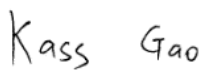
TEST REPORT

Application No.:	KSCR2409001689AT
FCC ID:	2BKUD01TXSA
Applicant:	GUANG ZHOU LU YI QI CHE KE JI YOU XIAN GONG SI
Address of Applicant:	No J006, Room 703, 704, 706, Xingcheng Building, No. 3, No. 25, Siyouxinmalu, Yuexiu District, Guangzhou, Guangdong, China.
Manufacturer:	GUANG ZHOU LU YI QI CHE KE JI YOU XIAN GONG SI
Address of Manufacturer:	No J006, Room 703, 704, 706, Xingcheng Building, No. 3, No. 25, Siyouxinmalu, Yuexiu District, Guangzhou, Guangdong, China.
Factory:	GUANG ZHOU LU YI QI CHE KE JI YOU XIAN GONG SI
Address of Factory:	No J006, Room 703, 704, 706, Xingcheng Building, No. 3, No. 25, Siyouxinmalu, Yuexiu District, Guangzhou, Guangdong, China.
Equipment Under Test (EUT):	
EUT Name:	XM antenna
Model No.:	TXSA01, TXSA02, TXSA03 ♣
♣	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark:	Anina
Standard(s) :	47 CFR Part 15, Subpart B
Date of Receipt:	2024-09-02
Date of Test:	2024-09-10 to 2024-09-12
Date of Issue:	2024-09-12
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Revision Record			
Version	**Description**	***Date***	***Remark***
00	Original	2024-09-12	/

Authorized for issue by:				
Tested By		 **Kass Gao /Project Engineer**		
Approved By		 **Terry Hou /Reviewer**		

2 Test Summary

Emission Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Radiated Emissions (30MHz-1GHz)	47 CFR Part 15, Subpart B	ANSI C63.4:2014	15.109(a);Class B	Pass
Radiated Emissions (Above 1GHz)		ANSI C63.4:2014	15.109(g);Class B	Pass

Note: There are series models mentioned in this report, and they are the identical in electrical and electronic characters. Only the model TXSA01 was tested since their differences as below:

mode name and cable length.

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	DC 5V by Auxliary

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Control Box	MALAYSIA	R101	/
Car charging connector	/	/	/
Remote control	/	/	/

4.3 Measurement Uncertainty & Decision Rule

Measurement Uncertainty:

No.	Item	Measurement Uncertainty (U_{LAB}) *	U_{CISPR}
1	Conducted Emission at mains port using AMN	2.4dB (9kHz to 150kHz)	3.8dB (9kHz to 150kHz)
		2.2dB (150kHz to 30MHz)	3.4dB (150kHz to 30MHz)
2	Conducted Emission at telecommunication port using AAN	4.0 dB (150kHz to 30MHz)	5.0dB (150kHz to 30MHz)
3	Radiated Power	3.2dB	4.5dB (30MHz to 300MHz)
4	Radiated Emission (10m)	4.1 dB	6.3dB (30MHz-1GHz)
5	Radiated Emission (3m)	4.6 dB (30MHz-1GHz)	6.3dB (30MHz-1GHz)
		5.0dB (1GHz-6GHz)	5.2dB (1GHz-6GHz)
		5.2dB (6GHz-18GHz)	5.5dB (6GHz-18GHz)
		5.3dB (18GHz-40GHz)	N/A

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Decision Rule:

• CISPR 16-4-2 for emission measurements is as below described.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

U_{LAB} less than U_{CISPR}, therefore:

– compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit.

– non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

• For immunity testing no decision rule is applicable.

4.4 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1.SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).

2.SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).

3. Sample source: sent by customer.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• A2LA

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

• FCC

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

• ISED

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

• VCCI

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

Radiated Emissions (30MHz-1GHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
EMI Test Receiver	R&S	ESCI	KS301196	08/01/2024	07/31/2025
Antenna	TESEQ	CBL 6112D	KUS1806E006	03/23/2024	03/22/2025
Spectrum Analyzer	R&S	FSU26	KS301206	03/19/2024	03/18/2025
Signal Analyzer	R&S	FSV40	KUS1806E003	08/06/2024	08/05/2025
Software	Faratronic	EZ_EMC v 3A1	N/A	N/A	N/A

