

EMC TEST REPORT

Test item : Cellular/PCS
Model No. : LG-A275
Order No. : 1203-00026
Date of receipt : 2012-03-12
Test duration : 2012-03-13
Use of report : FCC CoC Marking
Date of Issue : 2012-03-14

Applicant : LG Electronics MobileComm U.S.A., Inc.
10101 Old Grove Road., San Diego, CA92131

Test laboratory : Digital EMC Co., Ltd.
683-3, Yubang-Dong, Cheoin-Gu, Yongin-Si, Gyeonggi-Do, 449-080, Korea

Test specification : ANSI C 63.4:2003
FCC Part 15 Subpart B
(Class B personal computers and peripherals)

Test environment : Temperature : (21 ~ 22) °C,
Humidity : (33 ~ 38) % R.H.

Test result : Comply Not Comply

The test results presented in this test report are limited only to the sample supplied by applicant and the use of this test report is inhibited other than its purpose.

This test report shall not be reproduced except in full, without the written approval of DIGITAL EMC CO., LTD.

Tested by:

Reviewed by:



Manager
H.S.KO



General Manager
C.H.LEE

The above test report is the accredited test results by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

PRESIDENT OF DIGITAL EMC CO., LTD.

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1. General Remarks

This report contains the result of tests performed by:

DIGITAL EMC CO., LTD.

Address : 683-3, Yubang-Dong, Cheoin-Gu, Yongin-Si, Gyeonggi-Do, 449-080, Korea

<http://www.digitalemc.com>

Tel: +82-31-321-2664 Fax: +82-31-321-1664

2. Test Laboratory

Digital EMC Co., Ltd. has been accredited / filed / authorized by the agencies listed in the following table;

Certificate Nation	Agency	Code	Mark
Accreditation Korea	KOLAS	393	ISO/IEC 17025
Site Filing	USA FCC	101842 678747	Test Facility list & NSA Data
	Canada IC	5740A-1 5740A-2	Test Facility list & NSA Data
	Japan VCCI	C-1427 R-1364, R-3385 T-1442, G-338	Test Facility list & NSA Data
Certification	Korea KC	KR0034	Test Facility list & NSA Data
	Germany TUV	ROK1124C	ISO/IEC 17025

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the "General requirements for the competent of calibration and testing laboratory".

3. General Information of EUT

Model No.	LG-A275
Add Model No.	A275, LGA275
Device Capabilities	GSM850 / 900 / 1800 / 1900
Serial No	NONE
FCC ID	ZNFA275
High Frequency	CPU : 78 MHz
Supplied Power for Test	AC120V, 60Hz
Applicant	LG Electronics MobileComm U.S.A., Inc. 10101 Old Grove Road., San Diego, CA92131
Manufacturer	LG Electronics MobileComm U.S.A., Inc. 10101 Old Grove Road., San Diego, CA92131

Related Submittal(s) / Grant(s)

Original submittal only.

4. Test Summary

4.1 Applied standards and test results

Test Items	Applied Standards	Results
Conducted Disturbance	ANSI C63.4:2003	C
Radiated Disturbance	ANSI C63.4:2003	C
C=Comply N/C=Not Comply N/T=Not Tested N/A= Not Applicable		

The data in this test report are traceable to the national or international standards.

4.2 Test environment and conditions

Test Items	Test date (MM-DD)	Temp (°C)	Humidity (% R.H.)	Pressure (hPa)
Conducted Disturbance	03-13 21		38	-
Radiated Disturbance	03-13 22		33	

4.3 Test result Summary

(1) Conducted Emission

Frequency [MHz]	Phase	Result [dB μ V]	Detector	Limit [dB μ V]	Margin [dB]
0.15091	L1	56.8	Quasi-Peak	65.9	9.1
0.15155	N	55.8	Quasi-Peak	65.9	10.1

(2) Radiated Emission

Frequency [MHz]	Pol.	Result [dB(μ V/m)]	Detector	Limit [dB(μ V/m)]	Margin [dB]
222.435	V	24.6	Quasi-Peak	30.0	5.4

