

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

OF

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 22 SUBPART H, PART 24 SUBPART E and PART 27 SUBPART B, C & SUBPART L REQUIREMENT **REFERENCING TEST DATA ACROSS SEPARATE EQUIPMENT** VERIFICATION

	OF		
Product Name:	Phablet		
Brand Name:	HP		
Model No.:	HSTNH-F606V		
Model Difference:	N/A		
FCC ID:	B94HHF606V		
Report No.:	ER/2017/20026		
Issue Date:	Feb. 10, 2017		
FCC Rule Part:	2 , 22H & 24E & 27B, C & L		
Prepared for:	HP Inc. 3390 East Harmony Road Fort Collins, Colo- rado 80528 United States SGS Taiwan Ltd.		
Prepared by:	Electronics & Communication Laboratory No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803		
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VERIFICATION OF COMPLIANCE

Applicant:	HP Inc.
	3390 East Harmony Road Fort Collins, Colorado 80528 United
	States
Product Name:	Phablet
Brand Name:	HP
Model No.:	HSTNH-F606V
Model Difference:	N/A
FCC ID:	B94HHF606V
Report Number:	ER/2017/20026
Date of test:	Apr. 20, 2016 ~ Feb. 06, 2017
Date of EUT Received:	Apr. 20, 2016

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10:2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits.

The test results of this report relate only to the tested sample identified in this report.

Test By:	Ton Lis	Date:	Feb. 10, 2017
Prepared By:	Tin Lin / Engineer Tiffany Kao	Date:	Feb. 10, 2017
Approved By:	Tiffany Kao / Clerk Jim Chang Jim Chang / Asst. Manager	Date:	Feb. 10, 2017

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Revision History

Report Number	Revision	Description	Issue Date
ER/2017/20026	Rev.00	Initial creation of document	Feb. 10, 2017

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd.



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GENERAL INFORMATION 1

1.1 Product description

Product Name:	Phablet		
Brand Name:	HP		
Model No.:	HSTNH-F606V		
Model Difference:	N/A		
Product SW/HW version:	V04 / PV		
Radio SW/HW version:	N/A / PV		
Test SW Version:	N/A		
RF power setting in TEST SW:	N/A		
USB Type-C Cable:	Model No.: 836233-001, Supplier: Luxshare-ICT		
Earphone:	Model No.: EH001, Supplier: 1MORE		
USB-C to VGA:	Model No.: KSC0021, Supplier: BIZLINK INTERNATIONAL CORP		
USB-C to HDMI:	Model No.: KSC0012, Supplier: BIZLINK INTERNATIONAL CORP		
USB-C to DP:	Model No.: KSC0044, Supplier: BIZLINK INTERNATIONAL CORP		
Wireless Charger:	Model No.: TPA-M601, Supplier: Merry Electronics Co Ltd		
Docking Station:	Model No.: HSTNH-F601, Supplier: HP Inc.		
Adapters for Docking Station:	 Model No.: HSTNN-CA40, Supplier: Chicony Power Technology Co., LTd. Model No.: HSTNN-LA40, Supplier: Lite-On Technology Corporation Model No.: HSTNN-DA40, Supplier: DELTA ELECTRONICS INC Model No.: HSTNN-AA44; Supplier: Acbel Polytech Inc. 		
Power Supply:	4. Model No.: HSTNN-AA44, Supplier: Acbel Polytech Inc. 3.85Vdc from Rechargeable Li-polymer Battery or 5.3V / 5.25V from AC/DC Adapter Model No.: HSTNH-F606-DP, Battery: Supplier: DYNAPACK INTERNATIONAL TECH- NOLOGY CORP 1. Model No.: WAD005, Supplier: Acbel Polytech Inc. (10.6W, 5.3V) 2. Model No.: TPN-AA01, Supplier: Acbel Polytech Inc. (15W, 5.25V)		

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1.2 Test Methodology of Applied Standards

FCC 47 CFR Part 2, 22, 24, 27

ANSI / TIA / EIA 603-D-2010

KDB971168 D01 Power Meas license Digital System

KDB941225 of the Output power Procedure of (SAR Measurement Procedures for 3G Devices, WCDMA / HSPA) was used for EUT and Base station setting.

TS 151 010-1 is used to set, and measure the output power.

Note: All test items have been performed and record as per the above standards.

1.3 Test Facility

SGS Taiwan Ltd. Electronics & Communication Laboratory No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803 (TAF code 0513)

FCC Registration Numbers are: 509634

1.4 Special Accessories

There are no special accessories used while test was conducted.

1.5 Equipment Modifications

There was no modification incorporated into the EUT.

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SYSTEM TEST CONFIGURATION 2

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

An engineering test mode (software/firmware) that applicant provided was utilized to manipulate the EUT into transmit, selection of the test channel, and modulation scheme.

2.3 Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz,. The CISPR Quasi-Peak and Average detector mode is employed according to §15.207. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

2.3.2 Radiated Emissions

The EUT is a placed on as turn table. For emissions testing at or below 1 GHz, the table height shall be 0.8 m above the reference ground plane. For emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.

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2.5 Configuration of Tested System

Fig. 2-1 Configuration of Tested System (Fixed Channel-Radiated)



Remote Side



Table 2-1 Equipment Used in Tested System

ltem	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Universal Radio Communication Tester	R&S	CMU200	102189	shielded	Un-shielded
2.	Universal Radio Communication Tester	Anritsu	MT8820C	6200307563	shielded	Un-shielded
3.	DC Power Supply	HP	E3640A	MY40005907	shielded	Un-shielded
4.	Earphone	HP	EH001	N/A	N/A	N/A

SUMMARY OF TEST RESULTS 3

FCC Rules	Description Of Test	Result
§2.1053 §22.917(a) §24.238(a) §27.53(c)(2),(4) §27.50(c)(5) §27.53(a)(4) §27.53(g) §27.53(h) §27.53(h) §27.53(m)(4)	Field Strength of Spurious Radiation	Compliant

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DESCRIPTION OF TEST MODES 4

4.1 The Worst Test Modes and Channel Details

- 1. The EUT has been tested under operating condition.
- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, X(E1)Y(E2)Z(H) axis and antenna ports. The worst case was found as listed below. Following channel(s) was (were) selected for the final test as listed below:

BAND	RADIATED EMISSION
GSM 850	E2-plan
GPRS 1900	E2-plan
HSPA Band II	E2-plan
HSPA Band IV	E2-plan
LTE Band 2	E2-plan
LTE Band 4	E2-plan
LTE Band 5	H-plan
LTE Band 7	E1-plan
LTE Band 12	H-plan
LTE Band 30	E1-plan

GSM/GPRS/EDGE/WCDMA/HSPA MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
Above 1GHz	128 to 251	128, 190, 251	GSM 850
RADIATED EMISSION	512 to 810	512, 661, 810	GPRS 1900
Above 1GHz	4132 to 4233	4132, 4183, 4233	HSDPA Band II
RADIATED EMISSION	1312 to 1513	1312, 1413, 1513	HSUPA Band IV
	9262 to 9538	9262, 9400, 9583	WCDMA Band V

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LTE MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
Above 1GHz RADIATED EMISSION	18625 to 19175	18625, 18900, 19175	5MHz	QPSK	LTE B2 1 RB, 0 RB Offest
Above 1GHz RADIATED EMISSION	19965 to 22385	19965, 20175, 22385	3MHz	16QAM,	LTE B4 1 RB, 0 RB Offest
Above 1GHz RADIATED EMISSION	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	LTE B5 1 RB/ 0 RB Offest
Above 1GHz RADIATED EMISSION	20775 to 21425	20775, 21100, 21425	5MHz	QPSK,	LTE B7 1 RB, 0 RB Offest
Above 1GHz RADIATED EMISSION	23035 to 23155	23035, 23095, 23155	5MHz	16QAM	LTE B12 1 RB, 24 RB Offest
Above 1GHz RADIATED EMISSION	23755 to 23825	23755, 23790, 23825	5MHz	QPSK	LTE B30 1 RB, 0 RB Offest

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MEASUREMENT UNCERTAINTY 5

Test Items	Uncertainty
AC Power Line Conducted Emission	+/- 2.586 dB
Peak Output Power	+/- 0.84 dB
6dB Bandwidth	+/- 51.33 Hz
100 KHz Bandwidth Of Frequency Band Edges	+/- 0.84 dB
Peak Power Density	+/- 1.3 dB
Temperature	+/- 0.65 °C
Humidity	+/- 4.6 %
DC / AC Power Source	DC= +/- 0.13%, AC= +/- 0.2%

Radiated Spurious Emission:

Measurement uncertainty	9kHz – 30MHz: +/- 2.87 dB
	30MHz - 180MHz: +/- 3.37dB
	180MHz -417MHz: +/- 3.19dB
(Polarization : Vertical)	0.417GHz-1GHz: +/- 3.19dB
	1GHz - 18GHz: +/- 4.04dB
	18GHz - 40GHz: +/- 4.04dB

Measurement uncertainty (Polarization : Horizontal)	9kHz – 30MHz: +/- 2.87 dB
	30MHz - 167MHz: +/- 4.22dB
	167MHz -500MHz: +/- 3.44dB
	0.5GHz-1GHz: +/- 3.39dB
	1GHz - 18GHz: +/- 4.08dB
	18GHz - 40GHz: +/- 4.08dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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RADIATED SPURIOUS EMISSION MEASUREMENT 6

6.1 Measurement Equipment Used:

	966 Chamber										
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.						
ТҮРЕ		NUMBER	NUMBER	CAL.							
EMI Test Receiver	R&S	ESCI7	100760	05/10/2016	05/09/2017						
Spectrum Analyzer	Agilent	E4446A	MY51100003	01/29/2016	01/28/2017						
Loop Antenna	ETS-Lindgren	6502	148045	09/20/2016	09/19/2017						
Bilog Antenna	SCHWAZBECK	VULB9168	378	12/19/2016	12/18/2017						
Horn Antenna	Schwarzbeck	BBHA9120D	1441	08/01/2016	07/31/2017						
Pre-Amplifier	Agilent	8447D	2944A07676	01/05/2017	01/04/2018						
Pre-Amplifier	EMC Instruments Corp.	EMC0126530	980038	01/05/2017	01/04/2018						
Turn Table	Table HD		N/A	N.C.R	N.C.R						
Antenna Tower	ChamPro	AM-BS-4500-B	060776-ABS	N.C.R	N.C.R						
Controller	ChamPro	EM1000	60776	N.C.R	N.C.R						
Low Loss Cable	Huber Suhner	966_RX	9	01/05/2017	01/04/2018						
3m Site NSA	SGS	966 chamber	N/A	07/01/2016	06/30/2017						
Low Loss Cable	Huber Suhner	966 TX	1	01/05/2017	01/04/2018						
Horn Antenna	Schwarzbeck	BBHA9170	184	12/12/2016	12/11/2017						
Pre-Amplifier	EMC Instruments Corp.	EMC184045	980135	01/05/2017	01/04/2018						
Radio Communication Analyzer	R&S	CMU200	102189	02/11/2016	02/10/2017						
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/03/2017	01/02/2018						

NOTE: N.C.R refers to Not Calibrated Required.

