



DAT-P-162/04-00

# TEST REPORT

REPORT NUMBER: I07GE6474-FCC-PART15

ON

Type of Equipment: GSM/GPRS/EDGE/WCDMA/HSDPA  
Data Card  
Type of Designation: WM62  
Manufacturer: Longcheer Technology (Shanghai) Co.,  
Ltd.

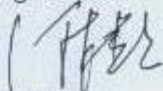
ACCORDING TO

Section 15.209, 15.109, 15.107 of Part 15: Radio Frequency  
Devices, Sep 20, 2007

China Telecommunication Technology Labs.

Month date, year  
Jan, 4, 2008

Signature



He Guili  
Director

**FCC ID:** VV6WM62

**Report Date:** 2008-1-4

**Test Firm Name:** China Telecommunication Technology Labs

**Registration Number:** 840587

#### Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 15. The sample tested was found to comply with the requirements defined in the applied rules.

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## 1 General Information

### 1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 15.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex C.

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FCC Parts 15  
Equipment: WM62

REPORT NO.: I07GE6474-FCC-PART15

## 1.2 Testers

Name: Li Guoqing  
Position: Engineer  
Department: Department of EMC test  
Signature: 李国庆

Name: Yuan Yuan  
Position: Engineer  
Department: Department of EMC test  
Signature: 袁园

Name: Lv Ke  
Position: Engineer  
Department: Department of EMC test  
Signature: 吕克

FCC Parts 15  
Equipment: WM62

REPORT NO.: I07GE6474-FCC-PART15

Editor of this test report:

Name: Li Guoqing  
Position: Engineer  
Department: Department of EMC test  
Date: 2008-1-4  
Signature: 李国庆

Technical responsibility for area of testing:

Name: Zou Dongyi  
Position: Manager  
Department: Department of EMC test  
Date: 2008-1-4  
Signature: 邹东屹

### 1.3 Testing Laboratory information

#### 1.3.1 Location

Name: China Telecommunication Technology Labs.  
Address: No. 11, Yue Tan Nan Jie, Xi Cheng District  
BEIJING  
P. R. CHINA, 100083  
Tel: +86 10 68094053  
Fax: +86 10 68011404  
Email: [emc@chinattl.com](mailto:emc@chinattl.com)

#### 1.3.2 Details of accreditation status

Accredited by: German Accreditation Body Technology (DATEch) e.V.  
Registration number: DATEch Registration No. DAT-P-162/04-00  
Accredited by: China National Accreditation Service for Conformity  
Assessment (CNAS)  
Registration number: CNAS Registration No. CNAS L0570  
Standard: ISO/IEC 17025

#### 1.3.3 Test location, where different from section 1.3.1

Name: -----  
Street: -----  
City: -----  
Country: -----  
Telephone: -----  
Fax: -----  
Postcode: -----

## 1.4 Details of applicant or manufacturer

### 1.4.1 Applicant

Name: Longcheer Technology (Shanghai) Co., Ltd.  
Address: Building 1, No.401, Caobao Rd, Xuhui District,  
Shanghai  
Country: P. R. China  
Telephone: +86-21-64088898  
Fax: +86-21-54970816  
Contact: Hu Zhengfang  
Telephone: +86-21-64088898, Ext: 3156  
Email: huzhengfang@longcheertel.com

### 1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name: --  
Address: --  
City: --  
Country: --

### 1.4.3 Manufactory (if different from applicant in section 1.4.1)

Name: EASTERN COMMUNICATIONS CO., LTD  
Address: No. 398 Wensan Road, Hangzhou  
City: Hangzhou  
Country: China



## 2 Test Item

### 2.1 General Information

Manufacturer: Longcheer Technology (Shanghai) Co., Ltd.

Name: GSM/GPRS/EDGE/WCDMA/HSDPA Data Card

Model Number: WM62

Serial Number: --

Production Status: Production

Receipt date of test item: 2007-09-07

### 2.2 Outline of EUT

EUT is a GSM/GPRS/EDGE/WCDMA/HSDPA Data Card.

### 2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

### 2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	Data card	Longcheer Technology (Shanghai) Co., Ltd.	WM62	--	None

Cables:

Item	Cable Type	Manufacturer	Length	Shield	Quantity	Remarks
1	USB cable	Unknown	1.0 m	No	1	None

## 2.5 Other Information

(a) GPRS modulation is GMSK.

EDGE modulation is 8PSK.

WCDMA modulation is QPSK.

HSDPA modulation is QPSK.

(b) Emission Designator of GPRS: 250KGXW

Emission Designator of EDGE: 400KG7W

Emission Designator of WCDMA: 4M40F9W

Emission Designator of HSDPA: 4M70F9W

Test Report

### 3 Summary of Test Results

A brief summary of the tests carried out is shown as following.

Specification Clause	Name of Test	Result
15.209	Radiated Emission: GPRS 850 band	Pass
	Radiated Emission: GPRS 1900 band	Pass
	Radiated Emission: EDGE 850 band	Pass
	Radiated Emission: EDGE 1900 band	Pass
	Radiated Emission: WCDMA FDD V	Pass
	Radiated Emission: WCDMA FDD II	Pass
	Radiated Emission: HSDPA FDD V	Pass
	Radiated Emission: HSDPA FDD II	Pass
15.109	Radiated Emission	Pass
15.107	Conducted Emission	Pass
Note: The EUT complies with the requirements of the Class B digital devices.		

## 4 Test Results

### 4.1 Radiated Emission: 15.209

Specifications:	15.209, ANSI C63.4-2003					
Date of Tests	2007.10.30/31, 2007.12.28, 2008.1.2					
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa					
Operation Mode	TX on maximum power levels					
Test Results:	Pass					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2008-01-04	Normal
7330	Ultra Broadband Antenna	R/S	HL562	100013	2008-07-24	Normal
7330	Double-Ridged Horn Antenna	R/S	HF906	100037	2008-01-14	Normal
713	Fully-Anechoic Chamber	ETS	11.8m×6.5m×6.3m	--	2010-11-17	Normal
023	Wireless Communications Test Set	Agilent	8960(E5515C)	GB41450323	2008-06-13	Normal
1809	Notebook	Dell	PP01L	INSPIRAON4000	--	Normal

#### Limit Level Construction:

According to Part 15.209(a).

#### Limits

Frequency [MHz]	Field Strength [ $\mu$ V/m]	Field Strength [dB $\mu$ V/m]	Measurement distance [m]
30 -88	100	40.0	3
88-216	150	43.5	3
216 - 960	200	46.0	3
Above 960	500	54.0	3

Note: The tighter limit applies at the band edges.

### Test Setup:

The EUT was placed in an anechoic chamber, see figure RE. The EUT is tested as tabletop EUT. The EUT is positioned on an 80cm height wood table.

The setup is according to Figure 11a of ANSI C63.4-2003.

The Wireless Communications Test Set (Test Simulator) was used to set the TX channel and power level and modulate the TX signal with different bit patterns.

The test was done using an automated test system, where all test equipments

were controlled by a computer.

Figure RE for 15.209: Test Setup: 30MHz – 1GHz

Figure RE for 15.209: Test Setup: 1GHz – 18GHz

Test Method

During the test, the EUT was operating in its maximum power level under the control of test simulator. The AC power line was connected to the artificial mains network then to EMI receiver. The measurement was done by the automated test system.

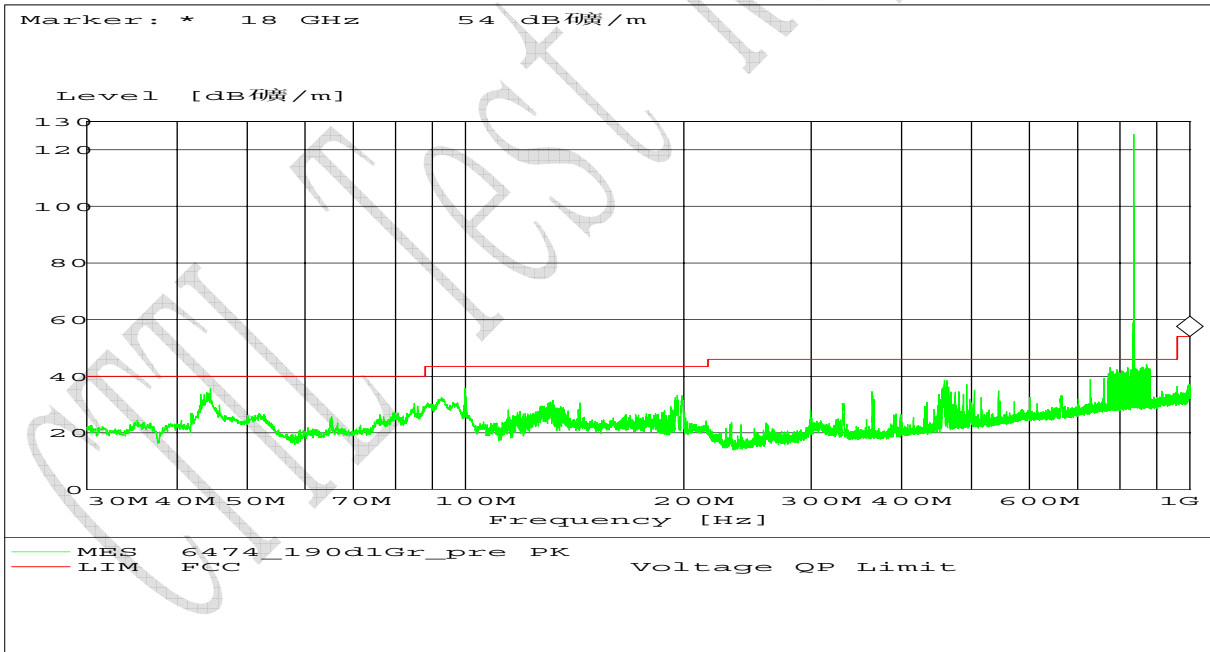
Note:

None

(1a) Test Data for GPRS 850 band:

Frequency [MHz]	Level [dBµV/m]	Limit [dBµV/m]	Antenna Height [cm]	Turntable Azimuth [degree]	Antenna Polarisation (V/H)
--	--	--	--	--	--
Remarks: --					

Graphical Results:

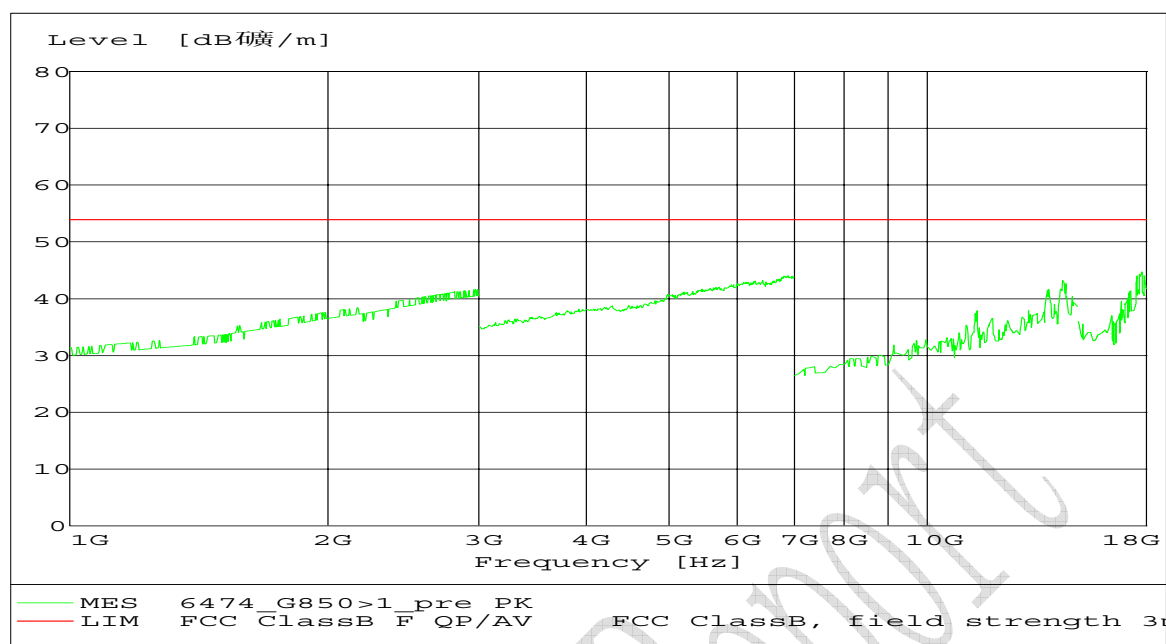


Graphical results: 30MHz – 1GHz

Note: The frequency range of 824~849 MHz band is the operation band.

**FCC Parts 15**  
**Equipment: WM62**

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Graphical results: 1GHz – 18GHz

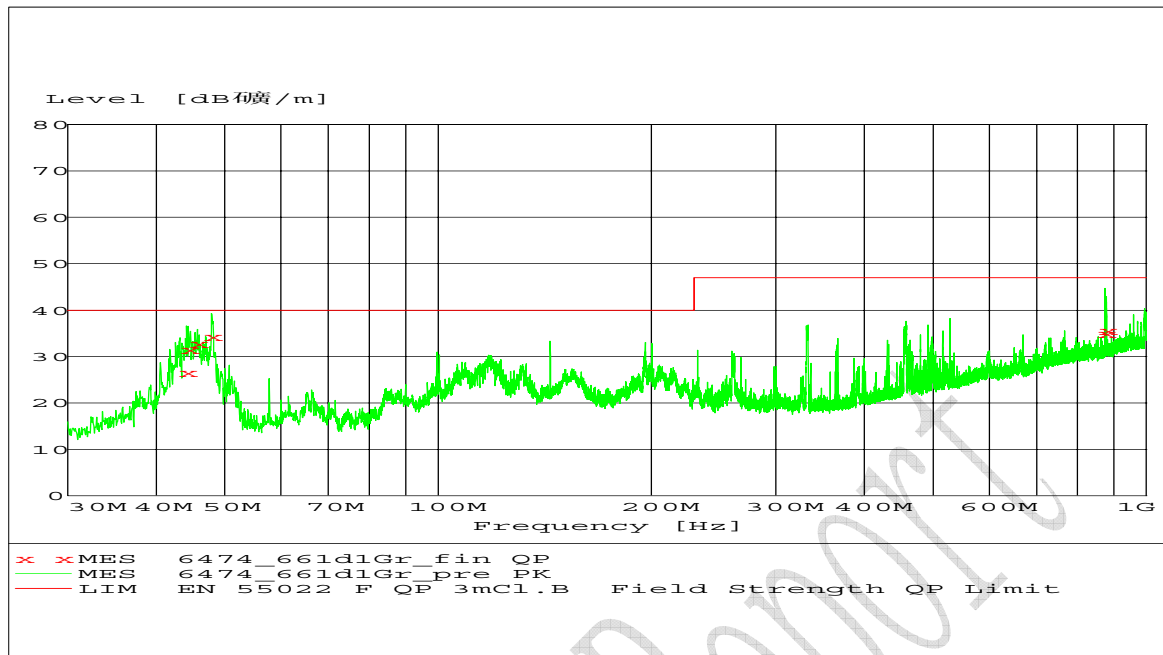
(1b) Test Data for GPRS 1900 band:

Frequency [MHz]	Level [dBμV/m]	Limit [dBμV/m]	Antenna Height [cm]	Turntable Azimuth [degree]	Antenna Polarisation (V/H)
44.160000	26.5	40.0	120	90	VERTICAL
44.400000	31.5	40.0	124	128	VERTICAL
45.720000	32.8	40.0	100	315	VERTICAL
47.880000	34.3	40.0	100	225	VERTICAL
875.100000	35.0	47.0	279	87	VERTICAL
877.560000	35.6	47.0	200	315	HORIZONTAL
Remarks: --					