5. Test Set-up and operation mode

5.1 Principle of Configuration Selection

Emission : The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

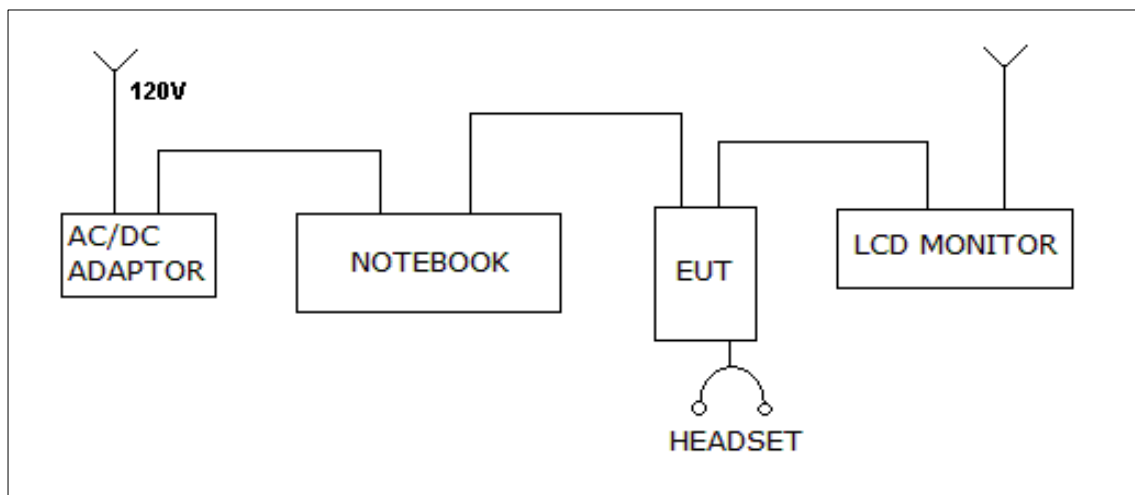
5.2 Test Operation Mode

- USB Charging mode (Charging from the Notebook PC)

5.3 Support Equipment Used

Unit	Model No.	Serial No.	Manufacturer	CABLE			Backshell	FCC ID
				Connect type	Length (m)	shield		
Mouse M-JAE96		N/A	Logitech	USB 1.5		Non-Shield	Plastic Metal	DOC
LCD Monitor	W2261VT 908	NDFV 73203	LG	POWER DSUB	1.8 1.6	Non-Shield Shield	Plastic DO	C
Headset SGE	Y0003744	N/A	CreSyn	STEREO 1.1		Non-Shield	Plastic	VER
Notebook LGX14		004QTY5024338	LG	POWER USB	1.8 0.8	Non-Shield Non-Shield	Plastic Metal	DOC
AC/DC Adaptor	APP-40PH AD	N/A	Delta electronics Ltd.	POWER 1.6		Non-Shield	Metal	VER

(Configuration of Tested System)



6. Test Results : Emission

6.1 Conducted Disturbance

6.1.1 Measurement Procedure

In the range of 0.15MHz to 30MHz, the conducted disturbance was measured and set-up was made accordance with **ANSI C63.4**.

If the EUT is table top equipment, it was placed on a wooden table with a height of 0.8m above the reference ground plane and 0.4m from the conducting wall of the shielded room.

Also if the EUT is floor-standing equipment, it was placed on a non-conducted support with a height up to 0.15m above the reference ground plane.

Connect the EUT's power source lines to the appropriate power mains / peripherals through the LISN. All the other peripherals are connected to the 2nd LISN, if any.

Unused measuring port of the LISN was resistively terminated by 50 ohm terminator.

The measuring port of the LISN for EUT was connected to spectrum analyzer.

Using conducted emission test software, the emissions were scanned with peak detector mode. After scanning over the frequency range, suspected emissions were selected to perform final measurement. When performing final measurement, the receiver was used which has Quasi-Peak detector and Average detector.

By varying the configuration of the test sample and the cable routing it was attempted to maximize the emission.

For further description of the configuration refer to the picture of the test set-up.

6.1.2 Limit for Conducted Disturbance

(1) Conducted disturbance at mains ports.