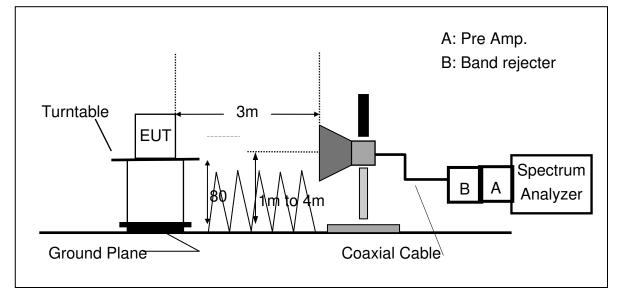
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6.2 Test SET-UP

Radiated Emission Test Set-UP Frequency Over 1 GHz



6.3 Measurement Procedure

The EUT was placed on a non-conductive; the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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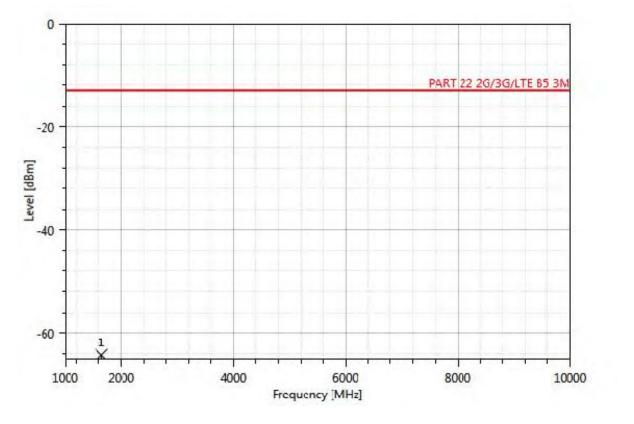
biness otherwise stated the results stated the results state provide the state of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law



6.4 Measurement Result

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

GSM 850	Test Date :	01/11/2017
: 824.2 MHz	Temp. / Humi. :	24 deg_C / 61 RH
Tx CH LOW	Test Engineer :	Tin
E2 Plane	Measurement Antenna Pol.	: VERTICAL
	: 824.2 MHz Tx CH LOW	: 824.2 MHz Temp. / Humi. : Tx CH LOW Test Engineer :

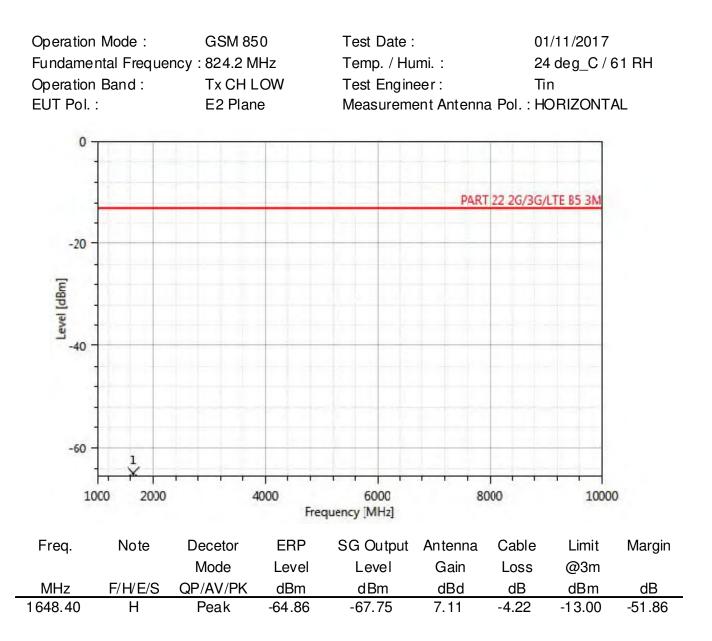


Freq.	Note	Decetor	ERP	SG Output	Antenna	Cable	Limit	Margin
		Mode	Level	Level	Gain	Loss	@3m	
MHz	F/H/E/S	QP/AV/PK	dBm	dBm	dBd	dB	dBm	dB
1648.40	Н	Peak	-64.28	-67.17	7.11	-4.22	-13.00	-51.28

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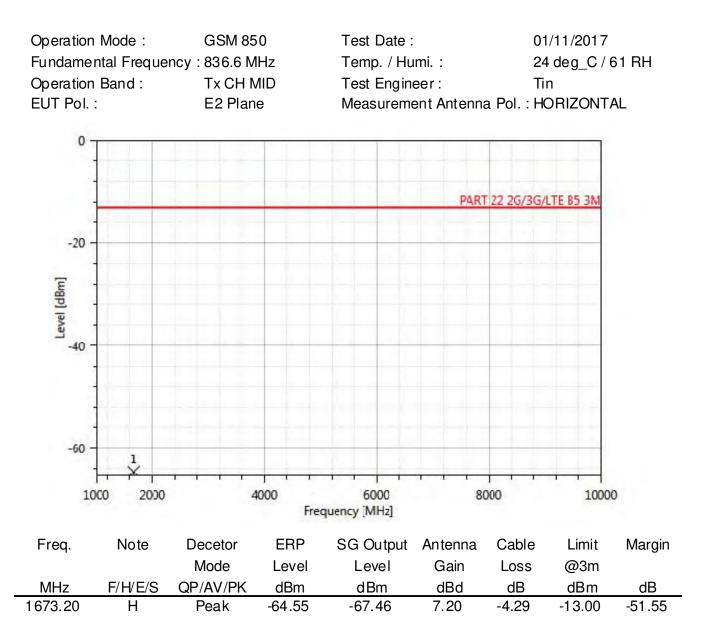


Operation Mode : GSM 850 Test Date : 01/11/2017 Fundamental Frequency : 836.6 MHz Temp. / Humi. : 24 deg C/61 RH **Operation Band :** Tx CH MID Test Engineer: Tin EUT Pol. : E2 Plane Measurement Antenna Pol. : VERTICAL 0 PART 22 2G/3G/LTE 85 3N -20 Level [dBm] -40 -60 1 4000 6000 8000 1000 2000 10000 Frequency [MHz] ERP SG Output Note Antenna Cable Limit Margin Freq. Decetor Mode Level Level Gain @3m Loss QP/AV/PK dBm dBm dBd dB F/H/E/S dBm dB MHz 1673.20 н Peak -64.08 -66.99 7.20 -4.29 -13.00 -51.08

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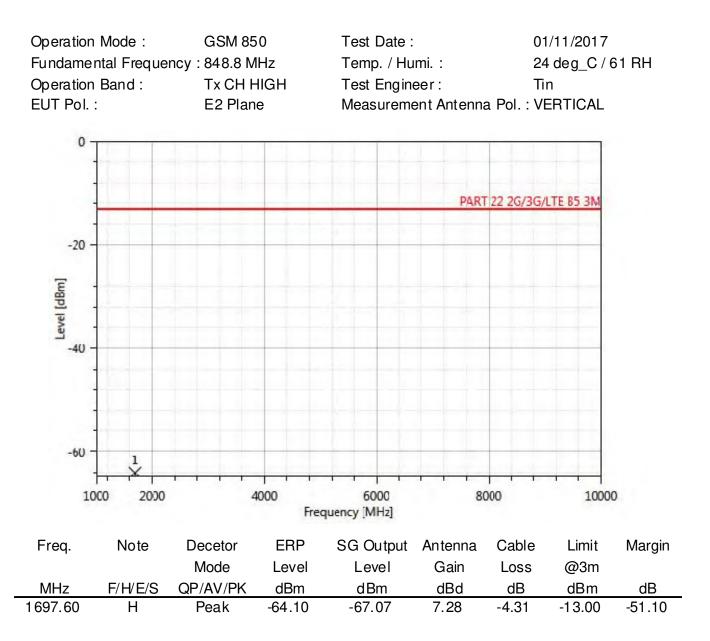
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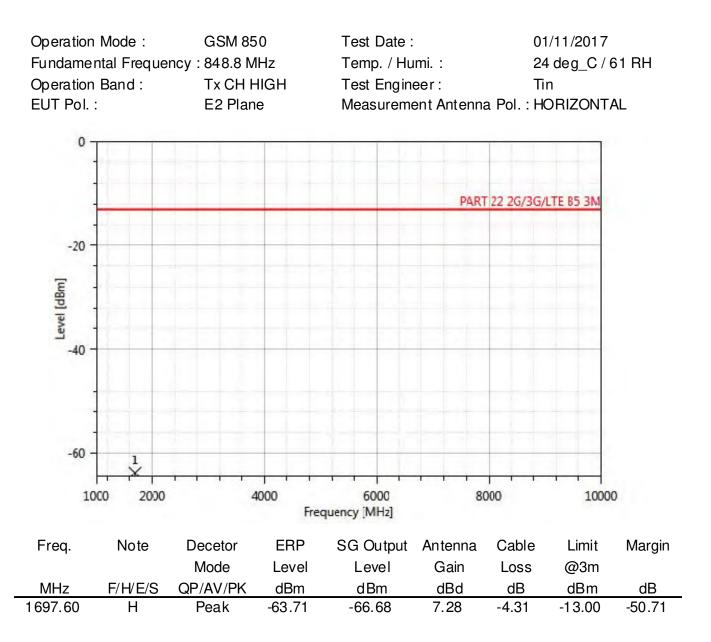
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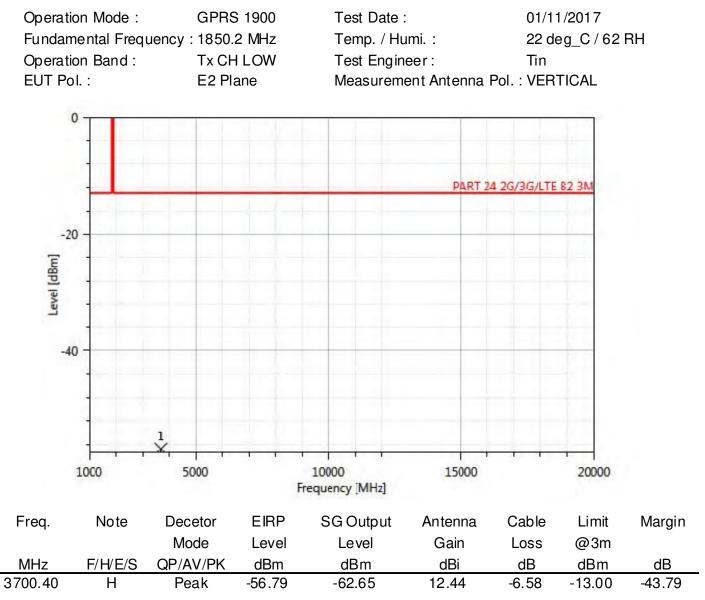




