

Prüfbericht-Nr.: <i>Test Report No.:</i>	50089281 001	Auftrags-Nr.: <i>Order No.:</i>	164061391	Seite 1 von 60 <i>Page 1 of 60</i>
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	21.04.2016	
Auftraggeber: <i>Client:</i>	limoss (Shenzhen) Co., Ltd. 1/F & South Wing, 2/F of Block A and North Wing, 1/F of Block E, Hourui 3rd Ind. Park, Xixiang, Bao'an, Shenzhen, Guangdong 518102, P.R. China			
Prüfgegenstand: <i>Test item:</i>	Handset			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	HC312			
Auftrags-Inhalt: <i>Order content:</i>	FCC/IC Certification			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.249 FCC KDB Publication 447498 D01 v06 RSS-210 Issue 9 August 2016 RSS-102 Issue 5 March 2015		CFR47 FCC Part 15: Subpart C Section 15.209 RSS-Gen Issue 4 November 2014	
Wareneingangsdatum: <i>Date of receipt:</i>	10.06.2016			
Prüfmuster-Nr.: <i>Test sample No.:</i>	1601081			
Prüfzeitraum: <i>Testing period:</i>	24.06.2016 - 29.06.2016			
Ort der Prüfung: <i>Place of testing:</i>	Accurate Technology Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by:			kontrolliert von / reviewed by:	
04.07.2017 Datum <i>Date</i>	Andy Yan / Project Manager Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	04.07.2017 Datum <i>Date</i>	Owen Tian / Technical Certifier Name / Stellung <i>Name / Position</i>
				 Unterschrift <i>Signature</i>
Sonstiges / Other:	FCC ID: 2AH9H-HC312 IC: 21543-HC312			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend 4 = ausreichend N/A = nicht anwendbar	5 = mangelhaft N/T = nicht getestet
Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory 4 = sufficient N/A = not applicable	5 = poor N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 20dB BANDWIDTH AND 99% BANDWIDTH

RESULT: Pass

5.1.3 FUNDAMENTAL & HARMONICS RADIATED EMISSION

RESULT: Pass

5.1.4 RADIATED EMISSIONS OUTSIDE OF THE BAND

RESULT: Pass

6.1.1 ELECTROMAGNETIC FIELDS

RESULT: Pass

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1. General Remarks

1.1 Complementary Materials

None.

2. Test Sites

2.1 Test Facilities

Accurate Technology Co., Ltd.

(FCC Registration No.: 752051)

(Test site Industry Canada No.: 5077A-2)

F1, Bldg. A, Changyuan New Material Port
Keyuan Rd., Science & Industry Park, Nanshan
Shenzhen, P.R. China

The tests at the test site have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Transmitter spurious emissions				
Spectrum Analyzer	Rohde & Schwarz	FSV40	101495	2017-01-09
Test Receiver	Rohde & Schwarz	ESCS30	100307	2017-01-09
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	2017-01-09
Loop Antenna	Schwarzbeck	FMZB1516	1516131	2017-01-09
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	2017-01-09
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	2017-01-09
RF Switching Unit+PreAMP	Compliance Direction	RSU-M2	38322	2017-01-09
Pre-Amplifier	Rohde&Schwarz	CBLU11835 40-01	3791	2017-01-09
50 Coaxial Switch	Anritsu Corp	MP59B	6200506474	2017-01-09
RF Coaxial Cable	SUHNER	N-3m	No.8	2017-01-09
RF Coaxial Cable	RESENBERGER	N-3.5m	No.9	2017-01-09
RF Coaxial Cable	SUHNER	N-6m	No.10	2017-01-09
RF Coaxial Cable	RESENBERGER	N-12m	No.11	2017-01-09
RF Coaxial Cable	RESENBERGER	N-0.5m	No.12	2017-01-09
Radio Spectrum Test				
Spectrum Analyzer	Rohde & Schwarz	FSV40	101495	2017-01-09
Vector Signal Generator	Rohde & Schwarz	SMBV100A	260434	2017-01-09
Signal Generator	Rohde & Schwarz	SMB100A	108362	2017-01-09
Open Switch and Control Unit	Rohde & Schwarz	OSP120 + OSP-B157	101244 + 100866	2017-01-09

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

Parameter	Uncertainty
Radio Spectrum	$< \pm 0.60 \text{ dB}$
Radiated emission of transmitter, valid up to 26.5 GHz	$< \pm 4.42 \text{ dB}$
Conducted Emission	$< \pm 2.23 \text{ dB}$
Radiated Emission	$< \pm 4.42 \text{ dB}$

2.6 Location of Original Data

The original copies of all test data taken during actual testing were retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

Accurate Technology Co., Ltd. test facility located at F1, Bldg. A, Changyuan New Material Port Keyuan Rd., Science & Industry Park, Nanshan, Shenzhen, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3. General Product Information

3.1 Product Function and Intended Use

The EUT is handset, it operates at 2.4GHz ISM band.
All the items were tested according to RSS-210 Issue 8, and the testing items and results also comply with the RSS-210 Issue 9 after engineering judgement.
For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

Technical Specification	Value
Kind of Equipment	Handset
Type Designation	HC312
FCC ID	2AH9H-HC212
IC	21543-HC312
HVIN	HC312
Operating Frequency Band	2400MHz ~ 2483.5MHz
Operating Frequency	2422.999MHz, 2448.393MHz, 2473.987MHz
Number of Channel	3
Extreme Temperature Range	0~+40°C
Operation Voltage	DC 12V (via battery)
Modulation	MSK
Antenna Gain	-3.4dBi

3.3 Independent Operation Modes

The basic operation modes are:

- A. On
 - 1. Transmitting
 - 2. Receiving
- B. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

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3.5 Submitted Documents

- Bill of Material
- PCB Layout
- Photo Document
- Circuit Diagram
- Instruction Manual
- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.10: 2013.

4.3 Special Accessories and Auxiliary Equipment

None.

4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test for below 1GHz

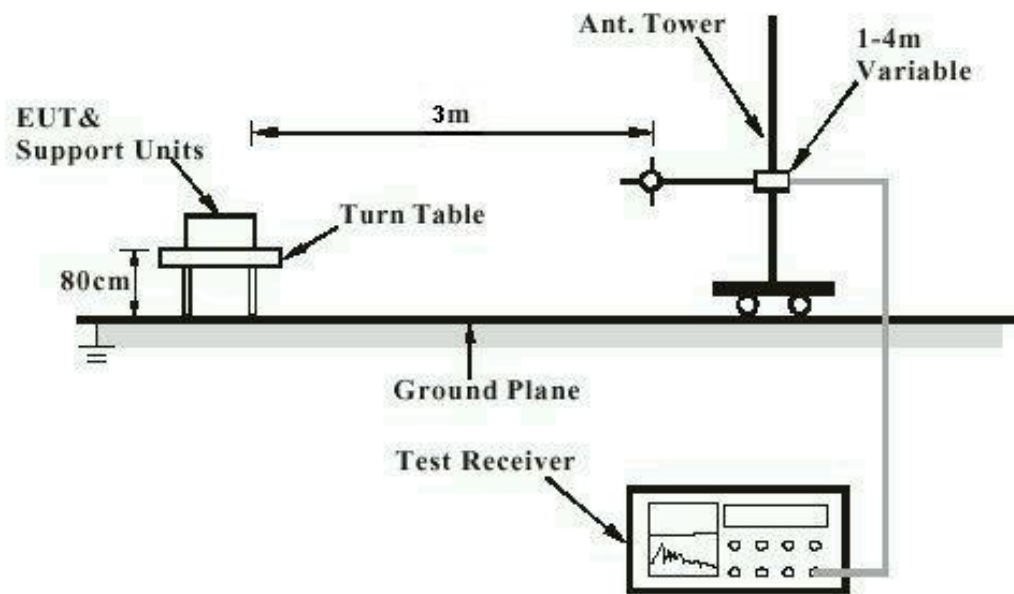


Diagram of Measurement Configuration for Radiation Test for above 1GHz

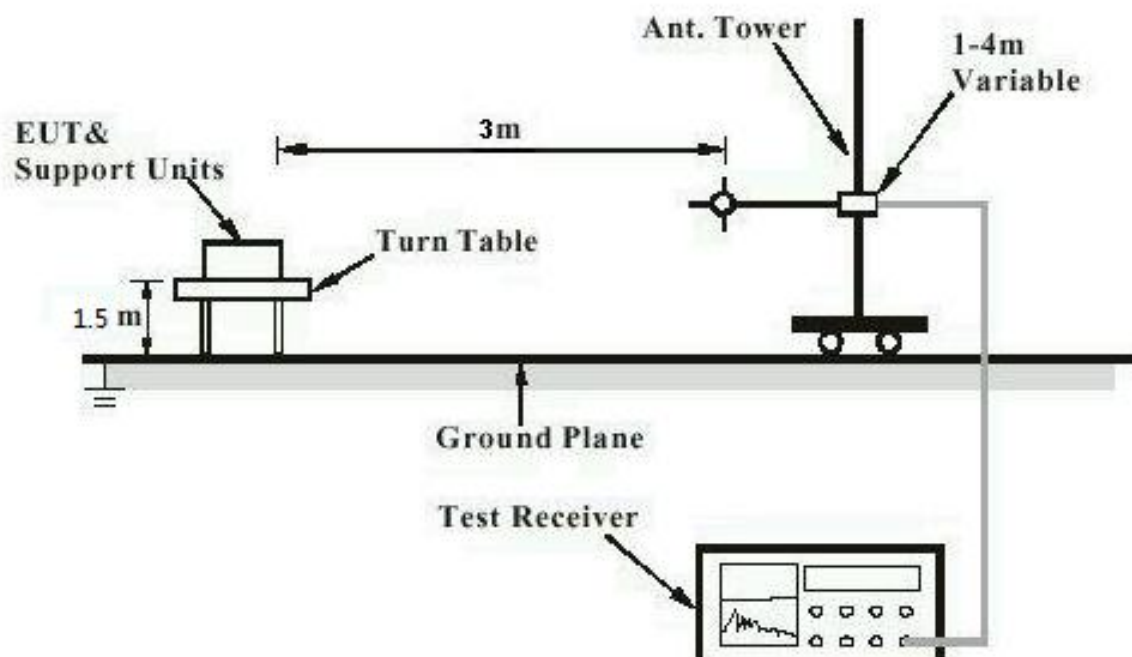
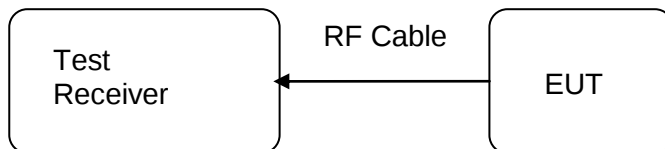
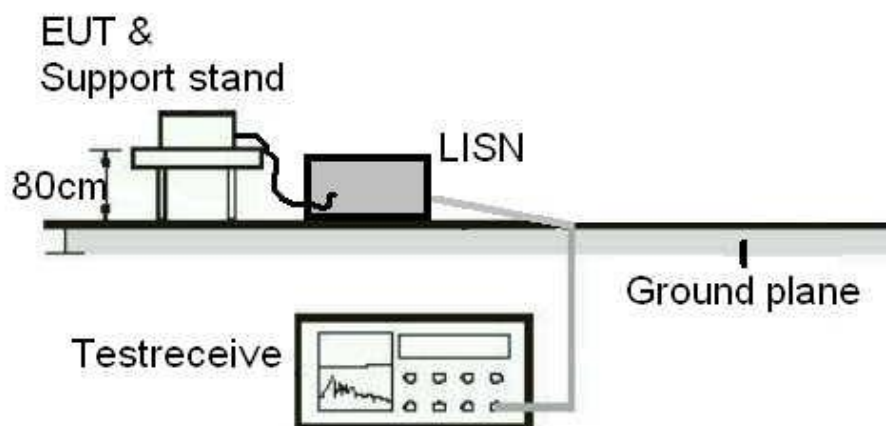


Diagram of Measurement Equipment Configuration for Transmitter Measurement

Diagram of Measurement Equipment Configuration for Conduction Measurement


5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Pass**

Test standard	:	Part 15.203 RSS-Gen 8.3
Limit	:	the use of antennas with directional gains that do not exceed 6dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is -3.4dBi, therefore the EUT is considered sufficient to comply with the provision.

