Sky Wave (Beijing) Co., Ltd

TM770 Specification

Customer: Beijing Tianyu Communication Equipment Co.,Ltd

Project Name: TM770

File NO.: AYP7055（GSM850/GSM900/DCS1800/PCS1900）

Document Modification: AA

Content verification: Vicky Xu

Date: 2007/06/27

Signature Page:

	Department	Signature	Date
Benephon	Hardware		
	MD		
	Business		

	Department	Signature	Date
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	MD	Weidong	2007.6.27
	QC	Ma Qunwei	2007.6.27
	Verification	Vicky Xu	2007.6.27

Product Specification

This document describes the specification of the Qua-band antenna TM770.

Content:

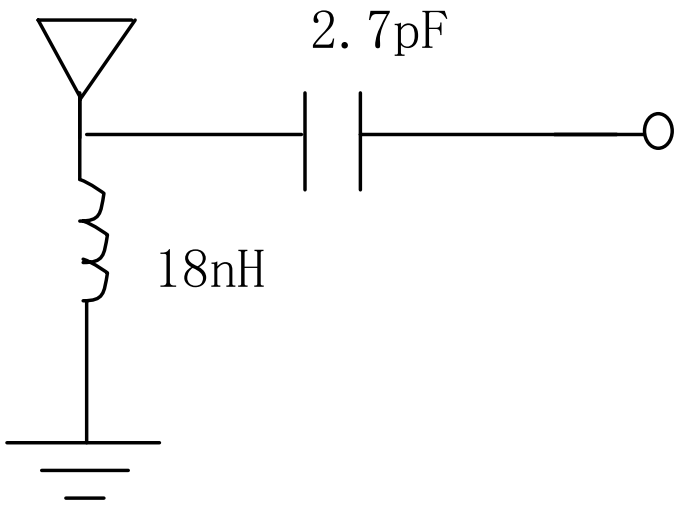
1. General Description:

Model No.	SKY WAVE P/N.
AYP7055 (GSM850/GSM900/DCS1800/PCS1900)	AYP7055

Antenna specification:

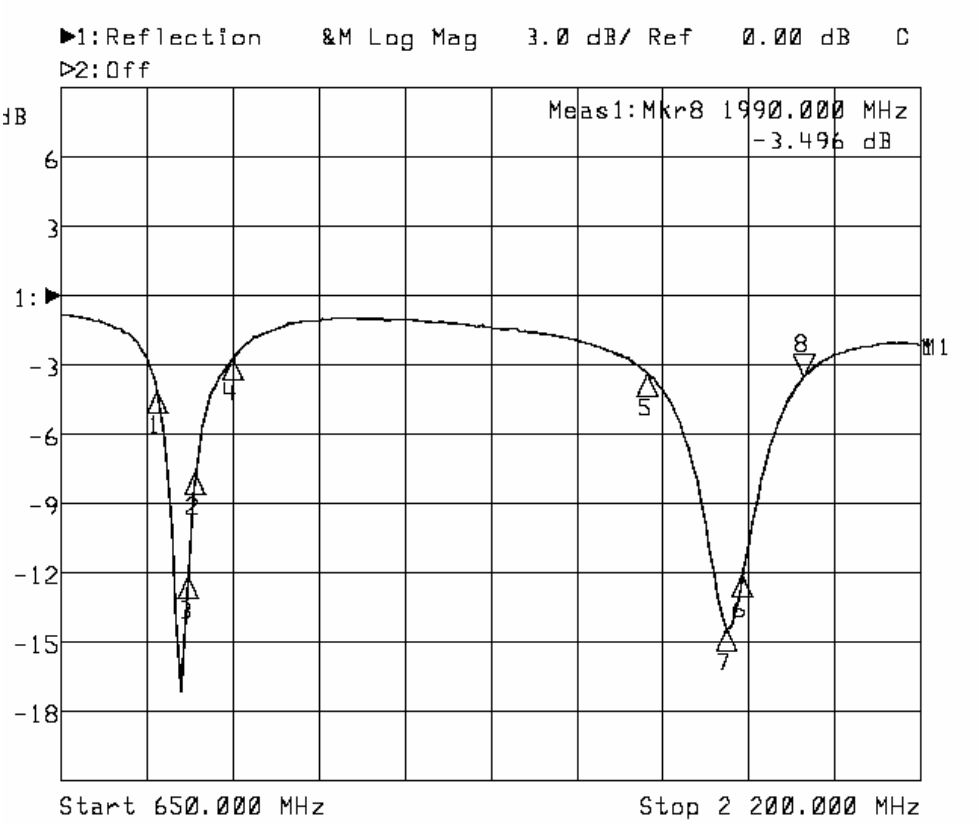
Parameter		Description	
Number of antenna		1	
Frequency Band		824Mhz～894 MHz;880MHz～960MHz; 1710Mhz～1880MHz; 1850MHz～1990MHz.	
Antenna Type		Embedded Internal Antenna	
Nominal Impedance		50 ohm	
	Frequency	Bar phone	
Return Loss	824MHz	-4.13dB	
	894MHz	-7.67dB	
	880MHz	-12.12 dB	
	960MHz	-2.7dB	
	1710MHz	-3.4dB	
	1880MHz	-12.07dB	
	1850MHz	-14.38dB	
	1990MHz	-3.49dB	