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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode



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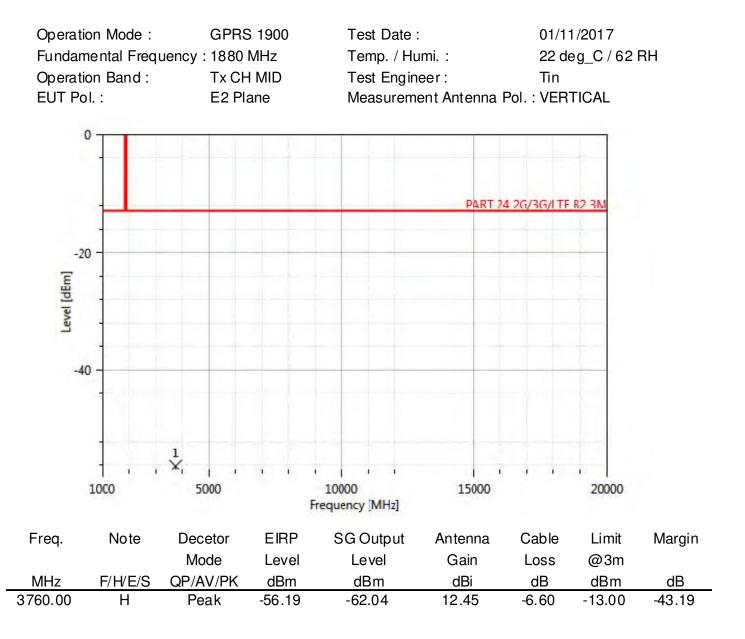


37

Fundar	ion Band :	uency : 1850.	ILOW	Test Date : Temp. / Hu Test Engin Measureme	mi. :	22 de Tin	/2017 eg_C / 62 IZONTAL	RH
	0							
					PART 24	4 2G/3G/I TF	82 3M	
	20 -							
Level [dBm]								
	- 0							
	, , 10C0	1 × 5000	i i	10000 Frequency [MHz]	15000	- i - i	20000	
Freq.	Note	Decetor	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	Mode QP/AV/PK	Level dBm	Level dBm	Gain dBi	Loss dB	@3m dBm	dB
3700.40	H	Peak	-55.88	-61.74	12.44	-6.58	-13.00	-42.88

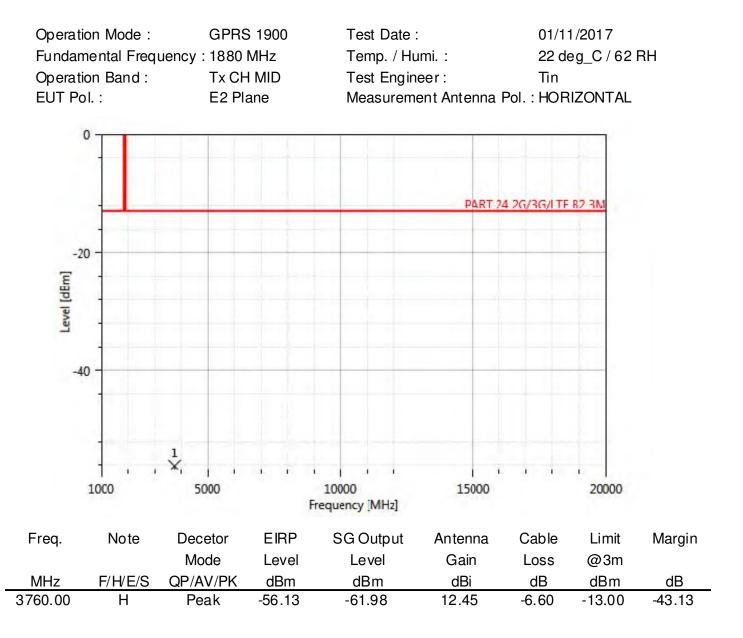
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Fundar	ion Mode nental Fre ion Band ol. :	equency		8 MHz I HIGH		Test Date Temp. / I Test Eng Measure	Humi. :	enna P	22 c Tin	1/2017 leg_C / 62 {TICAL	RH
	0							PART 24	2G/3G/LT	E 82 3M	
Level [dEm]	20										
	- 01										
	1000	, ¹ , ¹	5000		100	00	15	000	i i	20000	
Freq.	Note	Dec	cetor	EIRP Level	Freque	G Output		nna	Cable Loss	Limit @3m	Margin
MHz 3819.60	<u>F/H/E/</u> H	S QP/	AV/PK eak	dBm -56.52		dBm -62.33	dB 12.4	i	dB -6.65	<u>dBm</u> -13.00	dB -43.52

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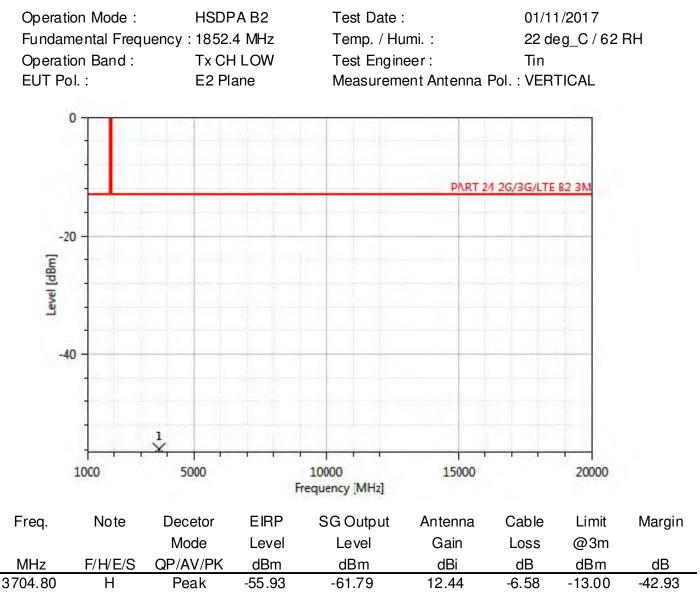


Funda	tion Band :	GPRS uency : 1909.t Tx CH E2 Pla	8 MHz I HIGH	Test Date : Temp. / Hu Test Engin Measureme	ımi. :	22 de Tin	I /2017 ≆g_C / 62 IZONTAL	RH
	0		1					
			1.1		PART 2	4 2G/3G/I TF	82 3M	
-	20 -							
Level [dEm]								
Level								
-	40							
	1 1 1	X	1 1	1 1 1 1		- 1 - 1	-	
	1000	5000		10000 Frequency [MHz]	15000		20000	
Freq.	Note	Decetor	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	Mode QP/AV/PK	Level dBm	Le vel dBm	Gain dBi	Loss dB	@3m dBm	dB
3819.60	H	Peak	-55.84	-61.66	12.47	-6.65	-13.00	-42.84

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Radiated Spurious Emission Measurement Result: HSDPA Band 2 Mode



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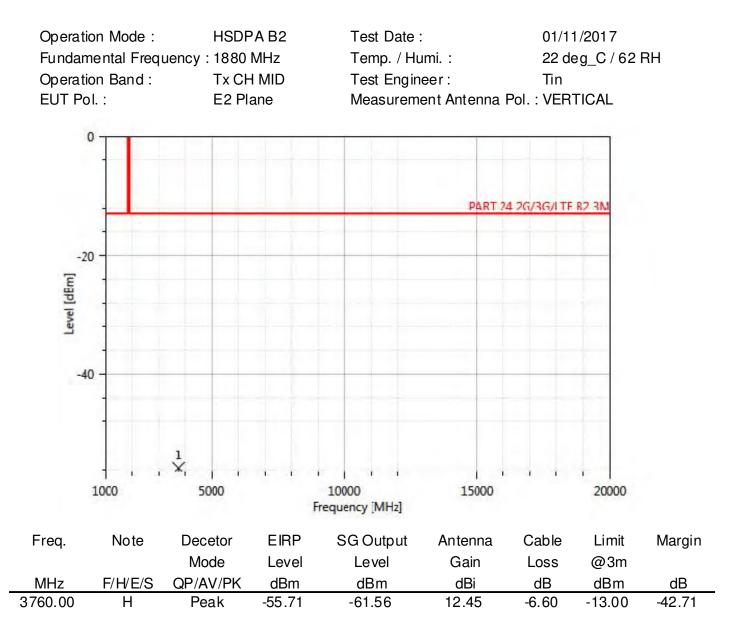
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Fundan	on Band :	HSDP uency : 1852. Tx CH E2 Pla	4 MHz I LOW	Test Date : Temp. / Hu Test Engin Measureme	ımi. :	22 de Tin	1/2017 eg_C / 62 IZONTAL	RH
					PART 24	4 2G/3G/LTE	82 3M	
-2	0					_	-	
Level [dEm]								
Leve								
-4	υ -							
	1000	1 ×, , , 5000		10000 requency [MHz]	15000	1 1	20000	
Freq.	Note	Decetor	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	Mode QP/AV/PK	Level dBm	Le vel dBm	Gain dBi	Loss dB	@3m dBm	dB
3704.80	Н	Peak	-56.58	-62.44	12.44	-6.58	-13.00	-43.58

