

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 22 SUBPART H, PART 24 SUBPART E and PART 27 SUBPART **B, C & SUBPART L REQUIREMENT**

OF

	61
FCC Applicant:	Panasonic Corporation of North America Two Riverfront Plaza, 9th Floor, Newark, NJ 07102-5490
Product Name:	Tablet Computer
Brand Name:	Panasonic
Model No.:	FZ-L1AA
Marketing Name:	FZ-L1
Model Difference:	N/A
FCC ID:	ACJFZL1B
Report Number:	ER/2018/B0032
FCC Rule Part:	2 , 22H & 24E & 27B, C & L
Issue Date:	Dec. 20, 2018
Date of Test:	Nov. 15, 2018 ~ Nov. 27, 2018
Date of EUT Received:	Nov. 15, 2018

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 C63.26-2015 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.

Tested By:

Approved By:

Louis Chen / Sr. Engineer

Jazz Huang / Asst. Supervisor



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Revision History

Report Number	Revision	Description	Effected Page	Issue Date	Revised By
ER/2018/B0032	Rev.00	Initial creation of document	All	Dec. 12, 2018	Tiffany Kao
ER/2018/B0032	Rev.01	Update information for chapter 1	5	Dec. 20, 2018	Violetta Tang

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	SYSTEM TEST CONFIGURATION



1. GENERAL PRODUCT INFORMATION

1.1. Product Description

General:

Product Name:	Tablet Computer				
Brand Name:	Panasonic				
Model No.:	FZ-L1AA				
Model Difference:	N/A				
Product HW/SW version:	C-NA-002 / 15-02-521-008				
Radio HW/SW version:	N/A / MSM8909.LA.3.0.1				
	3.8V from Rechargeable Li-ion Battery or 5V from AC/DC Adapter				
Power Supply:	Battery: Model No.	: FZ-VZSUT10U, Supplier: Panasonic			
	1. Model No.: FZ-AAE184EE, Supplier: PanasoniAdapter:2. Model No.: FZ-AAE184EG, Supplier: Panasoni3. Model No.: FZ-AAE184EM, Supplier: Panasoni				

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1.2. WCDMA / LTE: Cellular Phone Standards Frequency Range

Operating Frequency (MHz)						
WCDMA / HSPA+ Band II	1852.4	-	1907.6			
WCDMA / HSPA+ Band V	826.4	-	846.6			

LTE Band	BW (MHz)	Operation Frequency (MHz)		LTE Band	BW (MHz)	Operation Frequency (N		ency (MHz)	
	1.4	1850.7	-	1909.3		1.4	1710.7	-	1754.3
	3	1851.5	-	1908.5		3	1711.5	-	1753.5
2	5	1852.5	-	1907.5	Λ	5	1712.5	-	1752.5
Z	10	1855.0	-	1905.0	4	10	1715.0	-	1750.0
	15	1857.5	-	1902.5		15	1717.5	-	1747.5
	20	1860.0	-	1900.0		20	1720.0	-	1745.0
	1.4	824.7	-	848.3		1.4	699.7	-	715.3
5	3	825.5	-	847.5	10	3	700.5	-	714.5
5	5	826.5	-	846.5	12	5	701.5	-	713.5
	10	829.0	-	844.0		10	704.0	~	711.0
12	5	779.5	-	784.5					
13	10		782						

Antenna Designation

Туре	Main / Aux	Antenna Part No.	Modulation		Peak Antenna Gain (dBi)
	Aux	Fait NO.	WCDMA / HSPA Band II	(MHz)	
				1852.4 ~ 1907.6	0.5
		WCDMA / HSPA Band V	826.4 ~ 846.6	-2	
	Monopole Main	Main FZ-L1AA	LTE Band 2	1850 ~ 1910	0.5
Monopole			LTE Band 4	1710 ~ 1755	1
			LTE Band 5	824 ~ 849	-2
		LTE Band 12	699 ~ 716	-3	
			LTE Band 13	777 ~ 787	-1.5

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1.3. Type of Emission & Max ERP/EIRP Power Measurement Result:

	ERP / EI	ERP / EIRP (dBm)		Type of Emission
WCDMA Band II	22.84	EIRP	0.192	4M16F9W
HSDPA Band II	22.73	EIRP	0.187	4M16F9W
HSUPA Band II	22.44	EIRP	0.175	4M17F9W
WCDMA Band V	19.87	ERP	0.097	4M15F9W
HSDPA Band V	18.80	ERP	0.076	4M14F9W
HSUPA Band V	18.91	ERP	0.078	4M16F9W

LTE Band	BW (MHz)	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
	1.4	QPSK	23.45	EIRP	0.221	1M10G7D
	1.4	16QAM	22.64	EIRP	0.184	1M10D7W
	3	QPSK	23.64	EIRP	0.231	2M71G7D
	3	16QAM	22.36	EIRP	0.172	2M71D7W
	5	QPSK	23.57	EIRP	0.228	4M52G7D
2	5	16QAM	22.75	EIRP	0.188	4M52D7W
Z	10	QPSK	23.66	EIRP	0.232	9M02G7D
	10	16QAM	22.37	EIRP	0.173	8M98D7W
	15	QPSK	23.44	EIRP	0.221	13M5G7D
	15	16QAM	22.69	EIRP	0.186	13M5D7W
	20	QPSK	23.56	EIRP	0.227	18M0G7D
	20	16QAM	22.76	EIRP	0.189	18M0D7W
	1.4	QPSK	21.54	ERP	0.143	1M10G7D
	1.4	16QAM	20.61	ERP	0.115	1M10D7W
	3	QPSK	21.49	ERP	0.141	2M70G7D
F	3	16QAM	20.72	ERP	0.118	2M71D7W
5	5	QPSK	21.53	ERP	0.142	4M52G7D
	5	16QAM	20.46	ERP	0.111	4M52D7W
	10	QPSK	21.33	ERP	0.136	8M97G7D
	10	16QAM	20.42	ERP	0.110	8M99D7W

LTE Band	BW (MHz)	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
	1.4	QPSK	24.12	EIRP	0.258	1M10G7D
	1.4	16QAM	23.61	EIRP	0.230	1M10D7W
	3	QPSK	24.23	EIRP	0.265	2M71G7D
	3	16QAM	23.43	EIRP	0.220	2M71D7W
	5	QPSK	24.29	EIRP	0.269	4M52G7D
4	5	16QAM	23.59	EIRP	0.229	4M51D7W
4	10	QPSK	24.26	EIRP	0.267	9M01G7D
	10	16QAM	23.42	EIRP	0.220	8M98D7W
	15	QPSK	24.27	EIRP	0.267	13M5G7D
	15	16QAM	23.64	EIRP	0.231	13M5D7W
	20	QPSK	24.41	EIRP	0.276	18M0G7D
	20	16QAM	23.89	EIRP	0.245	18M0D7W

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	1.4	QPSK	20.44	ERP	0.111	1M10G7D
	1.4	16QAM	19.65	ERP	0.092	1M10D7W
	3	QPSK	20.45	ERP	0.111	2M70G7D
12	3	16QAM	19.39	ERP	0.087	2M71D7W
IZ	5	QPSK	20.45	ERP	0.111	4M51G7D
	5	16QAM	19.49	ERP	0.089	4M52D7W
	10	QPSK	20.44	ERP	0.111	9M00G7D
	10	16QAM	19.46	ERP	0.088	8M96D7W

	5	QPSK	21.70	ERP	0.148	4M51G7D
13	5	16QAM	20.50	ERP	0.112	4M52D7W
	10	QPSK	21.92	ERP	0.156	8M97G7D
	10	16QAM	20.57	ERP	0.114	8M93D7W



1.4. Test Methodology of Applied Standards

CC 47 CFR Part 2, 22, 24, 27, Part 90S.

ANSI C63.26-2015

KDB971168 D01 Power Meas license Digital System v03

KDB941225 D01 SAR test for 3G devices v03r01 (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.

1.5. 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 Number and Designation number are: 509634 / TW0001

1.6. Special Accessories

AC Adapter is used while the test is conducted and there is no other accessory attached. This is the worst case condition.

1.7. Equipment Modifications

There were no modifications incorporated into the EUT.

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2. SYSTEM TEST CONFIGURATION

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

The EUT (Transmitter) was operated in the continuous transmission mode employed with the simulator of the Base Station that fixates at test default channels to fix the Tx frequency which was for the purpose of the measurements.

2.3. Test Procedure

2.3.1 Conducted Measurement at Antenna Port

According to measurement procured ANSI C63.26-2015, the EUT is placed on a turn table which is 0.8m above ground plane. A low loss of RF cable was used to connect the antenna port of EUT to measurement equipment.

2.3.2 Radiated Emissions

According to measurement procured ANSI C63.26-2015, The EUT is a placed on as turn table, for emission measurements below 1 GHz is 0.8 m above 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 hand-held 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 according to the requirements in Section 8 and 13.

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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Note:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor. Following shows an offset computation in physical test.

	RF cable loss (dB)	Attenuation factor(dB)	offset(dB)
Low Band (Below 1GHz)	4	10	14
High Band (Above 1 GHz)	4.4	10	14.4

2.5. Final Amplifier Voltage and Current Information:

Test Mode	DC voltage (V)	DC current (mA)
WCDMA B2		542
WCDMA B5		532
LTE Band 2		598
LTE Band 4	3.8	585
LTE Band 5		591
LTE Band 12		581
LTE Band 13		586

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2.6. Configuration of Tested System

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

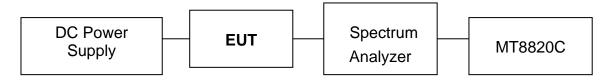


Fig. 2-2 Configuration of Tested System (Fixed Channel-Radiated)



Remote Side

MT8820C

Table 2-1 Equipment Used in

ltem	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Universal Radio Communication Tester	Anritsu	MT8820C	6200307563	shielded	Un-shielded
2.	DC Power Supply	Anritsu	E3640A	KR93300208	N/A	Un-shielded

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3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a)	RF Power Output	Compliant
§2.1046(a) §22.913(a)(5) §24.232(c) §27.50(a)(3) §27.50(c)(10) §27.50(d)(4)	ERP/ EIRP measurement	Compliant
§2.1049(h)	99% & 26dB Occuupied Bandwidth	Compliant
§2.1051 §22.917(a) §24.238(a) §27.53(g) §27.50(c)(5) §27.53(h) §27.53(m)(4)(6)	Out of Band Emissions at Anten- na Terminals and Band Edge / Emission mask requirements	Compliant
§2.1053 §22.917(a) §24.238(a) §27.53(c)(2),(4) §27.50(c)(5) §27.53(f) §27.53(g) §27.53(h) §27.53(m)(4)	Field Strength of Spurious Radiation	Compliant
§27.53(f)	Spurious emission in 1559 -1610MHz Band	Compliant
§24.232(d) §27.53(d) (5) §27.50(i) (B)	Peak to Average Ratio	Compliant
§2.1055(a)(1) §22.355 §24.235 §27.54	Frequency Stability	Compliant

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4. DESCRIPTION OF TEST MODES

4.1. The Worst Test Modes and Channel Details

- 1. The EUT has been tested under operating condition.
- 2. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates. EUT set to at the channel with highest output power to investigated spurious emission with stand-up position (H, E1 mode) and lie down position (E2 mode) axis and antenna ports as worst-case scenario. The worst case was found as listed below. Following channel(s) was (were) selected for the final test as listed below:

BAND	RADIATED EMISSION
WCDMA/HSPA Band II	E1 Mode
WCDMA/HSPA Band V	E1 Mode
LTE Band 2	E1 Mode
LTE Band 4	E1 Mode
LTE Band 5	E1 Mode
LTE Band 12	E1 Mode
LTE Band 13	E1 Mode

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WCDMA/HSPA MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
ERP / EIRP	4132 to 4233	4132, 4183, 4233	WCDMA/HSPA Band V
EIRP	9262 to 9538	9262, 9400, 9538	WCDMA/HSPA Band II
FREQUENCY	4132 to 4233	4183	WCDMA Band II
STABILITY	9262 to 9538	9400	WCDMA Band V
OCCUPIED	4132 to 4233	4132, 4183, 4233	WCDMA/HSPA Band II
BANDWIDTH	9262 to 9538	9262, 9400, 9538	WCDMA/HSPA Band V
PEAK TO AVERAGE	4132 to 4233	4132, 4183, 4233	WCDMA/HSPA Band II
RATIO	9262 to 9538	9262, 9400, 9538	WCDMA/HSPA Band V
BAND EDGE	4132 to 4233	4132, 4233	WCDMA Band II
BANDEDGE	9262 to 9538	9262, 9538	WCDMA Band V
CONDUCTED	4132 to 4233	4132, 4183, 4233	WCDMA Band II
EMISSION	9262 to 9538	9262, 9400, 9538	WCDMA Band V
RADIATED EMISSION	4132 to 4233	4132, 4183, 4233	WCDMA Band II
	9262 to 9538	9262, 9400, 9538	WCDMA Band V



LTE Band 2 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM	1 RB/ 0,5 RB Offest
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM	1 RB/ 0,14 RB Offest
רוסס	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest
EIRP	18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM	1 RB/ 0,49 RB Offest
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK, 16QAM	1 RB/ 0,74 RB Offest
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK, 16QAM	1 RB/ 0,99 RB Offest
FREQUENCY STA- BILITY	18650 to 19150	18900	10MHz	QPSK,	Full RB
	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM	Full RB
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM	Full RB
OCCUPIED BAND-	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM	Full RB
WIDTH	18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM	Full RB
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK, 16QAM	Full RB
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK, 16QAM	Full RB
	18607 to 19193	18607, 18900, 19193	1.4MHz	16QAM	Full RB
	18615 to 19185	18615, 18900, 19185	3MHz	16QAM	Full RB
PEAK TO AVERAGE	18625 to 19175	18625, 18900, 19175	5MHz	16QAM	Full RB
RATIO	18650 to 19150	18650, 18900, 19150	10MHz	16QAM	Full RB
	18675 to 19125	18675, 18900, 19125	15MHz	16QAM	Full RB
	18700 to 19100	18700, 18900, 19100	20MHz	16QAM	Full RB
	18607 to 19193	18607, 19193	1.4MHz	QPSK,	1 RB/ 0,5 RB Offes Full RB
	18615 to 19185	18615, 19185	3MHz	QPSK,	1 RB/ 0,14 RB Offest Full RB
	18625 to 19175	18625, 19175	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB
BAND EDGE	18650 to 19150	18650, 19150	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB
	18675 to 19125	18675, 19125	15MHz	QPSK,	1 RB/ 0,74 RB Offest Full RB
	18700 to 19100	18700, 19100	20MHz	QPSK,	1 RB/ 0,99 RB Offest Full RB
	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK,	1 RB, 0 RB Offest
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK,	1 RB, 0 RB Offest
CONDUCTED	18625 to 19175	18625, 18900, 19175	5MHz	QPSK,	1 RB, 0 RB Offest
EMISSION	18650 to 19150	18650, 18900, 19150	10MHz	QPSK,	1 RB, 0 RB Offest
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK,	1 RB, 0 RB Offest
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMISSION	18650 to 19150	18650, 18900, 19150	10MHz	QPSK	1 RB, 49 RB Offest



LTE Band 4 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	19957 to 19393	19957, 20175, 19393	1.4MHz	QPSK, 16QAM	1 RB/ 0,5 RB Offest
	19965 to 22385	19965, 20175, 22385	3MHz	QPSK, 16QAM	1 RB/ 0,14 RB Offest
רוסס	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest
EIRP	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1 RB/ 0,49 RB Offest
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1 RB/ 0,74 RB Offest
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1 RB/ 0,99 RB Offest
FREQUENCY STA- BILITY	20000 to 20350	20175	10MHz	QPSK,	Full RB
	19957 to 19393	19957, 20175, 19393	1.4MHz	QPSK, 16QAM	Full RB
	19965 to 22385	19965, 20175, 22385	3MHz	QPSK, 16QAM	Full RB
OCCUPIED BAND-	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	Full RB
WIDTH	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	Full RB
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	Full RB
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	Full RB
	19957 to 19393	19957, 20175, 19393	1.4MHz	16QAM	Full RB
	19965 to 22385	19965, 20175, 22385	3MHz	16QAM	Full RB
PEAK TO AVERAGE	19975 to 20375	19975, 20175, 20375	5MHz	16QAM	Full RB
RATIO	20000 to 20350	20000, 20175, 20350	10MHz	16QAM	Full RB
	20025 to 20325	20025, 20175, 20325	15MHz	16QAM	Full RB
	20050 to 20300	20050, 20175, 20300	20MHz	16QAM	Full RB
	19957 to 19393	19957, 19393	1.4MHz	QPSK,	1 RB/ 0,5 RB Offes Full RB
	19965 to 22385	19965, 22385	3MHz	QPSK,	1 RB/ 0,14 RB Offest Full RB
	19975 to 20375	19975, 20375	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB
BAND EDGE	20000 to 20350	20000, 20350	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB
	20025 to 20325	20025, 20325	15MHz	QPSK,	1 RB/ 0,74 RB Offest Full RB
	20050 to 20300	20050, 20300	20MHz	QPSK,	1 RB/ 0,99 RB Offest Full RB
	19957 to 19393	19957, 20175, 19393	1.4MHz	QPSK,	1 RB, 0 RB Offest
0.0110110755	19965 to 22385	19965, 20175, 22385	3MHz	QPSK,	1 RB, 0 RB Offest
CONDUCTED	19975 to 20375	19975, 20175, 20375	5MHz	QPSK,	1 RB, 0 RB Offest
EMISSION	20000 to 20350	20000, 20175, 20350	10MHz	QPSK,	1 RB, 0 RB Offest
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK,	1 RB, 0 RB Offest
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMISSION	20050 to 20300	20050, 20175, 20300	20MHz	QPSK,	1 RB, 0 RB Offest



