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CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
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E-mail: cttl@chinattl.com http://www.chinattl.cn

DASY5 Validation Report for Head TSL

Date: 03.25.2019

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 908

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.841$ S/m; $\epsilon_r = 39.63$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3617; ConvF(7.62, 7.62, 7.62) @ 2450 MHz; Calibrated: 1/31/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2/6/2019
- Phantom: MFP_V5.1C ; Type: QD 000 P51CA; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

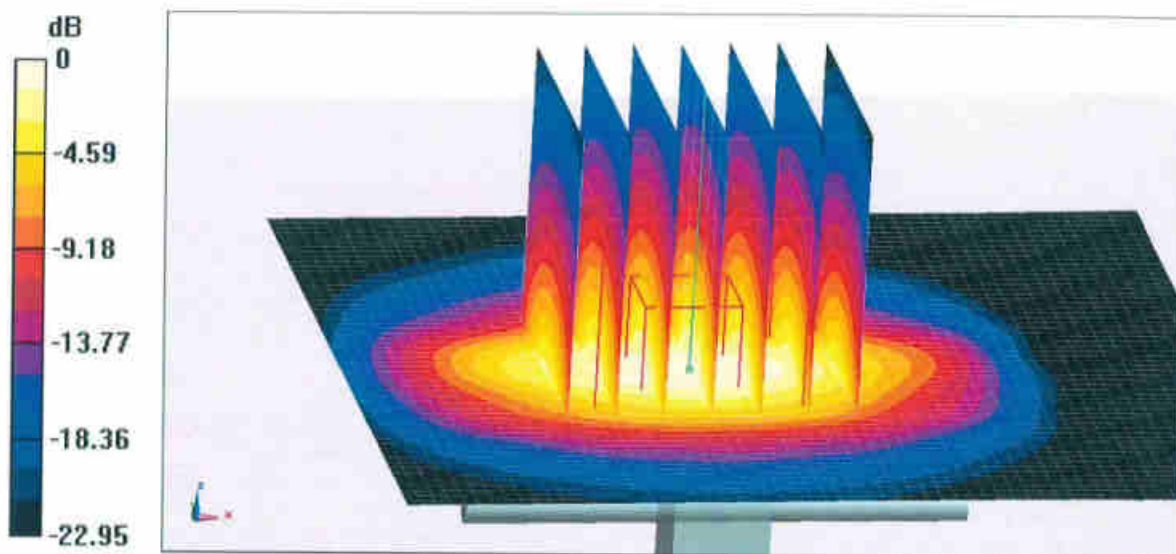
Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96.04 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 28.3 W/kg

SAR(1 g) = 13.3 W/kg; SAR(10 g) = 6.07 W/kg

Maximum value of SAR (measured) = 22.4 W/kg



0 dB = 22.4 W/kg = 13.50 dBW/kg

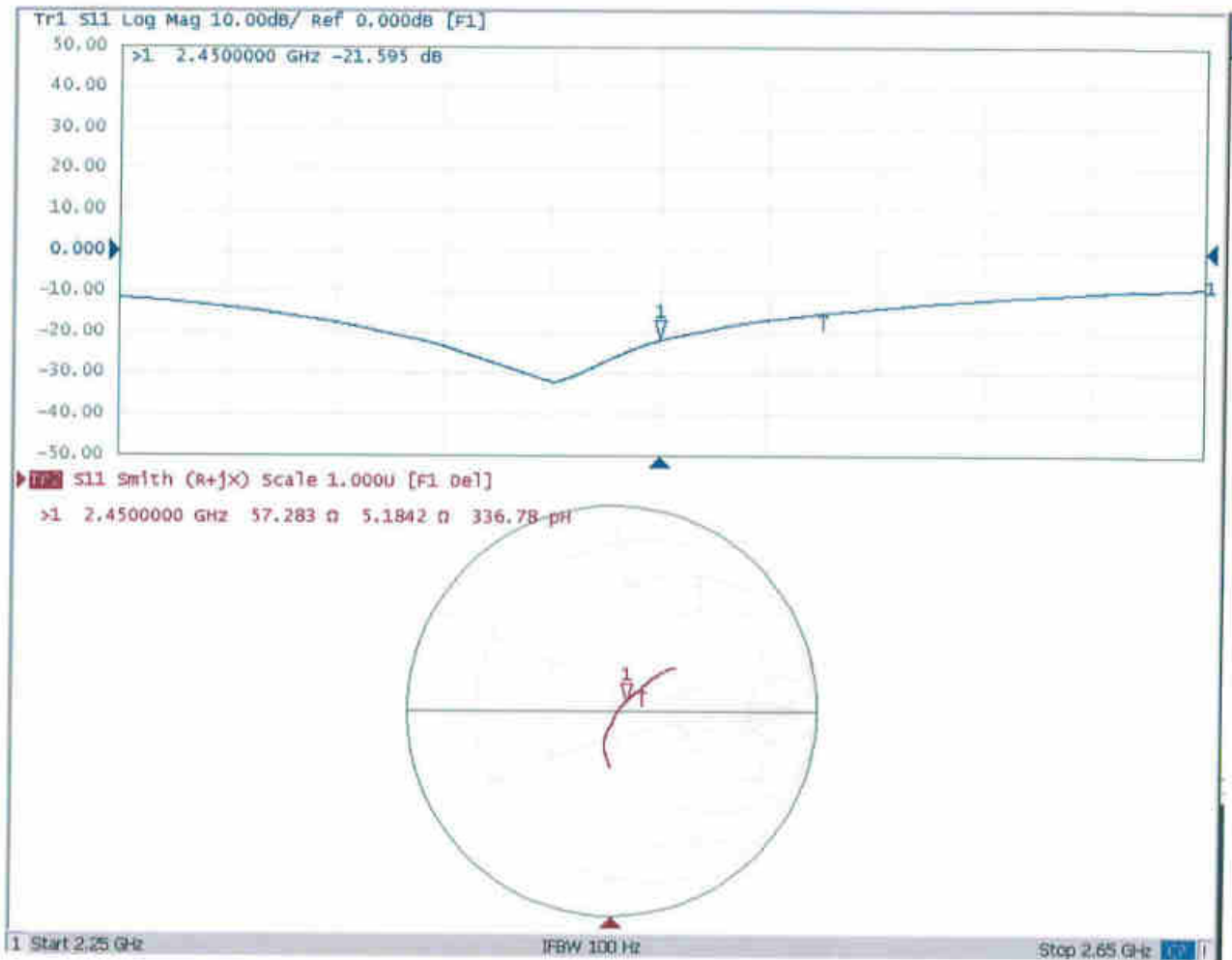


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Impedance Measurement Plot for Head TSL





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DASY5 Validation Report for Body TSL

Date: 03.25.2019

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 908

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2450$ MHz; $\sigma = 2.003$ S/m; $\epsilon_r = 53.78$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3617; ConvF(7.79, 7.79, 7.79) @ 2450 MHz; Calibrated: 1/31/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2/6/2019
- Phantom: MFP_V5.1C ; Type: QD 000 P51CA; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

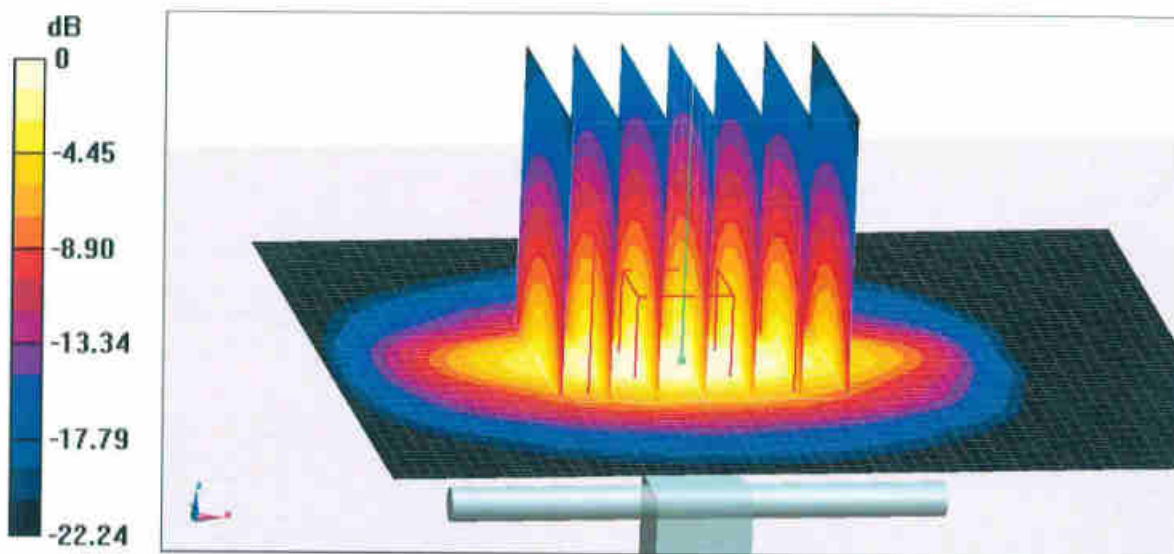
Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 95.51 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 27.1 W/kg

SAR(1 g) = 12.8 W/kg; SAR(10 g) = 5.91 W/kg

Maximum value of SAR (measured) = 21.4 W/kg



0 dB = 21.4 W/kg = 13.30 dBW/kg



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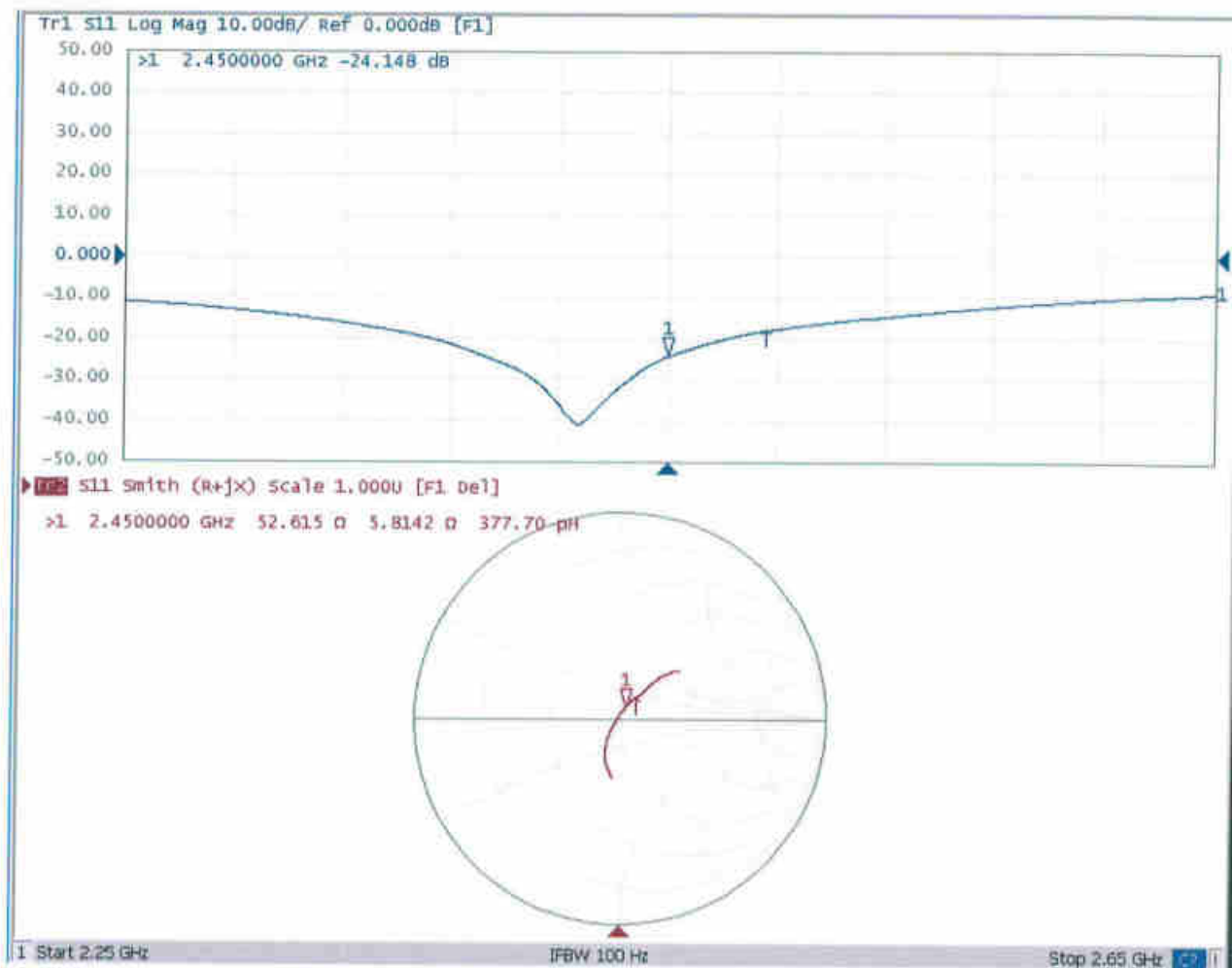
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Impedance Measurement Plot for Body TSL





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CNAS L0570

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
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E-mail: cttl@chinattl.com http://www.chinattl.cn

Client **Sporton**

Certificate No: **Z18-60537**

CALIBRATION CERTIFICATE

Object **D2600V2 - SN: 1070**

Calibration Procedure(s) **FF-Z11-003-01**
Calibration Procedures for dipole validation kits

Calibration date: **December 7, 2018**

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22 ± 3) $^{\circ}\text{C}$ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRVD	102196	07-Mar-18 (CTTL, No.J18X01510)	Mar-19
Power sensor NRV-Z5	100596	07-Mar-18 (CTTL, No.J18X01510)	Mar-19
Reference Probe EX3DV4	SN 7514	27-Aug-18(SPEAG,No.EX3-7514_Aug18)	Aug-19
DAE4	SN 1555	20-Aug-18(SPEAG,No.DAE4-1555_Aug18)	Aug-19
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	23-Jan-18 (CTTL, No.J18X00560)	Jan-19
Network Analyzer E5071C	MY46110673	24-Jan-18 (CTTL, No.J18X00561)	Jan-19

	Name	Function
Calibrated by:	Zhao Jing	SAR Test Engineer
Reviewed by:	Lin Hao	SAR Test Engineer
Approved by:	Qi Dianyuan	SAR Project Leader

Signature

Issued: December 10, 2018

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM _{x,y,z}
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices- Part 1: Device used next to the ear (Frequency range of 300MHz to 6GHz)", July 2016
- IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
- KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor $k=2$, which for a normal distribution Corresponds to a coverage probability of approximately 95%.



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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY52	52.10.2.1495
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2600 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.0	1.96 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	39.1 $\pm$ 6 %	1.93 mho/m $\pm$ 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	14.4 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	58.1 mW / g $\pm$ 18.8 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	6.50 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	26.1 mW / g $\pm$ 18.7 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.5	2.16 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	51.0 $\pm$ 6 %	2.18 mho/m $\pm$ 6 %
Body TSL temperature change during test	<1.0 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.8 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	54.6 mW / g $\pm$ 18.8 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	6.18 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	24.6 mW / g $\pm$ 18.7 % (k=2)



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Appendix(Additional assessments outside the scope of CNAS L0570)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	48.6Ω- 6.33jΩ
Return Loss	- 23.7dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	44.8Ω- 5.36jΩ
Return Loss	- 22.1dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.015 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
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DASY5 Validation Report for Head TSL

Date: 12.06.2018

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1070

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2600$ MHz; $\sigma = 1.926$ S/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7514; ConvF(6.92, 6.92, 6.92) @ 2600 MHz; Calibrated: 8/27/2018
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1555; Calibrated: 8/20/2018
- Phantom: MFP_V5.1C ; Type: QD 000 P51CA; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

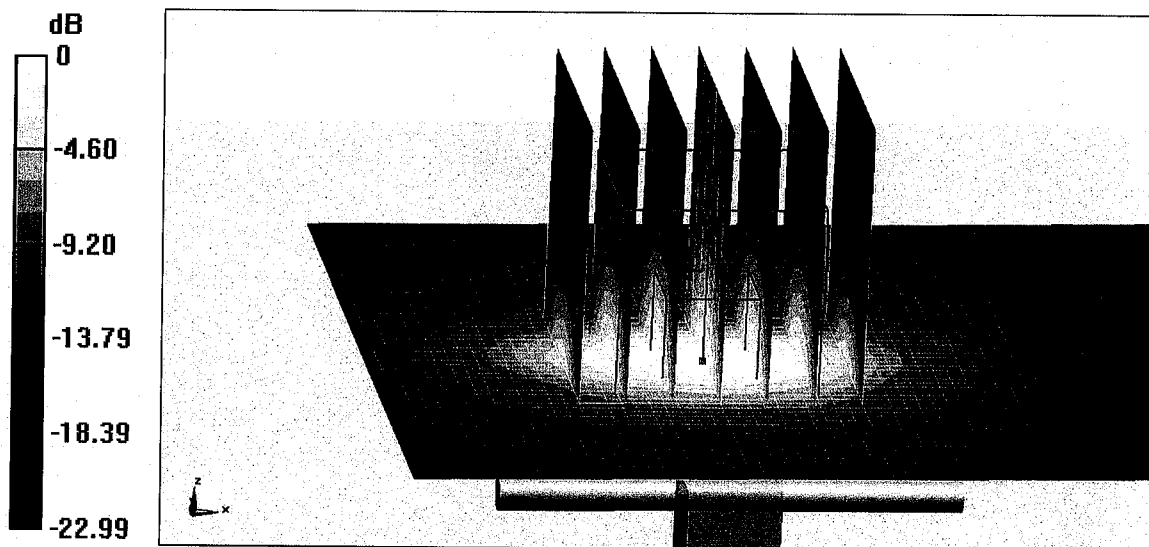
Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 99.07 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 31.1 W/kg

SAR(1 g) = 14.4 W/kg; SAR(10 g) = 6.5 W/kg

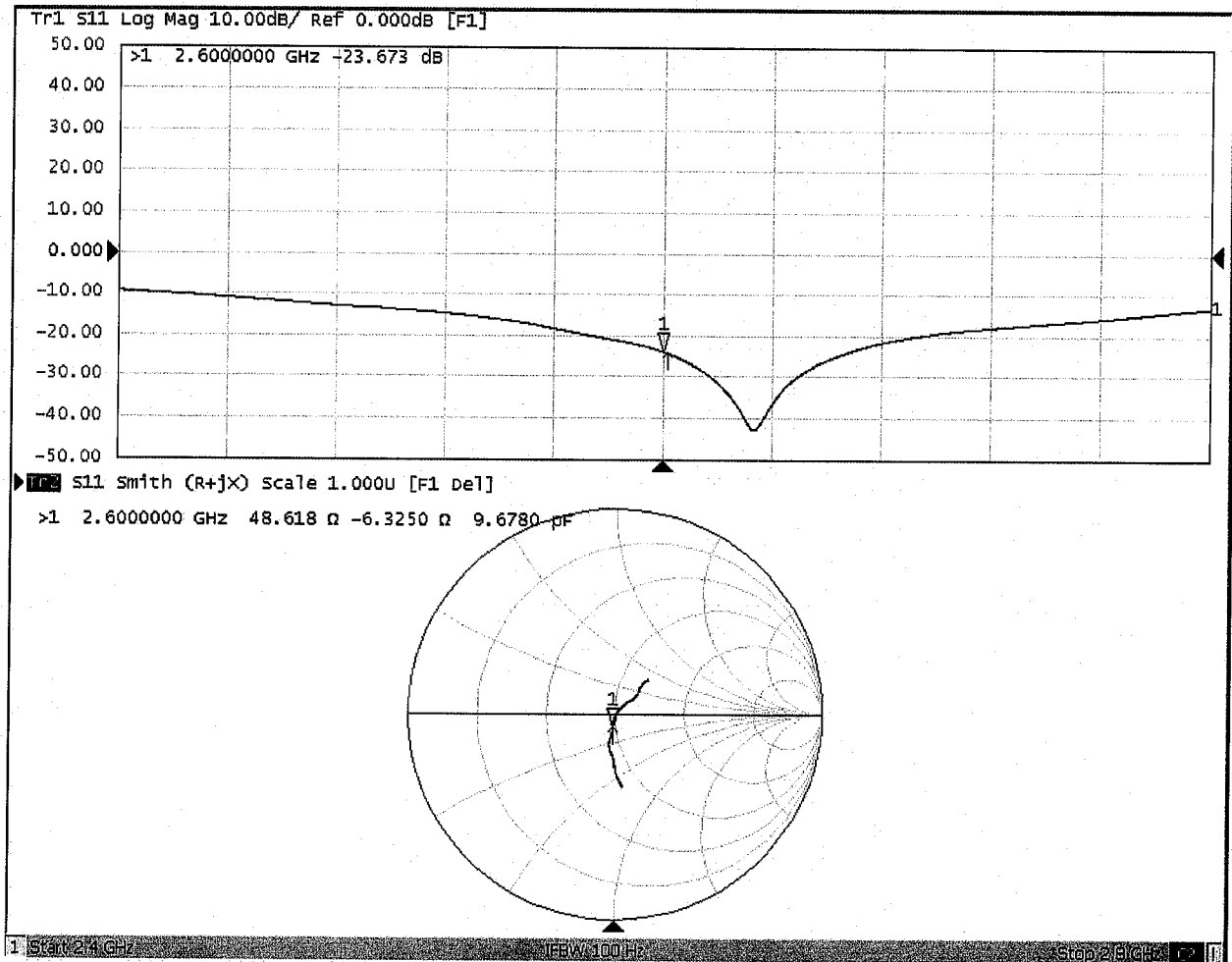
Maximum value of SAR (measured) = 24.7 W/kg



0 dB = 24.7 W/kg = 13.93 dBW/kg



Impedance Measurement Plot for Head TSL





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DASY5 Validation Report for Body TSL

Date: 12.06.2018

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1070

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2600$ MHz; $\sigma = 2.181$ S/m; $\epsilon_r = 51.03$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7514; ConvF(7.06, 7.06, 7.06) @ 2600 MHz; Calibrated: 8/27/2018
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1555; Calibrated: 8/20/2018
- Phantom: MFP_V5.1C ; Type: QD 000 P51CA; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

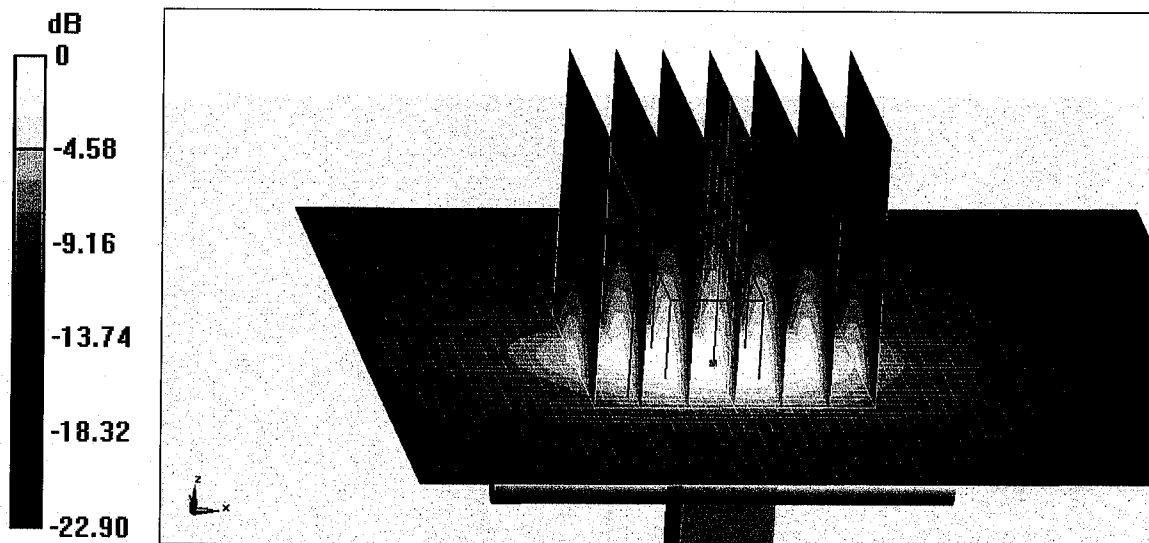
Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.90 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 29.5 W/kg

SAR(1 g) = 13.8 W/kg; SAR(10 g) = 6.18 W/kg

Maximum value of SAR (measured) = 23.6 W/kg

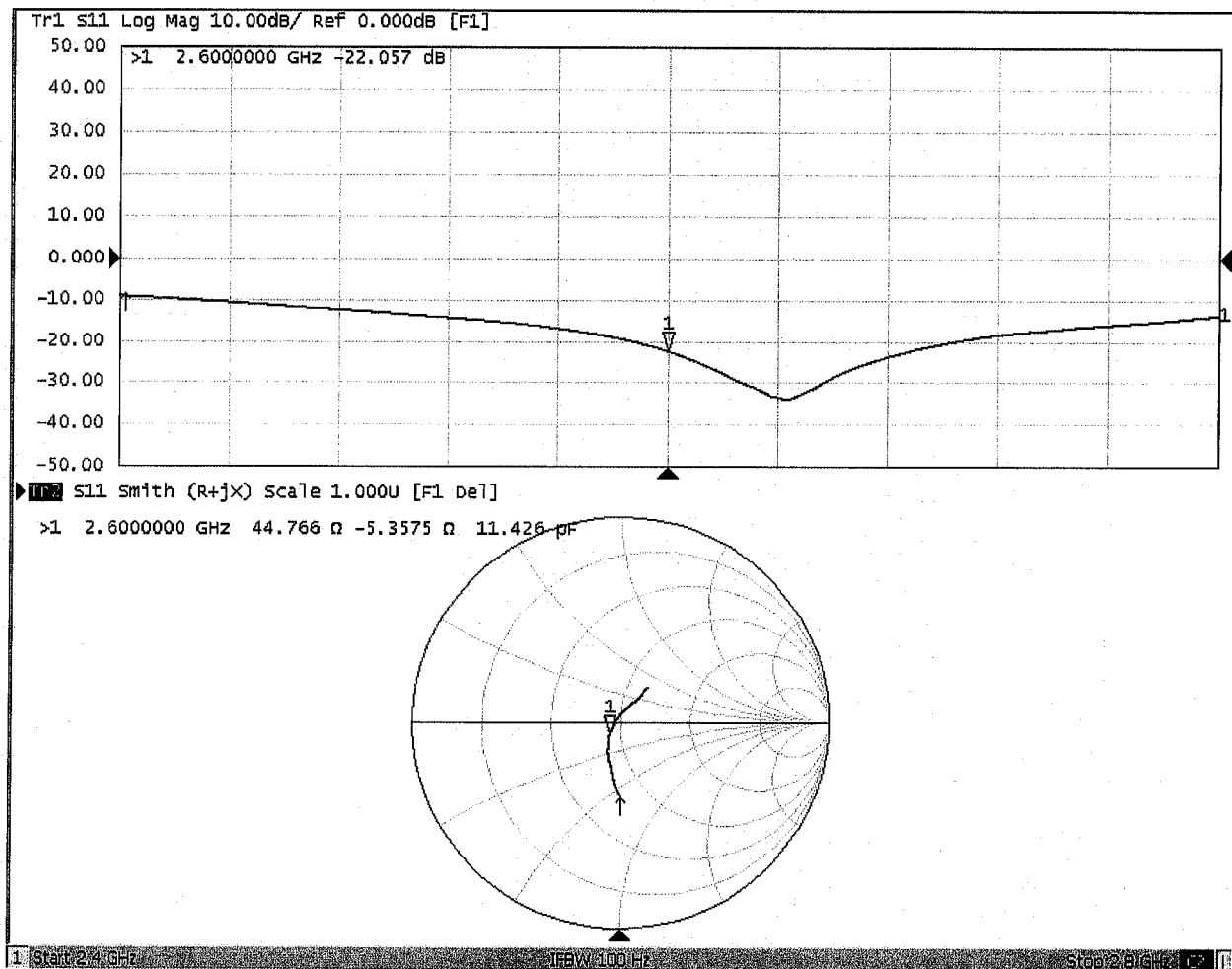


0 dB = 23.6 W/kg = 13.73 dBW/kg



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Impedance Measurement Plot for Body TSL





D2600V2, Serial No. 1070 Extended Dipole Calibrations

Referring to KDB 865664 D01 v01r02, if dipoles are verified in return loss ($< -20\text{dB}$, within 20% of prior calibration), and in impedance (within 5 ohm of prior calibration), the annual calibration is not necessary and the calibration interval can be extended.

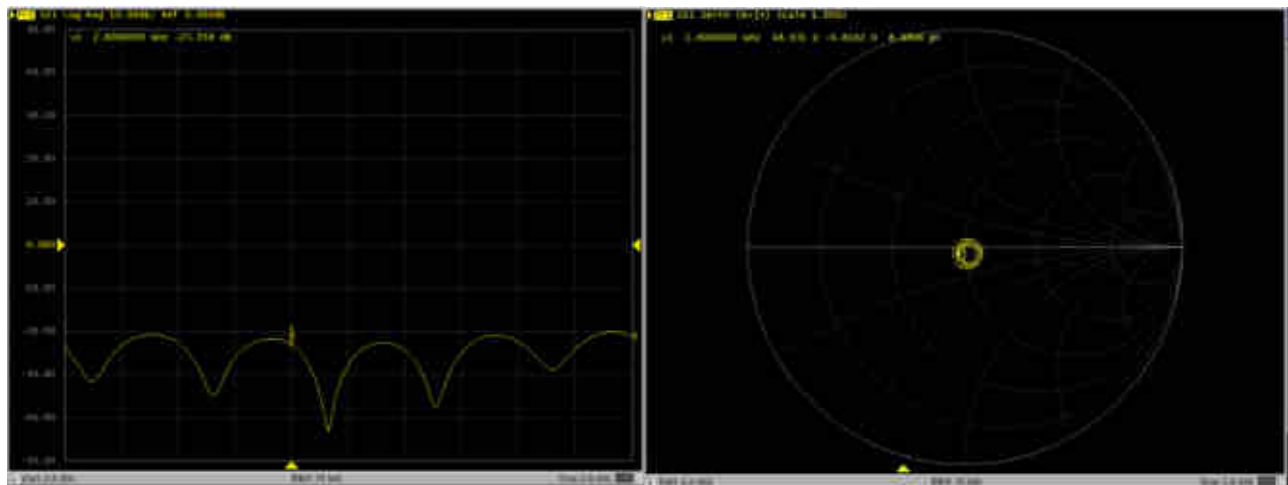
D2600V2 – serial no. 1070												
	2600 Head						2600 Body					
Date of Measurement	Return-Loss (dB)	Delta (%)	Real Impedance (ohm)	Delta (ohm)	Imaginary Impedance (ohm)	Delta (ohm)	Return-Loss (dB)	Delta (%)	Real Impedance (ohm)	Delta (ohm)	Imaginary Impedance (ohm)	Delta (ohm)
2018.12.7	-23.7		48.6		-6.33		-22.1		44.8		-5.36	
2019.11.25	-23.1	2.5	48.6	0	-6.82	-0.49	-22.0	0.5	45.3	0.5	-4.65	0.71

<Justification of the extended calibration>

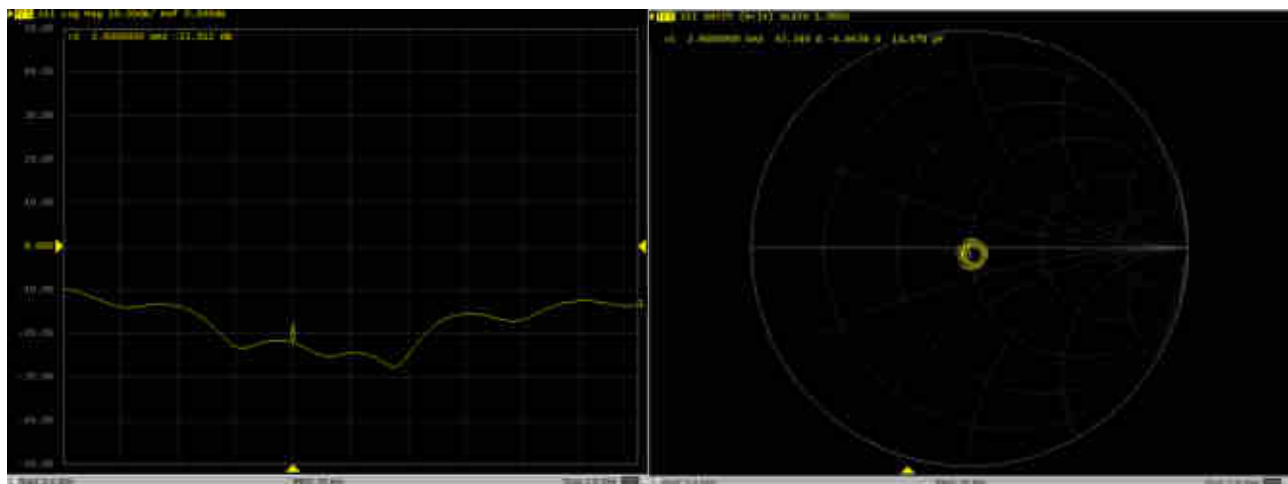
The return loss is $< -20\text{dB}$, within 20% of prior calibration; the impedance is within 5 ohm of prior calibration. Therefore the verification result should support extended calibration.

Dipole Verification Data> D2600V2, serial no. 1070

2600MHz - Head



2600MHz - Body





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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **Sporton**

Certificate No: **D5GHzV2-1113_Sep19**

CALIBRATION CERTIFICATE

Object **D5GHzV2 - SN:1113**

Calibration procedure(s) **QA CAL-22.v4
Calibration Procedure for SAR Validation Sources between 3-6 GHz**

Calibration date: **September 24, 2019**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	03-Apr-19 (No. 217-02892/02893)	Apr-20
Power sensor NRP-Z91	SN: 103244	03-Apr-19 (No. 217-02892)	Apr-20
Power sensor NRP-Z91	SN: 103245	03-Apr-19 (No. 217-02893)	Apr-20
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-19 (No. 217-02894)	Apr-20
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-19 (No. 217-02895)	Apr-20
Reference Probe EX3DV4	SN: 3503	25-Mar-19 (No. EX3-3503_Mar19)	Mar-20
DAE4	SN: 601	30-Apr-19 (No. DAE4-601_Apr19)	Apr-20
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB39512475	30-Oct-14 (in house check Feb-19)	In house check: Oct-20
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-18)	In house check: Oct-20
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-18)	In house check: Oct-20
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-18)	In house check: Oct-20
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-18)	In house check: Oct-19

Calibrated by:	Name Jeton Kastrati	Function Laboratory Technician	Signature 
Approved by:	Katja Pokovic	Technical Manager	

Issued: September 25, 2019

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Accreditation No.: **SCS 0108**

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	5250 MHz $\pm$ 1 MHz 5600 MHz $\pm$ 1 MHz 5750 MHz $\pm$ 1 MHz	

Head TSL parameters at 5250 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.9	4.71 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	35.1 $\pm$ 6 %	4.53 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5250 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.09 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	80.5 W/kg $\pm$ 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.33 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.1 W/kg $\pm$ 19.5 % (k=2)

Head TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.5	5.07 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	34.6 $\pm$ 6 %	4.88 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	---	---

SAR result with Head TSL at 5600 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.40 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	83.4 W/kg $\pm$ 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.40 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.8 W/kg $\pm$ 19.5 % (k=2)

Head TSL parameters at 5750 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.4	5.22 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.4 ± 6 %	5.03 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5750 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.06 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	80.0 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.30 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	22.8 W/kg ± 19.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL at 5250 MHz

Impedance, transformed to feed point	51.7 Ω - 6.2 $j\Omega$
Return Loss	- 24.0 dB

Antenna Parameters with Head TSL at 5600 MHz

Impedance, transformed to feed point	56.0 Ω - 2.7 $j\Omega$
Return Loss	- 24.1 dB

Antenna Parameters with Head TSL at 5750 MHz

Impedance, transformed to feed point	56.7 Ω - 1.0 $j\Omega$
Return Loss	- 23.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.195 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
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Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1113Communication System: UID 0 - CW; Frequency: 5250 MHz, Frequency: 5600 MHz,
Frequency: 5750 MHzMedium parameters used: $f = 5250$ MHz; $\sigma = 4.53$ S/m; $\epsilon_r = 35.1$; $\rho = 1000$ kg/m³,Medium parameters used: $f = 5600$ MHz; $\sigma = 4.88$ S/m; $\epsilon_r = 34.6$; $\rho = 1000$ kg/m³,Medium parameters used: $f = 5750$ MHz; $\sigma = 5.03$ S/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.4, 5.4, 5.4) @ 5250 MHz, ConvF(4.95, 4.95, 4.95) @ 5600 MHz, ConvF(4.98, 4.98, 4.98) @ 5750 MHz; Calibrated: 25.03.2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.04.2019
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.2(1504); SEMCAD X 14.6.12(7470)

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5250 MHz/Zoom Scan,**dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 78.54 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 27.9 W/kg

SAR(1 g) = 8.09 W/kg; SAR(10 g) = 2.33 W/kg

Maximum value of SAR (measured) = 18.1 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan,**dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 78.00 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 31.1 W/kg

SAR(1 g) = 8.40 W/kg; SAR(10 g) = 2.40 W/kg

Maximum value of SAR (measured) = 19.4 W/kg

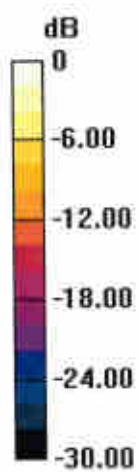
Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5750 MHz/Zoom Scan,**dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 75.13 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 31.8 W/kg

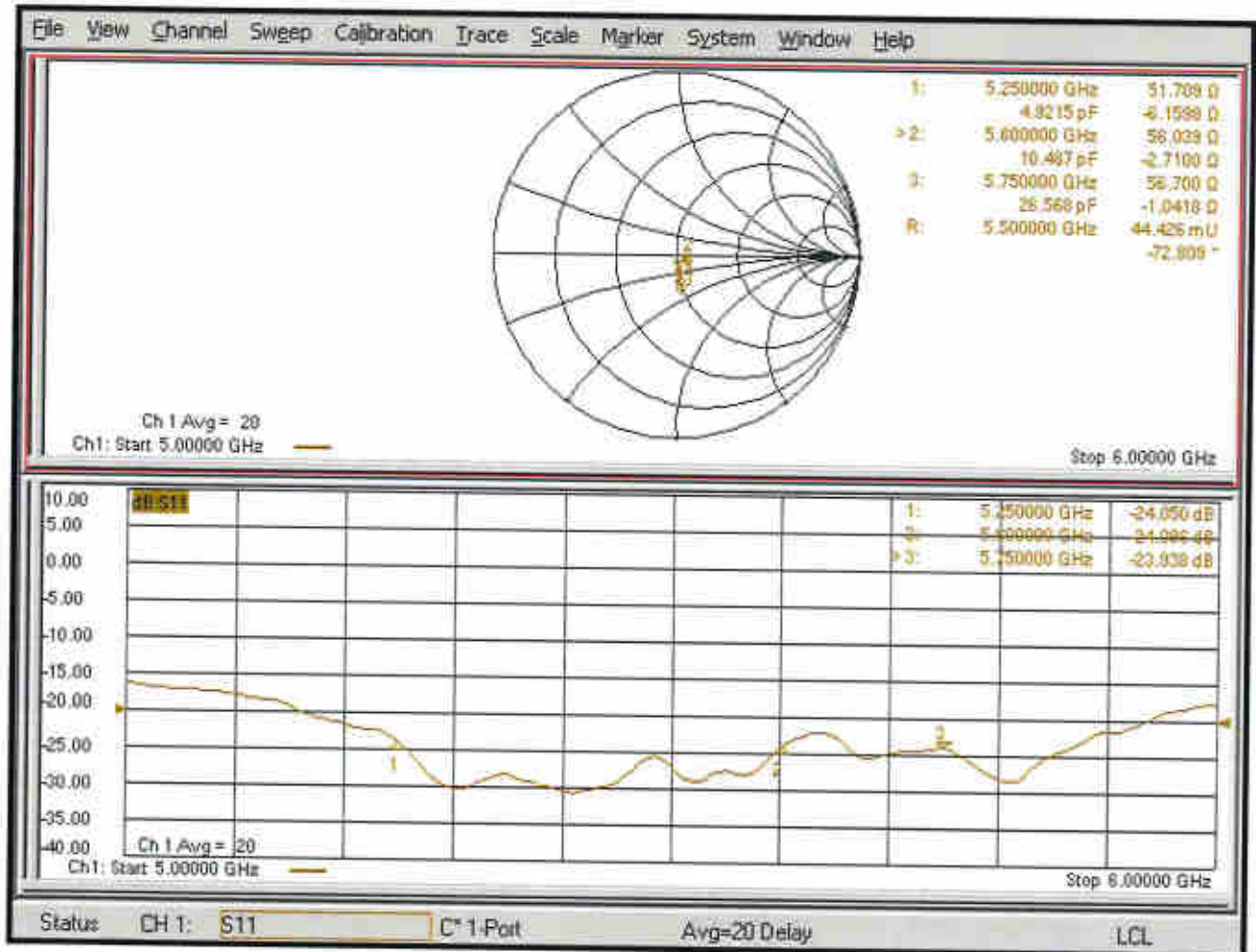
SAR(1 g) = 8.06 W/kg; SAR(10 g) = 2.30 W/kg

Maximum value of SAR (measured) = 19.0 W/kg



0 dB = 18.1 W/kg = 12.58 dBW/kg

Impedance Measurement Plot for Head TSL





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Client **Sporton-CN (Auden)**

Certificate No: **DAE4-1210_Jul19**

CALIBRATION CERTIFICATE

Object **DAE4 - SD 000 D04 BM - SN: 1210**

Calibration procedure(s) **QA CAL-06.v29
Calibration procedure for the data acquisition electronics (DAE)**

Calibration date: **July 23, 2019**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Keithley Multimeter Type 2001	SN: 0810278	03-Sep-18 (No:23488)	Sep-19
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Auto DAE Calibration Unit	SE UWS 053 AA 1001	07-Jan-19 (in house check)	In house check: Jan-20
Calibrator Box V2.1	SE UMS 006 AA 1002	07-Jan-19 (in house check)	In house check: Jan-20

Calibrated by: **Name**
Adrian Gehring **Function**
Laboratory Technician

Signature

Approved by: **Sven Kühn** **Deputy Manager**

Issued: July 23, 2019

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Glossary

DAE	data acquisition electronics
Connector angle	information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- *DC Voltage Measurement:* Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle:* The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
 - *DC Voltage Measurement Linearity:* Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
 - *Common mode sensitivity:* Influence of a positive or negative common mode voltage on the differential measurement.
 - *Channel separation:* Influence of a voltage on the neighbor channels not subject to an input voltage.
 - *AD Converter Values with inputs shorted:* Values on the internal AD converter corresponding to zero input voltage
 - *Input Offset Measurement:* Output voltage and statistical results over a large number of zero voltage measurements.
 - *Input Offset Current:* Typical value for information; Maximum channel input offset current, not considering the input resistance.
 - *Input resistance:* Typical value for information: DAE input resistance at the connector, during internal auto-zeroing and during measurement.
 - *Low Battery Alarm Voltage:* Typical value for information. Below this voltage, a battery alarm signal is generated.
 - *Power consumption:* Typical value for information. Supply currents in various operating modes.

DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1 μ V , full range = -100...+300 mV
Low Range: 1LSB = 61 nV , full range = -1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	404.166 $\pm$ 0.02% (k=2)	404.988 $\pm$ 0.02% (k=2)	405.096 $\pm$ 0.02% (k=2)
Low Range	3.99856 $\pm$ 1.50% (k=2)	3.98348 $\pm$ 1.50% (k=2)	3.99912 $\pm$ 1.50% (k=2)

Connector Angle

Connector Angle to be used in DASY system	345.5 ° $\pm$ 1 °
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Appendix (Additional assessments outside the scope of SCS0108)

1. DC Voltage Linearity

High Range	Reading (μV)	Difference (μV)	Error (%)
Channel X + Input	199994.14	-1.58	-0.00
Channel X + Input	20003.24	1.63	0.01
Channel X - Input	-19999.69	2.15	-0.01
Channel Y + Input	199994.24	-1.47	-0.00
Channel Y + Input	19999.92	-1.59	-0.01
Channel Y - Input	-20002.36	-0.45	0.00
Channel Z + Input	199993.01	-3.18	-0.00
Channel Z + Input	20001.72	0.33	0.00
Channel Z - Input	-20001.83	0.22	-0.00

Low Range	Reading (μV)	Difference (μV)	Error (%)
Channel X + Input	2000.95	0.12	0.01
Channel X + Input	201.39	0.23	0.11
Channel X - Input	-198.00	0.76	-0.38
Channel Y + Input	2000.37	-0.36	-0.02
Channel Y + Input	200.27	-0.81	-0.40
Channel Y - Input	-199.65	-0.81	0.41
Channel Z + Input	2000.08	-0.54	-0.03
Channel Z + Input	200.54	-0.42	-0.21
Channel Z - Input	-199.83	-0.88	0.44

2. Common mode sensitivity

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading (μV)	Low Range Average Reading (μV)
Channel X	200	-6.17	-7.94
	- 200	9.53	7.51
Channel Y	200	-9.87	-9.68
	- 200	8.28	8.02
Channel Z	200	12.52	12.54
	- 200	-13.97	-14.14

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (μV)	Channel Y (μV)	Channel Z (μV)
Channel X	200	-	2.17	-3.57
Channel Y	200	8.43	-	2.81
Channel Z	200	9.90	6.07	-

4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	15961	16608
Channel Y	15954	15680
Channel Z	15869	16574

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Input 10M Ω

	Average (μ V)	min. Offset (μ V)	max. Offset (μ V)	Std. Deviation (μ V)
Channel X	-0.75	-1.83	0.18	0.39
Channel Y	0.12	-0.92	0.78	0.38
Channel Z	1.30	-0.57	3.07	0.63

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. Power Consumption (Typical values for information)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	-0.01	-8	-9



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Accreditation No.: SCS 0108

Client **Sporton**

Certificate No: DAE4-1338_Nov19

CALIBRATION CERTIFICATE

Object **DAE4 - SD 000 D04 BM - SN: 1338**

Calibration procedure(s) **QA CAL-06.v29**
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: **November 20, 2019**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Keithley Multimeter Type 2001	SN: 0810278	03-Sep-19 (No:25949)	Sep-20
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Auto DAE Calibration Unit Calibrator Box V2.1	SE LWS 053 AA 1001	07-Jan-19 (in house check)	In house check: Jan-20
	SE UMS 006 AA 1002	07-Jan-19 (in house check)	In house check: Jan-20

Calibrated by:	Name Eric Hainfeld	Function Laboratory Technician	Signature
Approved by:	Sven Kühn	Deputy Manager	

Issued: November 20, 2019

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Accreditation No.: **SCS 0108**

Glossary

DAE	data acquisition electronics
Connector angle	information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- *DC Voltage Measurement:* Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle:* The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
 - *DC Voltage Measurement Linearity:* Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
 - *Common mode sensitivity:* Influence of a positive or negative common mode voltage on the differential measurement.
 - *Channel separation:* Influence of a voltage on the neighbor channels not subject to an input voltage.
 - *AD Converter Values with inputs shorted:* Values on the internal AD converter corresponding to zero input voltage
 - *Input Offset Measurement:* Output voltage and statistical results over a large number of zero voltage measurements.
 - *Input Offset Current:* Typical value for information; Maximum channel input offset current, not considering the input resistance.
 - *Input resistance:* Typical value for information: DAE input resistance at the connector, during internal auto-zeroing and during measurement.
 - *Low Battery Alarm Voltage:* Typical value for information. Below this voltage, a battery alarm signal is generated.
 - *Power consumption:* Typical value for information. Supply currents in various operating modes.

Appendix (Additional assessments outside the scope of SCS0108)

1. DC Voltage Linearity

High Range	Reading (μV)	Difference (μV)	Error (%)
Channel X + Input	200032.47	-3.15	-0.00
Channel X + Input	20005.24	-0.41	-0.00
Channel X - Input	-20006.33	-0.08	0.00
Channel Y + Input	200035.56	-0.12	-0.00
Channel Y + Input	20004.04	-1.44	-0.01
Channel Y - Input	-20008.42	-2.09	0.01
Channel Z + Input	200033.57	-2.10	-0.00
Channel Z + Input	20004.49	-0.96	-0.00
Channel Z - Input	-20008.50	-2.10	0.01

Low Range	Reading (μV)	Difference (μV)	Error (%)
Channel X + Input	2001.19	0.11	0.01
Channel X + Input	201.01	-0.01	-0.00
Channel X - Input	-199.18	-0.36	0.18
Channel Y + Input	2001.08	0.17	0.01
Channel Y + Input	199.87	-0.94	-0.47
Channel Y - Input	-200.25	-1.26	0.64
Channel Z + Input	2000.89	-0.01	-0.00
Channel Z + Input	199.87	-0.86	-0.43
Channel Z - Input	-199.91	-0.91	0.46

2. Common mode sensitivity

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading (μV)	Low Range Average Reading (μV)
Channel X	200	7.80	5.74
	- 200	-6.09	-7.67
Channel Y	200	-21.26	-21.58
	- 200	19.76	19.35
Channel Z	200	-2.47	-2.52
	- 200	0.78	0.74

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (μV)	Channel Y (μV)	Channel Z (μV)
Channel X	200	-	3.28	-2.96
Channel Y	200	7.86	-	4.97
Channel Z	200	8.87	6.08	-

DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1 μ V , full range = -100...+300 mV

Low Range: 1LSB = 61 nV , full range = -1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	403.688 $\pm$ 0.02% (k=2)	404.268 $\pm$ 0.02% (k=2)	404.224 $\pm$ 0.02% (k=2)
Low Range	3.97425 $\pm$ 1.50% (k=2)	3.97933 $\pm$ 1.50% (k=2)	3.97493 $\pm$ 1.50% (k=2)

Connector Angle

Connector Angle to be used in DASY system	239.5 $^{\circ}$ $\pm$ 1 $^{\circ}$
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4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	16190	14025
Channel Y	16291	16862
Channel Z	16104	15099

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Input 10M Ω

	Average (μ V)	min. Offset (μ V)	max. Offset (μ V)	Std. Deviation (μ V)
Channel X	-0.07	-1.18	1.09	0.42
Channel Y	-0.64	-1.62	0.80	0.39
Channel Z	-0.63	-1.81	0.20	0.36

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. Power Consumption (Typical values for information)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	-0.01	-8	-9



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Accreditation No.: **SCS 0108**

Client **Sporton**

Certificate No: **ES3-3293_Nov19**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3293**

Calibration procedure(s) **QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v7
Calibration procedure for dosimetric E-field probes**

Calibration date: **November 25, 2019**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	03-Apr-19 (No. 217-02892/02893)	Apr-20
Power sensor NRP-Z91	SN: 103244	03-Apr-19 (No. 217-02892)	Apr-20
Power sensor NRP-Z91	SN: 103245	03-Apr-19 (No. 217-02893)	Apr-20
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-19 (No. 217-02894)	Apr-20
DAE4	SN: 660	07-Oct-19 (No. DAE4-660_Oct19)	Oct-20
Reference Probe ES3DV2	SN: 3013	31-Dec-18 (No. ES3-3013_Dec18)	Dec-19
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-18)	In house check: Jun-20
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-19)	In house check: Oct-20

	Name	Function	Signature
Calibrated by:	Leif Klysner	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			
Issued: November 26, 2019			



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Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization ϕ	ϕ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z}** = NORM_{x,y,z} * frequency_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,y,z}**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM_x (no uncertainty required).

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3293

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	1.09	0.90	0.71	± 10.1 %
DCP (mV) ^B	105.6	104.0	109.8	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Max dev.	Unc ^E (k=2)
0	CW	X	0.0	0.0	1.0	0.00	197.9	±3.5 %	± 4.7 %
		Y	0.0	0.0	1.0		199.0		
		Z	0.0	0.0	1.0		206.6		

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of Norm X,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 5).

^B Numerical linearization parameter: uncertainty not required.

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3293

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-4.6
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3293

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^H (mm)	Unc (k=2)
750	41.9	0.89	6.56	6.56	6.56	0.80	1.23	± 12.0 %
835	41.5	0.90	6.39	6.39	6.39	0.80	1.26	± 12.0 %
900	41.5	0.97	6.23	6.23	6.23	0.72	1.30	± 12.0 %
1450	40.5	1.20	5.89	5.89	5.89	0.48	1.49	± 12.0 %
1750	40.1	1.37	5.53	5.53	5.53	0.55	1.38	± 12.0 %
1900	40.0	1.40	5.32	5.32	5.32	0.67	1.30	± 12.0 %
2000	40.0	1.40	5.25	5.25	5.25	0.50	1.55	± 12.0 %
2300	39.5	1.67	4.89	4.89	4.89	0.63	1.42	± 12.0 %
2450	39.2	1.80	4.60	4.60	4.60	0.80	1.33	± 12.0 %
2600	39.0	1.96	4.39	4.39	4.39	0.75	1.41	± 12.0 %

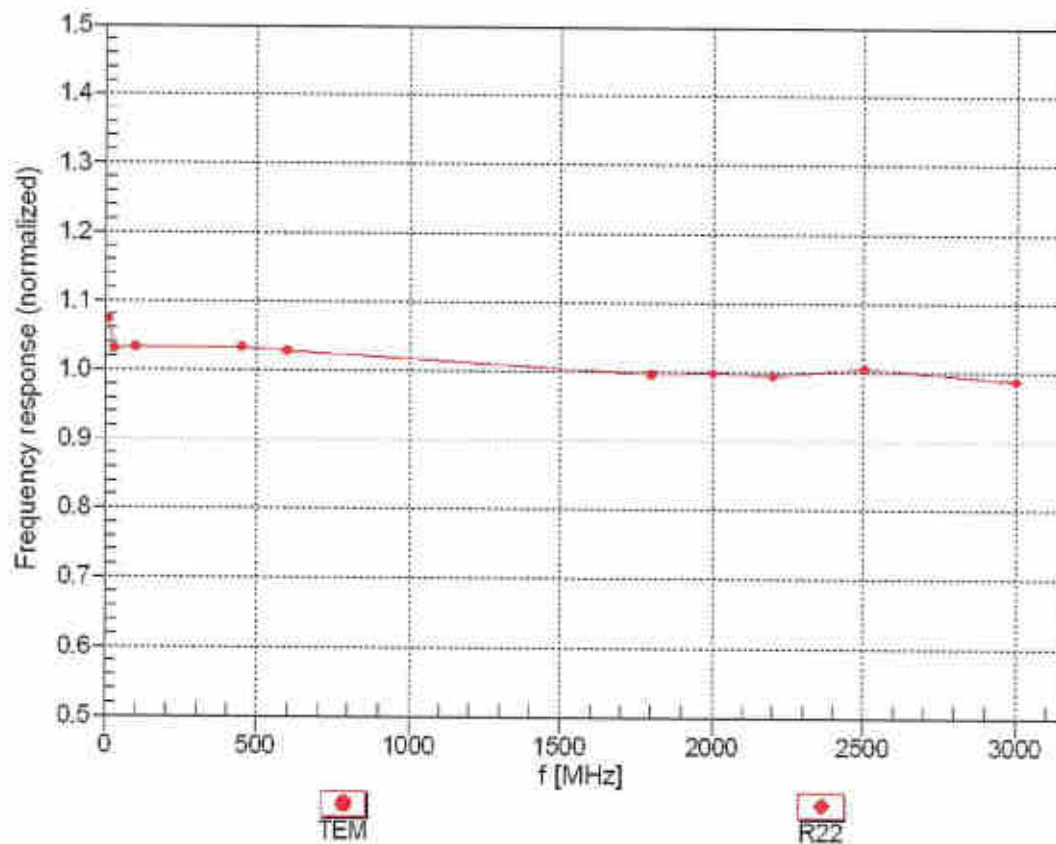
^C Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-8 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Frequency Response of E-Field

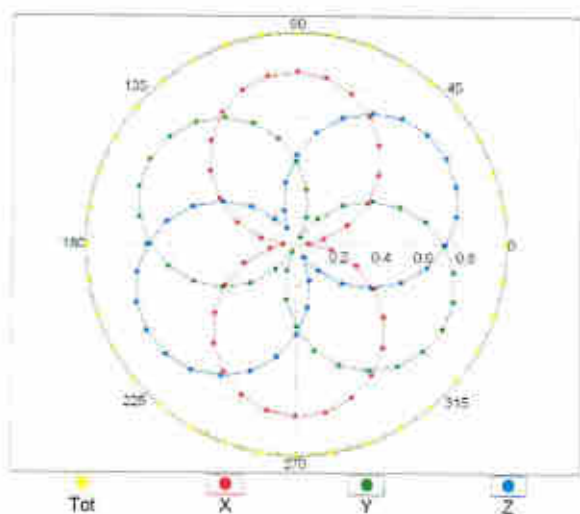
(TEM-Cell:ifi110 EXX, Waveguide: R22)



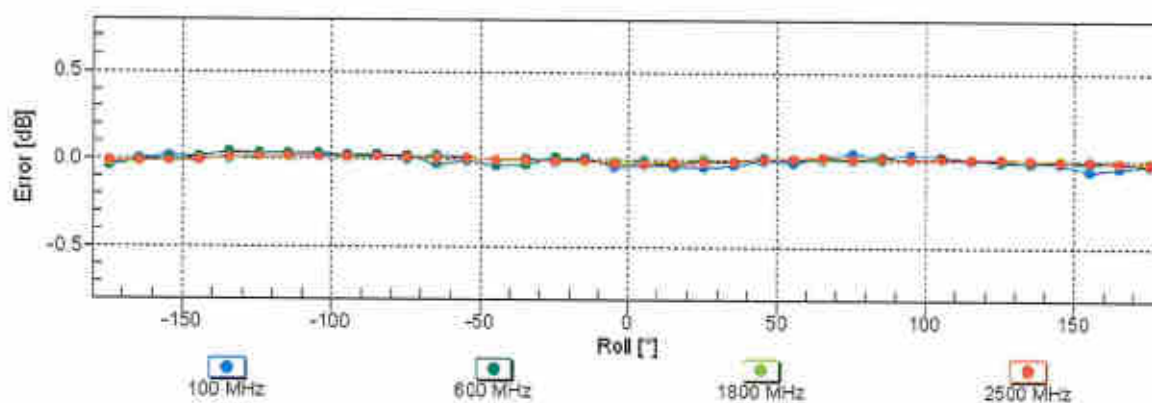
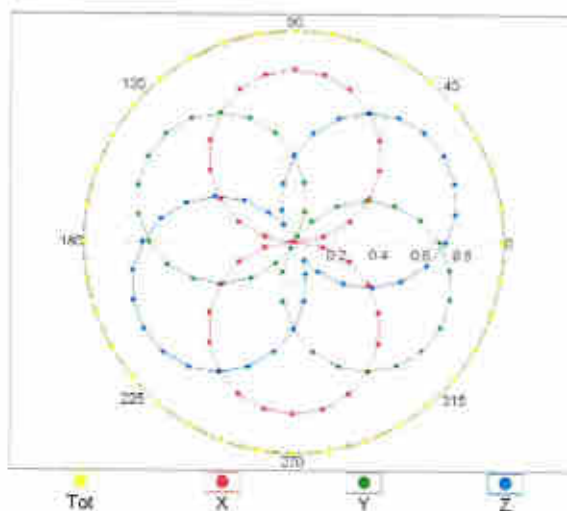
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

Receiving Pattern (ϕ), $\theta = 0^\circ$

f=600 MHz,TEM

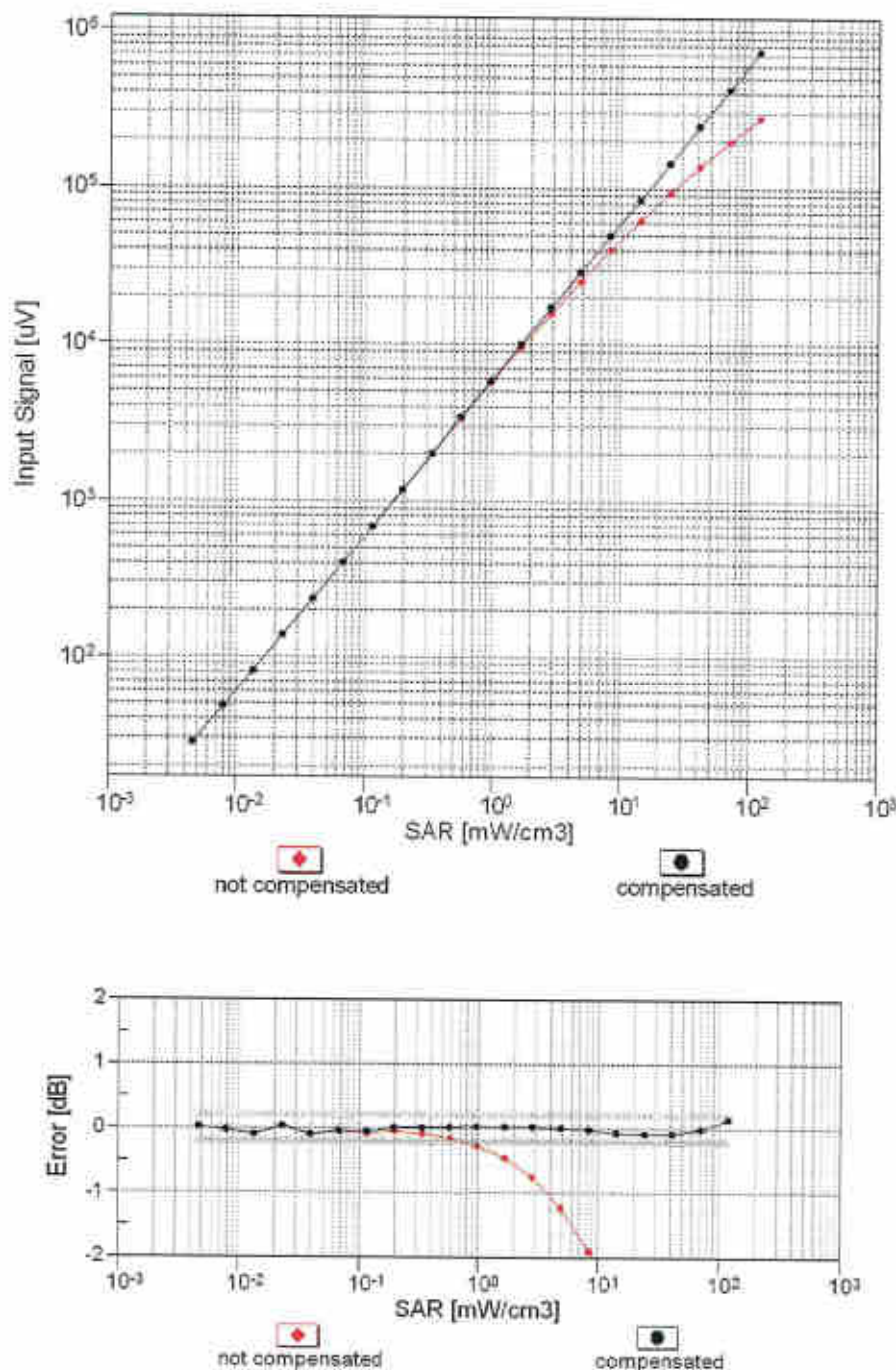


f=1800 MHz,R22



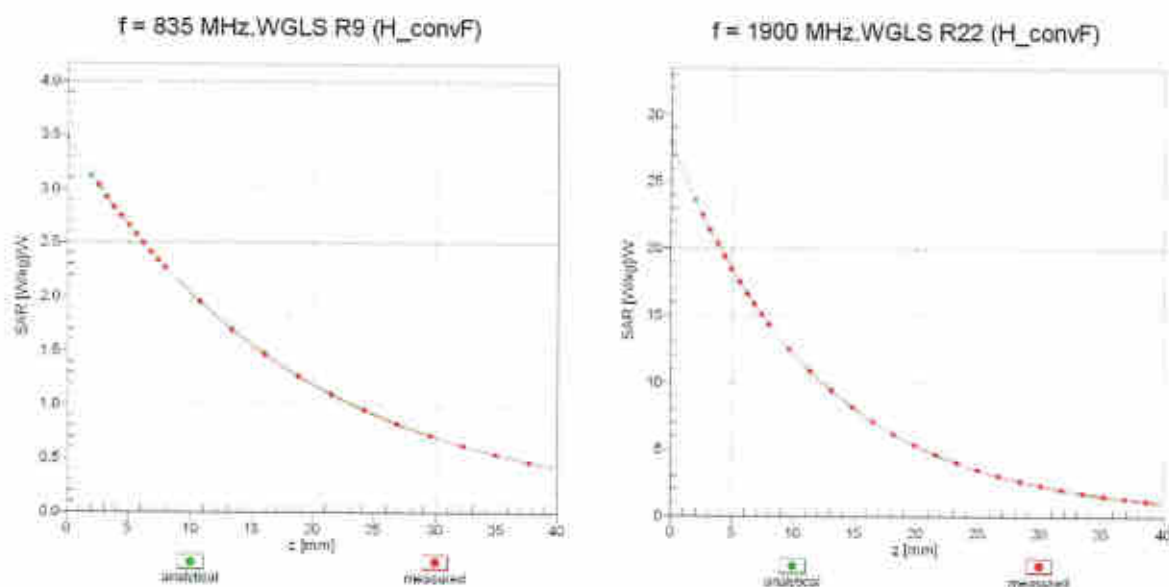
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

Dynamic Range f(SAR_{head})
(TEM cell , f_{eval}= 1900 MHz)



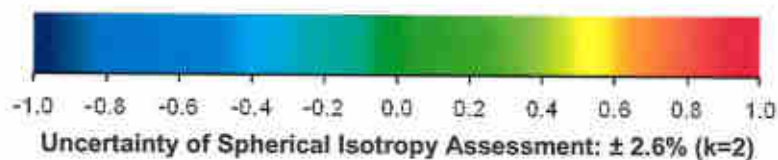
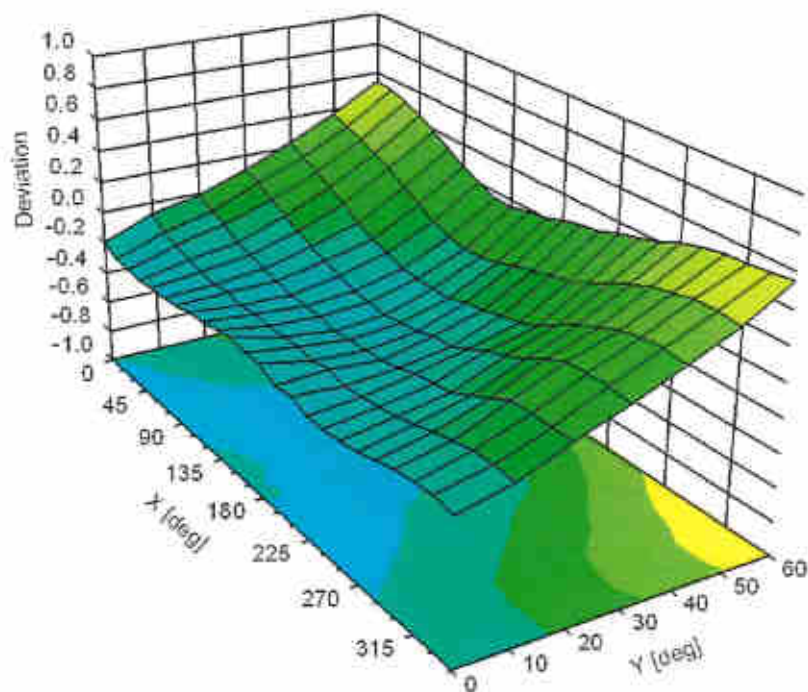
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, θ), $f = 900 \text{ MHz}$



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ ($k=2$)



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Client **Sporton**

Certificate No: **EX3-3857_May19**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3857**

Calibration procedure(s) **QA CAL-01.v9, QA CAL-14.v5, QA CAL-23.v5, QA CAL-25.v7
Calibration procedure for dosimetric E-field probes**

Calibration date: **May 27, 2019**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	03-Apr-19 (No. 217-02892/02893)	Apr-20
Power sensor NRP-Z91	SN: 103244	03-Apr-19 (No. 217-02892)	Apr-20
Power sensor NRP-Z91	SN: 103245	03-Apr-19 (No. 217-02893)	Apr-20
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-19 (No. 217-02894)	Apr-20
DAE4	SN: 660	19-Dec-18 (No. DAE4-660 Dec18)	Dec-19
Reference Probe ES3DV2	SN: 3013	31-Dec-18 (No. ES3-3013 Dec18)	Dec-19
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-20
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-20
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-20
RF generator HP 8848C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-20
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-18)	In house check: Oct-19

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	
			Issued: May 28, 2019
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization ϕ	ϕ rotation around probe axis
Polarization θ	θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\theta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\theta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z}** = NORM_{x,y,z} * frequency_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,y,z}**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM_x (no uncertainty required).

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3857

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$) ^A	0.17	0.43	0.45	± 10.1 %
DCP (mV) ^B	102.0	100.4	103.0	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB μV	C	D dB	VR mV	Max dev.	Max Unc ^E (k=2)
0	CW	X	0.00	0.00	1.00	0.00	149.1	± 3.5 %	± 4.7 %
		Y	0.00	0.00	1.00		142.5		
		Z	0.00	0.00	1.00		128.7		
10352-AAA	Pulse Waveform (200Hz, 10%)	X	5.02	71.79	14.46	10.00	60.0	± 3.0 %	± 9.6 %
		Y	15.00	85.65	19.05		60.0		
		Z	15.00	87.33	19.76		60.0		
10353-AAA	Pulse Waveform (200Hz, 20%)	X	4.88	73.94	13.94	6.99	80.0	± 1.7 %	± 9.6 %
		Y	15.00	86.82	18.12		80.0		
		Z	15.00	88.67	19.12		80.0		
10354-AAA	Pulse Waveform (200Hz, 40%)	X	7.38	78.94	13.73	3.98	95.0	± 1.4 %	± 9.6 %
		Y	15.00	86.36	16.11		95.0		
		Z	15.00	93.83	20.13		95.0		
10355-AAA	Pulse Waveform (200Hz, 60%)	X	0.64	63.16	6.75	2.22	120.0	± 1.5 %	± 9.6 %
		Y	13.05	81.68	12.64		120.0		
		Z	15.00	101.47	22.26		120.0		
10387-AAA	QPSK Waveform, 1 MHz	X	1.68	72.66	15.43	0.00	150.0	± 2.7 %	± 9.6 %
		Y	0.57	60.00	7.58		150.0		
		Z	0.99	66.12	11.92		150.0		
10388-AAA	QPSK Waveform, 10 MHz	X	3.08	73.93	18.74	0.00	150.0	± 1.2 %	± 9.6 %
		Y	2.07	67.07	15.14		150.0		
		Z	2.60	71.16	17.43		150.0		
10396-AAA	64-QAM Waveform, 100 kHz	X	3.51	72.69	19.87	3.01	150.0	± 1.6 %	± 9.6 %
		Y	2.69	68.94	18.38		150.0		
		Z	3.62	74.43	20.55		150.0		
10399-AAA	64-QAM Waveform, 40 MHz	X	3.84	69.00	17.04	0.00	150.0	± 2.3 %	± 9.6 %
		Y	3.40	66.62	15.52		150.0		
		Z	3.68	68.33	16.53		150.0		
10414-AAA	WLAN CCDF, 64-QAM, 40MHz	X	5.12	66.37	16.23	0.00	150.0	± 4.3 %	± 9.6 %
		Y	4.79	65.33	15.44		150.0		
		Z	4.99	66.28	15.97		150.0		

Note: For details on UID parameters see Appendix

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of Norm X,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 5).

^B Numerical linearization parameter: uncertainty not required.

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3857

Sensor Model Parameters

	C1 fF	C2 fF	α V^{-1}	T1 $ms.V^{-3}$	T2 $ms.V^{-1}$	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
X	59.0	455.93	38.07	9.66	1.32	5.00	0.00	0.69	1.01
Y	45.9	356.07	37.98	10.21	0.83	5.05	0.00	0.48	1.01
Z	48.1	356.44	35.21	11.94	0.51	5.06	1.47	0.28	1.01

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-43.5
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3857

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k=2)
750	41.9	0.89	9.77	9.77	9.77	0.42	0.99	± 12.0 %
835	41.5	0.90	9.48	9.48	9.48	0.46	0.80	± 12.0 %
900	41.5	0.97	9.34	9.34	9.34	0.29	1.12	± 12.0 %
1750	40.1	1.37	8.46	8.46	8.46	0.34	0.80	± 12.0 %
1900	40.0	1.40	8.10	8.10	8.10	0.34	0.80	± 12.0 %
2000	40.0	1.40	8.04	8.04	8.04	0.26	0.88	± 12.0 %
2300	39.5	1.67	7.88	7.88	7.88	0.33	0.90	± 12.0 %
2450	39.2	1.80	7.50	7.50	7.50	0.37	0.93	± 12.0 %
2600	39.0	1.96	7.31	7.31	7.31	0.35	0.93	± 12.0 %
3300	38.2	2.71	6.96	6.96	6.96	0.30	1.25	± 14.0 %
3500	37.9	2.91	6.92	6.92	6.92	0.30	1.25	± 14.0 %
3700	37.7	3.12	6.65	6.65	6.65	0.30	1.25	± 14.0 %
3900	37.5	3.32	6.60	6.60	6.60	0.40	1.60	± 14.0 %
4100	37.2	3.53	5.99	5.99	5.99	0.40	1.60	± 14.0 %
4200	37.1	3.63	5.98	5.98	5.98	0.40	1.70	± 14.0 %
4400	36.9	3.84	5.86	5.86	5.86	0.45	1.75	± 14.0 %
4600	36.7	4.04	5.83	5.83	5.83	0.45	1.75	± 14.0 %
4800	36.4	4.25	5.73	5.73	5.73	0.45	1.75	± 14.0 %
4950	36.3	4.40	5.53	5.53	5.53	0.40	1.80	± 14.0 %
5250	35.9	4.71	5.19	5.19	5.19	0.40	1.80	± 14.0 %
5600	35.5	5.07	4.92	4.92	4.92	0.40	1.80	± 14.0 %
5750	35.4	5.22	5.17	5.17	5.17	0.40	1.80	± 14.0 %

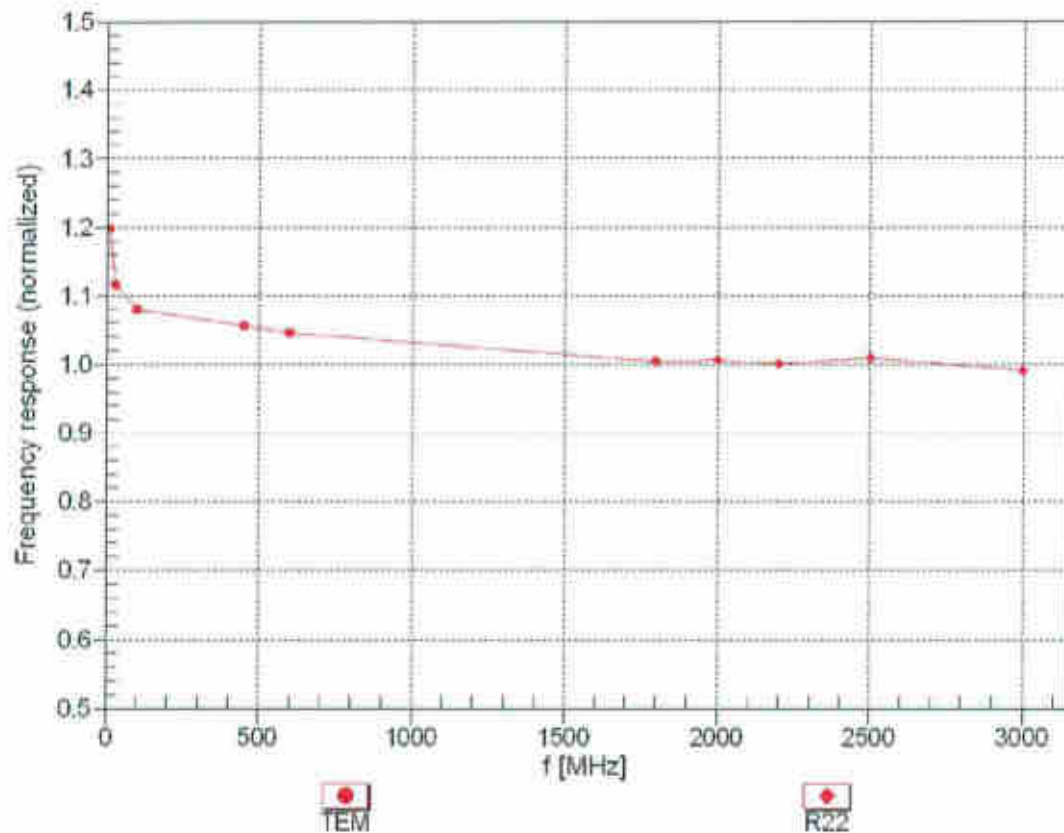
^C Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Frequency Response of E-Field

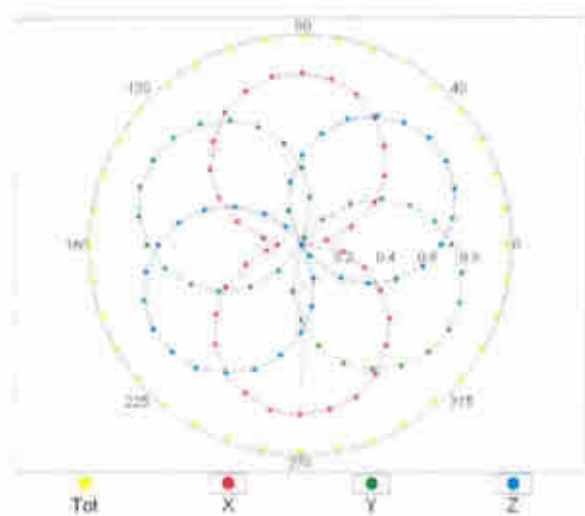
(TEM-Cell:ifi110 EXX, Waveguide: R22)



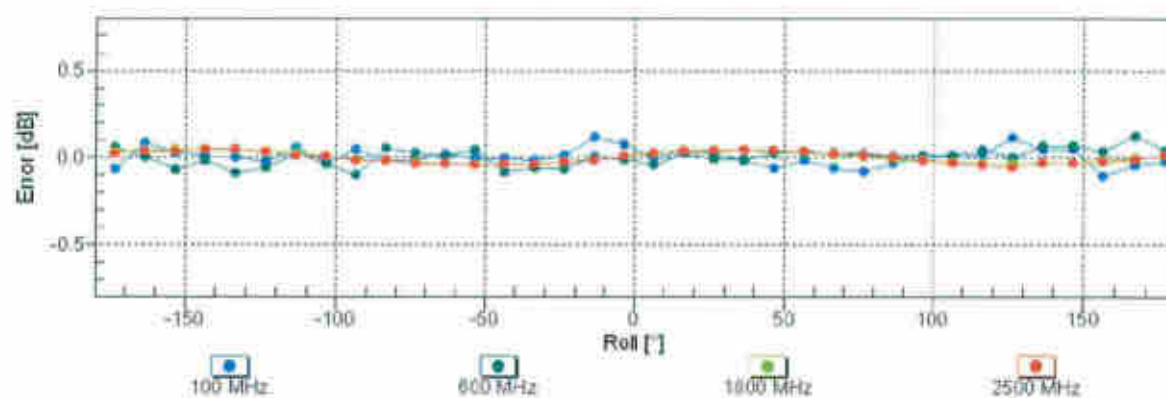
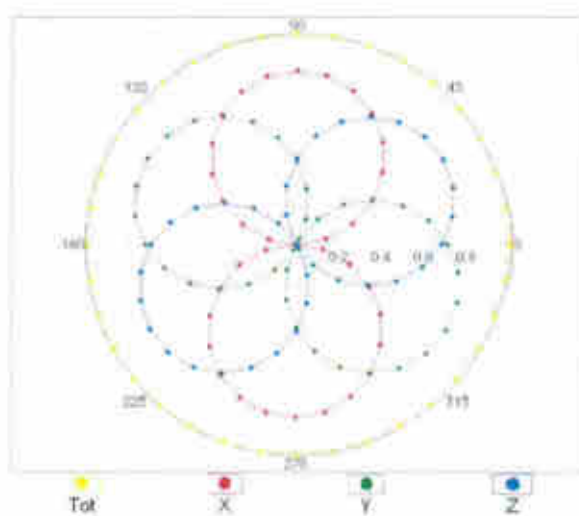
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

