

# Basic Sequence Test Specification

Ver.1.2

November 1, 2018

**Mobile FeliCa Technical Communications Committee**

## Revision History

Ver. No.	Date issued	Description of Revisions
1.0	April 12, 2013	First edition
1.01	May 1, 2014	Address of Certification Administration is changed.
1.02	June 1, 2014	<p>The contact is changed from the Certification Administrator to the Certification Laboratory</p> <ul style="list-style-type: none"> <li>• Application Form</li> <li>• Addition of Product Models</li> <li>• Notification of the Test Results</li> <li>• Contact for any questions</li> </ul> <p>7 Basic Sequence Test Application Form is corrected.</p> <p>From "The company agrees to the terms set forth in the Mobile FeliCa RF Performance Certification Test Agreement attached to this document." to "The company agrees to the terms set forth in Attachment C: Basic Sequence Test Agreement."</p>
1.03	March 16, 2016	According to the change of language and translation of Attachment C into English.
1.1	May 1, 2017	<p>The Reader/Writer for testing is changed.</p> <p>*RC-S462B is replaced to RC-S012B.</p>
1.11	June 1, 2017	<p>Member of the Mobile FeliCa Technical Communications Committee is changed.</p> <p>Section 3.3, 3.4 are changed.</p> <p>Attachment A, B and C are changed.</p>
1.2	Nov. 1, 2018	<p>Section 3.1 is changed</p> <p>Attachment C is changed.</p>

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## Preface

This document outlines the basic sequence test (abbreviated to this test hereafter).

The details of this test are specified based on the results of the discussions in the Mobile FeliCa Technical Communications Committee.

- The following companies are members of the Mobile FeliCa Technical Communications Committee:

AEON Co., Ltd.

East Japan Railway Company

FeliCa Networks, Inc.

KDDI Corporation

JCB Co., Ltd.

NTT Docomo, Inc.

Rakuten Edy, Inc.

Seven Card Service Co., Ltd.

Sony Imaging Products & Solutions Inc.

SoftBank Corp.

Sumitomo Mitsui Card Co., Ltd.

(Company names are in alphabetical order as of June 1, 2017.)

The following chapters specify the contents, methodology, and evaluation criteria, as well as the test environment and test procedures, of this test.

## **1. Purpose of this Test**

The purpose of this test is to enable service providers and end users to receive the full benefit of services using FeliCa technology with assurance by verifying that mobile products can handle the basic sequence properly in the RF communication area.

## **2. Positioning of this Test**

The criteria in this test do not assure that all the sequences in the market can be processed properly. This test is to verify if the test samples submitted by manufacturers for testing satisfy the criteria defined in this specification under the test environment defined in this specification.

## **3. Products to Be Tested**

### **3.1. Products Subject to Testing**

This test is intended for mobile products, in which FeliCa IC certified by FeliCa Networks is embedded.

### **3.2. Product Models to Be Tested**

Applicants for product testing must submit each model of a product for this test.

### **3.3. Updated Products**

A manufacturer must resubmit a product that has already passed this test if any hardware or software modifications that might affect FeliCa RF communication performance or basic sequence processing capability or both have been made to the product.

### **3.4. Addition of Product Models**

When a manufacturer adds a new product model to a product series whose models have already passed this test, the manufacturer need not submit the new model for testing if it has the same communication performance and the same basic sequence processing capability as the product that has already passed the certification test and the manufacturer can guarantee the fact. Instead, the manufacturer is only required to submit a Notice of Added Product Model form (see *Attachment B: Notice of Added Product Model*) for the new model.

For further details, see *4.6 Addition of Product Models*.

