

SCTE | **STANDARDS**

Interface Practices Subcommittee

AMERICAN NATIONAL STANDARD

ANSI/SCTE 200 2022

**Specification for a 75 ohm 'MMCX' Connector (MMCX-75),
Male & Female Interface**

NOTICE

The Society of Cable Telecommunications Engineers (SCTE) Standards and Operational Practices (hereafter called “documents”) are intended to serve the public interest by providing specifications, test methods and procedures that promote uniformity of product, interoperability, interchangeability, best practices, and the long term reliability of broadband communications facilities. These documents shall not in any way preclude any member or non-member of SCTE from manufacturing or selling products not conforming to such documents, nor shall the existence of such standards preclude their voluntary use by those other than SCTE members.

SCTE assumes no obligations or liability whatsoever to any party who may adopt the documents. Such adopting party assumes all risks associated with adoption of these documents and accepts full responsibility for any damage and/or claims arising from the adoption of such documents.

NOTE: The user’s attention is called to the possibility that compliance with this document may require the use of an invention covered by patent rights. By publication of this document, no position is taken with respect to the validity of any such claim(s) or of any patent rights in connection therewith. If a patent holder has filed a statement of willingness to grant a license under these rights on reasonable and nondiscriminatory terms and conditions to applicants desiring to obtain such a license, then details may be obtained from the standards developer. SCTE shall not be responsible for identifying patents for which a license may be required or for conducting inquiries into the legal validity or scope of those patents that are brought to its attention.

Patent holders who believe that they hold patents which are essential to the implementation of this document have been requested to provide information about those patents and any related licensing terms and conditions. Any such declarations made before or after publication of this document are available on the SCTE web site at <https://scte.org>.

All Rights Reserved
©2022 Society of Cable Telecommunications Engineers, Inc.
140 Philips Road
Exton, PA 19341

Document Types and Tags

Document Type: Specification

Document Tags:

- | | | |
|---|------------------------------------|--|
| ☒ Test or Measurement | ☐ Checklist | ☐ Facility |
| ☐ Architecture or Framework | ☐ Metric | ☐ Access Network |
| ☐ Procedure, Process or Method | ☐ Cloud | ☐ Customer Premises |

Document Release History

Release	Date
SCTE 200 2016	4/25/2016
SCTE 200 2022	December 2022

Note: Standards that are released multiple times in the same year use: a, b, c, etc. to indicate normative balloted updates and/or r1, r2, r3, etc. to indicate editorial changes to a released document after the year.

Table of Contents

Title	Page Number
NOTICE.....	2
Document Types and Tags	3
Document Release History	3
Table of Contents	4
1. Introduction.....	6
1.1. Executive Summary	6
1.2. Scope	6
1.3. Benefits	6
1.4. Intended Audience	6
1.5. Areas for Further Investigation or to be Added in Future Versions.....	6
2. Normative References	6
2.1. SCTE References	6
2.2. Standards from Other Organizations	7
2.3. Other Published Materials	7
3. Informative References	7
3.1. SCTE References	7
3.2. Standards from Other Organizations	7
3.3. Other Published Materials	7
4. Compliance Notation	8
5. Abbreviations.....	8
6. Electrical Requirements	8
7. Mechanical Dimensions	10
7.1. Female Socket	10
7.2. Male Plug	11
7.3. Center Pin	12
7.3.1. Insertion and Retention Force.....	12
7.4. Outer Plug	13
7.4.1. Insertion and Retention Force.....	14
7.5. Test Plug	15
7.6. Test Socket	16
8. Mechanical Requirements.....	17
8.1. Base Material	17
8.2. Plating	17
9. Environmental Requirements.....	17
9.1. Temperature.....	17
9.2. Specifications	17

List of Figures

Title	Page Number
Figure 1 – Female Socket Geometry	10
Figure 2 – Male Plug Geometry	11
Figure 3 – Gauge for Center Pin	12
Figure 4 – Gauge for Outer Plug.....	13
Figure 5 – Test Plug	15
Figure 6 – Test Socket	16

List of Tables

Title	Page Number
Table 1 – Electrical Requirements of MMCX-75 Plug – Socket Interface only.....	8
Table 2 – Female Socket Dimensions	10
Table 3 – Male Plug Dimensions	11
Table 4 – Center Pin Gauge	12
Table 5 – Outer Plug Gauge	14
Table 6 – Test Plug	15
Table 7 – Test Socket	16
Table 8 – Mechanical Requirements of MMCX-75 Plug – Socket Interface.....	17
Table 9 – Environmental Specifications	17

1. Introduction

1.1. Executive Summary

This specification provides electrical and mechanical requirements for a 75 ohm MMCX connector interface primarily used in headends and hubsites in the broadband industry.

1.2. Scope

The purpose of this document is to specify requirements for the male/female interface of a 75 ohm, 3 GHz rated connector series generically known as MMCX-75. This is an indoor connector with applications in controlled environments such as headends and hubsites where high density platform chassis are used. MMCX-75 connectors are not intended to be mated with 50 ohm MMCX design counterparts.

All requirements of this document are measured after installation per manufacturer's instructions of the cable into the connector.

This document will address only the interface, not the connector body, the cable requirements, and the connector attachment to the cable or PC board. Mechanical, electrical and environmental performance is defined to ensure a reliable connection for permanent installations, as well as temporary adapters and calibration standards.

1.3. Benefits

This specification defines the required dimensions and performance for a 75 ohm MMCX connector interface. Such definition ensures that different manufacturer 75 ohm MMCX male plugs and female sockets can be used in broadband network hardware with acceptable interface performance.

1.4. Intended Audience

This document is intended for use as a specification for manufacturers, test laboratories and network engineers in the broadband industry.

1.5. Areas for Further Investigation or to be Added in Future Versions

None.

2. Normative References

The following documents contain provisions which, through reference in this text, constitute provisions of this document. The editions indicated were valid at the time of subcommittee approval. All documents are subject to revision and, while parties to any agreement based on this document are encouraged to investigate the possibility of applying the most recent editions of the documents listed below, they are reminded that newer editions of those documents might not be compatible with the referenced version.

2.1. SCTE References

[SCTE 04] ANSI/SCTE 04 2021 – Test Method for "F" Connector Return Loss

[SCTE 48-1] ANSI/SCTE 48-1 2021 – Test Method for Measuring Shielding Effectiveness of Passive and Active Devices Using a GTEM Cell