Receiving Pattern (ϕ), $\theta = 0^\circ$

f=600 MHz,TEM

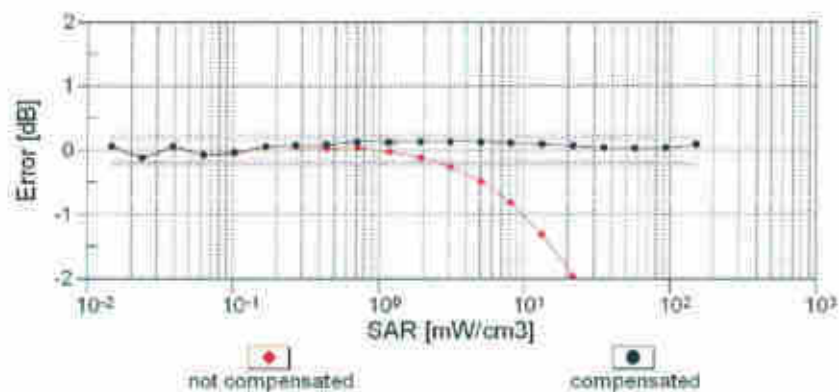
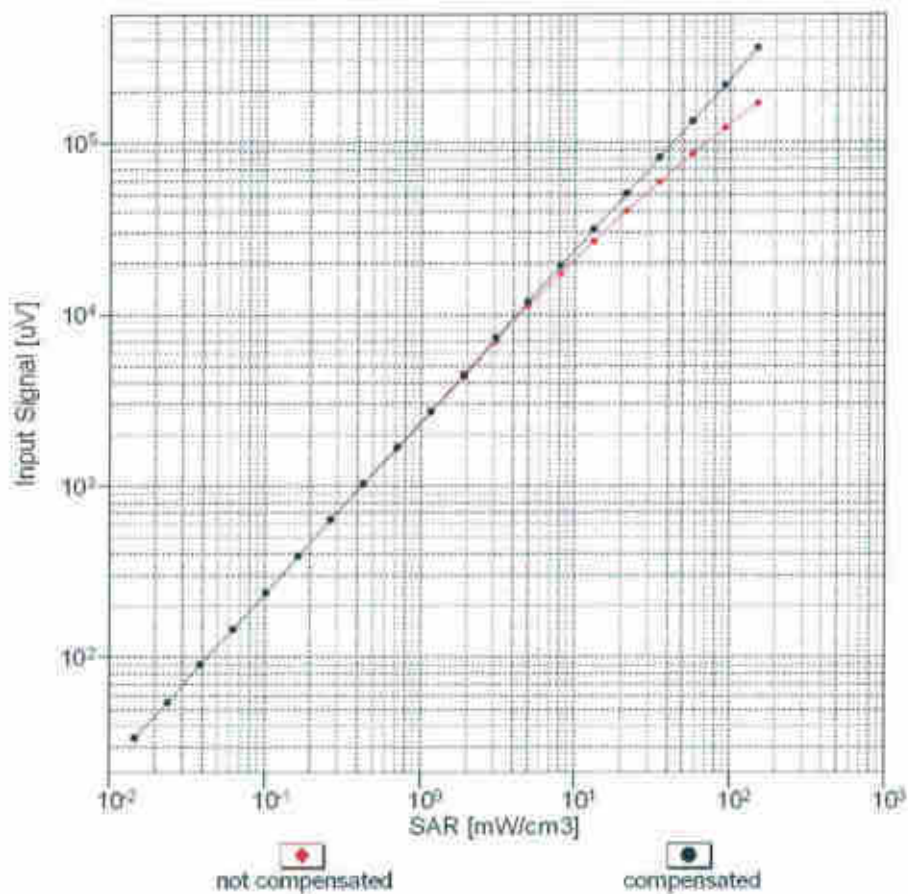


f=1800 MHz,R22



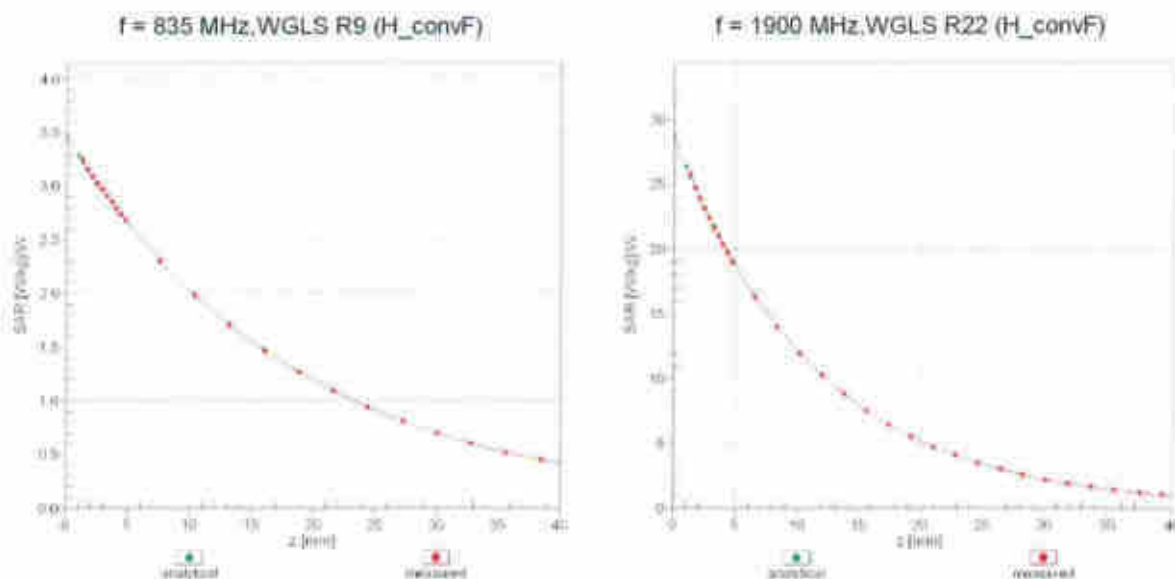
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

Dynamic Range $f(\text{SAR}_{\text{head}})$ (TEM cell, $f_{\text{eval}} \approx 1900 \text{ MHz}$)



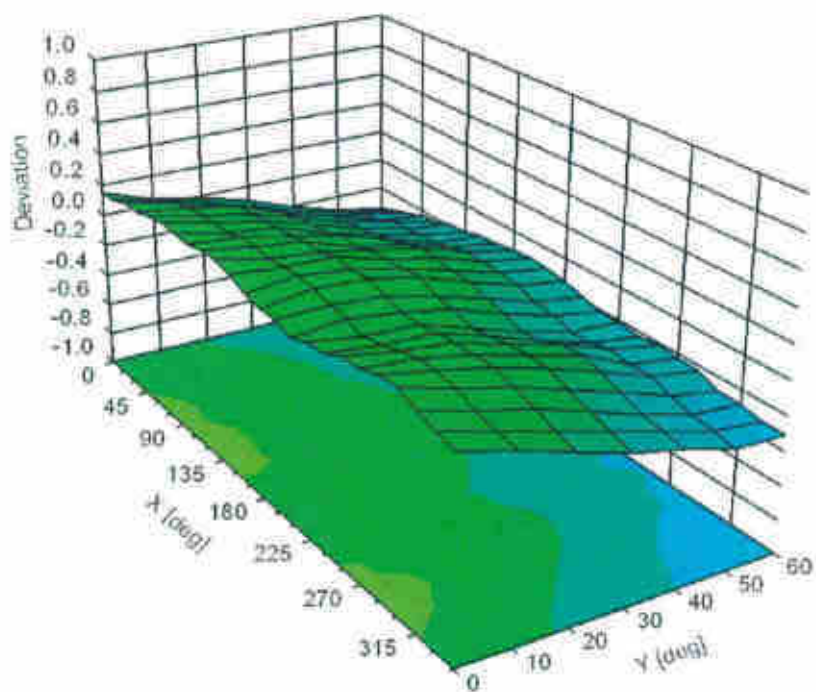
Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, θ), $f = 900 \text{ MHz}$



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ ($k=2$)

Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^F (k=2)
0		CW	CW	0.00	± 4.7 %
10010	CAA	SAR Validation (Square, 100ms, 10ms)	Test	10.00	± 9.6 %
10011	CAB	UMTS-FDD (WCDMA)	WCDMA	2.91	± 9.6 %
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	± 9.6 %
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	± 9.6 %
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	± 9.6 %
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	± 9.6 %
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	± 9.6 %
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	± 9.6 %
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	± 9.6 %
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	± 9.6 %
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	± 9.6 %
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	± 9.6 %
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	± 9.6 %
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	± 9.6 %
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	± 9.6 %
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	± 9.6 %
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	± 9.6 %
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	± 9.6 %
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	± 9.6 %
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	± 9.6 %
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	± 9.6 %
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	± 9.6 %
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	± 9.6 %
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	± 9.6 %
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	± 9.6 %
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	± 9.6 %
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	± 9.6 %
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	± 9.6 %
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	± 9.6 %
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	± 9.6 %
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	± 9.6 %
10062	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	± 9.6 %
10063	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	± 9.6 %
10064	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	± 9.6 %
10065	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	± 9.6 %
10066	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	± 9.6 %
10067	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	± 9.6 %
10068	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	± 9.6 %
10069	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	± 9.6 %
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	± 9.6 %
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	± 9.6 %
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	± 9.6 %
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	± 9.6 %
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	± 9.6 %
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	± 9.6 %
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	± 9.6 %
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	± 9.6 %
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	± 9.6 %
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	± 9.6 %
10097	CAB	UMTS-FDD (HSDPA)	WCDMA	3.98	± 9.6 %
10098	CAB	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	± 9.6 %
10099	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	± 9.6 %
10100	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	± 9.6 %
10101	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10102	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10103	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10104	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	± 9.6 %
10105	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	± 9.6 %
10108	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	± 9.6 %

10109	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	±9.6 %
10110	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	±9.6 %
10111	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	±9.6 %
10112	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	±9.6 %
10113	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	±9.6 %
10114	CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	±9.6 %
10115	CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	±9.6 %
10116	CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	±9.6 %
10117	CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	±9.6 %
10118	CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	±9.6 %
10119	CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	±9.6 %
10140	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	±9.6 %
10141	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	±9.6 %
10142	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	±9.6 %
10143	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	±9.6 %
10144	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	±9.6 %
10145	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	±9.6 %
10146	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	±9.6 %
10147	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	±9.6 %
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	±9.6 %
10150	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	±9.6 %
10151	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	±9.6 %
10152	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	±9.6 %
10153	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	±9.6 %
10154	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	±9.6 %
10155	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	±9.6 %
10156	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	±9.6 %
10157	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	±9.6 %
10158	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	±9.6 %
10159	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	±9.6 %
10160	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	±9.6 %
10161	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	±9.6 %
10162	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	±9.6 %
10166	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	±9.6 %
10167	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	±9.6 %
10168	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	±9.6 %
10169	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	±9.6 %
10170	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	±9.6 %
10171	AAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	±9.6 %
10172	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	±9.6 %
10173	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	±9.6 %
10174	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	±9.6 %
10175	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	±9.6 %
10176	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	±9.6 %
10177	CAI	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	±9.6 %
10178	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	±9.6 %
10179	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	±9.6 %
10180	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	±9.6 %
10181	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	±9.6 %
10182	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	±9.6 %
10183	AAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	±9.6 %
10184	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	±9.6 %
10185	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	±9.6 %
10186	AAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	±9.6 %
10187	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	±9.6 %
10188	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	±9.6 %
10189	AAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	±9.6 %
10193	CAC	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	±9.6 %
10194	CAC	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	±9.6 %
10195	CAC	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	±9.6 %
10196	CAC	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	±9.6 %
10197	CAC	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	±9.6 %
10198	CAC	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	±9.6 %
10219	CAC	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	±9.6 %

10220	CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	±9.6 %
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	±9.6 %
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	±9.6 %
10223	CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	±9.6 %
10224	CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	±9.6 %
10225	CAB	UMTS-FDD (HSPA+)	WCDMA	5.97	±9.6 %
10226	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	±9.6 %
10227	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	±9.6 %
10228	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	±9.6 %
10229	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	±9.6 %
10230	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	±9.6 %
10231	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	±9.6 %
10232	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	±9.6 %
10233	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	±9.6 %
10234	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	±9.6 %
10235	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	±9.6 %
10236	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	±9.6 %
10237	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	±9.6 %
10238	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	±9.6 %
10239	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	±9.6 %
10240	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	±9.6 %
10241	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	±9.6 %
10242	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	±9.6 %
10243	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	±9.6 %
10244	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	±9.6 %
10245	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	±9.6 %
10246	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	±9.6 %
10247	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	±9.6 %
10248	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	±9.6 %
10249	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	±9.6 %
10250	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	±9.6 %
10251	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	±9.6 %
10252	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	±9.6 %
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	±9.6 %
10254	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	±9.6 %
10255	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	±9.6 %
10256	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	±9.6 %
10257	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	±9.6 %
10258	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	±9.6 %
10259	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	±9.6 %
10260	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	±9.6 %
10261	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	±9.6 %
10262	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	±9.6 %
10263	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	±9.6 %
10264	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	±9.6 %
10265	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	±9.6 %
10266	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	±9.6 %
10267	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	±9.6 %
10268	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	±9.6 %
10269	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	±9.6 %
10270	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	±9.6 %
10274	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	±9.6 %
10275	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	±9.6 %
10277	CAA	PHS (QPSK)	PHS	11.81	±9.6 %
10278	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS	11.81	±9.6 %
10279	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS	12.18	±9.6 %
10290	AAB	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	±9.6 %
10291	AAB	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	±9.6 %
10292	AAB	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	±9.6 %
10293	AAB	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	±9.6 %
10295	AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	±9.6 %
10297	AAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	±9.6 %
10298	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	±9.6 %
10299	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	±9.6 %

10300	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10301	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	WiMAX	12.03	± 9.6 %
10302	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	WiMAX	12.57	± 9.6 %
10303	AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	12.52	± 9.6 %
10304	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	11.86	± 9.6 %
10305	AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	WiMAX	15.24	± 9.6 %
10306	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	WiMAX	14.67	± 9.6 %
10307	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	WiMAX	14.49	± 9.6 %
10308	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WiMAX	14.46	± 9.6 %
10309	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	WiMAX	14.58	± 9.6 %
10310	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	WiMAX	14.57	± 9.6 %
10311	AAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	± 9.6 %
10313	AAA	IDEN 1:3	IDEN	10.51	± 9.6 %
10314	AAA	IDEN 1:6	IDEN	13.48	± 9.6 %
10315	AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	WLAN	1.71	± 9.6 %
10316	AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	± 9.6 %
10317	AAC	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	± 9.6 %
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	± 9.6 %
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	± 9.6 %
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	± 9.6 %
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	± 9.6 %
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	± 9.6 %
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	± 9.6 %
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	± 9.6 %
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	± 9.6 %
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	± 9.6 %
10400	AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10401	AAD	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	WLAN	8.60	± 9.6 %
10402	AAD	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	WLAN	8.53	± 9.6 %
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	± 9.6 %
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	± 9.6 %
10406	AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	± 9.6 %
10410	AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	LTE-TDD	7.82	± 9.6 %
10414	AAA	WLAN CCDF, 64-QAM, 40MHz	Generic	8.54	± 9.6 %
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	WLAN	1.54	± 9.6 %
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10417	AAB	IEEE 802.11a/n WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preamble)	WLAN	8.14	± 9.6 %
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preamble)	WLAN	8.19	± 9.6 %
10422	AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	± 9.6 %
10423	AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	± 9.6 %
10424	AAB	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	± 9.6 %
10425	AAB	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	± 9.6 %
10426	AAB	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	± 9.6 %
10427	AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8.41	± 9.6 %
10430	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	± 9.6 %
10431	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	± 9.6 %
10432	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10433	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10434	AAA	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	± 9.6 %
10435	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10447	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	± 9.6 %
10448	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.53	± 9.6 %
10449	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.51	± 9.6 %
10450	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	± 9.6 %

10451	AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	± 9.6 %
10456	AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99% duty cycle)	WLAN	8.63	± 9.6 %
10457	AAA	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	± 9.6 %
10458	AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	± 9.6 %
10459	AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	± 9.6 %
10460	AAA	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	± 9.6 %
10461	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10462	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.30	± 9.6 %
10463	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	± 9.6 %
10464	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10465	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10466	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10467	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10468	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10469	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	± 9.6 %
10470	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10471	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10472	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10473	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10474	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10475	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10477	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10478	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10479	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10480	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.18	± 9.6 %
10481	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	± 9.6 %
10482	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.71	± 9.6 %
10483	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.39	± 9.6 %
10484	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.47	± 9.6 %
10485	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.59	± 9.6 %
10486	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.38	± 9.6 %
10487	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.60	± 9.6 %
10488	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.70	± 9.6 %
10489	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	± 9.6 %
10490	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	± 9.6 %
10491	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %

10492	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.41	± 9.6 %
10493	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	± 9.6 %
10494	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10495	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.37	± 9.6 %
10496	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	± 9.6 %
10497	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	± 9.6 %
10498	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.40	± 9.6 %
10499	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.68	± 9.6 %
10500	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	± 9.6 %
10501	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.44	± 9.6 %
10502	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.52	± 9.6 %
10503	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.72	± 9.6 %
10504	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	± 9.6 %
10505	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	± 9.6 %
10506	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10507	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.36	± 9.6 %
10508	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	± 9.6 %
10509	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.99	± 9.6 %
10510	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.49	± 9.6 %
10511	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.51	± 9.6 %
10512	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10513	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.42	± 9.6 %
10514	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	± 9.6 %
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	WLAN	1.58	± 9.6 %
10516	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	WLAN	1.57	± 9.6 %
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	WLAN	1.58	± 9.6 %
10518	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10519	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10520	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.12	± 9.6 %
10521	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	WLAN	7.97	± 9.6 %
10522	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10523	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.08	± 9.6 %
10524	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.27	± 9.6 %
10525	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10526	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10527	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	WLAN	8.21	± 9.6 %
10528	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10529	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10531	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	WLAN	8.43	± 9.6 %
10532	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10533	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	WLAN	8.38	± 9.6 %
10534	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	WLAN	8.45	± 9.6 %

10535	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10536	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	WLAN	8.32	± 9.6 %
10537	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	WLAN	8.44	± 9.6 %
10538	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	WLAN	8.54	± 9.6 %
10540	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10541	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	WLAN	8.46	± 9.6 %
10542	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10543	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10544	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	WLAN	8.47	± 9.6 %
10545	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	WLAN	8.55	± 9.6 %
10546	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	WLAN	8.35	± 9.6 %
10547	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	WLAN	8.49	± 9.6 %
10548	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10550	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	WLAN	8.38	± 9.6 %
10551	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	WLAN	8.50	± 9.6 %
10552	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10553	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10554	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	WLAN	8.48	± 9.6 %
10555	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	WLAN	8.47	± 9.6 %
10556	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	WLAN	8.50	± 9.6 %
10557	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	WLAN	8.52	± 9.6 %
10558	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	WLAN	8.61	± 9.6 %
10560	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	WLAN	8.73	± 9.6 %
10561	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	WLAN	8.56	± 9.6 %
10562	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	WLAN	8.69	± 9.6 %
10563	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	WLAN	8.77	± 9.6 %
10564	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.25	± 9.6 %
10565	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10566	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.13	± 9.6 %
10567	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	WLAN	8.00	± 9.6 %
10568	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10569	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.10	± 9.6 %
10570	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.30	± 9.6 %
10571	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	WLAN	1.99	± 9.6 %
10572	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	WLAN	1.99	± 9.6 %
10573	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	WLAN	1.98	± 9.6 %
10574	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	WLAN	1.98	± 9.6 %
10575	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10576	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	± 9.6 %
10577	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10578	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	± 9.6 %
10579	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	± 9.6 %
10580	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10581	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	± 9.6 %
10582	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10583	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10584	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	± 9.6 %
10585	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10586	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	± 9.6 %
10587	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	± 9.6 %

10588	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10589	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	± 9.6 %
10590	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10591	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	WLAN	8.63	± 9.6 %
10592	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10593	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10594	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10595	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10596	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10597	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10598	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	WLAN	8.50	± 9.6 %
10599	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10600	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 %
10601	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10602	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10603	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	WLAN	9.03	± 9.6 %
10604	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10605	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	WLAN	8.97	± 9.6 %
10606	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10607	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10608	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10609	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	WLAN	8.57	± 9.6 %
10610	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10611	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10612	AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10613	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10614	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10615	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10616	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10617	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10618	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	WLAN	8.58	± 9.6 %
10619	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10620	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	WLAN	8.87	± 9.6 %
10621	AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10622	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	WLAN	8.68	± 9.6 %
10623	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10624	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10625	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10626	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10627	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 %
10628	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10629	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10630	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10631	AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10632	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10633	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10634	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	WLAN	8.80	± 9.6 %
10635	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10636	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10637	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10638	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10639	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10640	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	WLAN	8.98	± 9.6 %
10641	AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	WLAN	9.06	± 9.6 %
10642	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	WLAN	9.06	± 9.6 %
10643	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	WLAN	8.89	± 9.6 %
10644	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	WLAN	9.05	± 9.6 %
10645	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	WLAN	9.11	± 9.6 %
10646	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	± 9.6 %
10647	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	± 9.6 %
10648	AAA	CDMA2000 (1x Advanced)	CDMA2000	3.45	± 9.6 %
10652	AAD	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	± 9.6 %
10653	AAD	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	± 9.6 %
10654	AAD	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	± 9.6 %

10655	AAE	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	± 9.6 %
10658	AAA	Pulse Waveform (200Hz, 10%)	Test	10.00	± 9.6 %
10659	AAA	Pulse Waveform (200Hz, 20%)	Test	6.99	± 9.6 %
10660	AAA	Pulse Waveform (200Hz, 40%)	Test	3.98	± 9.6 %
10661	AAA	Pulse Waveform (200Hz, 60%)	Test	2.22	± 9.6 %
10662	AAA	Pulse Waveform (200Hz, 80%)	Test	0.97	± 9.6 %
10670	AAA	Bluetooth Low Energy	Bluetooth	2.19	± 9.6 %
10671	AAA	IEEE 802.11ax (20MHz, MCS0, 90pc duty cycle)	WLAN	9.09	± 9.6 %
10672	AAA	IEEE 802.11ax (20MHz, MCS1, 90pc duty cycle)	WLAN	8.57	± 9.6 %
10673	AAA	IEEE 802.11ax (20MHz, MCS2, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10674	AAA	IEEE 802.11ax (20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10675	AAA	IEEE 802.11ax (20MHz, MCS4, 90pc duty cycle)	WLAN	8.90	± 9.6 %
10676	AAA	IEEE 802.11ax (20MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10677	AAA	IEEE 802.11ax (20MHz, MCS6, 90pc duty cycle)	WLAN	8.73	± 9.6 %
10678	AAA	IEEE 802.11ax (20MHz, MCS7, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10679	AAA	IEEE 802.11ax (20MHz, MCS8, 90pc duty cycle)	WLAN	8.89	± 9.6 %
10680	AAA	IEEE 802.11ax (20MHz, MCS9, 90pc duty cycle)	WLAN	8.80	± 9.6 %
10681	AAA	IEEE 802.11ax (20MHz, MCS10, 90pc duty cycle)	WLAN	8.62	± 9.6 %
10682	AAA	IEEE 802.11ax (20MHz, MCS11, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10683	AAA	IEEE 802.11ax (20MHz, MCS0, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10684	AAA	IEEE 802.11ax (20MHz, MCS1, 99pc duty cycle)	WLAN	8.26	± 9.6 %
10685	AAA	IEEE 802.11ax (20MHz, MCS2, 99pc duty cycle)	WLAN	8.33	± 9.6 %
10686	AAA	IEEE 802.11ax (20MHz, MCS3, 99pc duty cycle)	WLAN	8.28	± 9.6 %
10687	AAA	IEEE 802.11ax (20MHz, MCS4, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10688	AAA	IEEE 802.11ax (20MHz, MCS5, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10689	AAA	IEEE 802.11ax (20MHz, MCS6, 99pc duty cycle)	WLAN	8.55	± 9.6 %
10690	AAA	IEEE 802.11ax (20MHz, MCS7, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10691	AAA	IEEE 802.11ax (20MHz, MCS8, 99pc duty cycle)	WLAN	8.25	± 9.6 %
10692	AAA	IEEE 802.11ax (20MHz, MCS9, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10693	AAA	IEEE 802.11ax (20MHz, MCS10, 99pc duty cycle)	WLAN	8.25	± 9.6 %
10694	AAA	IEEE 802.11ax (20MHz, MCS11, 99pc duty cycle)	WLAN	8.57	± 9.6 %
10695	AAA	IEEE 802.11ax (40MHz, MCS0, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10696	AAA	IEEE 802.11ax (40MHz, MCS1, 90pc duty cycle)	WLAN	8.91	± 9.6 %
10697	AAA	IEEE 802.11ax (40MHz, MCS2, 90pc duty cycle)	WLAN	8.61	± 9.6 %
10698	AAA	IEEE 802.11ax (40MHz, MCS3, 90pc duty cycle)	WLAN	8.89	± 9.6 %
10699	AAA	IEEE 802.11ax (40MHz, MCS4, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10700	AAA	IEEE 802.11ax (40MHz, MCS5, 90pc duty cycle)	WLAN	8.73	± 9.6 %
10701	AAA	IEEE 802.11ax (40MHz, MCS6, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10702	AAA	IEEE 802.11ax (40MHz, MCS7, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10703	AAA	IEEE 802.11ax (40MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10704	AAA	IEEE 802.11ax (40MHz, MCS9, 90pc duty cycle)	WLAN	8.56	± 9.6 %
10705	AAA	IEEE 802.11ax (40MHz, MCS10, 90pc duty cycle)	WLAN	8.69	± 9.6 %
10706	AAA	IEEE 802.11ax (40MHz, MCS11, 90pc duty cycle)	WLAN	8.66	± 9.6 %
10707	AAA	IEEE 802.11ax (40MHz, MCS0, 99pc duty cycle)	WLAN	8.32	± 9.6 %
10708	AAA	IEEE 802.11ax (40MHz, MCS1, 99pc duty cycle)	WLAN	8.55	± 9.6 %
10709	AAA	IEEE 802.11ax (40MHz, MCS2, 99pc duty cycle)	WLAN	8.33	± 9.6 %
10710	AAA	IEEE 802.11ax (40MHz, MCS3, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10711	AAA	IEEE 802.11ax (40MHz, MCS4, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10712	AAA	IEEE 802.11ax (40MHz, MCS5, 99pc duty cycle)	WLAN	8.67	± 9.6 %
10713	AAA	IEEE 802.11ax (40MHz, MCS6, 99pc duty cycle)	WLAN	8.33	± 9.6 %
10714	AAA	IEEE 802.11ax (40MHz, MCS7, 99pc duty cycle)	WLAN	8.26	± 9.6 %
10715	AAA	IEEE 802.11ax (40MHz, MCS8, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10716	AAA	IEEE 802.11ax (40MHz, MCS9, 99pc duty cycle)	WLAN	8.30	± 9.6 %
10717	AAA	IEEE 802.11ax (40MHz, MCS10, 99pc duty cycle)	WLAN	8.48	± 9.6 %
10718	AAA	IEEE 802.11ax (40MHz, MCS11, 99pc duty cycle)	WLAN	8.24	± 9.6 %
10719	AAA	IEEE 802.11ax (80MHz, MCS0, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10720	AAA	IEEE 802.11ax (80MHz, MCS1, 90pc duty cycle)	WLAN	8.87	± 9.6 %
10721	AAA	IEEE 802.11ax (80MHz, MCS2, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10722	AAA	IEEE 802.11ax (80MHz, MCS3, 90pc duty cycle)	WLAN	8.55	± 9.6 %
10723	AAA	IEEE 802.11ax (80MHz, MCS4, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10724	AAA	IEEE 802.11ax (80MHz, MCS5, 90pc duty cycle)	WLAN	8.90	± 9.6 %
10725	AAA	IEEE 802.11ax (80MHz, MCS6, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10726	AAA	IEEE 802.11ax (80MHz, MCS7, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10727	AAA	IEEE 802.11ax (80MHz, MCS8, 90pc duty cycle)	WLAN	8.66	± 9.6 %

10728	AAA	IEEE 802.11ax (80MHz, MCS9, 90pc duty cycle)	WLAN	8.65	± 9.6 %
10729	AAA	IEEE 802.11ax (80MHz, MCS10, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10730	AAA	IEEE 802.11ax (80MHz, MCS11, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10731	AAA	IEEE 802.11ax (80MHz, MCS0, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10732	AAA	IEEE 802.11ax (80MHz, MCS1, 99pc duty cycle)	WLAN	8.46	± 9.6 %
10733	AAA	IEEE 802.11ax (80MHz, MCS2, 99pc duty cycle)	WLAN	8.40	± 9.6 %
10734	AAA	IEEE 802.11ax (80MHz, MCS3, 99pc duty cycle)	WLAN	8.25	± 9.6 %
10735	AAA	IEEE 802.11ax (80MHz, MCS4, 99pc duty cycle)	WLAN	8.33	± 9.6 %
10736	AAA	IEEE 802.11ax (80MHz, MCS5, 99pc duty cycle)	WLAN	8.27	± 9.6 %
10737	AAA	IEEE 802.11ax (80MHz, MCS6, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10738	AAA	IEEE 802.11ax (80MHz, MCS7, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10739	AAA	IEEE 802.11ax (80MHz, MCS8, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10740	AAA	IEEE 802.11ax (80MHz, MCS9, 99pc duty cycle)	WLAN	8.48	± 9.6 %
10741	AAA	IEEE 802.11ax (80MHz, MCS10, 99pc duty cycle)	WLAN	8.40	± 9.6 %
10742	AAA	IEEE 802.11ax (80MHz, MCS11, 99pc duty cycle)	WLAN	8.43	± 9.6 %
10743	AAA	IEEE 802.11ax (160MHz, MCS0, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10744	AAA	IEEE 802.11ax (160MHz, MCS1, 90pc duty cycle)	WLAN	9.16	± 9.6 %
10745	AAA	IEEE 802.11ax (160MHz, MCS2, 90pc duty cycle)	WLAN	8.93	± 9.6 %
10746	AAA	IEEE 802.11ax (160MHz, MCS3, 90pc duty cycle)	WLAN	9.11	± 9.6 %
10747	AAA	IEEE 802.11ax (160MHz, MCS4, 90pc duty cycle)	WLAN	9.04	± 9.6 %
10748	AAA	IEEE 802.11ax (160MHz, MCS5, 90pc duty cycle)	WLAN	8.93	± 9.6 %
10749	AAA	IEEE 802.11ax (160MHz, MCS6, 90pc duty cycle)	WLAN	8.90	± 9.6 %
10750	AAA	IEEE 802.11ax (160MHz, MCS7, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10751	AAA	IEEE 802.11ax (160MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10752	AAA	IEEE 802.11ax (160MHz, MCS9, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10753	AAA	IEEE 802.11ax (160MHz, MCS10, 90pc duty cycle)	WLAN	9.00	± 9.6 %
10754	AAA	IEEE 802.11ax (160MHz, MCS11, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10755	AAA	IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle)	WLAN	8.64	± 9.6 %
10756	AAA	IEEE 802.11ax (160MHz, MCS1, 99pc duty cycle)	WLAN	8.77	± 9.6 %
10757	AAA	IEEE 802.11ax (160MHz, MCS2, 99pc duty cycle)	WLAN	8.77	± 9.6 %
10758	AAA	IEEE 802.11ax (160MHz, MCS3, 99pc duty cycle)	WLAN	8.69	± 9.6 %
10759	AAA	IEEE 802.11ax (160MHz, MCS4, 99pc duty cycle)	WLAN	8.58	± 9.6 %
10760	AAA	IEEE 802.11ax (160MHz, MCS5, 99pc duty cycle)	WLAN	8.49	± 9.6 %
10761	AAA	IEEE 802.11ax (160MHz, MCS6, 99pc duty cycle)	WLAN	8.58	± 9.6 %
10762	AAA	IEEE 802.11ax (160MHz, MCS7, 99pc duty cycle)	WLAN	8.49	± 9.6 %
10763	AAA	IEEE 802.11ax (160MHz, MCS8, 99pc duty cycle)	WLAN	8.53	± 9.6 %
10764	AAA	IEEE 802.11ax (160MHz, MCS9, 99pc duty cycle)	WLAN	8.54	± 9.6 %
10765	AAA	IEEE 802.11ax (160MHz, MCS10, 99pc duty cycle)	WLAN	8.54	± 9.6 %
10766	AAA	IEEE 802.11ax (160MHz, MCS11, 99pc duty cycle)	WLAN	8.51	± 9.6 %

* Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.



Appendix E. Conducted RF Output Power Table

The detailed power table are shown as follows.

Full Power							
GSM850		Burst Average Power (dBm)			Frame-Average Power (dBm)		
TX Channel		126	189	251	Tune-up Limit		Tune-up Limit (dBm)
Frequency (MHz)		824.2	836.4	848.8	824.2	836.4	
GSM 1 Tx slot		33.13	32.96	32.73	33.50	24.13	23.96
GPRS 1 Tx slot		33.12	32.94	32.71	33.50	24.12	23.94
GPRS 2 Tx slots		31.61	31.45	31.18	32.50	25.61	25.45
GPRS 3 Tx slots		29.40	29.72	29.35	30.50	25.14	25.46
GPRS 4 Tx slots		27.23	27.56	27.13	28.50	24.23	24.56
EDGE 1 Tx slot		26.51	26.21	26.32	27.50	17.51	17.32
EDGE 2 Tx slots		25.17	24.98	25.07	26.00	19.17	18.96
EDGE 3 Tx slots		23.48	23.13	23.32	24.50	19.22	18.87
EDGE 4 Tx slots		21.97	21.80	21.70	22.50	18.97	18.80

GSM1900		Burst Average Power (dBm)			Frame-Average Power (dBm)		
TX Channel		512	661	810	Tune-up Limit		Tune-up Limit (dBm)
Frequency (MHz)		1852.2	1880	1908.8	1852.2	1880	
GSM 1 Tx slot		29.98	29.79	30.05	30.50	20.98	20.79
GPRS 1 Tx slot		29.97	29.78	30.03	30.50	20.97	20.78
GPRS 2 Tx slots		29.04	28.72	28.85	29.50	23.04	22.72
GPRS 3 Tx slots		27.43	27.03	27.41	28.00	23.17	22.77
GPRS 4 Tx slots		25.67	25.33	25.60	26.50	22.67	22.33
EDGE 1 Tx slot		25.92	25.79	25.89	26.50	16.92	16.79
EDGE 2 Tx slots		24.87	24.69	24.83	25.50	16.87	16.69
EDGE 3 Tx slots		23.71	23.74	23.67	24.50	19.45	19.48
EDGE 4 Tx slots		21.80	21.45	21.58	22.50	18.60	18.45

Band		WCDMA II			WCDMA IV			WCDMA V		
TX Channel		5262	9400	9536	Tune-up Limit		Tune-up Limit (dBm)	4192	4182	4233
RX Channel		9652	9000	9908	1512	1413		4537	4497	4458
Frequency (MHz)		1852.4	1880	1907.6	1512.4	1413.6		4537.4	4497.6	4458.6
3GPP Rel 99	AMR 12.2Kbps	23.04	22.81	22.90	24.00	22.94	22.80	23.01	24.00	23.22
3GPP Rel 99	RMC 12.2Kbps	23.06	22.83	22.91	24.00	22.95	22.93	23.06	24.00	23.25
3GPP Rel 6	HSDPA Subtest-1	21.36	21.35	21.36	23.00	21.36	21.29	21.42	23.00	21.40
3GPP Rel 6	HSDPA Subtest-2	21.37	21.30	21.41	23.00	21.39	21.28	21.23	23.00	21.46
3GPP Rel 6	HSDPA Subtest-3	21.06	20.83	20.88	22.50	20.90	20.79	20.78	22.50	20.94
3GPP Rel 6	HSDPA Subtest-4	21.04	20.85	20.86	22.50	20.87	20.75	20.73	22.50	20.90
3GPP Rel 6	DC-HSDPA Subtest-1	21.32	21.39	21.42	23.00	21.32	21.34	21.42	23.00	21.52
3GPP Rel 8	DC-HSDPA Subtest-2	21.34	21.29	21.43	23.00	21.19	21.32	21.38	23.00	21.34
3GPP Rel 8	DC-HSDPA Subtest-3	20.98	20.81	20.67	22.50	20.74	20.72	20.69	22.50	20.96
3GPP Rel 8	DC-HSDPA Subtest-4	20.89	20.93	20.79	22.50	20.69	20.78	20.64	22.50	21.03
3GPP Rel 6	HSUPA Subtest-1	21.23	21.44	21.35	23.00	21.42	21.32	21.41	23.00	21.58
3GPP Rel 6	HSUPA Subtest-2	19.55	19.48	19.50	21.00	19.55	19.68	19.70	21.00	19.67
3GPP Rel 6	HSUPA Subtest-3	20.53	20.50	20.57	22.00	20.33	20.55	20.45	22.00	20.42
3GPP Rel 6	HSUPA Subtest-4	19.52	19.45	19.51	21.00	19.58	19.64	19.61	21.00	19.58
3GPP Rel 6	HSUPA Subtest-5	21.32	21.40	21.30	23.00	21.30	21.32	21.40	23.00	21.60

Band		CDMA BC0			CDMA BC1			CDMA BC10		
TX Channel		1013	384	777	Tune-up Limit		Tune-up Limit (dBm)	476	580	684
Frequency (MHz)		824.7	836.52	848.31	1851.25	600		817.9	620.5	623.1
RC1 SO56		24.31	24.31	24.13	25.00	23.89	24.01	23.91	25.00	24.14
RC3 SO6		24.36	24.35	24.10	25.00	23.87	24.04	23.92	25.00	24.11
RC3 SO32 (F+SCH)		24.25	24.30	24.15	25.00	23.91	23.92	23.84	25.00	24.15
RC3 SO32 (H+SCH)		24.23	24.17	24.13	25.00	23.78	23.91	23.89	25.00	24.13
RTAP 153.6Kbps		24.17	24.18	24.12	25.00	23.74	23.90	23.83	25.00	23.93
RETAP 4096Bps		24.16	24.17	24.11	25.00	23.92	23.80	23.89	25.00	23.95

