

EVALUATION REPORT

Applicant Name:
 SAMSUNG Electronics Co., Ltd.

Date of Evaluation:
 June 05, 2018

Address:
 129, Samsung-ro, Yeongtong-gu, Suwon-si,
 Gyeonggi-do, 16677, Rep. of Korea

Test Site/Location:
 HCT CO., LTD.,
 74, Seoicheon-ro 578beon-gil, Majang-myeon,
 Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

FCC ID:	A3LSMG885Y
APPLICANT:	SAMSUNG Electronics Co., Ltd.

Equipment Class(es) : PCE, DTS, DSS, UNII, DXX

Rule Part(s) : 15, 22, 24, 27

Application's Statement : The applicant takes full responsibility that the test data referenced below represents compliance for this FCC ID.

Differences Brief Description : Some Cellular parts, Bluetooth & WLAN hardware and software of this device are identical to the implementation in A3LSMG885F. The operational description includes detailed information about the changes between the devices. The data from that application has been verified through appropriate spot checks to demonstrate compliance for this device as shown in the summary table below.

Test Reference : KDB 484596 D01 Reference Test Data v01

The detail test data can be found in this documents, Appendix A.

Category	Spot Check	Verdict
Licensed EMC	ERP / EIRP	Share
	RSE	Share
Unlicensed EMC	Band Edge	Share
	Spurious Emissions	Share

Reference Detail Section

Reference FCC ID	Equipment Class	Report Title	Section
A3LSMG885F	PCE	2G, 3G Report	All sections
		LTE Report	All sections (Except for LTE B5, 26, 41)
	DSS	Bluetooth Report	All sections
	DTS	WLAN DTS Report	All sections
		BT LE Report	All sections
	NII	UNII Test Report	All sections
	DXX	ANT+ Report	All sections
		NFC Report	All sections



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 Engineer of Telecommunication Testing Center



Report approved by :Jong Seok Lee
 Manager of Telecommunication Testing Center

Appendix A. The Spot check test data

1. Summary of the spot check for Licensed EMC

1.1 EFFECTIVE RADIATED POWER

Modulation	Frequency		Mode	A3LSMG885F (dBm)	A3LSMG885Y (dBm)	Deviation (dB)
	MHz	Ch.				
GSM850	836.6	190	VOICE	26.35	25.83	-0.52
WCDMA850	836.6	4183	RMC	16.99	17.00	0.01

Modulation	Frequency		Mod/ Bandwidth	A3LSMG885F (dBm)	A3LSMG885Y (dBm)	Deviation (dB)
	MHz	Ch.				
LTE – B12(17)	714.5	23165	QPSK(3M)	14.76	15.69	0.93

1.2 EQUIVALENT ISOTROPIC RADIATED POWER

Modulation	Frequency		Mode	A3LSMG885F (dBm)	A3LSMG885Y (dBm)	Deviation (dB)
	MHz	Ch.				
GSM1900	1880.0	661	VOICE	27.36	26.20	-1.16
WCDMA1900	1907.6	9538	RMC	19.84	18.94	-0.90

Modulation	Frequency		Mod/ Bandwidth	A3LSMG885F (dBm)	A3LSMG885Y (dBm)	Deviation (dB)
	MHz	Ch.				
LTE – B2	1850.7	18607	QPSK(1.4M)	21.18	20.05	-1.13
LTE – B4	1752.5	20375	QPSK(5M)	19.80	20.31	0.51

1.3 RADIATED SPURIOUS EMISSIONS

Modulation	Frequency		Mode	A3LSMG885F (dBm)	A3LSMG885Y (dBm)	Deviation (dB)
	MHz	Ch.				
GSM850	2546.4	251	VOICE	-23.77	-22.22	1.55
WCDMA850	2509.8	4183	RMC	-50.84	-51.89	-1.05

Modulation	Frequency		Mod/ Bandwidth	A3LSMG885F (dBm)	A3LSMG885Y (dBm)	Deviation (dB)
	MHz	Ch.				
LTE – B12(17)	2122.5	23095	QPSK(1.4M)	-53.14	-55.63	-2.49

Modulation	Frequency		Mode	A3LSMG885F (dBm)	A3LSMG885Y (dBm)	Deviation (dB)
	MHz	Ch.				
GSM1900	7639.2	810	VOICE	-44.76	-45.96	-1.20
WCDMA1900	7409.6	9262	RMC	-43.86	-44.73	-0.87

Modulation	Frequency		Mod/ Bandwidth	A3LSMG885F (dBm)	A3LSMG885Y (dBm)	Deviation (dB)
	MHz	Ch.				
LTE – B2	7420.0	18650	QPSK(10M)	-37.08	-34.45	2.63
LTE – B4	6930.0	20175	QPSK(3M)	-40.08	-39.57	0.51

2. Summary of the spot check for Unlicensed EMC

	Test Item	Chan nel	Measured Frequency [MHz]	A3LSMG885F		A3LSMG885Y		Deviation	
				(dBuV/m)		(dBuV/m)		(dB)	
				Peak	Average	Peak	Average	Peak	Average
BT	Band Edge	78	2483.5 MHz~ 2500 MHz	64.18	35.02	64.20	34.88	0.02	-0.14
	RSE	78	4960 MHz	53.76	15.40	54.04	15.34	0.28	-0.06
			7440 MHz	60.36	21.96	60.22	21.67	-0.14	-0.29
BT LE	Band Edge	39	2483.5 MHz~ 2500 MHz	52.13	41.88	51.07	41.89	-1.06	0.01
	RSE	0	4804 MHz	53.34	43.19	53.32	43.24	-0.02	0.05
			7206 MHz	60.32	50.08	60.12	50.05	-0.20	-0.03
DTS	Band Edge	11	2483.5 MHz~ 2500 MHz	60.53	48.06	62.13	48.62	1.60	0.56
	RSE	6	4874 MHz	55.22	44.24	53.81	42.57	-1.41	-1.67
		6	7311 MHz	61.10	48.38	60.60	48.24	-0.50	-0.14
NII	Band Edge	64	5350 MHz~ 5460 MHz	68.61	51.78	67.83	51.21	-0.78	-0.57
	RSE	60	10600 MHz	60.26	46.79	60.79	45.89	0.53	-0.90
		165	17475 MHz	62.23	-	61.96	-	-0.27	-
NFC	Fundamental	-	13.56 MHz	12.26		12.04		-0.22	

