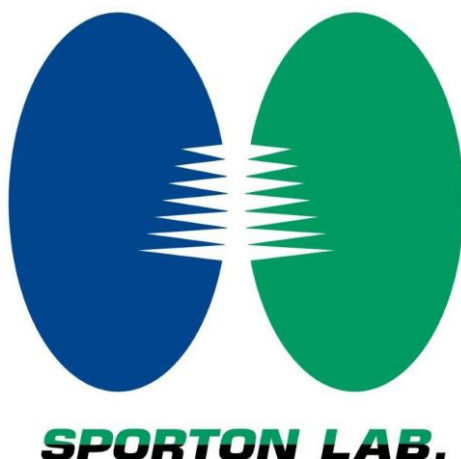




Wireless Device Over the Air Performance Report

APPLICANT : Panasales Clearance Centre Pty Ltd T/A Cellsafe
EQUIPMENT : radi chip
BRAND NAME : cellsafe
MODEL NAME : lif3 radi chip
TEST DATE(S) : Aug. 25, 2016 ~ Sep. 20, 2016

Roc Zhou

Test Engineer: Roc Zhou

Mark Qu

Technical Manager: Mark Qu

SPORTON INTERNATIONAL INC. (SHENZHEN)
1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili
Town, Nanshan District, Shenzhen, Guangdong, P. R. China



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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
OT692102	1.0	Initial issue of report	Sep. 22, 2016



1. Administration Data

1.1 Testing Laboratory

Test Site	SPORTON INTERNATIONAL INC. (SHENZHEN)
Test Site Location	1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-75586379589 FAX: +86-75586379595

1.2 Applicant

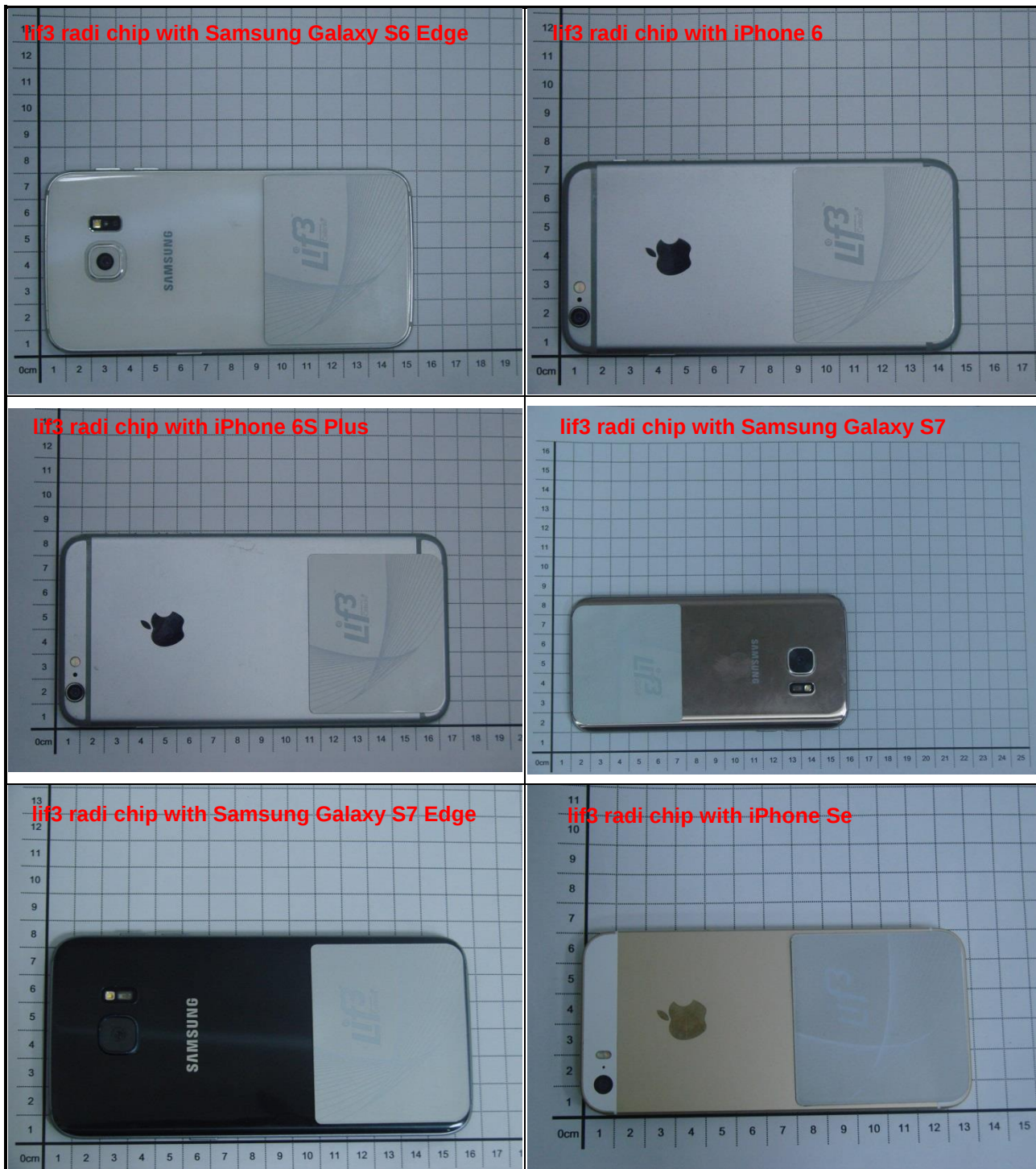
Company Name	Panasales Clearance Centre Pty Ltd T/A Cellsafe
Address	14/1866 Princes Highway, Clayton VIC 3168 Australia
Contact Person	Nicole Bennett / sales@cellsafe.com.au
Telephone Number	61 3 9544 4886