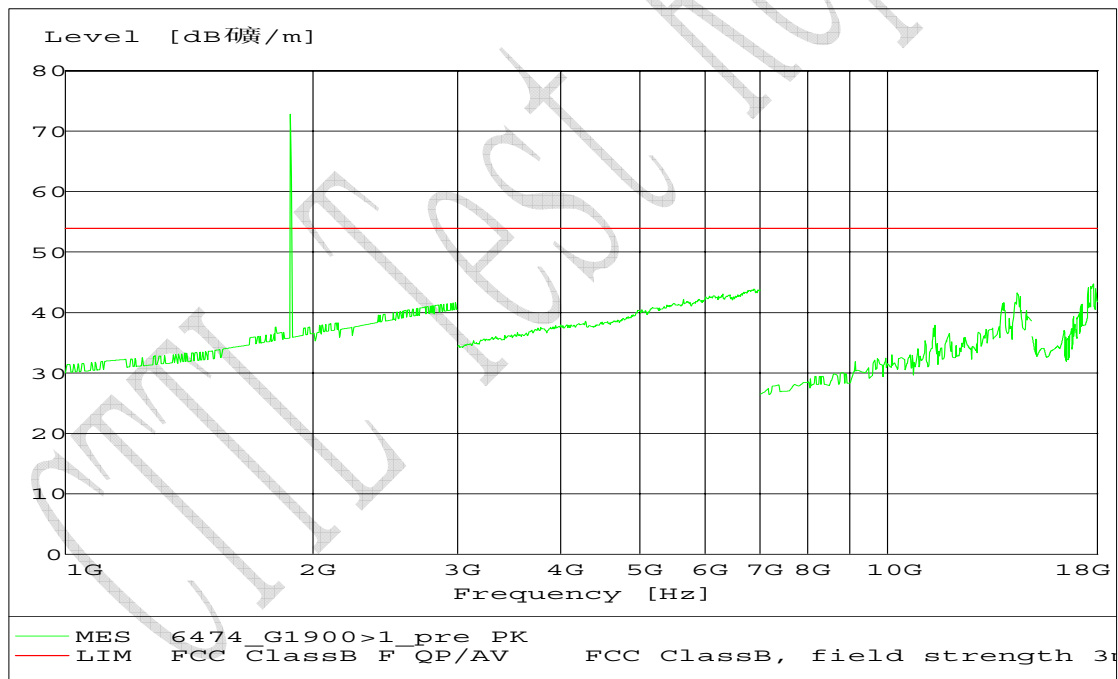
**Graphical Results:**

FCC Parts 15  
Equipment: WM62

REPORT NO.: I07GE6474-FCC-PART15



Graphical results: 30MHz - 1GHz



Graphical results: 1GHz - 18GHz

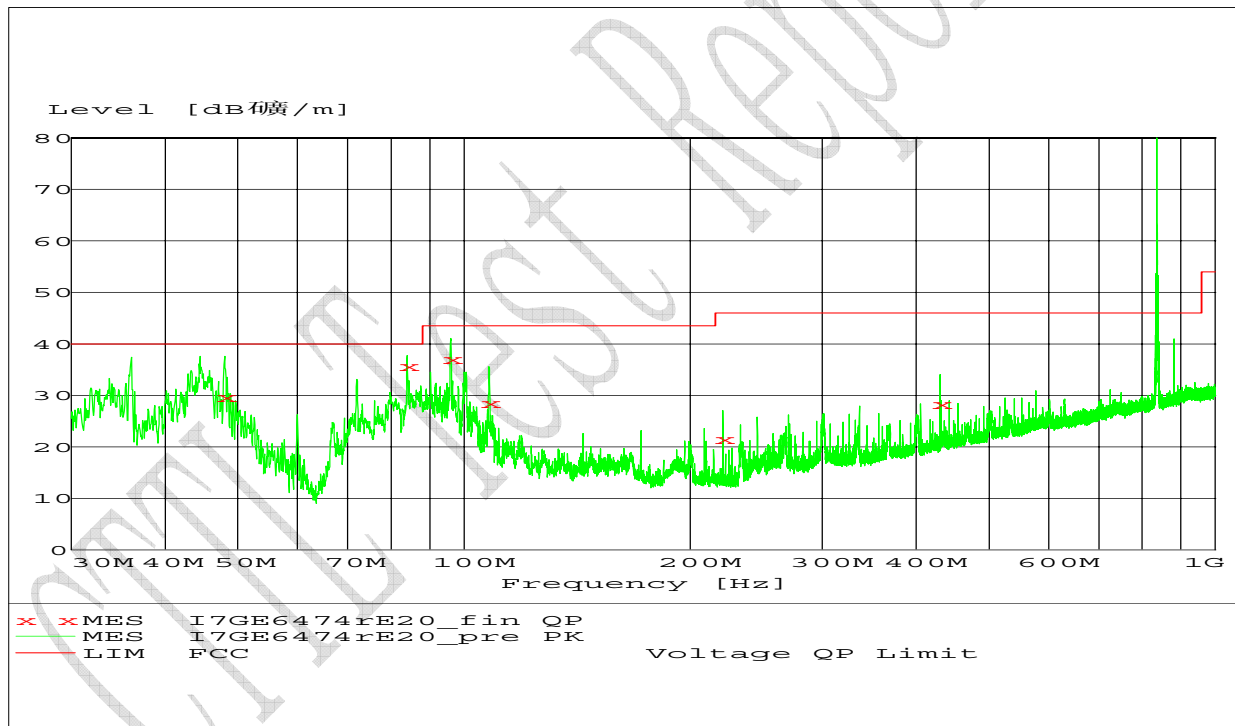
Note: The frequency range of 1850~1910 MHz band is the operation band.



## (2a) Test Data for EDGE 850 band:

Frequency [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Antenna Height [cm]	Turntable Azimuth [degree]	Antenna Polarisation (V/H)
48.000000	29.6	40.0	100	16	VERTICAL
83.940000	35.7	40.0	150	16	VERTICAL
96.000000	37.1	43.5	100	187	VERTICAL
107.940000	28.5	43.5	100	45	VERTICAL
221.220000	21.5	46.0	248	148	HORIZONTAL
430.080000	28.2	46.0	150	268	HORIZONTAL
Remarks: --					

## Graphical Results:

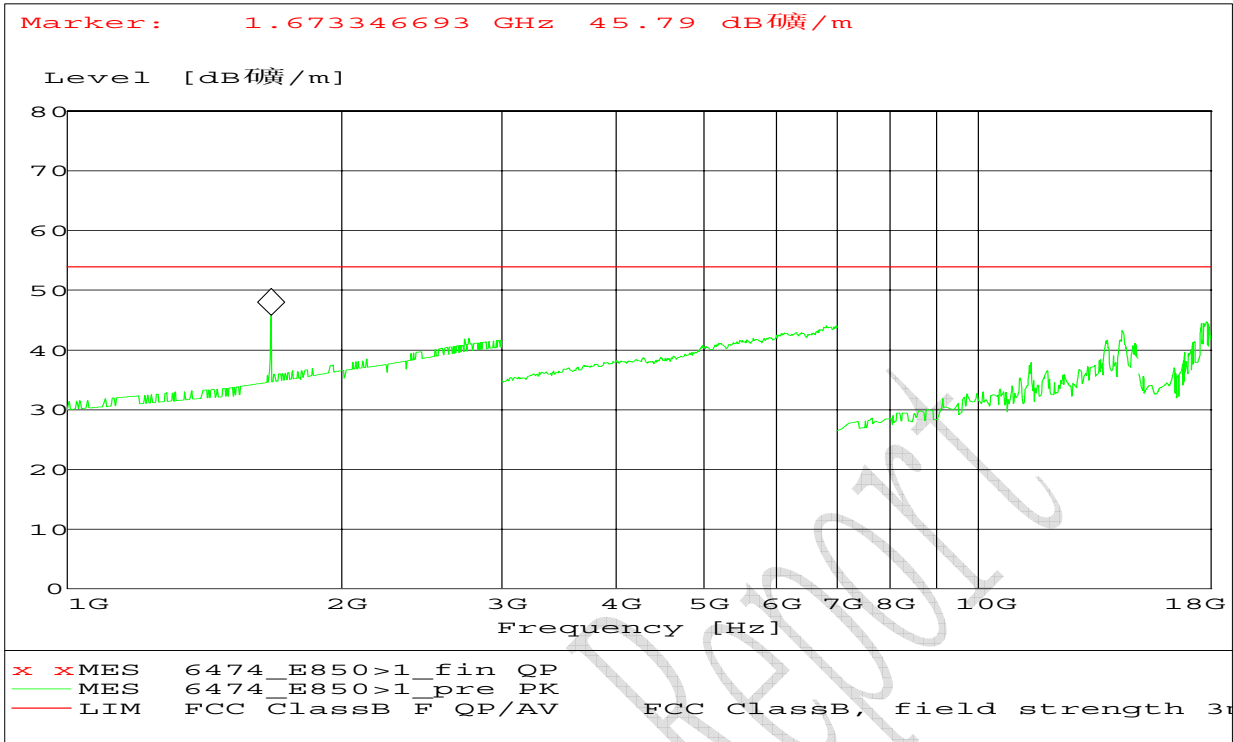


Graphical results: 30MHz – 1GHz

Note: The frequency range of 824~849 MHz band is the operation band.

FCC Parts 15  
Equipment: WM62

REPORT NO.: I07GE6474-FCC-PART15



Graphical results: 1GHz – 18GHz

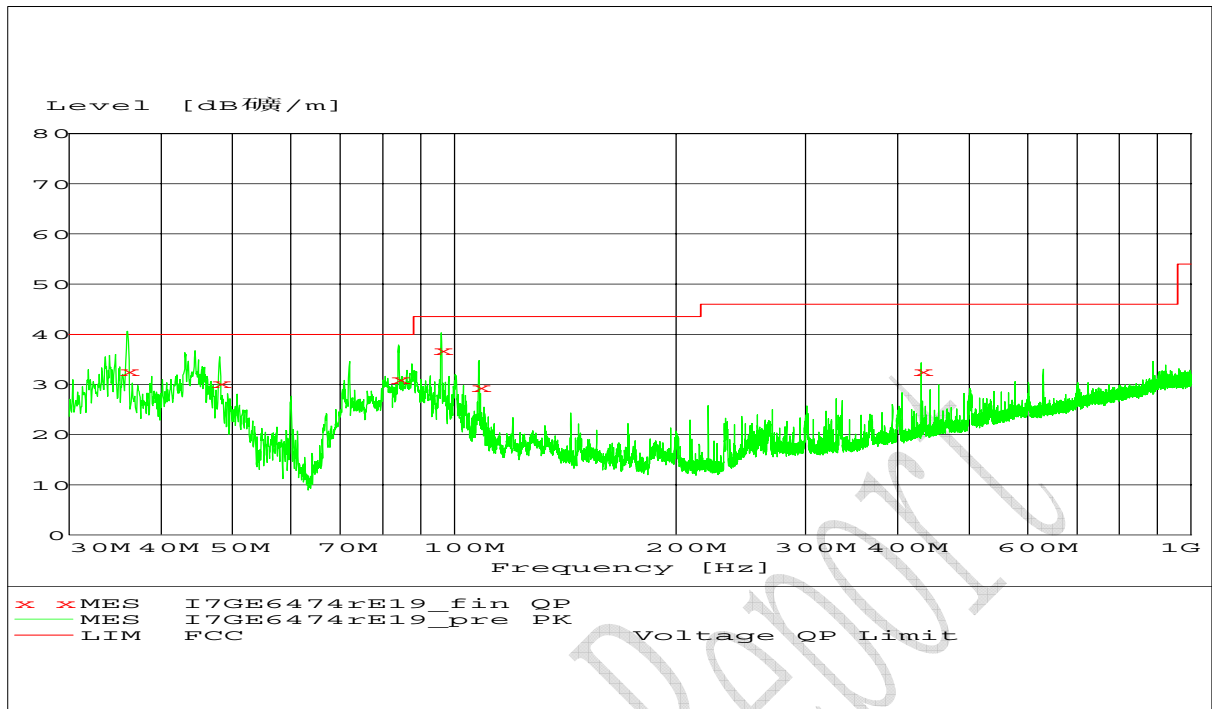
(2b) Test Data for EDGE 1900 band:

Frequency [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Antenna Height [cm]	Turntable Azimuth [degree]	Antenna Polarisation (V/H)
36.000000	32.7	40.0	105	315	VERTICAL
48.060000	30.2	40.0	130	300	VERTICAL
84.060000	31.0	40.0	100	306	VERTICAL
96.000000	36.8	43.5	100	330	VERTICAL
108.000000	29.5	43.5	100	45	VERTICAL
430.080000	32.7	46.0	115	286	HORIZONTAL
Remarks: --					

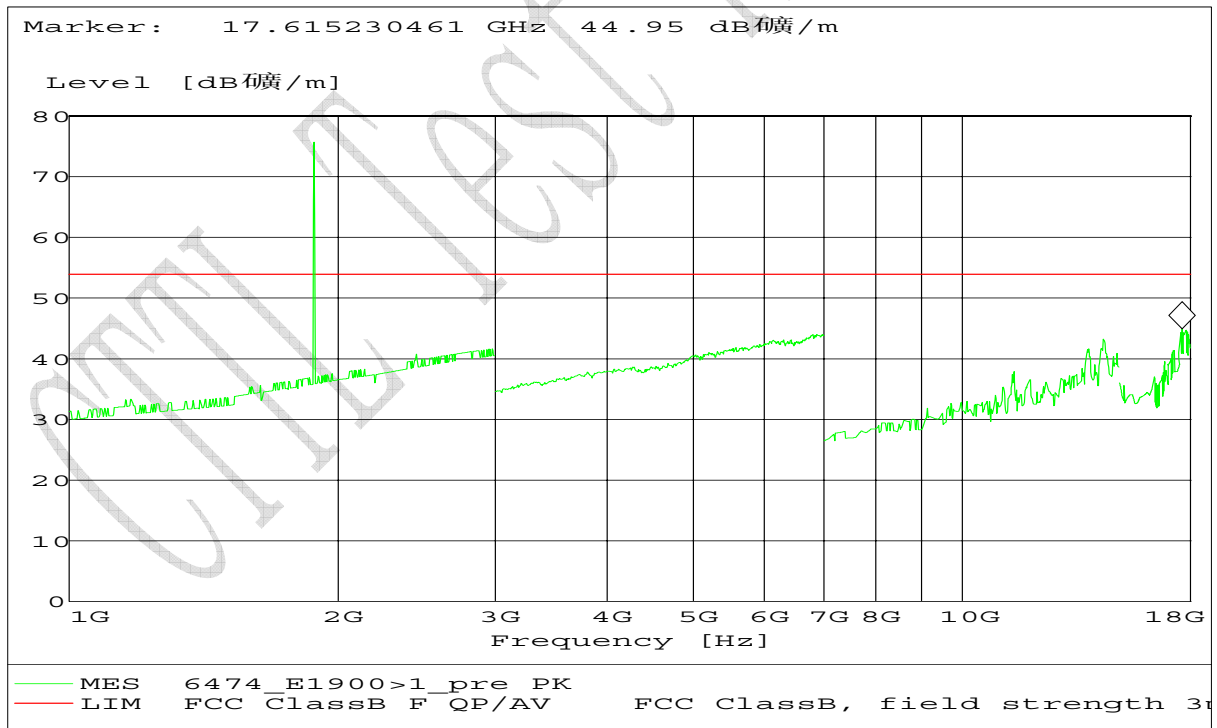
Graphical Results:

**FCC Parts 15**  
**Equipment: WM62**

**REPORT NO.: I07GE6474-FCC-PART15**



Graphical results: 30MHz – 1GHz



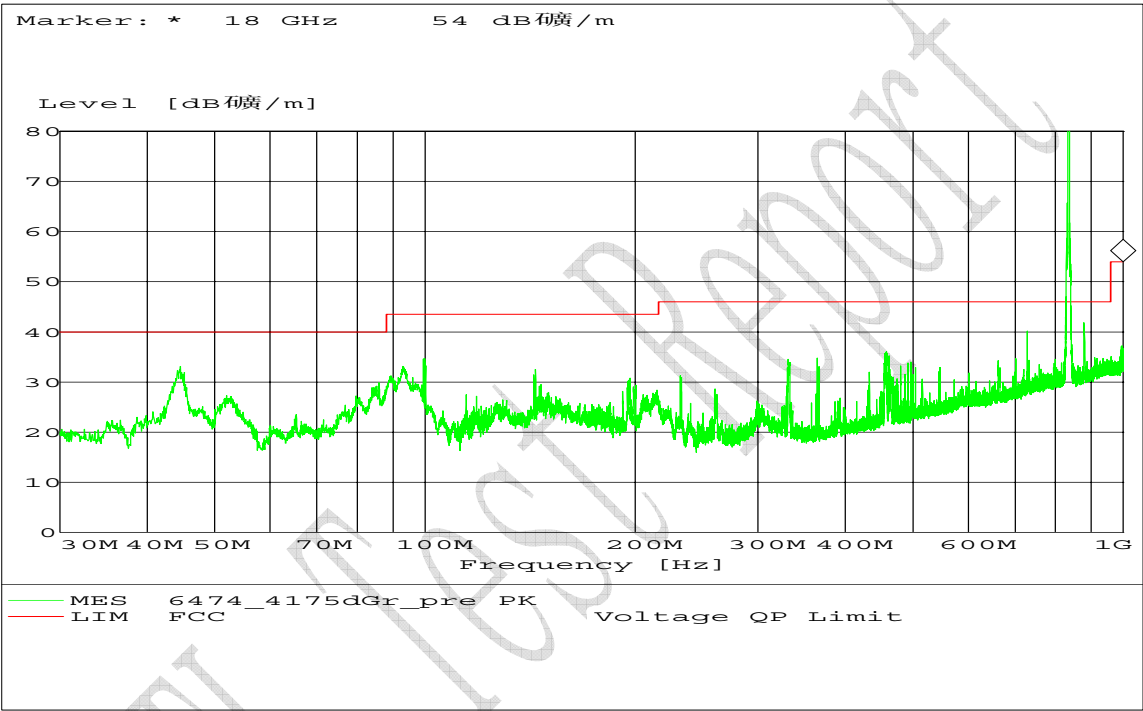
Graphical results: 1GHz – 18GHz

Note: The frequency range of 1850~1910 MHz band is the operation band.

(3a) Test Data for WCDMA FDD V band:

Frequency [MHz]	Level [dBμV/m]	Limit [dBμV/m]	Antenna Height [cm]	Turntable Azimuth [degree]	Antenna Polarisation (V/H)
--	--	--	--	--	--
Remarks: --					

Graphical Results:

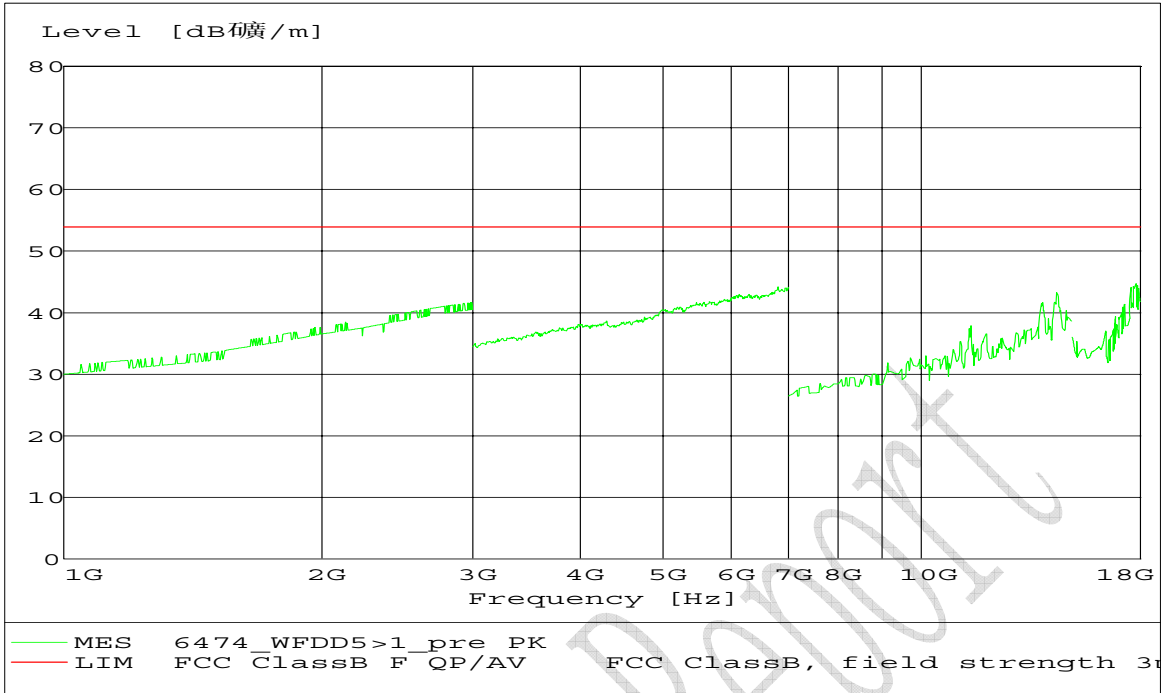


Graphical results: 30MHz – 1GHz

Note: The frequency range of 824~849 MHz band is the operation band.

