





FCC EMI TEST REPORT

FCC ID	: ZL5S62PROE
Equipment	: Rugged Smart Phone
Brand Name	: CAT
Model Name	: S62 Pro
Applicant	: Bullitt Group
	One Valpy, Valpy Street, Reading, Berkshire, England RG1 1AR
Standard	: FCC 47 CFR FCC Part 15 Subpart B Class B

The product was received on May 27, 2020 and testing was started from May 18, 2020 and completed on Jun. 12, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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Issued Date	: Jul. 10, 2020
Report Version	: 01



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History of this test report

Report No.	Version	Description	Issued Date
FC042406-02	01	Initial issue of report	Jul. 10, 2020



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.107	AC Conducted Emission	Pass	Under limit 6.23 dB at 0.150 MHz
3.2	15.109	Radiated Emission	Pass	Under limit 1.00 dB at 83.350 MHz for Quasi-Peak

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Dara Chiu

Report Producer: Celery Wei



1. General Description

1.1. Product Feature of Equipment Under Test

GSM/WCDMA/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n/ac, NFC and GNSS.

Product Specification subjective to this standard			
Sample 1 Dual SIM			
Sample 2	Single SIM		
	WWAN		
	<main 1="">: PIFA Antenna</main>		
	<main 2="">: PIFA Antenna</main>		
	<diversity 1="">: PIFA Antenna</diversity>		
Antonna Typo	<diversity 2="">: Loop Antenna</diversity>		
Antenna Type	WLAN 2.4GHz: PIFA Antenna		
	WLAN 5GHz: Mono Pole Antenna		
	Bluetooth: PIFA Antenna		
	GPS/GIonass/BDS/Galileo/SBAS: PIFA Antenna		
	NFC: Loop Antenna		

Remark: The samples have same layout, circuit and components but different SIM tray. The phone software will identify the loaded sim card combinations whether with single sim card or dual sim cards.

1.2. Modification of EUT

No modifications are made to the EUT during all test items.



1.3. Test Location

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory	
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	Sporton Site No.	
Test Sile NO.	CO05-HY	
Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory	
Test Site		
	Laboratory No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868	

FCC designation No.: TW1093 and TW1098

1.4. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR FCC Part 15 Subpart B Class B
- + ANSI C63.4-2014

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.



2. Test Configuration of Equipment Under Test

2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (30MHz

to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

Test Items	Function Type
	Mode 1: GSM 850 Idle + Bluetooth Idle + WLAN Idle + NFC On + MPEG4 + USB Cable (Charging from AC Adapter) + SIM 1
	Mode 2: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC On + Camera (Front) + USB Cable (Charging from AC Adapter) + SIM 1
AC Conducted	Mode 3: LTE Band 5 Idle + Bluetooth Idle + WLAN Idle + NFC On + Camera (Rear) + USB Cable (Charging from AC Adapter) + SIM 1
Emission	Mode 4: LTE Band 2 Idle + Bluetooth Idle + WLAN Idle + NFC On + Play MP3 + USB Cable (Charging from AC Adapter) + SIM 1
	Mode 5: LTE Band 7 Idle + Bluetooth Idle + WLAN Idle + NFC On + GPS Rx + USB Cable (Data Link with Notebook) + SIM 1
	Mode 6: LTE Band 5 Idle + Bluetooth Idle + WLAN Idle + NFC On + GPS Rx + USB Cable (Data Link with Notebook) + SIM 2
	Mode 1: GSM 850 Idle + Bluetooth Idle + WLAN Idle + NFC On + MPEG4 + USB Cable (Charging from AC Adapter) + SIM 1
	Mode 2: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + NFC On + Camera (Front) + Audio Converter + Earphone + SIM 1
Radiated	Mode 3: LTE Band 5 Idle + Bluetooth Idle + WLAN Idle + NFC On + Camera (Rear) + USB Cable (Charging from AC Adapter) + SIM 1
Emissions	Mode 4: LTE Band 2 Idle + Bluetooth Idle + WLAN Idle + NFC On + Play MP3 + Audio Converter + Earphone + SIM 1
	Mode 5: LTE Band 7 Idle + Bluetooth Idle + WLAN Idle + NFC On + GPS Rx + USB Cable (Data Link with Notebook) + SIM 1
	Mode 6: LTE Band 2 Idle + Bluetooth Idle + WLAN Idle + NFC On + Play MP3 + Audio Converter + Earphone + SIM 2