2. Mathing Circuit Network



Notice: Please follow the matching circuit value above or the antenna performance will be down.

3. Return Loss



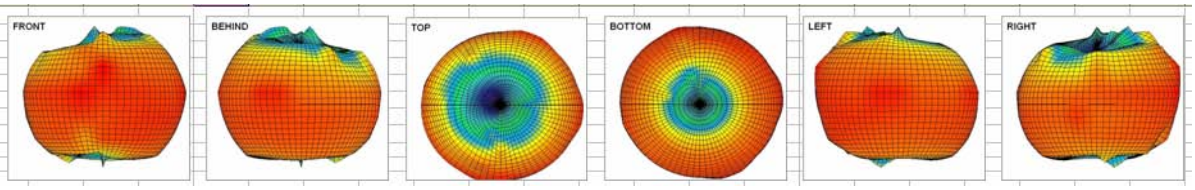
1:Mkr (MHz)	dB	2:Mkr (MHz)	dB
1: 824.00	-4.133		
2: 894.00	-7.678		
3: 880.00	-12.123		
4: 960.00	-2.705		
5: 1710.00	-3.404		
6: 1880.00	-12.079		
7: 1850.00	-14.383		
8› 1990.00	-3.496		

4. TRP

4.1 GSM850:

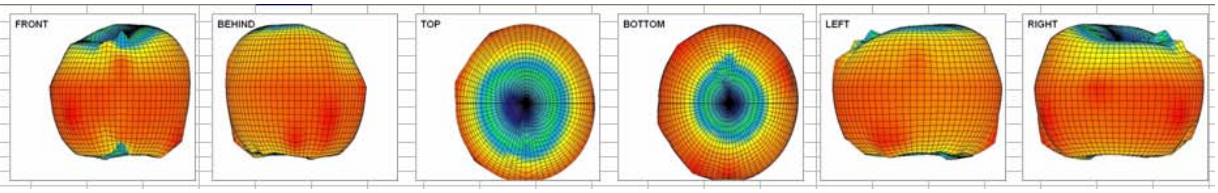
CH 128

Ant. Port Input Pwr. (dBm)	33.00
Tot. Rad. Pwr. (dBm)	30.19
Peak EIRP (dBm)	33.01
Directivity (dBi)	2.82
Efficiency (dB)	-2.81
Efficiency (%)	52.35%
Gain (dBi)	0.01
Average Gain (dB)	-2.81



