

ECE TYPE-APPROVAL CERTIFICATE



Communication Concerning: ~~Approval granted~~
~~Approval extended~~
~~Approval refused~~
~~Approval withdrawn~~
~~Production definitively discontinued~~

Of a type of electrical/electronic sub-assembly with regard to Regulation No.10.

Approval No: **E24 10R-052231**

Extension No: *N/A*

Reason for extension: *N/A*

1. Make (trade name of manufacturer):

WLINK

2. Type and general commercial description:

WL-R210
Industrial 3G/4G Router

Variant(s):

WL-R210LC-g; WL-R210LC-d;
WL-R210H-g

3. Means of identification of type, if marked on the component:

Model label on the rear panel label by letters and digits

3.1 Location of that marking:

On the rear panel of the device

4. Category of vehicle:

See Appendix

5. Name and address of manufacturer:



Shenzhen Wlink Technology Co., Ltd.
319, Yibeng Building, Chaguang Road, Xili Town, Nanshan District, Shenzhen, Guangdong, China

6. In the case of components and separate technical units, location and method of affixing of the ECE approval mark:

On the rear panel of the device

7. Address(es) of assembly plant(s):

319, Yibeng Building, Chaguang Road, Xili Town, Nanshan District, Shenzhen, Guangdong, China

8. Additional information (where applicable): *See appendix*
9. Technical service responsible for carrying out the tests: *TÜV SÜD Auto Service GmbH
Westendstraße 199
D-80686 München*
10. Date of test report: *18.04.2017*
11. Number of test report: *17-00444-CX-SHA-00*
12. Remarks (if any): *See Appendix*
13. Place: *Dublin*
14. Date: *25th May, 2017.*
15. Signature: 
- 
16. The index to the information package lodged with the approval authority, which may be obtained on request is attached.

Appendix

To type-approval communication concerning the type approval of an electrical/electronic sub-assembly under Regulation No.10.

- | | | |
|-------|---|---|
| 1. | Additional information | |
| 1.1. | Electrical system rated voltage: | <i>12V or 24V DC, negative ground</i> |
| 1.2. | This ESA can be used on any vehicle type with the following restrictions: | <i>See manufacturer's specifications.</i> |
| 1.2.1 | Installation conditions, if any: | <i>See manufacturer's specifications.</i> |
| 1.3. | This ESA can only be used on the following vehicle types: | <i>N/A</i> |
| 1.3.1 | Installation conditions, if any: | <i>N/A</i> |
| 1.4. | The specific test method(s) used and the frequency ranges covered to determine immunity were: | <i>N/A</i> |
| 1.5. | Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests: | <i>TÜV SÜD Auto Service GmbH</i> |
| 2. | Remarks: | <i>N/A</i> |

Appendix to type-approval communication concerning the type approval of a vehicle under Regulation No.10.

- | | | |
|-----|---|------------|
| 1. | Additional information | |
| 2. | Special devices for the purpose of Annex 4 to this Regulation: | <i>N/A</i> |
| 3. | Electrical system rated voltage: | <i>N/A</i> |
| 4. | Type of bodywork: | <i>N/A</i> |
| 5. | List of electronic systems installed in the tested vehicle(s) not limited to the items in the information document: | <i>N/A</i> |
| 5.1 | Vehicle equipped with 24 GHz short-range radar equipment (yes/no): | <i>N/A</i> |
| 6. | Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests: | <i>N/A</i> |
| 7. | Remarks: | <i>N/A</i> |

Index to the Information Package

Date of issue:	<i>25th May, 2017.</i>
Date of latest amendment:	<i>N/A</i>
Reason for extension/revision:	<i>N/A</i>
1. Additional conditions, and advisory notes on legal alternatives.	
2. Test report(s)	
- numbers(s):	<i>17-00444-CX-SHA-00</i>
- date of issue:	<i>18.04.2017</i>
- date of latest amendment:	<i>N/A</i>
3. Information document	
- number(s):	<i>WL-R210-00</i>
- date of issue:	<i>20.03.2017</i>
- date of latest amendment:	<i>N/A</i>
Documentation:	<i>27 pages</i>

Appendix: Additional conditions, and advisory notes on legal alternatives

A: Additional conditions:

1. The attached technical report, with any of its attachments, forms part of this Type Approval certificate.
2. Each type from series production shall be to the measurements specified in the attached drawings, and shall be manufactured only from the materials specified in the Approval documents.
3. Changes in the type are permitted only with the explicit permission of NSAI. Breaches of this requirement will lead to a withdrawal of the Type Approval, and in addition may be subject to criminal prosecution.
4. At regular intervals, any tests or associated checks prescribed by the applicable legislation to verify continued conformity with the approved type shall be carried out. The manufacturer shall demonstrate compliance with this by submitting to NSAI evidence of adequate arrangements and documented control plans for each type approved.
5. Any set of samples or test pieces showing evidence of non-conformity shall give rise to further sampling and testing and all steps shall be taken to restore conformity of production.
6. This Type Approval will expire when it is surrendered by the holder, or withdrawn by NSAI, or when the approved type no longer conforms to legal requirements. The recall of the Type Approval can be issued by NSAI when the conditions required for the issuing or continuation of the Type Approval are no longer current, or when the Approval holder is in breach of the duties attached to the Type Approval, or when it is established that the approved type no longer meets the requirements of traffic safety.
7. Changes in the company name, address or manufacturing site, as well as in any of the sales or other agents specified in the issuing of the approval must immediately be notified to NSAI.
8. The duties imposed by the issuing of this certificate are not transferable. The legal protection of third parties is not affected by this certificate.
9. When the manufacture or sale of the system, component or separate technical unit has not been started within one year of the date of issue of this certificate, then NSAI is to be informed. This requirement also applies when the manufacture or sale has been halted for more than one year, or when it ought to have been halted for more than one year. The initial commencement of manufacture or sale, or the resumption of manufacture or sale, shall then be notified to NSAI within one month of commencement or resumption.

B: Legal Options:

Any objection to the requirements set out in this certificate shall be made within one month of the date of issue. The objection shall be made, in writing, to NSAI in Dublin.

Technical Report No.: 17-00444-CX-SHA-00
Manufacturer: Shenzhen Wlink Technology Co., Ltd.
Type: WL-R210

TECHNICAL REPORT

No.: 17-00444-CX-SHA-00

Test of a type of a component

According to the Regulation of the Economic Commission for Europe relating to

Electromagnetic Compatibility

No.: ECE R10

Including all amendments up to

05 series

Approval status	
<input checked="" type="checkbox"/>	Granting of a type approval
<input type="checkbox"/>	Extension/correction to type approval no.: --

Technical Report No.: 17-00444-CX-SHA-00
Manufacturer: Shenzhen Wlink Technology Co., Ltd.
Type: WL-R210

1. General

- 1.1. Make : WLINK
- 1.2. Type : WL-R210
- 1.3. Variants : WL-R210LC-g; WL-R210LC-d; WL-R210H-g
- 1.4. Commercial description(s) : Industrial 3G/4G Router
- 1.5. Category of vehicle : N/A
- 1.6. Name and address of manufacturer : Shenzhen Wlink Technology Co., Ltd.
319, Yibeng Building, Chaguang Road,
Xili Town, Nanshan District, Shenzhen,
Guangdong, China
- 1.7. Name and address of representative : N/A
- 1.8. Information document
No. : WL-R210-00
Date of issue : 2017-04-11(YYYY-MM-DD)
Last date of amendment : N/A
- 1.9. Technical description of the component : See manufacturer's information document

Technical Report No.: 17-00444-CX-SHA-00
 Manufacturer: Shenzhen Wlink Technology Co., Ltd.
 Type: WL-R210

- 2. **Test record** : Refer to Annex 2
- 3. **Enclosure(s)**

- Annex 1 List of modification
- Annex 2 Test record
- Annex 2a Measurement diagrams of the radio interference 30 MHz - 1 GHz
- Annex 2b Immunity of ESA to conducted transient interferences
- Annex 2c Conducted transients from ESAs to the vehicle power supply
- Annex 2d Immunity of ESA to electromagnetic radiation
- Annex 3 Information document

4. **Statement of conformity**

The information folder as mentioned under No. 1.8. and the type described therein are in compliance with the test specification mentioned above. The worst-case was selected in accordance with document "Preparation of Test Reports".
 The test report may be reproduced and published in full and by the client only. It can be reproduced partially with the written permission of the test laboratory only.