## 4. Application

When you apply for this test, please note the following:

### 4.1. Application Details

#### *Application deadline*

At least four weeks before your desired test date (product samples must be submitted at the same time)

#### *Materials to be submitted*

- Basic Sequence Test Application form (See *Attachment A: Basic Sequence Test Application*.)
    - \* Apply to the Certification Laboratory
  
  - Test samples:
    - One unit of the product being tested (which is formatted for mobile terminal evaluation and has the maximum, standard, or minimum resonance frequency value)
    - One battery recharger
    - Each accessory if any
- \* Submit to the Certification Laboratory

Note: Of all the manufactured units of the product being tested, the maximum-frequency sample must be the sample of the product that has minimally the highest resonance frequency value, the minimum-frequency sample must be the sample of the product that has the lowest resonance frequency value, and the standard-frequency sample must be the sample of the product that has a resonance frequency value between the highest resonance frequency value and the lowest resonance frequency value.

If your product is subject to the Mobile FeliCa RF performance certification test simultaneously with this test, the test sample can also be used for the former test.

For the format for mobile terminal evaluation, contact FeliCa Networks, Inc.

#### *Certification Administrator*

Sony Imaging Products & Solutions Inc.

FeliCa Certification Section, Quality Management Department, FeliCa Business Division

#### *Certification Laboratory (Subcontract Laboratory of Sony IP&S)*

Sony Global Manufacturing & Operations Corporation

Certification Test Team

Quality Assurance Department 1

Address: 8-4 Shiomi, Kisarazu-shi, Chiba Prefecture, 292-0834, JAPAN

Phone: +81-438-37-2404

E-mail: [emcs-felica-kentei@jp.sony.com](mailto:emcs-felica-kentei@jp.sony.com)

### ***Test fee***

The test fee is 100,000 yen, excluding tax.

The test fee is 50,000 yen excluding tax if you apply for the Mobile FeliCa RF performance certification test simultaneously (same day) with this test.

If you have any questions, please contact the Certification Laboratory.

If you wish to retake this test on another sample of the same product, please submit a new test application.

## **4.2. Test Start Date**

After the application for this test is received, the Certification Laboratory will notify the applicant within three business days of the day the test is to start.

## **4.3. Test Period**

If the test samples and other required materials are adequate and all measurement results meet pass-level requirements, the test will take two business days, excluding the day on which the test samples are received.

## **4.4. Notification of the Test Results**

If the Certification Laboratory determines that any test results are below pass-level requirements, the Certification Laboratory will immediately report the test results to the applicant. The return of the test sample to the applicant and its modification by the applicant are allowed only once for a submitted application.

If the product is already certified for the Mobile FeliCa RF performance at the time of modification, it must be retested for the Mobile FeliCa RF performance certification.

Regardless of the test results, the Certification Laboratory will email the Test Results Report to the applicant within three business days following the last day of the test period.

If the Mobile FeliCa RF performance certification test is applied for at the same time, the test results of both this test and the Mobile FeliCa RF performance certification test will be notified at the same time.

## **4.5. Handling of Test Data and Submitted Product Samples**

The Certification Administrator and Certification Laboratory will handle the test data and information that it obtains as a result of this test in accordance with the provisions of the Basic Sequence Test Agreement (see *Attachment C: Terms and Conditions*).

The Certification Laboratory will return the product samples submitted for testing to the applicant within seven business days following the last day of the test period.

#### **4.6. Addition of Product Models**

A manufacturer that adds a new product model to a product series whose models have already passed this test does not need to submit the new model for this test if (1) no modifications that might affect FeliCa RF communication performance and basic sequence processing capability have been made to the products since passed the test and (2) the manufacturer can guarantee that the new model has the same communication performance as the products that passed the test. If these conditions are met, the manufacturer need only submit a Notice of Added Product Model form (see *Attachment B: Notice of Added Product Model*) to add the new model. The product model for different Telecommunication Carrier is also available.

***Where to submit the Notice of Added Product Model form***

Certification Laboratory

***Application fee***

There is no application fee for adding product models.



## 5. Test Method

### 5.1. Test Environment

This test will be conducted in the following test environment:

Temperature: 20°C to 30°C

Relative humidity: 25% to 70%

### 5.2. Equipment Used in the Test

The following figure shows the equipment configuration used in the test.