Band 2 (190MHz Band)									
Full Power									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)									
20	QPSK	1	0	22.68	22.53	22.48	24.00	0	
20	QPSK	1	49	22.61	22.53	22.45			
20	QPSK	1	99	22.40	22.37	22.35			
20	QPSK	50	0	21.70	21.71	21.54	23.00	1	
20	QPSK	50	24	21.69	21.57	21.54			
20	QPSK	50	50	21.52	21.51	21.46			
20	QPSK	100	0	21.57	21.58	21.48	23.00	1	
20	16QAM	1	0	21.96	21.86	21.76			
20	16QAM	1	49	21.30	21.88	21.77	23.00	1	
20	16QAM	1	99	21.70	21.72	21.74			
20	16QAM	50	0	20.78	20.70	20.58			
20	16QAM	50	24	20.80	20.70	20.57	22.00	2	
20	16QAM	50	50	20.61	20.62	20.58			
20	16QAM	100	0	20.63	20.61	20.59			
20	64QAM	1	0	21.30	21.22	21.11			
20	64QAM	1	49	21.24	21.20	21.11	22.00	2	
20	64QAM	1	99	21.04	21.07	21.10			
20	64QAM	50	0	20.23	20.10	20.00			
20	64QAM	50	24	20.20	20.10	19.99	21.00	3	
20	64QAM	50	50	20.00	20.04	20.01			
20	64QAM	100	0	20.06	20.06	20.04			
Channel									
Frequency (MHz)									
15	QPSK	1	0	22.74	22.61	22.49	24.00	0	
15	QPSK	1	37	22.65	22.52	22.44			
15	QPSK	1	74	22.56	22.44	22.40			
15	QPSK	36	0	21.71	21.58	21.53	23.00	1	
15	QPSK	36	20	21.71	21.59	21.53			
15	QPSK	36	39	21.65	21.55	21.52			
15	QPSK	75	0	21.69	21.61	21.52			
15	16QAM	1	0	22.01	21.95	21.85	23.00	1	
15	16QAM	1	37	21.95	21.89	21.82			
15	16QAM	1	74	21.85	21.81	21.79			
15	16QAM	36	0	20.75	20.70	20.61	22.00	2	
15	16QAM	36	20	20.82	20.73	20.64			
15	16QAM	36	39	20.70	20.59	20.58			
15	16QAM	75	0	20.73	20.66	20.60			
15	64QAM	1	0	21.11	21.03	20.93	22.00	2	
15	64QAM	1	37	21.05	21.01	20.91			
15	64QAM	1	74	20.97	20.94	20.91			
15	64QAM	36	0	20.00	19.92	19.84	21.00	3	
15	64QAM	36	20	20.03	19.95	19.86			
15	64QAM	36	39	19.90	19.81	19.79			
15	64QAM	75	0	19.95	19.88	19.80			
Channel									
Frequency (MHz)									
10	QPSK	1	0	22.71	22.58	22.52	24.00	0	
10	QPSK	1	25	22.67	22.54	22.49			
10	QPSK	1	49	22.63	22.52	22.42			
10	QPSK	25	0	21.74	21.64	21.51	23.00	1	
10	QPSK	25	12	21.74	21.64	21.56			
10	QPSK	25	25	21.71	21.57	21.48			
10	QPSK	50	0	21.72	21.61	21.53	23.00	1	
10	16QAM	1	0	22.00	21.95	21.84			
10	16QAM	1	25	22.02	21.92	21.84			
10	16QAM	1	49	21.93	21.90	21.84			
10	16QAM	25	0	20.83	20.70	20.66	22.00	2	
10	16QAM	25	12	20.84	20.70	20.64			
10	16QAM	25	25	20.78	20.64	20.61			
10	16QAM	50	0	20.78	20.68	20.61			
10	64QAM	1	0	21.15	21.08	20.98	22.00	2	
10	64QAM	1	25	21.17	21.05	21.01			
10	64QAM	1	49	21.07	21.01	20.97			
10	64QAM	25	0	20.08	19.95	19.91	21.00	3	
10	64QAM	25	12	20.08	19.96	19.88			
10	64QAM	25	25	20.03	19.88	19.85			
10	64QAM	50	0	20.02	19.92	19.84			
Channel									
Frequency (MHz)									
5	QPSK	1	0	22.72	22.61	22.49	24.00	0	
5	QPSK	1	12	22.70	22.57	22.45			
5	QPSK	1	24	22.71	22.56	22.47			
5	QPSK	12	0	21.75	21.64	21.53	23.00	1	
5	QPSK	12	7	21.74	21.63	21.59			
5	QPSK	12	13	21.72	21.60	21.55			
5	QPSK	25	0	21.73	21.61	21.50			
5	16QAM	1	0	22.03	21.98	21.91	23.00	1	
5	16QAM	1	12	21.99	21.96	21.91			
5	16QAM	1	24	21.99	21.94	21.88			
5	16QAM	12	0	20.80	20.70	20.65	22.00	2	
5	16QAM	12	7	20.79	20.73	20.69			
5	16QAM	12	13	20.80	20.68	20.69			
5	16QAM	25	0	20.80	20.68	20.63			
5	64QAM	1	0	21.17	21.08	21.04	22.00	2	
5	64QAM	1	12	21.17	21.08	21.01			
5	64QAM	1	24	21.11	21.07	20.99			
5	64QAM	12	0	20.03	19.94	19.90	21.00	3	
5	64QAM	12	7	20.03	19.96	19.93			
5	64QAM	12	13	20.04	19.90	19.88			
5	64QAM	25	0	20.05	19.94	19.87			
Channel									
Frequency (MHz)									
3	QPSK	1	0	22.73	22.60	22.54	24.00	0	
3	QPSK	1	8	22.73	22.60	22.51			
3	QPSK	1	14	22.72	22.57	22.49			
3	QPSK	8	0	21.78	21.64	21.56	23.00	1	
3	QPSK	8	4	21.80	21.68	21.58			
3	QPSK	8	7	21.81	21.65	21.54			
3	QPSK	15	0	21.77	21.62	21.59			
3	16QAM	1	0	22.03	21.97	21.88	23.00	1	
3	16QAM	1	8	22.06	21.99	21.93			
3	16QAM	1	14	22.01	21.92	21.84			
3	16QAM	8	0	20.83	20.77	20.72	22.00	2	
3	16QAM	8	4	20.90	20.79	20.75			
3	16QAM	8	7	20.86	20.77	20.73			
3	16QAM	15	0	20.85	20.76	20.68			
3	64QAM	1	0	21.18	21.14	21.00	22.00	2	
3	64QAM	1	8	21.18	21.13	21.04			
3	64QAM	1	14	21.16	21.08	20.99			
3	64QAM	8	0	20.08	19.98	19.95	21.00	3	
3	64QAM	8	4	20.09	20.00	19.98			
3	64QAM	8	7	20.05	19.97	19.94			
3	64QAM	15	0	20.08	19.97	19.92			
Channel									
Frequency (MHz)									
1.4	QPSK	1	0	22.72	22.60	22.56	24.00	0	
1.4	QPSK	1	3	22.72	22.60	22.56			
1.4	QPSK	1	5	22.71	22.57	22.53			
1.4	QPSK	3	0	22.65	22.52	22.48	23.00	1	
1.4	QPSK	3	1	22.67	22.56	22.52			
1.4	QPSK	3	3	22.60	22.49	22.45			
1.4	QPSK	6	0	21.76	21.62	21.58	23.00	1	
1.4	16QAM	1	0	22.02	21.97	21.93			
1.4	16QAM	1	3	22.05	21.99	21.95			
1.4	16QAM	1	5	22.00	21.92	21.88			
1.4	16QAM	3	0	21.70	21.65	21.61	23.00	1	
1.4	16QAM	3	1	21.77	21.67	21.63			
1.4	16QAM	3	3	21.73	21.65	21.61			
1.4	16QAM	6	0	20.84	20.76	20.72	22.00	2	
1.4	64QAM	1	0	21.17	21.14	21.10			
1.4	64QAM	1	3	21.17	21.13	21.09			
1.4	64QAM	1	5	21.15	21.08	21.04	22.00	2	
1.4	64QAM	3	0	20.85	20.86	20.82			
1.4	64QAM	3	1	20.96	20.88	20.84			
1.4	64QAM	3	3	20.92	20.85	20.81			
1.4	64QAM	6	0	20.07	19.97	19.93	21.00	3	

Full Power									
Band 4 (AWS band)									
Part 271 (only on channel 190.0 MHz)									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. (dBm)	Power Middle Ch. (dBm)	Power High Ch. (dBm)	Tune-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)				1700	1732.5	1745			
20	QPSK	1	0	22.49	22.53	22.30			
20	QPSK	1	49	22.35	22.28	22.31	24.00		0
20	QPSK	1	99	22.22	22.23	22.22			
20	QPSK	50	0	21.45	21.46	21.38			
20	QPSK	50	24	21.43	21.35	21.34	23.00		1
20	QPSK	50	50	21.29	21.30	21.30			
20	QPSK	100	0	21.40	21.41	21.35			
20	16QAM	1	0	21.83	21.68	21.69			
20	16QAM	1	49	21.73	21.60	21.71	23.00		1
20	16QAM	1	99	21.54	21.62	21.57			
20	16QAM	50	0	20.49	20.39	20.43			
20	16QAM	50	24	20.49	20.44	20.45	22.00		2
20	16QAM	50	50	20.38	20.37	20.43			
20	16QAM	100	0	20.46	20.39	20.42			
20	64QAM	1	0	20.99	20.80	20.81			
20	64QAM	1	49	20.88	20.76	20.85	22.00		2
20	64QAM	1	99	20.69	20.73	20.70			
20	64QAM	50	0	19.75	19.63	19.67			
20	64QAM	50	24	19.74	19.68	19.69			
20	64QAM	50	50	19.60	19.62	19.65	21.00		3
20	64QAM	100	0	19.70	19.62	19.62			
20	64QAM	100	0	20.05	20.17	20.05			
Frequency (MHz)				1717.5	1732.5	1747.5	Tune-up limit (dBm)	MPR (dB)	
15	QPSK	1	0	22.48	22.39	22.34			
15	QPSK	1	37	22.46	22.28	22.30	24.00		0
15	QPSK	1	74	22.31	22.28	22.25			
15	QPSK	36	0	21.53	21.30	21.35			
15	QPSK	36	20	21.42	21.35	21.37	23.00		1
15	QPSK	36	39	21.42	21.34	21.34			
15	QPSK	75	0	21.40	21.34	21.36			
15	16QAM	1	0	21.85	21.84	21.72			
15	16QAM	1	37	21.85	21.62	21.65	23.00		1
15	16QAM	1	74	21.62	21.64	21.55			
15	16QAM	36	0	20.57	20.39	20.47			
15	16QAM	36	20	20.50	20.45	20.45	22.00		2
15	16QAM	36	39	20.48	20.41	20.38			
15	16QAM	75	0	20.48	20.37	20.43			
15	64QAM	1	0	20.98	20.83	20.88			
15	64QAM	1	37	20.97	20.74	20.77	22.00		2
15	64QAM	1	74	20.80	20.78	20.70			
15	64QAM	36	0	19.82	19.81	19.72			
15	64QAM	36	20	19.72	19.68	19.70	21.00		3
15	64QAM	36	39	19.72	19.66	19.62			
15	64QAM	75	0	19.74	19.64	19.68			
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1715	1732.5	1750			
10	QPSK	1	0	22.51	22.41	22.31			
10	QPSK	1	25	22.50	22.30	22.32	24.00		0
10	QPSK	1	50	22.34	22.34	22.35			
10	QPSK	25	0	21.53	21.34	21.37			
10	QPSK	25	12	21.56	21.37	21.39	23.00		1
10	QPSK	25	25	21.38	21.29	21.29			
10	QPSK	50	0	21.40	21.30	21.33			
10	16QAM	1	0	21.85	21.65	21.69			
10	16QAM	1	25	21.83	21.60	21.65	23.00		1
10	16QAM	1	49	21.62	21.60	21.54			
10	16QAM	25	0	20.62	20.37	20.41			
10	16QAM	25	12	20.60	20.42	20.45	22.00		2
10	16QAM	25	25	20.40	20.40	20.41			
10	16QAM	50	0	20.48	20.37	20.44			
10	64QAM	1	0	20.96	20.83	20.84			
10	64QAM	1	25	20.97	20.78	20.78	22.00		2
10	64QAM	1	49	20.80	20.74	20.72			
10	64QAM	25	0	19.88	19.63	19.67			
10	64QAM	25	12	19.86	19.68	19.68	21.00		3
10	64QAM	25	25	19.70	19.64	19.63			
10	64QAM	50	0	19.71	19.63	19.68			
Channel				16975	20175	20375	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1712.5	1732.5	1752.5			
5	QPSK	1	0	22.46	22.29	22.29			
5	QPSK	1	12	22.48	22.29	22.32	24.00		0
5	QPSK	1	24	22.43	22.21	22.27			
5	QPSK	12	0	21.49	21.34	21.34			
5	QPSK	12	7	21.56	21.35	21.36	23.00		1
5	QPSK	12	13	21.47	21.30	21.32			
5	QPSK	25	0	21.51	21.32	21.35			
5	16QAM	1	0	21.79	21.55	21.60			
5	16QAM	1	12	21.83	21.57	21.65	23.00		1
5	16QAM	1	24	21.79	21.58	21.54			
5	16QAM	12	0	20.61	20.39	20.41			
5	16QAM	12	7	20.60	20.38	20.45	22.00		2
5	16QAM	12	13	20.59	20.36	20.39			
5	16QAM	25	0	20.56	20.37	20.42			
5	64QAM	1	0	20.94	20.67	20.77	22.00		2
5	64QAM	1	12	20.96	20.77	20.75			
5	64QAM	1	24	20.91	20.70	20.67			
5	64QAM	12	0	19.85	19.62	19.64			
5	64QAM	12	7	19.83	19.64	19.67	21.00		3
5	64QAM	12	13	19.83	19.61	19.62			
5	64QAM	25	0	19.80	19.64	19.68			
Channel				1711.5	20175	20375	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1711.5	1732.5	1752.5			
3	QPSK	1	0	22.50	22.33	22.27			
3	QPSK	1	8	22.49	22.22	22.46	24.00		0
3	QPSK	1	14	22.33	22.17	22.30			
3	QPSK	8	0	21.52	21.26	21.49			
3	QPSK	8	4	21.55	21.29	21.52	23.00		1
3	QPSK	8	7	21.37	21.21	21.34			
3	QPSK	15	0	21.39	21.22	21.36			
3	16QAM	1	0	21.82	21.52	21.71			
3	16QAM	1	8	21.82	21.52	21.71	23.00		1
3	16QAM	1	14	21.61	21.53	21.58			
3	16QAM	8	0	20.61	20.29	20.56			
3	16QAM	8	4	20.59	20.34	20.58	22.00		2
3	16QAM	8	7	20.43	20.32	20.40			
3	16QAM	15	0	20.47	20.29	20.44			
3	64QAM	1	0	20.95	20.75	20.93			
3	64QAM	1	5	20.96	20.70	20.92	22.00		2
3	64QAM	1	14	20.79	20.66	20.76			
3	64QAM	8	0	19.87	19.55	19.84			
3	64QAM	8	4	19.86	19.60	19.82	21.00		3
3	64QAM	8	7	19.69	19.58	19.66			
3	64QAM	15	0	19.70	19.55	19.67			
Channel				19657	20175	20393	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1710.7	1732.5	1754.3			
1.4	QPSK	1	0	22.25	22.21	22.42			
1.4	QPSK	1	3	22.25	22.21	22.44			
1.4	QPSK	1	5	22.17	22.13	22.39	24.00		0
1.4	QPSK	3	0	22.18	22.14	22.33			
1.4	QPSK	3	1	22.16	22.12	22.30			
1.4	QPSK	3	3	22.14	22.10	22.31			
1.4	QPSK	6	0	21.28	21.24	21.47	23.00		1
1.4	16QAM	1	0	21.51	21.47	21.75			
1.4	16QAM	1	3	21.53	21.49	21.79			
1.4	16QAM	1	5	21.54	21.50	21.75	23.00		1
1.4	16QAM	3	0	21.23	21.19	21.44			
1.4	16QAM	3	1	21.24	21.14	21.44			
1.4	16QAM	3	3	21.20	21.16	21.43			
1.4	16QAM	6	0	20.33	20.29	20.52	22.00		2
1.4	64QAM	1	0	20.63	20.59	20.90			
1.4	64QAM	1	3	20.73	20.69	20.92			
1.4	64QAM	1	5	20.66	20.62	20.87	22.00		2
1.4	64QAM	3	0	20.46	20.42	20.69			
1.4	64QAM	3	1	20.46	20.44	20.67			
1.4	64QAM	3	3	20.45	20.41	20.67			
1.4	64QAM	6	0	19.80	19.55	19.78	21.00		3

Band 7 (200MHz band)									
Part 27									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				20850	21100	21350			
Frequency (MHz)				2510	2535	2560			
20	QPSK	1	0	22.86	22.95	22.62	24.00	0	
20	QPSK	1	49	22.92	22.65	22.75			
20	QPSK	1	99	22.90	22.78	22.78			
20	QPSK	50	0	21.98	22.03	22.00	23.00	1	
20	QPSK	50	24	21.98	21.74	21.69			
20	QPSK	50	50	22.02	21.74	21.81			
20	QPSK	100	0	21.91	21.75	21.68	23.00	1	
20	16QAM	1	0	22.20	22.08	21.99			
20	16QAM	1	49	22.27	22.00	22.10			
20	16QAM	1	99	22.24	22.18	22.12	22.00	2	
20	16QAM	50	0	21.00	20.82	20.79			
20	16QAM	50	24	21.10	20.83	20.81			
20	16QAM	50	50	21.12	20.82	20.92	22.00	2	
20	16QAM	100	0	21.00	20.83	20.81			
20	64QAM	1	0	21.33	21.23	21.18			
20	64QAM	1	49	21.40	21.15	21.29	22.00	2	
20	64QAM	1	99	21.38	21.29	21.31			
20	64QAM	50	0	20.25	20.09	20.05			
20	64QAM	50	24	20.37	20.08	20.06	21.00	3	
20	64QAM	50	50	20.34	20.12	20.17			
20	64QAM	100	0	20.24	20.08	20.09			
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2507.5	2535	2562.5			
15	QPSK	1	0	22.87	22.76	22.63	24.00	0	
15	QPSK	1	37	22.93	22.67	22.74			
15	QPSK	1	74	22.95	22.85	22.83			
15	QPSK	36	0	21.89	21.71	21.68	23.00	1	
15	QPSK	36	20	21.91	21.71	21.84			
15	QPSK	36	36	21.98	21.72	21.79			
15	QPSK	75	0	21.91	21.72	21.70	23.00	1	
15	16QAM	1	0	22.25	22.09	22.05			
15	16QAM	1	37	22.29	22.00	22.13			
15	16QAM	1	74	22.30	22.22	22.20	22.00	2	
15	16QAM	36	0	21.02	20.81	20.82			
15	16QAM	36	20	21.01	20.83	20.93			
15	16QAM	36	36	21.08	20.83	20.91	22.00	2	
15	16QAM	75	0	20.90	20.81	20.83			
15	64QAM	1	0	21.41	21.30	21.23			
15	64QAM	1	37	21.43	21.20	21.31	22.00	2	
15	64QAM	1	74	21.47	21.37	21.39			
15	64QAM	36	0	20.30	20.09	20.09			
15	64QAM	36	20	20.27	20.10	20.20	21.00	3	
15	64QAM	36	36	20.35	20.08	20.17			
15	64QAM	75	0	20.28	20.08	20.10			
Channel				20830	21100	21400	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2505	2535	2565			
10	QPSK	1	0	22.87	22.75	22.70	24.00	0	
10	QPSK	1	25	22.82	22.63	22.71			
10	QPSK	1	49	22.92	22.67	22.72			
10	QPSK	25	0	21.89	21.70	21.71	23.00	1	
10	QPSK	25	12	21.88	21.69	21.73			
10	QPSK	25	25	21.89	21.69	21.73			
10	QPSK	50	0	21.90	21.72	21.78	23.00	1	
10	16QAM	1	0	22.19	22.04	22.07			
10	16QAM	1	25	22.18	21.90	22.10			
10	16QAM	1	49	22.28	22.00	22.16	22.00	2	
10	16QAM	25	0	21.01	20.79	20.83			
10	16QAM	25	12	20.98	20.80	20.87			
10	16QAM	25	25	21.00	20.81	20.86	22.00	2	
10	16QAM	50	0	21.01	20.80	20.87			
10	64QAM	1	0	21.36	21.22	21.25			
10	64QAM	1	25	21.32	21.15	21.23	22.00	2	
10	64QAM	1	49	21.43	21.18	21.25			
10	64QAM	25	0	20.25	20.02	20.08			
10	64QAM	25	12	20.24	20.08	20.12	21.00	3	
10	64QAM	25	25	20.26	20.05	20.11			
10	64QAM	50	0	20.26	20.02	20.12			
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2502.5	2535	2567.5			
5	QPSK	1	0	22.83	22.63	22.69	24.00	0	
5	QPSK	1	12	22.84	22.64	22.71			
5	QPSK	1	24	22.84	22.63	22.68			
5	QPSK	12	0	21.89	21.67	21.73	23.00	1	
5	QPSK	12	7	21.93	21.73	21.79			
5	QPSK	12	13	21.90	21.69	21.77			
5	QPSK	25	0	21.88	21.69	21.72	23.00	1	
5	16QAM	1	0	22.19	21.98	22.07			
5	16QAM	1	12	22.21	22.00	22.13			
5	16QAM	1	24	22.21	22.00	22.14	22.00	2	
5	16QAM	12	0	21.00	20.79	20.84			
5	16QAM	12	7	21.03	20.79	20.95			
5	16QAM	12	13	21.02	20.79	20.88	22.00	2	
5	16QAM	25	0	21.01	20.75	20.86			
5	64QAM	1	0	21.37	21.13	21.21			
5	64QAM	1	12	21.36	21.14	21.25	22.00	2	
5	64QAM	1	24	21.37	21.18	21.27			
5	64QAM	12	0	20.26	20.02	20.08			
5	64QAM	12	7	20.30	20.05	20.13	21.00	3	
5	64QAM	12	13	20.28	20.05	20.13			
5	64QAM	25	0	20.27	20.02	20.09			

Full Power									
Band 12 (100MHz Low Band)									
Part 27 (Low Band Channel Grouping)									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				23060	23095	23130			
Frequency (MHz)				704	707.5	711			
10	QPSK	1	0	22.87	23.00	23.13	24.00	0	
10	QPSK	1	25	23.05	23.10	23.12			
10	QPSK	1	49	23.17	23.15	23.15			
10	QPSK	25	0	22.11	22.27	22.15	23.00	1	
10	QPSK	25	12	22.28	22.21	22.18			
10	QPSK	25	25	22.24	22.17	22.15			
10	QPSK	50	0	22.24	22.25	22.14	23.00	1	
10	16QAM	1	0	22.29	22.30	22.49			
10	16QAM	1	25	22.34	22.58	22.57			
10	16QAM	1	49	22.63	22.54	22.55	22.00	2	
10	16QAM	25	0	21.21	21.30	21.28			
10	16QAM	25	12	21.31	21.33	21.29			
10	16QAM	25	25	21.32	21.30	21.25	22.00	2	
10	16QAM	50	0	21.31	21.31	21.26			
10	64QAM	1	0	21.45	21.46	21.68			
10	64QAM	1	25	21.55	21.74	21.70	22.00	2	
10	64QAM	1	49	21.75	21.70	21.70			
10	64QAM	25	0	20.49	20.53	20.55			
10	64QAM	25	12	20.58	20.59	20.56	21.00	3	
10	64QAM	25	25	20.58	20.56	20.50			
10	64QAM	50	0	20.55	20.58	20.52			
Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				701.5	707.5	713.5			
5	QPSK	1	0	22.95	22.99	23.07	24.00	0	
5	QPSK	1	12	23.07	23.11	23.15			
5	QPSK	1	24	23.02	23.14	23.13			
5	QPSK	12	0	22.14	22.17	22.10	23.00	1	
5	QPSK	12	7	22.19	22.20	22.23			
5	QPSK	12	13	22.12	22.18	22.16			
5	QPSK	25	0	22.12	22.31	22.12	23.00	1	
5	16QAM	1	0	22.28	22.35	22.47			
5	16QAM	1	12	22.30	22.54	22.47			
5	16QAM	1	24	22.32	22.57	22.50	22.00	2	
5	16QAM	12	0	21.20	21.27	21.26			
5	16QAM	12	7	21.22	21.33	21.33			
5	16QAM	12	13	21.22	21.31	21.25	22.00	2	
5	16QAM	25	0	21.20	21.28	21.21			
5	64QAM	1	0	21.44	21.48	21.63			
5	64QAM	1	12	21.51	21.64	21.56	22.00	2	
5	64QAM	1	24	21.46	21.69	21.66			
5	64QAM	12	0	20.44	20.53	20.45			
5	64QAM	12	7	20.47	20.60	20.60	21.00	3	
5	64QAM	12	13	20.43	20.54	20.54			
5	64QAM	25	0	20.48	20.54	20.48			
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				700.5	707.5	714.5			
3	QPSK	1	0	22.84	22.86	23.14	24.00	0	
3	QPSK	1	8	23.06	23.14	23.13			
3	QPSK	1	14	23.01	23.11	23.16			
3	QPSK	8	0	22.13	22.13	22.13	23.00	1	
3	QPSK	8	4	22.18	22.17	22.19			
3	QPSK	8	7	22.11	22.12	22.16			
3	QPSK	15	0	22.11	22.15	22.15	23.00	1	
3	16QAM	1	0	22.25	22.26	22.50			
3	16QAM	1	8	22.35	22.54	22.58			
3	16QAM	1	14	22.31	22.50	22.52	22.00	2	
3	16QAM	8	0	21.19	21.26	21.29			
3	16QAM	8	4	21.21	21.29	21.30			
3	16QAM	8	7	21.21	21.26	21.26	21.00	3	
3	16QAM	15	0	21.19	21.27	21.27			
3	64QAM	1	0	21.43	21.42	21.67			
3	64QAM	1	8	21.50	21.70	21.71	22.00	2	
3	64QAM	1	14	21.45	21.66	21.71			
3	64QAM	8	0	20.43	20.49	20.56			
3	64QAM	8	4	20.48	20.55	20.57	21.00	3	
3	64QAM	8	7	20.42	20.52	20.51			
3	64QAM	15	0	20.47	20.55	20.53			
Channel				23017	23085	23157	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				699.7	707.5	715.3			
1.4	QPSK	1	0	22.93	22.94	22.96	24.00	0	
1.4	QPSK	1	3	23.05	23.05	23.02			
1.4	QPSK	1	5	23.00	23.01	23.04			
1.4	QPSK	3	0	22.99	23.00	22.99	23.00	1	
1.4	QPSK	3	1	23.04	22.99	23.04			
1.4	QPSK	3	3	22.97	22.98	23.00			
1.4	16QAM	1	0	22.24	22.25	22.26	23.00	1	
1.4	16QAM	1	3	22.34	22.34	22.35			
1.4	16QAM	1	5	22.30	22.31	22.50			
1.4	16QAM	3	0	22.05	22.06	22.13	22.00	2	
1.4	16QAM	3	1	22.07	22.08	22.14			
1.4	16QAM	3	3	22.07	22.08	22.13			
1.4	64QAM	1	0	21.18	21.19	21.27	21.00	3	
1.4	64QAM	1	0	21.42	21.43	21.42			
1.4	64QAM	1	3	21.49	21.50	21.70			
1.4	64QAM	1	5	21.44	21.45	21.66	22.00	2	
1.4	64QAM	3	0	21.29	21.29	21.30			
1.4	64QAM	3	3	21.32	21.33	21.42			
1.4	64QAM	3	3	21.28	21.29	21.39	21.00	3	
1.4	64QAM	6	0	20.46	20.47	20.54			

Band 14 (700MHz Band)								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				793			24.00	0
Frequency (MHz)				22.77				
10	QPSK	1	0		22.77		23.00	1
10	QPSK	1	25		22.75			
10	QPSK	1	49		22.64			
10	QPSK	25	0		21.81			
10	QPSK	25	12		21.82			
10	QPSK	25	25		21.72		23.00	1
10	QPSK	50	0		21.77			
10	16QAM	1	0		22.01			
10	16QAM	1	25		22.12			
10	16QAM	1	49		22.03			
10	16QAM	25	0		20.92		22.00	2
10	16QAM	25	12		20.93			
10	16QAM	25	25		20.84			
10	16QAM	50	0		20.89			
10	64QAM	1	0		21.20			
10	64QAM	1	25		21.28		22.00	2
10	64QAM	1	49		21.17			
10	64QAM	25	0		20.19			
10	64QAM	25	12		20.20			
10	64QAM	25	25		20.15		21.00	3
10	64QAM	50	0		20.15			
Channel				23305	23330	23355	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				790.5	793	795.5		
5	QPSK	1	0	22.70	22.73	22.69	24.00	0
5	QPSK	1	12	22.76	22.71	22.68		
5	QPSK	1	24	22.70	22.71	22.66		
5	QPSK	12	0	21.73	21.83	21.76		
5	QPSK	12	7	21.83	21.80	21.74		
5	QPSK	12	13	21.80	21.77	21.72	23.00	1
5	QPSK	25	0	21.81	21.76	21.77		
5	16QAM	1	0	22.01	22.09	22.04		
5	16QAM	1	12	22.10	22.11	22.03		
5	16QAM	1	24	22.07	22.05	21.98		
5	16QAM	12	0	20.88	20.94	20.88	22.00	2
5	16QAM	12	7	20.98	20.97	20.90		
5	16QAM	12	13	20.92	20.90	20.87		
5	16QAM	25	0	20.93	20.88	20.85		
5	64QAM	1	0	21.18	21.25	21.23		
5	64QAM	1	12	21.25	21.24	21.19	22.00	2
5	64QAM	1	24	21.23	21.20	21.15		
5	64QAM	12	0	20.12	20.19	20.14		
5	64QAM	12	7	20.26	20.22	20.14		
5	64QAM	12	13	20.20	20.16	20.10	21.00	3
5	64QAM	25	0	20.20	20.14	20.12		

Full Power								
Band 17 (700MHz band)								
Part 27 (Holding channel reserved)								
BW (MHz)	Modulation	RB Size	Power RB Offset	Low Ch. / Freq.	Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	23.10	23.08	23.06	24.00	0
10	QPSK	1	25	23.08	23.08	22.98		
10	QPSK	1	49	22.96	22.95	22.97		
10	QPSK	25	0	22.17	22.15	22.15		
10	QPSK	25	12	22.14	22.14	22.14		
10	QPSK	25	25	22.13	22.12	22.02	23.00	1
10	QPSK	50	0	22.10	22.12	22.11		
10	16QAM	1	0	22.34	22.33	22.36		
10	16QAM	1	25	22.48	22.47	22.33		
10	16QAM	1	49	22.27	22.24	22.24		
10	16QAM	25	0	21.19	21.25	21.20	22.00	2
10	16QAM	25	12	21.23	21.25	21.25		
10	16QAM	25	25	21.19	21.17	21.07		
10	16QAM	50	0	21.22	21.23	21.22		
10	64QAM	1	0	21.54	21.52	21.57		
10	64QAM	1	25	21.65	21.62	21.53	22.00	2
10	64QAM	1	49	21.48	21.44	21.45		
10	64QAM	25	0	20.47	20.50	20.50		
10	64QAM	25	12	20.49	20.51	20.51		
10	64QAM	25	25	20.45	20.44	20.33	21.00	3
10	64QAM	50	0	20.48	20.49	20.48		
Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	23.00	23.06	22.95	24.00	0
5	QPSK	1	12	23.01	23.07	22.95		
5	QPSK	1	24	23.02	22.95	22.92		
5	QPSK	12	0	22.17	22.11	21.96		
5	QPSK	12	7	22.20	22.15	22.00		
5	QPSK	12	13	22.18	22.12	21.97	23.00	1
5	QPSK	25	0	22.18	22.12	21.98		
5	16QAM	1	0	22.32	22.42	22.28		
5	16QAM	1	12	22.39	22.42	22.23		
5	16QAM	1	24	22.45	22.25	22.20		
5	16QAM	12	0	21.22	21.21	21.07	22.00	2
5	16QAM	12	7	21.31	21.26	21.09		
5	16QAM	12	13	21.25	21.23	21.04		
5	16QAM	25	0	21.23	21.19	21.02		
5	64QAM	1	0	21.54	21.58	21.47		
5	64QAM	1	12	21.61	21.61	21.42	22.00	2
5	64QAM	1	24	21.61	21.45	21.41		
5	64QAM	12	0	20.48	20.47	20.33		
5	64QAM	12	7	20.51	20.53	20.33		
5	64QAM	12	13	20.48	20.49	20.31	21.00	3
5	64QAM	25	0	20.48	20.48	20.30		

Band 23 (700MHz Band)								
Part 24E								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Turn-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590	24.00	0
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	22.84	22.89	22.46	24.00	0
20	QPSK	1	49	22.76	22.54	22.60		
20	QPSK	1	99	22.61	22.45	22.48		
20	QPSK	50	0	21.81	21.82	21.52		
20	QPSK	50	24	21.75	21.76	21.84		
20	QPSK	50	50	21.64	21.56	21.58	23.00	1
20	QPSK	100	0	21.72	21.73	21.50		
20	16QAM	1	0	22.10	22.05	21.78		
20	16QAM	1	49	22.04	21.96	21.97		
20	16QAM	1	99	21.93	21.83	21.86		
20	16QAM	50	0	20.90	20.72	20.61	22.00	2
20	16QAM	50	24	20.81	20.74	20.75		
20	16QAM	50	50	20.72	20.66	20.69		
20	16QAM	100	0	20.75	20.66	20.63		
20	64QAM	1	0	21.28	21.23	20.93		
20	64QAM	1	49	21.23	21.09	21.13	22.00	2
20	64QAM	1	99	21.09	21.00	21.05		
20	64QAM	50	0	20.15	19.98	19.98		
20	64QAM	50	24	20.07	19.99	20.01		
20	64QAM	50	50	19.98	19.88	19.92	21.00	3
20	64QAM	100	0	20.02	19.94	19.91		
Channel				26115	26340	26615	Turn-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	22.79	22.67	22.59	24.00	0
15	QPSK	1	37	22.77	22.51	22.60		
15	QPSK	1	74	22.57	22.43	22.51		
15	QPSK	36	0	21.84	21.56	21.64		
15	QPSK	36	20	21.85	21.60	21.64		
15	QPSK	36	39	21.85	21.57	21.57	23.00	1
15	QPSK	75	0	21.71	21.58	21.59		
15	16QAM	1	0	22.07	22.01	21.92		
15	16QAM	1	37	22.09	21.90	21.96		
15	16QAM	1	74	21.89	21.84	21.84		
15	16QAM	36	0	20.89	20.69	20.74	22.00	2
15	16QAM	36	20	20.92	20.73	20.77		
15	16QAM	36	39	20.92	20.68	20.71		
15	16QAM	75	0	20.76	20.70	20.75		
15	64QAM	1	0	21.26	21.22	21.10		
15	64QAM	1	37	21.24	21.09	21.10	22.00	2
15	64QAM	1	74	21.04	20.98	21.01		
15	64QAM	36	0	20.14	19.96	19.97	21.00	3
15	64QAM	36	20	20.14	19.96	20.02		
15	64QAM	36	39	19.99	19.93	19.97		
15	64QAM	75	0	20.03	19.94	20.00		
Channel				26090	26340	26640		
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	22.88	22.77	22.57	24.00	0
10	QPSK	1	25	22.78	22.55	22.57		
10	QPSK	1	49	22.78	22.56	22.50		
10	QPSK	25	0	21.86	21.61	21.61		
10	QPSK	25	10	21.85	21.64	21.60		
10	QPSK	25	25	21.81	21.56	21.53	23.00	1
10	QPSK	50	0	21.83	21.61	21.60		
10	16QAM	1	0	22.19	22.13	21.97		
10	16QAM	1	25	22.07	21.93	21.96		
10	16QAM	1	49	22.08	21.94	21.84		
10	16QAM	25	0	20.93	20.70	20.71	22.00	2
10	16QAM	25	12	20.90	20.71	20.72		
10	16QAM	25	25	20.86	20.66	20.66		
10	16QAM	50	0	20.98	20.69	20.70		
10	64QAM	1	0	21.35	21.31	21.14		
10	64QAM	1	25	21.26	21.10	21.14	22.00	2
10	64QAM	1	49	21.22	21.10	21.04		
10	64QAM	25	0	20.18	19.95	19.97	21.00	3
10	64QAM	25	12	20.19	19.97	19.98		
10	64QAM	25	25	20.12	19.92	19.92		
10	64QAM	50	0	20.13	19.93	19.95		
Channel				26055 <th>26340</th> <th>26655</th> <th rowspan="2">Turn-up limit (dBm)</th> <th rowspan="2">MPR (dB)</th>	26340	26655		
Frequency (MHz)				1852.5 <th>1880</th> <th>1912.5</th>	1880	1912.5		
5	QPSK	1	0	22.79	22.53	22.53	24.00	0
5	QPSK	1	12	22.77	22.54	22.53		
5	QPSK	1	24	22.74	22.48	22.48		
5	QPSK	12	0	21.80	21.59	21.58		
5	QPSK	12	7	21.84	21.63	21.61		
5	QPSK	12	13	21.78	21.55	21.57	23.00	1
5	QPSK	25	0	21.80	21.56	21.57		
5	16QAM	1	0	22.10	21.92	21.95		
5	16QAM	1	12	22.10	21.92	21.95		
5	16QAM	1	24	22.02	21.87	21.85		
5	16QAM	12	0	20.89	20.66	20.73	22.00	2
5	16QAM	12	7	20.88	20.67	20.76		
5	16QAM	12	13	20.82	20.63	20.69		
5	16QAM	25	0	20.88	20.63	20.68		
5	64QAM	1	0	21.23	21.07	21.11		
5	64QAM	1	12	21.24	21.06	21.10	22.00	2
5	64QAM	1	24	21.16	21.01	21.01		
5	64QAM	12	0	20.14	19.90	19.97	21.00	3
5	64QAM	12	7	20.14	19.94	19.99		
5	64QAM	12	13	20.09	19.90	19.92		
5	64QAM	25	0	20.15	19.90	19.94		
Channel				26055	26340	26675		
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	22.78	22.49	22.56	24.00	0
3	QPSK	1	8	22.76	22.50	22.54		
3	QPSK	1	14	22.73	22.44	22.49		
3	QPSK	8	0	21.79	21.55	21.59		
3	QPSK	8	4	21.83	21.52	21.52		
3	QPSK	8	7	21.77	21.51	21.58	23.00	1
3	QPSK	15	0	21.79	21.52	21.58		
3	16QAM	1	0	22.09	21.88	21.96		
3	16QAM	1	8	22.09	21.90	21.92		
3	16QAM	1	14	22.01	21.83	21.86		
3	16QAM	8	0	20.88	20.62	20.74	22.00	2
3	16QAM	8	4	20.87	20.63	20.77		
3	16QAM	8	7	20.81	20.59	20.70		
3	16QAM	15	0	20.87	20.59	20.69		
3	64QAM	1	0	21.22	21.03	21.12		
3	64QAM	1	8	21.23	21.02	21.11	22.00	2
3	64QAM	1	14	21.15	20.97	21.02		
3	64QAM	8	0	20.13	19.96	19.98	21.00	3
3	64QAM	8	4	20.13	19.90	20.00		
3	64QAM	8	7	20.08	19.86	19.93		
3	64QAM	15	0	20.14	19.86	19.95		
Channel				26047	26340	26683		
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	22.56	22.79	22.56	24.00	0
1.4	QPSK	1	3	22.54	22.77	22.54		
1.4	QPSK	1	5	22.49	22.74	22.49		
1.4	QPSK	3	0	22.37	22.58	22.37		
1.4	QPSK	3	1	22.42	22.62	22.40		
1.4	QPSK	3	3	22.36	22.56	22.36	23.00	1
1.4	QPSK	6	0	21.58	21.80	21.58		
1.4	16QAM	1	0	21.96	22.10	21.96		
1.4	16QAM	1	3	21.92	22.10	21.92		
1.4	16QAM	1	6	21.86	22.07	21.86		
1.4	16QAM	3	0	21.62	21.77	21.62	22.00	2
1.4	16QAM	3	1	21.65	21.76	21.65		
1.4	16QAM	3	3	21.58	21.70	21.58		
1.4	16QAM	6	0	20.69	20.88	20.69		
1.4	64QAM	1	0	21.12	21.23	21.12		
1.4	64QAM	1	3	21.11	21.24	21.11	22.00	2
1.4	64QAM	1	5	21.02	21.16	21.02		
1.4	64QAM	3	0	20.86	21.07	20.86		
1.4	64QAM	3	1	20.98	21.02	20.98		
1.4	64QAM	3	3	20.91	20.97	20.91		
1.4	64QAM	6	0	19.95	20.15	19.95	21.00	3