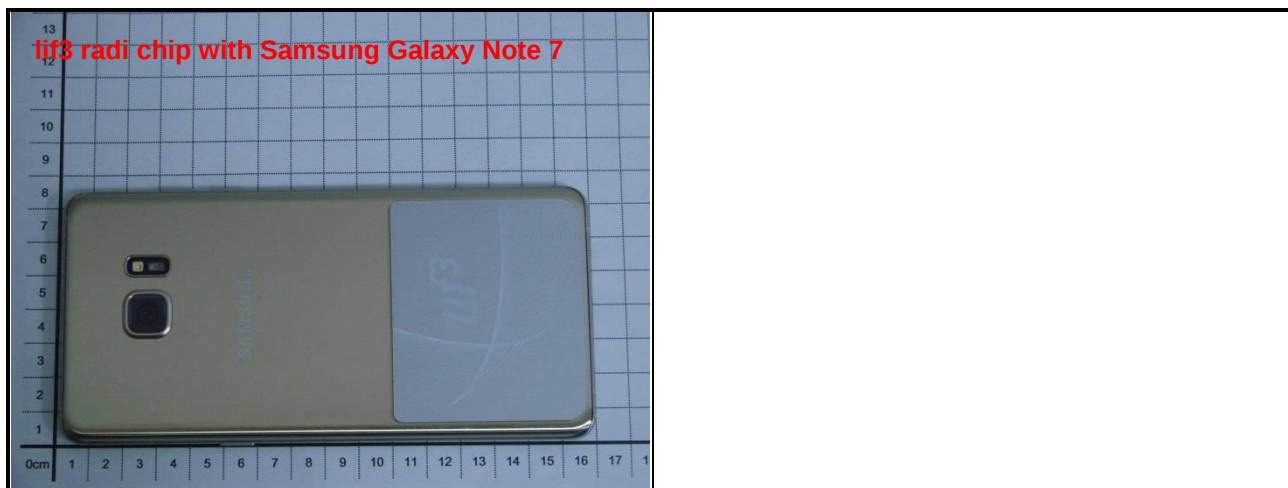
2. General Information

2.1 Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	radi chip
Brand Name	cellsafe
Model Name	lif3 radi chip
Air Interface Tested	WCDMA FDD II / V
Device Power Class	WCDMA FDD II : 3 WCDMA FDD V : 3
Primary Mechanical Mode	Monoblock

