



Document NO.	KAT-1306-IN021P
Maker Code	KIN-TR3-MS1301
DATE	2013. 06. 28
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Model	Type	Rev.	DONGNAM	IR
G66	Built in Antenna		M7 SYSTEM	A

# APPROVAL SHEET

Customer : M7 SYSTEM

Company : DONGNAM

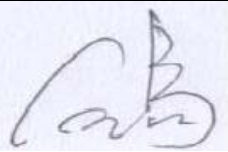



Item : Built in Antenna

Model : G66

Customer P/N :

Maker Code : KIN-TR3-MS1301



Department	Investigation	Verification	Approval
Circuit			
Machine			
Safety			



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## 1. Revision History of Product Specification

### 1.1 History List of Approval Sheet

[illegible]



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## 2. Circuit Specification

### 2.1 Test Setting

#### 2.1.1 Test Environment (Condition/Method)

##### ① VSWR

Step 1. Connect ANT port with cable included adaptor to port1 of Network analyzer

Step 2. Point out markers on network analyzer display at target frequencies.

Step 3. Inspect VSWR



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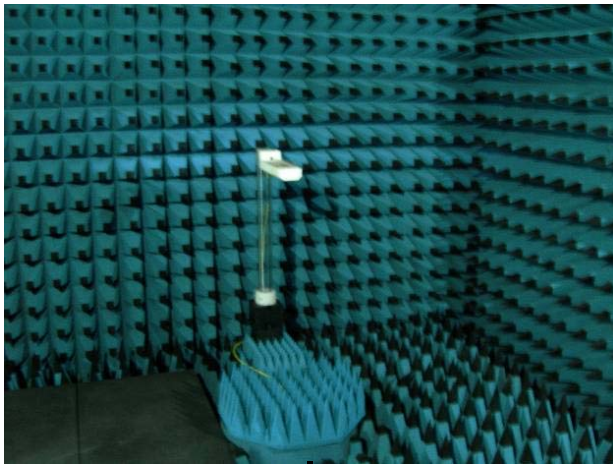
## ② Radiation Pattern adn Gain

Step 1. Calibrate chamber system for gain measurement using horn antenna.

At the same time set up software program for chamber system control.

Step 2. Change over from a horn antenna to measuring antenna on target positioner

Step 3. Start a software program for chamber system control & measuring.





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## 2.2 Electrical Specification

Frequency	LTE Band17 704MHz	LTE Band17 716MHz	LTE Band17 734MHz	LTE Band17 746MHz	GSM850 824MHz	GSM850 849MHz	GSM850 869MHz	GSM850 894MHz	GSM900 880MHz	GSM900 915MHz	GSM900 925MHz	GSM900 960MHz
VSWR	≤ 4.0	≤ 3.0	≤ 2.0	≤ 3.0	≤ 3.5	≤ 3.0	≤ 3.0	≤ 4.0	≤ 4.0	≤ 5.0	≤ 6.0	≤ 7.5
Peak Gain (dBi)	≤ -4.0	≤ -3.0	≤ 0.0	≤ -1.0	≤ -2.0	≤ -1.0	≤ -2.0	≤ -2.5	≤ -3.0	≤ -4.5	≤ -4.0	≤ -12.0
Average Gain (dBi)	≤ -7.0	≤ -6.0	≤ 3.5	≤ -4.5	≤ -5.5	≤ -4.0	≤ -5.5	≤ -6.0	≤ -6.5	≤ -8.0	≤ -8.0	≤ -12.5
Directivity	Omni-directional											
Polarization	Linear											
Matching Value												