Frequency range (MHz)	Limits dB(μ V)			
	Quasi-peak		Average	
	Class A	Class B	Class A	Class B
0.15 to 0.50	79	66 to 56	66	56 to 46
0.50 to 5	73	56	60	46
5 to 30		60		50

Note 1 The lower limit shall apply at the transition frequencies.
 Note 2 The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

Test Result



Results of Conducted Emission

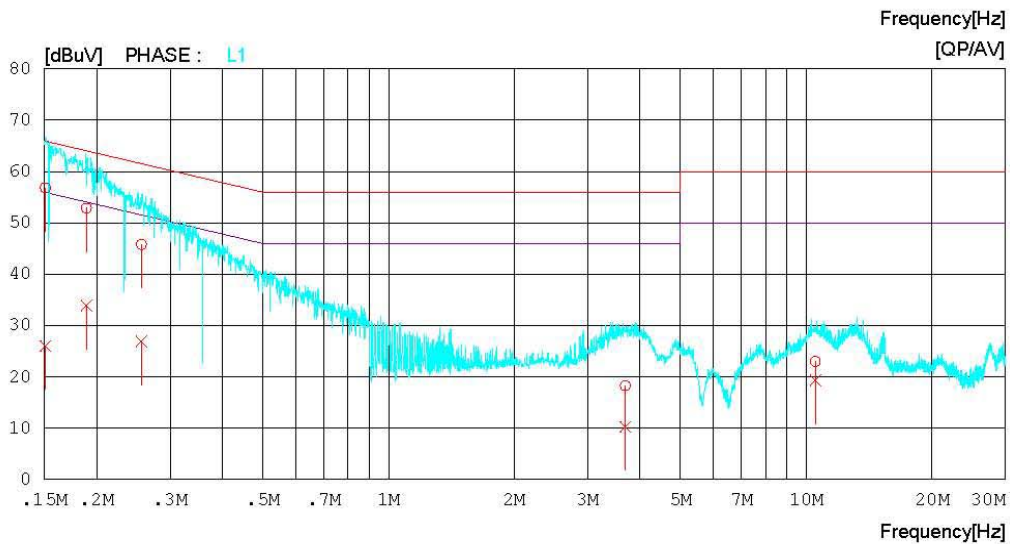
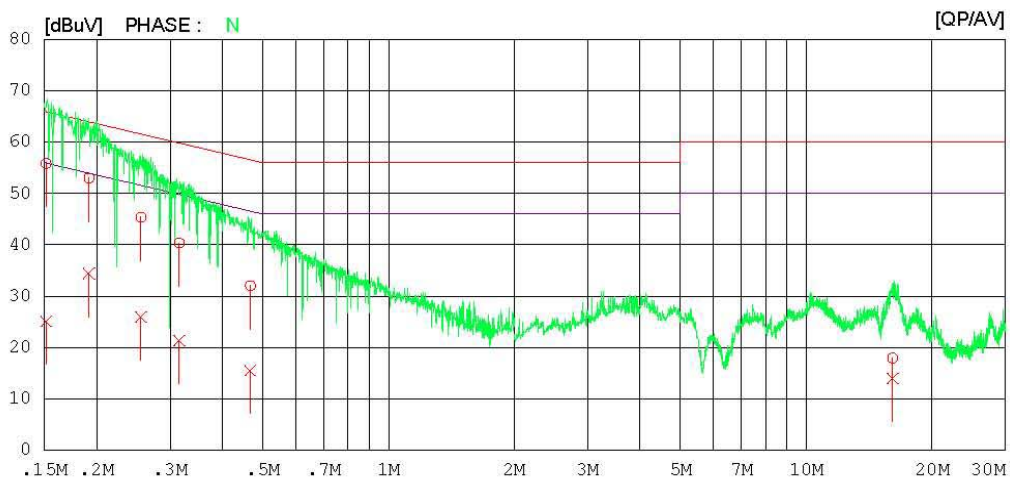
Digital EMC
Date : 2012-03-13

Model No. : LG-A275
Type :
Serial No. :
Test Condition :

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 21 °C 38 % R.H.
Operator : H.S KO