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5.1.2 20dB Bandwidth and 99% Bandwidth**RESULT:****Pass**

Date of testing : 2016-06-29
Test standard : FCC Part 15.215 (c)
RSS-Gen clause 6.6
Basic standard : ANSI C63.10: 2013
Kind of test site : Shielded room

Test setup

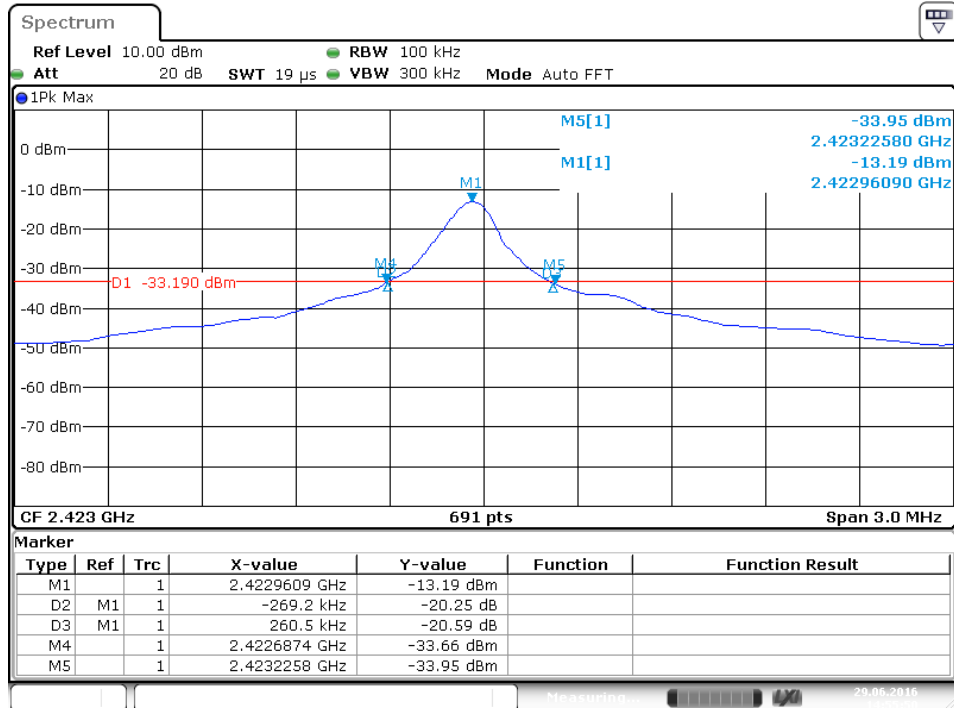
Test Channel : Low/ Middle/ High
Operation Mode : A.1
Ambient temperature : 21°C
Relative humidity : 60%
Atmospheric pressure : 101kPa

Table 4: Test result of 20dB & 99% Bandwidth

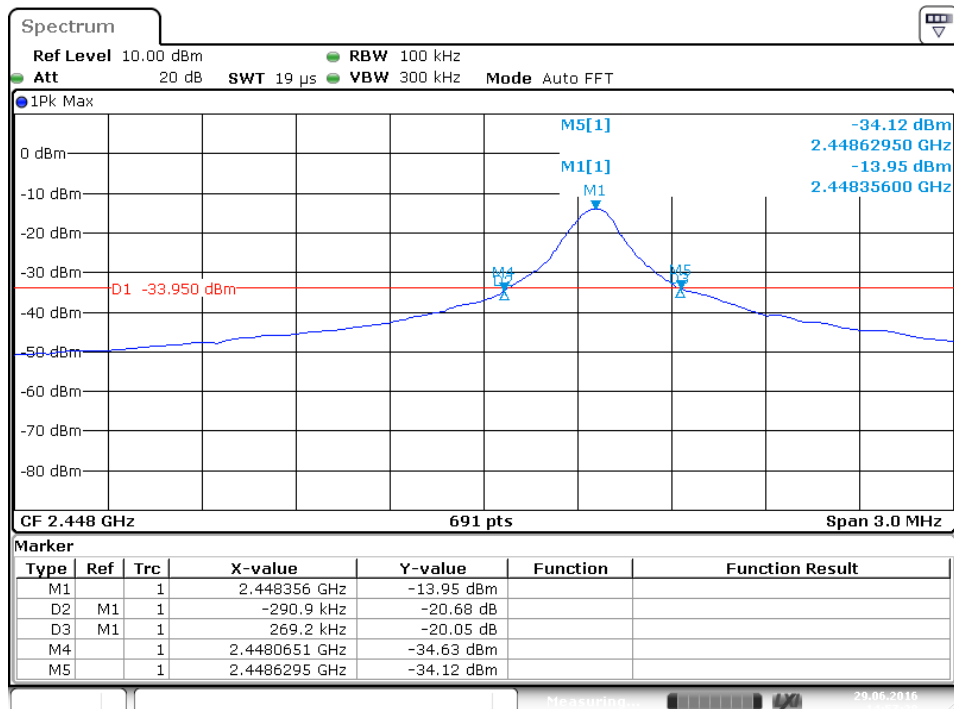
Channel	Channel Frequency (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low Channel	2422.999	0.530	1.198
Mid Channel	2448.393	0.560	1.142
High Channel	2473.987	0.547	1.168

For details refer to following test plot.

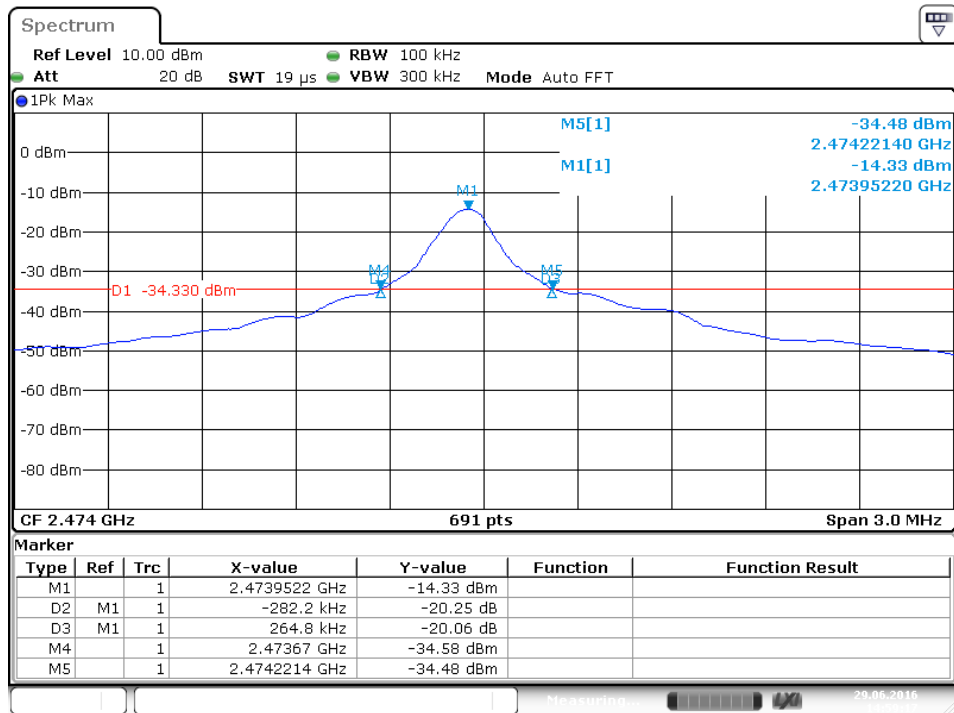
Test Plot of 20dB Bandwidth



Date: 29.JUN.2016 14:55:51

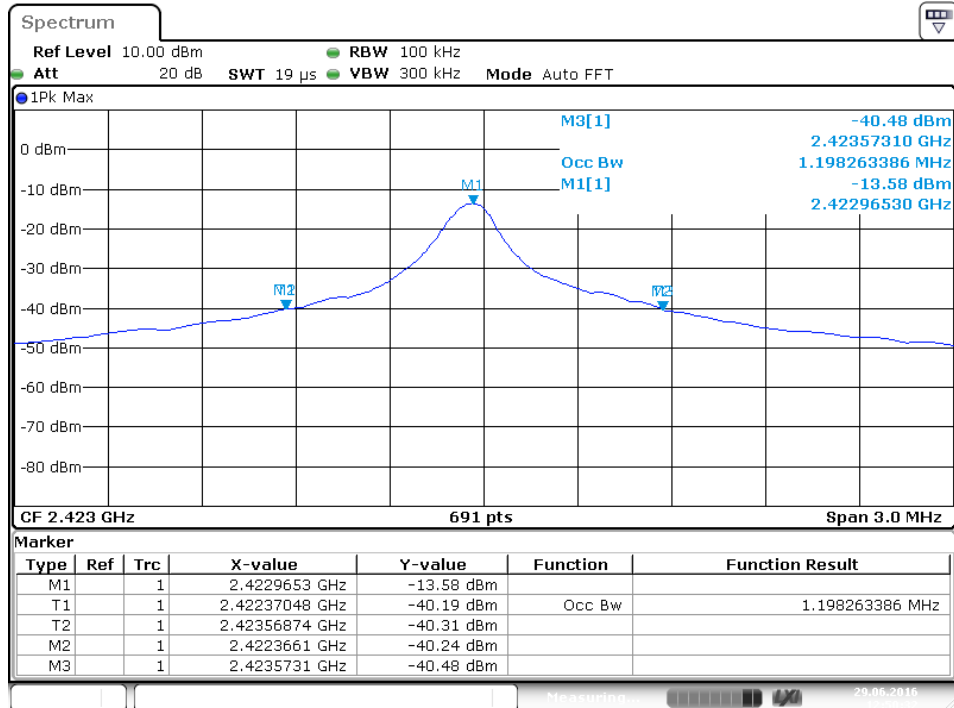


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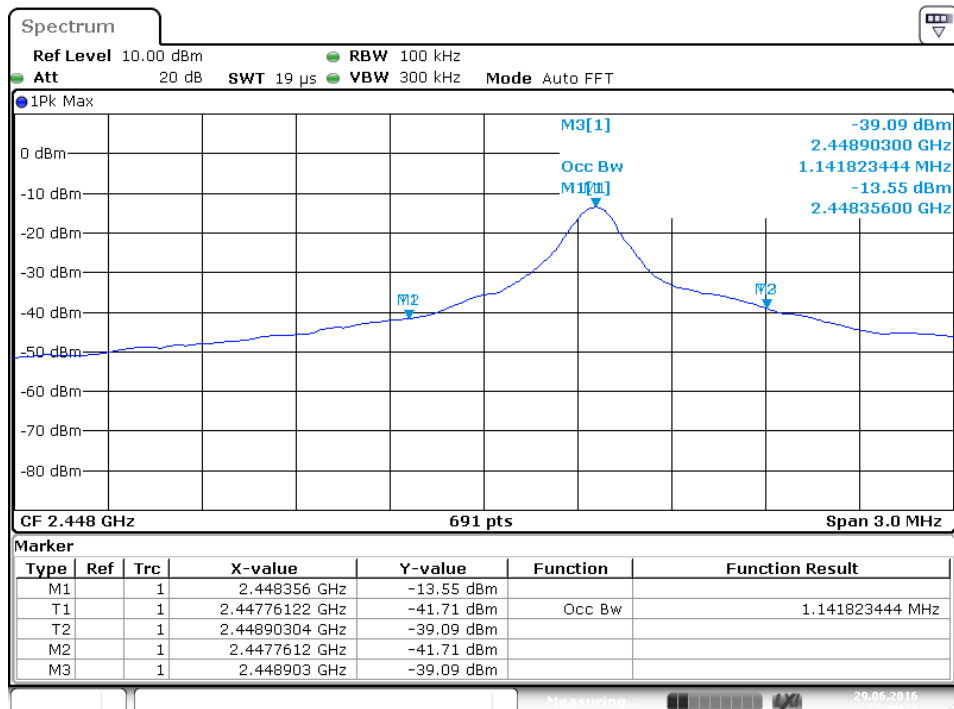