München, 2017-04-18
 (YYYY-MM-DD)



Erip Zeng
 Test Laboratory / DIN EN ISO 17025

Approval authority	Country	Registration-number	Actual scope list
Krafftahrt-Bundesamt (KBA)	Germany	KBA-P 00100-10	http://www.kba.de
Vehicle Certification Agency (VCA)	United Kingdom	VCA-TS-006	http://ec.europa.eu/enterprise/sectors/automotive/approval-authorities-technical-services/technical-services/index_en.htm
Approval Authority of the Netherlands (RDW)	The Netherlands	RDWT-082-03	
National Standards Authority of Ireland (NSAI)	Ireland	Technical Service Number: 49	
Vehicle Safety Certification Center (VSCC)	Taiwan	DE04-06-2	http://www.vsc.org.tw/English/Default.aspx



Technical Report No.: 17-00444-CX-SHA-00
Manufacturer: Shenzhen Wlink Technology Co., Ltd.
Type: WL-R210

Annex 1

List of modification

Correction of : N/A

Modification of : N/A

Addition of : N/A

Deletion of : N/A

Technical Report No.: 17-00444-CX-SHA-00
Manufacturer: Shenzhen Wlink Technology Co., Ltd.
Type: WL-R210

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Annex 2

Test record

1. Technical data of the test component

Representative ESA : WL-R210

Tested variant (if any) : N/A

2. Test conditions

2.1. Instrument : In accordance to the standard above

2.2. Ambient condition : In accordance to the standard above

2.3. Carrying out of the test

2.3.1. Broadband electromagnetic interference generated by ESA

2.3.1.1. Method of measurement : Measured by the method described in Annex 7 of ECE Regulation No. 10.

2.3.1.2. Results : The measured values, expressed in dB μ V/m, are below the reference limits.

The test was passed.

2.3.2. Narrowband electromagnetic interference generated by ESA

2.3.2.1. Method of measurement : Measured by the method described in Annex 8 of ECE Regulation No. 10.

2.3.2.2. Results : The measured values, expressed in dB μ V/m, are below the reference limits. The test was passed.

Technical Report No.: 17-00444-CX-SHA-00
Manufacturer: Shenzhen Wlink Technology Co., Ltd.
Type: WL-R210

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2.3.3. Immunity of ESA to electromagnetic radiation

2.3.3.1. Method of measurement : No examinations were accomplished, since the ESA does not have influence on direct control of vehicles and/or the system cannot be affected due to its specific structure by electromagnetic disturbances.

2.3.3.2. Performance criteria : No degradation of function by testing with 60 mA (bulk current injection) and 30 V/m (anechoic chamber).

2.3.3.3. Results : -

2.3.4. Immunity of ESA to conducted transient interferences

2.3.4.1. Method of measurement : Measured as described in Annex 10 of ECE Regulation No. 10.

2.3.4.2. Results : The ESA has not exhibited any unacceptable malfunction. The claimed functional state was fulfilled during the test. The test was passed.

2.3.5. Conducted transient interferences generated by ESA

2.3.5.1. Method of measurement : Measured as described in Annex 10 of ECE Regulation No. 10.

2.3.5.2. Results : The measured values are below the reference limits. The test was passed.

3. Test result

The results of the tests are attached in the diagrams of the enclosure.

4. Place and date of test

Place : Guangzhou GRG Metrology & Test Co., Ltd.
Date : 2017-04-12 (YYYY-MM-DD)

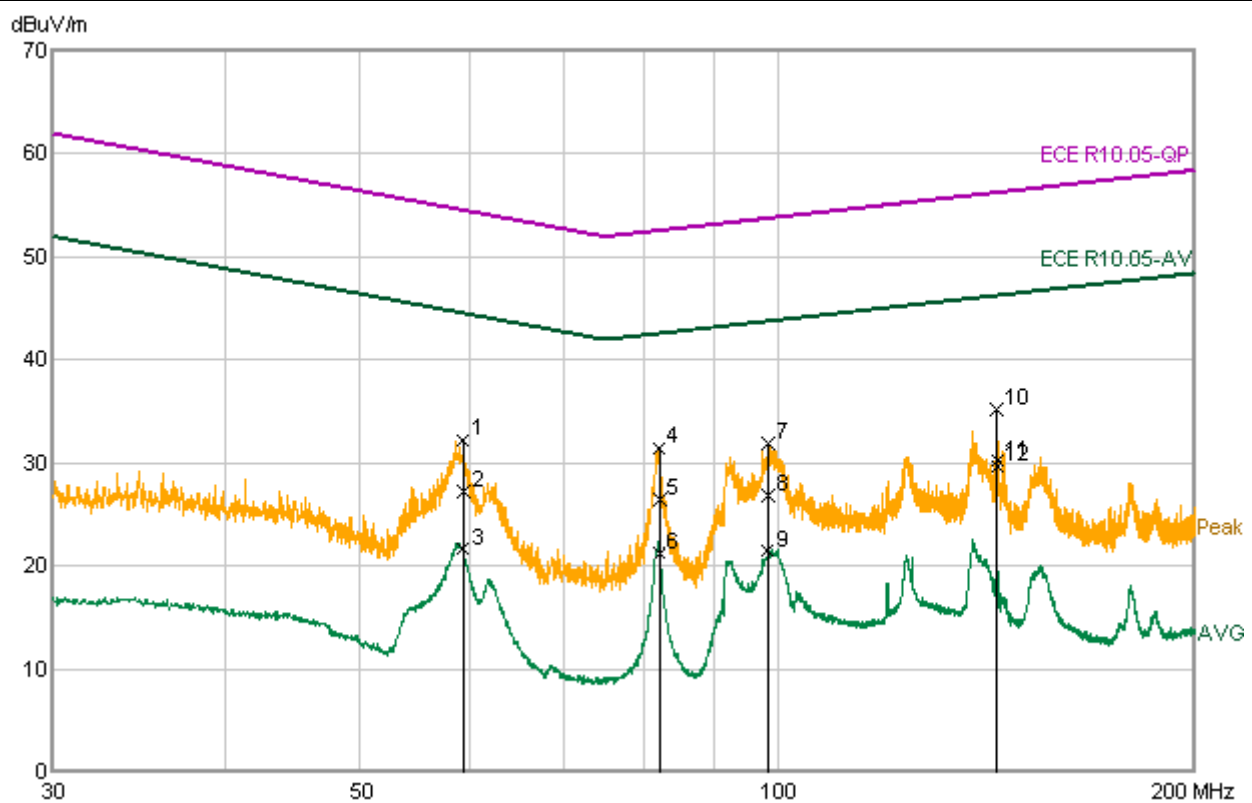
Technical Report No.: 17-00444-CX-SHA-00
 Manufacturer: Shenzhen Wlink Technology Co., Ltd.
 Type: WL-R210

Annex 2a Measurement diagrams of the radio interference 30 MHz - 1 GHz

Tested Model: WL-R210 Test Voltage: 13.5V
 Test Mode: Transmitting Test Result: Pass

30 to 200MHz - Horizontal:

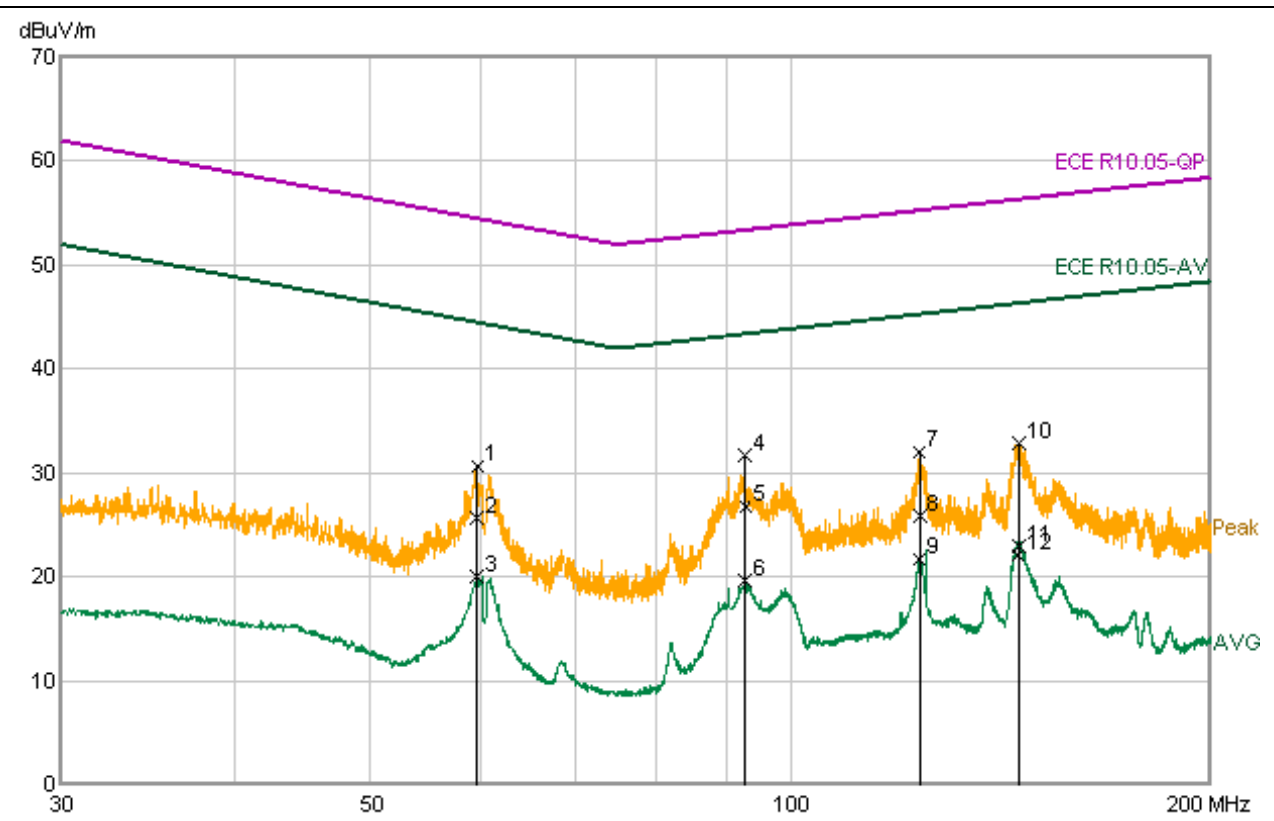
30 - 200MHz: RBW = 120kHz



No.	Freq. (MHz)	Reading (dBuV)	Factor(dB)	Result (dBuV/m)	Limited (dBuV/m)	Margin (dB)	Note
1	59.32	22.58	9.61	32.19	/	/	PK
2	59.32	17.58	9.61	27.19	54.56	27.37	QP
3	59.32	12.07	9.61	21.68	44.56	22.88	AV
4	82.12	23.62	7.83	31.45	/	/	PK
5	82.12	18.62	7.83	26.45	52.6	26.15	QP
6	82.12	13.38	7.83	21.21	42.6	21.39	AV
7	98.36	21.57	10.29	31.86	/	/	PK
8	98.36	16.57	10.29	26.86	53.78	26.92	QP
9	98.36	11.2	10.29	21.49	43.78	22.29	AV

30 to 200MHz - Vertical:

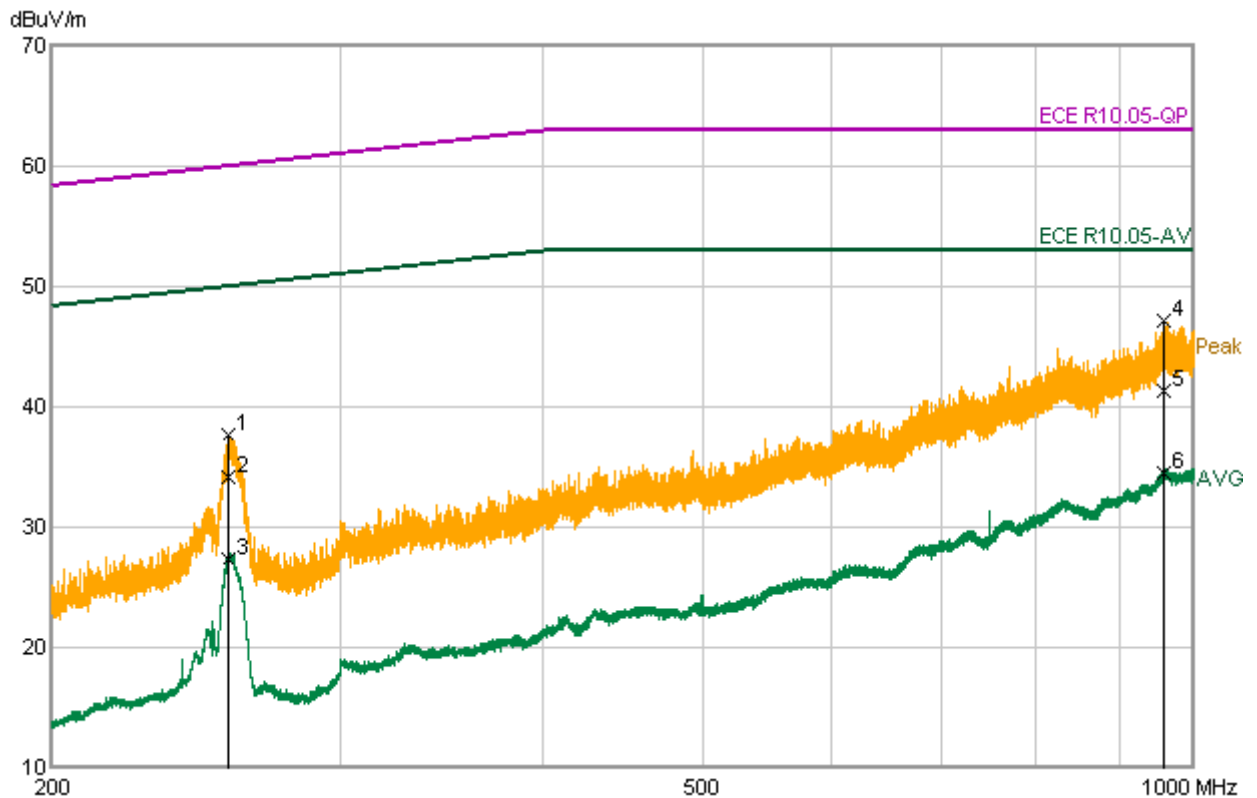
30 - 200MHz: RBW = 120kHz



No.	Freq. (MHz)	Reading (dBuV)	Factor(dB)	Result (dBuV/m)	Limited (dBuV/m)	Margin (dB)	Note
1	59.6	21.06	9.58	30.64	/	/	PK
2	59.6	16.06	9.58	25.64	54.51	28.87	QP
3	59.6	10.45	9.58	20.03	44.51	24.48	AV
4	92.72	22.33	9.42	31.75	/	/	PK
5	92.72	17.33	9.42	26.75	53.39	26.64	QP
6	92.72	10.29	9.42	19.71	43.39	23.68	AV
7	123.68	18.38	13.64	32.02	/	/	PK
8	123.68	12.21	13.64	25.85	55.29	29.44	QP
9	123.68	8.07	13.64	21.71	45.29	23.58	AV
10	145.68	18.83	14.03	32.86	/	/	PK
11	145.68	8.9	14.03	22.93	56.36	33.43	QP
12	145.68	8.07	14.03	22.1	46.36	24.26	AV

200 to 1000MHz - Horizontal:

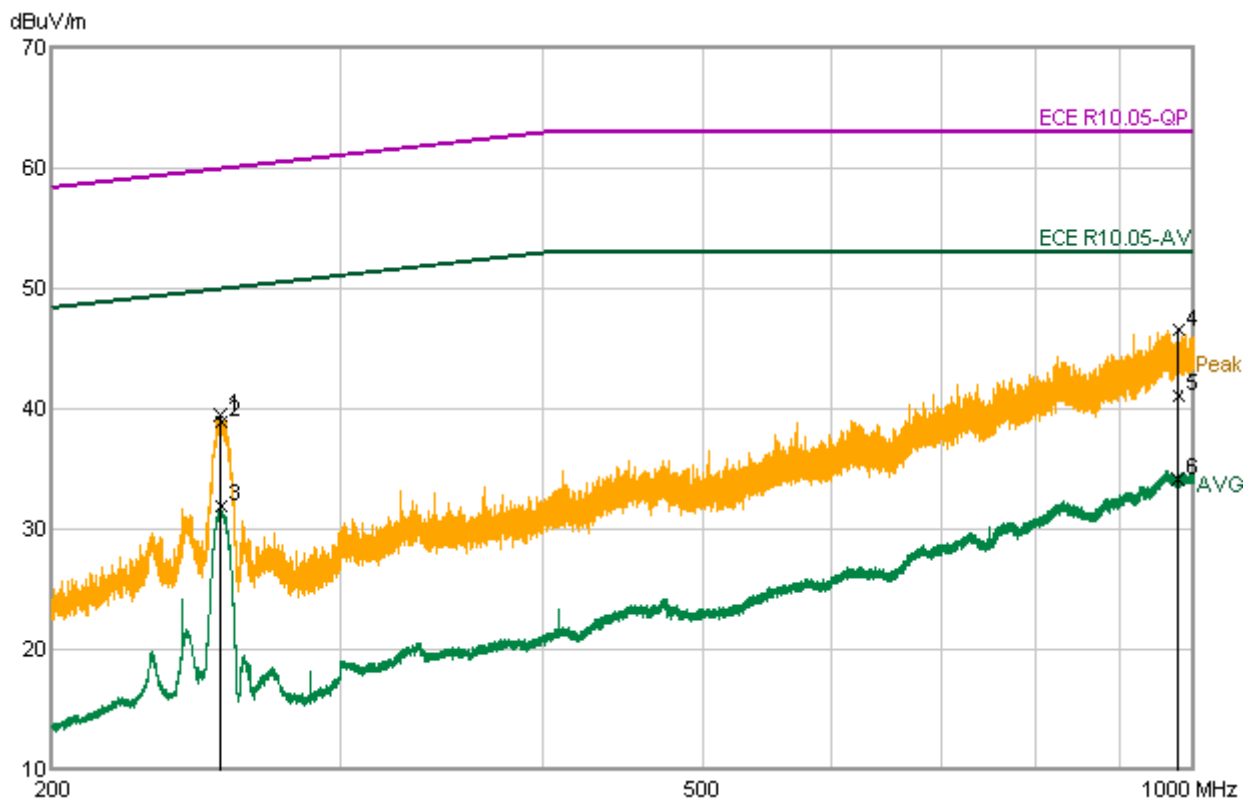
200 - 1000MHz: RBW = 120kHz



No.	Freq. (MHz)	Reading (dBuV)	Factor(dB)	Result (dBuV/m)	Limited (dBuV/m)	Margin (dB)	Note
1	256.48	23.65	14.08	37.73	/	/	PK
2	256.48	20.13	14.08	34.21	60.08	25.87	QP
3	256.48	13.32	14.08	27.4	50.08	22.68	AV
4	957.96	15.92	31.26	47.18	/	/	PK
5	957.96	10.12	31.26	41.38	63	21.62	QP
6	957.96	3.21	31.26	34.47	53	18.53	AV

200 to 1000MHz - Vertical:

200 - 1000MHz: RBW = 120kHz



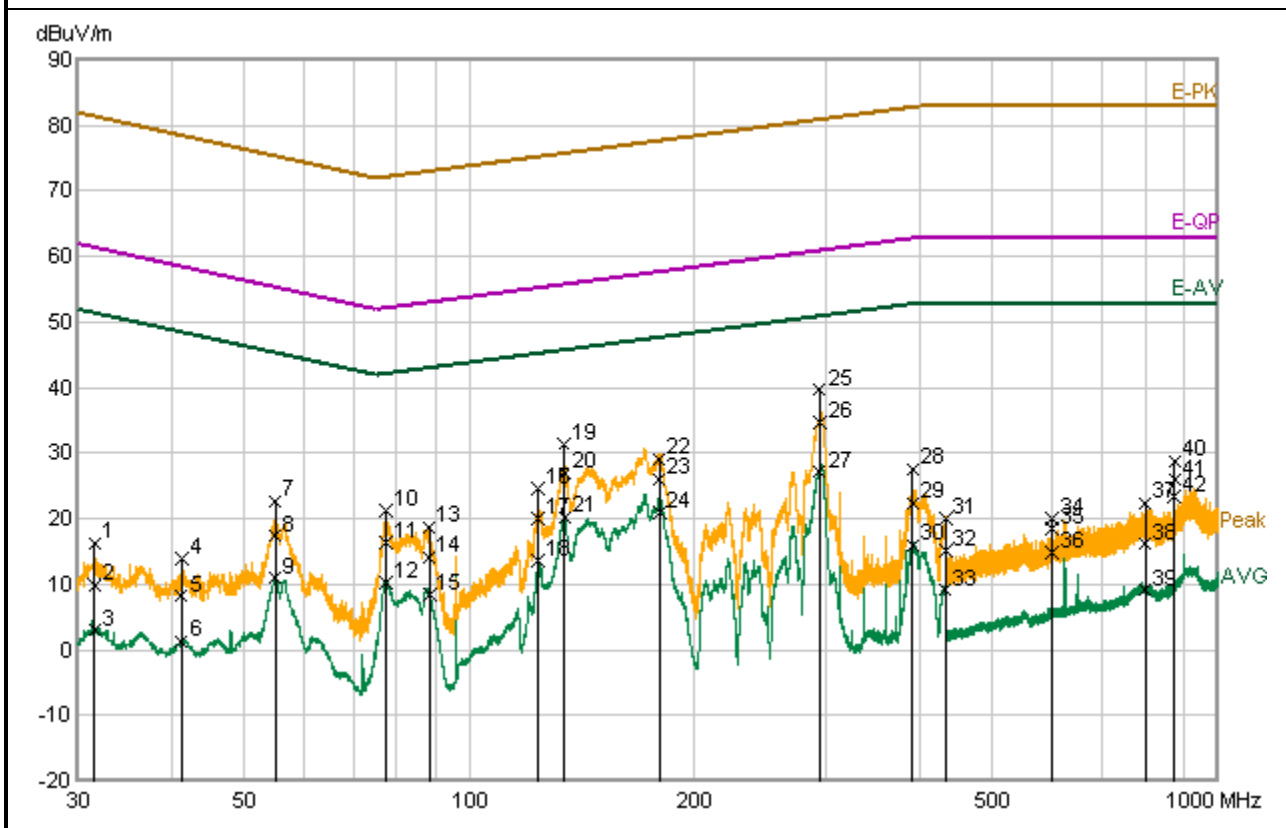
No.	Freq. (MHz)	Reading (dBuV)	Factor(dB)	Result (dBuV/m)	Limited (dBuV/m)	Margin (dB)	Note
1	253.72	25.48	14.03	39.51	/	/	PK
2	253.72	24.91	14.03	38.94	60.01	21.07	QP
3	253.72	17.93	14.03	31.96	50.01	18.05	AV
4	978.6	15.53	31.04	46.57	/	/	PK
5	978.6	10.11	31.04	41.15	63	21.85	QP
6	978.6	3.12	31.04	34.16	53	18.84	AV

Technical Report No.: 17-00444-CX-SHA-00
 Manufacturer: Shenzhen Wlink Technology Co., Ltd.
 Type: WL-R210

Tested Model: WL-R210 Test Voltage: 27V
 Test Mode: Transmitting Test Result: Pass

30 to 1000MHz - Vertical:

30 - 200MHz: RBW = 120kHz; 200 - 432MHz: RBW = 120kHz; 432 - 434MHz: RBW = 120kHz; 434 - 1000MHz: RBW = 120kHz



NO.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	31.6	31.88	-15.52	16.36	81.43	65.07	Peak
2	31.6	25.47	-15.52	9.95	61.43	51.48	QP
3	31.6	18.48	-15.52	2.96	51.43	48.47	AVG
4	41.28	30.52	-16.71	13.81	78.52	64.71	Peak
5	41.28	24.98	-16.71	8.27	58.52	50.25	QP
6	41.28	17.98	-16.71	1.27	48.52	47.25	AVG
7	55	43.46	-20.74	22.72	75.38	52.66	Peak
8	55	38.12	-20.74	17.38	55.38	38	QP
9	55	31.74	-20.74	11	45.38	34.38	AVG

