

DASY5 Validation Report for Head TSL

Date: 29.04.2019

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 3500 MHz; Type: D3500V2; Serial: D3500V2 - SN:1076

Communication System: UID 0 - CW; Frequency: 3500 MHz

Medium parameters used: $f = 3500$ MHz; $\sigma = 2.9$ S/m; $\epsilon_r = 37.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(7.75, 7.75, 7.75) @ 3500 MHz; Calibrated: 25.03.2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.10.2018
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

Dipole Calibration for Head Tissue/Pin=100 mW, d=10mm/Zoom Scan, dist=1.4mm

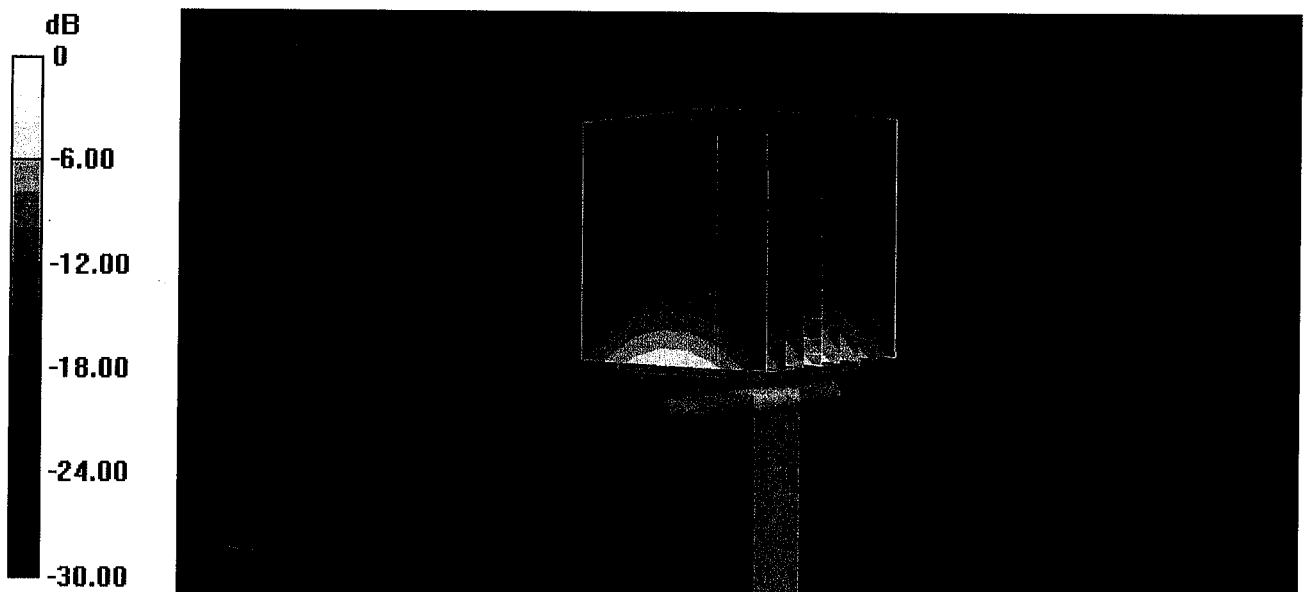
(8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 72.24 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 18.6 W/kg

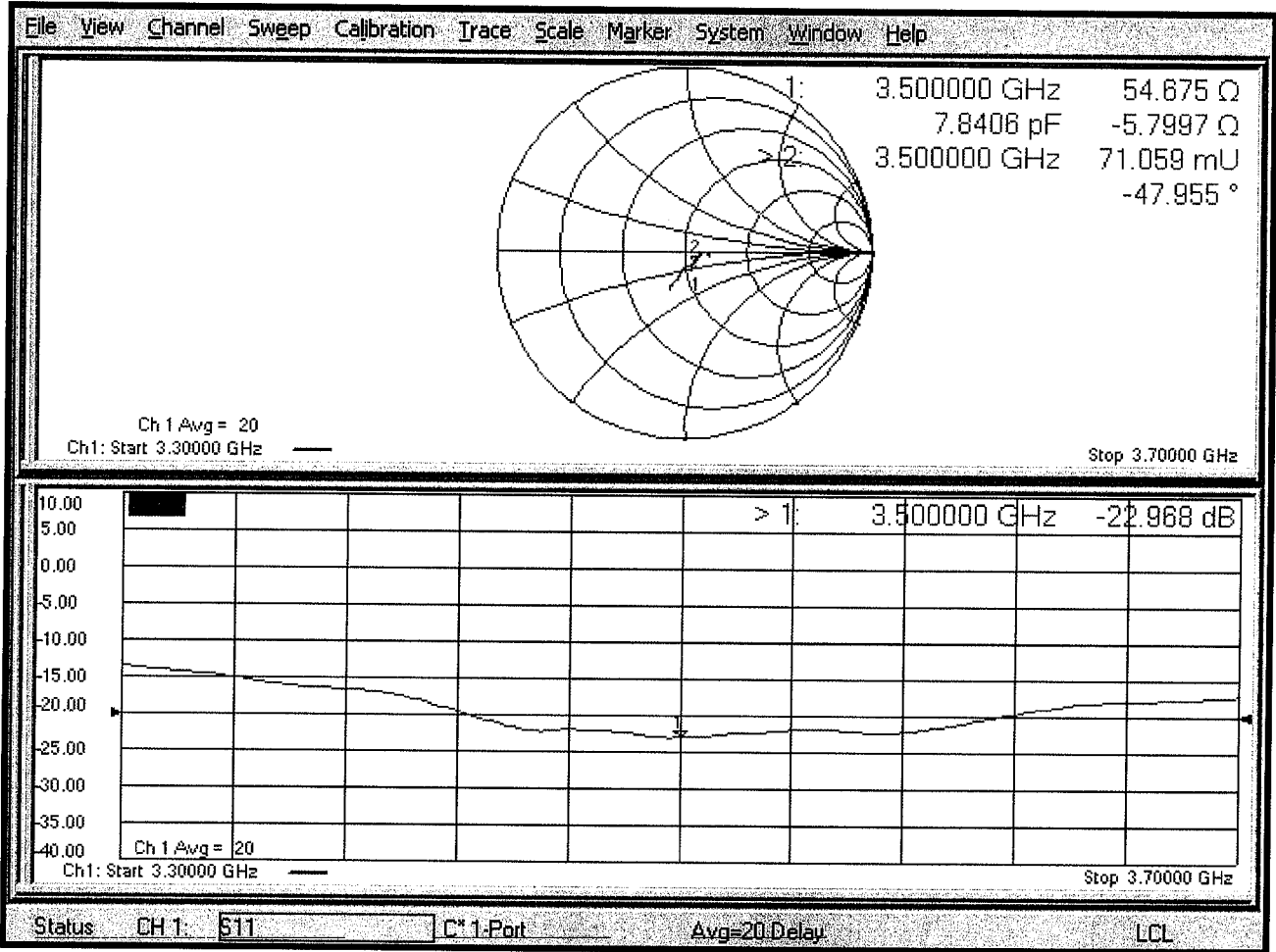
SAR(1 g) = 6.8 W/kg; SAR(10 g) = 2.54 W/kg

Maximum value of SAR (measured) = 12.8 W/kg



0 dB = 12.8 W/kg = 11.07 dBW/kg

Impedance Measurement Plot for Head TSL



D3500V2, Serial No. 1076 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.

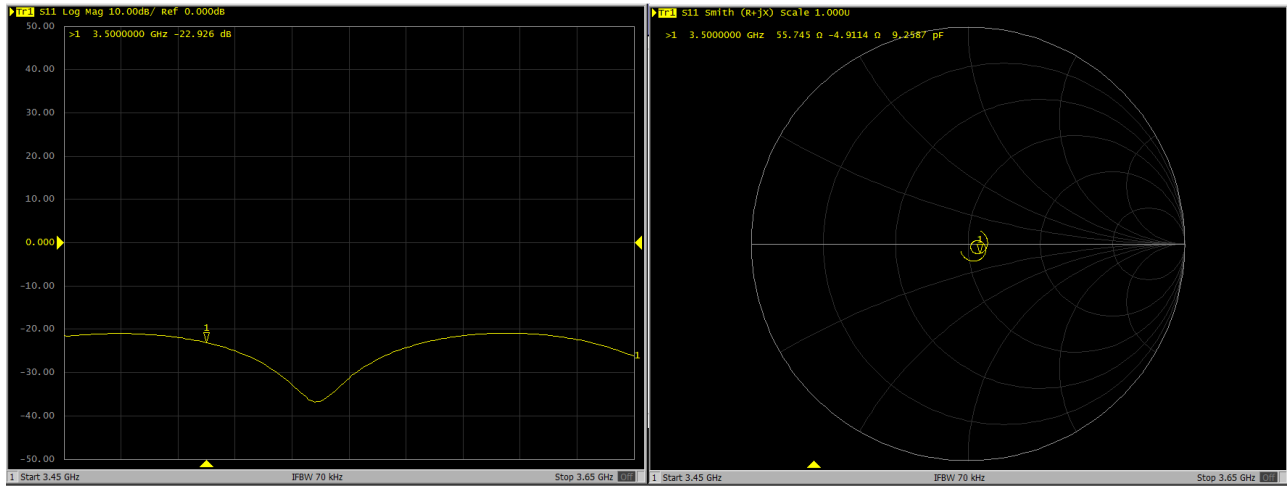
D3500V2 – serial no. 1076						
	3500 Head					
Date of Measurement	Return-Loss (dB)	Delta (%)	Real Impedance (ohm)	Delta (ohm)	Imaginary Impedance (ohm)	Delta (ohm)
2019.4.29	-23		54.7		-5.8	
2020.4.15	-22.9	0.4	55.7	1	-4.9	0.9

<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> D3500V2, serial no. 1076

3500MHz - Head





Accredited by the Swiss Accreditation Service (SAS)
 The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **Sporton**

Certificate No: **D3700V2-1037_Apr19**

CALIBRATION CERTIFICATE

Object **D3700V2 - SN:1037**

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

Calibration date: **April 29, 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 ± 3)°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	04-Oct-18 (No. DAE4-601_Oct18)	Oct-19

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB39512475	07-Oct-15 (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

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 29, 2019

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Multilateral Agreement for the recognition of calibration certificates

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	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	3700 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	37.7	3.12 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	37.1 $\pm$ 6 %	3.06 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	6.85 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	68.5 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	2.49 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	24.8 W/kg $\pm$ 19.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	46.4 Ω - 0.6 j Ω
Return Loss	- 28.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.138 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: 29.04.2019

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 3700 MHz; Type: D3700V2; Serial: D3700V2 - SN:1037

Communication System: UID 0 - CW; Frequency: 3700 MHz

Medium parameters used: $f = 3700$ MHz; $\sigma = 3.06$ S/m; $\epsilon_r = 37.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(7.5, 7.5, 7.5) @ 3700 MHz; Calibrated: 25.03.2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.10.2018
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

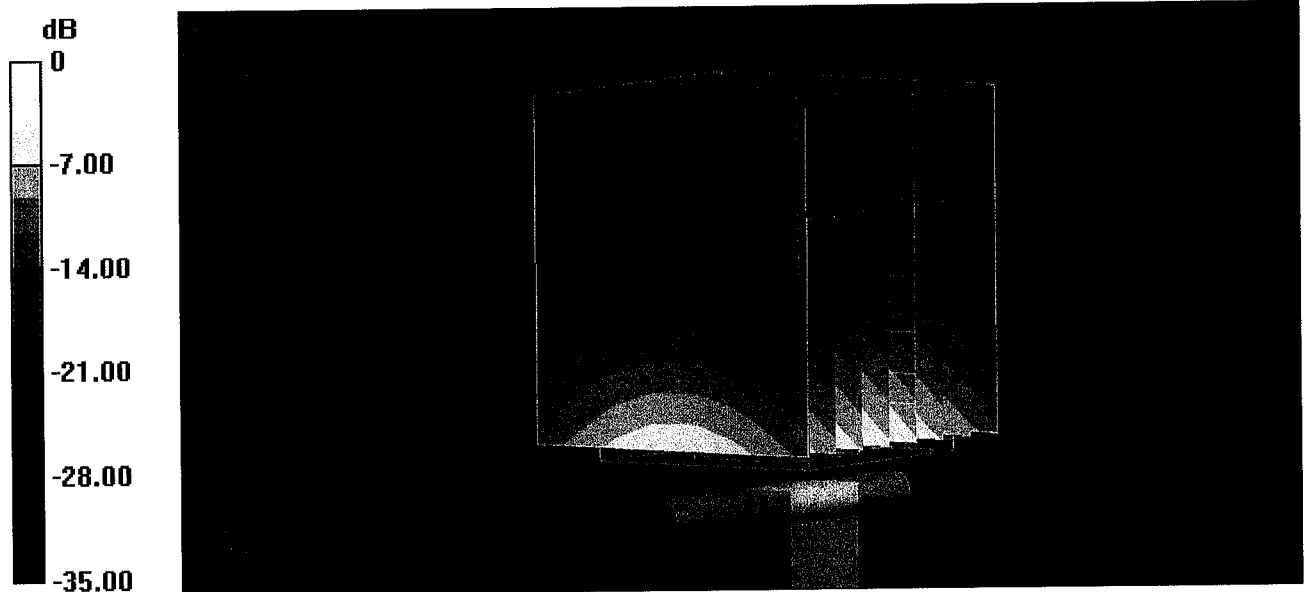
Dipole Calibration for Head Tissue/Pin=100 mW, d=10mm, f=3700MHz/Zoom Scan, dist=1.4mm (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 71.88 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 19.5 W/kg

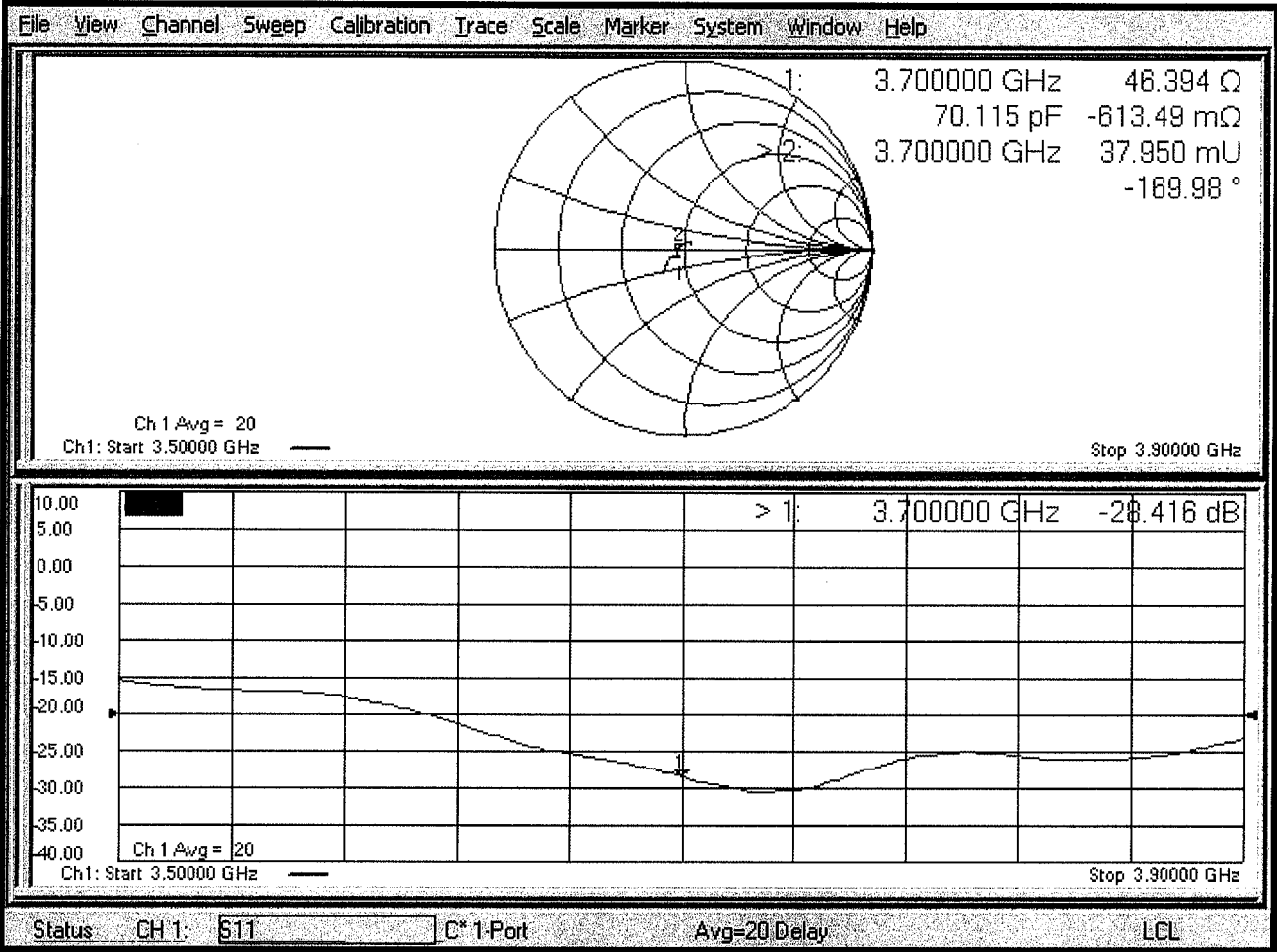
SAR(1 g) = 6.85 W/kg; SAR(10 g) = 2.49 W/kg

Maximum value of SAR (measured) = 13.5 W/kg



0 dB = 13.5 W/kg = 11.30 dBW/kg

Impedance Measurement Plot for Head TSL



D3700V2, Serial No. 1037 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.

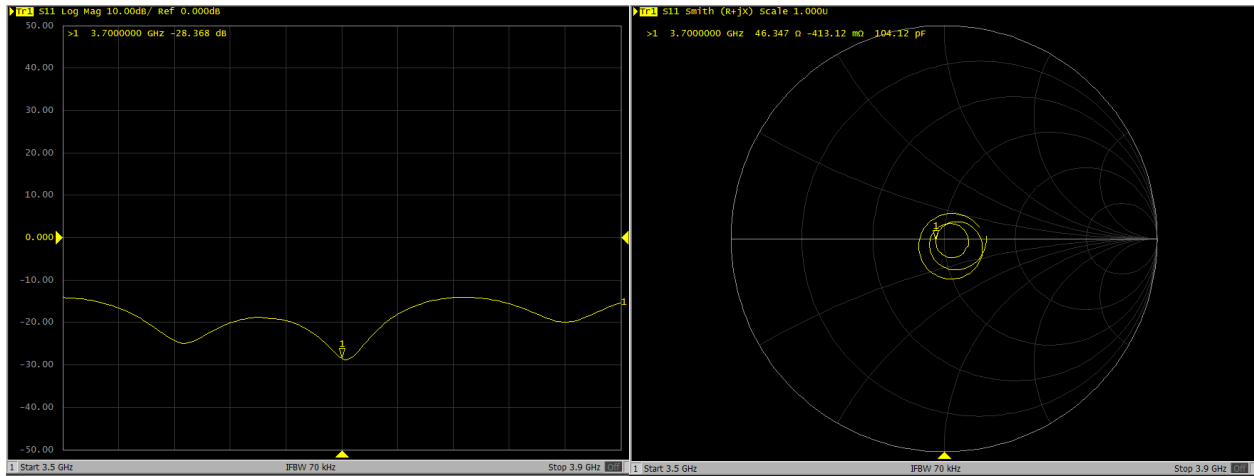
D3700V2 – serial no. 1037						
3700 Head						
Date of Measurement	Return-Loss (dB)	Delta (%)	Real Impedance (ohm)	Delta (ohm)	Imaginary Impedance (ohm)	Delta (ohm)
2019.4.29	-28.4		46.4		-0.6	
2020.4.15	-28.4	0	46.3	-0.1	-0.4	0.2

<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> D3700V2, serial no. 1037

3700MHz - Head





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Client

Sporton

Certificate No: **Z18-60259**

CALIBRATION CERTIFICATE

Object **D5GHzV2 - SN: 1167**

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

Calibration date: **August 03, 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)°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 NRP2	102083	01-Nov-17 (CTTL, No.J17X08756)	Oct-18
Power sensor NRP-Z91	100542	01-Nov-17 (CTTL, No.J17X08756)	Oct-18
ReferenceProbe EX3DV4	SN 7464	12-Sep-17(SPEAG,No.EX3-7464_Sep17)	Sep-18
DAE4	SN 1524	13-Sep-17(SPEAG,No.DAE4-1524_Sep17)	Sep-18
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	23-Jan-18 (CTTL, No.J18X00560)	Jan-19
NetworkAnalyzerE5071C	MY46110673	24-Jan-18 (CTTL, No.J18X00561)	Jan-19

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

Issued: August 6, 2018

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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	52.10.1.1476
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4 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	35.9 $\pm$ 6 %	4.82 mho/m $\pm$ 6 %
Head TSL temperature change during test	<1.0 °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	7.69 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	77.0 mW / g $\pm$ 24.4 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	100 mW input power	2.20 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	22.0 mW / g $\pm$ 24.2 % (k=2)



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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 ± 0.2) °C	35.1 ± 6 %	5.18 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °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	8.09 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	80.8 mW / g ± 24.4 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	100 mW input power	2.32 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	23.2 mW / g ± 24.2 % (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	34.9 ± 6 %	5.37 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL at 5750 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.70 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	76.9 mW / g ± 24.4 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	100 mW input power	2.17 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	21.6 mW / g ± 24.2 % (k=2)



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Body TSL parameters at 5250 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.9	5.36 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	48.4 ± 6 %	5.32 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	----	----

SAR result with Body TSL at 5250 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.46 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	74.4 mW /g ± 24.4 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Body TSL	Condition	
SAR measured	100 mW input power	2.10 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	20.9 mW /g ± 24.2 % (k=2)

Body TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.5	5.77 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.7 ± 6 %	5.79 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	----	----

SAR result with Body TSL at 5600 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.73 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	77.1 mW /g ± 24.4 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Body TSL	Condition	
SAR measured	100 mW input power	2.16 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	21.5 mW /g ± 24.2 % (k=2)



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Body TSL parameters at 5750 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.3	5.94 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	48.5 ± 6 %	5.93 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	----	----

SAR result with Body TSL at 5750 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.43 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	74.3 mW /g ± 24.4 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Body TSL	Condition	
SAR measured	100 mW input power	2.08 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	20.8 mW /g ± 24.2 % (k=2)



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Appendix (Additional assessments outside the scope of CNAS L0570)

Antenna Parameters with Head TSL at 5250 MHz

Impedance, transformed to feed point	50.3 Ω - 9.42j Ω
Return Loss	- 20.6dB

Antenna Parameters with Head TSL at 5600 MHz

Impedance, transformed to feed point	58.1 Ω - 7.15j Ω
Return Loss	- 20.0dB

Antenna Parameters with Head TSL at 5750 MHz

Impedance, transformed to feed point	53.5 Ω - 7.66j Ω
Return Loss	- 21.8dB

Antenna Parameters with Body TSL at 5250 MHz

Impedance, transformed to feed point	49.5 Ω - 7.40j Ω
Return Loss	- 22.6dB

Antenna Parameters with Body TSL at 5600 MHz

Impedance, transformed to feed point	58.0 Ω - 6.37j Ω
Return Loss	- 20.5dB

Antenna Parameters with Body TSL at 5750 MHz

Impedance, transformed to feed point	54.5 Ω - 7.07j Ω
Return Loss	- 21.9dB



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E-mail: cttl@chinattl.com <http://www.chinattl.cn>

General Antenna Parameters and Design

Electrical Delay (one direction)	1.065 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

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DASY5 Validation Report for Head TSL

Date: 07.27.2018

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1167

Communication System: CW; Frequency: 5250 MHz, Frequency: 5600 MHz,
Frequency: 5750 MHz,

Medium parameters used: $f = 5250$ MHz; $\sigma = 4.822$ S/m; $\epsilon_r = 35.92$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5600$ MHz; $\sigma = 5.184$ S/m; $\epsilon_r = 35.14$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5750$ MHz; $\sigma = 5.365$ S/m; $\epsilon_r = 34.88$; $\rho = 1000$ kg/m³,

Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7464; ConvF(5.68, 5.68, 5.68) @ 5250 MHz; Calibrated: 9/12/2017, ConvF(4.98, 4.98, 4.98) @ 5600 MHz; Calibrated: 9/12/2017, ConvF(5.04, 5.04, 5.04) @ 5750 MHz; Calibrated: 9/12/2017,
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1524; Calibrated: 9/13/2017
- Phantom: MFP_V5.1C ; Type: QD 000 P51CA; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Dipole Calibration /Pin=100mW, d=10mm, f=5250 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 65.09 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 32.4 W/kg
SAR(1 g) = 7.69 W/kg; SAR(10 g) = 2.2 W/kg
Maximum value of SAR (measured) = 18.0 W/kg

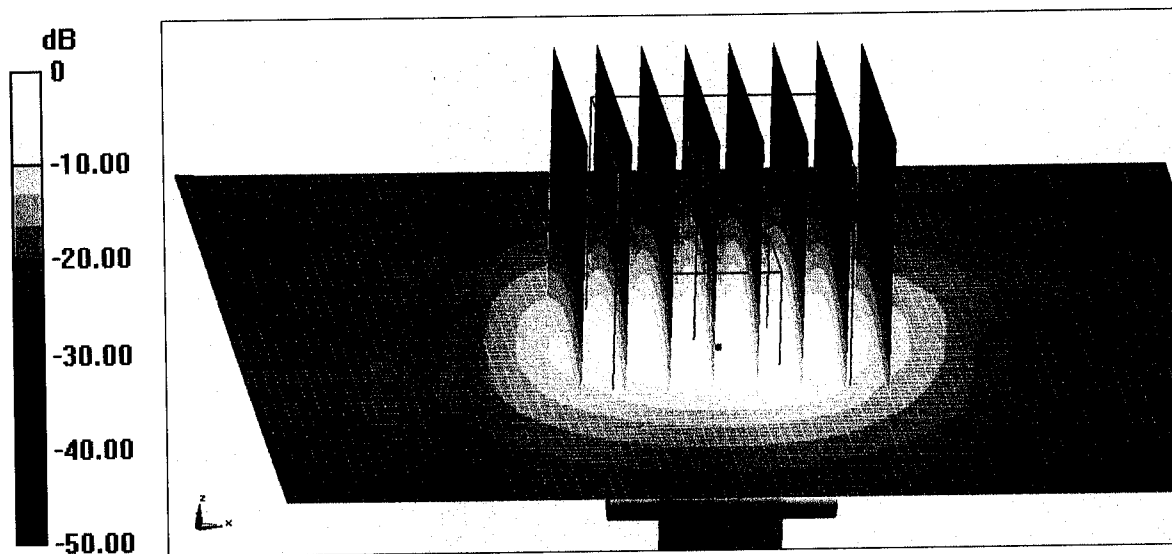
Dipole Calibration /Pin=100mW, d=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 63.53 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 36.2 W/kg
SAR(1 g) = 8.09 W/kg; SAR(10 g) = 2.32 W/kg
Maximum value of SAR (measured) = 19.7 W/kg

Dipole Calibration /Pin=100mW, d=10mm, f=5750 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 63.79 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 36.2 W/kg
SAR(1 g) = 7.7 W/kg; SAR(10 g) = 2.17 W/kg
Maximum value of SAR (measured) = 19.0 W/kg



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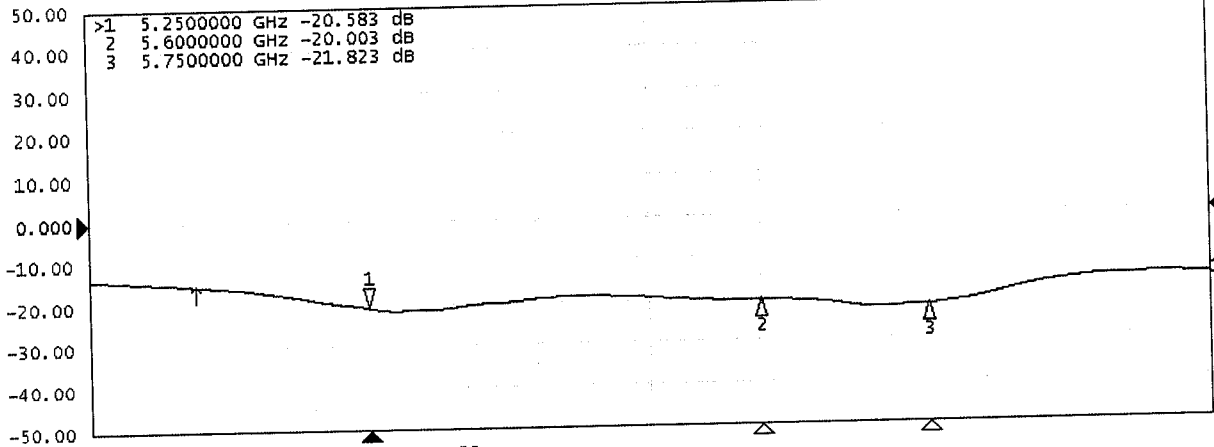
0 dB = 19.0 W/kg = 12.79 dBW/kg



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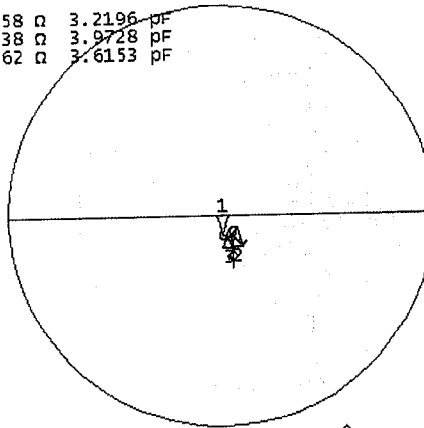
Impedance Measurement Plot for Head TSL

Tr1 S11 Log Mag 10.00dB/ Ref 0.000dB [F1]



Tr2 S11 Smith (R+jX) scale 1.000U [F1 Del]

>1	5.2500000 GHz	50.314 Ω	-9.4158 Ω	3.2196 pF
2	5.6000000 GHz	58.136 Ω	-7.1538 Ω	3.9728 pF
3	5.7500000 GHz	53.485 Ω	-7.6562 Ω	3.6153 pF





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Date: 08.02.2018

DASY5 Validation Report for Body TSL

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1167

Communication System: CW; Frequency: 5250 MHz, Frequency: 5600 MHz,
Frequency: 5750 MHz,

Medium parameters used: $f = 5250$ MHz; $\sigma = 5.316$ S/m; $\epsilon_r = 48.42$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5600$ MHz; $\sigma = 5.789$ S/m; $\epsilon_r = 47.7$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5750$ MHz; $\sigma = 5.926$ S/m; $\epsilon_r = 48.45$; $\rho = 1000$ kg/m³,

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7464; ConvF(5.29, 5.29, 5.29) @ 5250 MHz; Calibrated: 9/12/2017, ConvF(4.5, 4.5, 4.5) @ 5600 MHz; Calibrated: 9/12/2017, ConvF(4.59, 4.59, 4.59) @ 5750 MHz; Calibrated: 9/12/2017,
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1524; Calibrated: 9/13/2017
- Phantom: MFP_V5.1C ; Type: QD 000 P51CA; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Dipole Calibration /Pin=100mW, d=10mm, f=5250 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 64.14 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 31.9 W/kg
SAR(1 g) = 7.46 W/kg; SAR(10 g) = 2.1 W/kg
Maximum value of SAR (measured) = 17.6 W/kg

Dipole Calibration /Pin=100mW, d=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 62.32 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 36.3 W/kg
SAR(1 g) = 7.73 W/kg; SAR(10 g) = 2.16 W/kg
Maximum value of SAR (measured) = 19.1 W/kg

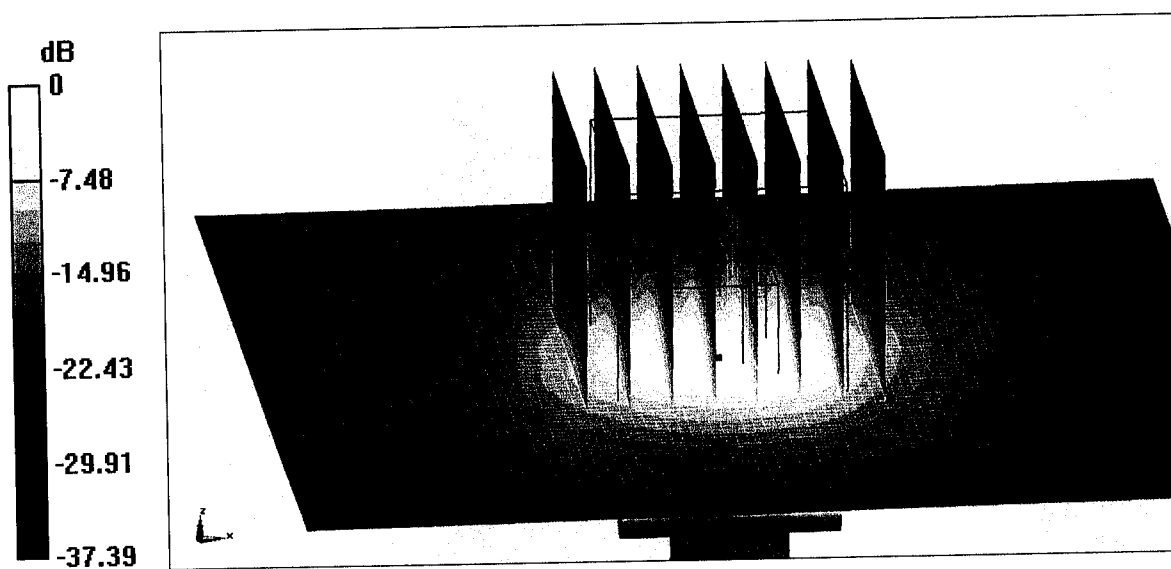
Dipole Calibration /Pin=100mW, d=10mm, f=5750 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 63.99 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 35.2 W/kg
SAR(1 g) = 7.43 W/kg; SAR(10 g) = 2.08 W/kg
Maximum value of SAR (measured) = 18.0 W/kg



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0 dB = 18.0 W/kg = 12.55 dBW/kg



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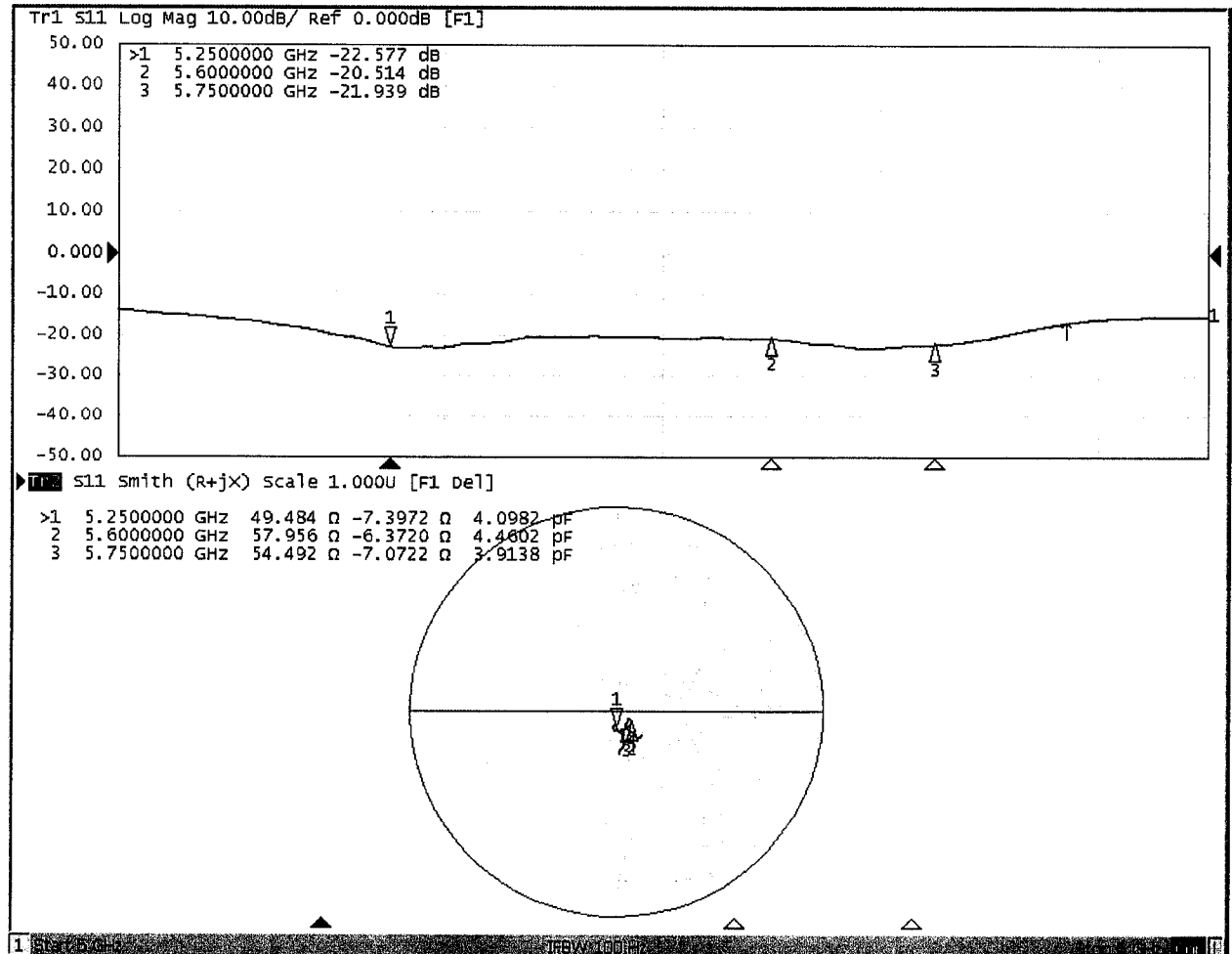
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Impedance Measurement Plot for Body TSL



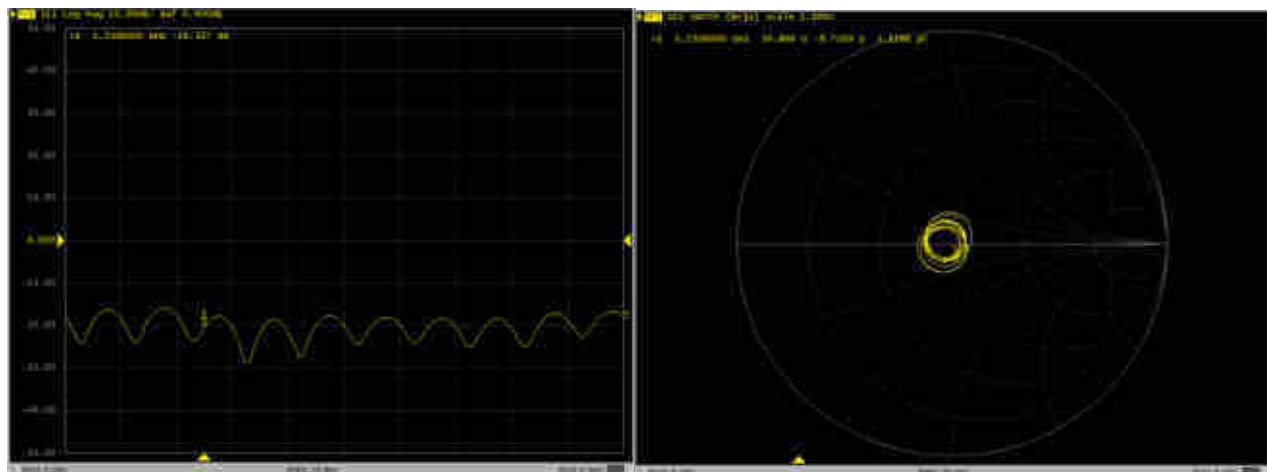
D5GHzV3, Serial No. 1167 Extended Dipole Calibrations

<Justification of the extended calibration>

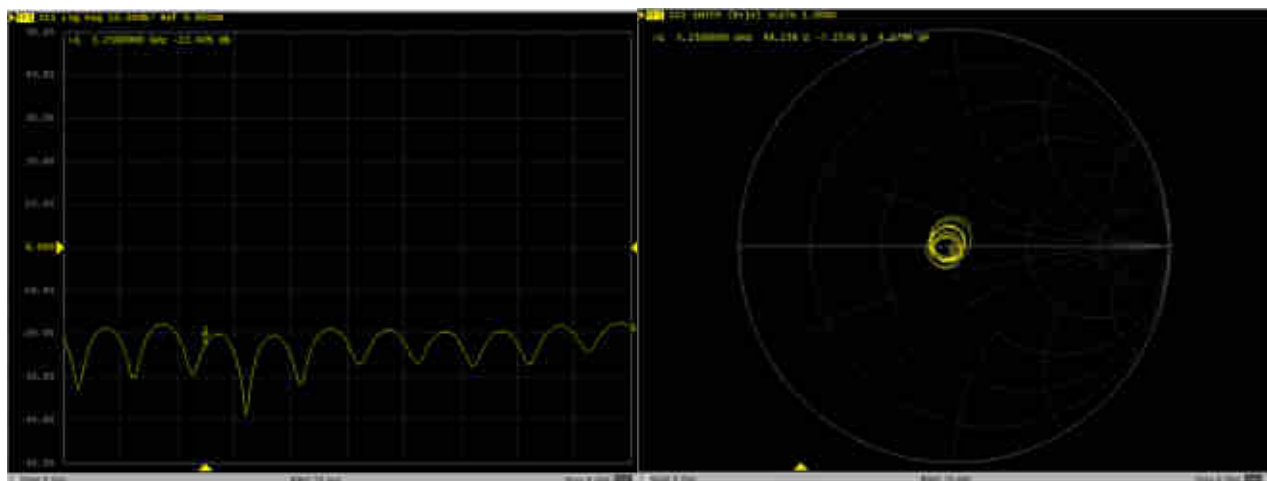
The return loss is $< -20\text{dB}$, within 20% of prior calibration; the impedance is within 5 ohm of prior calibration. Therefore the verification result should support extended calibration.

Dipole Verification Data> D5GHzV3, serial no. 1167

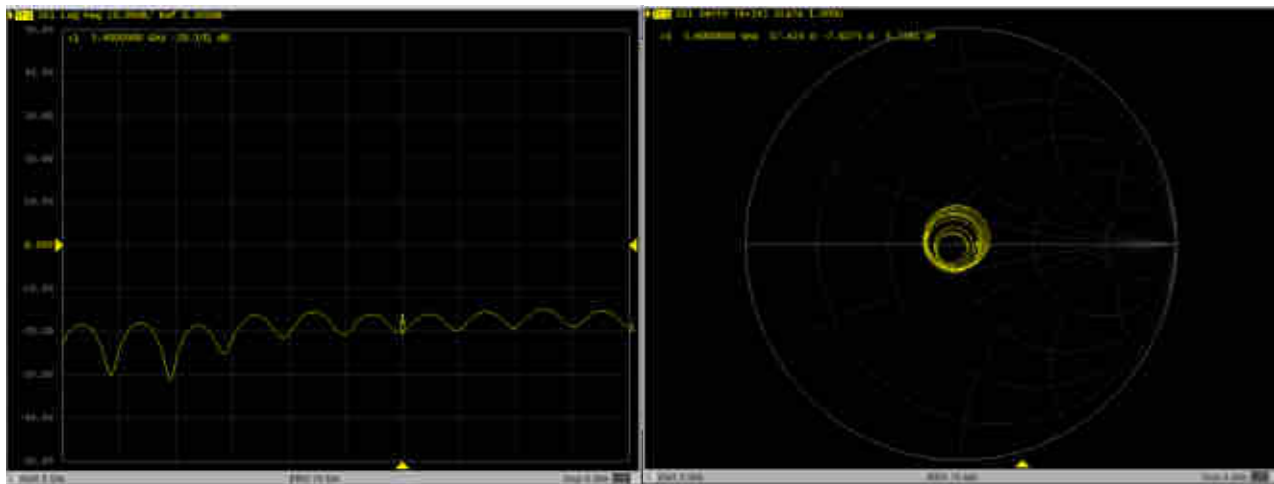
5250MHz - Head



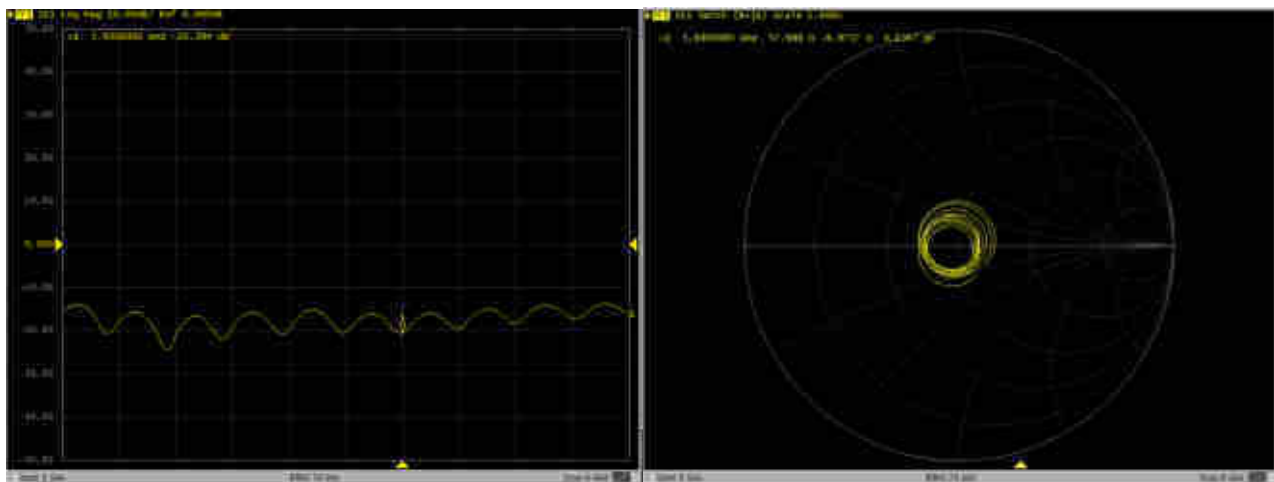
5250MHz – Body



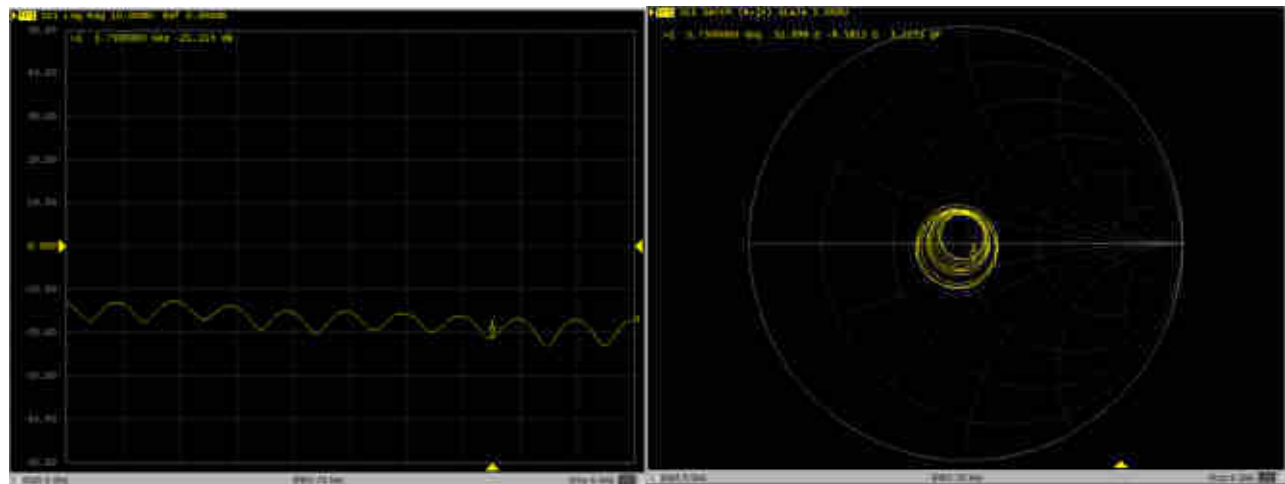
5600MHz – Head



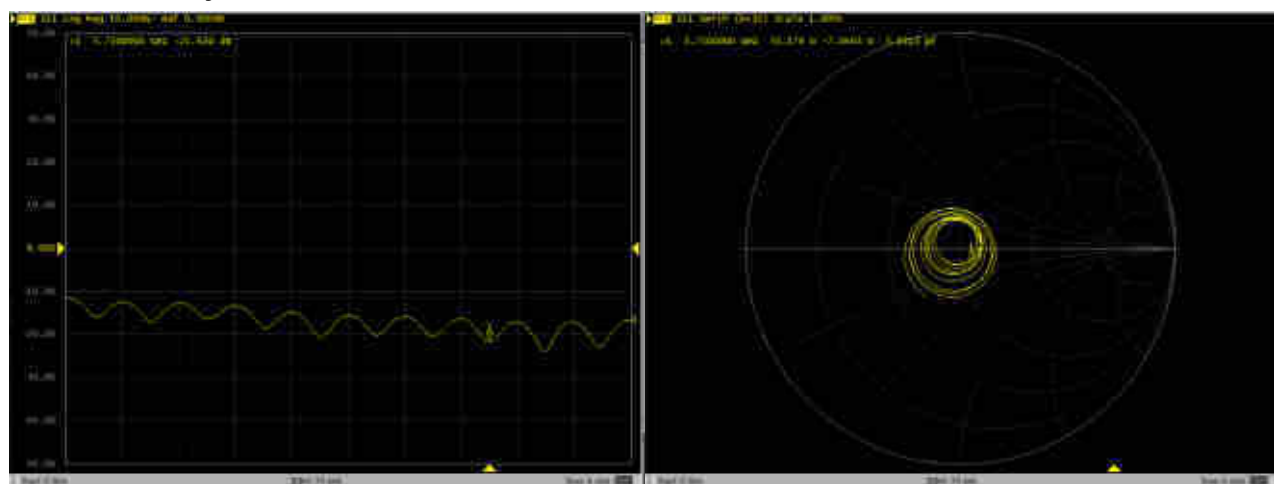
5600MHz – Body



5750MHz – Head



5750MHz – Body





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 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **Auden**

Certificate No: **DAE3-528_Mar20**

CALIBRATION CERTIFICATE

Object **DAE3 - SD 000 D03 AA - SN: 528**

Calibration procedure(s) **QA CAL-06.v30**
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: **March 16, 2020**

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	SE UWS 053 AA 1001	09-Jan-20 (in house check)	In house check: Jan-21
Calibrator Box V2.1	SE UMS 006 AA 1002	09-Jan-20 (in house check)	In house check: Jan-21

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

Issued: March 16, 2020

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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.

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	404.513 $\pm$ 0.02% (k=2)	404.615 $\pm$ 0.02% (k=2)	404.537 $\pm$ 0.02% (k=2)
Low Range	3.97109 $\pm$ 1.50% (k=2)	3.95930 $\pm$ 1.50% (k=2)	3.96568 $\pm$ 1.50% (k=2)

Connector Angle

Connector Angle to be used in DASY system	50.0 $^{\circ}$ $\pm$ 1 $^{\circ}$
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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	200037.58	3.28	0.00
Channel X	+ Input	20009.65	3.92	0.02
Channel X	- Input	-20001.89	3.62	-0.02
Channel Y	+ Input	200037.90	3.50	0.00
Channel Y	+ Input	20005.83	0.31	0.00
Channel Y	- Input	-20005.73	-0.03	0.00
Channel Z	+ Input	200033.51	-0.62	-0.00
Channel Z	+ Input	20006.48	0.89	0.00
Channel Z	- Input	-20006.01	-0.27	0.00

Low Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	2001.68	0.24	0.01
Channel X	+ Input	201.09	-0.22	-0.11
Channel X	- Input	-198.93	-0.12	0.06
Channel Y	+ Input	2001.70	0.49	0.02
Channel Y	+ Input	200.70	-0.24	-0.12
Channel Y	- Input	-199.76	-0.76	0.38
Channel Z	+ Input	2001.03	-0.04	-0.00
Channel Z	+ Input	201.25	0.40	0.20
Channel Z	- Input	-199.29	-0.32	0.16

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	9.59	7.82
	- 200	-7.34	-8.76
Channel Y	200	14.74	14.93
	- 200	-16.81	-17.15
Channel Z	200	-3.39	-3.82
	- 200	3.03	3.16

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	-	3.19	-1.66
Channel Y	200	6.79	-	4.73
Channel Z	200	7.16	5.28	-

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	15972	16183
Channel Y	15900	16376
Channel Z	16167	15841

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	1.19	0.18	2.38	0.46
Channel Y	0.15	-1.39	1.24	0.47
Channel Z	0.36	-1.22	1.42	0.42

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

IMPORTANT NOTICE

USAGE OF THE DAE4

The DAE unit is a delicate, high precision instrument and requires careful treatment by the user. There are no serviceable parts inside the DAE. Special attention shall be given to the following points:

Battery Exchange: The battery cover of the DAE4 unit is fixed using a screw, over tightening the screw may cause the threads inside the DAE to wear out.

Shipping of the DAE: Before shipping the DAE to SPEAG for calibration, remove the batteries and pack the DAE in an antistatic bag. This antistatic bag shall then be packed into a larger box or container which protects the DAE from impacts during transportation. The package shall be marked to indicate that a fragile instrument is inside.

E-Stop Failures: Touch detection may be malfunctioning due to broken magnets in the E-stop. Rough handling of the E-stop may lead to damage of these magnets. Touch and collision errors are often caused by dust and dirt accumulated in the E-stop. To prevent E-stop failure, the customer shall always mount the probe to the DAE carefully and keep the DAE unit in a non-dusty environment if not used for measurements.

Repair: Minor repairs are performed at no extra cost during the annual calibration. However, SPEAG reserves the right to charge for any repair especially if rough unprofessional handling caused the defect.

DASY Configuration Files: Since the exact values of the DAE input resistances, as measured during the calibration procedure of a DAE unit, are not used by the DASY software, a nominal value of 200 MOhm is given in the corresponding configuration file.

Important Note:

Warranty and calibration is void if the DAE unit is disassembled partly or fully by the Customer.

Important Note:

Never attempt to grease or oil the E-stop assembly. Cleaning and readjusting of the E-stop assembly is allowed by certified SPEAG personnel only and is part of the annual calibration procedure.

Important Note:

To prevent damage of the DAE probe connector pins, use great care when installing the probe to the DAE. Carefully connect the probe with the connector notch oriented in the mating position. Avoid any rotational movement of the probe body versus the DAE while turning the locking nut of the connector. The same care shall be used when disconnecting the probe from the DAE.





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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client **Tejet (Auden)**

Certificate No: DAE4-1226_May20

CALIBRATION CERTIFICATE

Object: DAE4 - SD 000 D04 BM - SN: 1226

Calibration procedure(s): QA CAL-06.v30
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: May 15, 2020

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	SE UWS 053 AA 1001	09-Jan-20 (in house check)	In house check: Jan-21
Calibrator Box V2.1	SE UMS 006 AA 1002	09-Jan-20 (in house check)	In house check: Jan-21

Calibrated by: Name
Eric Hainfeld Function
Laboratory Technician

Signature

Approved by: Sven Kühn Deputy Manager

Issued: May 15, 2020

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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.

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	404.644 $\pm$ 0.02% (k=2)	404.410 $\pm$ 0.02% (k=2)	404.128 $\pm$ 0.02% (k=2)
Low Range	3.98010 $\pm$ 1.50% (k=2)	4.00441 $\pm$ 1.50% (k=2)	3.98517 $\pm$ 1.50% (k=2)

Connector Angle

Connector Angle to be used in DASY system	283.5 ° $\pm$ 1 °
---	-------------------

Appendix (Additional assessments outside the scope of SCS0108)

1. DC Voltage Linearity

High Range	Reading (μV)	Difference (μV)	Error (%)
Channel X + Input	200036.25	2.48	0.00
Channel X + Input	20007.54	2.38	0.01
Channel X - Input	-20005.86	0.51	-0.00
Channel Y + Input	200033.61	-0.21	-0.00
Channel Y + Input	20003.31	-1.72	-0.01
Channel Y - Input	-20007.95	-1.52	0.01
Channel Z + Input	200035.07	1.43	0.00
Channel Z + Input	20004.81	-0.10	-0.00
Channel Z - Input	-20007.44	-1.01	0.01

Low Range	Reading (μV)	Difference (μV)	Error (%)
Channel X + Input	2000.93	0.16	0.01
Channel X + Input	200.14	-0.66	-0.33
Channel X - Input	-199.83	-0.71	0.36
Channel Y + Input	2000.72	0.15	0.01
Channel Y + Input	199.44	-1.19	-0.59
Channel Y - Input	-200.55	-1.29	0.65
Channel Z + Input	2000.71	0.18	0.01
Channel Z + Input	200.02	-0.61	-0.31
Channel Z - Input	-199.97	-0.66	0.33

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	5.07	2.90
	- 200	-2.74	-4.97
Channel Y	200	-8.89	-9.14
	- 200	7.09	6.94
Channel Z	200	-7.29	-7.53
	- 200	5.53	5.89

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	-	2.16	-3.66
Channel Y	200	8.16	-	3.69
Channel Z	200	9.32	5.65	-

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	16032	12468
Channel Y	15897	17438
Channel Z	16001	15611

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	-0.38	-1.14	0.42	0.38
Channel Y	-0.09	-1.14	0.85	0.39
Channel Z	-0.31	-1.86	1.00	0.41

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**

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

Client **Sporton**

Certificate No: **EX3-3819_Apr20**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3819**

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: **April 30, 2020**

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: 104775	01-Apr-20 (No. 217-03100/03101)	Apr-21
Power sensor NRP-Z91	SN: 103244	01-Apr-20 (No. 217-03100)	Apr-21
Power sensor NRP-Z91	SN: 103245	01-Apr-20 (No. 217-03101)	Apr-21
Reference 20 dB Attenuator	SN: CC2552 (20x)	31-Mar-20 (No. 217-03106)	Apr-21
DAE4	SN: 660	27-Dec-19 (No. DAE4-660_Dec19)	Dec-20
Reference Probe ES3DV2	SN: 3013	31-Dec-19 (No. ES3-3013_Dec19)	Dec-20
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: MY41496087	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	
			Issued: April 30, 2020
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., $\theta \approx 0$ 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 E^2 -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:3819

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.46	0.41	0.46	± 10.1 %
DCP (mV) ^B	104.6	101.5	102.0	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB/ μV	C	D dB	VR mV	Max dev.	Unc ^E (k=2)
0	CW	X	0.0	0.0	1.0	0.00	156.7	± 3.5 %	± 4.7 %
		Y	0.0	0.0	1.0		148.5		
		Z	0.0	0.0	1.0		139.2		

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:3819

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	113.9
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:3819

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	9.64	9.64	9.64	0.52	0.80	± 12.0 %
835	41.5	0.90	9.39	9.39	9.39	0.50	0.80	± 12.0 %
900	41.5	0.97	9.26	9.26	9.26	0.39	0.96	± 12.0 %
1750	40.1	1.37	8.43	8.43	8.43	0.34	0.80	± 12.0 %
1900	40.0	1.40	8.10	8.10	8.10	0.37	0.80	± 12.0 %
2000	40.0	1.40	7.95	7.95	7.95	0.30	0.88	± 12.0 %
2300	39.5	1.67	7.66	7.66	7.66	0.32	0.90	± 12.0 %
2450	39.2	1.80	7.42	7.42	7.42	0.38	0.90	± 12.0 %
2600	39.0	1.96	7.22	7.22	7.22	0.38	0.90	± 12.0 %
3300	38.2	2.71	6.91	6.91	6.91	0.20	1.20	± 14.0 %
3500	37.9	2.91	6.84	6.84	6.84	0.25	1.20	± 14.0 %
3700	37.7	3.12	6.75	6.75	6.75	0.25	1.25	± 14.0 %
3900	37.5	3.32	6.40	6.40	6.40	0.30	1.60	± 14.0 %
4100	37.2	3.53	6.39	6.39	6.39	0.30	1.60	± 14.0 %
4400	36.9	3.84	6.07	6.07	6.07	0.30	1.60	± 14.0 %
4600	36.7	4.04	5.98	5.98	5.98	0.30	1.70	± 14.0 %
4800	36.4	4.25	5.88	5.88	5.88	0.45	1.80	± 14.0 %
4950	36.3	4.40	5.72	5.72	5.72	0.45	1.80	± 14.0 %
5250	35.9	4.71	5.02	5.02	5.02	0.40	1.80	± 14.0 %
5600	35.5	5.07	4.56	4.56	4.56	0.40	1.80	± 14.0 %
5750	35.4	5.22	4.63	4.63	4.63	0.40	1.80	± 14.0 %

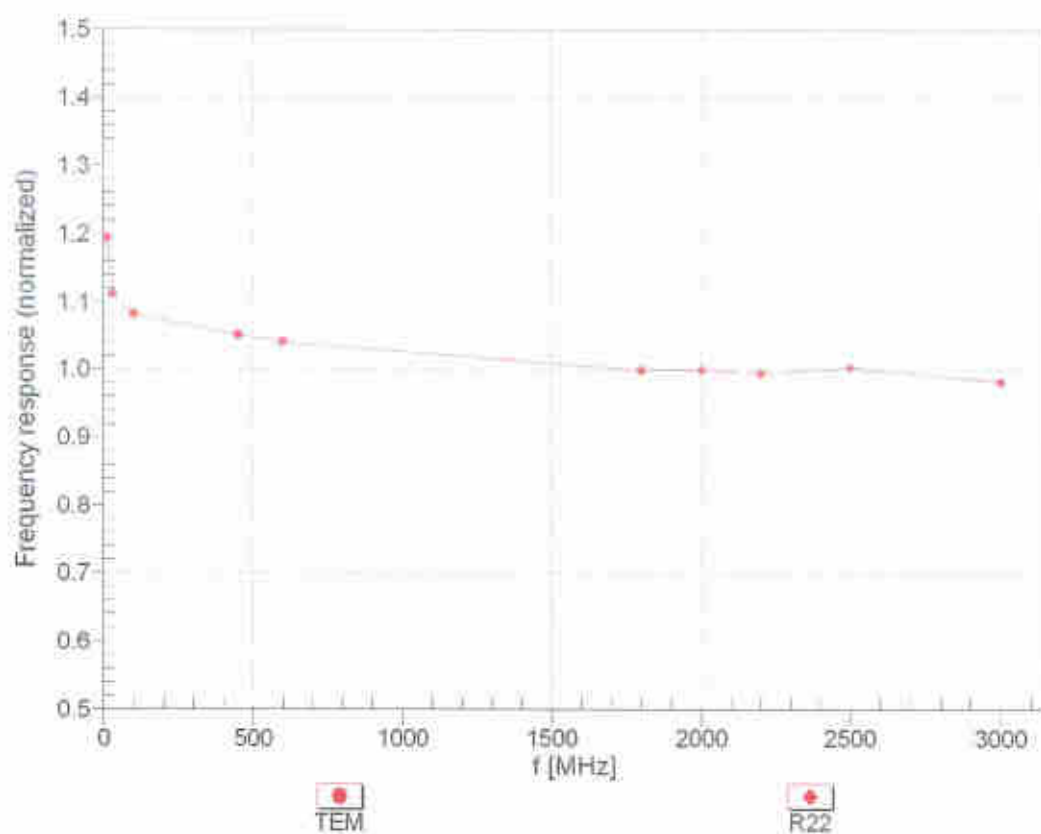
^c Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 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 up to 6 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. 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)



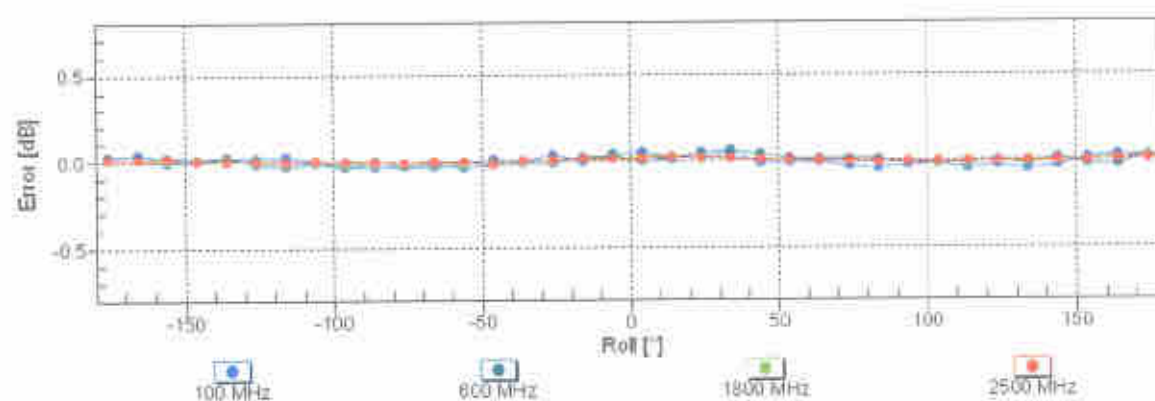
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

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

f=600 MHz,TEM

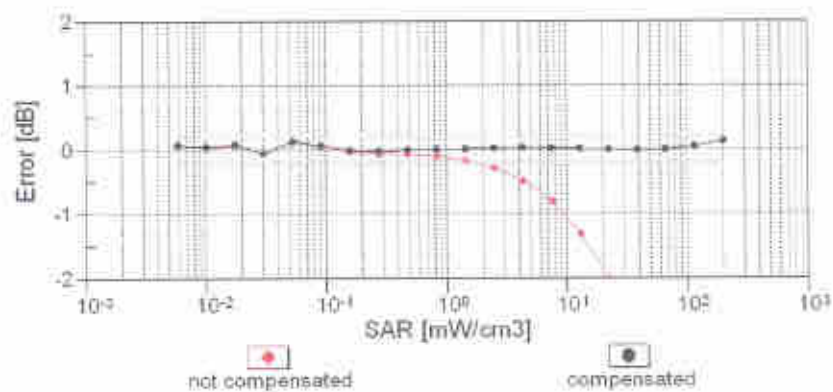
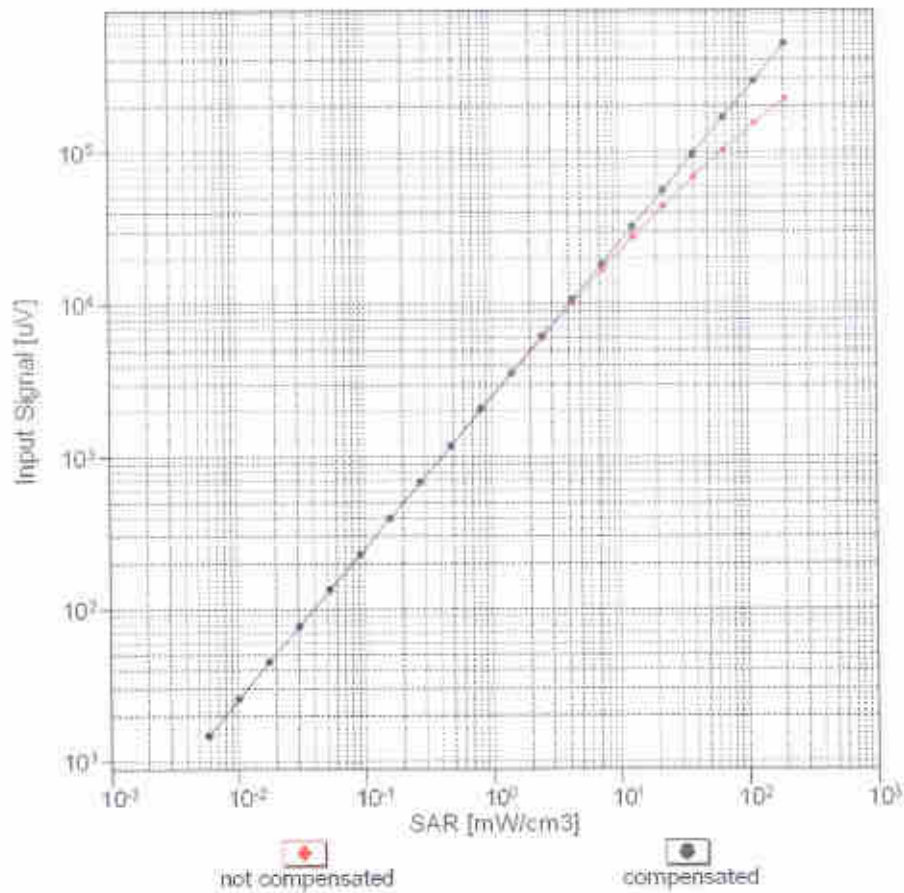


f=1800 MHz,R22



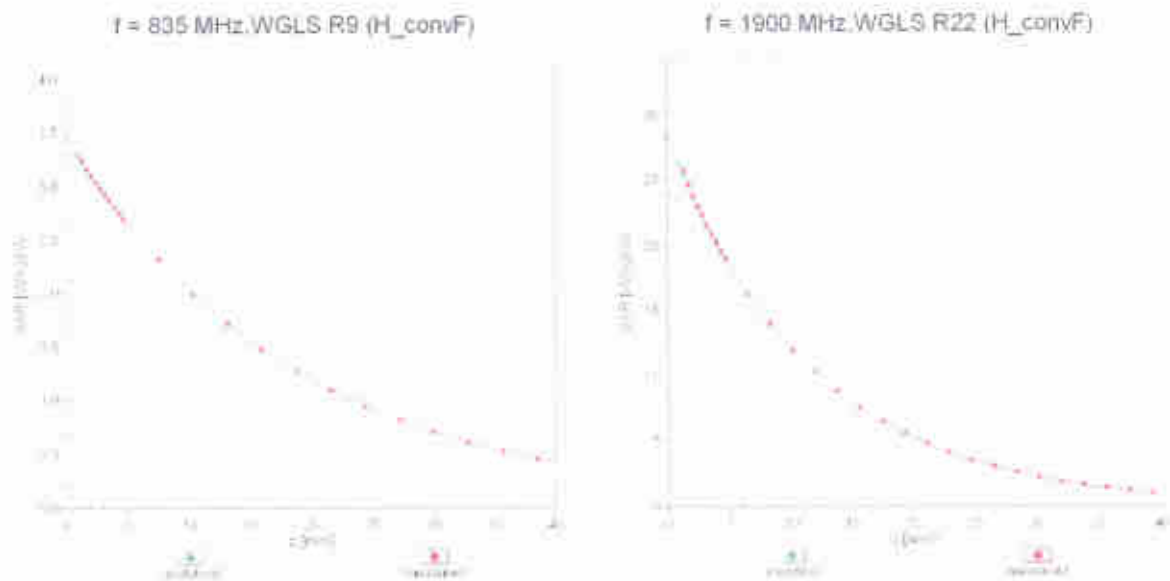
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

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



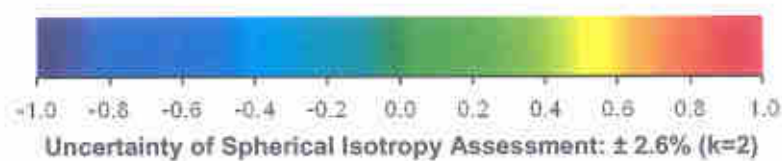
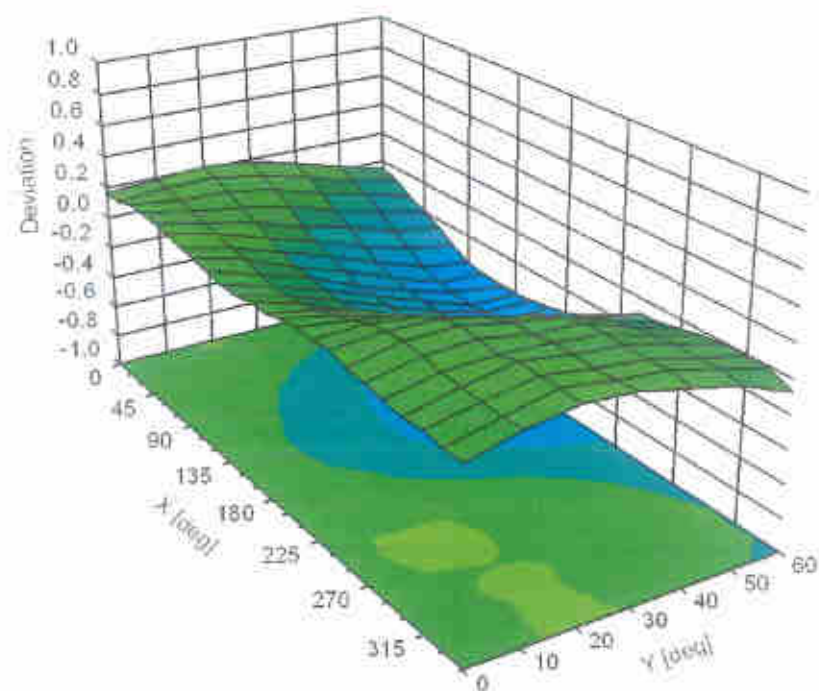
Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, θ), $f = 900 \text{ MHz}$





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Accreditation No.: **SCS 0108**

Client **Sporton**

Certificate No: **EX3-7576_Jan20**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:7576**

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: **January 22, 2020**

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	27-Dec-19 (No. DAE4-660_Dec19)	Dec-20
Reference Probe ES3DV2	SN: 3013	31-Dec-19 (No. ES3-3013_Dec19)	Dec-20
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 8648C	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-19)	In house check: Oct-20

Calibrated by:	Name	Function	Signature
	Jeton Kasrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	
			Issued: January 25, 2020
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**

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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., $\theta = 0$ 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 E^2 -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:7576

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.48	0.63	0.63	$\pm 10.1 \%$
DCP (mV) ^B	103.8	99.8	103.6	

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 (k=2) ^E
0	CW	X	0.0	0.0	1.0	0.00	164.4	$\pm 2.7 \%$	$\pm 4.7 \%$
		Y	0.0	0.0	1.0		161.8		
		Z	0.0	0.0	1.0		164.7		

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:7576**Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	112.2
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:7576

Calibration Parameter Determined in Head Tissue Simulating Media

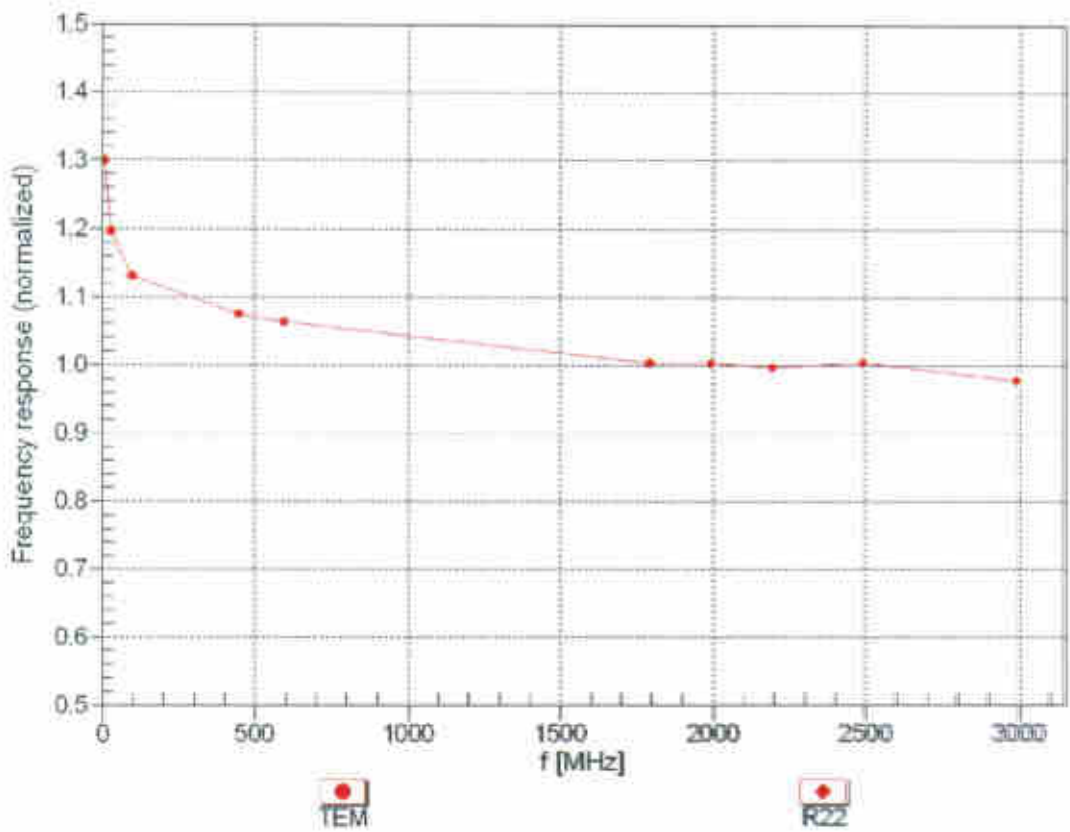
f (MHz) ^c	Relative Permittivity ^f	Conductivity (S/m) ^f	ConvF X	ConvF Y	ConvF Z	Alpha ^o	Depth (mm) ^o	Unc (k=2)
750	41.9	0.89	10.71	10.71	10.71	0.62	0.80	± 12.0 %
835	41.5	0.90	10.45	10.45	10.45	0.46	0.94	± 12.0 %
900	41.5	0.97	10.16	10.16	10.16	0.33	1.09	± 12.0 %
1750	40.1	1.37	8.88	8.88	8.88	0.42	0.86	± 12.0 %
1900	40.0	1.40	8.58	8.58	8.58	0.38	0.86	± 12.0 %
2000	40.0	1.40	8.48	8.48	8.48	0.39	0.86	± 12.0 %
2300	39.5	1.67	8.03	8.03	8.03	0.41	0.90	± 12.0 %
2450	39.2	1.80	7.76	7.76	7.76	0.44	0.90	± 12.0 %
2600	39.0	1.96	7.47	7.47	7.47	0.41	0.96	± 12.0 %
3300	38.2	2.71	7.08	7.08	7.08	0.30	1.35	± 14.0 %
3500	37.9	2.91	6.77	6.77	6.77	0.30	1.35	± 14.0 %
3700	37.7	3.12	6.74	6.74	6.74	0.30	1.35	± 14.0 %
3900	37.5	3.32	6.56	6.56	6.56	0.40	1.40	± 14.0 %
4100	37.2	3.53	6.26	6.26	6.26	0.40	1.40	± 14.0 %
4400	36.9	3.84	6.19	6.19	6.19	0.40	1.60	± 14.0 %
4600	36.7	4.04	6.06	6.06	6.06	0.40	1.60	± 14.0 %
4800	36.4	4.25	5.89	5.89	5.89	0.40	1.80	± 14.0 %
4950	36.3	4.40	5.59	5.59	5.59	0.40	1.80	± 14.0 %
5250	35.9	4.71	5.20	5.20	5.20	0.40	1.80	± 14.0 %
5600	35.5	5.07	4.62	4.62	4.62	0.40	1.80	± 14.0 %
5750	35.4	5.22	4.83	4.83	4.83	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 up to 6 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^o 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.