FCC Parts 15  
Equipment: WM62

REPORT NO.: I07GE6474-FCC-PART15



Graphical results: 1GHz – 18GHz

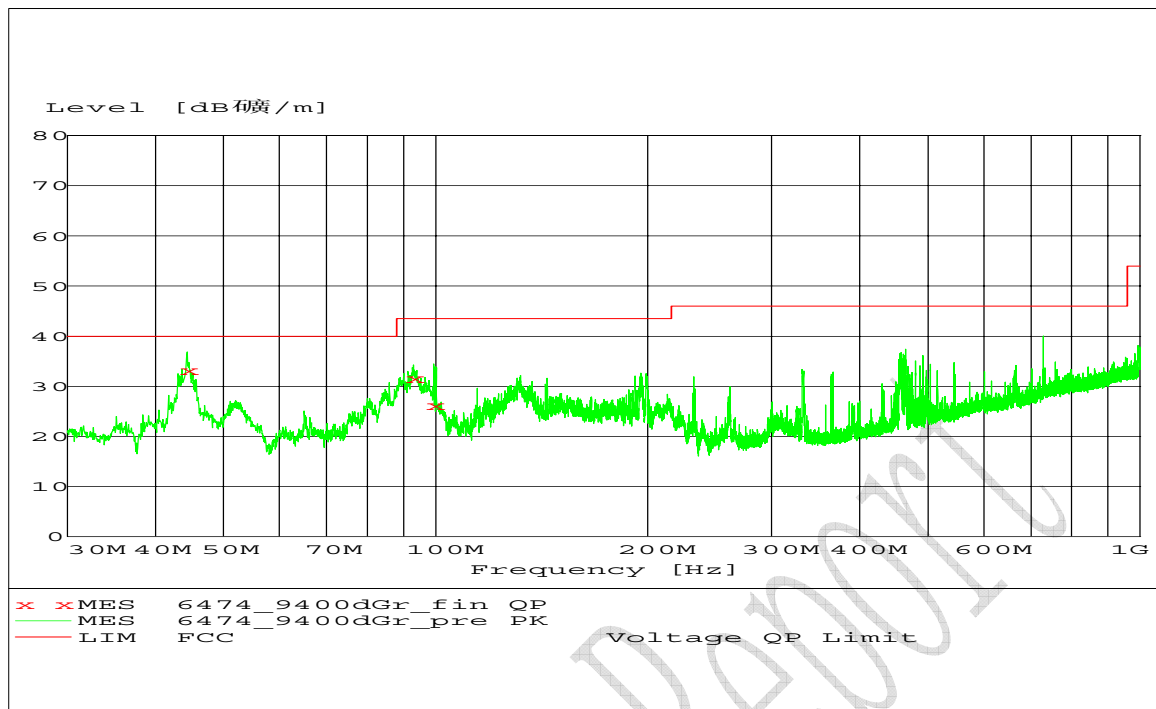
(3b) Test Data for WCDMA FDD II band:

Frequency [MHz]	Level [dBµV/m]	Limit [dBµV/m]	Antenna Height [cm]	Turntable Azimuth [degree]	Antenna Polarisation (V/H)
44.400000	33.1	40.0	100	204	VERTICAL
93.000000	31.5	40.0	143	151	VERTICAL
99.360000	26.2	40.0	107	171	VERTICAL
Remarks: --					

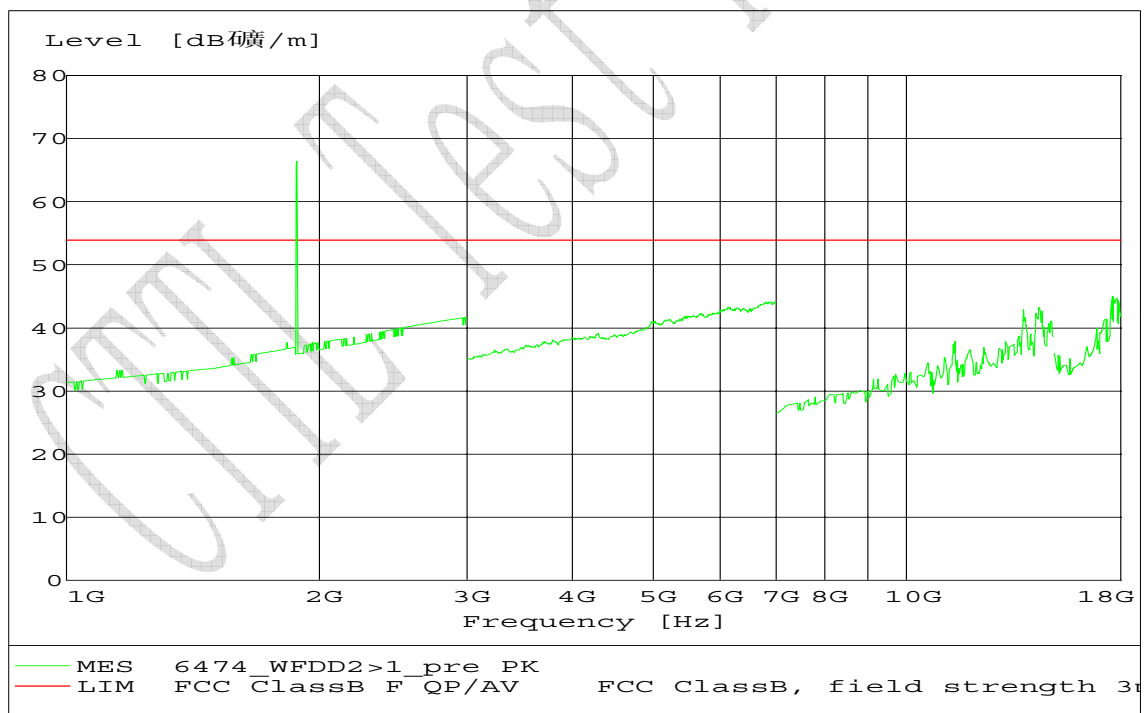
Graphical Results:

**FCC Parts 15**  
**Equipment: WM62**

**REPORT NO.: I07GE6474-FCC-PART15**



Graphical results: 30MHz - 1GHz



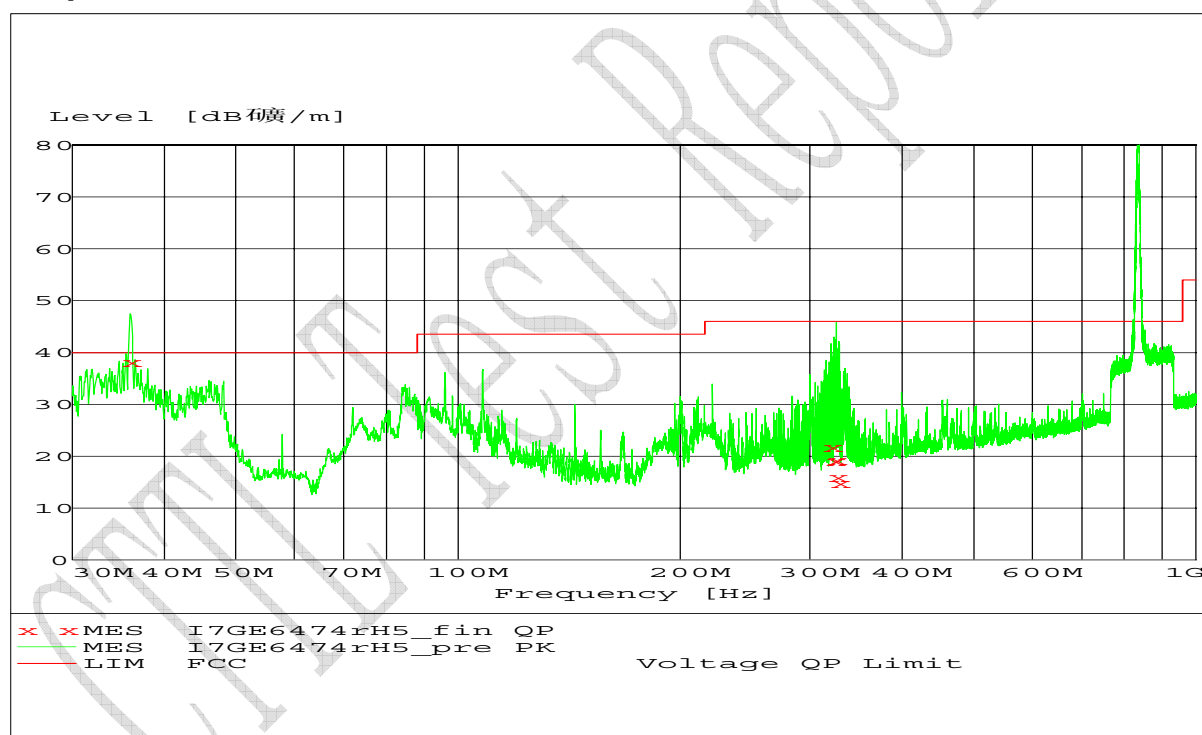
Graphical results: 1GHz - 18GHz

Note: The frequency range of 1850~1910 MHz band is the operation band.

