EMC TEST REPORT

Applicant	MeiG Smart Technology Co., Ltd
FCC ID	2APJ4-SLM750VSA
Product	SLM750VSA
Brand	MEIGLink
Model	SLM750VSA
Report No.	R2202A0142-E1
Issue Date	March 1, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC Code CFR47 Part15B (2020)/ ANSI C63.4 (2014)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Wei Liu

Performed by: Wei Liu/ Manager

Guangchang Fan

Approved by: Guangchang Fan/ Director

TA Technology (Shanghai) Co., Ltd.

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Summary of measurement results

Number	Test Case	Clause in FCC Rules	Conclusion
1	Radiated Emission	FCC Part15.109, ANSI C63.4-2014	PASS
2	Conducted Emission	FCC Part15.107, ANSI C63.4-2014	PASS
Test Date: September 4,2019~September 5,2019			

SLM750VSA (Report No.: R2202A0142-E1) is a variant model of SLM750 (Report No.: R1908A0527-E1V1). Changed FCC ID and Product Applicant address and Manufacturer address. Test values partial duplicated from Original for variant. There is no test for variant in this report.

The difference between model SLM750VSA and model SLM750 is show in the below table:

	Model	SLM750VSA (Variant)	SLM750 (Original)
Hardware	PCB	Addsomebands，the related matching circuit wiring has changed	/
Software	Software Version	SLM750-V_4.0.13_EQ101	SLM750-V_2.0.2D_EQ100
RF	RF circuit	Add LTE Band7/40	/
Notes: The SLM750VSA support LTE Band 2/4/5/7/40;WCDMA B2/5;GSM 850/1900; The SLM750 support LTE Band 2/4/5/12/13/17/25/26/B41;WCDMA B2/4/5;GSM 850/1900; CDMA BC0; CDMA BC1;			

The detailed product change description please refers to the *Difference Declaration Letter*.

1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2 Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3 Testing Location

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City:	Shanghai
Post code:	201201
Country:	P. R. China
Contact:	Xu Kai
Telephone:	+86-021-50791141/2/3
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E-mail:	xukai@ta-shanghai.com

2 General Description of Equipment under Test

2.1 Client Information

Applicant	MeiG Smart Technology Co., Ltd
Applicant address	Floor 2, Office Building No.5, Lingxia Road, Fenghuang Community, Fuyong Street, Bao 'an District, Shenzhen
Manufacturer	MeiG Smart Technology Co., Ltd
Manufacturer address	Floor 2, Office Building No.5, Lingxia Road, Fenghuang Community, Fuyong Street, Bao 'an District, Shenzhen

2.2 General information

EUT Description			
Device Type:	Module Device		
Model:	SLM750VSA		
IMEI:	863879041726491		
HW Version:	SLM750-V_MB_V1.00		
SW Version:	SLM750-V_4.0.13_EQ101		
Antenna Type:	PCB Antenna		
Frequency:	Band	Tx (MHz)	Rx (MHz)
	GSM 850	824 ~ 849	869 ~ 894
	GSM 1900	1850 ~ 1910	1930 ~ 1990
	WCDMA Band II	1850 ~ 1910	1930 ~ 1990
	WCDMA Band V	824 ~ 849	869 ~ 894
	LTE Band 2	1850 ~ 1910	1930 ~ 1990
	LTE Band 4	1710 ~ 1755	2110 ~ 2155
	LTE Band 5	824 ~ 849	869 ~ 894
	LTE Band 7	2500~2570	2500~2570
	LTE Band 40	2300 ~ 2400	2300 ~ 2400
Modulation:	GSM: GMSK WCDMA RMC: QPSK HSDPA: QPSK LTE: QPSK / 16QAM		
Note: The information of the EUT is declared by the manufacturer.			