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
 Date : 2012-03-13

Model No. : LG-A275
 Type :
 Serial No. :
 Test Condition :

Reference No. :
 Power Supply : 120 V 60 Hz
 Temp/Humi. : 21 °C 38 % R.H.
 Operator : H.S KO

Memo :

LIMIT : CISPR22_B QP
 CISPR22_B AV

NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.15155	55.5	24.8	0.3	55.8	25.1	65.9	55.9	10.1	30.8	N
2	0.19188	52.8	34.2	0.2	53.0	34.4	64.0	54.0	11.0	19.6	N
3	0.25550	45.2	25.7	0.2	45.4	25.9	61.6	51.6	16.2	25.7	N
4	0.31566	40.1	21.1	0.2	40.3	21.3	59.8	49.8	19.5	28.5	N
5	0.46710	31.8	15.3	0.2	32.0	15.5	56.6	46.6	24.6	31.1	N
6	16.11150	16.9	13.0	1.0	17.9	14.0	60.0	50.0	42.1	36.0	N
7	0.15091	56.5	25.7	0.3	56.8	26.0	65.9	55.9	9.1	29.9	L1
8	0.18929	52.7	33.7	0.2	52.9	33.9	64.1	54.1	11.2	20.2	L1
9	0.25626	45.6	26.7	0.2	45.8	26.9	61.6	51.6	15.8	24.7	L1
10	3.69000	17.9	9.9	0.4	18.3	10.3	56.0	46.0	37.7	35.7	L1
11	10.52300	22.3	18.6	0.7	23.0	19.3	60.0	50.0	37.0	30.7	L1

6.2 Radiated Disturbance

6.2.1 Measurement Procedure

The radiated disturbance was measured and set-up was made accordance with **ANSI C63.4**.

If the EUT is tabletop equipment, it was placed on a wooden table with a height of 0.8m above the reference ground plane and 3m away from the interference receiving antenna in the **10m semi-anechoic chamber**.

Also if the EUT is floor-standing equipment, it was placed on a non-conducted support with a height up to 0.15m above the reference ground plane.

Rotate the EUT from 0° to 360° and position the receiving antenna at heights from 1 to 4m above the reference ground plane continuously to determine associated with higher emission levels and record them.

The measurement was made in both the vertical and horizontal polarization, and the maximum value is presented in the report.

For below 1GHz frequency range, Quasi-Peak detector with 120kHz RBW was used.

Also Peak and Average detector with 1MHz RBW were used for above 1GHz frequency range.

For further description of the configuration refer to the picture of the test set-up.

6.2.2 Limit for Radiated Disturbance

- The test frequency range of Radiated Disturbance measurements are listed below.

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40GHz, whichever is lower

(1) Limit for Radiated Emission below 1000MHz

Frequency range (MHz)	Class A Equipment (10m distance)	Class B Equipment (3m distance)
	Quasi-peak (dB μ V/m)	Quasi-peak (dB μ V/m)
30 to 88	39.1	40
88 to 216	43.5	43.5
216 to 960	46.4	46
960 to 1000	49.5	54

Note 1 The lower limit shall apply at the transition frequency.

Note 2 Additional provisions may be required for cases where interference occurs.

Note 3 According to 15.109(g), as an alternative to the radiated emission limit shown above, digital devices may be shown to comply with the standards(CISPR), Pub. 22 shown as below.

Frequency range (MHz)	Class A Equipment (10m distance)	Class B Equipment (10m distance)
	Quasi-peak (dB μ V/m)	Quasi-peak (dB μ V/m)
30 to 230	40	30
230 to 1000	47	37

(2) Limits for Radiated Emission above 1000MHz at a measuring distance of 3m

Frequency (GHz)	Class A Equipment		Class B Equipment	
	Peak (dB μ V/m)	Average (dB μ V/m)	Peak (dB μ V/m)	Average (dB μ V/m)
1 to 40	80	60	74	54