	Test Item	Chan nel	Measured Frequency [MHz]	A3LSMG885F		A3LSMG885Y		Deviation	
				(dBuV/m)		(dBuV/m)		(dB)	
				Peak		Peak		Peak	
ANT+	Fundamental	78	2480 MHz	85.74		84.64		-1.10	
	Band Edge	0	2400 MHz	62.42		63.26		0.84	
	RSE	0	4804 MHz	53.90		51.76		-2.14	
		0	7206 MHz	60.64		60.92		0.28	

3. List of test equipment for Licensed EMC

Manufacture	Model/ Equipment	Calibration Date	Calibration Interval	Serial Number
REOHDE & SCHWARZ	SCU 18 / AMPLIFIER	04/17/2018	Annual	10094
Wainwright	WHK1.2/15G-10EF/H.P.F	04/04/2018	Annual	4
Wainwright	WHK3.3/18G-10EF/H.P.F	04/04/2018	Annual	2
Schwarzbeck	UHAP/ Dipole Antenna	03/31/2017	Biennial	557
Schwarzbeck	UHAP/ Dipole Antenna	03/31/2017	Biennial	558
Schwarzbeck	BBHA 9120D/ Horn Antenna(1~18GHz)	09/09/2016	Biennial	147
Schwarzbeck	BBHA 9120D/ Horn Antenna(1~18GHz)	10/14/2016	Biennial	9120D-1298
Schwarzbeck	BBHA 9170/ Horn Antenna(15~40GHz)	04/25/2017	Biennial	BBHA917034 2
Schwarzbeck	BBHA 9170/ Horn Antenna(15~40GHz)	04/25/2017	Biennial	BBHA917012 4
REOHDE & SCHWARZ	FSV40/Spectrum Analyzer(10Hz~40GHz)	10/30/2017	Annual	100931
Agilent	8960 (E5515C)/ Base Station	09/26/2017	Annual	MY48360800
Schwarzbeck	FMZB1513/ Loop Antenna(9kHz~30MHz)	04/19/2017	Biennial	1513-175
Schwarzbeck	VULB9160/ Bilog Antenna	09/30/2016	Biennial	3150
Schwarzbeck	VULB9160/ Bilog Antenna	10/14/2016	Biennial	9360-3368
Anritsu Corp.	MT8820C/Wideband Radio Communication Tester	02/13/2018	Annual	6200863156
Anritsu Corp.	MT8820C/Wideband Radio Communication Tester	02/08/2018	Annual	6201026545
REOHDE & SCHWARZ	SMB100A/ SIGNAL GENERATOR (100kHz~40GHz)	07/18/2017	Annual	177633
REOHDE & SCHWARZ	ESU40 / EMI TEST RECEIVER	08/16/2017	Annual	100524

4. List of test equipment for Unlicensed EMC

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Innco system	CO3000 / Controller(Antenna mast)	N/A	N/A	CO3000-4p
Innco system	MA4640 /800-XP-ET / Antenna Position Tower	N/A	N/A	N/A
Audix	EM1000 / Controller	N/A	N/A	060520
Audix	Turn Table	N/A	N/A	N/A
Rohde & Schwarz	Loop Antenna	04/06/2017	Biennial	1513-175
Schwarzbeck	VULB 9168 / Hybrid Antenna	04/06/2017	Biennial	760
Schwarzbeck	BBHA 9120D / Horn Antenna	06/30/2017	Biennial	9120D-1300
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	12/04/2017	Biennial	BBHA9170541
Rohde & Schwarz	FSP(9 kHz ~ 30 GHz) / Spectrum Analyzer	07/27/2017	Annual	100843
Rohde & Schwarz	FSV40-N / Spectrum Analyzer	09/27/2017	Annual	101068-SZ
Wainwright Instruments	F6_HPF3.0 / High Pass Filter	01/03/2018	Annual	F6
Wainwright Instruments	WHKX8-6090-7000-18000-40SS / High Pass Filter	10/27/2017	Annual	24
Wainwright Instruments	WRCJV2400/2483.5-2370/2520-60/12SS / Band Reject Filter	06/30/2017	Annual	2
Wainwright Instruments	WRCJV5100/5850-40/50-8EEK / Band Reject Filter	01/03/2018	Annual	2
Api tech.	18B-03 / Attenuator (3 dB)	06/12/2017	Annual	1
Agilent	8493C-10 / Attenuator(10 dB)	07/19/2017	Annual	08285
CERNEX	CBLU1183540B-01 / Power Amplifier	12/26/2017	Annual	25540
CERNEX	CBL06185030 / Power Amplifier	03/28/2018	Annual	28550
CERNEX	CBL18265035 / Power Amplifier	01/10/2018	Annual	22966
CERNEX	CBL26405040 / Power Amplifier	06/30/2017	Annual	25956