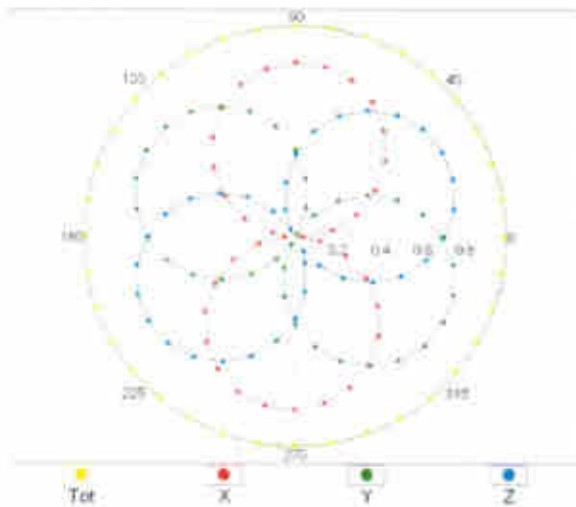
Frequency Response of E-Field
(TEM-Cell:ifi110 EXX, Waveguide: R22)



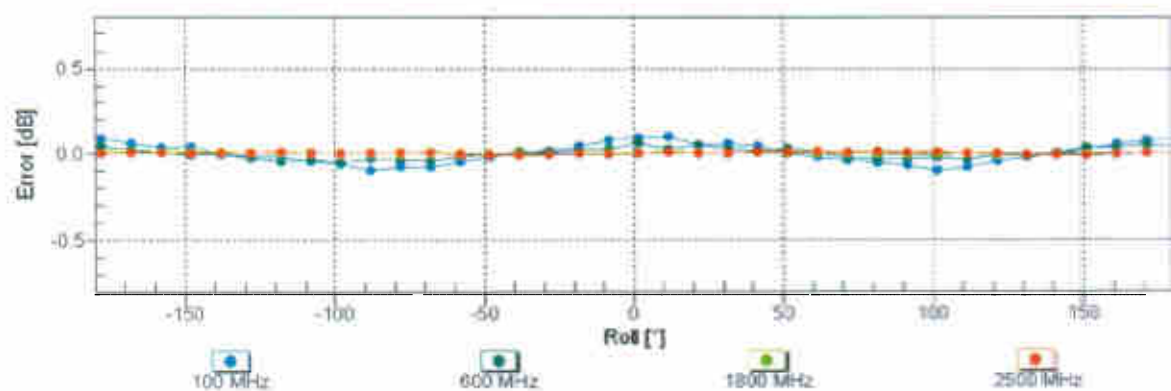
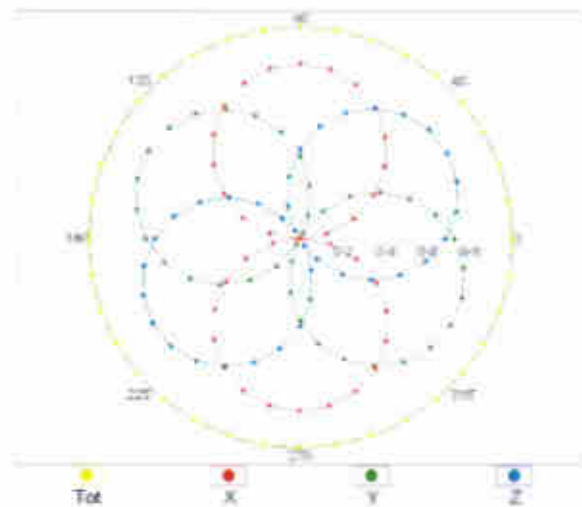
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

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

f=600 MHz,TEM

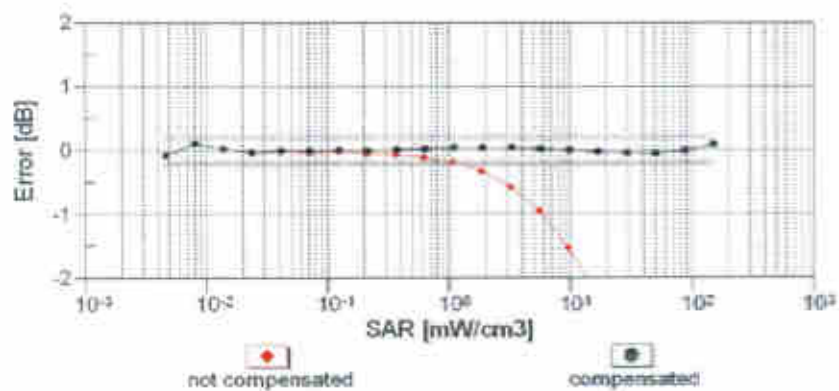
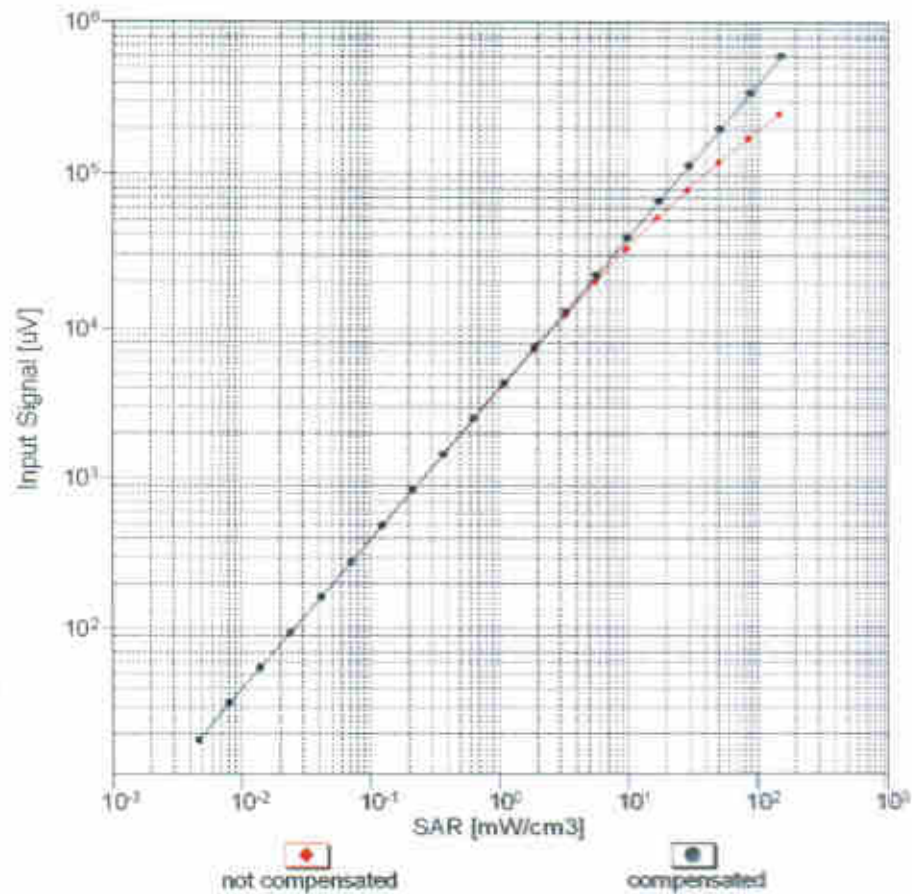


f=1800 MHz,R22



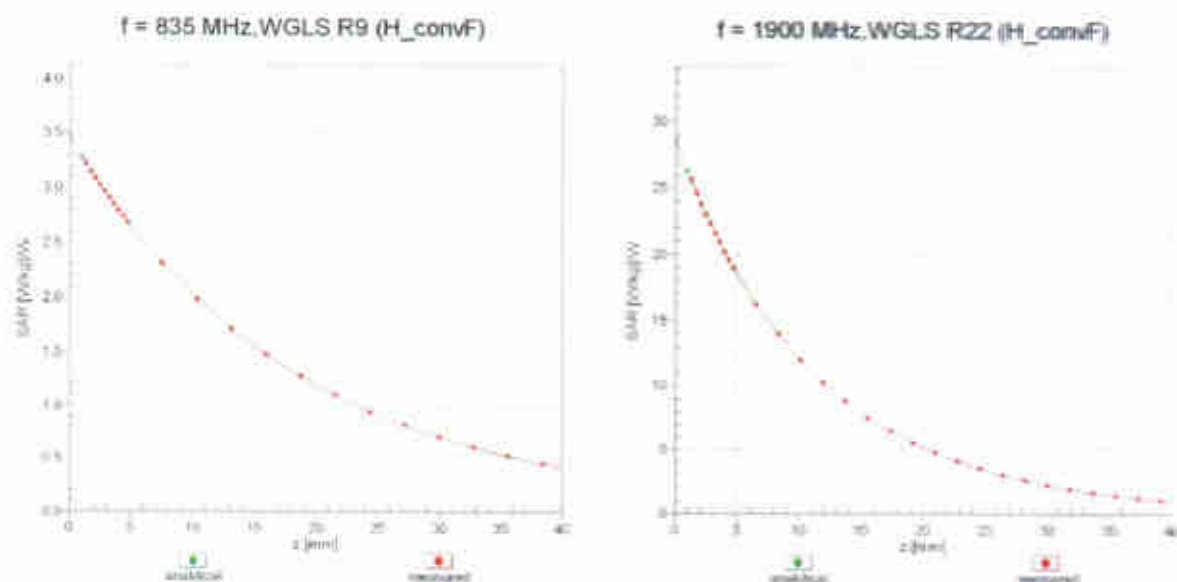
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

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



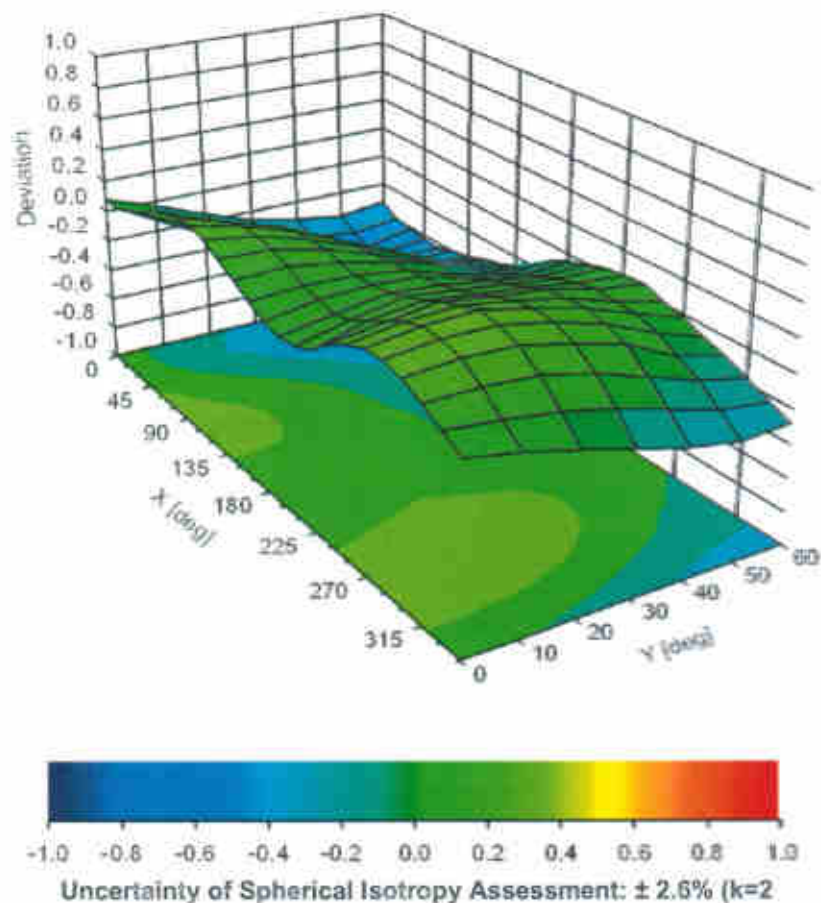
Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, θ), $f = 900 \text{ MHz}$





Appendix E. Conducted RF Output Power Table

The detailed power tables are shown as follows.



Full Power for UAT

Base		Base Average Power (dBm)		Turn-up		Frame Average Power (dBm)		Turn-up	
TX Channel		180	180	201	Limit	180	180	201	Limit
Frequency (MHz)		844.2	844.2	844.2	(dBm)	844.2	844.2	844.2	(dBm)
CDMA 1 Tx-1st		20.86	20.82	21.87	22.22	21.86	21.82	22.87	23.26
CDMA 1 Tx-2nd		30.81	30.60	31.01	32.30	21.81	21.82	22.81	23.50
OPRS 1 Tx-1st		20.01	20.46	20.42	30.80	23.01	23.46	23.42	24.80
OPRS 3 Tx-1st		27.05	27.51	27.87	29.30	23.26	23.48	23.81	25.04
OPRS 4 Tx-1st		26.81	26.60	26.72	28.00	22.81	23.68	23.72	25.50
EDGE 1 Tx-1st		24.83	24.80	25.37	26.30	15.83	15.50	15.27	17.30
EDGE 2 Tx-1st		23.23	23.20	23.56	24.30	17.23	17.05	17.66	18.30
EDGE 3 Tx-1st		22.12	22.02	22.43	23.80	17.86	17.82	18.17	18.84
EDGE 4 Tx-1st		21.44	21.52	21.75	22.70	16.44	16.82	16.72	18.70

Base		Base Average Power (dBm)		Turn-up		Frame Average Power (dBm)		Turn-up	
TX Channel		512	861	895	Limit	512	861	895	Limit
Frequency (MHz)		989.2	989	989.5	(dBm)	989.2	989	989.5	(dBm)
CDMA 1 Tx-1st		26.74	26.74	26.77	28.30	17.74	17.74	17.77	18.86
OPRS 1 Tx-1st		26.02	26.02	26.02	28.20	17.02	17.02	17.02	18.86
OPRS 3 Tx-1st		24.17	24.25	24.36	25.90	15.17	15.22	15.35	16.86
OPRS 3 Tx-2nd		23.15	23.10	23.16	24.60	18.87	18.84	18.90	20.24
OPRS 4 Tx-1st		21.58	21.52	21.51	23.00	15.08	15.52	15.51	20.00
EDGE 1 Tx-1st		22.94	22.48	22.83	23.80	13.54	13.48	13.83	14.89
EDGE 2 Tx-1st		21.41	21.28	21.60	22.70	12.41	12.26	12.60	16.70
EDGE 3 Tx-1st		20.35	20.52	20.51	21.60	10.09	10.28	10.25	17.04
EDGE 4 Tx-1st		19.38	19.15	19.32	20.60	16.38	16.18	16.52	17.80

Base		WCDMA II		Turn-up		WCDMA IV		Turn-up		WCDMA V		Turn-up	
TX Channel		5862	5860	5858	Limit	1812	1810	1810	Limit	4152	4150	4150	Limit
Frequency (MHz)		9892	9890	9890	(dBm)	1812	1810	1798	(dBm)	4152	4150	4150	(dBm)
CDMA 1 Tx-1st		21.02	21.58	21.51	22.80	21.37	21.46	21.43	22.80	23.03	23.13	23.15	24.30
OPRS 1st		21.09	21.65	21.64	22.80	21.38	21.47	21.43	22.80	23.05	23.18	23.18	24.30
OPRS 1st		20.44	20.67	20.61	21.80	20.39	20.51	20.49	21.80	21.87	21.90	21.91	23.30
OPRS 1st		20.80	20.64	20.61	21.80	20.42	20.53	20.52	21.80	21.85	21.82	21.82	23.30
OPRS 1st		19.80	20.17	20.10	21.30	19.83	20.01	20.01	21.30	21.39	21.44	21.57	22.80
OPRS 1st		20.14	20.10	20.08	21.30	19.98	20.02	19.98	21.30	21.38	21.41	21.38	22.80
OPRS 1st		20.46	20.42	20.39	21.80	20.19	20.27	20.32	21.80	21.89	21.87	21.75	23.30
OPRS 1st		20.44	20.50	20.43	21.80	20.27	20.35	20.35	21.80	21.85	21.77	21.71	23.30
OPRS 1st		19.08	19.98	19.85	21.30	19.78	19.86	19.82	21.30	21.30	21.25	21.23	22.80
OPRS 1st		19.14	20.51	19.86	21.30	19.82	19.80	19.76	21.30	21.21	21.14	21.15	22.80
OPRS 1st		20.63	20.71	20.61	21.80	20.45	20.60	20.56	21.80	21.85	21.80	21.85	23.30
OPRS 1st		19.66	19.60	19.64	20.80	19.41	19.58	19.52	20.80	19.86	19.80	19.91	21.30
OPRS 1st		17.64	17.68	17.68	18.60	18.30	18.52	18.43	18.60	20.71	20.89	20.91	22.30
OPRS 1st		18.42	18.45	18.44	19.80	19.29	19.37	19.31	19.80	19.85	19.86	19.86	21.30
OPRS 1st		20.80	20.75	20.80	21.80	20.50	20.50	20.50	21.80	21.90	21.90	21.90	23.30
OPRS 1st		18.21	18.24	18.17	19.30	19.17	19.27	19.15	19.30	19.53	19.61	19.73	20.80

Base		CDMA BQ2		Turn-up		CDMA BQ1		Turn-up		CDMA BQ10		Turn-up	
TX Channel		5813	5801	5817	Limit	25	100	1792	Limit	478	506	506	Limit
Frequency (MHz)		841.7	848.52	848.51	(dBm)	181.25	1806	1806.70	(dBm)	477.8	505.5	505.1	(dBm)
BC1 BQ2		22.84	22.85	22.59	24.30	21.65	21.75	21.63	22.80	22.84	22.91	22.83	24.30
BC1 BQ2		22.82	22.91	22.87	24.30	21.63	21.73	21.65	22.80	22.82	22.85	22.82	24.30
BC1 BQ2 F15Q2		22.81	22.80	22.80	24.30	21.65	21.73	21.64	22.80	22.82	22.84	22.80	24.30
BC1 BQ2 F15Q2		22.76	22.75	22.74	24.30	21.52	21.58	21.56	22.80	22.71	22.71	22.62	24.30
RTAP 153 BQ2		22.81	22.81	22.84	24.30	21.47	21.59	21.51	22.80	22.82	22.82	22.81	24.30
RTAP 153 BQ2		22.79	22.81	22.80	24.30	21.45	21.46	21.37	22.80	22.79	22.86	22.80	24.30

Band 2 (1900MHz Band)										
Part 24E										
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq 1800 1800	Power Ch / Freq 1800 1800	Power Ch / Freq 1800 1800	Turn-up limit (dB)	MPR (dB)		
Channel Frequency (MHz)										
20	QPSK	1	0	20.65	20.72	20.54	21.8	0		
20	QPSK	1	49	20.56	20.52	20.52				
20	QPSK	1	99	20.40	20.50	20.48	20.8	1		
20	QPSK	50	0	19.70	19.78	19.82				
20	QPSK	50	24	19.68	19.75	19.60	20.8	1		
20	QPSK	50	50	19.69	19.65	19.55				
20	QPSK	100	0	19.67	19.77	19.72	20.8	1		
20	16QAM	1	0	19.99	20.07	19.98				
20	16QAM	1	49	19.94	19.95	19.92	19.8	1		
20	16QAM	1	99	18.76	18.65	18.72				
20	16QAM	50	0	18.72	18.78	18.85	19.8	2		
20	16QAM	50	24	18.70	18.72	18.74				
20	16QAM	50	50	18.72	18.67	18.68	19.8	2		
20	16QAM	100	0	18.66	18.71	18.69				
20	84QAM	1	0	18.82	18.87	18.73	19.8	2		
20	84QAM	1	49	18.77	18.75	18.75				
20	84QAM	1	99	18.76	18.65	18.72	18.8	3		
20	84QAM	50	0	17.74	17.80	17.82				
20	84QAM	50	24	17.72	17.78	17.72	17.3	4.5		
20	84QAM	50	50	17.73	17.73	17.68				
20	84QAM	100	0	17.70	17.74	17.71	17.3	4.5		
20	256QAM	1	0	16.07	15.88	15.70				
20	256QAM	1	49	15.87	15.88	15.84	17.3	4.5		
20	256QAM	1	99	16.08	16.05	16.12				
20	256QAM	50	0	15.92	15.96	15.88	17.3	4.5		
20	256QAM	50	24	15.86	15.83	15.80				
20	256QAM	50	50	15.88	15.95	15.79	20.8	1		
20	256QAM	100	0	15.84	15.89	15.79				
Channel Frequency (MHz)										
15	QPSK	1	0	20.63	20.64	20.61	21.8	0		
15	QPSK	1	31	20.62	20.60	20.62				
15	QPSK	1	74	20.66	20.61	20.59	20.8	1		
15	QPSK	36	0	19.83	19.79	19.71				
15	QPSK	36	20	19.83	19.80	19.75	20.8	1		
15	QPSK	36	50	19.80	19.85	19.80				
15	QPSK	75	0	19.82	19.78	19.72	20.8	1		
15	16QAM	1	0	20.11	20.08	20.09				
15	16QAM	1	37	20.00	20.03	19.98	19.8	2		
15	16QAM	1	74	19.99	19.97	19.95				
15	16QAM	36	0	18.83	18.85	18.73	19.8	2		
15	16QAM	36	20	18.83	18.80	18.78				
15	16QAM	36	50	18.79	18.82	18.81	19.8	2		
15	16QAM	75	0	18.82	18.82	18.82				
15	84QAM	1	0	18.96	18.92	18.87	19.8	2		
15	84QAM	1	37	18.94	18.96	18.90				
15	84QAM	1	74	18.94	18.90	18.85	18.8	3		
15	84QAM	36	0	17.85	17.81	17.79				
15	84QAM	36	20	17.87	17.83	17.79	17.3	4.5		
15	84QAM	36	50	17.86	17.87	17.85				
15	84QAM	75	0	17.82	17.78	17.73	17.3	4.5		
15	256QAM	1	0	16.13	15.89	15.86				
15	256QAM	1	37	15.77	15.75	15.80	17.3	4.5		
15	256QAM	1	74	16.00	16.15	16.08				
15	256QAM	36	0	15.82	15.90	15.87	17.3	4.5		
15	256QAM	36	20	15.78	15.81	15.78				
15	256QAM	36	50	15.93	15.90	15.79	20.8	1		
15	256QAM	75	0	15.83	15.85	15.82				
Channel Frequency (MHz)										
10	QPSK	1	0	20.68	20.66	20.63	21.8	0		
10	QPSK	1	24	20.63	20.63	20.64				
10	QPSK	1	49	20.62	20.60	20.66	20.8	1		
10	QPSK	25	0	19.79	19.75	19.74				
10	QPSK	25	12	19.84	19.78	19.75	20.8	1		
10	QPSK	25	25	19.83	19.86	19.77				
10	QPSK	50	0	19.81	19.74	19.74	20.8	1		
10	16QAM	0	20.07	20.07	20.05					
10	16QAM	1	26	20.02	20.08	20.04	19.8	2		
10	16QAM	1	49	20.02	20.08	19.98				
10	16QAM	25	0	18.79	18.71	18.80	19.8	2		
10	16QAM	25	12	18.82	18.74	18.78				
10	16QAM	25	25	18.80	18.79	18.76	18.8	3		
10	16QAM	50	0	18.81	18.72	18.73				
10	84QAM	1	0	18.95	18.88	18.81	19.8	2		
10	84QAM	1	25	18.95	18.90	18.82				
10	84QAM	1	49	18.93	18.94	18.88	18.8	3		
10	84QAM	25	0	17.85	17.80	17.81				
10	84QAM	25	12	17.86	17.81	17.81	17.3	4.5		
10	84QAM	25	25	17.85	17.94	17.91				
10	84QAM	50	0	17.85	17.84	17.81	17.3	4.5		
10	256QAM	1	0	15.89	16.15	15.93				
10	256QAM	1	49	16.08	16.14	16.15	17.3	4.5		
10	256QAM	25	0	15.92	15.92	15.92				
10	256QAM	25	12	15.84	15.83	15.87	20.8	1		
10	256QAM	25	25	15.91	15.85	15.88				
10	256QAM	50	0	15.94	15.92	15.77	20.8	1		
10	256QAM	50	24	15.92	15.90	15.75				
Channel Frequency (MHz)										
5	QPSK	1	0	20.58	20.62	20.55	21.8	0		
5	QPSK	1	12	20.71	20.68	20.65				
5	QPSK	1	24	20.62	20.60	20.66	20.8	1		
5	QPSK	12	0	19.83	19.78	19.86				
5	QPSK	12	7	19.84	19.81	19.72	20.8	1		
5	QPSK	12	13	19.81	19.83	19.72				
5	QPSK	20	0	19.83	19.78	19.84	20.8	1		
5	16QAM	1	0	20.07	19.93	19.83				
5	16QAM	1	12	20.05	20.07	19.96	19.8	2		
5	16QAM	1	24	20.08	20.04	20.00				
5	16QAM	12	0	18.85	18.74	18.88	19.8	2		
5	16QAM	12	7	18.84	18.85	18.70				
5	16QAM	12	13	18.83	18.82	18.78	19.8	2		
5	16QAM	25	0	18.82	18.78	18.70				
5	84QAM	1	0	18.97	18.88	18.85	19.8	2		
5	84QAM	1	8	18.92	18.93	18.74				
5	84QAM	1	24	19.01	19.03	18.94	18.8	3		
5	84QAM	12	0	17.90	17.82	17.85				
5	84QAM	12	7	17.89	17.88	17.82	17.3	4.5		
5	84QAM	12	13	17.86	17.87	17.89				
5	84QAM	25	0	17.85	17.80	17.83	17.3	4.5		
5	84QAM	25	12	17.89	17.82	17.85				
5	84QAM	25	25	17.86	17.87	17.89	17.3	4.5		
5	84QAM	50	0	16.99	16.83	16.73				
5	84QAM	50	12	16.99	16.92	16.95	17.3	4.5		
5	84QAM	50	24	16.98	16.95	16.97				
5	256QAM	1	0	15.82	15.90	15.83	17.3	4.5		
5	256QAM	1	24	15.86	15.88	15.85				
5	256QAM	1	49	15.85	15.87	15.84	17.3	4.5		
5	256QAM	12	0	15.88	15.88	15.88				
5	256QAM	12	9	15.89	15.87	15.89	17.3	4.5		
5	256QAM	12	18	15.86	15.85	15.82				
5	256QAM	25	0	15.82	15.88	15.87	20.8	1		
5	256QAM	25	12	15.84	15.86	15.83				
Channel Frequency (MHz)										
3	QPSK	1	0	20.68	20.63	20.62	21.8	0		
3	QPSK	1	14	20.69	20.60	20.63				
3	QPSK	1	28	20.69	20.60	20.63	20.8	1		
3	QPSK	8	0	19.84	19.74	19.71				
3	QPSK	8	7	19.84	19.73	19.72	20.8	1		
3	QPSK	8	14	19.81	19.73	19.71				
3	QPSK	15	0	19.79	19.76	19.67	20.8	1		
3	QPSK	15	7	19.78	19.73	19.71				
3	16QAM	1	0	20.06	19.96	19.97	19.8	2		
3	16QAM	1	8	20.16	20.07	20.08				
3	16QAM	1	14	20.07	20.02	19.98	18.8	3		
3	16QAM	8	0	18.94	18.87	18.81				
3	16QAM	8	4	18.93	18.89	18.76	19.8	2		
3	16QAM	8	7	18.87	18.83	18.74				
3	16QAM	8	14	18.85	18.77	18.73	17.3	4.5		
3	16QAM	15	0	18.84	18.87	18.87				
3	84QAM	1	0	19.04	19.01	18.97	19.8	2		
3	84QAM	1	8	19.07	18.94	18.99				
3	84QAM	1	14	19.07	18.98	18.99	18.8	3		
3	84QAM	8	0	17.91	17.81	17.85				
3	84QAM	8	4	17.90	17.88	17.89	17.3	4.5		
3	84QAM	8	7	17.87	17.84	17.80				
3	84QAM	15	0	16.99	16.83	16.73	17.3	4.5		
3	84QAM	15	7	16.99	16.92	16.95				
3	256QAM	1	0	15.82	15.90	15.83	17.3	4.5		
3	256QAM	1	24	15.86	15.88	15.85				
3	256QAM	1	49	15.85	15.87	15.84	17.3	4.5		
3	256QAM	12	0	15.88	15.88	15.88				
3	256QAM	12	9	15.89	15.87	15.89	17.3	4.5		
3	256QAM	12	18	15.86	15.85	15.82				
3	256QAM	25	0	15.82	15.88	15.87	20.8	1		
3	256QAM	25	12	15.84	15.86	15.83				
3	256QAM	25	24	15.84	15.8					



Band 7 (2600MHz Band)											
Part 27											
SV (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq.	Power Low Ch / Freq.	Power High Ch / Freq.	Turn-up limit (dB)	MPR (dB)			
Channel Frequency (MHz)											
20	QPSK	1	0	20.16	20.39	20.53		20.8	0		
20	QPSK	1	49	20.35	20.49	20.58					
20	QPSK	1	99	20.52	20.67	20.61					
20	QPSK	50	0	19.42	19.52	19.64					
20	QPSK	50	24	19.44	19.55	19.74		19.8	1		
20	QPSK	50	50	19.43	19.55	19.74					
20	16QAM	1	0	19.61	19.78	19.74					
20	16QAM	1	49	19.71	19.73	19.67					
20	16QAM	1	99	19.72	19.62	19.71		18.8	2		
20	16QAM	50	0	18.35	18.54	18.68					
20	16QAM	50	24	18.48	18.59	18.74					
20	16QAM	50	50	18.47	18.69	18.73		18.8	2		
20	64QAM	1	0	18.54	18.78	18.71					
20	64QAM	1	99	18.63	18.71	18.74					
20	64QAM	50	0	17.37	17.58	17.64					
20	64QAM	50	24	17.51	17.60	17.80		17.8	3		
20	64QAM	50	50	17.63	17.69	17.80					
20	256QAM	1	0	15.88	15.97	15.88					
20	256QAM	1	49	15.75	15.96	15.82		16.3	4.5		
20	256QAM	1	99	15.84	15.84	15.79					
20	256QAM	50	0	15.62	15.76	15.68					
20	256QAM	50	24	15.78	15.81	15.78					
20	256QAM	50	50	15.76	15.77	15.71		16.3	4.5		
20	256QAM	100	0	15.72	15.81	15.64					
Channel Frequency (MHz)											
2005.5	2055.5	2062.5	2069.5	2076.5	2083.5	2090.5	Turn-up limit (dB)			MPR (dB)	
15	QPSK	1	0	20.30	20.44	20.57		20.8	0		
15	QPSK	1	37	20.27	20.52	20.60					
15	QPSK	1	74	20.37	20.59	20.58					
15	QPSK	36	0	19.32	19.52	19.65					
15	QPSK	36	36	19.45	19.59	19.78		19.8	1		
15	QPSK	36	36	19.44	19.68	19.78					
15	QPSK	75	0	19.41	19.54	19.74					
15	16QAM	1	0	19.62	19.74	19.74		19.8	1		
15	16QAM	1	37	19.64	19.72	19.73					
15	16QAM	1	74	19.68	19.68	19.71					
15	16QAM	36	0	18.34	18.59	18.75					
15	16QAM	36	36	18.42	18.67	18.76		18.8	2		
15	16QAM	75	0	18.44	18.54	18.71					
15	16QAM	1	0	18.47	18.65	18.73					
15	64QAM	1	37	18.58	18.74	18.75		18.8	2		
15	64QAM	1	74	18.60	18.77	18.74					
15	64QAM	36	0	17.37	17.57	17.69					
15	64QAM	36	26	17.47	17.62	17.77		17.8	3		
15	64QAM	36	36	17.48	17.79	17.79					
15	64QAM	75	0	17.41	17.58	17.75					
15	256QAM	1	0	15.68	15.86	15.80		16.3	4.5		
15	256QAM	1	37	15.79	15.91	15.75					
15	256QAM	1	74	15.89	15.90	15.82					
15	256QAM	50	0	15.65	15.76	15.68					
15	256QAM	36	26	15.78	15.85	15.85		16.3	4.5		
15	256QAM	36	36	15.70	15.82	15.70					
15	256QAM	75	0	15.67	15.82	15.70					
Channel Frequency (MHz)											
2005	2035	2055	2075	2095	2115	2135	Turn-up limit (dB)	MPR (dB)			
10	QPSK	1	0	20.10	20.25	20.57		20.8	0		
10	QPSK	1	25	20.15	20.41	20.51					
10	QPSK	1	49	20.20	20.48	20.60					
10	QPSK	25	0	19.33	19.50	19.63					
10	QPSK	25	25	19.36	19.54	19.68		19.8	1		
10	QPSK	25	26	19.37	19.60	19.73					
10	QPSK	50	0	19.36	19.53	19.64					
10	16QAM	1	0	19.53	19.78	19.71					
10	16QAM	1	25	19.52	19.78	19.67		19.8	1		
10	16QAM	1	49	19.63	19.75	19.68					
10	16QAM	25	0	18.36	18.51	18.62					
10	16QAM	25	12	18.42	18.58	18.71		18.8	2		
10	16QAM	25	25	18.36	18.61	18.75					
10	16QAM	50	0	18.37	18.54	18.68					
10	64QAM	1	0	18.39	18.62	18.72		18.8	2		
10	64QAM	1	25	18.49	18.71	18.74					
10	64QAM	1	49	18.52	18.70	18.76					
10	64QAM	25	0	17.39	17.54	17.66					
10	64QAM	25	12	17.44	17.58	17.71		17.8	3		
10	64QAM	25	25	17.41	17.67	17.77					
10	64QAM	50	0	17.39	17.58	17.72					
10	256QAM	1	25	15.81	16.04	15.88		16.3	4.5		
10	256QAM	1	49	15.80	15.91	15.81					
10	256QAM	25	0	15.62	15.82	15.68					
10	256QAM	25	12	15.78	15.73	15.82					
10	256QAM	25	25	15.88	15.87	15.88		16.3	4.5		
10	256QAM	50	0	15.72	15.78	15.78					
Channel Frequency (MHz)											
2007.5	2109.5	2120.5	2120.5	2120.5	2120.5	2120.5	Turn-up limit (dB)	MPR (dB)			
5	QPSK	1	0	20.12	20.27	20.58		20.8	0		
5	QPSK	1	16	20.19	20.47	20.59					
5	QPSK	1	24	20.22	20.48	20.57					
5	QPSK	12	0	19.29	19.51	19.71					
5	QPSK	12	7	19.34	19.52	19.70		19.8	1		
5	QPSK	12	13	19.32	19.61	19.73					
5	QPSK	26	0	19.34	19.53	19.70					
5	16QAM	1	0	19.43	19.71	19.74					
5	16QAM	1	12	19.50	19.74	19.68		19.8	1		
5	16QAM	1	24	19.52	19.78	19.74					
5	16QAM	12	7	18.36	18.67	18.72					
5	16QAM	12	13	18.39	18.53	18.72		18.8	2		
5	16QAM	25	0	18.37	18.64	18.76					
5	16QAM	25	9	18.32	18.58	18.73					
5	64QAM	1	0	18.39	18.65	18.67		18.8	2		
5	64QAM	1	18	18.44	18.69	18.72					
5	64QAM	1	24	18.46	18.75	18.73					
5	64QAM	12	0	17.39	17.58	17.78					
5	64QAM	12	7	17.41	17.61	17.71		17.8	3		
5	64QAM	12	13	17.35	17.64	17.68					
5	64QAM	25	0	17.37	17.53	17.74					
5	256QAM	1	0	15.64	15.80	15.84		16.3	4.5		
5	256QAM	1	12	15.67	15.89	15.90					
5	256QAM	1	24	15.80	15.88	15.89					
5	256QAM	12	0	15.60	15.81	15.85					
5	256QAM	12	7	15.83	15.91	15.78		16.3	4.5		
5	256QAM	12	13	15.82	15.84	15.77					
5	256QAM	25	0	15.63	15.80	15.78					

Band 12 (700MHz Low Band)									
Part 27F(only on channel required)									
RF (MHz)	Modulation	Channel	RB Size	RB Offset	Power Ch / Freq.	Power Midband / Freq.	Power High / Freq.	Turn-up limit (dB)	MPR (dB)
Channel Frequency (MHz)									
10	QPSK	1	0	22.18	22.21	22.17		23.3	0
10	QPSK	1	25	22.27	22.19	22.21			
10	QPSK	1	49	22.30	22.32	22.19			
10	QPSK	25	0	21.30	21.29	21.31			
10	QPSK	25	12	21.36	21.41	21.33		22.3	1
10	QPSK	25	25	21.38	21.43	21.34			
10	QPSK	50	0	21.34	21.39	21.32			
10	16QAM	1	0	21.67	21.63	21.61			
10	16QAM	1	25	21.67	21.62	21.59		22.3	1
10	16QAM	1	49	21.69	21.63	21.56			
10	16QAM	25	0	20.29	20.40	20.27			
10	16QAM	25	12	20.37	20.38	20.38		21.3	2
10	16QAM	50	0	20.27	20.28	20.27			
10	64QAM	1	0	20.39	20.45	20.38		21.3	
10	64QAM	1	25	20.53	20.48	20.52			
10	64QAM	1	49	20.50	20.49	20.53			
10	64QAM	25	0	19.75	19.29	19.27			
10	64QAM	25	12	19.35	19.41	19.29		20.3	3
10	64QAM	25	25	19.41	19.40	19.43			
10	64QAM	50	0	19.35	19.43	19.32		18.8	4.5
10	64QAM	1	0	17.75	17.62	17.78			
10	64QAM	1	25	17.78	17.73	17.68			
10	64QAM	1	49	17.79	17.82	17.75			
10	64QAM	25	0	17.66	17.61	17.68		18.8	4.5
10	64QAM	25	12	17.68	17.70	17.68			
10	64QAM	50	0	17.61	17.58	17.58			
10	64QAM	50	0	17.65	17.69	17.63			
Frequency (MHz)								Turn-up limit (dB)	MPR (dB)
5	QPSK	1	0	22.05	22.07	22.03		23.3	0
5	QPSK	1	12	22.23	22.25	22.18			
5	QPSK	1	25	22.29	22.31	22.18			
5	QPSK	12	0	21.29	21.35	21.30			
5	QPSK	12	7	21.32	21.39	21.35		22.3	1
5	QPSK	12	19	21.32	21.39	21.32			
5	QPSK	25	0	21.33	21.41	21.25			
5	16QAM	1	0	21.61	21.60	21.62			
5	16QAM	1	12	21.65	21.63	21.63		22.3	1
5	16QAM	1	25	21.63	21.61	21.60			
5	16QAM	12	0	20.33	20.37	20.37			
5	16QAM	12	7	20.37	20.41	20.40		21.3	2
5	16QAM	25	0	20.33	20.38	20.30			
5	64QAM	1	0	20.43	20.47	20.46		21.3	2
5	64QAM	1	12	20.46	20.42	20.48			
5	64QAM	1	25	20.48	20.46	20.48			
5	64QAM	12	0	19.34	19.40	19.30			
5	64QAM	12	7	19.39	19.46	19.43		20.3	3
5	64QAM	12	19	19.38	19.38	19.38			
5	64QAM	25	0	19.32	19.41	19.25		18.8	4.5
5	64QAM	1	0	17.74	17.62	17.73			
5	64QAM	1	12	17.78	17.68	17.63			
5	64QAM	1	24	17.72	17.67	17.71			
5	64QAM	12	0	17.76	17.51	17.68		18.8	4.5
5	64QAM	12	7	17.78	17.65	17.68			
5	64QAM	25	0	17.75	17.66	17.65			
Frequency (MHz)								Turn-up limit (dB)	MPR (dB)
3	QPSK	1	0	22.20	22.24	22.23		23.3	0
3	QPSK	1	12	22.24	22.26	22.24			
3	QPSK	1	14	22.17	22.23	22.17			
3	QPSK	8	0	21.28	21.32	21.28			
3	QPSK	8	7	21.31	21.40	21.33		22.3	1
3	QPSK	15	0	21.26	21.35	21.28			
3	16QAM	1	0	21.62	21.62	21.63			
3	16QAM	1	8	21.66	21.65	21.67			
3	16QAM	1	14	21.61	21.62	21.62		22.3	1
3	16QAM	8	0	20.31	20.36	20.35			
3	16QAM	8	4	20.37	20.46	20.30			
3	16QAM	8	7	20.36	20.42	20.31		21.3	2
3	16QAM	15	0	20.35	20.41	20.35			
3	64QAM	1	0	20.43	20.53	20.50		20.3	3
3	64QAM	1	8	20.53	20.61	20.66			
3	64QAM	1	14	20.48	20.53	20.48			
3	64QAM	8	0	19.32	19.37	19.31			
3	64QAM	8	4	19.42	19.42	19.34		18.8	4.5
3	64QAM	8	7	19.35	19.37	19.34			
3	64QAM	15	0	19.32	19.38	19.32			
3	64QAM	15	0	19.35	19.42	19.35			
3	64QAM	1	0	17.69	17.77	17.74		18.8	4.5
3	64QAM	1	14	17.88	17.82	17.74			
3	64QAM	1	28	17.88	17.88	17.82		18.8	4.5
3	64QAM	8	0	17.80	17.80	17.67			
3	64QAM	8	7	17.72	17.68	17.67			
3	64QAM	15	0	17.74	17.64	17.64			
Channel Frequency (MHz)								Turn-up limit (dB)	MPR (dB)
1.4	QPSK	1	0	22.07	22.11	22.12		23.3	0
1.4	QPSK	1	15	22.13	22.26	22.21			
1.4	QPSK	1	30	22.06	22.19	22.12			
1.4	QPSK	30	0	22.09	22.14	22.09			
1.4	QPSK	30	15	22.18	22.23	22.17		22.3	1
1.4	QPSK	30	30	22.12	22.20	22.11			
1.4	QPSK	1	0	21.35	21.39	21.34			
1.4	16QAM	1	0	21.36	21.47	21.49			
1.4	16QAM	1	15	21.44	21.57	21.47		22.3	1
1.4	16QAM	1	30	21.24	21.28	21.27			
1.4	16QAM	30	0	20.27	20.33	20.29			
1.4	16QAM	30	15	20.36	20.41	20.43		21.3	2
1.4	16QAM	1	0	20.33	20.36	20.36			
1.4	16QAM	1	15	20.33	20.43	20.43		20.3	3
1.4	16QAM	1	30	20.32	20.38	20.40			
1.4	16QAM	30	0	19.31	19.36	19.35			
1.4	16QAM	30	15	19.38	19.44	19.34			
1.4	64QAM	1	0	17.88	17.87	17.85		18.8	4.5
1.4	64QAM	1	15	17.70	17.71	17.68			
1.4	64QAM	1	30	17.70	17.71	17.68			
1.4	64QAM	30	0	17.64	17.65	17.65			
1.4	64QAM	3	0	17.72	17.68	17.69		18.8	4.5
1.4	64QAM	3	15	17.68	17.65	17.65			
1.4	64QAM	3	30	17.68	17.65	17.65			



Band 17 (700MHz Band)										
Part 27H(only on channel required)										
RF (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq.	Power Ch / Freq.	Power Ch / Freq.	Turn-up Init (dB)	MPR (dB)		
Channel Frequency (MHz)										
705 710 715										
5	QPSK	1	0	22.19	22.20	22.21	23.3	0		
10	QPSK	1	25	22.21	22.22	22.19				
10	QPSK	1	49	22.20	22.24	22.23				
5	QPSK	25	0	21.32	21.32	21.31	22.3	1		
10	QPSK	25	0	21.30	21.30	21.32				
10	QPSK	25	25	21.40	21.38	21.30				
5	QPSK	50	0	21.37	21.36	21.29	23.3	1		
10	16QAM	1	0	21.48	21.48	21.43				
10	16QAM	1	25	21.56	21.52	21.61				
5	QPSK	1	49	21.65	21.63	21.64	21.3	2		
10	16QAM	25	0	20.52	20.55	20.56				
10	16QAM	25	12	20.41	20.43	20.31				
5	QPSK	25	25	20.40	20.42	20.35	20.3	3		
10	16QAM	50	0	20.38	20.35	20.31				
10	16QAM	1	0	20.35	20.38	20.47				
5	QPSK	1	25	20.47	20.49	20.53	21.3	2		
10	64QAM	1	49	20.52	20.48	20.54				
10	64QAM	25	0	19.33	19.39	19.37				
5	QPSK	25	12	19.43	19.47	19.35	20.3	3		
10	64QAM	25	25	19.40	19.40	19.37				
10	64QAM	50	0	19.42	19.39	19.32				
5	256QAM	1	0	17.97	17.84	18.00	18.8	4.5		
10	256QAM	1	25	18.03	17.86	17.87				
10	256QAM	1	49	18.01	17.84	17.82				
5	QPSK	25	0	17.88	17.83	17.88	18.8	4.5		
10	256QAM	25	12	17.90	17.82	17.82				
10	256QAM	25	25	17.91	17.80	17.81				
5	QPSK	50	0	17.87	17.81	17.80	18.8	4.5		
10	256QAM	50	0	17.87	17.81	17.80				
10	256QAM	50	0	17.87	17.81	17.80				
Channel Frequency (MHz)										
705.5 710.5 715.5										
5	QPSK	1	0	22.12	22.20	22.18	23.3	0		
10	QPSK	1	25	22.23	22.20	22.18				
10	QPSK	1	49	22.22	22.24	22.24				
5	QPSK	12	0	21.29	21.30	21.24	22.3	1		
10	QPSK	12	0	21.28	21.34	21.28				
5	QPSK	12	19	21.36	21.31	21.31				
5	QPSK	25	0	21.34	21.33	21.24	23.3	1		
10	QPSK	25	0	21.46	21.38	21.26				
5	QPSK	12	19	21.53	21.58	21.55				
5	QPSK	1	49	21.62	21.60	21.61	21.3	2		
10	16QAM	25	0	20.58	20.58	20.57				
10	16QAM	25	12	20.48	20.45	20.37				
5	QPSK	12	7	20.38	20.35	20.33	21.3	2		
10	16QAM	50	0	20.35	20.35	20.35				
5	QPSK	25	0	20.33	20.34	20.24				
5	QPSK	1	0	20.43	20.46	20.41	21.3	2		
10	64QAM	1	25	20.48	20.45	20.45				
10	64QAM	1	49	20.53	20.50	20.56				
5	QPSK	12	0	19.33	19.33	19.34	20.3	3		
10	64QAM	12	0	19.45	19.45	19.35				
5	QPSK	12	19	19.42	19.40	19.38				
5	QPSK	25	0	19.36	19.38	19.28	18.8	4.5		
10	256QAM	25	0	17.98	17.84	17.84				
5	256QAM	1	12	17.39	17.32	17.32				
5	QPSK	1	25	17.52	17.55	17.28	18.8	4.5		
10	256QAM	1	49	17.54	17.44	17.44				
5	QPSK	12	7	17.43	17.51	17.23				
5	QPSK	25	0	17.37	17.37	17.23	18.8	4.5		
10	256QAM	25	0	17.28	17.31	17.42				

Band 25 (100MHz Band)										
Part 24E										
RF (MHz)	Modulation	Channel	RB Offset	Power Low Ch 20440	Power Mid Ch 20445	Power High Ch 20450	Power High Ch 20455	Turn-up Init (dB)	MPR (dB)	
Frequency (MHz)										
20	QPSK	1	0	20.74	20.70	20.70		21.8	0	
20	QPSK	1	49	20.62	20.65	20.64				
20	QPSK	1	99	20.59	20.59	20.61				
20	QPSK	50	0	19.75	19.75	19.75		20.8	1	
20	QPSK	50	24	19.77	19.68	19.73				
20	QPSK	50	50	19.76	19.74	19.70				
20	QPSK	100	0	19.76	19.74	19.70		20.8	1	
20	16QAM	1	0	20.11	20.12	20.04				
20	16QAM	1	49	20.03	20.03	20.06				
20	16QAM	1	99	19.96	19.94	19.97		19.8	2	
20	16QAM	50	0	19.93	19.91	19.86				
20	16QAM	50	24	19.91	19.92	19.77				
20	16QAM	50	50	19.85	19.88	19.81		19.8	2	
20	16QAM	100	0	19.81	19.76	19.87				
20	64QAM	1	99	19.76	19.83	19.85				
20	64QAM	50	0	17.85	17.84	17.76		18.8	3	
20	64QAM	50	24	17.83	17.82	17.78				
20	64QAM	50	50	17.82	17.87	17.84				
20	256QAM	1	0	16.03	16.02	16.04		17.3	4.5	
20	256QAM	1	49	16.07	16.07	16.01				
20	256QAM	1	99	16.01	16.05	15.92				
20	256QAM	50	0	15.96	15.91	15.92		17.3	4.5	
20	256QAM	50	24	15.97	15.94	15.90				
20	256QAM	50	50	15.92	15.95	15.85				
20	256QAM	100	0	15.92	15.96	15.91		18.8	4.5	
20	256QAM	100	0	15.92	15.96	15.91				
20	256QAM	100	0	15.92	15.96	15.91				
Frequency (MHz)										
15	QPSK	1	0	16.07	16.08	16.07		21.8	0	
15	QPSK	1	49	20.69	20.64	20.65				
15	QPSK	1	99	20.65	20.65	20.61				
15	QPSK	1	74	20.55	20.56	20.59		20.8	1	
15	QPSK	50	0	19.79	19.73	19.69				
15	QPSK	50	24	19.74	19.74	19.65				
15	QPSK	50	39	19.67	19.71	19.62		20.8	1	
15	QPSK	75	0	19.74	19.68	19.68				
15	16QAM	1	99	19.91	19.93	19.85				
15	16QAM	1	37	19.79	19.79	19.79		19.8	2	
15	16QAM	50	0	19.79	19.74	19.74				
15	16QAM	50	39	19.76	19.72	19.64				
15	16QAM	36	20	19.73	19.76	19.68		19.8	2	
15	16QAM	36	20	19.73	19.76	19.68				
15	16QAM	36	20	19.74	19.72	19.65				
15	16QAM	1	0	16.88	16.82	16.75		19.8	2	
15	16QAM	1	37	16.83	16.82	16.82				
15	16QAM	1	74	16.76	16.81	16.71				
15	64QAM	36	20	17.62	17.75	17.69		18.8	3	
15	64QAM	36	20	17.72	17.61	17.67				
15	64QAM	36	20	17.71	17.72	17.61				
15	64QAM	75	0	17.76	17.68	17.78		17.3	4.5	
15	64QAM	75	0	15.99	15.99	15.99				
15	64QAM	1	37	16.06	16.04	16.02				
15	256QAM	1	74	16.01	16.01	15.99		17.3	4.5	
15	256QAM	1	37	16.01	16.01	15.99				
15	256QAM	36	20	16.83	16.81	16.85				
15	256QAM	36	20	16.83	16.81	16.85		17.3	4.5	
15	256QAM	75	0	16.02	15.92	16.02				

Channel Frequency (MHz)										
1855 1860 1902.5										
15	QPSK	1	0	20.66	20.64	20.56	21.8	0		
15	QPSK	1	31	20.67	20.63	20.57				
15	QPSK	1	74	20.55	20.56	20.50				
15	QPSK	36	0	19.79	19.73	19.62	20.8	1		
15	QPSK	36	18	19.79	19.73	19.62				
15	QPSK	36	36	19.67	19.71	19.65				
15	QPSK	75	0	19.74	19.65	19.69	20.8	1		
15	16QAM	1	0	19.86	19.87	19.81				
15	16QAM	1	37	19.91	19.93	19.85				
15	16QAM	1	74	19.94	19.79	19.78	19.8	2		
15	16QAM	36	0	18.75	18.76	18.68				
15	16QAM	36	36	18.64	18.70	18.63				
15	16QAM	75	0	18.74	18.60	18.69	19.8	2		
15	16QAM	75	0	18.88	18.82	18.73				
15	64QAM	1	37	18.70	18.83	18.75				
15	64QAM	1	74	18.72	17.75	17.68	18.8	3		
15	64QAM	36	0	17.82	17.77	17.68				
15	64QAM	36	36	17.78	17.81	17.71				
15	256QAM	1	0	16.04	15.95	16.04	17.3	4.5		
15	256QAM	1	37	16.06	16.04	16.09				
15	256QAM	1	74	16.01	16.01	15.99				
15	256QAM	36	0	15.92	15.97	15.99	17.3	4.5		
15	256QAM	36	36	15.83	15.81	15.85				
15	256QAM	36	75	15.87	15.95	15.86				
15	256QAM	75	0	15.94	15.92	15.90	18.8	4.5		
15	256QAM	75	0	15.94	15.92	15.90				
15	256QAM	75	0	15.94	15.92	15.90				

Channel							Turnup (dB)	MPR (dB)
Frequency (MHz)								
3	QPSK	1	0	20.58	20.48	20.41	21.8	0
3	QPSK	1	8	20.68	20.66	20.61		
3	QPSK	1	14	20.68	20.62	20.61		
3	QPSK	12	0	19.72	19.60	19.49	20.8	1
3	QPSK	12	8	19.81	19.70	19.59		
3	QPSK	12	14	19.79	19.71	19.68		
3	QPSK	36	0	19.73	19.71	19.64	20.8	1
3	16QAM	1	0	19.86	19.84	19.72		
3	16QAM	1	12	20.05	20.01	19.98		
3	16QAM	1	24	19.99	19.94	19.94	19.8	2
3	16QAM	12	0	18.75	18.68	18.60		
3	16QAM	12	8	18.82	18.82	18.74		
3	16QAM	12	15	18.83	18.80	18.70	19.8	2
3	16QAM	25	0	18.77	18.74	18.57		
3	64QAM	1	0	18.87	18.79	18.75		
3	64QAM	1	24	18.84	18.81	18.80	18.8	3
3	64QAM	12	0	18.81	18.83	18.80		
3	64QAM	12	8	18.84	18.82	18.81		
3	64QAM	12	15	18.75	18.77	18.61	17.3	4.5
3	64QAM	25	0	17.87	17.78	17.69		
3	256QAM	1	0	17.74	17.74	17.64		
3	256QAM	1	8	18.00	18.10	18.04	17.3	4.5
3	256QAM	1	14	18.03	18.14	18.00		
3	256QAM	1	24	18.03	18.13	18.06		
3	256QAM	12	0	15.99	15.94	15.90	17.3	4.5
3	256QAM	12	8	15.99	15.99	15.79		
3	256QAM	12	15	16.02	15.99	15.89		
3	256QAM	25	0	16.02	15.82	15.80	17.3	4.5
3	256QAM	25	8	16.02	15.82	16.00		
3	256QAM	25	15	16.02	15.82	16.00		
Channel							Turnup (dB)	MPR (dB)
Frequency (MHz)								
14	QPSK	1	0	20.52	20.46	20.40	21.8	0
14	QPSK	1	8	20.61	20.55	20.54		
14	QPSK	1	14	20.67	20.55	20.47		
14	QPSK	12	0	19.68	19.51	19.20	20.8	1
14	QPSK	12	8	20.65	20.57	20.48		
14	QPSK	12	14	20.62	20.55	20.47		
14	QPSK	36	0	19.67	19.61	19.57	20.8	1
14	16QAM	1	0	19.87	19.78	19.70		
14	16QAM	1	12	19.94	19.95	19.91		
14	16QAM	1	24	19.93	19.88	19.88	20.8	1
14	16QAM	12	0	19.00	18.93	18.90		
14	16QAM	12	8	19.04	18.99	18.93		
14	16QAM	12	15	19.73	19.67	19.48	19.8	2
14	16QAM	25	0	19.74	19.67	19.61		
14	64QAM	1	0	19.79	19.75	19.55		
14	64QAM	1	24	19.82	19.81	19.80	19.8	2
14	64QAM	12	0	19.83	19.86	19.86		
14	64QAM	12	8	19.85	19.86	19.83		
14	64QAM	12	15	19.80	19.80	19.81	18.8	3
14	64QAM	25	0	17.82	17.83	17.81		
14	256QAM	1	0	18.00	18.00	18.00		
14	256QAM	1	8	18.09	18.13	18.07	17.3	4.5
14	256QAM	1	14	18.02	18.07	18.03		
14	256QAM	1	24	18.02	18.04	18.04		
14	256QAM	12	0	15.92	15.97	15.83	17.3	4.5
14	256QAM	12	8	15.92	15.94	15.84		
14	256QAM	12	15	16.01	16.05	15.79		
14	256QAM	25	0	15.96	16.03	15.92	17.3	4.5
14	256QAM	25	8	15.91	15.91	15.90		
14	256QAM	25	15	15.91	15.92	15.90		

Band 30												
BW (MHz)	Modulation	RB Size	RB Offset	Power Line Ch./Freq.	Power Mod Ch./Freq.	Power Pil Ch./Freq.	Turn-up (dB)	MPR (dB)				
Channel 2771.0 2771.0												
10	QPSK	1	0	20.26			21.5	0				
10	QPSK	1	25	20.30								
10	QPSK	1	49	20.34								
10	QPSK	25	0	19.44			20.5	1				
10	QPSK	25	12	19.47								
10	QPSK	25	25	19.45								
10	QPSK	50	0	19.46			20.5	1				
10	16QAM	1	0	19.63								
10	16QAM	1	25	19.70								
10	16QAM	1	49	19.75			19.5	2				
10	16QAM	25	0	19.60								
10	16QAM	25	12	19.65								
10	16QAM	25	25	19.66			19.5	2				
10	16QAM	50	0	19.64								
10	64QAM	1	0	19.65								
10	64QAM	1	25	19.69			18.5	3				
10	64QAM	1	49	19.61								
10	64QAM	25	0	17.46								
10	64QAM	25	12	17.50			17	4.5				
10	64QAM	25	25	17.51								
10	64QAM	50	0	17.49								
10	256QAM	1	0	15.71			17	4.5				
10	256QAM	1	25	15.86								
10	256QAM	1	49	15.77								
10	256QAM	25	0	15.61			17	4.5				
10	256QAM	25	12	15.78								
10	256QAM	25	25	15.69								
10	256QAM	50	0	15.62			17	4.5				
Channel 2769.5 2770.5 2770.5												
Frequency (MHz)												
5	QPSK	1	0	20.30	20.32	20.33	21.5	0				
5	QPSK	1	49	20.42	20.45	20.44						
5	QPSK	1	24	20.41	20.38	20.34						
5	QPSK	12	0	19.40	19.45	19.46	20.5	1				
5	QPSK	12	13	19.47	19.49	19.40						
5	QPSK	12	13	19.48	19.42	19.51						
5	QPSK	25	0	19.47	19.41	19.47	20.5	1				
5	16QAM	1	0	19.61	19.60	19.72						
5	16QAM	1	12	19.72	19.78	19.75						
5	16QAM	1	24	19.62	19.74	19.72	19.5	2				
5	16QAM	12	0	19.40	19.47	19.47						
5	16QAM	12	7	19.57	19.49	19.51						
5	16QAM	12	13	19.53	19.46	19.50	19.5	2				
5	16QAM	25	0	19.47	19.43	19.48						
5	64QAM	1	0	19.58	19.59	19.84						
5	64QAM	1	12	19.67	19.68	19.67	18.5	3				
5	64QAM	1	24	19.73	19.66	19.65						
5	64QAM	12	0	17.47	17.59	17.54						
5	64QAM	12	7	17.55	17.56	17.56	17	4.5				
5	64QAM	12	13	17.59	17.53	17.55						
5	64QAM	25	0	17.52	17.47	17.51						
5	256QAM	1	0	15.80	15.72	15.83	17	4.5				
5	256QAM	1	12	15.84	15.77	15.96						
5	256QAM	1	24	15.87	15.72	15.81						
5	256QAM	12	0	15.97	15.82	15.88	17	4.5				
5	256QAM	12	7	15.71	15.72	15.68						
5	256QAM	12	13	15.67	15.70	15.61						
5	256QAM	25	0	15.58	15.68	15.71	17	4.5				