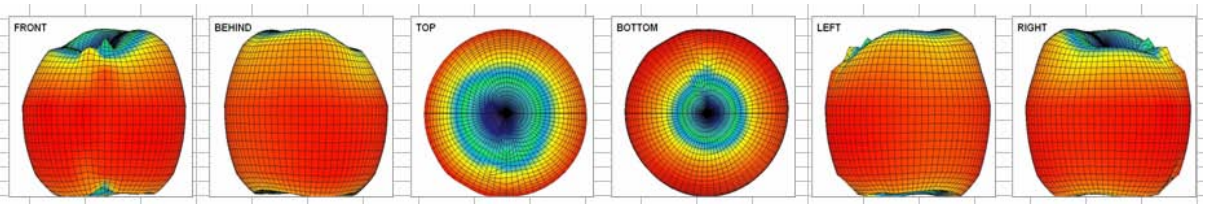
CH 189

Ant. Port Input Pwr. (dBm)	33.00
Tot. Rad. Pwr. (dBm)	26.22
Peak EIRP (dBm)	30.02
Directivity (dBi)	3.81
Efficiency (dB)	-6.78
Efficiency (%)	20.97%
Gain (dBi)	-2.98
Average Gain (dB)	-6.78



CH 251

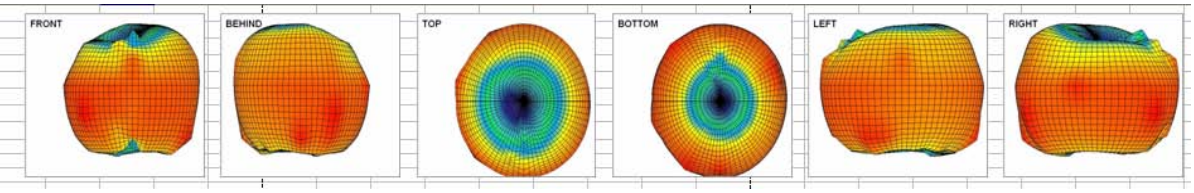
Ant. Port Input Pwr. (dBm)	33.00
Tot. Rad. Pwr. (dBm)	28.02
Peak EIRP (dBm)	31.57
Directivity (dBi)	3.55
Efficiency (dB)	-4.98
Efficiency (%)	31.77%
Gain (dBi)	-1.43
Average Gain (dB)	-4.98



4.2 GSM900:

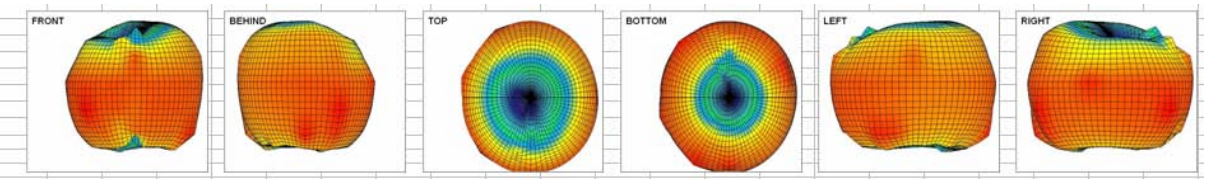
CH 1

Ant. Port Input Pwr. (dBm)	33.00
Tot. Rad. Pwr. (dBm)	27.87
Peak EIRP (dBm)	32.09
Directivity (dBi)	4.21
Efficiency (dB)	-5.13
Efficiency (%)	30.72%
Gain (dBi)	-0.91
Average Gain (dB)	-5.13