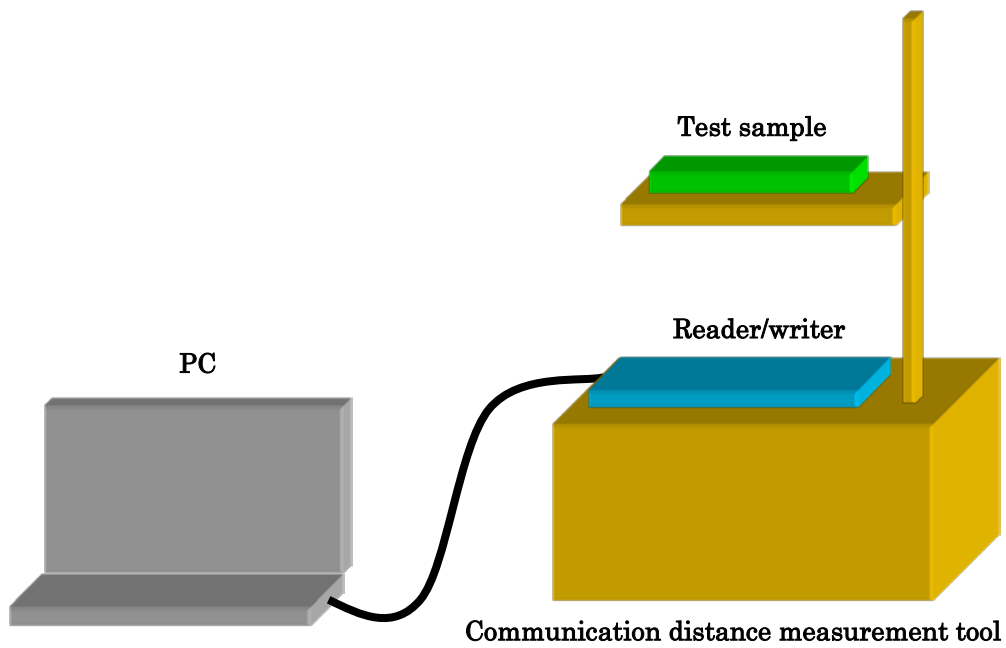




Figure 5-1 Equipment Configuration for the Test

### 5.3. Definitions of Terms Related to the Testing Method

The following table defines the terms related to this test.

Terms	Description
Measurement center point	<p>The measurement center point of the test sample is the intersection of the diagonals of a square imposed on the Mobile Contactless IC Communication Mark on the product.</p>  <p> is a trademark of FeliCa Networks, Inc.</p> <p>Figure 5-2 Measurement Center Point of the Test Sample</p> <p>The measurement center point of the testing reader/writer is described in <i>6.2 Measuring the Center Point, X-Axis Direction, and Y-Axis Direction of Testing Reader/Writer</i>.</p>
Angle	The 0-degree direction of the test sample is the longitudinal direction specified by the applicant (product manufacturer).
Center	In centering, the communication distance measuring tool is used to align the measurement center point of the test sample with that of the testing reader/writer.
Maximum communication distance	When the test sample and the testing reader/writer are moved closer together during measurement using the Polling command, the maximum communication distance is the distance at which the specified success rate is first obtained.
Communication area	<p>Area in which the success rate exceeds the specified benchmark value between the 0mm height and the maximum communication distance.</p> <p>An area in which the success rate is below the specified benchmark value and is 1mm wide or more is not regarded as a communication area.</p>
Success rate	The success rate is the ratio of successful communications to the number of Polling command executions. The success rate requirement specified for this test is at least 99% (communication must be successful at least 99 times while the Polling command is executed 100 times).
Sequence-enabled area	<p>Area in which the sequence is successful five times in a row between the 0mm height to the maximum communication distance.</p> <p>An area in which the sequence is not successful and is 1mm wide or more is not regarded as a sequence-enabled area.</p>

## 5.4. Communication Performance Measurement Procedure

### *Measurement conditions*

To ensure stable measurement results, the test will begin 10 minutes after the testing reader/writer is turned on.