Band 66												
BW (MHz)	Modulation	RB Size	RB Offset	Power Line Ch./Freq. (MHz)	Power Mod Ch./Freq. (MHz)	Power Pil Ch./Freq. (MHz)	Turn-up (dB)	MPR (dB)				
Channel Frequency (MHz)												
20	QPSK	1	0	20.57	20.73	20.59	21.8	0				
20	QPSK	1	49	20.50	20.58	20.50						
20	QPSK	1	99	20.39	20.58	20.43						
20	QPSK	50	0	19.84	19.71	19.81	20.8	1				
20	QPSK	50	24	19.83	19.69	19.80						
20	QPSK	50	50	19.00	19.05	19.59						
20	16QAM	1	0	19.95	19.96	19.96	20.8	1				
20	16QAM	1	49	19.94	19.95	19.94						
20	16QAM	1	99	19.74	19.91	19.80						
20	16QAM	50	0	19.83	19.74	19.82	19.8	2				
20	16QAM	50	24	19.87	19.70	19.80						
20	16QAM	50	50	19.81	19.70	19.81						
20	16QAM	100	0	19.85	19.82	19.56	19.8	2				
20	64QAM	1	0	19.80	19.97	19.73						
20	64QAM	1	49	19.73	19.86	19.71	18.8	3				
20	64QAM	1	99	19.85	19.83	19.83						
20	64QAM	50	0	17.64	17.74	17.84						
20	64QAM	50	24	17.88	17.70	17.61	17.3	4.5				
20	64QAM	50	50	17.84	17.72	17.64						
20	64QAM	100	0	17.65	17.70	17.61						
20	256QAM	1	0	15.04	15.09	15.02	17.3	4.5				
20	256QAM	1	49	15.09	15.05	15.04						
20	256QAM	1	99	15.08	15.00	15.05						
20	256QAM	50	0	15.80	15.82	15.83	17.3	4.5				
20	256QAM	50	24	15.02	15.84	15.89						
20	256QAM	50	50	15.88	15.87	15.96						
20	256QAM	100	0	15.89	15.81	15.94	17.3	4.5				
Channel 1977.5 1977.5 1977.5												
Frequency (MHz)												
15	QPSK	1	0	20.81	20.65	20.57	21.8	0				
15	QPSK	1	34	20.47	20.65	20.48						
15	QPSK	1	74	20.43	20.57	20.48						
15	QPSK	36	0	19.87	19.68	19.55	20.8	1				
15	QPSK	36	24	19.84	19.70	19.85						
15	QPSK	36	50	19.59	19.70	19.58						
15	QPSK	75	0	19.81	19.63	19.81	20.8	1				
15	16QAM	1	0	19.84	19.98	19.20						
15	16QAM	1	37	19.80	19.97	19.84						
15	16QAM	1	74	19.77	19.86	19.73	19.8	2				
15	16QAM	36	0	19.03	19.67	19.59						
15	16QAM	36	20	19.64	19.74	19.85						
15	16QAM	36	39	19.60	19.63	19.58	19.8	2				
15	16QAM	75	0	19.63	19.69	19.64						
15	64QAM	1	0	19.70	19.78	19.80	19.8	2				
15	64QAM	1	37	19.70	19.86	19.79						
15	64QAM	1	74	19.65	19.70	19.63						
15	64QAM	36	0	17.62	17.70	17.83	18.8	3				
15	64QAM	36	20	17.71	17.85	17.70						
15	64QAM	36	39	17.65	17.73	17.63						
15	64QAM	75	0	17.65	17.70	17.83	17.3	4.5				
15	256QAM	1	0	15.06	15.07	15.04						
15	256QAM	1	37	15.03	15.11	15.05						
15	256QAM	1	74	15.06	15.04	15.11	17.3	4.5				
15	256QAM	36	0	15.93	15.97	15.93						
15	256QAM	36	20	15.86	15.75	15.88						
15	256QAM	36	39	15.78	15.79	15.67	17.3	4.5				
15	256QAM	75	0	15.88	15.87	15.90						
Channel 1977.5 1977.5 1977.5												
Frequency (MHz)												
10	QPSK	1	0	20.49	20.58	20.48	21.8	0				
10	QPSK	1	24	20.51	20.45	20.47						
10	QPSK	1	49	20.47	20.52	20.35						
10	QPSK	25	0	19.53	19.68	19.52	20.8	1				
10	QPSK	25	12	19.64	19.64	19.68						
10	QPSK	25	25	19.64	19.68	19.63						
10	QPSK	50	0	19.81	19.66	19.83	20.8	1				
10	16QAM	1	0	19.84	19.98	19.20						
10	16QAM	1	37	19.80	19.97	19.84						
10	16QAM	1	74	19.77	19.86	19.73	19.8	2				
10	16QAM	25	0	19.03	19.67	19.59						
10	16QAM	25	12	19.64	19.74	19.85						
10	16QAM	25	25	19.60	19.63	19.58	19.8	2				
10	16QAM	50	0	19.63	19.69	19.64						
10	64QAM	1	0	19.70	19.78	19.80	19.8	2				
10	64QAM	1	37	19.70	19.86	19.79						
10	64QAM	1	74	19.65	19.70	19.63						
10	64QAM	25	0	17.62	17.70	17.83	18.8	3				
10	64QAM	25	12	17.67	17.88	17.68						
10	64QAM	25	25	17.74	17.87	17.57						
10	256QAM	1	0	15.06	15.00	15.02	17.3	4.5				
10	256QAM	1	37	15.03	15.11	15.05						
10	256QAM	1	74	15.06	15.04	15.11						
10	256QAM	25	0	15.93	15.97	15.93	17.3	4.5				
10	256QAM	25	12	15.86	15.89	15.78						
10	256QAM	25	25	15.78	15.82	15.69						
10	256QAM	50	0	15.88	15.87	15.90						
10	256QAM	50	12	15.02	15.84	15.89	17.3	4.5				
10	256QAM	50	25	15.88	15.87	15.96						
Channel 1977.5 1977.5 1977.5												
Frequency (MHz)												
5	QPSK	1	0	20.45	20.54	20.42	21.8	0				
5	QPSK	1	24	20.47	20.45	20.42						
5	QPSK	1	49	20.48	20.54	20.41						
5	QPSK	12	0	19.67	19.63	19.52	20.8	1				
5	QPSK	12	6	19.67	19.63	19.52						
5	QPSK	12	13	19.58	19.68	19.54						
5	QPSK	25	0	19.61	19.69	19.53	20.8	1				
5	QPSK	25	6	19.61	19.69	19.53						
5	QPSK	25	12	19.58	19.62	19.52						
5	QPSK	50	0	19.85	19.82	19.78	20.8	1				
5	16QAM	1	0	19.82	19.93	19.74						
5	16QAM	1	24	19.81	19.93	19.81						
5	16QAM	1	49	19.78	19.87	19.73	19.8	2				
5	16QAM	12	0	19.03	19.67	19.58						
5	16QAM	12	6	19.62	19.67	19.69						
5	16QAM	12	13	19.58	19.62	19.56	19.8	2				
5	16QAM	25	0	19.77	19.87	19.69						
5	16QAM	25	6	19.74	19.82	19.73	18.8	3				
5	16QAM	25	13	19.64	19.74	19.85						
5	16QAM	50	0	19.59	19.58	19.59						
5	16QAM	50	6	19.63	19.60	19.63	17.3	4.5				
5	16QAM	50	13	19.58	19.62	19.56						
5	16QAM	100	0	19.59	19.59	19.59						
5	256QAM	1	0	15.04	15.04	15.04	17.3	4.5				
5	256QAM	1	24	15.08	15.06	15.06						
5	256QAM	1	49	15.04	15.04	15.04						
5	256QAM	12	0	15.79	15.94	15.90	17.3	4.5				
5	256QAM	12	6	15.80	15.86	15.96						
Channel 1977.5 1977.5 1977.5												
Frequency (MHz)												
3	QPSK	1	0	20.48	20.55	20.42	21.8	0				
3	QPSK	1	24	20.48	20.50	20.42						
3	QPSK	1	49	20.48	20.54	20.41						
3	QPSK	6	0	19.62	19.68	19.51	20.8	1				
3	QPSK	6	3	19.62	19.68	19.51						
3	QPSK	6	7	19.58	19.68	19.57						
3	QPSK	15	0	19.61	19.70	19.58	20.8	1				
3	16QAM	1	0	19.84	19.97	19.73						
3	16QAM	1	8	19.80	19.97	19.80						
3	16QAM	1	14	19.80	19.94	19.80	19.8	2				
3	16QAM	6	0	19.03	19.67	19.58						
3	16QAM	6	3	19.64	19.74	19.85						
3	16QAM	6	7	19.60	19.63	19.58	19.8	2				
3	16QAM	15	0	19.63	19.74	19.63						
3	16QAM	15	3	19.64	19.71	19.64	18.8	3				
3	16QAM	15	7	19.59	19.67	19.57						
3	16QAM	30	0	19.71	19.83	19.69						
3	16QAM	30	3	19.72	19.82	19.71	17.3	4.5				
3	16QAM	30	7	19.67	19.70	19.68						
3	16QAM	60	0	19.57	19.58	19.59						
3	256QAM	1	0	15.02	15.02	15.02	17.3	4.5				
3	256QAM	1	14	15.07	15.09	15.05						
3	256QAM	1	29	15.02	15.02	15.02						
3	256QAM	6	0	15.96	15.84	15.95	17.3	4.5				
3	256QAM	6	3	15.88	15.84	15.95						
3	256QAM	6	7	15.83	15.83	15.93						
Channel 1977.5 1977.5 1977.5												
Frequency (MHz)												
1.4	QPSK	1	0	20.43	20.54	20.42	21.8	0				
1.4	QPSK	1	24	20.48	20.51	20.42						
1.4	QPSK	1	49	20.47	20.54	20.40						
1.4	QPSK	6	0	19.62	19.68	19.51	20.8	1				
1.4	QPSK	6	3	19.62	19.68	19.51						
1.4	QPSK	6	7	19.52	19.68	19.50						
1.4	QPSK	3	0	19.63	19.68	19.46	20.8	1				
1.4	QPSK	3	24	19.58	19.68	19.46						
1.4	QPSK	3	49	19.63	19.63	19.46						
1.4	16QAM	1	0	19.69	19.85	19.77	20.8	1				
1.4	16QAM	1	34	19.64	19.88	19.78						
1.4	16QAM	1	69	19.70	19.83	19.78						
1.4	16QAM	6	0	19.03	19.67	19.57	19.8	2				
1.4	16QAM	6	24	19.63	19.73	19.84						
1.4	16QAM	6	49	19.56	19.62	19.42						
1.4	16QAM	3	0	19.68	19.67	19.47	19.8	2				
1.4	16QAM	3	24	19.62	19.60	19.84						
1.4	16QAM	3	49	19.64	19.64	19.84						
1.4	16QAM	6	0	19.88	19.99	19.86	19.8	2				
1.4	16QAM	6	24	19.88	19.98	19.81						
1.4	16QAM	6	49	19.88	19.97	19.86						
1.4	256QAM	1	0	17.89	17.87	17.84	18.8	3				
1.4	256QAM	1	24	17.89	17.87	17.84						
1.4	256QAM	1	49	17.88	17.87	17.84						
1.4	256QAM	6	0	15.08	15.08	15.06	17.3	4.5				
1.4	256QAM	6	24	15.08	15.08	15.06						
1.4	256QAM	6	49	15.08	15.0							

Band 71									
SW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq.	Power High Ch / Freq.	Power High Ch / Freq.	Power High Ch / Freq.	Time-up limit (dBm)	APRS (dB)
Channel				183222	183222	183222	183272	23.3	0
Frequency (MHz)				673	683	688	688		
20	QPSK	1	0	22.43	22.61	22.39	22.39	22.3	1
20	QPSK	1	48	22.18	22.35	22.28	22.28		
20	QPSK	1	96	22.22	22.22	22.26	22.26		
20	QPSK	50	0	21.39	21.42	21.40	21.40		
20	QPSK	50	24	21.40	21.40	21.41	21.41		
20	QPSK	50	50	21.34	21.52	21.27	21.27	22.3	1
20	QPSK	100	0	21.44	21.47	21.39	21.39		
20	16QAM	1	0	21.36	21.76	21.37	21.37		
20	16QAM	1	48	21.63	21.70	21.49	21.49		
20	16QAM	1	96	21.49	21.51	21.57	21.57		
20	16QAM	50	0	20.51	20.47	20.47	20.47	21.3	2
20	16QAM	50	24	20.48	20.43	20.50	20.50		
20	16QAM	50	50	20.36	20.33	20.27	20.27		
20	16QAM	100	0	20.51	20.42	20.32	20.32		
20	84QAM	1	0	20.76	20.83	20.80	20.80		
20	84QAM	1	48	20.61	20.62	20.61	20.61	21.3	2
20	84QAM	1	96	20.38	20.47	20.41	20.41		
20	84QAM	50	0	19.54	19.52	19.46	19.46		
20	84QAM	50	24	19.57	19.38	19.41	19.41		
20	84QAM	50	50	19.41	19.41	19.34	19.34		
20	84QAM	100	0	19.60	19.41	19.37	19.37	20.3	3
20	25QAM	1	0	17.67	17.58	17.62	17.62		
20	25QAM	1	48	17.63	17.68	17.59	17.59		
20	25QAM	1	96	17.62	17.55	17.65	17.65		
20	25QAM	50	0	17.49	17.58	17.49	17.49		
20	25QAM	50	24	17.59	17.51	17.49	17.49	18.8	4.5
20	25QAM	50	50	17.55	17.43	17.51	17.51		
20	25QAM	100	0	17.63	17.48	17.59	17.59		
Channel				133107	133107	133107	133107		
Frequency (MHz)				670.5	680.5	686.5	686.5	23.3	0
15	QPSK	1	0	22.60	22.38	22.34	22.34		
15	QPSK	1	34	22.35	22.18	22.34	22.34	22.3	1
15	QPSK	1	74	22.14	22.20	22.19	22.19		
15	QPSK	36	0	21.36	21.41	21.37	21.37		
15	QPSK	36	24	21.53	21.27	21.31	21.31		
15	QPSK	36	36	21.33	21.31	21.27	21.27		
15	QPSK	75	0	21.42	21.47	21.37	21.37	22.3	1
15	16QAM	1	0	21.03	21.76	21.03	21.03		
15	16QAM	1	37	21.62	21.62	21.49	21.49		
15	16QAM	1	74	21.44	21.52	21.58	21.58		
15	16QAM	36	0	20.48	20.42	20.43	20.43		
15	16QAM	36	20	20.44	20.42	20.46	20.46	21.3	2
15	16QAM	36	39	20.37	20.26	20.26	20.26		
15	16QAM	75	0	20.45	20.40	20.28	20.28		
15	84QAM	1	0	20.89	20.58	20.79	20.79		
15	84QAM	1	37	20.58	20.61	20.60	20.60		
15	84QAM	1	74	20.32	20.42	20.35	20.35	20.3	3
15	84QAM	36	0	19.47	19.45	19.41	19.41		
15	84QAM	36	20	19.52	19.39	19.38	19.38		
15	84QAM	36	39	19.34	19.37	19.23	19.23		
15	84QAM	75	0	19.56	19.37	19.38	19.38		
15	25QAM	1	0	17.74	17.61	17.62	17.62	18.8	4.5
15	25QAM	1	37	17.61	17.63	17.74	17.74		
15	25QAM	1	74	17.61	17.53	17.63	17.63		
15	25QAM	36	20	17.46	17.59	17.41	17.41		
15	25QAM	36	20	17.51	17.60	17.41	17.41		
15	25QAM	36	39	17.48	17.52	17.46	17.46	18.8	4.5
15	25QAM	75	0	17.64	17.69	17.47	17.47		
Channel				133172	133276	133422	133422		
Frequency (MHz)				668	678	683	683	23.3	0
10	QPSK	1	0	22.63	22.40	22.32	22.32		
10	QPSK	1	24	22.27	22.13	22.29	22.29	22.3	1
10	QPSK	1	48	22.14	22.17	22.08	22.08		
10	QPSK	25	0	21.34	21.42	21.46	21.46		
10	QPSK	25	12	21.46	21.31	21.37	21.37		
10	QPSK	25	26	21.27	21.34	21.28	21.28		
10	QPSK	50	0	21.49	21.47	21.37	21.37	22.3	1
10	16QAM	1	0	21.91	21.86	21.79	21.79		
10	16QAM	1	26	21.63	21.72	21.43	21.43		
10	16QAM	1	49	21.51	21.47	21.59	21.59		
10	16QAM	25	0	20.45	20.46	20.42	20.42		
10	16QAM	25	12	20.48	20.45	20.42	20.42	21.3	2
10	16QAM	25	25	20.38	20.29	20.24	20.24		
10	16QAM	50	0	20.43	20.35	20.28	20.28		
10	84QAM	1	0	20.78	20.64	20.79	20.79		
10	84QAM	1	25	20.63	20.69	20.63	20.63		
10	84QAM	1	48	20.35	20.46	20.41	20.41	20.3	3
10	84QAM	25	0	19.52	19.52	19.47	19.47		
10	84QAM	25	12	19.56	19.39	19.38	19.38		
10	84QAM	25	25	19.38	19.25	19.26	19.26		
10	84QAM	50	0	19.56	19.42	19.32	19.32		
10	25QAM	1	0	17.57	17.50	17.23	17.23	18.8	4.5
10	25QAM	1	25	17.54	17.75	17.64	17.64		
10	25QAM	1	49	17.62	17.58	17.60	17.60		
10	25QAM	25	0	17.42	17.56	17.28	17.28		
10	25QAM	25	12	17.64	17.43	17.52	17.52		
10	25QAM	25	25	17.46	17.53	17.41	17.41	18.8	4.5
10	25QAM	50	0	17.50	17.41	17.29	17.29		
Channel				133147	133247	133447	133447		
Frequency (MHz)				665.5	675.5	685.5	685.5	23.3	0
5	QPSK	1	0	22.60	22.37	22.34	22.34		
5	QPSK	1	12	22.37	22.18	22.31	22.31	22.3	1
5	QPSK	1	24	22.16	22.20	22.13	22.13		
5	QPSK	12	0	21.43	21.46	21.36	21.36		
5	QPSK	12	7	21.51	21.27	21.40	21.40		
5	QPSK	12	19	21.29	21.35	21.19	21.19		
5	QPSK	26	0	21.46	21.44	21.37	21.37	22.3	1
5	16QAM	1	0	21.86	21.74	21.62	21.62		
5	16QAM	1	19	21.59	21.68	21.50	21.50		
5	16QAM	1	24	21.51	21.49	21.38	21.38		
5	16QAM	12	0	20.51	20.46	20.49	20.49		
5	16QAM	12	7	20.43	20.43	20.42	20.42	21.3	2
5	16QAM	12	19	20.30	20.30	20.23	20.23		
5	16QAM	25	0	20.47	20.35	20.26	20.26		
5	84QAM	1	0	20.77	20.60	20.77	20.77		
5	84QAM	1	19	20.57	20.61	20.33	20.33		
5	84QAM	1	24	20.38	20.40	20.47	20.47	20.3	3
5	84QAM	12	0	19.48	19.51	19.50	19.50		
5	84QAM	12	7	19.53	19.30	19.43	19.43		
5	84QAM	12	13	19.39	19.33	19.24	19.24		
5	84QAM	25	0	19.62	19.38	19.36	19.36		
5	25QAM	1	0	17.75	17.53	17.65	17.65	18.8	4.5
5	25QAM	1	12	17.51	17.60	17.64	17.64		
5	25QAM	1	24	17.61	17.50	17.63	17.63		
5	25QAM	12	0	17.40	17.53	17.51	17.51		
5	25QAM	12	7	17.62	17.57	17.46	17.46		
5	25QAM	12	19	17.46	17.42	17.55	17.55	18.8	4.5
5	25QAM	25	0	17.48	17.53	17.54	17.54		



Band 38(only on channel required)																
RW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power Low Ch / Freq	Power Low Ch / Freq	Time-up Int (dBm)	MPE (dB)								
Channel																
Frequency (MHz)																
20	QPSK	1	0	20.47	20.13	20.20	20.8	0								
20	QPSK	1	49	20.49	20.10	20.17										
20	QPSK	1	99	20.41	20.12	20.19	19.8	1								
20	QPSK	50	0	19.40	19.23	19.35										
20	QPSK	50	24	19.43	19.27	19.43	19.8	1								
20	QPSK	100	0	19.26	19.20	19.40										
20	16QAM	1	0	19.47	19.30	19.38	19.8	1								
20	16QAM	1	49	19.53	19.34	19.43										
20	16QAM	1	99	19.57	19.37	19.39	18.8	2								
20	16QAM	50	0	18.55	18.31	18.42										
20	16QAM	50	24	18.53	18.33	18.44	18.8	2								
20	16QAM	50	50	18.56	18.33	18.39										
20	8QAM	1	0	18.22	17.99	18.16	17.8	3								
20	8QAM	1	49	18.25	18.08	18.14										
20	8QAM	1	99	18.27	18.10	18.24	17.8	3								
20	8QAM	50	0	17.49	17.31	17.38										
20	8QAM	50	24	17.45	17.38	17.40	17.8	3								
20	8QAM	50	50	17.57	17.44	17.47										
20	25QAM	1	0	15.53	15.58	15.60	16.3	4.5								
20	25QAM	1	49	15.45	15.42	15.48										
20	25QAM	1	99	15.59	15.50	15.48	16.3	4.5								
20	25QAM	50	0	15.77	15.81	15.77										
20	25QAM	50	24	15.81	15.79	15.84	16.3	4.5								
20	25QAM	50	50	15.79	15.81	15.80										
20	25QAM	100	0	15.78	15.73	15.81	16.3	4.5								
20	25QAM	100	0	15.78	15.73	15.81			Time-up Int (dBm)							
Channel																
Frequency (MHz)																
15	QPSK	1	0	20.46	20.20	20.41	20.8	0								
15	QPSK	1	37	20.43	20.14	20.31										
15	QPSK	1	74	20.39	20.15	20.33	19.8	1								
15	QPSK	36	0	19.43	19.23	19.40										
15	QPSK	36	20	19.64	19.36	19.38	19.8	1								
15	QPSK	36	39	19.60	19.34	19.39										
15	16QAM	1	0	19.57	19.42	19.43	19.8	1								
15	16QAM	1	0	19.53	19.40	19.32										
15	16QAM	1	37	19.58	19.39	19.31	18.8	2								
15	16QAM	1	74	19.50	19.32	19.40										
15	16QAM	36	0	18.53	18.32	18.41	17.8	3								
15	16QAM	36	20	18.56	18.36	18.37										
15	16QAM	36	39	18.77	18.25	18.46	16.3	4.5								
15	16QAM	75	0	18.69	18.41	18.45										
15	8QAM	1	37	18.32	18.12	18.14	16.3	4.5								
15	8QAM	1	74	18.34	18.11	18.28										
15	8QAM	36	0	17.51	17.30	17.47	15.8	4.5								
15	8QAM	36	20	17.58	17.38	17.45										
15	8QAM	36	39	17.63	17.40	17.44	15.8	4.5								
15	8QAM	75	0	17.63	17.43	17.51										
15	25QAM	1	0	15.43	15.53	15.49	16.3	4.5								
15	25QAM	1	37	15.48	15.51	15.54										
15	25QAM	1	74	15.54	15.52	15.49	16.3	4.5								
15	25QAM	36	0	15.79	15.78	15.70										
15	25QAM	36	20	15.85	15.74	15.81	16.3	4.5								
15	25QAM	36	39	15.82	15.76	15.89										
15	25QAM	75	0	15.74	15.63	15.67	16.3	4.5								
15	25QAM	75	0	15.74	15.63	15.67			Time-up Int (dBm)							
Channel																
Frequency (MHz)																
10	QPSK	1	0	20.29	20.22	20.41	20.8	0								
10	QPSK	1	26	20.40	20.23	20.38										
10	QPSK	1	49	20.31	20.22	20.30	19.8	1								
10	QPSK	25	0	19.37	19.30	19.38										
10	QPSK	25	12	19.43	19.40	19.43	19.8	1								
10	QPSK	25	25	19.33	19.30	19.50										
10	16QAM	1	0	19.66	19.32	19.49	19.8	1								
10	16QAM	1	0	19.71	19.37	19.42										
10	16QAM	1	25	19.64	19.26	19.38	18.8	2								
10	16QAM	25	0	18.67	18.39	18.31										
10	16QAM	25	12	18.64	18.31	18.36	17.8	3								
10	16QAM	25	25	18.61	18.40	18.38										
10	8QAM	1	0	18.69	18.47	18.50	16.3	4.5								
10	8QAM	1	0	18.54	18.11	18.22										
10	8QAM	1	25	18.31	18.10	18.20	16.3	4.5								
10	8QAM	1	49	18.50	18.21	18.27										
10	8QAM	25	0	17.61	17.33	17.35	15.8	4.5								
10	8QAM	25	12	17.58	17.41	17.48										
10	8QAM	25	25	17.56	17.39	17.46	15.8	4.5								
10	25QAM	1	0	15.43	15.62	15.47										
10	25QAM	1	25	15.40	15.45	15.41	16.3	4.5								
10	25QAM	1	49	15.40	15.50	15.52										
10	25QAM	25	0	15.81	15.72	15.72	16.3	4.5								
10	25QAM	25	12	15.77	15.85	15.82										
10	25QAM	25	25	15.76	15.80	15.79	16.3	4.5								
10	25QAM	50	0	15.88	15.66	15.85			Time-up Int (dBm)							
Channel																
Frequency (MHz)																
5	QPSK	1	0	20.39	20.15	20.36	20.8	0								
5	QPSK	1	12	20.41	20.26	20.35										
5	QPSK	1	24	20.41	20.27	20.34	19.8	1								
5	QPSK	12	0	19.67	19.31	19.51										
5	QPSK	12	7	19.68	19.48	19.54	19.8	1								
5	QPSK	12	13	19.70	19.36	19.51										
5	QPSK	25	0	19.65	19.33	19.48	19.8	1								
5	QPSK	25	0	19.64	19.41	19.42										
5	16QAM	1	12	19.57	19.37	19.37	18.8	2								
5	16QAM	1	24	19.60	19.40	19.40										
5	16QAM	12	0	18.68	18.29	18.41	17.8	3								
5	16QAM	12	7	18.61	18.38	18.42										
5	16QAM	12	13	18.60	18.36	18.50	17.8	3								
5	16QAM	25	0	18.40	18.15	18.31										
5	8QAM	1	0	18.39	18.08	18.28	16.3	4.5								
5	8QAM	1	12	18.41	18.13	18.26										
5	8QAM	1	24	18.43	18.15	18.31	16.3	4.5								
5	8QAM	12	0	17.66	17.34	17.52										
5	8QAM	12	7	17.70	17.47	17.58	15.8	4.5								
5	8QAM	12	13	17.69	17.59	17.63										
5	25QAM	1	0	15.68	15.61	15.68	16.3	4.5								
5	25QAM	1	24	15.68	15.61	15.68										
5	25QAM	12	0	15.87	15.79	15.79	16.3	4.5								
5	25QAM	12	7	15.85	15.87	15.87										
5	25QAM	12	13	15.86	15.85	15.83	16.3	4.5								
5	25QAM	25	0	15.69	15.79	15.76			Time-up Int (dBm)							
Channel																
Frequency (MHz)																

Band 48 (3.5G Band)-FCC										
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq.	Power Low Mid Ch / Freq.	Power High Mid Ch / Freq.	Power High Ch / Freq.	Turn-up limit (dBm)	MPR (dB)	
Channel				66340	66830	67114	66640			
Frequency (MHz)				66340	66830	67114	66640			
20	QPSK	1	0	22.55	22.80	22.89	22.96	23.8	0	
20	QPSK	1	49	22.53	22.71	22.74	22.85			
20	QPSK	1	99	22.53	22.78	22.73	22.83			
20	QPSK	36	0	21.57	21.85	21.93	22.00			
20	QPSK	50	34	21.58	21.86	21.94	22.04	22.8	1	
20	QPSK	36	99	21.57	21.86	21.88	22.04			
20	16QAM	1	0	21.83	21.80	21.92	22.04			
20	16QAM	1	49	21.82	21.81	21.91	21.94			
20	16QAM	1	99	21.84	21.74	21.85	21.86	22.8	1	
20	16QAM	50	0	20.85	20.93	20.97	21.03			
20	16QAM	50	34	20.83	20.90	20.98	21.06			
20	16QAM	50	50	20.90	20.89	20.95	21.07			
20	16QAM	100	0	20.84	20.93	20.96	21.06	21.8	2	
20	64QAM	1	0	20.84	20.84	20.95	21.00			
20	64QAM	1	49	20.87	20.79	20.81	20.92			
20	64QAM	1	99	20.89	20.89	20.90	20.97			
20	64QAM	50	0	19.87	19.94	20.00	20.07	21.8	2	
20	64QAM	50	34	19.88	19.95	19.95	20.00			
20	64QAM	50	50	19.85	19.91	19.95	20.08			
20	64QAM	100	0	19.82	19.89	19.93	20.05			
20	256QAM	1	0	17.53	17.94	17.71	17.83	19.3	4.5	
20	256QAM	1	49	17.45	17.98	17.98	17.98			
20	256QAM	1	99	17.37	17.53	17.51	17.68			
20	256QAM	50	0	17.82	17.92	17.96	17.94			
20	256QAM	50	34	17.78	17.95	17.98	17.98	19.3	4.5	
20	256QAM	50	50	17.67	17.85	17.82	17.88			
20	256QAM	100	0	17.74	17.84	17.84	17.90			
Channel				66975	66425	66975	66425			
Frequency (MHz)				66975 <th>66425<th>66975<th>66425<th>Turn-up limit (dBm)</th><th>MPR (dB)</th><th></th></th></th></th>	66425 <th>66975<th>66425<th>Turn-up limit (dBm)</th><th>MPR (dB)</th><th></th></th></th>	66975 <th>66425<th>Turn-up limit (dBm)</th><th>MPR (dB)</th><th></th></th>	66425 <th>Turn-up limit (dBm)</th> <th>MPR (dB)</th> <th></th>	Turn-up limit (dBm)	MPR (dB)	
15	QPSK	1	0	22.53	22.79	22.84	22.93	23.8	0	
15	QPSK	1	37	22.54	22.66	22.71	22.88			
15	QPSK	1	74	22.53	22.79	22.65	22.80			
15	QPSK	36	0	21.61	21.82	21.88	21.92			
15	QPSK	36	20	21.97	21.86	21.95	21.99	22.8	1	
15	QPSK	36	39	21.91	21.84	21.82	21.88			
15	QPSK	15	0	21.62	21.84	21.92	22.02			
15	16QAM	1	0	21.59	21.79	21.84	21.92			
15	16QAM	1	37	21.58	21.78	21.83	21.98	22.8	1	
15	16QAM	1	74	21.50	21.84	21.84	21.93			
15	16QAM	36	0	20.85	20.93	20.94	20.97			
15	16QAM	36	39	20.89	20.87	20.92	21.01			
15	16QAM	36	50	20.85	20.91	20.87	21.01	21.8	2	
15	16QAM	75	0	20.81	20.94	20.94	21.10			
15	64QAM	1	0	20.93	20.86	20.98	20.94			
15	64QAM	1	37	20.93	20.74	20.81	20.91			
15	64QAM	1	74	20.93	20.88	20.75	20.99	20.8	3	
15	64QAM	36	0	19.82	19.95	19.92	20.07			
15	64QAM	36	39	19.85	19.88	19.87	19.97			
15	64QAM	36	50	19.81	19.88	19.94	20.05			
15	256QAM	1	0	17.61	17.55	17.57	17.65	19.3	4.5	
15	256QAM	1	37	17.50	17.55	17.54	17.67			
15	256QAM	1	74	17.42	17.51	17.57	17.54			
15	256QAM	36	0	17.84	17.90	17.87	17.89			
15	256QAM	36	39	17.86	17.93	18.03	17.97	19.3	4.5	
15	256QAM	36	50	17.87	17.81	17.77	17.92			
15	256QAM	75	0	17.83	17.79	17.74	17.84			
Channel				66640	67114	66340	66640			
Frequency (MHz)				66640	66975	66425	66975	Turn-up limit (dBm)	MPR (dB)	
10	QPSK	1	0	22.50	22.76	22.83	22.89	23.8	0	
10	QPSK	1	25	22.52	22.87	22.68	22.87			
10	QPSK	1	49	22.47	22.80	22.68	22.93			
10	QPSK	25	0	21.62	21.80	21.93	21.95			
10	QPSK	25	10	21.58	21.82	21.88	22.05	22.8	1	
10	QPSK	25	25	21.58	21.80	21.85	21.99			
10	QPSK	10	0	21.61	21.87	21.90	21.97			
10	16QAM	1	0	21.65	21.83	21.92	21.94			
10	16QAM	1	25	21.59	21.74	21.84	21.81	22.8	1	
10	16QAM	1	49	21.64	21.79	21.82	21.85			
10	16QAM	25	0	20.60	20.93	20.90	21.00			
10	16QAM	25	12	20.94	20.88	20.94	21.00			
10	16QAM	25	25	20.95	20.86	20.87	21.06	21.8	2	
10	16QAM	50	0	20.59	20.91	20.89	21.05			
10	64QAM	1	0	20.60	20.89	20.96	20.94			
10	64QAM	1	25	20.57	20.75	20.75	20.86			
10	64QAM	1	49	20.59	20.88	20.75	20.99	21.8	2	
10	64QAM	25	0	19.89	19.89	19.94	19.99			
10	64QAM	25	12	19.87	19.89	19.92	20.01			
10	64QAM	25	25	19.88	19.84	19.88	20.06			
10	256QAM	1	0	17.46	17.54	17.77	17.59	19.3	4.5	
10	256QAM	1	25	17.38	17.81	17.84	17.85			
10	256QAM	1	49	17.33	17.53	17.41	17.61			
10	256QAM	25	0	17.73	17.90	18.06	17.96			
10	256QAM	25	12	17.94	17.90	17.94	18.01	19.3	4.5	
10	256QAM	25	25	17.71	17.85	17.85	17.98			
10	256QAM	50	0	17.69	17.75	17.77	17.90			
Channel				66975	66425	66975	66425			
Frequency (MHz)				66975	66975	66425	66975	Turn-up limit (dBm)	MPR (dB)	
5	QPSK	1	0	22.54	22.82	22.87	22.89	23.8	0	
5	QPSK	1	12	22.45	22.64	22.75	22.81			
5	QPSK	1	24	22.54	22.73	22.68	22.95			
5	QPSK	12	0	21.62	21.87	21.93	21.98			
5	QPSK	12	7	21.60	21.87	21.87	21.99	22.8	1	
5	QPSK	12	13	21.65	21.78	21.83	22.00			
5	QPSK	25	0	21.61	21.86	21.92	21.98			
5	16QAM	1	0	21.63	21.79	22.02	21.90			
5	16QAM	1	12	21.60	21.68	21.79	21.80	22.8	1	
5	16QAM	1	24	21.62	21.79	21.89	21.94			
5	16QAM	12	0	20.67	20.90	20.94	20.99			
5	16QAM	12	7	20.65	20.91	20.98	21.06			
5	16QAM	12	13	20.67	20.94	20.95	20.99	21.8	2	
5	16QAM	25	0	20.65	20.88	20.88	21.00			
5	64QAM	1	0	20.61	20.83	20.89	21.05			
5	64QAM	1	12	20.61	20.81	20.76	20.89			
5	64QAM	1	24	20.61	20.90	20.75	20.91	19.3	4.5	
5	64QAM	12	0	19.88	19.90	19.93	20.04			
5	64QAM	12	7	19.85	19.90	19.92	19.92			
5	64QAM	12	13	19.64	19.88	19.97	20.01			
5	64QAM	25	0	19.85	19.91	19.89	20.07	19.3	4.5	
5	64QAM	25	8	19.87	17.73	17.73	17.73			
5	256QAM	1	12	17.46	17.59	17.77	17.61			
5	256QAM	1	24	17.46	17.46	17.53	17.53			
5	256QAM	1	12	17.37	17.80	17.88	18.01	19.3	4.5	
5	256QAM	1	49	17.37	17.87	17.92	17.88			
5	256QAM	12	0	17.65	17.77	17.82	17.88			
5	256QAM	12	13	17.65	17.79	17.76	17.92			



Reduced power for Hotspot on-UAT

CCDMA	Base-Average Power (dBm)			Turn-up Limit	Frame-Average Power (dBm)			Turn-up Limit
	198	199	201		198	199	201	
Frequency (MHz)	84.2	84.4	84.6	Limit	84.2	84.4	84.6	Limit
OSM-1 Tx total	30.58	30.63	30.77	32.00	21.53	21.63	21.77	23.00
OSM-1 Tx total	30.51	30.52	30.71	32.00	21.51	21.52	21.71	23.00
OPRS-1 Tx total	21.56	21.59	21.50	23.00	21.60	21.60	21.50	23.00
OPRS-1 Tx total	25.08	25.09	25.02	27.00	21.72	21.69	21.76	23.00
OPRS-1 Tx total	24.53	24.56	24.40	26.00	21.53	21.56	21.40	23.00
EDGE-1 Tx total	24.32	24.50	24.63	26.00	15.30	15.59	15.63	17.00
EDGE-2 Tx total	21.82	21.80	21.38	22.00	15.82	15.80	15.68	16.00
EDGE-3 Tx total	20.77	20.70	20.86	21.00	16.51	16.53	16.60	17.24
EDGE-4 Tx total	19.51	19.50	19.48	20.00	16.51	16.50	16.48	17.00

IS95A1900	Base-Average Power (dBm)			Turn-up Limit	Frame-Average Power (dBm)			Turn-up Limit
	512	561	595	Limit	512	561	595	Limit
Frequency (MHz)	862.2	1020	969.2	(dBm)	862.2	1020	969.2	(dBm)
OSM-1 Tx total	25.96	26.11	25.95	27.10	16.96	17.11	16.95	18.10
OPRS-1 Tx total	25.46	25.43	25.40	27.40	17.46	17.43	17.40	18.40
OPRS-2 Tx total	25.46	25.50	25.07	24.60	17.46	17.52	17.07	18.60
OPRS-3 Tx total	21.00	22.05	22.10	23.00	17.73	17.82	17.84	18.04
OPRS-4 Tx total	20.40	20.51	20.52	21.80	17.61	17.61	17.52	18.80
EDGE-1 Tx total	21.70	21.70	21.76	23.10	12.70	12.70	12.76	14.10
EDGE-2 Tx total	20.41	20.42	20.53	22.00	14.41	14.42	14.53	16.00
EDGE-3 Tx total	19.36	19.30	19.48	20.00	15.10	15.12	15.20	16.04
EDGE-4 Tx total	18.06	18.10	18.07	19.00	15.06	15.10	15.07	16.00

Base	WCDMA-6				Turn-up Limit	WCDMA-1V				Turn-up Limit	WCDMA-V				Turn-up Limit
	TX Channel	5062	5060	5058		Limit	1312	1415	1513		Limit	4132	4135	4233	
Rx Channel	9662	9660	9666	9668	(dBm)	1637	1638	1738	(dBm)	4367	4467	4468	(dBm)		
Frequency (MHz)	IS95A1900	9662.6	9660.0	9667.2		1581.6	1727.6	1802.6		3966.6	3964.6	3965.6			
XOPR-Full-BW	IS95A1900	19.28	19.35	19.25	20.00	20.39	20.41	20.42	21.10	21.04	21.05	20.97	21.90		
XOPR-Full-BW	IS95A1900	19.30	19.38	19.28	20.00	20.42	20.44	20.45	21.10	21.06	21.07	20.98	21.90		
XOPR-Full-BW	IS95A1900	19.35	19.44	19.35	19.00	19.43	19.48	19.45	20.10	19.88	19.81	19.74	20.90		
XOPR-Full-BW	IS95A1900	19.31	19.41	19.35	19.00	19.40	19.50	19.43	20.10	19.88	19.91	19.74	20.90		
XOPR-Full-BW	IS95A1900	17.51	17.64	17.60	18.00	18.97	18.98	18.97	19.60	19.40	19.33	19.16	20.40		
XOPR-Full-BW	IS95A1900	17.85	17.90	17.82	18.00	19.00	18.99	18.94	19.60	19.39	19.30	19.20	20.40		
XOPR-Full-BW	IS95A1900	18.11	18.22	18.12	19.00	19.23	19.24	19.28	20.10	19.39	19.36	19.37	20.90		
XOPR-Full-BW	IS95A1900	18.15	18.27	18.17	19.00	19.31	19.30	19.31	20.10	19.67	19.68	19.53	20.90		
XOPR-Full-BW	IS95A1900	17.29	17.73	17.69	18.00	18.82	18.83	18.78	19.60	19.21	19.09	19.05	20.40		
XOPR-Full-BW	IS95A1900	17.60	17.78	17.60	18.00	18.86	18.77	18.72	19.60	19.22	19.11	18.97	20.40		
XOPR-Full-BW	IS95A1900	18.34	18.40	18.35	19.00	19.49	19.57	19.52	20.10	19.88	19.79	19.77	20.90		
XOPR-Full-BW	IS95A1900	17.36	17.45	17.38	18.00	18.45	18.55	18.48	19.10	17.97	17.79	17.73	18.90		
XOPR-Full-BW	IS95A1900	15.35	15.43	15.40	16.00	17.34	17.49	17.30	18.10	18.72	18.78	18.73	19.80		
XOPR-Full-BW	IS95A1900	16.13	16.22	16.16	17.00	18.53	18.54	18.52	19.10	17.68	17.75	17.78	18.90		
XOPR-Full-BW	IS95A1900	15.31	15.41	15.34	16.00	19.54	19.47	19.48	20.10	19.91	19.79	19.72	20.90		
XOPR-Full-BW	IS95A1900	15.92	16.01	15.91	16.00	19.21	19.24	19.11	17.60	17.54	17.50	17.55	18.40		

Base	CDMA-BC0			Turn-up Limit	CDMA-BC1			Turn-up Limit	CDMA-BC10			Turn-up Limit	
TX Channel	8013	8061	8111	Limit	8013	8061	8111	Limit	8113	8261	8311	Limit	
Frequency (MHz)	Rx Channel	841.7	846.32	848.31	(dBm)	1651.20	1660	1666.70	(dBm)	811.3	826.5	831.1	(dBm)
IS95A1900	20.60	20.60	20.62	22.20	19.33	19.40	19.33	20.40	20.77	20.81	20.75	22.10	
IS95A1900	20.63	20.65	20.61	22.20	19.32	19.38	19.31	20.40	20.76	20.80	20.73	22.10	
IS95A1900	20.62	20.65	20.59	22.20	19.30	19.36	19.29	20.40	20.74	20.78	20.72	22.10	
IS95A1900	20.60	20.63	20.57	22.20	19.29	19.35	19.27	20.40	20.72	20.76	20.70	22.10	
IS95A1900	20.59	20.60	20.55	22.20	19.27	19.33	19.26	20.40	20.71	20.75	20.68	22.10	
IS95A1900	20.57	20.59	20.53	22.20	19.25	19.30	19.24	20.40	20.69	20.72	20.67	22.10	

Band 2 (1900MHz Band)									
Part 24E									
RF (MHz)	Modulation	RR Size	RR Offset	Low Pwr	Ch Mod	High Pwr	Ch Mod	Turn-up	MFR (dB)
Frequency (MHz)									
20	QPSK	1	0	16.02	16.02	16.06			
20	QPSK	1	49	16.02	16.05	17.04	19.1	0	
20	QPSK	1	99	17.82	18.78	18.81			
20	QPSK	1	148	17.82	18.78	18.81			
20	QPSK	50	24	17.94	18.04	17.95	19.1	0	
20	QPSK	50	50	17.89	18.02	17.86			
20	QPSK	50	75	17.89	18.02	17.86			
20	HQAM	1	0	17.99	17.91	17.99			
20	HQAM	1	49	17.84	18.04	18.03	19.1	0	
20	HQAM	1	99	18.03	18.03	18.03			
20	HQAM	50	0	18.05	18.02	17.98			
20	HQAM	50	24	17.96	18.03	17.98			
20	HQAM	50	49	17.96	18.03	17.98	19.1	0	
20	HQAM	100	0	18.04	17.95	17.98			
20	HQAM	1	0	17.91	18.07	18.08			
20	HQAM	1	49	17.86	18.07	18.07	19.1	0	
20	HQAM	1	99	17.85	18.06	18.06			
20	HQAM	50	0	18.09	17.96	18.01			
20	HQAM	50	24	17.99	18.03	17.98			
20	HQAM	50	50	17.84	17.93	18.07	18.8	0.3	
20	HQAM	100	0	17.97	17.89	18.05			
20	HQAM	100	49	17.94	17.95	18.01			
20	HQAM	1	49	15.74	15.75	15.87	17.3	1.1	
20	HQAM	1	99	15.93	15.92	15.99			
20	HQAM	1	148	15.93	15.92	15.99			
20	HQAM	50	24	15.73	15.80	15.87	17.3	1.1	
20	HQAM	50	50	15.73	15.80	15.87			
20	HQAM	50	75	15.73	15.80	15.87			
20	HQAM	50	99	15.71	15.76	15.85			
Channel									
Channel	1867.5	1868.0	1919.5	Turn-up	MFR (dB)				
15	QPSK	1	0	17.92	17.92	18.08			
15	QPSK	1	37	17.76	17.76	17.91	19.1	0	
15	QPSK	1	74	17.76	17.84	17.74			
15	QPSK	1	111	17.76	17.84	17.74			
15	QPSK	36	20	17.85	17.94	17.78	19.1	0	
15	QPSK	36	39	17.86	18.00	17.75			
15	QPSK	36	57	17.83	17.83	17.83			
15	HQAM	1	0	17.81	17.67	17.88			
15	HQAM	1	37	17.81	17.84	18.01			
15	HQAM	1	74	17.81	17.88	18.01			
15	HQAM	36	0	17.81	17.80	17.70	19.1	0	
15	HQAM	36	39	17.84	17.95	17.85			
15	HQAM	36	59	17.74	18.05	18.02			
15	HQAM	75	0	17.96	17.67	17.68			
15	HQAM	75	37	17.96	17.88	17.78	19.1	0	
15	HQAM	75	74	17.74	18.05	17.78			
15	HQAM	1	74	17.78	17.78	17.88	19.1	0	
15	HQAM	36	20	17.79	17.80	17.72			
15	HQAM	36	39	17.74	17.87	17.83	18.8	0.3	
15	HQAM	36	57	17.83	17.93	17.79			
15	HQAM	1	0	15.75	15.72	15.80			
15	HQAM	1	37	15.59	15.95	15.97	17.3	1.8	
15	HQAM	1	74	15.59	15.95	15.97			
15	HQAM	36	0	15.77	15.88	15.84			
15	HQAM	36	39	15.61	15.67	15.67	17.3	1.8	
15	HQAM	36	57	15.61	15.67	15.67			
15	HQAM	36	75	15.61	15.67	15.67			
15	HQAM	75	0	15.46	15.80	15.60			
Channel									
Channel	1868.0	1869.0	1919.0	Turn-up	MFR (dB)				
10	QPSK	1	0	17.85	17.92	17.95			
10	QPSK	1	25	17.73	17.77	17.88	19.1	0	
10	QPSK	1	50	17.71	17.79	17.81			
10	QPSK	25	0	17.70	17.87	17.80			
10	QPSK	25	12	17.67	17.78	17.88	19.1	0	
10	QPSK	25	37	17.63	17.73	17.83			
10	QPSK	50	0	17.62	18.02	17.82			
10	HQAM	1	0	17.81	17.84	17.83			
10	HQAM	1	25	17.82	17.88	17.89	19.1	0	
10	HQAM	1	49	18.01	17.82	17.80			
10	HQAM	25	0	17.68	17.88	17.65			
10	HQAM	25	12	17.68	18.03	17.65	19.1	0	
10	HQAM	25	25	17.62	17.74	17.71			
10	HQAM	25	37	17.62	17.89	17.79			
10	HQAM	50	0	18.00	17.96	17.74	19.1	0	
10	HQAM	1	49	17.81	17.99	17.86			
10	HQAM	1	99	17.72	17.96	17.83			
10	HQAM	25	12	18.02	18.00	17.79	18.8	0.3	
10	HQAM	25	25	17.70	17.89	17.91			
10	HQAM	25	37	17.67	17.89	17.81			
10	HQAM	1	0	15.93	15.98	15.92			
10	HQAM	1	25	15.93	15.98	15.92	17.3	1.1	
10	HQAM	1	49	15.87	15.79	15.99			
10	HQAM	25	0	15.90	15.71	15.79			
10	HQAM	25	12	15.90	15.71	15.79	17.3	1.8	
10	HQAM	25	25	15.73	15.77	15.75			
10	HQAM	50	0	15.53	15.64	15.67			
Channel									
Channel	1869.0	1869.5	1907.5	Turn-up	MFR (dB)				
5	QPSK	1	0	17.82	18.05	17.84			
5	QPSK	1	12	17.72	17.99	17.73	19.1	0	
5	QPSK	1	24	17.72	17.99	17.73			
5	QPSK	12	0	17.73	17.85	17.88			
5	QPSK	12	36	17.77	17.82	17.82	19.1	0	
5	QPSK	12	72	17.77	18.00	17.81			
5	QPSK	26	0	17.89	17.89	17.82			
5	QPSK	26	36	17.89	17.89	17.82			
5	HQAM	1	12	17.63	18.00	17.92	19.1	0	
5	HQAM	1	24	17.84	17.97	17.83			
5	HQAM	12	0	17.81	18.01	17.83			
5	HQAM	12	36	17.99	17.94	17.95	19.1	0	
5	HQAM	12	72	17.90	18.01	17.96			
5	HQAM	12	108	17.77	17.83	17.83			
5	HQAM	1	0	17.99	17.85	17.91			
5	HQAM	1	12	17.94	17.78	17.89	19.1	0	
5	HQAM	12	0	17.97	17.84	18.06			
5	HQAM	12	37	17.88	17.86	17.74			
5	HQAM	12	73	17.75	17.80	17.78	18.8	0.3	
5	HQAM	25	0	18.02	17.83	17.86			
5	HQAM	1	0	15.70	15.69	15.97			
5	HQAM	1	12	15.65	15.85	15.96	17.3	1.8	
5	HQAM	1	24	15.66	15.71	15.73			
5	HQAM	12	0	15.77	15.81	15.73			
5	HQAM	12	36	15.77	15.81	15.73	17.3	1.1	
5	HQAM	12	72	15.68	15.83	15.80			
5	HQAM	25	0	15.53	15.66	15.61			
Channel									
Channel	1869.5	1869.6	1909.5	Turn-up	MFR (dB)				
3	QPSK	1	0	18.00	17.82	18.04			
3	QPSK	1	14	17.79	17.91	17.81	19.1	0	
3	QPSK	1	28	17.79	17.91	17.81			
3	QPSK	8	0	17.88	17.91	17.79			
3	QPSK	8	7	17.85	17.86	17.77	19.1	0	
3	QPSK	8	7	17.75	18.01	17.98			
3	HQAM	1	0	17.92	18.08	18.08			
3	HQAM	1	14	17.79	17.93	17.81	19.1	0	
3	HQAM	1	28	17.79	17.93	17.81			
3	HQAM	8	0	17.88	17.96	17.85			
3	HQAM	8	7	17.84	17.89	17.82	19.1	0	
3	HQAM	8	0	17.75	17.87	17.82			
3	HQAM	1	0	18.00	17.80	18.00			
3	HQAM	1	14	17.76	17.93	17.79	19.1	0	
3	HQAM	1	28	17.76	17.93	17.79			
3	HQAM	8	0	17.87	17.92	17.82			
3	HQAM	8	7	17.86	17.92	17.82	18.8	0.3	
3	HQAM	1	0	15.74	15.77	15.87			
3	HQAM	1	14	15.63	15.97	15.75	17.3	1.8	
3	HQAM	1	28	15.63	15.97	15.75			
3	HQAM	8	0	15.53	15.83	15.80			
3	HQAM	8	7	15.70	15.67	15.64	17.3	1.8	
3	HQAM	8	7	15.53	15.61	15.59			
Channel									
Channel	1869.6	1869.7	1919.3	Turn-up	MFR (dB)				
14	QPSK	1	0	17.88	17.99	17.96			
14	QPSK	1	3	17.79	17.91	17.81	19.1	0	
14	QPSK	1	6	17.82	17.94	17.82			
14	QPSK	3	0	17.87	17.95	17.87	19.1	0	
14	QPSK	3	3	17.87	17.95	17.87			
14	QPSK	6	0	17.85	18.05	18.02			
14	HQAM	1	0	18.05	17.97	17.98	19.1	0	
14	HQAM	1	3	17.84	17.84	17.73			
14	HQAM	1	6	17.79	17.94	17.84			
14	HQAM	3	0	18.01	17.88	17.89	19.1	0	
14	HQAM	3	3	17.74	17.89	17.88			
14	HQAM	3	6	17.76	17.76	17.78	19.1	0	
14	HQAM	1	0	17.84	17.83	17.82			
14	HQAM	1	3	17.84	17.83	17.82			
14	HQAM	1	6	17.78	17.94	17.84	19.1	0	
14	HQAM	3	0	17.76	17.84	17.80	18.8	0.3	
14	HQAM	3	3	17.76	17.84	17.80			
14	HQAM	3	6	17.76	17.84	17.80			
14	HQAM	1	0	15.68	15.80	15.80			
14	HQAM	1	3	15.68	15.81	15.82	17.3	1.8	
14	HQAM	1	6	15.68	15.72	15.80			
14	HQAM	3	0	15.63	15.80	15.80			
14	HQAM	3	3	15.66	15.79	15.85	17.3	1.8	
14	HQAM	3	6	15.66	15.79	15.8			

Band 4 (AWS Band) Part 27L (only on channel required)									
BW (MHz)	Modulation	RIS Size	RIS Offset	Low Power Ch. Freq. (MHz)	Mid Power Ch. Freq. (MHz)	High Power Ch. Freq. (MHz)	Turn-on time (ms)	MPE (dB)	
Channel									
Frequency (MHz)				1720	1722.5	1724			
20	QPSK	1	0	18.55	18.49	18.55	19.8	0	
20	QPSK	1	36	18.52	18.46	18.58			
20	QPSK	1	72	18.57	18.51	18.63			
20	QPSK	50	24	18.72	18.75	18.70	19.8	0	
20	QPSK	50	60	18.68	18.76	18.73			
20	QPSK	50	96	18.65	18.73	18.77			
20	HQAM	1	0	18.60	18.64	18.68			
20	HQAM	1	48	18.69	18.66	18.62	19.8	0	
20	HQAM	1	96	18.74	18.69	18.64			
20	HQAM	50	0	18.60	18.66	18.66			
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71	18.52	18.50	17.3	2.5	
20	HQAM	50	24	18.64	18.56	18.52	19.8	0	
20	HQAM	50	60	18.58	18.55	18.56			
20	HQAM	50	0	18.66	18.58	18.57			
20	HQAM	1	48	18.71</					

Band 5 (Cellular Band) Part 22/only on channel required											
BS Mod	Modulation	BS Size	BS Offset	BS Power Class	Modulation Type	Modulation Rate	Modulation Code	Modulation Rate	Modulation Code	Turn-on Time	MFR (dB)
Channel 2043											
5	QPSK	1	0	19.57	19.58	19.53					
5	QPSK	1	19	19.52	19.58	19.45				21	0
5	QPSK	1	25	19.66	19.58	19.63					
5	QPSK	1	49	19.62	19.62	19.58					
5	QPSK	1	74	19.63	19.62	19.63					
5	QPSK	1	99	19.63	19.62	19.63					
5	QPSK	1	124	19.63	19.62	19.63					
5	QPSK	1	149	19.63	19.62	19.63					
5	QPSK	1	174	19.63	19.62	19.63					
5	QPSK	1	199	19.63	19.62	19.63					
5	QPSK	1	224	19.63	19.62	19.63					
5	QPSK	1	249	19.63	19.62	19.63					
5	QPSK	1	274	19.63	19.62	19.63					
5	QPSK	1	299	19.63	19.62	19.63					
5	QPSK	1	324	19.63	19.62	19.63					
5	QPSK	1	349	19.63	19.62	19.63					
5	QPSK	1	374	19.63	19.62	19.63					
5	QPSK	1	399	19.63	19.62	19.63					
5	QPSK	1	424	19.63	19.62	19.63					
5	QPSK	1	449	19.63	19.62	19.63					
5	QPSK	1	474	19.63	19.62	19.63					
5	QPSK	1	499	19.63	19.62	19.63					
5	QPSK	1	524	19.63	19.62	19.63					
5	QPSK	1	549	19.63	19.62	19.63					
5	QPSK	1	574	19.63	19.62	19.63					
5	QPSK	1	599	19.63	19.62	19.63					
5	QPSK	1	624	19.63	19.62	19.63					
5	QPSK	1	649	19.63	19.62	19.63					
5	QPSK	1	674	19.63	19.62	19.63					
5	QPSK	1	699	19.63	19.62	19.63					
5	QPSK	1	724	19.63	19.62	19.63					
5	QPSK	1	749	19.63	19.62	19.63					
5	QPSK	1	774	19.63	19.62	19.63					
5	QPSK	1	799	19.63	19.62	19.63					
5	QPSK	1	824	19.63	19.62	19.63					
5	QPSK	1	849	19.63	19.62	19.63					
5	QPSK	1	874	19.63	19.62	19.63					
5	QPSK	1	899	19.63	19.62	19.63					
5	QPSK	1	924	19.63	19.62	19.63					
5	QPSK	1	949	19.63	19.62	19.63					
5	QPSK	1	974	19.63	19.62	19.63					
5	QPSK	1	999	19.63	19.62	19.63					
5	QPSK	1	1024	19.63	19.62	19.63					
5	QPSK	1	1049	19.63	19.62	19.63					
5	QPSK	1	1074	19.63	19.62	19.63					
5	QPSK	1	1099	19.63	19.62	19.63					
5	QPSK	1	1124	19.63	19.62	19.63					
5	QPSK	1	1149	19.63	19.62	19.63					
5	QPSK	1	1174	19.63	19.62	19.63					
5	QPSK	1	1199	19.63	19.62	19.63					
5	QPSK	1	1224	19.63	19.62	19.63					
5	QPSK	1	1249	19.63	19.62	19.63					
5	QPSK	1	1274	19.63	19.62	19.63					
5	QPSK	1	1299	19.63	19.62	19.63					
5	QPSK	1	1324	19.63	19.62	19.63					
5	QPSK	1	1349	19.63	19.62	19.63					
5	QPSK	1	1374	19.63	19.62	19.63					
5	QPSK	1	1399	19.63	19.62	19.63					
5	QPSK	1	1424	19.63	19.62	19.63					
5	QPSK	1	1449	19.63	19.62	19.63					
5	QPSK	1	1474	19.63	19.62	19.63					
5	QPSK	1	1499	19.63	19.62	19.63					
5	QPSK	1	1524	19.63	19.62	19.63					
5	QPSK	1	1549	19.63	19.62	19.63					
5	QPSK	1	1574	19.63	19.62	19.63					
5	QPSK	1	1599	19.63	19.62	19.63					
5	QPSK	1	1624	19.63	19.62	19.63					
5	QPSK	1	1649	19.63	19.62	19.63					
5	QPSK	1	1674	19.63	19.62	19.63					
5	QPSK	1	1699	19.63	19.62	19.63					
5	QPSK	1	1724	19.63	19.62	19.63					
5	QPSK	1	1749	19.63	19.62	19.63					
5	QPSK	1	1774	19.63	19.62	19.63					
5	QPSK	1	1799	19.63	19.62	19.63					
5	QPSK	1	1824	19.63	19.62	19.63					
5	QPSK	1	1849	19.63	19.62	19.63					
5	QPSK	1	1874	19.63	19.62	19.63					
5	QPSK	1	1899	19.63	19.62	19.63					
5	QPSK	1	1924	19.63	19.62	19.63					
5	QPSK	1	1949	19.63	19.62	19.63					
5	QPSK	1	1974	19.63	19.62	19.63					
5	QPSK	1	1999	19.63	19.62	19.63					
5	QPSK	1	2024	19.63	19.62	19.63					
5	QPSK	1	2049	19.63	19.62	19.63					
5	QPSK	1	2074	19.63	19.62	19.63					
5	QPSK	1	2099	19.63	19.62	19.63					
5	QPSK	1	2124	19.63	19.62	19.63					
5	QPSK	1	2149	19.63	19.62	19.63					
5	QPSK	1	2174	19.63	19.62	19.63					
5	QPSK	1	2199	19.63	19.62	19.63					
5	QPSK	1	2224	19.63	19.62	19.63					
5	QPSK	1	2249	19.63	19.62	19.63					
5	QPSK	1	2274	19.63	19.62	19.63					
5	QPSK	1	2299	19.63	19.62	19.63					
5	QPSK	1	2324	19.63	19.62	19.63					
5	QPSK	1	2349	19.63	19.62	19.63					
5	QPSK	1	2374	19.63	19.62	19.63					
5	QPSK	1	2399	19.63	19.62	19.63					
5	QPSK	1	2424	19.63	19.62	19.63					
5	QPSK	1	2449	19.63	19.62	19.63					
5	QPSK	1	2474	19.63	19.62	19.63					
5	QPSK	1	2499	19.63	19.62	19.63					
5	QPSK	1	2524	19.63	19.62	19.63					
5	QPSK	1	2549	19.63	19.62	19.63					
5	QPSK	1	2574	19.63	19.62	19.63					
5	QPSK	1	2599	19.63	19.62	19.63					
5	QPSK	1	2624	19.63	19.62	19.63					
5	QPSK	1	2649	19.63	19.62	19.63					
5	QPSK	1	2674	19.63	19.62	19.63					
5	QPSK	1	2699	19.63	19.62	19.63					
5	QPSK	1	2724	19.63	19.62	19.63					
5	QPSK	1	2749	19.63	19.62	19.63					
5	QPSK	1	2774	19.63	19.62	19.63					
5	QPSK	1	2799	19.63	19.62	19.63					
5	QPSK	1	2824	19.63	19.62	19.63					
5	QPSK	1	2849	19.63	19.62	19.63					
5	QPSK	1	2874	19.63	19.62	19.63					
5	QPSK	1	2899	19.63	19.62	19.63					
5	QPSK	1	2924	19.63	19.62	19.63					
5	QPSK	1	2949	19.63	19.62	19.63					
5	QPSK	1	2974	19.63	19.62	19.63					
5	QPSK	1	2999	19.63	19.62	19.63					
5	QPSK	1	3024	19.63	19.62	19.63					
5	QPSK	1	3049	19.63	19.62	19.63					
5	QPSK	1	3074	19.63	19.62	19.63					
5	QPSK	1	3099	19.63	19.62	19.63					
5	QPSK	1	3124	19.63	19.62	19.63					
5	QPSK	1	3149	19.63	19.62	19.63					
5	QPSK	1	3174	19.63	19.62	19.63					
5	QPSK	1	3199	19.63	19.62	19.63					
5	QPSK	1	3224	19.63	19.62	19.63					
5	QPSK	1	3249	19.63	19.62	19.63					
5	QPSK	1	3274	19.63	19.62	19.63					
5	QPSK	1	3299	19.63	19.62	19.63					
5	QPSK	1	3324	19.63	19.62	19.63					
5	QPSK	1	3349	19.63	19.62	19.63					
5	QPSK	1	3374	19.63	19.62	19.63					
5	QPSK	1	3399	19.63	19.62	19.63					
5	QPSK	1	3424	19.63	19.62	19.63					
5	QPSK	1	3449	19.63	19.62	19.63					
5	QPSK	1	3474	19.63	19.62	19.63					
5	QPSK	1	3499	19.63	19.62	19.63					
5	QPSK	1	3524	19.63	19.62	19.63					
5	QPSK	1	3549	19.63	19.62	19.63					
5	QPSK	1	3574	19.63	19.62	19.63					
5	QPSK	1	3599	19.63	19.62	19.63					
5	QPSK	1	3624	19.63	19.62	19.63					
5	QPSK	1	3649	19.63	19.62	19.63					

Band 7 (2600MHz Band)									
Part 27									
RF (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power High Ch./Freq.	Power High Ch./Freq.	Turn-up limit (dBm)	MPE (dB)	
Channel									
Frequency (MHz)									
20	QPSK	1	0	15.28	15.47	15.32			
20	QPSK	1	49	15.33	15.44	15.38	16.5	0	
20	QPSK	1	99	15.35	15.67	15.73			
20	QPSK	50	0	15.45	15.53	15.56			
20	QPSK	50	24	15.50	15.66	15.67	16.5	0	
20	QPSK	50	50	15.48	15.65	15.65			
20	QPSK	100	0	15.41	15.62	15.54			
20	16QAM	1	0	15.50	15.35	15.37	16.5	0	
20	16QAM	1	49	15.38	15.33	15.38			
20	16QAM	1	99	15.56	15.60	15.34			
20	16QAM	50	0	15.59	15.59	15.41			
20	16QAM	50	24	15.57	15.60	15.67			
20	16QAM	50	50	15.50	15.31	15.32	16.5	0	
20	16QAM	100	0	15.51	15.68	15.60			
20	16QAM	1	0	15.34	15.38	15.33			
20	16QAM	1	49	15.46	15.35	15.32	16.5	0	
20	16QAM	1	99	15.43	15.33	15.36			
20	16QAM	50	0	15.48	15.59	15.57			
20	16QAM	50	24	15.51	15.69	15.64	16.5	0	
20	16QAM	50	50	15.51	15.68	15.60			
20	16QAM	100	0	15.51	15.50	15.58			
20	256QAM	1	0	15.19	15.48	15.39			
20	256QAM	1	49	15.29	15.32	15.16	16.3	0.2	
20	256QAM	1	99	15.35	15.35	15.30			
20	256QAM	50	0	15.13	15.27	15.19			
20	256QAM	50	24	15.21	15.39	15.30			
20	256QAM	50	50	15.27	15.28	15.22	16.3	0.2	
20	256QAM	100	0	15.23	15.32	15.19			
Channel									
Frequency (MHz)									
15	QPSK	1	0	15.13	15.45	15.28	16.5	0	
15	QPSK	1	37	15.39	15.32	15.16			
15	QPSK	1	74	15.23	15.65	15.50			
15	QPSK	36	0	15.43	15.28	15.38			
15	QPSK	36	20	15.21	15.63	15.50	16.5	0	
15	QPSK	36	99	15.30	15.58	15.48			
15	QPSK	75	0	15.25	15.48	15.51			
15	16QAM	1	0	15.31	15.33	15.41	16.5	0	
15	16QAM	1	37	15.19	15.22	15.48			
15	16QAM	1	74	15.33	15.47	15.21			
15	16QAM	36	0	15.32	15.62	15.50			
15	16QAM	36	20	15.61	15.60	15.42	16.5	0	
15	16QAM	36	99	15.42	15.09	15.31			
15	16QAM	75	0	15.32	15.40	15.12			
15	16QAM	1	0	15.32	15.40	15.12	16.5	0	
15	16QAM	1	37	15.46	15.29	15.24			
15	16QAM	1	74	15.38	15.24	15.31			
15	16QAM	36	0	15.37	15.59	15.38			
15	16QAM	36	20	15.51	15.69	15.61	16.5	0	
15	16QAM	36	99	15.38	15.64	15.46			
15	16QAM	75	0	15.34	15.47	15.39			
15	256QAM	1	0	15.00	15.38	15.15			
15	256QAM	1	37	15.12	15.12	15.14	16.3	0.2	
15	256QAM	1	74	15.40	15.19	15.15			
15	256QAM	36	0	15.14	15.19	15.14			
15	256QAM	36	20	15.29	15.18	15.32	16.3	0.2	
15	256QAM	36	99	15.16	15.14	15.12			
15	256QAM	75	0	15.04	15.30	15.08			
Channel									
Frequency (MHz)									
10	QPSK	1	0	15.19	15.17	15.30	16.5	0	
10	QPSK	1	49	15.33	15.15	15.47			
10	QPSK	1	99	15.33	15.50	15.66			
10	QPSK	25	0	15.38	15.32	15.34			
10	QPSK	25	25	15.38	15.44	15.46	16.5	0	
10	QPSK	25	50	15.40	15.46	15.38			
10	QPSK	50	0	15.23	15.39	15.38			
10	16QAM	1	0	15.15	15.24	15.31	16.5	0	
10	16QAM	1	25	15.37	15.32	15.38			
10	16QAM	1	49	15.48	15.45	15.24			
10	16QAM	25	0	15.22	15.35	15.66			
10	16QAM	25	12	15.34	15.61	15.47	16.5	0	
10	16QAM	25	25	15.34	15.09	15.08			
10	16QAM	50	0	15.23	15.63	15.59			
10	16QAM	1	0	15.17	15.37	15.36			
10	16QAM	1	25	15.43	15.26	15.19	16.5	0	
10	16QAM	1	49	15.34	15.13	15.36			
10	16QAM	25	0	15.34	15.54	15.37			
10	16QAM	25	12	15.29	15.60	15.44	16.5	0	
10	16QAM	25	25	15.48	15.44	15.67			
10	16QAM	50	0	15.47	15.38	15.63			
10	256QAM	1	0	15.24	15.51	15.36			
10	256QAM	1	25	15.10	15.26	15.22	16.3	0.2	
10	256QAM	1	49	15.23	15.24	15.10			
10	256QAM	25	0	15.10	15.04	15.10			
10	256QAM	25	12	15.29	15.18	15.32	16.3	0.2	
10	256QAM	25	25	15.31	15.06	15.20			
10	256QAM	50	0	15.17	15.12	15.14			
Channel									
Frequency (MHz)									
5	QPSK	1	0	15.08	15.23	15.24	16.5	0	
5	QPSK	1	19	15.33	15.19	15.33			
5	QPSK	1	24	15.19	15.60	15.67			
5	QPSK	12	0	15.33	15.26	15.42			
5	QPSK	12	7	15.38	15.54	15.53	16.5	0	
5	QPSK	12	18	15.37	15.52	15.45			
5	QPSK	25	0	15.35	15.36	15.49			
5	16QAM	1	0	15.54	15.20	15.33	16.5	0	
5	16QAM	1	12	15.28	15.19	15.65			
5	16QAM	1	24	15.44	15.44	15.09			
5	16QAM	12	0	15.32	15.61	15.62	16.5	0	
5	16QAM	12	7	15.40	15.61	15.60			
5	16QAM	12	18	15.27	15.27	15.34			
5	16QAM	25	0	15.34	15.39	15.48			
5	16QAM	1	0	15.26	15.19	15.28	16.5	0	
5	16QAM	1	12	15.37	15.10	15.19			
5	16QAM	1	24	15.38	15.13	15.28			
5	16QAM	12	0	15.48	15.36	15.49	16.5	0	
5	16QAM	12	7	15.50	15.66	15.63			
5	16QAM	12	18	15.28	15.51	15.68			
5	16QAM	25	0	15.45	15.35	15.61			
5	256QAM	1	0	15.18	15.47	15.41			
5	256QAM	1	24	15.18	15.09	15.17	16.3	0.2	
5	256QAM	12	0	15.18	15.09	15.17			
5	256QAM	12	7	15.19	15.34	15.09	16.3	0.2	
5	256QAM	12	18	15.28	15.32	15.17			
5	256QAM	25	0	15.14	15.24	15.15			

Band 12 (700MHz Low Band)									
Part 27 (only on channel required)									
RF (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power High Ch./Freq.	Power High Ch./Freq.	Turn-up limit (dBm)	MPE (dB)	
Channel									
Frequency (MHz)									
10	QPSK	1	0	19.48	19.42	19.52			
10	QPSK	1	25	19.45	19.52	19.48	20.7	0	
10	QPSK	1	49	19.57	19.57	19.52			
10	QPSK	25	0	19.41	19.41	19.44			
10	QPSK	25	12	19.47	19.45	19.42	20.7	0	
10	QPSK	25	25	19.46	19.43	19.45			
10	QPSK	50	0	19.49	19.39	19.42			
10	16QAM	1	0	19.54	19.57	19.40	20.7	0	
10	16QAM	1	15	19.59	19.56	19.57			
10	16QAM	1	49	19.54	19.59	19.51			
10	16QAM	25	0	19.51	19.51	19.50	20.7	0	
10	16QAM	25	12	19.52	19.51	19.50			
10	16QAM	25	25	19.51	19.54	19.59			
10	16QAM	50	0	19.54	19.56	19.59			
10	16QAM	50	12	19.53	19.56	19.57	20.3	0.4	
10	16QAM	50	25	19.51	19.50	19.57			
10	16QAM	50	0	19.55	19.57	19.55			
10	256QAM	1	0	17.80	17.47	17.63			
10	256QAM	1	24	17.63	17.68	17.50	18.8	1.9	
10	256QAM	1	49	17.64	17.47	17.50			
10	256QAM	25	0	17.51	17.48	17.51			
10	256QAM	25	12	17.53	17.48	17.50	18.8	1.9	
10	256QAM	25	25	17.54	17.43	17.44			
10	256QAM	50	0	17.50	17.44	17.43			

Band 17 (700MHz Band) Part 27H(only on channel required)										
RF (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq 23780	Power Ch / Freq 23790	Power Ch / Freq 23800	Turn-up init (dBm)	MPE (dB)		
Channel Frequency (MHz)										
10	QPSK	1	0	19.19	19.25	19.25				
10	QPSK	1	25	19.34	19.36	19.33	20.7			
10	QPSK	1	49	19.49	19.29	19.27				
10	QPSK	25	0	19.35	19.35	19.37				
10	QPSK	25	12	19.48	19.42	19.43	20.7			
10	QPSK	25	25	19.41	19.46	19.42				
10	16QAM	1	0	19.38	19.37	19.35				
10	16QAM	1	25	19.37	19.35	19.31	20.7			
10	16QAM	1	49	19.31	19.31	19.32				
10	16QAM	25	0	19.28	19.27	19.29				
10	16QAM	25	12	19.24	19.24	19.25				
10	16QAM	25	25	19.29	19.28	19.27				
10	16QAM	50	0	19.28	19.24	19.25				
10	16QAM	1	0	19.24	19.24	19.27				
10	16QAM	1	25	19.32	19.33	19.32	20.7			
10	16QAM	1	49	19.22	19.31	19.26				
10	16QAM	25	0	19.23	19.30	19.31				
10	16QAM	25	12	19.29	19.29	19.29	20.3			0.4
10	16QAM	25	25	19.25	19.31	19.33				
10	16QAM	50	0	19.35	19.33	19.32				
10	256QAM	1	0	17.47	17.34	17.50	18.8			1.9
10	256QAM	1	25	17.50	17.46	17.37				
10	256QAM	1	49	17.51	17.34	17.42				
10	256QAM	25	0	17.38	17.33	17.38				
10	256QAM	25	12	17.40	17.42	17.32				
10	256QAM	25	25	17.41	17.39	17.31				
10	256QAM	50	0	17.37	17.31	17.36				
Channel Frequency (MHz)										
5	QPSK	1	0	19.14	19.02	19.06				
5	QPSK	1	10	19.08	19.19	19.16				
5	QPSK	1	24	19.30	19.06	19.17				
5	QPSK	12	0	19.27	19.32	19.33				
5	QPSK	12	10	19.36	19.21	19.32				
5	QPSK	12	13	19.24	19.21	19.32				
5	QPSK	25	0	19.29	19.22	19.08				
5	16QAM	1	0	19.37	19.30	19.37				
5	16QAM	1	10	19.35	19.33	19.31	20.7			
5	16QAM	1	24	19.31	19.33	19.30				
5	16QAM	12	0	19.30	19.08	19.32				
5	16QAM	12	7	19.11	19.01	19.00				
5	16QAM	12	13	19.13	19.16	19.17	20.7			0
5	16QAM	25	0	19.26	19.09	19.32				
5	16QAM	25	0	19.28	19.03	19.18				
5	16QAM	1	12	19.31	19.28	19.21	20.7			
5	16QAM	1	24	19.15	19.22	19.26				
5	16QAM	12	0	19.10	19.14	19.34				
5	16QAM	12	7	19.22	19.31	19.30	20.3			0.4
5	16QAM	12	13	19.03	19.11	19.17				
5	256QAM	1	0	17.47	17.13	17.36	18.8			1.9
5	256QAM	1	24	17.27	17.36	17.24				
5	256QAM	12	0	17.37	17.09	17.41				
5	256QAM	12	7	17.38	17.46	17.18				
5	256QAM	12	13	17.29	17.22	17.19				
5	256QAM	25	0	17.21	17.26	17.36				