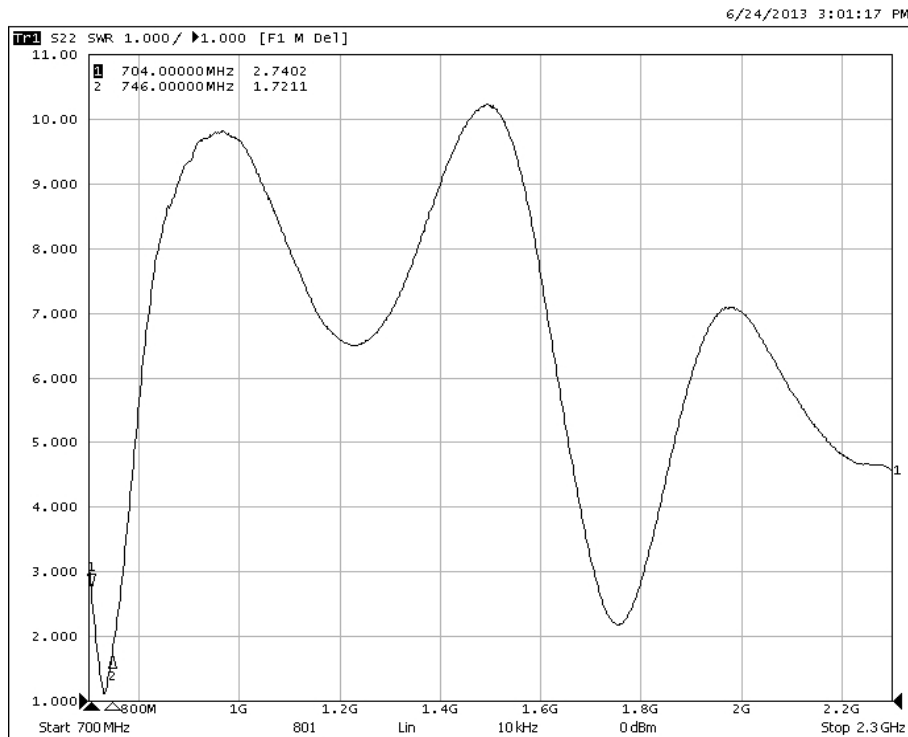


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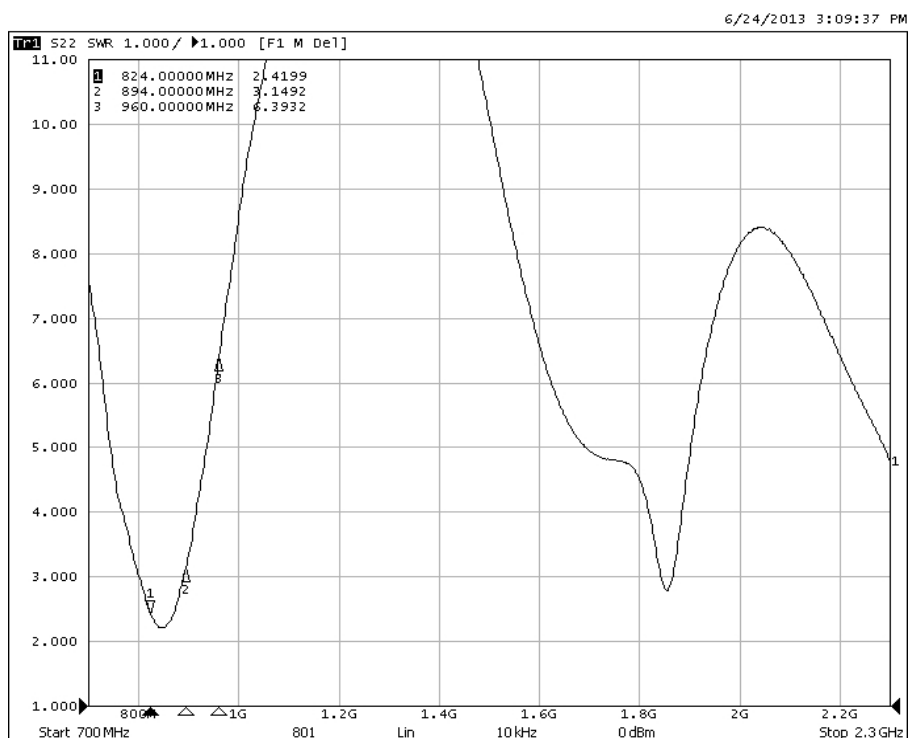
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## 2.2.1 Electrical Spec. of Set (With VSWR)