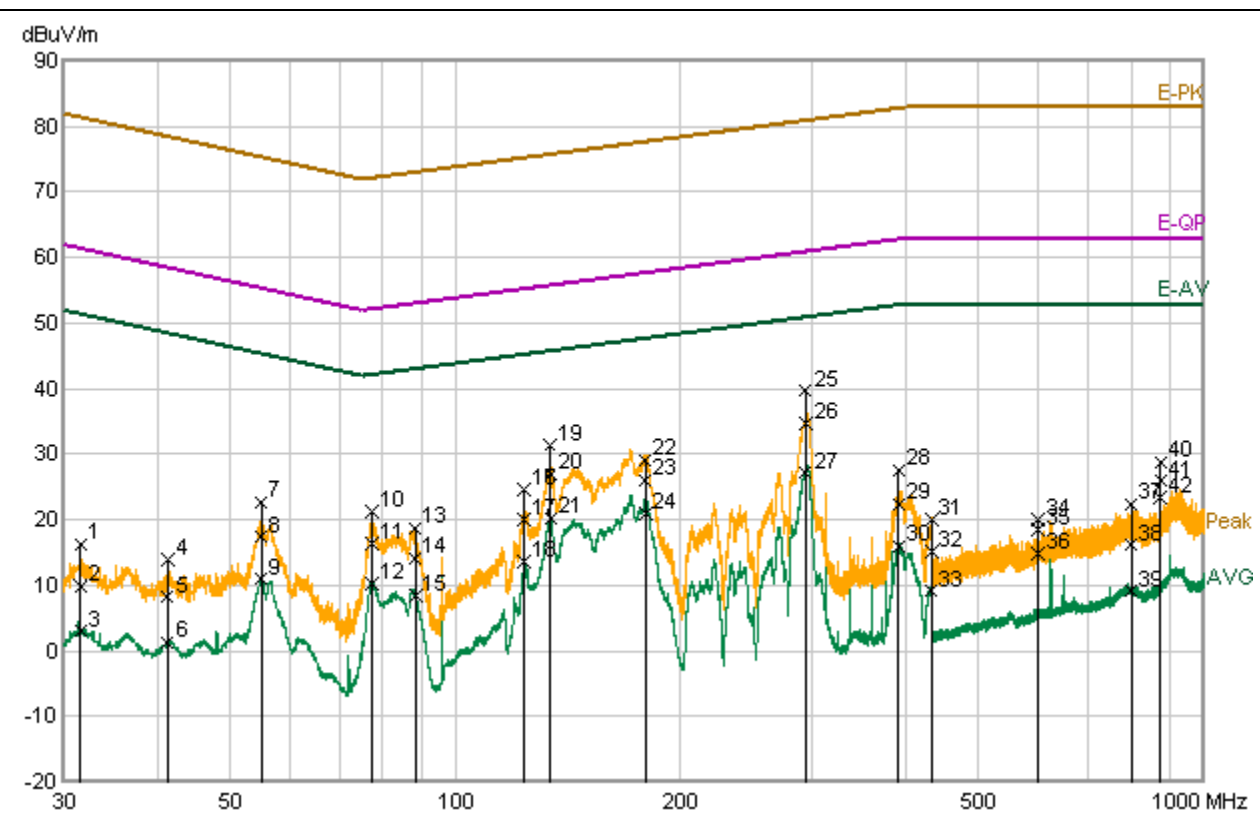
Technical Report No.: 17-00444-CX-SHA-00
 Manufacturer: Shenzhen Wlink Technology Co., Ltd.
 Type: WL-R210

10	77.44	44.77	-23.45	21.32	72.21	50.89	Peak
11	77.44	39.82	-23.45	16.37	52.21	35.84	QP
12	77.44	33.73	-23.45	10.28	42.21	31.93	AVG
13	88.36	41.04	-22.31	18.73	73.08	54.35	Peak
14	88.36	36.47	-22.31	14.16	53.08	38.92	QP
15	88.36	30.72	-22.31	8.41	43.08	34.67	AVG
16	123.56	42.05	-17.38	24.67	75.28	50.61	Peak
17	123.56	37.34	-17.38	19.96	55.28	35.32	QP
18	123.56	30.96	-17.38	13.58	45.28	31.7	AVG
19	133.88	48.63	-17.19	31.44	75.81	44.37	Peak
20	133.88	44.16	-17.19	26.97	55.81	28.84	QP
21	133.88	37.42	-17.19	20.23	45.81	25.58	AVG
22	179.4	49.05	-19.92	29.13	77.73	48.6	Peak
23	179.4	45.97	-19.92	26.05	57.73	31.68	QP
24	179.4	40.85	-19.92	20.93	47.73	26.8	AVG
25	293.52	55.62	-15.93	39.69	80.97	41.28	Peak
26	293.52	50.66	-15.93	34.73	60.97	26.24	QP
27	293.52	43.12	-15.93	27.19	50.97	23.78	AVG
28	391.2	40.07	-12.51	27.56	82.85	55.29	Peak
29	391.2	34.84	-12.51	22.33	62.85	40.52	QP
30	391.2	28.49	-12.51	15.98	52.85	36.87	AVG
31	432.28	32.34	-12.27	20.07	83	62.93	Peak
32	432.28	27.43	-12.27	15.16	63	47.84	QP
33	432.28	21.43	-12.27	9.16	53	43.84	AVG
34	600	28.97	-8.89	20.08	83	62.92	Peak
35	600	27.35	-8.89	18.46	63	44.54	QP
36	600	23.86	-8.89	14.97	53	38.03	AVG
37	799.56	27.42	-5.02	22.4	83	60.6	Peak
38	799.56	21.18	-5.02	16.16	63	46.84	QP
39	799.56	14.17	-5.02	9.15	53	43.85	AVG
40	875	33.12	-4.34	28.78	83	54.22	Peak
41	875	30.31	-4.34	25.97	63	37.03	QP
42	875	27.77	-4.34	23.43	53	29.57	AVG

Technical Report No.: 17-00444-CX-SHA-00
 Manufacturer: Shenzhen Wlink Technology Co., Ltd.
 Type: WL-R210

30 to 1000MHz - Horizontal:

30 - 200MHz: RBW = 120kHz; 200 - 432MHz: RBW = 120kHz; 432 - 434MHz: RBW = 120kHz; 434 - 1000MHz: RBW = 120kHz



NO.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	31.6	31.88	-15.52	16.36	81.43	65.07	Peak
2	31.6	25.47	-15.52	9.95	61.43	51.48	QP
3	31.6	18.48	-15.52	2.96	51.43	48.47	AVG
4	41.28	30.52	-16.71	13.81	78.52	64.71	Peak
5	41.28	24.98	-16.71	8.27	58.52	50.25	QP
6	41.28	17.98	-16.71	1.27	48.52	47.25	AVG
7	55	43.46	-20.74	22.72	75.38	52.66	Peak
8	55	38.12	-20.74	17.38	55.38	38	QP
9	55	31.74	-20.74	11	45.38	34.38	AVG
10	77.44	44.77	-23.45	21.32	72.21	50.89	Peak
11	77.44	39.82	-23.45	16.37	52.21	35.84	QP
12	77.44	33.73	-23.45	10.28	42.21	31.93	AVG
13	88.36	41.04	-22.31	18.73	73.08	54.35	Peak

Technical Report No.: 17-00444-CX-SHA-00
 Manufacturer: Shenzhen Wlink Technology Co., Ltd.
 Type: WL-R210

14	88.36	36.47	-22.31	14.16	53.08	38.92	QP
15	88.36	30.72	-22.31	8.41	43.08	34.67	AVG
16	123.56	42.05	-17.38	24.67	75.28	50.61	Peak
17	123.56	37.34	-17.38	19.96	55.28	35.32	QP
18	123.56	30.96	-17.38	13.58	45.28	31.7	AVG
19	133.88	48.63	-17.19	31.44	75.81	44.37	Peak
20	133.88	44.16	-17.19	26.97	55.81	28.84	QP
21	133.88	37.42	-17.19	20.23	45.81	25.58	AVG
22	179.4	49.05	-19.92	29.13	77.73	48.6	Peak
23	179.4	45.97	-19.92	26.05	57.73	31.68	QP
24	179.4	40.85	-19.92	20.93	47.73	26.8	AVG
25	293.52	55.62	-15.93	39.69	80.97	41.28	Peak
26	293.52	50.66	-15.93	34.73	60.97	26.24	QP
27	293.52	43.12	-15.93	27.19	50.97	23.78	AVG
28	391.2	40.07	-12.51	27.56	82.85	55.29	Peak
29	391.2	34.84	-12.51	22.33	62.85	40.52	QP
30	391.2	28.49	-12.51	15.98	52.85	36.87	AVG
31	432.28	32.34	-12.27	20.07	83	62.93	Peak
32	432.28	27.43	-12.27	15.16	63	47.84	QP
33	432.28	21.43	-12.27	9.16	53	43.84	AVG
34	600	28.97	-8.89	20.08	83	62.92	Peak
35	600	27.35	-8.89	18.46	63	44.54	QP
36	600	23.86	-8.89	14.97	53	38.03	AVG
37	799.56	27.42	-5.02	22.4	83	60.6	Peak
38	799.56	21.18	-5.02	16.16	63	46.84	QP
39	799.56	14.17	-5.02	9.15	53	43.85	AVG
40	875	33.12	-4.34	28.78	83	54.22	Peak
41	875	30.31	-4.34	25.97	63	37.03	QP
42	875	27.77	-4.34	23.43	53	29.57	AVG

Technical Report No.: 17-00444-CX-SHA-00
 Manufacturer: Shenzhen Wlink Technology Co., Ltd.
 Type: WL-R210

Annex 2b Immunity of ESA to conducted transient interferences

Tested Model: WL-R210 Test Voltage: 13.5V
 Test Mode: Transmitting Test Result: Pass

Measurement result:

Test pulse	Test level	Number of pulse / test time	Burst cycle / pulse repetition time	Required minimum functional status (clause 2.5)	Status of function true value
1	-75V	5000 pulses	0.5 s	D	C
2a	+37V	5000 pulses	0.2 s	D	A
2b	+10V	10 pulses	0.5 s	D	C
3a	-112V	1 h	90 ms	D	A
3b	+75V	1 h	90 ms	D	A
4	-6V	1 pulse	/	D	C

Tested Model: WL-R210 Test Voltage: 27V
 Test Mode: Transmitting Test Result: Pass

Measurement result:

Test pulse	Test level	Number of pulse / test time	Burst cycle / pulse repetition time	Required minimum functional status (clause 2.5)	Status of function true value
1	-450V	5000 pulses	0.5 s	D	C
2a	+37V	5000 pulses	0.2 s	D	A
2b	+20V	10 pulses	0.5 s	D	C
3a	-150V	1 h	90 ms	D	A
3b	+150V	1 h	90 ms	D	A
4	-12V	1 pulse	/	D	B

Remark:

“A”: all functions of EUT perform as designed during and after exposure to disturbance.
 “B”: all functions of EUT perform as designed during exposure. However, one or more of them can go beyond specified tolerance. All functions return automatically to within normal limits after exposure is removed. Memory functions shall remain class A.
 “C”: EUT power off during exposure but return automatically to normal operation after exposure is removed.
 “D”: one or more functions of a device/system do not perform as designed during exposure and do not return to normal operation until exposure is removed and the device/system is reset by simple “operator/use” action.