2.2 Product Photo



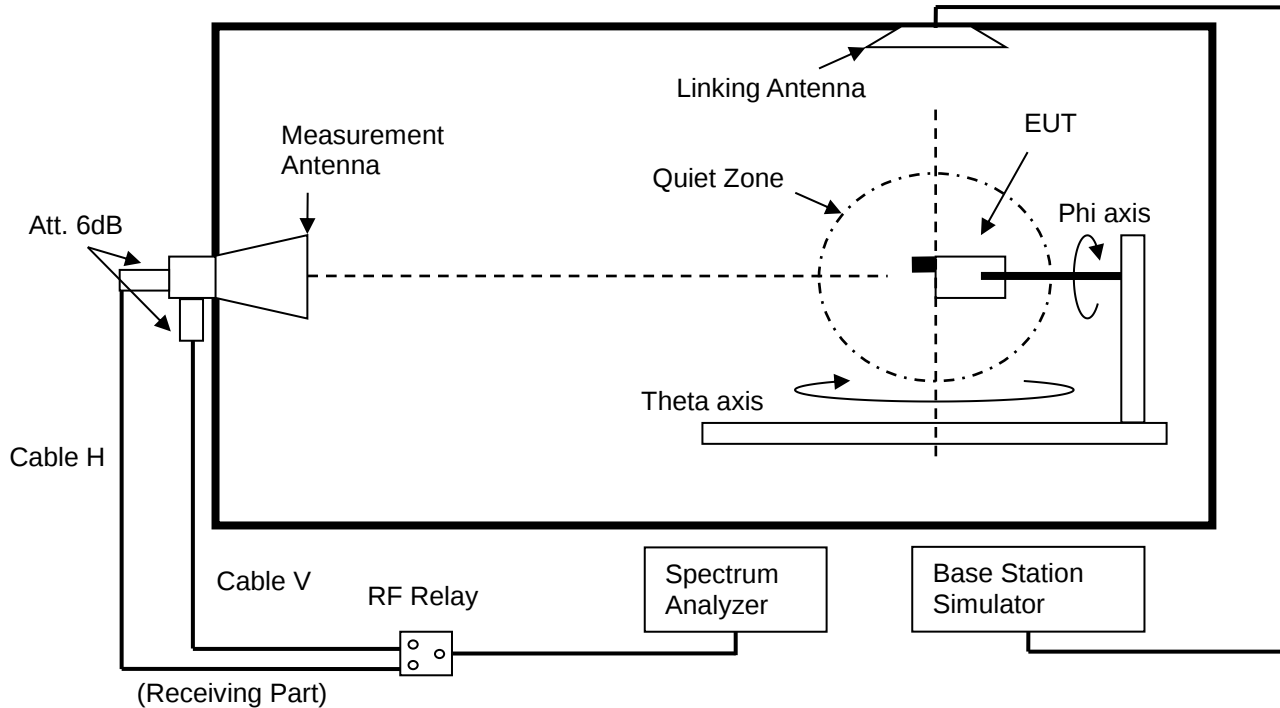


2.3 Test Equipment List

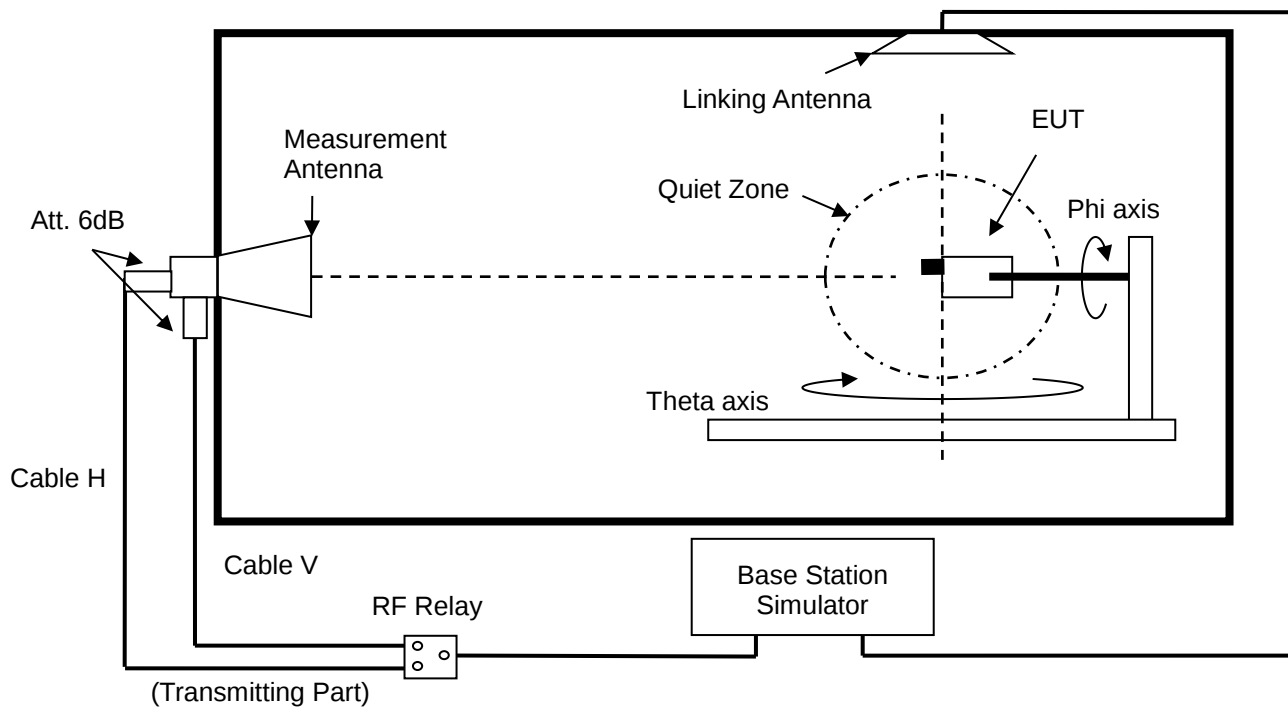
Name	Manufacturer	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
Base Station Simulator	R&S	CMU200	121815	2015/10/19	2016/10/18
Spectrum Analyzer	R&S	FSV 7	101323	2016/05/07	2017/05/06
Switch Control	ETS-Lindgren	EMcenter	00116609	NCR	NCR
Diagonal Dual Polarized Horn	ETS-Lindgren	3164-08	00138285	NCR	NCR
Multi-Devices Controller	ETS-Lindgren	2090-OPT1	00155901	NCR	NCR
Medium Duty Holder	ETS-Lindgren	2015	N/A	NCR	NCR

3. Measurement Environment

3.1 TRP Measurement Setup



3.2 TIS Measurement Setup



4. Summary of Test Result

4.1 Ambient Condition

Temperature (°C):	22°C	Humidity (%):	36%
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4.2 Measurement Uncertainty

The maximum expanded measurement uncertainty (k=2, at a 95% confidence level) as below:

TRP					
Normal	LTE700	Cellular	AWS-1 Tx	PCS	LTE41
	699-798	814-894	1710-1755	1850-1995	2300-2800
	MHz	MHz	MHz	MHz	MHz
Free Space	1.14	0.99	1.16	1.24	1.29
TIS					
Normal	LTE700	Cellular	PCS	AWS-1 Rx	LTE41
	699-798	814-894	1850-1995	2110-2155	2300-2800
	MHz	MHz	MHz	MHz	MHz
Free Space	1.69	1.59	1.75	1.71	1.79

4.3 Summary Table

For Samsung Galaxy S6 Edge:

WCDMA TRP Result:

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)	TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)
WCDMA FDD II	9400	1880.0	15.6	14.6	13.1	15.8	14.7	13.3
WCDMA FDD V	4183	836.6	16.1	15.3	14.1	13.4	12.5	11.3

WCDMA TIS Result:

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)	TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)
WCDMA FDD II	9800	1960.0	-105.0	-103.9	-102.5	-105.1	-104.1	-102.6

**For iPhone 6:****WCDMA TRP Result:**

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)	TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)
WCDMA FDD II	9400	1880.0	13.4	11.5	9.2	9.7	7.7	5.5
WCDMA FDD V	4183	836.6	17.9	17.2	16.0	17.2	16.4	15.2