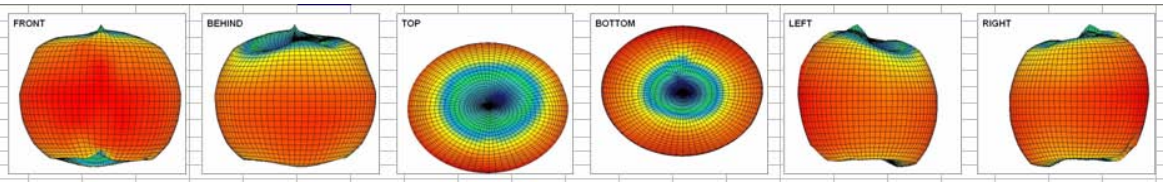
CH 32

Ant. Port Input Pwr. (dBm)	33.00
Tot. Rad. Pwr. (dBm)	30.43
Peak EIRP (dBm)	32.88
Directivity (dBi)	2.45
Efficiency (dB)	-2.57
Efficiency (%)	55.39%
Gain (dBi)	-0.12
Average Gain (dB)	-2.57



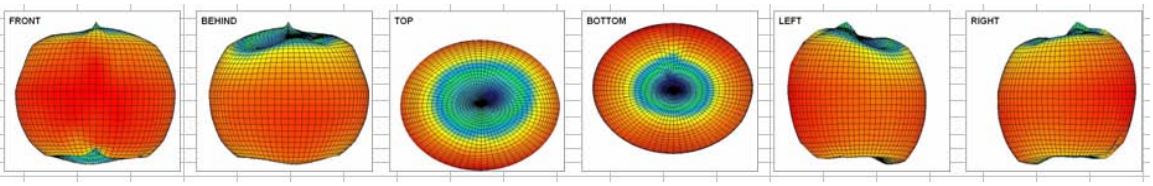
CH 62

Ant. Port Input Pwr. (dBm)	33.00
Tot. Rad. Pwr. (dBm)	29.83
Peak EIRP (dBm)	32.36
Directivity (dBi)	2.53
Efficiency (dB)	-3.17
Efficiency (%)	48.18%
Gain (dBi)	-0.64
Average Gain (dB)	-3.17



CH 124

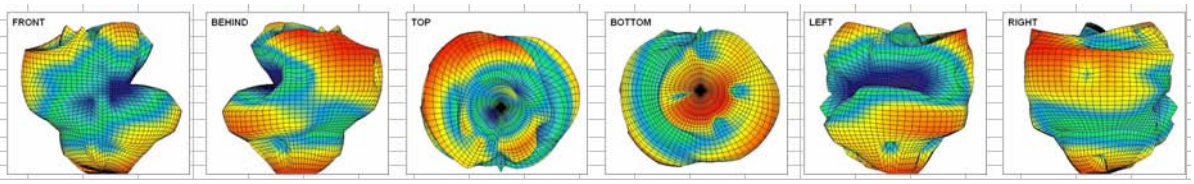
Ant. Port Input Pwr. (dBm)	33.00
Tot. Rad. Pwr. (dBm)	29.37
Peak EIRP (dBm)	31.99
Directivity (dBi)	2.62
Efficiency (dB)	-3.63
Efficiency (%)	43.34%
Gain (dBi)	-1.01
Average Gain (dB)	-3.63



4.3 DCS1800:

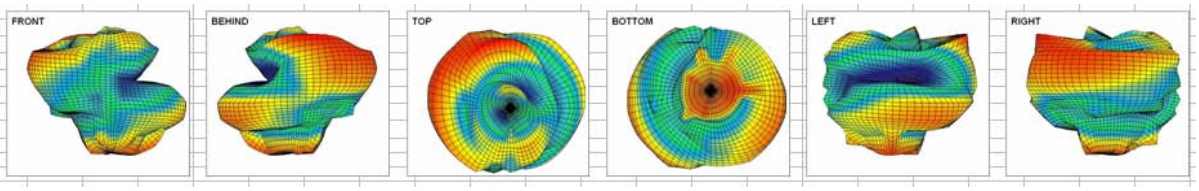
CH 512

Ant. Port Input Pwr. (dBm)	30.00
Tot. Rad. Pwr. (dBm)	24.91
Peak EIRP (dBm)	29.23
Directivity (dBi)	4.32
Efficiency (dB)	-5.09
Efficiency (%)	30.96%
Gain (dBi)	-0.77
Average Gain (dB)	-5.09