Full Power

Band 26 for FCC									
(only one channel required)									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				26765	26865	26965			
Frequency (MHz)				831.5	831.5	841.5			
15	QPSK	1	0	23.09	23.05	23.14	24.00	0	
15	QPSK	1	37	23.17	23.18	23.10			
15	QPSK	1	74	23.10	23.09	22.96			
15	QPSK	36	0	22.18	22.24	22.07	23.00	1	
15	QPSK	36	20	22.12	22.21	22.08			
15	QPSK	36	39	22.21	22.14	21.98			
15	QPSK	75	0	22.12	22.19	22.07	23.00	1	
15	16QAM	1	0	22.46	22.40	22.56			
15	16QAM	1	37	22.46	22.59	22.31			
15	16QAM	1	74	22.48	22.49	22.29	22.00	2	
15	16QAM	36	0	21.27	21.32	21.18			
15	16QAM	36	20	21.23	21.33	21.11			
15	16QAM	36	39	21.24	21.26	21.10	22.00	2	
15	16QAM	75	0	21.24	21.29	21.10			
15	64QAM	1	0	21.68	21.55	21.73			
15	64QAM	1	37	21.61	21.74	21.47	22.00	2	
15	64QAM	1	74	21.68	21.66	21.50			
15	64QAM	36	0	20.53	20.59	20.45			
15	64QAM	36	20	20.48	20.60	20.37	21.00	3	
15	64QAM	36	39	20.53	20.52	20.36			
15	64QAM	75	0	20.46	20.57	20.37			
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				819	831.5	844			
10	QPSK	1	0	23.05	23.08	23.04	24.00	0	
10	QPSK	1	25	23.01	23.17	23.02			
10	QPSK	1	49	23.03	23.09	22.91			
10	QPSK	25	0	22.11	22.24	22.08	23.00	1	
10	QPSK	25	12	22.08	22.21	22.07			
10	QPSK	25	25	22.13	22.13	22.03			
10	QPSK	50	0	22.16	22.18	22.06	23.00	1	
10	16QAM	1	0	22.41	22.47	22.42			
10	16QAM	1	25	22.41	22.57	22.30			
10	16QAM	1	49	22.38	22.51	22.24	22.00	2	
10	16QAM	25	0	21.16	21.28	21.12			
10	16QAM	25	12	21.20	21.31	21.12			
10	16QAM	25	25	21.22	21.27	21.08	22.00	2	
10	16QAM	50	0	21.25	21.30	21.11			
10	64QAM	1	0	21.53	21.57	21.51			
10	64QAM	1	25	21.52	21.68	21.43	22.00	2	
10	64QAM	1	49	21.51	21.60	21.36			
10	64QAM	25	0	20.38	20.51	20.33			
10	64QAM	25	12	20.40	20.53	20.35	21.00	3	
10	64QAM	25	25	20.44	20.49	20.30			
10	64QAM	50	0	20.46	20.51	20.30			
Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				816.5	831.5	846.5			
5	QPSK	1	0	23.04	23.07	22.98	24.00	0	
5	QPSK	1	12	23.02	23.15	22.98			
5	QPSK	1	24	22.98	23.12	22.89			
5	QPSK	12	0	22.08	22.19	22.01	23.00	1	
5	QPSK	12	7	22.11	22.18	21.98			
5	QPSK	12	13	22.06	22.16	21.98			
5	QPSK	25	0	22.06	22.15	21.98	23.00	1	
5	16QAM	1	0	22.42	22.41	22.27			
5	16QAM	1	12	22.46	22.55	22.30			
5	16QAM	1	24	22.36	22.58	22.21	22.00	2	
5	16QAM	12	0	21.18	21.28	21.06			
5	16QAM	12	7	21.23	21.32	21.10			
5	16QAM	12	13	21.19	21.24	21.09	22.00	2	
5	16QAM	25	0	21.19	21.27	21.06			
5	64QAM	1	0	21.58	21.58	21.44			
5	64QAM	1	12	21.59	21.69	21.45	22.00	2	
5	64QAM	1	24	21.53	21.70	21.40			
5	64QAM	12	0	20.44	20.52	20.30			
5	64QAM	12	7	20.47	20.57	20.36	21.00	3	
5	64QAM	12	13	20.44	20.50	20.30			
5	64QAM	25	0	20.44	20.55	20.32			
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				815.5	831.5	847.5			
3	QPSK	1	0	23.01	22.98	23.01	24.00	0	
3	QPSK	1	8	22.99	22.96	23.09			
3	QPSK	1	14	22.95	22.92	23.06			
3	QPSK	8	0	22.05	22.02	22.13	23.00	1	
3	QPSK	8	4	22.08	22.05	22.12			
3	QPSK	8	7	22.03	22.00	22.12			
3	QPSK	15	0	22.03	22.00	22.09	23.00	1	
3	16QAM	1	0	22.39	22.36	22.35			
3	16QAM	1	8	22.43	22.40	22.49			
3	16QAM	1	14	22.33	22.30	22.52	22.00	2	
3	16QAM	8	0	21.15	21.25	21.12			
3	16QAM	8	4	21.26	21.04	20.98			
3	16QAM	8	7	21.18	21.03	20.97	22.00	2	
3	16QAM	15	0	21.21	21.00	20.94			
3	64QAM	1	0	21.52	21.38	21.32			
3	64QAM	1	8	21.63	21.39	21.33	22.00	2	
3	64QAM	1	14	21.64	21.34	21.28			
3	64QAM	8	0	20.46	20.24	20.18			
3	64QAM	8	4	20.51	20.30	20.24	21.00	3	
3	64QAM	8	7	20.44	20.24	20.18			
3	64QAM	15	0	20.49	20.26	20.20			
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				814.7	831.5	848.3			
1.4	QPSK	1	0	22.98	23.07	23.05	24.00	0	
1.4	QPSK	1	3	22.96	23.15	23.13			
1.4	QPSK	1	5	22.92	23.12	23.10			
1.4	QPSK	3	0	22.80	22.97	22.95	23.00	1	
1.4	QPSK	3	1	22.83	22.96	22.94			
1.4	QPSK	3	3	22.76	22.96	22.94			
1.4	QPSK	6	0	22.00	22.15	22.13	23.00	1	
1.4	16QAM	1	0	22.36	22.41	22.36			
1.4	16QAM	1	3	22.40	22.55	22.53			
1.4	16QAM	1	5	22.30	22.58	22.56	23.00	1	
1.4	16QAM	3	0	21.90	21.96	21.94			
1.4	16QAM	3	1	21.76	21.82	21.80			
1.4	16QAM	3	3	21.75	21.81	21.77	22.00	2	
1.4	16QAM	6	0	20.94	21.00	20.96			
1.4	64QAM	1	0	21.32	21.38	21.34			
1.4	64QAM	1	3	21.33	21.39	21.35	22.00	2	
1.4	64QAM	1	5	21.28	21.34	21.30			
1.4	64QAM	3	0	21.23	21.02	21.34			
1.4	64QAM	3	1	21.02	21.08	21.04	21.00	3	
1.4	64QAM	3	3	21.20	21.02	21.34			
1.4	64QAM	6	0	20.20	20.26	20.22			

Band 30									
Band	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				27665	27710	27710			
Frequency (MHz)				2307.5	2310	2312.5			
15	QPSK	1	0	22.88	22.84	22.87	24.00	0	
15	QPSK	1	25	22.89	22.89	22.87			
15	QPSK	1	49	22.88	22.88	22.89			

Full Power

Band 66										Band 71													
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)		BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)					
Channel										Channel													
Frequency (MHz)										Frequency (MHz)													
20	QPSK	1	0	22.42	22.43	22.70	24.00	0.00		20	QPSK	1	0	23.45	23.45	23.50	24.00	0					
20	QPSK	1	49	22.32	22.35	22.38				20	QPSK	1	49	23.38	23.34	23.37							
20	QPSK	1	99	22.35	22.31	22.42				20	QPSK	1	99	23.27	23.22	23.11							
20	QPSK	50	0	21.61	21.56	21.70	23.00	1.00		20	QPSK	50	0	22.48	22.49	22.35	23.00	1					
20	QPSK	50	24	21.66	21.54	21.35				20	QPSK	50	24	22.41	22.38	22.32							
20	QPSK	50	50	21.67	21.70	21.47				20	QPSK	50	50	22.39	22.26	22.33							
20	QPSK	100	0	21.61	21.85	21.70	23.00	1.00		20	QPSK	100	0	22.40	22.36	22.29	23.00	1					
20	16QAM	1	0	21.76	21.77	21.82				20	16QAM	1	0	22.75	22.77	22.76							
20	16QAM	1	49	21.71	21.49	21.80				20	16QAM	1	49	22.69	22.75	22.74							
20	16QAM	1	99	21.68	21.65	21.77	22.00	2.00		20	16QAM	1	99	22.64	22.56	22.53	22.00	2					
20	16QAM	50	0	20.71	20.79	20.84				20	16QAM	50	0	21.57	21.59	21.48							
20	16QAM	50	24	20.68	20.74	20.85				20	16QAM	50	24	21.55	21.49	21.39							
20	16QAM	50	50	20.66	20.81	20.76	22.00	2.00		20	16QAM	50	50	21.51	21.38	21.36	22.00	2					
20	16QAM	100	0	20.70	20.60	20.70				20	16QAM	100	0	21.47	21.49	21.38							
20	64QAM	1	0	20.94	20.89	20.98				20	64QAM	1	0	21.79	21.88	21.94							
20	64QAM	1	49	21.03	21.32	21.13	22.00	2.00		20	64QAM	1	49	21.80	21.86	21.86	22.00	2					
20	64QAM	1	99	20.86	20.97	20.89				20	64QAM	1	99	21.79	21.71	21.58							
20	64QAM	50	0	19.80	20.03	19.92			21.00	3.00		20	64QAM	50	0	20.80	20.75	20.70	21.00	3			
20	64QAM	50	24	19.72	19.93	19.88		20			64QAM	50	24	20.73	20.70	20.61							
20	64QAM	50	50	19.81	19.98	20.12		20			64QAM	50	50	20.72	20.53	20.58							
20	64QAM	100	0	19.93	19.82	19.70	21.00	3.00		20	64QAM	100	0	20.73	20.66	20.61	21.00	3					
Channel										Channel													
Frequency (MHz)										Frequency (MHz)													
15	QPSK	1	0	22.48	22.32	22.49	24.00	0		15	QPSK	1	0	23.43	23.43	23.41	24.00	0					
15	QPSK	1	37	22.30	22.22	22.26				15	QPSK	1	37	23.29	23.36	23.32							
15	QPSK	1	74	22.26	22.25	22.30				15	QPSK	1	74	23.22	23.37	23.17							
15	QPSK	36	0	21.51	21.51	21.58	23.00	1		15	QPSK	36	0	22.42	22.45	22.33	23.00	1					
15	QPSK	36	20	21.59	21.56	21.23				15	QPSK	36	20	22.45	22.41	22.42							
15	QPSK	36	39	21.65	21.57	21.35				15	QPSK	36	39	22.38	22.31	22.28							
15	QPSK	75	0	21.80	21.51	21.58	23.00	1		15	QPSK	75	0	22.46	22.41	22.26	23.00	1					
15	16QAM	1	0	21.72	21.66	21.70				15	16QAM	1	0	22.77	22.78	22.71							
15	16QAM	1	37	21.44	21.61	21.48				15	16QAM	1	37	22.55	22.74	22.65							
15	16QAM	1	74	21.60	21.58	21.65	22.00	2		15	16QAM	1	74	22.57	22.76	22.61	22.00	2					
15	16QAM	36	0	20.74	20.61	20.62				15	16QAM	36	0	21.50	21.58	21.45							
15	16QAM	36	20	20.69	20.58	20.73				15	16QAM	36	20	21.57	21.54	21.50							
15	16QAM	36	39	20.76	20.56	20.64	22.00	2		15	16QAM	36	39	21.44	21.41	21.38	22.00	2					
15	16QAM	75	0	20.55	20.62	20.58				15	16QAM	75	0	21.49	21.51	21.37							
15	64QAM	1	0	20.84	20.84	20.86				15	64QAM	1	0	21.93	21.91	21.88							
15	64QAM	1	37	21.25	20.93	21.01	22.00	2		15	64QAM	1	37	21.77	21.86	21.82	22.00	2					
15	64QAM	1	74	20.92	20.76	20.77				15	64QAM	1	74	21.70	21.83	21.53							
15	64QAM	36	0	19.98	19.70	19.80			21.00	3		15	64QAM	36	0	20.73	20.82	20.65	21.00	3			
15	64QAM	36	20	19.88	19.62	19.76		15			64QAM	36	20	20.81	20.75	20.68							
15	64QAM	36	39	19.93	19.71	20.00		15			64QAM	36	39	20.64	20.65	20.55							
15	64QAM	75	0	19.77	19.83	19.58	21.00	3		15	64QAM	75	0	20.73	20.71	20.58	21.00	3					
Channel										Channel													
Frequency (MHz)										Frequency (MHz)													
10	QPSK	1	0	22.53	22.38	22.40	24.00	0		10	QPSK	1	0	23.39	23.46	23.37	24.00	0					
10	QPSK	1	25	22.35	22.20	22.22				10	QPSK	1	25	23.38	23.45	23.33							
10	QPSK	1	49	22.31	22.16	22.18				10	QPSK	1	49	23.31	23.31	23.21							
10	QPSK	25	0	21.56	21.41	21.43	23.00	1		10	QPSK	25	0	22.45	22.54	22.37	23.00	1					
10	QPSK	25	12	21.64	21.49	21.51				10	QPSK	25	12	22.39	22.49	22.31							
10	QPSK	25	25	21.70	21.55	21.57				10	QPSK	25	25	22.40	22.39	22.30							
10	QPSK	50	0	21.65	21.70	21.72	23.00	1		10	QPSK	50	0	22.47	22.47	22.31	23.00	1					
10	16QAM	1	0	21.77	21.62	21.64				10	16QAM	1	0	22.78	22.78	22.61							
10	16QAM	1	25	21.49	21.34	21.36				10	16QAM	1	25	22.75	22.76	22.69							
10	16QAM	1	49	21.72	21.57	21.59	22.00	2		10	16QAM	1	49	22.66	22.62	22.63	22.00	2					
10	16QAM	25	0	20.89	20.74	20.76				10	16QAM	25	0	21.56	21.65	21.51							
10	16QAM	25	12	20.80	20.65	20.67			22.00	2		10	16QAM	25	12	21.52	21.61	21.45	22.00	2			
10	16QAM	25	25	20.71	20.56	20.58		10			16QAM	25	25	21.54	21.54	21.35							
10	16QAM	50	0	20.65	20.50	20.52		10			16QAM	50	0	21.53	21.56	21.42							
10	64QAM	1	0	20.93	20.78	20.86	22.00	2		10	64QAM	1	0	21.87	21.85	21.86	22.00	2					
10	64QAM	1	25	21.06	20.85	20.95				10	64QAM	1	25	21.78	21.81	21.97							
10	64QAM	1	49	20.94	20.69	20.71			21.00	3		10	64QAM	1	49	21.79	21.83	21.59	21.00	3			
10	64QAM	25	0	19.87	19.72	19.74		10			64QAM	25	0	20.71	20.81	20.74							
10	64QAM	25	12	19.83	19.68	19.70		10			64QAM	25	12	20.74	20.78	20.67							
10	64QAM	25	25	20.07	19.92	19.94		10	64QAM	25	25	20.68	20.70	20.56									
10	64QAM	50	0	19.65	19.50	19.52	21.00	3		10	64QAM	50	0	20.76	20.80	20.65	21.00	3					
Channel										Channel													
Frequency (MHz)										Frequency (MHz)													
5	QPSK	1	0	22.30	22.48	22.55	24.00	0		5	QPSK	1	0	23.38	23.40	23.31	24.00	0					
5	QPSK	1	12	22.38	22.30	22.37				5	QPSK	1	12	23.34	23.35	23.29							
5	QPSK	1	24	22.42	22.29	22.33				5	QPSK	1	24	23.33	23.43	23.16							
5	QPSK	12	0	21.70	21.51	21.58	23.00	1		5	QPSK	12	0	22.45	22.41	22.30	23.00	1					
5	QPSK	12	7	21.35	21.59	21.66				5	QPSK	12	7	22.45	22.45	22.35							
5	QPSK	12	13	21.47	21.65	21.72				5	QPSK	12	13	22.40	22.52	22.27							
5	QPSK	25	0	21.70	21.80	21.87	23.00	1		5	QPSK	25	0	22.40	22.53	22.29	23.00	1					
5	16QAM	1	0	21.82	21.72	21.79				5	16QAM	1	0	22.78	22.72	22.65							
5	16QAM	1	12	21.44	21.44	21.51				5	16QAM	1	12	22.69	22.67	22.57							
5	16QAM	1	24	21.58	21.67	21.74	22.00	2		5	16QAM	1	24	22.65	22.73	22.47	22.00	2					
5	16QAM	12	0	20.81	20.84	20.91				5	16QAM	12	0	21.56	21.54	21.42							
5	16QAM	12	7	20.58	20.75	20.82				5	16QAM	12	7	21.56	21.52	21.41							
5	16QAM	12	13	20.56	20.66	20.73	22.00	2		5	16QAM	12	13	21.53	21.58	21.41	22.00	2					
5	16QAM	25	0	20.62	20.60	20.67				5	16QAM	25	0	21.51	21.58	21.41							
5	64QAM	1	0	20.84	20.88	20.95				5	64QAM	1	0	21.87	21.94	21.76							
5	64QAM	1	12	20.93	21.03	21.05	22.00	2		5	64QAM	1	12	21.82	21.88	21.68	22.00	2					
5	64QAM	1	24	20.76	20.79	20.86				5	64QAM	1	24	21.80	21.82	21.66							
5	64QAM	12	0	19.70	19.62	19.69				5	64QAM	12	0	20.77	20.74	20.64							
5	64QAM	12	7	19.62	19.78	19.85	21.00	3		5	64QAM	12	7	20.75	20.75	20.64	21.00						

Band 2000 on channel required									
RF [MHz]	Modulation	RF Size	RF Offset	Power Low Ch./Freq.	Power Mid Ch./Freq.	Power High Ch./Freq.	Power High Ch./Freq.	Tune-up level (dBm)	MFR (dB)
Channel									
Frequency (MHz)									
30	QPSK	1	0	22.85	22.85	22.85	22.85		
30	QPSK	1	40	22.85	22.85	22.73	22.73	24.00	0
30	QPSK	1	80	22.85	22.73	22.61	22.61		
30	QPSK	50	0	21.85	21.85	21.85	21.85		
30	QPSK	50	24	21.85	21.73	21.73	21.73	23.00	1
30	QPSK	50	50	21.73	21.61	21.61	21.61		
30	QPSK	100	0	21.73	21.73	21.65	21.65		
30	QPSK	100	1	21.73	21.61	21.73	21.73	23.00	1
30	QPSK	1	40	21.73	21.61	21.65	21.65		
30	QPSK	1	80	21.68	21.68	21.68	21.68		
30	QPSK	50	0	20.73	20.62	20.73	20.73	22.00	2
30	QPSK	50	24	20.77	20.61	20.68	20.68		
30	QPSK	50	50	20.84	20.62	20.65	20.65		
30	QPSK	100	0	20.68	20.73	20.73	20.73		
30	QPSK	100	1	20.73	20.61	20.73	20.73	22.00	2
30	QPSK	1	40	20.73	20.67	20.65	20.65		
30	QPSK	1	80	20.68	20.62	20.61	20.61		
30	QPSK	50	0	19.84	20.03	19.87	19.87		
30	QPSK	50	24	19.87	20.03	20.10	20.10	21.00	3
30	QPSK	50	50	20.03	20.04	20.11	20.11		
30	QPSK	100	0	20.17	20.03	20.08	20.08		
Channel									
Frequency (MHz)									
15	QPSK	1	0	22.85	22.75	22.74	22.74		
15	QPSK	1	37	22.84	22.68	22.71	22.71	24.00	0
15	QPSK	1	74	22.86	22.78	22.68	22.68		
15	QPSK	36	0	21.84	21.68	21.75	21.75		
15	QPSK	36	20	21.73	21.68	21.80	21.80	23.00	1
15	QPSK	36	36	21.86	21.73	21.78	21.78		
15	QPSK	72	0	21.67	21.68	21.68	21.68		
15	QPSK	72	1	21.67	21.68	21.80	21.80	23.00	1
15	QPSK	1	40	21.73	21.68	21.68	21.68		
15	QPSK	1	74	21.84	21.68	22.04	22.04		
15	QPSK	36	0	20.67	20.77	20.81	20.81		
15	QPSK	36	20	20.73	20.68	20.81	20.81	22.00	2
15	QPSK	36	36	20.73	20.68	20.80	20.80		
15	QPSK	72	0	20.71	20.68	20.86	20.86		
15	QPSK	72	1	20.73	20.68	20.86	20.86	22.00	2
15	QPSK	1	40	20.73	20.68	20.80	20.80		
15	QPSK	1	74	20.86	20.68	20.86	20.86	21.00	3
15	QPSK	36	0	20.62	20.65	20.73	20.73		
15	QPSK	36	20	20.68	20.65	20.73	20.73		
15	QPSK	36	36	20.62	20.65	20.73	20.73		
Channel									
Frequency (MHz)									
10	QPSK	1	0	22.85	22.85	22.73	22.73		
10	QPSK	1	24	22.87	22.68	22.72	22.72	24.00	0
10	QPSK	1	48	22.85	22.73	22.77	22.77		
10	QPSK	25	0	21.85	21.85	21.85	21.85		
10	QPSK	25	12	21.86	21.67	21.73	21.73	23.00	1
10	QPSK	25	25	21.83	21.64	21.73	21.73		
10	QPSK	50	0	21.85	21.68	21.74	21.74		
10	QPSK	50	1	21.73	21.77	21.80	21.80	23.00	1
10	QPSK	1	40	21.71	21.64	21.80	21.80		
10	QPSK	1	80	21.75	21.79	21.87	21.87		
10	QPSK	25	0	20.71	20.73	20.87	20.87	22.00	2
10	QPSK	25	12	20.73	20.78	20.87	20.87		
10	QPSK	25	25	20.73	20.80	20.91	20.91		
10	QPSK	50	0	20.74	20.79	20.86	20.86		
10	QPSK	1	40	20.75	20.73	20.86	20.86	22.00	2
10	QPSK	1	80	20.72	20.82	20.86	20.86		
10	QPSK	1	40	20.77	20.82	20.82	20.82		
10	QPSK	25	0	19.84	19.87	20.08	20.08		
10	QPSK	25	12	19.86	19.88	20.08	20.08	21.00	3
10	QPSK	25	25	19.95	19.88	20.08	20.08		
10	QPSK	50	0	20.03	20.03	20.08	20.08		
Channel									
Frequency (MHz)									
5	QPSK	1	0	22.85	22.85	22.73	22.73		
5	QPSK	1	12	22.85	22.83	22.75	22.75	24.00	0
5	QPSK	1	24	22.81	22.64	22.75	22.75		
5	QPSK	12	0	21.82	21.68	21.72	21.72		
5	QPSK	12	7	21.68	21.70	21.75	21.75	23.00	1
5	QPSK	12	13	21.43	21.64	21.75	21.75		
5	QPSK	25	0	21.46	21.46	21.75	21.75		
5	QPSK	25	0	21.71	21.70	21.82	21.82	23.00	1
5	QPSK	1	12	21.75	21.76	21.86	21.86		
5	QPSK	12	0	20.65	20.72	20.73	20.73		
5	QPSK	12	7	20.68	20.72	20.80	20.80	22.00	2
5	QPSK	12	13	20.65	20.73	20.80	20.80		
5	QPSK	1	40	20.72	20.79	20.85	20.85		
5	QPSK	1	80	20.74	20.80	20.85	20.85	22.00	2
5	QPSK	12	0	19.86	19.85	20.04	20.04		
5	QPSK	12	7	19.85	19.80	20.11	20.11	21.00	3
5	QPSK	12	13	19.83	19.85	20.08	20.08		
5	QPSK	25	0	19.94	19.89	20.05	20.05		

Full Power										
Band #1 (2.80 Band)										
RF (MHz)	Modulation	RF Size	RF Offset	Power Low Ch./Freq.	Power Mid Ch./Freq.	Power High Ch./Freq.	Power High Ch./Freq.	Tune-up level (dBm)	MFR (dB)	
Channel										
Frequency (MHz)										
30	QPSK	1	0	24.34	24.43	24.21	24.24	24.38		
30	QPSK	1	40	24.33	24.29	24.23	24.29	24.23	25.00	
30	QPSK	1	80	24.29	24.21	24.21	24.29	24.29		
30	QPSK	50	0	22.17	22.21	22.22	22.23	22.18		
30	QPSK	50	24	22.13	22.25	22.21	22.21	22.22	23.50	
30	QPSK	50	50	22.20	22.05	22.20	22.12	22.11		
30	QPSK	100	0	22.22	22.33	22.26	22.24	22.22		
30	QPSK	100	1	22.26	22.30	22.19	22.49	22.83		
30	QPSK	1	40	22.21	22.24	22.20	22.29	22.40	23.50	
30	QPSK	1	80	22.24	22.62	22.16	22.31	22.58		
30	QPSK	50	0	21.50	21.33	21.16	21.46	21.40		
30	QPSK	50	24	21.38	21.31	21.39	21.39	21.54	22.50	
30	QPSK	50	50	21.34	21.15	21.42	21.41	21.49		
30	QPSK	100	0	21.35	21.19	21.30	21.36	21.54		
30	QPSK	100	1	21.22	21.36	21.23	21.39	21.33		
30	QPSK	1	40	21.28	21.24	21.12	21.28	21.28	22.50	
30	QPSK	1	80	21.20	21.24	21.01	21.20	21.34		
30	QPSK	50	0	20.81	20.49	20.20	20.54	20.38		
30	QPSK	50	24	20.54	20.38	20.34	20.49	20.62	21.50	
30	QPSK	50	50	20.52	20.32	20.43	20.41	20.38		
30	QPSK	100	0	20.52	20.47	20.33	20.53	20.49		
Channel				30670	41673	40500	41063	41468	Tune-up level	MFR
Frequency (MHz)										
15	QPSK	1	0	24.35	24.33	24.33	24.35	24.31		
15	QPSK	1	37	24.32	24.37	24.23	24.34	24.23	25.00	0
15	QPSK	1	74	24.30	24.44	24.21	24.39	24.30		
15	QPSK	36	0	22.17	22.12	22.11	22.20	22.07		
15	QPSK	36	20	22.29	22.22	22.24	22.18	22.38	23.50	2
15	QPSK	36	36	22.24	22.21	22.28	22.33	22.31		
15	QPSK	72	0	22.03	22.04	22.07	22.09	22.05		
15	QPSK	72	1	22.03	22.04	22.07	22.09	22.05		
15	QPSK	1	40	22.30	22.47	22.16	22.42	22.43	23.50	2
15	QPSK	1	74	22.25	22.47	22.16	22.42	22.43		
15	QPSK	36	0	21.13	21.17	21.28	21.37	21.33		
15	QPSK	36	20	21.36	21.30	21.41	21.42	21.48	22.50	3
15	QPSK	36	36	21.21	21.12	21.16	21.31	21.48		
15	QPSK	72	0	21.14	21.23	21.20	21.21	21.39		
15	QPSK	72	1	21.28	21.12	21.12	21.28	21.28	23.50	3
15	QPSK	1	40	21.23	21.41	21.02	21.28	21.37		
15	QPSK	1	74	21.13	21.24	21.18	21.25	21.22		
15	QPSK	36	0	20.36	20.42	20.15	20.42	20.48		
15	QPSK	36	20	20.49	20.41	20.23	20.51	20.49	21.50	4
15	QPSK	36	36	20.44	20.39	20.28	20.42	20.44		
15	QPSK	72	0	20.36	20.46	20.18	20.34	20.37		
Channel				30670	41660	40500	41050	41455	Tune-up level	MFR
Frequency (MHz)										
30	QPSK	1	0	24.35	24.36	24.40	24.36	24.34		
30	QPSK	1	20	24.40	24.46	24.34	24.27	24.26	25.00	0
30	QPSK	1	40	24.36	24.50	24.29	24.39	24.36		
30	QPSK	36	0	22.14	22.26	22.16	22.27	22.16		
30	QPSK	36	12	22.28	22.11	22.28	22.21	22.28	23.50	2
30	QPSK	36	24	22.23	22.28	22.28	22.23	22.28		
30	QPSK	72	0	22.30	22.04	22.04	22.37	22.31		
30	QPSK	72	1	22.12	22.48	22.25	22.24	22.37		
30	QPSK	1	40	22.31	22.43	22.16	22.43	22.43	23.50	2
30	QPSK	1	80	22.37	22.37	22.16	22.49	22.49		
30	QPSK	36	0	21.86	21.81	21.23	21.23	21.38		
30	QPSK	36	12	21.95	21.88	21.08	21.21	21.42	22.50	3
30	QPSK	36	24	21.18	21.23	21.20	21.27	21.38		
30	QPSK	72	0	21.23	21.12	21.16	21.45	21.39		
30	QPSK	72	1	21.31	21.31	21.31	21.28	21.27	23.50	3
30	QPSK	1	20	21.21	21.30	21.22	21.19	21.25		
30	QPSK	1	40	21.28	21.20	21.02	21.25	21.28		
30	QPSK	36	0	20.45	20.42	20.15	20.42	20.48		
30	QPSK	36	12	20.54	20.50	20.38	20.51	20.49	21.50	4
30	QPSK	36	24	20.51	20.39	20.50	20.45	20.44		
30	QPSK	72	0	20.38	20.48	20.20	20.34	20.37		
Channel				30673	41648	40500	41063	41468	Tune-up level	MFR
Frequency (MHz)										
5	QPSK	1	0	24.26	24.13	24.28	24.38	24.41		
5	QPSK	1	12	24.44	24.44	24.39	24.29	24.38	25.00	0
5	QPSK	1	24	24.39	24.39	24.36	24.26	24.35		
5	QPSK	12	0	22.23	22.05	22.10	22.24	22.25		
5	QPSK	12	12	22.28	22.11	22.19	22.26	22.38	23.50	2
5	QPSK	12	24	22.12	22.23	22.23	22.14	22.24		
5	QPSK	1	0	22.43	22.21	22.22	22.21	22.38		
5	QPSK	1	12	22.38	22.32	22.32	22.23	22.42	22.50	2
5	QPSK	1	24	22.30	22.20	22.13	22.30	22.44		
5	QPSK	12	0	21.15	21.21	21.16	21.46	21.46		
5	QPSK	12	12	21.33	21.45	21.43	21.21	21.41	22.50	3
5	QPSK	12	24	21.19	21.28	21.19	21.36	21.36		
5	QPSK	1	12	21.34	21.30	21.07	21.11	21.21	23.50	3
5	QPSK	1	24	21.30	21.25	21.22	21.11	21.21		
5	QPSK	12	0	20.57	20.19	20.29	20.49	20.49		
5	QPSK	12	12	20.59	20.47	20.11	20.45	20.54	21.50	4
5	QPSK	12	24	20.50	20.49	20.17	20.45	20.49		

Reduced Power Mode for P-Sensor On

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
	512	661	810		512	661	810	
TX Channel	1850.2	1880	1909.8		1850.2	1880	1909.8	
Frequency (MHz)								
GSM 1 Tx slot	24.80	24.70	24.93	26.00	15.80	15.70	15.93	17.00
GPRS 1 Tx slot	24.93	24.71	25.01	26.00	15.93	15.71	16.01	17.00
GPRS 2 Tx slots	23.83	23.65	23.92	25.00	17.83	17.65	17.92	19.00
GPRS 3 Tx slots	22.59	22.31	22.58	23.50	18.33	18.05	18.32	19.24
GPRS 4 Tx slots	20.98	20.84	20.84	22.00	17.98	17.64	17.84	19.00
EDGE 1 Tx slot	21.34	21.37	21.23	22.00	12.34	12.37	12.23	13.00
EDGE 2 Tx slots	19.92	19.80	20.08	21.00	13.92	13.80	14.00	15.00
EDGE 3 Tx slots	19.03	18.88	19.07	20.00	14.77	14.62	14.81	15.74
EDGE 4 Tx slots	17.14	16.93	17.08	18.00	14.14	13.93	14.08	15.00

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9862	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	16.40	16.34	16.24	17.00	16.78	16.74	16.82	17.50	22.20	22.21	22.13	23.00
3GPP Rel 99	RMC 12.2Kbps	16.43	16.37	16.27	17.00	16.84	16.78	16.85	17.50	22.21	22.25	22.15	23.00
3GPP Rel 6	HSDPA Subtest-1	15.48	15.27	15.29	16.00	15.81	15.67	15.69	16.50	20.53	20.65	20.47	22.00
3GPP Rel 6	HSDPA Subtest-2	15.48	15.27	15.31	16.00	15.60	15.59	15.60	16.50	20.58	20.66	20.42	22.00
3GPP Rel 6	HSDPA Subtest-3	15.05	14.80	14.85	15.50	15.23	15.20	15.70	16.00	20.03	20.16	19.95	21.50
3GPP Rel 6	HSDPA Subtest-4	15.03	14.75	14.83	15.50	15.34	15.15	15.23	16.00	20.04	20.11	19.98	21.50
3GPP Rel 8	DC-HSDPA Subtest-1	15.42	15.38	15.37	16.00	15.78	15.63	15.78	16.50	20.52	20.46	20.52	22.00
3GPP Rel 8	DC-HSDPA Subtest-2	15.49	15.37	15.42	16.00	15.79	15.67	15.92	16.50	20.57	20.47	20.44	22.00
3GPP Rel 8	DC-HSDPA Subtest-3	15.02	14.86	14.85	15.50	15.34	15.33	15.29	16.00	20.11	20.00	19.97	21.50
3GPP Rel 8	DC-HSDPA Subtest-4	15.05	15.10	15.09	15.50	15.21	15.23	15.21	16.00	20.09	20.01	19.96	21.50
3GPP Rel 6	HSUPA Subtest-1	15.51	15.36	15.35	16.00	15.85	15.77	15.91	16.50	20.54	20.54	20.43	22.00
3GPP Rel 6	HSUPA Subtest-2	13.54	13.32	13.37	14.00	13.94	13.72	13.88	14.50	18.73	18.80	18.61	20.00
3GPP Rel 6	HSUPA Subtest-3	14.61	14.30	14.38	15.00	15.01	14.70	15.03	15.50	19.73	19.77	19.66	21.00
3GPP Rel 6	HSUPA Subtest-4	13.59	13.34	13.43	14.00	13.89	13.78	14.02	14.50	18.70	18.85	18.67	20.00
3GPP Rel 6	HSUPA Subtest-5	15.50	15.30	15.40	16.00	15.60	15.60	15.80	16.50	20.72	20.62	20.62	22.00

Band		CDMA BC0			Tune-up Limit (dBm)	CDMA BC1			Tune-up Limit (dBm)
TX Channel		1013	384	777		25	800	1175	
Frequency (MHz)		624.7	630.52	646.31		1651.25	1680	1908.75	
RC1 SOSS		23.02	22.97	23.02	24.00	17.33	17.32	17.29	18.00
RC3 SOSS		23.01	22.99	22.98	24.00	17.29	17.29	17.33	18.00
RC3 SO32 (F+SCH)		23.01	23.03	22.98	24.00	17.35	17.32	17.34	18.00
RC3 SO32 (F+SCH)		22.99	23.01	23.02	24.00	17.36	17.31	17.32	18.00
RTAP 153.6Kbps		22.93	23.01	22.96	24.00	17.39	17.36	17.38	18.00
RTAP 409.6Kbps		22.98	23.01	22.95	24.00	17.38	17.34	17.31	18.00

Reduced Power Mode for P-Sensor On/Hotspot On

Band 38(only on channel required)									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				37850	38000	38150			
Frequency (MHz)				2580	2595	2610			
20	QPSK	1	0	22.60	22.62	22.61	23.00	0	
20	QPSK	1	49	22.55	22.64	22.73			
20	QPSK	1	99	22.76	22.71	22.81			
20	QPSK	50	0	21.65	21.82	21.68	23.00	0	
20	QPSK	50	24	21.69	21.71	21.79			
20	QPSK	50	50	21.78	21.69	21.81			
20	QPSK	100	0	21.75	21.76	21.65	23.00	0	
20	16QAM	1	0	21.74	21.81	21.78			
20	16QAM	1	49	21.76	21.80	21.95			
20	16QAM	1	99	21.88	21.89	21.99	22.00	1	
20	16QAM	50	0	20.73	20.82	20.79			
20	16QAM	50	24	20.77	20.81	20.89			
20	16QAM	50	50	20.84	20.82	20.95	22.00	1	
20	16QAM	100	0	20.85	20.78	20.75			
20	64QAM	1	0	20.76	20.83	20.78			
20	64QAM	1	49	20.76	20.87	20.85	22.00	1	
20	64QAM	1	99	20.89	20.92	21.01			
20	64QAM	50	0	19.94	20.03	19.97			
20	64QAM	50	24	19.97	20.03	20.10	21.00	2	
20	64QAM	50	50	20.03	20.04	20.11			
20	64QAM	100	0	20.17	20.09	20.09			
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2577.5	2595	2612.5			
15	QPSK	1	0	22.63	22.70	22.74	23.00	0	
15	QPSK	1	37	22.64	22.68	22.71			
15	QPSK	1	74	22.69	22.78	22.82			
15	QPSK	36	0	21.64	21.68	21.75	23.00	0	
15	QPSK	36	20	21.70	21.68	21.80			
15	QPSK	36	39	21.66	21.72	21.78			
15	QPSK	75	0	21.67	21.68	21.77	23.00	0	
15	16QAM	1	0	21.78	21.81	21.86			
15	16QAM	1	37	21.76	21.85	21.96			
15	16QAM	1	74	21.84	21.88	22.04	22.00	1	
15	16QAM	36	0	20.67	20.77	20.81			
15	16QAM	36	20	20.71	20.76	20.88			
15	16QAM	36	39	20.73	20.80	20.89	22.00	1	
15	16QAM	75	0	20.71	20.80	20.88			
15	64QAM	1	0	20.78	20.80	20.88			
15	64QAM	1	37	20.75	20.85	20.92	22.00	1	
15	64QAM	1	74	20.85	20.92	21.04			
15	64QAM	36	0	19.99	20.07	20.11			
15	64QAM	36	20	20.02	20.09	20.20	21.00	2	
15	64QAM	36	39	20.02	20.05	20.18			
15	64QAM	75	0	19.98	20.10	20.12			
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2575	2595	2615			
10	QPSK	1	0	22.65	22.62	22.72	23.00	0	
10	QPSK	1	25	22.57	22.66	22.72			
10	QPSK	1	49	22.63	22.73	22.77			
10	QPSK	25	0	21.62	21.62	21.69	23.00	0	
10	QPSK	25	12	21.66	21.67	21.73			
10	QPSK	25	25	21.63	21.64	21.73			
10	QPSK	50	0	21.65	21.68	21.74	23.00	0	
10	16QAM	1	0	21.73	21.77	21.85			
10	16QAM	1	25	21.71	21.84	21.89			
10	16QAM	1	49	21.75	21.79	21.87	22.00	1	
10	16QAM	25	0	20.71	20.75	20.82			
10	16QAM	25	12	20.73	20.78	20.87			
10	16QAM	25	25	20.73	20.80	20.91	22.00	1	
10	16QAM	50	0	20.74	20.79	20.86			
10	64QAM	1	0	20.75	20.79	20.86			
10	64QAM	1	25	20.72	20.82	20.86	22.00	1	
10	64QAM	1	49	20.77	20.82	20.92			
10	64QAM	25	0	19.94	19.97	20.05			
10	64QAM	25	12	19.96	19.98	20.08	21.00	2	
10	64QAM	25	25	19.95	19.98	20.08			
10	64QAM	50	0	19.93	20.01	20.06			
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2572.5	2595	2617.5			
5	QPSK	1	0	22.58	22.64	22.67	23.00	0	
5	QPSK	1	12	22.65	22.63	22.75			
5	QPSK	1	24	22.61	22.64	22.70			
5	QPSK	12	0	21.62	21.68	21.72	23.00	0	
5	QPSK	12	7	21.68	21.70	21.75			
5	QPSK	12	13	21.63	21.64	21.75			
5	QPSK	25	0	21.65	21.66	21.72	23.00	0	
5	16QAM	1	0	21.71	21.76	21.82			
5	16QAM	1	12	21.75	21.78	21.88			
5	16QAM	1	24	21.75	21.79	21.91	22.00	1	
5	16QAM	12	0	20.63	20.72	20.76			
5	16QAM	12	7	20.68	20.72	20.80			
5	16QAM	12	13	20.65	20.73	20.83	22.00	1	
5	16QAM	25	0	20.72	20.79	20.85			
5	64QAM	1	0	20.74	20.80	20.85			
5	64QAM	1	12	20.74	20.78	20.93	22.00	1	
5	64QAM	1	24	20.82	20.83	20.91			
5	64QAM	12	0	19.90	19.95	20.04			
5	64QAM	12	7	19.95	20.00	20.11	21.00	2	
5	64QAM	12	13	19.93	20.00	20.08			
5	64QAM	25	0	19.94	19.99	20.06			

Reduced Power Mode for Hotspot On

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame Average Power (dBm)			Tune-up Limit (dBm)
	512	661	810		512	661	810	
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1852.2	1860	1868.8		1852.2	1860	1868.8	
GSM 1 Tx slot	24.00	23.89	24.19	24.50	15.00	14.89	15.19	15.50
GPRS 1 Tx slot	24.05	23.94	24.19	24.50	15.05	14.94	15.19	15.50
GPRS 2 Tx slot	23.31	23.25	23.37	23.50	17.31	17.25	17.37	17.50
GPRS 3 Tx slot	21.75	21.72	21.74	22.00	17.49	17.46	17.48	17.74
GPRS 4 Tx slot	19.74	19.67	19.75	20.50	16.74	16.67	16.75	17.50
EDGE 1 Tx slot	20.36	20.24	20.28	20.50	11.36	11.24	11.28	11.50
EDGE 2 Tx slot	18.85	18.89	18.91	19.50	12.85	12.89	12.91	13.50
EDGE 3 Tx slot	17.99	17.80	18.01	18.50	13.73	13.54	13.75	14.24
EDGE 4 Tx slot	15.35	15.37	15.33	16.50	12.35	12.37	12.33	13.50