WCDMA TIS Result:

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)	TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)
WCDMA FDD II	9800	1960.0	-110.7	-108.8	-106.7	-109.2	-107.2	-104.9
WCDMA FDD V	4408	881.6	-107.0	-106.2	-105.1	-106.7	-106.0	-104.8

For iPhone 6S Plus:

WCDMA TRP Result:

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)	TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)
WCDMA FDD II	9400	1880.0	14.6	12.4	10.3	12.1	9.9	7.8
WCDMA FDD V	4183	836.6	17.4	16.6	15.3	16.1	15.2	14.0

WCDMA TIS Result:

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)	TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)
WCDMA FDD II	9800	1960.0	-111.3	-109.2	-107.2	-110.1	-108.1	-105.9
WCDMA FDD V	4408	881.6	-109.0	-108.0	-106.7	-107.8	-106.9	-105.6

**For Samsung Galaxy S7:****WCDMA TRP Result:**

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)	TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)
WCDMA FDD II	9400	1880.0	15.5	14.5	13.1	15.2	14.2	12.8
WCDMA FDD V	4183	836.6	16.2	15.0	13.6	14.9	13.6	12.2

WCDMA TIS Result:

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)	TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)
WCDMA FDD II	9800	1960.0	-107.9	-106.8	-105.2	-105.5	-104.2	-102.5
WCDMA FDD V	4408	881.6	-106.3	-105.1	-103.8	-105.1	-104.0	-102.6

For Samsung Galaxy S7 Edge:

WCDMA TRP Result:

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)	TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)
WCDMA FDD II	9400	1880.0	15.7	14.6	13.2	12.3	11.2	9.8
WCDMA FDD V	4183	836.6	17.1	15.7	14.3	16.1	14.8	13.4

WCDMA TIS Result:

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)	TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)
WCDMA FDD V	4408	881.6	-103.5	-102.2	-100.7	-103.9	-102.7	-101.2

**For iPhone Se:****WCDMA TRP Result:**

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)	TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)
WCDMA FDD II	9400	1880.0	13.6	11.8	9.5	12.5	10.5	8.1
WCDMA FDD V	4183	836.6	18.9	18.1	17.0	15.1	14.3	13.1

WCDMA TIS Result:

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)	TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)
WCDMA FDD II	9800	1960.0	-110.2	-108.3	-106.0	-108.7	-106.9	-104.6
WCDMA FDD V	4408	881.6	-109.3	-108.6	-107.4	-109.2	-108.4	-107.2

For Samsung Galaxy Note 7:

WCDMA TRP Result:

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)	TRP (dBm)	NHPRP ±45 (dBm)	NHPRP ±30 (dBm)
WCDMA FDD II	9400	1880.0	17.2	16.1	14.5	13.6	12.4	10.8
WCDMA FDD V	4183	836.6	14.1	12.7	11.7	12.0	9.7	7.8

WCDMA TIS Result:

Band	CH	Freq. (MHz)	Free Space					
			Without radi chip			With radi chip		
			TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)	TIS (dBm)	NHPIS ±45 (dBm)	NHPIS ±30 (dBm)
WCDMA FDD II	9800	1960.0	-109.0	-107.6	-106.0	-108.4	-106.9	-105.3
WCDMA FDD V	4408	881.6	-104.8	-103.4	-101.9	-104.6	-103.2	-101.7