Band 25 (100MHz Band) Part 24E										
RF (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq 20140	Power Mid Ch / Freq 20150	Power High Ch / Freq 20160	Turn-up init (dBm)	MPE (dB)		
Channel Frequency (MHz)										
20	QPSK	1	0	18.19	18.30	18.19				
20	QPSK	1	49	18.21	18.05	18.21	19.1	0		
20	QPSK	1	99	18.18	18.11	18.07				
20	QPSK	50	0	18.13	18.21	18.17				
20	QPSK	50	24	18.24	18.28	18.23	19.1	0		
20	QPSK	50	50	18.19	18.20	18.13				
20	QPSK	100	0	18.13	18.23	18.15				
20	16QAM	1	0	18.17	18.17	18.10				
20	16QAM	1	49	18.14	18.10	18.12	19.1	0		
20	16QAM	1	99	18.29	18.13	18.27				
20	16QAM	50	24	18.27	18.21	18.27				
20	16QAM	50	50	18.21	18.21	18.26				
20	16QAM	100	0	18.17	18.12	18.29				
20	16QAM	1	0	18.17	18.12	18.29				
20	16QAM	1	49	18.14	18.10	18.12	19.1	0		
20	16QAM	1	99	18.16	18.16	18.18				
20	16QAM	50	0	18.17	18.25	18.23				
20	16QAM	50	24	18.12	18.29	18.21	18.8	0.3		
20	16QAM	50	50	18.26	18.13	18.20				
20	16QAM	100	0	18.25	18.19	18.20				
20	256QAM	1	0	16.89	16.88	16.90	17.3	1.8		
20	256QAM	1	49	16.92	16.90	16.87				
20	256QAM	1	99	16.87	16.91	16.79				
20	256QAM	50	0	16.82	16.77	16.78				
20	256QAM	50	24	16.83	16.80	16.81				
20	256QAM	50	50	16.78	16.81	16.71				
20	256QAM	100	0	16.78	16.72	16.77	17.3	1.8		
Channel Frequency (MHz)										
15	QPSK	1	0	17.91	18.26	18.16				
15	QPSK	1	10	18.04	17.75	18.13	19.1	0		
15	QPSK	1	24	18.07	18.03	17.88				
15	QPSK	36	0	17.88	18.20	18.12				
15	QPSK	36	10	17.87	18.27	18.15				
15	QPSK	36	39	18.07	18.23	17.83				
15	QPSK	75	0	18.05	18.23	18.08				
15	16QAM	1	0	18.07	18.27	18.15				
15	16QAM	1	37	18.14	18.05	18.00				
15	16QAM	1	74	18.24	17.92	18.24				
15	16QAM	36	39	18.07	17.92	18.20				
15	16QAM	36	20	18.17	17.95	18.13				
15	16QAM	75	0	18.09	18.07	18.10	19.1	0		
15	16QAM	75	10	18.04	18.09	18.11				
15	16QAM	1	0	17.94	17.95	18.17				
15	16QAM	1	37	18.01	17.85	17.87	19.1	0		
15	16QAM	1	74	18.01	17.85	17.87				
15	16QAM	36	0	18.08	18.13	17.89				
15	16QAM	36	20	18.09	18.10	18.07	18.8	0.3		
15	16QAM	36	39	18.02	17.92	18.14				
15	16QAM	75	0	18.14	18.18	18.17				
15	256QAM	1	0	16.77	16.90	16.83				
15	256QAM	1	37	16.81	16.92	16.79	17.3	1.8		
15	256QAM	1	74	16.79	16.73	16.82				
15	256QAM	36	0	16.80	16.71	16.87				
15	256QAM	36	39	16.75	16.78	16.74	17.3	1.8		
15	256QAM	75	0	16.76	16.68	16.66				

Band 26 for FCC (only on channel required)									
RF (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq 20165	Power Ch / Freq 20166	Power Ch / Freq 20167	Turn-up init (dBm)	MPE (dB)	
Channel Frequency (MHz)									
15	QPSK	1	0	19.80	19.80	19.80			
15	QPSK	1	37	19.75	19.76	19.74			0
15	QPSK	1	74	19.77	19.76	19.88			
15	QPSK	36	0	19.74	19.76	19.72			
15	QPSK	36	20	19.78	19.82	19.85			
15	QPSK	36	39	19.73	19.70	19.73			
15	QPSK	75	0	19.77	19.70	19.76			21
15	16QAM	1	0	19.81	19.81	19.85			
15	16QAM	1	37	19.85	19.80	19.80			
15	16QAM	1	74	19.86	19.83	19.76			0
15	16QAM	36	0	19.76	19.76	19.72			
15	16QAM	36	20	19.75	19.75	19.85			
15	16QAM	36	39	19.72	19.70	19.70			0
15	16QAM	75	0	19.79	19.76	19.80			0
15	16QAM	1	37	19.70	19.72	19.81			21
15	16QAM	36	0	19.77	19.75	19.79			
15	16QAM	36	20	19.79	19.88	19.74			20.3
15	16QAM	36	39	19.75	19.70	19.77			0.7
15	16QAM	75	0	19.79	19.85	19.71			
15	256QAM	1	0	17.82	17.87	17.81			
15	256QAM	1	37	17.45	17.54	17.48	18.8		2.2
15	256QAM	1	74	17.54	17.45	17.39			
15	256QAM	36	0	17.42	17.38	17.39			
15	256QAM	36	20	17.43	17.39	17.38			
15	256QAM	36	39	17.39	17.38	17.26			2.2
15	256QAM	75	0	17.41	17.25	17.26			
Channel Frequency (MHz)									
15	QPSK	1	0	19.80	19.81	19.84			
15	QPSK	1	26	19.73	19.48	19.82			21
15	QPSK	1	65	19.47	19.80	19.81			
15	QPSK	20	0	19.63	19.46	19.46			
15	QPSK	20	12	19.59	19.78	19.73			21
15	QPSK	20	24	19.68	19.68	19.68			
15	QPSK	50	0	19.73	19.67	19.77			
15	16QAM	1	0	19.84	19.80	19.73			21
15	16QAM	1	26	19.79	19.79	19.79			
15	16QAM	1	49	19.74	19.65	19.65			0
15	16QAM	20	0	19.73	19.68	19.70			
15	16QAM	20	12	19.69	19.80	19.75			21
15	16QAM	20	25	19.84	19.46	19.42			
15	16QAM	50	0	19.56	19.74	19.51			
15	16QAM	50	12	19.65	19.72	19.60			
15	16QAM	1	25	19.59	19.61	19.58			21
15	16QAM	1	49	19.73	19.63	19.64			
15	16QAM	20	0	19.71	19.61	19.64			
15	16QAM	20	12	19.84	19.84	19.60			20.3
15	16QAM	20	25	19.67	19.81	19.78			
15	16QAM	50	0	19.71	19.62	19.64			
15	16QAM	1	0	17.48	17.68	17.58	18.4		2.2
15	256QAM	20	0	17.49	17.46	17.53			18.8
15	256QAM	20	12	17.38	17.46	17.40			2.2
15	256QAM	1	0	17.32	17.37	17.29			
15	256QAM	20	12	17.22	17.38	17.38			18.8
15	256QAM	1	0	17.27	17.28	17.12	18.1		2.2
15	256QAM	50	0	17.27	17.28	17.12			

Band 30									
RV (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Final	Power High Ch. / Final	Power High Ch. / Final	Time-up (min)	MPR (dB)	
Channel									
Frequency (MHz)									
10	QPSK	1	0		15.10		19	0	
10	QPSK	1	25		17.75				
10	QPSK	1	49		17.81				
10	QPSK	25	0		17.50				
10	QPSK	25	12		17.50		19	0	
10	QPSK	25	25		17.50				
10	QPSK	50	0		17.50				
10	16QAM	1	0		17.95				
10	16QAM	1	25		17.95		19	0	
10	16QAM	1	49		17.95				
10	16QAM	25	12		17.95				
10	16QAM	25	25		17.95				
10	16QAM	50	0		17.95		19	0	
10	16QAM	1	0		17.95				
10	16QAM	1	25		17.94				
10	16QAM	1	49		17.95				
10	16QAM	25	0		17.47		18.5	0.5	
10	16QAM	25	12		17.47				
10	16QAM	25	25		17.47				
10	16QAM	50	0		17.30				
10	16QAM	1	0		15.58		17.3	1.7	
10	16QAM	1	25		15.73				
10	16QAM	1	49		15.64				
10	16QAM	25	0		15.43				
10	16QAM	25	12		15.43		17.3	1.7	
10	16QAM	25	25		15.48				
10	16QAM	50	0		15.58				
10	16QAM	1	0		15.58				
Channel									
Frequency (MHz)									
5	QPSK	1	0		20.05	20.10	20.10	20.10	17.3
5	QPSK	1	0		17.82	17.81	17.82		
5	QPSK	1	25		17.76	17.80	17.80		
5	QPSK	1	24		17.64	17.68	17.71		
5	QPSK	12	0		17.76	17.80	17.73		
5	QPSK	12	7		18.04	17.90	18.00		
5	QPSK	12	13		17.68	17.70	17.70		
5	QPSK	25	0		17.89	17.80	17.85		
5	16QAM	1	0		18.03	17.90	17.85		
5	16QAM	1	12		17.70	17.70	17.70		
5	16QAM	1	24		17.85	17.75	17.75		
5	16QAM	12	0		17.70	17.70	17.71		
5	16QAM	12	7		17.81	17.80	17.80		
5	16QAM	12	13		17.71	17.74	17.68		
5	16QAM	25	0		17.70	17.60	17.70		
5	16QAM	1	0		17.90	17.91	17.92		
5	16QAM	1	12		17.95	17.85	17.88		
5	16QAM	1	24		17.76	17.67	17.67		
5	16QAM	12	0		17.27	17.30	17.31		
5	16QAM	12	7		17.21	17.26	17.23		
5	16QAM	12	13		17.80	17.15	17.12		
5	16QAM	25	0		17.29	17.26	17.21		
5	16QAM	1	0		15.43	15.48	15.47		
5	16QAM	1	12		15.77	15.76	15.74		
5	16QAM	1	24		15.53	15.60	15.47		
5	16QAM	12	0		15.50	15.40	15.44		
5	16QAM	12	7		15.40	15.50	15.49		
5	16QAM	12	13		15.43	15.59	15.55		
5	16QAM	25	0		15.30	15.45	15.36		

Band 66											
RV (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Final	Power High Ch. / Final	Power High Ch. / Final	Time-up (min)	MPR (dB)			
Channel											
Frequency (MHz)											
20	QPSK	1	0	18.76	18.76	18.51	18.58	19.8	0		
20	QPSK	1	49	18.90	18.87	18.87	18.76				
20	QPSK	1	99	18.77	18.68	18.68	18.76				
20	QPSK	50	0	18.92	18.87	18.87	18.95				
20	QPSK	50	24	18.89	18.94	18.94	18.95	19.8	0		
20	QPSK	50	50	18.91	18.92	18.92	18.81				
20	16QAM	1	0	18.86	18.81	18.81	18.86				
20	16QAM	1	49	18.82	18.88	18.87	18.87				
20	16QAM	1	99	18.81	18.86	18.86	18.89	19.8	0		
20	16QAM	50	0	18.90	18.89	18.89	18.94				
20	16QAM	50	24	17.95	17.99	17.84	17.84				
20	16QAM	50	50	17.88	17.93	17.87	17.87				
20	16QAM	100	0	17.88	17.89	17.89	17.86	18.8	1		
20	16QAM	1	0	15.91	15.86	15.86	15.89				
20	16QAM	1	49	15.86	15.92	15.91	15.91				
20	16QAM	1	99	15.85	15.89	15.92	15.92				
20	16QAM	50	0	15.73	15.69	15.70	15.70	17.3	2.5		
20	16QAM	50	24	15.79	15.71	15.78	15.78				
20	16QAM	50	50	15.74	15.74	15.83	15.83				
20	16QAM	100	0	15.76	15.68	15.82	15.82				
Channel											
Frequency (MHz)											
15	QPSK	1	0	18.75	18.86	18.86	18.77	19.8	0		
15	QPSK	1	24	18.89	18.76	18.86	18.86				
15	QPSK	1	74	18.50	18.41	18.64	18.64				
15	QPSK	36	0	18.81	18.84	18.87	18.87				
15	QPSK	36	20	18.75	18.68	18.83	18.83	19.8	0		
15	QPSK	36	36	18.69	18.62	18.68	18.68				
15	QPSK	75	0	18.74	18.84	18.81	18.81				
15	16QAM	1	0	18.86	18.76	18.70	18.70				
15	16QAM	1	37	18.68	18.81	18.85	18.85	19.8	0		
15	16QAM	1	74	18.80	18.71	18.71	18.71				
15	16QAM	36	0	18.82	18.83	18.79	18.79				
15	16QAM	36	20	18.85	18.77	18.75	18.75				
15	16QAM	36	36	18.66	18.82	18.82	18.82	19.8	0		
15	16QAM	75	0	18.81	18.84	18.81	18.81				
15	16QAM	1	0	18.81	18.82	18.88	18.88				
15	16QAM	1	37	18.69	18.87	18.85	18.85				
15	16QAM	1	74	18.80	18.71	18.71	18.71	18.8	1		
15	16QAM	36	0	17.81	17.87	17.74	17.74				
15	16QAM	36	20	17.74	17.74	17.71	17.71				
15	16QAM	36	36	17.87	17.88	17.86	17.86				
15	16QAM	75	0	17.76	17.86	17.83	17.83	17.3	2.5		
15	16QAM	1	0	15.84	15.68	15.71	15.71				
15	16QAM	1	37	15.72	15.71	15.50	15.50				
15	16QAM	1	74	15.76	15.69	15.76	15.76				
15	16QAM	36	0	15.54	15.63	15.69	15.69	17.3	2.5		
15	16QAM	36	20	15.77	15.52	15.60	15.60				
15	16QAM	36	36	15.87	15.51	15.60	15.60				
15	16QAM	75	0	15.68	15.71	15.65	15.65				
Channel											
Frequency (MHz)											
10	QPSK	1	0	18.47	18.83	18.82	18.82	19.8	0		
10	QPSK	1	24	18.75	18.68	18.87	18.87				
10	QPSK	1	49	18.71	18.64	18.74	18.74				
10	QPSK	25	0	18.85	18.67	18.76	18.76				
10	QPSK	25	12	18.80	18.83	18.81	18.81	19.8	0		
10	QPSK	25	25	18.83	18.81	18.70	18.70				
10	QPSK	50	0	18.72	18.86	18.77	18.77				
10	16QAM	1	0	18.87	18.82	18.79	18.79	19.8	0		
10	16QAM	1	37	18.69	18.87	18.85	18.85				
10	16QAM	1	74	18.80	18.71	18.71	18.71				
10	16QAM	36	0	18.86	18.87	18.82	18.82				
10	16QAM	36	20	18.89	18.80	18.84	18.84	19.8	0		
10	16QAM	36	36	18.70	18.86	18.86	18.86				
10	16QAM	75	0	18.86	18.81	18.86	18.86				
10	16QAM	1	0	18.86	18.82	18.80	18.80				
10	16QAM	1	25	18.86	18.82	18.80	18.80	19.8	0		
10	16QAM	1	49	17.85	17.86	17.81	17.81				
10	16QAM	25	12	17.77	17.88	17.88	17.88				
10	16QAM	25	25	17.79	17.79	17.75	17.75				
10	16QAM	50	0	17.05	17.76	17.71	17.71	17.3	2.5		
10	16QAM	50	24	16.86	16.65	16.64	16.64				
10	16QAM	50	49	16.68	16.58	16.57	16.57				
10	16QAM	1	0	15.61	15.70	15.63	15.63				
10	16QAM	25	0	15.60	15.60	15.65	15.65	17.3	2.5		
10	16QAM	25	12	15.60	15.60	15.65	15.65				
10	16QAM	25	25	15.60	15.65	15.65	15.65				
10	16QAM	50	0	15.59	15.47	15.58	15.58				
Channel											
Frequency (MHz)											
5	QPSK	1	0	17.15	17.44	17.77	17.77	19.8	0		
5	QPSK	1	12	16.70	16.84	16.87	16.87				
5	QPSK	1	24	16.70	16.84	16.87	16.87				
5	QPSK	12	0	16.72	16.85	16.74	16.74				
5	QPSK	12	12	16.72	16.85	16.74	16.74	19.8	0		
5	QPSK	12	24	16.72	16.85	16.74	16.74				
5	QPSK	25	0	16.63	16.80	16.84	16.84				
5	QPSK	25	12	16.63	16.80	16.84	16.84	19.8	0		
5	16QAM	1	0	17.11	17.06	17.01	17.01				
5	16QAM	1	12	16.71	16.86	16.81	16.81				
5	16QAM	1	24	16.65	16.89	16.87	16.87				
5	16QAM	12	0	16.83	16.83	16.82	16.82	19.8	0		
5	16QAM	12	12	16.76	16.82	16.80	16.80				
5	16QAM	12	24	16.76	16.82	16.80	16.80				
5	16QAM	25	0	16.78	16.80	16.76	16.76				
5	16QAM	1	0	16.78	16.80	16.76	16.76	19.8	0		
5	16QAM	1	12	16.77	16.78	16.81	16.81				
5	16QAM	1	24	16.77	16.78	16.81	16.81				
5	16QAM	12	0	16.78	16.80	16.76	16.76				
5	16QAM	12	12	16.77	16.78	16.81	16.81	19.8	0		
5	16QAM	12	24	16.77	16.78	16.81	16.81				
5	16QAM	25	0	16.77	16.78	16.81	16.81				
5	16QAM	25	12	16.77	16.78	16.81	16.81				
5	16QAM	25	24	16.77	16.78	16.81	16.81	18.8	1		
5	16QAM	25	48	16.77	16.78	16.81	16.81				
5	16QAM	50	0	17.05	17.76	17.71	17.71				
5	16QAM	50	24	16.86	16.65	16.64	16.64				
5	16QAM	50	49	16.68	16.58	16.57	16.57	17.3	2.5		
5	16QAM	1	0	15.61	15.70	15.63	15.63				
5	16QAM	25	0	15.60	15.60	15.65	15.65				
5	16QAM	25	12	15.60	15.60	15.65	15.65				
5	16QAM	25	25	15.60	15.65	15.65	15.65	17.3	2.5		
5	16QAM	25	48	15.60	15.60	15.65	15.65				
5	16QAM	25	72	15.60	15.60	15.65	15.65				
5	16QAM	50	0	15.59	15.47	15.58	15.58				
Channel											
Frequency (MHz)											
3	QPSK	1	0	16.51	16.86	17.07	17.07	19.8	0		
3	QPSK	1	12	16.70	16.84	16.87	16.87				
3	QPSK	1	24	16.70	16.84	16.87	16.87				
3	QPSK	12	0	16.72	16.85	16.74	16.74				
3	QPSK	12	12	16.72	16.85	16.74	16.74	19.8	0		
3	QPSK	12	24	16.72	16.85	16.74	16.74				
3	QPSK	25	0	16.63	16.80	16.84	16.84				
3	QPSK	25	12	16.63	16.80	16.84	16.84	19.8	0		
3	16QAM	1	0	17.11	17.06	17.01	17.01				
3	16QAM	1	12	16.71	16.86	16.81	16.81				
3	16QAM	1	24	16.65	16.89	16.87	16.87				
3	16QAM	12	0	16.83	16.83	16.82	16.82	19.8	0		
3	16QAM	12	12	16.76	16.82	16.80	16.80				
3	16QAM	12	24	16.76	16.82	16.80	16.80				
3	16QAM	25	0	16.78	16.80	16.76	16.76				
3	16QAM	1	0	16.78	16.80	16.76	16.76	19.8	0		
3	16QAM	1	12	16.77	16.78	16.81	16.81				
3	16QAM	1	24	16.77	16.78	16.81	16.81				
3	16QAM	12	0	16.78	16.80	16.76	16.76				
3	16QAM	12	12	16.77	16.78	16.81	16.81	19.8	0		
3	16QAM	12	24	16.77	16.78	16.81	16.81				
3	16QAM	25	0	16.77	16.78	16.81	16.81				
3	16QAM	25	12	16.77	16.78	16.81	16.81				
3	16QAM	25	24	16.77	16.78	16.81	16.81	18.8	1		
3	16QAM	25	48	16.77	16.78	16.81	16.81				
3	16QAM	50	0	17.05	17.76	17.71	17.71				
3	16QAM	50	24	16.86	16.65	16.64	16.64				
3	16QAM	50	49	16.68	16.58	16.57	16.57	17.3	2.5		
3	16QAM	1	0	15.61	15.70	15.63	15.63				
3	16QAM	25	0	15.60	15.60	15.65	15.65				
3	16QAM	25	12	15.60	15.60	15.65	15.65				
3	16QAM	25	25	15.60	15.65	15.65	15.65	17.3	2.5		
3	16QAM	25	48	15.60	15.60	15.65	15.65				
3	16QAM	25	72	15.60	15.60	15.65	15.65				
3	16QAM	50	0	15.59	15.47	15.58	15.58				
Channel											
Frequency (MHz)											
1	QPSK	1	0	16.51	16.86	17.07	17.07	19.8	0		
1	QPSK	1	12	16.70	16.84	16.87	16.87				
1	QPSK	1	24	16.70	16.84	16.87	16.87				
1	QPSK	12	0	16.72	16.85	16.74	16.74				
1	QPSK	12	12	16.72	16.85	16.74	16.74	19.8	0		
1	QPSK	12	24	16.72	16.85	16.74	16.74				
1	QPSK	25	0	16.63	16.80	16.84	16.84				
1	QPSK	25	12	16.63	16.80	16.84	16.84	19.8	0		
1	16QAM	1	0	17.11	17.06	17.01	17.01				
1	16QAM	1	12	16.71	16.86	16.81	16.81				
1											

Band 71									
BW (MHz)	Modulation	RB Size	RB Offset	Power Lim Ch / Freq	Power Lim Ch / Freq	Power Lim Ch / Freq	Power Lim Ch / Freq	Turn-up time (dBm)	APR3 (dB)
Channel				133222	673	683	688	22	0
Frequency (MHz)				673	683	688	688		
20	QPSK	1	0	21.05	21.05	21.01	21.01		
20	QPSK	1	49	20.90	20.90	20.82	20.74		
20	QPSK	1	99	20.90	20.90	20.92	20.87		
20	QPSK	50	0	20.93	20.93	20.95	20.82		
20	QPSK	50	24	20.92	20.92	21.01	21.01		22
20	QPSK	50	50	20.99	20.99	21.03	20.94		
20	QPSK	100	0	21.01	21.04	21.00	21.00		
20	16QAM	1	0	20.97	20.92	21.06	21.06		
20	16QAM	1	49	20.99	21.03	20.98	20.98		
20	16QAM	1	99	20.91	21.05	20.99	20.99		
20	16QAM	50	0	21.04	21.01	21.06	21.06		
20	16QAM	50	24	20.99	20.96	20.92	20.94		22
20	16QAM	50	50	20.96	20.93	20.87	20.87		
20	64QAM	1	0	20.83	20.93	20.92	20.92		
20	64QAM	1	49	20.82	20.84	20.76	20.76		
20	64QAM	1	99	20.78	20.90	20.71	20.71		
20	64QAM	50	0	19.55	19.63	19.60	19.60		
20	64QAM	50	24	19.41	19.48	19.53	19.53		20.3
20	64QAM	50	50	19.55	19.46	19.38	19.38		
20	64QAM	100	0	19.58	19.55	19.54	19.54		
20	256QAM	1	0	17.54	17.49	17.56	17.56		
20	256QAM	1	49	17.47	17.55	17.57	17.57		18.8
20	256QAM	1	99	17.52	17.50	17.49	17.49		
20	256QAM	50	0	17.45	17.48	17.43	17.43		
20	256QAM	50	24	17.42	17.42	17.44	17.44		
20	256QAM	50	50	17.42	17.41	17.33	17.33		18.8
20	256QAM	100	0	17.47	17.44	17.53	17.53		
Channel				133117	670.5	680.5	680.5	22	0
Frequency (MHz)				670.5	680.5	680.5	680.5		
15	QPSK	1	0	20.76	20.79	20.88	20.88		
15	QPSK	1	37	20.79	20.74	20.88	20.88		
15	QPSK	1	74	20.83	20.78	20.87	20.87		
15	QPSK	36	0	20.72	20.92	20.73	20.73		22
15	QPSK	36	20	20.78	20.75	20.78	20.78		
15	QPSK	36	39	20.78	20.83	20.85	20.85		
15	QPSK	75	0	20.94	20.91	20.71	20.71		
15	16QAM	1	0	21.00	20.97	21.26	21.26		
15	16QAM	1	37	21.04	21.04	20.92	20.92		22
15	16QAM	1	74	20.94	21.04	20.97	20.97		
15	16QAM	36	0	20.81	20.94	21.26	21.26		
15	16QAM	36	20	20.91	20.97	20.92	20.92		
15	16QAM	36	39	20.94	20.91	20.81	20.81		
15	16QAM	75	0	20.71	20.84	20.86	20.86		22
15	64QAM	1	0	20.59	20.91	20.89	20.89		
15	64QAM	1	37	20.75	20.76	20.71	20.71		
15	64QAM	1	74	20.82	20.83	20.51	20.51		
15	64QAM	36	0	19.38	19.53	19.44	19.44		20.3
15	64QAM	36	20	19.40	19.51	19.59	19.59		
15	64QAM	36	39	19.58	19.43	19.38	19.38		
15	64QAM	75	0	19.61	19.44	19.42	19.42		
15	256QAM	1	0	17.31	17.51	17.63	17.63		18.8
15	256QAM	1	37	17.41	17.30	17.54	17.54		
15	256QAM	1	74	17.34	17.36	17.23	17.23		
15	256QAM	36	0	17.33	17.42	17.34	17.34		
15	256QAM	36	20	17.25	17.44	17.29	17.29		18.8
15	256QAM	36	39	17.29	17.23	17.37	17.37		
15	256QAM	75	0	17.62	17.25	17.47	17.47		
Channel				133117	678	678	683	22	0
Frequency (MHz)				678	678	678	683		
10	QPSK	1	0	21.05	21.06	20.86	20.86		
10	QPSK	1	24	20.75	20.78	20.72	20.72		
10	QPSK	1	49	20.94	20.81	20.79	20.79		
10	QPSK	25	0	20.87	20.84	20.77	20.77		22
10	QPSK	36	0	20.68	20.83	20.76	20.76		
10	QPSK	36	25	20.77	20.75	20.72	20.72		
10	QPSK	50	0	20.90	20.91	20.77	20.77		
10	16QAM	1	0	20.81	20.74	20.38	20.38		22
10	16QAM	1	25	21.01	20.97	20.82	20.82		
10	16QAM	1	49	20.75	20.92	20.76	20.76		
10	16QAM	25	0	21.00	20.81	20.32	20.32		
10	16QAM	36	12	20.75	20.90	20.76	20.76		22
10	16QAM	25	25	20.77	20.88	20.63	20.63		
10	16QAM	50	0	20.94	21.02	20.38	20.38		
10	64QAM	1	0	20.64	20.86	20.82	20.82		22
10	64QAM	1	25	20.76	20.74	20.62	20.62		
10	64QAM	1	49	20.72	20.84	20.51	20.51		
10	64QAM	25	0	19.41	19.62	19.36	19.36		20.3
10	64QAM	25	12	19.25	19.52	19.36	19.36		
10	64QAM	25	25	19.34	19.44	19.27	19.27		
10	64QAM	50	0	19.60	19.54	19.31	19.31		
10	256QAM	1	0	17.39	17.41	17.36	17.36		18.8
10	256QAM	1	25	17.32	17.60	17.50	17.50		
10	256QAM	1	49	17.35	17.47	17.28	17.28		
10	256QAM	25	0	17.23	17.43	17.31	17.31		
10	256QAM	25	12	17.46	17.32	17.46	17.46		18.8
10	256QAM	25	25	17.31	17.41	17.35	17.35		
10	256QAM	50	0	17.49	17.43	17.42	17.42		
Channel				133117	676.5	676.5	680.5	22	0
Frequency (MHz)				676.5	676.5	676.5	680.5		
5	QPSK	1	0	20.90	20.85	20.95	20.95		
5	QPSK	1	14	20.84	20.72	20.43	20.43		22
5	QPSK	1	24	20.85	20.73	20.68	20.68		
5	QPSK	12	0	20.91	20.82	20.68	20.68		
5	QPSK	12	7	20.77	20.87	20.37	20.37		
5	QPSK	12	13	20.93	20.91	20.84	20.84		22
5	QPSK	25	0	20.94	20.99	20.99	20.99		
5	16QAM	1	0	20.86	20.75	20.37	20.37		
5	16QAM	1	12	20.78	21.05	20.92	20.92		
5	16QAM	1	24	20.69	21.02	20.89	20.89		22
5	16QAM	12	0	21.04	20.84	20.39	20.39		
5	16QAM	12	7	20.89	20.71	20.77	20.77		
5	16QAM	12	13	20.84	20.77	20.71	20.71		22
5	16QAM	25	0	20.80	20.73	20.39	20.39		
5	64QAM	1	0	20.68	20.86	20.71	20.71		
5	64QAM	1	12	20.68	20.77	20.66	20.66		22
5	64QAM	1	24	20.63	20.72	20.67	20.67		
5	64QAM	12	0	19.51	19.44	19.55	19.55		
5	64QAM	12	7	19.24	19.47	19.48	19.48		20.3
5	64QAM	12	13	19.43	19.21	19.42	19.42		
5	64QAM	25	0	19.51	19.49	19.37	19.37		
5	256QAM	1	0	17.34	17.49	17.36	17.36		18.8
5	256QAM	1	12	17.62	17.44	17.56	17.56		
5	256QAM	1	24	17.28	17.39	17.45	17.45		
5	256QAM	12	0	17.25	17.27	17.19	17.19		18.8
5	256QAM	12	7	17.29	17.38	17.44	17.44		
5	256QAM	12	13	17.28	17.38	17.36	17.36		
5	256QAM	25	0	17.52	17.26	17.42	17.42		



Band 38(only on channel required)									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power Low Middle Ch / Freq	Power High Middle Ch / Freq	Power High Ch / Freq	Tune-up Int. (dBm)	MPR (dB)
Channel									
Frequency (MHz)									
20	QPSK	1	0	17.15	16.95	17.00		17.4	0
20	QPSK	1	49	17.06	16.99	16.98			
20	QPSK	1	99	17.08	16.92	16.94			
20	QPSK	50	0	17.07	16.81	16.92		17.4	0
20	QPSK	50	24	17.06	16.87	16.98			
20	QPSK	50	50	17.02	16.82	16.95			
20	QPSK	100	0	17.07	16.85	16.95			
20	16QAM	1	0	16.91	16.72	16.76			
20	16QAM	1	49	16.91	16.82	16.83		17.4	0
20	16QAM	1	99	16.96	16.82	16.86			
20	16QAM	50	24	16.92	16.82	16.86			
20	16QAM	50	50	16.91	16.76	16.87			
20	16QAM	100	0	17.00	16.85	16.97			
20	16QAM	1	49	16.81	16.82	16.85			
20	16QAM	1	99	16.99	16.76	16.88		17.4	0
20	16QAM	50	24	16.96	16.82	16.92			
20	16QAM	50	50	16.96	16.81	16.89			
20	16QAM	100	0	16.97	16.77	16.86		17.4	0
20	16QAM	50	50	16.95	16.71	16.84			
20	16QAM	100	0	16.82	16.67	16.76			
20	16QAM	1	49	15.75	15.67	15.68		16.3	1.1
20	16QAM	1	99	15.74	15.59	15.60			
20	16QAM	50	24	15.74	15.58	15.63			
20	16QAM	50	24	15.70	15.58	15.73		16.3	1.1
20	16QAM	50	50	15.68	15.53	15.68			
20	16QAM	100	0	15.67	15.50	15.65			
20	16QAM	100	0	15.67	15.67	15.67			
Channel									
Frequency (MHz)									
15	QPSK	1	0	16.87	16.87	16.84		17.4	0
15	QPSK	1	37	16.68	16.89	16.91			
15	QPSK	1	74	16.94	16.45	16.45			
15	QPSK	36	0	16.82	16.87	16.73		17.4	0
15	QPSK	36	36	16.87	16.80	16.76			
15	QPSK	36	36	16.34	16.75	16.76			
15	QPSK	75	0	16.87	16.82	16.70			
15	16QAM	1	0	16.91	16.88	16.89		17.4	0
15	16QAM	1	37	16.79	16.85	16.77			
15	16QAM	1	74	16.76	16.75	16.71			
15	16QAM	36	0	16.84	16.88	16.84		17.4	0
15	16QAM	36	36	16.96	16.77	16.73			
15	16QAM	36	36	16.76	16.82	16.79			
15	16QAM	75	0	16.76	16.85	16.80			
15	16QAM	75	0	16.91	16.85	16.80		17.4	0
15	16QAM	1	37	16.96	16.76	16.76			
15	16QAM	1	74	16.91	16.82	16.81			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84			
15	16QAM	75	0	16.90	16.88	16.84		17.4	0
15	16QAM	1	37	16.90	16.88	16.84			
15	16QAM	1	74	16.90	16.88	16.84			
15	16QAM	36	0	16.90	16.88	16.84		17.4	0
15	16QAM	36	36	16.90					

Band 48 (3.5G Band)-FCC												
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power Low Middle Ch / Freq	Power High Middle Ch / Freq	Power High Ch / Freq	Tune-up Intvl (dBm)	MPR (dB)			
Channel				55340	55830	56150	56640					
Frequency (MHz)				3600	3600	3611	3600					
20	QPSK	1	0	16.08	16.11	16.15	16.21	17.1	0			
20	QPSK	1	48	15.93	15.96	15.98	16.01					
20	QPSK	1	96	15.97	15.99	16.02	16.05					
20	QPSK	50	0	16.02	16.05	16.03	16.05					
20	QPSK	50	24	16.04	16.03	16.04	16.06	17.1	0			
20	QPSK	50	50	15.92	15.89	15.92	16.02					
20	QPSK	100	0	16.03	16.02	16.02	16.04					
20	16QAM	1	0	16.05	16.03	16.08	16.01					
20	16QAM	1	48	16.02	16.05	16.08	15.92	17.1	0			
20	16QAM	1	96	16.00	16.02	16.06	16.00					
20	16QAM	50	0	16.09	16.02	16.01	16.02					
20	16QAM	50	24	16.07	16.09	16.04	16.03					
20	16QAM	100	0	16.04	16.05	16.02	16.06	17.1	0			
20	16QAM	100	0	16.09	16.04	15.99	16.02					
20	16QAM	1	0	15.95	15.96	15.96	15.96					
20	16QAM	1	48	15.97	16.01	16.06	15.96					
20	16QAM	1	96	16.01	16.06	16.03	16.09	17.1	0			
20	16QAM	50	0	16.00	16.06	16.02	16.00					
20	16QAM	50	24	16.06	16.05	16.03	16.06					
20	16QAM	50	50	16.08	16.08	16.02	16.08					
20	16QAM	100	0	16.00	16.03	16.08	16.05	17.1	0			
20	256QAM	1	0	15.92	15.94	15.94	15.89					
20	256QAM	1	48	15.90	15.95	15.99	15.96					
20	256QAM	1	96	15.98	15.96	16.00	16.02					
20	256QAM	50	0	16.06	16.06	16.01	16.02	17.1	0			
20	256QAM	50	24	16.00	16.03	16.01	16.03					
20	256QAM	50	50	16.05	16.03	16.06	16.01					
20	256QAM	100	0	16.06	16.09	16.00	16.00					
Channel				55815	55840	55865	55890					
Frequency (MHz)				3607.5	3608	3612	3602.5					
15	QPSK	1	0	16.90	16.07	16.10	16.10	17.1	0			
15	QPSK	1	37	15.72	15.68	15.82	15.71					
15	QPSK	1	74	15.77	15.93	15.99	15.90					
15	QPSK	36	0	15.78	15.68	15.88	15.90					
15	QPSK	36	36	15.87	15.85	15.93	16.11	17.1	0			
15	QPSK	36	39	15.71	15.64	15.81	15.89					
15	QPSK	75	0	15.82	15.82	15.91	15.99					
15	16QAM	1	0	15.80	15.89	15.89	16.00					
15	16QAM	1	37	15.89	15.89	15.82	16.04	17.1	0			
15	16QAM	1	74	15.81	16.07	15.97	16.07					
15	16QAM	36	0	16.10	15.85	15.84	16.01					
15	16QAM	36	20	16.02	15.85	16.01	15.95					
15	16QAM	36	39	15.89	15.88	15.95	16.73	17.1	0			
15	16QAM	75	0	15.97	15.95	15.95	15.82					
15	16QAM	1	0	15.89	15.88	15.97	16.74					
15	16QAM	1	37	15.76	15.82	15.84	15.95					
15	16QAM	1	74	15.77	15.87	15.98	15.94	17.1	0			
15	16QAM	36	0	15.97	15.83	15.89	15.92					
15	16QAM	36	20	15.84	15.85	15.88	15.86					
15	16QAM	36	39	15.99	15.88	15.82	16.93					
15	16QAM	75	0	15.78	15.86	15.98	16.04	17.1	0			
15	256QAM	1	0	15.89	15.75	15.88	16.72					
15	256QAM	1	37	15.89	15.99	15.88	16.79					
15	256QAM	1	74	15.85	15.84	15.75	16.76					
15	256QAM	36	0	15.88	16.09	15.91	15.96	17.1	0			
15	256QAM	36	20	15.86	16.13	15.95	16.78					
15	256QAM	36	39	16.00	16.04	15.88	16.76					
15	256QAM	75	0	16.11	15.83	15.80	15.80					
Channel				55990	55816	56186	56000					
Frequency (MHz)				36065	36071.5	36042.5	36095					
10	QPSK	1	0	15.97	15.89	16.16	16.15	17.1	0			
10	QPSK	1	25	15.83	15.68	15.97	15.80					
10	QPSK	1	49	15.81	15.86	15.79	15.99					
10	QPSK	25	0	15.77	15.77	15.90	15.87					
10	QPSK	25	12	15.83	16.01	15.87	16.09	17.1	0			
10	QPSK	25	25	15.87	15.83	15.93	16.92					
10	QPSK	50	0	15.96	15.87	16.00	16.83					
10	16QAM	1	0	16.09	15.87	16.13	16.76					
10	16QAM	1	25	15.77	16.02	15.89	16.79	17.1	0			
10	16QAM	1	49	15.93	15.87	16.10	16.82					
10	16QAM	25	0	16.13	15.80	15.78	15.84					
10	16QAM	25	12	15.87	16.08	15.92	16.97					
10	16QAM	25	25	15.96	16.07	15.91	16.08	17.1	0			
10	16QAM	50	0	16.04	16.06	16.00	16.76					
10	16QAM	1	0	15.93	15.75	15.93	16.76					
10	16QAM	1	25	15.92	15.86	16.90	16.76					
10	16QAM	1	49	15.76	16.10	15.87	16.76	17.1	0			
10	16QAM	25	0	15.90	15.93	16.03	16.03					
10	16QAM	25	12	16.04	16.10	15.96	16.06					
10	16QAM	25	25	15.09	15.97	15.75	15.09					
10	16QAM	50	0	16.04	15.99	16.88	16.81	17.1	0			
10	256QAM	1	0	15.75	15.84	15.98	15.73					
10	256QAM	1	25	15.91	15.70	15.92	15.91					
10	256QAM	1	49	16.02	15.94	15.88	16.78					
10	256QAM	25	0	16.03	15.90	15.90	15.83	17.1	0			
10	256QAM	25	12	16.04	15.92	15.85	16.91					
10	256QAM	25	25	15.83	15.86	15.92	15.81					
10	256QAM	50	0	15.96	15.85	15.86	15.86					
Channel				56065	56810	56170	56715					
Frequency (MHz)				3602.5	3600	36042.5	36071.5					
5	QPSK	1	0	16.01	15.98	16.10	16.13	17.1	0			
5	QPSK	1	12	15.87	15.68	15.78	16.84					
5	QPSK	1	24	15.73	15.83	15.96	16.85					
5	QPSK	12	0	15.95	15.84	15.96	16.95					
5	QPSK	12	7	15.96	15.94	15.87	16.90	17.1	0			
5	QPSK	12	13	15.72	15.81	15.85	15.97					
5	QPSK	25	0	16.02	15.90	16.82	16.86					
5	16QAM	1	0	15.85	15.83	16.01	16.96					
5	16QAM	1	12	16.00	16.05	15.99	16.87	17.1	0			
5	16QAM	1	24	15.79	15.84	15.96	16.75					
5	16QAM	12	0	16.12	15.82	15.86	16.89					
5	16QAM	12	7	15.96	16.03	15.98	16.95					
5	16QAM	12	13	16.02	15.92	15.82	16.00	17.1	0			
5	16QAM	25	0	15.86	15.81	15.91	16.79					
5	16QAM	1	0	15.80	15.77	15.90	16.78					
5	16QAM	1	12	16.73	15.87	16.92	16.82					
5	16QAM	1	24	15.83	16.08	15.92	15.96	17.1	0			
5	16QAM	12	0	16.01	16.04	15.78	16.83	17.1	0			
5	16QAM	12	13	15.88	15.92	15.96	16.01					
5	16QAM	12	13	15.92	16.02	15.95	16.02					
5	16QAM	25	0	16.01	15.87	16.83	16.99					
5	256QAM	1	0	15.84	15.74	15.85	16.85	17.1	0			
5	256QAM	1	12	15.84	15.88	15.80	16.81					
5	256QAM	1	24	15.87	15.98	15.81	16.84					
5	256QAM	1	49	15.88	15.99	15.82	16.87					
5	256QAM	25	0	15.84	15.87	15.81	16.86	17.1	0			
5	256QAM	25	12	15.82	15.92	15.84	16.91					
5	256QAM	25	25	15.95	15.86	15.92	16.91					
5	256QAM	50	0	15.92	15.85	15.86	15.86					



Reduced power for Sensor on-UAT

Band 48 (3.5G Band)-FCC												
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Middle Ch / Freq	Power Low Middle Ch / Freq	Power High Middle Ch / Freq	Power High Middle Ch / Freq	Tune-up limit (dBm)	MFR (dB)			
Channel				55340	55350	56150	56650					
Frequency (MHz)				3690	3690	3642	3690					
20	QPSK	1	0	19.15	19.18	19.20	19.24	20.3	0			
20	QPSK	1	49	18.98	18.98	19.00	18.94					
20	QPSK	1	99	19.04	18.98	19.06	19.04					
20	QPSK	50	0	19.04	19.05	19.07	19.04					
20	QPSK	50	24	19.13	19.15	19.17	19.22	20.3	0			
20	QPSK	50	50	18.98	18.97	19.02	19.05					
20	QPSK	100	0	19.12	19.13	19.15	19.16					
20	QPSK	1	0	19.05	18.98	19.07	19.10					
20	16QAM	1	49	18.91	18.95	18.97	18.94	20.3	0			
20	16QAM	1	99	19.08	19.10	19.07	19.05					
20	16QAM	50	0	19.12	19.13	19.09	19.10					
20	16QAM	50	24	19.10	19.10	19.14	19.07					
20	16QAM	50	50	19.04	18.99	18.95	19.05	20.3	0			
20	16QAM	100	0	19.14	19.05	19.11	19.15					
20	64QAM	1	0	18.97	18.98	18.98	18.99					
20	64QAM	1	49	18.74	18.69	18.68	18.83					
20	64QAM	1	99	18.94	18.94	19.06	18.84	20.3	0			
20	64QAM	50	0	18.90	18.94	18.92	18.86					
20	64QAM	50	24	19.11	19.06	19.11	18.88					
20	64QAM	50	50	19.05	19.07	19.06	19.00					
20	64QAM	100	0	19.08	19.04	19.04	19.12	20.3	0			
20	256QAM	1	0	17.80	17.68	17.78	17.73					
20	256QAM	1	49	17.59	17.57	17.49	17.48					
20	256QAM	1	99	17.49	17.63	17.54	17.46					
20	256QAM	50	0	17.76	17.85	17.93	17.77	19.3	1			
20	256QAM	50	24	17.94	17.75	17.91	17.86					
20	256QAM	50	50	17.61	17.65	17.67	17.71					
20	256QAM	100	0	17.66	17.84	17.74	17.80					
Channel				55315	55320	59160	59660					
Frequency (MHz)				3012	3012	3042	3012					
15	QPSK	1	0	19.10	19.08	19.10	19.21	20.3	0			
15	QPSK	1	37	18.94	19.00	18.86	19.05					
15	QPSK	1	74	18.94	18.94	19.07	19.00					
15	QPSK	36	0	19.33	19.38	19.30	19.07					
15	QPSK	36	20	18.99	19.18	19.01	18.99	20.3	0			
15	QPSK	36	36	18.81	18.88	18.78	19.02					
15	QPSK	75	0	19.02	19.11	19.08	18.99					
15	16QAM	1	0	18.93	18.95	18.94	19.08					
15	16QAM	1	37	18.99	19.00	18.83	19.03	20.3	0			
15	16QAM	1	74	19.09	18.98	18.91	19.02					
15	16QAM	36	0	19.20	19.15	19.19	19.21					
15	16QAM	36	20	19.02	19.05	19.14	19.13					
15	16QAM	36	36	19.00	18.96	19.10	19.04	20.3	0			
15	16QAM	75	0	18.99	18.94	19.17	19.02					
15	64QAM	1	0	18.95	19.04	18.82	18.99					
15	64QAM	1	37	18.78	18.80	18.81	18.78					
15	64QAM	1	74	18.94	18.91	18.98	19.01	20.3	0			
15	64QAM	36	0	19.20	19.22	19.19	19.20					
15	64QAM	36	20	19.18	19.16	19.22	18.99					
15	64QAM	36	36	19.17	19.05	19.16	19.06					
15	64QAM	75	0	19.20	19.18	19.12	18.99	19.3	1			
15	256QAM	1	0	17.81	17.80	17.70	17.71					
15	256QAM	1	37	17.64	17.44	17.61	17.60					
15	256QAM	1	74	17.84	17.62	17.67	17.57					
15	256QAM	36	0	17.96	17.86	17.95	17.89					
15	256QAM	36	20	17.91	17.85	18.00	17.86	19.3	1			
15	256QAM	36	36	17.71	17.68	17.67	17.84					
15	256QAM	75	0	17.61	17.71	17.90	17.86					
Channel				59390	59395	59160	59660					
Frequency (MHz)				3013	3013	3042	3013					
10	QPSK	1	0	19.13	19.09	19.10	19.08	20.3	0			
10	QPSK	1	25	19.04	19.01	18.90	18.88					
10	QPSK	1	49	18.91	18.95	18.80	19.01					
10	QPSK	25	0	19.00	19.08	19.08	19.03					
10	QPSK	25	12	19.00	19.12	18.97	19.22	20.3	0			
10	QPSK	25	25	18.83	18.87	18.90	18.78					
10	QPSK	50	0	18.97	19.05	19.00	18.99					
10	16QAM	1	0	19.17	18.92	19.11	19.12					
10	16QAM	1	25	19.00	19.00	19.02	18.99	20.3	0			
10	16QAM	1	49	19.21	19.22	19.10	19.14					
10	16QAM	25	0	19.19	19.00	19.04	19.18					
10	16QAM	25	12	19.23	19.17	19.22	19.07					
10	16QAM	25	25	19.12	18.96	19.15	18.86	20.3	0			
10	16QAM	50	0	19.08	19.07	19.17	19.14					
10	64QAM	1	0	19.05	18.88	19.00	19.05					
10	64QAM	1	25	18.75	18.64	18.72	18.88					
10	64QAM	1	49	19.00	18.92	18.92	19.00	20.3	0			
10	64QAM	25	0	19.05	19.17	19.11	19.11					
10	64QAM	25	12	19.08	19.01	19.09	19.03					
10	64QAM	25	25	18.99	19.11	19.07	19.02					
10	64QAM	50	0	19.19	19.12	19.15	19.17	19.3	1			
10	256QAM	1	0	17.71	17.65	17.62	17.80					
10	256QAM	1	25	17.52	17.62	17.54	17.62					
10	256QAM	1	49	17.59	17.59	17.75	17.59					
10	256QAM	25	0	17.86	17.86	17.89	17.91	19.3	1			
10	256QAM	25	12	17.69	17.73	17.71	17.87					
10	256QAM	25	25	17.60	17.85	17.75	17.71					
10	256QAM	50	0	17.92	17.66	17.62	17.88					
Channel				59570	59575	59430	59930					
Frequency (MHz)				3662.5	3667	3643	3667.5					
5	QPSK	1	0	19.02	19.10	19.06	18.92	20.3	0			
5	QPSK	1	12	18.90	19.00	18.79	18.99					
5	QPSK	1	24	18.81	19.00	19.09	18.81					
5	QPSK	12	0	18.99	18.80	18.96	18.80					
5	QPSK	12	7	18.98	19.12	19.18	19.17	20.3	0			
5	QPSK	12	13	18.85	18.99	18.87	18.97					
5	QPSK	25	0	18.95	18.88	19.08	19.02					
5	16QAM	1	0	19.10	19.08	19.20	19.04					
5	16QAM	1	12	18.78	18.80	18.82	19.10	20.3	0			
5	16QAM	1	24	19.08	19.07	19.10	19.00					
5	16QAM	12	0	19.21	19.18	19.10	19.13					
5	16QAM	12	7	18.96	19.12	19.12	19.18					
5	16QAM	12	13	19.10	19.11	19.00	18.89	20.3	0			
5	16QAM	25	0	19.15	19.14	19.20	19.23					
5	16QAM	1	0	19.12	19.00	18.96	19.02					
5	64QAM	1	12	18.82	18.82	18.88	19.77					
5	64QAM	1	24	18.83	18.85	18.96	19.01	20.3	0			
5	64QAM	12	0	19.20	19.22	19.10	19.16					
5	64QAM	12	7	19.11	19.10	19.20	19.19					
5	64QAM	12	13	18.90	19.07	18.99	19.03					
5	256QAM	1	0	17.85	17.69	17.61	17.85	19.3	1			
5	256QAM	1	12	17.44	17.46	17.63	17.60					
5	256QAM	1	24	17.60	17.68	17.69	17.49					
5	256QAM	12	0	17.66	17.60	17.69	18.00					
5	256QAM	12	7	17.93	17.91	17.93	19.09	19.3	1			
5	256QAM	12	13	17.74	17.68	17.68	17.74					
5	256QAM	25	0	17.80	17.80	17.82	17.85					
5	256QAM	25	12	17.63	17.63	17.63	17.63					

Reduced power level 1 for Head-UAT

Channel	Base Average Power (dBm)			Turn-up Limit (dBm)	Final Average Power (dBm)			Turn-up Limit (dBm)
	15W	18W	20W		15W	18W	20W	
TX Channel	50.2	53.4	56.9	50.2	50.2	53.4	56.9	50.2
Frequency (MHz)	30.88	30.88	31.07	32.30	21.83	21.93	22.07	23.30
OPRS-1 Tx side	16.81	16.82	17.81	17.30	17.81	17.92	18.02	19.30
OPRS-2 Tx side	28.16	28.20	28.24	29.80	22.16	22.20	22.24	23.80
OPRS-3 Tx side	25.46	25.46	25.87	26.30	22.72	22.80	22.81	24.30
OPRS-4 Tx side	25.43	25.27	25.08	27.00	22.43	22.27	22.08	24.00
EDGE-1 Tx side	24.83	24.90	25.27	26.30	15.83	15.90	16.27	17.30
EDGE-2 Tx side	23.23	23.25	23.66	24.30	17.23	17.25	17.66	18.30
EDGE-3 Tx side	22.12	22.21	22.43	23.30	17.86	17.97	18.17	18.94
EDGE-4 Tx side	21.44	21.60	21.75	22.70	16.44	16.60	16.75	16.70

Channel	Base Average Power (dBm)			Turn-up Limit (dBm)	Final Average Power (dBm)			Turn-up Limit (dBm)
	5W	8W	10W		5W	8W	10W	
TX Channel	15.21	16.00	16.91	15.21	15.21	16.00	16.91	15.21
Frequency (MHz)	25.14	25.17	25.94	25.70	16.14	16.17	16.94	16.70
OPRS-1 Tx side	22.01	22.02	22.02	25.70	16.01	16.02	16.02	16.70
OPRS-2 Tx side	25.14	25.17	25.94	25.70	16.14	16.17	16.94	16.70
OPRS-3 Tx side	22.01	22.02	22.02	25.70	16.01	16.02	16.02	16.70
OPRS-4 Tx side	20.86	20.86	20.74	21.90	16.40	16.42	16.48	17.04
OPRS-5 Tx side	17.36	17.43	17.49	18.20	14.36	14.43	14.49	15.50
EDGE-1 Tx side	22.54	22.46	22.83	23.80	13.54	13.46	13.83	14.80
EDGE-2 Tx side	21.41	21.38	21.85	22.70	15.41	15.26	15.83	16.70
EDGE-3 Tx side	20.76	20.72	20.51	21.60	16.00	16.26	16.25	17.34
EDGE-4 Tx side	19.38	19.18	19.32	20.60	16.38	16.18	16.32	17.60

Base	VICOM-6			Turn-up Limit	VICOM-10			Turn-up Limit	VICOM-15			Turn-up Limit
	900	900	908		1312	1412	1513		4132	4182	4233	
TX Channel	900	900	908	900	1312	1412	1513	1312	4132	4182	4233	1312
Frequency (MHz)	1802.4	1800	1807.6	1800	1712.4	1712.6	1712.6	1712.6	1804.4	1804.4	1804.4	1800
OPRS-1 Rx side	17.60	17.62	17.62	18.50	17.72	17.72	17.80	18.70	21.87	21.90	21.80	22.60
OPRS-2 Rx side	16.85	16.87	16.85	17.60	16.73	16.81	16.78	17.70	20.82	20.82	20.85	21.60
OPRS-3 Rx side	16.81	16.86	16.84	17.60	16.76	16.83	16.81	17.70	20.87	20.84	20.86	21.60
OPRS-4 Rx side	15.81	16.17	16.09	17.60	16.27	16.31	16.30	17.20	20.21	20.16	20.01	21.10
OPRS-5 Rx side	16.16	16.15	16.11	17.60	16.30	16.32	16.27	17.20	20.20	20.13	20.00	21.10
OPRS-6 Rx side	16.41	16.43	16.41	17.60	16.53	16.57	16.61	17.70	20.51	20.39	20.39	21.60
OPRS-7 Rx side	15.45	15.50	15.46	17.60	15.61	15.63	15.64	17.70	20.48	20.48	20.35	21.60
OPRS-8 Rx side	15.58	15.58	15.88	17.60	15.12	16.16	16.11	17.20	20.02	19.92	19.87	21.10
OPRS-9 Rx side	15.95	16.01	16.89	17.60	16.16	16.16	16.05	17.20	20.03	19.98	19.79	21.10
OPRS-10 Rx side	16.84	16.71	16.84	17.60	16.79	16.80	16.80	17.70	20.87	20.82	20.58	21.60
OPRS-11 Rx side	15.68	15.68	15.87	16.60	15.75	15.68	15.81	16.70	18.68	18.62	18.55	19.60
OPRS-12 Rx side	15.65	15.65	15.83	16.60	16.64	16.62	16.72	15.70	18.53	18.61	18.55	19.60
OPRS-13 Rx side	14.43	14.40	14.47	15.60	15.63	15.67	15.60	15.70	18.67	18.58	18.60	19.60
OPRS-14 Rx side	16.61	16.70	16.63	17.60	16.84	16.80	16.78	17.70	20.72	20.62	20.54	21.60
OPRS-15 Rx side	14.22	14.24	14.20	16.00	15.51	15.57	15.44	16.20	18.35	18.33	18.37	19.10

Base	COMA-50			Turn-up Limit	COMA-50			Turn-up Limit	COMA-50			Turn-up Limit
	1013	1013	1013		25	600	1075		476	580	688	
TX Channel	1013	1013	1013	1013	25	600	1075	1013	476	580	688	1013
Frequency (MHz)	20.15	20.15	20.12	21.30	16.33	16.41	16.32	17.46	19.87	19.91	19.85	21.46
OPRS-1 Rx side	20.13	20.15	20.11	21.30	16.31	16.40	16.30	17.40	19.86	19.90	19.83	21.46
OPRS-2 Rx side	20.12	20.15	20.08	21.30	16.30	16.38	16.28	17.40	19.84	19.88	19.82	21.46
OPRS-3 Rx side	20.10	20.13	20.07	21.30	16.28	16.36	16.27	17.40	19.82	19.86	19.80	21.46
OPRS-4 Rx side	20.08	20.10	20.05	21.30	16.26	16.35	16.25	17.40	19.81	19.85	19.78	21.46
OPRS-5 Rx side	20.07	20.09	20.03	21.30	16.25	16.33	16.23	17.40	19.79	19.83	19.77	21.46

Band 2 (1900MHz Band)									
Part 24E									
RF Mhz	Modulation	RB Size	RB Offset	Ch Freq	Ch Freq	Ch Freq	Ch Freq	Turn-up	MFR (dB)
				1900	1900	1900	1900		
20	QPSK	1	0	15.93	15.94	15.94	15.94		
20	QPSK	1	49	15.88	15.91	15.91	15.91	17	0
20	QPSK	1	99	15.84	15.87	15.88	15.88		
20	QPSK	1	149	15.80	15.83	15.83	15.83	17	0
20	QPSK	50	24	15.96	15.96	15.91	15.91		
20	QPSK	50	50	15.93	15.96	15.94	15.94		
20	QPSK	50	75	15.90	15.93	15.91	15.91	17	0
20	QPSK	1	0	15.92	15.95	15.91	15.91		
20	QPSK	1	49	15.90	15.97	15.90	15.90	17	0
20	QPSK	1	99	15.86	15.93	15.90	15.90		
20	QPSK	1	149	15.82	15.89	15.86	15.86	17	0
20	QPSK	50	24	16.00	15.91	15.97	15.97		
20	QPSK	50	50	15.98	15.98	15.94	15.94	17	0
20	QPSK	50	75	15.96	15.96	15.92	15.92		
20	QPSK	100	0	15.98	15.94	15.98	15.98		
20	QPSK	1	0	15.98	15.98	15.91	15.91		
20	QPSK	1	99	15.98	15.98	15.98	15.98		
20	QPSK	50	0	15.98	15.91	15.97	15.97		
20	QPSK	50	50	15.96	15.96	15.98	15.98	17	0
20	QPSK	50	75	15.93	15.96	15.93	15.93		
20	QPSK	100	0	15.96	15.96	15.98	15.98		
20	QPSK	1	49	15.84	15.93	15.91	15.91	17	0
20	QPSK	1	99	15.73	15.72	15.73	15.73		
20	QPSK	1	149	15.69	15.72	15.70	15.70	17	0
20	QPSK	50	24	15.83	15.83	15.79	15.79		
20	QPSK	50	50	15.83	15.82	15.83	15.83	17	0
20	QPSK	50	75	15.81	15.86	15.83	15.83		
Channel				18675	18600	19128	19128		
Frequency (MHz)				18675	18600	19128	19128	Turn-up	MFR (dB)
15	QPSK	1	0	15.93	15.96	15.94	15.94		
15	QPSK	1	37	15.94	15.92	15.93	15.93		
15	QPSK	1	74	15.91	15.93	15.96	15.96		
15	QPSK	1	111	15.88	15.92	15.94	15.94	17	0
15	QPSK	36	20	15.91	15.91	15.91	15.91		
15	QPSK	36	39	15.94	15.96	15.96	15.96	17	0
15	QPSK	36	58	15.96	15.99	15.99	15.99		
15	QPSK	1	0	15.94	15.96	15.92	15.92		
15	QPSK	1	37	15.96	15.94	15.94	15.94	17	0
15	QPSK	1	74	15.93	15.93	15.91	15.91		
15	QPSK	36	0	15.99	15.97	15.95	15.95		
15	QPSK	36	20	15.94	15.99	15.98	15.98	17	0
15	QPSK	36	39	15.96	15.99	15.99	15.99		
15	QPSK	36	58	15.94	15.91	15.90	15.90	17	0
15	QPSK	1	0	15.92	15.91	15.95	15.95		
15	QPSK	1	37	15.95	15.98	15.95	15.95	17	0
15	QPSK	1	74	15.96	15.94	15.96	15.96		
15	QPSK	36	20	15.92	15.97	15.97	15.97	17	0
15	QPSK	36	39	15.91	15.92	15.98	15.98		
Channel				18650	18600	19150	19150		
Frequency (MHz)				18650	18600	19150	19150	Turn-up	MFR (dB)
10	QPSK	1	0	15.93	15.96	15.96	15.96		
10	QPSK	1	28	15.95	15.71	15.71	15.71		
10	QPSK	1	47	15.97	15.76	15.76	15.76	17	0
10	QPSK	25	12	15.76	15.98	15.97	15.97		
10	QPSK	25	12	15.72	15.98	15.78	15.78	17	0
10	QPSK	25	12	15.77	15.97	15.77	15.77		
10	QPSK	50	50	15.78	15.96	15.93	15.93		
10	QPSK	1	0	15.70	15.85	15.78	15.78		
10	QPSK	1	49	15.78	15.79	15.78	15.78	17	0
10	QPSK	1	49	15.76	15.83	15.79	15.79		
10	QPSK	25	25	15.75	15.73	15.70	15.70	17	0
10	QPSK	25	25	15.75	15.73	15.70	15.70		
10	QPSK	50	0	15.73	15.95	15.70	15.70	17	0
10	QPSK	1	25	15.76	15.84	15.74	15.74		
10	QPSK	1	49	15.75	15.88	15.74	15.74	17	0
10	QPSK	25	25	15.72	15.79	15.70	15.70		
10	QPSK	25	25	15.73	15.72	15.77	15.77	17	0
10	QPSK	25	25	15.70	15.85	15.70	15.70		
10	QPSK	1	25	15.76	15.78	15.74	15.74	17	0
10	QPSK	25	0	15.85	15.56	15.50	15.50		
10	QPSK	1	25	15.86	15.62	15.60	15.60	17	0
10	QPSK	25	0	15.85	15.56	15.50	15.50		
10	QPSK	25	0	15.84	15.59	15.52	15.52	17	0
10	QPSK	25	12	15.51	15.50	15.44	15.44		
10	QPSK	25	12	15.51	15.50	15.44	15.44	17	0
10	QPSK	50	0	15.61	15.59	15.44	15.44		
Channel				18625	18600	19175	19175		
Frequency (MHz)				18625 <th>18600</th> <th>19175</th> <th>19175</th> <th>Turn-up</th> <th>MFR (dB)</th>	18600	19175	19175	Turn-up	MFR (dB)
5	QPSK	1	0	15.83	15.84	15.88	15.88		
5	QPSK	1	12	15.73	15.74	15.72	15.72		
5	QPSK	1	24	15.67	15.76	15.76	15.76	17	0
5	QPSK	12	0	15.70	15.99	15.99	15.99		
5	QPSK	12	7	15.72	15.72	15.73	15.73	17	0
5	QPSK	12	13	15.75	15.74	15.73	15.73		
5	QPSK	25	0	15.70	15.83	15.86	15.86		
5	QPSK	25	0	15.71	15.78	15.77	15.77	17	0
5	QPSK	1	24	15.82	15.84	15.84	15.84		
5	QPSK	12	0	15.71	15.83	15.87	15.87	17	0
5	QPSK	12	0	15.75	15.74	15.86	15.86		
5	QPSK	12	13	15.78	15.77	15.75	15.75		
5	QPSK	25	0	15.73	15.87	15.97	15.97	17	0
5	QPSK	1	12	15.73	15.65	15.70	15.70		
5	QPSK	12	0	15.67	15.73	15.77	15.77	17	0
5	QPSK	12	13	15.74	15.73	15.77	15.77		
5	QPSK	12	7	15.74	15.78	15.74	15.74		
5	QPSK	25	0	15.71	15.72	15.70	15.70	17	0
5	QPSK	1	0	15.66	15.60	15.86	15.86		
5	QPSK	1	0	15.66	15.60	15.86	15.86	17	0
5	QPSK	1	24	15.64	15.71	15.70	15.70		
5	QPSK	12	0	15.65	15.63	15.64	15.64		
5	QPSK	12	0	15.65	15.63	15.64	15.64	17	0
5	QPSK	12	13	15.56	15.72	15.68	15.68		
5	QPSK	25	0	15.49	15.55	15.54	15.54	17	0
Channel				18600	18600	19200	19200		
Frequency (MHz)				18615 <th>18600</th> <th>1908.5<th>1908.5</th><th>Turn-up</th><th>MFR (dB)</th></th>	18600	1908.5 <th>1908.5</th> <th>Turn-up</th> <th>MFR (dB)</th>	1908.5	Turn-up	MFR (dB)
3	QPSK	1	0	15.83	15.85	15.78	15.78		
3	QPSK	1	12	15.75	15.76	15.75	15.75	17	0
3	QPSK	1	14	15.74	15.77	15.73	15.73		
3	QPSK	8	0	15.71	15.67	15.74	15.74	17	0
3	QPSK	8	7	15.73	15.73	15.73	15.73		
3	QPSK	8	7	15.77	15.70	15.70	15.70	17	0
3	QPSK	15	0	15.76	15.70	15.86	15.86		
3	QPSK	15	0	15.80	15.71	15.80	15.80	17	0
3	QPSK	1	8	15.72	15.78	15.78	15.78		
3	QPSK	1	14	15.81	15.77	15.79	15.79	17	0
3	QPSK	8	7	15.79	15.70	15.86	15.86		
3	QPSK	8	4	15.84	15.78	15.76	15.76	17	0
3	QPSK	8	7	15.72	15.77	15.78	15.78		
3	QPSK	1	8	15.86	15.85	15.79	15.79	17	0
3	QPSK	8	0	15.79	15.70	15.86	15.86		
3	QPSK	8	0	15.75	15.72	15.77	15.77	17	0
3	QPSK	8	0	15.75	15.72	15.73	15.73		
3	QPSK	15	0	15.79	15.70	15.86	15.86		
3	QPSK	1	0	15.77	15.49	15.73	15.73		
3	QPSK	1	0	15.78	15.40	15.68	15.68	17	0
3	QPSK	1	14	15.83	15.63	15.62	15.62		
3	QPSK	8	0	15.79	15.70	15.86	15.86	17	0
3	QPSK	8	0	15.79	15.70	15.86	15.86		
3	QPSK	8	7	15.83	15.65	15.65	15.65	17	0
3	QPSK	15	0	15.82	15.63	15.63	15.63		
Channel				18600	18600	19000	19000		
Frequency (MHz)				18615 <th>18600</th> <th>19003.5<th>19003.5</th><th>Turn-up</th><th>MFR (dB)</th></th>	18600	19003.5 <th>19003.5</th> <th>Turn-up</th> <th>MFR (dB)</th>	19003.5	Turn-up	MFR (dB)
1.4	QPSK	1	0	15.90	15.93	15.96	15.96		
1.4	QPSK	1	12	15.72	15.71	15.70	15.70	17	0
1.4	QPSK	1	14	15.71	15.77	15.73	15.73		
1.4	QPSK	1	5	15.71	15.99	15.94	15.94	17	0
1.4	QPSK	3	0	15.83	15.84	15.88	15.88		
1.4	QPSK	3	2	15.88	15.88	15.88	15.88	17	0
1.4	QPSK	3	3	15.82	15.82	15.86	15.86		
1.4	QPSK	8	0	15.75	15.86	15.97	15.97	17	0
1.4	QPSK	1	0	15.79	15.85	15.97	15.97		
1.4	QPSK	1	0	15.71	15.77	15.78	15.78	17	0
1.4	QPSK	1	12	15.70	15.70	15.70	15.70		
1.4	QPSK	3	3	15.80	15.88	15.97	15.97	17	0
1.4	QPSK	3	0	15.77	15.85	15.98	15.98		
1.4	QPSK	8	0	15.77	15.72	15.98	15.98	17	0
1.4	QPSK	1	0	15.77	15.85	15.98	15.98		
1.4	QPSK	3	0	15.82	15.87	15.94	15.94	17	0
1.4	QPSK	3	0	15.83	15.88	15.93	15.93		
1.4	QPSK	3	3	15.80	15.78	15.92	15.92	17	0
1.4	QPSK	3	3	15.80	15.78	15.92	15.92		
1.4									

Band 4 (AWS Band)										
Part 27L (only on channel required)										
RF (MHz)	Modulation	RB Size	RB Count	Power Class	Ch. Freq. (MHz)	Ch. Freq. Offset (MHz)	Mod. Mode	Ch. Freq. (MHz)	Time-slot	MPR (dB)
					1720	1732	1748			
20	QPSK	1	8	15.5	15.58	15.51	15.48			
20	QPSK	1	8	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	1	8	15.5	15.58	15.51	15.48			
20	QPSK	1	8	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	15.58	15.51	15.48	16.7	0	
20	QPSK	50	24	15.5	15.58	15.51	15.48			
20	QPSK	50	24	15.5	1					

Band 5 (Cellular Band)										
Part 22h(only on channel required)										
Ref (MHz)	Modulation	Channel	RB Size	RB Offset	Ch. Freq. (MHz)	Low Freq. (MHz)	Ch. Freq. (MHz)	High Freq. (MHz)	Time-up (sec)	Mpts (sec)
Channel										
Frequency (MHz)										
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3	0	
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5			
1	QPSK	1	0	0	82.5	83.5	84.5	21.3</		