Remark:

1. The worst case of AC is mode 4; only the test data of this mode was reported.

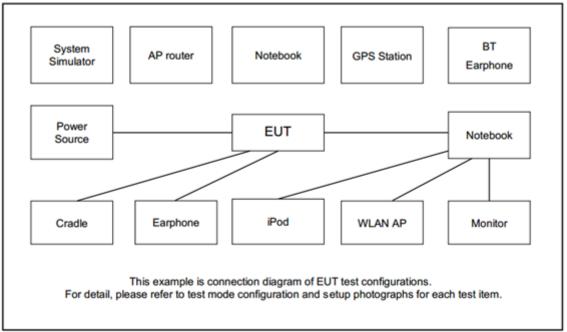
2. The worst case of RE is mode 5; only the test data of this mode was reported.

 For radiation emission after pre-scanned the cellular band between 30MHz ~ 960MHz (GSM850/WCDMA Band V/LTE Band 5); only the worst case for cellular band test data of this mode was reported.

4. Data Link with Notebook means data application transferred mode between EUT and Notebook.



2.2. Connection Diagram of Test System



2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	GPS Station	Pendulum	GSG-54	N/A	N/A	Unshielded, 1.8 m
3.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
4.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
5.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
6.	Notebook	Dell	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8m
7.	Notebook	Dell	Latitude 5480	FCC DoC	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8m
8.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A



2.4. EUT Operation Test Setup

The EUT was in GSM or WCDMA or LTE idle mode during the testing. The EUT was synchronized with the BCCH, and had been continuous receiving mode by setting paging reorganization of the system simulator.

At the same time, the EUT was attached to the Bluetooth earphone or WLAN AP, and the following programs installed in the EUT were programmed during the test:

- 1. Data application is transferred between Notebook and EUT via USB cable.
- 2. Execute "GPS Test" to make the EUT receive continuous signals from GPS station.
- 3. Execute "Music Player" to play MP3 files.
- 4. Execute "Windows Media Player" to play MPEG4 files.
- 5. Turn on camera to capture images.
- 6. Turn on NFC function.



3. Test Result

3.1. Test of AC Conducted Emission Measurement

3.1.1. Limits of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission	Conducted limit (dBuV)		
(MHz)	Quasi-peak	Average	
0.15-0.5	66 to 56*	56 to 46*	
0.5-5	56	46	
5-30	60	50	

*Decreases with the logarithm of the frequency.

3.1.2. Measuring Instruments

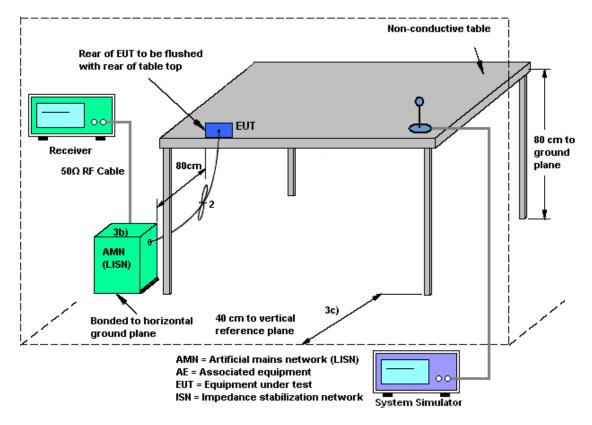
Refer a test equipment and calibration data table in this test report.

3.1.3. Test Procedure

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- 3. All the support units are connecting to the other LISN.
- 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- 5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- 6. Both sides of AC line were checked for maximum conducted interference.
- 7. The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.



3.1.4. Test Setup



3.1.5. Test Result of AC Conducted Emission

Please refer to Appendix A.

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3.2. Test of Radiated Emission Measurement

3.2.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

<Class B>

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.2.2. Measuring Instruments

Refer a test equipment and calibration data table in this test report.