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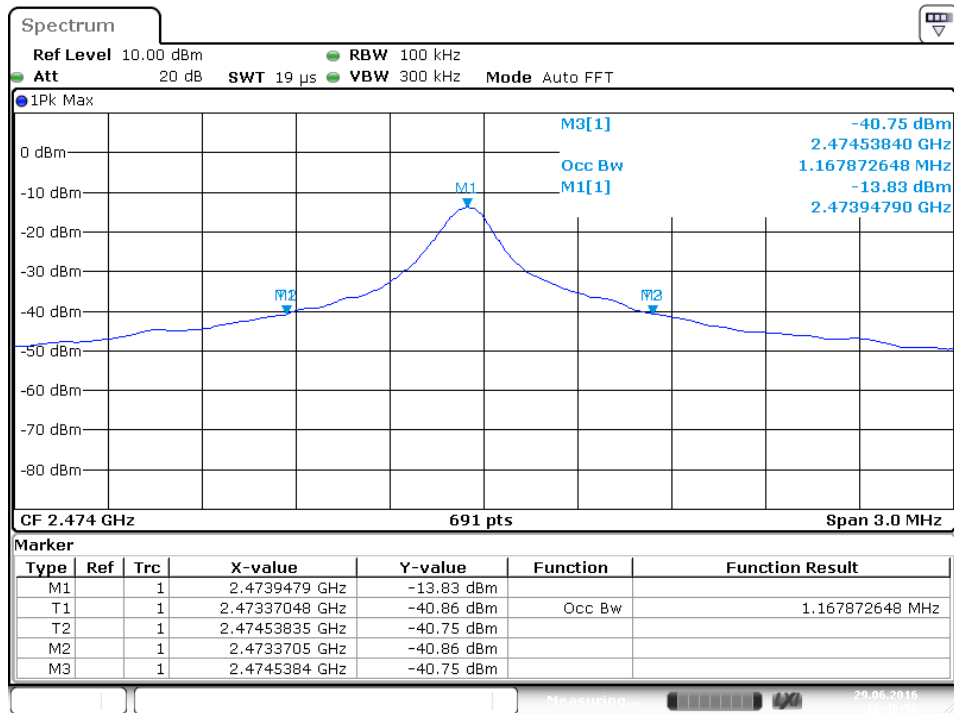
Test Plot of 99% Bandwidth



Date: 29.JUN.2016 12:50:32



Date: 29.JUN.2016 12:49:13



Date: 29.JUN.2016 12:46:56

5.1.3 Fundamental & Harmonics Radiated Emission

RESULT:

Pass

Date of testing	:	2016-06-24
Test standard	:	FCC part 15.249(a)
		RSS-210 Clause B10(a)
Basic standard	:	ANSI C63.10: 2013
Limits	:	FCC part 15.249(a)
Kind of test site	:	3m Semi-Anechoic Chamber & Anechoic Chamber

Test setup

Test channel	:	Low/ Middle/ High
Operation mode	:	A.1
Ambient temperature	:	23°C
Relative humidity	:	48%
Atmospheric pressure	:	101kPa

Table 5: Polarization of the measurement for the larger power level channel 2422.999MHz: Horizontal

Test conditions		Fundamental Frequency		Harmonic Frequency	
		2422.999MHz		4896.789	
T _{nom} (25°C)	Unit	(dBμV/m)	(mV/m)	(dBμV/m)	(μV/m)
	Horizontal	81.56	11.967	40.21	102.447
	Vertical	81.55	11.954	36.23	64.789
Limit		94	50	54	500

The final measurement for frequencies below 1000MHz is performed with Quasi Peak detector; the final measurement for frequencies above 1000MHz is performed with Average detector.

The worst case was shown in above Table 5.

Disturbance other than those mentioned are small or not detectable.

For details refer to following test plot.


ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg.A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2249

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2422.999MHz

Model: HC312

Manufacturer: Limoss

Polarization: Horizontal

Power Source: DC 12V

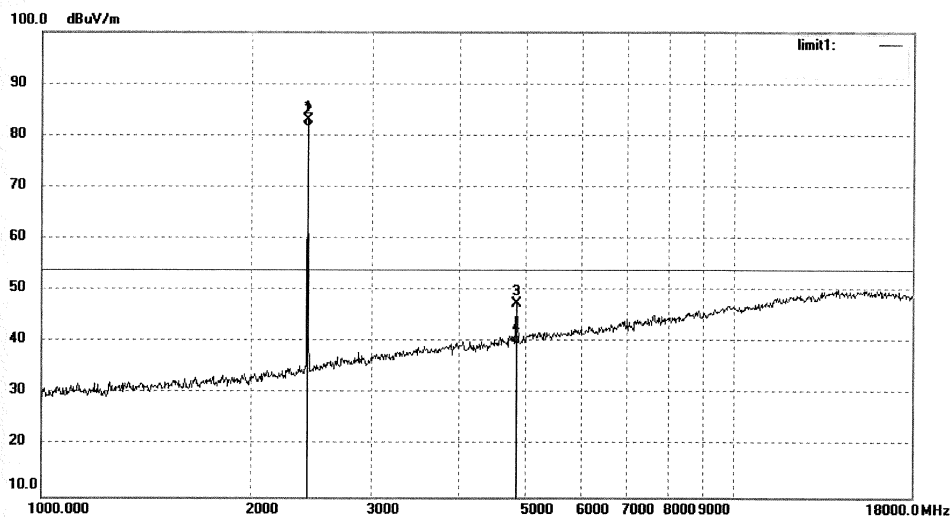
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2422.999	90.36	-7.40	82.96	114.00	-31.04	peak			
2	2422.999	88.96	-7.40	81.56	94.00	-12.44	AVG			
3	4845.989	47.44	-0.06	47.38	74.00	-26.62	peak			
4	4845.989	39.62	-0.06	39.56	54.00	-14.44	AVG			


ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg.A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2248

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2422.999MHz

Model: HC312

Manufacturer: Limoss

Polarization: Vertical

Power Source: DC 12V

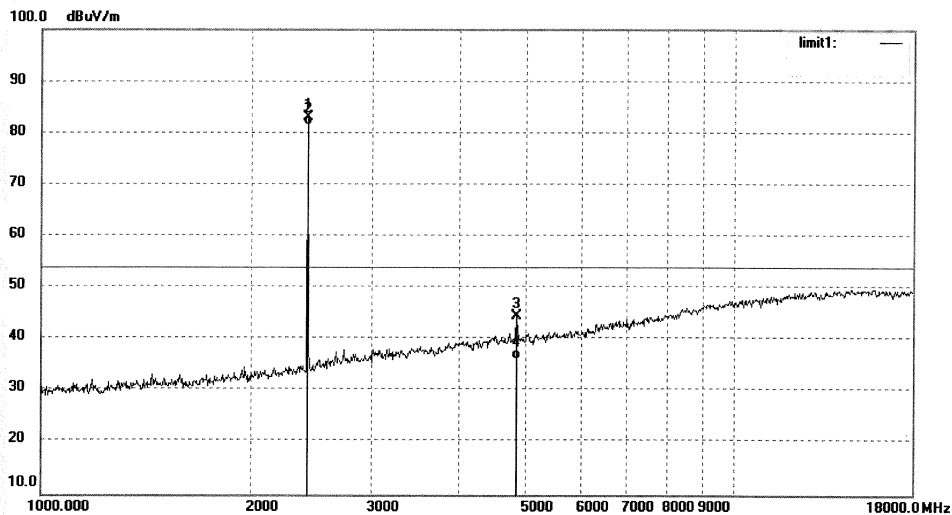
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2422.999	90.35	-7.40	82.95	114.00	-31.05	peak			
2	2422.999	88.95	-7.40	81.55	94.00	-12.45	AVG			
3	4845.975	44.63	-0.06	44.57	74.00	-29.43	peak			
4	4845.975	36.29	-0.06	36.23	54.00	-17.77	AVG			


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F1,Bldg.A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2250

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2448.393MHz

Model: HC312

Manufacturer: Limoss

Polarization: Horizontal

Power Source: DC 12V

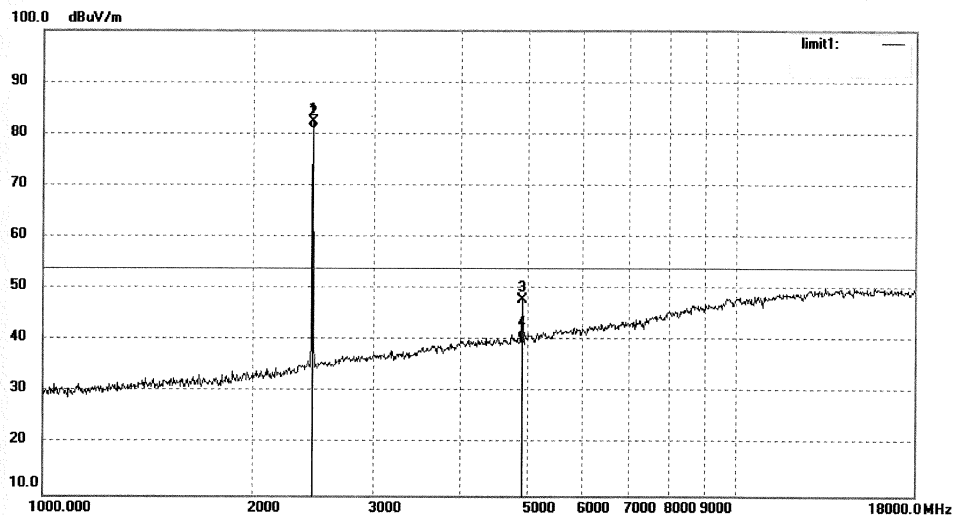
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2448.393	89.63	-7.34	82.29	114.00	-31.71	peak			
2	2448.393	88.43	-7.34	81.09	94.00	-12.91	AVG			
3	4896.789	47.79	0.22	48.01	74.00	-25.99	peak			
4	4896.789	39.99	0.22	40.21	54.00	-13.79	AVG			


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 F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2251

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2448.393MHz

Model: HC312

Manufacturer: Limoss

Polarization: Vertical

Power Source: DC 12V

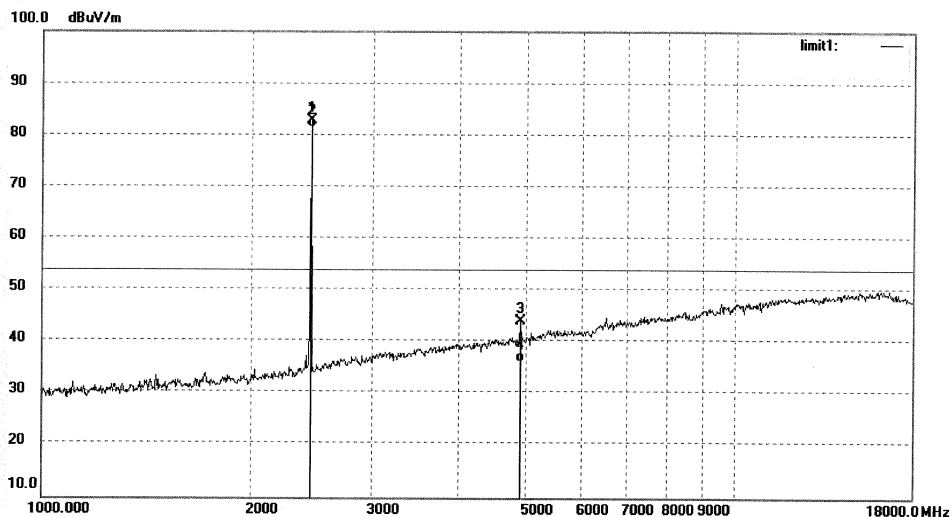
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2448.393	90.09	-7.34	82.75	114.00	-31.25	peak			
2	2448.393	88.89	-7.34	81.55	94.00	-12.45	AVG			
3	4896.787	43.94	0.22	44.16	74.00	-29.84	peak			
4	4896.787	36.01	0.22	36.23	54.00	-17.77	AVG			


ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2253

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2473.987MHz

Model: HC312

Manufacturer: Limoss

Polarization: Horizontal

Power Source: DC 12V

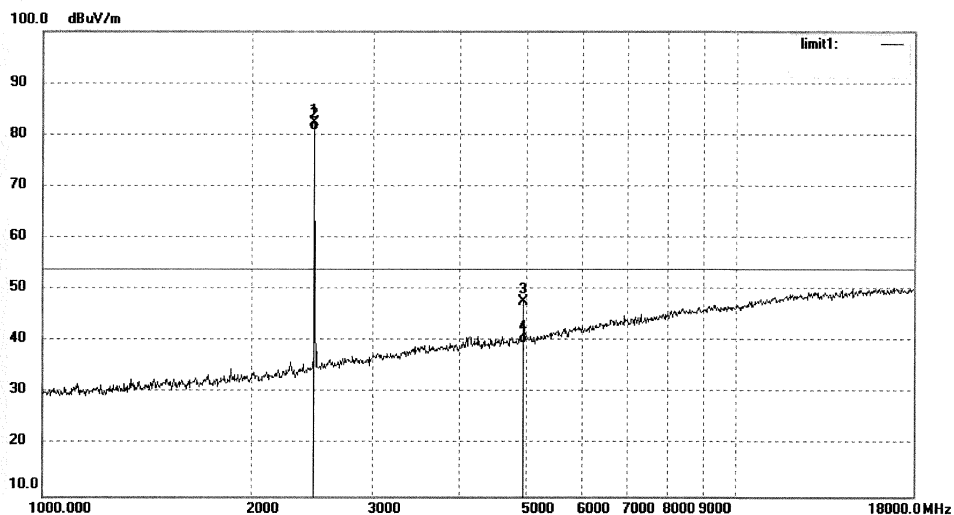
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2473.987	89.79	-7.37	82.42	114.00	-31.58	peak			
2	2473.987	88.09	-7.37	80.72	94.00	-13.28	AVG			
3	4947.980	47.24	0.46	47.70	74.00	-26.30	peak			
4	4947.980	39.10	0.46	39.56	54.00	-14.44	AVG			


ACCURATE TECHNOLOGY CO., LTD.