LTE Band 5 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK, 16QAM	1 RB/ 0,5 RB Offest
בטט / בוטט	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM	1 RB/ 0,14 RB Offest
ERP / EIRP	20425 to 20625	20425, 20525, 20625	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK, 16QAM	1 RB/ 0,49 RB Offest
FREQUENCY STA- BILITY	20450 to 20600	20525	10MHz	QPSK,	Full RB
	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK, 16QAM	Full RB
OCCUPIED BAND-	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM	Full RB
WIDTH	20425 to 20625	20425, 20525, 20625	5MHz	QPSK, 16QAM	Full RB
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK, 16QAM	Full RB
	20470 to 20643	20470, 20525, 20643	1.4MHz	16QAM	Full RB
PEAK TO AVERAGE	20415 to 20635	20415, 20525, 20635	3MHz	16QAM	Full RB
RATIO	20425 to 20625	20425, 20525, 20625	5MHz	16QAM	Full RB
	20450 to 20600	20450, 20525, 20600	10MHz	16QAM	Full RB
	20470 to 20643	20470, 20643	1.4MHz	QPSK,	1 RB/ 0,5 RB Offes Full RB
	20415 to 20635	20415, 20635	3MHz	QPSK,	1 RB/ 0,14 RB Offest Full RB
BAND EDGE	20425 to 20625	20425, 20625	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB
	20450 to 20600	20450, 20600	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB
	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK,	1 RB, 0 RB Offest
CONDUCTED EMISSION	20415 to 20635	20415, 20525, 20635	3MHz	QPSK,	1 RB, 0 RB Offest
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK,	1 RB, 0 RB Offest
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMISSION	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	1 RB, 0 RB Offest



LTE Band 12 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM	1 RB/ 0,5 RB Offest
ERP / EIRP	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM	1 RB/ 0,14 RB Offest
ERP/EIRP	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	1 RB/ 0,49 RB Offest
FREQUENCY STABILITY	23060 to 23130	23095	10MHz	QPSK,	Full RB
	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM	Full RB
OCCUPIED	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM	Full RB
BANDWIDTH	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	Full RB
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	Full RB
	23017 to 23173	23017, 23095, 23173	1.4MHz	16QAM	Full RB
PEAK TO AV-	23025 to 23165	23025, 23095, 23165	3MHz	16QAM	Full RB
ERAGE RATIO	23035 to 23155	23035, 23095, 23155	5MHz	16QAM	Full RB
	23060 to 23130	23060, 23095, 23130	10MHz	16QAM	Full RB
	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK,	1 RB/ 0,5 RB Offes Full RB
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK,	1 RB/ 0,14 RB Offest Full RB
BAND EDGE	23035 to 23155	23035, 23095, 23155	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB
	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK,	1 RB, 0 RB Offest
CONDUCTED	23025 to 23165	23025, 23095, 23165	3MHz	QPSK,	1 RB, 0 RB Offest
EMISSION	23035 to 23155	23035, 23095, 23155	5MHz	QPSK,	1 RB, 0 RB Offest
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMISSION	23025 to 23165	23025, 23095, 23165	3MHz	QPSK	1 RB, 0 RB Offest

LTE Band 13 MODE

ETE Build for						
TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE	
ERP / EIRP	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest	
ERF / EIRF	23230	23230	10MHz	QPSK, 16QAM	1 RB/ 0,49 RB Offest	
FREQUENCY STABILITY	23230	23230	10MHz	QPSK,	Full RB	
OCCUPIED	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM	Full RB	
BANDWIDTH	23230	23230	10MHz	QPSK, 16QAM	Full RB	
PEAK TO AVER-	23205 to 23255	23205, 23230, 23255	5MHz	16QAM	Full RB	
AGE RATIO	23230	23230	10MHz	16QAM	Full RB	
BAND EDGE	23205 to 23255	23205, 23255	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB	
DAIND EDGE	23230	23230	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB	
CONDUCTED	23205 to 23255	23205, 23230, 23255	5MHz	QPSK,	1 RB, 0 RB Offest	
EMISSION	23230	23230	10MHz	QPSK,	1 RB, 0 RB Offest	
RADIATED EMISSION	23230	23230	10MHz	QPSK	1 RB/ 0 RB Offest	

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5. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
RF Power Output	+/- 1.10 dB
ERP/ EIRP measurement	Vertical Polarization = +/- 4.74dB Horizontal Polarization =+/- 4.62dB
99% Occupied Bandwidth	+/- 5.19 Hz
Out of Band Emissions at Antenna Terminals and Band Edge	+/- 0.70 dB
Peak to Average Ratio	+/- 0.70 dB
Frequency Stability vs. Temperature	+/- 5.19 Hz
Frequency Stability vs. Voltage	+/- 5.19 Hz
Temperature	+/- 0.65 °C
Humidity	+/- 4.6 %
DC / AC Power Source	DC= +/- 0.13%, AC=+/- 0.2%

Radiated Spurious Emission:

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

	9kHz – 30MHz: +/- 2.87 dB				
Maggurament ungerteint	30MHz - 167MHz: +/- 4.22dB				
Measurement uncertainty (Polarization : Horizontal)	167MHz -500MHz: +/- 3.44dB				
(i olalization : horizontal)	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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6. MAXMUM OUTPUT POWER

6.1. Standard Applicable

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals.

ERP/EIRP LIMIT

According to FCC §2.1046

FCC 22.913(a) Mobile station is limited to 7W ERP.

FCC 24.232(b) Mobile and portable stations are limited to 2 W EIRP.

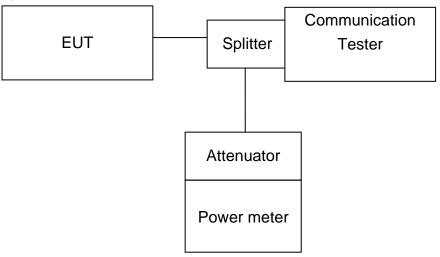
FCC 27.50(a)(3) Mobile and portable stations (hand-held devices) are limited to 250 mW/ 5MHz EIRP.

FCC 27.50(c)(10) Portable stations (hand-held devices) are limited to 3 watts ERP.

FCC 27.50(d)(4) Fixed, mobile, and portable (hand-held) stations are limited to 1W EIRP.

FCC 27, 50(h)(2) Mobile and other user stations. Mobile stations are limited to 2 W EIRP

6.2. Test Set-up



Note: Measurement setup for testing on Antenna connector.

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6.3. Measurement Procedure

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power meter in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the power meter reading. TS 151 010-1 is reference to conduct the test measurement of output power.

The Procedure of KDB941225 (SAR Measurement Procedures for 3G devices, (WCD-

MA/HSPA) was used for EUT and Base station setting. RMC 12.2kps is used for this testing, and KDB 971168 D01 Power Meas License Digital System as the supplemental test methodology to adjust the proper setting obtaining the measurement results

All LTE bands conducted average power is obtained from the simulator telecommunication test set.

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP.

TEST PROCEDURE:

ANSI C63.26:2015 KDB 971168 Section 5.6

ERP/EIRP = PMeas + GT-LC

where: ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);

PMeas = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.2 For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

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6.4. Measurement Equipment Used

Conduc	ted Emission	n (measured at a	antenna port)	Test Site	
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/17/2018	01/16/2019
DC Power Supply	Agilent	E3640A	KR93300208	08/15/2018	08/14/2019
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2018	01/01/2019
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2018	01/01/2019
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412- 018	01/02/2018	01/01/2019
Coaxial Cables	N/A	WK CE Cable	N/A	01/02/2018	01/01/2019

6.5. Measurement Result

RF Conducted Output Power

WCDMA MODE:

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The EUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7). RMC 12.2kps is used for this testing.

Results:

WCDMA/HSUPA/HSDPA Band II Result:

EUT Mode	Freq. (MHz)	СН	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
	1852.4	9262	22.34	0.50	22.84	33.00	-10.16
WCDMA	1880.0	9400	22.24	0.50	22.74	33.00	-10.26
	1907.6	9538	22.28	0.50	22.78	33.00	-10.22
	1852.4	9262	21.92	0.50	22.42	33.00	-10.58
HSDPA	1880.0	9400	22.01	0.50	22.51	33.00	-10.49
	1907.6	9538	22.23	0.50	22.73	33.00	-10.27
	1852.4	9262	21.33	0.50	21.83	33.00	-11.17
HSUPA	1880.0	9400	21.36	0.50	21.86	33.00	-11.14
	1907.6	9538	21.94	0.50	22.44	33.00	-10.56

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WCDMA/HSUPA/HSDPA Band V Result:

EUT Mode	Freq. (MHz)	СН	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
	826.4	4132	21.87	-2.00	19.87	38.50	-18.63
WCDMA	836.6	4183	21.79	-2.00	19.79	38.50	-18.71
	846.6	4233	21.80	-2.00	19.80	38.50	-18.70
	826.4	4132	20.80	-2.00	18.80	38.50	-19.70
HSDPA	836.6	4183	20.78	-2.00	18.78	38.50	-19.72
	846.6	4233	20.73	-2.00	18.73	38.50	-19.77
	826.4	4132	20.77	-2.00	18.77	38.50	-19.73
HSUPA	836.6	4183	20.91	-2.00	18.91	38.50	-19.59
	846.6	4233	20.69	-2.00	18.69	38.50	-19.81



HSDPA Release 6 MODE:

The following 4 Sub-Tests were completed according to the test requirements outlined in section 5.2A of the 3GPP TS34.121-1 specification. All TX RMS power requirements for Power Class 3 were met according to table 5.2AA.5 and 5.2B.5 All UE channels and power ratio's are set according to table C10.1.4 & C11.1.3 in the 3GPP TS34.121-1 V8.4.0. RMC 12.2kps is used for this testing.

HSDPA SUB-TEST Setting

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH(FOR HSDPA)

Sub-test	βc	βd	β _d (SF)	βc/βd	βнs (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)	RMC (Kbps)
1	2/15	15/15	64	2/15	4/15	0.0	0.0	12.2
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0	12.2
3	15/15	8/15	64	15/8	30/15	1.5	0.5	12.2
4	15/15	4/15	64	15/4	30/15	1.5	0.5	12.2

Note: The recommended HSDPA MPRs are implemented as per following sub-tests.

Results:

Mode	Sub test	Avg. Power (dBm) Channel					
	1031	9262.00	9400.00	9538.00			
	1	21.92	22.01	22.23			
HSDPA II	2	21.53	21.45	21.61			
II III III	3	21.53	21.47	21.65			
	4	21.52	21.47	21.64			

Mode	Sub test	Avg. Power (dBm) Channel					
	เธรเ	4132.00	4183.00	4233.00			
	1	20.80	20.78	20.73			
HSDPA V	2	20.77	20.68	20.76			
ILI NULLE	3	20.36	20.29	20.26			
	4	20.33	20.20	20.27			

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HSPA (HSDPA & HSUPA) Release 6 MODE

The following 5 Sub-Tests were completed according to the test requirements outlined in section 5.2A of the 3GPP TS34.121-1 specification. All TX RMS power requirements for Power Class 3 were met according to table 5.2AA.5 and 5.2B.5 All UE channels and power ratio's are set according to table C11.1.3 in the 3GPP TS34.121-1. RMC 12.2kps is used for this testing

HSPA SUB-TEST Setting

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH(FOR HSUPA)

Sub- test	βc	βa	β _d (SF)	βс∕βа	βнs	ßec	βed	β _{ed} (SF)	β _{ed} (Code s)	CM (dB)	MPR (dB)	AG Index	E-TFCI	RMC (Kbps)
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/22 5	1309/225	4	1	1.0	0.0	20	75	12.2
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67	12.2
3	15/15	9/15	64	15/9	30/15	30/15	β _{ed} 1: 47/15 β _{ed} 2: 47/15	4 4	2	2.0	1.0	15	92	12.2
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71	12.2
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81	12.2

Note: The recommended HSUPA MPRs are implemented as per following sub-tests.

Results:

		Av	g. Power (dB	m)					
Mode	Sub test		Channel						
	1031	9262.00	9400.00	9538.00					
	1	21.33	21.36	21.94					
	2	20.44	20.48	20.76					
HSUPA II	3	20.48	20.64	20.75					
	4	20.79	20.93	21.15					
	5	22.00	22.00	22.10					
		Avg. Power (dBm)							
Mode	Sub	Channel							
	test		onariner						
Mode	test	4132.00	4183.00	4233.00					
	test 1	4132.00 20.77		4233.00 20.69					
			4183.00						
HSUPA V	1	20.77	4183.00 20.91	20.69					
	1	20.77 20.34	4183.00 20.91 20.23	20.69 20.25					

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WCDMA/HSDPA/HSUPA band II, V

The EUT output power was controlled by simulator. Set Communication Tester MT8820C function key "UE Power Control" and enter max rated power 24dBm. The EUT is going to be set to max output power to 24dBm. Then record the read (see page 15 for measurement data). The min. power was measures by a function key "minimum power" then record the read. It is -52.3dBm. The power variation can be 0.1dB step by setting.

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LTE Result:

Antenna gain (dBi)

0.5

		LTE B	and 2_Uplin	c frequ	ency band : 18	350 to 1910 MH	Z	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)
				1	0	22.61	23.11	33
	18607	1850.7	QPSK	1	5	22.58	23.08	33
	10007	1800.7	QPSK	3	2	22.68	23.18	33
				6	0	21.72	22.22	33
			QPSK	1	0	22.76	23.26	33
	18900	1880		1	5	22.79	23.29	33
	10900	1000		3	2	22.78	23.28	33
				6	0	21.75	22.25	33
			1	0	22.74	23.24	33	
	19193	1909.3	QPSK 1 3 6	1	5	22.73	23.23	33
	19193			3	2	22.95	23.45	33
1.4				0	21.91	22.41	33	
1.4				1	0	21.88	22.38	33
	18607	1850.7	16QAM	1	5	21.59	22.09	33
	10007	1030.7	16QAM	3	2	21.86	22.36	33
				6	0	20.76	21.26	33
				1	0	21.58	22.08	33
	18900	1880	16QAM	1	5	21.28	21.78	33
	10700	1000	TOQAM	3	2	21.66	22.16	33
				6	0	20.36	20.86	33
				1	0	21.94	22.44	33
	19193	1909.3	16QAM	1	5	22.14	22.64	33
	17175	1707.3	TOUAIVI	3	2	22.11	22.61	33
				6	0	20.58	21.08	33

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Antenna	gain (dBi)	0.5						
		LTE B	and 2_Uplinl	k freque	ency band : 18	350 to 1910 MH	lz	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)
				1	0	22.59	23.09	33
	18615	1851.5	QPSK	1	14	22.48	22.98	33
	10010		UP3K	8	4	21.74	22.24	33
				15	0	21.71	22.21	33
			QPSK	1	0	22.70	23.20	33
	18900	1880		1	14	22.77	23.27	33
				8	4	21.78	22.28	33
				15	0	21.75	22.25	33
			QPSK	1	0	22.78	23.28	33
	19185	1908.5		1	14	23.14	23.64	33
	17105			8	4	21.96	22.46	33
3				15	0	21.93	22.43	33
5				1	0	21.80	22.30	33
	18615	1851.5	16QAM	1	14	21.86	22.36	33
	10013	1001.0	1002/101	8	4	20.56	21.06	33
				15	0	20.50	21.00	33
				1	0	21.59	22.09	33
	18900	1880	16QAM	1	14	21.55	22.05	33
	10700	1000	1002/101	8	4	20.82	21.32	33
				15	0	20.65	21.15	33
				1	0	21.73	22.23	33
	19185	1908.5	16QAM	1	14	21.80	22.30	33
	17100	1700.0		8	4	20.90	21.40	33
				15	0	21.02	21.52	33



Antenna	gain (dBi)	0.5						
		LTE B	and 2_Uplinl	k frequ	ency band : 18	850 to 1910 MH	z	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)
				1	0	22.76	23.26	33
	18625	1852.5	QPSK	1	24	22.84	23.34	33
	10020	1002.0	ULDV	12	6	21.79	22.29	33
				25	0	21.82	22.32	33
				1	0	22.79	23.29	33
	18900	1880	QPSK	1	24	22.85	23.35	33
	10900	1000	UFSK	12	6	21.84	22.34	33
				25	0	21.81	22.31	33
	19175	1907.5	QPSK	1	0	23.03	23.53	33
				1	24	23.07	23.57	33
				12	6	21.95	22.45	33
5				25	0	21.89	22.39	33
0		1852.5	16QAM	1	0	21.74	22.24	33
	18625			1	24	21.69	22.19	33
	10020			12	6	20.71	21.21	33
				25	0	20.79	21.29	33
				1	0	21.59	22.09	33
	18900	1880	16QAM	1	24	21.62	22.12	33
	10700	1000	1002/111	12	6	20.78	21.28	33
				25	0	20.88	21.38	33
				1	0	22.25	22.75	33
	19175	1907.5	16QAM	1	24	21.73	22.23	33
	17170	1707.0		12	6	20.76	21.26	33
				25	0	20.98	21.48	33



Antenna	gain (dBi)	0.5						
		LTE B	and 2_Uplinl	k frequ	ency band : 18	850 to 1910 MH	z	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)
				1	0	22.64	23.14	33
	18650	1855	QPSK	1	49	22.62	23.12	33
	10000	1000	ULDV	25	12	21.84	22.34	33
				50	0	21.81	22.31	33
				1	0	22.85	23.35	33
	18900	1880	QPSK	1	49	22.91	23.41	33
	10900	1000	QF3K	25	12	21.89	22.39	33
				50	0	21.86	22.36	33
	19150	1905	QPSK	1	0	22.85	23.35	33
				1	49	23.16	23.66	33
				25	12	22.08	22.58	33
10				50	0	22.09	22.59	33
10		1855	16QAM	1	0	21.87	22.37	33
	18650			1	49	21.85	22.35	33
	10000			25	12	20.90	21.40	33
				50	0	20.73	21.23	33
				1	0	21.68	22.18	33
	18900	1880	16QAM	1	49	21.68	22.18	33
	10700	1000	1002/101	25	12	20.80	21.30	33
				50	0	20.76	21.26	33
		1905		1	0	21.82	22.32	33
	19150		16QAM	1	49	21.82	22.32	33
	1,100	1,00	10 27 1111	25	12	21.18	21.68	33
				50	0	20.97	21.47	33