2.3 Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards
FCC Code CFR47 Part15B (2020)
ANSI C63.4 (2014)

2.4 Test Mode

Test Mode	
Mode 1	External Power Supply + EUT +Idle

3 Test Case Results

3.1 Radiated Emission

Ambient condition

Temperature	Relative humidity	Pressure
24°C~26°C	45%~50%	102.5kPa

Methods of Measurement

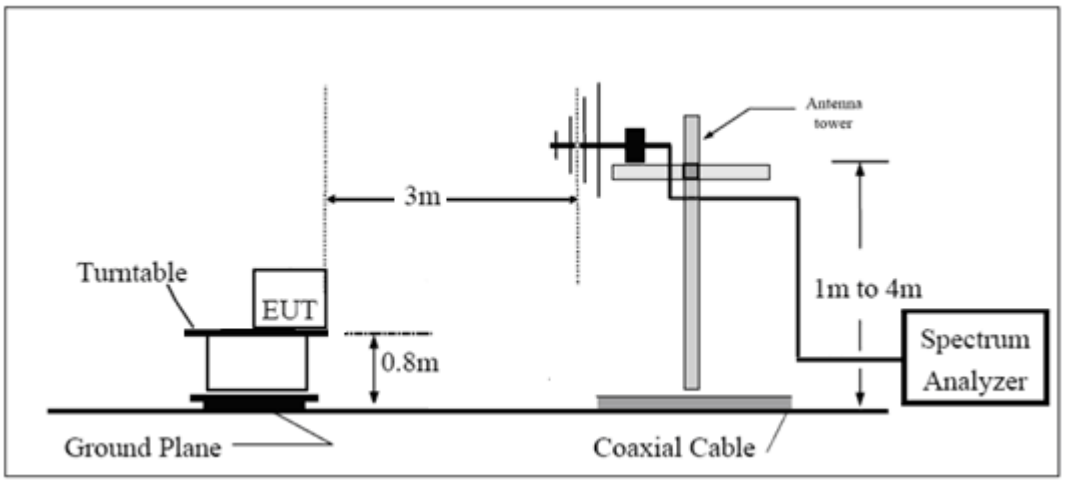
The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The distance between EUT and receive antenna should be 3 meters. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2014. Sweep the whole frequency band through the range from 30MHz to the 5th harmonic of the carrier. During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turn table shall be rotated from 0 to 360 degrees for detecting the maximum of radiated signal level.
The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. During the test, the EUT is worked at maximum output power.
Set the spectrum analyzer in the following:
Below 1GHz:
RBW=100 kHz / VBW=300 kHz / Sweep=AUTO
Above 1GHz:
(a) PEAK: RBW=1MHz / VBW=3MHz/ Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the worst case was recorded.

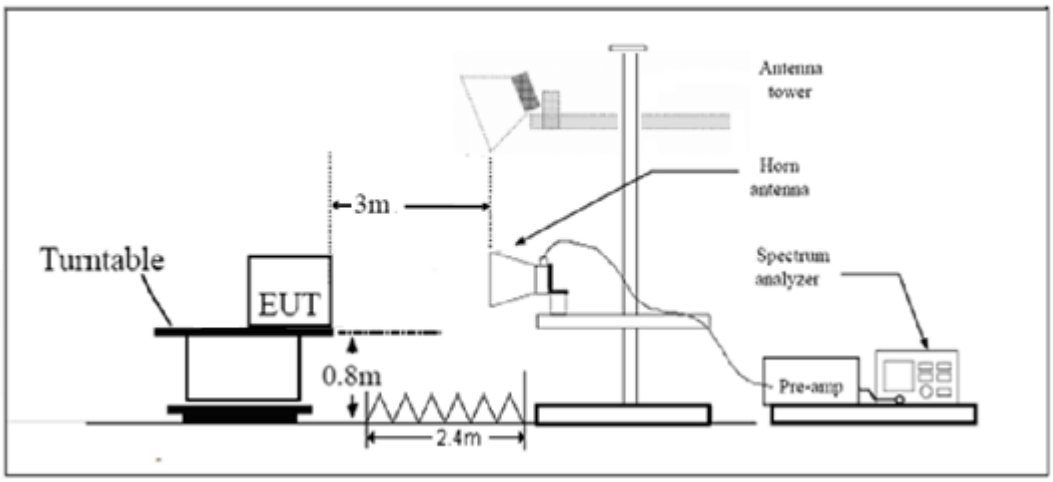
During the test, EUT is connected to a laptop via a USB cable in the case of power supply.

Test Setup

Below 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Antenna Tower meets ANSI C63.4 requirements for measurements above 1 GHz by keeping the antenna aimed at the EUT during the antenna's ascent/ descent along the antenna mast.