Also, the test will be conducted in an environment that eliminates effects caused by metallic objects, electrical interference, and other factors on FeliCa RF communication performance.

### *Measurement method*

The test sample will be placed stably on the measuring surface of the testing reader/writer in close contact with the surface while its measurement center point is aligned with that of the testing reader/writer. The distance of the test sample in this position will be treated as 0mm. If the test sample cannot be placed in close contact with the measuring surface of the testing reader/writer, the test sample will be positioned on a plane that extends from the measuring surface of the testing reader/writer, creating the effect of close contact with the measuring surface.

The position of the test sample will be centered at 0 degree.

The communication distance measurement tool will be used to move the test sample to a position where it exceeds the maximum communication distance.

The communication performance measurement software will be used to execute the Polling command from the testing reader/writer.

The communication distance measurement tool will be used to move the test sample downward in order to determine the maximum communication distance.

The test sample will be moved from the maximum communication distance to a distance of 0mm in 1mm steps to determine the communication area.

The communication distance measurement tool will be used to position the test sample at the maximum communication distance.

The sequence software will be used to execute the sequence from the testing reader/writer.

The communication distance measurement tool will be used to move the test sample downward from the maximum communication distance to a distance of 0mm in 1mm steps to determine the sequence-enabled area.

Note: If the Mobile FeliCa RF performance certification test is applied for simultaneously with this test, steps (2) to (6) are omitted.

## 6. Test Items

### 6.1. Reader/Writer and Software for Testing

No.	Testing reader/writer	Measurement software
1	Sony RC-S012B (Ordinary)	Communication performance test software (for serial interface) Sequence software (for serial interface)

Notes:

- For more information about Sony's reader/writers, contact an exclusive Sony distributor of FeliCa products.
- The testing reader/writers in the above table are products designed for use in Japan. Anyone who intends to use any of these products outside Japan must assume responsibility for compliance with the laws of the country where the product will be used.

#### 6.1.1. Sequence Software Specifications

The specifications for the sequence software are as follows:

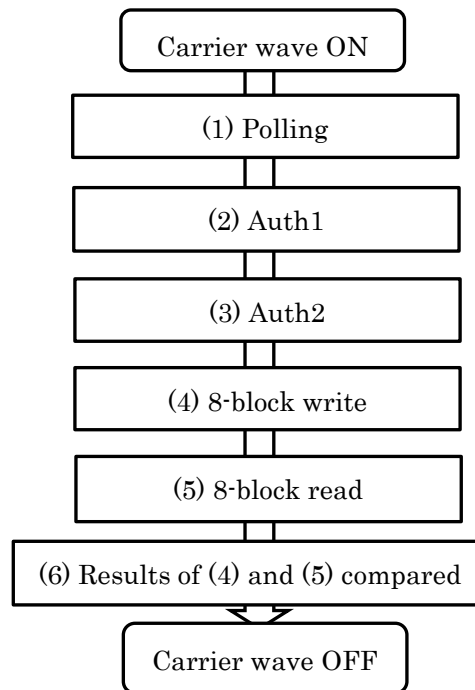


Figure 6-1 Sequence Software

The above sequence is performed for every millisecond. This measurement is carried out five times in a row.

An area in which the sequence is successful five times in a row is regarded as a sequence-enabled area.

## 6.2. Measuring the Center Point, X-Axis Direction, and Y-Axis Direction of Testing Reader/Writer

This section describes measurement of the center point, X-axis direction, and Y-axis direction of the testing reader/writer.

### 6.2.1. RC-S012B Measurement Center Point, X-Axis Direction, and Y-Axis Direction

Measurement center point: The intersection of two diagonal lines traversing the RC-S012B's antenna board.

X-axis and Y-axis directions: Shown in Figure 6-2.