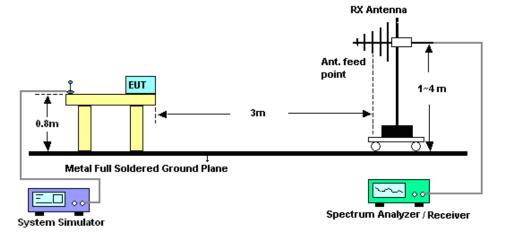
3.2.3. Test Procedures

- 1. The EUT was placed on a turntable with 0.8 meter above ground.
- 2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 3. The table was rotated 360 degrees to determine the position of the highest radiation.
- 4. The antenna is a Bi-Log antenna and its height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
- 5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
- Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
- 7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
- 8. Emission level (dB μ V/m) = 20 log Emission level (μ V/m)
- 9. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level

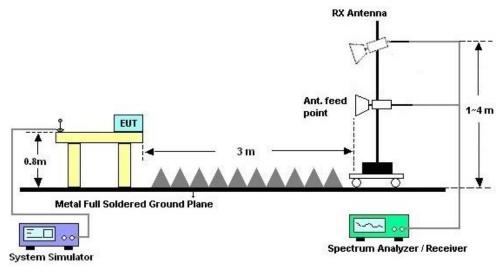


3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

Please refer to Appendix B.



4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	May 18, 2020	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 15, 2019	May 18, 2020	Nov. 14, 2020	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 07, 2019	May 18, 2020	Nov. 06, 2020	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 20, 2019	May 18, 2020	Nov. 19, 2020	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 15, 2019	May 18, 2020	Nov. 14, 2020	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	May 18, 2020	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 02, 2020	May 18, 2020	Jan. 01, 2021	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 02, 2020	May 18, 2020	Jan. 01, 2021	Conduction (CO05-HY)
Amplifier	SONOMA	310N	187311	9kHz~1GHz	Oct. 22, 2019	May 18, 2020~ Jun. 12, 2020	Oct. 21, 2020	Radiation (03CH10-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	35413 & 02	30MHz~1GHz	Feb. 11, 2020	May 18, 2020~ Jun. 12, 2020	Feb. 10, 2021	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1325	1GHz~18GHz	Oct. 09, 2019	May 18, 2020~ Jun. 12, 2020	Oct. 08, 2020	Radiation (03CH10-HY)
Preamplifier	Jet-Power	JAP00101800- 30-10P	160118550004	1GHz~18GHz	Mar. 02, 2020	May 18, 2020~ Jun. 12, 2020	Mar. 01, 2021	Radiation (03CH10-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz~44GHz	Feb. 10, 2020	May 18, 2020~ Jun. 12, 2020	Feb. 09, 2021	Radiation (03CH10-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	May 18, 2020~ Jun. 12, 2020	N/A	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	May 18, 2020~ Jun. 12, 2020	N/A	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0~360 Degree	N/A	May 18, 2020~ Jun. 12, 2020	N/A	Radiation (03CH10-HY)
Software	Audix	E3 6.2009-8-24	RK-001042	N/A	N/A	May 18, 2020~ Jun. 12, 2020	N/A	Radiation (03CH10-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY53290045	20MHz~8.4GHz	Jan. 18, 2020	May 18, 2020~ Jun. 12, 2020	Jan. 17, 2021	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104 / 102	MY11692/4PE, MY11693/4PE, MY2855/2	30MHz~1GHz	Nov. 07, 2019	May 18, 2020~ Jun. 12, 2020	Nov. 06, 2020	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104 / 102	MY11692/4PE, MY11693/4PE, MY2855/2	1GHz~18GHz	Nov. 07, 2019	May 18, 2020~ Jun. 12, 2020	Nov. 06, 2020	Radiation (03CH10-HY)



5. Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence	2.2
of 95% (U = 2Uc(y))	2.3

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence	4.9
of 95% (U = 2Uc(y))	4.0

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence	5.2
of 95% (U = 2Uc(y))	5.3

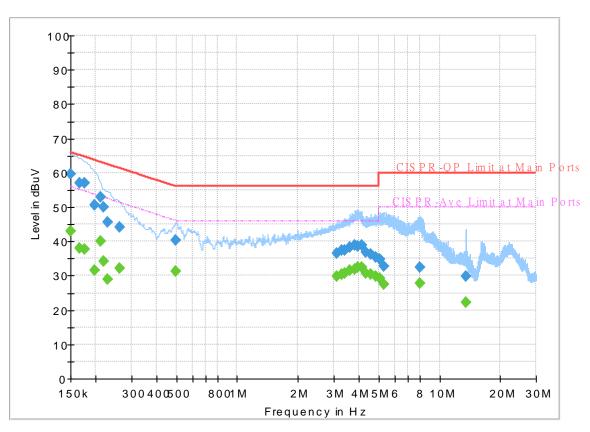


Appendix A. AC Conducted Emission Test Results

Test Engineer :		Temperature :	21~25 ℃
rest Engineer .	Tom Lee	Relative Humidity :	42~50%