Limits

Frequency (MHz)	Field Strength (dBμV/m)	Detector
30 -88	40.0	Quasi-peak
88-216	43.5	Quasi-peak
216 – 960	46.0	Quasi-peak
960-1000	54.0	Quasi-peak
1000-5th harmonic of the highest frequency or 40GHz,which is lower	54 74	Average Peak

Measurement Uncertainty

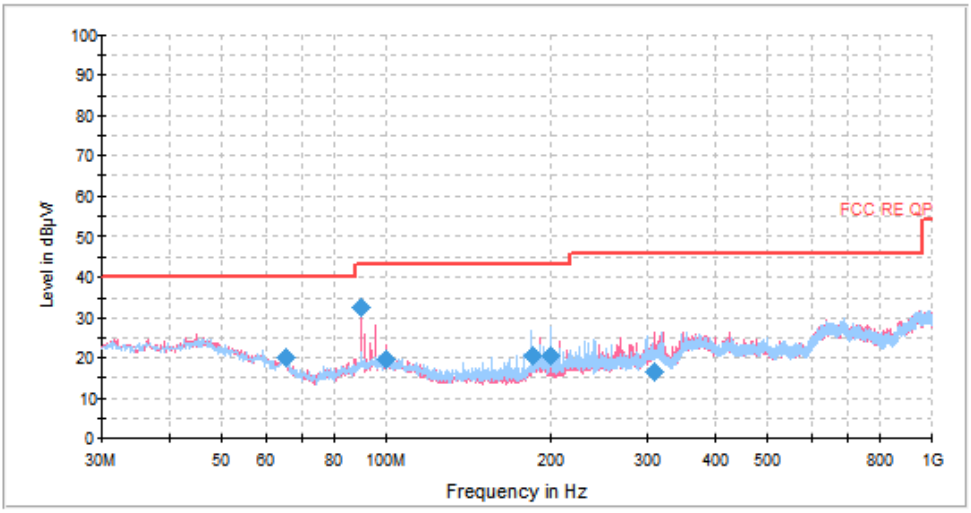
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 1.96.

Frequency	Uncertainty
30MHz~200MHz	4.02 dB
200MHz~1000MHz	3.28 dB
1GHz~18GHz	3.70 dB

Test Results

Sweep the whole frequency band through the range from 30MHz to the 5th harmonic of the carrier, the Emissions in the frequency band 18GHz- 26.5GHz is more than 20dB below the limit are not reported.

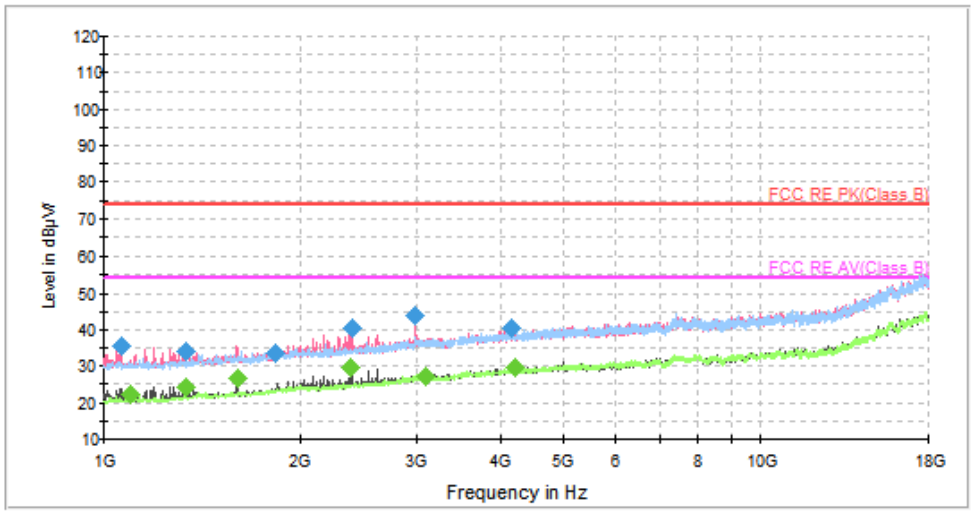
The following graphs display the maximum values of horizontal and vertical by software.
For above 1GHz, Blue trace uses the peak detection, Green trace uses the average detection.



