



**SIRIM QAS International Sdn.Bhd** (Company No.: 410334-X)  
(formerly known as SIRIM QAS Sdn. Bhd)  
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## TEST REPORT

REPORT NO.: 2004EMC102

PAGE : 1 OF 7

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Applicant  
TS Matrix Bhd.  
Lot 11A, Jalan SS 8/2,  
Sg. Way FIZ,  
47300 Petaling Jaya,  
Selangor D.E.

Manufacturer  
TS Matrix Bhd.  
Lot 11A, Jalan SS 8/2,  
Sg. Way FIZ,  
47300 Petaling Jaya,  
Selangor D.E.

Product: TPMS

Reference Standard / FCC Part 15 Subpart C : Section 15.231  
Method of test:

Description of sample: Model : TS Matrix

Date received: 30/09/2004

Job no. /Ref. No. 04TSJ4502

Issued date 07/10/2004

.....  
(ZARISMAIL ABD RAHMAN)

Senior Technical Executive



.....  
(SHAIK MOHD JAMALDIN)

Manager  
EMC Testing Section  
Testing Services Department

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## 1. TEST METHODOLOGY

Radio disturbance characteristic measurement was performed in the semi-anechoic chamber for radiated emission (FCC listed: 31040/SIT, 1300F2) respectively according to the FCC Part 15 Subpart C : Section 15.231.

## 2. TEST DESCRIPTION

### 2.1 RADIATED EMISSIONS MEASUREMENT

#### 2.1.1 Test Setup

- a. The test was performed in 8.5m x 6.0m x 5.7m Semi Anechoic Chamber and properly grounded to a single point in the grounding system.
- b. The filtered power supply for the EUT was tapped from the appropriate power socket under the turntable.
- c. The relevant antenna was mounted on a remotely controlled antenna mast which could be vary the antenna height between 1m to 4m and the antenna was set at a distance 3m away from the EUT.

#### 2.1.2 Test Condition

- a. The humidity during the test was maintained at 59%RH, at temperature of 20°C.

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### 3. TEST MEASUREMENT RESULTS

#### 3.1 TEST SPECIFICATION

##### 3.1.1 Radiated emission measurement

The limits, in accordance to FCC Part 15: Subpart C: Section 15.231 at a measuring distance of 3m radiated emission measurement, are as follows:

Frequency (MHz)	Limits [dB( $\mu$ V/m)] Field Strength of Fundamental. (Quasi-Peak)	Limits [dB( $\mu$ V.m)] Field Strength of Spurious Emissions (Quasi-Peak)
40.66 - 40.70	67.04	47.04
70 - 130	61.94	41.94
130 - 174	61.94 - 71.48	41.94 - 51.48
174 - 260	71.48	51.48
260 - 470	71.48 - 81.94	51.48 - 61.94
Above 470	81.94	61.94

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### 3.2 RADIATED EMISSION RESULT

#### 3.2.1 Transmitter

Frequency (MHz)	Antenna Position	Measurement [dB( $\mu$ V/m)]	Limit [dB( $\mu$ V/m)]	Result
Fundamental :				
434.13	Horizontal	63.28	80.83	Pass
434.13	Vertical	52.32	80.83	Pass
Spurious :				
447.58	Horizontal	39.51	61.26	Pass
774.30	Horizontal	21.84	61.94	Pass
782.55	Horizontal	22.23	61.94	Pass
447.58	Vertical	32.61	61.26	Pass
776.00	Vertical	21.51	61.94	Pass

#### 3.2.2 Receiver

No signal found.

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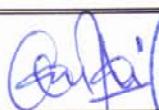


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#### 4. TEST INSTRUMENTS

The following test instrumentation were used for the FCC Part 15: Subpart C : Section 15.231 Radiated Emission Test:

No.	Equipment	Manufacturer	Model	Serial No.
	<b><u>8572A HP Microwave EMI Receiver System</u></b>			
1.	Attenuator / Switch Driver	Hewlett Packard	11713A	3334A11154
2.	Opt. HO2 Preamplifier	Hewlett Packard	8449B	3008A00524
3.	Quasi-Peak Adapter	Hewlett Packard	85650A	3303A01738
4.	Opt. 002 01 462 Spectrum Analyzer	Hewlett Packard	85660A	3340A08183
5.	Opt. 462 857 Spectrum Analyzer Display	Hewlett Packard	85662A	3340A21417
6.	RF Preselector	Hewlett Packard	85685A	3221A01438
7.	EMCO Multi-Driver controller	EMCO	EMCO 2090	9610-1180
9.	4.0m Scanning / Antenna Mask	EMCO	EMCO 2070-2	9508-1900
10.	2.0m Turntable	EMCO	EMCO 2081-2	N/A
11.	Biconical Antenna 20 - 300MHz	EMCO	EMCO 3109	9310-2761
12.	Log-Periodic Antenna 200 - 1GHz	EMCO	EMCO 3146	9311-3728

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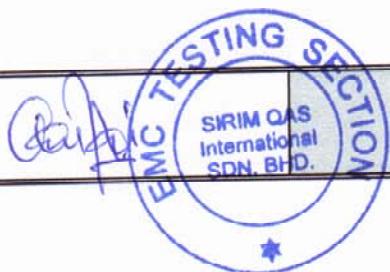


Photograph of test sample : Transmitter



Photograph of test sample : Receiver

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Photograph of test setup : Radiated Emission

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