### BAR TYPE (LTE Band17)



### BAR TYPE (GSM850 & GSM900)



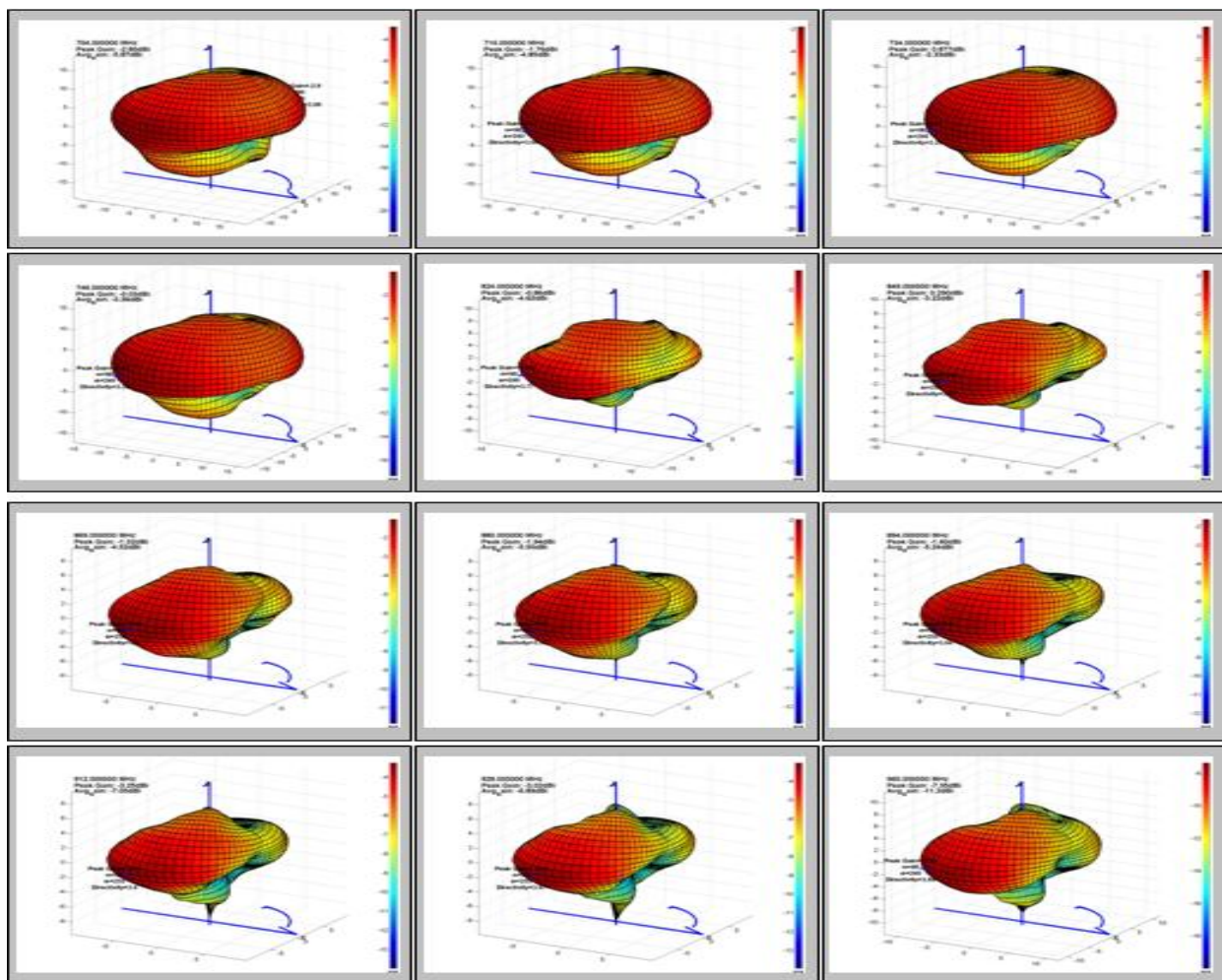


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## 2.2.2 Passive Gain & 3D Pattern

### BAR TYPE



Frequency	Efficiency	Average Gain			Max Gain			Max Position	Directivity
		Ver	Hor	Total	Ver	Hor	Total		
704.000000 MHz	25.8 %	-14.0 dBi	-6.6 dBi	-5.9 dBi	-9.4 dBi	-3.2 dBi	-2.8 dBi	Theta90/Pie75	3.08 dB
716.000000 MHz	32.7 %	-13.2 dBi	-5.5 dBi	-4.9 dBi	-8.0 dBi	-2.1 dBi	-1.8 dBi	Theta90/Pie240	3.09 dB
734.000000 MHz	58.4 %	-10.4 dBi	-3.1 dBi	-2.3 dBi	-4.9 dBi	0.4 dBi	0.9 dBi	Theta90/Pie240	3.22 dB
746.000000 MHz	46.1 %	-11.2 dBi	-4.2 dBi	-3.4 dBi	-6.0 dBi	-0.6 dBi	0.0 dBi	Theta90/Pie240	3.33 dB
824.000000 MHz	34.5 %	-11.7 dBi	-5.6 dBi	-4.6 dBi	-6.8 dBi	-1.5 dBi	-0.9 dBi	Theta90/Pie240	3.77 dB
849.000000 MHz	47.6 %	-9.6 dBi	-4.4 dBi	-3.2 dBi	-4.4 dBi	-0.7 dBi	0.3 dBi	Theta90/Pie255	3.51 dB
869.000000 MHz	35.3 %	-10.7 dBi	-5.7 dBi	-4.5 dBi	-5.4 dBi	-2.1 dBi	-1.0 dBi	Theta90/Pie255	3.50 dB
880.000000 MHz	28.1 %	-11.7 dBi	-6.7 dBi	-5.5 dBi	-6.5 dBi	-3.1 dBi	-1.9 dBi	Theta90/Pie255	3.56 dB
894.000000 MHz	29.9 %	-11.4 dBi	-6.4 dBi	-5.2 dBi	-6.3 dBi	-2.7 dBi	-1.6 dBi	Theta90/Pie255	3.64 dB
912.000000 MHz	19.7 %	-13.0 dBi	-8.3 dBi	-7.1 dBi	-8.0 dBi	-4.4 dBi	-3.3 dBi	Theta90/Pie255	3.80 dB
928.000000 MHz	20.4 %	-12.8 dBi	-8.2 dBi	-6.9 dBi	-7.6 dBi	-4.1 dBi	-3.0 dBi	Theta90/Pie255	3.87 dB
960.000000 MHz	7.5 %	-17.5 dBi	-12.4 dBi	-11.2 dBi	-12.5 dBi	-8.2 dBi	-7.4 dBi	Theta90/Pie240	3.88 dB





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### 3. Mechanical Specification

#### 3.1 Assy Drawing