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		636.4	636.4	646.6	
3GPP Rel 99	AMR 12.2Kbps	13.88	13.65	13.74	14.50	14.25	14.20	14.30	15.00	22.20	22.21	22.13	23.00
3GPP Rel 99	AMR 12.2Kbps	13.89	13.67	13.75	14.50	14.26	14.21	14.31	15.00	22.21	22.25	22.15	23.00
3GPP Rel 6	HSDPA Subtest-1	12.69	12.52	12.58	14.00	13.11	12.97	12.99	14.00	20.53	20.65	20.47	22.00
3GPP Rel 6	HSDPA Subtest-2	12.67	12.52	12.53	14.00	13.11	12.97	12.98	14.00	20.58	20.66	20.42	22.00
3GPP Rel 6	HSDPA Subtest-3	12.26	12.00	12.06	13.50	12.72	12.46	12.51	13.50	20.03	20.16	19.95	21.50
3GPP Rel 6	HSDPA Subtest-4	12.23	12.02	12.04	13.50	12.67	12.48	12.49	13.50	20.04	20.11	19.98	21.50
3GPP Rel 8	DC-HSDPA Subtest-1	12.69	12.55	12.72	14.00	13.07	13.09	13.28	14.00	20.52	20.46	20.52	22.00
3GPP Rel 8	DC-HSDPA Subtest-2	12.66	12.52	12.65	14.00	13.07	13.06	13.22	14.00	20.57	20.47	20.44	22.00
3GPP Rel 8	DC-HSDPA Subtest-3	12.22	12.29	12.22	13.50	12.65	12.60	12.72	13.50	20.11	20.00	19.97	21.50
3GPP Rel 8	DC-HSDPA Subtest-4	12.27	12.29	12.16	13.50	12.56	12.62	12.66	13.50	20.09	20.01	19.96	21.50
3GPP Rel 6	HSUPA Subtest-1	12.74	12.51	12.55	14.00	13.09	12.92	13.02	14.00	20.54	20.54	20.43	22.00
3GPP Rel 6	HSUPA Subtest-2	10.77	10.54	10.56	12.00	11.17	10.96	11.00	12.00	18.73	18.80	18.61	20.00
3GPP Rel 6	HSUPA Subtest-3	11.75	11.54	11.58	13.00	12.07	11.96	12.00	13.00	19.73	19.77	19.66	21.00
3GPP Rel 6	HSUPA Subtest-4	10.74	10.58	10.53	12.00	11.12	11.00	10.92	12.00	18.70	18.85	18.67	20.00
3GPP Rel 6	HSUPA Subtest-5	12.77	12.57	12.47	14.00	13.17	12.97	12.97	14.00	20.72	20.62	20.62	22.00

Band		CDMA BC0			Tune-up Limit (dBm)	CDMA BC1			Tune-up Limit (dBm)
TX Channel		1013	364	777		25	600	1175	
Frequency (MHz)		224.2	635.52	149.31		1651.25	1693	1693.75	
RC1 SO2S		23.02	22.97	23.02	24.00	14.31	14.28	14.27	15.50
RC3 SO2S		23.01	22.99	22.98	24.00	14.30	14.29	14.31	15.50
RC3 SO32 (F+SCH)		23.01	23.03	22.98	24.00	14.35	14.30	14.32	15.50
RC3 SO32 (H+SCH)		22.99	23.01	23.02	24.00	14.29	14.28	14.25	15.50
RTAP 153.6Kbps		22.93	23.01	22.96	24.00	14.32	14.31	14.29	15.50
RETAP 4096Bps		22.98	23.01	22.95	24.00	14.33	14.27	14.29	15.50

Band 2 (1800MHz Band) Part 24E															
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq	Power Middle Ch. / Freq	Power High Ch. / Freq	Tune-up limit (dBm)	MPR (dB)							
Channel															
Frequency (MHz)															
20	QPSK	1	0	13.96	13.61	13.56	15	0							
20	QPSK	1	49	13.49	13.41	13.22									
20	QPSK	1	99	13.50	13.43	13.20									
20	QPSK	50	0	13.57	13.33	13.25									
20	QPSK	50	24	13.49	13.37	13.29	15	0							
20	QPSK	50	50	13.42	13.36	13.32									
20	QPSK	100	0	13.44	13.41	13.30									
20	16QAM	1	0	13.46	13.54	13.25									
20	16QAM	1	49	13.32	13.17	13.22	15	0							
20	16QAM	1	99	13.59	13.36	13.41									
20	16QAM	50	0	13.25	13.16	13.01									
20	16QAM	50	24	13.33	13.23	13.34									
20	16QAM	50	50	13.07	13.11	13.05	15	0							
20	16QAM	100	0	13.12	13.18	13.00									
20	64QAM	1	0	13.23	13.22	13.42									
20	64QAM	1	49	13.16	13.16	13.05									
20	64QAM	1	99	13.22	13.34	13.17	15	0							
20	64QAM	50	0	13.27	13.17	13.02									
20	64QAM	50	24	13.31	13.22	13.02									
20	64QAM	50	50	13.15	13.16	13.09									
20	64QAM	100	0	13.14	13.25	13.03									
Channel															
Frequency (MHz)															
15	QPSK	1	0	13.22	13.45	13.22	15	0							
15	QPSK	1	37	13.23	13.42	13.43									
15	QPSK	1	74	13.13	13.21	13.00									
15	QPSK	36	0	13.18	13.01	13.08									
15	QPSK	36	20	13.18	13.08	13.15	15	0							
15	QPSK	36	39	13.14	13.03	13.10									
15	QPSK	75	0	13.17	13.15	13.10									
15	16QAM	1	0	13.21	13.49	13.44									
15	16QAM	1	37	13.55	13.21	13.46	15	0							
15	16QAM	1	74	13.42	13.42	13.36									
15	16QAM	36	0	13.35	13.21	13.19									
15	16QAM	36	20	13.32	13.12	13.22									
15	16QAM	36	39	13.19	13.18	13.20	15	0							
15	16QAM	75	0	13.23	13.15	13.16									
15	64QAM	1	0	13.23	13.23	13.30									
15	64QAM	1	37	13.35	13.13	13.18									
15	64QAM	1	74	13.22	13.36	13.15	15	0							
15	64QAM	36	0	13.37	13.20	13.19									
15	64QAM	36	20	13.37	13.19	13.06									
15	64QAM	36	39	13.27	13.23	13.05									
15	64QAM	75	0	13.25	13.14	13.06									
Channel															
Frequency (MHz)															
10	QPSK	1	0	13.11	13.21	13.35	15	0							
10	QPSK	1	25	13.30	13.34	13.54									
10	QPSK	1	49	13.19	13.32	13.32									
10	QPSK	25	0	13.16	13.21	13.16									
10	QPSK	25	12	13.18	13.22	13.18	15	0							
10	QPSK	25	25	13.15	13.15	13.10									
10	QPSK	50	0	13.22	13.19	13.15									
10	16QAM	1	0	13.50	13.32	13.21									
10	16QAM	1	25	13.60	13.44	13.46	15	0							
10	16QAM	1	49	13.36	13.56	13.23									
10	16QAM	25	0	13.31	13.03	13.02									
10	16QAM	25	12	13.25	13.14	13.06									
10	16QAM	25	25	13.29	13.00	13.02	15	0							
10	16QAM	50	0	13.20	13.16	13.03									
10	64QAM	1	0	13.19	13.34	13.18									
10	64QAM	1	25	13.52	13.14	13.24									
10	64QAM	1	49	13.11	13.32	13.06	15	0							
10	64QAM	25	0	13.41	13.15	13.03									
10	64QAM	25	12	13.24	13.19	13.08									
10	64QAM	25	25	13.23	13.10	13.00									
10	64QAM	50	0	13.21	13.13	13.04									
Channel															
Frequency (MHz)															
5	QPSK	1	0	13.22	13.25	13.02	15	0							
5	QPSK	1	12	13.59	13.13	13.14									
5	QPSK	1	24	13.21	13.20	13.09									
5	QPSK	12	0	13.15	13.24	13.12									
5	QPSK	12	7	13.14	13.19	13.20	15	0							
5	QPSK	12	13	13.19	13.22	13.13									
5	QPSK	25	0	13.17	13.23	13.18									
5	16QAM	1	0	13.35	13.32	13.41									
5	16QAM	1	12	13.60	13.30	13.33	15	0							
5	16QAM	1	24	13.38	13.48	13.32									
5	16QAM	12	0	13.36	13.26	13.12									
5	16QAM	12	7	13.27	13.27	13.21									
5	16QAM	12	13	13.25	13.27	13.14	15	0							
5	16QAM	25	0	13.27	13.17	13.29									
5	64QAM	1	0	13.33	13.52	13.34									
5	64QAM	1	12	13.52	13.28	13.51									
5	64QAM	1	24	13.55	13.24	13.23	15	0							
5	64QAM	12	0	13.33	13.27	13.23									
5	64QAM	12	7	13.36	13.58	13.28									
5	64QAM	12	13	13.26	13.35	13.23									
5	64QAM	25	0	13.21	13.31	13.30									
Channel															
Frequency (MHz)															
3	QPSK	1	0	13.29	13.20	13.13	15	0							
3	QPSK	1	8	13.43	13.10	13.00									
3	QPSK	1	14	13.33	13.31	13.04									
3	QPSK	8	0	13.31	13.22	13.14									
3	QPSK	8	4	13.41	13.19	13.14	15	0							
3	QPSK	8	7	13.36	13.16	13.11									
3	QPSK	15	0	13.26	13.17	13.15									
3	16QAM	1	0	13.45	13.36	13.43									
3	16QAM	1	8	13.33	13.40	13.27	15	0							
3	16QAM	1	14	13.34	13.42	13.38									
3	16QAM	8	0	13.48	13.35	13.27									
3	16QAM	8	4	13.31	13.28	13.25									
3	16QAM	8	7	13.57	13.29	13.22	15	0							
3	16QAM	15	0	13.44	13.26	13.21									
3	64QAM	1	0	13.32	13.23	13.14									
3	64QAM	1	8	13.58	13.34	13.36									
3	64QAM	1	14	13.40	13.29	13.15	15	0							
3	64QAM	8	0	13.47	13.38	13.13									
3	64QAM	8	4	13.55	13.26	13.39									
3	64QAM	8	7	13.51	13.35	13.27	15	0							
3	64QAM	15	0	13.44	13.26	13.20									
3	64QAM	15	0	13.48	13.35	13.30									
Channel															
Frequency (MHz)															
1.4	QPSK	1	0	13.23	13.11	13.45	15	0							
1.4	QPSK	1	3	13.18	13.01	13.22									
1.4	QPSK	1	5	13.21	13.06	13.03									
1.4	QPSK	3	0	13.28	13.20	13.14									
1.4	QPSK	3	1	13.34	13.21	13.12	15	0							
1.4	QPSK	3	3	13.34	13.15	13.14									
1.4	16QAM	1	0	13.30	13.09	13.11									
1.4	16QAM	1	3	13.43	13.27	13.05									
1.4	16QAM	1	3	13.57	13.55	13.44	15	0							
1.4	16QAM	1	5	13.27	13.60	13.28									
1.4	16QAM	3	0	13.58	13.45	13.30									
1.4	16QAM	3	1	13.34	13.21	13.12									
1.4	16QAM	3	3	13.41	13.15	13.11	15	0							
1.4	16QAM	6	0	13.43	13.40	13.39									
1.4	16QAM	1	0	13.41	13.08	13.54									
1.4	16QAM	1	3	13.49	13.38	13.24	15	0							
1.4	16QAM	1	5	13.46	13.42	13.09									
1.4	16QAM	3	0	13.45	13.23	13.38									
1.4	64QAM	3	1	13.42	13.24	13.36	15	0							
1.4	64QAM	3	3	13.46	13.27	13.20									
1.4	64QAM	6	0	13.47	13.33	13.19									

Band 25 (1900MHz Band)										
Part 24E										
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)		
Channel				26140	26340	26590	Tune-up limit (dBm)	MPR (dB)		
Frequency (MHz)				1860	1880	1905				
20	QPSK	1	0	13.53	13.65	13.41	15	0		
20	QPSK	1	49	13.38	13.32	13.24				
20	QPSK	1	99	13.27	13.22	13.21				
20	QPSK	50	0	13.53	13.65	13.28				
20	QPSK	50	24	13.46	13.35	13.30	15	0		
20	QPSK	50	50	13.40	13.26	13.34				
20	QPSK	100	0	13.49	13.49	13.20				
20	16QAM	1	0	13.45	13.56	13.12				
20	16QAM	1	49	13.50	13.30	13.24	15	0		
20	16QAM	1	99	13.21	13.54	13.60				
20	16QAM	50	0	13.28	13.06	13.07				
20	16QAM	50	24	13.25	13.09	13.13				
20	16QAM	50	50	13.20	13.10	13.04	15	0		
20	16QAM	100	0	13.11	13.09	13.34				
20	64QAM	1	0	13.52	13.12	13.16				
20	64QAM	1	49	13.58	13.37	13.37				
20	64QAM	1	99	13.13	13.47	13.09	15	0		
20	64QAM	50	0	13.27	13.03	13.02				
20	64QAM	50	24	13.23	13.18	13.16				
20	64QAM	50	50	13.11	13.07	13.05				
20	64QAM	100	0	13.23	13.03	13.02	Tune-up limit (dBm)	MPR (dB)		
Channel				26115	26340	26615				
Frequency (MHz)				1867.5	1880	1907.5				
15	QPSK	1	0	13.16	13.34	13.50	15	0		
15	QPSK	1	37	13.31	13.06	13.03				
15	QPSK	1	74	13.21	13.21	13.22				
15	QPSK	36	0	13.17	13.21	13.22				
15	QPSK	36	20	13.18	13.03	13.05	15	0		
15	QPSK	36	39	13.06	13.02	13.21				
15	QPSK	75	0	13.09	13.21	13.00				
15	16QAM	1	0	13.57	13.45	13.53				
15	16QAM	1	37	13.42	13.39	13.52	15	0		
15	16QAM	1	74	13.19	13.60	13.20				
15	16QAM	36	0	13.26	13.11	13.09				
15	16QAM	36	20	13.26	13.10	13.11				
15	16QAM	36	39	13.11	13.03	13.07	15	0		
15	16QAM	75	0	13.22	13.08	13.02				
15	64QAM	1	0	13.17	13.03	13.10				
15	64QAM	1	37	13.32	13.02	13.21				
15	64QAM	1	74	13.12	13.12	13.11	15	0		
15	64QAM	36	0	13.33	13.11	13.13				
15	64QAM	36	20	13.36	13.11	13.13				
15	64QAM	36	39	13.22	13.13	13.02				
15	64QAM	75	0	13.23	13.06	13.01	Tune-up limit (dBm)	MPR (dB)		
Channel				26090	26340	26640				
Frequency (MHz)				1865	1880	1910				
10	QPSK	1	0	13.48	13.36	13.44	15	0		
10	QPSK	1	25	13.26	13.42	13.41				
10	QPSK	1	49	13.38	13.14	13.53				
10	QPSK	25	0	13.38	13.22	13.19				
10	QPSK	25	12	13.44	13.14	13.17	15	0		
10	QPSK	25	25	13.41	13.18	13.14				
10	QPSK	50	0	13.37	13.21	13.23				
10	16QAM	1	0	13.23	13.45	13.23				
10	16QAM	1	25	13.34	13.60	13.22	15	0		
10	16QAM	1	49	13.45	13.44	13.40				
10	16QAM	25	0	13.47	13.30	13.25				
10	16QAM	25	12	13.55	13.24	13.33				
10	16QAM	25	25	13.48	13.28	13.27	15	0		
10	16QAM	50	0	13.46	13.31	13.30				
10	64QAM	1	0	13.47	13.57	13.23				
10	64QAM	1	25	13.14	13.35	13.36				
10	64QAM	1	49	13.49	13.32	13.17	15	0		
10	64QAM	25	0	13.45	13.36	13.25				
10	64QAM	25	12	13.60	13.32	13.34				
10	64QAM	25	25	13.48	13.35	13.30				
10	64QAM	50	0	13.48	13.22	13.21	Tune-up limit (dBm)	MPR (dB)		
Channel				26065	26340	26665				
Frequency (MHz)				1862.5	1880	1912.5				
5	QPSK	1	0	13.34	13.41	13.03	15	0		
5	QPSK	1	12	13.29	13.15	13.20				
5	QPSK	1	24	13.27	13.12	13.13				
5	QPSK	12	0	13.36	13.14	13.14				
5	QPSK	12	7	13.49	13.19	13.25	15	0		
5	QPSK	12	13	13.43	13.13	13.15				
5	QPSK	25	0	13.37	13.11	13.18				
5	16QAM	1	0	13.55	13.35	13.60				
5	16QAM	1	12	13.24	13.43	13.45	15	0		
5	16QAM	1	24	13.21	13.33	13.65				
5	16QAM	12	0	13.53	13.18	13.16				
5	16QAM	12	7	13.48	13.35	13.25				
5	16QAM	12	13	13.40	13.14	13.14	15	0		
5	16QAM	25	0	13.62	13.24	13.30				
5	64QAM	1	0	13.45	13.27	13.24				
5	64QAM	1	12	13.65	13.36	13.29				
5	64QAM	1	24	13.22	13.38	13.22	15	0		
5	64QAM	12	0	13.55	13.33	13.26				
5	64QAM	12	7	13.62	13.28	13.37				
5	64QAM	12	13	13.64	13.28	13.31				
5	64QAM	25	0	13.55	13.30	13.27	Tune-up limit (dBm)	MPR (dB)		
Channel				26065	26340	26685				
Frequency (MHz)				1861.5	1880	1914.5				
3	QPSK	1	0	13.37	13.65	13.07	15	0		
3	QPSK	1	8	13.34	13.08	13.15				
3	QPSK	1	14	13.33	13.09	13.14				
3	QPSK	8	0	13.42	13.12	13.13				
3	QPSK	8	4	13.40	13.22	13.24	15	0		
3	QPSK	8	7	13.36	13.11	13.21				
3	QPSK	15	0	13.39	13.11	13.09				
3	16QAM	1	0	13.45	13.63	13.39				
3	16QAM	1	8	13.25	13.40	13.44	15	0		
3	16QAM	1	14	13.61	13.22	13.35				
3	16QAM	8	0	13.57	13.24	13.19				
3	16QAM	8	4	13.64	13.33	13.29				
3	16QAM	8	7	13.50	13.23	13.29	15	0		
3	16QAM	15	0	13.46	13.16	13.22				
3	64QAM	1	0	13.46	13.52	13.35				
3	64QAM	1	8	13.44	13.33	13.33				
3	64QAM	1	14	13.35	13.38	13.40	15	0		
3	64QAM	8	0	13.49	13.19	13.25				
3	64QAM	8	4	13.37	13.36	13.32				
3	64QAM	8	7	13.42	13.18	13.25				
3	64QAM	15	0	13.52	13.17	13.20	Tune-up limit (dBm)	MPR (dB)		
Channel				26047	26340	26683				
Frequency (MHz)				1860.7	1880	1914.3				
1.4	QPSK	1	0	13.52	13.36	13.12	15	0		
1.4	QPSK	1	3	13.48	13.18	13.22				
1.4	QPSK	1	5	13.28	13.30	13.11				
1.4	QPSK	1	0	13.19	13.12	13.11				
1.4	QPSK	3	1	13.30	13.24	13.35	15	0		
1.4	QPSK	3	3	13.18	13.27	13.40				
1.4	QPSK	6	0	13.33	13.56	13.22				
1.4	16QAM	1	0	13.23	13.38	13.33				
1.4	16QAM	1	3	13.16	13.33	13.33	15	0		
1.4	16QAM	1	5	13.30	13.28	13.23				
1.4	16QAM	3	0	13.40	13.32	13.21				
1.4	16QAM	3	3	13.43	13.23	13.25				
1.4	16QAM	3	3	13.49	13.16	13.21	15	0		
1.4	16QAM	6	0	13.18	13.52	13.03				
1.4	64QAM	1	0	13.35	13.68	13.20				
1.4	64QAM	1	3	13.14	13.28	13.13				
1.4	64QAM	1	5	13.24	13.19	13.14	15	0		
1.4	64QAM	3	0	13.27	13.20	13.25				
1.4	64QAM	3	1	13.36	13.16	13.15				
1.4	64QAM	3	3	13.38	13.08	13.18				
1.4	64QAM	6	0	13.33	13.09	13.00	Tune-up limit (dBm)	MPR (dB)		
Channel				26047	26340	26683				
Frequency (MHz)				1860.7	1880	1914.3				

Reduced Power for Handheld On

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)
TX Channel		5262	9400	9538		1312	1413	1513	
Rx Channel		9662	9600	9638		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1733.6	1763.6	
3GPP Rel 99	AMR 12.2Kbps	20.51	20.30	20.38	21.00	18.55	18.60	18.67	19.50
3GPP Rel 99	RM-C 12.2Kbps	20.53	20.31	20.40	21.00	18.59	18.63	18.70	19.50
3GPP Rel 6	HSDPA Subtest-1	19.00	19.01	19.03	20.00	17.27	17.33	17.45	18.50
3GPP Rel 6	HSDPA Subtest-2	18.98	18.99	19.02	20.00	17.48	17.30	17.32	18.50
3GPP Rel 6	HSDPA Subtest-3	18.56	18.54	18.54	19.50	16.84	16.85	16.70	18.00
3GPP Rel 6	HSDPA Subtest-4	18.47	18.53	18.53	19.50	16.88	16.84	16.83	18.00
3GPP Rel 6	DC-HSDPA Subtest-1	18.98	19.00	19.06	20.00	17.25	17.31	17.21	18.50
3GPP Rel 8	DC-HSDPA Subtest-2	18.96	18.98	19.05	20.00	17.22	17.20	17.19	18.50
3GPP Rel 8	DC-HSDPA Subtest-3	18.54	18.53	18.57	19.50	16.69	16.69	16.81	18.00
3GPP Rel 8	DC-HSDPA Subtest-4	18.45	18.52	18.56	19.50	16.72	16.88	16.79	18.00
3GPP Rel 6	HSUPA Subtest-1	19.26	18.96	19.02	20.00	17.48	17.28	17.44	18.50
3GPP Rel 6	HSUPA Subtest-2	17.23	16.95	17.00	18.00	15.44	15.39	15.42	16.50
3GPP Rel 6	HSUPA Subtest-3	18.24	17.95	18.08	19.00	16.46	16.40	16.31	17.50
3GPP Rel 6	HSUPA Subtest-4	17.27	16.95	17.06	18.00	15.42	15.38	15.27	16.50
3GPP Rel 6	HSUPA Subtest-5	19.18	18.98	19.08	20.00	17.40	17.10	17.50	18.50

Band		CDMA BC1			Tune-up Limit (dBm)	CDMA BC1			Tune-up Limit (dBm)
TX Channel		26	600	1175		26	600	1175	
Frequency (MHz)		1851.25	1880	1909.75		1851.25	1880	1909.75	
RC1 SO55		21.34	21.33	21.34	22.00	21.34	21.33	21.34	22.00
RC3 SO55		21.33	21.29	21.32	22.00	21.33	21.29	21.32	22.00
RC3 SO32 (F+SCH)		21.39	21.32	21.35	22.00	21.39	21.32	21.35	22.00
RC3 SO32 (H+SCH)		21.37	21.31	21.35	22.00	21.37	21.31	21.35	22.00
RTAP 153.6Kbps		21.42	21.35	21.39	22.00	21.42	21.35	21.39	22.00
RETAP 4096B/s		21.38	21.34	21.37	22.00	21.38	21.34	21.37	22.00

Band 2 (1900MHz Band)									
Part 24E									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power Middle Ch / Freq	Power High Ch / Freq	Tune-up limit (dBm)	MPR (dB)	
Channel				19700	19800	19100			
Frequency (MHz)				1980	1980	1900			
20	QPSK	1	0	21.21	21.34	21.12	21.5	0	
20	QPSK	1	49	21.11	21.06	21.11			
20	QPSK	1	99	20.94	20.98	20.92			
20	QPSK	50	0	21.21	21.13	20.99			
20	QPSK	50	24	21.22	21.14	20.97	21.5	0	
20	QPSK	50	50	21.09	21.05	20.98			
20	QPSK	100	0	21.10	21.08	20.95			
20	16QAM	1	0	21.11	21.22	21.24			
20	16QAM	1	49	21.12	21.12	21.21	21.5	0	
20	16QAM	1	99	21.29	21.27	21.22			
20	16QAM	50	0	20.98	20.81	20.45			
20	16QAM	50	24	20.98	20.63	20.47			
20	16QAM	50	50	20.96	20.57	20.46	21.5	0	
20	16QAM	100	0	20.96	20.58	20.43			
20	64QAM	1	0	20.49	20.70	20.56			
20	64QAM	1	49	20.81	20.80	20.55	21.5	0	
20	64QAM	1	99	20.61	20.54	20.54			
20	64QAM	50	0	19.64	19.63	19.47			
20	64QAM	50	24	19.71	19.60	19.53			
20	64QAM	50	50	19.56	19.57	19.46	21	0.5	
20	64QAM	100	0	19.53	19.59	19.43			
Channel				1887.5	18900	19025	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1887.5	1880	1902.5			
15	QPSK	1	0	21.15	21.06	20.99	21.5	0	
15	QPSK	1	37	21.14	21.03	21.00			
15	QPSK	1	74	21.10	21.01	20.92			
15	QPSK	36	0	21.25	21.09	21.02			
15	QPSK	36	20	21.22	21.13	21.03	21.5	0	
15	QPSK	36	39	21.19	21.10	20.98			
15	QPSK	75	0	21.22	21.12	21.04			
15	16QAM	1	0	21.12	21.10	21.12			
15	16QAM	1	37	21.12	21.28	21.12	21.5	0	
15	16QAM	1	74	21.24	21.33	21.12			
15	16QAM	36	0	20.85	20.72	20.62			
15	16QAM	36	20	20.81	20.79	20.68			
15	16QAM	36	39	20.77	20.73	20.61	21.5	0	
15	16QAM	75	0	20.83	20.76	20.64			
15	64QAM	1	0	20.83	20.83	20.76			
15	64QAM	1	37	20.86	20.83	20.66			
15	64QAM	1	74	20.89	20.80	20.73	21	0.5	
15	64QAM	36	0	19.84	19.79	19.63			
15	64QAM	36	20	19.90	19.81	19.66			
15	64QAM	36	39	19.78	19.74	19.70			
15	64QAM	75	0	19.80	19.76	19.61			
Channel				18950	18900	19150	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1895	1880	1905			
10	QPSK	1	0	21.21	21.06	21.01	21.5	0	
10	QPSK	1	25	21.18	21.10	21.04			
10	QPSK	1	49	21.21	21.05	20.94			
10	QPSK	25	0	21.30	21.13	21.03			
10	QPSK	25	12	21.27	21.13	21.04	21.5	0	
10	QPSK	25	25	21.23	21.09	21.00			
10	QPSK	50	0	21.22	21.10	20.99			
10	16QAM	1	0	21.14	21.11	21.13			
10	16QAM	1	25	21.22	21.12	21.13	21.5	0	
10	16QAM	1	49	21.21	21.23	21.12			
10	16QAM	25	0	20.71	20.57	20.53			
10	16QAM	25	12	20.69	20.64	20.54			
10	16QAM	25	25	20.69	20.63	20.52	21.5	0	
10	16QAM	50	0	20.71	20.63	20.51			
10	64QAM	1	0	20.80	20.73	20.60			
10	64QAM	1	25	20.81	20.82	20.63			
10	64QAM	1	49	20.75	20.67	20.66	21	0.5	
10	64QAM	25	0	19.76	19.63	19.57			
10	64QAM	25	12	19.76	19.62	19.51			
10	64QAM	25	25	19.71	19.59	19.53			
10	64QAM	50	0	19.70	19.61	19.49			
Channel				18925	18900	19175	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1892.5	1880	1907.5			
5	QPSK	1	0	21.18	21.07	21.01	21.5	0	
5	QPSK	1	12	21.17	21.07	21.00			
5	QPSK	1	24	21.21	21.12	20.94			
5	QPSK	12	0	21.26	21.14	21.02			
5	QPSK	12	7	21.29	21.16	21.10	21.5	0	
5	QPSK	12	13	21.22	21.16	21.03			
5	QPSK	25	0	21.26	21.10	20.99			
5	16QAM	1	0	21.21	21.12	21.12			
5	16QAM	1	12	21.32	21.13	21.22	21.5	0	
5	16QAM	1	24	21.21	21.12	21.12			
5	16QAM	12	0	20.65	20.66	20.53			
5	16QAM	12	7	20.72	20.61	20.57			
5	16QAM	12	13	20.71	20.60	20.56	21.5	0	
5	16QAM	25	0	20.71	20.64	20.53			
5	64QAM	1	0	20.87	20.76	20.67			
5	64QAM	1	12	20.73	20.68	20.60			
5	64QAM	1	24	20.79	20.79	20.67	21	0.5	
5	64QAM	12	0	19.76	19.65	19.58			
5	64QAM	12	7	19.77	19.70	19.65			
5	64QAM	12	13	19.73	19.68	19.53			
5	64QAM	25	0	19.74	19.60	19.53			
Channel				18915	18900	19165	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1891.5	1880	1906.5			
3	QPSK	1	0	21.29	21.06	21.09	21.5	0	
3	QPSK	1	8	21.27	21.07	21.03			
3	QPSK	1	14	21.28	21.00	21.00			
3	QPSK	8	0	21.33	21.09	21.06			
3	QPSK	8	4	21.33	21.11	21.09	21.5	0	
3	QPSK	8	7	21.28	21.05	21.06			
3	QPSK	15	0	21.31	21.06	21.05			
3	16QAM	1	0	21.33	21.1	21.1			
3	16QAM	1	8	21.33	21.12	21.13	21.5	0	
3	16QAM	1	14	21.23	21.12	21.12			
3	16QAM	8	0	20.91	20.74	20.74			
3	16QAM	8	4	20.94	20.80	20.80			
3	16QAM	8	7	20.92	20.73	20.73	21.5	0	
3	16QAM	15	0	20.93	20.70	20.69			
3	64QAM	1	0	21.01	20.81	20.93			
3	64QAM	1	8	20.97	20.91	20.85			
3	64QAM	1	14	20.96	20.80	20.86	21.5	0	
3	64QAM	8	0	19.92	19.77	19.74			
3	64QAM	8	4	19.99	19.79	19.85			
3	64QAM	8	7	19.96	19.78	19.76			
3	64QAM	15	0	19.90	19.69	19.71			
Channel				18907	18900	19193	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1890.7	1880	1909.3			
1.4	QPSK	1	0	21.21	21.09	20.99	21.5	0	
1.4	QPSK	1	3	21.13	21.07	21.00			
1.4	QPSK	1	5	21.18	21.09	21.00			
1.4	QPSK	3	0	21.23	21.15	21.03			
1.4	QPSK	3	1	21.29	21.14	21.07	21.5	0	
1.4	QPSK	3	3	21.24	21.13	21.01			
1.4	QPSK	6	0	21.23	21.13	21.03			
1.4	16QAM	1	0	21.23	21.20	21.28			
1.4	16QAM	1	3	21.12	21.22	21.22	21.5	0	
1.4	16QAM	1	5	21.12	21.22	21.12			
1.4	16QAM	3	0	21.21	21.29	21.17			
1.4	16QAM	3	1	21.12	21.23	21.24			
1.4	16QAM	3	3	21.22	21.29	21.19	21.5	0	
1.4	16QAM	6	0	20.70	20.59	20.53			
1.4	64QAM	1	0	20.72	20.71	20.57			
1.4	64QAM	1	3	20.84	20.72	20.69			
1.4	64QAM	1	5	20.78	20.73	20.63	21.5	0	
1.4	64QAM	3	0	20.63	20.57	20.48			
1.4	64QAM	3	1	20.71	20.67	20.53			
1.4	64QAM	3	3	20.66	20.55	20.47			
1.4	64QAM	6	0	19.70	19.66	19.52	21	0.5	

Reduced Power for Handheld On

Band 25 (1900MHz Band)													
BW (MHz)	Modulation	RS Size	RS Offset	Part 24E			Turn-up limit (dBm)	MPR (dB)					
				Power Low Ch / Freq	Power Middle Ch / Freq	Power High Ch / Freq							
				Channel									
Frequency (MHz)				1860	1880	1905							
20	QPSK	1	0	21.26	21.35	21.21	21.5	0					
20	QPSK	1	49	21.28	21.08	21.03							
20	QPSK	1	99	21.14	21.05	20.99							
20	QPSK	50	0	21.33	21.34	21.03							
20	QPSK	50	24	21.34	21.12	21.10	21.5	0					
20	QPSK	50	50	21.21	21.10	21.09							
20	QPSK	100	0	21.25	21.26	21.01							
20	16QAM	1	0	21.23	21.22	21.32							
20	16QAM	1	49	21.23	21.24	21.12	21.5	0					
20	16QAM	1	99	21.23	21.23	21.11							
20	16QAM	50	0	20.90	20.71	20.62							
20	16QAM	50	24	20.82	20.75	20.77							
20	16QAM	50	50	20.83	20.74	20.75	21.5	0					
20	16QAM	100	0	20.78	20.70	20.60							
20	64QAM	1	0	21.02	20.96	20.75							
20	64QAM	1	49	20.98	20.92	20.95		21.5	0				
20	64QAM	1	99	20.86	20.85	20.91							
20	64QAM	50	0	19.91	19.72	19.65							
20	64QAM	50	24	19.84	19.77	19.77	21	0.5					
20	64QAM	50	50	19.81	19.73	19.74							
20	64QAM	100	0	19.80	19.71	19.66							
Channel				26115	26340	26615							
Frequency (MHz)				1857.5	1880	1907.5	Turn-up limit (dBm)		MPR (dB)				
15	QPSK	1	0	21.24	21.15	21.06	21.5	0					
15	QPSK	1	37	21.31	21.07	21.04							
15	QPSK	1	74	21.13	20.97	21.03							
15	QPSK	36	0	21.29	21.09	21.13							
15	QPSK	36	20	21.13	21.16	21.12	21.5	0					
15	QPSK	36	39	21.23	21.05	21.06							
15	QPSK	75	0	21.20	21.08	21.13							
15	16QAM	1	0	21.12	21.22	21.22							
15	16QAM	1	37	21.23	21.27	21.12	21.5	0					
15	16QAM	1	74	21.23	21.02	21.22							
15	16QAM	36	0	20.91	20.70	20.73							
15	16QAM	36	20	20.90	20.77	20.77		21.5	0				
15	16QAM	36	39	20.75	20.69	20.76							
15	16QAM	75	0	20.80	20.70	20.73							
15	64QAM	1	0	21.05	20.81	20.91	21.5	0					
15	64QAM	1	37	21.03	20.87	20.99							
15	64QAM	1	74	20.85	20.78	20.90							
15	64QAM	36	0	19.89	19.76	19.77		21	0.5				
15	64QAM	36	20	19.96	19.82	19.81							
15	64QAM	36	39	19.77	19.72	19.77							
15	64QAM	75	0	19.77	19.74	19.78							
Channel				26090	26340	26640							
Frequency (MHz)				1885	1880	1910	Turn-up limit (dBm)				MPR (dB)		
10	QPSK	1	0	21.23	21.24	21.07	21.5	0					
10	QPSK	1	25	21.29	21.06	21.08							
10	QPSK	1	49	21.31	21.09	20.95							
10	QPSK	25	0	21.33	21.09	21.03		21.5	0				
10	QPSK	25	12	21.12	21.14	21.06							
10	QPSK	25	25	21.28	21.08	21.02							
10	QPSK	50	0	21.32	21.10	21.04		21.5	0				
10	16QAM	1	0	21.22	21.23	21.25							
10	16QAM	1	25	21.21	21.23	21.33							
10	16QAM	1	49	21.23	21.22	21.24		21.5	0				
10	16QAM	25	0	20.89	20.73	20.71							
10	16QAM	25	12	20.95	20.71	20.71		21.5	0				
10	16QAM	25	25	20.80	20.69	20.71							
10	16QAM	50	0	20.87	20.73	20.73		21.5	0				
10	64QAM	1	0	21.04	21.04	20.89							
10	64QAM	1	25	21.03	20.92	20.89		21	0.5				
10	64QAM	1	49	21.06	20.92	20.79							
10	64QAM	25	0	19.88	19.70	19.70							
10	64QAM	25	12	19.82	19.75	19.71		21	0.5				
10	64QAM	25	25	19.89	19.70	19.75							
10	64QAM	50	0	19.87	19.71	19.71							
Channel				26065	26340	26665							
Frequency (MHz)				1882.5	1880	1912.5	Turn-up limit (dBm)			MPR (dB)			
5	QPSK	1	0	21.28	21.06	20.98	21.5	0					
5	QPSK	1	12	21.25	21.07	21.04							
5	QPSK	1	24	21.24	21.01	21.00							
5	QPSK	12	0	21.30	21.12	21.06		21.5	0				
5	QPSK	12	7	21.33	21.12	21.11							
5	QPSK	12	13	21.32	21.10	21.05							
5	QPSK	25	0	21.34	21.08	21.01		21.5	0				
5	16QAM	1	0	21.12	21.23	21.22							
5	16QAM	1	12	21.21	21.22	21.21		21.5	0				
5	16QAM	1	24	21.21	21.22	21.34							
5	16QAM	12	0	20.94	20.73	20.73							
5	16QAM	12	7	20.93	20.76	20.75	21.5	0					
5	16QAM	12	13	20.89	20.71	20.70							
5	16QAM	25	0	20.80	20.68	20.73		21.5	0				
5	64QAM	1	0	21.08	20.81	20.78							
5	64QAM	1	12	21.05	20.81	20.85	21.5	0					
5	64QAM	1	24	20.90	20.83	20.78							
5	64QAM	12	0	19.91	19.78	19.78		21	0.5				
5	64QAM	12	7	19.89	19.82	19.75							
5	64QAM	12	13	19.97	19.78	19.74							
5	64QAM	25	0	19.91	19.71	19.73							
Channel				26095	26340	26675							
Frequency (MHz)				1883.5	1880	1913.5	Turn-up limit (dBm)			MPR (dB)			
3	QPSK	1	0	21.29	21.06	21.09	21.5	0					
3	QPSK	1	8	21.27	21.07	21.03							
3	QPSK	1	14	21.28	21.00	21.00							
3	QPSK	8	0	21.33	21.09	21.06		21.5	0				
3	QPSK	8	4	21.33	21.11	21.09							
3	QPSK	8	7	21.28	21.05	21.06							
3	QPSK	15	0	21.31	21.06	21.05	21.5	0					
3	16QAM	1	0	21.32	21.12	21.24							
3	16QAM	1	8	21.12	21.12	21.12		21.5	0				
3	16QAM	1	14	21.12	21.22	21.11							
3	16QAM	8	0	20.91	20.74	20.74		21.5	0				
3	16QAM	8	4	20.94	20.80	20.80							
3	16QAM	8	7	20.92	20.73	20.73		21.5	0				
3	16QAM	15	0	20.93	20.70	20.69							
3	64QAM	1	0	21.01	20.81	20.93	21.5	0					
3	64QAM	1	8	20.97	20.91	20.85							
3	64QAM	1	14	20.96	20.80	20.86							
3	64QAM	8	0	19.92	19.77	19.74		21	0.5				
3	64QAM	8	4	19.99	19.79	19.85							
3	64QAM	8	7	19.96	19.78	19.76							
3	64QAM	15	0	19.90	19.69	19.71							
Channel				26047	26340	26683							
Frequency (MHz)				1880.7	1880	1914.3	Turn-up limit (dBm)	MPR (dB)					
1.4	QPSK	1	0	21.20	21.02	20.93	21.5	0					
1.4	QPSK	1	3	21.26	21.04	21.04							
1.4	QPSK	1	5	21.17	20.96	20.98							
1.4	QPSK	3	0	21.24	21.01	20.96		21.5	0				
1.4	QPSK	3	1	21.29	21.03	21.01							
1.4	QPSK	3	3	21.24	21.02	20.97							
1.4	QPSK	6	0	21.24	21.01	21.02	21.5	0					
1.4	16QAM	1	0	21.23	21.30	21.29							
1.4	16QAM	1	3	21.12	21.24	21.32	21.5	0					
1.4	16QAM	1	5	21.12	21.13	21.28							
1.4	16QAM	3	0	21.37	21.11	21.10							
1.4	16QAM	3	1	21.13	21.13	21.13							
1.4	16QAM	3	3	21.27	21.13	21.00							
1.4	16QAM	6	0	20.92	20.66	20.70			21.5	0			
1.4	64QAM	1	0	20.88	20.86	20.81							
1.4	64QAM	1	3	20.99	20.87	20.89	21.5	0					
1.4	64QAM	1	5	20.95	20.74	20.77							
1.4	64QAM	3	0	20.90	20.74	20.76							
1.4	64QAM	3	1	20.91	20.85	20.74							
1.4	64QAM	3	3	20.99	20.74	20.75							
1.4	64QAM	6	0	19.88	19.66	19.62			21.5	0			