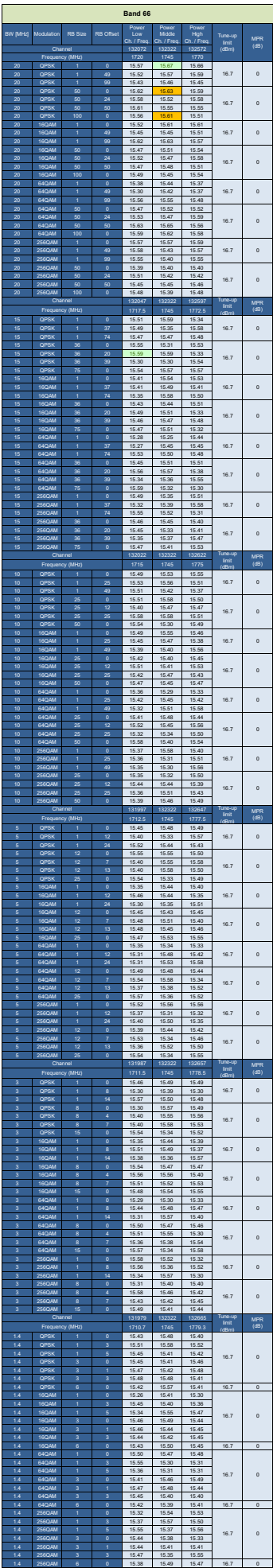
Band 7 (2600MHz Band)									
Part 27									
BSM (MHz)	Modulation	RB Size	RB Offset	Ch. Freq. (MHz)	Ch. Width (MHz)	Midband Freq. (MHz)	Ch. Freq. (MHz)	Turn-on time (ms)	MPER (dB)
Channel				2510	2535	2550	2575		
15	QPSK	1	0	14.79	14.83	14.83	14.87		
15	QPSK	1	49	14.75	14.87	15.00	15.00	16	0
20	QPSK	1	96	14.87	15.08	15.11	15.11		
20	QPSK	1	144	14.85	15.09	15.22	15.22		
20	QPSK	50	24	14.85	15.03	15.03	15.03	16	0
20	QPSK	50	50	14.84	15.00	15.04	15.04		
20	QPSK	50	96	14.83	15.02	15.07	15.07		
20	HQAM	1	0	15.08	15.00	15.03	15.03		
20	HQAM	1	49	15.07	14.97	14.96	14.96	16	0
20	HQAM	1	96	15.05	14.95	14.94	14.94		
20	HQAM	50	0	14.83	15.01	15.01	15.01		
20	HQAM	50	25	14.90	15.09	15.09	15.09		0
20	HQAM	50	50	14.86	15.08	15.08	15.08		
20	HQAM	100	0	14.89	15.03	15.01	15.01		
20	HQAM	1	0	14.85	15.08	15.02	15.02		
20	HQAM	1	49	14.83	15.09	15.14	15.14	16	0
20	HQAM	1	96	14.88	14.99	14.98	14.98		
20	HQAM	50	0	14.87	15.03	15.04	15.04		
20	HQAM	50	25	14.91	15.05	15.07	15.07		
20	HQAM	50	50	14.95	14.99	14.98	14.98		
20	HQAM	100	0	14.85	14.99	14.98	14.98		
20	HQAM	1	49	14.78	14.85	14.82	14.82		
20	HQAM	1	96	14.80	14.82	14.79	14.79		
20	HQAM	50	50	14.63	14.81	14.85	14.85		
20	HQAM	50	96	14.77	14.84	14.80	14.80		
20	HQAM	100	0	14.75	14.81	14.81	14.81		
Channel				2565	2550	2535	2510	Turn-on time (ms)	MPER (dB)
15	QPSK	1	0	14.79	14.83	14.83	14.87		
15	QPSK	1	37	14.87	14.80	14.82	14.82	16	0
15	QPSK	1	74	14.95	14.78	14.80	14.80		
15	QPSK	36	20	14.72	14.90	14.94	14.94		
15	QPSK	36	20	14.88	14.97	14.98	14.98		
15	QPSK	36	20	14.94	14.95	14.96	14.96		
15	HQAM	1	0	14.82	14.91	14.92	14.92		
15	HQAM	1	0	14.92	14.96	14.90	14.90		
15	HQAM	1	49	14.80	14.92	14.95	14.95		
15	HQAM	1	74	14.95	14.85	14.80	14.80		
15	HQAM	36	0	14.82	14.91	14.98	14.98		
15	HQAM	36	0	14.92	14.96	14.90	14.90		
15	HQAM	36	30	14.90	14.95	14.94	14.94		0
15	HQAM	75	0	14.88	14.91	14.92	14.92		
15	HQAM	75	0	14.94	14.94	14.94	14.94		
15	HQAM	1	37	14.99	14.92	14.98	14.98		
15	HQAM	1	74	14.90	14.95	14.98	14.98		
15	HQAM	36	20	14.91	14.92	14.94	14.94		
15	HQAM	36	20	14.92	14.94	14.92	14.92		
15	HQAM	75	14	14.85	14.98	14.90	14.90		
15	25QPSK	1	0	14.87	14.88	14.91	14.91		
15	25QPSK	1	49	14.85	14.90	14.92	14.92		
15	25QPSK	1	96	14.87	14.92	14.94	14.94		
15	25QPSK	50	0	14.63	14.81	14.85	14.85		
15	25QPSK	50	96	14.68	14.85	14.79	14.79		
15	25QPSK	75	0	14.70	14.73	14.71	14.71		
Channel				2575	2550	2525	2500	Turn-on time (ms)	MPER (dB)
5	QPSK	1	0	14.79	14.83	14.83	14.87		
5	QPSK	1	20	14.85	14.87	14.89	14.89		
5	QPSK	1	40	14.91	14.91	14.91	14.91		
5	QPSK	25	0	14.73	14.88	14.92	14.92		
5	QPSK	25	25	14.82	14.83	14.83	14.83		0
5	QPSK	25	50	14.81	14.85	14.93	14.93		
5	QPSK	50	0	14.76	14.90	14.94	14.94		
5	QPSK	50	25	14.83	14.89	14.93	14.93		
5	HQAM	1	20	14.88	14.92	14.96	14.96		
5	HQAM	1	20	14.88	14.92	14.96	14.96		0
5	HQAM	1	49	14.92	14.94	14.97	14.97		
5	HQAM	1	49	14.98	14.98	14.98	14.98		
5	HQAM	25	12	14.84	14.95	14.93	14.93		
5	HQAM	25	25	14.84	14.93	14.93	14.93		
5	HQAM	25	50	14.81	14.91	14.93	14.93		
5	HQAM	1	25	14.90	14.89	14.97	14.97		0
5	HQAM	1	25	14.91	14.91	14.91	14.91		
5	HQAM	25	0	14.81	14.93	14.97	14.97		
5	HQAM	25	25	14.89	14.90	14.90	14.90		
5	HQAM	25	50	14.89	14.98	14.98	14.98		
5	HQAM	25	25	14.87	14.91	14.91	14.91		0
5	HQAM	50	0	14.83	14.98	14.98	14.98		
5	HQAM	50	25	14.83	14.98	14.98	14.98		
5	25QPSK	1	25	14.84	14.93	14.95	14.95		
5	25QPSK	1	49	14.85	14.93	14.92	14.92		
5	25QPSK	1	74	14.93	14.93	14.93	14.93		
5	25QPSK	25	12	14.77	14.78	14.78	14.78		
5	25QPSK	25	25	14.84	14.90	14.73	14.73		
5	25QPSK	25	50	14.75	14.75	14.75	14.75		
Channel				2577.5	2550	2525	2500	Turn-on time (ms)	MPER (dB)
5	QPSK	1	0	14.79	14.83	14.83	14.87		
5	QPSK	1	12	14.89	14.95	14.91	14.91		
5	QPSK	1	24	14.97	14.97	14.97	14.97		
5	QPSK	1	36	14.99	14.99	14.99	14.99		0
5	QPSK	12	7	14.75	15.00	14.90	14.90		
5	QPSK	12	13	14.76	14.90	14.93	14.93		
5	QPSK	12	19	14.76	14.90	14.93	14.93		
5	HQAM	1	0	14.88	14.93	14.93	14.93		
5	HQAM	1	12	14.86	14.99	14.97	14.97		
5	HQAM	1	24	14.97	14.97	14.93	14.93		
5	HQAM	12	0	14.84	14.94	14.94	14.94		
5	HQAM	12	7	14.78	14.90	14.94	14.94		0
5	HQAM	12	13	14.82	14.94	14.94	14.94		
5	HQAM	12	19	14.78	14.93	14.97	14.97		
5	HQAM	1	0	14.81	14.94	14.98	14.98		
5	HQAM	1	12	14.86	14.98	14.98	14.98		0
5	HQAM	1	24	14.81	14.93	14.97	14.97		
5	HQAM	12	0	14.89	14.95	14.98	14.98		
5	HQAM	12	0	14.86	14.91	14.98	14.98		
5	HQAM	12	13	14.81	14.98	14.98	14.98		0
5	HQAM	25	0	14.80	14.98	14.98	14.98		
5	25QPSK	1	12	14.70	14.88	14.90	14.90		
5	25QPSK	1	24	14.82	14.90	14.91	14.91		
5	25QPSK	12	0	14.80	14.98	14.98	14.98		
5	25QPSK	12	7	14.62	14.94	14.80	14.80		
5	25QPSK	12	13	14.62	14.94	14.80	14.80		
5	25QPSK	25	0	14.58	14.98	14.78	14.78		

[illegible]

Band 13(700MHz Band)									
Part 27F									
BW (MHz)	Modulation	RB Size	RB Offset	Power Level Ch / Freq	Power Hd Ch / Freq	Power Tail Ch / Freq	Transmit Time (s)	MPR (dB)	
Channel				200W					
Frequency (MHz)				762					
5	QPSK	1	0	20.26	20.26	20.26	21.7	0	
5	QPSK	1	40	20.33	20.33	20.33			
5	QPSK	25	0	20.31	20.31	20.31			
5	QPSK	25	40	20.33	20.33	20.33	21.7	0	
5	QPSK	25	20	20.34	20.34	20.34			
5	QPSK	50	0	20.31	20.31	20.31			
5	QPSK	1	20	20.27	20.27	20.27	21.3	0.4	
5	QPSK	1	40	20.29	20.29	20.29			
5	QPSK	25	12	20.25	20.25	20.25			
5	QPSK	25	12	20.21	20.21	20.21	21.3	0.4	
5	QPSK	25	25	20.28	20.28	20.28			
5	QPSK	50	0	20.30	20.30	20.30			
5	QPSK	1	0	20.03	20.03	20.03			
5	QPSK	1	25	20.12	20.12	20.12	21.3	0.4	
5	QPSK	1	40	20.15	20.15	20.15			
5	QPSK	25	12	19.80	19.80	19.80			
5	QPSK	25	12	19.79	19.79	19.79	20.3	1.4	
5	QPSK	25	25	19.86	19.86	19.86			
5	QPSK	50	0	19.81	19.81	19.81			
5	QPSK	1	0	17.87	17.87	17.87	18.8	2.0	
5	QPSK	1	20	17.91	17.91	17.91			
5	QPSK	1	40	17.97	17.97	17.97			
5	QPSK	25	0	17.85	17.85	17.85			
5	QPSK	25	0	17.82	17.82	17.82	18.8	2.0	
5	QPSK	25	25	17.61	17.61	17.61			
5	QPSK	50	0	17.66	17.66	17.66			
Channel				200W					
Frequency (MHz)				770.5 / 762 / 764.5					
5	QPSK	1	0	20.18	20.28	20.15	21.7	0	
5	QPSK	1	12	20.14	20.13	20.11			
5	QPSK	1	25	20.12	20.12	20.12	21.7	0	
5	QPSK	12	0	20.14	20.15	20.13			
5	QPSK	12	7	20.14	20.12	20.19	21.7	0	
5	QPSK	12	14	20.18	20.15	20.13			
5	QPSK	25	0	20.15	20.15	20.13			
5	QPSK	25	0	19.91	20.26	20.27	21.3	0.4	
5	QPSK	25	12	19.91	20.21	20.24			
5	QPSK	1	24	20.28	20.28	20.25			
5	QPSK	12	0	20.20	20.22	20.19			
5	QPSK	12	7	20.12	20.15	20.25	21.3	0.4	
5	QPSK	12	13	20.12	20.28	20.10			
5	QPSK	25	0	20.13	20.13	20.07			
5	QPSK	25	12	20.13	20.12	20.04	21.3	0.4	
5	QPSK	1	12	20.16	20.11	20.07			
5	QPSK	1	24	20.23	20.21	20.20			
5	QPSK	12	7	19.93	20.16	20.00	20.3	1.4	
5	QPSK	12	13	19.94	19.93	19.94			
5	QPSK	12	13	19.83	19.83	19.81			
5	QPSK	1	0	17.60	17.60	17.59	18.8	2.0	
5	QPSK	1	12	17.71	17.70	17.67			
5	QPSK	1	24	17.66	17.66	17.64	18.8	2.0	
5	QPSK	12	7	17.62	17.61	17.57			
5	QPSK	12	7	17.63	17.61	17.55	18.8	2.0	
5	QPSK	12	13	17.66	17.62	17.61			

Band 17 (700MHz Band) Part 27(only one channel required)											
RV (MHz)	Modulation	Channel	RB Offset	Power Ch / Freq	Power Ch / Freq	Power Ch / Freq	Turn-up limit (dBm)	MFR (dB)			
Frequency (MHz)				705	715	711					
10	QPSK	1	0	19.88	19.88	19.88	21	0			
10	QPSK	1	26	19.91	19.90	19.90					
10	QPSK	1	46	20.01	19.96	19.96					
10	QPSK	25	0	19.95	19.91	19.83	21	0			
10	QPSK	25	12	19.96	19.95	19.88					
10	QPSK	25	25	19.97	19.96	19.85					
10	QPSK	50	0	19.98	19.93	19.87	21	0			
10	16QAM	1	0	19.83	19.83	19.83					
10	16QAM	1	26	19.92	19.90	19.92					
10	16QAM	1	46	19.91	19.91	19.91	21	0			
10	16QAM	25	0	19.95	19.94	19.94					
10	16QAM	25	12	19.95	19.96	19.96					
10	16QAM	25	25	19.96	19.99	19.99	21	0			
10	64QAM	1	0	19.91	19.94	19.91					
10	64QAM	1	26	19.97	19.97	19.98					
10	64QAM	1	46	19.92	19.96	19.96	21	0			
10	64QAM	25	0	19.98	19.96	19.94					
10	64QAM	25	12	19.94	19.96	19.94					
10	64QAM	25	25	19.98	19.97	19.98	20.3	0.7			
10	64QAM	50	0	19.98	19.90	19.88					
10	256QAM	1	0	19.24	19.05	19.24					
10	256QAM	1	26	19.12	19.11	19.11	18.8	2.2			
10	256QAM	1	46	19.18	19.15	19.20					
10	256QAM	25	0	19.03	19.18	17.98					
10	256QAM	25	12	19.18	19.07	19.10	18.8	2.2			
10	256QAM	25	25	19.24	19.06	19.19					
10	256QAM	50	0	19.09	19.07	19.10					
Channel				Frequency (MHz)							
5	QPSK	1	0	19.96	19.82	19.83	21	0			
5	QPSK	1	12	19.87	19.84	19.89					
5	QPSK	1	24	19.87	19.86	19.80					
5	QPSK	12	0	19.80	19.84	19.86	21	0			
5	QPSK	12	7	19.82	19.84	19.81					
5	QPSK	12	13	19.81	19.84	19.81					
5	QPSK	25	0	19.81	19.89	19.84	21	0			
5	16QAM	1	0	19.84	19.84	19.81					
5	16QAM	1	12	19.82	19.81	19.80					
5	16QAM	1	24	19.86	19.81	19.84	21	0			
5	16QAM	12	0	19.86	19.84	19.82					
5	16QAM	12	7	19.88	19.87	19.80					
5	16QAM	12	13	19.89	19.81	19.84	20.3	0.7			
5	64QAM	1	0	19.85	19.82	19.88					
5	64QAM	1	12	19.87	19.85	19.89					
5	64QAM	1	24	19.86	19.87	19.87	21	0			
5	64QAM	12	0	19.81	19.84	19.81					
5	64QAM	12	7	19.88	19.87	19.80					
5	64QAM	12	13	19.89	19.81	19.84	18.8	2.2			
5	256QAM	1	0	19.21	19.22	17.84					
5	256QAM	12	0	19.05	19.07	19.15					
5	256QAM	12	7	19.07	19.11	17.96	18.8	2.2			
5	256QAM	25	0	19.01	19.12	19.11					

Band 25 (1900MHz Band) Part 24E												
RV	Modulation	RB Size	RB Offset	Power Ch / Freq	Power Ch / Freq	Power Ch / Freq	Turn-up limit (dBm)	MFR (dB)				
Frequency (MHz)												
20	QPSK	1	0	16.13	16.16	16.12	17	0				
20	QPSK	1	49	16.08	16.15	16.09						
20	QPSK	1	99	16.02	16.08	16.04						
20	QPSK	50	0	16.02	16.11	16.06						
20	QPSK	50	24	16.09	16.13	16.10	17	0				
20	QPSK	50	49	16.04	16.12	16.07						
20	QPSK	100	0	16.06	16.11	16.08						
20	16QAM	1	0	15.91	15.94	15.86	17	0				
20	16QAM	1	49	15.99	15.92	15.97						
20	16QAM	1	99	15.97	15.98	15.96						
20	16QAM	50	0	15.93	15.97	15.96						
20	16QAM	50	24	15.91	15.99	15.95	17	0				
20	16QAM	50	49	15.96	15.91	15.92						
20	16QAM	100	0	15.91	15.91	15.92						
20	64QAM	1	0	15.91	15.90	15.91						
20	64QAM	1	49	15.90	15.92	15.92						
20	64QAM	1	99	15.95	15.95	15.95						
20	64QAM	50	0	15.91	15.90	15.94						
20	64QAM	50	24	15.91	15.90	15.95						
20	64QAM	50	49	15.97	15.99	15.99						
20	64QAM	100	0	15.90	15.94	15.91						
20	256QAM	1	0	15.91	15.90	15.91						
20	256QAM	1	49	15.92	15.89	15.96	17	0				
20	256QAM	1	99	15.90	15.91	15.77						
20	256QAM	50	0	15.84	15.79	15.79						
20	256QAM	50	24	15.77	15.89	15.88						
20	256QAM	50	49	15.81	15.81	15.70	17	0				
20	256QAM	100	0	15.80	15.74	15.78						
Channel												
Frequency (MHz)												
15	QPSK	1	0	15.95	15.94	15.98	17	0				
15	QPSK	1	37	15.96	15.92	15.97						
15	QPSK	1	74	15.96	15.93	15.93						
15	QPSK	36	0	15.96	15.98	15.91						
15	QPSK	36	20	15.96	15.97	15.95	17	0				
15	QPSK	36	55	15.95	15.98	15.93						
15	QPSK	75	0	15.94	15.98	15.97						
15	16QAM	1	0	15.90	15.90	15.90						
15	16QAM	1	37	15.94	15.92	15.96	17	0				
15	16QAM	1	74	15.95	15.93	15.97						
15	16QAM	36	0	15.91	15.96	15.98						
15	16QAM	36	20	15.95	15.93	15.98	17	0				
15	16QAM	36	55	15.90	15.92	15.92						
15	16QAM	75	0	15.91	15.94	15.94						
15	64QAM	1	0	15.92	15.90	15.94						
15	64QAM	1	37	15.99	15.95	15.99	17	0				
15	64QAM	1	74	15.96	15.93	15.97						
15	64QAM	36	0	15.92	15.96	15.95						
15	64QAM	36	20	15.97	15.99	15.98	17	0				
15	64QAM	36	55	15.96	15.94	15.95						
15	64QAM	75	0	15.95	15.94	15.94						
15	256QAM	1	0	15.88	15.83	15.91						
15	256QAM	1	37	15.92	15.89	15.94	17	0				
15	256QAM	1	74	15.90	15.87	15.84						
15	256QAM	36	0	15.89	15.75	15.86						
15	256QAM	36	20	15.76	15.70	15.84	17	0				
15	256QAM	36	55	15.78	15.81	15.71						
15	256QAM	75	0	15.80	15.80	15.87						
Channel												
Frequency (MHz)												
10	QPSK	1	0	15.91	15.93	15.90	17	0				
10	QPSK	1	26	15.93	15.93	15.97						
10	QPSK	1	46	15.97	15.96	15.94						
10	QPSK	25	0	15.90	15.98	15.94						
10	QPSK	25	12	15.96	15.95	15.95	17	0				
10	QPSK	25	25	15.98	15.96	15.95						
10	QPSK	50	0	15.94	15.98	15.93						
10	16QAM	1	0	15.90	15.90	15.90						
10	16QAM	1	26	15.93	15.92	15.96	17	0				
10	16QAM	1	46	15.97	15.96	15.94						
10	16QAM	25	0	15.91	15.99	15.95						
10	16QAM	25	12	15.96	15.95	15.95	17	0				
10	16QAM	25	25	15.98	15.96	15.95						
10	16QAM	50	0	15.94	15.98	15.93						
10	64QAM	1	0	15.92	15.86	15.88						
10	64QAM	1	26	15.96	15.95	15.97	17	0				
10	64QAM	1	46	15.99	15.98	15.96						
10	64QAM	25	0	15.90	15.98	15.94						
10	64QAM	25	12	15.96	15.95	15.95	17	0				
10	64QAM	25	25	15.98	15.96	15.95						
10	64QAM	50	0	15.92	15.96	15.95						
10	256QAM	1	0	15.86	15.81	15.91						
10	256QAM	1	26	15.90	15.89	15.93	17	0				
10	256QAM	1	46	15.94	15.93	15.94						
10	256QAM	25	0	15.88	15.85	15.92						
10	256QAM	25	12	15.96	15.95	15.95	17	0				
10	256QAM	25	25	15.73	15.82	15.75						
10	256QAM	50	0	15.78	15.78	15.80						
Channel												
Frequency (MHz)												
5	QPSK	1	0	16.00	15.92	15.88	17	0				
5	QPSK	1	12	15.90	15.97	15.93						
5	QPSK	1	24	15.91	15.99	15.91						
5	QPSK	12	0	15.99	15.95	15.95						
5	QPSK	12	7	15.91	15.97	15.92						
5	QPSK	12	19	15.96	15.93	15.93						
5	QPSK	25	0	15.93	15.94	15.92						
5	QPSK	1	0	15.97	15.89	15.95	17	0				
5	16QAM	1	24	15.94	15.98	15.91						
5	16QAM	1	36	15.95	15.91	15.96						
5	16QAM	12	0	15.92	15.93	15.95						
5	16QAM	12	13	15.98	15.97	15.94						
5	16QAM	12	25	15.95	15.96	15.93						
5	16QAM	1	0	15.91	15.97	15.95						
5	16QAM	1	12	15.95	15.93	15.98	17	0				
5	16QAM	1	24	15.96	15.94	15.93						
5	16QAM	12	0	15.92	15.97	15.94						
5	16QAM	12	7	15.92	15.97	15.95	17	0				
5	16QAM	12	19	15.99	15.96	15.96						
5	16QAM	25	0	15.91	15.90	15.98						
5	256QAM	1	0	15.88	15.81	15.82						
5	256QAM	1	12	15.97	15.87	15.97	17	0				
5	256QAM	1	24	15.93	15.91	15.94						
5	256QAM	12	0	15.85	15.88	15.77						
5	256QAM	12	13	15.96	15.95	15.92	17	0				
5	256QAM	12	25	15.73	15.74	15.61						
5	256QAM	25	0	15.74	15.76	15.76						
Channel												
Frequency (MHz)												
3	QPSK	1	0	15.97	15.88	15.83	17	0				
3	QPSK	1	14	15.96	15.96	15.91						
3	QPSK	1	14	15.99	15.99	15.91						
3	QPSK	8	0	15.95	15.98	15.88						
3	QPSK	8	7	15.96	15.93	15.98	17	0				
3	QPSK	8	7	15.93	15.99	15.94						
3	QPSK	15	0	15.93	15.94	15.95						
3	16QAM	1	0	15.96	15.92	15.96	17	0				
3	16QAM	1	8	15.98	15.90	15.93						
3	16QAM	1	14	15.90	15.93	15.99						
3	16QAM	8	0	15.94	15.92	15.94						
3	16QAM	8	4	15.91	15.99	15.93	17	0				
3	16QAM	7	0	15.99	15.92	15.90						
3	16QAM	1	8	15.94	15.93	15.93						
3	16QAM	1	14	15.97	15.98	15.92	17	0				
3	16QAM	8	0	15.92	15.82	15.82						
3	16QAM	15	0	15.93	15.94	15.98						
3	16QAM	1	0	15.90	15.94	15.94						
3	16QAM	1	8	15.98	15.90	15.91						
3	16QAM	1	14	15.96	15.98	15.91	17	0				
3	16QAM	8	0	15.94	15.92	15.94						
3	16QAM	1	8	15.91	15.99	15.93						
3	16QAM	1	14	15.97	15.98	15.92						
3	16QAM	8	0	15.94	15.84	15.82						
3	16QAM	8	7	15.97	15.99	15.93	17	0				
3	16QAM	15	0	15.93	15.94	15.98						
3	256QAM	1	0	15.88	15.81	15.84						
3	256QAM	8	7	15.91	15.75	15.76	17	0				
3	256QAM	1	7	15.90	15.87	15.87						
Channel												
Frequency (MHz)												
1.4	QPSK	1	0	15.91	15.88	15.78	17	0				
1.4	QPSK	1	0	15.97	15.92	15.82						
1.4	QPSK	1	5	15.90	15.92	15.90						
1.4	QPSK	3	0	15.86	15.88	15.85						
1.4	QPSK	3	0	15.87	15.87	15.87	17	0				
1.4	QPSK	3	3	15.80	15.83	15.85						
1.4	QPSK	6	0	15.86	15.94	15.94						
1.4	QPSK	6	0	15.87	15.94	15.94	17	0				
1.4	QPSK	1	5	15.94	15.92	15.93						
1.4	QPSK	1	5	15.91	15.92	15.91						
1.4	QPSK	1	5	15.93	15.92	15.93						
1.4	QPSK	3	1	15.93	15.84	15.82						
1.4	QPSK	3	1	15.90	15.86	15.86	17	0				
1.4												



Band 71									
BW (MHz)	Modulation	RB Size	RB Offset	Power Line Ch / Freq	Power Mask Ch / Freq	Power Tgt Ch / Freq	Tune-up limit (dBm)	MPR (dB)	
Channel				13322	673	683			
Frequency (MHz)				673	683	683			
20	QPSK	1	0	20.95	20.95	20.91	21.9	0	
20	QPSK	1	49	20.80	20.80	20.72			
20	QPSK	1	99	20.80	20.80	20.82			
20	QPSK	50	0	20.83	20.85	20.72			
20	QPSK	50	24	20.82	20.85	20.91			0
20	QPSK	50	50	20.89	20.93	20.84	21.9	0	
20	QPSK	100	0	20.91	20.94	20.90			
20	16QAM	1	0	20.87	20.82	20.85			
20	16QAM	1	49	20.89	20.90	20.88			0
20	16QAM	1	99	20.81	20.95	20.86			
20	16QAM	50	0	20.94	20.81	20.86	21.3	0.6	
20	16QAM	50	24	20.89	20.85	20.92			
20	16QAM	50	50	20.85	20.83	20.77			
20	16QAM	100	0	20.82	20.89	20.74			
20	16QAM	1	0	20.73	20.83	20.82			
20	64QAM	1	49	20.72	20.74	20.68	21.3	0.6	
20	64QAM	1	99	20.68	20.70	20.61			
20	64QAM	50	0	19.95	20.03	20.00			
20	64QAM	50	24	19.81	19.88	19.93			
20	64QAM	50	50	19.95	19.88	19.78			1.6
20	64QAM	100	0	19.98	19.96	19.84	18.8	3.1	
20	256QAM	1	0	18.14	18.09	18.16			
20	256QAM	1	49	18.07	18.10	18.17			
20	256QAM	1	99	18.12	18.10	18.06			
20	256QAM	50	0	18.05	18.08	18.03			
20	256QAM	50	24	18.02	18.02	18.04	18.8	3.1	
20	256QAM	50	50	18.02	18.01	17.93			
20	256QAM	100	0	18.07	18.04	18.13			
Channel				13317	670.5	680.5	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				670.5	680.5	680.5			
15	QPSK	1	0	20.72	20.70	20.68	21.9	0	
15	QPSK	1	37	20.62	20.70	20.65			
15	QPSK	1	74	20.78	20.70	20.70			
15	QPSK	36	0	20.78	20.85	20.87			
15	QPSK	36	36	20.68	20.89	20.88			0
15	QPSK	36	36	20.80	20.78	20.79	21.9	0	
15	QPSK	75	0	20.35	20.51	20.45			
15	16QAM	1	0	20.79	20.69	20.72			
15	16QAM	1	37	20.64	20.69	20.78			0
15	16QAM	1	74	20.77	20.70	20.77			
15	16QAM	36	0	20.90	20.85	20.75	21.3	0.6	
15	16QAM	36	20	20.64	20.62	20.68			
15	16QAM	36	36	20.68	20.72	20.68			
15	16QAM	75	0	20.42	20.68	20.61			
15	64QAM	1	0	20.80	20.68	20.84			
15	64QAM	1	37	20.86	20.84	20.80	21.3	0.6	
15	64QAM	1	74	20.73	20.64	20.65			
15	64QAM	36	0	19.71	19.95	19.95			
15	64QAM	36	20	20.06	19.84	19.92			1.6
15	64QAM	36	36	19.72	19.90	19.88			
15	64QAM	75	0	20.03	19.90	19.90	18.8	3.1	
15	256QAM	1	0	18.18	17.88	18.06			
15	256QAM	1	37	18.11	18.16	18.15			
15	256QAM	1	74	18.17	18.03	18.17			
15	256QAM	36	0	17.89	17.99	18.02			
15	256QAM	36	20	17.66	18.16	17.83	18.8	3.1	
15	256QAM	36	36	17.97	18.08	18.00			
15	256QAM	75	0	18.13	18.14	18.21			
Channel				13312	668	678	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				668	678	683			
10	QPSK	1	0	20.75	20.77	20.84	21.9	0	
10	QPSK	1	25	20.64	20.73	20.80			
10	QPSK	1	49	20.78	20.70	20.80			
10	QPSK	25	0	20.76	20.88	20.88			
10	QPSK	25	25	20.70	20.60	20.64			0
10	QPSK	25	25	20.74	20.81	20.79	21.9	0	
10	QPSK	50	0	20.42	20.51	20.45			
10	16QAM	1	0	20.77	20.60	20.78			
10	16QAM	1	25	20.65	20.70	20.72			0
10	16QAM	1	49	20.74	20.71	20.78			
10	16QAM	25	0	20.86	20.60	20.74	21.3	0.6	
10	16QAM	25	12	20.68	20.65	20.62			
10	16QAM	25	25	20.69	20.75	20.68			
10	16QAM	50	0	20.40	20.55	20.70			
10	64QAM	1	0	20.89	20.78	20.84			
10	64QAM	1	25	20.63	20.85	20.73	21.3	0.6	
10	64QAM	1	49	20.76	20.70	20.63			
10	64QAM	25	0	19.76	20.02	19.89			
10	64QAM	25	12	20.12	19.83	19.93			1.6
10	64QAM	25	25	19.76	19.90	19.83			
10	64QAM	50	0	20.03	19.95	19.86	18.8	3.1	
10	256QAM	1	0	18.01	17.97	18.04			
10	256QAM	1	25	18.04	18.30	18.05			
10	256QAM	1	49	18.18	18.06	18.14			
10	256QAM	25	0	17.65	18.05	18.05			0
10	256QAM	25	12	18.11	18.01	17.84	18.8	3.1	
10	256QAM	25	25	17.85	18.08	17.95			
10	256QAM	50	0	17.99	17.97	18.23			
Channel				13311	665.5	675.5	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				665.5	675.5	685.5			
5	QPSK	1	0	20.72	20.74	20.66	21.9	0	
5	QPSK	1	84	20.64	20.78	20.82			
5	QPSK	1	24	20.70	20.73	20.75			
5	QPSK	12	0	20.85	20.90	20.89			
5	QPSK	12	7	20.60	20.88	20.87			0
5	QPSK	12	13	20.76	20.82	20.70	21.9	0	
5	QPSK	25	0	20.39	20.48	20.45			
5	16QAM	1	0	20.72	20.67	20.71			
5	16QAM	1	12	20.61	20.72	20.79			0
5	16QAM	1	24	20.74	20.73	20.75			
5	16QAM	12	0	20.62	20.60	20.81	21.3	0.6	
5	16QAM	12	7	20.43	20.63	20.62			
5	16QAM	12	13	20.61	20.78	20.64			
5	16QAM	25	0	20.44	20.55	20.28			
5	64QAM	1	0	20.88	20.72	20.82			
5	64QAM	1	12	20.67	20.84	20.73	21.3	0.6	
5	64QAM	1	24	20.79	20.70	20.63			
5	64QAM	12	0	19.72	20.01	20.02			
5	64QAM	12	7	20.07	19.75	19.97			1.6
5	64QAM	12	13	19.77	19.88	19.81			
5	64QAM	25	0	20.09	19.51	19.90	18.8	3.1	
5	256QAM	1	0	18.19	18.00	18.16			
5	256QAM	1	12	18.11	18.15	18.05			
5	256QAM	1	24	18.17	18.00	18.17			
5	256QAM	12	0	17.83	18.00	18.06			
5	256QAM	12	7	18.09	18.15	17.88	18.8	3.1	
5	256QAM	12	13	17.95	17.98	18.09			
5	256QAM	25	0	17.97	18.09	18.08			



Band 38(only on channel required)											
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Mod Ch / Freq	Power Mod Ch / Freq	Power High Mod Ch / Freq	Power Low Mod Ch / Freq	Power High Mod Ch / Freq	Tune-up limit (dBm)	MPR (dB)	
Channel											
Frequency (MHz)											
38750 38950 39150											
20	QPSK	1	0	17.26	17.10	17.10	17.26	17.10	17.9	0	
20	QPSK	1	49	17.26	17.08	17.18	17.26	17.18			
20	QPSK	1	99	17.26	17.02	17.16	17.26	17.16			
20	QPSK	50	24	17.26	17.07	17.18	17.26	17.18			
20	QPSK	50	50	17.25	17.07	17.15	17.25	17.15	17.9	0	
20	QPSK	100	0	17.27	17.05	17.15	17.27	17.15			
20	16QAM	1	0	17.12	18.02	18.06	17.12	18.06			
20	16QAM	1	99	17.15	17.05	17.06	17.15	17.06			
20	16QAM	50	0	17.26	18.02	17.06	17.26	17.06	17.9	0	
20	16QAM	50	24	17.22	18.02	17.16	17.22	17.16			
20	16QAM	100	0	17.26	18.02	18.06	17.26	18.06			
20	16QAM	100	50	17.21	18.02	18.06	17.21	18.06			
20	64QAM	1	0	17.21	18.06	18.08	17.21	18.08	17.8	0.1	
20	64QAM	1	49	17.19	18.06	18.08	17.19	18.08			
20	64QAM	1	99	18.07	17.50	17.50	18.07	17.50			
20	64QAM	50	0	18.06	17.51	17.50	18.06	17.50			
20	64QAM	50	24	18.06	18.07	17.50	18.06	18.07	17.8	0.1	
20	64QAM	50	50	17.15	18.01	17.50	17.15	18.01			
20	64QAM	100	0	17.22	18.02	18.06	17.22	18.06			
20	64QAM	100	50	17.22	18.02	18.06	17.22	18.06			
20	256QAM	1	49	15.41	15.52	15.57	15.41	15.57	16.3	1.6	
20	256QAM	1	99	15.48	15.50	15.41	15.48	15.50			
20	256QAM	50	24	15.85	15.87	15.81	15.85	15.87			
20	256QAM	50	50	15.82	15.82	15.83	15.82	15.83			
20	256QAM	100	0	15.79	15.79	15.80	15.79	15.80	16.3	1.6	
20	256QAM	100	50	15.79	15.81	15.80	15.79	15.81			
20	256QAM	100	100	15.79	15.81	15.80	15.79	15.81			
20	256QAM	100	150	15.79	15.81	15.80	15.79	15.81			
Channel											
Frequency (MHz)											
38750 38950 39150											
15	QPSK	1	0	17.26	17.17	17.11	17.26	17.11	17.9	0	
15	QPSK	1	37	17.25	17.14	17.02	17.25	17.14			
15	QPSK	1	74	17.25	17.08	17.04	17.25	17.08			
15	QPSK	36	20	17.25	17.16	17.13	17.25	17.16			
15	QPSK	36	39	17.25	17.11	17.05	17.25	17.11	17.9	0	
15	QPSK	75	0	17.08	17.07	17.17	17.08	17.17			
15	QPSK	75	1	17.08	17.05	16.96	17.08	17.05			
15	16QAM	1	0	17.15	17.05	16.96	17.15	17.05			
15	16QAM	1	37	17.13	16.73	16.76	17.13	16.73	17.9	0	
15	16QAM	1	74	17.13	16.59	16.59	17.13	16.59			
15	16QAM	36	20	17.28	17.06	17.08	17.28	17.06			
15	16QAM	36	39	17.28	17.06	17.08	17.28	17.06			
15	16QAM	75	0	17.15	17.05	16.96	17.15	17.05	17.9	0	
15	16QAM	75	1	17.15	17.05	16.96	17.15	17.05			
15	16QAM	75	36	17.28	17.06	17.08	17.28	17.06			
15	64QAM	1	0	17.04	17.09	17.04	17.04	17.09			
15	64QAM	1	37	17.28	17.06	16.88	17.28	17.06	17.9	0	
15	64QAM	1	74	17.28	17.06	16.88	17.28	17.06			
15	64QAM	36	20	16.86	17.09	17.20	16.86	17.09			
15	64QAM	36	39	17.15	17.13	17.01	17.15	17.13			
15	64QAM	75	0	17.08	17.02	17.01	17.08	17.02	17.8	0.1	
15	64QAM	75	1	17.15	17.13	17.01	17.15	17.13			
15	64QAM	75	36	17.28	17.06	17.08	17.28	17.06			
15	64QAM	75	1	17.15	17.13	17.01	17.15	17.13			
15	256QAM	1	0	15.41	15.43	15.40	15.41	15.43	16.3	1.6	
15	256QAM	1	39	15.48	15.48	15.40	15.48	15.48			
15	256QAM	50	24	15.80	15.80	15.80	15.80	15.80			
15	256QAM	50	50	15.79	15.79	15.80	15.79	15.80			
15	256QAM	100	0	15.79	15.79	15.80	15.79	15.80	16.3	1.6	
15	256QAM	100	50	15.79	15.81	15.80	15.79	15.81			
15	256QAM	100	100	15.79	15.81	15.80	15.79	15.81			
15	256QAM	100	150	15.79	15.81	15.80	15.79	15.81			
Channel											
Frequency (MHz)											
38750 38950 39150											
10	QPSK	1	0	17.12	17.19	17.19	17.12	17.19	17.9	0	
10	QPSK	1	25	17.20	17.20	17.20	17.20	17.20			
10	QPSK	1	49	17.18	18.02	17.25	17.18	18.02			
10	QPSK	25	0	17.21	17.50	17.25	17.21	17.50			
10	QPSK	25	12	17.20	17.11	17.24	17.20	17.11	17.9	0	
10	QPSK	25	25	17.20	17.11	17.24	17.20	17.11			
10	QPSK	50	0	17.08	18.07	17.23	17.08	18.07			
10	QPSK	50	1	17.08	17.05	17.06	17.08	17.05			
10	16QAM	1	0	17.15	17.05	17.06	17.15	17.05	17.9	0	
10	16QAM	1	25	17.12	18.04	18.04	17.12	18.04			
10	16QAM	1	49	17.01	17.01	17.13	17.01	17.13			
10	16QAM	25	0	17.21	17.05	17.05	17.21	17.05			
10	16QAM	25	12	17.23	17.20	17.27	17.23	17.20	17.9	0	
10	16QAM	25	25	17.12	17.08	17.06	17.12	17.08			
10	16QAM	50	0	17.23	17.12	17.12	17.23	17.12			
10	16QAM	50	1	17.13	17.14	17.11	17.13	17.14			
10	64QAM	1	0	17.13	17.14	17.11	17.13	17.14	17.9	0	
10	64QAM	1	25	17.25	18.09	18.04	17.25	18.09			
10	64QAM	1	49	17.12	18.09	18.04	17.12	18.09			
10	64QAM	25	0	16.98	17.03	17.08	16.98	17.03			
10	64QAM	25	12	16.98	18.06	18.06	16.98	18.06	17.8	0.1	
10	64QAM	25	25	17.23	17.20	17.27	17.23	17.20			
10	64QAM	50	0	17.23	18.02	18.02	17.23	18.02			
10	64QAM	50	1	17.23	18.02	18.02	17.23	18.02			
10	256QAM	1	0	15.43	15.53	15.58	15.43	15.58	16.3	1.6	
10	256QAM	1	25	15.48	15.51	15.54	15.48	15.51			
10	256QAM	1	49	15.84	15.85	15.46	15.84	15.85			
10	256QAM	25	0	15.79	15.76	15.70	15.79	15.76			
10	256QAM	25	12	15.85	15.74	15.81	15.85	15.74	16.3	1.6	
10	256QAM	25	25	15.85	15.72	15.80	15.85	15.72			
10	256QAM	25	50	15.74	15.87	15.80	15.74	15.87			
10	256QAM	25	100	15.74	15.87	15.80	15.74	15.87			
Channel											
Frequency (MHz)											
38750 38950 39150											
5	QPSK	1	0	17.12	17.17	17.17	17.12	17.17	17.9	0	
5	QPSK	1	12	17.21	17.22	17.10	17.21	17.22			
5	QPSK	1	24	17.28	18.07	17.03	17.28	18.07			
5	QPSK	12	0	17.15	17.09	17.27	17.15	17.09			
5	QPSK	12	7	17.03	17.28	17.28	17.03	17.28	17.9	0	
5	QPSK	12	13	17.05	17.13	17.26	17.05	17.13			
5	QPSK	25	0	17.07	18.08	17.22	17.07	18.08			
5	QPSK	25	1	17.29	17.09	17.09	17.29	17.09			
5	16QAM	1	0	17.12	17.05	17.05	17.12	17.05	17.9	0	
5	16QAM	1	12	17.15	17.08	17.08	17.15	17.08			
5	16QAM	1	24	17.24	17.07	17.13	17.24	17.07			
5	16QAM	12	0	17.06	17.28	17.28	17.06	17.28			
5	16QAM	12	7	17.20	17.09	17.13	17.20	17.09	17.9	0	
5	16QAM	12	13	17.11	18.08	17.17	17.11	18.08			
5	16QAM	25	0	17.07	17.13	17.10	17.07	17.13			
5	16QAM	25	1	17.08	17.11	17.17	17.08	17.11			
5	16QAM	12	12	17.05	17.01	17.02	17.05	17.01	17.8	0.1	
5	16QAM	12	49	17.27	17.01	17.02	17.27	17.01			
5	16QAM	12	1	17.27	17.01	17.02	17.27	17.01			
5	16QAM	12	0	17.02	17.04	17.25	17.02	17.04			
5	64QAM	1	0	16.97	18.01	17.14	16.97	18.01	16.3	1.6	
5	64QAM	1	12	17.01	18.01	17.14	17.01	18.01			
5	64QAM	1	24	17.25	18.08	16.80	17.25	18.08			
5	64QAM	12	0	16.83	17.03	17.12	16.83	17.03			
5	256QAM	1	0	15.40	15.40	15.41	15.40	15.41	16.3	1.6	
5	256QAM	1	24	15.40	15.40	15.42	15.40	15.42			
5	256QAM	12	0	15.77	15.80	15.82	15.77	15.80			
5	256QAM	12	7	15.77	15.80	15.82	15.77	15.80			
5	256QAM	12	10	15.79	15.80	15.86	15.79	15.86			
5	256QAM	12	13	15.79	15.80	15.86	15.79	15.86			
5	256QAM	12	16	15.79	15.80	15.86	15.79	15.86			



Band 48 (3.5G Band)-FCC											
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Mid Ch. / Freq.	Power High Mid Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPE (dB)		
Channel				55340	55830	56150	56640				
Frequency (MHz)				56000	56000	56411	56500				
20	QPSK	1	0	17.26	17.31	17.35	17.38	18.1	0		
20	QPSK	1	48	17.13	17.16	17.18	17.11				
20	QPSK	1	96	17.17	17.18	17.22	17.15				
20	QPSK	59	0	17.22	17.25	17.23	17.25				
20	QPSK	59	24	17.24	17.23	17.24	17.26				
20	QPSK	59	50	17.12	17.28	17.12	17.20	18.1	0		
20	QPSK	100	0	17.23	17.22	17.22	17.24				
20	16QAM	1	0	17.25	17.25	17.28	17.21				
20	16QAM	1	48	17.22	17.25	17.25	17.12				
20	16QAM	1	96	17.20	17.29	17.28	17.19				
20	16QAM	59	0	17.20	17.22	17.22	17.21	18.1	0		
20	16QAM	59	24	17.27	17.29	17.24	17.23				
20	16QAM	59	50	17.24	17.25	17.25	17.26				
20	16QAM	100	0	17.29	17.24	17.19	17.22				
20	64QAM	1	0	17.15	17.16	17.16	17.13				
20	64QAM	1	48	17.17	17.21	17.26	17.18	18.1	0		
20	64QAM	1	96	17.21	17.26	17.23	17.18				
20	64QAM	59	0	17.20	17.28	17.22	17.20				
20	64QAM	59	24	17.25	17.25	17.22	17.25				
20	64QAM	59	50	17.28	17.28	17.22	17.25				
20	64QAM	100	0	17.20	17.20	17.28	17.25	18.1	0		
20	256QAM	1	0	17.12	17.14	17.14	17.08				
20	256QAM	1	48	17.10	17.15	17.19	17.16				
20	256QAM	1	96	17.18	17.16	17.16	17.22				
20	256QAM	59	0	17.26	17.26	17.21	17.26				
20	256QAM	59	24	17.20	17.29	17.21	17.22	18.1	0		
20	256QAM	59	50	17.26	17.20	17.26	17.21				
20	256QAM	100	0	17.26	17.28	17.20	17.20				
Channel				56115	56603	56160	56663	Tune-up limit (dBm)	MPE (dB)		
Frequency (MHz)				56117	56117	56518	56518				
15	QPSK	1	0	17.05	17.30	17.26	17.25	18.1	0		
15	QPSK	1	37	16.92	17.01	17.09	17.12				
15	QPSK	1	74	16.91	17.21	17.03	17.22				
15	QPSK	38	0	17.07	17.21	17.24	17.17				
15	QPSK	38	20	16.98	17.15	17.26	17.19				
15	QPSK	38	39	16.83	17.14	17.14	17.14	18.1	0		
15	QPSK	75	0	16.96	17.11	17.26	17.23				
15	16QAM	1	0	16.89	16.96	17.24	17.21				
15	16QAM	1	37	16.97	17.01	17.26	17.09				
15	16QAM	1	74	16.68	16.94	17.02	17.16				
15	16QAM	38	0	16.92	17.24	17.21	17.16	18.1	0		
15	16QAM	38	20	16.94	17.20	17.27	17.18				
15	16QAM	38	39	16.90	17.23	17.17	17.20				
15	16QAM	75	0	16.90	17.26	17.23	17.26				
15	64QAM	1	0	16.82	17.02	17.13	17.07				
15	64QAM	1	37	16.89	17.13	17.17	17.15	18.1	0		
15	64QAM	1	74	16.70	17.27	16.99	17.21				
15	64QAM	38	0	16.93	17.19	17.23	17.20				
15	64QAM	38	20	16.97	17.25	17.19	17.28				
15	64QAM	38	39	16.98	17.18	17.21	17.28				
15	64QAM	75	0	16.94	17.16	17.27	17.17	18.1	0		
15	256QAM	1	0	17.02	16.99	17.16	17.05				
15	256QAM	1	37	17.15	17.27	17.22	17.06				
15	256QAM	1	74	17.22	17.29	17.27	17.23				
15	256QAM	38	0	17.14	17.22	17.17	17.25				
15	256QAM	38	20	17.20	17.22	17.27	17.15	18.1	0		
15	256QAM	38	39	17.07	17.25	17.27	17.27				
15	256QAM	75	0	17.23	17.16	17.14	17.17				
Channel				56200	56815	56165	56668	Tune-up limit (dBm)	MPE (dB)		
Frequency (MHz)				56202	56202	56915	56915				
10	QPSK	1	0	17.09	17.29	17.25	17.21	18.1	0		
10	QPSK	1	25	16.90	17.02	17.04	17.13				
10	QPSK	1	48	16.89	17.22	17.06	17.25				
10	QPSK	25	0	17.08	17.19	17.29	17.20				
10	QPSK	25	12	16.97	17.11	17.29	17.25				
10	QPSK	25	25	16.90	17.10	17.17	17.15	18.1	0		
10	QPSK	59	0	16.95	17.14	17.24	17.18				
10	16QAM	1	0	16.85	17.00	17.22	17.23				
10	16QAM	1	25	17.01	17.00	17.26	17.08				
10	16QAM	1	48	16.72	16.89	17.00	17.18				
10	16QAM	25	0	16.87	17.24	17.17	17.19	18.1	0		
10	16QAM	25	12	16.93	17.21	17.29	17.17				
10	16QAM	25	25	16.86	17.18	17.17	17.25				
10	16QAM	59	0	16.88	17.26	17.16	17.16				
10	64QAM	1	0	16.90	16.96	17.21	17.09				
10	64QAM	1	25	16.93	17.14	17.11	17.10	18.1	0		
10	64QAM	1	48	16.65	17.25	17.01	17.21				
10	64QAM	25	0	16.90	17.12	17.25	17.12				
10	64QAM	25	12	16.88	17.17	17.21	17.27				
10	64QAM	25	25	17.02	17.14	17.25	17.26				
10	64QAM	59	0	16.88	17.10	17.28	17.27	18.1	0		
10	256QAM	1	0	16.87	16.88	17.16	17.17				
10	256QAM	1	25	17.04	17.03	17.22	17.24				
10	256QAM	1	48	17.13	17.21	17.21	17.27				
10	256QAM	25	0	17.03	17.23	17.26	17.21				
10	256QAM	25	12	17.18	17.29	17.28	17.29	18.1	0		
10	256QAM	25	25	17.27	17.24	17.25	17.17				
10	256QAM	59	0	17.06	17.15	17.17	17.21				
Channel				56200	56815	56176	56678	Tune-up limit (dBm)	MPE (dB)		
Frequency (MHz)				56203	56203	56916	56916				
5	QPSK	1	0	17.06	17.29	17.29	17.21	18.1	0		
5	QPSK	1	12	16.83	16.99	17.13	17.08				
5	QPSK	1	24	16.92	17.15	17.06	17.27				
5	QPSK	12	0	17.08	17.16	17.29	17.23				
5	QPSK	12	7	16.91	17.16	17.28	17.18				
5	QPSK	12	13	16.87	17.08	17.15	17.16	18.1	0		
5	QPSK	25	0	16.95	17.13	17.26	17.19				
5	16QAM	1	0	16.93	16.96	17.22	17.21				
5	16QAM	1	12	17.02	16.94	17.21	17.07				
5	16QAM	1	24	16.71	16.89	17.07	17.19				
5	16QAM	12	0	16.94	17.21	17.21	17.18	18.1	0		
5	16QAM	12	7	17.00	17.24	17.23	17.23				
5	16QAM	12	13	16.87	17.18	17.25	17.18				
5	16QAM	25	0	16.94	17.21	17.17	17.14				
5	64QAM	1	0	16.96	16.96	17.14	17.13				
5	64QAM	1	12	16.87	17.20	17.12	17.13	18.1	0		
5	64QAM	1	24	16.87	17.29	17.01	17.13				
5	64QAM	12	0	16.99	17.13	17.24	17.17				
5	64QAM	12	7	16.95	17.18	17.21	17.16				
5	64QAM	12	13	17.01	17.18	17.24	17.18				
5	256QAM	1	0	17.03	17.18	17.29	17.11	18.1	0		
5	256QAM	1	12	17.12	17.21	17.25	17.25				
5	256QAM	1	24	17.15	17.24	17.23	17.24				
5	256QAM	12	0	17.04	17.22	17.29	17.23				
5	256QAM	12	7	17.21	17.26	17.25	17.25				
5	256QAM	12	13	17.15	17.21	17.22	17.26	18.1	0		
5	256QAM	12	25	17.16	17.18	17.18	17.22				
5	256QAM	59	0	17.06	17.15	17.17	17.21				

Reduced power level 2 for Head-UAT

SMMMS	Best Average Power (dBm)			Turn-up Limit	Finite-Average Power (dBm)			Turn-up Limit
	TX Channel	500	500		TX Channel	500	500	
	Frequency (MHz)							
OSM 1 Tx side	30.19	30.21	30.25	31.40	21.19	21.21	21.25	22.40
OPRS 1 Tx side	30.16	30.11	30.21	31.40	21.16	21.17	21.21	22.30
OPRS 2 Tx side	27.42	27.43	27.51	28.60	21.42	21.45	21.51	22.90
OPRS 3 Tx side	26.14	26.10	26.23	27.42	21.46	21.49	21.51	23.14
OPRS 4 Tx side	24.41	24.40	24.57	26.10	21.41	21.48	21.57	23.10
EDGE 1 Tx side	24.83	24.80	25.27	26.30	15.83	15.80	16.27	17.30
EDGE 2 Tx side	23.23	23.25	23.66	24.30	17.23	17.25	17.66	18.30
EDGE 3 Tx side	22.12	22.23	22.43	23.30	17.86	17.97	18.17	18.04
EDGE 4 Tx side	21.44	21.62	21.75	22.31	18.44	18.52	18.75	18.70

SMMMS	Best Average Power (dBm)			Turn-up Limit	Finite Average Power (dBm)			Turn-up Limit
	TX Channel	512	561	512	TX Channel	512	561	512
Frequency (MHz)								
OSM 1 Tx side	23.46	23.45	23.55	24.30	14.52	14.46	14.58	15.80
OPRS 1 Tx side	22.45	22.44	22.52	24.80	14.45	14.44	14.52	15.80
OPRS 2 Tx side	21.52	21.52	21.56	22.20	15.52	15.52	15.56	16.30
OPRS 3 Tx side	19.96	19.95	19.97	21.00	15.70	15.62	15.71	16.74
OPRS 4 Tx side	18.37	18.55	18.53	19.50	15.37	15.55	15.53	16.50
EDGE 1 Tx side	22.54	22.45	22.85	23.80	13.54	13.46	13.83	14.80
EDGE 2 Tx side	21.15	21.05	21.21	22.20	15.15	15.05	15.21	16.20
EDGE 3 Tx side	19.00	19.25	19.10	20.10	14.74	14.54	14.63	15.84
EDGE 4 Tx side	17.97	18.14	18.11	18.10	14.97	15.14	15.11	16.10

Best	WCDMA-E			Turn-up Limit	WCDMA-TV			Turn-up Limit	WCDMA-V			Turn-up Limit
	TX Channel	5002	5400	5208	TX Channel	1312	1412	1513	TX Channel	4132	4182	4233
Frequency (MHz)												
SCPP Pair 1	RAM 12 200ms	16.48	16.32	16.71	17.60	17.14	16.78	17.16	17.70	17.55	17.31	17.70
SCPP Pair 2	RAM 12 200ms	16.75	16.77	16.74	17.60	16.70	16.77	16.80	17.80	16.88	16.81	17.75
SCPP Pair 3	HS-PA Subcarriers 1	15.70	15.63	15.81	16.60	15.71	15.81	15.80	16.80	15.88	15.80	16.75
SCPP Pair 4	HS-PA Subcarriers 2	15.71	15.61	15.81	16.60	15.74	15.81	15.80	16.80	15.88	15.80	16.75
SCPP Pair 5	HS-PA Subcarriers 3	14.91	15.30	15.26	16.10	15.25	15.31	15.32	16.30	15.20	15.14	15.92
SCPP Pair 6	HS-PA Subcarriers 4	15.25	15.31	15.28	16.70	15.28	15.32	15.29	16.30	15.19	15.11	16.00
SCPP Pair 7	DC-HSPA Subcarriers 1	15.51	15.67	15.58	16.60	15.51	15.57	15.63	16.60	15.50	15.37	16.40
SCPP Pair 8	DC-HSPA Subcarriers 2	15.55	15.60	15.63	16.60	15.50	15.51	15.55	16.60	15.47	15.41	16.30
SCPP Pair 9	DC-HSPA Subcarriers 3	14.89	15.12	15.05	16.10	15.10	15.16	15.13	16.30	15.81	15.90	16.80
SCPP Pair 10	DC-HSPA Subcarriers 4	15.00	15.17	15.08	16.10	15.14	15.10	15.07	16.30	15.02	15.94	16.80
SCPP Pair 11	HS-PA Subcarriers 1	15.14	15.31	15.81	16.60	15.77	15.80	15.87	16.80	15.86	15.80	16.75
SCPP Pair 12	HS-PA Subcarriers 2	14.76	14.60	14.84	15.60	14.73	14.68	14.83	15.80	17.47	17.89	17.56
SCPP Pair 13	HS-PA Subcarriers 3	15.75	15.83	15.86	15.60	15.62	15.64	14.80	14.50	16.59	16.56	16.76
SCPP Pair 14	HS-PA Subcarriers 4	13.53	13.67	13.84	14.60	14.61	14.67	14.62	14.80	17.66	17.58	17.61
SCPP Pair 15	HS-PA Subcarriers 5	13.71	13.80	13.80	16.60	15.62	15.60	14.61	16.80	19.71	19.60	20.70
SCPP Pair 17	HS-PA 1 (QAM) Subcarriers 1	13.32	13.40	13.37	15.10	14.49	14.67	14.48	15.30	17.34	17.31	18.20

Best	CDMA-SCS			Turn-up Limit	CDMA-SC1			Turn-up Limit	CDMA-SC10			Turn-up Limit
	TX Channel	5613	584	597	TX Channel	25	600	1575	TX Channel	476	580	584
Frequency (MHz)												
PCS SCS	20.15	20.15	20.12	21.30	15.58	15.55	15.52	16.60	19.09	19.12	19.08	20.50
PCS SCS	20.15	20.15	20.11	21.30	15.55	15.52	15.50	16.60	19.08	19.10	19.06	20.50
PCS SCS (F-SCH)	20.15	20.15	20.08	21.30	15.54	15.51	15.52	16.60	19.05	19.09	19.04	20.50
PCS SCS (V-SCH)	20.10	20.10	20.07	21.30	15.54	15.50	15.50	16.60	19.05	19.07	19.03	20.50
RTWP 15 200ms	20.09	20.10	20.05	21.30	15.52	15.50	15.48	16.60	19.03	19.05	19.01	20.50
RTWP 400ms	20.07	20.09	20.03	21.30	15.51	15.57	15.47	16.60	19.01	19.04	18.99	20.50



Band 2 (1900MHz Band) Part 24E												
RV (MHz)	Modulation	RIS Size	RIS Offset	Power Ch / Freq 1800	Power Ch / Freq 1880	Power Ch / Freq 1910	Turn-on Time (s)	MPE (dB)				
Channel												
Frequency (MHz)												
20	QPSK	1	0	15.23	15.31	15.25						
20	QPSK	1	49	15.16	15.25	15.21	16.2	0				
20	QPSK	1	99	15.07	15.14	15.12						
20	QPSK	50	0	15.21	15.24	15.24						
20	QPSK	50	24	15.20	15.25	15.20	16.2	0				
20	QPSK	50	50	15.18	15.25	15.21						
20	QPSK	100	0	15.20	15.27	15.23						
20	QPSK	1	0	15.21	15.22	15.27	16.2	0				
20	QPSK	50	0	15.28	15.26	15.26						
20	QPSK	50	24	15.20	15.25	15.25	16.2	0				
20	QPSK	50	50	15.29	15.26	15.27						
20	QPSK	100	0	15.28	15.30	15.29						
20	QPSK	1	0	15.17	15.15	15.10	16.2	0				
20	QPSK	1	49	15.27	15.10	15.06						
20	QPSK	1	99	15.20	15.25	15.23						
20	QPSK	50	74	15.01	15.28	15.26						
20	QPSK	50	24	15.01	15.19	15.26	16.2	0				
20	QPSK	50	50	15.25	15.23	15.26						
20	QPSK	100	0	15.28	15.30	15.29						
20	QPSK	1	0	14.94	15.18	14.97	16.2	0				
20	QPSK	1	99	15.07	15.09	15.25						
20	QPSK	1	99	15.25	15.24	15.21						
20	QPSK	50	0	14.89	15.10	15.09						
20	QPSK	50	24	14.97	15.24	15.06	16.2	0				
20	QPSK	50	50	15.18	15.15	15.06						
20	QPSK	100	0	15.22	15.18	15.20						
Channel												
Frequency (MHz)												
15	QPSK	1	0	15.26	15.18	15.30	16.2	0				
15	QPSK	1	37	15.01	15.13	15.02						
15	QPSK	1	74	14.98	15.01	15.00						
15	QPSK	36	0	15.09	15.05	15.13	16.2	0				
15	QPSK	36	20	14.96	15.04	15.08						
15	QPSK	36	38	15.23	15.20	15.25						
15	QPSK	75	0	15.12	15.27	15.02						
15	QPSK	1	0	14.96	15.19	15.02	16.2	0				
15	QPSK	1	37	15.15	14.88	14.85						
15	QPSK	1	74	15.11	15.17	15.07						
15	QPSK	36	0	15.27	15.09	15.25	16.2	0				
15	QPSK	36	20	15.24	15.24	15.25						
15	QPSK	36	38	15.23	15.28	15.29						
15	QPSK	75	0	15.15	15.07	15.14						
15	QPSK	1	0	15.15	15.07	15.14	16.2	0				
15	QPSK	1	37	15.07	15.10	15.07						
15	QPSK	1	74	15.08	15.27	15.14						
15	QPSK	36	0	14.89	15.23	15.03	16.2	0				
15	QPSK	36	20	15.04	15.20	15.06						
15	QPSK	36	38	15.03	15.04	15.17						
15	QPSK	75	0	15.25	15.17	15.05						
Channel												
Frequency (MHz)												
1850	QPSK	1	0	15.05	15.08	15.14	16.2	0				
1850	QPSK	1	26	14.84	15.24	15.04						
1850	QPSK	48	0	15.08	14.88	14.85	16.2	0				
1850	QPSK	25	0	15.25	15.23	15.21						
1850	QPSK	25	14	14.85	15.19	15.06	16.2	0				
1850	QPSK	50	0	14.99	15.28	15.08						
1850	QPSK	1	25	15.19	15.30	15.04						
1850	QPSK	1	25	15.29	15.22	15.09	16.2	0				
1850	QPSK	1	49	15.08	15.17	15.23						
1850	QPSK	1	99	15.20	15.21	15.20						
1850	QPSK	25	12	15.07	15.27	15.20						
1850	QPSK	25	25	15.10	15.04	15.06	16.2	0				
1850	QPSK	50	0	15.06	15.26	15.08						
1850	QPSK	1	0	15.21	15.18	14.91						
1850	QPSK	1	25	15.27	15.09	14.93	16.2	0				
1850	QPSK	1	49	15.21	15.20	15.15						
1850	QPSK	25	0	14.97	15.21	15.17						
1850	QPSK	25	12	14.83	15.06	15.21	16.2	0				
1850	QPSK	50	0	15.03	15.04	15.21						
1850	QPSK	50	25	15.05	15.04	15.21						
1850	QPSK	1	0	15.06	15.22	15.30	16.2	0				
1850	QPSK	1	25	15.09	15.29	15.25						
1850	QPSK	1	49	14.99	15.29	14.86						
1850	QPSK	25	0	14.95	15.07	15.06	16.2	0				
1850	QPSK	25	12	15.22	15.05	14.87						
1850	QPSK	25	25	15.24	15.28	15.24						
1850	QPSK	50	0	15.11	15.24	15.09						
Channel												
Frequency (MHz)												
1850	QPSK	1	0	15.06	15.20	15.10	16.2	0				
1850	QPSK	1	12	15.08	15.03	14.97						
1850	QPSK	1	24	14.85	15.19	15.09						
1850	QPSK	12	0	15.18	15.23	15.06	16.2	0				
1850	QPSK	12	7	15.25	15.25	15.03						
1850	QPSK	12	13	15.01	15.20	15.14						
1850	QPSK	25	0	15.14	15.24	14.88						
1850	QPSK	1	12	15.00	14.90	15.09	16.2	0				
1850	QPSK	1	12	15.22	15.08	15.12						
1850	QPSK	1	24	15.12	14.99	15.26						
1850	QPSK	12	0	15.09	15.18	15.07	16.2	0				
1850	QPSK	12	7	15.22	15.05	15.30						
1850	QPSK	12	13	15.18	15.26	15.08						
1850	QPSK	25	0	15.20	15.12	15.13						
1850	QPSK	1	0	14.94	15.17	14.92	16.2	0				
1850	QPSK	1	12	15.08	14.90	14.85						
1850	QPSK	1	24	15.00	15.04	15.28						
1850	QPSK	12	0	14.91	15.25	15.23	16.2	0				
1850	QPSK	12	7	14.89	15.21	15.01						
1850	QPSK	12	13	15.21	15.14	15.20						
1850	QPSK	25	0	15.29	15.14	15.20						
1850	QPSK	1	0	14.86	15.22	15.09	16.2	0				
1850	QPSK	1	12	14.85	14.97	14.89						
1850	QPSK	1	24	15.20	15.20	15.20						
1850	QPSK	1	24	15.20	15.20	15.20						
1850	QPSK	12	0	14.80	15.06	15.15	16.2	0				
1850	QPSK	12	7	15.29	14.91	14.85						
1850	QPSK	12	13	15.23	15.27	15.03						
1850	QPSK	25	0	15.30	15.30	15.15						
Channel												
Frequency (MHz)												
1850	QPSK	1	0	15.10	15.27	15.18	16.2	0				
1850	QPSK	1	8	15.06	15.20	15.07						
1850	QPSK	1	14	15.12	15.06	14.88						
1850	QPSK	8	0	14.99	15.09	15.14	16.2	0				
1850	QPSK	8	4	15.13	15.20	15.22						
1850	QPSK	8	7	14.84	15.27	15.18						
1850	QPSK	15	0	15.12	15.30	15.17						
1850	QPSK	1	0	15.22	15.04	15.27	16.2	0				
1850	QPSK	1	8	15.26	15.16	15.09						
1850	QPSK	1	14	15.05	15.05	15.24						
1850	QPSK	8	0	15.19	15.29	15.14	16.2	0				
1850	QPSK	8	4	14.88	15.03	15.30						
1850	QPSK	15	7	15.10	15.30	15.20						
1850	QPSK	1	0	15.07	15.20	15.26						
1850	QPSK	1	0	15.05	15.10	15.14	16.2	0				
1850	QPSK	1	8	15.21	14.99	14.98						
1850	QPSK	1	14	15.11	15.20	15.14						
1850	QPSK	8	0	14.83	15.23	15.10	16.2	0				
1850	QPSK	8	4	14.89	15.02	15.27						
1850	QPSK	8	7	15.06	14.98	15.11						
1850	QPSK	15	0	15.22	15.14	15.25						
1850	QPSK	1	8	15.10	15.10	15.10	16.2	0				
1850	QPSK	1	8	15.09	15.08	14.89						
1850	QPSK	1	14	14.98	15.25	15.15						
1850	QPSK	1	14	15.22	15.04	15.27	16.2	0				
1850	QPSK	1	14	15.08	15.07	14.88						
1850	QPSK	1	14	15.17	15.16	15.03						
1850	QPSK	1	14	15.22	15.22	15.04	16.2	0				
1850	QPSK	1	14	15.22	15.09	14.86						
1850	QPSK	3	0	15.22	15.23	15.10	16.2	0				

Band 7 (200MHz Band)										
Part 27										
RF MHz	Modulation	RB Size	RB Offset	Power Ch / Freq	Power Data Ch / Freq	Power Pilot Ch / Freq	Turn-up limit (dBm)	MPR (dB)		
Channel										
Channel	Frequency (MHz)	2000	2050	2100	2150					
10	QPSK	1	0	13.89	13.91	14.00				
10	QPSK	1	49	13.90	14.01	14.05	15.1	0		
20	QPSK	1	99	13.93	14.03	14.11				
10	QPSK	50	0	14.00	14.04	14.10				
20	QPSK	50	24	13.92	14.07	14.10	15.1	0		
20	QPSK	50	50	13.99	13.99	14.10				
20	QPSK	100	0	13.90	14.04	14.10				
20	16QAM	1	0	13.98	13.82	13.84	15.1	0		
20	16QAM	1	49	13.75	13.91	13.93				
20	16QAM	1	99	13.82	13.92	13.95				
20	16QAM	50	0	13.77	13.96	13.94				
20	16QAM	50	24	13.90	13.98	13.99	15.1	0		
20	16QAM	50	50	13.91	14.02	14.05				
20	16QAM	100	0	13.88	13.93	13.84				
20	64QAM	1	0	13.69	13.73	13.81	15.1	0		
20	64QAM	1	99	13.80	13.91	13.91				
20	64QAM	50	0	13.83	13.92	14.00				
20	64QAM	50	24	13.89	13.97	14.03	15.1	0		
20	64QAM	50	50	13.83	14.05	13.91				
20	64QAM	100	0	13.88	13.95	13.98				
20	256QAM	1	0	13.62	13.68	13.64	15.1	0		
20	256QAM	1	49	13.69	13.71	13.65				
20	256QAM	1	99	13.72	13.69	13.65				
20	256QAM	50	0	13.64	13.72	13.66				
20	256QAM	50	24	13.77	13.67	13.65	15.1	0		
20	256QAM	50	50	13.64	13.75	13.71				
20	256QAM	100	0	13.73	13.67	13.63				
Channel										
Channel	Frequency (MHz)	2006.5	2010	2013.5	2017	Turn-up limit (dBm)	MPR (dB)			
15	QPSK	1	0	13.79	13.73	13.97	15.1	0		
15	QPSK	1	37	13.83	13.84	13.98				
15	QPSK	1	74	13.70	13.80	14.11				
15	QPSK	36	0	13.95	13.89	13.90				
15	QPSK	36	20	13.91	13.85	13.88	15.1	0		
15	QPSK	36	36	13.91	13.73	14.05				
15	QPSK	75	0	13.74	13.76	14.05				
15	16QAM	1	0	13.58	13.62	13.81	15.1	0		
15	16QAM	1	37	13.53	13.79	13.81				
15	16QAM	1	74	13.53	13.86	13.92				
15	16QAM	36	20	13.87	13.68	13.83	15.1	0		
15	16QAM	36	39	13.74	14.01	13.84				
15	64QAM	1	0	13.68	13.57	13.71				
15	64QAM	1	37	13.62	13.72	13.88	15.1	0		
15	64QAM	1	74	13.54	13.60	13.80				
15	64QAM	36	20	13.71	13.72	13.89	15.1	0		
15	64QAM	36	39	13.62	13.60	13.80				
15	64QAM	75	0	13.67	13.50	13.68				
15	256QAM	1	0	13.49	13.43	13.37	15.1	0		
15	256QAM	1	37	13.59	13.49	13.60				
15	256QAM	1	74	13.56	13.58	13.54				
15	256QAM	36	0	13.38	13.71	13.72	15.1	0		
15	256QAM	36	20	13.50	13.50	13.50				
15	256QAM	36	39	13.50	13.62	13.53				
15	256QAM	75	0	13.58	13.61	13.64				
Channel										
Channel	Frequency (MHz)	2050	2055	2058	2065	Turn-up limit (dBm)	MPR (dB)			
10	QPSK	1	0	13.89	13.82	13.93	15.1	0		
10	QPSK	1	26	13.89	13.78	13.99				
10	QPSK	1	49	13.90	13.86	14.00				
10	QPSK	25	0	13.78	14.02	13.92	15.1	0		
10	QPSK	25	12	13.87	13.93	13.84				
10	QPSK	25	25	13.83	13.72	14.10				
10	QPSK	50	0	13.61	14.02	14.10				
10	16QAM	1	0	13.50	13.68	13.60	15.1	0		
10	16QAM	1	25	13.56	13.62	13.69				
10	16QAM	1	49	13.65	13.69	13.75				
10	16QAM	25	0	13.61	13.86	13.80	15.1	0		
10	16QAM	25	12	13.80	13.90	13.89				
10	16QAM	25	25	13.88	13.62	13.94				
10	64QAM	1	0	13.63	13.51	13.64	15.1	0		
10	64QAM	1	25	13.68	13.73	13.69				
10	64QAM	1	49	13.76	13.80	13.87				
10	64QAM	25	0	13.78	13.91	13.95				
10	64QAM	25	12	13.69	13.78	13.78	15.1	0		
10	64QAM	25	25	13.64	13.60	13.80				
10	64QAM	50	0	13.60	13.73	13.68				
10	256QAM	1	0	13.34	13.48	13.36	15.1	0		
10	256QAM	1	25	13.38	13.63	13.63				
10	256QAM	1	49	13.51	13.64	13.64				
10	256QAM	25	0	13.57	13.68	13.66	15.1	0		
10	256QAM	25	12	13.50	13.39	13.57				
10	256QAM	25	25	13.44	13.68	13.68				
10	256QAM	50	0	13.53	13.61	13.67				
Channel										
Channel	Frequency (MHz)	2057.5	2060	2062.5	2067	Turn-up limit (dBm)	MPR (dB)			
5	QPSK	1	0	13.87	13.87	13.88	15.1	0		
5	QPSK	1	18	13.60	13.71	13.81				
5	QPSK	1	24	13.67	14.01	14.06				
5	QPSK	12	0	13.78	13.88	13.86				
5	QPSK	12	7	13.77	13.86	14.05	15.1	0		
5	QPSK	12	13	13.90	13.71	13.97				
5	QPSK	25	0	13.78	14.02	13.92				
5	16QAM	1	0	13.68	13.61	13.72	15.1	0		
5	16QAM	1	12	13.69	13.91	13.81				
5	16QAM	1	24	13.79	13.85	13.72				
5	16QAM	12	0	13.65	13.70	13.85	15.1	0		
5	16QAM	12	7	13.77	13.88	13.90				
5	16QAM	12	13	13.91	13.72	13.93				
5	64QAM	1	0	13.61	13.86	13.64	15.1	0		
5	64QAM	1	0	13.66	13.47	13.58				
5	64QAM	1	12	13.64	13.76	13.79	15.1	0		
5	64QAM	1	24	13.80	13.62	13.81				
5	64QAM	12	0	13.54	13.72	13.89	15.1	0		
5	64QAM	12	7	13.86	13.70	13.81				
5	64QAM	12	13	13.69	13.90	13.98				
5	64QAM	25	0	13.68	13.83	13.88				
5	256QAM	1	0	13.46	13.64	13.64	15.1	0		
5	256QAM	1	12	13.55	13.53	13.79				
5	256QAM	1	24	13.57	13.77	13.39				
5	256QAM	12	0	13.54	13.62	13.93	15.1	0		
5	256QAM	12	7	13.88	13.61	13.76				
5	256QAM	12	13	13.55	13.59	13.63				
5	256QAM	25	0	13.71	13.94	13.94				