 F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2252

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2473.987MHz

Model: HC312

Manufacturer: Limoss

Polarization: Vertical

Power Source: DC 12V

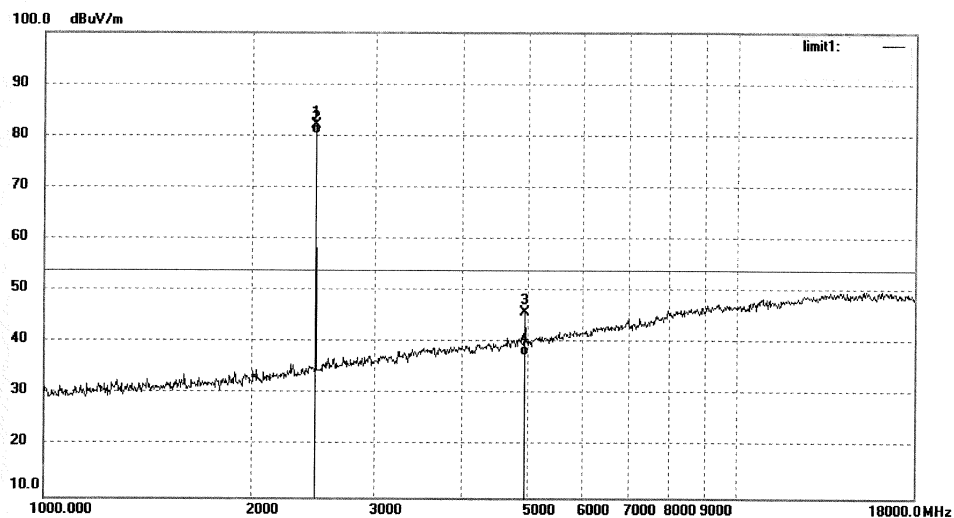
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2473.987	89.48	-7.37	82.11	114.00	-31.89	peak			
2	2473.987	87.78	-7.37	80.41	94.00	-13.59	AVG			
3	4947.975	45.48	0.46	45.94	74.00	-28.06	peak			
4	4947.975	37.13	0.46	37.59	54.00	-16.41	AVG			

Prüfbericht - Nr.: 50089281 001

Test Report No.

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5.1.4 Radiated emissions outside of the band**RESULT:****Pass**

Date of testing	:	2016-06-24
Test standard	:	FCC Part 15.209(a) FCC Part 15.249(d) RSS-210 Clause B10(b)
Basic standard	:	ANSI C63.10: 2013
Frequency range	:	0.009 – 26500MHz
Limits	:	FCC Part 15.209(a) FCC Part 15.249(d)
Kind of test site	:	3m Semi-Anechoic Chamber & Anechoic Chamber

Test Setup

Test channel	:	Low/ Middle/ High
Operation mode	:	A.1
Ambient temperature	:	23°C
Relative humidity	:	48%
Atmospheric pressure	:	101kPa

For details refer to following test plot.

Test Plot of Radiated emissions outside band

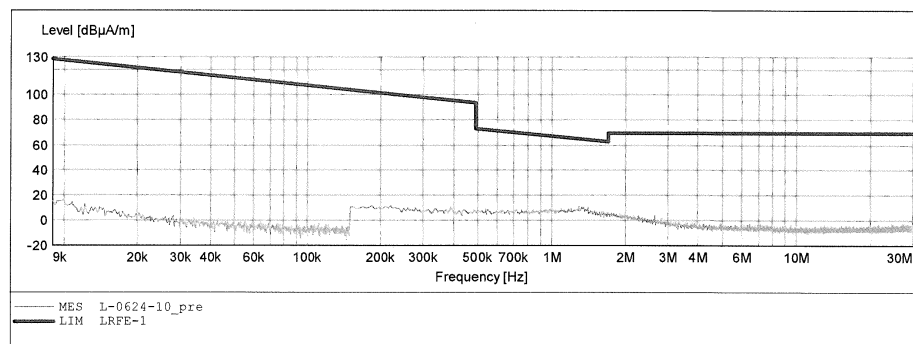
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Handset M/N:HC312
 Manufacturer: Limoss
 Operating Condition: TX 2422.999MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: DC 12V
 Comment: X
 Start of Test: 2016-6-24 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB STD VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



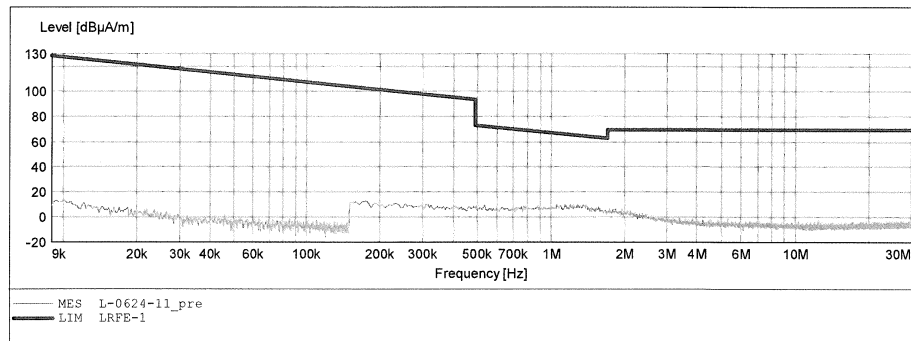
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Handset M/N:HC312
 Manufacturer: Limoss
 Operating Condition: TX 2422.999MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: DC 12V
 Comment: Y
 Start of Test: 2016-6-24 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



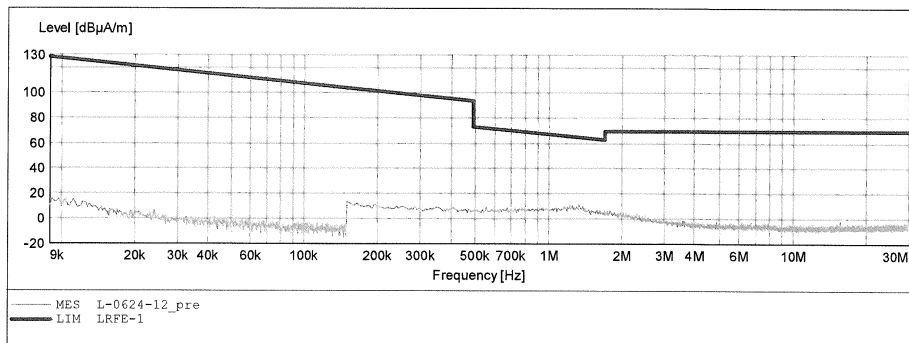
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Handset M/N:HC312
 Manufacturer: Limoss
 Operating Condition: TX 2422.999MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: DC 12V
 Comment: Z
 Start of Test: 2016-6-24 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



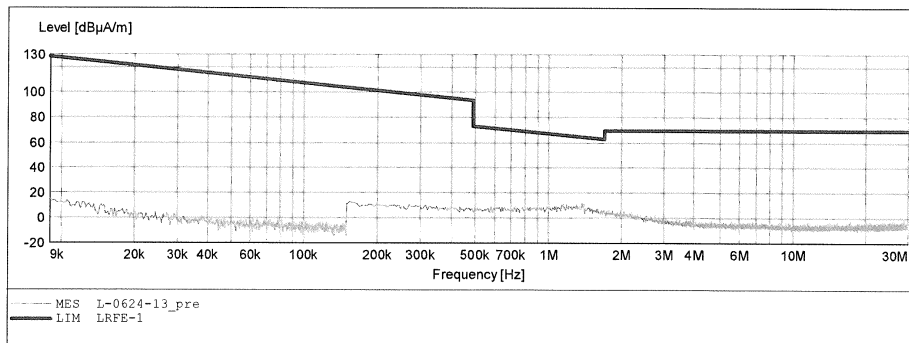
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Handset M/N:HC312
 Manufacturer: Limoss
 Operating Condition: TX 2448.393MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: DC 12V
 Comment: X
 Start of Test: 2016-6-24 /

SCAN TABLE: "LFRE Fin"

Short Description:			SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

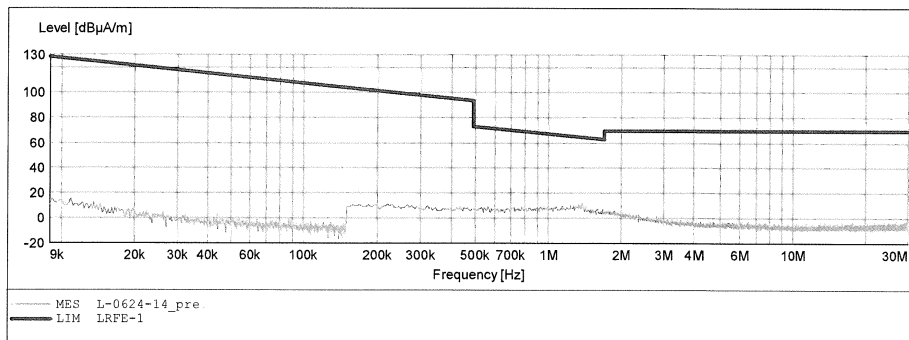


ACCURATE TECHNOLOGY CO.,LTD
FCC Class B 3M Radiated

EUT: Handset M/N:HC312
 Manufacturer: Limoss
 Operating Condition: TX 2448.393MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: DC 12V
 Comment: Y
 Start of Test: 2016-6-24 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



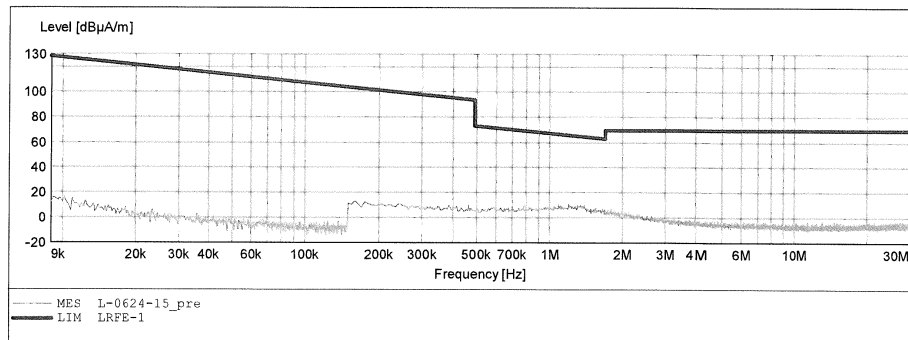
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Handset M/N:HC312
 Manufacturer: Limoss
 Operating Condition: TX 2448.393MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: DC 12V
 Comment: Z
 Start of Test: 2016-6-24 /

SCAN TABLE: "LFRE Fin"

