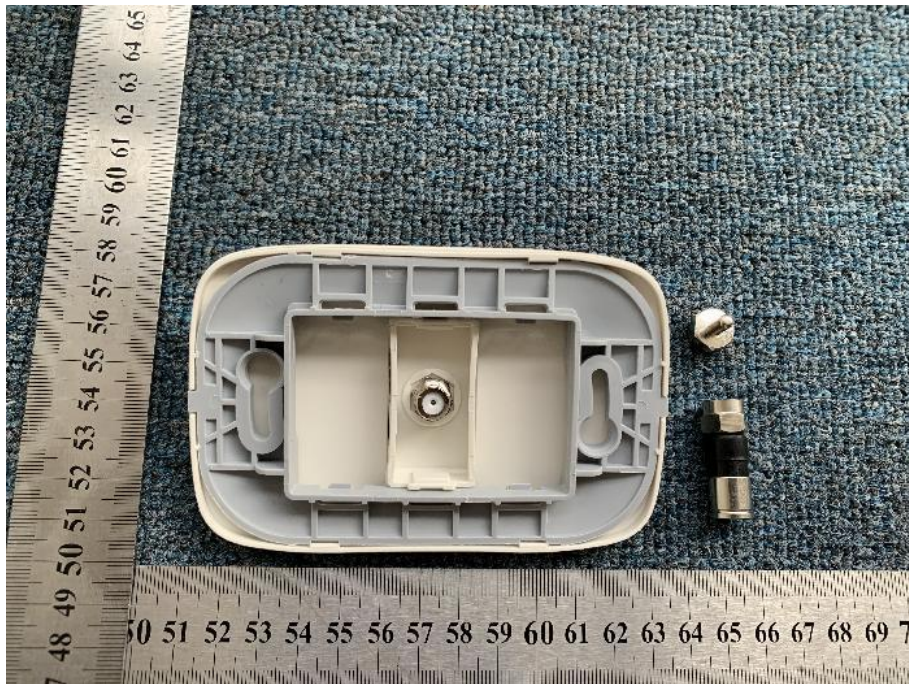


Photo 2