Radiated Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
65.441488	20.0	196.0	H	206.0	-11.6	20.0	40.0
89.912756	32.6	125.0	V	268.0	-10.4	10.9	43.5
100.193240	19.8	207.0	V	2.0	-10.2	23.7	43.5
184.167531	20.6	194.0	H	47.0	-13.0	22.9	43.5
199.891572	20.6	175.0	H	259.0	-12.5	22.9	43.5
308.097000	16.5	195.0	V	7.0	-8.4	29.5	46.0

Remark: 1. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
2. Margin = Limit – Quasi-Peak



Radiated Emission from 1GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1061.625000	35.5	100.0	V	321.0	-18.4	38.5	74.0
1335.750000	34.1	100.0	V	163.0	-16.9	39.9	74.0
1833.000000	33.7	100.0	H	295.0	-14.0	40.3	74.0
2398.250000	40.6	200.0	V	353.0	-11.6	33.4	74.0
2989.000000	43.7	100.0	V	227.0	-8.6	30.3	74.0
4164.125000	40.2	200.0	H	348.0	-5.3	33.8	74.0

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1095.625000	22.3	200.0	V	222.0	-18.2	31.7	54.0
1335.750000	24.5	100.0	V	163.0	-16.9	29.5	54.0
1599.250000	26.5	100.0	V	302.0	-15.4	27.5	54.0
2383.375000	29.7	100.0	V	201.0	-11.7	24.3	54.0
3101.625000	27.1	100.0	V	59.0	-8.2	26.9	54.0
4215.125000	29.4	200.0	H	317.0	-5.2	24.6	54.0

3.2 Conducted Emission

Ambient condition

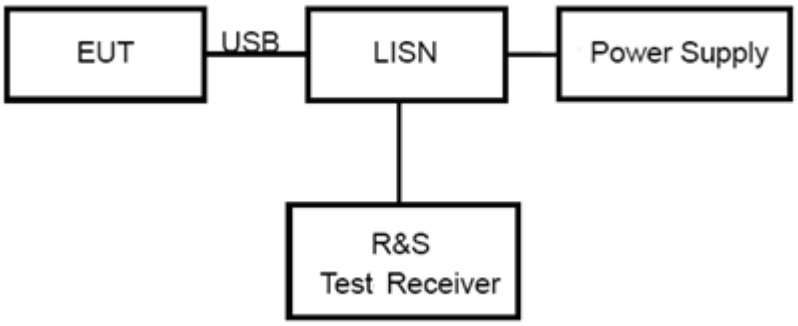
Temperature	Relative humidity	Pressure
24°C ~26°C	50%~55%	102.5kPa

Methods of Measurement

The EUT is placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2014. Connect the AC power line of the EUT to the L.I.S.N. Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9 kHz, VBW is set to 30kHz. The measurement result should include both L line and N line.

During the test, EUT is connected to a laptop via a USB cable in the case of power supply.

Test Setup



Note: Power Supply is AC Power source and it is used to change the voltage 120V/60Hz.

Limits

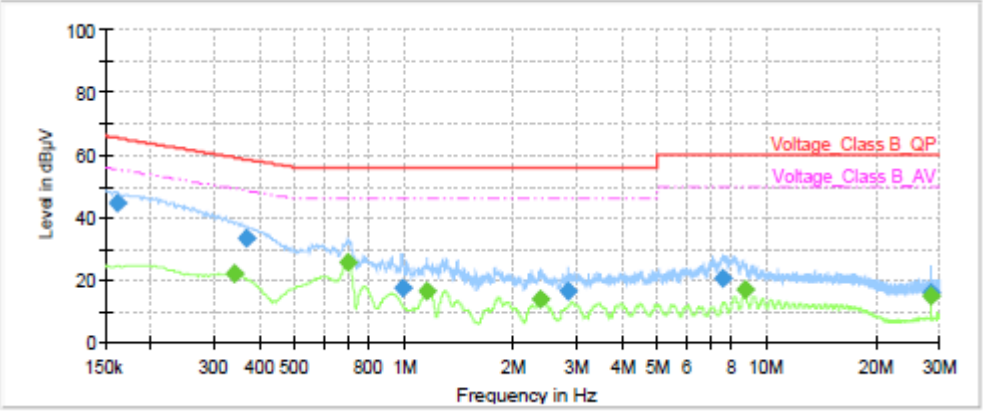
Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50
*: Decreases with the logarithm of the frequency.		

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 1.96. U= 2.57 dB.

Test Results

Following plots, Blue trace uses the peak detection; Green trace uses the average detection.