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Fundai	ion Band :	HSDF uency : 1880 Tx CF E2 Pla	MHz I MID	Test Date : Temp. / Hu Test Engin Measurem	ımi. :	22 de Tin	/2017 9g_C / 62 I IZONTAL	RH
	0		14					
					PART 24	4 2G/3G/LTE	82 3M	
	20 -							
Level [dBm]								
-	40 -							
		1 X						
	1000	5000		10000 Frequency [MHz]	15000		20000	
Freq.	Note	Decetor Mode	EIRP	SG Output Level	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	QP/AV/PK	Level dBm	dBm	Gain dBi	Loss dB	@3m dBm	dB
3760.00	H	Peak	-55.40	-61.26	12.45	-6.60	-13.00	-42.40

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Operation Mode : HSDPA B2 Test Date : 01/11/2017 Fundamental Frequency : 1907.6 MHz Temp. / Humi. : 22 deg_C / 62 RH **Operation Band : Tx CH HIGH** Test Engineer: Tin EUT Pol. : E2 Plane Measurement Antenna Pol. : VERTICAL 0 PART 24 2G/3G/ITE 82 3N -20 [mBb] lava. -40 1 1000 5000 10000 15000 20000 Frequency [MHz] Decetor EIRP SG Output Cable Margin Freq. Note Antenna Limit Mode Level @3m Level Gain Loss F/H/E/S QP/AV/PK dBm dBm dBi dB dBm MHz dB 3815.20 -55.95 -61.78 н Peak 12.46 -6.63 -13.00 42.95

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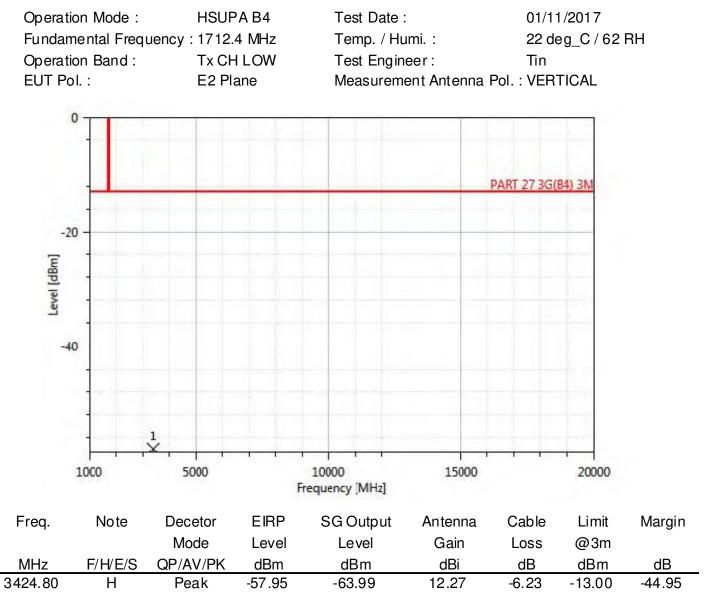
Operation Mode : HSDPA B2 Test Date : 01/11/2017 Fundamental Frequency : 1907.6 MHz Temp. / Humi. : 22 deg_C / 62 RH **Operation Band : Tx CH HIGH** Test Engineer: Tin EUT Pol. : E2 Plane Measurement Antenna Pol. : HORIZONTAL 0 PART 24 2G/3G/I TE 82 3M -20 [mBb] level -40 1 × 1000 5000 10000 15000 20000 Frequency [MHz] Decetor EIRP SG Output Margin Freq. Note Antenna Cable Limit Mode Level @3m Level Gain Loss F/H/E/S QP/AV/PK dBm dBm dBi dB dBm MHz dB 3815.20 -55.61 -61.44 н Peak 12.46 -6.63 -13.00 42.61

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Radiated Spurious Emission Measurement Result: HSUPA Band 4 Mode



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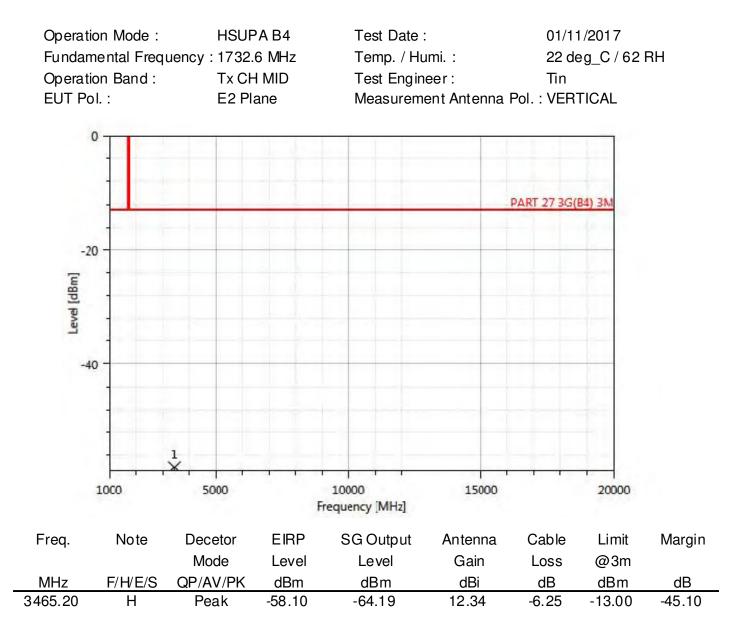


Operation Mode : HSUPA B4 Test Date : 01/11/2017 Fundamental Frequency : 1712.4 MHz Temp. / Humi. : 22 deg_C / 62 RH **Operation Band : Tx CH LOW** Test Engineer: Tin EUT Pol. : E2 Plane Measurement Antenna Pol. : HORIZONTAL C PART 27 3G(B4) 3N -20 Level [dBm] -40 1 5000 10000 1000 15000 20000 Frequency [MHz] EIRP Freq. Decetor SG Output Antenna Cable Limit Margin Note Mode Level Level Gain @3m Loss QP/AV/PK dBm dBm dBi dB dBm F/H/E/S dB MHz 3424.80 н Peak -58.57 -64.61 12.27 -6.23 -13.00-45.57

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Fundan		HSUP uency : 1732.0	6 MHz	Test Date : Temp. / Hu	ımi. :	22 de	1/2017 eg_C / 62	RH
Operati EUT Po	on Band : ol. :	Tx CH E2 Pla		Test Engin Measurem	eer : ent Antenna	Tin Pol. : HOR	IZONTAL	
	0		1				1. A	
	-					PART 27 3G(B4) 3M	
							211 2111	
-2	0 -							
[m]	-							
Level [dBm]							1	
Le	-							
-4	υ –							
		X					-	
	1000	5000		10000 Frequency [MHz]	15000		20000	
Freq.	Note	Decetor	EIRP	SG Output	Antenna	Cable	Limit	Margin
		Mode	Level	Level	Gain	Loss	@3m	
MHz	F/H/E/S	QP/AV/PK	dBm	dBm	dBi	dB	dBm	dB
3465.20	Н	Peak	-57.50	-63.60	12.34	-6.25	-13.00	-44.50

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Operation Mode : HSUPAB4 Test Date : 01/11/2017 Fundamental Frequency : 1752.6 MHz Temp. / Humi. : 22 deg C / 62 RH **Operation Band : Tx CH HIGH** Test Engineer: Tin EUT Pol. : E2 Plane Measurement Antenna Pol. : VERTICAL PART 27 3G(B4) 3M -20 _evel [dBm] -40 1 5000 10000 1000 15000 20000 Frequency [MHz] EIRP Freq. Decetor SG Output Antenna Cable Limit Margin Note Mode Level Level Gain @3m Loss QP/AV/PK dBm dBm dBi dB dBm F/H/E/S dB MHz 3505.20 н Peak -57.48 -63.41 12.40 -6.47 -13.00-44.48

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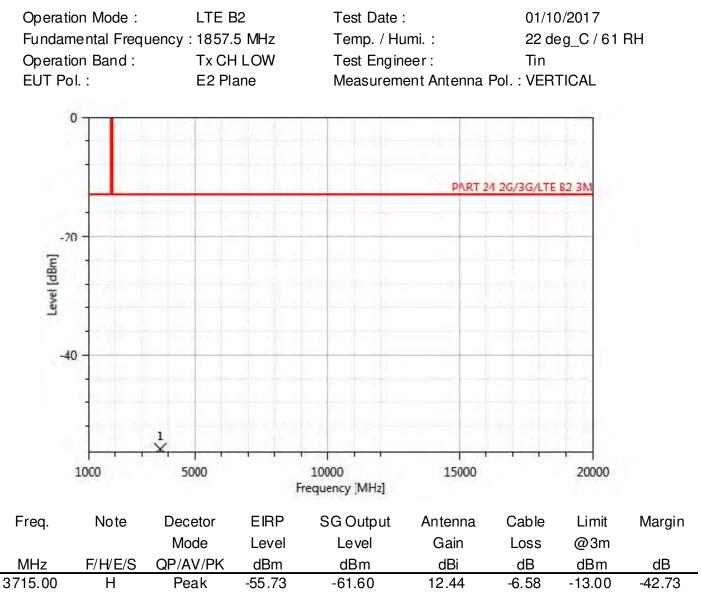


Operation Mode : HSUPAB4 Test Date : 01/11/2017 Fundamental Frequency : 1752.6 MHz Temp. / Humi. : 22 deg_C / 62 RH **Operation Band : Tx CH HIGH** Test Engineer: Tin EUT Pol. : E2 Plane Measurement Antenna Pol. : HORIZONTAL PART 27 3G(B4) 3N -20 Level [dBm] -40 1 5000 10000 1000 15000 20000 Frequency [MHz] EIRP Freq. Decetor SG Output Antenna Cable Limit Margin Note Mode Level Level Gain @3m Loss QP/AV/PK dBm dBm dBi dBm F/H/E/S dB dB MHz 3505.20 н Peak -58.33 -64.26 12.40 -6.47 -13.00-45.33