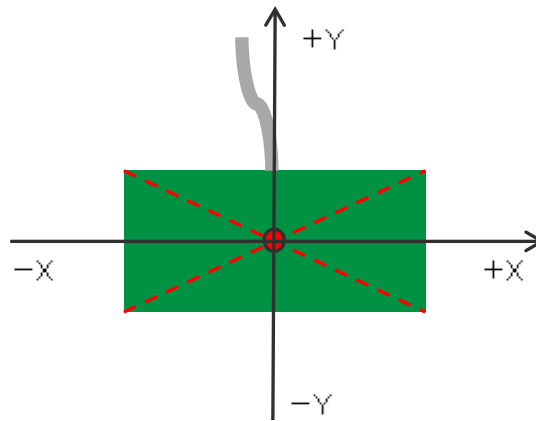


Figure 6-2 RC-012B X-Axis and Y-Axis Directions

## 6.3. Pass Criteria

The table below shows the pass criteria of this test.

No.	Measurement point	Pass criteria
1	Center at 0-degree	The sequence shall be processed properly in the communication area.

## Attachment A: Basic Sequence Test Application Form

### Basic Sequence Test Application Form

The company indicated below applies for the basic sequence test. The company agrees to the terms set forth in Attachment C: Terms and Conditions for Basic Sequence Test (for Mobile Product).

Date of application: \_\_\_\_\_

#### *Applicant information*

Company name: \_\_\_\_\_

#### **Applicant**

Applicant name: \_\_\_\_\_ Signature: \_\_\_\_\_ Email: \_\_\_\_\_

Department: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

#### **Authorization**

Authorized by: \_\_\_\_\_ Signature: \_\_\_\_\_

Department: \_\_\_\_\_

Title: \_\_\_\_\_

Remarks: \_\_\_\_\_

#### *Description of the product submitted for testing:*

Model: \_\_\_\_\_

#### *Information regarding the measurement center point and antenna installation*

Please indicate the following items in a drawing or photo.

- (1) Measurement center point: Numerically describe the location of the center point in relation to the outer edges of the test sample. (Also, clearly mark the center point on the actual test sample.)
- (2) 0-degree direction: Clearly indicate the 0-degree direction and X-axis and Y-axis directions of the test sample by arrows.
- (3) Antenna size: Clearly indicate the shape of the antenna, and numerically describe the outside dimensions of the antenna.
- (4) Antenna position: Numerically describe the location of the antenna in relation to the outer edges of the test sample.

Note: When you apply for the Mobile FeliCa RF performance certification test simultaneously with this test, you don't have to submit the above items.

Remarks: \_\_\_\_\_

#### *Desired certification test period:*

Planned product submission date: \_\_\_\_\_ Desired test end date: \_\_\_\_\_

*Where to submit the application form:*

**Certification Laboratory (Subcontract Laboratory of Sony IP&S)**

Sony Global Manufacturing & Operations Corporation

Certification Test Team, Quality Assurance Department 1

Address: 8-4 Shiomi, Kisarazu-shi, Chiba Prefecture, 292-0834, JAPAN

Phone: +81-438-37-2404

E-mail: [emcs-felica-kentei@jp.sony.com](mailto:emcs-felica-kentei@jp.sony.com)

## Attachment B: Notice of Added Product Model

### Notice of Added Product Model for the Basic Sequence Test

The company indicated below applies for the addition of the new product model indicated below to the product series that has already passed the basic sequence test. The company guarantees that the new product model has the same communication performance and basic sequence processing capability as the product that has already passed the said test.