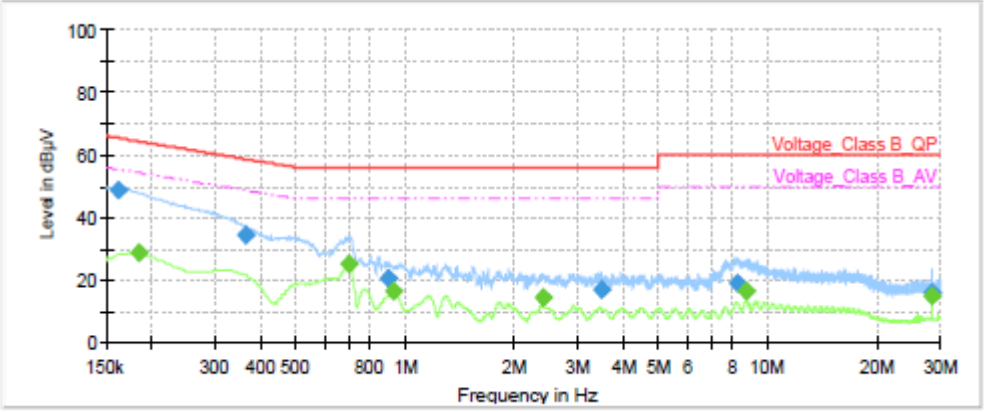


Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.16	44.58	---	65.40	20.82	1000.0	9.000	L1	ON	19.13
0.34	---	21.82	49.17	27.35	1000.0	9.000	L1	ON	19.18
0.37	33.23	---	58.54	25.31	1000.0	9.000	L1	ON	19.20
0.70	---	25.89	46.00	20.11	1000.0	9.000	L1	ON	19.27
0.99	17.37	---	56.00	38.63	1000.0	9.000	L1	ON	19.24
1.16	---	16.28	46.00	29.72	1000.0	9.000	L1	ON	19.23
2.39	---	13.93	46.00	32.07	1000.0	9.000	L1	ON	19.03
2.84	16.43	---	56.00	39.57	1000.0	9.000	L1	ON	19.04
7.60	20.77	---	60.00	39.23	1000.0	9.000	L1	ON	19.21
8.70	---	16.86	50.00	33.14	1000.0	9.000	L1	ON	19.26
28.51	---	14.98	50.00	35.02	1000.0	9.000	L1	ON	19.83
28.51	15.79	---	60.00	44.21	1000.0	9.000	L1	ON	19.83

Remark: Correct factor=cable loss + LISN factor

L line

Conducted Emission from 150 KHz to 30 MHz



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.16	48.85	---	65.40	16.55	1000.0	9.000	N	ON	19.15
0.18	---	28.62	54.31	25.69	1000.0	9.000	N	ON	19.17
0.36	34.46	---	58.64	24.18	1000.0	9.000	N	ON	19.19
0.70	---	24.93	46.00	21.07	1000.0	9.000	N	ON	19.28
0.90	20.43	---	56.00	35.57	1000.0	9.000	N	ON	19.24
0.93	---	16.62	46.00	29.38	1000.0	9.000	N	ON	19.24
2.39	---	14.59	46.00	31.41	1000.0	9.000	N	ON	19.03
3.49	16.94	---	56.00	39.06	1000.0	9.000	N	ON	19.05
8.24	19.20	---	60.00	40.80	1000.0	9.000	N	ON	19.22
8.72	---	16.26	50.00	33.74	1000.0	9.000	N	ON	19.28
28.49	---	14.96	50.00	35.04	1000.0	9.000	N	ON	19.69
28.49	15.79	---	60.00	44.21	1000.0	9.000	N	ON	19.69

Remark: Correct factor=cable loss + LISN factor

N line

Conducted Emission from 150 KHz to 30 MHz

4 Main Test Instrument

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Time
Spectrum Analyzer	R&S	FSV40	15195-01-00	2019-05-19	2020-05-18
EMI Test Receiver	R&S	ESCI	100948	2019-05-19	2020-05-18
Trilog Antenna	SCHWARZBECK	VULB 9163	9163-201	2017-11-18	2019-11-17
Horn Antenna	R&S	HF907	100126	2018-07-07	2020-07-06
Standard Gain Horn	ETS-Lindgren	3160-09	00102643	2018-06-20	2020-06-19
EMI Test Receiver	R&S	ESR	101667	2019-05-19	2020-05-18
LISN	R&S	ENV216	101171	2016-12-16	2019-12-15
Bore Sight Antenna mast	ETS	2171B	00058752	/	/
Test software	EMC32	R&S	9.26.0	/	/

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.

ANNEX C: Product Change Description

The Product Change Description are submitted separately.

*******END OF REPORT *******