Test Result

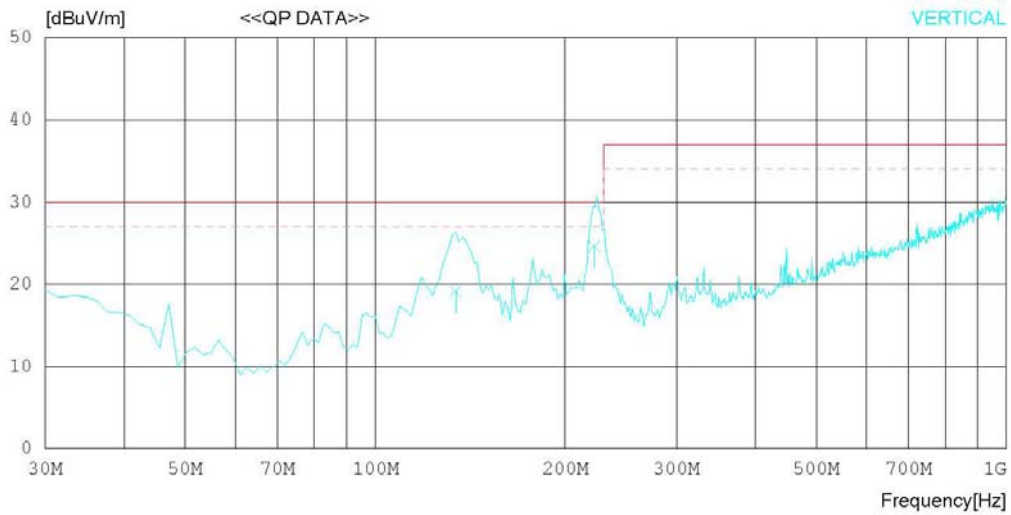
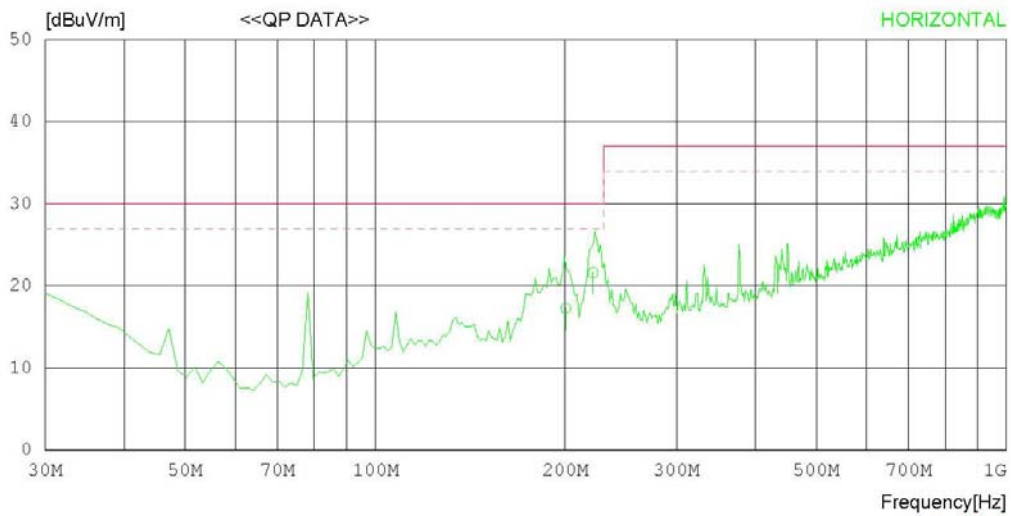
RADIATED EMISSION

Date : 2012-03-13

Model Name	: LG-A275	Reference No.	:
Model No.	:	Power Supply	: 120 V 60 Hz
Serial No.	:	Temp/Humi	: 22 °C 33 % R.H.
Test Condition	:	Operator	: H.S KO

Memo :

LIMIT : CISPR Pub.22 Class B (10m)
MARGIN: 3 dB



RADIATED EMISSION

Date : 2012-03-13

Model Name : LG-A275
 Model No. :
 Serial No. :
 Test Condition :

Reference No. :
 Power Supply : 120 V 60 Hz
 Temp/Humi : 22 °C 33 % R.H.
 Operator : H.S KO

Memo :

LIMIT : CISPR Pub.22 Class B (10m)
 MARGIN: 3 dB

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	200.211	29.5	8.8	2.3	23.3	17.3	30.0	12.7	362	209
2	221.388	32.3	10.3	2.5	23.5	21.6	30.0	8.4	306	68
----- Vertical -----										
3	134.199	28.7	11.6	1.8	23.0	19.1	30.0	10.9	144	281
4	222.435	35.2	10.4	2.5	23.5	24.6	30.0	5.4	130	106

Appendix 1

List of Test and Measurement Instruments

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment is identified by the Test Laboratory.