Antenna	gain (dBi)	0.5						
		LTE B	and 2_Uplinl	k freque	ency band : 18	850 to 1910 MH	z	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)
				1	0	22.76	23.26	33
	18675	1857.5	QPSK	1	74	22.61	23.11	33
	10075	1007.0	UFJK	36	18	21.76	22.26	33
				75	0	21.79	22.29	33
				1	0	22.82	23.32	33
	18900	1880	QPSK	1	74	22.71	23.21	33
	18900	1880	QPSK	36	18	21.83	22.33	33
				75	0	21.85	22.35	33
	19125	1902.5	QPSK	1	0	22.93	23.43	33
				1	74	22.94	23.44	33
				36	18	21.90	22.40	33
15				75	0	22.01	22.51	33
15		1857.5	16QAM	1	0	21.88	22.38	33
	18675			1	74	21.59	22.09	33
	10075			36	18	20.73	21.23	33
				75	0	20.73	21.23	33
				1	0	21.81	22.31	33
	18900	1880	16QAM	1	74	22.02	22.52	33
	10700	1000	1002/101	36	18	20.76	21.26	33
				75	0	20.75	21.25	33
				1	0	22.19	22.69	33
	19125	1902.5	16QAM	1	74	22.18	22.68	33
	17125	1702.0		36	18	20.69	21.19	33
				75	0	20.80	21.30	33



Antenna	gain (dBi)	0.5											
	LTE Band 2_Uplink frequency band : 1850 to 1910 MHz												
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)					
				1	0	23.02	23.52	33					
	18700	1860	QPSK	1	99	22.70	23.20	33					
	10700	1000	UFJK	50	25	21.86	22.36	33					
				100	0	22.05	22.55	33					
				1	0	23.06	23.56	33					
	18900	1880	QPSK	1	99	22.94	23.44	33					
	10900	1000	UF 3K	50	25	22.07	22.57	33					
				100	0	22.11	22.61	33					
	19100	1900	QPSK	1	0	22.98	23.48	33					
				1	99	23.05	23.55	33					
				50	25	22.12	22.62	33					
20				100	0	22.18	22.68	33					
20		1860	16QAM	1	0	22.11	22.61	33					
	18700			1	99	22.26	22.76	33					
	10700			50	25	20.87	21.37	33					
				100	0	20.98	21.48	33					
				1	0	21.77	22.27	33					
	18900	1880	16QAM	1	99	21.70	22.20	33					
	10,00	1000	10 21 111	50	25	21.03	21.53	33					
				100	0	20.99	21.49	33					
		1900		1	0	22.15	22.65	33					
	19100		16QAM	1	99	22.01	22.51	33					
	1,100	1,00	10 27 1111	50	25	21.11	21.61	33					
				100	0	21.21	21.71	33					



Antenna gain (dBi)

	gain (ubi)	LTE	Band 4_Uplir	nk freq	uency band : 17	710 to 1755 MH	lz	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)
				1	0	23.02	24.02	30
	19957	1710.7	QPSK	1	5	23.00	24.00	30
	19907	1710.7	ULDV	3	2	23.07	24.07	30
				6	0	22.03	23.03	30
				1	0	23.00	24.00	30
	20175	1732.5	QPSK	1	5	22.99	23.99	30
	20175	1752.5	QPSK	3	2	23.08	24.08	30
				6	0	22.05	23.05	30
	20393	1754.3	QPSK	1	0	23.03	24.03	30
				1	5	23.06	24.06	30
				3	2	23.12	24.12	30
1.4				6	0	22.16	23.16	30
1.4		1710.7	16QAM	1	0	22.32	23.32	30
	19957			1	5	22.25	23.25	30
	17757			3	2	22.04	23.04	30
				6	0	21.07	22.07	30
				1	0	22.16	23.16	30
	20175	1732.5	16QAM	1	5	22.61	23.61	30
	20175	1752.5		3	2	22.17	23.17	30
				6	0	20.92	21.92	30
				1	0	22.32	23.32	30
	20393	1754.3	16QAM	1	5	22.61	23.61	30
	20393		TUCAIN	3	2	22.13	23.13	30
				6	0	20.98	21.98	30



Antenna gain (dBi)

/ intornia	LTE Band 4_Uplink frequency band : 1710 to 1755 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)				
				1	0	23.18	24.18	30				
	19965	1711.5	QPSK	1	14	22.97	23.97	30				
	19900	1711.5	ULDV	8	4	21.93	22.93	30				
				15	0	21.93	22.93	30				
				1	0	23.02	24.02	30				
	20175	1732.5	QPSK	1	14	23.15	24.15	30				
	20175	1752.5	ULDV	8	4	21.93	22.93	30				
				15	0	21.95	22.95	30				
	20385	1753.5	QPSK	1	0	23.08	24.08	30				
				1	14	23.23	24.23	30				
				8	4	22.06	23.06	30				
3				15	0	22.08	23.08	30				
5	19965	1711.5	16QAM	1	0	22.11	23.11	30				
				1	14	21.93	22.93	30				
	17703			8	4	20.86	21.86	30				
				15	0	20.87	21.87	30				
				1	0	22.43	23.43	30				
	20175	1732.5	16QAM	1	14	22.25	23.25	30				
	20175	1752.5	TOQAIN	8	4	21.08	22.08	30				
				15	0	21.10	22.10	30				
				1	0	22.27	23.27	30				
	20385	1753.5	16QAM	1	14	22.29	23.29	30				
	20385		TUUAIVI	8	4	21.20	22.20	30				
				15	0	21.13	22.13	30				



Antenna gain (dBi)

	LTE Band 4_Uplink frequency band : 1710 to 1755 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)				
				1	0	23.19	24.19	30				
	19975	1712.5	QPSK	1	24	23.09	24.09	30				
	177/5	1712.0	UF SK	12	6	21.87	22.87	30				
				25	0	21.92	22.92	30				
				1	0	23.23	24.23	30				
	20175	1732.5	QPSK	1	24	23.17	24.17	30				
	20175	1752.5	ULDV	12	6	21.98	22.98	30				
				25	0	22.05	23.05	30				
	20375	1752.5	QPSK	1	0	23.23	24.23	30				
				1	24	23.29	24.29	30				
				12	6	22.03	23.03	30				
5				25	0	22.09	23.09	30				
5		1712.5	16QAM	1	0	22.28	23.28	30				
	19975			1	24	22.27	23.27	30				
	177/3			12	6	20.92	21.92	30				
				25	0	20.83	21.83	30				
				1	0	22.49	23.49	30				
	20175	1732.5	16QAM	1	24	22.59	23.59	30				
	20175	1752.5	TOQAIN	12	6	20.93	21.93	30				
				25	0	21.04	22.04	30				
				1	0	22.21	23.21	30				
	20375	1752.5	16QAM	1	24	22.00	23.00	30				
	20375			12	6	21.08	22.08	30				
				25	0	21.10	22.10	30				

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Antenna gain (dBi)

	LTE Band 4_Uplink frequency band : 1710 to 1755 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)			
				1	0	23.19	24.19	30			
	20000	1715	QPSK	1	49	22.85	23.85	30			
	20000	1715	ULDV	25	12	22.01	23.01	30			
				50	0	22.06	23.06	30			
				1	0	23.07	24.07	30			
	20175	1732.5	QPSK	1	49	22.99	23.99	30			
	20175	1752.5	QPSK	25	12	22.02	23.02	30			
				50	0	22.06	23.06	30			
	20375	1750	QPSK	1	0	23.21	24.21	30			
				1	49	23.26	24.26	30			
				25	12	22.02	23.02	30			
10				50	0	22.06	23.06	30			
10	20000	1715	16QAM	1	0	22.42	23.42	30			
				1	49	22.18	23.18	30			
	20000			25	12	20.94	21.94	30			
				50	0	21.02	22.02	30			
				1	0	22.29	23.29	30			
	20175	1732.5	16QAM	1	49	22.05	23.05	30			
	20175	1752.5		25	12	20.80	21.80	30			
				50	0	20.99	21.99	30			
		1750		1	0	22.31	23.31	30			
	20375		16QAM	1	49	22.29	23.29	30			
	20375			25	12	21.31	22.31	30			
				50	0	21.11	22.11	30			



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Antenna gain (dBi)

	guin (ubi)	LTE	Band 4_Uplir	nk freq	uency band : 17	710 to 1755 MH	lz	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)
				1	0	23.25	24.25	30
	20025	1717.5	QPSK	1	74	22.79	23.79	30
	20025	1717.5	UF SK	36	18	21.95	22.95	30
				75	0	22.02	23.02	30
				1	0	23.27	24.27	30
	20175	1732.5	QPSK	1	74	22.90	23.90	30
	20175	1752.5	QI SK	36	18	22.06	23.06	30
				75	0	22.03	23.03	30
	20325			1	0	23.22	24.22	30
	20325	1747.5	QPSK	1	74	23.16	24.16	30
	20323	1747.5	QUUIK	36	18	21.91	22.91	30
15				75	0	21.90	22.90	30
15				1	0	22.28	23.28	30
	20025	1717.5	16QAM	1	74	21.73	22.73	30
	20020	1717.5	100/101	36	18	20.90	21.90	30
				75	0	20.80	21.80	30
				1	0	22.58	23.58	30
	20175	1732.5	16QAM	1	74	22.36	23.36	30
	20175	1702.0	1002/101	36	18	20.99	21.99	30
				75	0	20.97	21.97	30
				1	0	22.64	23.64	30
	20325	1747.5	16QAM	1	74	22.61	23.61	30
	20020	1777.5		36	18	20.95	21.95	30
				75	0	20.83	21.83	30

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Antenna gain (dBi)

	gain (abi)	LTE	Band 4_Uplir	nk freq	uency band : 17	710 to 1755 MH	lz	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)
				1	0	23.41	24.41	30
	20050	1720	QPSK	1	99	23.04	24.04	30
	20030	1720	UF SK	50	25	22.06	23.06	30
				100	0	22.05	23.05	30
				1	0	23.25	24.25	30
	20175	1732.5	QPSK	1	99	22.84	23.84	30
-	20175	1752.5	UF SK	50	25	22.14	23.14	30
				100	0	22.14	(dBm) 24.41 24.04 23.06 23.05 24.25 23.84	30
	20300			1	0	23.37	24.37	30
	20200	1745	QPSK	1	99	23.21	24.21	30
	20300	1745	UF SK	50	25	22.00	23.00	30
20				100	0	22.05	23.05	30
20				1	0	22.89	23.89	30
	20050	1720	16QAM	1	99	21.76	22.76	30
	20030	1720		50	25	21.02	22.02	30
				100	0	21.02	22.02	30
				1	0	22.28	23.28	30
	20175	1732.5	16QAM	1	99	22.18	23.18	30
	20175	1752.5	TOQAIN	50	25	21.18	22.18	30
				100	0	21.18	22.18	30
				1	0	22.83	23.83	30
	20300	1745	16QAM	1	99	22.52	23.52	30
	20300	1743		50	25	21.05	22.05	30
				100	0	20.98	21.98	30



Antenna gain (dBi) -2									
LTE Ban	d 5_Uplink	frequency ba	and : 824 to 8	849 MH	Z				
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	
				1	0	23.06	21.06	38.45	
	20407	824.7	QPSK	1	5	23.03	21.03	38.45	
	20407	024.7	QLOK	3	2	23.31	21.31	38.45	
				6	0	22.20	20.20	38.45	
				1	0	23.38	21.38	38.45	
	20525	836.5	QPSK	1	5	23.49	21.49	38.45	
	20525	030.0	UF SK	3	2	23.54	21.54	38.45	
				6	0	22.41	20.41	38.45	
				1	0	23.22	21.22	38.45	
	20643	848.3	QPSK	1	5	23.14	21.14	38.45	
	20043	040.5	UF SK	3	2	23.29	21.29	38.45	
1.4				6	0	22.24	20.24	Limit (dBm) 38.45 38.45 38.45 38.45 38.45 38.45 38.45 38.45 38.45 38.45 38.45 38.45	
1.4				6 0 22. 1 0 23. 1 5 23. 3 2 23. 6 0 22. 1 0 22. 1 5 23. 6 0 22. 1 0 22. 1 5 22. 3 2 22.	22.37	20.37	38.45		
	20407	824.7	16QAM	1	5	22.37	20.37	38.45	
	20407	024.7		3	2	22.41	20.41	38.45	
				6	0	21.26	19.26	38.45	
				1	0	22.61	20.61	38.45	
	20525	836.5	16QAM	1	5	22.60	20.60	38.45	
	20323	030.3		3	2	22.56	20.56	38.45	
				6	0	21.24	19.24	38.45	
				1	0	22.44	20.44	38.45	
	20643	848.3	16QAM	1	5	21.98	19.98	38.45	
	20043	040.3		3	2	22.26	20.26	38.45	
				6	0	21.19	19.19	38.45	



Antenna gain (dBi)

	d 5_Uplink	frequency ba	and : 824 to 8	49 MH	2			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)
				1	0	23.29	21.29	38.45
	20415	825.5	QPSK	1	14	23.31	21.31	38.45
	20415	020.0	UF SK	8	4	22.28	20.28	38.45
				15	0	22.22	20.22	38.45
				1	0	23.49	21.49	38.45
	20525	836.5	QPSK	1	14	23.46	21.46	38.45
		030.0	UF SK	8	4	22.41	20.41	38.45
				15	0	22.22	20.22	38.45
				1	0	23.24	21.24	38.45
	20635	847.5	QPSK	1	14	23.28	21.28	38.45
	20035	047.5	UF SK	8	4	22.33	20.33	38.45
3				15	0	22.11	20.11	38.45 38.45 38.45 38.45 38.45 38.45 38.45 38.45 38.45 38.45
5				20.06	38.45			
	20415	825.5	16QAM	1	14	22.03	20.03	38.45
	20413	023.3		8	4	21.36	19.36	38.45
				15	0	21.49	19.49	38.45
				1	0	22.72	20.72	38.45
	20525	836.5	16QAM	1	14	22.54	20.54	38.45
	20323	030.5	TOQAM	8	4	21.35	19.35	38.45
				15	0	21.34	19.34	38.45
				1	0	21.95	19.95	38.45
	20635	847.5	16QAM	1	14	21.91	19.91	38.45
	20033	047.3		8	4	21.48	19.48	2838.453338.451138.450638.450338.453638.454938.455438.453538.453438.459538.459138.45
				15	0	21.38	19.38	38.45



Antenna gain (dBi)

LTE Ban	LTE Band 5_Uplink frequency band : 824 to 849 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)				
				1	0	23.24	21.24	38.45				
	20425	826.5	QPSK	1	24	23.48	21.48	38.45				
	20425	020.0	UF JK	12	6	22.27	20.27	38.45				
				25	0	22.25	20.25	38.45				
				1	0	23.53	21.53	38.45				
	20525	836.5	QPSK	1	24	23.43	21.43	38.45				
	20020	030.0	UF JK	12	6	22.33	20.33	38.45				
				25	0	22.36	20.36	38.45				
				1	0	23.49	21.49	38.45				
	20625	846.5	QPSK	1	24	23.47	21.47	38.45				
	20025	040.5		12	6	22.20	20.20	38.45				
5				25	0	22.23	20.23	38.45 38.45 38.45 38.45 38.45 38.45 38.45 38.45				
5				1	0	22.46	20.46	38.45				
	20425	826.5	16QAM	1	24	22.22	20.22	38.45				
	20423	020.5	TOQAM	12	6	21.35	19.35	38.45				
				25	0	21.45	19.45	38.45				
				1	0	22.07	20.07	38.45				
	20525	836.5	16QAM	1	24	21.88	19.88	38.45				
	20323	030.5	TOQAM	12	6	21.38	19.38	38.45				
				25	0	21.43	19.43	38.45				
				1	0	22.15	20.15	38.45				
	20625	846.5	16OAM	1	24	22.24	20.24	38.45 38.45 38.45 38.45 38.45 38.45 38.45 38.45 38.45 38.45				
	20025	0-0-0	1 24 22.24 20.24	19.24	38.45							
				25	0	21.51	19.51	38.45				

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Antenna gain (dBi)

	d 5_Uplink	frequency ba	and : 824 to 8	49 MH	2			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)
				1	0	23.16	21.16	38.45
	20450	829	QPSK	1	49	23.33	21.33	38.45
	20430	027	UF SK	25	12	22.33	20.33	38.45
				50	0	22.29	20.29	38.45
				1	0	23.33	21.33	38.45
	20525	836.5	QPSK	1	49	23.09	21.09	38.45
		030.0	UF SK	25	12	22.33	20.33	38.45
				50	0	22.37	20.37	38.45
				1	0	23.28	21.28	38.45
	20600	844	QPSK	1	49	23.17	21.17	38.45
	20000	044	QLOK	25	12	22.33	20.33	38.45
10				50	0	22.27	20.27	38.45
10				1	0	22.32	20.32	38.45
	20450	829	16QAM	1	49	22.34	20.34	38.45
	20430	027	TOQAM	25	12	21.28	19.28	38.45
				50	0	21.30	19.30	38.45
				1	0	22.37	20.37	38.45
	20525	836.5	16QAM	1	49	22.22	20.22	38.45
	20323	030.5	TOQAM	25	12	21.39	19.39	38.45
				50	0	21.38	19.38	38.45
				1	0	22.42	20.42	38.45
	20600	844 160	16QAM	1	49	22.19	20.19	38.45
	20000	770		25	12	21.39	19.39	38.45
				50	0	21.30	19.30	38.45

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Antenna gain (dBi)

	d 12_Uplink	k frequency k	oand : 699 to	716 Mł	lz			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)
				1	0	23.30	20.30	34.77
	23017	699.7	QPSK	1	5	23.14	20.14	34.77
	23017	077.7	UF JK	3	2	23.44	20.44	34.77
				6	0	22.40	19.40	34.77
				1	0	23.29	20.29	34.77
	23095	707.5	QPSK	1	5	23.26	20.26	34.77
	23095	707.5	UF JK	3	2	23.39	20.39	34.77
				6	0	22.33	19.33	34.77
				1	0	23.10	20.10	34.77
	23173	715.5	QPSK	1	5	23.09	20.09	34.77
	23173	715.5	UFJK	3	2	23.33	20.33	34.77
1.4				6	0	22.47	19.47	Limit (dBm) 34.77 34.77 34.77 34.77 34.77 34.77 34.77 34.77 34.77 34.77 34.77
1.4				1	0	21.86	18.86	34.77
	23017	699.7	16QAM	1	5	22.16	19.16	34.77
	23017	077.7	TOQAM	3	2	22.45	19.45	34.77
				6	0	21.20	18.20	34.77
				1	0	21.69	18.69	34.77
	23095	707.5	16QAM	1	5	22.26	19.26	34.77
	23073	707.5	TOQAM	3	2	22.46	19.46	34.77
				6	0	21.11	18.11	34.77
				1	0	22.29	19.29	34.77
	23173	715.5	16QAM	1	5	22.26	19.26	34.77
	23173	710.0	TUCAIN	3	2	22.47	19.47	34.77 34.77
				6	0	21.18	18.18	34.77