Band 12 (700MHz Low Band)										
RF (MHz)	Modulation	RB Size	RB Offset	Power Pilot Ch / Freq			Power Data Ch / Freq	Turn-up limit (dBm)	MPR (dB)	
Part 27Z(only on channel required)										
Channel										
Frequency (MHz)	2300	2305	2310	2315	2320	2325	2330	2335	2340	2345
10	QPSK	1	0	18.03	17.99	18.05				
10	QPSK	1	25	18.06	18.09	18.07	19.1	0		
10	QPSK	1	49	18.11	18.16	18.04				
10	QPSK	25	0	18.01	18.00	18.06				
10	QPSK	25	12	18.04	18.02	18.00	19.1	0		
10	QPSK	25	25	18.05	18.03	18.03				
10	QPSK	50	0	18.02	18.03	18.04				
10	16QAM	1	0	18.07	18.06	17.83	19.1	0		
10	16QAM	1	25	18.05	18.05	18.03				
10	16QAM	1	49	17.95	18.11	18.07				
10	16QAM	25	0	17.92	18.11	17.94				
10	16QAM	25	12	18.00	18.00	17.92	19.1	0		
10	16QAM	25	25	18.01	17.92	17.97				
10	16QAM	50	0	18.01	17.93	17.92				
10	64QAM	1	0	18.09	18.03	17.96	19.1	0		
10	64QAM	1	25	18.11	18.08	18.08				
10	64QAM	1	49	17.98	18.08	17.95				
10	64QAM	25	0	17.94	17.95	17.93				
10	64QAM	25	12	17.93	17.95	17.94	19.1	0		
10	64QAM	25	25	17.97	17.96	17.98				
10	64QAM	50	0	18.00	17.91	17.87				
10	256QAM	1	0	17.96	18.05	17.80	19.1	0.3		
10	256QAM	1	49	18.09	18.03	18.03				
10	256QAM	25	0	17.95	17.93	17.97				
10	256QAM	25	12	17.91	17.91	17.89	19.1	0.3		
10	256QAM	25	25	17.98	17.98	17.96				
10	256QAM	50	0	17.99	17.96	17.94				
Channel										
Frequency (MHz)	2300	2305	2310	2315	2320	2325	2330	2335	2340	2345
3	QPSK	1	0	18.00	17.78	17.79				
3	QPSK	1	12	17.97	17.88	17.78	19.1	0		
3	QPSK	1	24	17.94	17.85	17.74				
3	QPSK	12	0	17.95	18.00	17.94				
3	QPSK	12	6	17.88	17.83	17.81				
3	QPSK	12	18	18.03	18.00	17.98	19.1	0		
3	QPSK	25	0	17.97	17.92	17.92				
3	16QAM	1	0	17.99	17.94	17.73	19.1	0		
3	16QAM	1	12	17.96	17.87	17.76				
3	16QAM	1	24	17.89	17.84	17.82				
3	16QAM	12	0	17.92	17.98	17.94				
3	16QAM	12	6	17.87	17.86	17.86	19.1	0		
3	16QAM	12	18	18.00	17.95	17.93				
3	16QAM	25	0	17.97	17.92	17.79				
3	16QAM	25	6	17.95	17.92	17.92	19.1	0		
3	16QAM	25	18	18.01	17.96	17.94				
3	16QAM	50	0	17.95	17.88	17.85				
3	256QAM	1	0	17.85	17.81	17.69				
3	256QAM	1	12	17.82	17.79	17.74	19.1	0.3		
3	256QAM	1	24	17.79	17.76	17.71				
3	256QAM	12	0	17.81	17.84	17.83				
3	256QAM	12	6	17.77	17.87	17.87	19.1	0		
3	256QAM	12	18	17.95	17.92	17.92				
3	256QAM	25	0	17.89	17.84	17.81				
3	256QAM	25	6	17.85	17.88	17.85	19.1	0.3		
3	256QAM	25	18	17.91	17.84	17.83				
3	256QAM	50	0	17.84	17.76	17.65				
Channel										
Frequency (MHz)	2300	2305	2310	2315	2320	2325	2330	2335	2340	2345
3	QPSK	1	0	17.77	17.83	17.89				
3	QPSK	1	8	17.80	17.83	17.82	19.1	0		
3	QPSK	1	16	17.85	17.85	17.81				
3	QPSK	8	0	17.88	17.83	18.00				
3	QPSK	8	8	17.89	18.00	17.89	19.1	0		
3	QPSK	8	16	17.87	17.87	17.83				
3	QPSK	16	0	17.75	17.76	18.01				
3	QPSK	16	8	17.80	17.80	17.76	19.1	0		
3	16QAM	1	0	17.75	17.80	17.82				
3	16QAM	1	8	17.82	17.86	17.88	19.1	0.3		
3	16QAM	1	16	17.88	17.96	17.88				
3	16QAM	8	0	17.85	17.85	17.81				
3	16QAM	8	8	17.91	17.89	17.77	19.1	0		
3	16QAM	8	16	17.86	17.85	17.73				
3	16QAM	16	0	17.78	17.84	17.77				
3	16QAM	16	8	17.83	17.87	17.83	19.1	0		
3	16QAM	16	16	17.86	18.01	17.81				
3	16QAM	32	0	17.75	17.85	17.85				
3	16QAM	32	8	17.82	17.86	17.82	19.1	0.3		
3	16QAM	32	16	17.85	17.87	17.81				
3	16QAM	32	24	17.88	17.88	17.83	19.1	0.3		
3	16QAM	64	0	17.74	17.74	17.81				
3	16QAM	64	8	17.80	17.79	17.83	19.1	0.3		
3	16QAM	64	16	17.81	17.86	17.86				
3	16QAM	64	24	17.85	17.85	17.82	19.1	0		
3	16QAM	64	32	17.86	17.91	17.73				
3	16QAM	128	0	17.73	17.83	17.83				
3	16QAM	128	8	17.77	17.86	17.86	19.1	0		
3	16QAM	128	16	17.80	17.86	17.74				
3	16QAM	128	24	17.80	17.90	17.86	19.1	0		
3	16QAM	128	32	17.82	17.82	17.83				
3	16QAM	128	40	17.81	17.81	17.81				
3	256QAM	1	0	18.06	17.79	18.01				
3	256QAM	1	8	18.07	18.07	18.01	19.1	0.3		
3	256QAM	1	16	18.05	18.05	17.96				
3	256QAM	32	0	17.92	17.79	17.91				
3	256QAM	32	8	17.92	17.79	17.77	19.1	0.3		

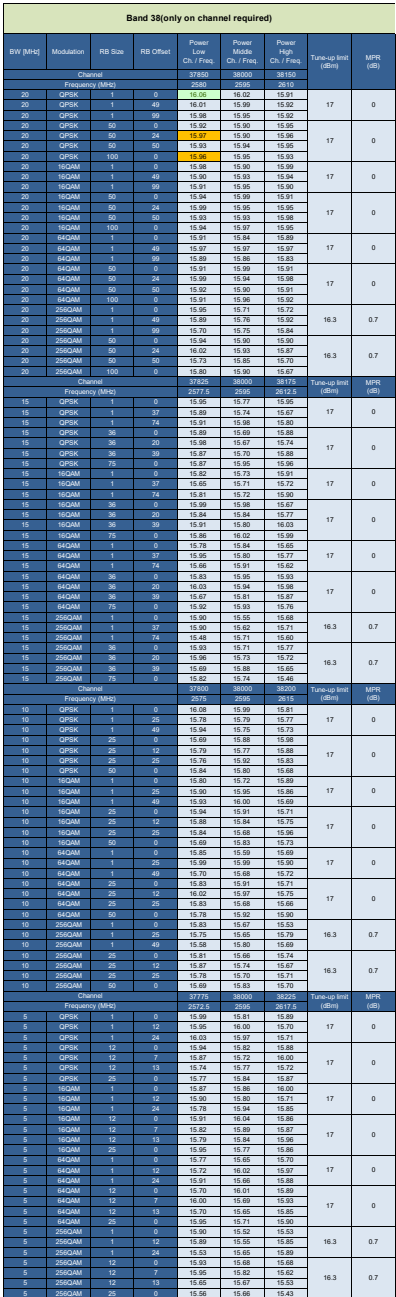
Band 17 (700MHz Band)											
Part 27H(only on channel required)											
RV MHz	Modulation	RB Size	RB Offset	Power Ch / Freq 23790	Power Ch / Freq 23790	Power Ch / Freq 23800	Turn-up limit (dBm)	MFR (dB)			
Frequency (MHz)											
10	QPSK	1	0	18.04	18.07	18.01	19.1	0			
10	QPSK	1	26	18.08	18.09	18.04					
10	QPSK	1	46	18.11	18.03	18.06					
10	QPSK	25	0	18.04	18.06	18.03					
10	QPSK	25	12	18.08	18.01	18.02					
10	QPSK	25	26	17.97	17.94	17.95	19.1	0			
10	QPSK	50	0	18.08	18.06	18.05					
10	16QAM	1	0	18.04	18.03	18.00					
10	16QAM	1	26	18.09	18.08	18.03					
10	16QAM	1	46	18.09	18.07	18.04					
10	16QAM	25	0	18.05	18.06	18.07	19.1	0			
10	16QAM	25	12	17.99	17.93	17.95					
10	16QAM	50	0	18.09	18.09	18.06					
10	16QAM	1	0	18.02	18.07	18.06					
10	16QAM	1	26	18.01	18.05	18.05					
10	16QAM	1	46	18.04	18.06	18.09	19.1	0			
10	16QAM	25	0	18.05	18.07	18.07					
10	16QAM	25	12	17.92	17.92	17.92					
10	16QAM	50	0	17.96	17.96	17.94					
10	16QAM	50	0	17.90	18.05	18.07					
10	256QAM	1	0	18.02	17.96	17.96	18.8	0.3			
10	256QAM	1	26	17.91	18.09	18.03					
10	256QAM	1	46	17.98	17.99	17.91					
10	256QAM	25	0	17.77	17.78	18.06					
10	256QAM	25	12	17.69	17.73	17.83					
10	256QAM	25	26	17.82	17.84	17.85	18.8	0.3			
10	256QAM	50	0	17.78	17.85	17.89					
Channel											
Frequency (MHz)											
5	QPSK	1	0	17.98	17.83	17.79	19.1	0			
5	QPSK	1	12	17.83	17.86	17.99					
5	QPSK	1	24	18.09	17.86	18.06					
5	QPSK	12	0	18.03	18.06	18.03					
5	QPSK	12	12	18.08	17.86	17.81					
5	QPSK	12	13	17.71	17.72	17.72	19.1	0			
5	QPSK	25	0	17.79	17.89	18.02					
5	16QAM	1	0	17.79	17.89	17.86					
5	16QAM	1	12	17.85	18.04	17.89					
5	16QAM	1	24	17.80	18.09	17.79					
5	16QAM	12	0	18.02	17.77	17.86	19.1	0			
5	16QAM	12	7	17.73	17.95	17.88					
5	16QAM	12	13	17.74	17.72	17.88					
5	16QAM	25	0	18.03	17.97	17.99					
5	16QAM	25	12	17.95	17.86	17.82					
5	16QAM	25	13	17.75	17.82	17.82	19.1	0			
5	16QAM	50	0	17.84	17.86	17.73					
5	256QAM	1	0	17.85	17.86	17.86					
5	256QAM	1	24	17.83	17.75	17.83					
5	256QAM	12	0	18.08	18.09	18.09					
5	256QAM	12	7	18.01	17.86	17.80	18.8	0.3			
5	256QAM	12	13	18.14	17.85	18.10					
5	256QAM	25	0	17.85	18.08	18.06					

Band 25 (1900MHz Band)											
Part 24E											
RV MHz	Modulation	RB Size	RB Offset	Power Ch / Freq 26140	Power Ch / Freq 26140	Power Ch / Freq 26150	Turn-up limit (dBm)	MFR (dB)			
Frequency (MHz)											
20	QPSK	1	0	16.33	15.40	15.32	16.2	0			
20	QPSK	1	49	16.18	15.18	15.14					
20	QPSK	1	99	16.08	15.11	15.13					
20	QPSK	50	24	16.36	15.35	15.29					
20	QPSK	50	50	16.33	15.34	15.25					
20	QPSK	100	0	16.21	15.23	15.28	16.2	0			
20	16QAM	1	0	16.23	15.20	15.27					
20	16QAM	1	49	16.27	15.27	15.25					
20	16QAM	1	99	16.28	15.22	15.21					
20	16QAM	50	0	16.20	15.25	15.22					
20	16QAM	50	24	16.26	15.26	15.23	16.2	0			
20	16QAM	100	0	16.27	15.25	15.21					
20	16QAM	1	0	16.25	15.23	15.25					
20	16QAM	1	49	16.26	15.19	15.15					
20	16QAM	1	99	16.29	15.22	15.27					
20	256QAM	1	0	16.20	15.10	15.01	16.2	0			
20	256QAM	1	49	16.28	15.19	15.13					
20	256QAM	1	99	16.08	15.05	15.06					
20	256QAM	50	0	16.02	15.13	15.09					
20	256QAM	50	24	16.04	15.14	15.10					
20	256QAM	50	50	16.05	15.11	15.10	16.2	0			
20	256QAM	100	0	16.32	15.25	15.04					
Channel											
Frequency (MHz)											
15	QPSK	1	0	16.23	15.20	15.28	16.2	0			
15	QPSK	1	37	16.18	15.20	14.88					
15	QPSK	1	74	16.08	14.88	15.13					
15	QPSK	36	0	16.11	15.18	15.12					
15	QPSK	36	20	16.19	15.33	15.24					
15	QPSK	36	50	16.21	15.33	15.13	16.2	0			
15	QPSK	75	0	16.11	15.19	15.21					
15	16QAM	1	0	16.21	15.19	15.18					
15	16QAM	1	37	16.11	15.09	15.18					
15	16QAM	1	74	16.14	15.07	15.14					
15	16QAM	36	0	16.19	15.19	15.18	16.2	0			
15	16QAM	36	20	16.19	15.23	15.11					
15	16QAM	36	50	16.19	15.17	15.18					
15	16QAM	75	0	16.19	15.16	15.18					
15	16QAM	75	0	16.14	15.16	15.04					
15	16QAM	1	37	16.26	15.27	15.21	16.2	0			
15	16QAM	1	74	16.08	15.27	15.21					
15	16QAM	36	0	16.15	14.95	15.02					
15	16QAM	36	20	16.18	15.05	15.04					
15	16QAM	36	50	16.28	15.06	15.04					
15	16QAM	75	0	16.27	15.22	15.12	16.2	0			
15	256QAM	1	0	16.32	15.10	15.14					
15	256QAM	1	37	16.04	15.17	15.25					
15	256QAM	1	74	16.05	15.30	15.10					
15	256QAM	36	0	16.03	15.18	15.28					
15	256QAM	36	20	16.05	15.16	15.29	16.2	0			
15	256QAM	36	50	16.25	15.10	15.31					
15	256QAM	75	0	16.05	15.22	15.11					
Channel											
Frequency (MHz)											
10	QPSK	1	0	16.15	15.15	15.09	16.2	0			
10	QPSK	1	26	16.01	15.12	15.19					
10	QPSK	1	46	16.01	15.04	15.11					
10	QPSK	25	0	16.19	15.19	15.12					
10	QPSK	25	12	16.19	15.19	15.12					
10	QPSK	25	26	16.21	15.32	15.30	16.2	0			
10	QPSK	50	0	16.19	15.29	15.03					
10	16QAM	1	0	16.17	15.17	15.18					
10	16QAM	1	26	16.32	15.18	15.09					
10	16QAM	1	46	16.19	14.98	15.12					
10	16QAM	25	0	16.06	15.06	15.10	16.2	0			
10	16QAM	25	12	16.18	15.01	15.03					
10	16QAM	25	26	16.07	15.01	14.99					
10	16QAM	50	0	16.08	14.98	15.10					
10	16QAM	1	0	16.08	14.98	15.10					
10	16QAM	1	26	16.22	15.02	15.24	16.2	0			
10	16QAM	1	46	16.10	15.14	15.27	16.2	0			
10	16QAM	1	74	16.09	15.25	15.05					
10	16QAM	25	0	16.04	15.04	15.03					
10	16QAM	25	12	16.01	15.03	15.03					
10	16QAM	25	26	16.26	15.08	15.15					
10	256QAM	1	0	16.24	15.14	15.24	16.2	0			
10	256QAM	1	26	16.30	15.19	15.29					
10	256QAM	1	46	16.04	15.04	15.04					
10	256QAM	25	0	16.02	15.02	15.02					
10	256QAM	25	12	16.05	15.02	15.02					
10	256QAM	25	26	16.27	15.12	15.18	16.2	0			
10	256QAM	50	0	16.07	15.07	15.07					
10	256QAM	50	12	16.14	15.09	15.14					
10	256QAM	50	26	16.38	15.28	15.34					
10	256QAM	50	50	16.30	15.08	15.28					
Frequency (MHz)											
5	QPSK	1	0	16.27	16.26	16.25	Turn-up limit (dBm)	MFR (dB)			
5	QPSK	1	12	16.14	16.16	16.03					
5	QPSK	1	24	16.04	16.04	16.03					
5	QPSK	12	0	16.34	16.34	16.32					
5	QPSK	12	6	16.22	16.29	16.30					
5	QPSK	26	0	16.21	16.04	16.21	16.2	0			
5	QPSK	1	0	16.02	16.04	16.18					
5	QPSK	1	12	16.02	16.02	16.18					
5	QPSK	12	0	16.18	16.29	16.26					
5	QPSK	12	6	16.28	16.31	16.30					
5	QPSK	12	13	16.24	16.14	16.16	16.2	0			
5	QPSK	26	0	16.16	16.06	16.16					
5	QPSK	1	0	16.26	16.08	16.05					
5	QPSK	1	12	16.18	16.01	16.03					
5	QPSK	1	24	16.04	16.04	16.03					
5	QPSK	12	0	16.17	16.01	16.04	16.2	0			
5	QPSK	12	6	16.17	16.21	16.28					
5	QPSK	12	13	16.25	16.09	16.08					
5	QPSK	26	0	16.29	16.20	16.20					
5	QPSK	26	13	16.26	16.08	16.05					
5	QPSK	1	0	16.17	16.21	16.05	16.2	0			
5	QPSK	1	12	16.17	16.21	16.05					
5	QPSK	1	24	16.04	16.04	16.03					
5	QPSK	12	0	16.29	16.20	16.20					
5	QPSK	12	6	16.29	16.20	16.20					
5	QPSK	1	0	16.22	16.09	16.08	16.2	0			
5	QPSK	1	12	16.04	16.04	16.08					
5	QPSK	1	24	16.30	16.21	16.16					
5	QPSK	12	0	16.05	16.05	16.11					
5	QPSK	12	6	16.20	16.20	16.20					
5	QPSK	12	13	16.01	16.05	16.23	16.2	0			
5	QPSK	26	0	16.19	16.11	16.25					
5	QPSK	26	13	16.29	16.18	16.25					
Frequency (MHz)											
3	QPSK	1	0	16.32	16.32	16.37			Turn-up limit (dBm)	MFR (dB)	
3	QPSK	1	14	16.11	16.09	16.17					
3	QPSK	1	14	16.11	16.09	16.17					
3	QPSK	11	0	16.27	16.32	16.21					
3	QPSK	11	0	16.25	16.28	16.28					
3	QPSK	8	7	16.22	16.37	16.16	16.2	0			
3	QPSK	15	0	16.00	16.14	16.04					
3	QPSK	1	0	16.00	16.00	16.00					
3	QPSK	1	8	16.11	16.24	16.10					
3	QPSK	1	14	16.23	16.10	16.04					
3	QPSK	1	7	16.11	16.21	16.11	16.2	0			
3	QPSK	1	8	16.18	16.18	16.18					
3	QPSK	1	8	16.03	16.11	16.11					
3	QPSK	1	8	16.19	16.08	16.29					
3	QPSK	1	8	16.18	16.18	16.18					
3	QPSK	8	0	16.03	16.06	16.25	16.2	0			
3	QPSK	8	4	16.15	16.04	16.15					
3	QPSK	8	4	16.04	16.04	16.01					
3	QPSK	15	0	16.23	16.03	16.07					
3	QPSK	1	0	16.07	16.11	16.16					
3	QPSK	1	0	16.07	16.11	16.16	16.2	0			
3	QPSK	1	14	16.03	16.22	16.03					
3	QPSK	8	0	16.06	16.16	16.08					
3	QPSK	8	0	16.23	16.03	16.03					
3	QPSK	8	7	16.14	16.11	16.24					
Frequency (MHz)											
1.4	QPSK	1	0	16.07	16.00	16.00	Turn-up limit (dBm)	MFR (dB)			
1.4	QPSK	1	0	16.07	16.00	16.00					
1.4	QPSK	3	0	16.34	16.11	16.30					
1.4	QPSK	3	0	16.37	16.14	16.30					
1.4	QPSK	3	3	16.38	16.28	16.17					
1.4	QPSK	1	0	16.17	16.31	16.17	16.2	0			
1.4	QPSK	1	0	16.11	16.35	16.25					
1.4	QPSK	1	3	16.15	16.10	16.10					
1.4	QPSK	1	5	16.12	16.06	16.21					
1.4	QPSK	1	5	16.08	16.04	16.24					
1.4	QPSK	1	1	16.28	16.01	16.26	16.2	0			
1.4	QPSK	1	1	16.03	16.27	16.07					
1.4	QPSK	1	0	16.05	16.12	16.08					
1.4	QPSK	1	0	16.22	16.20	16.07					
1.4	QPSK	1	0	16.07	16.23	16.07					
1.4	QPSK	1	0	16.01	16.02	16.02	16.2	0			
1.4	QPSK	1	0	16.18	16.24	16.18					
1.4	QPSK	1	3	16.20	16.05	16.22					
1.4	QPSK	1	0	16.30	16.03	16.23					
1.4	QPSK	1	0	16.01	16.03	16.03					
1.4	QPSK	1	3	16.07	16.19	16.10	16.2	0			
1.4	QPSK	1	3	16.03	16.27	16.17					
1.4	QPSK	1	3	16.22	16.13	16.20					
1.4	QPSK	3	3	16.07	16.09	16.21					
1.4	QPSK	3	3	16.21	16.09	16.21					



Band 30									
BW (MHz)	Modulation	RB Size	RB Offset	Power Level Ch./Freq.	Power Level Ch./Freq.	Power Level Ch./Freq.	Turn-on Time (ms)	MPE (dB)	
Channel									
Frequency (MHz)									
10	QPSK	1	0	15.20					
10	QPSK	1	25	15.09					
10	QPSK	1	49	15.14					
10	QPSK	25	0	15.12					
10	QPSK	25	12	15.14					
10	QPSK	25	25	15.12					
10	QPSK	50	0	15.14					
10	QPSK	1	0	15.11					
10	16QAM	1	25	15.17					
10	16QAM	1	49	15.14					
10	16QAM	25	0	15.14					
10	16QAM	25	12	15.15					
10	16QAM	25	25	15.10					
10	16QAM	50	0	15.13					
10	64QAM	1	0	15.13					
10	64QAM	1	25	15.10					
10	64QAM	1	49	15.17					
10	64QAM	25	0	15.10					
10	64QAM	25	12	15.11					
10	64QAM	25	25	15.12					
10	64QAM	50	0	15.17					
10	256QAM	1	0	15.13					
10	256QAM	1	25	15.06					
10	256QAM	1	49	14.97					
10	256QAM	25	0	15.13					
10	256QAM	25	12	14.94					
10	256QAM	25	25	15.08					
10	256QAM	50	0	14.96					
Channel									
Frequency (MHz)									
5	QPSK	1	0	15.10	14.96	15.11			
5	QPSK	1	12	15.08	15.12	15.02			
5	QPSK	1	24	14.95	15.07	15.11			
5	QPSK	12	0	15.14	14.91	15.09			
5	QPSK	12	7	15.15	15.10	14.93			
5	QPSK	12	13	14.97	15.05	15.13			
5	QPSK	25	0	15.00	15.00	15.13			
5	16QAM	1	0	15.06	15.06	15.03			
5	16QAM	1	12	14.92	15.14	14.98			
5	16QAM	1	24	15.08	15.14	14.95			
5	16QAM	12	0	15.11	14.99	15.10			
5	16QAM	12	7	15.15	15.05	15.19			
5	16QAM	12	13	15.14	14.86	14.90			
5	64QAM	1	0	15.11	15.08	15.08			
5	64QAM	1	12	14.98	14.96	15.14			
5	64QAM	1	24	15.06	15.10	15.06			
5	64QAM	12	0	15.01	14.85	15.09			
5	64QAM	12	7	15.10	14.86	15.15			
5	64QAM	12	13	14.86	15.07	14.93			
5	64QAM	25	0	15.03	15.12	15.10			
5	256QAM	1	0	15.04	15.13	14.97			
5	256QAM	1	12	14.93	14.95	15.00			
5	256QAM	1	24	14.93	14.94	14.88			
5	256QAM	12	0	15.16	15.07	15.16			
5	256QAM	12	7	14.97	14.98	15.10			
5	256QAM	12	13	14.97	14.98	15.10			
5	256QAM	25	0	15.06	14.88	15.12			

Band 66									
BW (MHz)	Modulation	RB Size	RB Offset	Power Level 150000 150000	Power Level 150000 150000	Power Level 150000 150000	Turn-on Time (ms)	MPE (dB)	
Channel									
Frequency (MHz)									
20	QPSK	1	0	17.20	17.45	17.37			
20	QPSK	1	49	14.86	14.88	14.86	15.0	0	
20	QPSK	1	99	14.83	14.82	14.80			
20	QPSK	50	0	14.83	14.84	14.84			
20	QPSK	50	24	14.80	14.84	14.80			
20	QPSK	50	50	14.99	14.81	14.82			
20	QPSK	100	0	14.75	14.86	14.81			
20	16QAM	1	0	14.90	14.91	14.87			
20	16QAM	1	49	14.96	14.86	14.86	15.0	0	
20	16QAM	1	99	14.87	14.85	14.84			
20	16QAM	50	0	14.88	14.85	14.84			
20	16QAM	50	24	14.85	14.84	14.88	15.0	0	
20	16QAM	50	50	14.91	14.82	14.83			
20	16QAM	100	0	14.83	14.79	14.72			
20	64QAM	1	0	14.87	14.83	14.81			
20	64QAM	1	49	14.81	14.81	14.83			
20	64QAM	1	99	14.82	14.83	14.86			
20	64QAM	50	0	14.80	14.86	14.87			
20	64QAM	50	24	14.83	14.83	14.83	15.0	0	
20	64QAM	50	50	14.87	14.83	14.82			
20	64QAM	100	0	14.84	14.82	14.88			
20	256QAM	1	0	14.83	14.79	14.72			
20	256QAM	1	49	14.81	14.69	14.72			
20	256QAM	1	99	14.84	14.73	14.74			
20	256QAM	50	0	14.76	14.61	14.89			
20	256QAM	50	24	14.80	14.65	14.73	15.0	0	
20	256QAM	50	50	14.70	14.66	14.58			
20	256QAM	100	0	14.69	14.47	14.65			
Channel									
Frequency (MHz)									
15	QPSK	1	0	15.047	15.022	15.007	Turn-on Time (ms)	MPE (dB)	
15	QPSK	1	37	14.89	14.82	14.96			
15	QPSK	1	74	14.70	14.74	14.71	15.0	0	
15	QPSK	1	75	14.87	14.89	14.89			
15	QPSK	36	0	14.89	14.86	14.83			
15	QPSK	36	20	14.83	14.89	14.84	15.0	0	
15	QPSK	36	39	14.84	14.81	14.82			
15	QPSK	75	0	14.52	14.74	14.61			
15	16QAM	1	0	14.89	14.80	14.81			
15	16QAM	1	37	14.78	14.80	14.89	15.0	0	
15	16QAM	1	74	14.89	14.71	14.67			
15	16QAM	36	0	14.89	14.86	14.82			
15	16QAM	36	20	14.76	14.89	14.87	15.0	0	
15	16QAM	36	39	14.80	14.61	14.72			
15	16QAM	75	0	14.73	14.82	14.72			
15	64QAM	1	0	14.84	14.84	14.62			
15	64QAM	1	37	14.83	14.62	14.80			
15	64QAM	1	74	14.83	14.62	14.80	15.0	0	
15	64QAM	36	0	14.63	14.85	14.75			
15	64QAM	36	20	14.82	14.75	14.85			
15	64QAM	36	39	14.81	14.69	14.80			
15	64QAM	75	0	14.77	14.83	14.69			
15	256QAM	1	0	14.68	14.61	14.61			
15	256QAM	1	37	14.74	14.60	14.60	15.0	0	
15	256QAM	1	74	14.80	14.50	14.64			
15	256QAM	36	0	14.60	14.68	14.73			
15	256QAM	36	20	14.77	14.73	14.75			
15	256QAM	36	39	14.62	14.89	14.70			
15	256QAM	75	0	14.64	14.89	14.64			
Channel									
Frequency (MHz)									
10	QPSK	1	0	14.92	14.99	15.00	Turn-on Time (ms)	MPE (dB)	
10	QPSK	1	25	14.85	14.76	14.72	15.0	0	
10	QPSK	1	49	14.84	14.69	14.55			
10	QPSK	25	0	14.96	14.88	14.84			
10	QPSK	25	12	14.71	14.74	14.82	15.0	0	
10	QPSK	25	25	14.90	14.76	14.62			
10	QPSK	50	0	14.51	14.79	14.84			
10	16QAM	1	0	14.73	14.74	14.81	15.0	0	
10	16QAM	1	25	14.79	14.96	14.78			
10	16QAM	1	49	14.79	14.90	14.82			
10	16QAM	25	0	14.74	14.63	14.62			
10	16QAM	25	12	14.76	14.85	14.65			
10	16QAM	25	25	14.81	14.66	14.84			
10	16QAM	50	0	14.63	14.84	14.62			
10	64QAM	1	0	14.89	14.80	14.81			
10	64QAM	1	25	14.74	14.84	14.87	15.0	0	
10	64QAM	1	49	14.73	14.80	14.81			
10	64QAM	25	0	14.61	14.75	14.71			
10	64QAM	25	12	14.84	14.84	14.67	15.0	0	
10	64QAM	25	25	14.86	14.65	14.76			
10	64QAM	50	0	14.67	14.60	14.77			
10	256QAM	1	0	14.62	14.99	14.61			
10	256QAM	1	25	14.65	14.60	14.61			
10	256QAM	1	49	14.63	14.76	14.70			
10	256QAM	25	0	14.66	14.62	14.68	15.0	0	
10	256QAM	25	12	14.69	14.73	14.75			
10	256QAM	25	25	14.72	14.64	14.66			
10	256QAM	50	0	14.60	14.72	14.62			
Channel									
Frequency (MHz)									
5	QPSK	1	0	17.125	17.45	17.375	Turn-on Time (ms)	MPE (dB)	
5	QPSK	1	0	14.72	14.94	14.89			
5	QPSK	1	13	14.68	14.72	14.72	15.0	0	
5	QPSK	1	24	14.75	14.85	14.72			
5	QPSK	12	0	14.89	15.01	14.86			
5	QPSK	12	7	14.68	14.64	14.65			
5	QPSK	12	13	14.97	14.79	14.68			
5	QPSK	25	0	14.77	15.00	14.77			
5	16QAM	1	0	14.67	14.60	14.68			
5	16QAM	1	12	14.72	15.00	14.94			
5	16QAM	1	24	14.79	14.90	14.84			
5	16QAM	12	7	14.83	14.63	14.64	15.0	0	
5	16QAM	12	13	14.76	14.66	14.60			
5	16QAM	25	0	14.68	14.78	14.78			
5	16QAM	1	12	14.82	14.81	14.63	15.0	0	
5	16QAM	1	24	14.75	14.85	14.63			
5	16QAM	12	0	14.70	14.88	14.83			
5	16QAM	12	7	14.92	14.79	14.68			
5	16QAM	12	13	14.68	14.67	14.67			
5	16QAM	25	0	14.76	14.73	14.89			
5	16QAM	25	12	14.69	14.67	14.67			
5	16QAM	25	24	14.85	14.61	14.77			
5	256QAM	1	0	14.60	14.63	14.70			
5	256QAM	1	12	14.68	14.68	14.68	15.0	0	
5	256QAM	12	13	14.84	14.64	14.62			
5	256QAM	25	0	14.61	14.63	14.63			
Channel									
Frequency (MHz)									
3	QPSK	1	0	17.115	17.45	17.385	Turn-on Time (ms)	MPE (dB)	
3	QPSK	1	0	14.77	14.93	15.01			
3	QPSK	1	14	14.74	14.88	14.84	15.0	0	
3	QPSK	1	14	14.65	14.87	14.84			
3	QPSK	8	0	14.95	14.99	14.98			
3	QPSK	8	7	14.83	14.82	14.63	15.0	0	
3	QPSK	15	0	14.99	14.81	14.87			
3	QPSK	15	7	14.78	14.79	14.73			
3	16QAM	1	0	14.90	14.90	14.89			
3	16QAM	1	8	14.85	14.83	14.83			
3	16QAM	8	0	14.84	14.82	14.79			
3	16QAM	8	4	14.83	14.76	14.73	15.0	0	
3	16QAM	15	0	14.82	14.79	14.79			
3	16QAM	15	7	14.77	14.83	14.70			
3	64QAM	1	0	14.75	14.89	14.81			
3	64QAM	1	8	14.70	14.73	14.73	15.0	0	
3	64QAM	1	14	14.61	14.82	14.74			
3	64QAM	8	0	14.68	14.65	14.68			
3	64QAM	8	4	14.63	14.68	14.63	15.0	0	
3	64QAM	8	7	14.65	14.72	14.72			
3	64QAM	15	0	14.85	14.87	14.78			
3	64QAM	15	7	14.82	14.82	14.75			
3	256QAM	1	0	14.64	14.94	14.69	15.0	0	
3	256QAM	1	14	14.64	14.69	14.75			
3	256QAM	8	0	14.64	14.68	14.73			
3	256QAM	8	4	14.76	14.59	14.78			
3	256QAM	8	7	14.67	14.69	14.65			
3	256QAM	15	0	14.68	14.68	14.75			
Channel									
Frequency (MHz)									
1.4	QPSK	1	0	17.197	17.45	17.397	Turn-on Time (ms)	MPE (dB)	
1.4	QPSK	1	0	14.80	14.83	14.81			
1.4	QPSK	1	3	14.68	14.75	14.67	15.0	0	
1.4	QPSK	1	5	14.68	14.87	14.87			
1.4	QPSK	3	0	14.83	14.83	14.78			
1.4	QPSK	3	1	14.78	14.82	14.68			
1.4	QPSK	3	3	14.75	14.80	14.77	16.0	0	
1.4	QPSK	3	5	14.87	14.87	14.87			
1.4	16QAM	1	0	14.87	14.86	14.86			
1.4	16QAM	1	3	14.79	14.78	14.81	15.0	0	
1.4	16QAM	3	0	14.72	14.86	14.86			
1.4	16QAM	3	1	14.63	14.69	14.75			
1.4	16QAM	3	3	14.78	14.78	14.78	15.0	0	
1.4	16QAM	6	0	14.81	14.77	14.80	15.0	0	
1.4	16QAM	6	1	14.84	14.88	14.83			
1.4	16QAM	6	3	14.72	14.83	14.82			
1.4	16QAM	1	0	14.79	14.84	14.82			
1.4	16QAM	3	0	14.85	14.71	14.81			
1.4	16QAM	3	1	14					



Band 41 (2.60 Band)-Class 3										
RF (MHz)	Modulation	RB Size	RB Offset	Power Ch./Freq.	Power Mask Ch./Freq.	Power Mask Ch./Freq.	Power Mask Ch./Freq.	Power Mask Ch./Freq.	Turn-up time (sec)	MPR (dB)
Channel										
Frequency (MHz)										
20	QPSK	1	0	16.00	16.00	15.00	16.00	16.00	16.00	
20	QPSK	1	48	16.00	16.11	15.00	16.00	16.04	17	0
20	QPSK	1	96	16.04	16.22	15.03	16.00	16.04		
20	QPSK	16	0	16.00	16.00	15.00	16.00	16.04		
20	QPSK	50	24	16.04	16.22	15.06	16.03	16.03	17	0
20	QPSK	100	0	16.00	16.00	15.00	16.00	16.08		
20	16QAM	1	0	16.02	16.02	16.04	16.04	16.07		
20	16QAM	1	48	16.01	16.03	15.96	16.00	16.03		
20	16QAM	1	96	16.05	16.04	15.98	16.00	16.05		
20	16QAM	16	0	16.02	16.02	16.00	16.00	16.03	17	0
20	16QAM	50	24	16.07	16.02	15.98	16.00	16.07		
20	16QAM	100	0	16.00	16.00	15.99	16.00	16.05		
20	64QAM	50	50	15.96	15.95	15.90	15.92	16.07		
20	64QAM	100	0	15.97	15.83	15.96	15.97	15.91		
20	64QAM	1	48	15.86	15.89	15.98	15.97	15.78	17	0
20	64QAM	1	96	15.90	15.92	16.00	15.91	15.86		
20	64QAM	16	0	15.96	16.01	16.07	16.03	16.03		
20	64QAM	50	24	15.94	16.00	15.99	16.00	16.02		
20	64QAM	100	0	16.01	16.03	15.93	16.00	16.07	17	0
20	64QAM	100	0	15.95	16.00	16.08	16.04	16.01		
20	256QAM	1	0	15.94	16.00	15.80	15.86	15.93		
20	256QAM	1	48	15.93	16.00	15.81	15.87	16.02		0.7
20	256QAM	1	96	15.82	15.91	15.93	15.80	16.03		
20	256QAM	16	0	15.87	15.81	15.84	15.80	15.82		
20	256QAM	50	24	15.72	15.85	16.03	16.01	16.03	16.3	0.7
20	256QAM	100	50	15.90	15.92	15.74	15.71	15.65		
20	256QAM	100	0	15.90	15.90	15.81	15.81	15.86		
Channel										
Frequency (MHz)										
15	QPSK	1	0	16.00	16.00	16.00	16.00	16.00	16.00	
15	QPSK	1	39	15.92	15.97	15.84	15.91	16.03	17	0
15	QPSK	1	74	15.97	15.78	15.87	15.98	16.00		
15	QPSK	16	0	15.97	15.78	15.87	15.98	16.00		
15	QPSK	36	20	15.80	15.96	15.82	15.87	16.08		
15	QPSK	100	0	15.93	15.92	15.80	15.80	15.98		
15	QPSK	16	0	15.82	16.11	15.99	16.02	15.94		
15	16QAM	1	0	15.96	15.80	15.92	15.94	15.99		
15	16QAM	1	39	15.88	15.92	15.93	15.80	15.77		
15	16QAM	1	74	15.90	15.90	15.78	16.13	16.00		
15	16QAM	16	0	15.97	15.79	15.83	16.00	16.03		
15	16QAM	36	20	15.82	15.87	15.81	15.86	15.88		
15	16QAM	36	39	15.84	16.75	15.78	15.80	15.97		
15	16QAM	100	0	15.90	15.80	15.74	15.80	15.86		
15	64QAM	1	0	15.97	15.85	15.73	15.90	15.87		

Band 41 (2.60 Band) HPUE (Limit 27)												
RF Freq (MHz)	Modulation	RB Size	RB Offset	Power / Frac. Power (dBm)	Power / Frac. Power (dBm)	Power / Frac. Power (dBm)	Power / Frac. Power (dBm)	Power / Frac. Power (dBm)	Power / Frac. Power (dBm)	Power / Frac. Power (dBm)	Tx-uptx limit (dBm)	MPR (dB)
Channel												
Frequency (MHz)												
20	QPSK	1	0	18.70	18.70	18.70	18.70	18.70	18.70	18.70	18.70	18.1
20	QPSK	1	49	18.07	18.13	18.29	18.29	18.16	18.16	18.16	18.0	0
20	QPSK	1	99	18.10	18.26	18.30	18.30	18.11	18.11	18.11		
20	QPSK	1	149	18.11	18.11	18.12	18.12	18.12	18.12	18.12		
20	QPSK	50	24	18.10	18.11	18.14	18.15	18.11	18.11	18.11		
20	QPSK	50	74	18.10	18.10	18.12	18.12	18.14	18.14	18.14		
20	QPSK	100	0	18.11	18.14	18.12	18.11	18.13	18.13	18.13		
20	16QAM	1	0	18.14	18.11	18.16	18.14	18.14	18.15	18.15		
20	16QAM	1	49	18.10	18.18	18.16	18.15	18.14	18.14	18.14		
20	16QAM	1	99	18.11	18.12	18.16	18.16	18.12	18.12	18.12	18.0	0
20	16QAM	50	24	18.16	18.13	18.16	18.16	18.14	18.14	18.14		
20	16QAM	50	74	18.13	18.13	18.13	18.13	18.13	18.13	18.13		
20	16QAM	100	0	18.11	18.16	18.15	18.15	18.12	18.12	18.12		
20	16QAM	1	149	18.12	18.09	18.03	18.00	18.13	18.13	18.13		
20	16QAM	1	199	18.13	18.10	18.08	18.11	18.11	18.14	18.14	18.0	0
20	16QAM	1	249	18.14	18.07	17.92	18.05	18.05	17.93	17.93		
20	16QAM	50	24	17.92	17.97	18.14	18.07	18.04	18.04	18.04		
20	16QAM	50	74	18.20	17.93	18.19	18.04	17.94	18.14	18.14		
20	16QAM	100	0	18.15	18.15	18.01	18.01	18.01	18.01	18.01		
20	16QAM	1	199	17.98	18.09	18.03	18.03	18.03	18.03	18.03		
Channel												
Frequency (MHz)												
15	QPSK	1	0	18.03	18.12	18.12	18.07	18.04	18.04	18.04	18.0	0
15	QPSK	1	37	18.08	18.24	18.08	18.25	18.05	18.05	18.05		
15	QPSK	1	74	18.10	18.10	18.10	18.10	18.10	18.10	18.10		
15	QPSK	36	0	18.11	17.97	18.02	18.00	18.10	18.10	18.10		
15	QPSK	36	20	17.87	18.03	18.11	18.09	18.09	18.10	18.10		
15	QPSK	36	40	18.05	18.05	18.05	18.05	18.05	18.05	18.05		
15	QPSK	75	0	17.98	18.13	18.15	18.10	17.98	17.98	17.98		
15	16QAM	1	0	17.97	17.88	18.05	18.06	18.11	18.11	18.11		
15	16QAM	1	37	18.05	18.06	18.03	18.03	18.02	18.02	18.02	18.0	0
15	16QAM	1	74	18.02	17.98	17.92	17.88	17.99	17.99	17.99		
15	16QAM	36	0	17.95	18.18	18.08	18.06	18.17	18.17	18.17		
15	16QAM	36	20	18.05	18.10	18.17	18.07	18.13	18.13	18.13	18.0	0
15	16QAM	36	39	18.23	17.99	17.93	17.87	18.17	18.21	18.21		
15	16QAM	75	0	17.96	18.06	18.09	18.07	17.93	17.93	17.93		
15	16QAM	1	0	17.94	18.12	18.14	18.01	17.91	17.91	17.91		
15	16QAM	1	37	18.15	18.00	17.96	18.13	18.29	18.29	18.29	18.0	0
15	16QAM	1	74	18.00	18.00	18.20	18.15	18.04	18.04	18.04		
15	16QAM	36	0	18.07	18.06	17.98	18.00	17.96	17.96	17.96		
15	16QAM	36	20	17.88	18.05	18.07	18.07	17.89	17.89	17.89	18.0	0
15	16QAM	36	39	18.13	18.10	18.20	18.15	18.00	18.00	18.00		
15	16QAM	75	0	17.91	18.04	18.02	18.15	17.86	17.86	17.86		
15	16QAM	1	0	18.04	18.11	18.15	17.91	18.01	18.01	18.01		
15	16QAM	1	37	18.17	18.14	18.06	18.12	18.12	18.12	18.12		
15	16QAM	1	74	18.08	18.08	18.05	18.01	18.07	18.07	18.07		
15	16QAM	36	0	18.05	18.06	18.02	18.02	17.97	17.97	17.97		
15	16QAM	36	20	18.00	18.10	17.96	18.12	17.95	17.95	17.95		
15	16QAM	36	39	18.13	17.99	17.95	18.15	18.04	18.04	18.04		
15	16QAM	75	0	18.05	18.04	18.05	18.04	18.05	18.05	18.05		
Channel												
Frequency (MHz)												
30	QPSK	1	0	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.0
30	QPSK	1	25	18.83	19.27	19.07	18.77	18.17	18.17	18.17	18.0	0
30	QPSK	1	49	18.11	18.11	18.11	18.11	18.11	18.11	18.11		
30	QPSK	25	0	18.02	17.98	18.06	17.89	17.88	17.88	17.88		
30	QPSK	25	12	17.97	18.04	17.89	17.88	17.87	17.87	17.87	18.0	0
30	QPSK	25	24	18.03	18.14	17.98	17.82	18.01	18.04	18.04		
30	QPSK	50	0	17.88	18.17	18.01	18.01	17.91	17.96	17.96		
30	16QAM	1	0	17.93	18.00	18.22	18.11	18.11	18.11	18.11		
30	16QAM	1	49	18.14	17.98	18.12	18.00	18.00	18.00	18.00		
30	16QAM	1	99	18.14	18.11	18.10	18.10	18.10	18.10	18.10	18.0	0
30	16QAM	1	149	18.11	18.11	18.10	18.10	18.10	18.10	18.10		
30	16QAM	25	0	17.92	18.13	17.98	17.82	18.00	18.00	18.00		
30	16QAM	25	12	18.05	17.9	17.98	17.92	18.00	18.00	18.00		
30	16QAM	25	24	18.25	17.88	17.84	18.03	18.04	18.07	18.07		
30	16QAM	50	0	18.10	18.02	17.94	17.91	18.01	18.01	18.01		
30	16QAM	1	25	18.24	17.97	18.09	18.05	18.07	18.07	18.07	18.0	0
30	16QAM	1	49	18.13	18.13	18.12	18.09	18.10	18.10	18.10		
30	16QAM	25	0	17.89	17.96	18.06	18.16	17.82	17.82	17.82		
30	16QAM	25	12	17.96	17.89	17.96	17.87	17.97	17.97	17.97	18.0	0
30	16QAM	25	24	18.17	17.96	18.11	17.97	18.00	18.00	18.00		
30	16QAM	50	0	18.07	17.99	18.04	18.15	18.04	18.04	18.04		
30	16QAM	1	25	18.00	18.00	18.00	18.00	18.00	18.00	18.00		
30	16QAM	1	25	18.20	17.93	18.07	17.98	18.10	18.10	18.10	18.0	0
30	16QAM	1	49	18.29	18.08	17.87	17.87	18.23	18.23	18.23		
30	16QAM	25	0	17.92	18.00	18.00	18.00	18.00	18.00	18.00		
30	16QAM	25	12	17.92	18.16	17.98	17.91	18.01	18.01	18.01	18.0	0
30	16QAM	25	24	17.93	18.20	18.00	18.02	18.03	18.03	18.03		
30	16QAM	50	0	18.04	18.04	18.04	18.04	18.04	18.04	18.04		
Channel												
Frequency (MHz)												
5	QPSK	1	0	18.60	18.60	18.60	18.60	18.60	18.60	18.60	18.60	18.0
5	QPSK	1	12	17.84	18.18	18.25	18.32	18.03	18.03	18.03		
5	QPSK	1	24	17.83	18.21	18.18	18.15	18.04	18.04	18.04		
5	QPSK	12	0	18.12	18.14	18.04	18.13	18.13	18.13	18.13		
5	QPSK	12	7	18.05	18.08	17.93	17.82	18.03	18.03	18.03	18.0	0
5	QPSK	12	14	18.11	17.97	18.12	17.97	18.05	18.05	18.05		
5	QPSK	24	0	17.88	17.90	18.15	17.88	17.84	17.84	17.84		
5	QPSK	1	0	18.02	17.88	18.03	18.16	17.91	17.91	17.91		
5	QPSK	1	12	18.08	18.08	18.07	18.21	17.96	17.96	17.96	18.0	0
5	16QAM	1	24	17.87	18.12	18.20	18.17	17.87	17.87	17.87		
5	16QAM	1	12	18.00	18.00	18.00	18.00	18.00	18.00	18.00		
5	16QAM	12	7	18.20	18.18	18.15	18.09	18.09	18.09	18.09		
5	16QAM	12	13	18.19	18.00	17.99	18.15	18.15	18.15	18.15		
5	16QAM	12	19	18.05	17.88	18.04	18.13	17.83	17.88	17.88		
5	16QAM	1	0	17.91	18.27	18.06	18.13	17.98	17.98	17.98		
5	16QAM	1	12	18.04	18.08	18.21	18.08	18.02	18.02	18.02	18.0	0
5	16QAM	1	12	18.15	18.12	18.09	18.10	18.09	18.09	18.09		
5	16QAM	12	0	18.09	18.05	18.13	18.09	18.14	18.14	18.14		
5	16QAM	12	13	17.89	18.01	18.00	18.03	17.92	17.92	17.92	18.0	0
5	16QAM	12	19	18.00	18.00	18.00	18.00	18.11	18.11	18.11		
5	16QAM	24	0	18.00	18.23	18.00	18.08	18.05	18.05	18.05		
5	16QAM	24	13	18.00	18.29	18.00	18.00	18.00	18.00	18.00		
5	16QAM	1	12	18.03	18.07	17.98	17.98	18.20	18.20	18.20	18.0	0
5	16QAM	1	24	18.31	18.03	18.08	18.05	18.19	18.19	18.19		
5	16QAM	12	13	18.24	18.24	18.00	18.01	18.00	18.00	18.00		
5	16QAM	12	19	17.69	18.03	18.03	18.13	17.94	17.94	17.94	18.0	0
5	16QAM	12	13	18.10	17.95	17.94	18.02	18.05	18.05	18.05		
5	16QAM	12	19	18.09	18.19	18.09	18.09	18.09	18.09	18.09		



Band 48 (3.5G Band)-FCC										
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power Low Mode Ch / Freq	Power High Mode Ch / Freq	Power High Ch / Freq	Tune-up limit (dBm)	MPPR (dB)	
Channel				55340	55350	55360	55369			
Frequency (MHz)										
20	QPSK	1	0	16.25	16.26	16.26	16.42	17.2	0	
20	QPSK	1	40	16.26	16.19	16.19	16.32			
20	QPSK	1	99	16.26	16.36	16.31	16.20			
20	QPSK	50	0	16.38	16.29	16.35	16.38			
20	QPSK	50	24	16.27	16.31	16.28	16.41	17.2	0	
20	QPSK	50	50	16.21	16.37	16.24	16.25			
20	QPSK	100	0	16.35	16.32	16.30	16.40			
20	16QAM	1	0	16.23	16.27	16.27	16.34			
20	16QAM	1	40	16.07	16.19	16.07	16.27	17.2	0	
20	16QAM	1	99	16.16	16.06	16.16	16.17			
20	16QAM	50	0	16.30	16.29	16.29	16.33			
20	16QAM	50	24	16.37	16.23	16.34	16.37			
20	16QAM	50	50	16.29	16.23	16.26	16.23	17.2	0	
20	16QAM	100	0	16.24	16.25	16.30	16.36			
20	64QAM	1	0	16.32	16.25	16.36	16.40			
20	64QAM	1	40	16.26	16.12	16.22	16.27	17.2	0	
20	64QAM	1	99	16.11	16.15	16.09	16.37			
20	64QAM	50	0	16.30	16.26	16.33	16.26			
20	64QAM	50	24	16.25	16.32	16.25	16.36			
20	64QAM	50	50	16.20	16.27	16.18	16.27	17.2	0	
20	64QAM	100	0	16.28	16.21	16.27	16.23			
20	256QAM	1	0	16.15	16.22	16.16	16.46			
20	256QAM	1	40	15.92	16.06	16.07	15.93	17.2	0	
20	256QAM	1	99	15.99	15.88	15.98	15.95			
20	256QAM	50	0	16.29	16.18	16.26	16.31			
20	256QAM	50	24	16.38	16.21	16.30	16.40			
20	256QAM	50	50	16.17	16.16	16.20	16.32	17.2	0	
20	256QAM	100	0	16.21	16.24	16.17	16.38			
Channel				56315	56320	56330	56340	Tune-up limit (dBm)	MPPR (dB)	
Frequency (MHz)										
15	QPSK	1	0	16.24	16.19	16.23	16.24	17.2	0	
15	QPSK	1	37	16.34	16.19	15.95	16.36			
15	QPSK	1	74	16.22	16.33	16.07	16.06			
15	QPSK	36	0	16.28	16.16	16.12	16.26			
15	QPSK	36	20	16.14	16.22	16.12	16.06	17.2	0	
15	QPSK	75	0	16.32	16.33	16.33	16.23			
15	16QAM	1	0	16.18	16.24	16.07	16.36			
15	16QAM	1	37	15.92	16.15	15.90	16.18	17.2	0	
15	16QAM	1	74	15.83	16.01	16.11	16.14			
15	16QAM	36	0	16.27	16.16	16.08	16.25			
15	16QAM	36	20	16.13	16.00	16.05	16.22			
15	16QAM	36	39	16.07	16.11	16.06	16.19	17.2	0	
15	16QAM	75	0	16.00	16.26	16.21	16.16			
15	64QAM	1	0	16.14	16.13	16.22	16.26			
15	64QAM	1	37	16.10	16.17	16.26	16.12	17.2	0	
15	64QAM	1	74	15.92	16.16	16.08	16.30			
15	64QAM	36	0	16.33	16.17	16.14	16.30			
15	64QAM	36	20	16.05	16.09	16.13	16.04			
15	64QAM	36	39	16.00	16.24	16.02	16.24	17.2	0	
15	64QAM	75	0	16.13	16.07	16.25	16.00			
15	256QAM	1	0	16.01	16.24	16.18	16.13			
15	256QAM	1	37	16.16	16.20	16.13	16.05	17.2	0	
15	256QAM	1	74	16.08	16.24	16.24	16.11			
15	256QAM	36	0	15.94	16.07	15.94	16.26			
15	256QAM	36	20	16.20	16.06	16.01	16.16			
15	256QAM	36	39	16.17	16.01	16.08	16.14	17.2	0	
15	256QAM	75	0	16.07	16.02	16.05	16.37			
Channel				56390	56395	56395	56399	Tune-up limit (dBm)	MPPR (dB)	
Frequency (MHz)										
10	QPSK	1	0	16.10	16.09	16.13	16.21	17.2	0	
10	QPSK	1	25	16.37	16.24	16.04	16.24			
10	QPSK	1	49	16.32	16.31	16.36	16.16			
10	QPSK	25	0	16.13	16.16	16.26	16.21			
10	QPSK	25	12	16.13	16.33	16.04	16.17	17.2	0	
10	QPSK	25	25	16.21	16.42	16.04	16.34			
10	QPSK	50	0	16.34	16.07	16.23	16.36			
10	16QAM	1	0	16.09	16.12	16.15	16.14	17.2	0	
10	16QAM	1	25	16.08	16.03	15.98	16.25			
10	16QAM	1	49	16.06	15.99	16.29	15.97			
10	16QAM	25	0	16.16	16.06	16.12	16.14			
10	16QAM	25	12	16.12	16.26	16.09	16.33	17.2	0	
10	16QAM	25	25	16.13	16.16	16.10	16.20			
10	16QAM	50	0	16.19	16.26	16.22	16.10			
10	64QAM	1	0	16.27	16.27	16.29	16.36	17.2	0	
10	64QAM	1	25	16.35	16.15	16.06	16.05			
10	64QAM	1	49	16.15	16.23	16.09	16.09			
10	64QAM	25	0	16.00	16.04	16.03	16.17			
10	64QAM	25	12	15.90	15.84	16.15	16.06	17.2	0	
10	64QAM	25	25	16.18	16.07	16.10	16.31			
10	64QAM	50	0	16.10	16.12	16.07	16.36			
Channel				56395	56395	56395	56395	Tune-up limit (dBm)	MPPR (dB)	
Frequency (MHz)										
5	QPSK	1	0	16.07	16.07	16.10	16.30	17.2	0	
5	QPSK	1	12	16.13	16.02	16.14	16.33			
5	QPSK	1	24	16.11	16.38	16.06	16.96			
5	QPSK	50	0	16.14	16.19	16.25	16.30			
5	QPSK	12	7	16.06	16.11	16.12	16.36	17.2	0	
5	QPSK	12	13	16.24	16.22	16.02	16.26			
5	QPSK	25	0	16.33	16.08	16.14	16.36			
5	16QAM	1	0	16.07	16.16	16.04	16.22	17.2	0	
5	16QAM	1	12	16.07	16.09	15.99	16.03			
5	16QAM	1	24	15.97	16.08	16.04	15.92			
5	16QAM	12	0	16.35	16.15	16.06	16.29			
5	16QAM	12	7	16.13	16.02	16.30	16.32	17.2	0	
5	16QAM	12	13	16.29	16.08	16.04	16.14			
5	16QAM	25	0	16.04	16.06	16.26	16.08			
5	64QAM	1	0	16.37	16.18	16.29	16.42	17.2	0	
5	64QAM	1	12	16.32	15.99	16.14	16.26			
5	64QAM	1	24	16.02	16.20	16.13	16.15			
5	64QAM	12	0	16.19	16.10	16.24	16.06			
5	64QAM	12	7	16.30	16.21	16.12	16.24	17.2	0	
5	64QAM	12	13	16.05	16.16	16.07	16.16			
5	64QAM	25	0	16.32	15.96	16.24	16.00			
5	256QAM	1	0	16.16	16.35	16.15	16.17	17.2	0	
5	256QAM	1	12	16.36	16.11	16.13	16.06			
5	256QAM	1	24	16.08	16.26	16.32	16.01			
5	256QAM	12	0	16.08	16.06	15.97	16.12			
5	256QAM	12	7	16.08	16.06	15.98	16.12	17.2	0	
5	256QAM	12	13	16.14	16.00	16.11	16.16			
5	256QAM	25	0	16.28						



Reduced power level 3/4 for Head-UAT

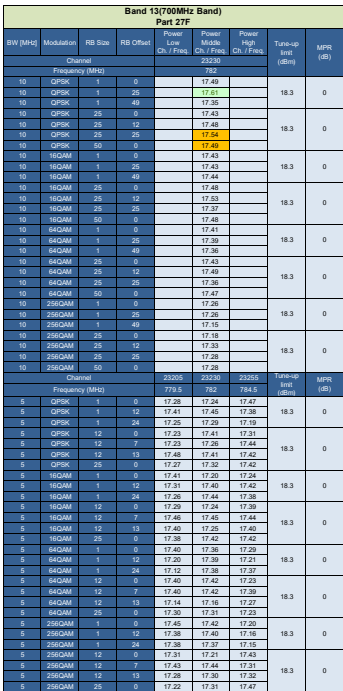
Channel	Baseband Average Power (dBm)			Tx Power Limit (dBm)	E-UTRA Average Power (dBm)			Tx Power Limit (dBm)
	800.2	800.4	800.6		800.2	800.4	800.6	
Frequency (MHz)	27.13	27.65	28.05	27.60	18.13	18.05	17.89	18.00
QPRB 1 Tx (uW)	27.14	27.15	26.99	27.90	18.14	18.13	17.89	18.00
QPRB 2 Tx (uW)	24.06	23.62	23.82	24.40	18.06	17.92	17.82	18.40
QPRB 3 Tx (uW)	22.07	22.10	22.35	23.30	17.81	17.70	17.56	18.04
QPRB 4 Tx (uW)	20.82	20.84	20.74	22.60	17.97	17.84	17.74	18.60
EDGE 1 Tx (uW)	23.09	23.05	23.03	23.30	14.68	14.55	14.40	16.30
EDGE 2 Tx (uW)	22.08	22.05	21.97	23.30	15.08	15.05	15.07	17.30
EDGE 3 Tx (uW)	20.86	20.88	20.79	23.30	16.60	16.62	16.53	18.04
EDGE 4 Tx (uW)	19.56	19.60	19.70	20.70	16.66	16.60	16.70	17.70

Channel	Baseband Average Power (dBm)			Tx Power Limit (dBm)	E-UTRA Average Power (dBm)			Tx Power Limit (dBm)
	812	861	890		812	861	816	
Frequency (MHz)	172.12	187.07	171.83	22.30	172.12	172.72	170.18	13.30
QPRB 1 Tx (uW)	21.65	21.72	21.63	22.30	12.59	12.76	12.88	13.30
QPRB 2 Tx (uW)	16.76	16.86	16.85	16.80	13.70	12.86	12.65	13.30
QPRB 3 Tx (uW)	17.41	17.43	17.60	18.50	13.15	13.21	13.34	14.24
QPRB 4 Tx (uW)	15.56	15.56	15.56	17.82	12.85	12.82	12.88	14.00
EDGE 1 Tx (uW)	21.77	21.60	21.77	22.60	12.77	12.63	12.77	13.80
EDGE 2 Tx (uW)	18.75	18.80	18.81	19.70	12.75	12.61	12.81	13.70
EDGE 3 Tx (uW)	16.36	17.27	17.10	18.70	12.70	13.01	12.84	13.84
EDGE 4 Tx (uW)	15.48	15.60	15.85	17.70	12.48	12.60	12.65	14.70

Baseband Channel	WCDMA-E			Tx Power Limit (dBm)	WCDMA-V			Tx Power Limit (dBm)
	800.2	800.4	800.6		1712.2	1815	1816	
Frequency (MHz)	800.2	800.4	800.6	16.70	1712.4	1712.6	1712.6	15.20
QPRB 1 (uW)	14.17	14.15	14.06	15.10	11.15	13.18	14.12	15.20
QPRB 1 (uW)	14.09	14.10	14.09	15.10	11.87	14.01	14.04	15.20
QPRB 1 (uW)	13.14	13.20	13.16	14.70	12.86	13.05	13.04	14.20
QPRB 1 (uW)	13.10	13.21	13.16	14.10	13.91	13.07	13.07	14.20
QPRB 1 (uW)	12.30	12.74	12.61	13.60	12.42	12.55	12.58	13.70
QPRB 1 (uW)	13.64	12.72	13.83	13.60	12.45	12.58	13.13	13.70
QPRB 1 (uW)	12.90	13.02	12.93	14.10	12.88	12.81	12.87	14.20
QPRB 1 (uW)	12.84	13.03	12.90	14.10	12.76	12.87	13.00	14.20
QPRB 1 (uW)	12.58	12.53	12.40	13.60	12.27	12.40	12.37	13.70
QPRB 1 (uW)	12.44	12.36	12.41	13.80	12.31	12.34	12.31	13.70
QPRB 1 (uW)	13.13	13.20	13.16	14.10	12.94	13.14	13.11	14.20
QPRB 1 (uW)	12.15	12.25	12.19	13.10	11.90	12.12	12.07	13.20
QPRB 1 (uW)	10.14	10.21	10.21	11.70	11.08	10.98	12.20	13.80
QPRB 1 (uW)	10.92	11.02	10.99	12.10	11.78	11.91	11.88	12.20
QPRB 1 (uW)	13.10	13.21	13.15	14.10	12.90	13.04	13.05	14.20
QPRB 1 (uW)	10.71	10.81	10.72	12.60	11.68	11.81	11.70	12.70

Baseband Channel	GSM-BCL			Tx Power Limit (dBm)	GSM-BCL			Tx Power Limit (dBm)
	1013	884	777		26	605	1175	
Frequency (MHz)	800.2	800.4	800.6	16.10	181.2	1800	908.70	17.70
BCCH BCCH	17.53	17.69	17.51	18.00	13.04	13.10	13.03	14.00
BCCH BCCH	17.52	17.51	17.50	18.00	13.03	13.03	13.07	14.00
BCCH BCCH	17.50	17.50	17.48	18.00	13.01	13.08	13.08	14.00
BCCH BCCH	17.48	17.54	17.47	18.00	12.99	13.06	13.08	14.00
BCCH BCCH	17.47	17.52	17.45	18.00	12.98	13.04	13.06	14.00
BCCH BCCH	17.45	17.51	17.43	18.00	12.96	13.02	12.95	14.00

Band 2 (1900MHz Band)														
Part 24E														
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq 1800	Power Ch / Freq 1850	Power Ch / Freq 1900	Turn-up limit (dBm)	MPE (dB)						
Channel														
Frequency (MHz)														
20	QPSK	1	0	12.38	12.53	12.51	13.6	0						
20	QPSK	1	49	12.42	12.42	12.31								
20	QPSK	1	99	12.38	12.33	12.19								
20	QPSK	50	0	12.46	12.50	12.41	13.6	0						
20	QPSK	50	24	12.48	12.48	12.42								
20	QPSK	50	50	12.49	12.49	12.31								
20	QPSK	100	0	12.46	12.47	12.46	13.6	0						
20	QPSK	1	0	12.39	12.43	12.40								
20	16QAM	50	49	12.38	12.48	12.31								
20	16QAM	1	99	12.30	12.34	12.37	13.6	0						
20	16QAM	50	0	12.40	12.23	12.49								
20	16QAM	50	24	12.27	12.44	12.39								
20	16QAM	50	50	12.44	12.23	12.49	13.6	0						
20	16QAM	100	0	12.21	12.49	12.23								
20	16QAM	50	99	12.21	12.49	12.23								
20	256QAM	1	49	12.26	12.25	12.28	13.6	0						
20	256QAM	1	99	12.21	12.13	12.27								
20	256QAM	50	24	12.43	12.32	12.21								
20	256QAM	50	50	12.21	12.17	12.27	13.6	0						
20	256QAM	100	0	12.35	12.27	12.34								
Channel														
Frequency (MHz)														
15	QPSK	1	0	12.42	12.42	12.44	13.6	0						
15	QPSK	1	31	12.31	12.37	12.29								
15	QPSK	1	74	12.24	12.21	12.10								
15	QPSK	36	0	12.24	12.52	12.45	13.6	0						
15	QPSK	36	29	12.26	12.28	12.31								
15	QPSK	36	39	12.26	12.28	12.31								
15	QPSK	75	0	12.38	12.32	12.34	13.6	0						
15	16QAM	1	37	12.29	12.30	12.34								
15	16QAM	1	37	12.29	12.30	11.99								
15	16QAM	1	74	12.17	12.28	11.98	13.6	0						
15	16QAM	36	39	12.25	12.45	12.38								
15	16QAM	36	29	12.03	12.22	12.35								
15	16QAM	36	0	12.30	12.34	12.30	13.6	0						
15	16QAM	36	0	12.30	12.34	12.30								
15	16QAM	36	20	12.25	12.14	12.34								
15	16QAM	36	39	12.32	12.29	12.01	13.6	0						
15	16QAM	75	0	12.45	12.45	12.02								
15	256QAM	1	0	12.37	12.39	12.34								
15	256QAM	1	37	12.37	12.39	12.34	13.6	0						
15	256QAM	1	74	12.29	12.21	12.10								
15	256QAM	36	0	12.30	12.23	12.12								
15	256QAM	36	20	12.10	12.10	12.20	13.6	0						
15	256QAM	36	39	12.12	12.03	12.05								
15	256QAM	75	0	12.25	12.21	12.19								
Channel														
Frequency (MHz)														
10	QPSK	1	0	12.39	12.56	12.37	13.6	0						
10	QPSK	1	29	12.27	12.47	12.27								
10	QPSK	1	49	12.13	12.14	12.19								
10	QPSK	25	0	12.38	12.39	12.20	13.6	0						
10	QPSK	25	12	12.38	12.46	12.20								
10	QPSK	25	25	12.25	12.25	12.29								
10	QPSK	50	0	12.23	12.46	12.46	13.6	0						
10	16QAM	1	25	12.23	12.28	12.28								
10	16QAM	1	26	12.38	12.45	12.13								
10	16QAM	1	49	12.21	12.10	12.11	13.6	0						
10	16QAM	25	0	12.25	12.37	12.16								
10	16QAM	25	12	12.11	12.35	12.25								
10	16QAM	25	25	12.37	12.11	12.28	13.6	0						
10	16QAM	50	0	12.30	12.26	12.26								
10	16QAM	50	1	12.38	12.23	12.36								
10	64QAM	1	26	12.33	12.28	12.26	13.6	0						
10	64QAM	1	49	12.35	12.21	12.17								
10	64QAM	25	0	12.42	12.44	12.06								
10	64QAM	25	12	12.50	12.06	12.04	13.6	0						
10	64QAM	25	25	12.52	12.24	12.06								
10	64QAM	50	0	12.06	12.35	12.16								
10	256QAM	1	0	12.40	12.16	12.24	13.6	0						
10	256QAM	1	25	12.51	12.22	12.04								
10	256QAM	1	49	12.16	12.34	12.23								
10	256QAM	25	0	12.11	12.44	12.05	13.6	0						
10	256QAM	25	12	12.22	12.30	12.05								
10	256QAM	25	25	12.11	12.02	12.30								
10	256QAM	50	0	12.23	12.18	12.31	13.6	0						
Channel														
Frequency (MHz)														
5	QPSK	1	0	12.32	12.58	12.29			13.6	0				
5	QPSK	1	14	12.24	12.23	12.34								
5	QPSK	1	24	12.28	12.22	12.20								
5	QPSK	12	0	12.44	12.40	12.46	13.6	0						
5	QPSK	12	7	12.48	12.34	12.35								
5	QPSK	12	13	12.30	12.31	12.34								
5	QPSK	25	0	12.39	12.36	12.27	13.6	0						
5	16QAM	1	12	12.27	12.52	12.08								
5	16QAM	1	12	12.16	12.26	12.18								
5	16QAM	1	24	12.23	12.21	12.14	13.6	0						
5	16QAM	12	0	12.30	12.30	12.26								
5	16QAM	12	7	12.04	12.26	12.17								
5	16QAM	12	13	12.25	12.27	12.34	13.6	0						
5	16QAM	25	0	12.42	12.01	12.01								
5	64QAM	1	0	12.15	12.27	12.12								
5	64QAM	1	12	12.19	12.29	12.40	13.6	0						
5	64QAM	1	24	12.11	12.44	12.42								
5	64QAM	12	0	12.37	12.32	12.20								
5	64QAM	12	7	12.48	12.21	12.35	13.6	0						
5	64QAM	12	13	12.30	12.31	12.34								
5	64QAM	25	0	12.23	12.26	12.27								
5	64QAM	25	0	12.21	12.40	12.23	13.6	0						
5	64QAM	25	12	12.27	12.30	12.23								
5	64QAM	25	25	12.11	12.02	12.30								
5	256QAM	1	24	12.43	12.26	12.34	13.6	0						
5	256QAM	12	0	12.20	12.34	12.26								
5	256QAM	12	9	12.21	12.09	12.09								
5	256QAM	12	13	12.05	12.00	12.11	13.6	0						
5	256QAM	25	0	12.16	12.26	12.20								
5	256QAM	25	9	12.16	12.26	12.20								
Channel														
Frequency (MHz)														
3	QPSK	1	0	12.27	12.40	12.44	13.6	0						
3	QPSK	1	14	12.15	12.15	12.15								
3	QPSK	1	14	12.14	12.24	12.19								
3	QPSK	8	0	12.44	12.33	12.33	13.6	0						
3	QPSK	8	7	12.48	12.18	12.18								
3	QPSK	8	7	12.48	12.48	12.19								
3	QPSK	15	0	12.22	12.23	12.31	13.6	0						
3	QPSK	15	7	12.26	12.26	12.26								
3	QPSK	15	14	12.24	12.24	12.24								
3	16QAM	1	8	12.40	12.28	12.18	13.6	0						
3	16QAM	1	14	12.23	12.05	12.22								
3	16QAM	1	14	12.24	12.05	12.22								
3	16QAM	8	0	12.29	12.29	12.29	13.6	0						
3	16QAM	8	7	12.27	12.24	12.13								
3	16QAM	8	7	12.27	12.27	12.27								
3	16QAM	15	0	12.17	12.28	12.22	13.6	0						
3	16QAM	15	8	12.09	12.27	12.17								
3	16QAM	15	8	12.09	12.29	12.29								
3	16QAM	8	0	12.25	12.25	12.25	13.6	0						
3	16QAM	8	4	12.25	12.33	12.29								
3	16QAM	8	4	12.25	12.33	12.29								
3	16QAM	15	0	12.08	12.25	12.08	13.6	0						
3	256QAM	1	0	12.44	12.17	12.27								
3	256QAM	1	0	12.44	12.17	12.27								
3	256QAM	1	14	12.30	12.25	12.36	13.6	0						
3	256QAM	15	0	12.27	12.15	12.25								
3	256QAM	15	0	12.25	12.30	12.30								
3	256QAM	8	7	11.93	12.05	12.24	13.6	0						
3	256QAM	8	7	11.93	12.05	12.24								
3	256QAM	8	7	11.93	12.05	12.24								
Channel														
Frequency (MHz)														
1.4	QPSK	1	0	12.29	12.54	12.51	13.6	0						
1.4	QPSK	1	0	12.24	12.49	12.31								
1.4	QPSK	1	5	12.33	12.15	12.19								
1.4	QPSK	1	5	12.42	12.45	12.29	13.6	0						
1.4	QPSK	1	5	12.42	12.45	12.29								
1.4	QPSK	1	5	12.42	12.45	12.29								
1.4	QPSK	3	3	12.26	12.26	12.36	13.6	0						
1.4	QPSK	3	3	12.26	12.26	12.36								
1.4	QPSK	3	3	12.26	12.26	12.36								
1.4	QPSK	6	0	12.47	12.47	12.23	13.6	0						
1.4	QPSK	6	0	12.47	12.47	12.23								
1.4	QPSK	6	0	12.47	12.47	12.23								
1.4	QPSK	3	3	12.25	12.62	12.27	13.6	0						
1.4	QPSK	3	3	12.25	12.62	12.27								
1.4	QPSK	3	3	12.25	12.62	12.27								
1.4	QPSK	3	0	12.25	12.30	12.30	13.6	0						
1.4	QPSK	3	0	12.25	12.30	12.30								
1.4	QPSK	3	0	12.25	12.30	12.30								
1.4	QPSK	3	1	12.03	12.49	12.36	13.6	0						
1.4	QPSK	3	1	12.03	12.49	12.36								
1.4	QPSK	3	1	12.03	12.49	12.36								
1.4	QPSK	6	0	12.36	12.19	12.12	13.6	0						
1.4	QPSK	6	0	12.36	12.19	12.12								
1.4	QPSK	6	0	12.36	12.19	12.12								
1.4	QPSK	3	3	12.26	12.31	12.17	13.6	0						
1.4														