Technical Report No.: 17-00444-CX-SHA-00
 Manufacturer: Shenzhen Wlink Technology Co., Ltd.
 Type: WL-R210

Annex 2c Conducted transients from ESAs to the vehicle power supply

Tested Model: WL-R210 Test Voltage: 13.5V
 Test Mode: Transmitting Test Result: Pass

Measurement result:

Polarity of pulse amplitude	Maximum allowed value for vehicles with 12V systems (V)	Measured Pulse amplitude True value (V)
Positive	+75	+0.6
Negative	-100	-13.6

Tested Model: WL-R210 Test Voltage: 27V
 Test Mode: Transmitting Test Result: Pass

Measurement result:

Polarity of pulse amplitude	Maximum allowed value for vehicles with 24V systems (V)	Measured Pulse amplitude True value
Positive	+150	+3.1
Negative	-450	-27.0


Shenzhen Wlink Technology Co., Ltd.	Type: WL-R210 Information Document No. : WL-R210-00
	Date: 2017-03-20
	Page 1 of 11

**APPLICATION FOR APPROVAL
PURSUANT TO THE ECE REGULATION No. 10.05
UNIFORM PROVISIONS CONCERNING THE APPROVAL
OF MOTOR VEHICLES WITH REGARD
TO ELECTROMAGNETIC COMPATIBILITY**

**Company name: Shenzhen Wlink Technology Co., Ltd
Type: WL-R210**

Shenzhen, 20 Mar, 2017

Name of responsible person


_____ *collin. He*

List of documentation

Confirmation	Page 3
Information document	Page 4
List of attachments	Page 5
Drawings	Page 6-9
Bill of material	Page 10-11

Shenzhen Wlink Technology Co., Ltd.	Type: WL-R210 Information Document No. : WL-R210-00
	Date: 2017-03-20
	Page 3 of 11

Confirmation

We hereby declare that the product of Shenzhen Wlink Technology Co., Ltd., type WL-R210 submitted for the type approval.

1. is compatible with the enclosed documentation and
2. has been manufactured under condition of mass production.

Shenzhen Wlink Technology Co., Ltd.	Type: WL-R210 Information Document No. : WL-R210-00
	Date: 2017-03-20
	Page 4 of 11

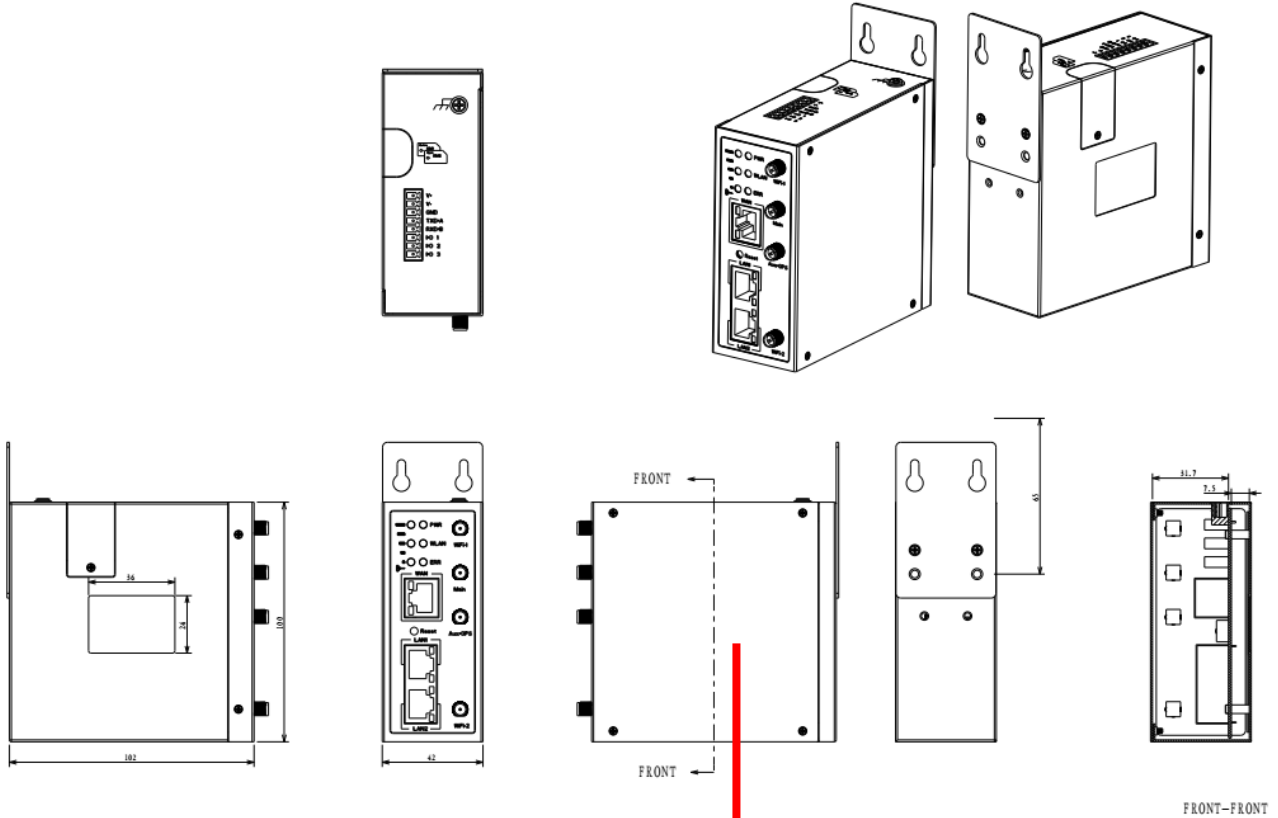
INFORMATION DOCUMENT FOR TYPE-APPROVAL OF AN ELECTRIC/ELECTRONIC SUB-ASSEMBLY WITH
RESPECT TO ELECTROMAGNETIC COMPATIBILITY ACCORDING ANNEX 2B

- 0.1 Make (trade name of the manufacturer) : WLINK
- 0.2 Type : WL-R210
- 0.2.1 Variants (if applicable) : WL-R210LC-g; WL-R210LC-d; WL-R210H-g
- 0.2.2 General commercial description(s) : Industrial 3G/4G Router
- 0.3 Means of identification of type if marked on the vehicle/component/STU : Model label on the rear panel label by letters and digits
- 0.3.1 Location of that marking : On the rear panel of the device
- 0.4 Name and address of the manufacturer : Shenzhen Wlink Technology Co., Ltd.
319, Yibeng Building, Chaguang Road, Xili Town, Nanshan District, Shenzhen, Guangdong, China
- 0.5 In the case of components and separate technical units, location and method of affixing of the approval mark : On the rear panel of the device
- 0.6 Address(es) of assembly plant(s) : 319, Yibeng Building, Chaguang Road, Xili Town, Nanshan District, Shenzhen, Guangdong, China
- 0.7 This ESA shall be approved as a : Component
- 0.8 Any restrictions of use and conditions for fitting : No restrictions
- 0.9 Electrical system rated voltage : DC 12V or 24V ~~pos./neg.~~ ground⁽¹⁾
- 1.0 Charger: on board/external : N/A
- 1.1 Charging current: DC /AC (number of phases/frequency) : N/A
- 1.2 Maximal nominal current (in each mode if necessary) : N/A
- 1.3 Nominal charging voltage : N/A
- 1.4 Basic ESA interface functions: ex. L1/L2/L3/N/PE/control pilot : N/A
- 1.5 Minimum R_{sce} value (see paragraph 7.11. of this Regulation) : N/A
- 1.6 Statement for model difference (if applicable) : << WL-R210LC-g; WL-R210LC-d; WL-R210H-g >> have the same Circuit Diagram, PCB Layout and all electrical construction and mechanical construction with << WL-R210 >>. The difference lies only in < the network frequency band and software version > of the different models.