Antenna gain (dBi)

LTE Ban	LTE Band 12_Uplink frequency band : 699 to 716 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)				
				1	0	23.45	20.45	34.77				
	23025	700.5	QPSK	1	14	23.26	20.26	34.77				
	23025	700.5	UF SK	8	4	22.43	19.43	34.77				
				15	0	22.42	19.42	34.77				
				1	0	23.45	20.45	34.77				
	23095	707.5	QPSK	1	14	23.34	20.34	34.77				
	23093 707	707.5	UFJK	8	4	22.20	19.20	34.77				
-				15	0	22.30	19.30	34.77				
				1	0	23.44	20.44	34.77				
	23165	714.5	QPSK	1	14	23.43	20.43	34.77				
	23103	/14.0	UFJK	8	4	22.23	19.23	34.77				
3				15	0	22.33	19.33	34.77				
3				1	0	22.39 19.39	34.77					
	23025	700.5	16QAM	1	14	22.12	19.12	34.77				
	23025	700.5	TUQAM	8	4	21.18	18.18	34.77				
				15	0	21.23	18.23	34.77				
				1	0	22.23	19.23	34.77				
	23095	707.5	16QAM	1	14	21.85	18.85	34.77				
	23093	707.5	TUQAM	8	4	21.34	18.34	34.77				
				15	0	21.45	18.45	34.77				
				1	0	21.99	18.99	34.77				
	22165	714.5	160414	1	14	21.94	18.94	34.77				
	23165	/ 14.0	16QAM	8	4	21.26	18.26	34.77				
				15	0	21.23	18.23	34.77				

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Antenna gain (dBi)

LTE Band 12_Uplink frequency band : 699 to 716 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)			
				1	0	23.41	20.41	34.77			
	23035	701.5	QPSK	1	24	23.45	20.45	34.77			
	23030	701.5	UPSK	12	6	22.34	19.34	34.77			
				25	0	22.32	19.32	34.77			
				1	0	23.39	20.39	34.77			
	23095	707.5	QPSK	1	24	23.19	20.19	34.77			
	23095	707.5	UPSK	12	6	22.25	19.25	34.77			
				25	0	22.29	19.29	34.77			
				1	0	23.38	20.38	34.77			
	23155	713.5	QPSK	1	24	23.23	20.23	34.77			
	23100	715.5	UFJK	12	6	22.30	19.30	34.77			
5				25	0	22.24	19.24	Limit (dBm) 34.77 34.77 34.77 34.77 34.77 34.77 34.77 34.77 34.77 34.77			
5				1	0	21.74		34.77			
	23035	701.5	16QAM	1	24	21.80	18.80	34.77			
	20000	701.5	TUQAM	12	6	21.42	18.42	34.77			
				25	0	21.35	18.35	34.77			
				1	0	22.36	19.36	34.77			
	23095	707.5	16QAM	1	24	22.49	19.49	34.77			
	23075	707.5	TOQAM	12	6	21.40	18.40	34.77			
				25	0	21.20	18.20	34.77			
				1	0	22.34	19.34	34.77			
	23155	713.5	16QAM	1	24	22.16	19.16	34.77			
	23133	110.0		12	6	21.18	18.4034.7718.2034.7719.3434.7719.1634.7718.1834.77	34.77			
				25	0	21.27	18.27	34.77			



Antenna gain (dBi)

LTE Band 12_Uplink frequency band : 699 to 716 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)			
				1	0	23.39	20.39	34.77			
	23060	704	QPSK	1	49	23.26	20.26	34.77			
	23000	704	UF JK	25	12	22.29	19.29	34.77			
				50	0	22.31	19.31	34.77			
				1	0	23.16	20.16	34.77			
	23095	707.5	QPSK	1	49	23.21	20.21	34.77			
	23093	707.5	UF JK	25	12	22.26	19.26	34.77			
				50	0	22.28	19.28	34.77			
				1	0	23.37	20.37	34.77			
	23130	711	QPSK	1	49	23.44	20.44	34.77			
	23130	/ 1 1	UFJK	25	12	22.41	19.41	34.77			
10				50	0	22.39	19.39	34.77			
10				1	0	22.46	19.46	34.77			
	23060	704	16QAM	1	49	22.30	19.30	34.77			
	23000	704	TUQAM	25	12	21.26	18.26	34.77			
				50	0	21.23	18.23	34.77			
				1	0	22.32	19.32	34.77			
	23095	707.5	16QAM	1	49	22.34	19.34	34.77			
	23073	101.5	TUQAM	25	12	21.34	18.34	34.77			
				50	0	21.20	18.20	34.77			
				1	0	22.41	19.41	34.77			
	23130	711	160414	1	49	22.39	19.39	34.77			
	23130	711	16QAM	25	12	21.42	18.42	34.77			
				50	0	21.38	18.38	34.77			



Antenna gain (dBi) -1.5

LTE Band 13_Uplink frequency band : 777 to 787 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)			
				1	0	23.11	21.61	34.77			
	23205	779.5	QPSK	1	24	23.12	21.62	34.77			
	23200	119.0	UPSK	12	6	22.17	20.67	34.77			
				25	0	22.07	20.57	34.77			
				1	0	23.20	21.70	34.77			
	23230	782	QPSK	1	24	23.00	21.50	34.77			
	23230	102	UPSK	12	6	22.09	20.59	34.77			
				25	0	22.03	20.53	34.77			
				1	0	22.93	21.43	34.77			
	23255	784.5	QPSK	1	24	22.98	21.48	34.77			
	23200	704.5	UF SK	12	6	21.98	20.48	34.77			
5				25	0	21.97	20.47	34.77			
5				1	0	21.76	20.26	34.77 34.77 34.77 34.77 34.77 34.77			
	23205	779.5	16QAM	1	24	22.00	20.50	34.77			
	23203	117.5		12	6	21.10	19.60	34.77			
				25	0	21.38	19.88	34.77			
				1	0	21.80	20.30	34.77			
	23230	782	16QAM	1	24	21.78	20.28	34.77			
	23230	102		12	6	21.01	19.51	34.77			
				25	0	21.25	19.75	34.77			
				1	0	21.71	20.21	34.77			
	23255 784.5	784.5	160AM	1	24	21.66	20.16	34.77			
			16QAM	12	6	20.99	19.49	34.77			
				25	0	21.27	19.77	34.77			

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Antenna gain (dBi) -1.5										
LTE Ban	d 13_Uplir	nk frequency	band : 777 to	o 787 N	ИНz					
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)		
				1	0	23.42	21.92	34.77		
	23230	782	QPSK	1	49	22.85	21.35	34.77		
	23230	102	UF JK	25	12	22.08	20.58	34.77		
10				50	0	21.99	20.49	34.77		
10	0			1	0	22.07	20.57	34.77		
	23230	782	16QAM	1	49	21.83	20.33	34.77		
	23230	102	TUQAINI	25	12	21.06	19.56	34.77		
				50	0	21.13	19.63	34.77		

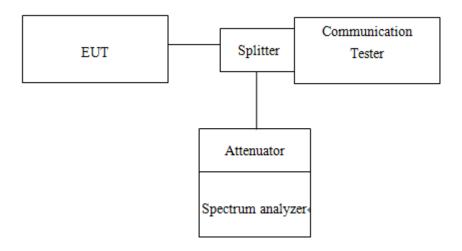


7. OCCUPIED BANDWIDTH MEASUREMENT

7.1. Standard Applicable

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power.

7.2. Test Set-up



7.3. Measurement Procedure

99% &26dB Bandwidth with detector peak

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW= 3 times RBW, -26dBc display line was placed on the screen (or 26dB bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace. Then set RBW to 99% bandwidth, RBW= 1%, VBW= 3 RBW, with span > 2 * Signal BW, set % Power = 99%.

99% Bandwidth with detector sample

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about $1\% \sim 5\%$ of emission BW, VBW= 3 times RBW, -20dBc display line was placed on the screen (or 20dB bandwidth). Set RBW to 99% bandwidth, RBW= $1\% \sim 5\%$, VBW= 3 RBW, with span > 2 * Signal BW, set % Power = 99%.

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7.4. Measurement Equipment Used

Conduc	ted Emission	(measured at	antenna port)	Test Site	
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EXA Spectrum Analyzer	Agilent	N9010A	MY50420195	05/03/2018	05/02/2019
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/17/2018	01/16/2019
DC Power Supply	Agilent	E3640A	KR93300208	08/15/2018	08/14/2019
Temperature Cham- ber	TERCHY	MHG-120LF	911009	05/18/2018	05/17/2019
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2018	01/01/2019
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2018	01/01/2019
Splitter	RF-LAMBAD	RFLT2W1G1 8G	11-JSPF412- 018	01/02/2018	01/01/2019
Coaxial Cables	N/A	WK CE Cable	N/A	01/02/2018	01/01/2019

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7.5. Measurement Result

Erog		99 9	99% BW (MHz)		26 dB BW (MHz)		
Freq. (MHz)	СН	WCDMA II	HSDPA II	HSUPA II	WCDMA II	HSDPA II	HSUPA II
1852.40	9262	4.15080	4.15430	4.14760	4.699	4.709	4.707
1880.00	9400	4.15570	4.14950	4.13790	4.699	4.706	4.692
1907.60	9538	4.16130	4.15770	4.16530	4.681	4.686	4.683

Erog		99 9	% BW (MH	z)	26 dB BW (MHz)		
Freq. (MHz)	СН	WCDMA	HSDPA	HSUPA	WCDMA	HSDPA	HSUPA
		V	V	V	V	V	V
826.40	4132	4.15450	4.13880	4.15580	4.727	4.729	4.710
836.60	4183	4.12930	4.12640	4.12600	4.711	4.686	4.689
846.60	4233	4.11550	4.13410	4.11960	4.682	4.676	4.686

LTE BAND 2 Channel bandwidth: 1.4MHz							
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)		
(MHz)	CIT	QPSK	16QAM	QPSK	16QAM		
1850.7	18607	1.0982	1.0994	1.287	1.285		
1880.0	18900	1.0967	1.1021	1.311	1.288		
1909.3	19193	1.0978	1.0986	1.282	1.293		

LTE BAND 2 Channel bandwidth: 3MHz							
Freq.	СН	99% BV	V (MHz)	26 dB B	W (MHz)		
(MHz)	UI	QPSK	16QAM	QPSK	16QAM		
1851.5	18615	2.7051	2.7059	2.974	2.988		
1880.0	18900	2.7049	2.7078	2.973	3.002		
1908.5	19185	2.7032	2.7061	2.993	2.980		

LTE BAND 2 Channel bandwidth: 5MHz							
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)		
(MHz)	CIT	QPSK	16QAM	QPSK	16QAM		
1852.5	18625	4.5059	4.5125	5.065	5.024		
1880.0	18900	4.5151	4.5164	5.054	5.022		
1907.5	19175	4.5219	4.5188	5.058	5.067		

	LTE BAND 2 Channel bandwidth: 10MHz							
Freq.	СН	99% BV	V (MHz)	26 dB B	W (MHz)			
(MHz)	CIT	QPSK	16QAM	QPSK	16QAM			
1855.0	18650	8.9975	8.9692	9.811	9.878			
1880.0	18900	9.0150	8.9551	9.897	9.803			
1905.0	19150	9.0158	8.9785	9.889	9.830			

LTE BAND 2 Channel bandwidth: 15MHz							
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)		
(MHz)	CH	QPSK	16QAM	QPSK	16QAM		
1857.5	18675	13.472	13.477	14.766	14.815		
1880.0	18900	13.499	13.475	14.663	14.820		
1902.5	19125	13.500	13.492	14.696	14.849		

LTE BAND 2 Channel bandwidth: 20MHz							
Freq.	СН	99% BV	V (MHz)	26 dB B	W (MHz)		
(MHz)	UI	QPSK	16QAM	QPSK	16QAM		
1860.0	18700	17.924	17.960	19.475	19.390		
1880.0	18900	17.943	17.956	19.488	19.479		
1900.0	19100	17.966	17.950	19.420	19.505		

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LTE BAND 4 Channel bandwidth: 1.4MHz							
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)		
(MHz)	СП	QPSK	16QAM	QPSK	16QAM		
1710.7	19957	1.0988	1.1007	1.278	1.308		
1732.5	20175	1.1004	1.0984	1.306	1.296		
1754.3	20393	1.0971	1.0999	1.321	1.321		

LTE BAND 4 Channel bandwidth: 5MHz							
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)		
(MHz)	CH	QPSK	16QAM	QPSK	16QAM		
1712.5	19957	4.5109	4.5109	5.007	4.979		
1732.5	20175	4.5172	4.5134	5.043	5.004		
1752.5	20375	4.5172	4.5129	5.028	5.028		

LTE BAND 4 Channel bandwidth: 15MHz							
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)		
(MHz)	СП	QPSK	16QAM	QPSK	16QAM		
1717.5	20025	13.497	13.455	14.720	14.772		
1732.5	20175	13.493	13.461	14.687	14.767		
1747.5	20325	13.482	13.490	14.682	14.668		

LTE BAND 5 Channel bandwidth: 1.4MHz								
Freq. CH	99% B\	N (MHz)	26 dB BW (MHz)					
(MHz)	<u>;</u>) Сп	QPSK	16QAM	QPSK	16QAM			
824.7	20407	1.0988	1.1035	1.289	1.302			
836.5	20525	1.0959	1.1015	1.291	1.298			
848.3	20643	1.0960	1.1019	1.274	1.309			

LTE BAND 5 Channel bandwidth: 5MHz								
Freq. CH	99% BW (MHz)		26 dB BW (MHz)					
(MHz)	CH	QPSK	16QAM	QPSK	16QAM			
826.5	20425	4.5185	4.5199	5.040	5.049			
836.5	20525	4.5085	4.5080	5.055	4.982			
846.5	20625	4.5028	4.5128	5.011	5.049			

LTE BAND 4 Channel bandwidth: 3MHz								
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)				
(MHz)	СП	QPSK	16QAM	QPSK	16QAM			
1711.5	19965	2.7051	2.7044	3.012	3.000			
1732.5	20175	2.7071	2.7011	2.991	3.016			
1753.5	20385	2.7032	2.7072	3.013	3.012			

LTE BAND 4 Channel bandwidth: 10MHz								
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)			
(MHz)		QPSK	16QAM	QPSK	16QAM			
1715.0	20000	8.9946	8.9528	9.868	9.812			
1732.5	20175	8.9887	8.9678	9.894	9.797			
1750.0	20350	9.0109	8.9792	10.015	9.862			

L	LTE BAND 4 Channel bandwidth: 20MHz								
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)				
(MHz)	CIT	QPSK	16QAM	QPSK	16QAM				
1720.0	20050	17.916	17.930	19.413	19.485				
1732.5	20175	17.939	17.943	19.472	19.375				
1745.0	20300	17.917	17.966	19.411	19.524				

LTE BAND 5 Channel bandwidth: 3MHz									
Freq.	СН	99% BV	V (MHz)	26 dB B	W (MHz)				
(MHz)	СП	QPSK	16QAM	QPSK	16QAM				
825.5	20415	2.7019	2.7047	2.989	2.992				
836.5	20525	2.7040	2.7053	2.984	2.997				
847.5	20635	2.6974	2.7025	2.975	2.990				

LTE BAND 5 Channel bandwidth: 10MHz									
Freq.	СН	99% BV	V (MHz)	26 dB B	W (MHz)				
(MHz)		QPSK	16QAM	QPSK	16QAM				
829.0	20450	8.9735	8.9882	9.807	9.789				
836.5	20525	8.9479	8.9351	9.766	9.818				
844.0	20600	8.9679	8.9696	9.838	9.808				



LTE BAND 12 Channel bandwidth: 1.4MHz									
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)				
(MHz)	СП	QPSK	16QAM	QPSK	16QAM				
699.7	23017	1.1006	1.0984	1.257	1.289				
707.5	23095	1.0972	1.1010	1.286	1.287				
715.3	23173	1.0976	1.1028	1.291	1.300				

LTE BAND 12 Channel bandwidth: 3MHz									
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)					
(MHz)	CIT	QPSK	16QAM	QPSK	16QAM				
700.5	23025	2.7020	2.7052	3.119	3.010				
707.5	23095	2.6883	2.7050	2.907	2.975				
714.5	23165	2.6988	2.7043	2.981	2.998				

LTE BAND 12 Channel bandwidth: 5MHz								
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)			
(MHz)	CIT	QPSK	16QAM	QPSK	16QAM			
701.5	23035	4.5147	4.5141	5.389	5.076			
707.5	23095	4.5144	4.5089	5.028	5.013			
713.5	23155	4.4877	4.5210	4.839	5.011			

LTE BAND 13 Channel bandwidth: 5MHz								
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)			
(MHz)	CIT	QPSK	16QAM	QPSK	16QAM			
779.5	23205	4.4966	4.5063	5.007	5.017			
782.0	23230	4.5139	4.5122	5.054	5.014			
784.5	23255	4.5115	4.5185	5.072	5.010			

LTE BAND 12 Channel bandwidth: 10MHz									
Freq.	СН	99% BV	V (MHz)	26 dB B	W (MHz)				
(MHz)	Сп	QPSK	16QAM	QPSK	16QAM				
704.0	23060	8.9924	8.9648	9.842	9.847				
707.5	23095	9.0018	8.9571	9.900	9.801				
711.0	23130	8.9819	8.9568	9.819	9.844				

LTE BAND 13 Channel bandwidth: 10MHz						
Freq.	СН	99% B\	N (MHz)	26 dB BW (MHz)		
(MHz)	СП	QPSK	16QAM	QPSK	16QAM	
782.0	23230	8.971	8.932	9.749	9.811	



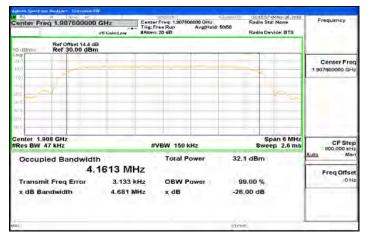
WCDMA B2 LowCH9262-1852.4

Center Fre	eq 1.852400000	Trig: 5	r Freq 1.852400000 GHz Free Run Avg Hold 1: 20 dB	4044440100 50050	Radio Devide: BTS	Frequency
10 dB/div	Ref Offset 14.4 dB Ref 30.00 dBm					
Leg 20.0 (05) (05) (05) (05) (05) (05) (05) (05						Center Fred 1.852400000 GH
Center 1.8 #Res BW 4		#	VBW 150 kHz		Span 6 MHz Sweep 2.6 ms	CF Step
Occupi	ied Bandwidti 4.	h 1508 MHz	Total Power	31.6	dBm	Auto Man
	it Freq Error Indwidth	-1.225 kHz 4.699 MHz	OBW Power x dB		600 % 00 dB	Freq Offset
i ORIA				-7+145		