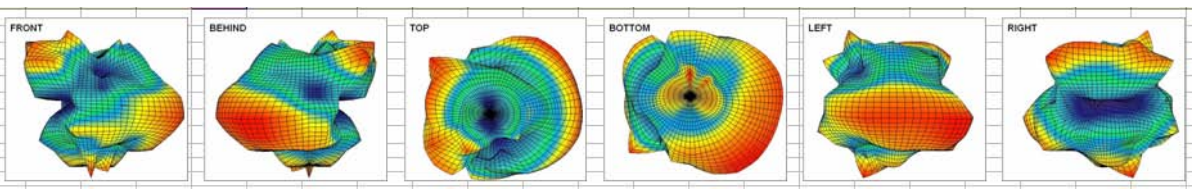
CH 699

Ant. Port Input Pwr. (dBm)	30.00
Tot. Rad. Pwr. (dBm)	26.99
Peak EIRP (dBm)	31.46
Directivity (dBi)	4.47
Efficiency (dB)	-3.01
Efficiency (%)	50.04%
Gain (dBi)	1.46
Average Gain (dB)	-3.01



CH 885

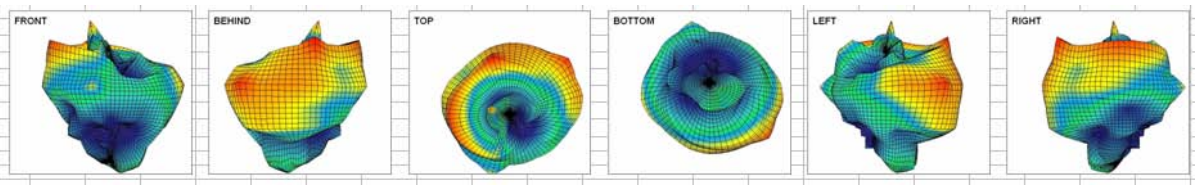
Ant. Port Input Pwr. (dBm)	30.00
Tot. Rad. Pwr. (dBm)	26.79
Peak EIRP (dBm)	31.20
Directivity (dBi)	4.40
Efficiency (dB)	-3.21
Efficiency (%)	47.76%
Gain (dBi)	1.20
Average Gain (dB)	-3.21



4.4 PCS1900:

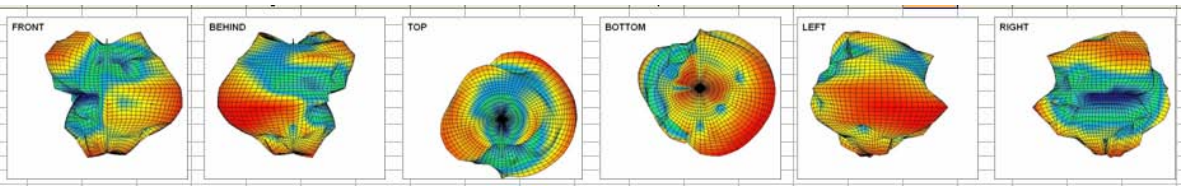
CH 512

Ant. Port Input Pwr. (dBm)	30.00
Tot. Rad. Pwr. (dBm)	26.78
Peak EIRP (dBm)	31.03
Directivity (dBi)	4.25
Efficiency (dB)	-3.22
Efficiency (%)	47.62%
Gain (dBi)	1.03
Average Gain (dB)	-3.22