Short Description:			SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



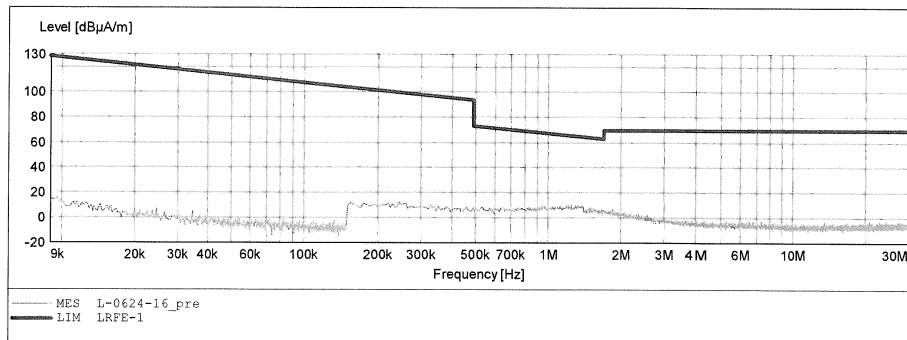
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Handset M/N:HC312
 Manufacturer: Limoss
 Operating Condition: TX 2473.987MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: DC 12V
 Comment: X
 Start of Test: 2016-6-24 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



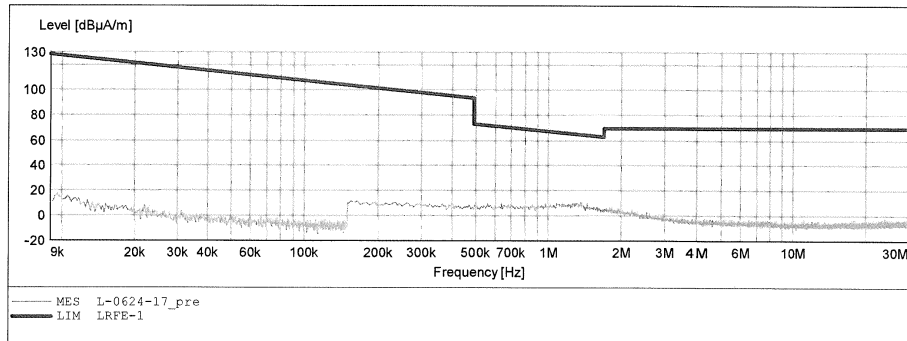
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Handset M/N:HC312
 Manufacturer: Limoss
 Operating Condition: TX 2473.987MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: DC 12V
 Comment: Y
 Start of Test: 2016-6-24 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



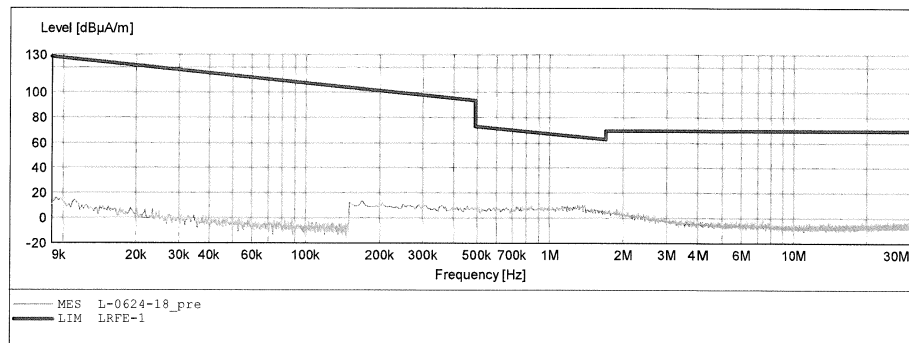
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Handset M/N:HC312
 Manufacturer: Limoss
 Operating Condition: TX 2473.987MHz
 Test Site: 2# Chamber
 Operator: LGWADE
 Test Specification: DC 12V
 Comment: Z
 Start of Test: 2016-6-24 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M




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F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2258

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2422.999MHz

Model: HC312

Manufacturer: Limoss

Polarization: Horizontal

Power Source: DC 12V

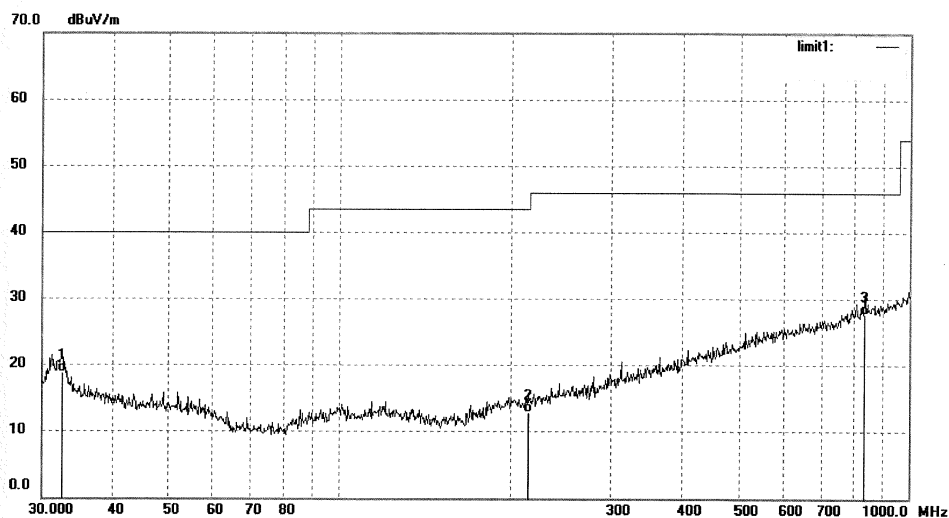
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.5197	29.03	-10.17	18.86	40.00	-21.14	QP			
2	213.7633	24.87	-11.95	12.92	43.50	-30.58	QP			
3	836.2441	27.13	0.62	27.75	46.00	-18.25	QP			


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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2259

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2422.999MHz

Model: HC312

Manufacturer: Limoss

Polarization: Vertical

Power Source: DC 12V

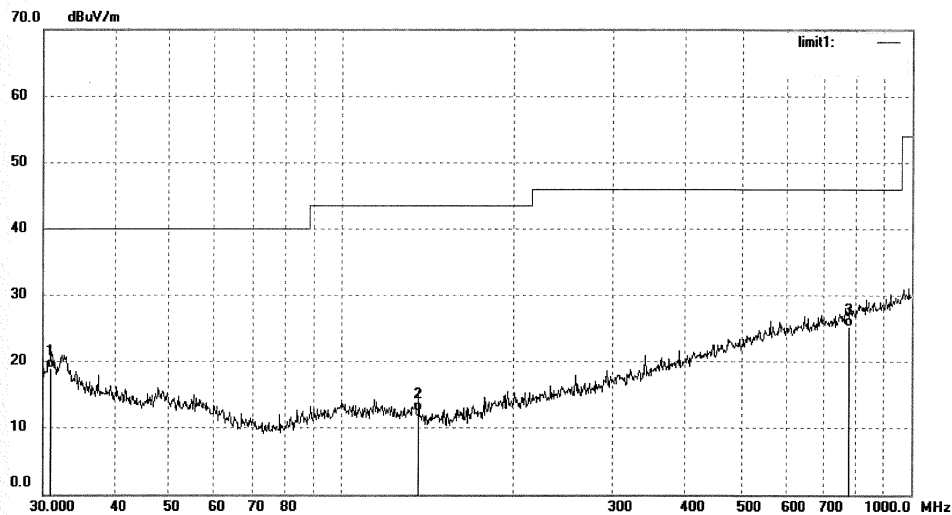
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.9618	28.28	-9.21	19.07	40.00	-20.93	QP			
2	136.9391	26.96	-14.52	12.44	43.50	-31.06	QP			
3	779.6068	25.64	-0.41	25.23	46.00	-20.77	QP			


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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2261

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2448.393MHz

Model: HC312

Manufacturer: Limoss

Polarization: Horizontal

Power Source: DC 12V

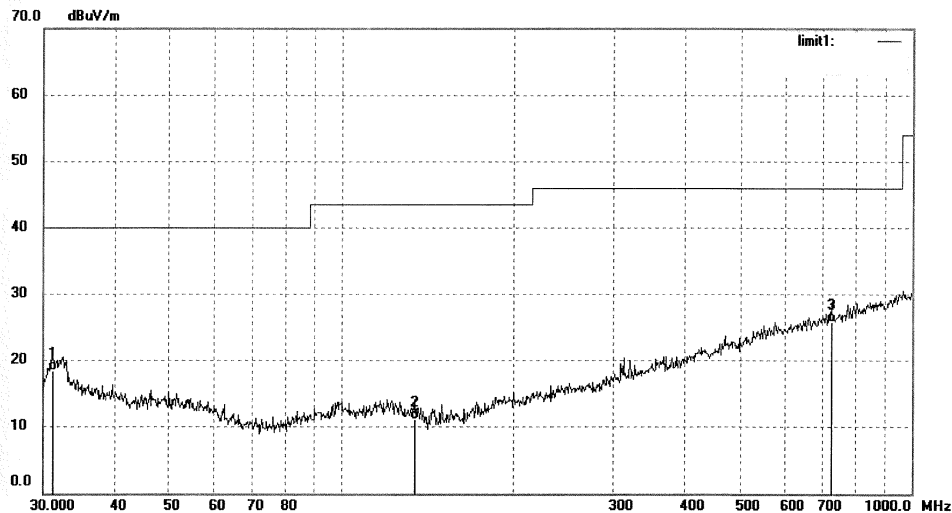
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	31.1798	28.42	-10.04	18.38	40.00	-21.62	QP			
2	135.0319	25.21	-14.08	11.13	43.50	-32.37	QP			
3	724.2611	27.17	-1.42	25.75	46.00	-20.25	QP			


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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2260

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2448.393MHz

Model: HC312

Manufacturer: Limoss

Polarization: Vertical

Power Source: DC 12V

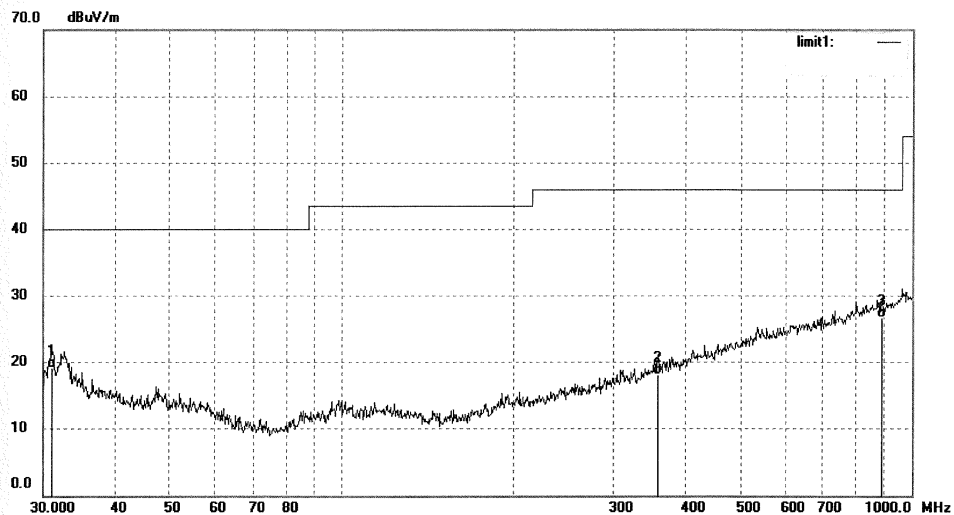
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	31.0705	28.41	-9.25	19.16	40.00	-20.84	QP			
2	357.9286	25.72	-7.64	18.08	46.00	-27.92	QP			
3	887.6099	25.49	1.24	26.73	46.00	-19.27	QP			


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 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2262