Reduced Power Mode for P-Sensor On/Hotspot On

Band 41 (2.6G Band)														
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power Low Middle Ch./Freq.	Power Middle Ch./Freq.	Power High Middle Ch./Freq.	Power High Ch./Freq.	Tune-up limit (dBm)	MPR (dB)				
Channel														
Frequency (MHz)														
20	QPSK	1	0	21.88	22.20	21.60	21.96	22.14	23	0				
20	QPSK	1	49	21.64	21.99	21.56	21.89	21.96						
20	QPSK	1	99	21.73	21.89	21.52	21.82	21.85						
20	QPSK	50	0	21.70	21.81	21.74	21.81	21.83						
20	QPSK	50	24	21.77	21.89	21.65	21.82	21.87	23	0				
20	QPSK	50	50	21.71	21.57	21.60	21.79	21.81						
20	QPSK	100	0	21.64	21.69	21.61	21.61	21.67						
20	16QAM	1	0	21.99	22.26	21.83	22.13	22.33						
20	16QAM	1	49	21.83	21.90	21.69	22.08	22.11	23	0				
20	16QAM	1	99	21.92	21.81	21.67	22.01	22.01						
20	16QAM	50	0	20.84	20.96	20.83	21.01	21.17						
20	16QAM	50	24	20.92	20.84	20.74	20.95	21.14						
20	16QAM	50	50	20.84	20.76	20.75	21.02	21.02	22.5	0.5				
20	16QAM	100	0	20.86	20.89	20.82	20.96	21.07						
20	64QAM	1	0	20.65	20.90	20.77	20.85	21.02						
20	64QAM	1	49	20.54	20.60	20.72	20.79	20.85						
20	64QAM	1	99	20.66	20.52	20.74	20.72	20.71	22.5	0.5				
20	64QAM	50	0	19.77	19.91	19.76	19.95	20.12						
20	64QAM	50	24	19.84	19.77	19.68	19.92	20.05						
20	64QAM	50	50	19.77	19.68	19.70	19.97	19.95						
20	64QAM	100	0	19.93	19.94	19.86	20.20	20.12	21.5	1.5				
20	64QAM	100	0	19.93	19.94	19.86	20.20	20.12						
Channel														
Frequency (MHz)														
15	QPSK	1	0	21.76	21.93	21.77	21.94	22.09	23	0				
15	QPSK	1	37	21.66	21.73	21.59	21.89	21.96						
15	QPSK	1	74	21.74	21.65	21.59	21.88	21.87						
15	QPSK	36	0	21.70	21.86	21.69	21.88	22.07						
15	QPSK	36	20	21.66	21.72	21.60	21.84	22.03	23	0				
15	QPSK	36	39	21.68	21.64	21.62	21.86	21.91						
15	QPSK	75	0	21.73	21.77	21.73	21.85	21.97						
15	16QAM	1	0	21.92	22.23	21.92	22.09	22.22						
15	16QAM	1	37	21.83	21.99	21.70	22.09	22.15	23	0				
15	16QAM	1	74	21.99	21.93	21.70	22.04	22.09						
15	16QAM	36	0	20.77	20.96	20.73	20.95	21.07						
15	16QAM	36	20	20.78	20.84	20.70	20.95	21.03						
15	16QAM	36	39	20.83	20.75	20.69	20.98	20.94	22.5	0.5				
15	16QAM	75	0	20.88	20.94	20.83	20.96	21.07						
15	64QAM	1	0	20.64	20.91	20.64	20.80	21.00						
15	64QAM	1	37	20.56	20.65	20.77	20.82	20.78						
15	64QAM	1	74	20.62	20.57	20.72	20.73	20.71	22.5	0.5				
15	64QAM	36	0	19.81	20.01	19.77	19.97	20.10						
15	64QAM	36	20	19.81	19.86	19.68	19.98	20.04						
15	64QAM	36	39	19.85	19.78	19.68	20.01	19.98						
15	64QAM	75	0	19.89	19.92	19.82	19.93	20.07	21.5	1.5				
15	64QAM	75	0	19.89	19.92	19.82	19.93	20.07						
Channel														
Frequency (MHz)														
10	QPSK	1	0	21.67	21.87	21.69	21.87	22.06	23	0				
10	QPSK	1	25	21.68	21.66	21.59	21.89	21.94						
10	QPSK	1	49	21.62	21.65	21.52	21.88	21.91						
10	QPSK	25	0	21.69	21.78	21.64	21.86	22.01						
10	QPSK	25	12	21.71	21.69	21.64	21.93	21.99	23	0				
10	QPSK	25	25	21.65	21.65	21.57	21.86	21.93						
10	QPSK	50	0	21.68	21.77	21.64	21.86	21.99						
10	16QAM	1	0	21.91	22.06	21.86	22.00	22.22						
10	16QAM	1	25	21.84	21.94	21.75	22.09	22.07	23	0				
10	16QAM	1	49	21.79	21.84	21.65	22.04	22.02						
10	16QAM	25	0	20.79	20.95	20.73	20.96	21.08						
10	16QAM	25	12	20.77	20.85	20.74	21.05	21.07						
10	16QAM	25	25	20.74	20.81	20.63	20.97	20.99	22.5	0.5				
10	16QAM	50	0	20.81	20.94	20.70	20.97	21.08						
10	64QAM	1	0	20.73	20.76	20.60	20.79	20.93						
10	64QAM	1	25	20.74	20.63	20.69	20.78	20.82						
10	64QAM	1	49	20.88	20.53	20.70	20.76	20.73	21.5	1.5				
10	64QAM	25	0	19.75	19.92	19.67	19.94	20.04						
10	64QAM	25	12	19.77	19.82	19.67	20.03	20.04						
10	64QAM	25	25	19.72	19.76	19.62	19.96	19.94						
10	64QAM	50	0	19.74	19.88	19.67	19.91	20.00	21.5	1.5				
10	64QAM	50	0	19.74	19.88	19.67	19.91	20.00						
Channel														
Frequency (MHz)														
5	QPSK	1	0	21.67	21.80	21.62	21.84	21.97	23	0				
5	QPSK	1	12	21.66	21.68	21.57	21.89	21.95						
5	QPSK	1	24	21.55	21.61	21.51	21.84	21.85						
5	QPSK	12	0	21.67	21.82	21.64	21.94	22.00						
5	QPSK	12	7	21.70	21.72	21.62	21.95	21.95	23	0				
5	QPSK	12	13	21.65	21.70	21.59	21.93	21.95						
5	QPSK	25	0	21.62	21.75	21.61	21.92	21.96						
5	16QAM	1	0	21.83	21.98	21.75	22.10	22.09						
5	16QAM	1	12	21.86	21.93	21.75	22.12	22.07	23	0				
5	16QAM	1	24	21.81	21.88	21.65	22.12	22.00						
5	16QAM	12	0	20.77	20.89	20.68	21.03	21.03						
5	16QAM	12	7	20.77	20.85	20.67	21.03	20.99						
5	16QAM	12	13	20.75	20.80	20.61	21.01	20.98	22.5	0.5				
5	16QAM	25	0	20.78	20.90	20.68	21.06	21.04						
5	64QAM	1	0	20.56	20.72	20.66	20.74	20.73						
5	64QAM	1	12	20.55	20.65	20.68	20.73	20.69						
5	64QAM	1	24	20.52	20.57	20.64	20.71	20.65	22.5	0.5				
5	64QAM	12	0	19.76	19.94	19.78	20.11	20.10						
5	64QAM	12	7	19.79	19.89	19.78	20.12	20.09						
5	64QAM	12	13	19.75	19.78	19.69	20.08	20.02						
5	64QAM	25	0	19.74	19.79	19.75	20.11	20.06	21.5	1.5				
5	64QAM	25	0	19.74	19.79	19.75	20.11	20.06						

Band 41 (2.6G Band) HPUE (Limit 27)											
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power Low Middle Ch./Freq.	Power Middle Ch./Freq.	Power High Middle Ch./Freq.	Power High Ch./Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				39750	40185	40620	41055	41490			
Frequency (MHz)				2506	2549.5	2593	2636.5	2680			
20	QPSK	1	0	21.61	22.04	21.56	21.76	21.94	23	0	
20	QPSK	1	49	21.47	21.82	21.76	21.67	21.81			
20	QPSK	1	99	21.56	21.88	21.67	21.67	21.67			
20	QPSK	50	0	21.63	21.76	21.68	21.76	21.90			
20	QPSK	50	24	21.69	21.65	21.59	21.77	21.89	23	0	
20	QPSK	50	50	21.63	21.55	21.61	21.78	21.88			
20	QPSK	100	0	21.67	21.69	21.71	21.74	21.89			
20	16QAM	1	0	21.89	21.67	21.74	21.88	21.77			
20	16QAM	1	49	21.92	21.77	21.79	21.88	21.76	23	0	
20	16QAM	1	99	21.78	21.89	21.68	21.77	21.67			
20	16QAM	50	0	20.90	20.96	20.80	20.94	21.16			
20	16QAM	50	24	20.86	20.79	20.90	20.97	21.10			
20	16QAM	50	50	20.79	20.73	20.79	20.95	20.97	22.5	0.5	
20	16QAM	100	0	20.84	20.89	20.79	20.86	21.02			
20	64QAM	1	0	20.93	21.06	20.74	20.98	20.99			
20	64QAM	1	49	20.71	20.77	20.61	20.91	20.99			
20	64QAM	1	99	20.78	20.74	20.58	20.86	20.90	22.5	0.5	
20	64QAM	50	0	19.83	19.95	19.80	19.97	20.14			
20	64QAM	50	24	19.85	19.82	19.71	19.90	20.11			
20	64QAM	50	50	19.84	19.70	19.69	19.93	20.01			
20	64QAM	100	0	19.85	19.69	19.78	19.88	20.06	21.5	1.5	
Channel				39725	40173	40620	41068	41515			
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5			
15	QPSK	1	0	21.63	21.85	21.69	21.80	21.78			
15	QPSK	1	37	21.50	21.59	21.52	21.76	21.67			
15	QPSK	1	74	21.62	21.52	21.48	21.76	21.76			
15	QPSK	38	0	21.69	21.91	21.63	21.76	21.77			
15	QPSK	38	20	21.62	21.67	21.54	21.77	21.89	23	0	
15	QPSK	38	39	21.62	21.58	21.57	21.80	21.84			
15	QPSK	75	0	21.63	21.69	21.63	21.71	21.92			
15	16QAM	1	0	21.72	21.68	21.89	21.88	21.78			
15	16QAM	1	37	21.92	21.78	21.80	21.89	21.89	23	0	
15	16QAM	1	74	21.89	21.90	21.75	21.78	21.77			
15	16QAM	38	0	20.77	20.91	20.71	20.88	21.06			
15	16QAM	38	20	20.75	20.80	20.63	20.83	21.00			
15	16QAM	36	39	20.80	20.71	20.83	20.87	20.91	22.5	0.5	
15	16QAM	75	0	20.82	20.85	20.77	20.86	21.01			
15	64QAM	1	0	20.82	21.02	20.80	20.91	20.96			
15	64QAM	1	37	20.68	20.80	20.60	20.92	20.94			
15	64QAM	1	74	20.75	20.72	20.59	20.92	20.94	22.5	0.5	
15	64QAM	38	0	19.83	19.96	19.70	19.92	20.05			
15	64QAM	38	20	19.78	19.85	19.69	19.80	20.02			
15	64QAM	36	39	19.82	19.75	19.69	19.94	19.98			
15	64QAM	75	0	19.85	19.88	19.78	19.88	20.06	21.5	1.5	
Channel				39700	40160	40620	41080	41540			
Frequency (MHz)				2501	2547	2593	2639	2685			
10	QPSK	1	0	21.52	21.68	21.55	21.68	21.89			
10	QPSK	1	25	21.48	21.58	21.44	21.72	21.82			
10	QPSK	1	49	21.44	21.47	21.58	21.66	21.76			
10	QPSK	25	0	21.60	21.70	21.59	21.74	21.78			
10	QPSK	25	12	21.62	21.62	21.58	21.83	21.79	23	0	
10	QPSK	25	25	21.55	21.59	21.49	21.77	21.90			
10	QPSK	50	0	21.62	21.72	21.57	21.76	21.78			
10	16QAM	1	0	21.67	21.89	21.58	21.85	21.76			
10	16QAM	1	25	21.90	21.78	21.82	21.88	21.89	23	0	
10	16QAM	1	49	21.88	21.90	21.71	21.78	21.87			
10	16QAM	25	0	20.75	20.92	20.73	20.87	21.08			
10	16QAM	25	12	20.79	20.81	20.69	20.99	21.08			
10	16QAM	25	25	20.73	20.76	20.62	20.95	20.99	22.5	0.5	
10	16QAM	50	0	20.75	20.91	20.69	20.89	21.04			
10	64QAM	1	0	21.83	21.88	21.81	21.78	21.89			
10	64QAM	1	25	21.75	21.83	21.69	21.87	21.88			
10	64QAM	1	49	21.71	21.76	21.58	21.77	21.67	21.5	1.5	
10	64QAM	25	0	20.70	20.87	20.66	20.82	20.88			
10	64QAM	25	12	20.73	20.78	20.62	20.95	20.56			
10	64QAM	25	25	20.66	20.69	20.56	20.87	20.67			
10	64QAM	50	0	20.70	20.85	20.63	20.80	20.46	21.5	1.5	
Channel				39675	40135	40600	41050	41505			
Frequency (MHz)				2498.5	2544.5	2593	2640.30	2685.7			
5	QPSK	1	0	21.53	21.66	21.46	21.77	21.81			
5	QPSK	1	12	21.50	21.54	21.45	21.73	21.82			
5	QPSK	1	24	21.44	21.49	21.39	21.72	21.73			
5	QPSK	12	0	21.60	21.73	21.57	21.87	21.76			
5	QPSK	12	7	21.64	21.61	21.57	21.85	21.92	23	0	
5	QPSK	12	13	21.59	21.57	21.53	21.85	21.92			
5	QPSK	25	0	21.54	21.67	21.54	21.83	21.90			
5	16QAM	1	0	21.90	21.78	21.85	21.76	21.88			
5	16QAM	1	12	21.91	21.87	21.80	21.88	21.89	23	0	
5	16QAM	1	24	21.87	21.78	21.75	21.87	21.76			
5	16QAM	12	0	20.74	20.91	20.69	20.98	21.05			
5	16QAM	12	7	20.77	20.80	20.69	21.03	21.03			
5	16QAM	12	13	20.76	20.77	20.66	20.96	21.01	22.5	0.5	
5	16QAM	25	0	20.73	20.87	20.66	20.96	20.99			
5	64QAM	1	0	21.78	21.74	21.73	21.78	21.87			
5	64QAM	1	24	21.77	21.86	21.68	21.77	21.77			
5	64QAM	1	24	21.78	21.83	21.62	21.67	21.77	22.5	0.5	
5	64QAM	12	0	20.75	20.88	20.65	20.95	20.98			
5	64QAM	12	7	20.73	20.78	20.67	21.01	21.03			
5	64QAM	12	13	20.69	20.74	20.61	20.93	20.97			
5	64QAM	25	0	20.70	20.81	20.61	20.91	20.94	21.5	1.5	
Channel				39700	40160	40620	41080	41540			
Frequency (MHz)				2501	2547	2593	2639	2685			

Reduced Power for Handheld On

Band 41 (2.6G Band)										
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power Low Middle Ch./Freq.	Power Middle Ch./Freq.	Power High Middle Ch./Freq.	Power High Ch./Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490	25.00	0
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	24.34	24.43	24.21	24.24	24.26	23.50	1.5
20	QPSK	1	49	24.33	24.29	24.23	24.29	24.23		
20	QPSK	1	99	24.24	24.31	24.21	24.30	24.24		
20	QPSK	50	0	22.17	22.21	22.22	22.23	22.19		
20	QPSK	50	24	22.13	22.35	22.21	22.21	22.22	23.50	1.5
20	QPSK	50	50	22.30	22.05	22.30	22.12	22.11		
20	QPSK	100	0	22.22	22.33	22.26	22.24	22.22		
20	16QAM	1	0	22.58	22.35	22.19	22.49	22.63		
20	16QAM	1	49	22.23	22.24	22.20	22.36	22.46	23.50	1.5
20	16QAM	1	99	22.54	22.62	22.16	22.31	22.56		
20	16QAM	50	0	21.32	21.33	21.16	21.46	21.40		
20	16QAM	50	24	21.36	21.31	21.39	21.33	21.54		
20	16QAM	50	50	21.34	21.15	21.42	21.41	21.49	22.50	2.5
20	16QAM	100	0	21.35	21.19	21.30	21.36	21.54		
20	64QAM	1	0	21.22	21.36	21.23	21.20	21.33		
20	64QAM	1	49	21.26	21.24	21.12	21.26	21.26		
20	64QAM	1	99	21.20	21.34	21.01	21.20	21.34	22.50	2.5
20	64QAM	50	0	20.61	20.49	20.20	20.54	20.59		
20	64QAM	50	24	20.54	20.36	20.34	20.46	20.62		
20	64QAM	50	50	20.52	20.32	20.45	20.41	20.38		
20	64QAM	100	0	20.52	20.47	20.33	20.53	20.49	21.50	3.5
Channel				39725	40173	40620	41068	41515		
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	24.39	24.38	24.33	24.39	24.31		
15	QPSK	1	37	24.32	24.37	24.23	24.34	24.23		
15	QPSK	1	74	24.33	24.44	24.21	24.35	24.45		
15	QPSK	36	0	22.17	22.12	22.01	22.20	22.37		
15	QPSK	36	20	22.29	22.22	22.24	22.16	22.36	23.50	1.5
15	QPSK	36	39	22.04	22.21	22.26	22.32	22.31		
15	QPSK	75	0	22.03	22.04	22.07	22.29	22.39		
15	16QAM	1	0	22.30	22.47	22.16	22.42	22.43		
15	16QAM	1	37	22.20	22.47	22.06	22.38	22.46	23.50	1.5
15	16QAM	1	74	22.38	22.56	22.33	22.31	22.43		
15	16QAM	36	0	21.13	21.17	21.28	21.37	21.33		
15	16QAM	36	20	21.36	21.26	21.33	21.34	21.32		
15	16QAM	36	39	21.21	21.12	21.16	21.31	21.46	22.50	2.5
15	16QAM	75	0	21.14	21.23	21.20	21.21	21.39		
15	64QAM	1	0	21.28	21.42	21.13	21.34	21.34		
15	64QAM	1	37	21.23	21.41	21.02	21.28	21.27		
15	64QAM	1	74	21.15	21.24	21.18	21.25	21.22	22.50	2.5
15	64QAM	36	0	20.36	20.34	20.31	20.55	20.61		
15	64QAM	36	20	20.49	20.41	20.23	20.51	20.49		
15	64QAM	36	39	20.44	20.39	20.28	20.47	20.44		
15	64QAM	75	0	20.62	20.46	20.37	20.54	20.52	21.50	3.5
Channel				39700	40160	40620	41080	41540		
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	24.33	24.39	24.40	24.39	24.34		
10	QPSK	1	25	24.32	24.40	24.34	24.27	24.29		
10	QPSK	1	49	24.35	24.29	24.29	24.55	24.41		
10	QPSK	25	0	22.14	22.20	22.16	22.17	22.27		
10	QPSK	25	12	22.06	22.11	22.28	22.21	22.26	23.50	1.5
10	QPSK	25	25	22.03	22.23	22.07	22.25	22.25		
10	QPSK	50	0	22.30	22.04	22.04	22.37	22.40		
10	16QAM	1	0	22.12	22.46	22.25	22.24	22.27		
10	16QAM	1	25	22.16	22.42	22.20	22.20	22.46	23.50	1.5
10	16QAM	1	49	22.31	22.37	22.16	22.43	22.37		
10	16QAM	25	0	21.08	21.01	21.10	21.23	21.38		
10	16QAM	25	12	21.38	21.09	21.41	21.42	21.46		
10	16QAM	25	25	21.16	21.23	21.20	21.27	21.36	22.50	2.5
10	16QAM	50	0	21.23	21.12	21.16	21.45	21.39		
10	64QAM	1	0	21.20	21.31	21.02	21.08	21.27		
10	64QAM	1	25	21.12	21.35	21.22	21.19	21.25		
10	64QAM	1	49	21.28	21.20	21.02	21.25	21.28	22.50	2.5
10	64QAM	25	0	20.42	20.42	20.15	20.42	20.48		
10	64QAM	25	12	20.54	20.50	20.38	20.51	20.46		
10	64QAM	25	25	20.51	20.39	20.35	20.45	20.44		
10	64QAM	50	0	20.46	20.28	20.20	20.34	20.57	21.50	3.5
Channel				39675	40148	40620	41093	41565		
Frequency (MHz)				2498.5	2545.8	2593	2640.3	2687.5		
5	QPSK	1	0	24.29	24.59	24.39	24.39	24.41		
5	QPSK	1	12	24.44	24.44	24.39	24.29	24.39		
5	QPSK	1	24	24.55	24.39	24.25	24.34	24.34		
5	QPSK	12	0	22.13	22.05	22.10	22.24	22.29		
5	QPSK	12	7	22.28	22.11	22.19	22.36	22.36	23.50	1.5
5	QPSK	12	13	22.08	22.23	22.14	22.14	22.37		
5	QPSK	25	0	22.31	22.12	22.25	22.21	22.22		
5	16QAM	1	0	22.43	22.21	22.22	22.21	22.35		
5	16QAM	1	12	22.38	22.37	22.03	22.31	22.42	23.50	1.5
5	16QAM	1	24	22.39	22.20	22.13	22.30	22.44		
5	16QAM	12	0	21.15	21.21	21.16	21.30	21.36		
5	16QAM	12	7	21.39	21.45	21.24	21.21	21.41		
5	16QAM	12	13	21.19	21.28	21.19	21.30	21.32	22.50	2.5
5	16QAM	25	0	21.37	21.03	21.34	21.41	21.42		
5	64QAM	1	0	21.22	21.39	21.23	21.15	21.21		
5	64QAM	1	12	21.34	21.30	21.07	21.11	21.31		
5	64QAM	1	24	21.35	21.25	21.22	21.11	21.25	22.50	2.5
5	64QAM	12	0	20.54	20.19	20.33	20.43	20.50		
5	64QAM	12	7	20.59	20.47	20.11	20.45	20.54		
5	64QAM	12	13	20.49	20.49	20.17	20.43	20.45		
5	64QAM	25	0	20.32	20.41	20.38	20.40	20.50	21.50	3.5

Band 41 (2.6G Band) HPUE										
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power Low Middle Ch./Freq.	Power Middle Ch./Freq.	Power High Middle Ch./Freq.	Power High Ch./Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490	26.50	0
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	26.24	25.94	25.78	26.18	26.18	26.00	0.5
20	QPSK	1	49	25.90	25.75	25.70	26.06	26.06		
20	QPSK	1	99	25.91	25.77	25.82	26.00	26.02	26.00	0.5
20	QPSK	50	0	24.99	24.83	24.88	24.98	25.16		
20	QPSK	50	24	25.06	24.68	24.79	24.93	25.09	26.00	0.5
20	QPSK	50	50	25.02	24.67	24.89	25.07	25.08		
20	QPSK	100	0	25.09	24.79	24.91	24.94	25.05	26.00	0.5
20	16QAM	1	0	25.27	25.25	24.98	25.32	25.44		
20	16QAM	1	49	25.15	25.20	25.03	25.35	25.41	26.00	0.5
20	16QAM	1	99	25.21	25.08	25.07	25.34	25.23		
20	16QAM	50	0	24.11	24.05	23.93	24.17	24.28	25.00	1.5
20	16QAM	50	24	24.18	23.91	23.98	24.11	24.21		
20	16QAM	50	50	24.14	23.82	23.99	24.19	24.20	25.00	1.5
20	16QAM	100	0	24.20	23.99	24.08	24.13	24.21		
20	64QAM	1	0	24.23	24.11	23.88	24.23	24.34	25.00	1.5
20	64QAM	1	49	24.04	24.02	23.87	24.18	24.19		
20	64QAM	1	99	24.07	23.85	23.93	24.20	24.13	24.00	2.5
20	64QAM	50	0	23.04	23.01	22.90	23.09	23.19		
20	64QAM	50	24	23.17	22.80	22.87	23.05	23.15	24.00	2.5
20	64QAM	50	50	23.04	22.73	22.93	23.16	23.12		
20	64QAM	100	0	23.24	23.03	23.08	23.10	23.25	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490	26.50	0
Frequency (MHz)				2506.5	2549.5	2593	2637.5	2680.5		
15	QPSK	1	0	25.95	25.89	25.87	26.02	26.14	26.50	0
15	QPSK	1	37	25.84	25.71	25.69	25.96	25.97		
15	QPSK	1	74	25.96	25.70	25.75	26.03	25.91	26.00	0.5
15	QPSK	36	0	24.94	24.88	24.78	24.98	25.15		
15	QPSK	36	20	25.00	24.79	24.80	25.00	25.07	26.00	0.5
15	QPSK	36	39	25.02	24.72	24.81	25.10	25.06		
15	QPSK	75	0	25.02	24.84	24.90	24.99	25.11	26.00	0.5
15	16QAM	1	0	25.28	25.23	25.04	25.34	25.41		
15	16QAM	1	37	25.23	25.09	25.01	25.34	25.35	26.00	0.5
15	16QAM	1	74	25.24	25.03	25.10	25.44	25.31		
15	16QAM	36	0	24.05	24.07	23.93	24.10	24.26	25.00	1.5
15	16QAM	36	20	24.08	23.98	23.97	24.12	24.18		
15	16QAM	36	39	24.13	23.91	23.91	24.19	24.18	25.00	1.5
15	16QAM	75	0	24.20	23.99	24.06	24.08	24.23		
15	64QAM	1	0	24.17	24.07	23.97	24.20	24.24	25.00	1.5
15	64QAM	1	37	24.04	24.04	23.96	24.25	24.44		
15	64QAM	1	74	24.22	24.01	23.94	24.26	24.18	24.00	2.5
15	64QAM	36	0	23.07	23.10	22.91	23.12	23.27		
15	64QAM	36	20	23.09	22.97	22.92	23.09	23.20	24.00	2.5
15	64QAM	36	39	23.14	22.91	22.96	23.18	23.20		
15	64QAM	75	0	23.16	23.05	23.01	23.11	23.21	Tune-up limit (dBm)	MPR (dB)
Channel				39700	40160	40620	41080	41540	26.50	0
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	25.83	25.65	25.71	25.85	26.03	26.50	0
10	QPSK	1	25	25.84	25.64	25.68	25.94	25.97		
10	QPSK	1	49	25.79	25.65	25.64	25.90	25.98	26.00	0.5
10	QPSK	25	0	24.94	24.74	24.81	24.95	25.04		
10	QPSK	25	12	24.96	24.75	24.78	25.02	25.03	26.00	0.5
10	QPSK	25	25	24.94	24.57	24.76	24.99	25.07		
10	QPSK	50	0	24.95	24.78	24.80	24.94	25.09	26.00	0.5
10	16QAM	1	0	25.23	25.19	25.03	25.33	25.39		
10	16QAM	1	25	25.20	25.08	25.00	25.44	25.30	26.00	0.5
10	16QAM	1	49	25.10	25.09	24.96	25.33	25.32		
10	16QAM	25	0	24.07	24.10	23.92	24.08	24.23	25.00	1.5
10	16QAM	25	12	24.12	23.98	23.91	24.22	24.25		
10	16QAM	25	25	24.07	23.87	23.92	24.21	24.14	25.00	1.5
10	16QAM	50	0	24.07	23.96	23.95	24.08	24.20		
10	64QAM	1	0	24.12	24.05	23.96	24.15	24.31	25.00	1.5
10	64QAM	1	25	24.04	23.89	23.89	24.23	24.22		
10	64QAM	1	49	23.99	23.87	23.89	24.22	24.16	24.00	2.5
10	64QAM	25	0	23.05	22.98	22.90	23.06	23.15		
10	64QAM	25	12	23.03	22.82	22.90	23.21	23.19	24.00	2.5
10	64QAM	25	25	23.01	22.62	22.84	23.18	23.15		
10	64QAM	50	0	22.99	22.88	22.86	23.08	23.15	Tune-up limit (dBm)	MPR (dB)
Channel				39700	40160	40620	41080	41540	26.50	0
Frequency (MHz)				2499.5	2545.5	2593	2640.3	2687.5		
5	QPSK	1	0	25.84	25.74	25.72	25.93	25.98	26.50	0
5	QPSK	1	12	25.84	25.62	25.68	25.97	25.97		
5	QPSK	1	24	25.78	25.57	25.66	25.97	25.92	26.00	0.5
5	QPSK	12	0	24.95	24.79	24.83	25.06	25.02		
5	QPSK	12	7	24.99	24.71	24.84	25.09	25.08	26.00	0.5
5	QPSK	12	13	24.99	24.63	24.80	25.06	25.00		
5	QPSK	25	0	24.90	24.81	24.81	25.06	25.02	26.00	0.5
5	16QAM	1	0	25.18	25.13	24.98	25.38	25.28		
5	16QAM	1	12	25.16	25.04	25.03	25.37	25.31	26.00	0.5
5	16QAM	1	24	25.14	25.05	24.97	25.37	25.24		
5	16QAM	12	0	24.07	24.02	23.94	24.24	24.20	25.00	1.5
5	16QAM	12	7	24.13	23.88	23.94	24.21	24.19		
5	16QAM	12	13	24.04	23.90	23.92	24.23	24.10	25.00	1.5
5	16QAM	25	0	24.07	23.98	23.95	24.23	24.19		
5	64QAM	1	0	24.09	24.02	23.91	24.28	24.18	25.00	1.5
5	64QAM	1	12	24.05	23.91	23.91	24.23	24.17		
5	64QAM	1	24	24.06	23.92	23.86	24.22	24.14	24.00	2.5
5	64QAM	12	0	23.03	22.93	22.84	23.15	23.16		
5	64QAM	12	7	23.08	22.86	22.88	23.19	23.12	24.00	2.5
5	64QAM	12	13	22.97	22.81	22.86	23.18	23.12		
5	64QAM	25	0	23.02	22.93	22.87	23.18	23.08	Tune-up limit (dBm)	MPR (dB)

Full Power										
CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
41055	40857	QPSK	1	0	0	0	1	0	24.48	25.50
Reduced Power Mode for P-Sensor On/Hotspot On										
CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	100	0	0	0	1	0	22.24	23.00
40185	39987	QPSK	100	0	0	0	1	0	21.95	23.00
40620	40422	QPSK	100	0	0	0	1	0	22.37	23.00
41055	40857	QPSK	100	0	0	0	1	0	22.22	23.00
41490	41292	QPSK	100	0	0	0	1	0	22.35	23.00
Reduced Power for Handheld On										
CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	24.28	25

Full Power

Configure		CA List	PCC						SCC				Power		
			LTE	BW	UL	UL	UL#	UL	LTE	BW	DL	DL	With CA	Without CA	
			Band	(MHz)	Freq (MHz)	Channel	Mod.	RB	RB Offset	Band	(MHz)	Freq (MHz)	Channel	Tx Power (dBm)	Tx Power (dBm)
Inter-Band	CA_2A-4A	Band 2	20M	1880	18900	QPSK	1	0	Band 4	20M	2132.5	2175	22.90	22.75	
		Band 4	20M	1732.5	20175	QPSK	1	0	Band 2	20M	1960	900	23.31	22.53	
	CA_2A-5A	Band 2	20M	1880	18900	QPSK	1	0	Band 5	10M	881.5	2525	22.80	22.75	
		Band 5	10M	836.5	20525	QPSK	1	0	Band 2	20M	1960	900	22.30	23.18	
	CA_2A-7A	Band 2	20M	1880	18900	QPSK	1	0	Band 7	20M	2655	3100	22.80	22.75	
		Band 7	20M	2535	21100	QPSK	1	0	Band 2	20M	1960	900	21.92	22.96	
	CA_2A-12A	Band 2	20M	1880	18900	QPSK	1	0	Band 12	10M	737.5	5095	22.79	22.75	
		Band 12	10M	707.5	23095	QPSK	1	25	Band 2	20M	1960	900	21.84	23.18	
	CA_2A-13A	Band 2	20M	1880	18900	QPSK	1	0	Band 13	10M	751	5230	22.76	22.75	
		Band 13	10M	782	23230	QPSK	1	0	Band 2	20M	1960	900	21.79	22.96	
	CA_2A-14A	Band 2	20M	1880	18900	QPSK	1	0	Band 14	10M	763	5330	22.71	22.75	
		Band 14	10M	793	23330	QPSK	1	0	Band 2	20M	1960	900	22.00	22.77	
	CA_2A-17A	Band 2	10M	1880	18900	QPSK	1	0	Band 17	10M	740	5790	22.74	22.58	
		Band 17	10M	709	23780	QPSK	1	0	Band 2	10M	1960	900	23.41	23.10	
	CA_2A-29A	Band 2	20M	1880	18900	QPSK	1	0	Band 29	10M	722.5	9715	22.63	22.75	
		Band 2	20M	1880	18900	QPSK	1	0	Band 30	10M	2355	9820	22.80	22.75	
	CA_2A-30A	Band 30	10M	2310	27710	QPSK	1	0	Band 2	20M	1960	900	22.07	22.96	
		Band 2	20M	1880	18900	QPSK	1	0	Band 66	20M	2155	66886	22.81	22.75	
	CA_2A-66A	Band 66	20M	1770	132572	QPSK	1	0	Band 2	20M	1960	900	22.41	22.61	
		Band 2	20M	1880	18900	QPSK	1	0	Band 71	20M	637	68786	22.67	22.75	
	CA_2A-71A	Band 71	20M	683	133322	QPSK	1	0	Band 2	20M	1960	900	22.72	23.45	
		Band 4	20M	1732.5	20175	QPSK	1	0	Band 5	10M	881.5	2525	23.30	22.53	
	CA_4A-5A	Band 5	10M	836.5	20525	QPSK	1	0	Band 4	20M	2132.5	2175	22.34	23.18	
		Band 4	20M	1732.5	20175	QPSK	1	0	Band 7	20M	2655	3100	23.31	22.53	
	CA_4A-7A	Band 7	20M	2535	21100	QPSK	1	0	Band 4	20M	2132.5	2175	23.37	22.96	
		Band 4	20M	1732.5	20175	QPSK	1	0	Band 12	10M	737.5	5095	23.36	22.53	
	CA_4A-12A	Band 12	10M	707.5	23095	QPSK	1	25	Band 4	20M	2132.5	2175	22.56	23.18	
		Band 4	20M	1732.5	20175	QPSK	1	0	Band 13	10M	751	5230	23.36	22.53	
	CA_4A-13A	Band 13	10M	782	23230	QPSK	1	0	Band 4	20M	2132.5	2175	23.22	22.96	
		Band 4	10M	1732.5	20175	QPSK	1	0	Band 17	10M	740	5790	23.34	22.41	
	CA_4A-17A	Band 17	10M	709	23780	QPSK	1	0	Band 4	10M	2132.5	2175	23.45	23.10	
		Band 4	20M	1732.5	20175	QPSK	1	0	Band 29	10M	722.5	9715	23.32	22.53	
	CA_4A-29A	Band 4	20M	1732.5	20175	QPSK	1	0	Band 30	10M	2355	9820	23.35	22.53	
		Band 30	10M	2310	27710	QPSK	1	0	Band 4	20M	2132.5	2175	22.06	22.96	
	CA_2A-71A	Band 4	20M	1732.5	20175	QPSK	1	0	Band 71	20M	637	68786	23.35	22.53	
		Band 71	20M	683	133322	QPSK	1	0	Band 4	10M	2132.5	2175	22.51	23.45	
	CA_5A-7A	Band 5	10M	836.5	20525	QPSK	1	0	Band 7	20M	2655	3100	22.40	23.18	
		Band 7	20M	2535	21100	QPSK	1	0	Band 5	10M	881.5	2525	22.03	22.96	
	CA_5A-66A	Band 5	10M	836.5	20525	QPSK	1	0	Band 66	20M	2155	66886	22.37	23.18	
		Band 66	20M	1770	132572	QPSK	1	0	Band 5	10M	881.5	2525	23.21	22.61	
	CA_7A-12A	Band 7	20M	2535	21100	QPSK	1	0	Band 12	10M	737.5	5095	22.07	22.96	
		Band 12	10M	707.5	23095	QPSK	1	0	Band 7	20M	2655	3100	22.48	23.18	
	CA_7A-66A	Band 7	20M	2535	21100	QPSK	1	0	Band 66	20M	2155	66886	22.02	22.96	
		Band 66	20M	1770	132572	QPSK	1	0	Band 7	20M	2655	3100	23.17	22.61	
	CA_12A-30A	Band 12	10M	707.5	23095	QPSK	1	0	Band 30	10M	2355	9820	22.45	23.18	
		Band 30	10M	2310	27710	QPSK	1	0	Band 12	10M	737.5	5095	22.15	22.96	
	CA_12A-66A	Band 12	10M	707.5	23095	QPSK	1	0	Band 66	20M	2155	66886	22.51	23.18	
		Band 66	20M	1770	132572	QPSK	1	0	Band 12	10M	737.5	5095	23.24	22.61	
	CA_13A-66A	Band 13	10M	782	23230	QPSK	1	0	Band 66	20M	2155	66886	22.16	22.96	
		Band 66	20M	1770	132572	QPSK	1	0	Band 13	10M	751	5230	23.25	22.61	
	CA_14A-30A	Band 14	10M	793	23330	QPSK	1	0	Band 30	10M	2355	9820	22.28	22.77	
		Band 30	10M	2310	27710	QPSK	1	0	Band 12	10M	737.5	5095	22.15	22.96	
	CA_14A-66A	Band 14	10M	793	23330	QPSK	1	0	Band 66	20M	2155	66886	22.30	22.77	
		Band 66	20M	1770	132572	QPSK	1	0	Band 12	10M	737.5	5095	23.23	22.61	
	CA_25A-26A	Band 25	20M	1880	26340	QPSK	1	0	Band 26	15M	876.5	8865	23.39	22.89	
		Band 26	15M	831.5	26865	QPSK	1	37	Band 25	20M	1962.5	8365	23.38	23.18	
	CA_25A-41A	Band 25	20M	1880	26340	QPSK	1	0	Band 41	20M	2593	40620	23.38	22.89	
		Band 41	20M	2549.5	40185	QPSK	1	0	Band 25	20M	1962.5	8365	22.78	22.89	
	CA_26A-41A	Band 26	15M	831.5	26865	QPSK	1	37	Band 41	20M	2593	40620	23.42	23.18	
		Band 41	20M	2549.5	40185	QPSK	1	0	Band 26	15M	876.5	8865	24.21	24.43	
	CA_29A-30A	Band 30	10M	2310	27710	QPSK	1	0	Band 29	10M	722.5	9715	22.15	22.96	
		Band 66	20M	1770	132572	QPSK	1	0	Band 29	10M	722.5	9715	22.81	22.61	
	CA_30A-66A	Band 30	10M	2310	27710	QPSK	1	0	Band 66	20M	2155	66886	22.21	22.96	
		Band 66	20M	1770	132572	QPSK	1	0	Band 30	10M	2355	9820	22.77	22.61	
	CA_71A-66A	Band 71	20M	683	133322	QPSK	1	0	Band 66	20M	2155	66886	23.60	23.45	
		Band 66	20M	1770	132572	QPSK	1	0	Band 71	20M	637	68786	22.82	22.61	
Intra-Band	Contiguous	CA_2C	Band 2	20M	1880	18900	QPSK	1	0	Band 2	20M	1979.8	1098	22.98	22.75
		CA_5B	Band 5	10M	836.5	20525	QPSK	1	0	Band 5	5M	888.7	2597	23.10	23.18
		CA_7C	Band 7	20M	2535	21100	QPSK	1	0	Band 7	20M	2674.8	3298	23.43	22.96
		CA_12B	Band 12	5M	707.5	23095	QPSK	1	0	Band 12	5M	742.3	5143	22.41	22.99
		CA_38C	Band 38	20M	2585.1	37901	QPSK	1	0	Band 38	20M	2604.9	38099	22.52	22.82
		CA_41C	Band 41	20M	2549.5	40185	QPSK	1	0	Band 41	20M	2569.3	40383	24.93	24.43
		CA_66B	Band 66	15M	1772.5	132597	QPSK	1	0	Band 66	5M	2188.2	67218	23.22	22.49
		CA_66C	Band 66	20M	1770	132572	QPSK	1	0	Band 66	20M	2189.8	67234	23.26	22.61
	Non-Contiguous	CA_2A-2A	Band 2	20M	1880	18900	QPSK	1	0	Band 2	5M	1987.5	1175	23.04	22.75
		CA_4A-4A	Band 4	20M	1732.5	20175	QPSK	1	0	Band 4	5M	2152.5	2375	23.33	22.53
CA_7A-7A		Band 7	20M	2535	21100	QPSK	1	0	Band 7	5M	2687.5	3425	23.45	22.96	
CA_25A-25A		Band 25	20M	1880	26340	QPSK	1	0	Band 25	5M	1992.5	8665	23.42	22.89	
	CA_41A-41A	Band 41	20M	2549.5	40185	QPSK	1	0	Band 41	5M	2687.5	41565	24.88	24.43	
	CA_66A-66A	Band 66	20M	1770	132572	QPSK	1	0	Band 66	5M	2112.5	66461	23.27	22.61	