WCDMA B2 MidCH9400-1880

Padio Std: None DD GHz r Freq 1.8800 Center Fr Trig: Free lia Device: BTS Ref Offset 14.4 dB Ref 30.00 dBm Center Fre Span 6 MHz Sweep 2.6 ms enter 1.88 GHz Res BW 47 KHz CF Ste #VBW 150 kHz Total Po 31.8 dBm Occupied Bandwidth 4.1557 MHz Freq Offse Transmit Freq Error 1.445 kHz 99.00 % **OBW Power** x dB Bandwidth 4.699 MHz -26.00 dB x dB

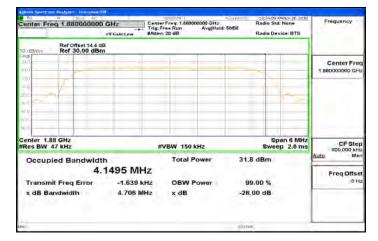
WCDMA_B2_HighCH9538-1907.6



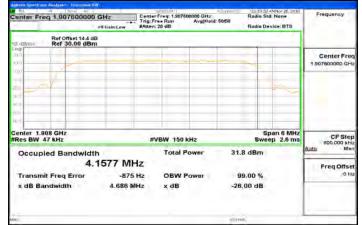
HSDPA B2 LowCH9262-1852.4

Center Fre	q 1.852400	000 GHz Ce	nter Freq. 1.852400000 GHz g: Free Rup Avg/Ho tten: 20 dB	Addamed (C)	Radio Std: None Radio Device: B	Frequency
10 dB/div	Ref Offset 14 Ref 30.00					1.
20.0 1000	-				3	Center Fr 1.852400000 G
						-
10 0						
0.00						
Center 1.8 #Res BW 4			#VBW 150 kHz		Span 6 Sweep 2.	6 ms 600.000 k
Occupi	ed Bandw		Total Power	32.	4 dBm	Auto M
		4.1543 MHz				Freq Offs
Transmi	t Freq Error	-1.281 kHz	OBW Power	9	9.00 %	0
x dB Ba	ndwidth	4.709 MHz	x dB	-26	8b 00,	
WIRO (-0.414		

HSDPA B2 MidCH9400-1880



HSDPA_B2_HighCH9538-1907.6



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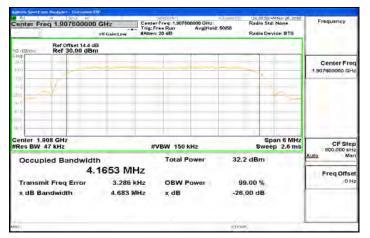
HSUPA B2 LowCH9262-1852.4

Center Fre	eq 1.852400000	Trig: 5	r Freq 1.852400000 GHz Free Run Avg Hold t 20 dB	Adamini (10)	Radio Std: None Radio Device: 875	Frequency
10 dB/div	Ref Offset 14.4 dB Ref 30.00 dBm					
20.0 10.0 (0)						Center Freq 1.852400000 GHz
10 0 11 0 10 0 10 0	×					
Center 1.8 #Res BW 4			VBW 150 kHz		Span 6 MHz Sweep 2.6 ms	CF Ster
Occupi	ied Bandwidti 4.	h 1476 MHz	Total Power	31.1	3 dBm	Auto Man Freg Offset
	it Freq Error Indwidth	-9.021 kHz 4.707 MHz	OBW Power x dB		9.00 % 90 dB	OH
00				-1-14		

HSUPA_B2_MidCH9400-1880

Radio Std: Neos 00 GHz Center Fr tia Device: BTS Ref Offset 14.4 dB Ref 30.00 dBm Center Fre enter 1.88 GHz Res BW 47 KHz Span 6 MHz Sweep 2.6 ms CF Ste #VBW 150 kHz Total Po 31.9 dBm Occupied Bandwidth 4.1379 MHz Freq Offse Transmit Freq Error -5.513 kHz 99.00 % OBW Power x dB Bandwidth 4.692 MHz -26.00 dB x dB

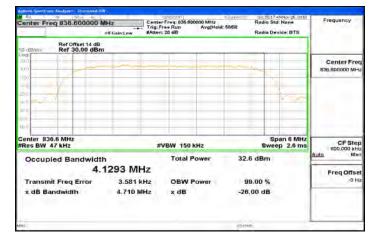
HSUPA_B2_HighCH9538-1907.6



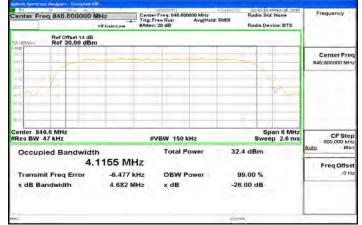
WCDMA B5 LowCH4132-826.4

Center Fre	eq 826.400000	MHz Cer	nter Freq 826 400000 Me g: Free Run Avgl ten: 20 dB	Hald: 50/50	Radio Std: None Radio Device: BTS	Frequency
10 dB/div	Ref Offset 14 dE Ref 30.00 dB					
29.0 100				-	_	Center Freq 826.400000 MHz
- 0.0 - 0.0	Y				3	
100 × C	1				~	
1000 1000						
Center 820 #Res BW			#VBW 150 kHz		Span 6 MHz Sweep 2.6 ms	CF Step
Occup	ied Bandwid	th	Total Power	32.	6 dBm	Auto Man
		.1545 MHz				Freq Offset
	it Freq Error Indwidth	-4.773 kHz 4.727 MHz	OBW Power x dB		9.00 % .00 dB	0 Hz
		and an and a				
MIRO				-0.45	ue.	

WCDMA B5 MidCH4183-836.6



WCDMA_B5_HighCH4233-846.6



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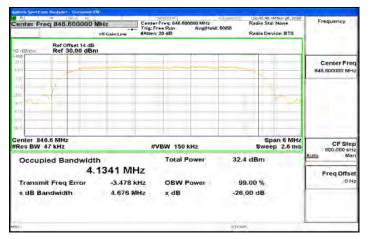
HSDPA B5 LowCH4132-826.4

Center Fre	eq 826.400000 M	Trig	tter Freq: 826.400000 MHz 1: Free Rup Avg[Hold ten: 20 dB	E 50/50	Radio Std: None Radio Device: BTS	Frequency
10 dB/div	Ref Offset 14 dB Ref 30.00 dBm	1				
Led 200 100 000 000 000 000 000 000						Center Frec
Center 826 #Res BW 4			#VBW 150 kHz		Span 6 MHz Sweep 2.6 ms	CF Step
Occupi	ied Bandwidt 4.	h 1388 MHz	Total Power	32.8	dBm	Auto Man Freq Offset
	it Freq Error Indwidth	-4.273 kHz 4.728 MHz	OBW Power x dB		00 % 00 dB	OH
Aliko i				-7+148	-	

HSDPA_B5_MidCH4183-836.6

Radio Std: None Freq 836,600000 MHz Center Fr 10 MHz in Device: BTS Ref Offset 14 dB Ref 30.00 dBr Center Fre Span 6 MHz Sweep 2.6 ms enter 836.6 MH Res BW 47 kHz CF Ste #VBW 150 kHz Total Po 32.4 dBm Occupied Bandwidth 4.1264 MHz Freq Offse Transmit Freq Error -139 Hz 99.00 % OBW Power x dB Bandwidth .686 MHz -26.00 dB x dB

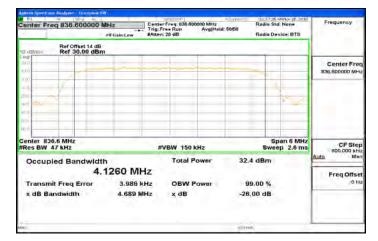
HSDPA_B5_HighCH4233-846.6



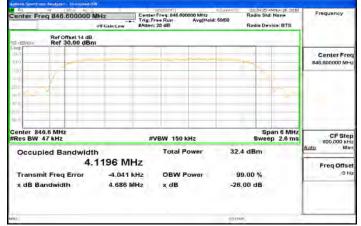
HSUPA B5 LowCH4132-826.4

Center Fr	enter Freq 826.400000 MHz enter Freq 826.400000 MHz rff Sint.rw ff Sint.rw					
10 dB/div	Ref Offset 14 dB Ref 30.00 dBn	n			_	
20.0 1000 1000					-	Center Freq 826.400000 MHz
100 200 200						
40 0. 2000				-		
Center 82 #Res BW	6.4 MHz 47 KHz		VBW 150 kHz		Span 6 MHz Sweep 2.6 ms	CF Step
Occup	ied Bandwidt 4.	h 1558 MHz	Total Power	32.	4 dBm	Auto Man Freq Offset
	nit Freq Error andwidth	529 Hz 4.710 MHz	OBW Power x dB		9.00 % ,00 dB	0 Hz
(ORIN				-0.474	10.	

HSUPA B5 MidCH4183-836.6



HSUPA_B5_HighCH4233-846.6



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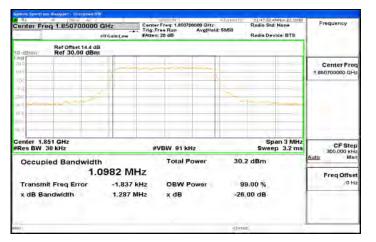
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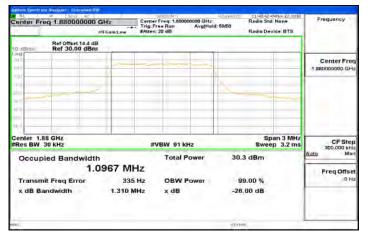
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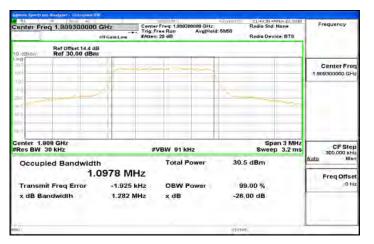
Band2 1 4MHz QPSK 6 0 LowCH18607-1850.7



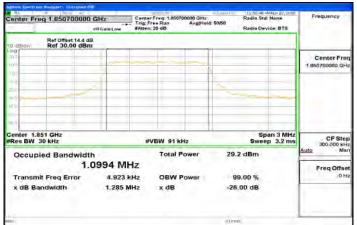
Band2_1_4MHz_QPSK_6_0_MidCH18900-1880



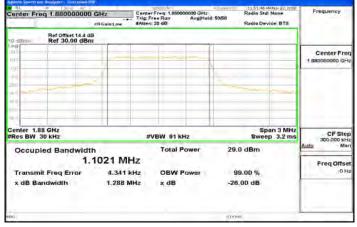
Band2_1_4MHz_QPSK_6_0_HighCH19193-1909.3



Band2 1 4MHz 16QAM 6 0 LowCH18607-1850.7



Band2_1_4MHz_16QAM_6_0_MidCH18900-1880





Band2_1_4MHz_16QAM_6_0_HighCH19193-1909.3

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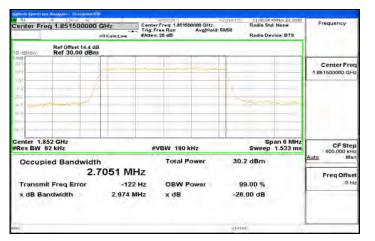
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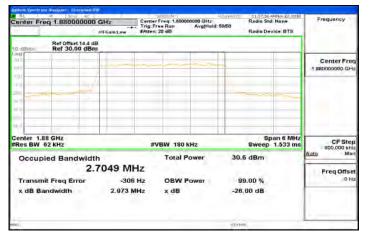
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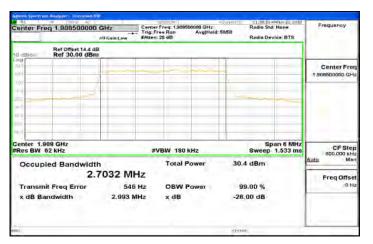
Band2 3MHz QPSK 15 0 LowCH18615-1851.5



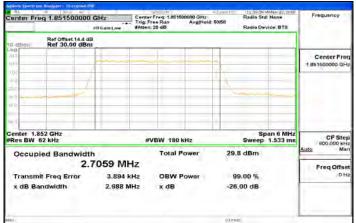
Band2_3MHz_QPSK_15_0_MidCH18900-1880

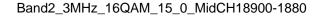


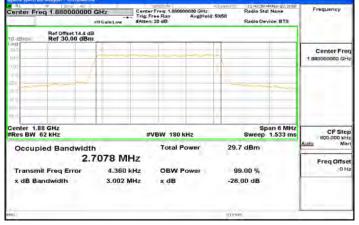
Band2_3MHz_QPSK_15_0_HighCH19185-1908.5



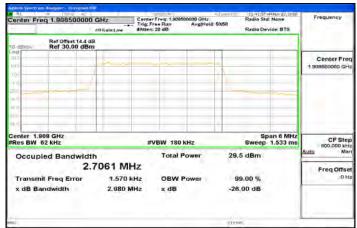
Band2 3MHz 16QAM 15 0 LowCH18615-1851.5











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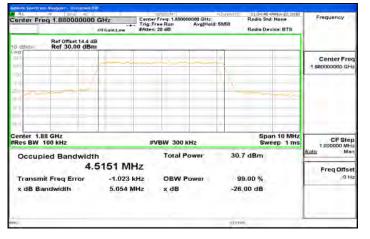
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Band2 5MHz QPSK 25 0 LowCH18625-1852.5

Center Fr	eq 1.85250000	Trigt!	Freq 1.852500000 GHz Free Rup Avg[Hol n: 20 dB	d: 50/50 Radio Device: BT	Frequency
10 dBraiv	Ref Offset 14.4 Ref 30.00 dB	dB m			1.
eg 20.0 (00) (00) (00) (00) (00) (00) (00)					Center Freq 1 852500000 GHz
Center 1.8 #Res BW			VBW 300 kHz	Span 10 N Sweep 1	MHz CF Step
Occup	ied Bandwid 4	.5059 MHz	Total Power	30.6 dBm	Auto Man Freq Offset
	nit Freq Error andwidth	5.923 kHz 5.065 MHz	OBW Power x dB	99.00 % -26,00 dB	0 Hz
(IRC)				-7-745	

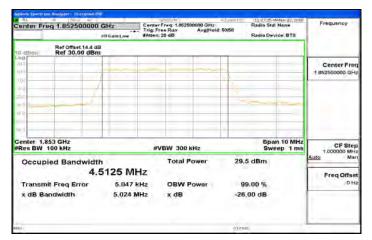
Band2 5MHz QPSK 25 0 MidCH18900-1880

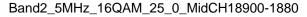


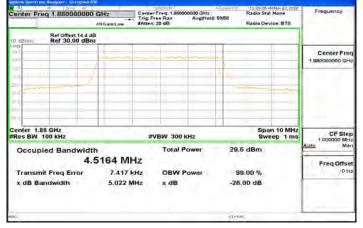
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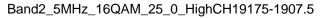


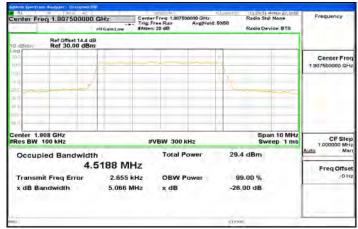
Band2 5MHz 16QAM 25 0 LowCH18625-1852.5











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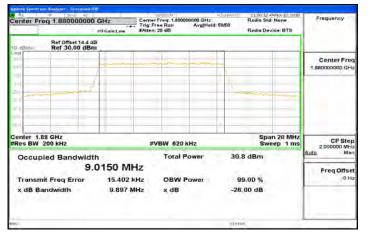
台灣檢驗科技股份有限公司 t (886-2) 2299-3279



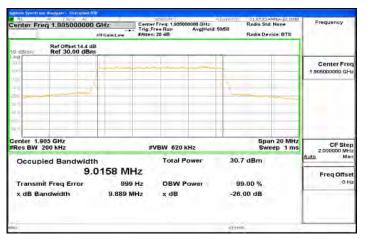
Band2 10MHz QPSK 50 0 LowCH18650-1855

Center Fre	eq 1.855000000	Trig	ter Freq 1.85500000 GH Free Rup AvgH en 20 dB	acharaidh 2' eid: 50/50	Radio Std: None Radio Device: BTS	Frequency
Q dB/div	Ref Offset 14.4 dB Ref 30.00 dBm	1				
1000 1000				-	_	Center Freq 1.855000000 GHz
000 000 000	/			X		
10 0						
10.0 10.0						
Res BW			#VBW 620 kHz		Span 20 MHz Sweep 1 ms	CF Step 2.000000 MHz
Occup	ied Bandwidti 8.9	9975 MHz	Total Power	30	.5 dBm	Auto Man Freq Offset
	it Freq Error Indwidth	4.118 kHz 9.811 MHz	OBW Power x dB		99.00 % 6.00 dB	/ CH2
80				-11-	105	

Band2 10MHz QPSK 50 0 MidCH18900-1880

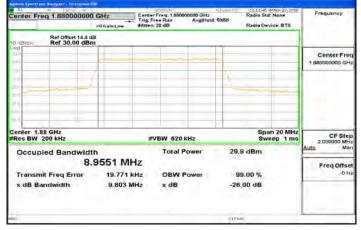


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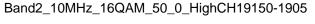