Radiated Emissions (Above 1GHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Spectrum Analyzer	R&S	FSU26	KS301206	03/19/2024	03/18/2025
Preamplifier	PANSHAN TECHNOLOGY	LNA:1~18G	KSEM010-2	01/15/2024	01/14/2025
Horn-antenna	SCHWARZBECK	BBHA9120D	KS301079	03/19/2024	03/18/2025
Antenna	SCHAFFNER	CBL6143	CZ301091	10/25/2022	10/24/2024
Software	Faratronic	EZ_EMC-v 3A1	N/A	N/A	N/A

General used equipment					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Digital Pressure Meter	Mengde	DYM3	CZ750023	01/15/2024	01/14/2025
Temperature & Humidity Recorder	JDRK	RS-WS-N01-6J	KSEM024-1 KSEM024-2 KSEM024-3 KSEM024-6 KSEM024-7 KSEM024--8 KSEM024--9	03/19/2024	03/18/2025

6 Emission Test Results

6.1 Radiated Emissions (30MHz-1GHz)

Test Requirement: 47 CFR Part 15, Subpart B
Test Method: ANSI C63.4:2014

Limit:

	Class B
Test Distance:	3m
30MHz -88MHz	40.0(dBμV/m) quasi-peak
88MHz-216MHz	43.5(dBμV/m) quasi-peak
216MHz-960MHz	46.0(dBμV/m) quasi-peak
960MHz-1000MHz	54.0(dBμV/m) quasi-peak
Detector:	Peak for pre-scan (120kHz resolution bandwidth) 30MHz to1000MHz

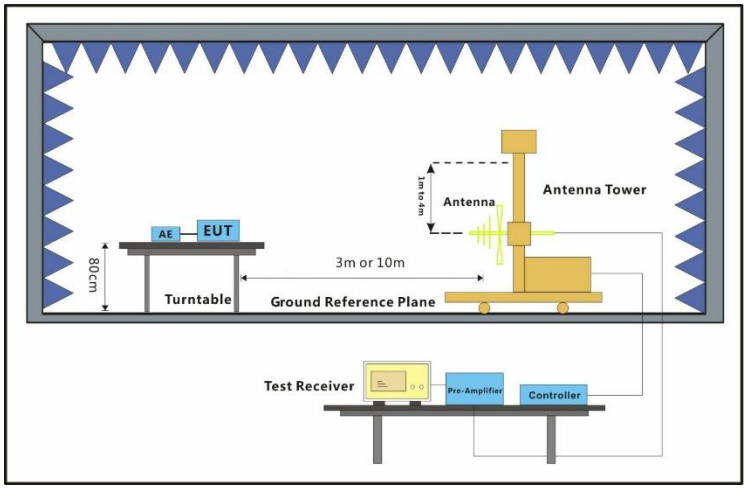
6.1.1 E.U.T. Operation

Operating Environment:
Temperature: 25.5 °C Humidity: 54.8 % RH Atmospheric Pressure: 1010 mbar

6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Receiving mode_EUT connect with Auxliary equipment then working in receiveing mode.