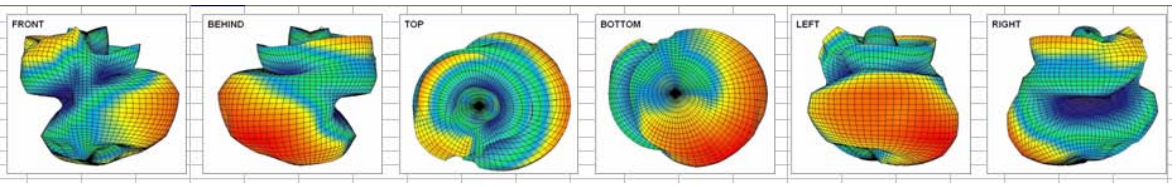
CH 661

Ant. Port Input Pwr. (dBm)	30.00
Tot. Rad. Pwr. (dBm)	25.81
Peak EIRP (dBm)	30.13
Directivity (dBi)	4.32
Efficiency (dB)	-4.19
Efficiency (%)	38.07%
Gain (dBi)	0.13
Average Gain (dB)	-4.19



CH 810

Ant. Port Input Pwr. (dBm)	30.00
Tot. Rad. Pwr. (dBm)	26.29
Peak EIRP (dBm)	30.59
Directivity (dBi)	4.30
Efficiency (dB)	-3.71
Efficiency (%)	42.59%
Gain (dBi)	0.59
Average Gain (dB)	-3.71



5. EIRS

5.1 GSM850:

Sensitivity Test Report

■Customer : AUDEN ■App No. : ■Test Date :
■Model No. : ■Operating Mode : ■Note :
Test Engineer :

Plane: H Polarization: H

Channel	Rx. Freq.	Sys. Loss	BS. Offset	Angle	0	30	60	90	120	150	180	210	240	270	300	330	Avg	Min
128	869.20	-37.40	30	BS. Power	-101.80	-101.60	-101.40	-101.40	-101.70	-101.50	-101.70	-101.10	-100.80	-100.90	-101.30	-101.60	-108.79	-109.20
				Sensitivity	-109.20	-109.00	-108.80	-108.80	-109.10	-108.90	-109.10	-108.50	-108.20	-108.30	-108.70	-109.00		
189	881.40	-37.73	30	BS. Power	-101.80	-101.60	-101.40	-101.40	-101.60	-101.60	-101.60	-101.10	-100.70	-100.70	-101.40	-101.90	-109.11	-109.63
				Sensitivity	-109.53	-109.33	-109.13	-109.13	-109.33	-109.33	-109.33	-108.83	-108.43	-108.43	-109.13	-109.63		
251	893.80	-38.14	30	BS. Power	-101.70	-101.40	-101.40	-101.20	-101.00	-101.40	-101.00	-100.70	-99.90	-100.70	-101.40	-101.40	-109.21	-109.84
				Sensitivity	-109.84	-109.54	-109.54	-109.34	-109.14	-109.54	-109.84	-108.84	-108.04	-108.84	-109.54	-109.54		

5.2 GSM900:

Sensitivity Test Report

■Customer : AUDEN ■App No. : ■Test Date :
■Model No. : ■Operating Mode : ■Note :
Test Engineer :

Plane: H Polarization: H

Channel	Rx. Freq.	Sys. Loss	BS. Offset	Angle	0	30	60	90	120	150	180	210	240	270	300	330	Avg	Min
1	935.20	-37.95	30	BS. Power	-99.00	-99.10	-98.90	-98.60	-98.60	-99.10	-98.70	-98.60	-98.30	-98.40	-99.00	-99.70	-106.77	-107.65
				Sensitivity	-106.95	-107.05	-106.85	-106.55	-106.55	-107.05	-106.65	-106.55	-106.25	-106.35	-106.95	-107.65		
32	941.40	-38.11	30	BS. Power	-98.30	-98.10	-97.60	-97.40	-98.10	-97.90	-98.00	-97.90	-97.10	-97.60	-98.20	-97.80	-105.93	-106.41
				Sensitivity	-106.41	-106.21	-105.71	-105.51	-106.21	-106.01	-106.11	-106.01	-105.21	-105.71	-106.31	-105.91		
62	947.40	-38.31	30	BS. Power	-98.30	-98.10	-97.70	-97.60	-98.00	-98.10	-98.00	-97.90	-97.10	-98.00	-98.20	-98.90	-106.28	-107.21
				Sensitivity	-106.61	-106.41	-106.01	-105.91	-106.31	-106.41	-106.31	-106.21	-105.41	-106.31	-106.51	-107.21		
124	959.80	-38.31	30	BS. Power	-96.40	-96.10	-96.50	-96.30	-96.50	-96.20	-96.50	-96.00	-95.30	-95.70	-96.20	-96.50	-104.48	-104.81
				Sensitivity	-104.71	-104.41	-104.81	-104.61	-104.81	-104.51	-104.81	-104.31	-103.61	-104.01	-104.51	-104.81		