1. Conducted Disturbance

Name of Instrument	Model No.	Manufacturer	Serial No.	Cal. Date	Next Cal. Date
<input type="checkbox"/> SPECTRUM ANALYZER	8591E H/P		3649A05889	2012.03.05	2013.03.05
<input type="checkbox"/> RFI/FIELD INTENSITY METER	KNM-2402	KYORITSU	4N-170-3 201	1.07.02 201	2.07.02
<input type="checkbox"/> LISN KNW	-407	KYORITSU	8-317-8	2012.01.09	2013.01.09
<input type="checkbox"/> LISN KNW	-242	KYORITSU	8-654-15	2011.09.19	2012.09.19
<input type="checkbox"/> 50 OHM TERMINATOR	CT-01 TME		N/A	2012.01.09	2013.01.09
<input checked="" type="checkbox"/> EMI TEST RECEIVER	ESCI	ROHDE & SCHWARZ	100364 2012	03.06	2013.03.06
<input checked="" type="checkbox"/> LISN ESH2-Z5		ROHDE & SCHWARZ	828739/006 201	1.09.30	2012.09.30
<input checked="" type="checkbox"/> LISN LISN1600		TTI	197204	2011.07.02	2012.07.02
<input checked="" type="checkbox"/> 50 OHM TERMINATOR	CT-01 TME		N/A	2012.01.09	2013.01.09

2. Radiated Disturbance

Name of Instrument	Model No.	Manufacturer	Serial No.	Cal. Date	Next Cal. Date
<input checked="" type="checkbox"/> EMI TEST RECEIVER	ESU	ROHDE & SCHWARZ	100014 2012	01.09	2013.01.09
<input type="checkbox"/> BILOG ANTENNA	CBL6112B	SCHAFFNER	2737	2010.07.14 201	2.07.14
<input type="checkbox"/> HORN ANTENNA	BBHA9120A	SCHWARZBECK	322	2010.04.13 201	2.04.13
<input checked="" type="checkbox"/> AMPLIFIER 8447E		H/P	2945A02865	2012.01.09	2013.01.09
<input type="checkbox"/> AMPLIFIER MLA-00108	-B02-36	TSJ	1518831	2012.01.09 201	3.01.09
<input type="checkbox"/> SPECTRUM ANALYZER	E4411B AGILENT		US41062735	2011.07.11 201	2.07.1 1
<input type="checkbox"/> AMPLIFIER 8447D		AGILENT	2443A03690	2011.07.01 201	2.07.01
<input checked="" type="checkbox"/> BILOG ANTENNA	VULB9160	SCHAFFNER	3151	2010.08.25	2012.08.25
<input type="checkbox"/> HORN ANTENNA	3115	ETS	6419	2012.02.20 201	3.02.20
<input type="checkbox"/> EMI TEST RECEIVER	ESCI	ROHDE & SCHWARZ	100364	2012.03.06 201	3.03.06
<input type="checkbox"/> BICONICAL ANT.	VHA 9103	SCHWARZBECK	91032789	2010.11.29 201	2.1 1.29
<input type="checkbox"/> LOG-PERIODIC ANT.	UHALP 9108A	SCHWARZBECK	590	2010.07.07	2012.07.07
<input type="checkbox"/> BICONICAL ANT.	VHA 9103	SCHWARZBECK	91031946	2010.12.21 201	2.12.21
<input type="checkbox"/> LOG-PERIODIC ANT.	UHALP 9108-A1	SCHWARZBECK	1098	2010.11.29 201	2.1 1.29
<input type="checkbox"/> AMPLIFIER MLA-100K01	-B01-26	TSJ	1252741	2012.03.05	2013.03.05