4.4 Photographs of Test Configuration



Fig. 4-4-1 Free Space –Samsung Galaxy S6 Edge without radi chip

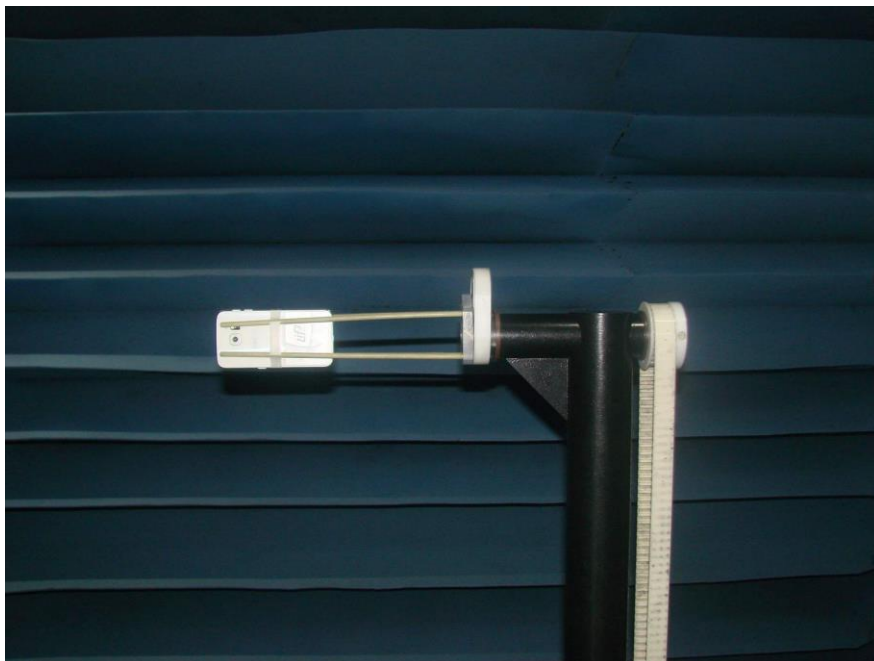


Fig. 4-4-2 Free Space –Samsung Galaxy S6 Edge with radi chip



Fig. 4-4-3 Free Space – iPhone 6 without radi chip

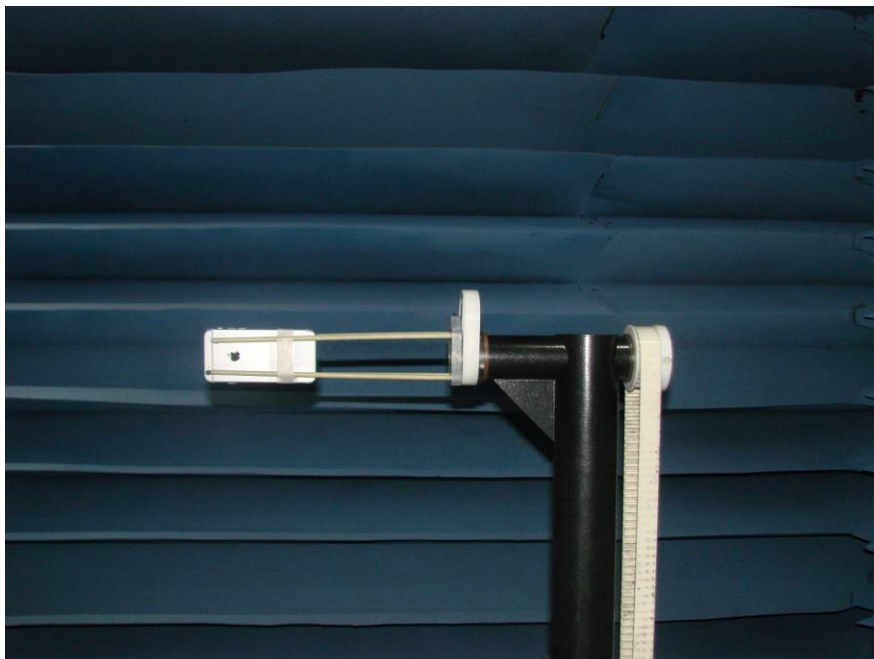


Fig. 4-4-4 Free Space – iPhone 6 with radi chip



Fig. 4-4-5 Free Space –iPhone 6S Plus without radi chip

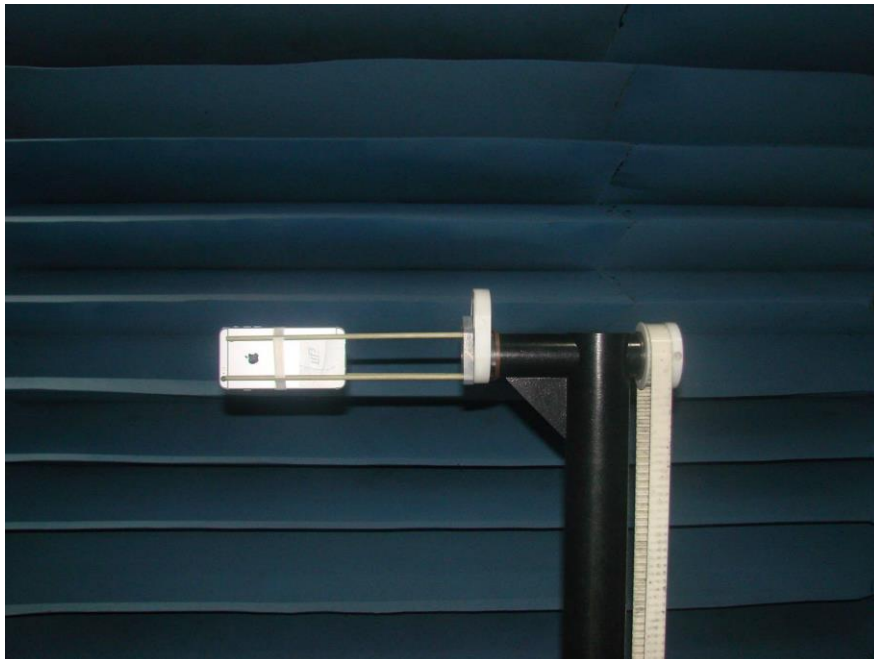


Fig. 4-4-6 Free Space – iPhone 6S Plus with radi chip