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2473.987MHz

Model: HC312

Manufacturer: Limoss

Polarization: Horizontal

Power Source: DC 12V

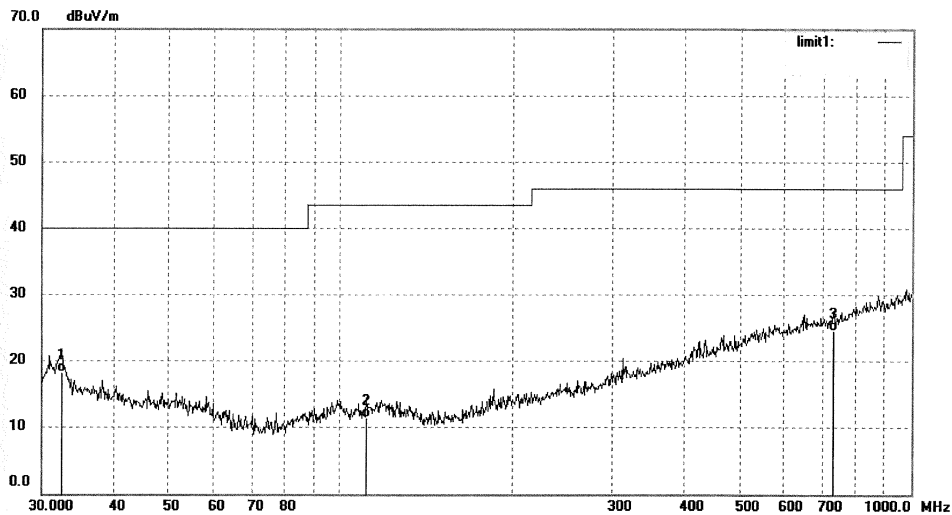
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.5197	28.40	-10.17	18.23	40.00	-21.77	QP			
2	111.3468	25.15	-13.70	11.45	43.50	-32.05	QP			
3	731.9202	25.85	-1.33	24.52	46.00	-21.48	QP			


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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2263

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2473.987MHz

Model: HC312

Manufacturer: Limoss

Polarization: Vertical

Power Source: DC 12V

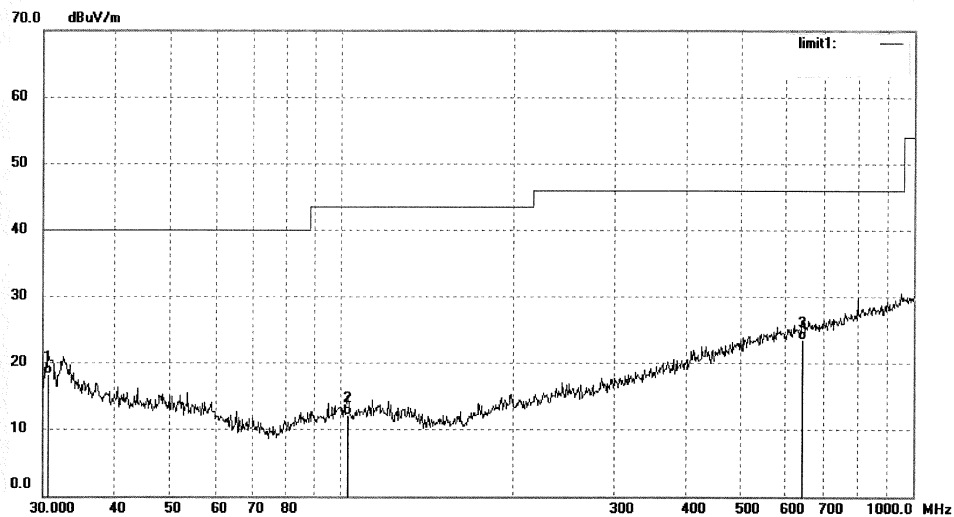
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.6378	27.38	-9.11	18.27	40.00	-21.73	QP			
2	102.7192	25.75	-13.57	12.18	43.50	-31.32	QP			
3	642.8613	26.00	-2.52	23.48	46.00	-22.52	QP			


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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2249

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2422.999MHz

Model: HC312

Manufacturer: Limoss

Polarization: Horizontal

Power Source: DC 12V

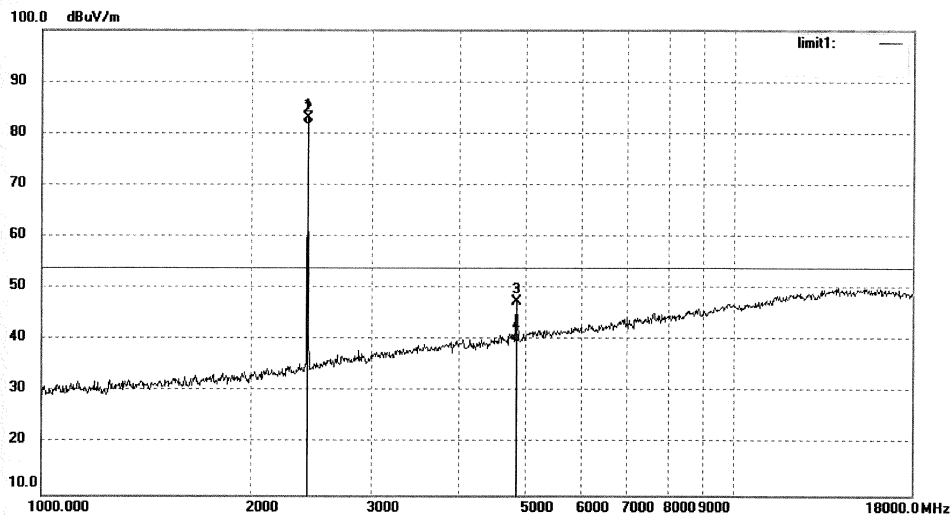
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2422.999	90.36	-7.40	82.96	114.00	-31.04	peak			
2	2422.999	88.96	-7.40	81.56	94.00	-12.44	AVG			
3	4845.989	47.44	-0.06	47.38	74.00	-26.62	peak			
4	4845.989	39.62	-0.06	39.56	54.00	-14.44	AVG			


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Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2248

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2422.999MHz

Model: HC312

Manufacturer: Limoss

Polarization: Vertical

Power Source: DC 12V

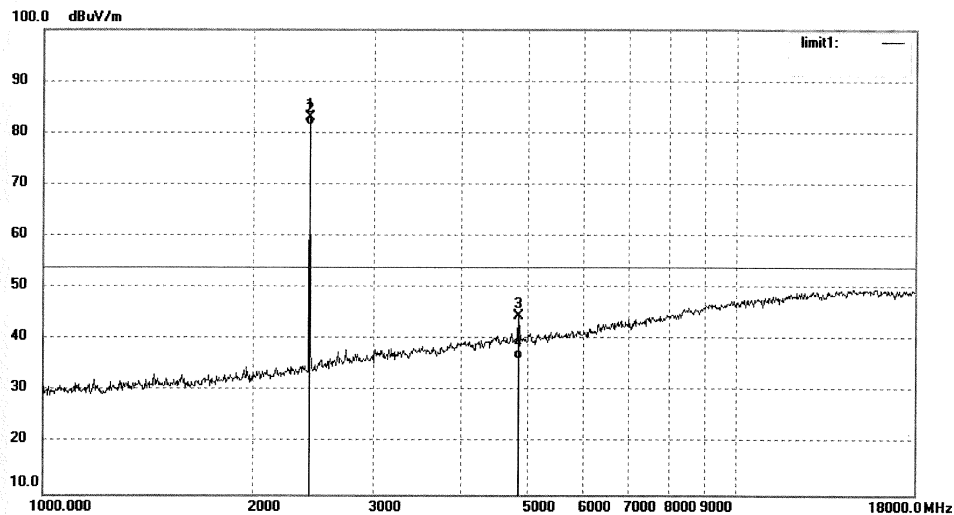
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2422.999	90.35	-7.40	82.95	114.00	-31.05	peak			
2	2422.999	88.95	-7.40	81.55	94.00	-12.45	AVG			
3	4845.975	44.63	-0.06	44.57	74.00	-29.43	peak			
4	4845.975	36.29	-0.06	36.23	54.00	-17.77	AVG			


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Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2250

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2448.393MHz

Model: HC312

Manufacturer: Limoss

Polarization: Horizontal

Power Source: DC 12V

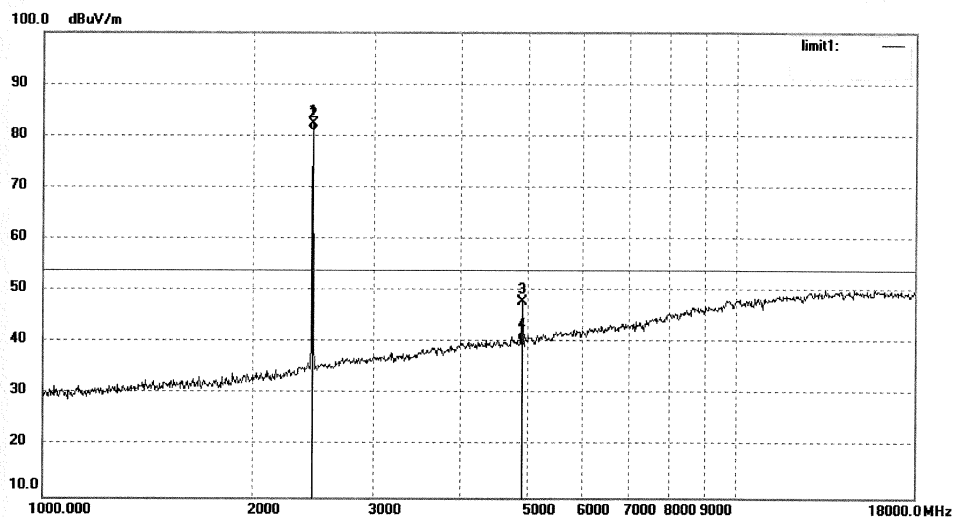
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2448.393	89.63	-7.34	82.29	114.00	-31.71	peak			
2	2448.393	88.43	-7.34	81.09	94.00	-12.91	AVG			
3	4896.789	47.79	0.22	48.01	74.00	-25.99	peak			
4	4896.789	39.99	0.22	40.21	54.00	-13.79	AVG			


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 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2251

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2448.393MHz

Model: HC312

Manufacturer: Limoss

Polarization: Vertical

Power Source: DC 12V

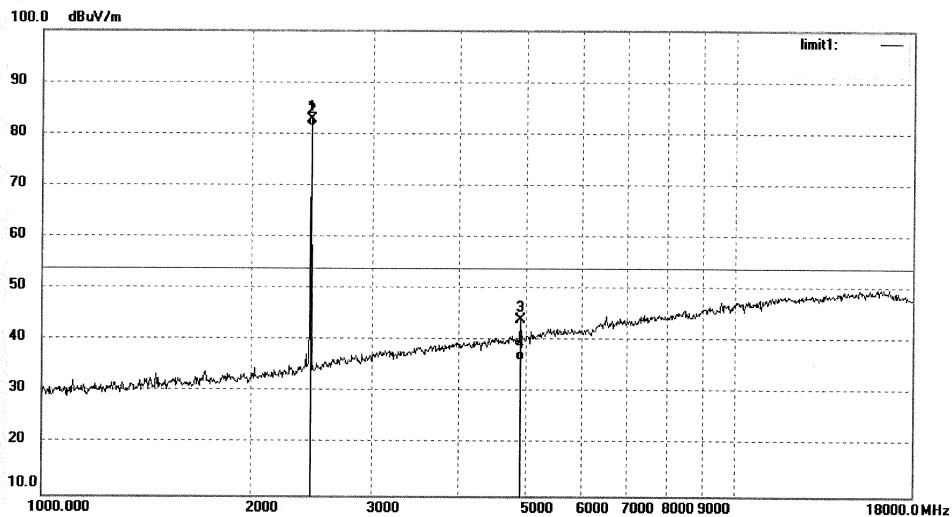
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2448.393	90.09	-7.34	82.75	114.00	-31.25	peak			
2	2448.393	88.89	-7.34	81.55	94.00	-12.45	AVG			
3	4896.787	43.94	0.22	44.16	74.00	-29.84	peak			
4	4896.787	36.01	0.22	36.23	54.00	-17.77	AVG			


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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2253