6.1.3 Test Setup Diagram

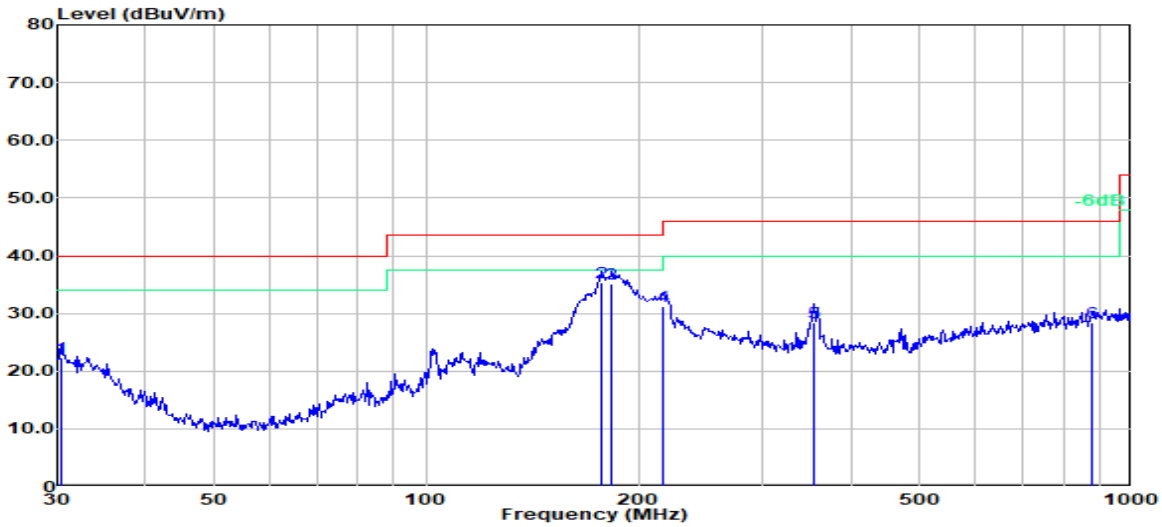


6.1.4 Measurement Procedure and Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

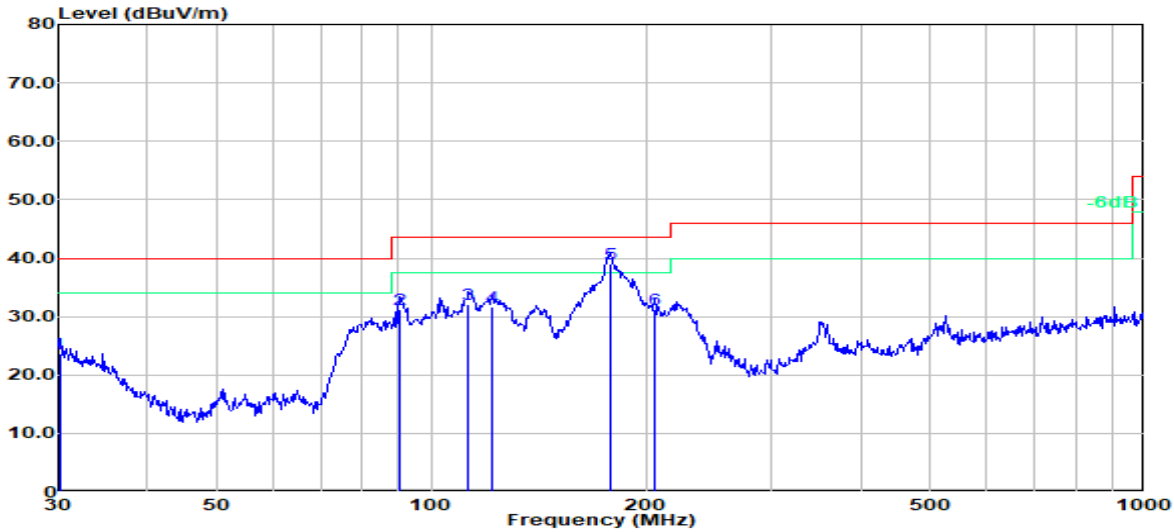
Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Test Mode: 00; Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	30.4240	3.28	19.08	22.36	40.00	-17.64	100	319	QP
2	176.8880	22.79	12.50	35.29	43.50	-8.21	100	300	QP
3	183.2010	22.71	12.50	35.21	43.50	-8.29	200	1	QP
4	216.0240	18.87	12.39	31.26	46.00	-14.74	100	360	QP
5	355.4270	11.57	16.88	28.45	46.00	-17.55	100	40	QP
6	878.3220	2.98	25.48	28.46	46.00	-17.54	100	2	QP

Test Mode: 00; Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	30.1050	4.26	19.34	23.60	40.00	-16.40	100	6	QP
2	90.5370	19.16	12.10	31.26	43.50	-12.24	100	0	QP
3	112.9200	18.31	13.84	32.15	43.50	-11.35	100	282	QP
4	121.9760	17.41	14.18	31.59	43.50	-11.91	200	251	QP
5	178.1330	27.00	11.96	38.96	43.50	-4.54	100	180	QP
6	205.6751	19.42	11.82	31.24	43.50	-12.26	100	160	QP

6.2 Radiated Emissions (Above 1GHz)

Test Requirement: 47 CFR Part 15, Subpart B
Test Method: ANSI C63.4:2014

Limit:

	Class B
Above 1GHz	74(dBμV/m) peak, 54(dBμV/m) average
Detector:	Peak for pre-scan (1000kHz resolution bandwidth) 1000M to18000MHz