Reduced Power Mode for P-Sensor On																
Configure	CA List	PCC						SCC				Power				
		LTE	BW	UL	UL	Mod.	UL#	UL RB	UL Offset	Band	BW	DL	DL	With CA (dBm)	Without CA (dBm)	
				Freq (MHz)	Channel							Freq (MHz)	Channel			
Inter-Band	CA_2A-4A	Band 2	20M	1880	18900	QPSK	1	0		Band 4	20M	2132.5	2175	16.98	16.60	
	CA_2A-5A	Band 4	20M	1732.5	20175	QPSK	1	0		Band 2	20M	1960	900	16.85	15.99	
		Band 2	20M	1880	18900	QPSK	1	0		Band 5	10M	881.5	2525	16.78	16.60	
	CA_2A-7A	Band 5	10M	836.5	20525	QPSK	1	0		Band 2	20M	1960	900	22.30	23.18	
		Band 2	20M	1880	18900	QPSK	1	0		Band 7	20M	2655	3100	16.77	16.60	
	CA_2A-12A	Band 7	20M	2535	21100	QPSK	1	0		Band 2	20M	1960	900	18.29	19.28	
		Band 2	20M	1880	18900	QPSK	1	0		Band 12	10M	737.5	5095	16.65	16.60	
	CA_2A-13A	Band 12	10M	707.5	23095	QPSK	1	25		Band 2	20M	1960	900	21.94	23.18	
		Band 2	20M	1880	18900	QPSK	1	0		Band 13	10M	751	5230	16.68	16.60	
	CA_2A-14A	Band 13	10M	782	23230	QPSK	1	0		Band 2	20M	1960	900	21.79	22.95	
		Band 2	20M	1880	18900	QPSK	1	0		Band 14	10M	763	5330	16.64	16.60	
	CA_2A-17A	Band 14	10M	793	23330	QPSK	1	0		Band 2	20M	1960	900	22.00	22.77	
		Band 2	10M	1880	18900	QPSK	1	0		Band 17	10M	740	5790	16.86	16.07	
	CA_2A-29A	Band 17	10M	709	23780	QPSK	1	0		Band 2	10M	1960	900	23.41	23.10	
		Band 2	20M	1880	18900	QPSK	1	0		Band 29	10M	722.5	9715	16.65	16.60	
	CA_2A-30A	Band 2	20M	1880	18900	QPSK	1	0		Band 30	10M	2355	9820	16.69	16.60	
		Band 30	10M	2310	27710	QPSK	1	0		Band 2	20M	1960	900	19.84	20.65	
	CA_2A-66A	Band 2	20M	1880	18900	QPSK	1	0		Band 66	20M	2155	6686	16.71	16.60	
		Band 66	20M	1770	132572	QPSK	1	0		Band 2	20M	1960	900	15.97	16.14	
	CA_2A-71A	Band 2	20M	1880	18900	QPSK	1	0		Band 71	20M	637	68786	16.69	16.60	
		Band 71	20M	683	133322	QPSK	1	0		Band 2	20M	1960	900	22.72	23.45	
	CA_4A-5A	Band 4	20M	1732.5	20175	QPSK	1	0		Band 5	10M	881.5	2525	16.82	15.99	
		Band 5	10M	836.5	20525	QPSK	1	0		Band 4	20M	2132.5	2175	22.34	23.18	
	CA_4A-7A	Band 4	20M	1732.5	20175	QPSK	1	0		Band 7	20M	2655	3100	16.85	15.99	
		Band 7	20M	2535	21100	QPSK	1	0		Band 4	20M	2132.5	2175	19.68	19.28	
	CA_4A-12A	Band 4	20M	1732.5	20175	QPSK	1	0		Band 12	10M	737.5	5095	16.86	15.99	
		Band 12	10M	707.5	23095	QPSK	1	25		Band 4	20M	2132.5	2175	22.56	23.18	
	CA_4A-13A	Band 4	20M	1732.5	20175	QPSK	1	0		Band 13	10M	751	5230	16.79	15.99	
		Band 13	10M	782	23230	QPSK	1	0		Band 4	20M	2132.5	2175	23.22	22.95	
	CA_4A-17A	Band 4	10M	1732.5	20175	QPSK	1	0		Band 17	10M	740	5790	16.79	15.60	
		Band 17	10M	709	23780	QPSK	1	0		Band 4	10M	2132.5	2175	23.45	23.10	
	CA_4A-29A	Band 4	20M	1732.5	20175	QPSK	1	0		Band 29	10M	722.5	9715	16.88	15.99	
		Band 4	20M	1732.5	20175	QPSK	1	0		Band 30	10M	2355	9820	16.82	15.99	
	CA_4A-30A	Band 4	20M	1732.5	20175	QPSK	1	0		Band 30	10M	2355	9820	16.82	15.99	
		Band 30	10M	2310	27710	QPSK	1	0		Band 4	20M	2132.5	2175	19.88	20.65	
	CA_2A-71A	Band 4	20M	1732.5	20175	QPSK	1	0		Band 71	20M	637	68786	16.84	15.99	
		Band 71	20M	683	133322	QPSK	1	0		Band 4	10M	2132.5	2175	22.51	23.45	
	CA_5A-7A	Band 5	10M	836.5	20525	QPSK	1	0		Band 7	20M	2655	3100	22.40	23.18	
		Band 7	20M	2535	21100	QPSK	1	0		Band 5	10M	881.5	2525	18.16	19.28	
	CA_5A-66A	Band 5	10M	836.5	20525	QPSK	1	0		Band 66	20M	2155	6686	22.37	23.18	
		Band 66	20M	1770	132572	QPSK	1	0		Band 5	10M	881.5	2525	16.77	16.14	
	CA_7A-12A	Band 7	20M	2535	21100	QPSK	1	0		Band 12	10M	737.5	5095	18.16	19.28	
		Band 12	10M	707.5	23095	QPSK	1	0		Band 7	20M	2655	3100	22.48	23.18	
	CA_7A-66A	Band 7	20M	2535	21100	QPSK	1	0		Band 66	20M	2155	6686	18.19	19.28	
		Band 66	20M	1770	132572	QPSK	1	0		Band 7	20M	2655	3100	17.02	16.14	
	CA_12A-30A	Band 12	10M	707.5	23095	QPSK	1	0		Band 30	10M	2355	9820	22.45	23.18	
		Band 30	10M	2310	27710	QPSK	1	0		Band 12	10M	737.5	5095	20.16	20.65	
	CA_12A-66A	Band 12	10M	707.5	23095	QPSK	1	0		Band 66	20M	2155	6686	22.51	23.18	
		Band 66	20M	1770	132572	QPSK	1	0		Band 12	10M	737.5	5095	16.84	16.14	
	CA_13A-66A	Band 13	10M	782	23230	QPSK	1	0		Band 66	20M	2155	6686	22.16	22.95	
		Band 66	20M	1770	132572	QPSK	1	0		Band 13	10M	751	5230	16.75	16.14	
	CA_14A-30A	Band 14	10M	793	23330	QPSK	1	0		Band 30	10M	2355	9820	22.28	22.77	
		Band 30	10M	2310	27710	QPSK	1	0		Band 12	10M	737.5	5095	20.19	20.65	
	CA_14A-66A	Band 14	10M	793	23330	QPSK	1	0		Band 66	20M	2155	6686	22.30	22.77	
		Band 66	20M	1770	132572	QPSK	1	0		Band 12	10M	737.5	5095	16.68	16.14	
	CA_25A-26A	Band 25	20M	1880	26340	QPSK	1	0		Band 26	15M	876.5	8865	17.24	16.64	
		Band 26	15M	831.5	26865	QPSK	1	37		Band 25	20M	1962.5	8365	23.38	23.18	
	CA_25A-41A	Band 25	20M	1880	26340	QPSK	1	0		Band 41	20M	2593	40620	17.03	16.64	
		Band 41	20M	2549.5	40185	QPSK	1	0		Band 25	20M	1962.5	8365	24.23	24.43	
	CA_26A-41A	Band 26	15M	831.5	26865	QPSK	1	37		Band 41	20M	2593	40620	23.42	23.18	
		Band 41	20M	2549.5	40185	QPSK	1	0		Band 26	15M	876.5	8865	23.21	24.43	
	CA_29A-30A	Band 30	10M	2310	27710	QPSK	1	0		Band 29	10M	722.5	9715	19.87	20.65	
		Band 66	20M	1770	132572	QPSK	1	0		Band 29	10M	722.5	9715	16.77	16.14	
	CA_30A-66A	Band 30	10M	2310	27710	QPSK	1	0		Band 66	20M	2155	6686	19.88	20.65	
		Band 66	20M	1770	132572	QPSK	1	0		Band 30	10M	2355	9820	16.78	16.14	
	CA_71A-66A	Band 71	20M	683	133322	QPSK	1	0		Band 66	20M	2155	6686	23.60	23.45	
		Band 66	20M	1770	132572	QPSK	1	0		Band 71	20M	637	68786	22.82	22.61	
Intra-Band	Contiguous	CA_2C	Band 2	20M	1880	18900	QPSK	1	0		Band 2	20M	1979.8	1098	16.85	16.60
		CA_5B	Band 5	10M	836.5	20525	QPSK	1	0		Band 5	5M	888.7	2597	22.38	23.18
		CA_7C	Band 7	20M	2535	21100	QPSK	1	0		Band 7	20M	2674.8	3298	19.69	19.28
		CA_12B	Band 12	5M	707.5	23095	QPSK	1	0		Band 12	5M	742.3	5143	22.41	22.99
		CA_38C	Band 38	20M	2585.1	37901	QPSK	1	0		Band 38	20M	2604.9	38099	22.52	22.82
		CA_41C	Band 41	20M	2549.5	40185	QPSK	1	0		Band 41	20M	2569.3	40383	24.93	24.43
		CA_66B	Band 66	15M	1772.5	132597	QPSK	1	0		Band 66	5M	2188.2	67218	16.06	15.62
		CA_66C	Band 66	20M	1770	132572	QPSK	1	0		Band 66	20M	2189.8	67234	16.62	16.14
		CA_2A-2A	Band 2	20M	1880	18900	QPSK	1	0		Band 2	5M	1987.5	1175	16.86	16.60
		CA_4A-4A	Band 4	20M	1732.5	20175	QPSK	1	0		Band 4	5M	2152.5	2375	16.83	15.99
	Non-Contiguous	CA_7A-7A	Band 7	20M	2535	21100	QPSK	1	0		Band 7	5M	2687.5	3425	19.68	19.28
		CA_25A-25A	Band 25	20M	1880	26340	QPSK	1	0		Band 25	5M	1992.5	8665	17.21	16.64
		CA_41A-41A	Band 41	20M	2549.5	40185	QPSK	1	0		Band 41	5M	2687.5	41565	24.88	24.43
		CA_66A-66A	Band 66	20M	1770	132572	QPSK	1	0		Band 66	5M	2112.5	66461	16.68	16.14

Reduced Power for Hotspot On

Configure		CA List	PCC						SCC				Power		
			LTE	BW	UL	UL	UL#	UL	LTE	BW	DL	DL	With CA	Without CA	
			Band	(MHz)	Freq (MHz)	Channel	Mod.	RB	RB Offset	Band	(MHz)	Freq (MHz)	Channel	Tx. Power (dBm)	Tx. Power (dBm)
Inter-Band		CA_2A-4A	Band 2	20M	1880	18900	QPSK	1	0	Band 4	20M	2132.5	2175	13.78	13.61
		CA_2A-5A	Band 4	20M	1732.5	20175	QPSK	1	0	Band 2	20M	1960	900	15.64	15.00
			Band 2	20M	1880	18900	QPSK	1	0	Band 5	10M	881.5	2525	13.77	13.61
		CA_2A-7A	Band 5	10M	836.5	20525	QPSK	1	0	Band 2	20M	1960	900	22.30	23.18
			Band 2	20M	1880	18900	QPSK	1	0	Band 7	20M	2655	3100	13.82	13.61
		CA_2A-12A	Band 7	20M	2535	21100	QPSK	1	0	Band 2	20M	1960	900	16.34	19.28
			Band 2	20M	1880	18900	QPSK	1	0	Band 12	10M	737.5	5095	13.77	13.61
		CA_2A-13A	Band 12	10M	707.5	23095	QPSK	1	25	Band 2	20M	1960	900	21.94	23.18
			Band 2	20M	1880	18900	QPSK	1	0	Band 13	10M	751	5230	13.68	13.61
		CA_2A-14A	Band 13	10M	782	23230	QPSK	1	0	Band 2	20M	1960	900	21.79	22.95
			Band 2	20M	1880	18900	QPSK	1	0	Band 14	10M	763	5330	13.73	13.61
		CA_2A-17A	Band 14	10M	793	23330	QPSK	1	0	Band 2	20M	1960	900	22.00	22.77
			Band 2	10M	1880	18900	QPSK	1	0	Band 17	10M	740	5790	13.53	13.21
		CA_2A-29A	Band 17	10M	709	23780	QPSK	1	0	Band 2	10M	1960	900	23.41	23.10
			Band 2	20M	1880	18900	QPSK	1	0	Band 29	10M	722.5	9715	13.68	13.61
		CA_2A-30A	Band 2	20M	1880	18900	QPSK	1	0	Band 30	10M	2355	9820	13.73	13.61
			Band 30	10M	2310	27710	QPSK	1	0	Band 2	20M	1960	900	19.86	20.65
		CA_2A-66A	Band 2	20M	1880	18900	QPSK	1	0	Band 66	20M	2155	6686	13.72	13.61
			Band 66	20M	1770	132572	QPSK	1	0	Band 2	20M	1960	900	15.81	15.09
		CA_2A-71A	Band 2	20M	1880	18900	QPSK	1	0	Band 71	20M	637	68786	13.66	13.61
			Band 71	20M	683	133322	QPSK	1	0	Band 2	20M	1960	900	22.72	23.45
		CA_4A-5A	Band 4	20M	1732.5	20175	QPSK	1	0	Band 5	10M	881.5	2525	15.70	15.00
			Band 5	10M	836.5	20525	QPSK	1	0	Band 4	20M	2132.5	2175	22.34	23.18
		CA_4A-7A	Band 4	20M	1732.5	20175	QPSK	1	0	Band 7	20M	2655	3100	15.73	15.00
			Band 7	20M	2535	21100	QPSK	1	0	Band 4	20M	2132.5	2175	19.67	19.28
		CA_4A-12A	Band 4	20M	1732.5	20175	QPSK	1	0	Band 12	10M	737.5	5095	15.72	15.00
			Band 12	10M	707.5	23095	QPSK	1	25	Band 4	20M	2132.5	2175	22.56	23.18
		CA_4A-13A	Band 4	20M	1732.5	20175	QPSK	1	0	Band 13	10M	751	5230	15.60	15.00
			Band 13	10M	782	23230	QPSK	1	0	Band 4	20M	2132.5	2175	23.22	22.95
		CA_4A-17A	Band 4	10M	1732.5	20175	QPSK	1	0	Band 17	10M	740	5790	15.81	15.00
			Band 17	10M	709	23780	QPSK	1	0	Band 4	10M	2132.5	2175	23.45	23.10
		CA_4A-29A	Band 4	20M	1732.5	20175	QPSK	1	0	Band 29	10M	722.5	9715	15.68	15.00
			Band 4	20M	1732.5	20175	QPSK	1	0	Band 30	10M	2355	9820	15.69	15.00
		CA_4A-30A	Band 4	20M	1732.5	20175	QPSK	1	0	Band 4	20M	2132.5	2175	19.78	20.65
			Band 30	10M	2310	27710	QPSK	1	0	Band 71	20M	637	68786	15.74	15.00
		CA_5A-7A	Band 71	20M	683	133322	QPSK	1	0	Band 4	10M	2132.5	2175	22.51	23.45
			Band 5	10M	836.5	20525	QPSK	1	0	Band 7	20M	2655	3100	22.40	23.18
		CA_5A-66A	Band 7	20M	2535	21100	QPSK	1	0	Band 5	10M	881.5	2525	18.42	19.28
			Band 5	10M	836.5	20525	QPSK	1	0	Band 66	20M	2155	6686	22.37	23.18
		CA_7A-12A	Band 66	20M	1770	132572	QPSK	1	0	Band 5	10M	881.5	2525	15.68	15.09
			Band 7	20M	2535	21100	QPSK	1	0	Band 12	10M	737.5	5095	18.43	19.28
		CA_7A-66A	Band 12	10M	707.5	23095	QPSK	1	0	Band 7	20M	2655	3100	22.48	23.18
			Band 7	20M	2535	21100	QPSK	1	0	Band 66	20M	2155	6686	18.39	19.28
		CA_12A-30A	Band 66	20M	1770	132572	QPSK	1	0	Band 7	20M	2655	3100	15.79	15.09
			Band 12	10M	707.5	23095	QPSK	1	0	Band 30	10M	2355	9820	22.45	23.18
		CA_12A-66A	Band 30	10M	2310	27710	QPSK	1	0	Band 12	10M	737.5	5095	19.88	20.65
			Band 12	10M	707.5	23095	QPSK	1	0	Band 66	20M	2155	6686	22.51	23.18
		CA_13A-66A	Band 66	20M	1770	132572	QPSK	1	0	Band 12	10M	737.5	5095	15.79	15.09
			Band 13	10M	782	23230	QPSK	1	0	Band 66	20M	2155	6686	22.16	22.95
		CA_14A-30A	Band 66	20M	1770	132572	QPSK	1	0	Band 13	10M	751	5230	15.82	15.09
			Band 14	10M	793	23330	QPSK	1	0	Band 30	10M	2355	9820	22.28	22.77
		CA_14A-66A	Band 30	10M	2310	27710	QPSK	1	0	Band 12	10M	737.5	5095	19.88	20.65
			Band 14	10M	793	23330	QPSK	1	0	Band 66	20M	2155	6686	22.30	22.77
		CA_25A-26A	Band 66	20M	1770	132572	QPSK	1	0	Band 12	10M	737.5	5095	15.82	15.09
			Band 25	20M	1880	26340	QPSK	1	0	Band 26	15M	876.5	8865	14.02	13.65
		CA_25A-41A	Band 26	15M	831.5	26865	QPSK	1	37	Band 25	20M	1962.5	8365	23.38	23.18
			Band 25	20M	1880	26340	QPSK	1	0	Band 41	20M	2593	40620	14.03	13.65
		CA_26A-41A	Band 41	20M	2549.5	40185	QPSK	1	0	Band 25	20M	1962.5	8365	24.31	24.43
			Band 26	15M	831.5	26865	QPSK	1	37	Band 41	20M	2593	40620	23.42	23.18
		CA_29A-30A	Band 41	20M	2549.5	40185	QPSK	1	0	Band 26	15M	876.5	8865	24.22	24.43
			Band 30	10M	2310	27710	QPSK	1	0	Band 29	10M	722.5	9715	19.79	20.65
		CA_29A-66A	Band 66	20M	1770	132572	QPSK	1	0	Band 29	10M	722.5	9715	15.32	15.09
			Band 30	10M	2310	27710	QPSK	1	0	Band 66	20M	2155	6686	19.83	20.65
		CA_30A-66A	Band 66	20M	1770	132572	QPSK	1	0	Band 30	10M	2355	9820	15.34	15.09
			Band 71	20M	683	133322	QPSK	1	0	Band 66	20M	2155	6686	23.60	23.45
		CA_71A-66A	Band 66	20M	1770	132572	QPSK	1	0	Band 71	20M	637	68786	15.42	15.09
Intra-Band	Contiguous	CA_2C	Band 2	20M	1880	18900	QPSK	1	0	Band 2	20M	1979.8	1098	13.66	13.61
		CA_5B	Band 5	10M	836.5	20525	QPSK	1	0	Band 5	5M	888.7	2597	22.38	23.18
		CA_7C	Band 7	20M	2535	21100	QPSK	1	0	Band 7	20M	2674.8	3298	19.32	19.28
		CA_12B	Band 12	5M	707.5	23095	QPSK	1	0	Band 12	5M	742.3	5143	22.41	22.99
		CA_38C	Band 38	20M	2585.1	37901	QPSK	1	0	Band 38	20M	2604.9	38099	22.52	22.82
		CA_41C	Band 41	20M	2549.5	40185	QPSK	1	0	Band 41	20M	2569.3	40383	24.93	24.43
		CA_66B	Band 66	15M	1772.5	132597	QPSK	1	0	Band 66	5M	2188.2	67218	15.23	14.87
		CA_66C	Band 66	20M	1770	132572	QPSK	1	0	Band 66	20M	2189.8	67234	15.43	15.09
	Non-Contiguous	CA_2A-2A	Band 2	20M	1880	18900	QPSK	1	0	Band 2	5M	1987.5	1175	13.85	13.61
		CA_4A-4A	Band 4	20M	1732.5	20175	QPSK	1	0	Band 4	5M	2152.5	2375	15.68	15.00
		CA_7A-7A	Band 7	20M	2535	21100	QPSK	1	0	Band 7	5M	2687.5	3425	19.80	19.28
		CA_25A-25A	Band 25	20M	1880	26340	QPSK	1	0	Band 25	5M	1992.5	8665	14.03	13.65
		CA_41A-41A	Band 41	20M	2549.5	40185	QPSK	1	0	Band 41	5M	2687.5	41565	24.88	24.43
		CA_66A-66A	Band 66	20M	1770	132572	QPSK	1	0	Band 66	5M	2112.5	66461	15.77	15.09

2.4GHz WLAN		Full Power (Head SARA Handheld)					
Model	Channel	Frequency (MHz)	Average power (dBm)		Tx Power Limit	Power Setting	Duty Cycle %
			1	2			
2.4GHz WLAN	R02 T16 16MHz	1	24.02	20.13	21.00	18.00	86.07
		6	24.02	20.06	21.00	18.00	
		11	24.02	20.09	21.00	18.00	
	R02 T16 16MHz	1	24.01	17.04	18.00	15.00	87.46
		6	24.02	16.99	17.00	14.00	
		11	24.01	17.01	18.00	15.00	
	R02 T16 16MHz	1	24.01	17.01	18.00	15.00	87.46
		6	24.02	16.99	17.00	14.00	
		11	24.01	17.01	18.00	15.00	
	R02 T16 16MHz	1	24.01	16.99	17.00	14.00	87.46

5GHz WLAN		Full Power (Head SARA Handheld)					
Model	Channel	Frequency (MHz)	Average power (dBm)		Tx Power Limit	Power Setting	Duty Cycle %
			1	2			
5.0GHz WLAN	R02 T16 16MHz	36	24.00	18.36	20.00	18.00	87.46
		40	24.00	18.36	20.00	18.00	
		44	24.00	18.26	20.00	18.00	
	R02 T16 16MHz	36	24.00	18.21	20.00	18.00	87.30
		40	24.00	18.29	20.00	18.00	
		44	24.00	18.17	20.00	18.00	
	R02 T16 16MHz	36	24.00	18.21	17.00	16.00	86.68
		40	24.00	18.32	17.00	16.00	
		44	24.00	18.16	17.00	16.00	
	R02 T16 16MHz	36	24.00	18.13	20.00	18.00	87.31

5GHz WLAN		Full Power (Head SARA Handheld)					
Model	Channel	Frequency (MHz)	Average power (dBm)		Tx Power Limit	Power Setting	Duty Cycle %
			1	2			
5.0GHz WLAN	R02 T16 16MHz	36	24.00	18.27	20.00	18.00	87.46
		40	24.00	17.94	20.00	18.00	
		44	24.00	18.33	20.00	18.00	
	R02 T16 16MHz	36	24.00	18.13	20.00	18.00	87.30
		40	24.00	18.13	20.00	18.00	
		44	24.00	18.29	20.00	18.00	
	R02 T16 16MHz	36	24.00	18.29	20.00	18.00	86.68
		40	24.00	18.29	17.00	16.00	
		44	24.00	18.31	20.00	18.00	
	R02 T16 16MHz	36	24.00	18.29	17.00	16.00	86.70

5GHz WLAN		Full Power (Head SARA Handheld)					
Model	Channel	Frequency (MHz)	Average power (dBm)		Tx Power Limit	Power Setting	Duty Cycle %
			1	2			
5.0GHz WLAN	R02 T16 16MHz	36	24.00	17.76	18.00	15.00	87.46
		40	24.00	17.27	18.00	15.00	
		44	24.00	17.93	18.00	15.00	
	R02 T16 16MHz	36	24.00	17.76	18.00	15.00	87.30
		40	24.00	17.71	18.00	15.00	
		44	24.00	17.89	18.00	15.00	
	R02 T16 16MHz	36	24.00	18.26	20.00	18.00	86.68
		40	24.00	18.26	17.00	16.00	
		44	24.00	18.27	17.00	16.00	
	R02 T16 16MHz	36	24.00	18.16	20.00	18.00	87.31

5GHz WLAN		Full Power (Head SARA Handheld)					
Model	Channel	Frequency (MHz)	Average power (dBm)		Tx Power Limit	Power Setting	Duty Cycle %
			1	2			
5.0GHz WLAN	R02 T16 16MHz	36	24.00	17.76	18.00	15.00	87.46
		40	24.00	17.27	18.00	15.00	
		44	24.00	17.93	18.00	15.00	
	R02 T16 16MHz	36	24.00	17.76	18.00	15.00	87.30
		40	24.00	17.76	18.00	15.00	
		44	24.00	17.89	18.00	15.00	
	R02 T16 16MHz	36	24.00	18.26	17.00	16.00	86.68
		40	24.00	18.27	17.00	16.00	
		44	24.00	18.31	17.00	16.00	
	R02 T16 16MHz	36	24.00	18.26	17.00	16.00	86.70

Bluetooth BR/EDR					
Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH36	2402	8.37	6.20	6.62
	CH38	2461	8.05	5.51	5.76
	CH76	2480	8.87	6.67	6.57
Tx Power Limit			10		

Bluetooth LE v4.0			
Mode	Channel	Frequency (MHz)	Average power (dBm)
LE	Ch 36	2402	GP5A
	Ch 39	2440	3.02
	Ch 40	2460	3.02
Tx Power Limit			0

Bluetooth LE v5.0			
Mode	Channel	Frequency (MHz)	Average power (dBm)
LE	CH 36	2402	3.05
	CH 38	2440	3.51
	CH 39	2480	4.27
Tx Power Limit			4.00

2.4GHz WLAN		for Head						
	Module	Channel	Frequency (MHz)	Average power (dBm)		TxPower Limit	Power Setting	Duty Cycle
				1	2			
2.4GHz WLAN	R02 T16 16MHz	1	2412	18.26	17.00	15.00	86.07	
		6	2407	18.26	17.00	15.00		
		11	2412	18.20	17.00	15.00		
	R02 T16 16MHz	1	2412	16.99	17.00	15.00	87.48	
		6	2407	16.90	17.00	15.00		
		11	2402	16.93	17.00	15.00		
R02 T16A2(2) M200	1	2412	16.98	17.00	15.00	87.28		
	6	2407	16.90	17.00	15.00			
		11	2402	16.94	17.00	15.00		



Appendix F. Supplemental Tuner Head & Body SAR Results

The results are shown as follows.

Head																					
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
									Auto-Tune	0	13	26	39	52	65	78	91	104	117	130	143
WCDMA V	RMC 12.2Kbps	4233	846.6	N/A	N/A	Right Cheek	0mm	0.486	0.607	0.021	0.152	0.263	0.388	0.157	0.435	0.081	0.278	0.158	0.080	0.165	0.125
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
									Auto-Tune	1	14	27	40	53	66	79	92	105	118	131	
WCDMA IV	RMC 12.2Kbps	1312	1712.4	N/A	N/A	Right Cheek	0mm	0.132	0.199	0.076	0.115	0.106	0.051	0.106	0.117	0.049	0.038	0.022	0.053	0.032	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
									Auto-Tune	2	15	28	41	54	67	80	93	106	119	132	
WCDMA II	RMC 12.2Kbps	9400	1880	N/A	N/A	Left Cheek	0mm	0.108	0.152	0.037	0.049	0.060	0.016	0.029	0.040	0.069	0.034	0.021	0.072	0.054	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
									Auto-Tune	3	16	29	42	55	68	81	94	107	120	133	
CDMA2000 BC10	RC3 SO55	476	817.9	N/A	N/A	Right Cheek	0mm	0.451	0.564	0.099	0.267	0.386	0.064	0.301	0.176	0.134	0.140	0.052	0.140	0.104	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
									Auto-Tune	4	17	30	43	56	69	82	95	108	121	134	
CDMA2000 BC0	RC3 SO55	777	848.31	N/A	N/A	Right Cheek	0mm	0.484	0.602	0.125	0.348	0.534	0.128	0.390	0.303	0.450	0.146	0.111	0.360	0.311	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
									Auto-Tune	5	18	31	44	57	70	83	96	109	122	135	
CDMA2000 BC1	RC3 SO55	600	1880	N/A	N/A	Left Cheek	0mm	0.087	0.116	0.037	0.052	0.065	0.022	0.033	0.064	0.016	0.058	0.079	0.029	0.031	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
									Auto-Tune	6	19	32	45	58	71	84	97	110	123	136	
LTE Band 12	QPSK	23095	707.5	1	25	Left Cheek	0mm	0.281	0.327	0.181	0.215	0.003	0.173	0.189	0.042	0.113	0.069	0.056	0.045	0.041	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
									Auto-Tune	7	20	33	46	59	72	85	98	111	124	137	
LTE Band 13	QPSK	23230	782	1	0	Right Cheek	0mm	0.383	0.457	0.199	0.279	0.100	0.210	0.275	0.412	0.091	0.100	0.096	0.229	0.212	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
									Auto-Tune	8	21	34	47	60	73	86	99	112	125	138	
LTE Band 14	QPSK	23330	793	1	0	Right Cheek	0mm	0.36	0.438	0.185	0.253	0.217	0.209	0.133	0.274	0.080	0.075	0.099	0.116	0.118	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
									Auto-Tune	9	22	35	48	61	74	87	100	113	126	139	
LTE Band 71	QPSK	133322	683	1	0	Right Cheek	0mm	0.305	0.353	0.171	0.162	0.024	0.160	0.005	0.061	0.105	0.013	0.035	0.045	0.051	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
									Auto-Tune	10	23	36	49	62	75	88	101	114	127	140	
LTE Band 26	QPSK	26865	831.5	1	37	Right Cheek	0mm	0.412	0.515	0.262	0.368	0.338	0.351	0.251	0.244	0.110	0.061	0.007	0.117	0.223	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
									Auto-Tune	11	24	37	50	63	76	89	102	115	128	141	
LTE Band 66	QPSK	132072	1720	1	0	Right Cheek	0mm	0.125	0.190	0.033	0.042	0.026	0.030	0.042	0.009	0.012	0.007	0.014	0.114	0.112	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
									Auto-Tune	12	25	38	51	64	77	90	103	116	129	142	
LTE Band 25	QPSK	26340	1880	1	0	Left Cheek	0mm	0.113	0.159	0.005	0.007	0.008	0.009	0.009	0.010	0.010	0.008	0.009	0.011	0.019	

Body																					
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
WCDMA V	RMC 12.2Kbps	4233	846.6	N/A	N/A	Front	5mm	1.08	Auto-Tune	0	13	26	39	52	65	78	91	104	117	130	143
									1.730	0.054	0.190	0.244	1.155	1.208	0.258	1.228	0.097	0.473	0.302	0.966	0.575
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
WCDMA IV	RMC 12.2Kbps	1413	1732.6	N/A	N/A	Bottom Side	5mm	1.17	Auto-Tune	1	14	27	40	53	66	79	92	105	118	131	
									1.530	0.975	1.342	1.290	0.890	1.099	1.466	1.171	0.466	0.419	0.787	0.573	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
WCDMA II	RMC 12.2Kbps	9400	1880	N/A	N/A	Back	5mm	1.17	Auto-Tune	2	15	28	41	54	67	80	93	106	119	132	
									1.330	0.812	1.076	1.285	1.293	0.536	0.856	1.280	0.957	0.965	1.330	0.888	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
CDMA2000 BC10	RC3 SO32 (F+SCH)	580	820.5	N/A	N/A	Front	5mm	1.15	Auto-Tune	3	16	29	42	55	68	81	94	107	120	133	
									1.900	0.230	0.559	0.894	0.085	0.253	1.021	0.016	0.175	0.090	0.408	0.342	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
CDMA2000 BC0	RC3 SO32 (F+SCH)	777	848.31	N/A	N/A	Back With Headset	5mm	1.05	Auto-Tune	4	17	30	43	56	69	82	95	108	121	134	
									1.290	0.252	0.591	0.970	0.050	0.343	0.990	0.044	0.413	0.062	1.191	0.524	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
CDMA2000 BC1	RTAP 153.6Kbps	600	1880	N/A	N/A	Bottom Side	5mm	0.954	Auto-Tune	5	18	31	44	57	70	83	96	109	122	135	
									1.280	0.763	0.983	1.129	0.381	0.634	0.849	0.790	0.861	0.420	0.305	0.945	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
LTE Band 12	QPSK	23095	707.5	1	25	Front	5mm	0.825	Auto-Tune	6	19	32	45	58	71	84	97	110	123	136	
									1.370	0.410	0.531	0.431	0.399	0.475	0.419	0.182	0.180	0.143	0.141	0.102	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
LTE Band 13	QPSK	23230	782	1	0	Front	5mm	0.972	Auto-Tune	7	20	33	46	59	72	85	98	111	124	137	
									1.630	0.485	0.689	0.592	0.254	0.651	0.588	0.191	0.268	0.274	0.153	0.103	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
LTE Band 14	QPSK	23330	793	1	0	Front	5mm	0.87	Auto-Tune	8	21	34	47	60	73	86	99	112	125	138	
									1.470	0.492	0.695	0.750	0.564	0.428	0.804	0.203	0.253	0.297	0.341	0.112	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
LTE Band 71	QPSK	133322	683	1	0	Back	5mm	0.582	Auto-Tune	9	22	35	48	61	74	87	100	113	126	139	
									0.981	0.355	0.371	0.241	0.346	0.111	0.231	0.346	0.028	0.185	0.205	0.211	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
LTE Band 26	QPSK	26865	831.5	1	37	Front	5mm	1.13	Auto-Tune	10	23	36	49	62	75	88	101	114	127	140	
									1.810	1.081	1.212	1.018	0.815	1.167	1.187	1.059	0.232	0.018	0.347	0.535	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
LTE Band 66	QPSK	132322	1745	50	0	Bottom Side	5mm	1.18	Auto-Tune	11	24	37	50	63	76	89	102	115	128	141	
									1.560	1.508	1.388	0.920	1.234	1.414	1.215	0.284	0.394	0.625	0.604	0.389	
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)												
LTE Band 25	QPSK	26340	1880	50	0	Back	5mm	0.988	Auto-Tune	12	25	38	51	64	77	90	103	116	129	142	
									1.570	0.875	0.894	1.503	0.451	0.564	1.094	0.335	0.720	1.183	1.145	0.733	

Body																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR	Average Value of Time Sweep (W/kg)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
WCDMA V	RMC 12.2Kbps	4233	846.6	N/A	N/A	Front	5mm	1.08	1.730	Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
										0.054	0.090	0.179	0.328	0.471	0.586	0.518	0.215	0.7	1	0.901	1.005	1.252	1.34	1.08	0.978	0.647	0.474	0.347	0.274	0.214	0.167	0.124	0.091	0.074	0.061	0.054	0.047	0.041	0.035																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
										21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
										1.034	1.064	1.135	1.403	0.158	0.244	0.332	0.583	0.721	1.036	1.180	1.240	1.386	0.266	0.523	0.639	0.977	1.050	1.155	1.209	1.229	1.236	0.057	0.094	0.137	0.286	0.512	0.637	0.774	0.890	0.967	1.208	0.088	0.142	0.200	0.387	0.567	0.866	1.011	1.100	1.186																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
										63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200																																																																																																																																																																																																																																																																																																																																																																																																																																						
										1.376	0.169	0.258	0.600	0.877	0.987	1.065	1.186	1.241	1.396	0.284	0.418	0.643	0.967	1.076	1.228	1.504	1.263	0.012	0.043	0.123	0.213	0.288	0.448	0.519	1.140	0.017	0.044	0.097	0.157	0.260	0.325	0.388	0.444	0.513	0.936	0.026	0.096	0.151	0.338	0.443	0.473	0.505	0.525	0.709	0.040	0.074	0.151	0.497	0.491	0.511	0.557	0.013	0.130	0.273	0.302	0.358	0.428	0.538	1.146	0.018	0.031	0.064	0.146	0.278	0.313	0.450	0.538	0.966	0.028	0.028	0.288	0.492	0.547	0.734	0.119	0.239	0.307	0.464	0.509	0.532	0.575	0.613	0.632	0.646	0.653	0.680	0.573	0.558	0.547	0.537	0.534	0.531	0.625	0.514	0.478	0.436	0.418	0.409	0.393																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
										1.522	1.464	1.480	1.466	1.450	1.446	1.436	1.434	1.422	1.410	1.330	1.152	1.355	1.302	1.260	1.076	1.171	1.125	0.241	0.405	0.524	0.586	0.606	0.639	0.654	0.670	0.686	0.699	0.702	0.717	0.734	0.751	0.768	0.784	0.798	0.811	0.827	0.841	0.854	0.867	0.879	0.891	0.902	0.912	0.921	0.929	0.936	0.942	0.947	0.951	0.954	0.957	0.959	0.961	0.962	0.963	0.964	0.965	0.966	0.967	0.968	0.969	0.970	0.971	0.972	0.973	0.974	0.975	0.976	0.977	0.978	0.979	0.980	0.981	0.982	0.983	0.984	0.985	0.986	0.987	0.988	0.989	0.990	0.991	0.992	0.993	0.994	0.995	0.996	0.997	0.998	0.999	1.000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
										1.041	1.036	1.025	1.009	1.041	1.177	1.240	1.285	1.282	1.266	1.256	1.245	1.248	1.288	1.302	1.311	1.325	1.314	1.323	1.311	1.293	1.278	1.264	1.250	1.236	1.222	1.208	1.194	1.180	1.166	1.152	1.138	1.124	1.110	1.096	1.082	1.068	1.054	1.040	1.026	1.012	0.998	0.984	0.970	0.956	0.942	0.928	0.914	0.900	0.886	0.872	0.858	0.844	0.830	0.816	0.802	0.788	0.774	0.760	0.746	0.732	0.718	0.704	0.690	0.676	0.662	0.648	0.634	0.620	0.606	0.592	0.578	0.564	0.550	0.536	0.522	0.508	0.494	0.480	0.466	0.452	0.438	0.424	0.410	0.396	0.382	0.368	0.354	0.340	0.326	0.312	0.298	0.284	0.270	0.256	0.242	0.228	0.214	0.200	0.186	0.172	0.158	0.144	0.130	0.116	0.102	0.088	0.074	0.060	0.046	0.032	0.018	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00