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2473.987MHz

Model: HC312

Manufacturer: Limoss

Polarization: Horizontal

Power Source: DC 12V

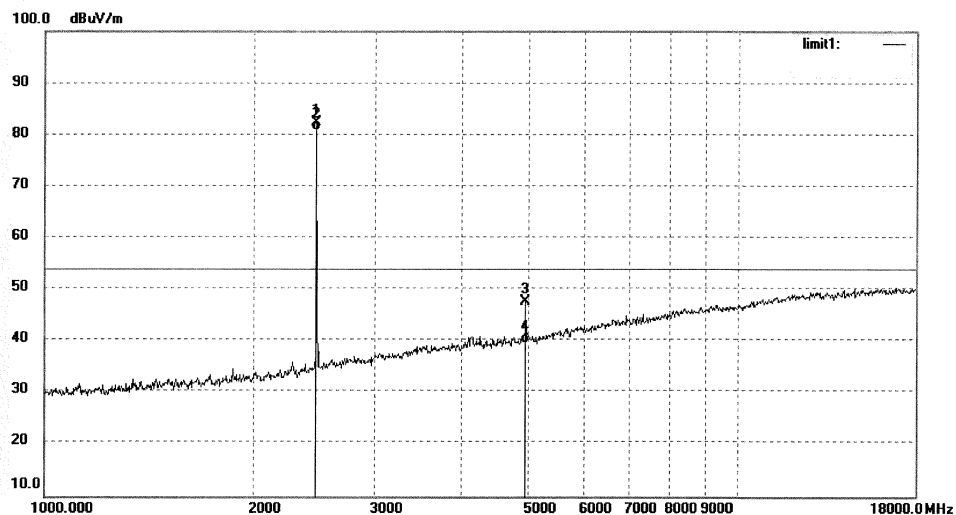
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2473.987	89.79	-7.37	82.42	114.00	-31.58	peak			
2	2473.987	88.09	-7.37	80.72	94.00	-13.28	AVG			
3	4947.980	47.24	0.46	47.70	74.00	-26.30	peak			
4	4947.980	39.10	0.46	39.56	54.00	-14.44	AVG			


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Fax:+86-0755-26503396

Job No.: LGWADE #2252

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2473.987MHz

Model: HC312

Manufacturer: Limoss

Polarization: Vertical

Power Source: DC 12V

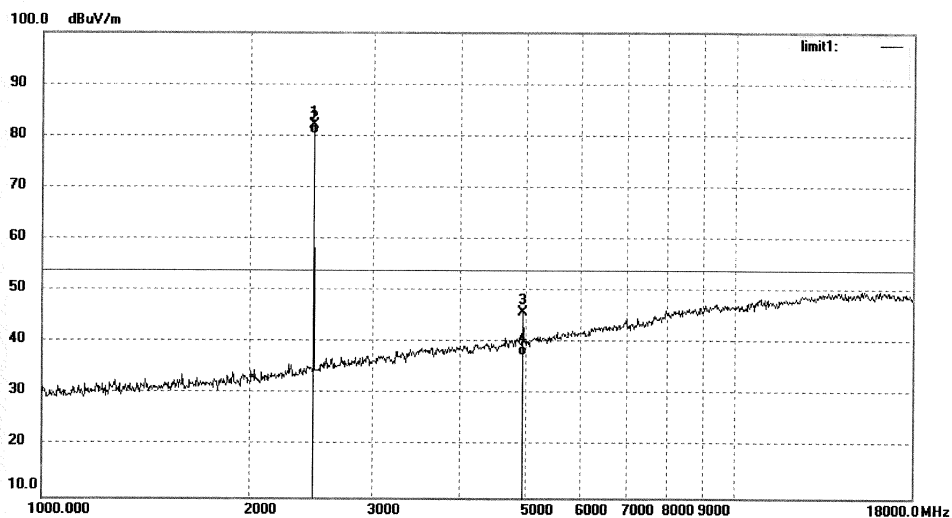
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2473.987	89.48	-7.37	82.11	114.00	-31.89	peak			
2	2473.987	87.78	-7.37	80.41	94.00	-13.59	AVG			
3	4947.975	45.48	0.46	45.94	74.00	-28.06	peak			
4	4947.975	37.13	0.46	37.59	54.00	-16.41	AVG			

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Fax:+86-0755-26503396

Job No.: LGWADE #2242

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2422.999MHz

Model: HC312

Manufacturer: Limoss

Polarization: Horizontal

Power Source: DC 12V

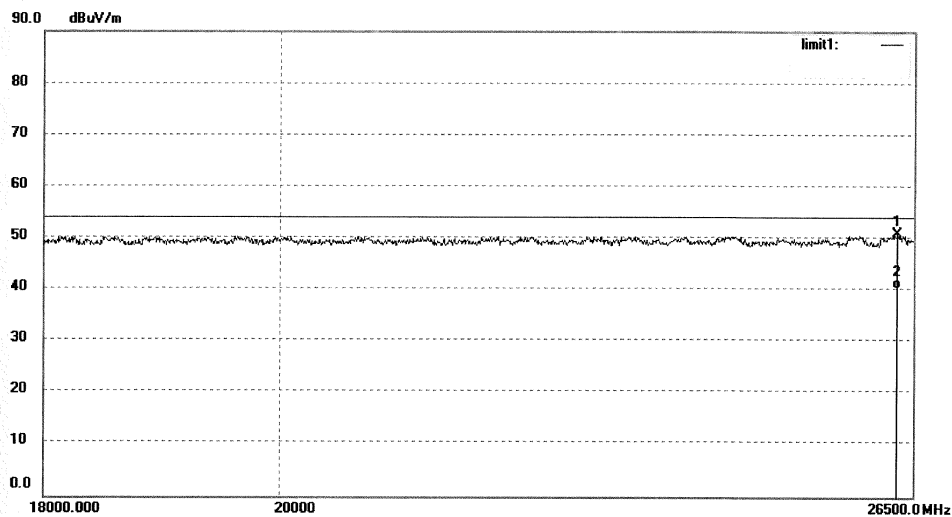
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26305.974	34.37	16.50	50.87	74.00	-23.13	peak			
2	26305.974	23.81	16.50	40.31	54.00	-13.69	AVG			


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Job No.: LGWADE #2243

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2422.999MHz

Model: HC312

Manufacturer: Limoss

Polarization: Vertical

Power Source: DC 12V

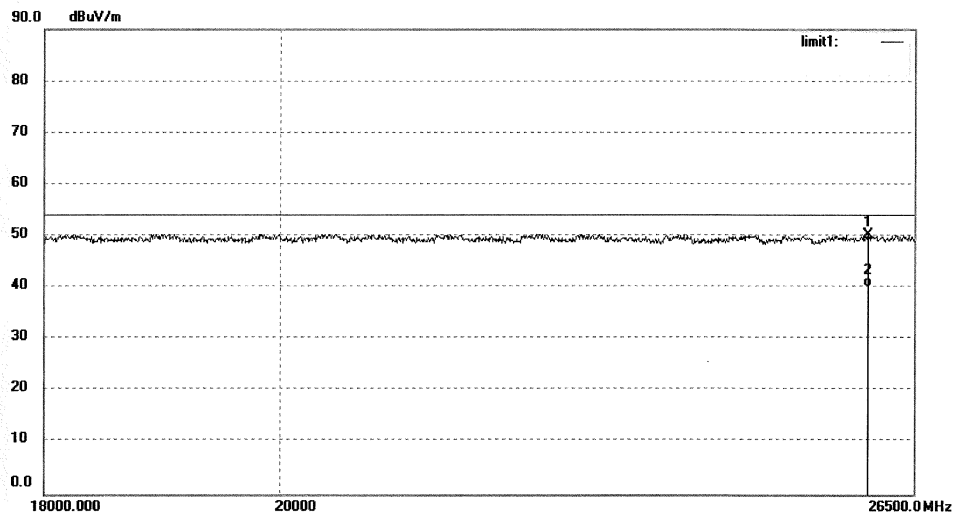
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	25952.268	32.92	17.26	50.18	74.00	-23.82	peak			
2	25952.268	22.97	17.26	40.23	54.00	-13.77	AVG			


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Fax:+86-0755-26503396

Job No.: LGWADE #2245

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2448.393MHz

Model: HC312

Manufacturer: Limoss

Polarization: Horizontal

Power Source: DC 12V

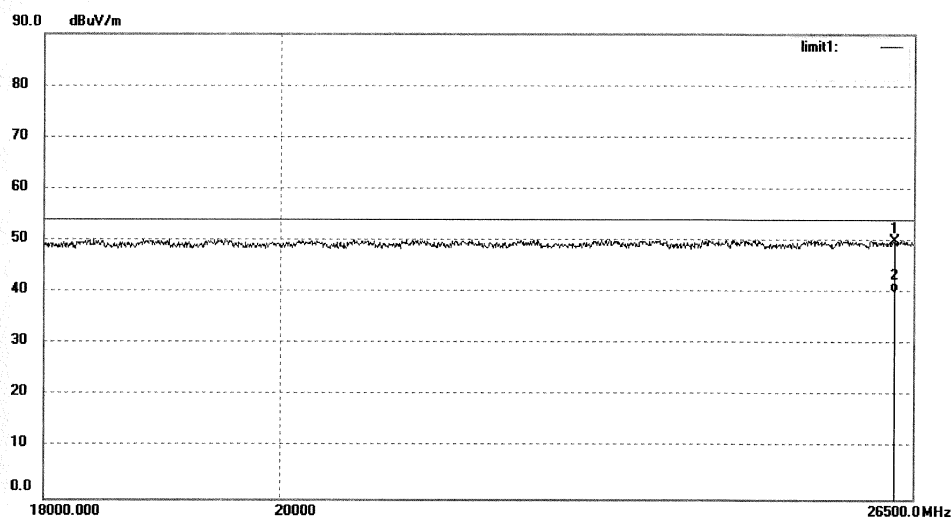
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Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26275.468	33.51	16.50	50.01	74.00	-23.99	peak			
2	26275.468	23.62	16.50	40.12	54.00	-13.88	AVG			

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Job No.: LGWADE #2244

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2448.393MHz

Model: HC312

Manufacturer: Limoss

Polarization: Vertical

Power Source: DC 12V

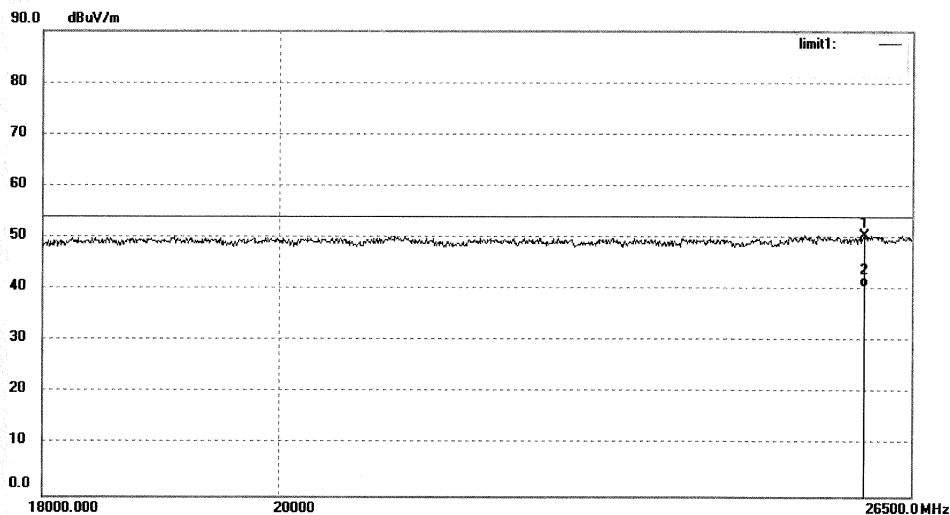
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Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	25932.200	33.21	17.28	50.49	74.00	-23.51	peak			
2	25932.200	23.40	17.28	40.68	54.00	-13.32	AVG			