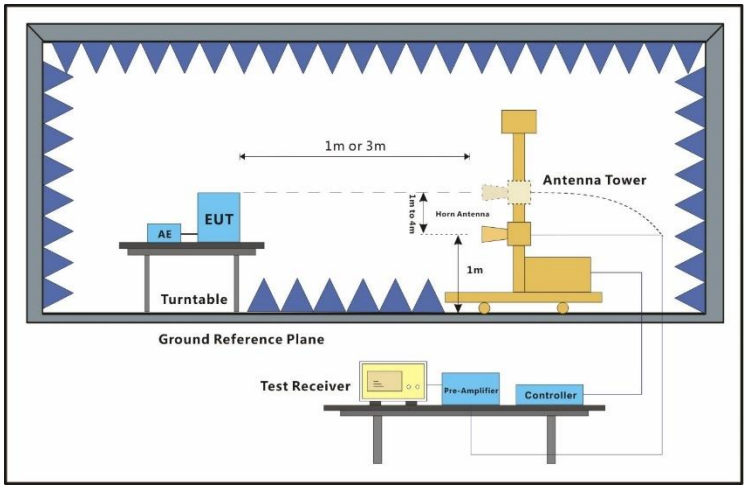
6.2.1 E.U.T. Operation

Operating Environment:
Temperature: 24.5 °C Humidity: 51.2 % RH Atmospheric Pressure: 1010 mbar

6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Receiving mode_EUT connect with Auxliary equipment then working in receiveing mode.

6.2.3 Test Setup Diagram



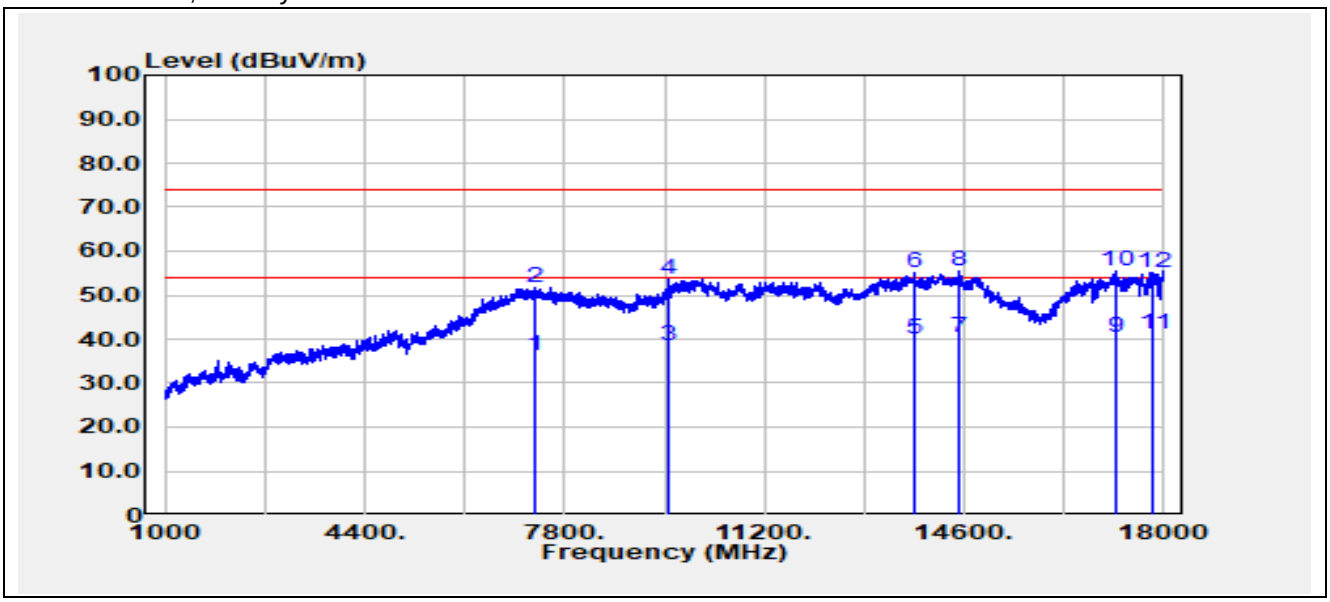
6.2.4 Measurement Procedure and Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities.

The red line show in graphic is the limit in standard used in this section.