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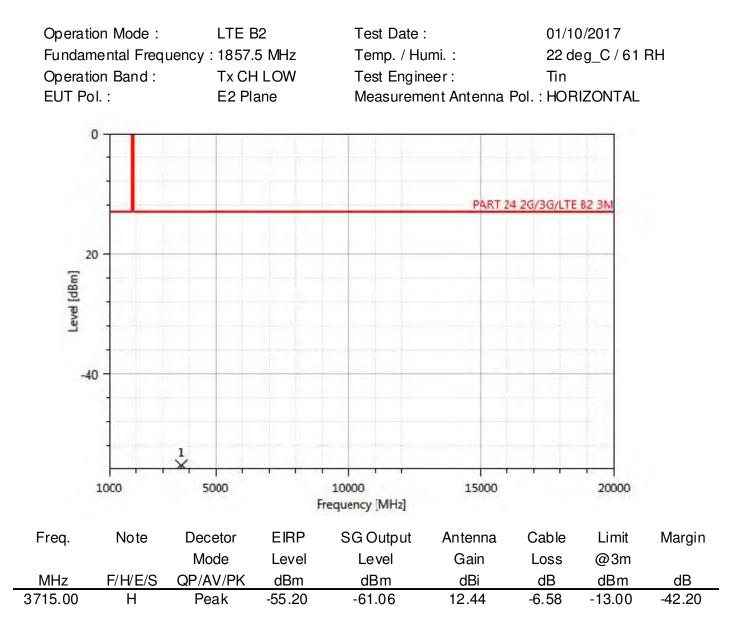
Radiated Spurious Emission Measurement Result: LTE-Band 2 (The Worst Case)



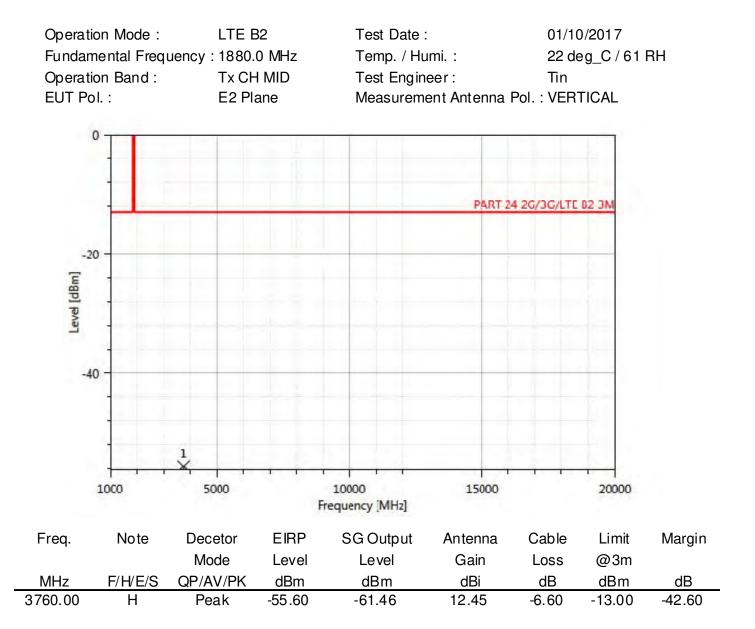
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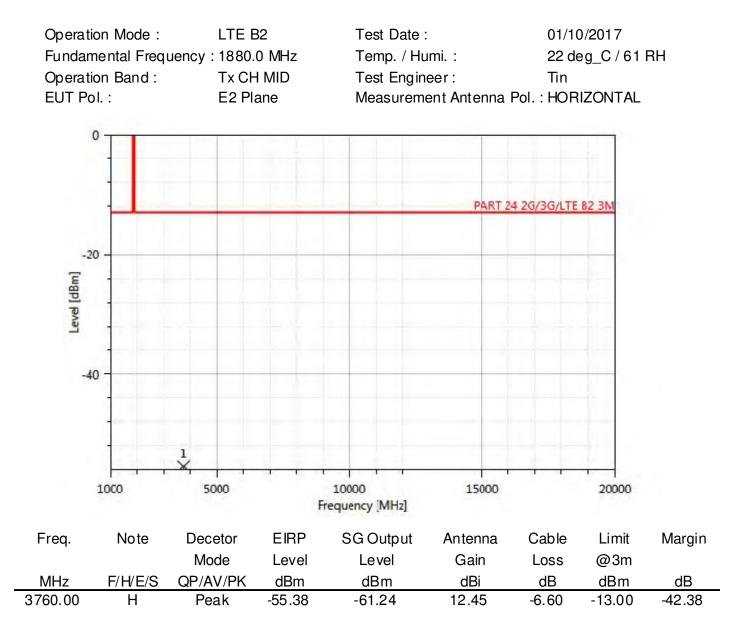




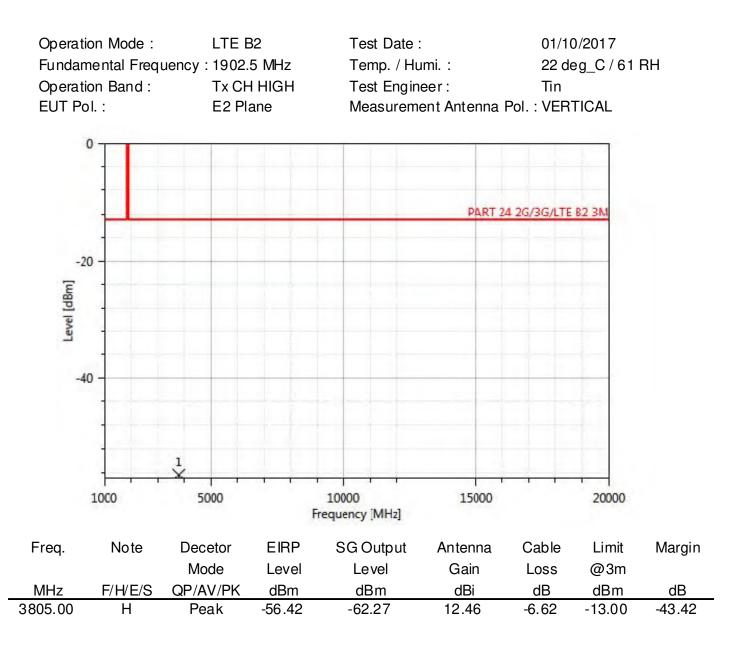






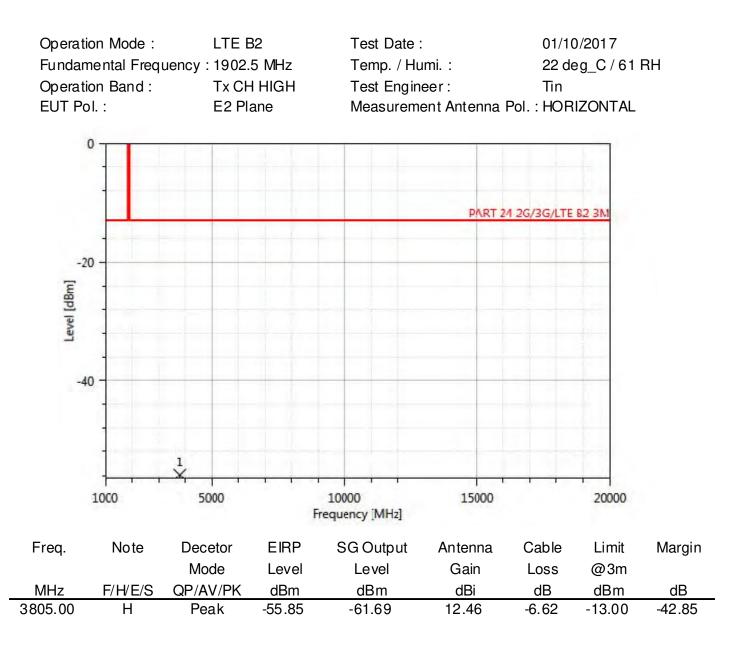






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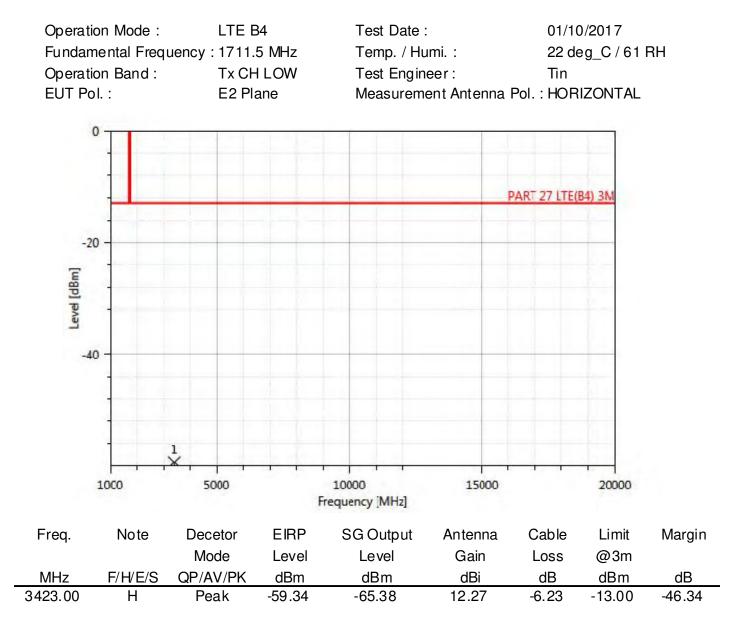
Radiated Spurious Emission Measurement Result: LTE-Band 4 (The Worst Case)

Fundar	ion Band :	quency:1711.	5 MHz I LOW	Test Date : Temp. / Hu Test Engin Measurem	ımi. :	22 de Tin	0/2017 eg_C / 61 TICAL	RH
	0							
						PART 27 LTE	B4) 3M	
-3	20 -							
Level [dBm]	-							
-4	40		H					
		1						
	1000	5000	-i i	10000 Frequency [MHz]	15000	i i i	20000	
Freq.	Note	Decetor	EIRP	SG Output	Antenna	Cable	Limit	Margin
		Mode	Level	Level	Gain	Loss	@3m	10
MHz 3423.00	<u>F/H/E/S</u> H	QP/AV/PK Peak	dBm -59.12	dBm -65.15	dBi 12.27	dB -6.23	dBm -13.00	dB -46.12

