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***Bluetooth* Qualification Test Report**

IUT: SRFKE1 Bluetooth RF Transciever

Job Number: 0025-2006Dec07

Date: Dec/22/06

Prepared for:

Systems and Chips, Inc.

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CNLA/TAF Accredited Laboratory to ISO/IEC 17025

- for the scope of *Bluetooth* Testing

Certificate Number 0916



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HYPER Taiwan Technology Inc. is a BLUETOOTH Qualification Test Facility (BQTF)

Signature Page

The below listed HYPER Taiwan Technology Inc. personnel take responsibility for the contents of this Test Report.

Signatures

| | | |
|-------------------|--|--------------------------|
| Test Engineer(s): |  _____ | <u>Dec/22/06</u> Date |
|-------------------|--|--------------------------|


| | | |
|---------------------------|---|--------------------------|
| Reviewed and Approved by: |  _____ | <u>Dec/22/06</u> Date |
|---------------------------|---|--------------------------|

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1. List of Revisions

| Version | Date | Author(s) | Description |
|---------|-----------|-------------|-----------------|
| 001 | Dec/22/06 | Benny Doong | Initial Version |

2. Disclaimer Notice

This test report applies only to the IUT (Implementation Under Test) and the results of the specifications called out in this report.

3. Reproduction Clause

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4. Project Details

Product Name: SRFKE1 Bluetooth RF Transceiver

Job Number: 0025-2006Dec07

5. Description of the IUT

| | |
|--------------------|--|
| Date received: | Nov/10/06 |
| Date(s) tested | Dec/01/06 – Dec/21/06 |
| Description of IUT | SRFKE1 is a complete Bluetooth class 2 transceiver, operating in the ISM frequency band, 2.4 – 2.5 GHz. The modulation is GFSK, with frequency hopping (1600 hops/s) between 2.402 GHz up to 2.480 GHz. |
| Condition of IUT: | The IUT was received in good condition. |
| Product ID | SRFKE1 |
| Serial number | 001 |
| Hardware Version | KE1 |
| Software Version | R5A |
| Firmware Version | N/A |

6 General Testing Information

6.1 Test Facility

| Company | Location | Parts Tested |
|---------------------------------------|--|---|
| HYPER Taiwan Technology Inc., Ltd. | 7F-1, No 92, Sec. 1, Nei-hu Rd., Taipei, Taiwan, R.O.C. | RF Conformance and Interoperability Test |

6.2 Test Environment

| | |
|---------------------|-----------|
| Nominal Temperature | 25-28°C |
| Nominal Humidity | 25% – 65% |
| Low Temperature | -20 °C |
| High Temperature | 85 °C |
| Nominal Voltage | 2.75 V |
| Low Voltage | NA |
| High Voltage | NA |

7. Test Summary

The tests performed on the IUT are in compliance with the Bluetooth Wireless Technology Specification(s) below.

| Description | Document Number |
|--------------|---------------------|
| TCRL | TCRL_2-0_2006-08-01 |
| RF Test Spec | RF.TS/2.0.E.4 |

Test results are summarized below. "Pass", indicates the test case requirements were reviewed to be in conformance. "Fail", indicates the test case requirements were reviewed and not in conformance. In case where "Declaration" is indicated, the required documentation is available in the client's Compliance Folder. "N/A", is indicated when the test case requirements are not applicable.

7.1 List of Test Cases Performed and Result

7.1.1 RF Conformance

| Test Case | Description | Cat. | Verdict |
|-------------|--------------|------|---------|
| TRM/CA/01/C | Output Power | A | Pass |

| | | | |
|-------------|---|---|------|
| TRM/CA/02/C | Power Density | A | Pass |
| TRM/CA/04/C | TX Output Spectrum – Frequency range | A | Pass |
| TRM/CA/05/C | TX Output Spectrum – 20 dB Bandwidth | A | Pass |
| TRM/CA/06/C | TX Output Spectrum – Adjacent channel power | A | Pass |
| TRM/CA/07/C | Modulation Characteristics | A | Pass |
| TRM/CA/08/C | Initial Carrier Frequency Tolerance | A | Pass |
| TRM/CA/09/C | Carrier Frequency Drift | A | Pass |
| RCV/CA/01/C | Sensitivity - single slot packets | A | Pass |
| RCV/CA/02/C | Sensitivity - multi-slot packets | A | Pass |
| RCV/CA/03/C | C/I Performance | A | Pass |
| RCV/CA/04/C | Blocking Performance | A | Pass |
| RCV/CA/05/C | Intermodulation Performance | A | Pass |
| RCV/CA/06/C | Maximum Input Level | A | Pass |

8. Test Procedure

The test procedure followed for the test cases is in compliance with the applicable test specification.

8.1 Test Setup

Test setup for RF is shown below:

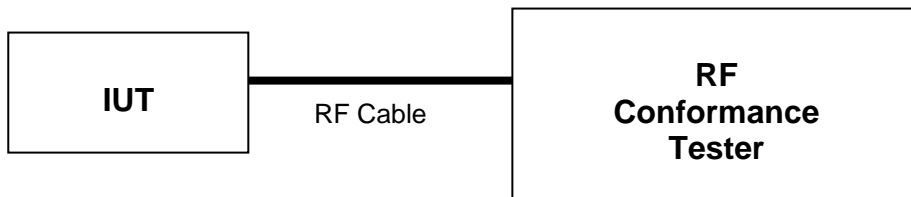


Figure1: Test set up for RF

9. List of Test Equipment Used

9.1 RF Testing

| Description | Manufacturer | Cal Date | Cal Due |
|---------------------------------------|--------------|------------|------------|
| BlueVision RF Conformance test System | HYPER Corp. | 12/31/2005 | 12/31/2006 |

Appendix A: Pre-Qualified Components

1. *Bluetooth* Identifier B01038: K-D1, K-E1, Ericsson Technology Licensing.
2. *Bluetooth* Identifier B02407: SBQ12U2, Systems and Chips. Inc.
3. *Bluetooth* Identifier B02408: SBR11U2, Systems and Chips. Inc.

The supported protocols/profiles of the Pre-Qualified Components are described below:

| |
|--|
| Radio(RF) |
| Base Band (BB) – Conformance Protocol |
| Link Manager (LM) – Conformance Protocol |
| Host Control Interface (HCI) |

Appendix B: ICS/IXIT

Please reference the compliance folder for complete details. HYPER Taiwan Technology Inc., retains a copy of the data in the job file #:0025-2006Dec07.

Appendix C: Test Data

1. Test Data for RF Testing : [Test Evidence for RF Test.zip](#)