## (4a) Test Data for HSDPA FDD V band:

Frequency [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Antenna Height [cm]	Turntable Azimuth [degree]	Antenna Polarisation (V/H)
35.940000	38.1	40.0	100	296	VERTICAL
320.400000	21.7	46.0	155	151	VERTICAL
323.400000	19.1	46.0	100	359	HORIZONTAL
324.360000	19.3	46.0	178	157	VERTICAL
325.860000	16.0	46.0	100	359	HORIZONTAL
328.380000	14.8	46.0	100	315	HORIZONTAL
Remarks: --					

## Graphical Results:

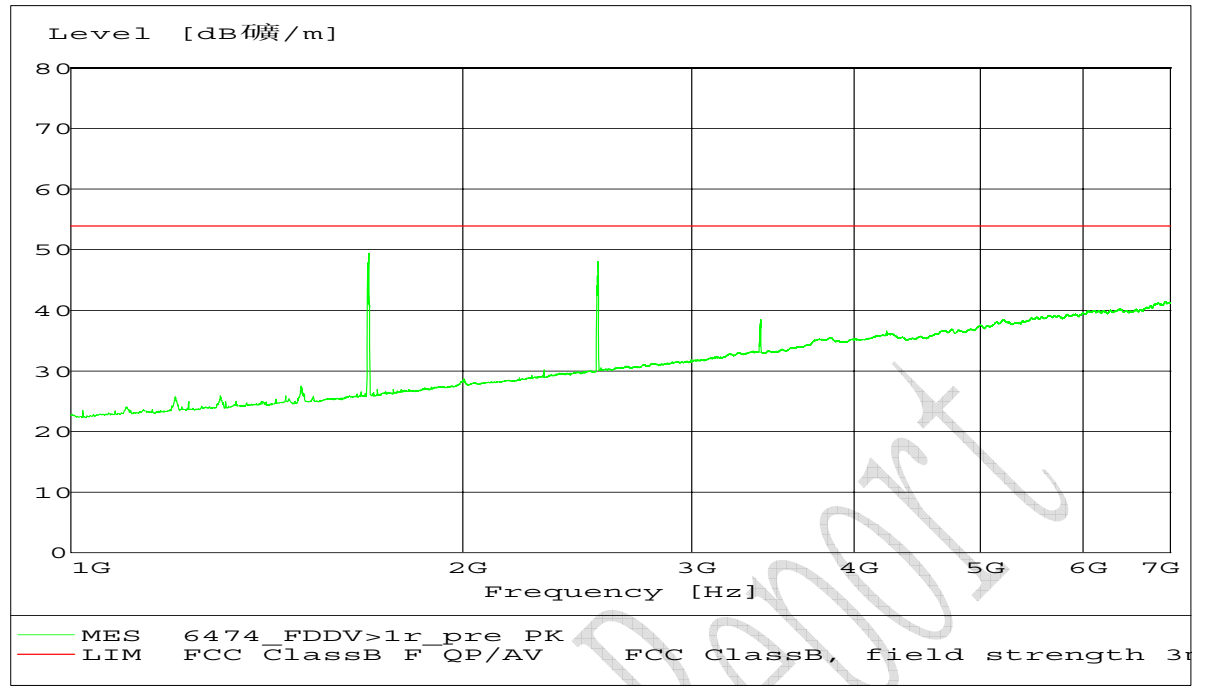


Graphical results: 30MHz – 1GHz

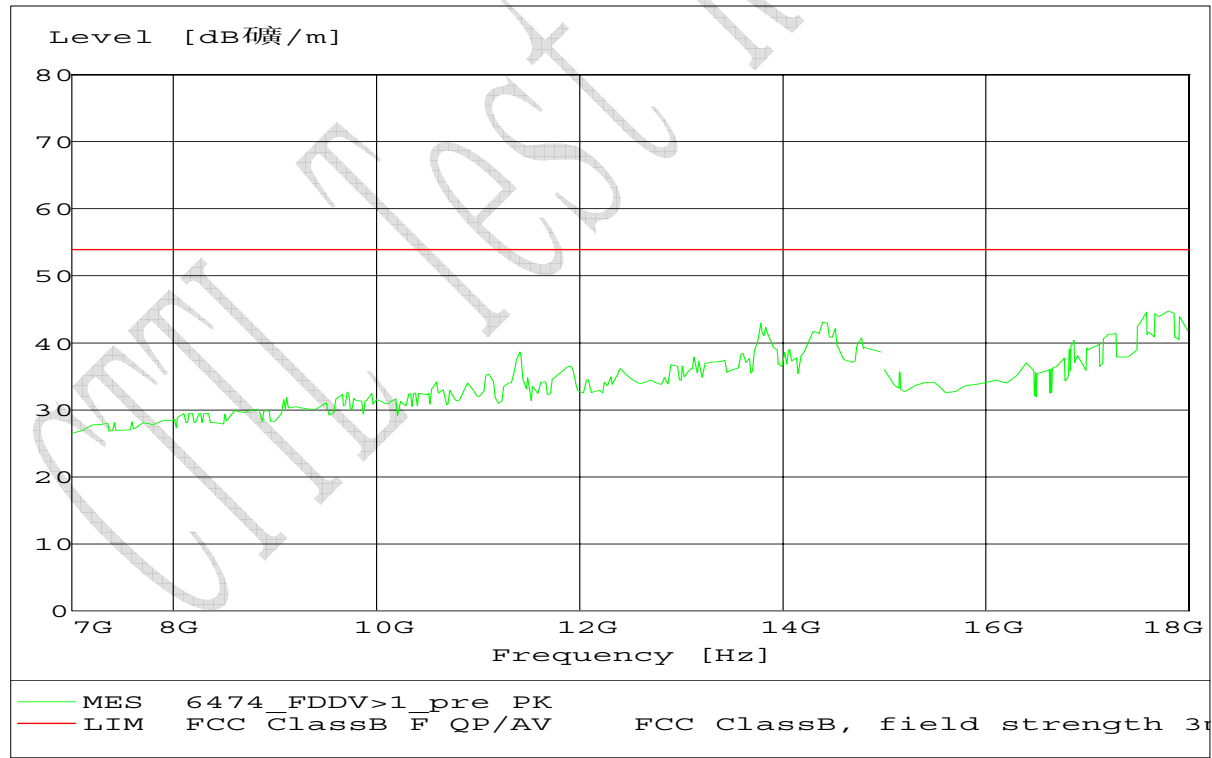
Note: The frequency range of 824~849 MHz band is the operation band.