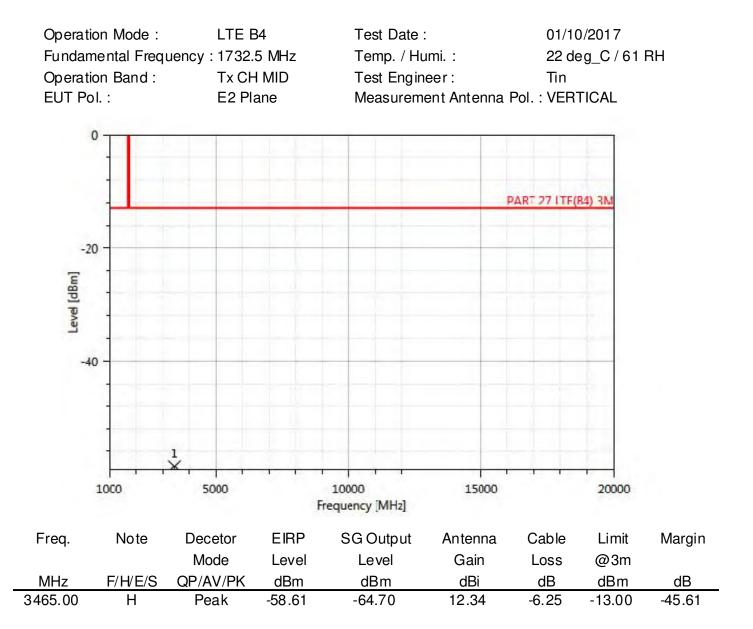
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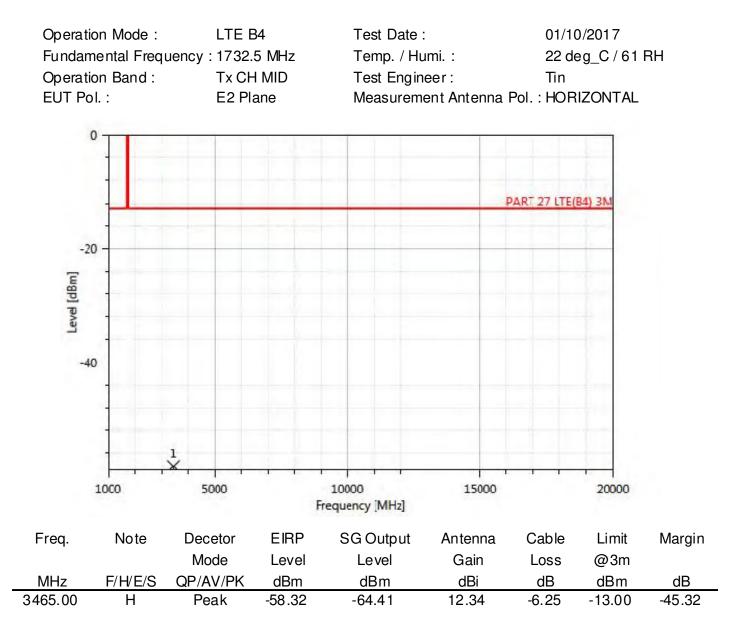






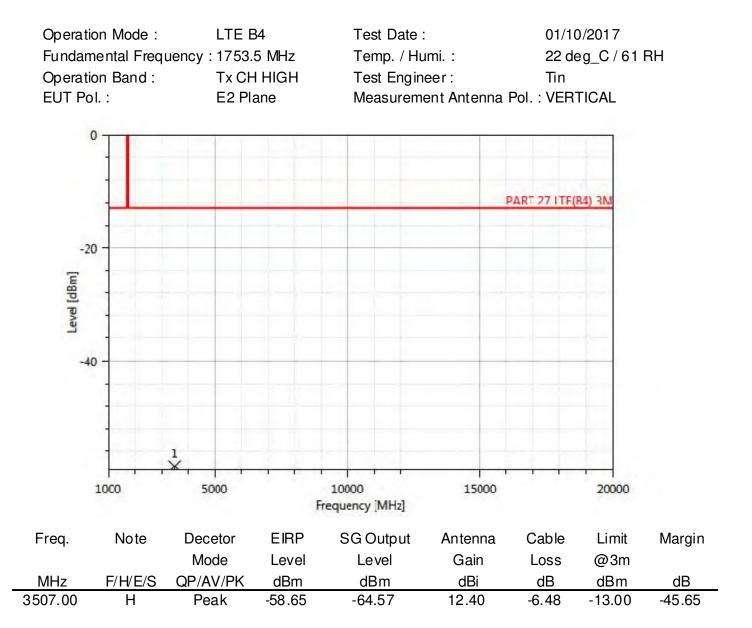




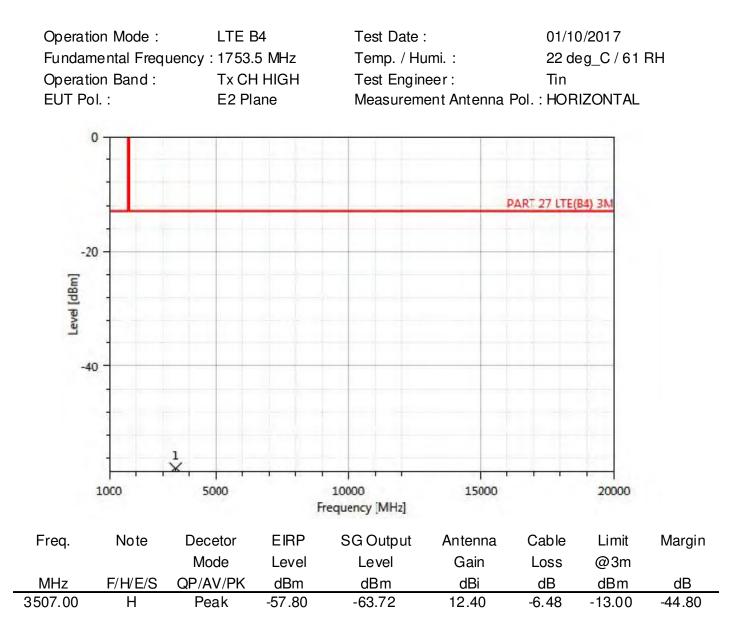


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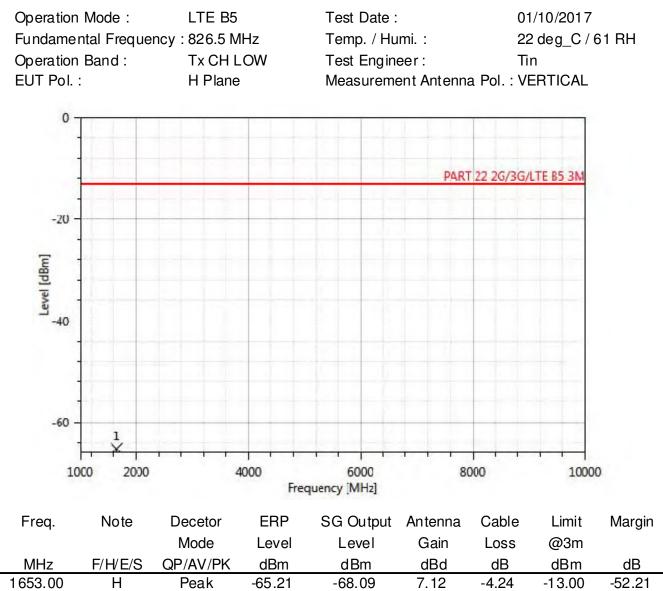




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Radiated Spurious Emission Measurement Result: LTE-Band 5 (The Worst Case)



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Operation Mode : LTE B5 Test Date : 01/10/2017 Fundamental Frequency : 826.5 MHz Temp. / Humi. : 22 deg_C / 61 RH **Operation Band : Tx CH LOW** Test Engineer: Tin EUT Pol. : H Plane Measurement Antenna Pol. : HORIZONTAL 0 PART 22 2G/3G/LTE 85 3M -20 Level [dBm] -40 60 1 4000 6000 8000 1000 2000 10000 Frequency [MHz] ERP SG Output Antenna Note Cable Limit Margin Freq. Decetor Mode Level Level Gain Loss @3m QP/AV/PK dBm dBm dBd dB F/H/E/S dBm dB MHz 1653.00 н Peak -65.43 -68.31 7.12 -4.24 -13.00 -52.43

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Operation Mode : LTE B5 Test Date : 01/10/2017 Fundamental Frequency: 836.5 MHz Temp. / Humi. : 22 deg C/61 RH **Operation Band :** Tx CH MID Test Engineer: Tin EUT Pol. : H Plane Measurement Antenna Pol. : VERTICAL 0 PART 22 2G/3G/LTE B5 3M -20 Level [dBm] 40 -60 ı 4000 6000 8000 1000 2000 10000 Frequency [MHz] ERP SG Output Note Antenna Cable Limit Margin Freq. Decetor Mode Level Level Gain @3m Loss QP/AV/PK dBm dBm dBd dB F/H/E/S dBm dB MHz 1673.00 н Peak -65.32 -68.23 7.20 -4.29 -13.00 -52.32

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



Operation Mode : LTE B5 Test Date : 01/10/2017 Fundamental Frequency: 836.5 MHz Temp. / Humi. : 22 deg C/61 RH **Operation Band :** Tx CH MID Test Engineer: Tin EUT Pol. : H Plane Measurement Antenna Pol. : HORIZONTAL 0 PART 22 2G/3G/LTE B5 3M -20 Level [dBm] 40 -60 4000 6000 8000 1000 2000 10000 Frequency [MHz] ERP SG Output Note Antenna Cable Limit Margin Freq. Decetor Mode Level Level Gain @3m Loss QP/AV/PK dBm dBm dBd dB F/H/E/S dBm dB MHz 1673.00 н Peak -63.45 -66.36 7.20 -4.29 -13.00 -50.45

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



Operation Mode : LTE B5 Test Date : 01/10/2017 Fundamental Frequency : 846.5MHz Temp. / Humi. : 22 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer: Tin EUT Pol. : H Plane Measurement Antenna Pol. : VERTICAL 0 PART 22 2G/3G/LTE 85 3M -20 Level [dBm] -40 -60 1 4000 6000 8000 1000 2000 10000 Frequency [MHz] ERP SG Output Antenna Note Cable Limit Margin Freq. Decetor Mode Level Level Gain Loss @3m QP/AV/PK dBm dBm dBd dB F/H/E/S dBm dB MHz 1693.00 н Peak -65.29 -68.25 7.27 -4.30 -13.00 -52.29