EUT Information

Report NO : Test Mode : Test Voltage : Phase : 042406-02 Mode 5 Power From System Line



FullSpectrum

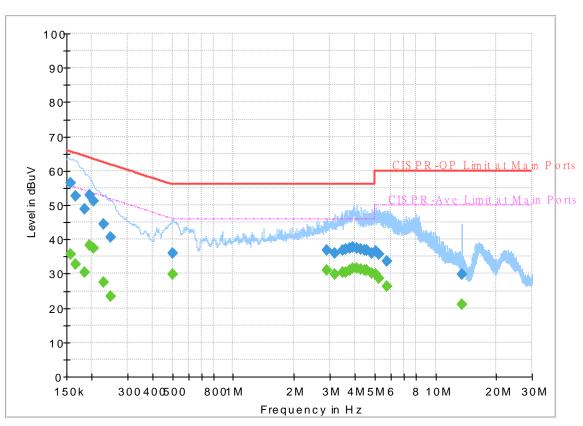
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000		42.94	56.00	13.06	L1	OFF	19.5
0.150000	59.77		66.00	6.23	L1	OFF	19.5
0.165750		38.09	55.17	17.08	L1	OFF	19.5
0.165750	57.12		65.17	8.05	L1	OFF	19.5
0.175290		37.85	54.71	16.86	L1	OFF	19.5
0.175290	56.89		64.71	7.82	L1	OFF	19.5
0.196440		31.50	53.76	22.26	L1	OFF	19.5
0.196440	50.60		63.76	13.16	L1	OFF	19.5
0.210750		40.15	53.18	13.03	L1	OFF	19.5
0.210750	53.07		63.18	10.11	L1	OFF	19.5
0.219570		34.29	52.84	18.55	L1	OFF	19.5
0.219570	49.93		62.84	12.91	L1	OFF	19.5
0.228750		29.00	52.50	23.50	L1	OFF	19.5
0.228750	45.72		62.50	16.78	L1	OFF	19.5
0.262500		32.08	51.35	19.27	L1	OFF	19.5
0.262500	44.27		61.35	17.08	L1	OFF	19.5
0.496680		31.16	46.06	14.90	L1	OFF	19.5
0.496680	40.31		56.06	15.75	L1	OFF	19.5
3.122790		29.71	46.00	16.29	L1	OFF	19.6
3.122790	36.54		56.00	19.46	L1	OFF	19.6
3.289290		30.37	46.00	15.63	L1	OFF	19.6

3.289290	37.29		56.00	18.71	L1	OFF	19.6
3.414750		30.57	46.00	15.43	L1	OFF	19.6
3.414750	37.32		56.00	18.68	L1	OFF	19.6
3.596550		31.54	46.00	14.46	L1	OFF	19.6
3.596550	38.19		56.00	17.81	L1	OFF	19.6
3.810750		31.99	46.00	14.01	L1	OFF	19.6
3.810750	38.82		56.00	17.18	L1	OFF	19.6
3.965550		32.40	46.00	13.60	L1	OFF	19.6
3.965550	38.72		56.00	17.28	L1	OFF	19.6
4.114500		32.48	46.00	13.52	L1	OFF	19.6
4.114500	38.79		56.00	17.21	L1	OFF	19.6
4.301250		30.65	46.00	15.35	L1	OFF	19.6
4.301250	36.70		56.00	19.30	L1	OFF	19.6
4.578000		30.43	46.00	15.57	L1	OFF	19.6
4.578000	36.31		56.00	19.69	L1	OFF	19.6
4.848360		29.75	46.00	16.25	L1	OFF	19.6
4.848360	35.49		56.00	20.51	L1	OFF	19.6
5.044560		29.12	50.00	20.88	L1	OFF	19.6
5.044560	34.80		60.00	25.20	L1	OFF	19.6
5.310960		27.47	50.00	22.53	L1	OFF	19.6
5.310960	32.81		60.00	27.19	L1	OFF	19.6
7.990980		27.66	50.00	22.34	L1	OFF	19.7
7.990980	32.35		60.00	27.65	L1	OFF	19.7
13.560000		22.20	50.00	27.80	L1	OFF	19.8
13.560000	29.85		60.00	30.15	L1	OFF	19.8