5.3 DCS1800:

Sensitivity Test Report

■Customer : AUDEN ■App No. : ■Test Date :
■Model No. : ■Operating Mode : ■Note :
Test Engineer :

Plane: H Polarization: H

Channel	Rx. Freq.	Sys. Loss	BS. Offset	Angle	0	30	60	90	120	150	180	210	240	270	300	330	Avg	Min
512	1805.20	-40.59	30	BS. Power	-92.00	-92.90	-95.60	-97.60	-98.90	-98.60	-98.50	-98.30	-95.90	-95.60	-93.60	-93.60	-105.87	-109.49
				Sensitivity	-102.59	-103.49	-106.19	-108.19	-109.49	-109.19	-109.09	-108.89	-106.49	-106.19	-104.19	-104.19		
699	1842.60	-41.20	30	BS. Power	-89.00	-90.10	-94.30	-96.40	-97.80	-97.50	-97.40	-95.80	-95.10	-93.70	-92.30	-91.70	-104.49	-109.00
				Sensitivity	-100.20	-101.30	-105.50	-107.60	-109.00	-108.70	-108.60	-107.00	-106.30	-104.90	-103.50	-102.90		
885	1879.80	-41.31	30	BS. Power	-89.00	-89.10	-93.30	-94.60	-95.90	-96.00	-95.90	-95.30	-93.60	-92.30	-92.30	-91.70	-103.87	-107.31
				Sensitivity	-100.31	-100.41	-104.61	-105.91	-107.21	-107.31	-107.21	-106.61	-104.91	-103.61	-103.61	-103.01		

5.4 PCS1900:

Sensitivity Test Report

■Customer : AUDEN ■App No. : ■Test Date :
■Model No. : ■Operating Mode : ■Note :
Test Engineer :

Plane: H Polarization: H

Channel	Rx. Freq.	Sys. Loss	BS. Offset	Angle	0	30	60	90	120	150	180	210	240	270	300	330	Avg	Min
512	1930.20	-41.33	30	BS. Power	-87.70	-82.60	-87.20	-88.90	-92.90	-93.60	-95.90	-96.10	-94.90	-94.10	-92.90	-89.80	-100.61	-107.43
				Sensitivity	-99.03	-93.93	-98.53	-100.23	-104.23	-104.93	-107.23	-107.43	-106.23	-105.43	-103.83	-101.13		
661	1960.00	-41.19	30	BS. Power	-87.60	-82.50	-87.80	-89.60	-93.60	-93.70	-95.80	-96.10	-95.40	-94.10	-92.60	-89.80	-100.59	-107.29
				Sensitivity	-98.79	-93.69	-98.99	-100.79	-104.79	-104.89	-106.99	-107.29	-106.59	-105.29	-103.79	-100.99		
810	1989.80	-41.07	30	BS. Power	-85.40	-77.40	-84.40	-86.60	-91.30	-91.90	-94.20	-93.90	-92.90	-92.90	-90.20	-86.70	-96.65	-105.27
				Sensitivity	-96.47	-88.47	-95.47	-97.67	-102.37	-102.97	-105.27	-104.97	-103.97	-103.57	-101.27	-97.77		

6. Antenna Appearance