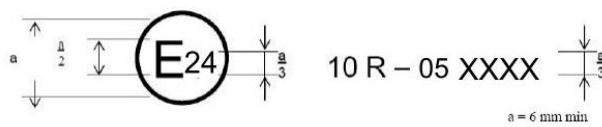
Shenzhen Wlink Technology Co., Ltd.	Type: WL-R210 Information Document No. : WL-R210-00
	Date: 2017-03-20
	Page 5 of 11

List of attachments:

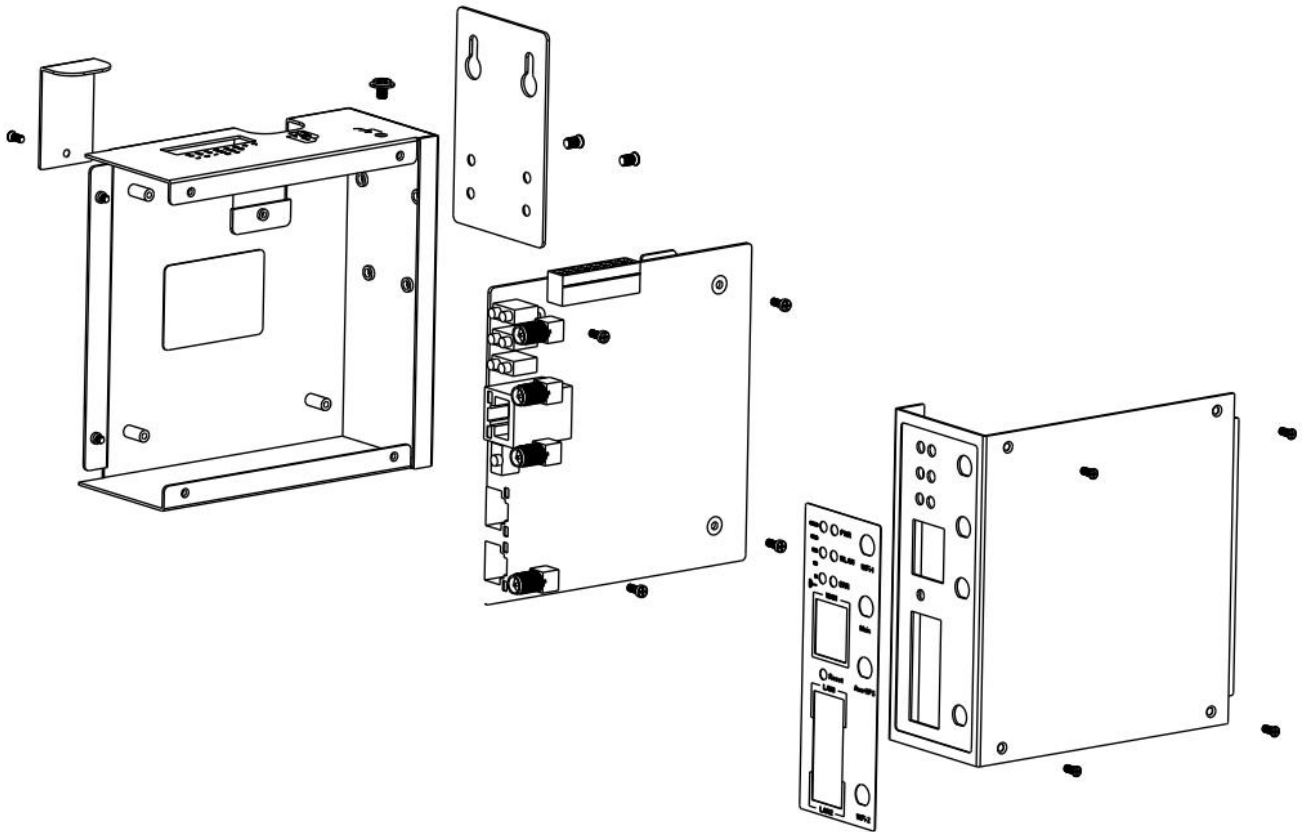
Assembly Drawing	Drawing No.1
Constructed Profile	Drawing No.2
Circuit Diagram	Drawing No.3
PCB Layout	Drawing No.4
Bill of material	Consists of 2 pages



Approval mark



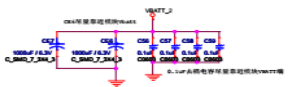
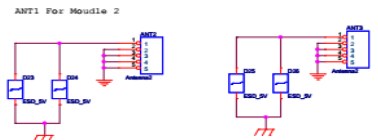
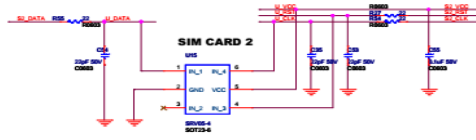
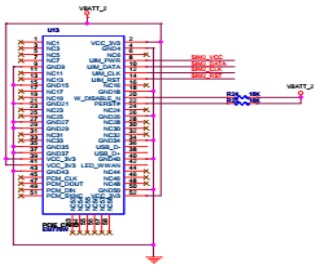
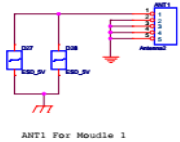
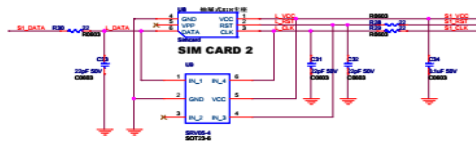
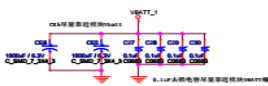
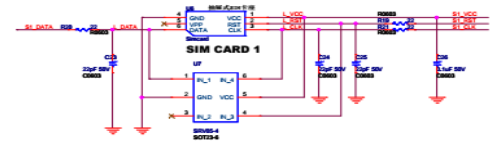
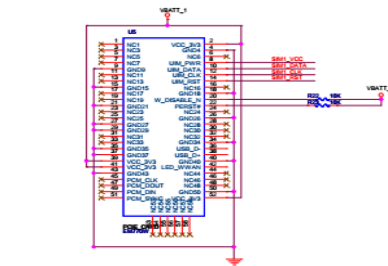
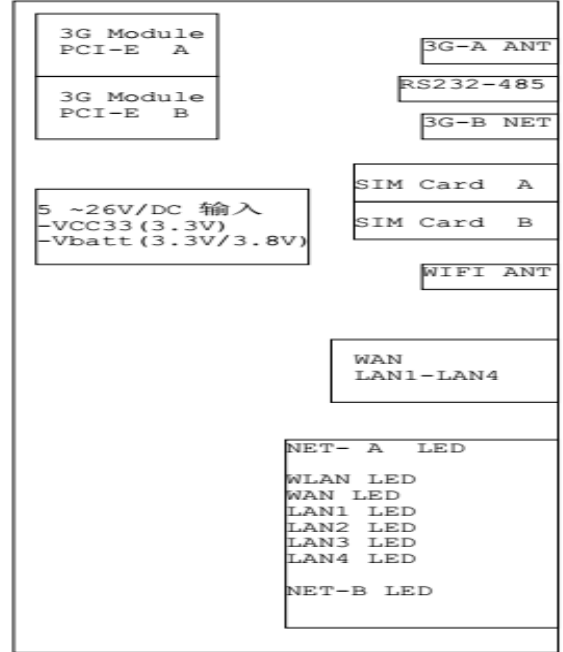
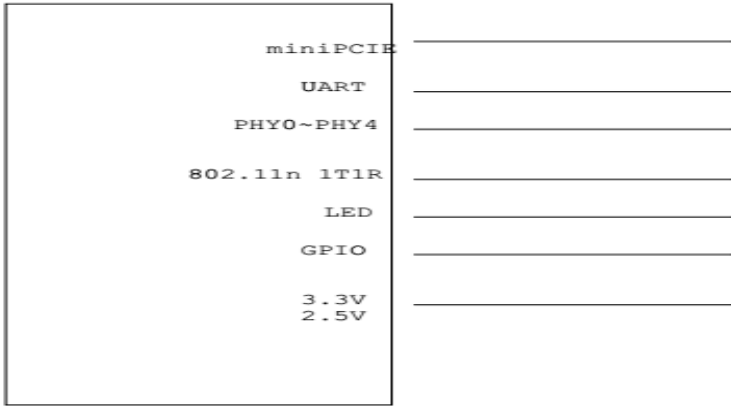
KUAN4-ASM



DRW.