EUT Information

Report NO : Test Mode : Test Voltage : Phase : 042406-02 Mode 5 Power From System Neutral



FullSpectrum

Final_Result

Frequency	QuasiPeak	CAverage	Limit	Margin	Line	Filter	Corr.
(MHz)	(dBuV)	(dBuV)	(dBuV)	(dB)			(dB)
0.156750	56.57		65.63	9.06	Ν	OFF	19.5
0.156750		35.67	55.63	19.96	Ν	OFF	19.5
0.166200	52.67		65.15	12.48	Ν	OFF	19.5
0.166200		32.76	55.15	22.39	Ν	OFF	19.5
0.183750	48.96		64.31	15.35	Ν	OFF	19.5
0.183750		30.40	54.31	23.91	Ν	OFF	19.5
0.195900	52.97		63.78	10.81	Ν	OFF	19.5
0.195900		38.20	53.78	15.58	Ν	OFF	19.5
0.204000	51.12		63.45	12.33	Ν	OFF	19.5
0.204000		37.52	53.45	15.93	Ν	OFF	19.5
0.228750	44.59		62.50	17.91	Ν	OFF	19.5
0.228750		27.55	52.50	24.95	Ν	OFF	19.5
0.246750	40.68		61.87	21.19	Ν	OFF	19.5
0.246750		23.30	51.87	28.57	Ν	OFF	19.5
0.501000	35.92		56.00	20.08	Ν	OFF	19.5
0.501000		29.85	46.00	16.15	Ν	OFF	19.5
2.913000	36.96		56.00	19.04	Ν	OFF	19.6
2.913000		30.95	46.00	15.05	Ν	OFF	19.6
3.185250	36.07		56.00	19.93	Ν	OFF	19.6
3.185250		29.74	46.00	16.26	Ν	OFF	19.6
3.464250	36.72		56.00	19.28	Ν	OFF	19.6