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



Operation Mode : LTE B5 Test Date : 01/10/2017 Fundamental Frequency : 846.5MHz Temp. / Humi. : 22 deg_C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer: Tin EUT Pol. : H Plane Measurement Antenna Pol. : HORIZONTAL 0 PART 22 2G/3G/LTE B5 3M -20 Level [dBm] -40 -60 1 4000 6000 8000 1000 2000 10000 Frequency [MHz] ERP Note SG Output Antenna Cable Limit Margin Freq. Decetor Mode Level Level Gain Loss @3m QP/AV/PK dBm dBm dBd dB F/H/E/S dBm dB MHz 1693.00 н Peak -65.09 -68.05 7.27 -4.30 -13.00 -52.09

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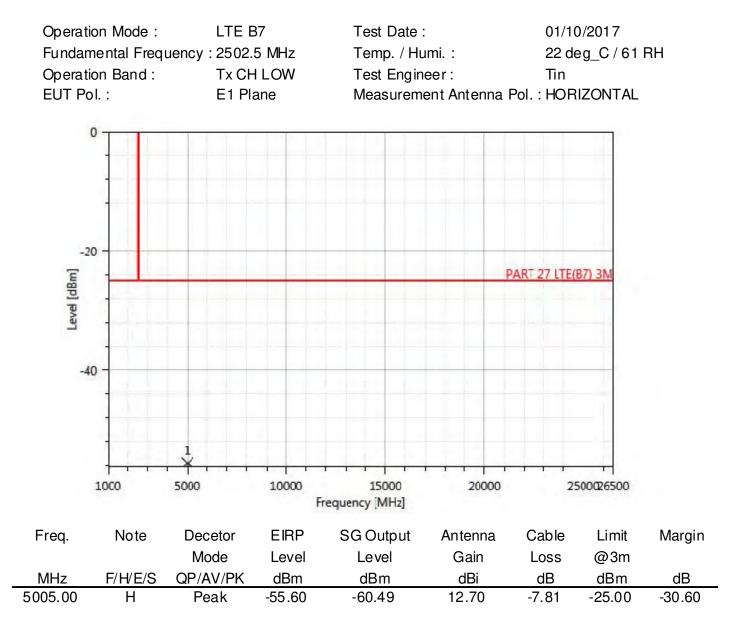


Radiated Spurious Emission Measurement Result: LTE-Band 7 (The Worst Case)

Fundar	ion Band :	LTE E uency : 2502. Tx CH E1 Pla	5 MHz I LOW	Test Date : Temp. / Hu Test Engin Measureme	ımi. :	22 c Tin	10/2017 deg_C / 61 RTICAL	RH
	0							
-1	0							
	0					ART 27 LTE	(R7) 3M	
Level [dBm]	0							
-4	0-							
-5	io -							
	1000	5000	10000	15000 Frequency [MH2]	20000		2500@6500	
Freq.	Note	Decetor	EIRP	SG Output	Antenna	Cable	Limit	Margin
		Mode	Level	Level	Gain	Loss	@3m	
MHz 5005.00	<u>F/H/E/S</u> H	QP/AV/PK Peak	dBm -54.41	dBm -59.30	dBi 12.70	dB -7.81	dBm -25.00	dB -29.41

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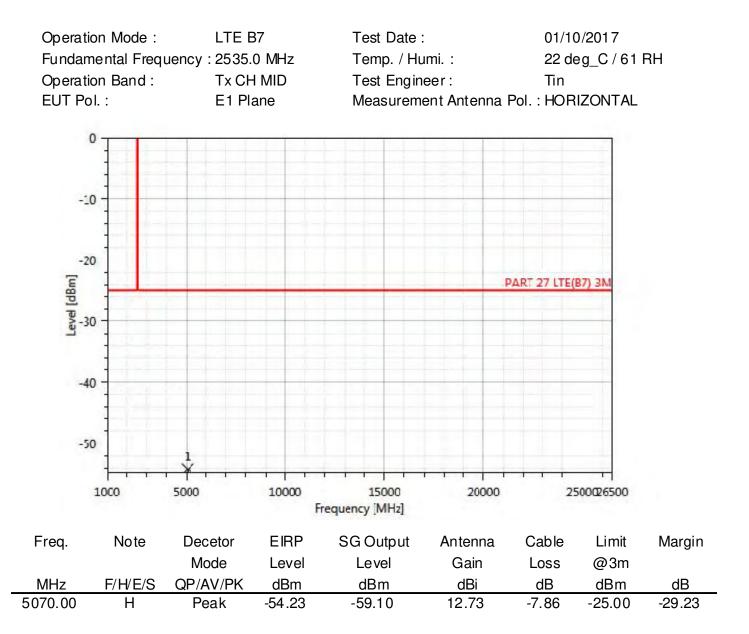




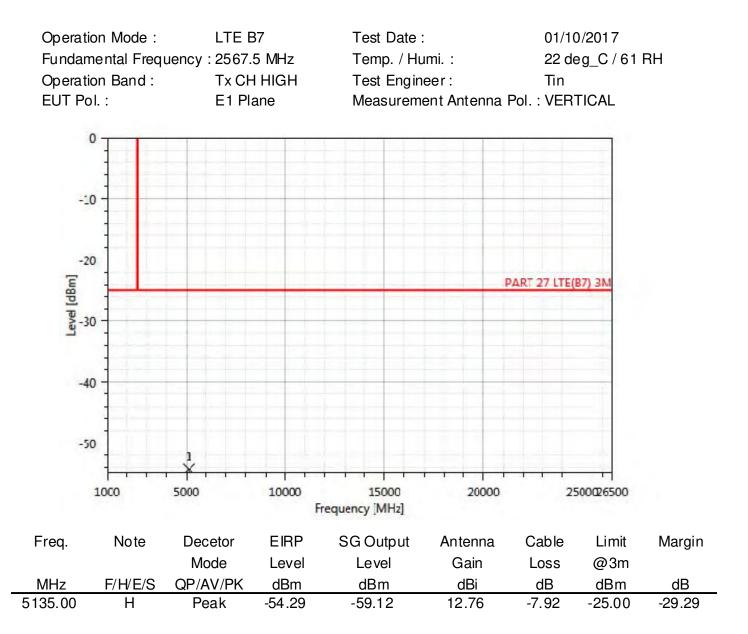
Operation Mode : LTE B7 Test Date : 01/10/2017 Fundamental Frequency : 2535.0 MHz Temp. / Humi. : 22 deg C/61 RH **Operation Band :** Tx CH MID Test Engineer: Tin EUT Pol. : E1 Plane Measurement Antenna Pol. : VERTICAL 0 -10 20 PART 27 LTE(B7) 3N evel [dBm] -30 -40 -50 10000 20000 1000 5000 15000 2500@6500 Frequency [MHz] EIRP SG Output Freq. Antenna Cable Limit Margin Note Decetor Mode Level Level Gain @3m Loss QP/AV/PK dBm dBm dBi dB dBm F/H/E/S dB MHz 5070.00 н Peak -55.09 -59.96 12.73 -7.86-25.00-30.09

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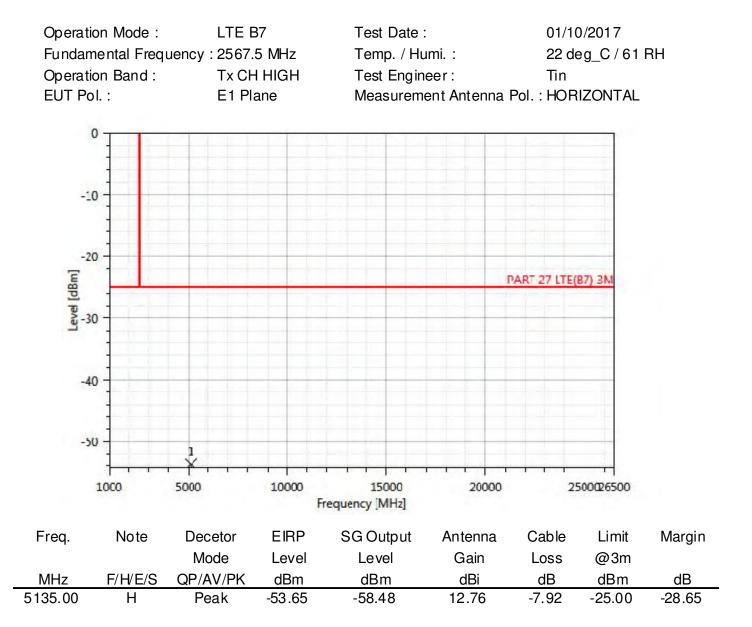














Radiated Spurious Emission Measurement Result: LTE-Band 12 (The Worst Case)

Operation EUT Pol. :	ntal Freque Band :	LTE B12 ncy : 701.5 M Tx CH L H Plane	Hz OW	Test Date : Temp. / Hu Test Engine Measureme	mi. : eer:	2 T	1/10/2017 2 deg_C / 6 in ′ERTICAL	61 RH
0-								
						FART 27 L	TE(B12) 3M	
-20 -								
- -								
Level [dBm]								
Leve			-			-		
-40 -								
-								
- -60 -	1							
10	co 2000	4	000 Free	6000 quency [MHz]	8	000	10000	0
Freq.	Note	Decetor	ERP	SG Output	Antenna	Cable	Limit	Margin
		Mode	Level	Level	Gain	Loss	@3m	
MHz	F/H/E/S	QP/AV/PK	dBm	dBm	dBd	dB	dBm	dB
1403.00	Н	Peak	-60.66	-62.90	6.14	-3.90	-13.00	-47.66

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Operation Mode : LTE B12 Test Date : 01/10/2017 Fundamental Frequency : 701.5 MHz Temp. / Humi. : 22 deg_C / 61 RH **Operation Band : Tx CH LOW** Test Engineer: Tin EUT Pol. : H Plane Measurement Antenna Pol. : HORIZONTAL 0 FART 27 LTE(B12) 3M -20 Level [dBm] -40 -60 2000 4000 6000 8000 1000 10000 Frequency [MHz] ERP SG Output Antenna Note Cable Limit Margin Freq. Decetor Mode Level Level Gain @3m Loss QP/AV/PK dBm F/H/E/S dBm dBd dB dBm dB MHz 1403.00 н Peak -61.14 -63.38 6.14 -3.90 -13.00 -48.14