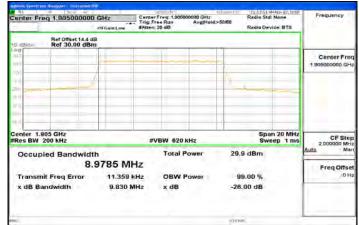
Band2 10MHz 16QAM 50 0 LowCH18650-1855





Band2_10MHz_16QAM_50_0_MidCH18900-1880





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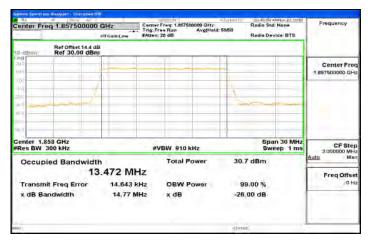
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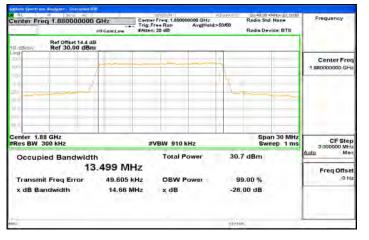
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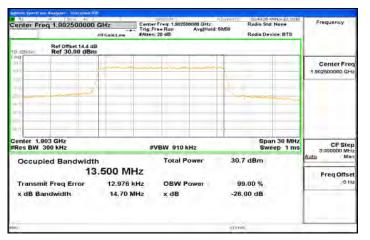
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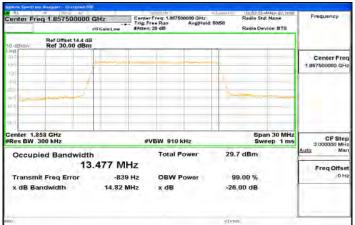
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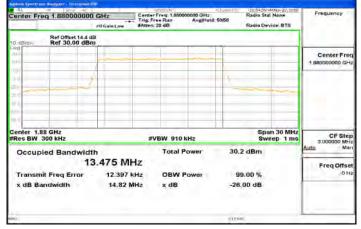


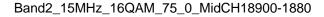
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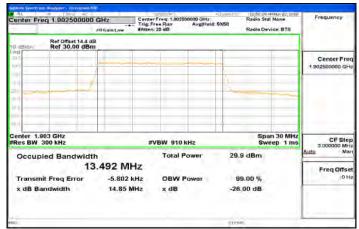
Band2 15MHz 16QAM 75 0 LowCH18675-1857.5







Band2_15MHz_16QAM_75_0_HighCH19125-1902.5



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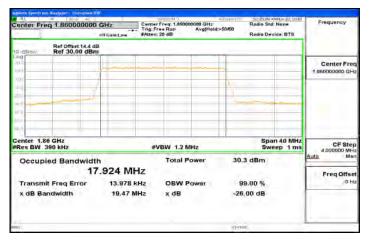
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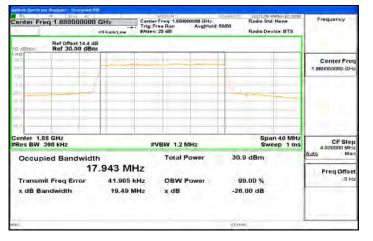
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Band2 20MHz QPSK 100 0 LowCH18700-1860



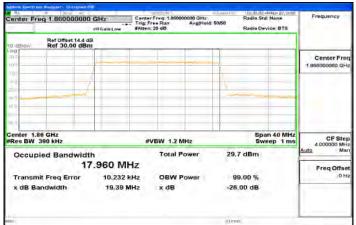
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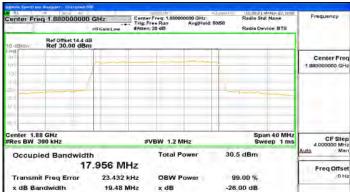


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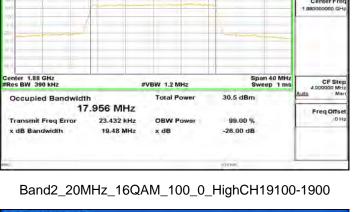


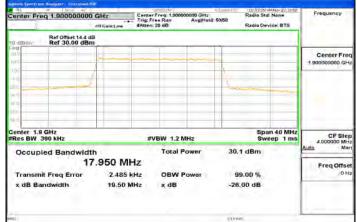
Band2 20MHz 16QAM 100 0 LowCH18700-1860





Band2_20MHz_16QAM_100_0_MidCH18900-1880





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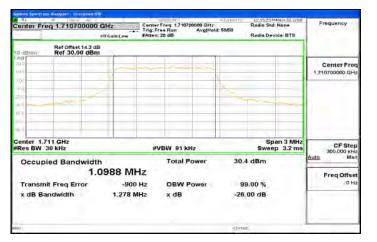
SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

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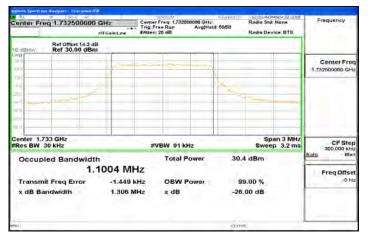
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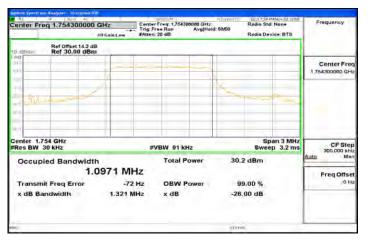
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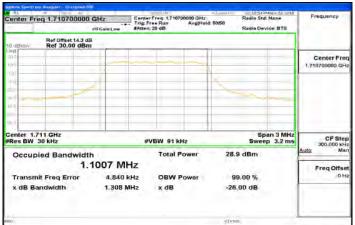
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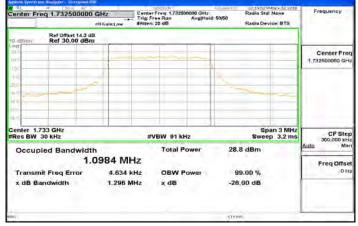


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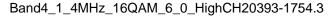


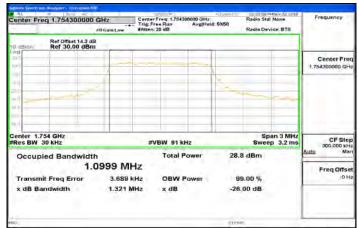
Band4 1 4MHz 16QAM 6 0 LowCH19957-1710.7





Band4_1_4MHz_16QAM_6_0_MidCH20175-1732.5





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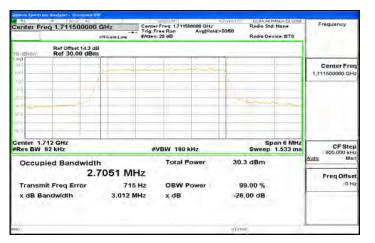
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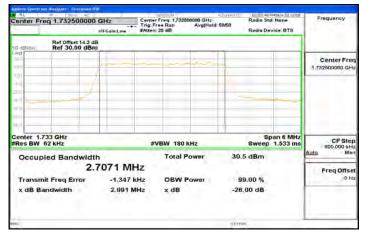
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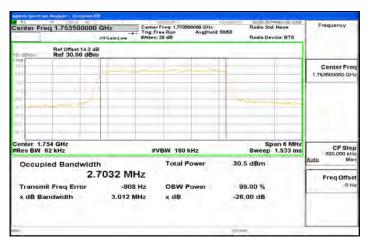
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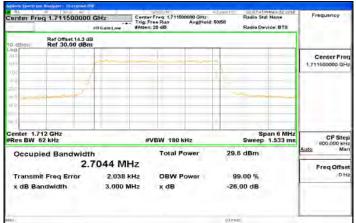
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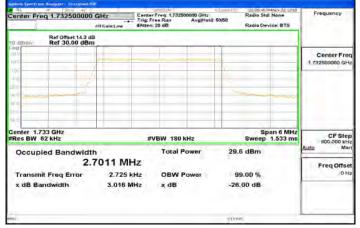
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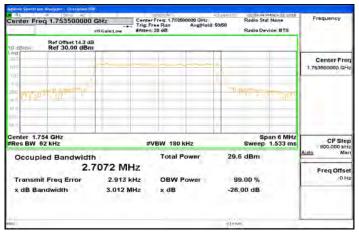
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Band4_3MHz_16QAM_15_0_MidCH20175-1732.5



Band4_3MHz_16QAM_15_0_HighCH20385-1753.5



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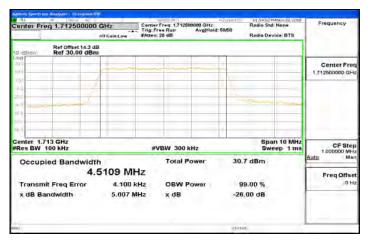
SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

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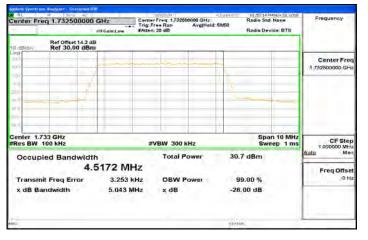
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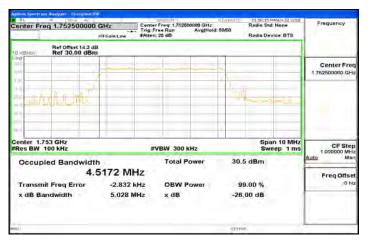
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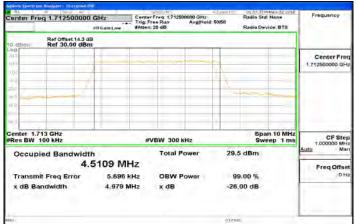
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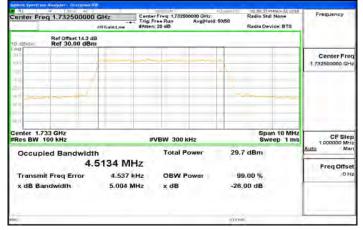


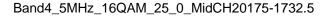
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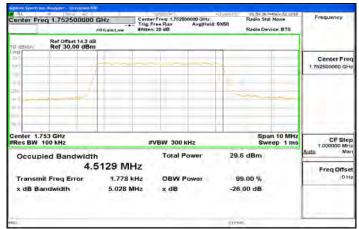
Band4 5MHz 16QAM 25 0 LowCH19975-1712.5







Band4_5MHz_16QAM_25_0_HighCH20375-1752.5



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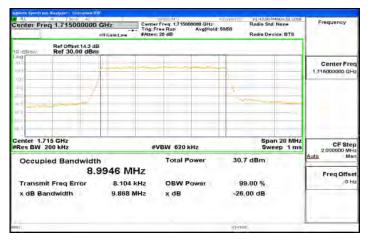
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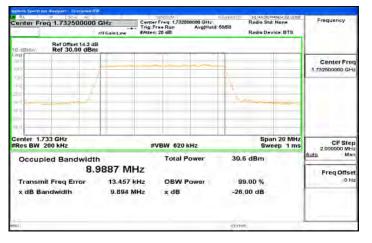
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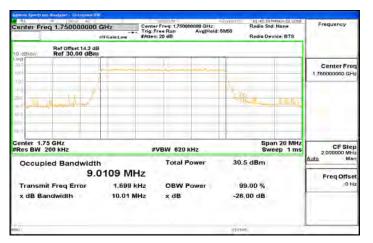
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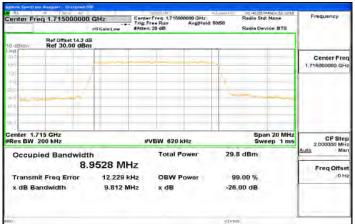
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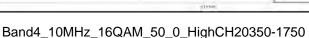


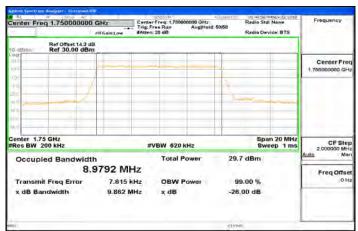
Band4 10MHz 16QAM 50 0 LowCH20000-1715





Band4_10MHz_16QAM_50_0_MidCH20175-1732.5





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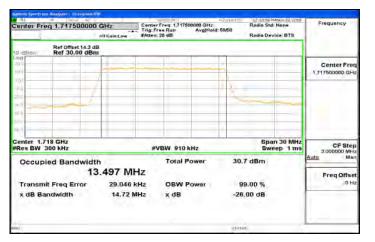
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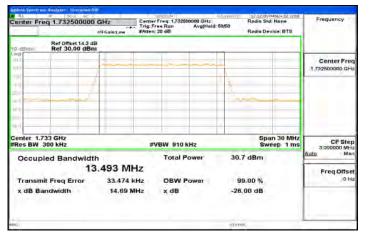
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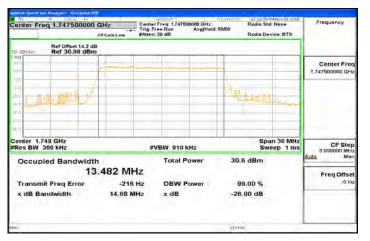
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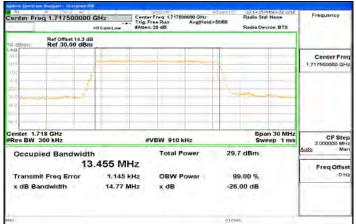
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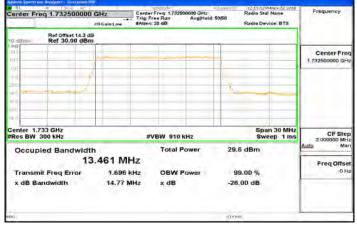


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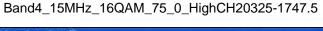


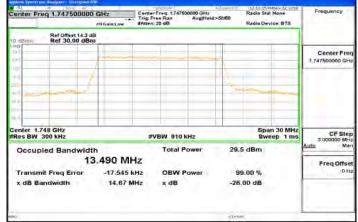
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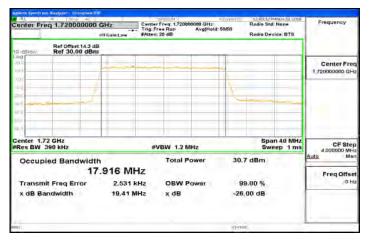
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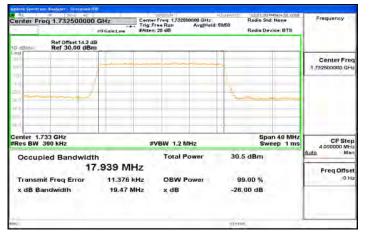
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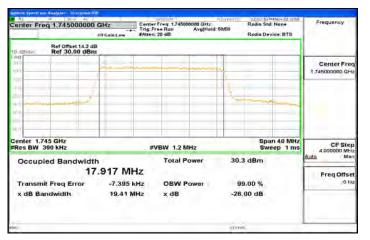
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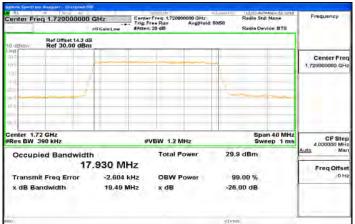
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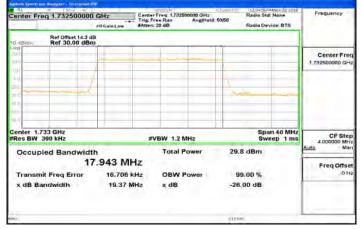
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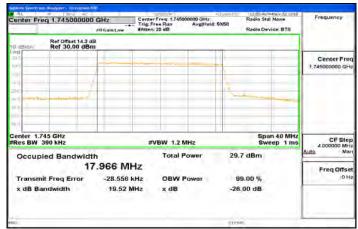
Band4 20MHz 16QAM 100 0 LowCH20050-1720



Band4_20MHz_16QAM_100_0_MidCH20175-1732.5







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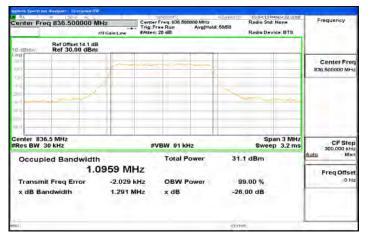
台灣檢驗科技股份有限公司 t (886-2) 2299-3279



Band5 1 4MHz QPSK 6 0 LowCH20407-824.7

Center Fr	eq 824.700000	Tel	nter Freq. 824.700000 MHz g: Free Run Avg[Hol tten: 20 dB	ALBANKUTE Id: 50/50	Radio Std: None Radio Devide: BTS	Frequency
10 dB/div	Ref Offset 14.1 d Ref 30.00 dBr	iß m				
20.0 100 100						Center Freq 824.700000 MHz
10 DC						
10 D.						
enter 82 Res BW			#VBW 91 kHz		Span 3 MHz Sweep 3.2 ms	CF Step 300.000 kHz
Occup	bied Bandwidt 1.	th .0988 MHz	Total Power	31.:	3 dBm	Auto Man Freg Offset
	nit Freq Error andwidth	-3.126 kHz 1.289 MHz	OBW Power x dB		9.00 % 00 dB	0 Hz
801				=7=14	_	·

Band5 1 4MHz QPSK 6 0 MidCH20525-836.5

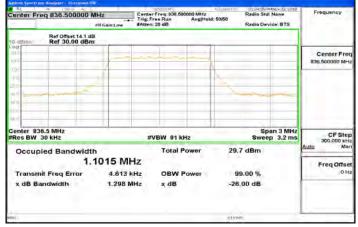


Band5_1_4MHz_QPSK_6_0_HighCH20643-848.3

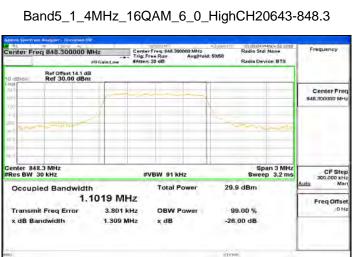


Band5 1 4MHz 16QAM 6 0 LowCH20407-824.7





Band5_1_4MHz_16QAM_6_0_MidCH20525-836.5



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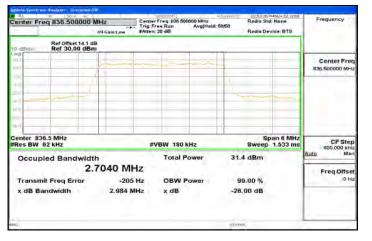
台灣檢驗科技股份有限公司 t (886-2) 2299-3279



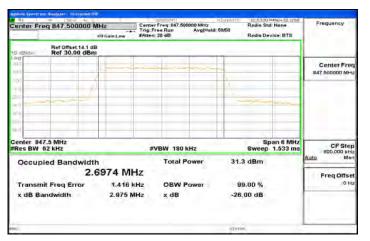
Band5 3MHz QPSK 15 0 LowCH20415-825.5

Center Fr	eq 825.500000 M	Trig	ter Freq. 825 500000 MHz Free Run Avg[Hold en: 20 dB	Radio Std: None 50/50 Radio Device: BTS	Frequency
to deraiv	Ref Offset 14.1 dB Ref 30.00 dBm				
eg (20.0 (00) (00) (00) (00) (00) (00)					Center Freq 825.500000 MHz
enter 82 Res BW		1	#VBW 180 kHz	Span 6 MHz Sweep: 1.533 ms	
Occup	Occupied Bandwidth 2.7019 N		Total Power	31.5 dBm	Auto Man Freq Offset
	nit Freq Error andwidth	-1.981 kHz 2.989 MHz	OBW Power x dB	99.00 % -26,00 dB	OHz
10				=Y=Tus	