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Fax:+86-0755-26503396

Job No.: LGWADE #2246

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2473.987MHz

Model: HC312

Manufacturer: Limoss

Polarization: Horizontal

Power Source: DC 12V

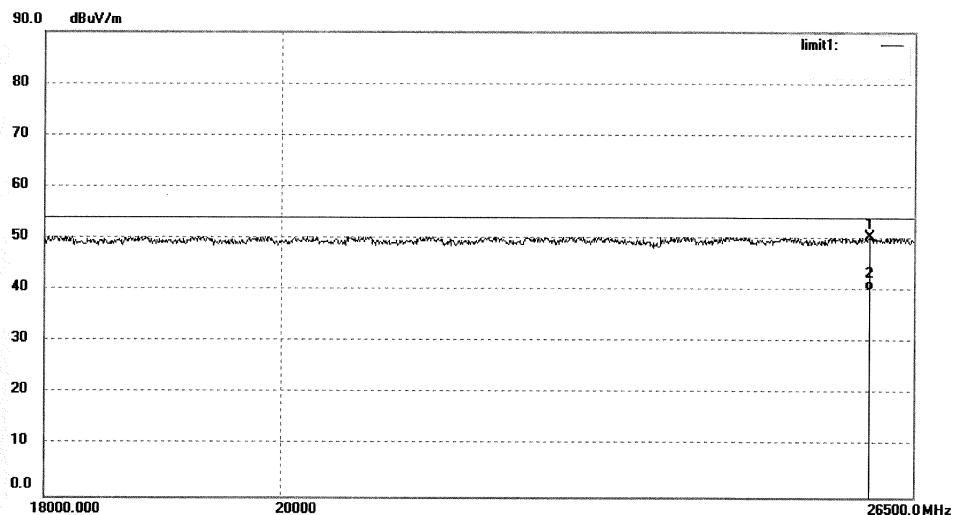
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	25982.398	33.95	16.50	50.45	74.00	-23.55	peak			
2	25982.398	23.73	16.50	40.23	54.00	-13.77	AVG			

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Job No.: LGWADE #2247

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Handset

Mode: TX 2473.987MHz

Model: HC312

Manufacturer: Limoss

Polarization: Vertical

Power Source: DC 12V

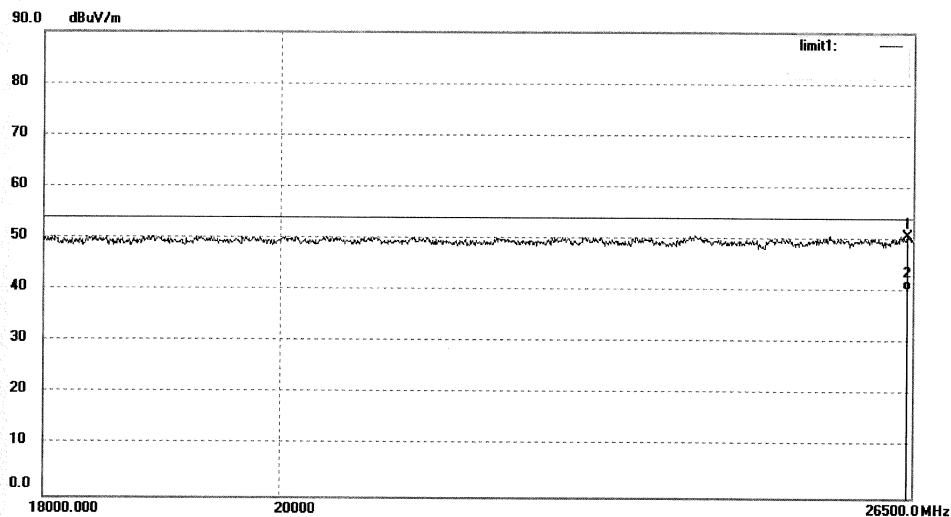
Date: 16/06/24/

Time:

Engineer Signature: LGWADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26438.574	33.76	16.94	50.70	74.00	-23.30	peak			
2	26438.574	23.41	16.94	40.35	54.00	-13.65	AVG			

Test Plot of Frequency Band Edge


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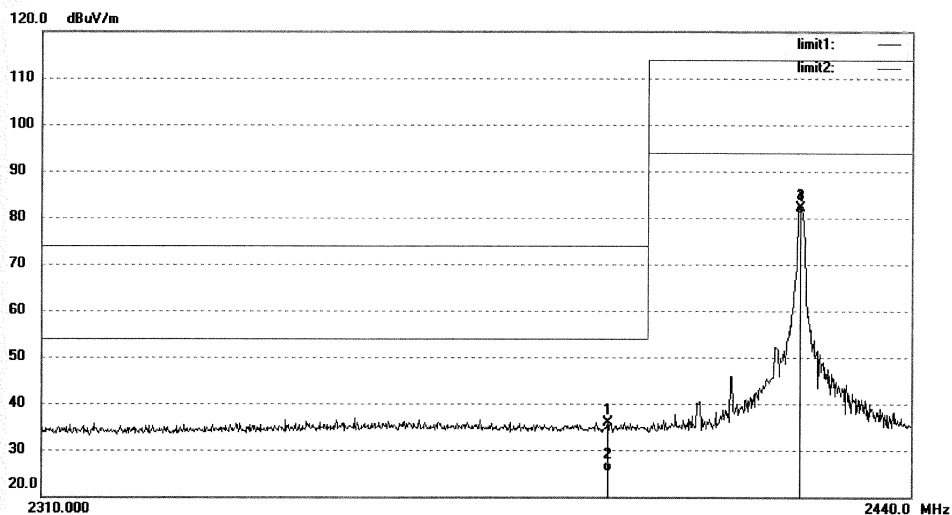
Tel:+86-0755-26503290

Fax:+86-0755-26503396

 Job No.: LGWADE #2257
 Standard: FCC (Band Edge)
 Test item: Radiation Test
 Temp.(C)/Hum.(%) 23 C / 48 %
 EUT: Handset
 Mode: TX 2422.999MHz
 Model: HC312
 Manufacturer: Limoss

 Polarization: Horizontal
 Power Source: DC 12V
 Date: 16/06/24/
 Time:
 Engineer Signature: LGWADE
 Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2393.850	43.48	-7.50	35.98	74.00	-38.02	peak			
2	2393.850	32.86	-7.50	25.36	54.00	-28.64	AVG			
3	2422.999	89.58	-7.40	82.18	114.00	-31.82	peak			
4	2422.999	88.18	-7.40	80.78	94.00	-13.22	AVG			


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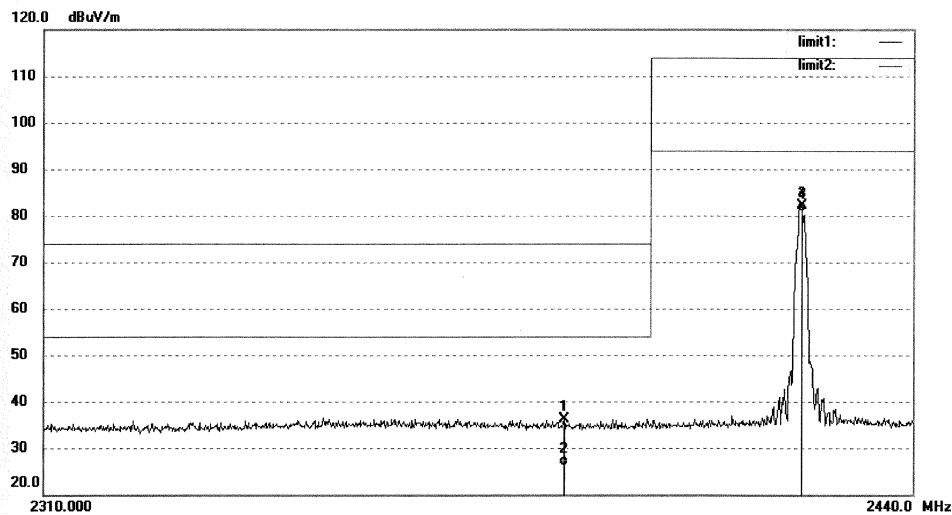
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2256
Standard: FCC (Band Edge)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Handset
Mode: TX 2422.999MHz
Model: HC312
Manufacturer: Limoss

Polarization: Vertical
Power Source: DC 12V
Date: 16/06/24/
Time:
Engineer Signature: LGWADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2387.090	43.69	-7.54	36.15	74.00	-37.85	peak			
2	2387.090	33.77	-7.54	26.23	54.00	-27.77	AVG			
3	2422.999	89.60	-7.40	82.20	114.00	-31.80	peak			
4	2422.999	88.20	-7.40	80.80	94.00	-13.20	AVG			


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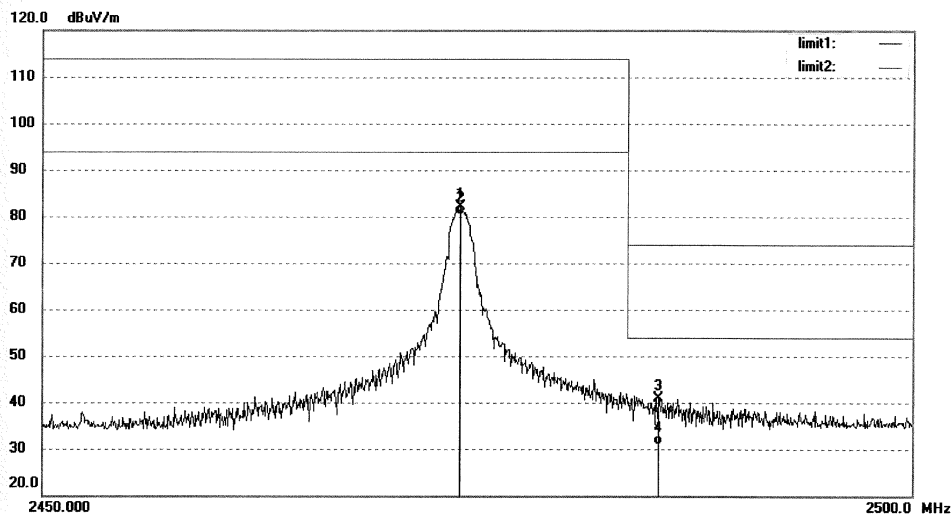
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2254
Standard: FCC (Band Edge)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Handset
Mode: TX 2473.987MHz
Model: HC312
Manufacturer: Limoss

Polarization: Horizontal
Power Source: DC 12V
Date: 16/06/24/
Time:
Engineer Signature: LGWADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2473.987	89.43	-7.37	82.06	114.00	-31.94	peak			
2	2473.987	87.73	-7.37	80.36	94.00	-13.64	AVG			
3	2485.350	48.26	-7.38	40.88	74.00	-33.12	peak			
4	2485.350	38.19	-7.38	30.81	54.00	-23.19	AVG			


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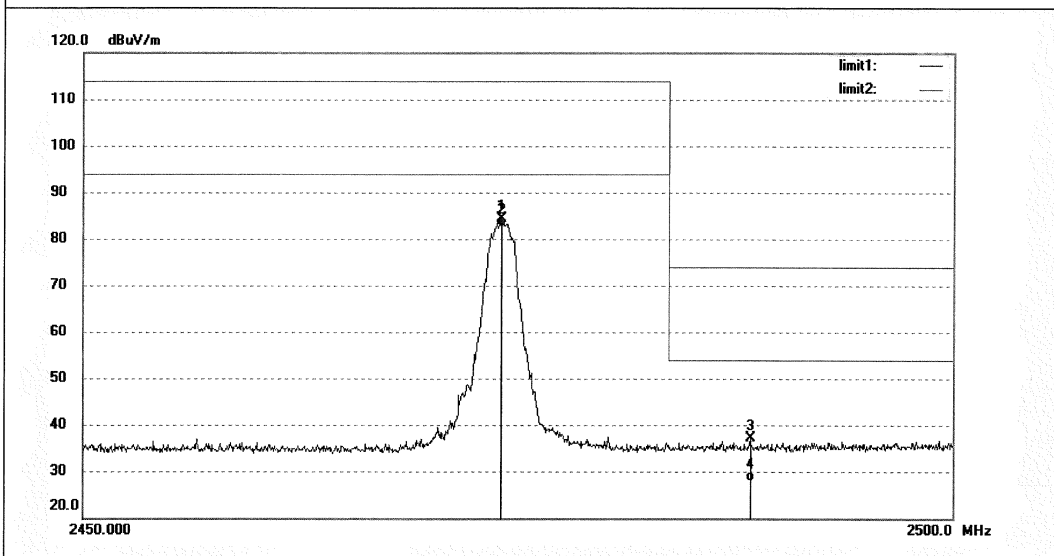
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2255
Standard: FCC (Band Edge)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Handset
Mode: TX 2473.987MHz
Model: HC312
Manufacturer: Limoss

Polarization: Vertical
Power Source: DC 12V
Date: 16/06/24/
Time:
Engineer Signature: LGWADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2473.987	91.68	-7.37	84.31	114.00	-29.69	peak			
2	2473.987	89.98	-7.37	82.61	94.00	-11.39	AVG			
3	2488.350	44.56	-7.38	37.18	74.00	-36.82	peak			
4	2488.350	35.27	-7.38	27.89	54.00	-26.11	AVG			

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