3.464250 30.43 46.00 15.57 N OFF 19. 3.584670 37.08 56.00 18.92 N OFF 19. 3.584670 30.41 46.00 15.59 N OFF 19. 3.776460 37.52 56.00 18.48 N OFF 19. 3.776460 31.13 46.00 14.87 N OFF 19. 3.921000 37.78 56.00 18.22 N OFF 19. 3.921000 31.61 46.00 14.39 N OFF 19. 4.071750 37.45 56.00 18.55 N OFF 19. 4.262730 37.07 56.00 18.93 N OFF 19. 4.262730 31.18 46.00 14.82 N OFF 19. 4.454250 36.85
3.584670 30.41 46.00 15.59 N OFF 19 3.776460 37.52 56.00 18.48 N OFF 19 3.776460 31.13 46.00 14.87 N OFF 19 3.776460 31.13 46.00 14.87 N OFF 19 3.921000 37.78 56.00 18.22 N OFF 19 3.921000 31.61 46.00 14.39 N OFF 19 4.071750 37.45 56.00 18.55 N OFF 19 4.071750 31.48 46.00 14.52 N OFF 19 4.262730 37.07 56.00 18.93 N OFF 19 4.262730 31.18 46.00 14.82 N OFF 19 4.454250 36.85
3.776460 37.52 56.00 18.48 N OFF 19 3.776460 31.13 46.00 14.87 N OFF 19 3.921000 37.78 56.00 18.22 N OFF 19 3.921000 31.61 46.00 14.39 N OFF 19 4.071750 37.45 56.00 18.55 N OFF 19 4.071750 37.45 56.00 18.55 N OFF 19 4.071750 31.48 46.00 14.52 N OFF 19 4.262730 37.07 56.00 18.93 N OFF 19 4.262730 31.18 46.00 14.82 N OFF 19 4.454250 36.85 56.00 19.15 N OFF 19
3.776460 31.13 46.00 14.87 N OFF 19 3.921000 37.78 56.00 18.22 N OFF 19 3.921000 31.61 46.00 14.39 N OFF 19 4.071750 37.45 56.00 18.55 N OFF 19 4.071750 31.48 46.00 14.52 N OFF 19 4.071750 31.48 46.00 14.52 N OFF 19 4.262730 37.07 56.00 18.93 N OFF 19 4.262730 31.18 46.00 14.82 N OFF 19 4.454250 36.85 56.00 19.15 N OFF 19
3.921000 37.78 56.00 18.22 N OFF 19. 3.921000 31.61 46.00 14.39 N OFF 19. 4.071750 37.45 56.00 18.55 N OFF 19. 4.071750 31.48 46.00 14.52 N OFF 19. 4.071750 31.48 46.00 14.52 N OFF 19. 4.262730 37.07 56.00 18.93 N OFF 19. 4.262730 31.18 46.00 14.82 N OFF 19. 4.454250 36.85 56.00 19.15 N OFF 19.
3.921000 31.61 46.00 14.39 N OFF 19. 4.071750 37.45 56.00 18.55 N OFF 19. 4.071750 31.48 46.00 14.52 N OFF 19. 4.071750 31.48 46.00 14.52 N OFF 19. 4.262730 37.07 56.00 18.93 N OFF 19. 4.262730 31.18 46.00 14.82 N OFF 19. 4.454250 36.85 56.00 19.15 N OFF 19.
4.071750 37.45 56.00 18.55 N OFF 19. 4.071750 31.48 46.00 14.52 N OFF 19. 4.262730 37.07 56.00 18.93 N OFF 19. 4.262730 37.07 56.00 18.93 N OFF 19. 4.262730 31.18 46.00 14.82 N OFF 19. 4.454250 36.85 56.00 19.15 N OFF 19.
4.071750 31.48 46.00 14.52 N OFF 19. 4.262730 37.07 56.00 18.93 N OFF 19. 4.262730 37.07 56.00 18.93 N OFF 19. 4.262730 31.18 46.00 14.82 N OFF 19. 4.454250 36.85 56.00 19.15 N OFF 19.
4.262730 37.07 56.00 18.93 N OFF 19. 4.262730 31.18 46.00 14.82 N OFF 19. 4.454250 36.85 56.00 19.15 N OFF 19.
4.262730 31.18 46.00 14.82 N OFF 19. 4.454250 36.85 56.00 19.15 N OFF 19.
4.454250 36.85 56.00 19.15 N OFF 19.
4.454250 31.02 46.00 14.98 N OFF 19.
4.575750 36.76 56.00 19.24 N OFF 19.
4.575750 30.93 46.00 15.07 N OFF 19
4.865370 35.92 56.00 20.08 N OFF 19
4.865370 29.98 46.00 16.02 N OFF 19
5.055000 36.57 60.00 23.43 N OFF 19
5.055000 29.81 50.00 20.19 N OFF 19.
5.249580 35.54 60.00 24.46 N OFF 19
5.249580 28.54 50.00 21.46 N OFF 19.
5.721000 33.75 60.00 26.25 N OFF 19
5.721000 26.17 50.00 23.83 N OFF 19
13.560000 29.79 60.00 30.21 N OFF 19.
13.560000 21.16 50.00 28.84 N OFF 19.



Appendix B. Radiated Emission Test Result

	Donni	Torr			Temp	erature	:	23~2	24°C		
fest Engineer :	Donny Tang			Relative Humidity :			: 65~6	65~67%			
Test Distance :	3m				Polarization :			Horiz	zontal		
Remark :	#7 is s	ystem s	simulate	or signa	al which	ı can b	e ignor	ed.			
										D-4 201	0.00.40
97	el (dBuV/m)								Date: 202	20-06-12
84.9											
										FCC C	ASCD
72.8										FLUU	ASS-B
60.6		7									
										CLASS-	B (AVG)
48.5						10	1	1	12	13	
[8	3	9		ï					
36.4											
00.1	5 ⁰										
24.3											
24.3											
12.1											
0 <mark>30</mark>	1000.	30	000.	5000		7000.		9000.	110	00.	1300
					Freque	ncy (MHz)					
Site		03CH10									
Conditio		FCC CL		m HORN	9120D-	HF HOR	IZONI	AL			
Project Power		042406									
Mode		: From Bo : 4	thery								
Moue		-	0ver	Limi+4	ntenna	Read	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level			Factor			Factor			Remark
_											
	MHz	dBuV/m	dB	dBuV/m	dB/m	dBuV	dB	dB	cm	deg	
1	66 86	32.45	-7 55	40 00	12 11	51 90	0 87	32.43			Peak
2		31.98						32.41			Peak
3	83.35	39.00	-1.00	40.00	13.87		0.97	32.40	400	296	
4		36.39				50.82		32.30			Peak
5		31.51				30.94	3.30	31.73			Peak
6 7	954.41 1960.00		-13.57	46.00	30.82 25.86	29.09 86.36	3.46	30.94 57.79			Peak
8	2882.00		-31.86	74.00		65.22	5.26 6.51				Peak Peak
9	4988.00				31.35	61.99	8.73				Peak
10	6592.00							59.59			Peak
11	8668.00					58.89		60.36			Peak
	00.1 00	50 00	-23 91	74.00	40.20	56.20	12 78	59.09	100	191	Peak
	10934.00						12.92				Peak