Date of application: \_\_\_\_\_

#### *Applicant information*

Company name: \_\_\_\_\_

#### **Applicant**

Applicant name: \_\_\_\_\_ Signature: \_\_\_\_\_ Email: \_\_\_\_\_

Department: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

#### **Authorization**

Authorized by: \_\_\_\_\_ Signature: \_\_\_\_\_

Department: \_\_\_\_\_

Title: \_\_\_\_\_

Remarks: \_\_\_\_\_

#### *Information regarding the product that has already passed this test*

Model: \_\_\_\_\_

Certification number: \_\_\_\_\_

Remarks: \_\_\_\_\_

#### *Information regarding the product model to be added*

Model: \_\_\_\_\_

Remarks: \_\_\_\_\_

#### *Where to submit the application form:*

**Certification Laboratory (Subcontract Laboratory of Sony IP&S)**

Sony Global Manufacturing & Operations Corporation

Certification Test Team, Quality Assurance Department 1

E-mail: [emcs-felica-kentei@jp.sony.com](mailto:emcs-felica-kentei@jp.sony.com)



## **Attachment C: Terms and Conditions**

### **Terms and Conditions for Basic Sequence Test (for Mobile Product)**

The following terms and conditions (the “Terms and Conditions”) apply with respect to the “Basic Sequence Test” of your Product (hereinafter defined) conducted by Sony Imaging Products & Solutions Inc. (“Sony”). The Terms and Conditions apply to individual applications for the “Basic Sequence Test” submitted on the Basic Sequence Test Application Form to which these Terms and Conditions are attached. These Terms and Conditions become an agreement with respect to the “Basic Sequence Test” (the “Agreement”) between you and Sony upon Sony’s acceptance of your application for the “Basic Sequence Test” submitted in accordance with Section 2.01 hereof.

#### **ARTICLE I. DEFINITIONS**

The following terms as used in these Terms and Conditions shall have the meanings set forth below.

- (1) “FeliCa IC” shall mean IC chips for Mobile Product that is certified by FeliCa Networks.
- (2) “Mobile Product” shall mean a mobile device (i) which has communication function and (ii) which is sold, rented, leased or otherwise provided with the trademarks of either Telecommunication Carriers, third parties or your company.
- (3) “Telecommunication Carrier” shall mean a provider of trans receiver functionalities via mobile communication system to users of mobile devices that are sold, rented, leased or otherwise provided to them with such providers’ trademarks.
- (4) “Product” shall mean the Mobile Product in which FeliCa IC is embedded.
- (5) “Basic Sequence Test” shall mean the test conducted by Sony under Terms and Conditions to determine whether your Product manufactured for a Telecommunication Carrier, third parties or your company meets the Basic Sequence Test Specification which is set forth in by Mobile FeliCa Technical Communications Committee (“Test Specification”).
- (6) “Mobile FeliCa RF Certification Test” shall mean the certification test conducted by Sony in accordance with the separately designated Terms and Conditions for Mobile FeliCa RF Certification Test (for Mobile Product) to determine whether your Product manufactured for a Telecommunication Carrier meets the standards (the “Certification Standards”) for Mobile Products set forth in the “Mobile FeliCa RF Performance Certification Specification” (the “Certification Specification”) designated by Mobile FeliCa Technical Communications Committee.

#### **ARTICLE II. CERTIFICATION TEST**

2.01 An application for the Basic Sequence Test shall be made for each model of your Product, in accordance with the provisions of the Test Specification, by filling out the “Basic Sequence Test Application Form” to which these Terms and Conditions are attached. Your application is deemed to be accepted unless it is rejected by Sony with reasonable cause within five (5) business days (of Sony in Japan) from the date of submission of your application.

2.02 You must submit one (1) sample of your Product. After the completion of the Basic Sequence Test, Sony will return such sample to you. Sony shall not be responsible for any damages to the samples in connection with the Basic Sequence Test of the Products performed by Sony.

2.03 Sony will, after the Agreement becomes effective and Sony receives the samples set forth in Section 2.02 above, promptly conduct the Basic Sequence Test in accordance with the Test Specification and notify you

the results thereof.

2.04 Notwithstanding the foregoing, you are not required to provide the samples for the Basic Sequence Test if you apply for the “Mobile FeliCa RF Certification Test” with respect to the same Product simultaneously with, as of the same day as, this Basic Sequence Test and submit the sample for the “Mobile FeliCa RF Certification Test”. The samples provided by you for the “Mobile FeliCa RF Certification Test” is also used for the purpose of the Basic Sequence Test.