FCC Parts 15  
Equipment: WM62

REPORT NO.: I07GE6474-FCC-PART15



Graphical results: 1GHz - 7GHz



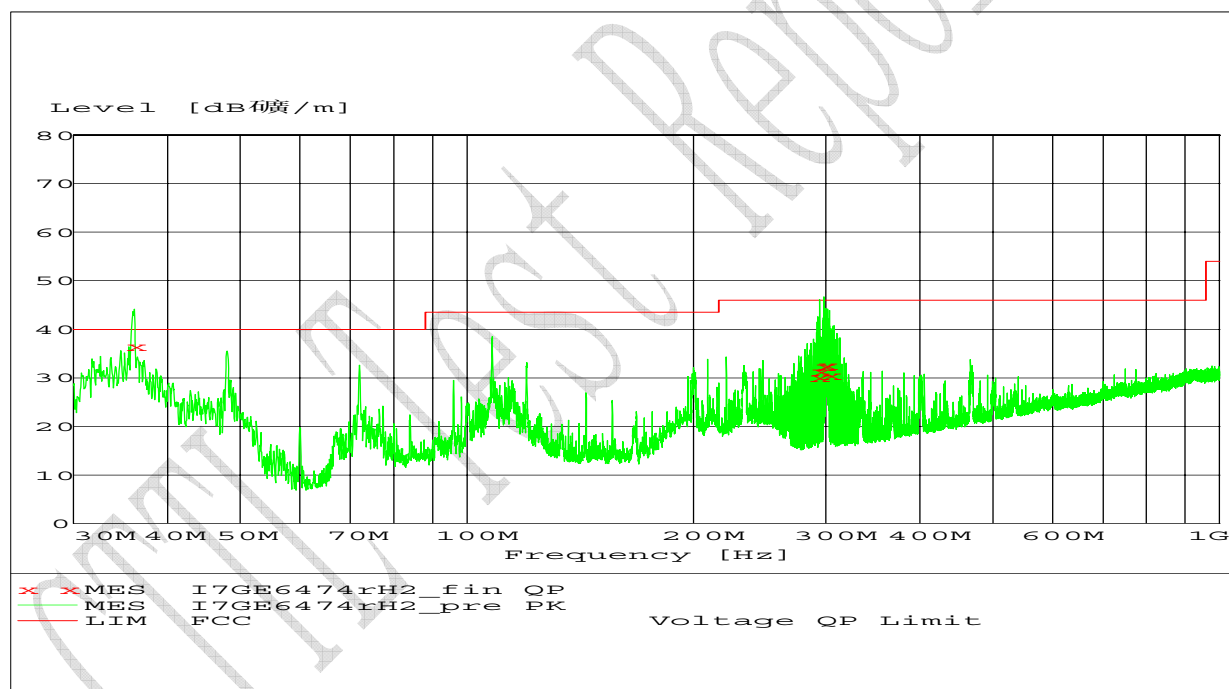
Graphical results: 7GHz - 18GHz



## (4b) Test Data for HSDPA FDD II band:

Frequency [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Antenna Height [cm]	Turntable Azimuth [degree]	Antenna Polarisation (V/H)
36.120000	36.5	40.0	100	0	VERTICAL
292.440000	30.1	46.0	100	142	HORIZONTAL
294.480000	31.4	46.0	100	135	HORIZONTAL
297.900000	32.4	46.0	100	159	HORIZONTAL
299.700000	32.5	46.0	100	181	HORIZONTAL
303.120000	30.5	46.0	112	156	HORIZONTAL
Remarks: --					

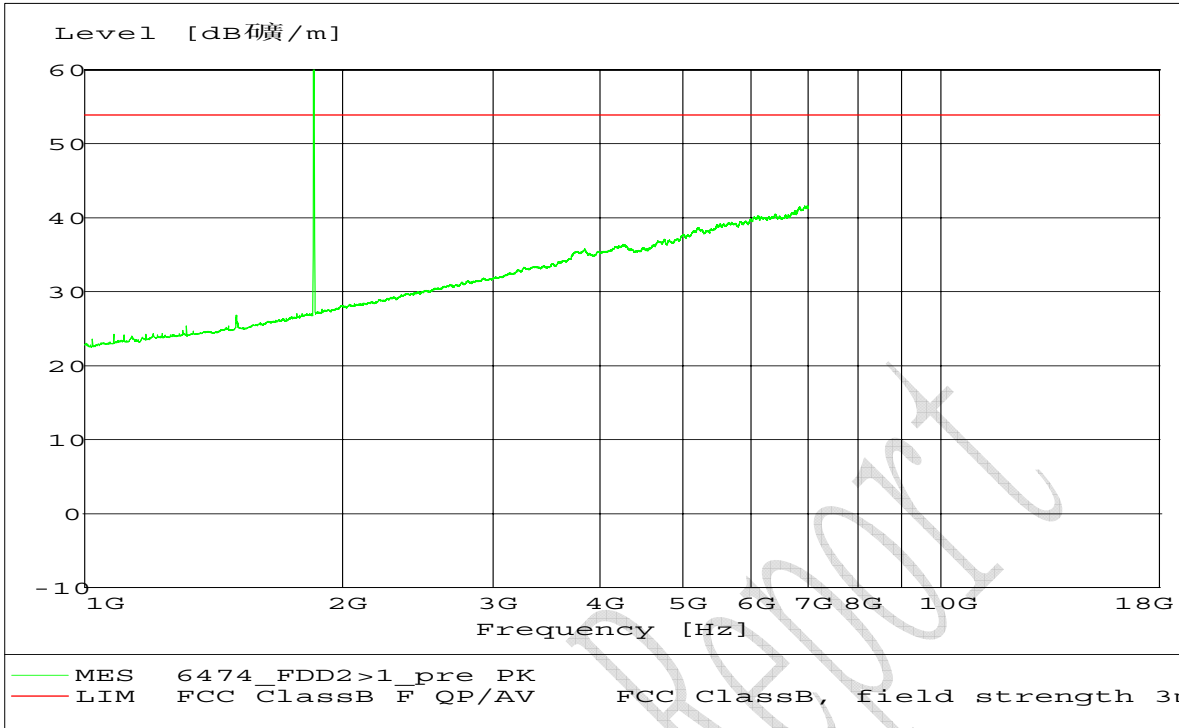
## Graphical Results:



Graphical results: 30MHz – 1GHz

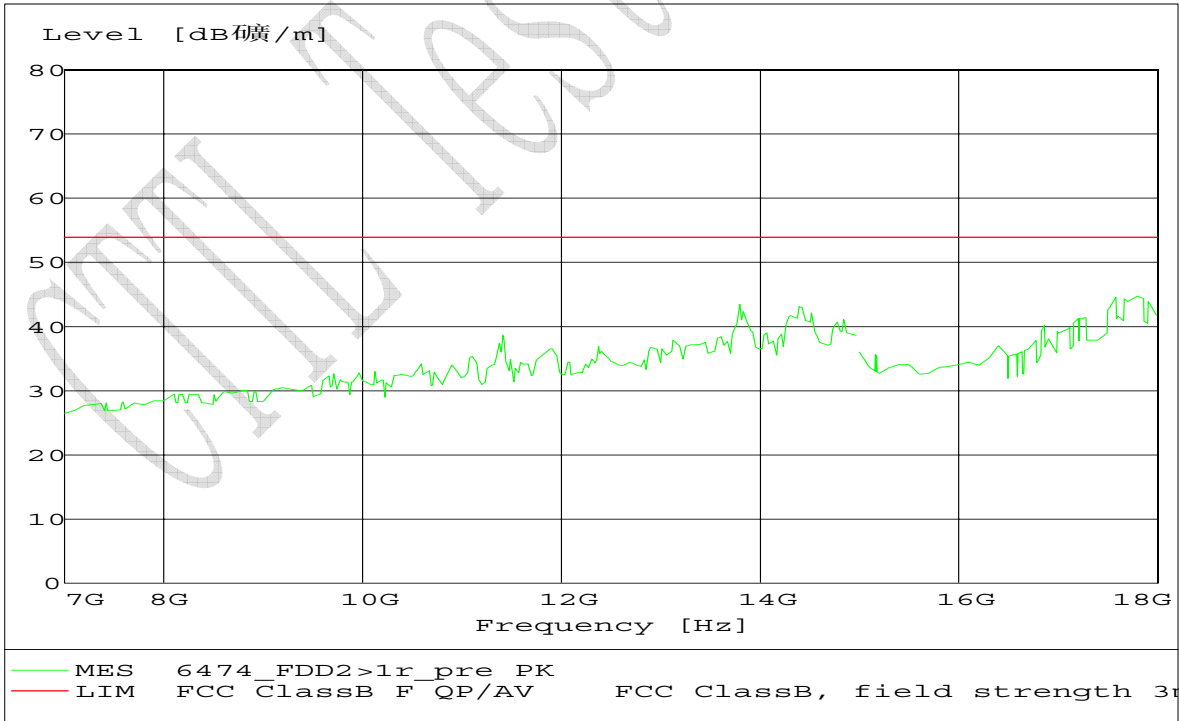
FCC Parts 15  
Equipment: WM62

REPORT NO.: I07GE6474-FCC-PART15



Graphical results: 1GHz - 7GHz

Note: The frequency range of 1850~1910 MHz band is the operation band.



Graphical results: 7GHz - 18GHz

**4.2 Radiated Emission: 15.109**

Specifications:	15.109, ANSI C63.4-2003					
Date of Tests	2008.1.4					
Test conditions:	Ambient Temperature: 15°C-35°C Relative Humidity: 30%-60% Air pressure: 86-106kPa					
Operation Mode	TX on maximum power levels, worst case					
Test Results:	Pass					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2008-01-04	Normal
7330	Ultra Broadband Antenna	R/S	HL562	100013	2008-07-24	Normal
7330	Double-Ridged Horn Antenna	R/S	HF906	100037	2008-01-14	Normal
713	Fully-Anechoic Chamber	ETS	11.8m×6.5m×6.3m	--	2010-11-17	Normal
023	Wireless Communications Test Set	Agilent	8960(E5515C)	GB41450323	2008-06-13	Normal
1809	Notebook	Dell	PP01L	INSPIRAON4000	--	Normal

**Limit Level Construction:**

According to Part 15.109(a).

**Limits**

Frequency [MHz]	Field Strength [ $\mu$ V/m]	Field Strength [dB $\mu$ V/m]	Measurement distance [m]
30 -88	100	40.0	3
88-216	150	43.5	3
216 - 960	200	46.0	3
Above 960	500	54.0	3

Note: The tighter limit applies at the band edges.

**Test Setup:**

The EUT was placed in an anechoic chamber, see figure RE. The EUT is tested as tabletop EUT. The EUT is positioned on an 80cm height wood table.