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1415.00

н

Operation Mode : LTE B12 Test Date : 01/10/2017 Fundamental Frequency: 707.5 MHz Temp. / Humi. : 22 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer: Tin EUT Pol. : H Plane Measurement Antenna Pol. : VERTICAL 0 FART 27 LTE(B12) 3M -20 Level [dBm] -40 -60 2000 4000 6000 8000 1000 10000 Frequency [MHz] ERP SG Output Note Antenna Cable Limit Margin Freq. Decetor Mode Level Level Gain @3m Loss QP/AV/PK dBm dBm F/H/E/S dBd dB dBm dB MHz

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Peak

-61.04

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-63.32

6.19

-3.91

-13.00

-48.04



1415.00

н

Operation Mode : LTE B12 Test Date : 01/10/2017 Fundamental Frequency: 707.5 MHz Temp. / Humi. : 22 deg_C / 61 RH **Operation Band :** Tx CH MID Test Engineer: Tin EUT Pol. : H Plane Measurement Antenna Pol. : HORIZONTAL 0 FART 27 LTE(B12) 3M -20 Level [dBm] -40 -60 4000 6000 8000 1000 2000 10000 Frequency [MHz] ERP SG Output Antenna Note Cable Limit Margin Freq. Decetor Mode Level Level Gain @3m Loss QP/AV/PK dBm dBm F/H/E/S dBd dB dBm dB MHz

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Peak

-61.14

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-63.41

6.19

-3.91

-13.00

-48.14



Operation Mode : LTE B12 Test Date : 01/10/2017 Fundamental Frequency : 713.5 MHz Temp. / Humi. : 22 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer: Tin EUT Pol. : H Plane Measurement Antenna Pol. : VERTICAL 0 FART 27 LTE(B12) 3M -20 Level [dBm] -40 -60 4000 6000 8000 1000 2000 10000 Frequency [MHz] ERP SG Output Antenna Note Cable Limit Margin Freq. Decetor Mode Level Level Gain @3m Loss QP/AV/PK dBm dBm dBd dB F/H/E/S dBm dB MHz 1427.00 н Peak -61.96 -64.27 6.24 -3.93 -13.00 -48.96

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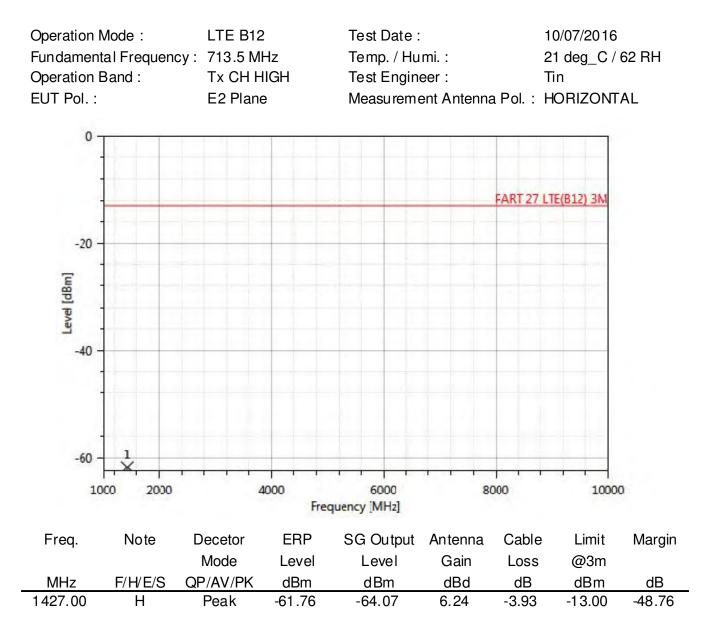


Operation Mode : LTE B12 Test Date : 01/10/2017 Fundamental Frequency : 713.5 MHz Temp. / Humi. : 22 deg_C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer: Tin EUT Pol. : H Plane Measurement Antenna Pol. : HORIZONTAL 0 FART 27 LTE(B12) 3M -20 Level [dBm] -40 -60 4000 1000 2000 6000 8000 10000 Frequency [MHz] Nata o oto " مامام Marain **...**

Freq.	note	Decelor	ERP	SG Output	Antenna	Cable		wargin	
		Mode	Level	Level	Gain	Loss	@3m		
MHz	F/H/E/S	QP/AV/PK	dBm	dBm	dBd	dB	dBm	dB	_
1427.00	Н	Peak	-61.76	-64.07	6.24	-3.93	-13.00	-48.76	_

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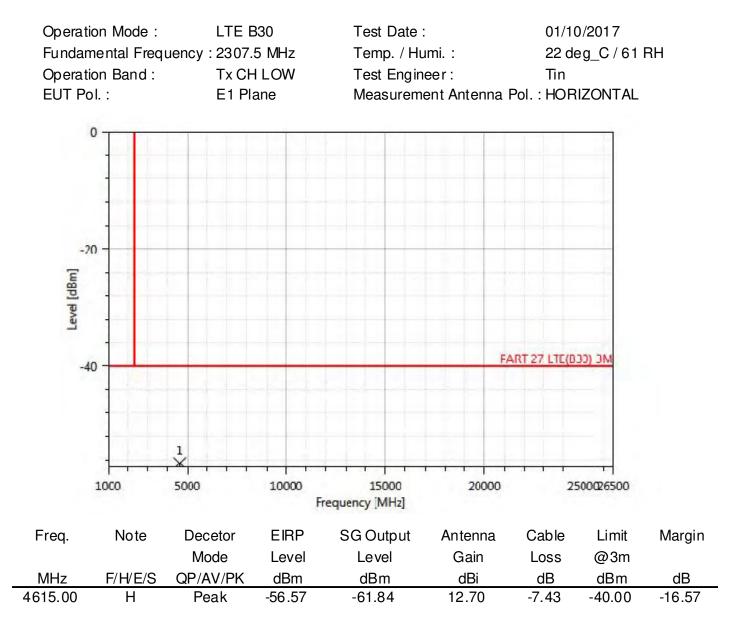


Radiated Spurious Emission Measurement Result: LTE-Band 30 (The Worst Case)

EUT Pol.: E1 Plane Measurement Antenna Pol.: VERTICAL	
-40 -40 -40 -40 -40 -40 -40 -40	
Freq. Note Decetor EIRP SG Output Antenna Cable Limit Mode Level Level Gain Loss @3m	Margin
MHz F/H/E/S QP/AV/PK dBm dBm dBi dB dBm 4615.00 H Peak -56.85 -62.12 12.70 -7.43 -40.00	dB -16.85

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Operation Mode : LTE B30 Test Date : 01/10/2017 Fundamental Frequency : 2310 MHz Temp. / Humi. : 22 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer: Tin EUT Pol. : E1 Plane Measurement Antenna Pol. : VERTICAL 0 -20 Level [dBm] FART 27 LTE(B30) 3M -40 1 1000 10000 20000 5000 15000 2500@6500 Frequency [MHz] EIRP SG Output Freq. Antenna Cable Limit Margin Note Decetor Mode Level Gain @3m Level Loss QP/AV/PK dBm dBm dBi dB dBm F/H/E/S dB MHz 4620.00 н Peak -57.07 -62.33 12.70 -7.44-40.00 -17.07

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Operation Mode : LTE B30 Test Date : 01/10/2017 Fundamental Frequency : 2310 MHz Temp. / Humi. : 22 deg_C / 61 RH **Operation Band :** Tx CH MID Test Engineer: Tin EUT Pol. : E1 Plane Measurement Antenna Pol. : HORIZONTAL 0 -20 Level [dBm] FART 27 LTE(B30) 3N -40 1 10000 20000 1000 5000 15000 2500@6500 Frequency [MHz] EIRP SG Output Freq. Antenna Cable Limit Margin Note Decetor Mode Level Level Gain @3m Loss QP/AV/PK dBm dBm dBi dB dBm F/H/E/S dB MHz 4620.00 н Peak -56.75 -62.01 12.70 -7.44-40.00 -16.75

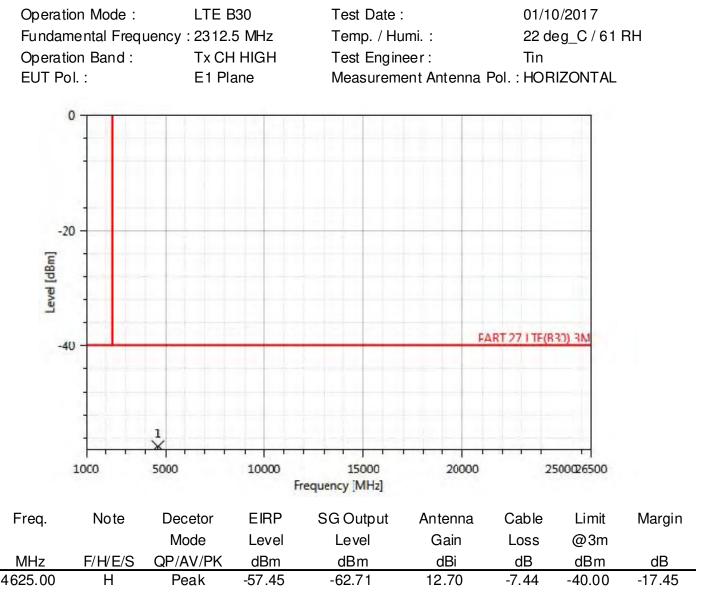
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Operation Mode : LTE B30 Test Date : 01/10/2017 Fundamental Frequency : 2312.5 MHz Temp. / Humi. : 22 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer: Tin EUT Pol. : E1 Plane Measurement Antenna Pol. : VERTICAL 0 -20 Level [dBm] FART 27 LTE(B30) 3M -40 1 10000 20000 1000 5000 15000 2500@6500 Frequency [MHz] EIRP SG Output Freq. Antenna Cable Limit Margin Note Decetor Mode Level Gain @3m Level Loss QP/AV/PK dBm dBm dBi dB dBm F/H/E/S dB MHz 4625.00 н Peak -57.13-62.39 12.70 -7.44-40.00 -17.13

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~ End of Report ~

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