	Derr	. Terr r			Tempe	erature	:	23~2	4°C			
Test Engineer :	Donny Tang				Relativ	Relative Humidity :			65~67%			
Test Distance :	3m				Polari	zation	:	Vertic	al			
Remark :	#8 is s	system	simulat	or signa	al which	can be	e ignore	ed.				
97Level	l (dBuV/m))								Date: 202	0-06-12	
84.9												
72.8										FCC CI	ASS-B	
		8										
60.6		+										
		+					11			CCLASS-I	B (AVG)	
48.5	7	-		9			Ï					
36.4												
50.4	5											
24.3												
12.1												
0 <mark>11</mark> 30	1000.	30	000.	5000		7000. ncy (MHz)		9000.	110	00.	13000	
Site		03CH10)-HY		Troque							
Condition				m HORN	9120D-	HF VER	TICAL					
Project		042406										
Power Mode		From Bo	attery									
MOUE		4										
		4		Limit/	ntenna	Read	Cable	Preamp	A/Pos	T/Pos		
		4 Level			ntenna Factor			Preamp Factor	A/Pos	T/Pos	Remark	
_	Freq		Limit						A/Pos cm	T/Pos deg	Remark	
1	Freq	Level	Limit 	Line dBuV/m	Factor	Level dBuV	Loss dB	Factor		deg	Remark 	
2	Freq MHz 66.86 83.35	Level dBuV/m 29.61 32.21	Limit dB -10.39 -7.79	Line dBuV/m 40.00 40.00	Factor dB/m 12.11 13.87	Level dBuV 49.06 49.77	Loss dB 0.87 0.97	Factor dB 32.43 32.40	 100	deg 179	Peak Peak	
2 3	Freq MHz 66.86 83.35 149.31	Level dBuV/m 29.61 32.21 30.90	Limit dB -10.39 -7.79 -12.60	Line dBuV/m 40.00 40.00 43.50	Factor dB/m 12.11 13.87 17.22	Level dBuV 49.06 49.77 44.68	Loss dB 0.87 0.97 1.31	Factor dB 32.43 32.40 32.31	cm 100	deg 179 	Peak Peak Peak	
2 3 4	Freq MHz 66.86 83.35	Level dBuV/m 29.61 32.21 30.90 30.94	Limit dB -10.39 -7.79	Line dBuV/m 40.00 40.00 43.50 43.50	Factor dB/m 12.11 13.87	Level dBuV 49.06 49.77	Loss dB 0.87 0.97	Factor dB 32.43 32.40	 100	deg 179 	Peak Peak	
2 3 4 5	Freq MHz 66.86 83.35 149.31 160.95	Level dBuV/m 29.61 32.21 30.90 30.94 32.42	Limit dB -10.39 -7.79 -12.60 -12.56	Line dBuV/m 40.00 40.00 43.50 43.50 46.00	Factor dB/m 12.11 13.87 17.22 16.52	Level dBuV 49.06 49.77 44.68 45.37	Loss dB 0.87 0.97 1.31 1.35	Factor dB 32.43 32.40 32.31 32.30	 100 	deg 179 	Peak Peak Peak Peak Peak	
2 3 4 5 6 7 1	Freq MHz 66.86 83.35 149.31 160.95 886.51 955.38 094.00	Level dBuV/m 29.61 32.21 30.90 30.94 32.42 33.04 43.35	Limit dB -10.39 -7.79 -12.60 -12.56 -13.58	Line dBuV/m 40.00 40.00 43.50 43.50 46.00 46.00	Factor dB/m 12.11 13.87 17.22 16.52 28.94 30.81 24.30	Level dBuV 49.06 49.77 44.68 45.37 31.78 29.70 73.02	Loss dB 0.87 0.97 1.31 1.35 3.33 3.46 3.73	Factor dB 32.43 32.40 32.31 32.30 31.63 30.93 57.70	 100 	deg 179 	Peak Peak Peak Peak Peak Peak Peak	
