

# ISO/IEC TS 27571:2026-04 (E)

## Information technology - Brain-computer interfaces - Data format for noninvasive brain information collection

---

Contents	Page
FOREWORD.....	2
INTRODUCTION .....	3
1 Scope.....	4
2 Normative references .....	4
3 Terms and definitions.....	4
4 Abbreviated terms.....	5
5 Basic data elements.....	5
5.1 Electroencephalography (EEG).....	5
5.2 Magnetoencephalography (MEG) .....	5
5.3 Functional near-infrared spectroscopy (fNIRS).....	5
5.4 Functional magnetic resonance imaging (fMRI).....	6
6 Extensible and modular data.....	6
7 Metadata and annotation information .....	8
8 Standardized data format .....	9
8.1 Overview .....	9
8.2 BCI devices .....	9
8.3 Subjects .....	10
8.4 Data acquisition sessions .....	10
8.5 Data files .....	10
8.5.1 Overview.....	10
8.5.2 Data acquisition.....	11
8.5.3 Data processing.....	11
8.5.4 Annotations .....	12
8.5.5 Security by design.....	12
9 Naming convention for BCI data files .....	12
10 Integration of multiple BCI technologies .....	13
10.1 Overview .....	13
10.2 Compatibility with existing BCI technologies .....	13
10.3 Multimodal data integration and management for BCI technologies.....	14
11 Raw data format selection specification .....	16
12 Required metadata information .....	16
Bibliography.....	18
Figure 1 – Non-invasive unified BCI data formatting procedure .....	6
Figure 2 – Example of modular data structure for non-invasive data format .....	7
Figure 3 – Example of ETSI ENI format metadata and annotation structure .....	8
Figure 4 – Naming convention of data file .....	12
Figure 5 – File common dataset and each modality data designation .....	14

Figure 6 – Required data elements and extraction of required items .....	15
Figure 7 – Element composition and required itemized data.....	15
Figure 8 – Raw data converter and data combination .....	16
Table 1 – Required metadata elements.....	17