### ARTICLE III. FEES

3.01 In consideration for the completion of the Basic Sequence Test, you shall pay to Sony the fees in the amount of hundred thousand (100,000) Japanese Yen (not including any applicable taxes). The payment of the fees and any applicable taxes shall be made to Sony in Japanese Yen by means of wire transfer remittance into a bank account designated by Sony, at least one (1) week prior to the estimated date of sample submission as designated by you in the “Basic Sequence Test Application Form”. Sony may withhold performance as set forth in Section 2.03 until receipt of such payment.

3.02 Notwithstanding the foregoing, the fees is in the amount of fifty thousand (50,000) Japanese Yen (not including any applicable taxes) if you apply for the “Mobile FeliCa RF Certification Test” simultaneously with, as of the same day as, this Basic Sequence Test.

3.03 The fees paid to Sony hereunder are non-refundable.

### ARTICLE IV. CONFIDENTIALITY

4.01 You and Sony (each, a “Party” and collectively, the “Parties”) shall each maintain as confidential and shall not disclose to any third party any technical, business or other proprietary information of the other Party disclosed during the course of the Basic Sequence Test (the “Confidential Information”) without the prior written consent of such other Party, for three (3) years after such disclosure. Further, Sony will not use your Confidential Information for any purpose other than the purposes contemplated under these Terms and Conditions.

4.02 Notwithstanding the provisions of Section 4.01, such restrictions shall not apply to any portion of the Confidential Information which a Party can prove:

- (a) was part of the public domain at the time of disclosure;
- (b) was previously known to the receiving Party at the time of disclosure;
- (c) subsequently becomes part of the public domain through no fault of the receiving Party or its employees; or
- (d) is rightfully obtained by the receiving Party from a third party source without any restriction on disclosure or use; or
- (e) is independently ascertainable or developed by the receiving Party who have not had access to the Confidential Information.

### ARTICLE V. WARRANTIES AND LIMITATION OF LIABILITY

5.01 SONY MAKES NO REPRESENTATION OR WARRANTIES, EXPRESSLY OR BY IMPLICATION, STATUTORY OR OTHERWISE, IN CONNECTION WITH PASSING OF THE BASIC SEQUENCE TEST, INCLUDING BUT NOT LIMITED TO REPRESENTATIONS OR WARRANTIES OF QUALITY,

FUNCTIONALITY, PERFORMANCE, SAFETY, UTILITY, MERCHANTABILITY, OR FITNESS FOR PARTICULAR PURPOSE OF YOUR PRODUCT.

5.02 IN NO EVENT SHALL SONY BE LIABLE TO YOU OR ANY THIRD PARTY FOR ANY DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OR LOSSES WHATSOEVER UNDER ANY CIRCUMSTANCES (INCLUDING BUT NOT LIMITED TO DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION OR OTHER PECUNIARY LOSS) THAT ARISE IN CONNECTION WITH THE PRODUCTS THAT HAVE PASSED THE BASIC SEQUENCE TEST, EVEN IF SONY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

#### ARTICLE VI. EXCLUSION OF ANTISOCIAL FORCES

6.01 Each of you and Sony represents to the other Party that at the time of the conclusion of this Agreement, the Party, its directors and corporate executive officers are not Antisocial Forces and warrants that they are not Antisocial Forces during the terms of this Agreement. Antisocial Forces hereinafter means that organized gangster crime groups defined in the section 2.02 of Act on Prevention of Unjust Acts by Organized Crime Group Members (“Act”) and organized gangster crime groups members defined in the section 2.06 of the Act, any crime syndicates or gangs, a quasi-member of any crime syndicates or gangs, individuals for whom left an organized gangster crime group within the past 5 years have not yet elapsed since leaving any crime syndicate or gang, quasi-members of any organized gangster crime groups (“boryokudan junkose-in”), an enterprised affiliated with organized gangster crime groups (“boryokudasn kankei kigyo”) a crime syndicates or gangs. Corporate extortionists (“sokai-ya”) corporate swindler acting groups engaging in criminal activities under the pretext of conducting social movements or political activities (“shakai undou hyoubou goro”, “seiji katsudou hyoubou goro”), groups of individuals specialized in intellectual crimes (“tokushu chinou bouryoku shuudan”), individuals being in closely contact affiliated with to any organized gangster crime groups (“boryokudan missetsu-kankeisha”), crime syndicates or gangs, and any individual or a group of individuals being equivalent thereto.