2 3 4 5 6 7 1 8 1	Freq MHz 66.86 83.35 149.31 160.95 886.51 955.38 094.00 960.00	Level dBuV/m 29.61 32.21 30.90 30.94 32.42 33.04 43.35 65.04	Limit dB -10.39 -7.79 -12.60 -12.56 -13.58 -12.96 -30.65	Line dBuV/m 40.00 40.00 43.50 43.50 46.00 46.00 74.00	Factor dB/m 12.11 13.87 17.22 16.52 28.94 30.81 24.30 25.86	Level dBuV 49.06 49.77 44.68 45.37 31.78 29.70 73.02 91.71	Loss dB 0.87 0.97 1.31 1.35 3.33 3.46 3.73 5.26	Factor dB 32.43 32.40 32.31 32.30 31.63 30.93 57.70 57.79	cm 100 	deg 179 	Peak Peak Peak Peak Peak Peak Peak Peak	
2 3 4 5 6 7 1 8 1 9 4	Freq MHz 66.86 83.35 149.31 160.95 886.51 955.38 094.00 1960.00 4652.00	Level dBuV/m 29.61 32.21 30.90 30.94 32.42 33.04 43.35 65.04 42.91	Limit dB -10.39 -7.79 -12.60 -12.56 -13.58 -12.96 -30.65 -31.09	Line dBuV/m 40.00 40.00 43.50 43.50 46.00 46.00 74.00 74.00	Factor dB/m 12.11 13.87 17.22 16.52 28.94 30.81 24.30 25.86 31.11	Level dBuV 49.06 49.77 44.68 45.37 31.78 29.70 73.02 91.71 61.98	Loss dB 0.87 0.97 1.31 1.35 3.33 3.46 3.73 5.26 8.30	Factor dB 32.43 32.40 32.31 32.30 31.63 30.93 57.70 57.79 58.48	cm 100 	deg 179 	Peak Peak Peak Peak Peak Peak Peak Peak	
2 3 4 5 6 7 1 8 1 9 4 10 6	Freq MHz 66.86 83.35 149.31 160.95 886.51 955.38 094.00 960.00	Level dBuV/m 29.61 32.21 30.90 30.94 32.42 33.04 43.35 65.04 42.91 46.55	Limit dB -10.39 -7.79 -12.60 -12.56 -13.58 -12.96 -30.65	Line dBuV/m 40.00 40.00 43.50 43.50 46.00 46.00 74.00 74.00 74.00	Factor dB/m 12.11 13.87 17.22 16.52 28.94 30.81 24.30 25.86	Level dBuV 49.06 49.77 44.68 45.37 31.78 29.70 73.02 91.71	Loss dB 0.87 0.97 1.31 1.35 3.33 3.46 3.73 5.26	Factor dB 32.43 32.40 32.31 32.30 31.63 30.93 57.70 57.79	cm 100 	deg 179 	Peak Peak Peak Peak Peak Peak Peak Peak	
2 3 4 5 6 7 1 8 1 9 4 10 6 11 8	Freq MHz 66.86 83.35 149.31 160.95 886.51 955.38 094.00 960.00 4652.00 984.00 8614.00	Level dBuV/m 29.61 32.21 30.90 30.94 32.42 33.04 43.35 65.04 42.91 46.55	Limit dB -10.39 -7.79 -12.60 -12.56 -13.58 -12.96 -30.65 -31.09 -27.45 -25.58	Line dBuV/m 40.00 40.00 43.50 43.50 46.00 46.00 74.00 74.00 74.00 74.00	Factor dB/m 12.11 13.87 17.22 16.52 28.94 30.81 24.30 25.86 31.11 35.34	Level dBuV 49.06 49.77 44.68 45.37 31.78 29.70 73.02 91.71 61.98 60.52	Loss dB 0.87 0.97 1.31 1.35 3.33 3.46 3.73 5.26 8.30 10.28	Factor dB 32.43 32.40 32.31 32.30 31.63 30.93 57.70 57.79 58.48 59.59 60.27	cm 100 	deg 179 	Peak Peak Peak Peak Peak Peak Peak Peak	