The EUT is used as the peripheral equipment of the Notebook.

The setup is according to Figure 11a of ANSI C63.4-2003.

The Wireless Communications Test Set (Test Simulator) was used to set the TX channel and power level and modulate the TX signal with different bit patterns.

The test was done using an automated test system, where all test equipments were controlled by a computer.

Figure RE for 15.109: Test Setup: 30MHz – 1GHz

## Test Method

During the test, the EUT was operating in its maximum power level under the control of test simulator. The AC power line was connected to the artificial mains network then to EMI receiver. The measurement was done by the automated test system.

## Note:

The worst case is HSDPA FDD V mode.

## Test Data:

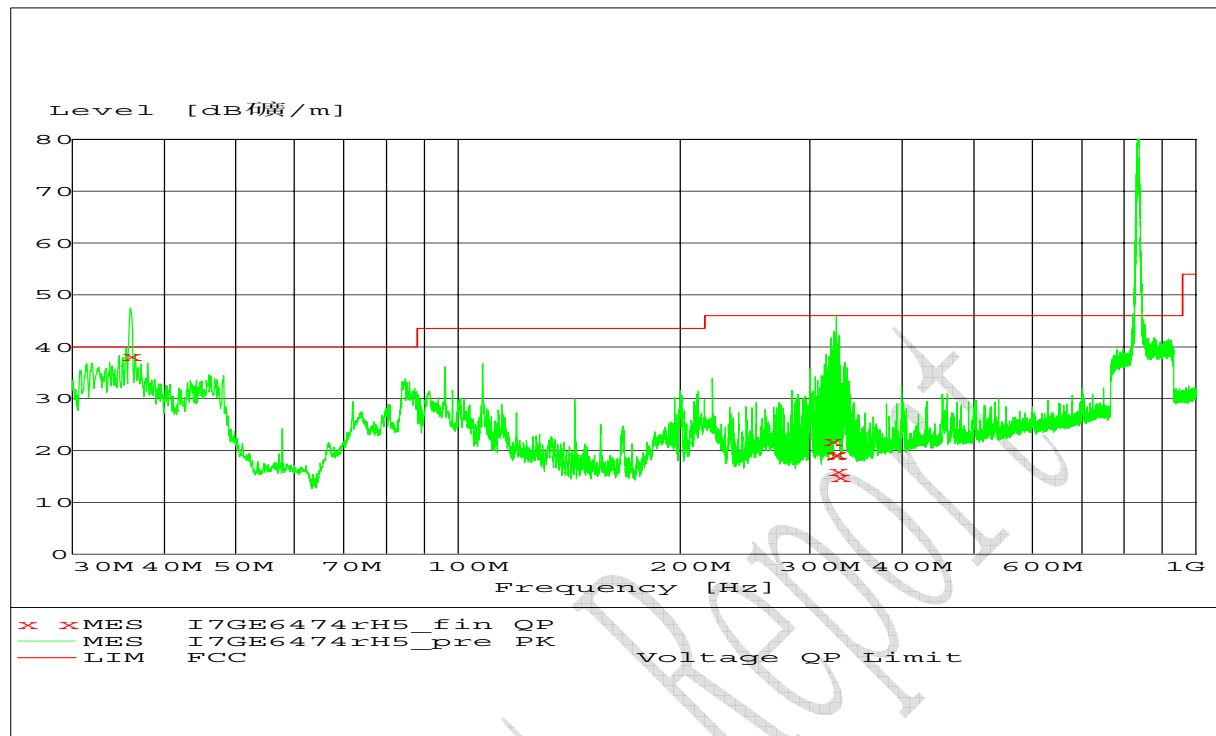
Frequency [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Antenna Height [cm]	Turntable Azimuth [degree]	Antenna Polarisation (V/H)
35.940000	38.1	40.0	100	296	VERTICAL
320.400000	21.7	46.0	155	151	VERTICAL
323.400000	19.1	46.0	100	359	HORIZONTAL
324.360000	19.3	46.0	178	157	VERTICAL
325.860000	16.0	46.0	100	359	HORIZONTAL
328.380000	14.8	46.0	100	315	HORIZONTAL

Remarks: --

FCC Parts 15  
Equipment: WM62

REPORT NO.: I07GE6474-FCC-PART15

Graphical Results:



Graphical results: 30MHz - 1GHz

Note: The frequency range of 824~849 MHz band is the operation band.

**4.3 Conducted Emission: 15.107**

Specifications:	15.107, ANSI C63.4-2003					
Date of Tests	2008.1.4					
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa					
Operation Mode	TX on					
Test Results:	Pass					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7330	EMI Test Receiver	R/S	ESI40	839283/007	2008-02-03	Normal
7330	Artificial Mains Network	R/S	ESH2-Z5	837480/002	2009-01-09	Normal
714	Shielding Room	ETS	--	19003	2010-11-17	Normal
023	Wireless Communications Test Set	Agilent	8960(E5515C)	GB41450323	2008-06-13	Normal
1809	Notebook	Dell	PP01L	INSPIRAON4000	--	Normal

**Limit Level Construction:**  
According to Part 15.107 (a)

<b>Limits for Conducted Emission</b>		
<b>Frequency of Emission [MHz]</b>	<b>Conducted limit [dB <math>\mu</math> V]</b>	
	<b>Quasi-peak</b>	<b>Average</b>
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.

**Test Setup:**

The EUT was placed in a shielding room, see figure CE. The EUT is positioned on an 80cm height wood table. The EUT is used as the peripheral equipment of the Notebook.

The setup is according to Figure 10a of ANSI C63.4-2003.

The Wireless Communications Test Set (Test Simulator) was used to set the TX channel and power level and modulate the TX signal with different bit patterns. The test was done using an automated test system, where all test equipments were controlled by a computer.

Figure CE

**Test Method:**

During the test, the EUT was operating in its maximum power level under the control of test simulator. The AC power line of the Notebook was connected to the artificial mains network then to EMI receiver. The measurement was done by the automated test system.

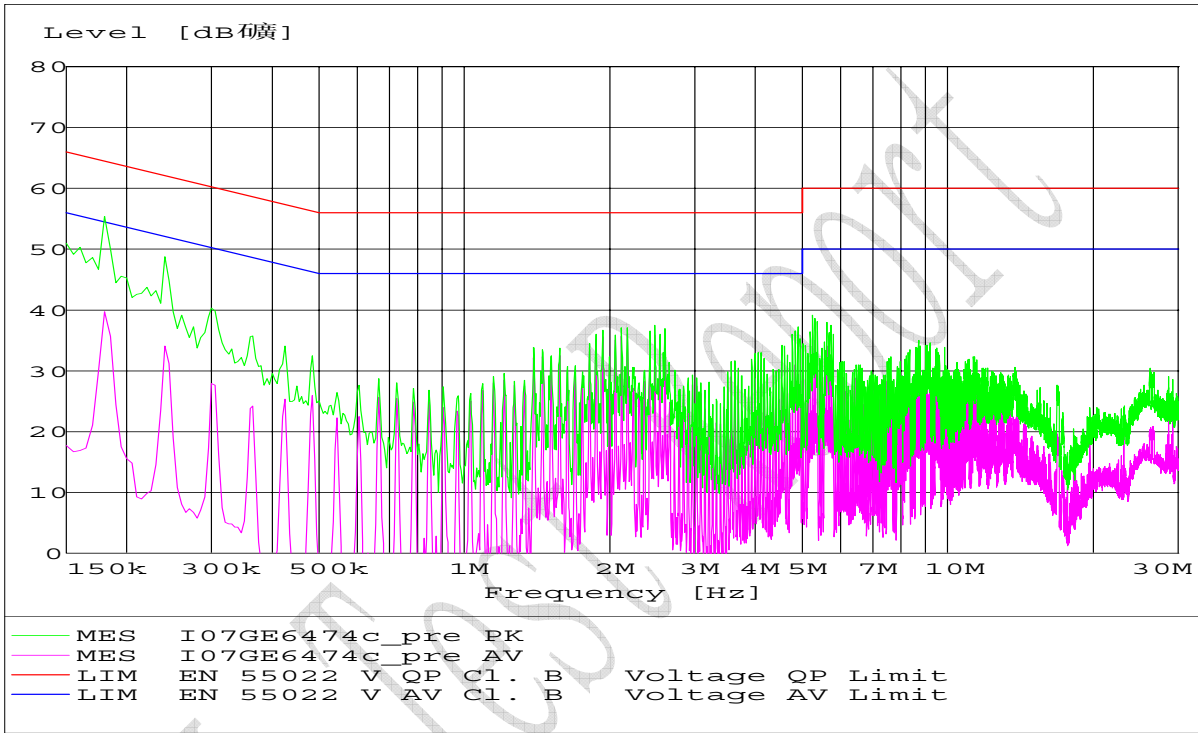
**Note:**

None.

Test Data:

Detector (QP/AV)	Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Margin (dB)	Line	PE
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Remarks: --						

Graphical results:



CE graphical results



## ANNEX C Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

\_\_\_\_\_ The End of this Report \_\_\_\_\_

Test Report