6.02 Each of you and Sony also warrants that, in connection with this Agreement, it shall not, either by itself or by way of third parties, conduct any of the following acts: (i) violent demands, (ii) improper demands in excess of legal responsibilities, (iii) acts of violence or menacing statements in relation to a transaction, (iv) spreading of rumors, use of fraudulent means or use of obstruction to harm the reputation of the other party, or to obstruct the business of the other party; or (v) any other act equivalent to any of the previous items.

6.03 Each of you and Sony may terminate, in whole or in any part, of the Agreement without any demands or notice, if (a) the other Party breaches the representations and warranties above, or (b) you or Sony determines that performance of this Agreement helps or otherwise promote the activities of such Antisocial Forces.

6.04 Each of Sony and you shall not be liable to the other party for any damage arising out of termination of this Agreement in accordance with Section 6.03.

6.05 In the event that any of items set forth in Section 6.02 applies to Sony or you, the applicable party shall, upon the other party’s request, lose the benefit of time relating to any debt against such other party and immediately pay such debt.

#### ARTICLE VII. TERMINATION

7.01 Each Party reserves the right to terminate the Agreement immediately without any notice or demand in the event that:

- (a) the other Party is adjudicated a bankrupt, makes assignment for the benefit of its creditors; takes advantage of any insolvency act; or is the subject of a case for its liquidation or reorganization under any law;
- (b) the other Party breaches any provision of these Terms and Conditions and does not cure such breach within thirty (30) days after receipt of notice thereof; or
- (c) the other Party ceases to function as a going concern or to conduct its operations in the normal course of business.
- (d) the other Party uses the Basic Sequence Test and/or Product illegally or against public policy.

7.02 In the event that the Agreement becomes terminable by Sony under this Article VII, all of your obligations under the Agreement shall immediately accelerate.

#### ARTICLE VIII. NO ASSIGNMENT

8.01 You may not assign transfer or mortgage any of your rights and obligations hereunder without the prior written consent of Sony.

#### ARTICLE IX. MISCELLANEOUS

9.01 Sony may, at any time with prior notice to you, cease to conduct the Basic Sequence Test or assign or transfer its rights and obligations hereunder with respect to the Basic Sequence Test to a third party in part or in whole, and you shall not object to any of such assignment or transfer.

9.02 You must observe and comply with all relevant laws, ordinances, rules and regulations of relevant countries in performing your obligations and exercising your rights hereunder.

9.03 Sony may use subcontractors to conduct the Basic Sequence Test provided that in such case, Sony shall cause such subcontractors to be bound by the confidentiality obligation as set forth Article IV.

9.04 These Terms and Conditions and the Agreement shall be construed under and governed by the laws of Japan. If any provision of these Terms and Conditions is held by a court or other tribunal of competent jurisdiction to be invalid or unenforceable, that provision of these Terms and Conditions shall be enforced to the maximum extent permissible so as to effect the intent of the parties hereto, and the remainder of these Terms and Conditions shall continue in full force and effect.

9.05 In the event of any dispute arising out of or in connection with these Terms and Conditions or the Agreement, which cannot be amicably settled by the Parties, the Parties shall submit any such disputes to the Tokyo District Court in Japan as the court of first instance. Any counter-claim shall be filed with the court with which the original action is filed. The Parties agree that the judgment, decree or order rendered by a court of last resort or a court of lower jurisdiction from which no appeal has been taken in Japan shall be final and binding upon both Parties.

Published on November 1, 2018