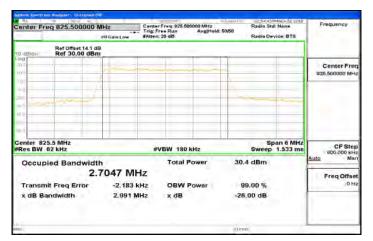
Band5_3MHz_QPSK_15_0_MidCH20525-836.5



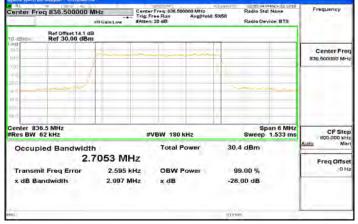
Band5_3MHz_QPSK_15_0_HighCH20635-847.5



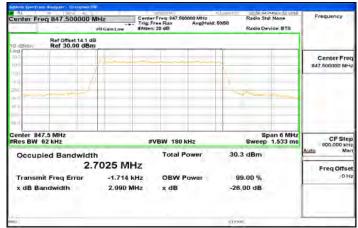
Band5 3MHz 16QAM 15 0 LowCH20415-825.5



Band5_3MHz_16QAM_15_0_MidCH20525-836.5







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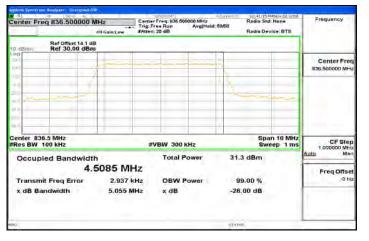
台灣檢驗科技股份有限公司 t (886-2) 2299-3279



Band5 5MHz QPSK 25 0 LowCH20425-826.5

Center Fre	eq 826.500000 M	-+- Trig:	er Freq. 825.500000 MHz Free Run Avg[Hold n: 20 dB	50/50 Radio Device: BTS	Frequency
-	Ref Offset 14.1 df	an concerne	n: 20 00	Radia Device: B13	
O dB/div	Ref 30.00 dBm				-
20.0 1000					Center Freq 826.500000 MHz
00	1 1				
0.0	1-1-1-2				
40 Q.					
Center 82					
Res BW			VBW 300 kHz	Span 10 MH Sweep 1 m	CF Step
Occup	ied Bandwidt		Total Power	31.6 dBm	
	4.	5185 MHz			Freq Offset
Transm	it Freq Error	-4.293 kHz	OBW Power	99.00 %	0 Hu
x dB Ba	ndwidth	5.040 MHz	x dB	-26,00 dB	
				-T-T-LE	

Band5 5MHz QPSK 25 0 MidCH20525-836.5

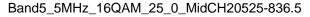


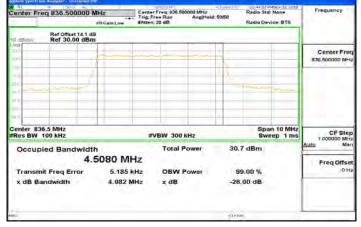
Band5_5MHz_QPSK_25_0_HighCH20625-846.5



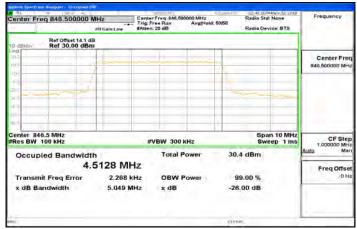
Band5 5MHz 16QAM 25 0 LowCH20425-826.5











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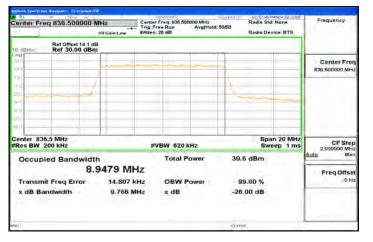
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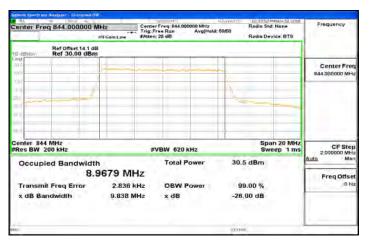
Band5 10MHz QPSK 50 0 LowCH20450-829

Center Freq 829.000000 MHz			Center Freq. 825.000000 MHz R Trig: Free Run Avg[Hold: 50/50		Radio Device: BTS	Frequency	
10 dB/div	Ref 30,00 dBm						
- og 20.0 1000					_	Center Freq 829.00000 MHz	
(30) (10) (20)	1						
40 Q							
100 100							
Center 829 MHz #Res BW 200 kHz			#VBW 620 kHz		Span 20 MHz Sweep 1 ms		
Occupied Bandwidth 8.9735 MH			Contraction of the contraction o		.4 dBm	Auto Man Freq Offset	
a structure of the case of the second structure of		13.529 kHz 9.807 MHz	OBW Power x dB		39.00 % 3.00 dB	O Hz	
ino :				-1-1	ue.		

Band5 10MHz QPSK 50 0 MidCH20525-836.5



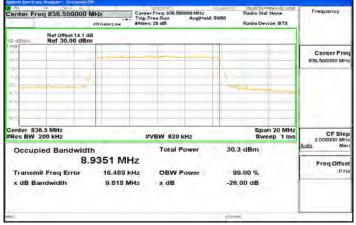
Band5_10MHz_QPSK_50_0_HighCH20600-844



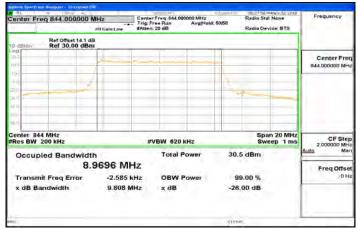
Band5 10MHz 16QAM 50 0 LowCH20450-829



Band5_10MHz_16QAM_50_0_MidCH20525-836.5



Band5_10MHz_16QAM_50_0_HighCH20600-844



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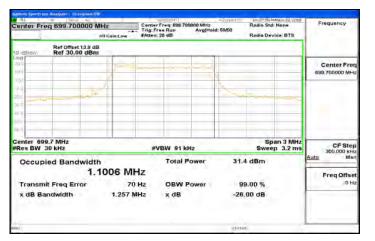
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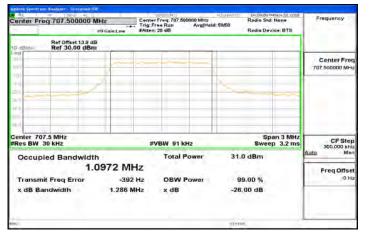
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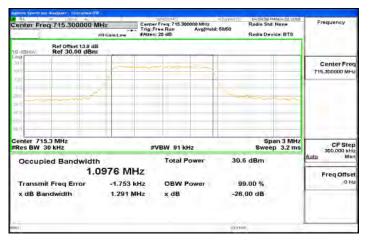
Band12 1 4MHz QPSK 6 0 LowCH23017-699.7



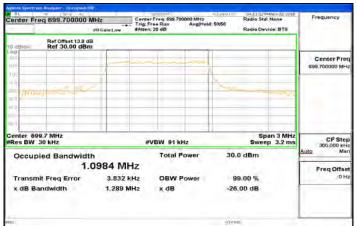
Band12_1_4MHz_QPSK_6_0_MidCH23095-707.5

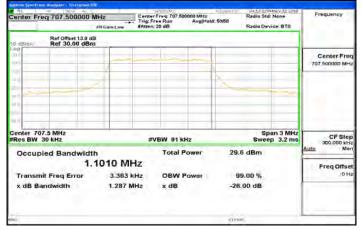


Band12_1_4MHz_QPSK_6_0_HighCH23173-715.3



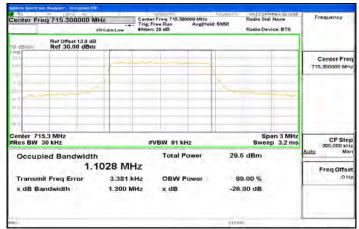
Band12 1 4MHz 16QAM 6 0 LowCH23017-699.7







Band12_1_4MHz_16QAM_6_0_HighCH23173-715.3



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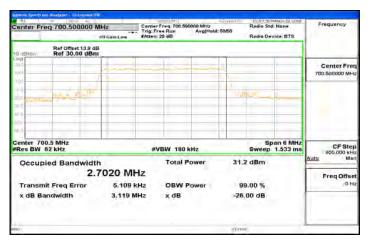
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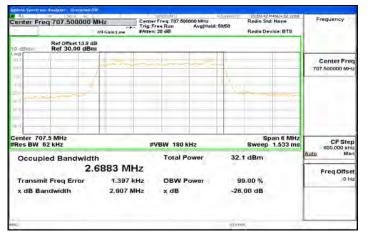
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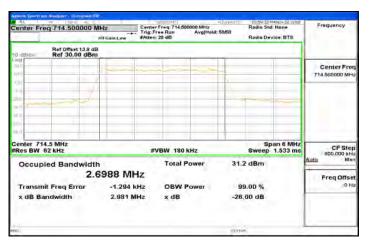
Band12 3MHz QPSK 15 0 LowCH23025-700.5



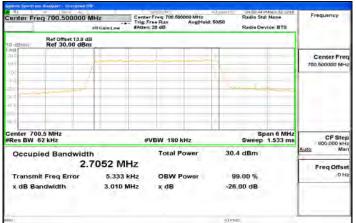
Band12_3MHz_QPSK_15_0_MidCH23095-707.5

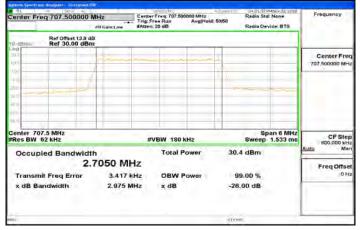


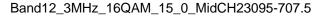
Band12_3MHz_QPSK_15_0_HighCH23165-714.5



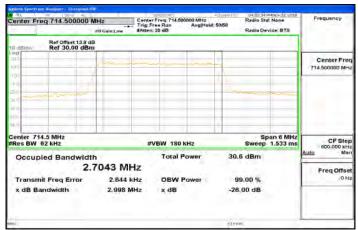
Band12 3MHz 16QAM 15 0 LowCH23025-700.5







Band12_3MHz_16QAM_15_0_HighCH23165-714.5



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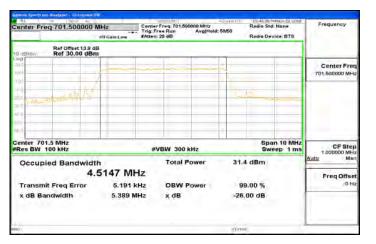
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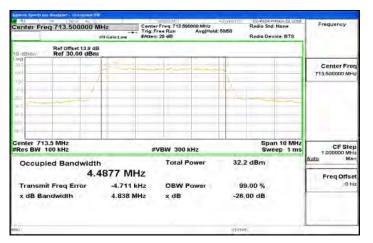
Band12 5MHz QPSK 25 0 LowCH23035-701.5



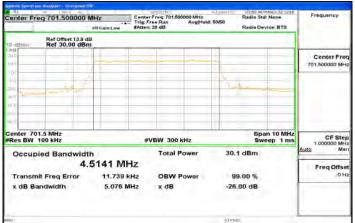
Band12_5MHz_QPSK_25_0_MidCH23095-707.5

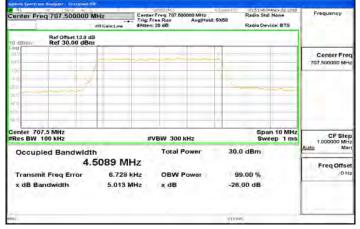


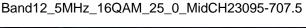
Band12_5MHz_QPSK_25_0_HighCH23155-713.5



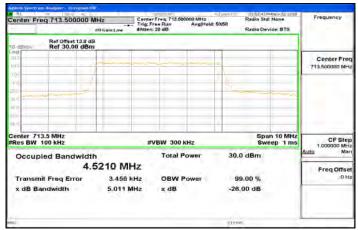
Band12 5MHz 16QAM 25 0 LowCH23035-701.5







Band12_5MHz_16QAM_25_0_HighCH23155-713.5



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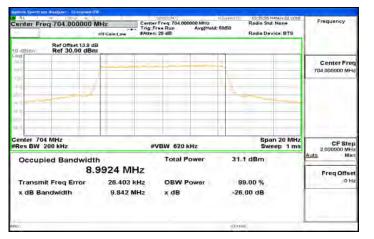
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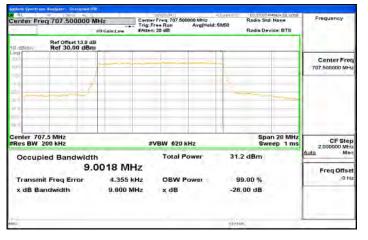
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Band12 10MHz QPSK 50 0 LowCH23060-704



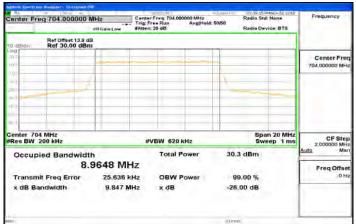
Band12_10MHz_QPSK_50_0_MidCH23095-707.5

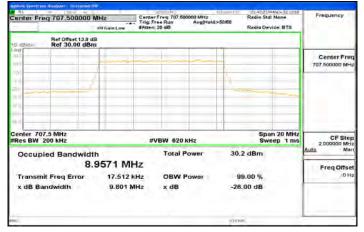


Band12_10MHz_QPSK_50_0_HighCH23130-711



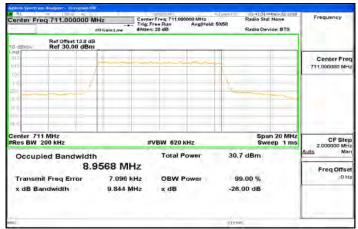
Band12 10MHz 16QAM 50 0 LowCH23060-704





Band12_10MHz_16QAM_50_0_MidCH23095-707.5

Band12_10MHz_16QAM_50_0_HighCH23130-711



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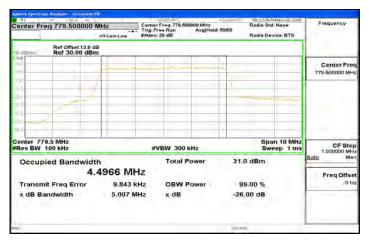
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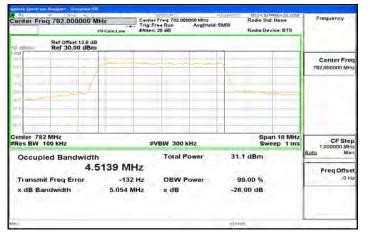
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Band13 5MHz QPSK 25 0 LowCH23205-779.5



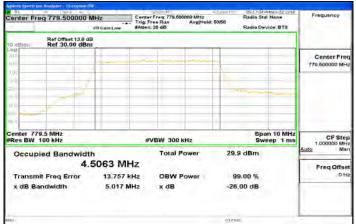
Band13_5MHz_QPSK_25_0_MidCH23230-782

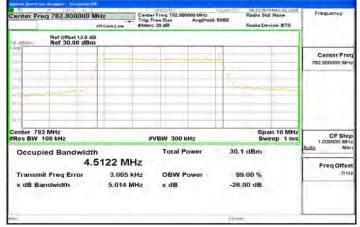


Band13_5MHz_QPSK_25_0_HighCH23255-784.5

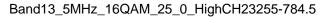


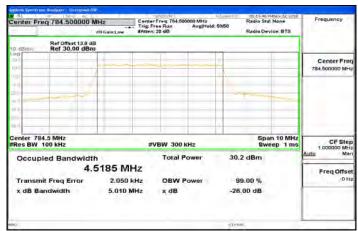
Band13 5MHz 16QAM 25 0 LowCH23205-779.5





Band13 5MHz 16QAM 25 0 MidCH23230-782





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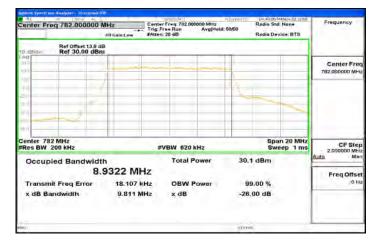
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Band13_10MHz_QPSK_50_0_MidCH23230-782

Center Fr	eq 782.00000		Center Freq. 782.00000 Trig: Free Run #Atten: 20 dB	Frequency		
10 dB/div	Ref Offset 13. Ref 30.00 d					
20.0 1000						Center Freq 782,00000 MHz
0.0		A		k	~	
10 0 100 - 0						
enter 78 Res BW		1	#VBW 620 kHz		Span 20 MHz Sweep 1 ms	CF Step 2 000000 MHz
Occupied Bandwidth 8.9714 MH					.8 dBm	Auto Man Freq Offset 0 Hz
Transmit Freq Error 21.160 kl x dB Bandwidth 9.749 Mi				99.00 % 5.00 dB		
801				-07-	105	

Band13_10MHz_16QAM_50_0_MidCH23230-782



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8. OUT OF BAND EMISSION AT ANTENNA TERMINALS

8.1. Standard Applicable

FCC §22.917(a), §24.238(a), §27.53(h),Out of band emissions.The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

FCC §27.53(c)

(c) For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P) dB$ (-13dBm)

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

§27.53 (f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

FCC §27.53(c) (5) & FCC §27.53(g)

Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

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FCC §27.53(h) (3)

Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

FCC §27.53(m) (4) (6)

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Measurement procedure. Compliance with these rules is based on the use of measurement nstrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

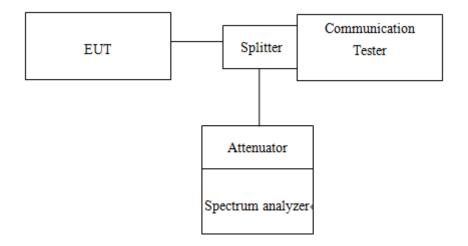
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8.2. Test SET-UP



8.3. Measurement Procedure

Conducted Emission

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

- 1. To connect Antenna Port of EUT to Spectrum.
- Set RBW = 1MHz & VBW = 1MHz on Spectrum.
- Detector = peak
- 4. Set Maximum hold and allow trace to fully stabilize
- 5. Repeat above procedures until all default test channel measured were complete.