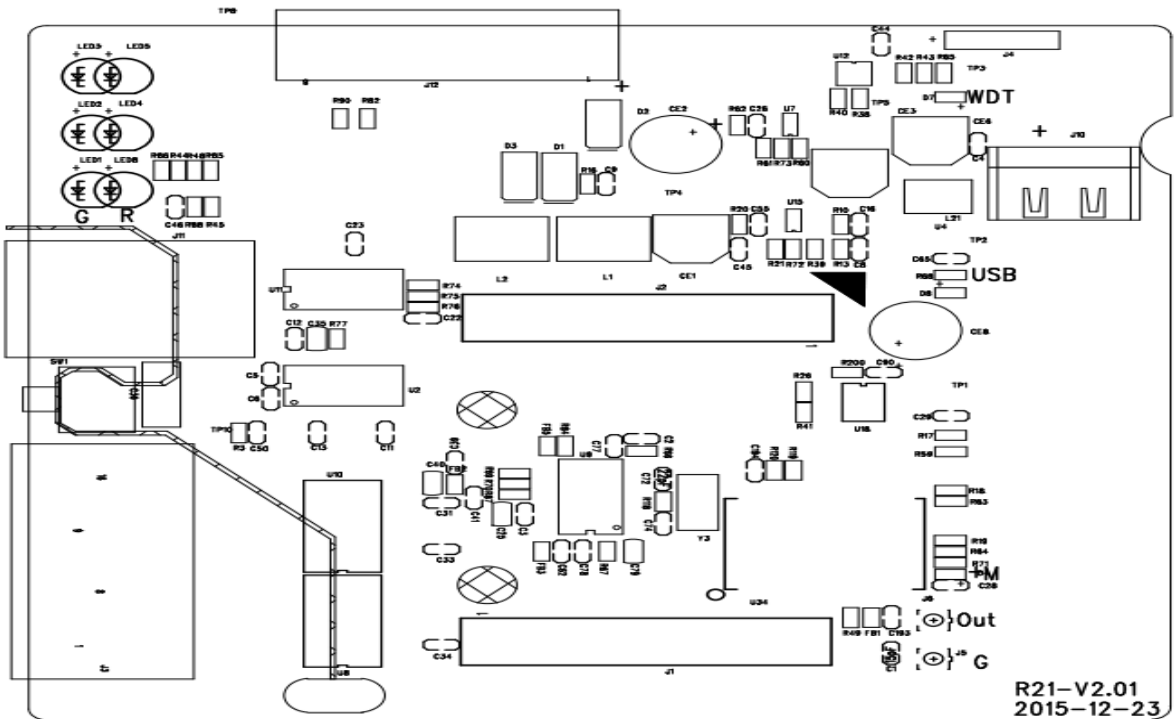
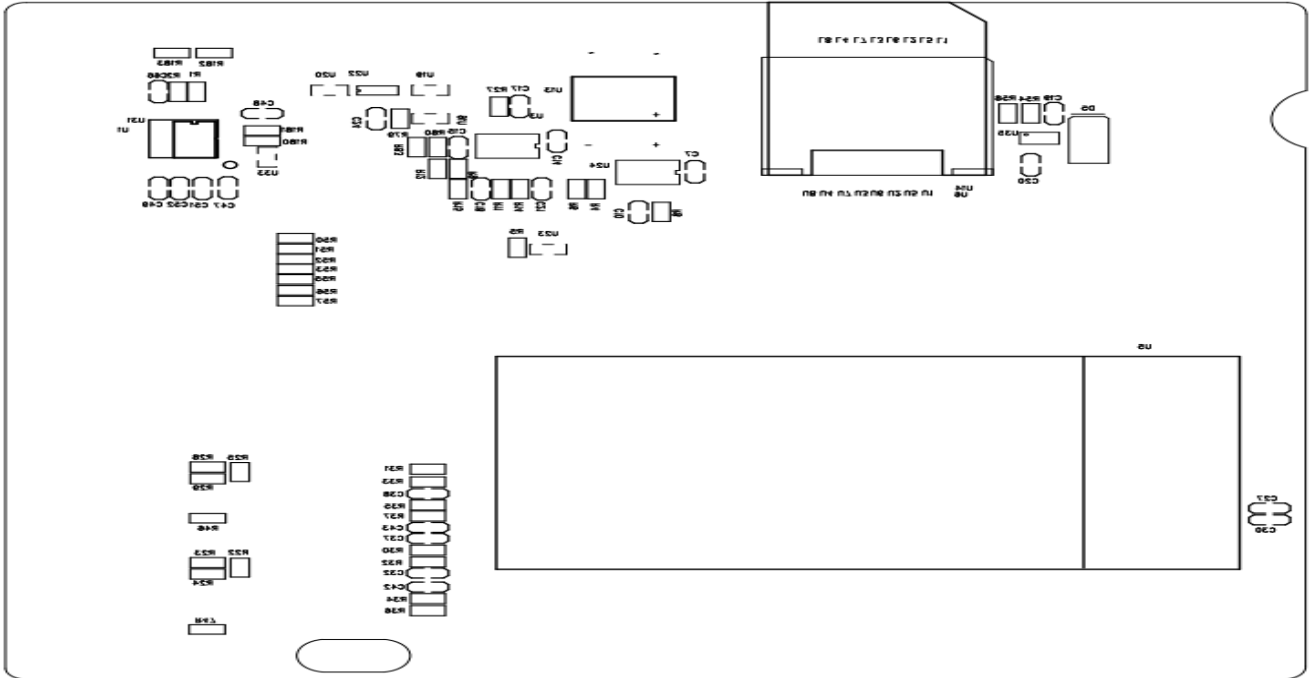
2

Constructed Profile



DRW. 3

Circuit Diagram



R21-V2.01
2015-12-23

Detran

Bill Of Material

Product Name: BCM5356U AP Board		Version: V1.1		
NO.	Name	Encapsulation	Specification	Quantity
1	Filter	FIL6.5BL-0.7	DEA162500LT-1217A1 Filter, ceramic, low- pass, 2450MHz, 50MHz, SMD 1.6*0.8mm, 6pin, DEA162500LT-1217A1, TDK	1
2	CPU	BGA-366	BCM5356UKFBG	1
3	DDR RAM	TSOP-66	K4H561638J-LCCC 【Alternative Material: MT46V16M16P- 5B Micron】	1
4	SPI Flash	SO8-208	W25Q64BVSSIG	1
5	Reset IC	SOT-23	CAT809STBI-GT3 【Alternative Material: MAX809STR Maxim】	1
6	Switch	SC70-6	AS179-92LF	1
7	Two-channel MOS tube	SOT23-6	P5803NAG - MOS,E_N+E_P,30V&- 30V,3.5A&- 2.3A,58ohm&115ohm,P5803 NAG,TSOP-6,NIKO-SEM	1
8	PNP power transistor	SOT89-3	2SB1188Q - Q, PNP, -32V, -2A, 0.5W, SOT - 89, 2SB1188Q, changdian	1
9	Module		4G module type SLM630	1
10	RF connector	3x3x1.5mm	RF_SMT	1
11	Power inductor	SMD-4.5*4.0mm	3.3uH/2.15A	1
12	Plug-in connector	SMD-24	2 x 12 double row SMD 2.54mm Pin	2
13	Crystal resonator	SMD-3225	XTAL, 20MHz, +-10ppm, 18pF	
14	Power module	SOP-8	MP1584EN-C319	2
15	MCU	TSSOP-10	SM39R0573	1
16	RS232 interface IC	TSSOP-16	SPX3232EEN	1
17	MOS tube	SOT-23	Si2301CD	2
18	ESD electrostatic protection	SOT-23-6	SRV05-4	1
19	Single pole TVS tube		SMAJ36CA	1
20	Schottky diode		SS24	3
21	Transistor	SOT-23	DTC144EKA,NPN	1
22	SMD luminous diode	0603	blue light	4
23	Luminous diode	DIP-Ø3	green light	6
24	Luminous diode	DIP-2.54mm-3	Dual color Luminescence Diode 【common cathode】	2
25				
26	LAN transformer	DIP-60	five interface transformer	1
27	SMD power inductor	SMD	10uH/2A	2
28	RJ45 interface	1X5	MJ5988-BX15-RF1	1
29	AP board interface	DIP-24	2 x 12 2.54mm PIN 8.5mm height	2

30	Switch	DIP		1
31	Connector	3,5mm X 4	3.5mm spacing connector, two-piece, screw assembly	1
32	Module connector	4mm height	mini - PCIE	1
33	DC power		PWR-DC-3P	1
34	SIM mount	SMD single SIM mount	6Pin	1
35	Antenna connection	DIP-5	90° bending, with 15cm antenna extended line BNC connection	2

⁽¹⁾ Strike out what does not apply.