Band 17 (700MHz Band)										
Part 27H(only on channel required)										
BW (MHz)	Modulation	RB Size	RB Offset	Power			Turn-up limit (dBm)	MPR (dB)		
				Ch / Freq	Ch / Freq	Ch / Freq				
Channel				23760	23760	23800				
Frequency (MHz)				7100	7100	7110				
10	QPSK	1	0	10.37	10.34	10.39	17.6	0		
10	QPSK	1	26	10.44	10.42	10.44				
10	QPSK	1	49	10.52	10.49	10.49				
10	QPSK	25	0	10.40	10.47	10.46	17.6	0		
10	QPSK	25	12	10.48	10.50	10.51				
10	QPSK	25	26	10.49	10.53	10.51				
10	QPSK	50	0	10.51	10.49	10.49	17.6	0		
10	16QAM	1	0	10.43	10.41	10.42				
10	16QAM	1	26	10.41	10.48	10.44				
10	16QAM	1	49	10.49	10.49	10.47	17.6	0		
10	16QAM	25	0	10.44	10.44	10.46				
10	16QAM	25	12	10.49	10.49	10.49				
10	16QAM	25	26	10.55	10.50	10.50	17.6	0		
10	16QAM	50	0	10.49	10.46	10.46				
10	16QAM	1	0	10.50	10.41	10.57				
10	64QAM	1	26	10.48	10.48	10.49	17.6	0		
10	64QAM	1	49	10.48	10.50	10.50				
10	64QAM	25	0	10.49	10.47	10.47				
10	64QAM	25	12	10.54	10.55	10.50	17.6	0		
10	64QAM	25	26	10.42	10.42	10.50				
10	64QAM	50	0	10.48	10.50	10.50				
10	256QAM	1	0	10.49	10.27	10.47	17.6	0		
10	256QAM	1	26	10.52	10.51	10.41				
10	256QAM	1	49	10.45	10.29	10.38				
10	256QAM	25	0	10.27	10.29	10.45	17.6	0		
10	256QAM	25	12	10.41	10.50	10.50				
10	256QAM	25	26	10.26	10.39	10.39				
10	256QAM	50	0	10.43	10.47	10.25	17.6	0		
10	256QAM	50	0	10.53	10.53	10.53				
Channel				706.5	710	713.5				
Frequency (MHz)				706.5	710	713.5				
5	QPSK	1	0	10.31	10.23	10.25	17.6	0		
5	QPSK	1	12	10.44	10.38	10.49				
5	QPSK	1	24	10.54	10.34	10.49				
5	QPSK	12	0	10.44	10.22	10.50	17.6	0		
5	QPSK	12	7	10.60	10.60	10.51				
5	QPSK	12	13	10.35	10.33	10.28				
5	QPSK	25	0	10.38	10.54	10.42	17.6	0		
5	16QAM	1	0	10.19	10.21	10.36				
5	16QAM	1	12	10.36	10.37	10.47				
5	16QAM	1	24	10.45	10.41	10.24	17.6	0		
5	16QAM	12	0	10.21	10.29	10.40				
5	16QAM	12	7	10.51	10.29	10.31				
5	16QAM	12	13	10.43	10.34	10.55	17.6	0		
5	16QAM	25	0	10.36	10.44	10.40				
5	16QAM	25	0	10.26	10.40	10.48				
5	256QAM	1	0	10.44	10.43	10.55	17.6	0		
5	256QAM	1	24	10.42	10.31	10.43				
5	256QAM	12	0	10.31	10.48	10.42				
5	256QAM	12	13	10.31	10.43	10.34	17.6	0		
5	256QAM	12	13	10.44	10.23	10.51				
5	256QAM	25	0	10.28	10.44	10.31				

Band 25 (100MHz Band)													
Part 24E													
BW (MHz)	Modulation	RB Size	RB Offset	Power			Turn-up limit (dBm)	MPR (dB)					
				Ch / Freq	Ch / Freq	Ch / Freq							
Channel				20140	20140	20160							
Frequency (MHz)				7115	7115	7165							
20	QPSK	1	0	12.79	12.83	12.73	13.6	0					
20	QPSK	1	49	12.70	12.78	12.68							
20	QPSK	1	99	12.67	12.69	12.70							
20	QPSK	50	0	12.66	12.71	12.83	13.6	0					
20	QPSK	50	24	12.66	12.77	12.83							
20	QPSK	50	50	12.71	12.74	12.88							
20	QPSK	100	0	12.75	12.75	12.87	13.6	0					
20	16QAM	1	0	12.75	12.70	12.71							
20	16QAM	1	49	12.71	12.67	12.83							
20	16QAM	1	99	12.66	12.66	12.42	13.6	0					
20	16QAM	50	0	12.70	12.67	12.85							
20	16QAM	50	24	12.68	12.69	12.85							
20	16QAM	50	50	12.65	12.65	12.81	13.6	0					
20	16QAM	100	0	12.66	12.70	12.85							
20	16QAM	1	0	12.66	12.75	12.85							
20	64QAM	1	49	12.78	12.79	12.81	13.6	0					
20	64QAM	1	99	12.66	12.71	12.82							
20	64QAM	50	0	12.76	12.71	12.82							
20	64QAM	50	24	12.72	12.70	12.80	13.6	0					
20	64QAM	50	50	12.66	12.73	12.83							
20	64QAM	100	0	12.66	12.73	12.83							
20	256QAM	1	0	12.54	12.58	12.89	13.6	0					
20	256QAM	1	49	12.58	12.59	12.88							
20	256QAM	1	99	12.59	12.63	12.93							
20	256QAM	50	0	12.57	12.67	12.84	13.6	0					
20	256QAM	50	24	12.70	12.70	12.88							
20	256QAM	50	50	12.55	12.45	12.57							
20	256QAM	100	0	12.59	12.49	12.36	13.6	0					
20	256QAM	100	0	12.69	12.69	12.69							
Channel				1897.5	1890	1907.5							
Frequency (MHz)				1897.5	1890	1907.5							
15	QPSK	1	0	12.62	12.72	12.82	13.6	0					
15	QPSK	1	37	12.60	12.65	12.86							
15	QPSK	1	74	12.58	12.66	12.86							
15	QPSK	36	0	12.58	12.53	12.87	13.6	0					
15	QPSK	36	12	12.60	12.60	12.86							
15	QPSK	36	39	12.68	12.65	12.43							
15	QPSK	75	0	12.67	12.79	12.81	13.6	0					
15	16QAM	1	0	12.65	12.61	12.87							
15	16QAM	1	37	12.65	12.61	12.87							
15	16QAM	1	74	12.45	12.51	12.87	13.6	0					
15	16QAM	36	0	12.59	12.44	12.89							
15	16QAM	36	20	12.59	12.44	12.89							
15	16QAM	36	39	12.49	12.50	12.80	13.6	0					
15	16QAM	75	0	12.50	12.46	12.84							
15	16QAM	1	0	12.70	12.55	12.81							
15	64QAM	1	37	12.54	12.72	12.86	13.6	0					
15	64QAM	1	74	12.50	12.50	12.86							
15	64QAM	36	0	12.61	12.55	12.45							
15	64QAM	36	20	12.62	12.61	12.62	13.6	0					
15	64QAM	36	39	12.59									
15	64QAM	75	0	12.67	12.79	12.81	13.6	0					
15	16QAM	1	0	12.65	12.61	12.87							
15	16QAM	1	37	12.65	12.61	12.87							
15	16QAM	1	74	12.45	12.51	12.87	13.6	0					
15	16QAM	36	0	12.59	12.44	12.89							
15	16QAM	36	20	12.59	12.44	12.89							
15	16QAM	36	39	12.49	12.53	12.38	13.6	0					
15	16QAM	75	0	12.50	12.46	12.84							
15	16QAM	1	0	12.70	12.55	12.81							
15	64QAM	1	37	12.54	12.72	12.86	13.6	0					
15	64QAM	1	74	12.50	12.50	12.86							
15	64QAM	36	0	12.61	12.55	12.45							
15	64QAM	36	20	12.62	12.61	12.62	13.6	0					
15	64QAM	36	39	12.59									
15	64QAM	75	0	12.67	12.79	12.81	13.6	0					
15	16QAM	1	0	12.65	12.61	12.87							
15	16QAM	1	37	12.65	12.61	12.87							
15	16QAM	1	74	12.45	12.51	12.87	13.6	0					
15	16QAM	36	0	12.59	12.44	12.89							
15	16QAM	36	20	12.59	12.44	12.89							
15	16QAM	36	39	12.49	12.53	12.38	13.6	0					
15	16QAM	75	0	12.50	12.46	12.84							
15	16QAM	1	0	12.70	12.55	12.81							
15	64QAM	1	37	12.54	12.72	12.86	13.6	0					
15	64QAM	1	74	12.50	12.50	12.86							
15	64QAM	36	0	12.61	12.55	12.45							
15	64QAM	36	20	12.62	12.61	12.62	13.6	0					
15	64QAM	36	39	12.59									
15	64QAM	75	0	12.67	12.79	12.81	13.6	0					
15	16QAM	1	0	12.65	12.61	12.87							
15	16QAM	1	37	12.65	12.61	12.87							
15	16QAM	1	74	12.45	12.51	12.87	13.6	0					
15	16QAM	36	0	12.59	12.44	12.89							
15	16QAM	36	20	12.59	12.44	12.89							
15	16QAM	36	39	12.49	12.53	12.38	13.6	0					
15	16QAM	75	0	12.50	12.46	12.84							
15	16QAM	1	0	12.70	12.55	12.81							
15	64QAM	1	37	12.54	12.72	12.86	13.6	0					
15	64QAM	1	74	12.50	12.50	12.86							
15	64QAM	36	0	12.61	12.55	12.45							
15	64QAM	36	20	12.62	12.61	12.62	13.6	0					
15	64QAM	36	39	12.59									
15	64QAM	75	0	12.67	12.79	12.81	13.6	0					
15	16QAM	1	0	12.65	12.61	12.87							
15	16QAM	1	37	12.65	12.61	12.87							
15	16QAM	1	74	12.45	12.51	12.87	13.6	0					
15	16QAM	36	0	12.59	12.44	12.89							
15	16QAM	36	20	12.59	12.44	12.89							
15	16QAM	36	39	12.49	12.53	12.38	13.6	0					
15	16QAM	75	0	12.50	12.46	12.84							
15	16QAM	1	0	12.70	12.55	12.81							
15	64QAM	1	37	12.54	12.72	12.86	13.6	0					
15	64QAM	1	74	12.50	12.50	12.86							
15	64QAM	36	0	12.61	12.55	12.45							
15	64QAM	36	20	12.62	12.61	12.62	13.6	0					
15	64QAM	36	39	12.59									
15	64QAM	75	0	12.67	12.79	12.81	13.6	0					
15	16QAM	1	0	12.65	12.61	12.87							
15	16QAM	1	37	12.65	12.61	12.87							
15	16QAM	1	74	12.45	12.51	12.87	13.6	0					
15	16QAM	36	0	12.59	12.44	12.89							
15	16QAM	36	20	12.59	12.44	12.89							
15	16QAM	36	39	12.49	12.53	12.38	13.6	0					
15	16QAM	75	0	12.50	12.46	12.84							
15	16QAM	1	0	12.70	12.55	12.81							
15	64QAM	1	37	12.54	12.72	12.86	13.6	0					
15	64QAM	1	74	12.50	12.50	12.86							
15	64QAM	36	0	12.61	12.55	12.45							
15	64QAM	36	20	12.62	12.61	12.62	13.6	0					
15	64QAM	36	39	12.59									
15	64QAM	75	0	12.67	12.79	12.81	13.6	0					
15	16QAM	1	0	12.65	12.61	12.87							
15	16QAM	1	37	12.65	12.61	12.87							
15	16QAM	1	74	12.45	12.51	12.87	13.6	0					
15	16QAM	36	0	12.59	12.44	12.89							
15	16QAM	36	20	12.59	12.44	12.89							
15	16QAM	36	39	12.49	12.53	12.38	13.6	0					
15	16QAM	75	0	12.50	12.46	12.84							
15	16QAM	1	0	12.70	12.55	12.81							
15	64QAM	1	37	12.54	12.72	12.86	13.6	0					
15	64QAM	1	74	12.50	12.50	12.86							
15	64QAM	36	0	12.61	12.55	12.45							
15	64QAM	36	20	12.62	12.61	12.62	13.6	0					
15	64QAM	36	39	12.59									
15	64QAM	75	0	12.67	12.79	12.81	13.6	0					
15	16QAM	1	0	12.65	12.61	12.87							
15	16QAM	1	37	12.65	12.61	12.87							
15	16QAM	1	74	12.45	12.51	12.87	13.6	0					
15	16QAM	36	0	12.59	12.44	12.89							
15	16QAM	36	20	12.59	12.44	12.89							
15	16QAM	36	39	12.49	12.53	12.38	13.6	0					
15	16QAM	75	0	12.50	12.46	12.84							
15	16QAM	1	0	12.70	12.55	12.81							
15	64QAM	1	37	12.54	12.72	12.86	13.6	0					
15	64QAM	1	74	12.50	12.50	12.86							
15	64QAM	36	0	12.61	12.55	12.45							
15	64QAM	36	20	12.62	12.61	12.62	13.6	0					
15	64QAM	36	39	12.59									
15	64QAM	75	0	12.67	12.79	12.81	13.6	0					
15	16QAM	1	0	12.65	12.61	12.87							
15	16QAM	1	37	12.65	12.61	12.87							
15	16QAM	1	74	12.45	12.51	12.87	13.6	0					
15	16QAM	36	0	12.59	12.44	12.89							
15	16QAM	36	20	12.59	12.44	12.89							
15	16QAM	36	39	12.49	12.53	12.38	13.6	0					
15	16QAM	75	0	12.50	12.46	12.84							
15	16QAM	1	0	12.70	12.55	12.81							
15	64QAM	1	37	12.54	12.72	12.86	13.6	0					
15	64QAM	1	74	12.50	12.50	12.86							
15	64QAM	36	0	12.61	12.55	12.45							
15	64QAM	36	20	12.62	12.61	12.62	13.6	0					

Band 30										
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./F/Freq.	Power Mid Ch./F/Freq.	Power High Ch./F/Freq.	Turn-up limit (dBm)	MPR (dB)		
Channel										Frequency (MHz)
10	QPSK	1	0		12.10				13.0	0
10	QPSK	1	25		12.05					
10	QPSK	1	49		12.00					
10	QPSK	25	0		12.10					
10	QPSK	25	12		12.05				13.0	0
10	QPSK	25	25		12.00					
10	QPSK	50	0		12.05					
10	QPSK	1	0		12.05					
10	16QAM	1	25		12.05				13.0	0
10	16QAM	1	49		12.01					
10	16QAM	25	0		12.00					
10	16QAM	25	12		12.05					
10	16QAM	25	25		12.03				13.0	0
10	16QAM	50	0		12.00					
10	16QAM	1	0		12.04					
10	16QAM	1	25		12.03					
10	16QAM	1	49		12.00				13.0	0
10	16QAM	25	0		12.05					
10	16QAM	25	12		12.00					
10	16QAM	25	25		12.04					
10	16QAM	50	0		12.01				13.0	0
10	256QAM	1	0		12.05					
10	256QAM	1	25		12.04					
10	256QAM	1	49		12.73					
10	256QAM	25	0		12.88				13.0	0
10	256QAM	25	12		12.43					
10	256QAM	25	25		12.65					
10	256QAM	50	0		12.65					
Channel				27.885	27.885	27.775			13.0	MPR (dB)
Frequency (MHz)				2397.5	2390	2312.5				
5	QPSK	1	0		12.03	12.05	12.05		13.0	0
5	QPSK	1	12		12.02	12.08	12.02			
5	QPSK	1	24		12.79	12.77	12.60			
5	QPSK	12	0		12.69	12.94	12.61			
5	QPSK	12	13		12.80	12.71	12.68		13.0	0
5	QPSK	25	0		12.82	12.83	12.89			
5	QPSK	25	0		12.78	12.89	12.75			
5	16QAM	1	0		12.75	12.67	12.70			
5	16QAM	1	12		12.80	12.77	12.84		13.0	0
5	16QAM	1	24		12.82	12.87	12.87			
5	16QAM	12	0		12.74	12.84	12.82			
5	16QAM	12	13		12.77	12.86	12.63			
5	16QAM	25	0		12.68	12.92	12.65		13.0	0
5	16QAM	25	0		12.79	12.75	12.61			
5	16QAM	1	0		12.77	12.86	12.83			
5	16QAM	1	12		12.68	12.90	12.63			
5	16QAM	1	24		12.78	12.79	12.77		13.0	0
5	16QAM	12	0		12.81	12.77	12.67			
5	16QAM	12	13		12.66	12.75	12.78			
5	16QAM	25	0		12.65	12.60	12.75			
5	16QAM	25	0		12.84	12.72	12.75		13.0	0
5	256QAM	1	0		12.61	12.79	12.85			
5	256QAM	1	12		12.70	12.77	12.66			
5	256QAM	1	24		12.76	12.64	12.71			
5	256QAM	12	0		12.66	12.75	12.75		13.0	0
5	256QAM	12	13		12.62	12.65	12.75			
5	256QAM	25	0		12.75	12.64	12.64			
5	256QAM	25	0		12.84	12.75	12.81			

Band 66										
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./F/Freq.	Power Mid Ch./F/Freq.	Power High Ch./F/Freq.	Turn-up limit (dBm)	APRS (dB)		
Channel										Frequency (MHz)
20	QPSK	1	0	12.45	12.45	12.43			13.3	0
20	QPSK	1	49	12.30	12.30	12.34				
20	QPSK	1	99	12.30	12.32	12.37				
20	QPSK	50	0	12.36	12.42	12.36				
20	QPSK	50	24	12.27	12.33	12.40			13.3	0
20	QPSK	50	50	12.30	12.36	12.36				
20	QPSK	100	0	12.28	12.35	12.33				
20	16QAM	1	0	12.33	12.34	12.35				
20	16QAM	1	49	12.30	12.37	12.33			13.3	0
20	16QAM	1	99	12.32	12.36	12.38				
20	16QAM	50	0	12.38	12.33	12.32				
20	16QAM	50	24	12.30	12.36	12.31				
20	16QAM	50	50	12.36	12.37	12.37			13.3	0
20	16QAM	100	0	12.24	12.32	12.31				
20	256QAM	1	0	12.09	12.31	12.13				
20	256QAM	1	49	12.26	12.44	12.22				
20	256QAM	50	0	12.16	12.16	12.16			13.3	0
20	256QAM	50	24	12.36	12.15	12.44				
20	256QAM	100	0	11.99	12.28	12.15				
20	256QAM	100	0	11.99	12.28	12.15				
Channel										Frequency (MHz)
15	QPSK	1	0	12.30	12.41	12.38			13.3	0
15	QPSK	1	37	12.19	12.30	12.16				
15	QPSK	1	74	12.15	12.35	12.20				
15	QPSK	36	0	12.19	12.35	12.06				
15	QPSK	36	37	12.17	12.38	12.08			13.3	0
15	QPSK	36	74	12.17	12.38	12.08				
15	QPSK	75	0	12.14	12.40	12.28				
15	16QAM	1	0	12.11	12.39	12.13				
15	16QAM	1	37	12.26	12.40	12.34			13.3	0
15	16QAM	1	74	12.24	12.12	12.42				
15	16QAM	36	0	12.30	12.34	12.13				
15	16QAM	36	37	12.35	12.35	12.15				
15	16QAM	36	74	12.30	12.15	12.07			13.3	0
15	16QAM	36	111	12.30	12.36	12.07				
15	16QAM	75	0	12.30	12.15	12.05				
15	16QAM	75	0	12.30	12.15	12.05				
15	16QAM	1	0	12.37	12.31	12.25			13.3	0
15	16QAM	1	37	12.40	12.20	12.35				
15	16QAM	1	74	12.31	12.31	12.17				
15	16QAM	36	0	12.13	12.33	12.19				
15	16QAM	36	37	12.23	12.27	12.22			13.3	0
15	16QAM	36	74	12.23	12.27	12.22				
15	256QAM	1	0	12.38	12.32	12.35				
15	256QAM	1	37	12.31	12.32	12.38				
15	256QAM	1	74	12.26	12.24	12.23			13.3	0
15	256QAM	36	0	12.27	12.25	12.04				
15	256QAM	36	37	12.36	12.36	12.35				
15	256QAM	36	74	12.18	12.14	12.23				
15	256QAM	75	0	12.16	12.21	12.14			13.3	0
15	256QAM	75	0	12.16	12.21	12.14				
15	256QAM	75	0	12.16	12.21	12.14				
15	256QAM	75	0	12.16	12.21	12.14				
Channel										Frequency (MHz)
10	QPSK	1	0	12.30	12.22	12.42			13.3	0
10	QPSK	1	25	12.30	12.22	12.42				
10	QPSK	1	49	12.29	12.31	12.11				
10	QPSK	25	0	12.12	12.37	12.23				
10	QPSK	25	12	12.12	12.37	12.23			13.3	0
10	QPSK	25	25	12.12	12.37	12.23				
10	QPSK	50	0	12.31	12.32	12.30				
10	16QAM	1	0	12.33	12.34	12.35			13.3	0
10	16QAM	1	49	12.18	12.13	12.20				
10	16QAM	25	0	12.38	12.38	12.31				
10	16QAM	25	12	12.33	12.23	12.33				
10	16QAM	25	25	12.35	12.18	12.25			13.3	0
10	16QAM	25	37	12.30	12.29	12.07				
10	16QAM	50	0	12.30	12.29	12.07				
10	16QAM	50	12	12.34	12.06	12.20				
10	16QAM	1	0	12.37	12.33	12.27			13.3	0
10	16QAM	1	49	12.08	12.26	12.13				
10	16QAM	1	99	12.07	12.05	12.13				
10	16QAM	25	12	12.14	12.06	12.20				
10	16QAM	25	25	12.13	12.13	12.21			13.3	0
10	16QAM	25	37	12.37	12.34	12.41				
10	16QAM	50	0	12.13	12.13	12.21				
10	256QAM	1	0	12.37	12.34	12.41				
10	256QAM	1	49	12.08	12.21	12.15			13.3	0
10	256QAM	1	99	12.07	12.05	12.13				
10	256QAM	25	0	12.19	12.11	12.16				
10	256QAM	25	12	12.12	12.12	12.25				
10	256QAM	25	25	12.26	12.13	12.25			13.3	0
10	256QAM	50	0	12.00	12.35	12.10				
10	256QAM	50	0	12.00	12.35	12.10				
10	256QAM	50	0	12.00	12.35	12.10				
Channel										Frequency (MHz)
5	QPSK	1	0	12.44	12.21	12.38			13.3	0
5	QPSK	1	12	12.35	12.11	12.11				
5	QPSK	1	25	12.31	12.11	12.11				
5	QPSK	6	0	12.26	12.25	12.30				
5	QPSK	12	0	12.09	12.40	12.25			13.3	0
5	QPSK	12	13	12.14	12.22	12.45				
5	QPSK	25	0	12.13	12.17	12.37				
5	QPSK	25	12	12.18	12.30	12.33				
5	QPSK	1	12	12.19	12.30	12.33			13.3	0
5	QPSK	1	24	12.33	12.29	12.40				
5	QPSK	12	7	12.41	12.18	12.18				
5	QPSK	12	13	12.14	12.24	12.14				
5	QPSK	12	13	12.14	12.24	12.14			13.3	0
5	QPSK	12	13	12.14	12.24	12.14				
5	QPSK	12	13	12.14	12.24	12.14				
5	QPSK	12	13	12.14	12.24	12.14				
5	QPSK	1	0	12.34	12.10	12.41			13.3	0
5	QPSK	1	12	12.15	12.28	12.32				
5	QPSK	12	0	12.22	12.22	12.22				
5	QPSK	12	0	12.04	12.30	12.10				
5	QPSK	12	7	12.16	12.09	12.06			13.3	0
5	QPSK	12	13	12.35	12.25	12.35				
5	QPSK	25	0	12.20	12.23	12.26				
5	QPSK	1	0	12.17	12.09	12.36				
5	QPSK	1	12	12.11	12.11	12.11			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40				
5	QPSK	1	24	12.37	12.12	12.40			13.3	0
5	QPSK	1	24	12.37	12.12	12.40				
5</										



Band 38(only on channel required)												
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power Mod Ch./Freq.	Power High Ch./Freq.	Tune-up limit (dBm)	MPR (dB)				
Channel												
Frequency (MHz)				37850	38050	38150						
20	QPSK	1	0	13.37	13.34	13.19	14.5	0				
20	QPSK	1	49	13.25	13.09	13.11						
20	QPSK	1	99	13.26	13.03	13.08						
20	QPSK	50	0	13.34	13.25	13.25						
20	QPSK	50	24	13.36	13.24	13.27						
20	QPSK	100	0	13.35	13.24	13.25	14.5	0				
20	QPSK	100	0	13.36	13.25	13.25						
20	16QAM	1	49	13.36	13.13	13.19						
20	16QAM	1	99	13.24	13.25	13.09						
20	16QAM	50	0	13.36	13.35	13.18						
20	16QAM	50	24	13.39	13.26	13.29	14.5	0				
20	16QAM	50	50	13.36	13.24	13.26						
20	16QAM	100	0	13.41	13.24	13.27						
20	64QAM	1	0	12.85	12.84	12.85						
20	64QAM	1	49	13.00	12.86	12.92	14.5	0				
20	64QAM	1	99	13.15	12.79	12.95						
20	64QAM	50	0	13.30	13.14	13.16						
20	64QAM	50	24	13.26	13.13	13.27						
20	64QAM	50	50	13.33	13.18	13.04						
20	64QAM	100	0	13.39	13.12	13.24	14.5	0				
20	64QAM	100	0	12.86	12.71	12.81						
20	256QAM	1	49	12.89	12.79	12.96						
20	256QAM	1	99	13.11	12.73	12.79						
20	256QAM	50	0	13.22	13.03	12.99						
20	256QAM	50	24	13.22	12.88	13.26	14.5	0				
20	256QAM	50	50	13.33	13.18	13.04						
20	256QAM	100	0	13.33	13.18	13.04						
Channel												
Frequency (MHz)				37875	38050	38175	Tune-up limit (dBm)	MPR (dB)				
15	QPSK	1	0	13.30	12.89	13.06	14.5	0				
15	QPSK	1	37	13.23	13.25	13.29						
15	QPSK	1	74	13.24	13.09	13.08						
15	QPSK	36	0	13.34	13.16	13.20						
15	QPSK	36	20	13.32	13.14	13.18						
15	QPSK	36	39	13.32	13.02	12.99	14.5	0				
15	QPSK	75	0	13.19	13.15	13.14						
15	16QAM	1	0	13.29	13.11	13.05						
15	16QAM	1	37	13.16	12.94	12.99						
15	16QAM	1	74	13.09	13.09	13.05						
15	16QAM	36	0	13.16	13.13	13.01	14.5	0				
15	16QAM	36	20	13.25	13.18	13.12						
15	16QAM	36	39	13.28	13.24	13.06						
15	16QAM	75	0	13.15	13.06	13.24						
15	16QAM	75	0	13.33	13.14	13.28						
15	256QAM	1	0	13.15	13.12	13.03	14.5	0				
15	256QAM	1	37	13.19	13.05	13.01						
15	256QAM	1	74	13.13	13.08	13.03						
15	256QAM	36	0	13.21	13.01	12.97						
15	256QAM	36	20	13.13	13.16	13.04						
15	256QAM	36	39	13.04	13.19	13.24	14.5	0				
15	256QAM	75	0	13.05	13.06	13.06						
15	256QAM	75	0	13.33	13.14	13.28						
Channel												
Frequency (MHz)				37850	38050	38225			Tune-up limit (dBm)	MPR (dB)		
15	QPSK	1	0	13.31	13.10	13.07	14.5	0				
15	QPSK	1	25	13.19	13.03	13.09						
15	QPSK	1	49	13.20	13.22	12.91						
15	QPSK	1	74	13.25	13.09	13.09						
15	QPSK	25	12	13.29	12.90	13.05						
15	QPSK	25	25	13.28	13.19	13.13	14.5	0				
15	QPSK	50	0	13.43	13.10	13.26						
15	16QAM	1	0	13.22	13.28	13.15						
15	16QAM	1	25	13.13	13.11	13.01						
15	16QAM	1	49	13.17	13.24	13.16						
15	16QAM	25	0	13.24	13.12	13.28	14.5	0				
15	16QAM	25	12	13.13	13.12	13.04						
15	16QAM	25	25	13.12	13.10	13.04						
15	16QAM	50	0	13.25	13.22	13.06						
15	16QAM	50	24	13.24	13.19	13.24						
15	64QAM	1	0	13.24	12.99	13.30	14.5	0				
15	64QAM	1	25	13.24	13.12	13.29						
15	64QAM	1	49	13.06	13.07	13.23						
15	64QAM	25	0	13.31	13.19	13.04						
15	64QAM	25	12	13.19	13.09	13.31						
15	64QAM	25	25	13.09	13.02	13.28	14.5	0				
15	64QAM	50	0	13.29	13.13	13.14						
15	256QAM	1	0	13.02	13.04	13.18						
15	256QAM	1	25	13.01	13.07	13.18						
15	256QAM	1	49	13.11	13.17	13.17						
15	256QAM	25	0	13.06	13.05	13.06	14.5	0				
15	256QAM	25	12	13.17	13.03	13.07						
15	256QAM	25	25	13.08	13.19	13.21						
15	256QAM	50	0	13.21	13.28	13.16						
Channel												
Frequency (MHz)				37775	38050	38225	Tune-up limit (dBm)	MPR (dB)				
5	QPSK	1	0	13.47	13.17	13.17	14.5	0				
5	QPSK	1	12	13.02	12.98	13.00						
5	QPSK	1	24	13.19	13.03	13.09						
5	QPSK	12	0	13.13	13.10	13.21						
5	QPSK	12	7	13.00	13.01	13.22						
5	QPSK	12	14	13.06	13.03	13.28	14.5	0				
5	QPSK	25	0	13.43	13.26	13.12						
5	16QAM	1	0	13.24	13.28	13.15						
5	16QAM	1	12	13.15	13.10	13.20						
5	16QAM	1	24	13.08	13.30	13.00						
5	16QAM	12	0	13.41	13.39	13.08	14.5	0				
5	16QAM	12	7	13.32	13.31	13.24						
5	16QAM	12	13	13.12	13.08	13.17						
5	16QAM	25	0	13.13	13.12	13.12						
5	64QAM	1	0	13.19	13.08	13.24						
5	64QAM	1	12	13.36	12.98	13.01	14.5	0				
5	64QAM	1	24	13.06	13.07	13.23						
5	64QAM	12	0	13.21	13.07	12.98						
5	64QAM	12	7	13.25	13.14	13.20						
5	64QAM	12	14	13.07	13.13	13.13						
5	256QAM	1	0	13.12	13.03	12.99	14.5	0				
5	256QAM	1	12	13.34	13.11	13.16						
5	256QAM	1	24	13.06	13.15	13.00						
5	256QAM	12	0	13.02	12.99	12.96						
5	256QAM	12	7	13.21	12.91	12.91						
5	256QAM	12	13	13.23	12.90	12.91						



Band 48 (3.5G Band)-FCC												
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Mid Ch. / Freq.	Power High Mid Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPE (dB)			
Channel				55340	55830	56150	56640					
Frequency (MHz)				5650	5690	5741	5790					
20	QPSK	1	0	13.64	13.65	13.67	13.84	14.7	0			
20	QPSK	1	49	13.41	13.42	13.45	13.63					
20	QPSK	1	99	13.59	13.61	13.63	13.66					
20	QPSK	59	0	13.66	13.67	13.74	13.70					
20	QPSK	59	24	13.74	13.67	13.74	13.84					
20	QPSK	59	50	13.75	13.72	13.75	13.84	14.7	0			
20	QPSK	100	0	13.61	13.62	13.65	13.64					
20	16QAM	1	0	13.59	13.63	13.61	13.60					
20	16QAM	1	49	13.76	13.63	13.62	13.65					
20	16QAM	1	99	13.78	13.71	13.72	13.60					
20	16QAM	59	0	13.70	13.61	13.66	13.68	14.7	0			
20	16QAM	59	24	13.69	13.67	13.66	13.74					
20	16QAM	59	50	13.71	13.74	13.75	13.78					
20	16QAM	100	0	13.77	13.73	13.68	13.70					
20	64QAM	1	0	13.62	13.56	13.69	13.53					
20	64QAM	1	49	13.66	13.52	13.66	13.57	14.7	0			
20	64QAM	1	99	13.65	13.61	13.48	13.56					
20	64QAM	59	0	13.78	13.79	13.61	13.77					
20	64QAM	59	24	13.74	13.67	13.68	13.66					
20	64QAM	59	50	13.56	13.51	13.56	13.55					
20	64QAM	100	0	13.68	13.72	13.74	13.66	14.7	0			
20	256QAM	1	0	13.73	13.59	13.61	13.67					
20	256QAM	1	49	13.44	13.54	13.55	13.48					
20	256QAM	1	99	13.45	13.44	13.56	13.68	14.7			0	
20	256QAM	59	0	13.65	13.70	13.69	13.63					
20	256QAM	59	24	13.68	13.72	13.74	13.66					
20	256QAM	59	50	13.62	13.55	13.67	13.62	14.7	0			
20	256QAM	100	0	13.66	13.69	13.69	13.60					
Channel				56815	56850	56160	56650					
Frequency (MHz)				5617	5617	5617	5617	Tune-up limit (dBm)			MPE (dB)	
15	QPSK	0	0	13.66	13.60	13.42	13.72	14.7			0	
15	QPSK	1	37	13.22	13.29	13.38	13.65					
15	QPSK	1	74	13.30	13.40	13.30	13.52					
15	QPSK	36	0	13.70	13.63	13.50	13.61					
15	QPSK	36	20	13.72	13.45	13.51	13.67					
15	QPSK	36	39	13.60	13.77	13.63	13.47	14.7	0			
15	QPSK	75	0	13.39	13.40	13.38	13.68					
15	16QAM	1	0	13.71	13.59	13.62	13.58					
15	16QAM	1	37	13.74	13.50	13.41	13.59					
15	16QAM	1	74	13.67	13.63	13.64	13.57					
15	16QAM	36	0	13.70	13.57	13.65	13.46	14.7	0			
15	16QAM	36	20	13.59	13.67	13.48	13.78					
15	16QAM	36	39	13.51	13.70	13.76	13.69					
15	16QAM	75	0	13.56	13.76	13.65	13.46					
15	64QAM	1	0	13.67	13.61	13.64	13.35					
15	64QAM	1	37	13.47	13.47	13.68	13.49	14.7	0			
15	64QAM	1	74	13.50	13.64	13.35	13.34					
15	64QAM	36	0	13.69	13.79	13.57	13.71					
15	64QAM	36	20	13.70	13.52	13.60	13.50					
15	64QAM	36	39	13.35	13.45	13.45	13.40					
15	64QAM	75	0	13.49	13.71	13.64	13.52	14.7	0			
15	256QAM	1	0	13.48	13.49	13.65	13.65					
15	256QAM	1	37	13.25	13.58	13.34	13.33					
15	256QAM	1	74	13.31	13.33	13.59	13.50					
15	256QAM	36	0	13.54	13.59	13.78	13.53					
15	256QAM	36	20	13.65	13.49	13.52	13.65	14.7	0			
15	256QAM	36	39	13.48	13.38	13.60	13.54					
15	256QAM	75	0	13.40	13.50	13.52	13.45					
Channel				56900	56815	56165	56650	Tune-up limit (dBm)			MPE (dB)	
Frequency (MHz)				5617	5617	5617	5617					
10	QPSK	0	0	13.43	13.69	13.70	13.67	14.7	0			
10	QPSK	1	25	13.46	13.25	13.31	13.62					
10	QPSK	1	49	13.62	13.64	13.48	13.69					
10	QPSK	25	0	13.64	13.47	13.75	13.65					
10	QPSK	25	12	13.69	13.36	13.60	13.68					
10	QPSK	25	25	13.77	13.64	13.69	13.49	14.7	0			
10	QPSK	59	0	13.66	13.62	13.58	13.55					
10	16QAM	1	0	13.62	13.61	13.62	13.42					
10	16QAM	1	25	13.75	13.44	13.52	13.46					
10	16QAM	1	49	13.83	13.65	13.65	13.44					
10	16QAM	25	0	13.62	13.64	13.54	13.74	14.7	0			
10	16QAM	25	12	13.65	13.66	13.54	13.70					
10	16QAM	25	25	13.68	13.69	13.61	13.60					
10	16QAM	59	0	13.73	13.51	13.41	13.46					
10	64QAM	1	0	13.48	13.45	13.46	13.34					
10	64QAM	1	25	13.44	13.40	13.49	13.59	14.7	0			
10	64QAM	1	49	13.53	13.46	13.63	13.61					
10	64QAM	25	0	13.67	13.76	13.51	13.68					
10	64QAM	25	12	13.73	13.61	13.69	13.50					
10	64QAM	25	25	13.54	13.47	13.52	13.36					
10	64QAM	59	0	13.42	13.58	13.56	13.65	14.7	0			
10	256QAM	1	0	13.72	13.58	13.59	13.61					
10	256QAM	1	25	13.52	13.35	13.50	13.24					
10	256QAM	1	49	13.38	13.38	13.42	13.46					
10	256QAM	25	0	13.42	13.63	13.64	13.40					
10	256QAM	25	12	13.69	13.55	13.51	13.41	14.7	0			
10	256QAM	25	25	13.43	13.46	13.53	13.57					
10	256QAM	59	0	13.46	13.45	13.43	13.55					
Channel				56950	56815	56165	56655	Tune-up limit (dBm)			MPE (dB)	
Frequency (MHz)				1352.5	1352.5	1352.5	1352.5					
5	QPSK	1	0	13.58	13.63	13.69	13.77	14.7	0			
5	QPSK	1	12	13.44	13.39	13.40	13.55					
5	QPSK	1	24	13.64	13.41	13.62	13.42					
5	QPSK	12	0	13.42	13.67	13.63	13.46					
5	QPSK	12	7	13.58	13.50	13.52	13.74					
5	QPSK	12	13	13.62	13.63	13.54	13.44	14.7	0			
5	QPSK	24	0	13.51	13.51	13.67	13.47					
5	16QAM	1	0	13.72	13.56	13.48	13.39					
5	16QAM	1	12	13.64	13.59	13.48	13.56					
5	16QAM	1	24	13.68	13.58	13.57	13.48					
5	16QAM	12	0	13.54	13.39	13.54	13.52	14.7	0			
5	16QAM	12	7	13.70	13.71	13.61	13.74					
5	16QAM	12	13	13.70	13.76	13.61	13.75					
5	64QAM	1	0	13.76	13.63	13.47	13.72					
5	64QAM	1	12	13.62	13.34	13.67	13.60					
5	64QAM	1	24	13.59	13.66	13.52	13.31	14.7	0			
5	64QAM	12	0	13.72	13.73	13.46	13.63					
5	64QAM	12	7	13.75	13.44	13.51	13.67					
5	64QAM	12	13	13.50	13.37	13.59	13.50					
5	64QAM	25	0	13.35	13.69	13.59	13.56					
5	256QAM	1	0	13.70	13.45	13.57	13.67	14.7	0			
5	256QAM	1	12	13.59	13.61	13.46	13.59					
5	256QAM	1	24	13.33	13.42	13.35	13.73					
5	256QAM	12	0	13.38	13.53	13.55	13.65					
5	256QAM	12	7	13.66	13.71	13.60	13.66					
5	256QAM	12	13	13.39	13.67	13.62	13.63	14.7	0			
5	256QAM	12	13	13.39	13.67	13.62	13.63					
5	256QAM	12	13	13.39	13.67	13.62	13.63					



Full Power for LAT

TX Channel	Baseband Average Power (dBm)			Tx Power Limit (dBm)	Front-End Average Power (dBm)			Tx Power Limit (dBm)
	804.2	806.4	808.6		804.2	806.4	808.6	
Frequency (MHz)	31.52	31.53	31.61	32.80	22.52	22.53	22.61	23.80
OSM 1 Tx Limit	31.50	31.50	31.50	32.80	22.50	22.50	22.50	23.80
OPRS 1 Tx Limit	29.69	29.70	29.80	31.30	23.69	23.70	23.80	25.30
OPRS 3 Tx Limit	26.07	26.10	26.10	28.00	23.81	23.82	23.83	25.24
OPRS 4 Tx Limit	27.10	27.13	27.17	28.50	24.10	24.13	24.17	25.62
EDGE 1 Tx Limit	25.38	25.45	25.49	26.80	18.38	18.46	18.49	19.80
EDGE 3 Tx Limit	23.85	23.95	23.98	24.90	17.85	17.94	17.96	19.30
EDGE 1 Tx Limit	22.84	22.85	23.00	23.80	18.58	18.59	18.74	19.54
EDGE 4 Tx Limit	22.18	22.21	22.40	23.20	18.18	18.21	18.40	19.20

TX Channel	Baseband Average Power (dBm)			Tx Power Limit (dBm)	Front-End Average Power (dBm)			Tx Power Limit (dBm)
	812	861	810		812	861	810	
Frequency (MHz)	150.12	850	150.12	30.30	150.12	850	150.12	21.50
OSM 1 Tx Limit	28.36	29.50	29.02	30.30	19.36	20.50	20.02	21.50
OPRS 1 Tx Limit	28.94	28.50	28.00	30.30	19.94	19.50	20.00	21.50
OPRS 3 Tx Limit	26.36	26.10	26.30	27.80	20.36	20.10	20.30	21.80
OPRS 3 Tx Limit	26.14	25.22	25.58	28.50	20.88	20.08	21.02	22.24
OPRS 4 Tx Limit	24.91	23.96	24.78	29.00	20.81	20.00	20.78	22.00
EDGE 1 Tx Limit	24.63	24.50	24.71	26.80	15.63	15.50	15.71	18.80
EDGE 2 Tx Limit	23.49	23.55	23.59	24.70	17.49	17.55	17.59	18.70
EDGE 3 Tx Limit	22.47	22.54	22.58	23.60	16.47	16.54	16.58	17.54
EDGE 4 Tx Limit	21.37	21.60	21.27	22.60	15.37	15.60	15.27	16.60

TX Channel	Baseband Average Power (dBm)			Tx Power Limit (dBm)	Front-End Average Power (dBm)			Tx Power Limit (dBm)
	804.2	806.4	808.6		804.2	806.4	808.6	
Frequency (MHz)	150.12	850	150.12	30.30	150.12	850	150.12	21.50
OSM 1 Tx Limit	28.36	29.50	29.02	30.30	19.36	20.50	20.02	21.50
OPRS 1 Tx Limit	28.94	28.50	28.00	30.30	19.94	19.50	20.00	21.50
OPRS 3 Tx Limit	26.36	26.10	26.30	27.80	20.36	20.10	20.30	21.80
OPRS 3 Tx Limit	26.14	25.22	25.58	28.50	20.88	20.08	21.02	22.24
OPRS 4 Tx Limit	24.91	23.96	24.78	29.00	20.81	20.00	20.78	22.00
EDGE 1 Tx Limit	24.63	24.50	24.71	26.80	15.63	15.50	15.71	18.80
EDGE 2 Tx Limit	23.49	23.55	23.59	24.70	17.49	17.55	17.59	18.70
EDGE 3 Tx Limit	22.47	22.54	22.58	23.60	16.47	16.54	16.58	17.54
EDGE 4 Tx Limit	21.37	21.60	21.27	22.60	15.37	15.60	15.27	16.60

TX Channel	Baseband Average Power (dBm)			Tx Power Limit (dBm)	Front-End Average Power (dBm)			Tx Power Limit (dBm)
	804.2	806.4	808.6		804.2	806.4	808.6	
Frequency (MHz)	150.12	850	150.12	30.30	150.12	850	150.12	21.50
OSM 1 Tx Limit	28.36	29.50	29.02	30.30	19.36	20.50	20.02	21.50
OPRS 1 Tx Limit	28.94	28.50	28.00	30.30	19.94	19.50	20.00	21.50
OPRS 3 Tx Limit	26.36	26.10	26.30	27.80	20.36	20.10	20.30	21.80
OPRS 3 Tx Limit	26.14	25.22	25.58	28.50	20.88	20.08	21.02	22.24
OPRS 4 Tx Limit	24.91	23.96	24.78	29.00	20.81	20.00	20.78	22.00
EDGE 1 Tx Limit	24.63	24.50	24.71	26.80	15.63	15.50	15.71	18.80
EDGE 2 Tx Limit	23.49	23.55	23.59	24.70	17.49	17.55	17.59	18.70
EDGE 3 Tx Limit	22.47	22.54	22.58	23.60	16.47	16.54	16.58	17.54
EDGE 4 Tx Limit	21.37	21.60	21.27	22.60	15.37	15.60	15.27	16.60

TX Channel	Baseband Average Power (dBm)			Tx Power Limit (dBm)	Front-End Average Power (dBm)			Tx Power Limit (dBm)
	804.2	806.4	808.6		804.2	806.4	808.6	
Frequency (MHz)	150.12	850	150.12	30.30	150.12	850	150.12	21.50
OSM 1 Tx Limit	28.36	29.50	29.02	30.30	19.36	20.50	20.02	21.50
OPRS 1 Tx Limit	28.94	28.50	28.00	30.30	19.94	19.50	20.00	21.50
OPRS 3 Tx Limit	26.36	26.10	26.30	27.80	20.36	20.10	20.30	21.80
OPRS 3 Tx Limit	26.14	25.22	25.58	28.50	20.88	20.08	21.02	22.24
OPRS 4 Tx Limit	24.91	23.96	24.78	29.00	20.81	20.00	20.78	22.00
EDGE 1 Tx Limit	24.63	24.50	24.71	26.80	15.63	15.50	15.71	18.80
EDGE 2 Tx Limit	23.49	23.55	23.59	24.70	17.49	17.55	17.59	18.70
EDGE 3 Tx Limit	22.47	22.54	22.58	23.60	16.47	16.54	16.58	17.54
EDGE 4 Tx Limit	21.37	21.60	21.27	22.60	15.37	15.60	15.27	16.60



Band 2 (1900MHz Band) Part 24E													
SR (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq 1870 1870	Power Ch / Freq 1880 1880	Power Ch / Freq 1890 1890	Turn-up time (s)	MPR (dB)					
Channel Frequency (MHz)													
20	QPSK	1	0	22.39	22.41	22.40			23.8	0			
20	QPSK	1	49	22.25	22.38	22.34							
20	QPSK	1	99	22.21	22.34	22.32			22.8	1			
20	QPSK	50	0	21.48	21.43	21.43							
20	QPSK	50	24	21.43	21.43	21.42			22.8	1			
20	QPSK	50	50	21.39	21.44	21.41							
20	QPSK	100	0	21.43	21.45	21.44			22.8	1			
20	16QAM	1	0	21.77	21.78	21.73							
20	16QAM	1	49	21.65	21.74	21.72			21.8	2			
20	16QAM	1	99	21.60	21.70	21.68							
20	16QAM	50	0	20.41	20.47	20.45			21.8	2			
20	16QAM	50	24	20.49	20.48	20.38							
20	16QAM	50	50	20.45	20.55	20.47			21.8	2			
20	16QAM	1	0	20.73	20.55	20.54							
20	16QAM	1	49	20.59	20.58	20.52			20.8	3			
20	16QAM	1	99	20.53	20.50	20.30							
20	16QAM	50	0	19.51	19.51	19.43			19.3	4.5			
20	16QAM	50	24	19.52	19.52	19.44							
20	16QAM	50	50	19.48	19.55	19.48			19.3	4.5			
20	16QAM	100	0	19.48	19.49	19.43							
20	25QAM	1	0	17.88	17.87	17.80			19.3	4.5			
20	25QAM	1	49	17.73	17.83	17.84							
20	25QAM	1	99	17.81	17.89	17.88			19.3	4.5			
20	25QAM	50	0	17.52	17.52	17.48							
20	25QAM	50	24	17.55	17.43	17.48			19.3	4.5			
20	25QAM	50	50	17.58	17.56	17.57							
20	25QAM	100	0	17.64	17.67	17.63							
Channel Frequency (MHz)													
1887.5 1880 1902.5													
15	QPSK	1	0	22.34	22.38	22.37			23.8	0			
15	QPSK	1	49	22.29	22.37	22.35							
15	QPSK	1	99	22.29	22.37	22.35			22.8	1			
15	QPSK	36	0	21.43	21.44	21.40							
15	QPSK	36	14	21.45	21.46	21.40			22.8	1			
15	QPSK	36	39	21.41	21.52	21.51							
15	QPSK	75	0	21.45	21.46	21.42			22.8	1			
15	16QAM	1	49	21.65	21.70	21.68							
15	16QAM	1	99	21.64	21.70	21.69			21.8	2			
15	16QAM	1	74	21.65	21.65	21.61							
15	16QAM	36	0	20.48	20.44	20.45			21.8	2			
15	16QAM	36	20	20.46	20.44	20.34							
15	16QAM	36	39	20.44	20.53	20.48			21.8	2			
15	16QAM	75	0	20.45	20.45	20.41							
15	16QAM	1	0	20.53	20.58	20.56			20.8	3			
15	16QAM	1	37	20.53	20.59	20.51							
15	16QAM	1	74	20.52	20.57	20.54			20.8	3			
15	16QAM	36	0	19.51	19.50	19.45							
15	16QAM	36	20	19.49	19.51	19.48			19.3	4.5			
15	16QAM	36	39	19.46	19.47	17.84							
15	16QAM	75	0	19.47	19.45	19.44			19.3	4.5			
15	25QAM	1	0	17.84	17.88	17.81							
15	25QAM	1	37	17.80	17.87	17.84			19.3	4.5			
15	25QAM	1	74	17.77	17.83	17.81							
15	25QAM	36	0	17.54	17.55	17.58			19.3	4.5			
15	25QAM	36	20	17.64	17.69	17.60							
15	25QAM	36	39	17.52	17.47	17.63			19.3	4.5			
15	25QAM	75	0	17.52	17.55	17.57							
Channel Frequency (MHz)													
1885 1880 1900													
10	QPSK	1	0	22.30	22.33	22.28			23.8	0			
10	QPSK	1	49	22.28	22.33	22.32							
10	QPSK	1	99	22.28	22.33	22.32			22.8	1			
10	QPSK	25	0	21.33	21.35	21.29							
10	QPSK	25	14	21.32	21.35	21.28			22.8	1			
10	QPSK	25	26	21.32	21.44	21.40							
10	QPSK	50	0	21.36	21.32	21.38			22.8	1			
10	16QAM	1	49	21.67	21.65	21.63							
10	16QAM	1	99	21.60	21.65	21.61			21.8	2			
10	16QAM	1	26	21.60	21.65	21.61							
10	16QAM	1	49	21.61	21.60	21.60			21.8	2			
10	16QAM	25	12	20.40	20.38	20.27							
10	16QAM	25	12	20.40	20.38	20.40			21.8	2			
10	16QAM	25	25	20.37	20.43	20.35							
10	16QAM	25	26	20.42	20.38	20.38			21.8	2			
10	16QAM	1	0	21.12	21.10	21.09							
10	16QAM	1	25	21.12	21.20	21.16			20.8	3			
10	16QAM	25	25	20.91	20.95	20.91							
10	16QAM	25	0	20.93	20.90	19.98			20.8	3			
10	16QAM	25	12	20.94	20.91	20.94							
10	16QAM	25	25	20.91	20.95	20.91			19.3	4.5			
10	16QAM	1	25	17.91	17.94	17.86							
10	25QAM	1	25	17.88	17.83	17.83			19.3	4.5			
10	25QAM	1	49	17.75	17.87	17.87							
10	25QAM	1	99	17.86	17.83	17.83			19.3	4.5			
10	25QAM	25	12	17.51	17.61	17.58							
10	25QAM	25	12	17.51	17.61	17.58			19.3	4.5			
10	25QAM	25	25	17.58	17.50	17.50							
10	25QAM	50	0	17.63	17.66	17.62							
Channel Frequency (MHz)													
1882.5 1880 1902.5													
5	QPSK	1	0	22.32	22.32	22.29			23.8	0			
5	QPSK	1	12	22.35	22.34	22.33							
5	QPSK	1	24	22.32	22.33	22.28			22.8	1			
5	QPSK	12	0	21.45	21.40	21.38							
5	QPSK	12	7	21.43	21.47	21.41			22.8	1			
5	QPSK	12	13	21.45	21.44	21.38							
5	QPSK	20	0	21.44	21.45	21.27			22.8	1			
5	16QAM	1	49	21.63	21.66	21.63							
5	16QAM	1	12	21.63	21.66	21.58			21.8	2			
5	16QAM	1	24	21.62	21.69	21.58							
5	16QAM	12	7	20.45	20.47	20.33			21.8	2			
5	16QAM	12	13	20.45	20.46	20.34							
5	16QAM	15	0	20.43	20.35	20.33			21.8	2			
5	16QAM	15	0	20.43	20.35	20.33							
5	16QAM	1	0	21.13	21.08	21.11			21.8	2			
5	16QAM	1	24	21.11	21.19	21.18							
5	16QAM	12	0	20.09	20.01	19.93			20.8	3			
5	16QAM	12	7	20.11	20.07	20.01							
5	16QAM	12	13	20.08	20.11	19.98			19.3	4.5			
5	16QAM	25	0	20.04	20.00	19.99							
5	25QAM	1	25	17.87	17.91	17.86			19.3	4.5			
5	25QAM	1	12	17.79	17.94	17.85							
5	25QAM	1	24	17.72	17.89	17.79			19.3	4.5			
5	25QAM	12	0	17.42	17.41	17.41							
5	25QAM	12	7	17.59	17.70	17.62			19.3	4.5			
5	25QAM	12	13	17.66	17.46	17.64							
5	25QAM	25	0	17.63	17.56	17.56							
Channel Frequency (MHz)													
1881.5 1880 1901.5													
3	QPSK	1	0	22.28	22.27	22.24			23.8	0			
3	QPSK	1	8	22.35	22.37	22.33			22.8	1			
3	QPSK	1	14	22.33	22.33	22.27							
3	QPSK	8	0	21.40	21.32	21.30			22.8	1			
3	QPSK	8	8	21.38	21.40	21.32							
3	QPSK	8	7	21.42	21.38	21.36			22.8	1			
3	QPSK	15	0	21.43	21.33	21.32							
3	QPSK	15	8	21.39	21.40	21.32			22.8	1			
3	QPSK	1	8	21.72	21.72	21.67							
3	16QAM	1	14	21.68	21.62	21.60			21.8	2			
3	16QAM	8	0	20.47	20.37	20.37							
3	16QAM	8	4	20.48	20.07	20.01			20.8	3			
3	16QAM	8	7	20.45	20.38	20.32							
3	16QAM	8	4	20.25	20.50	20.39			21.8	2			
3	16QAM	8	7	20.48	20.49	20.39							
3	16QAM	15	0	20.17	20.05	20.05			21.8	2			
3	16QAM	1	0	21.13	21.08	21.11							
3	16QAM	1	8	21.01	21.26	21.17			21.8	2			
3	16QAM	8	0	20.07	19.99	19.95							
3	16QAM	8	4	20.08	20.07	20.01			20.8	3			
3	16QAM	8	7	20.05	20.07	20.01							
3	16QAM	15	0	19.80	19.94	19.93			19.3	4.5			
3	16QAM	1	0	17.88	17.81	17.85							
3	16QAM	1	8	17.77	18.02	17.90			19.3	4.5			
3	16QAM	1	14	17.81	17.87	17.83							
3	16QAM	8	0	17.48	17.47	17.47			19.3	4.5			
3	16QAM	8	7	17.57	17.47	17.48							
3	16QAM	8	4	17.47	17.43	17.43							
Channel Frequency (MHz)													
1880.7 1880 1901.3													
1.4	QPSK	1	0	22.24	22.23	22.21			23.8	0			
1.4	QPSK	1	8	22.30	22.32	22.28							
1.4	QPSK	1	5	22.23	22.23	22.15			22.8	1			
1.4	QPSK	3	0	22.27	22.20	22.15							
1.4	QPSK	3	8	22.31	22.25	22.15			22.8	1			
1.4	QPSK	3	3	22.30	22.22	22.13							
1.4	16QAM	1	0	21.38	21.30	21.27			22.8	1			
1.4	16QAM	1	8	21.46	21.62	21.52							
1.4	16Q												



Band 7 (2600MHz Band)										
Part 27										
SV (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power High Ch / Freq	Power High Ch / Freq	Turn-up time (s)	MPR (dB)		
Channel Frequency (MHz)										
20	QPSK	1	0	22.21	22.42	22.43		23.8	0	
20	QPSK	1	49	22.30	22.47	22.51				
20	QPSK	1	99	22.33	22.53	22.51				
20	QPSK	50	0	21.33	21.49	21.55				
20	QPSK	50	24	21.42	21.52	21.57		22.8	1	
20	QPSK	50	50	21.39	21.50	21.55				
20	QPSK	100	0	21.41	21.52	21.51				
20	16QAM	1	0	21.58	21.77	21.77				
20	16QAM	1	49	21.66	21.81	21.87		22.8	1	
20	16QAM	1	99	21.67	21.80	22.00				
20	16QAM	50	0	20.33	20.49	20.57				
20	16QAM	50	24	20.48	20.53	20.72				
20	16QAM	50	50	20.48	20.49	20.59		21.8	2	
20	16QAM	100	0	20.44	20.49	20.59				
20	64QAM	1	0	20.43	20.59	20.57				
20	64QAM	1	49	20.48	20.54	20.76				
20	64QAM	1	99	20.59	20.73	20.89		20.8	3	
20	64QAM	50	0	19.37	19.52	19.59				
20	64QAM	50	24	19.47	19.55	19.73				
20	64QAM	50	50	19.46	19.64	19.73				
20	256QAM	1	0	17.78	17.85	17.75		19.3	4.5	
20	256QAM	1	49	17.77	17.79	17.64				
20	256QAM	1	99	17.74	17.76	17.63				
20	256QAM	50	0	17.63	17.70	17.52				
20	256QAM	50	24	17.68	17.66	17.54		19.3	4.5	
20	256QAM	50	50	17.64	17.68	17.53				
20	256QAM	100	0	17.71	17.65	17.60				
Channel Frequency (MHz)										
16	QPSK	1	0	22.25	22.40	22.51		23.8	0	
16	QPSK	1	49	22.30	22.47	22.51				
16	QPSK	1	74	22.36	22.54	22.51				
16	QPSK	36	0	21.31	21.48	21.56				
16	QPSK	36	20	21.42	21.51	21.68		22.8	1	
16	QPSK	75	0	21.40	21.50	21.70				
16	QPSK	75	0	21.42	21.50	21.66				
16	16QAM	1	0	21.52	21.76	21.79				
16	16QAM	1	37	21.58	21.78	21.87		22.8	1	
16	16QAM	1	74	21.64	21.86	21.93				
16	16QAM	36	0	20.45	20.54	20.55				
16	16QAM	36	20	20.41	20.53	20.56				
16	16QAM	36	59	20.42	20.61	20.70		21.8	2	
16	16QAM	75	0	20.53	20.64	20.65				
16	64QAM	1	0	20.43	20.63	20.65				
16	64QAM	1	37	20.57	20.70	20.79				
16	64QAM	1	74	20.63	20.75	20.85		20.8	3	
16	64QAM	36	0	19.34	19.53	19.62				
16	64QAM	36	20	19.46	19.57	19.74				
16	64QAM	36	59	19.45	19.64	19.74				
16	64QAM	75	0	19.43	19.51	19.68		19.3	4.5	
16	256QAM	1	0	17.78	17.85	17.75				
16	256QAM	1	37	17.77	17.79	17.64				
16	256QAM	1	74	17.74	17.76	17.63				
16	256QAM	36	0	17.63	17.70	17.52		19.3	4.5	
16	256QAM	36	20	17.68	17.66	17.54				
16	256QAM	36	59	17.64	17.68	17.53				
16	256QAM	75	0	17.71	17.65	17.60				
Channel Frequency (MHz)										
10	QPSK	1	0	22.05	22.35	22.65		23.8	0	
10	QPSK	1	0	22.15	22.31	22.40				
10	QPSK	1	15	22.20	22.38	22.49				
10	QPSK	1	49	22.20	22.38	22.49				
10	QPSK	25	0	21.32	21.44	21.56		22.8	1	
10	QPSK	25	25	21.38	21.48	21.58				
10	QPSK	25	26	21.35	21.57	21.66				
10	QPSK	50	0	21.34	21.46	21.56				
10	16QAM	1	0	21.52	21.73	21.81		22.8	1	
10	16QAM	1	26	21.48	21.74	21.81				
10	16QAM	1	49	21.57	21.81	21.93				
10	16QAM	25	0	20.29	20.48	20.55				
10	16QAM	25	12	20.34	20.59	20.59		21.8	2	
10	16QAM	25	25	20.33	20.55	20.65				
10	16QAM	50	0	20.33	20.45	20.57				
10	64QAM	1	0	20.36	20.54	20.68				
10	64QAM	1	25	20.40	20.66	20.81		20.8	3	
10	64QAM	1	49	20.46	20.70	20.82				
10	64QAM	25	0	19.34	19.50	19.55				
10	64QAM	25	12	19.41	19.64	19.63				
10	64QAM	25	25	19.37	19.58	19.59		19.3	4.5	
10	64QAM	50	0	19.38	19.52	19.58				
10	256QAM	1	0	17.78	17.85	17.75				
10	256QAM	1	25	17.77	17.79	17.64				
10	256QAM	1	49	17.74	17.76	17.63		19.3	4.5	
10	256QAM	25	0	17.63	17.70	17.52				
10	256QAM	25	12	17.68	17.66	17.54				
10	256QAM	25	25	17.64	17.68	17.53				
10	256QAM	50	0	17.71	17.65	17.60				
Channel Frequency (MHz)										
5	QPSK	1	0	22.12	22.24	22.50		23.8	0	
5	QPSK	1	18	22.17	22.42	22.56				
5	QPSK	1	24	22.22	22.45	22.52				
5	QPSK	12	0	21.27	21.46	21.64				
5	QPSK	12	7	21.29	21.49	21.55		22.8	1	
5	QPSK	12	13	21.29	21.54	21.63				
5	QPSK	26	0	21.30	21.50	21.61				
5	16QAM	1	0	21.46	21.67	21.88				
5	16QAM	1	12	21.46	21.73	21.85		22.8	1	
5	16QAM	1	24	21.52	21.80	21.91				
5	16QAM	12	0	20.29	20.50	20.64				
5	16QAM	12	7	20.29	20.49	20.70				
5	16QAM	12	13	20.30	20.58	20.65		21.8	2	
5	16QAM	25	0	20.32	20.48	20.63				
5	64QAM	1	0	20.41	20.60	20.78				
5	64QAM	1	18	20.40	20.62	20.76				
5	64QAM	1	24	20.45	20.68	20.80		21.8	2	
5	64QAM	12	0	19.33	19.55	19.71				
5	64QAM	12	25	19.37	19.53	19.69				
5	64QAM	12	13	19.39	19.60	19.70				
5	64QAM	25	0	19.33	19.48	19.66		20.8	3	
5	256QAM	1	0	17.76	17.88	17.75				
5	256QAM	1	12	17.77	17.79	17.64				
5	256QAM	1	24	17.74	17.76	17.63				
5	256QAM	12	0	17.63	17.70	17.52		19.3	4.5	
5	256QAM	12	7	17.68	17.66	17.54				
5	256QAM	12	7	17.68	17.60	17.54				
5	256QAM	12	13	17.64	17.68	17.53				
5	256QAM	25	0	17.71	17.65	17.60				