Fig. 4-4-7 Free Space – Samsung Galaxy S7 without radi chip



Fig. 4-4-8 Free Space – Samsung Galaxy S7 with radi chip



Fig. 4-4-9 Free Space – Samsung Galaxy S7 Edge without radi chip



Fig. 4-4-10 Free Space – Samsung Galaxy S7 Edge with radi chip



Fig. 4-4-11 Free Space – iPhone Se without radi chip

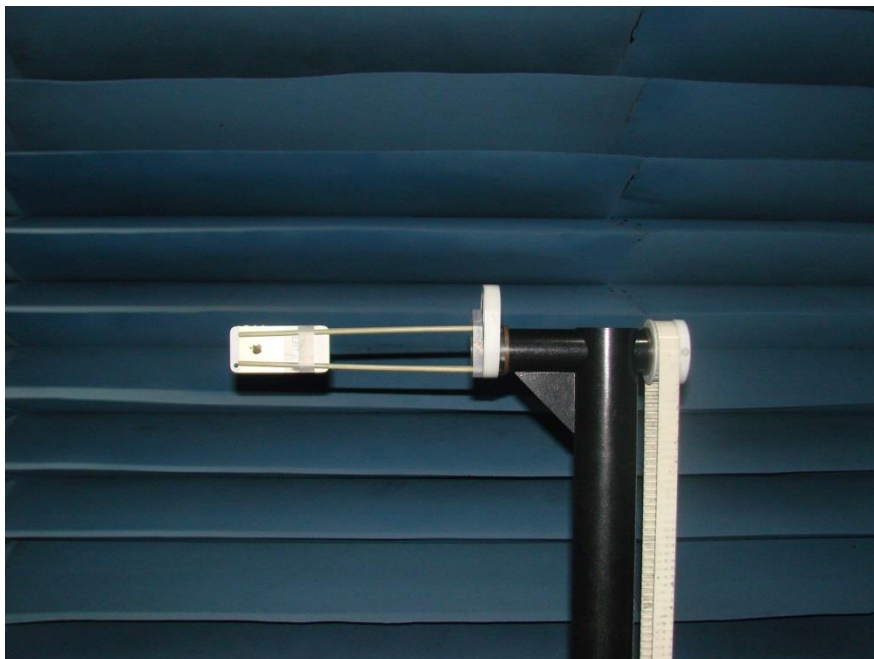


Fig. 4-4-12 Free Space – iPhone Se with radi chip



Fig. 4-4-13 Free Space – Samsung Galaxy Note 7 without radi chip



Fig. 4-4-14 Free Space – Samsung Galaxy Note 7 with radi chip