Band Edge

- 1. To connect Antenna Port of EUT to Spectrum.
- 2. The band edge of low and high channels for the highest RF powers was measured. Setting RBW ≥ 1% EBW.
- 3. Allow trace to fully stabilize
- 4. Repeat above procedures until all default test channel measured were complete.

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8.4. Measurement Equipment Used

Conducted Emission (measured at antenna port) Test Site									
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.				
EXA Spectrum Analyzer	Agilent	N9010A	MY50420195	05/03/2018	05/02/2019				
Radio Communication Analyer	Anritsu	MT8820C	6201465317	01/17/2018	01/16/2019				
DC Power Supply	Agilent	E3640A	KR93300208	08/15/2018	08/14/2019				
Temperature Chamber	TERCHY	MHG-120LF	911009	05/18/2018	05/17/2019				
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2018	01/01/2019				
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2018	01/01/2019				
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412- 018	01/02/2018	01/01/2019				
Coaxial Cables	N/A	WK CE Cable	N/A	01/02/2018	01/01/2019				

8.5. Measurement Result:

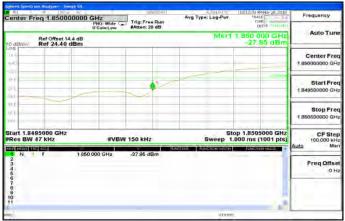
Refer to next pages.

NOTE: The occurrence of the spike on the conducted emission is the signal of the fundamental emission.

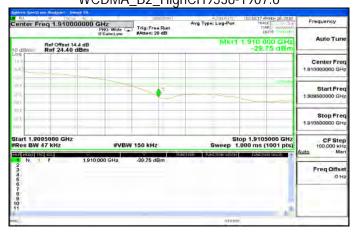
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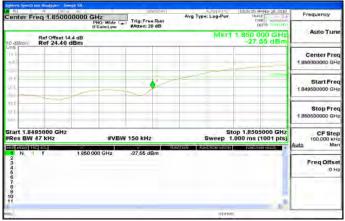
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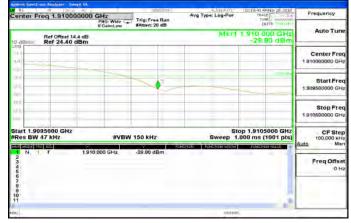
WCDMA_B2_HighCH9538-1907.6



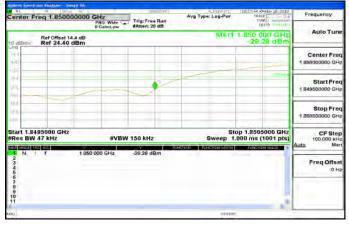
HSDPA B2 LowCH9262-1852.4



HSDPA_B2_HighCH9538-1907.6



HSUPA_B2_LowCH9262-1852.4



HSUPA_B2_HighCH9538-1907.6



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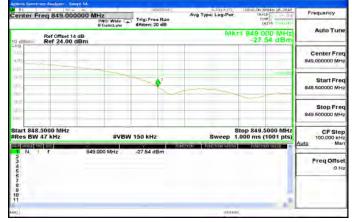


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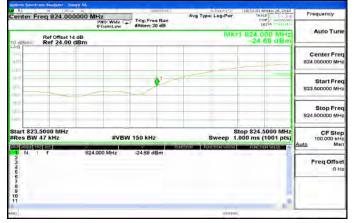
WCDMA B5 LowCH4132-826.4



HSDPA_B5_HighCH4233-846.6



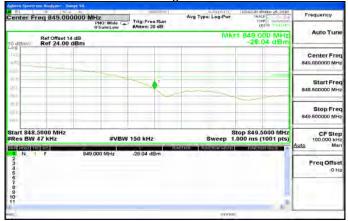
HSUPA B5 LowCH4132-826.4



HSUPA B5 HighCH4233-846.6



WCDMA B5 HighCH4233-846.6



HSDPA B5 LowCH4132-826.4



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Band2_1_4MHz_QPSK_1_0_LowCH18607-1850.7



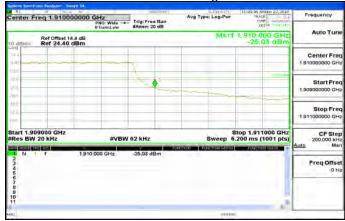
Band2 1 4MHz QPSK 1 5 HighCH19193-1909.3



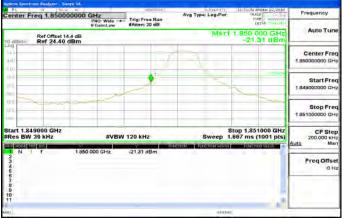
Band2 1 4MHz QPSK 6 0 LowCH18607-1850.7



Band2_1_4MHz_QPSK_6_0_HighCH19193-1909.3



Band2 3MHz QPSK 1 0 LowCH18615-1851.5



Band2 3MHz QPSK 1 14 HighCH19185-1908.5



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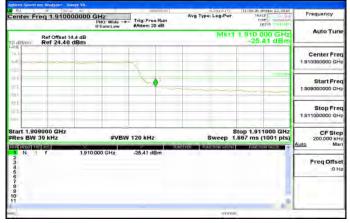
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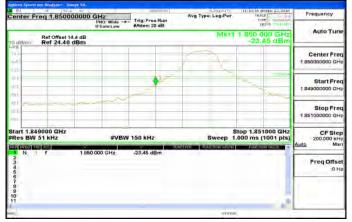
Band2_3MHz_QPSK_15_0_LowCH18615-1851.5



Band2 3MHz QPSK 15 0 HighCH19185-1908.5



Band2 5MHz QPSK 1 0 LowCH18625-1852.5



Band2_5MHz_QPSK_1_24_HighCH19175-1907.5



Band2 5MHz QPSK 25 0 LowCH18625-1852.5



Band2 5MHz QPSK 25 0 HighCH19175-1907.5



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Band2_10MHz_QPSK_1_0_LowCH18650-1855



Band2 10MHz QPSK 1 49 HighCH19150-1905



Band2 10MHz QPSK 50 0 LowCH18650-1855



Band2_10MHz_QPSK_50_0_HighCH19150-1905



Band2 15MHz QPSK 1 0 LowCH18675-1857.5



Band2 15MHz QPSK 1 74 HighCH19125-1902.5



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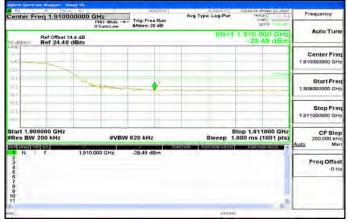
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Band2_15MHz_QPSK_75_0_LowCH18675-1857.5



Band2 15MHz QPSK 75 0 HighCH19125-1902.5



Band2 20MHz QPSK 1 0 LowCH18700-1860



Band2_20MHz_QPSK_1_99_HighCH19100-1900



Band2 20MHz QPSK 100 0 LowCH18700-1860



Band2 20MHz QPSK 100 0 HighCH19100-1900



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Band4_1_4MHz_QPSK_1_0_LowCH19957-1710.7



Band4 1 4MHz QPSK 1 5 HighCH20393-1754.3



Band4 1 4MHz QPSK 6 0 LowCH19957-1710.7



Band4_1_4MHz_QPSK_6_0_HighCH20393-1754.3

Frequency	INCLUSION NAMES OF COMPANY OF COMPANY OF COMPANY OF COMPANY	Avg Type: Log-Pur	Trig: Free Run	D GHz	q 1.75500000	Center Fr
Auto Tun	1 755 000 GHz		#Atten: 20 dB	IFGain:Low		
1 0.000000	-26.75 dBm	MEET			Ref Offset 14.3 dB Ref 24.30 dBm	to dB/div
Center Fre		_				140
1,755000000 5	-					10
Start Fre 1.754000000 GH			N.			(67 28)7
Stop Fre 1.756000000 GH						45 T
CF Ste 200.000 kF	top 1.756000 GHz 200 ms (1001 pts)	S Sweep 6.	62 kHz	#VBW		Start 1.75 Res BW
Auto Ma	TURNING AND -		-26.79 dBm	55 000 GHz		
Freq Offse 0 H						234667
						8 9 10 11
-						ing .

Band4 3MHz QPSK 1 0 LowCH19965-1711.5



Band4 3MHz QPSK 1 14 HighCH20385-1753.5



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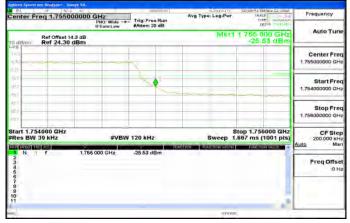
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Band4_3MHz_QPSK_15_0_LowCH19965-1711.5



Band4 3MHz QPSK 15 0 HighCH20385-1753.5



Band4 5MHz QPSK 1 0 LowCH19975-1712.5



Band4_5MHz_QPSK_1_24_HighCH20375-1752.5



Band4 5MHz QPSK 25 0 LowCH19975-1712.5



Band4 5MHz QPSK 25 0 HighCH20375-1752.5



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Band4_10MHz_QPSK_1_0_LowCH20000-1715



Band4 10MHz QPSK 1 49 HighCH20350-1750



Band4 10MHz QPSK 50 0 LowCH20000-1715



Band4_10MHz_QPSK_50_0_HighCH20350-1750



Band4 15MHz QPSK 1 0 LowCH20025-1717.5



Band4 15MHz QPSK 1 74 HighCH20325-1747.5



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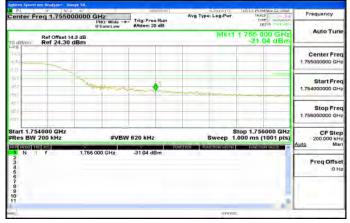
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Band4_15MHz_QPSK_75_0_LowCH20025-1717.5



Band4_15MHz_QPSK_75_0_HighCH20325-1747.5



Band4_20MHz_QPSK_1_0_LowCH20050-1720



Band4_20MHz_QPSK_1_99_HighCH20300-1745



Band4_20MHz_QPSK_100_0_LowCH20050-1720



Band4_20MHz_QPSK_100_0_HighCH20300-1745



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Band5_1_4MHz_QPSK_1_0_LowCH20407-824.7



Band5 1 4MHz QPSK 1 5 HighCH20643-848.3



Band5 1 4MHz QPSK 6 0 LowCH20407-824.7



Band5_1_4MHz_QPSK_6_0_HighCH20643-848.3



Band5 3MHz QPSK 1 0 LowCH20415-825.5



Band5 3MHz QPSK 1 14 HighCH20635-847.5



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Band5_3MHz_QPSK_15_0_LowCH20415-825.5



Band5 3MHz QPSK 15 0 HighCH20635-847.5



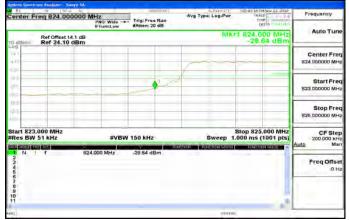
Band5 5MHz QPSK 1 0 LowCH20425-826.5



Band5_5MHz_QPSK_1_24_HighCH20625-846.5



Band5 5MHz QPSK 25 0 LowCH20425-826.5



Band5 5MHz QPSK 25 0 HighCH20625-846.5



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Band5_10MHz_QPSK_1_0_LowCH20450-829



Band5 10MHz QPSK 1 49 HighCH20600-844



Band5 10MHz QPSK 50 0 LowCH20450-829



Band5_10MHz_QPSK_50_0_HighCH20600-844



Band12 1 4MHz QPSK 1 0 LowCH23017-699.7



Band12 1 4MHz QPSK 1 5 HighCH23173-715.3



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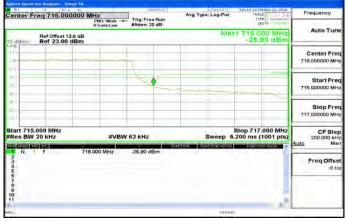
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Band12_1_4MHz_QPSK_6_0_LowCH23017-699.7



Band12 1 4MHz QPSK 6 0 HighCH23173-715.3



Band12 3MHz QPSK 1 0 LowCH23025-700.5



Band12_3MHz_QPSK_1_14_HighCH23165-714.5



Band12 3MHz QPSK 15 0 LowCH23025-700.5



Band12 3MHz QPSK 15 0 HighCH23165-714.5



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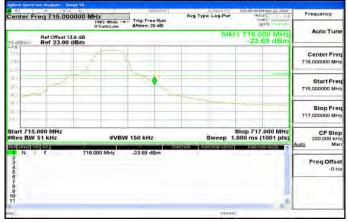
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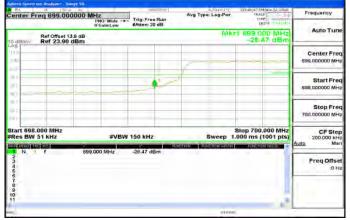
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Band12 5MHz QPSK 1 24 HighCH23155-713.5



Band12 5MHz QPSK 25 0 LowCH23035-701.5



Band12_5MHz_QPSK_25_0_HighCH23155-713.5



Band12 10MHz QPSK 1 0 LowCH23060-704



Band12 10MHz QPSK 1 49 HighCH23130-711



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Band12_10MHz_QPSK_50_0_LowCH23060-704



Band12 10MHz QPSK 50 0 HighCH23130-711



Band13 5MHz QPSK 1 0 LowCH23205-779.5



Band13_5MHz_QPSK_1_24_HighCH23255-784.5



Band13 5MHz QPSK 25 0 LowCH23205-779.5



Band13 5MHz QPSK 25 0 HighCH23255-784.5



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Band13_10MHz_QPSK_1_0_LowCH23230-782



Band13_10MHz_QPSK_1_49_HighCH23230-782



Band13 10MHz QPSK 50 0 LowCH23230-782



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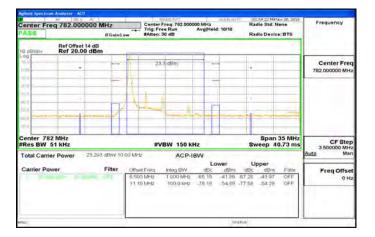
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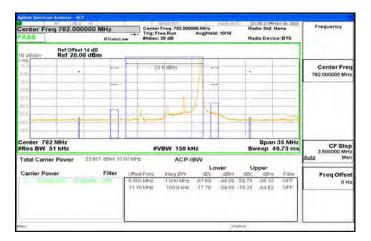
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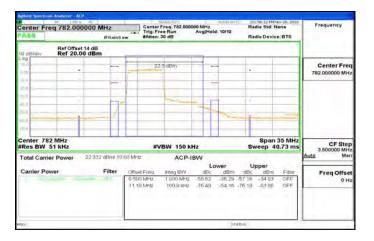
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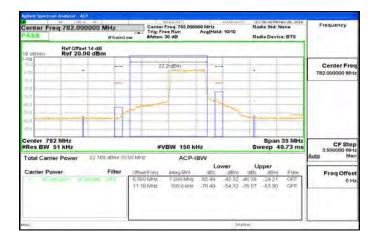
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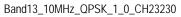


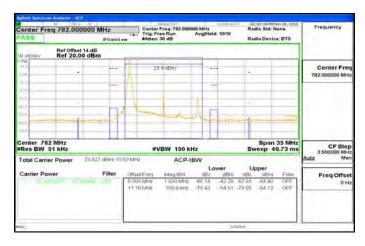
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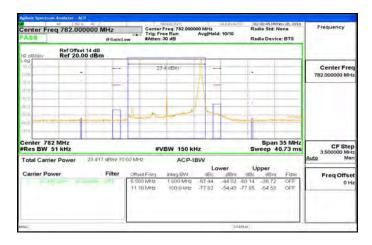
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Band13_10MHz_QPSK_1_49_CH23230



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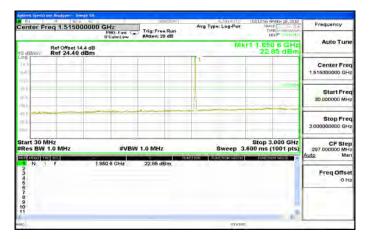
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Carrier Po	wer	Filter	Offset Fring	Integ BW	La	dBm	U dBc	pper dBm	Filtor	Freq Offset
			6 500 MHz 11 10 MHz	1 000 MHz 100 0 kHz	402.47 -76 23	-40.09		-24.60 -52.43	OFF	0 Hz
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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,可時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>www.sgs.com/terms and conditions.htm</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>www.sgs.com/terms e-document.htm</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits 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 form 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 the prosecuted to the fullese extent of the law. and offenders may be prosecuted to the fullest extent of the law.

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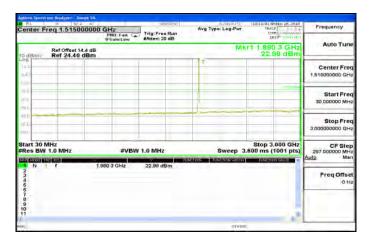
Out of Band Emission 30MHz~3GHz_WCDMA_B2_LowCH9262-1852.4



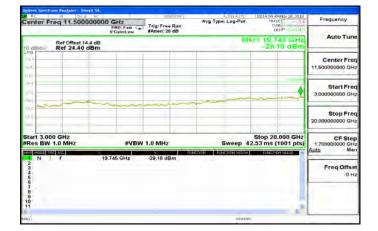
3GHz~10GHz_WCDMA_B2_LowCH9262-1852.4



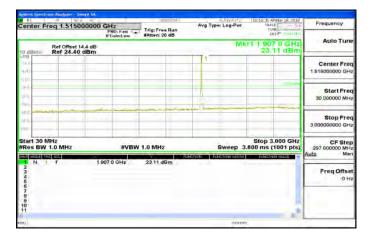
30MHz~3GHz_WCDMA_B2_MidCH9400-1880

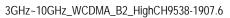


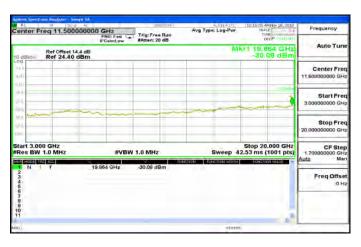
3GHz~10GHz_WCDMA_B2_MidCH9400-1880



30MHz~3GHz_WCDMA_B2_HighCH9538-1907.6







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