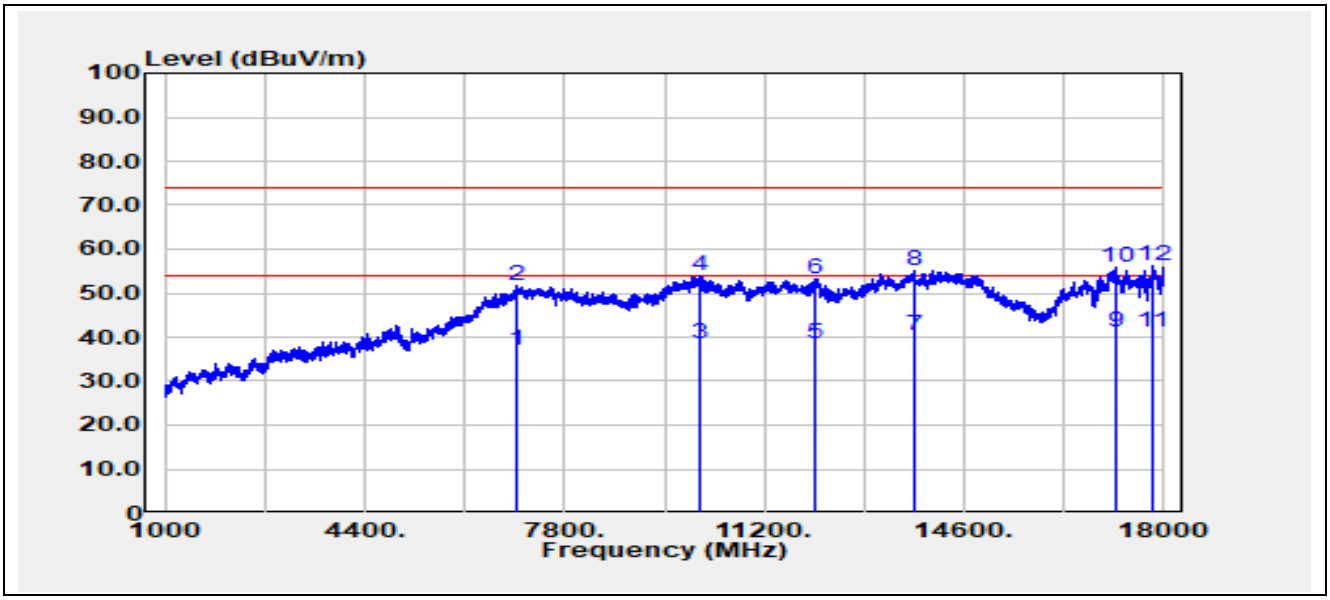
Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Test Mode: 00; Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	7294.2500	37.08	-0.88	36.20	54.00	-17.80	100	104	Average
2	7294.2500	52.65	-0.88	51.77	74.00	-22.23	100	104	Peak
3	9576.5000	38.13	0.35	38.48	54.00	-15.52	100	224	Average
4	9576.5000	53.23	0.35	53.58	74.00	-20.42	100	224	Peak
5	13737.2500	37.33	2.80	40.13	54.00	-13.87	100	254	Average
6	13737.2500	52.31	2.80	55.11	74.00	-18.89	100	254	Peak
7	14510.7500	36.20	4.12	40.32	54.00	-13.68	100	55	Average
8	14510.7500	51.30	4.12	55.42	74.00	-18.58	100	55	Peak
9	17171.2500	34.17	6.16	40.33	54.00	-13.67	100	170	Average
10	17171.2500	49.19	6.16	55.35	74.00	-18.65	100	170	Peak
11	17813.0000	30.60	10.42	41.02	54.00	-12.98	100	84	Average
12	17813.0000	44.64	10.42	55.06	74.00	-18.94	100	84	Peak

Test Mode: 00; Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	6992.5000	37.77	-0.92	36.85	54.00	-17.15	100	213	Average
2	6992.5000	52.71	-0.92	51.79	74.00	-22.21	100	213	Peak
3	10090.7500	36.62	1.71	38.33	54.00	-15.67	200	118	Average
4	10090.7500	52.07	1.71	53.78	74.00	-20.22	200	118	Peak
5	12050.0000	37.89	0.58	38.47	54.00	-15.53	100	342	Average
6	12050.0000	52.77	0.58	53.35	74.00	-20.65	100	342	Peak
7	13741.5000	37.51	2.80	40.31	54.00	-13.69	100	0	Average
8	13741.5000	52.34	2.80	55.14	74.00	-18.86	100	0	Peak
9	17167.0000	34.84	6.15	40.99	54.00	-13.01	200	51	Average
10	17167.0000	49.75	6.15	55.90	74.00	-18.10	200	51	Peak
11	17800.2500	30.96	10.29	41.25	54.00	-12.75	100	276	Average
12	17800.2500	45.75	10.29	56.04	74.00	-17.96	100	276	Peak

7 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2409001689AT

8 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for KSCR2409001689AT

- End of the Report -