Band 12 (700MHz Low Band)										
Part 27F (only on channel required)										
SV (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power High Ch / Freq	Power High Ch / Freq	Turn-up time (s)	MPR (dB)		
Channel Frequency (MHz)										
16	QPSK	1	0	22.48	22.52	22.53		23.8	0	
16	QPSK	1	25	22.51	22.61	22.54				
16	QPSK	1	48	22.52	22.62	22.57				
16	QPSK	25	0	21.68	21.69	21.70				
16	QPSK	25	12	21.69	21.73	21.68		22.8	1	
16	QPSK	25	25	21.72	21.76	21.71				
16	QPSK	50	0	21.73	21.74	21.70				
16	16QAM	1	25	21.84	21.92	21.80				
16	16QAM	1	49	21.92	22.02	21.89		22.8	1	
16	16QAM	25	0	20.68	20.67	20.68				
16	16QAM	25	12	20.78	20.81	20.89				
16	16QAM	25	25	20.76	20.79	20.77		21.8	2	
16	16QAM	50	0	20.76	20.79	20.68				
16	16QAM	50	12	20.77	20.81	20.78				
16	16QAM	1	25	20.84	20.95	20.92				
16	16QAM	1	49	20.90	20.87	20.90		21.8	2	
16	16QAM	25	0	20.84	20.87	20.85				
16	16QAM	25	12	20.80	20.81	20.78				
16	16QAM	25	25	20.77	20.77	20.77		20.8	3	
16	16QAM	50	0	20.77	20.78	20.77				
16	16QAM	50	12	20.78	20.81	20.78				
16	16QAM	1	25	17.88	18.02	18.07				
16	16QAM	1	25	17.97	17.99	18.06		19.3	4.5	
16	16QAM	25	0	17.97	17.99	18.06				
16	16QAM	25	12	18.01	17.94	18.02				
16	16QAM	25	25	17.89	17.99	17.96				
16	16QAM	50	0	17.92	17.99	17.98		19.3	4.5	
16	16QAM	50	12	17.92	17.99	17.98				
16	16QAM	50	25	17.83	17.93	17.92				
16	16QAM	1	25	17.91	17.97	17.93				
Channel Frequency (MHz)										
3	QPSK	1	0	22.03	22.09	22.04		23.8	0	
3	QPSK	1	12	22.01	22.00	22.07				
3	QPSK	1	25	22.02	22.01	22.07				
3	QPSK	12	0	21.66	21.67	21.67				
3	QPSK	12	7	21.73	21.79	21.82		22.8	1	
3	QPSK	12	14	21.77	21.71	21.83				
3	QPSK	25	0	21.68	21.74	21.62				
3	16QAM	1	25	21.91	22.00	21.89				
3	16QAM	1	49	21.97	22.05	21.93		22.8	1	
3	16QAM	25	0	20.87	20.87	20.87				
3	16QAM	25	12	20.88	20.73	20.72				
3	16QAM	25	25	20.77	20.78	20.77		21.8	2	
3	16QAM	50	0	20.77	20.78	20.67				
3	16QAM	50	12	20.72	20.76	20.67				
3	16QAM	1	25	20.82	20.88	20.84				
3	16QAM	1	49	20.81	20.80	20.85		21.8	2	
3	16QAM	25	0	20.81	20.80	20.85				
3	16QAM	25	12	20.81	20.80	20.85				
3	16QAM	25	25	20.77	20.78	20.77		20.8	3	
3	16QAM	50	0	20.77	20.78	20.67				
3	16QAM	50	12	20.72	20.76	20.67				
3	16QAM	1	25	20.82	20.88	20.84				
3	16QAM	1	49	20.81	20.80	20.85		19.3	4.5	
3	16QAM	25	0	20.82	20.80	20.85				
3	16QAM	25	12	20.82	20.80	20.85				
3	16QAM	25	25	20.77	20.78	20.77		19.3	4.5	
3	16QAM	50	0	20.77	20.78	20.67				
3	16QAM	50	12	20.72	20.76	20.67				
3	16QAM	50	25	20.72	20.76	20.67				
Channel Frequency (MHz)										
3	QPSK	1	0	22.07	22.08	22.09		23.8	0	
3	QPSK	1	14	22.03	22.01	22.10				
3	QPSK	1	25	22.00	21.67	21.63				
3	QPSK	14	0	21.66	21.73	21.68				
3	QPSK	8	7	21.67	21.60	21.69		22.8	1	
3	QPSK	15	0	21.68	21.72	21.64				
3	QPSK	15	7	21.69	21.62	21.69				
3	16QAM	1	8	21.93	22.00	22.01				
3	16QAM	1	14	21.67	21.95	21.89		22.8	1	
3	16QAM	1	25	21.72	20.74	20.72				
3	16QAM	8	4	20.80	20.84	20.83				
3	16QAM	8	7	20.71	20.77	20.71		21.8	2	
3	16QAM	15	0	20.78	20.79	20.78				
3	16QAM	15	7	20.79	20.74	20.77				
3	16QAM	1	8	20.81	20.95	20.90				
3	16QAM	1	14	20.69	21.00	20.89		20.8	3	
3	16QAM	8	4	20.85	20.82	20.85				
3	16QAM	8	7	20.72	20.77	20.76				
3	16QAM	15	0	20.79	20.78	20.67		19.3	4.5	
3	16QAM	15	7	20.74	20.81	20.79				
3	16QAM	1	8	20.82	20.95	20.90				
3	16QAM	1	14	20.69	21.00	20.89				
3	16QAM	8	4	20.77	20.92	20.90		19.3	4.5	
3	16QAM	8	7	20.78	20.75	20.82				
3	16QAM	15	0	20.78	20.78	20.68				
3	16QAM	15	7	20.78	20.75	20.82				
Channel Frequency (MHz)										
3	QPSK	1	0	22.03	22.01	22.07		23.8	0	
3	QPSK	1	12	22.03	22.01	22.07				
3	QPSK	1	25	22.07	22.07	22.40				
3	QPSK	12	0	21.67	21.67	21.67				
3	QPSK	3	0	22.05	22.07	22.09		22.8	1	
3	QPSK	3	3	22.01	22.09	22.05				
3	QPSK	12	0	21.68	21.68	21.68				
3	16QAM	1	0	21.80	21.83	21.84				
3	16QAM	1	1	21.87	21.96	21.89		22.8	1	
3	16QAM	3	0	21.86	21.86	21.84				
3	16QAM	3	3	21.81	21.77	21.68				
3	16QAM	12	0	21.87	21.68	21.68		21.8	2	
3	16QAM	6	0	20.67	20.73	20.62				
3	16QAM	6	3	20.66	21.08	21.05				
3	16QAM	12	0	21.17	21.17	21.17				
3	16QAM	1	0	20.96	21.10	21.09		21.8	2	
3	16QAM	3	0	20.94	20.98	20.90				
3	16QAM	3	3	20.92	21.02	21.02				
3	16QAM	3	3	20.94	20.97	20.90		20.8	3	
3	16QAM	6	0	20.94	20.94	20.86				
3	16QAM	6	3	20.94	20.94	20.86				
3	16QAM	1	3	17.99	17.99	17.96				
3	16QAM	1	3	18.04	18.01	17.96		19.3	4.5	
3	16QAM	1	3	18.04	18.01	18.03				
3	16QAM	3	3	17.85	17.88	18.06				
3	16QAM	3	3	17.85	17.88	18.06				
3	16QAM	6	0	17.96	17.95	17.97		19.3	4.5	

Band 17 (150MHz Band)									
Part 27H(only on channel required)									
RF (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq	Power Ch / Freq	Power Ch / Freq	Power Ch / Freq	Turn-up time (dBm)	MPE (dB)
Channel Frequency (MHz)									
705 710 715									
10	QPSK	1	0	22.59	22.51	22.55			
10	QPSK	1	25	22.54	22.56	22.58			
10	QPSK	1	49	22.50	22.57	22.57			
10	QPSK	25	0	21.61	21.62	21.60			
10	QPSK	25	12	21.63	21.67	21.64			
10	QPSK	25	25	21.67	21.65	21.62			
10	QPSK	50	0	21.63	21.60	21.61			
10	16QAM	1	25	21.94	21.98	21.93			
10	16QAM	1	49	21.99	21.98	21.95			
10	16QAM	1	73	21.99	21.91	21.98			
10	16QAM	25	12	20.86	20.77	20.88			
10	16QAM	25	25	20.74	20.76	20.73			
10	64QAM	1	0	20.73	20.65	20.78			
10	64QAM	1	25	20.87	20.89	20.83			
10	64QAM	1	49	20.89	20.91	20.88			
10	64QAM	25	0	19.65	19.64	19.66			
10	64QAM	25	12	19.73	19.77	19.70			
10	64QAM	50	0	19.69	19.68	19.72			
10	256QAM	1	0	17.80	17.73	17.48			
10	256QAM	1	25	17.44	17.46	17.58			
10	256QAM	1	49	17.45	17.62	17.57			
10	256QAM	25	0	17.83	17.77	17.71			
10	256QAM	25	12	17.67	17.83	17.64			
10	256QAM	25	25	17.69	17.58	17.53			
10	256QAM	50	0	17.69	17.75	17.47			
Channel Frequency (MHz)									
705.5 710 715.5									
5	QPSK	1	0	22.52	22.57	22.54			
5	QPSK	1	12	22.49	22.50	22.54			
5	QPSK	1	24	22.43	22.54	22.51			
5	QPSK	12	0	21.63	21.65	21.61			
5	QPSK	12	13	21.73	21.74	21.67			
5	QPSK	25	0	21.73	21.73	21.63			
5	16QAM	1	0	21.69	21.66	21.60			
5	16QAM	1	12	21.65	22.07	21.56			
5	16QAM	1	24	22.02	22.07	21.97			
5	16QAM	12	0	20.70	20.67	20.66			
5	16QAM	12	7	20.77	20.76	20.65			
5	16QAM	12	13	20.73	20.77	20.69			
5	64QAM	1	0	20.78	20.80	20.87			
5	64QAM	1	12	20.85	20.93	20.86			
5	64QAM	1	24	20.73	20.75	20.66			
5	64QAM	12	0	19.73	19.72	19.69			
5	64QAM	12	7	19.81	19.80	19.73			
5	64QAM	12	13	19.78	19.81	19.73			
5	256QAM	1	0	17.73	17.52	17.53			
5	256QAM	1	24	17.64	17.64	17.59			
5	256QAM	12	0	17.57	17.66	17.55			
5	256QAM	12	7	17.63	17.66	17.55			
5	256QAM	12	13	17.64	17.59	17.72			
5	256QAM	25	0	17.51	17.60	17.61			

Band 25 (190MHz Band)									
Part 24E									
RF (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq	Power Ch / Freq	Power Ch / Freq	Power Ch / Freq	Turn-up time (dBm)	MPE (dB)
Channel Frequency (MHz)									
1807 1810 1815									
20	QPSK	1	0	22.42	22.47	22.41			
20	QPSK	1	49	22.30	22.43	22.34			
20	QPSK	1	99	22.31	22.41	22.30			
20	QPSK	50	0	21.47	21.49	21.49			
20	QPSK	50	24	21.44	21.44	21.53			
20	QPSK	50	49	21.44	21.44	21.52			
20	QPSK	100	0	21.47	21.50	21.47			
20	16QAM	1	0	21.51	21.51	21.40			
20	16QAM	1	49	21.67	21.73	21.73			
20	16QAM	1	99	21.52	21.69	21.64			
20	16QAM	50	0	20.55	20.55	20.26			
20	16QAM	50	24	20.50	20.51	20.59			
20	16QAM	50	49	20.46	20.55	20.54			
20	64QAM	1	0	20.53	20.57	20.54			
20	64QAM	1	49	20.59	20.61	20.60			
20	64QAM	50	0	19.58	19.57	19.52			
20	64QAM	50	24	19.55	19.52	19.58			
20	256QAM	1	0	17.79	17.79	17.61			
20	256QAM	1	49	17.72	17.81	17.73			
20	256QAM	1	99	17.66	17.73	17.61			
20	256QAM	50	0	17.58	17.78	17.58			
20	256QAM	50	24	17.47	17.69	17.45			
20	256QAM	50	49	17.69	17.83	17.67			
20	256QAM	100	0	17.72	17.85	17.66			
Channel Frequency (MHz)									
1807.5 1810 1815.5									
15	QPSK	1	0	22.45	22.48	22.43			
15	QPSK	1	24	22.37	22.47	22.37			
15	QPSK	36	0	21.62	21.51	21.51			
15	QPSK	36	12	21.67	21.67	21.58			
15	QPSK	36	36	21.41	21.53	21.47			
15	QPSK	75	0	21.47	21.53	21.58			
15	16QAM	1	0	21.72	21.72	21.60			
15	16QAM	1	37	21.65	21.77	21.72			
15	16QAM	1	74	21.54	21.73	21.65			
15	16QAM	36	0	20.54	20.50	20.57			
15	16QAM	36	36	20.41	20.52	20.52			
15	16QAM	75	0	20.59	20.67	20.61			
15	64QAM	1	37	20.61	20.72	20.60			
15	64QAM	1	74	20.58	20.66	20.65			
15	64QAM	36	0	19.59	19.58	19.55			
15	64QAM	36	20	19.55	19.62	19.58			
15	64QAM	75	0	19.53	19.49	19.57			
15	256QAM	1	0	17.89	17.72	17.51			
15	256QAM	1	37	17.78	17.85	17.53			
15	256QAM	1	74	17.70	17.78	17.53			
15	256QAM	36	0	17.56	17.75	17.55			
15	256QAM	36	20	17.75	17.73	17.61			
15	256QAM	36	36	17.64	17.77	17.53			
15	256QAM	75	0	17.72	17.89	17.51			

Band 26 (190MHz Band)									
Part 24E									
RF (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq	Power Ch / Freq	Power Ch / Freq	Power Ch / Freq	Turn-up time (dBm)	MPE (dB)
Channel Frequency (MHz)									
1815 1815.5 1816									
10	QPSK	1	0	22.37	22.32	22.31			
10	QPSK	1	25	22.33	22.33	22.30			
10	QPSK	1	49	22.30	22.30	22.34			23.8
10	QPSK	25	0	21.45	21.40	21.38			
10	QPSK	25	12	21.47	21.42	21.47			
10	QPSK	25	25	21.43	21.49	21.47			22.8
10	QPSK	50	0	21.44	21.40	21.45			
10	16QAM	1	0	21.76	21.60	21.73			
10	16QAM	1	25	21.70	21.71	21.76			
10	16QAM	1	49	21.69	21.86	21.70			22.8
10	16QAM	25	0	20.47	20.48	20.34			
10	16QAM	25	12	20.48	20.54	20.49			
10	16QAM	25	25	20.44	20.48	20.43			21.8
10	16QAM	50	0	20.44	20.39	20.49			
10	64QAM	1	0	20.84	20.55	20.81			
10	64QAM	1	25	20.81	20.88	20.89			
10	64QAM	1	49	20.53	20.63	20.60			
10	64QAM	25	0	19.46	19.48	19.42			
10	64QAM	25	12	19.46	19.51	19.51			
10	64QAM	25	25	19.45	19.54	19.51			20.8
10	64QAM	50	0	19.48	19.49	19.52			
10	256QAM	1	0	17.94	17.78	17.55			
10	256QAM	1	25	17.71	17.84	17.64			
10	256QAM	1	49	17.61	17.65	17.42			19.3
10	256QAM	25	0	17.51	17.85	17.64			
10	256QAM	25	12	17.48	17.72	17.59			
10	256QAM	25	25	17.51	17.65	17.59			
10	256QAM	25	25	17.65	17.79	17.67			19.3
10	256QAM	50	0	17.61	17.81	17.45			4.5
Channel Frequency (MHz)									
1815.5 1816 1816.5									
5	QPSK	1	0	22.39	22.34	22.31			
5	QPSK	1	12	22.43	22.45	22.43			
5	QPSK	1	24	22.38	22.42	22.41			23.8
5	QPSK	12	0	21.44	21.43	21.33			
5	QPSK	12	13	21.53	21.53	21.47			
5	QPSK	12	13	21.50	21.55	21.47			22.8
5	QPSK	25	0	21.51	21.51	21.45			
5	16QAM	1	0	21.74	21.65	21.69			
5	16QAM	1	12	21.71	21.74	21.69			
5	16QAM	1	24	21.68	21.85	21.69			22.8
5	16QAM	12	0	20.49	20.45	20.39			
5	16QAM	12	7	20.58	20.58	20.50			
5	16QAM	12	13	20.57	20.63	20.49			21.8
5	16QAM	25	0	20.51	20.51	20.43			
5	16QAM	25	0	20.74	20.62	20.67			
5	16QAM	25	12	20.67	20.83	20.62			21.8
5	16QAM	25	12	20.67	20.87	20.67			
5	16QAM	25	24	20.67	20.87	20.86			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			20.8
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24	20.67	20.87	20.87			
5	16QAM	25	24						

Band 30										
RF (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power Mid Ch./Freq.	Power High Ch./Freq.	Turn-up limit (dBm)	MPR (dB)		
Channel Frequency (MHz)										
10	QPSK	1	0	22.16						
10	QPSK	1	25	22.39					23.8	0
10	QPSK	1	49	22.37						
10	QPSK	25	0	21.43						
10	QPSK	25	12	21.46					22.8	1
10	QPSK	25	25	21.45						
10	QPSK	50	0	21.47						
10	16QAM	1	0	21.51						
10	16QAM	1	25	21.78					22.8	1
10	16QAM	1	49	21.74						
10	16QAM	25	0	20.42						
10	16QAM	25	12	20.48					21.8	2
10	16QAM	25	25	20.48						
10	16QAM	50	0	20.59						
10	64QAM	1	0	20.52					21.8	2
10	64QAM	1	25	20.55						
10	64QAM	25	0	19.45						
10	64QAM	25	12	19.45					20.8	3
10	64QAM	25	25	19.24						
10	64QAM	50	0	19.18						
10	256QAM	1	0	17.38						
10	256QAM	1	25	17.53					19.3	4.5
10	256QAM	1	49	17.60						
10	256QAM	25	0	17.46						
10	256QAM	25	12	17.53					19.3	4.5
10	256QAM	25	25	17.47						
10	256QAM	50	0	17.43						
Channel Frequency (MHz)										
5	QPSK	1	0	22.05	22.11	22.16				
5	QPSK	1	19	22.27	22.33	22.37			23.8	0
5	QPSK	1	24	22.39	22.39	22.34				
5	QPSK	12	0	21.37	21.48	21.47				
5	QPSK	12	13	21.47	21.48	21.53			22.8	1
5	QPSK	25	0	21.48	21.43	21.49				
5	16QAM	1	0	21.54	21.63	21.66				
5	16QAM	1	12	21.63	21.70	21.68			22.8	1
5	16QAM	1	24	21.71	21.68	21.67				
5	16QAM	12	0	20.36	20.46	20.52				
5	16QAM	12	7	20.50	20.51	20.58			21.8	2
5	16QAM	12	13	20.52	20.51	20.51				
5	16QAM	25	0	20.48	20.47	20.52				
5	64QAM	1	0	20.47	20.34	20.39				
5	64QAM	1	12	20.46	20.14	20.39			21.8	2
5	64QAM	1	24	20.44	20.09	20.51				
5	64QAM	12	0	19.42	19.17	19.26				
5	64QAM	12	7	19.38	19.15	19.37			20.8	3
5	64QAM	12	13	19.23	19.17	19.41				
5	64QAM	25	0	19.29	19.18	19.23				
5	256QAM	1	0	17.48	17.58	17.50				
5	256QAM	1	12	17.54	17.52	17.44			19.3	4.5
5	256QAM	1	24	17.60	17.59	17.54				
5	256QAM	12	0	17.45	17.44	17.39				
5	256QAM	12	7	17.56	17.53	17.49			19.3	4.5
5	256QAM	12	13	17.45	17.42	17.46				
5	256QAM	25	0	17.33	17.49	17.38				

Band 66										
RF (MHz)	Modulation	RB Size	RB Offset	Power Low 150072	Power Mid 150222	Power High 150272	Turn-up limit (dBm)	MPR (dB)		
Channel Frequency (MHz)										
20	QPSK	1	0	22.35	22.44	22.30				
20	QPSK	1	49	22.25	22.44	22.30			23.8	0
20	QPSK	1	99	22.18	22.35	22.21				
20	QPSK	50	0	21.39	21.59	21.42				
20	QPSK	50	24	21.37	21.50	21.37			22.8	1
20	QPSK	50	50	21.36	21.50	21.38				
20	QPSK	100	0	21.40	21.49	21.35				
20	16QAM	1	0	21.59	21.59	21.74				
20	16QAM	1	49	21.63	21.62	21.65			22.8	1
20	16QAM	1	99	21.61	21.70	21.60				
20	16QAM	50	0	20.45	20.54	20.43				
20	16QAM	50	24	20.46	20.52	20.40			21.8	2
20	16QAM	50	50	20.43	20.50	20.40				
20	64QAM	1	0	20.46	20.50	20.69			21.8	2
20	64QAM	1	99	20.45	20.51	20.38				
20	64QAM	50	0	19.43	19.55	19.42				
20	64QAM	50	24	19.48	19.53	19.38			20.8	3
20	64QAM	50	50	19.42	19.53	19.38				
20	64QAM	100	0	19.45	19.51	19.36				
20	256QAM	1	0	17.91	17.74	17.82				
20	256QAM	1	49	17.84	17.84	17.85			19.3	4.5
20	256QAM	1	99	17.78	17.88	17.82				
20	256QAM	50	0	17.62	17.66	17.66				
20	256QAM	50	24	17.75	17.72	17.72			19.3	4.5
20	256QAM	50	50	17.73	17.64	17.67				
20	256QAM	100	0	17.72	17.63	17.68				
Channel Frequency (MHz)										
15	QPSK	1	0	22.31	22.44	22.35				
15	QPSK	1	24	22.22	22.44	22.30			23.8	0
15	QPSK	1	74	22.22	22.37	22.22				
15	QPSK	36	0	21.33	21.48	21.35				
15	QPSK	36	18	21.36	21.45	21.37			22.8	1
15	QPSK	36	36	21.39	21.50	21.35				
15	QPSK	75	0	21.41	21.45	21.38				
15	16QAM	1	0	21.62	21.62	21.64				
15	16QAM	1	37	21.58	21.74	21.60			22.8	1
15	16QAM	1	74	21.49	21.63	21.53				
15	16QAM	36	0	20.36	20.50	20.38				
15	16QAM	36	36	20.37	20.49	20.34			21.8	2
15	16QAM	75	0	20.39	20.46	20.36				
15	16QAM	75	37	20.40	20.55	20.40				
15	64QAM	1	0	20.49	20.67	20.50			21.8	2
15	64QAM	1	37	20.48	20.71	20.49				
15	64QAM	1	74	20.45	20.61	20.38				
15	64QAM	36	0	19.43	19.52	19.36				
15	64QAM	36	36	19.45	19.55	19.45			20.8	3
15	64QAM	36	74	19.46	19.52	19.26				
15	64QAM	75	0	19.41	19.45	19.41				
15	256QAM	1	0	17.91	17.74	17.82				
15	256QAM	1	37	17.84	17.84	17.85			19.3	4.5
15	256QAM	1	74	17.78	17.88	17.82				
15	256QAM	36	0	17.62	17.66	17.66				
15	256QAM	36	36	17.75	17.72	17.72			19.3	4.5
15	256QAM	36	74	17.73	17.64	17.67				
15	256QAM	75	0	17.72	17.63	17.68				
Channel Frequency (MHz)										
10	QPSK	1	0	22.30	22.42	22.24				
10	QPSK	1	24	22.21	22.42	22.25			23.8	0
10	QPSK	1	49	22.21	22.31	22.14				
10	QPSK	25	0	21.33	21.42	21.29				
10	QPSK	25	12	21.36	21.45	21.27			22.8	1
10	QPSK	25	25	21.32	21.49	21.29				
10	QPSK	50	0	21.37	21.41	21.25				
10	16QAM	1	0	21.68	21.62	21.64				
10	16QAM	1	25	21.61	21.79	21.67			22.8	1
10	16QAM	1	49	21.58	21.73	21.52				
10	16QAM	25	0	20.31	20.46	20.26				
10	16QAM	25	12	20.41	20.48	20.38			21.8	2
10	16QAM	25	25	20.34	20.48	20.33				
10	16QAM	50	0	20.38	20.44	20.27				
10	64QAM	1	0	20.51	20.50	20.47				
10	64QAM	1	25	20.60	20.68	20.53			21.8	2
10	64QAM	1	49	20.54	20.58	20.52				
10	64QAM	25	0	19.34	19.50	19.35				
10	64QAM	25	12	19.46	19.49	19.33			20.8	3
10	64QAM	25	25	19.38	19.45	19.26				
10	64QAM	50	0	19.41	19.48	19.29				
10	256QAM	1	0	17.91	17.74	17.82				
10	256QAM	1	25	17.84	17.84	17.85			19.3	4.5
10	256QAM	1	49	17.78	17.88	17.82				
10	256QAM	25	0	17.62	17.66	17.66				
10	256QAM	25	12	17.75	17.72	17.72			19.3	4.5
10	256QAM	25	25	17.73	17.64	17.67				
10	256QAM	50	0	17.72	17.63	17.68				
Channel Frequency (MHz)										
3	QPSK	1	0	22.23	22.37	22.20				
3	QPSK	1	8	22.23	22.37	22.20			23.8	0
3	QPSK	1	16	22.28	22.38	22.25				
3	QPSK	8	0	21.38	21.48	21.26				
3	QPSK	8	8	21.39	21.49	21.27			22.8	1
3	QPSK	8	16	21.37	21.46	21.24				
3	16QAM	1	0	21.68	21.69	21.67				
3	16QAM	1	8	21.68	21.79	21.67			22.8	1
3	16QAM	1	16	21.56	21.69	21.59				
3	16QAM	8	0	20.42	20.56	20.39				
3	16QAM	8	8	20.43	20.56	20.38			21.8	2
3	16QAM	8	16	20.35	20.48	20.35				
3	64QAM	1	0	20.50	20.65	20.47				
3	64QAM	1	8	20.51	20.72	20.47			21.8	2
3	64QAM	1	16	20.57	20.65	20.48				
3	64QAM	8	0	19.41	19.55	19.28				
3	64QAM	8	8	19.42	19.58	19.28			20.8	3
3	64QAM	8	16	19.41	19.52	19.35				
3	256QAM	1	0	17.91	17.74	17.82				
3	256QAM	1	8	17.84	17.84	17.85			19.3	4.5
3	256QAM	1	16	17.78	17.88	17.82				
3	256QAM	8	0	17.62	17.66	17.66				
3	256QAM	8	8	17.75	17.72	17.72			19.3	4.5
3	256QAM	8	16	17.73	17.64	17.67				
3	256QAM	16	0	17.72	17.63	17.68				
Channel Frequency (MHz)										
1.4	QPSK	1	0	22.23	22.37	22.20				
1.4	QPSK	1	0	22.23	22.37	22.20				
1.4	QPSK	1	16	22.28	22.38	22.25			23.8	0
1.4	QPSK	3	0	21.39	21.49	21.27				
1.4	QPSK	3	3	21.39	21.49	21.27				
1.4	QPSK	3	16	21.37	21.46	21.24			22.8	1
1.4	16QAM	1	0	21.54	21.67	21.47				
1.4	16QAM	1	3	21.63	21.70	21.54				
1.4	16QAM	1	16	21.62	21.62	21.62			22.8	1
1.4	16QAM	3	0	20.36	20.48	20.29				
1.4	16QAM	3	3	20.38	21.14	20.37			21.8	2
1.4	16QAM	3	16	20.35	20.48	20.29				
1.4	64QAM	1	0	20.53	20.68	20.50			21.8	2
1.4	64QAM	1	3	20.60	20.73	20.51				
1.4	64QAM	1	16	20.51	20.59	20.51				
1.4	64QAM	3	0	19.31	19.50	19.30			20.8	3
1.4	64QAM	3	3	19.31	19.48	19.29				
1.4	256QAM	1	0	17.91	17.74	17.82				
1.4	256QAM	1	3	17.84	17.84	17.85			19.3	4.5
1.4	256QAM	1	16	17.78	17.88	17.82				
1.4	256QAM	3	0	17.62	17.66	17.66				
1.4	256QAM	3	3	17.75	17.72	17.72			19.3	4.5
1.4	256QAM	3	16	17.73	17.63	17.68				



Band 23(only on channel required)										
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. [Frac]	Power High Ch. [Frac]	Power Low Ch. [Frac]	Power High Ch. [Frac]	Turn-up time (dBm)	MFR (dB)	
Channel										
Frequency [MHz]										
20	QPSK	1	0	22.52	22.52	22.52	22.52	23.8	0	
20	QPSK	1	46	22.52	22.52	22.52	22.52			
20	QPSK	1	99	22.50	22.50	22.50	22.50			
20	QPSK	50	0	21.61	21.61	21.61	21.61			
20	QPSK	50	24	21.62	21.62	21.62	21.62	22.8	1	
20	QPSK	50	0	21.61	21.61	21.61	21.61			
20	QPSK	100	0	21.60	21.60	21.60	21.60			
20	HQAM	1	0	21.72	21.68	21.72	21.68	22.8	1	
20	HQAM	1	46	21.57	21.59	21.57	21.59			
20	HQAM	1	99	21.53	21.47	21.53	21.47			
20	HQAM	50	0	20.59	20.49	20.59	20.49			
20	HQAM	50	24	20.74	20.55	20.74	20.55	21.8	2	
20	HQAM	100	0	20.67	20.53	20.64	20.54			
20	HQAM	1	0	20.51	20.32	20.50	20.30			
20	HQAM	1	46	20.32	20.34	20.32	20.34	21.8	2	
20	HQAM	1	99	20.26	20.26	20.24	20.24			
20	HQAM	50	0	19.53	19.26	19.52	19.25			
20	HQAM	50	24	19.66	19.40	19.60	19.40	20.8	3	
20	HQAM	50	99	19.59	19.32	19.58	19.38			
20	HQAM	100	0	19.64	19.56	19.60	19.60			
20	256QAM	1	0	17.58	17.66	17.73	17.73	19.3	4.5	
20	256QAM	1	46	17.52	17.51	17.58	17.58			
20	256QAM	1	99	17.53	17.61	17.71	17.71			
20	256QAM	50	0	17.62	17.68	17.81	17.81			
20	256QAM	50	24	17.61	17.63	17.66	17.66	19.3	4.5	
20	256QAM	50	99	17.65	17.69	17.82	17.82			
20	256QAM	100	0	17.62	17.63	17.80	17.80			
Channel										
Frequency [MHz]										
15	QPSK	1	0	22.42	22.31	22.42	22.42	23.8	0	
15	QPSK	1	37	22.47	22.38	22.47	22.47			
15	QPSK	1	74	22.46	22.21	22.44	22.44			
15	QPSK	36	0	21.61	21.61	21.61	21.61	22.8	1	
15	QPSK	36	20	21.64	21.47	21.44	21.44			
15	QPSK	36	39	21.70	21.49	21.58	21.58			
15	QPSK	75	0	21.76	21.68	21.69	21.69	22.8	1	
15	HQAM	1	0	21.68	21.58	21.67	21.67			
15	HQAM	1	37	21.63	21.38	21.31	21.31	21.8	2	
15	HQAM	1	74	21.51	21.23	21.54	21.54			
15	HQAM	36	0	20.68	20.36	20.42	20.42			
15	HQAM	36	20	20.61	20.07	20.42	20.42	21.8	2	
15	HQAM	36	39	20.58	20.05	20.39	20.39			
15	HQAM	75	0	20.77	20.41	20.52	20.52			
15	HQAM	1	0	20.30	20.21	20.25	20.25	21.8	2	
15	HQAM	1	37	20.28	20.21	20.27	20.27			
15	HQAM	1	74	20.24	20.23	20.34	20.34			
15	HQAM	36	0	20.62	20.36	20.42	20.42	20.8	3	
15	HQAM	36	20	20.55	19.90	20.45	20.45			
15	HQAM	36	39	19.63	19.50	19.60	19.60			
15	HQAM	75	0	20.73	20.46	20.57	20.57			
15	256QAM	1	0	17.63	17.70	17.67	17.67	19.3	4.5	
15	256QAM	1	37	17.60	17.43	17.64	17.64			
15	256QAM	1	74	17.48	17.47	17.51	17.51			
15	256QAM	36	0	17.79	17.68	17.67	17.67			
15	256QAM	36	20	17.80	17.62	17.66	17.66	19.3	4.5	
15	256QAM	36	39	17.85	17.63	17.68	17.68			
15	256QAM	75	0	17.78	17.63	17.80	17.80			
Channel										
Frequency [MHz]										
10	QPSK	1	0	22.44	22.33	22.44	22.44	23.8	0	
10	QPSK	1	37	22.48	22.36	22.48	22.48			
10	QPSK	1	46	22.38	22.22	22.32	22.32			
10	QPSK	25	0	21.64	21.46	21.63	21.63	22.8	1	
10	QPSK	25	12	21.67	21.47	21.64	21.64			
10	QPSK	25	26	21.64	21.58	21.73	21.73			
10	QPSK	50	0	21.66	21.63	21.68	21.68			
10	QPSK	50	12	21.67	21.63	21.66	21.66	22.8	1	
10	HQAM	1	0	21.60	21.62	21.66	21.66			
10	HQAM	1	46	21.68	21.62	21.68	21.68			
10	HQAM	25	0	20.62	20.48	20.58	20.58	21.8	2	
10	HQAM	25	12	20.56	20.43	20.70	20.70			
10	HQAM	50	0	20.70	20.60	20.77	20.77			
10	HQAM	1	0	20.24	20.48	20.42	20.42	21.8	2	
10	HQAM	1	26	20.16	20.17	20.40	20.40			
10	HQAM	1	46	20.37	20.50	20.62	20.62			
10	HQAM	25	0	19.57	19.57	19.63	19.63	20.8	3	
10	HQAM	25	12	19.54	19.59	19.64	19.64			
10	HQAM	25	26	19.56	19.59	19.67	19.67			
10	HQAM	50	0	19.58	19.50	19.79	19.79			
10	HQAM	1	0	17.48	17.66	17.63	17.63	19.3	4.5	
10	256QAM	1	0	17.51	17.51	17.55	17.55			
10	256QAM	25	0	17.51	17.51	17.55	17.55			
10	256QAM	25	12	17.49	17.61	17.66	17.66	19.3	4.5	
10	256QAM	25	26	17.76	17.61	17.64	17.64			
10	256QAM	50	0	17.63	17.77	17.80	17.80			

Band 41 (2.6G Band)-Class 3										
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. [Frac]	Power High Ch. [Frac]	Power Low Ch. [Frac]	Power High Ch. [Frac]	Turn-up time (dBm)	MFR (dB)	
Channel										
Frequency [MHz]										
20	QPSK	1	0	22.47	22.35	22.50	22.45	23.8	0	
20	QPSK	1	46	22.52	22.50	22.54	22.49			
20	QPSK	1	99	22.43	22.66	22.53	22.61			
20	QPSK	50	0	21.55	21.60	21.61	21.61	22.8	1	
20	QPSK	50	24	21.56	21.75	21.71	21.70			
20	QPSK	50	50	21.58	21.80	21.73	21.73			
20	QPSK	100	0	21.63	21.76	21.71	21.69	22.8	1	
20	HQAM	1	0	21.60	21.70	21.66	21.71	22.8	1	
20	HQAM	1	46	21.55	21.73	21.77	21.72			
20	HQAM	1	99	21.55	21.76	21.79	21.74			
20	HQAM	50	0	20.65	20.68	20.62	20.72	21.8	2	
20	HQAM	50	24	20.67	20.84	20.69	20.79			
20	HQAM	50	50	20.55	20.85	20.75	20.75			
20	HQAM	100	0	20.64	20.86	20.73	20.89	21.8	2	
20	HQAM	1	0	20.37	20.31	20.39	20.53	20.8	3	
20	HQAM	1	46	20.27	20.33	20.38	20.40	21.8	2	
20	HQAM	1	99	20.26	20.47	20.44	20.59			
20	HQAM	50	0	19.64	19.75	19.71	19.82	20.8	3	
20	HQAM	50	24	19.66	19.91	19.81	19.78			
20	HQAM	50	50	19.68	19.79	19.73	19.76			
20	HQAM	100	0	19.63	19.81	19.73	19.81			
20	256QAM	1	0	17.64	17.43	17.48	17.49	19.3	4.5	
20	256QAM	1	46	17.61	17.37	17.42	17.31			
20	256QAM	1	99	17.55	17.34	17.30	17.37			
20	256QAM	50	0	17.61	17.68	17.73	17.73	19.3	4.5	
20	256QAM	50	24	17.63	17.71	17.72	17.67			
20	256QAM	50	50	17.67	17.66	17.75	17.71			
20	256QAM	100	0	17.62	17.63	17.66	17.62			
Channel										
Frequency [MHz]										
15	QPSK	1	0	22.44	22.35	22.43	22.49	23.8	0	
15	QPSK	1	37	22.47	22.40	22.43	22.45			
15	QPSK	1	74	22.40	22.67	22.62	22.67			
15	QPSK	36	0	21.62	21.75	21.62	21.61	22.8	1	
15	QPSK	36	39	21.51	21.76	21.62	21.77			
15	QPSK	75	0	21.60	21.73	21.63	21.68	22.8	1	
15	HQAM	1	0	21.63	21.65	21.72	21.70			
15	HQAM	1	37	21.59	21.42	21.68	21.76	22.8	1	
15	HQAM	1	74	21.51	21.23	21.79	21.52			
15	HQAM	36	0	20.50	20.66	20.50	20.65	21.8	2	
15	HQAM	36	20	20.47	20.71	20.59	20.73			
15	HQAM	36	39	20.46	20.72	20.60	20.75			
15	HQAM	75	0	20.61	20.74	20.65	20.77	21.8	2	
15	HQAM	1	0	20.29	20.38	20.37	20.48			
15	HQAM	1	37	20.32	20.41	20.32	20.53	21.8	2	
15	HQAM	1	74	20.25	20.63	20.44	20.60			
15	HQAM	36	0	19.63	19.66	19.64	19.69	20.8	3	
15	HQAM	36	20	19.65	19.90	19.80	19.85			
15	HQAM	36	39	19.66	19.82	19.74	19.80			
15	HQAM	75	0	19.63	19.86	19.78	19.83			
15	256QAM	1	0	17.64	17.43	17.48	17.49	19.3	4.5	
15	256QAM	1	46	17.62	17.64	17.53	17.47			
15	256QAM	1	74	17.54	17.44	17.44	17.57	19.3	4.5	
15	256QAM	50	0	17.61	17.67	17.74	17.72			
15	256QAM	50	20	17.67	17.66	17.63	17.62			
15	256QAM	50	50	17.69	17.68	17.75	17.72	19.3	4.5	
15	256QAM	75	0	17.65	17.68	17.67	17.65			
Channel										
Frequency [MHz]										
10	QPSK	1	0	22.33	22.60	22.41	22.57	25.50		
10	QPSK	1	25	22.40	22.65	22.43	22.48			
10	QPSK	1	50	22.45	22.66	22.48	22.57	23.8	0	
10	QPSK	25	0	21.59	21.71	21.51	21.64	22.8	1	
10	QPSK	25	12	21.61	21.78	21.63	21.63			
10	QPSK	25	37	21.61	21.76	21.62	21.68			
10	QPSK	50	0	21.57	21.74	21.60	21.61	22.8	1	
10	QPSK	50	12	21.58	21.76	21.61	21.67			
10	HQAM	1	0	21.50	21.68	21.73	21.75	22.8	1	
10	HQAM	1	49	21.61	21.82	21.77	21.81	21.8	1	
10	HQAM	1	99	21.58	21.80	21.75	21.83			
10	HQAM	25	12	20.62	20.79	20.60	20.64	21.8	2	
10	HQAM	25	37	20.62	20.68	20.64	20.80			
10	HQAM	50	0	20.57	20.71	20.58	20.73			
10	HQAM	1	0	20.37	20.38	20.33	20.43	20.8		
10	HQAM	1	25	20.34	20.40	20.31	20.59	21.8	2	
10	HQAM	25	12	19.63	19.65	19.60	19.64	20.8	3	
10	HQAM	25	37	19.61	19.68	19.62	19.76			
10	HQAM	50	0	19.55	19.58	19.53	19.57			
10	HQAM	25	12	19.74	19.80	19.70	19.77	19.8		
10	HQAM	50	0	19.66	19.82	19.65	19.71			
10	256QAM	1	0	17.66	17.48	17.48	17.53	19.3	4.5	
10	256QAM	1	25	17.69	17.82	17.62	17.61			
10	256QAM	1	49	17.68	17.46	17.49	17.67	17.6		
10	256QAM	25	12	17.61	17.64	17.61	17.69			
10	256QAM	25	37	17.62	17.76	17.76	17.59	17.6		
10	256QAM	50	0	17.65	17.67	17.64	17.62			
10	256QAM	50	12	17.65	17.67	17.63	17.64			
Channel										
Frequency [MHz]										
5	QPSK	1	0	22.33	22.63	22.49	22.63	25.50		
5	QPSK	1	12	22.44	22.64	22.56	22.60			
5	QPSK	1	24	22.45	22.66	22.58	22.63	23.8	0	
5	QPSK	12	0	21.60	21.73	21.66	21.67	22.8	1	
5	QPSK	12	7	21.62	21.79	21.69	21.74			
5	QPSK	12	19	21.63	21.77	21.68	21.79			
5	QPSK	25	0	21.56	21.74	21.66	21.69	21.8	1	
5	HQAM	1	0	21.63	21.74	21.69	21.73	22.8	1	
5	HQAM	1	12	21.62	22.06	21.88	21.80			
5	HQAM	1	24	21.63	21.81	21.72	21.79			
5	HQAM	12	0	20.56	20.67	20.57	20.62	21.8	2	
5	HQAM	12	7	20.56	20.74	20.67	20.71			
5	HQAM	12	19	20.60	20.72	20.64	20.77	20.8		
5	HQAM	25	0	20.57	20.71	20.60	20.73			
5	HQAM	1	0	20.42	20.47	20.34	20.51	20.8		
5	HQAM	1	12	20.32	20.48	20.42	20.56	20.8	2	
5	HQAM	1	24	20.33	20.41	20.41	20.48			
5	HQAM	12	0	19.61	19.61	19.68	19.76	19.8		
5	HQAM	12	13	19.61	19.67	19.67	19.73			
5	HQAM	25	0	19.60	19.65	19.71	19.77	19.8		
5	256QAM	1	0	17.66	17.48	17.48	17.53	19.3	4.5	
5	256QAM	1	12	17.69	17.42	17.48	17.60			
5	256QAM	1	24	17.65	17.33	17.39	17.42	17.31		
5	256QAM	12	0	17.66	17.62	17.62	17.63	17.30		
5	256QAM	12	7	17.66	17.79	17.68	17.70			
5	256QAM	12	19	17.66	17.67	17.72	17.68	17.59		
5	256QAM	25	0	17.65	17.67	17.63	17.67			



Reduced power for Hotspot on-LAT

Tx Channel	Best Average Power (dBm)			Tx Power Limit (dBm)	Power Average Power (dBm)			Tx Power Limit (dBm)
	515	885	895		515	885	895	
Frequency (MHz)	1890.2	1890	1890.8		1890.2	1890	1890.8	
OPRS 1 Tx side	27.56	27.58	27.58	28.28	18.56	18.59	18.58	19.70
OPRS 1 Rx side	27.53	27.55	27.52	28.70	18.53	18.55	18.62	19.70
OPRS 2 Tx side	25.07	24.85	25.03	26.20	19.07	18.86	19.03	20.50
OPRS 3 Tx side	23.44	23.71	23.83	24.90	19.18	19.45	19.57	20.94
OPRS 4 Tx side	22.09	22.05	22.08	23.40	19.09	19.05	19.08	20.40
EDGE 1 Tx side	22.19	22.21	22.16	23.21	19.10	19.21	19.16	19.20
EDGE 2 Tx side	22.89	22.14	22.22	23.10	18.98	18.14	18.22	17.12
EDGE 3 Tx side	21.06	21.11	21.08	22.00	18.80	18.85	18.82	17.04
EDGE 4 Tx side	19.76	19.85	20.02	21.00	18.76	18.83	17.02	16.30

Tx Channel	MCCAA II			Tx Power Limit (dBm)	MCCAA IV			Tx Power Limit (dBm)
	9082	9080	9088		14112	14113	14113	
Frequency (MHz)	9082	9080	9088		14112	14113	14113	
OPRS 1 Tx side	18.31	18.30	18.34	19.40	18.65	18.76	18.82	19.80
OPRS 1 Rx side	16.35	16.35	16.36	16.40	16.66	16.60	16.64	16.80
OPRS 2 Tx side	17.34	17.44	17.39	18.40	17.69	17.76	17.81	18.80
OPRS 3 Tx side	17.06	17.44	17.30	18.40	17.60	17.80	17.81	18.80
OPRS 4 Tx side	16.86	16.91	16.86	17.60	17.20	17.27	17.30	18.30
OPRS 5 Tx side	16.86	16.90	16.82	17.80	17.40	17.33	17.35	18.30
OPRS 6 Tx side	17.19	17.24	17.15	18.40	17.50	17.55	17.65	18.80
OPRS 7 Tx side	16.87	17.20	17.19	18.40	17.49	17.61	17.67	18.80
OPRS 8 Tx side	16.84	16.75	16.87	17.80	17.01	17.09	17.13	18.30
OPRS 9 Tx side	16.88	16.80	16.78	17.60	17.01	17.19	17.18	18.30
OPRS 10 Tx side	17.14	17.42	17.41	18.40	17.65	17.81	17.80	18.80
OPRS 11 Tx side	16.37	16.45	16.39	17.40	16.70	16.65	16.62	16.80
OPRS 12 Tx side	14.51	14.60	14.42	16.40	15.88	15.79	15.80	16.80
OPRS 13 Tx side	15.15	15.21	15.16	16.40	16.31	16.40	16.30	16.80
OPRS 14 Tx side	17.31	17.41	17.31	18.40	17.67	17.60	17.81	18.80
OPRS 15 Tx side	15.98	15.87	15.82	16.90	16.26	16.32	16.24	17.30

Tx Channel	CCMA BC0			Tx Power Limit (dBm)	CCMA BC1			Tx Power Limit (dBm)	CCMA BC10			Tx Power Limit (dBm)
	1013	864	777		26	400	8175		476	580	684	
Frequency (MHz)	1013	864	777		26	400	8175		476	580	684	
OPRS 1 Tx side	22.23	22.42	22.05	23.60	19.44	19.82	19.89	20.00	22.14	22.16	22.25	23.30
OPRS 1 Rx side	22.22	22.39	22.04	23.60	19.82	19.66	19.87	20.00	22.11	22.14	22.07	23.30
OPRS 2 Tx side	22.21	22.31	22.03	23.60	19.81	19.69	19.80	20.00	22.10	22.11	22.04	23.30
OPRS 2 Rx side	22.13	22.21	22.02	23.60	19.80	19.67	19.84	20.00	22.03	22.07	22.01	23.30
OPRS 3 Tx side	22.23	22.37	22.07	23.60	19.78	19.83	19.82	20.00	22.09	22.12	22.07	23.30
OPRS 3 Rx side	22.23	22.30	22.00	23.60	19.76	19.84	19.81	20.00	22.07	22.11	22.05	23.30

Band 2 (1900MHz Band) Part 24E											
SR (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq 1800	Power Ch / Freq 1850	Power Ch / Freq 1900	Turn-up time (s)	MPE (dB)			
Channel Frequency (MHz)											
20	QPSK	1	0	17.78	17.81	17.77	19.8	0			
20	QPSK	1	49	17.73	17.73	17.78					
20	QPSK	1	99	17.67	17.72	17.71					
20	QPSK	50	0	17.73	17.74	17.69					
20	QPSK	50	24	17.73	17.69	17.67					
20	QPSK	50	50	17.64	17.73	17.70	19.8	0			
20	QPSK	100	0	17.68	17.69	17.68					
20	16QAM	1	0	17.71	17.73	17.73					
20	16QAM	1	49	17.65	17.73	17.75					
20	16QAM	1	99	17.79	17.72	17.69					
20	16QAM	50	0	17.71	17.71	17.73	19.8	0			
20	16QAM	50	24	17.72	17.72	17.75					
20	16QAM	50	50	17.70	17.76	17.74					
20	16QAM	100	0	17.69	17.71	17.71					
20	16QAM	1	0	17.66	17.75	17.63					
20	16QAM	1	49	17.72	17.61	17.79	19.8	0			
20	16QAM	50	0	17.70	17.65	17.70					
20	16QAM	50	24	17.71	17.72	17.70					
20	16QAM	50	50	17.67	17.67	17.69					
20	16QAM	100	0	17.67	17.67	17.69					
20	25QAM	1	0	17.68	17.68	17.69	19.8	0			
20	25QAM	1	49	17.61	17.72	17.70					
20	25QAM	50	0	17.69	17.69	17.68					
20	25QAM	50	24	17.69	17.69	17.68					
20	25QAM	100	0	17.69	17.69	17.68					
Channel Frequency (MHz)											
15	QPSK	1	0	17.92	17.79	17.89	19.8	0			
15	QPSK	1	37	17.70	17.80	17.80					
15	QPSK	1	74	17.49	17.42	17.47					
15	QPSK	36	0	17.69	17.68	17.62					
15	QPSK	36	37	17.61	17.61	17.67					
15	QPSK	36	74	17.62	17.62	17.59	19.8	0			
15	16QAM	1	0	17.62	17.62	17.59					
15	16QAM	1	37	17.49	17.76	17.63					
15	16QAM	1	74	17.74	17.65	17.69					
15	16QAM	36	0	17.64	17.64	17.66					
15	16QAM	36	37	17.67	17.67	17.62	19.8	0			
15	16QAM	36	74	17.65	17.65	17.64					
15	16QAM	75	0	17.49	17.76	17.63					
15	16QAM	75	37	17.49	17.76	17.63					
15	16QAM	75	74	17.74	17.65	17.69					
15	16QAM	36	20	17.77	17.67	17.62	19.8	0			
15	16QAM	36	39	17.67	17.71	17.70					
15	16QAM	75	0	17.49	17.76	17.63					
15	16QAM	75	37	17.49	17.76	17.63					
15	16QAM	75	74	17.74	17.65	17.69					
15	25QAM	1	0	17.51	17.63	17.64	19.8	0			
15	25QAM	1	37	17.63	17.58	17.58					
15	25QAM	1	74	17.45	17.60	17.51					
15	25QAM	36	0	17.51	17.49	17.41					
15	25QAM	36	39	17.45	17.64	17.52					
15	25QAM	1	0	17.34	17.59	17.62	19.8	0			
15	25QAM	1	37	17.45	17.64	17.52					
15	25QAM	1	74	17.52	17.41	17.33					
15	25QAM	36	0	17.03	17.06	17.01					
15	25QAM	36	39	17.10	17.20	17.20					
15	25QAM	36	39	17.13	17.28	17.20	19.8	0			
15	25QAM	75	0	17.20	17.09	17.24					
Channel Frequency (MHz)											
10	QPSK	1	0	17.54	17.71	17.49	19.8	0			
10	QPSK	1	24	17.42	17.49	17.53					
10	QPSK	1	49	17.42	17.55	17.67					
10	QPSK	25	0	17.49	17.58	17.45					
10	QPSK	25	12	17.48	17.49	17.56					
10	QPSK	25	25	17.60	17.64	17.51	19.8	0			
10	QPSK	50	0	17.40	17.49	17.53					
10	16QAM	1	0	17.69	17.75	17.70					
10	16QAM	1	25	17.65	17.68	17.64					
10	16QAM	1	49	17.55	17.67	17.68					
10	16QAM	25	0	17.69	17.56	17.54	19.8	0			
10	16QAM	25	12	17.68	17.66	17.62					
10	16QAM	25	25	17.60	17.79	17.50					
10	16QAM	50	0	17.74	17.53	17.57					
10	16QAM	50	1	17.58	17.70	17.49					
10	16QAM	1	25	17.68	17.61	17.74	19.8	0			
10	16QAM	1	49	17.65	17.70	17.60					
10	16QAM	25	0	17.66	17.64	17.63					
10	16QAM	25	12	17.48	17.60	17.50					
10	16QAM	25	25	17.59	17.77	17.54					
10	16QAM	50	0	17.43	17.64	17.45	19.8	0			
10	25QAM	1	0	17.36	17.69	17.60					
10	25QAM	1	25	17.20	17.65	17.58					
10	25QAM	1	49	17.46	17.42	17.45					
10	25QAM	25	0	17.15	17.11	17.03					
10	25QAM	25	12	17.18	17.16	17.13	19.8	0			
10	25QAM	25	25	17.21	17.30	17.25					
10	25QAM	50	0	17.44	17.42	17.41					
Channel Frequency (MHz)											
5	QPSK	1	0	17.57	17.72	17.71	19.8	0			
5	QPSK	1	12	17.67	17.66	17.78					
5	QPSK	1	24	17.62	17.68	17.61					
5	QPSK	12	0	17.45	17.44	17.37					
5	QPSK	12	7	17.08	17.46	17.39					
5	QPSK	12	13	17.61	17.47	17.56	19.8	0			
5	QPSK	25	0	17.48	17.54	17.45					
5	16QAM	1	0	17.43	17.64	17.57	19.8	0			
5	16QAM	1	12	17.72	17.76	17.64					
5	16QAM	1	24	17.67	17.66	17.61					
5	16QAM	12	0	17.49	17.49	17.53					
5	16QAM	12	13	17.50	17.67	17.75					
5	16QAM	12	13	17.15	17.15	17.13	19.8	0			
5	16QAM	25	0	17.61	17.70	17.63					
5	16QAM	25	12	17.73	17.44	17.50					
5	16QAM	25	24	17.64	17.64	17.63	19.8	0			
5	16QAM	12	0	17.64	17.57	17.57					
5	16QAM	12	7	17.48	17.71	17.73					
5	16QAM	12	13	17.64	17.70	17.68					
5	16QAM	25	0	17.52	17.50	17.41					
5	25QAM	1	0	17.43	17.44	17.39	19.8	0			
5	25QAM	1	12	17.64	17.64	17.64					
5	25QAM	1	24	17.58	17.60	17.55					
5	25QAM	12	0	17.38	17.52	17.62					
5	25QAM	12	0	17.01	17.19	16.98					
5	25QAM	12	13	17.64	17.64	17.64	19.8	0			
5	25QAM	12	13	17.26	17.20	17.18					
5	25QAM	25	0	17.13	17.06	17.17					
Channel Frequency (MHz)											
3	QPSK	1	0	18.05	18.00	18.05	19.8	0			
3	QPSK	1	6	17.82	17.82	17.89					
3	QPSK	1	12	17.87	17.86	17.88					
3	QPSK	1	18	17.92	17.91	17.91					
3	QPSK	1	14	17.44	17.43	17.43					
3	QPSK	8	0	17.52	17.57	17.51	19.8	0			
3	QPSK	8	6	17.48	17.50	17.50					
3	QPSK	7	0	17.59	17.56	17.52					
3	QPSK	15	0	17.64	17.64	17.60					
3	QPSK	15	6	17.68	17.68	17.68					
3	16QAM	1	0	17.88	17.71	17.56	19.8	0			
3	16QAM	1	14	17.67	17.77	17.54					
3	16QAM	1	18	17.76	17.76	17.76					
3	16QAM	8	0	17.74	17.50	17.75					
3	16QAM	8	7	17.45	17.79	17.54					
3	16QAM	1	8	17.62	17.51	17.68	19.8	0			
3	16QAM	1	14	17.75	17.75	17.75					
3	16QAM	8	0	17.56	17.51	17.51					
3	16QAM	8	7	17.48	17.79	17.46					
3	16QAM	15	0	17.68	17.69	17.63					
3	25QAM	1	0	17.43	17.71	17.57	19.8	0			
3	25QAM	1	6	17.64	17.64	17.64					
3	25QAM	1	12	17.61	17.61	17.61					
3	25QAM	1	14	17.30	17.60	17.44					
3	25QAM	8	0	17.21	17.17	17.14					
3	25QAM	8	7	17.09	17.16	17.12	19.8	0			
3	25QAM	8	7	17.31	17.24	17.21					
3	25QAM	15	0	17.51	17.51	17.51					
Channel Frequency (MHz)											
1.4	QPSK	1	0	18.07	18.00	18.05	19.8	0			
1.4	QPSK	1	0	17.71	17.76	17.77					
1.4	QPSK	1	6	17.84	17.84	17.84					
1.4	QPSK	1	5	17.44	17.70	17.69					
1.4	QPSK	3	0	17.64	17.70	17.57					
1.4	QPSK	3	3	17.67	17.63	17.40	19.8	0			
1.4	QPSK	6	0	17.80	17.58	17.58					
1.4	QPSK	6	3	17.84	17.84	17.84					
1.4	QPSK	1	3	17.44	17.55	17.51					
1.4	16QAM	1	5	17.68	17.49	17.51					
1.4	16QAM	1	3	17.71	17.74	17.74	19.8	0			
1.4	16QAM	3	1	17.68	17.70	17.48					
1.4	16QAM	3	3	17.57	17.54	17.54					
1.4	16QAM	3	6	17.73	17.61	17.51					
1.4	16QAM	6	0	17.67	17.79	17.38					
1.4	16QAM	1	3	17.54	17.68	17.62	19.8	0			
1.4	16QAM	1	6	17.84	17.84	17.84					
1.4	16QAM	3	0	17.63	17.63	17.74					
1.4	16QAM	3	1	17.55	17.57	17.57					
1.4	16QAM	3	6	17.46	17.64	17.77					
1.4	16QAM	6	0	17.71	17.48	17.70	19.8	0			
1.4	16QAM	6	3	17.73	17.73	17.73					
1.4	16QAM	1	3	17.56</							



Band 25 (1900MHz Band) Part 24E									
RF (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power Mid Ch / Freq	Power High Ch / Freq	Turn-up limit (dB)	MPR (dB)	
Channel									
Frequency (MHz)									
20	QPSK	1	0	17.69	17.81	17.65			
20	QPSK	1	49	17.63	17.67	17.61	18.8	0	
20	QPSK	1	99	17.56	17.54	17.54			
20	QPSK	36	0	17.64	17.76	17.77			
20	QPSK	36	24	17.64	17.76	17.76			
20	QPSK	50	0	17.76	17.61	17.76	18.8	0	
20	QPSK	100	0	17.77	17.76	17.74			
20	16QAM	1	0	17.71	17.71	17.77			
20	16QAM	1	49	17.70	17.78	17.70	18.8	0	
20	16QAM	1	99	17.60	17.68	17.67			
20	16QAM	36	0	17.77	17.62	17.60			
20	16QAM	50	24	17.62	17.61	17.77	18.8	0	
20	16QAM	50	50	17.77	17.61	17.60			
20	16QAM	100	0	17.76	17.76	17.76			
20	64QAM	1	0	17.65	17.65	17.65			
20	64QAM	1	49	17.60	17.68	17.67	18.8	0	
20	64QAM	1	99	17.52	17.52	17.52			
20	64QAM	36	0	17.63	17.61	17.79			
20	64QAM	50	24	17.61	17.79	17.62	18.8	0	
20	64QAM	50	50	17.77	17.62	17.68			
20	256QAM	1	0	17.47	17.44	17.44	18.8	0	
20	256QAM	1	49	17.58	17.58	17.40			
20	256QAM	1	99	17.45	17.52	17.30			
20	256QAM	36	0	17.37	17.57	17.37			
20	256QAM	50	24	17.48	17.42	17.40	18.8	0	
20	256QAM	50	50	17.48	17.62	17.36			
20	256QAM	100	0	17.51	17.44	17.29			
Channel									
Frequency (MHz)									
15	QPSK	1	0	17.69	17.83	17.63			
15	QPSK	1	37	17.57	17.61	17.51	18.8	0	
15	QPSK	1	74	17.32	17.45	17.28			
15	QPSK	36	0	17.40	17.52	17.73			
15	QPSK	36	24	17.34	17.46	17.67	18.8	0	
15	QPSK	36	36	17.62	17.60	17.67			
15	QPSK	75	0	17.67	17.79	17.67			
15	16QAM	1	0	17.46	17.52	17.78			
15	16QAM	1	37	17.64	17.54	17.66	18.8	0	
15	16QAM	1	74	17.46	17.67	17.66			
15	16QAM	36	0	17.61	17.56	17.62			
15	16QAM	36	20	17.49	17.63	17.70	18.8	0	
15	16QAM	36	39	17.58	17.53	17.43			
15	16QAM	75	0	17.61	17.75	17.68			
15	64QAM	1	0	17.55	17.47	17.54			
15	64QAM	1	37	17.46	17.47	17.70	18.8	0	
15	64QAM	1	74	17.53	17.56	17.61			
15	64QAM	36	0	17.55	17.68	17.61			
15	64QAM	36	20	17.66	17.72	17.37	18.8	0	
15	64QAM	36	39	17.60	17.55	17.52			
15	256QAM	1	0	17.34	17.33	17.26			
15	256QAM	1	37	17.35	17.42	17.62	18.8	0	
15	256QAM	1	74	17.31	17.54	17.36			
15	256QAM	36	0	17.12	17.35	17.36			
15	256QAM	36	20	17.50	17.48	17.51	18.8	0	
15	256QAM	36	39	17.23	17.54	17.20			
15	256QAM	75	0	17.39	17.51	17.15			
Channel									
Frequency (MHz)									
10	QPSK	1	0	17.60	17.59	17.62			
10	QPSK	1	26	17.61	17.48	17.67	18.8	0	
10	QPSK	1	49	17.40	17.33	17.51			
10	QPSK	25	0	17.61	17.72	17.60			
10	QPSK	25	12	17.53	17.65	17.62	18.8	0	
10	QPSK	25	25	17.56	17.40	17.67			
10	QPSK	50	0	17.70	17.76	17.65			
10	16QAM	1	0	17.66	17.64	17.73			
10	16QAM	1	25	17.47	17.67	17.61	18.8	0	
10	16QAM	1	49	17.54	17.53	17.63			
10	16QAM	25	0	17.65	17.49	17.51			
10	16QAM	25	12	17.51	17.38	17.62	18.8	0	
10	16QAM	25	25	17.75	17.52	17.40			
10	16QAM	50	0	17.54	17.53	17.70			
10	64QAM	1	0	17.41	17.55	17.51	18.8	0	
10	64QAM	1	25	17.52	17.71	17.42			
10	64QAM	1	49	17.60	17.51	17.52			
10	64QAM	25	0	17.60	17.53	17.74			
10	64QAM	25	12	17.57	17.75	17.63	18.8	0	
10	64QAM	25	25	17.68	17.57	17.51			
10	64QAM	50	0	17.61	17.59	17.79			
10	256QAM	1	0	17.57	17.47	17.51	18.8	0	
10	256QAM	1	25	17.39	17.30	17.35			
10	256QAM	1	49	17.26	17.48	17.30			
10	256QAM	25	0	17.40	17.36	17.56			
10	256QAM	25	12	17.36	17.36	17.59	18.8	0	
10	256QAM	25	25	17.32	17.51	17.18			
10	256QAM	50	0	17.55	17.52	17.45			
Channel									
Frequency (MHz)									
5	QPSK	1	0	18.56	18.50	18.52	Turn-up limit (dB)	MPR (dB)	
5	QPSK	1	12	17.56	17.74	17.64	18.8	0	
5	QPSK	1	24	17.48	17.29	17.62			
5	QPSK	12	0	17.47	17.46	17.64			
5	QPSK	12	7	17.31	17.78	17.66	18.8	0	
5	QPSK	12	13	17.51	17.53	17.62			
5	QPSK	25	0	17.66	17.74	17.64			
5	16QAM	1	0	17.68	17.76	17.66			
5	16QAM	1	12	17.65	17.76	17.66	18.8	0	
5	16QAM	1	24	17.61	17.44	17.69			
5	16QAM	12	0	17.70	17.51	17.65			
5	16QAM	12	7	17.50	17.66	17.76	18.8	0	
5	16QAM	12	13	17.76	17.76	17.62			
5	16QAM	25	0	17.77	17.79	17.70			
5	64QAM	1	0	17.51	17.57	17.42	18.8	0	
5	64QAM	1	12	17.45	17.47	17.61			
5	64QAM	1	24	17.76	17.64	17.61			
5	64QAM	12	0	17.61	17.53	17.54			
5	64QAM	12	7	17.48	17.78	17.67	18.8	0	
5	64QAM	12	13	17.78	17.59	17.48			
5	64QAM	25	0	17.77	17.55	17.65			
5	256QAM	1	0	17.55	17.36	17.32			
5	256QAM	1	12	17.35	17.35	17.25	18.8	0	
5	256QAM	1	24	17.29	17.29	17.35			
5	256QAM	12	0	17.55	17.52	17.62			
5	256QAM	12	7	17.27	17.54	17.18	18.8	0	
5	256QAM	12	13	17.33	17.42	17.29			
5	256QAM	25	0	17.36	17.58	17.24			
Channel									
Frequency (MHz)									
3	QPSK	1	0	18.51	18.50	18.51	Turn-up limit (dB)	MPR (dB)	
3	QPSK	1	5	17.48	17.54	17.46	18.8	0	
3	QPSK	1	5	17.40	17.57	17.54			
3	QPSK	1	14	17.55	17.52	17.43			
3	QPSK	8	0	17.41	17.70	17.62	18.8	0	
3	QPSK	8	4	17.56	17.61	17.60			
3	QPSK	8	7	17.55	17.40	17.54			
3	QPSK	16	0	17.54	17.64	17.64			
3	16QAM	1	0	17.50	17.74	17.76			
3	16QAM	1	8	17.51	17.62	17.58	18.8	0	
3	16QAM	1	14	17.58	17.70	17.64			
3	16QAM	8	0	17.48	17.42	17.60			
3	16QAM	8	4	17.62	17.42	17.56	18.8	0	
3	16QAM	8	7	17.49	17.52	17.65			
3	16QAM	15	0	17.77	17.49	17.51			
3	64QAM	1	0	17.45	17.64	17.45	18.8	0	
3	64QAM	1	8	17.43	17.58	17.72			
3	64QAM	1	14	17.60	17.56	17.59			
3	64QAM	8	0	17.63	17.42	17.61			
3	64QAM	8	4	17.14	17.72	17.62	18.8	0	
3	64QAM	8	7	17.63	17.59	17.64			
3	64QAM	15	0	17.78	17.66	17.65			
3	256QAM	1	0	17.62	17.44	17.24			
3	256QAM	1	8	17.40	17.24	17.28	18.8	0	
3	256QAM	1	14	17.31	17.34	17.05			
3	256QAM	8	0	17.16	17.43	17.17			
3	256QAM	8	4	17.50	17.38	17.35	18.8	0	
3	256QAM	8	7	17.37	17.58	17.30			
3	256QAM	15	0	17.50	17.67	17.04			
Channel									
Frequency (MHz)									
1.4	QPSK	1	0	18.67	18.60	18.67	Turn-up limit (dB)	MPR (dB)	
1.4	QPSK	1	3	17.54	17.65	17.55	18.8	0	
1.4	QPSK	1		17.54	17.65	17.55			
1.4	QPSK	1	5	17.41	17.59	17.54	18.8	0	
1.4	QPSK	1	8	17.48	17.57	17.52			
1.4	QPSK	3	0	17.58	17.65	17.65			
1.4	QPSK	3	3	17.62	17.69	17.69	18.8	0	
1.4	16QAM	1	0	17.73	17.79	17.79			
1.4	16QAM	1	5	17.60	17.65	17.70	18.8	0	
1.4	16QAM	1	8	17.61	17.59	17.59			
1.4	16QAM	3	0	17.36	17.37	17.44	18.8	0	
1.4	16QAM	3	3	17.49	17.60	17.63			
1.4	16QAM	3	5	17.65	17.63	17.68	18.8	0	
1.4	16QAM	8	0	17.71	17.66	17.64			
1.4	16QAM	8	5	17.48	17.56	17.62			
1.4	16QAM	8	8	17.63	17.63	17.63			
1.4	16QAM	15	0	17.60	17.62	17.67	18.8	0	
1.4	16QAM	15	5	17.44	17.59	17			

Band 30									
SW (MHz)	Modulation	RB Size	RB Offset	Power Low (Ch. / Freq.)	Power Mid (Ch. / Freq.)	Power High (Ch. / Freq.)	Turn-up	MPR (dB)	
Channel 2715									
Frequency (MHz)									
10	QPSK	1	0		22.10			18.5	0
10	QPSK	1	25		17.06				
10	QPSK	1	49		17.04				
10	QPSK	25	0		17.12				
10	QPSK	25	12		17.16			18.5	0
10	QPSK	25	25		17.05				
10	QPSK	50	0		17.10				
10	16QAM	1	0		17.09			18.5	0
10	16QAM	1	25		17.11				
10	16QAM	1	49		17.07				
10	16QAM	25	12		17.10			18.5	0
10	16QAM	25	25		17.08				
10	16QAM	50	0		17.09				
10	64QAM	1	0		17.07			18.5	0
10	64QAM	1	25		17.11				
10	64QAM	25	0		17.05				
10	64QAM	25	12		17.13			18.5	0
10	64QAM	25	25		17.09				
10	64QAM	50	0		17.09				
10	256QAM	1	0		16.83			18.5	0
10	256QAM	1	25		16.86				
10	256QAM	1	49		17.05				
10	256QAM	25	0		16.91			18.5	0
10	256QAM	25	12		16.86				
10	256QAM	25	25		16.92				
10	256QAM	50	0		16.88				
Channel 2307.5				2715	2716	2717	2718	Turn-up	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		Init. offset	
5	QPSK	1	0		17.12	17.08	17.14	18.5	0
5	QPSK	1	24		16.87	16.91	16.79		
5	QPSK	1	24		16.90	16.84	16.85		
5	QPSK	12	0		16.88	16.85	16.92		
5	QPSK	12	13		16.76	16.84	16.80	18.5	0
5	QPSK	25	0		17.07	17.07	16.88		
5	16QAM	1	0		16.97	17.00	16.87		
5	16QAM	1	12		16.97	17.04	16.99	18.5	0
5	16QAM	1	24		16.94	17.05	17.00		
5	16QAM	12	0		17.15	17.00	17.10		
5	16QAM	12	7		16.83	16.80	16.85	18.5	0
5	16QAM	12	13		17.07	16.88	16.92		
5	16QAM	25	0		17.03	17.00	17.07		
5	64QAM	1	0		16.98	17.06	16.93		
5	64QAM	1	12		16.98	17.13	16.97	18.5	0
5	64QAM	1	24		16.93	17.00	16.96		
5	64QAM	12	0		16.93	17.08	16.96		
5	64QAM	12	7		17.08	16.95	17.07	18.5	0
5	64QAM	12	13		16.94	16.84	16.94		
5	64QAM	25	0		16.95	17.00	17.05		
5	256QAM	1	0		16.82	16.85	16.87		
5	256QAM	1	12		16.85	16.77	16.90	18.5	0
5	256QAM	1	24		16.88	16.92	16.85		
5	256QAM	12	0		16.95	16.90	16.88		
5	256QAM	12	7		17.03	16.90	16.96	18.5	0
5	256QAM	12	13		16.86	16.92	16.88		
5	256QAM	25	0		16.75	16.76	16.74		

Band 66									
SW (MHz)	Modulation	RB Size	RB Offset	Power Low 15072	Power High 15222	Power Peak 15292	Power Peak 15352	Turn-up dB	MPR (dB)
Frequency (MHz)									
20	QPSK	1	0	16.17	16.34	16.27			
20	QPSK	1	49	16.10	16.17	16.16		19.2	0
20	QPSK	1	99	16.00	16.07	16.05			
20	QPSK	50	0	16.22	16.29	16.29			
20	QPSK	50	24	16.07	16.04	16.04		19.2	0
20	QPSK	50	50	16.19	16.25	16.25			
20	QPSK	100	0	16.25	16.28	16.23			
20	16QAM	1	0	16.15	16.10	16.15			
20	16QAM	1	49	16.13	16.12	16.11		19.2	0
20	16QAM	1	99	16.01	16.04	16.00			
20	16QAM	50	0	16.16	16.28	16.28			
20	16QAM	50	24	16.26	16.24	16.16		19.2	0
20	16QAM	50	50	16.17	16.22	16.14			
20	16QAM	100	0	16.16	16.21	16.18			
20	64QAM	1	0	16.02	16.08	16.12			
20	64QAM	1	49	16.02	16.08	16.12		19.2	0
20	64QAM	1	99	16.26	16.24	16.18			
20	64QAM	50	0	16.20	16.25	16.17			
20	64QAM	50	24	16.28	16.28	16.16		19.2	0
20	64QAM	50	50	16.20	16.25	16.17			
20	64QAM	100	0	16.23	16.23	16.11			
20	256QAM	1	0	17.86	17.69	17.77			
20	256QAM	1	49	17.79	17.79	17.83		19.2	0
20	256QAM	1	99	17.73	17.83	17.77			
20	256QAM	50	0	17.57	17.61	17.61			
20	256QAM	50	24	17.70	17.67	17.67		19.2	0
20	256QAM	50	50	17.68	17.69	17.62			
20	256QAM	100	0	17.67	17.68	17.63			
Channel				15247	15322	15392		Turn-up dB	MPR (dB)
15	QPSK	1	0	17.06	16.16	16.03			
15	QPSK	1	37	17.06	16.14	17.06		19.2	0
15	QPSK	1	74	17.70	17.77	17.79			
15	QPSK	36	0	17.92	16.17	16.22			
15	QPSK	36	26	17.97	16.16	16.11		19.2	0
15	QPSK	36	36	17.99	16.13	16.20			
15	16QAM	1	0	16.11	16.02	16.06			
15	16QAM	1	37	17.94	16.02	16.06		19.2	0
15	16QAM	1	74	17.93	16.03	17.94			
15	16QAM	36	0	16.16	16.03	16.23			
15	16QAM	36	26	16.29	16.07	16.06		19.2	0
15	16QAM	36	36	16.04	16.22	16.06			
15	16QAM	75	0	16.21	16.06	16.21			
15	64QAM	1	0	17.83	16.06	17.96			
15	64QAM	1	37	17.84	17.96	16.06		19.2	0
15	64QAM	1	74	16.15	16.06	17.94			
15	64QAM	36	0	16.03	16.32	16.07			
15	64QAM	36	26	16.10	16.29	16.09		19.2	0
15	64QAM	36	36	17.95	16.02	16.15			
15	64QAM	75	0	16.16	17.96	17.97			
15	256QAM	1	0	17.74	17.54	17.64			
15	256QAM	1	37	17.54	17.58	17.64		19.2	0
15	256QAM	1	74	17.86	17.85	17.92			
15	256QAM	36	0	17.49	17.36	17.52			
15	256QAM	36	26	17.61	17.50	17.53		19.2	0
15	256QAM	36	36	17.66	17.50	17.61			
15	256QAM	75	0	17.53	17.39	17.67			
Channel				15115	15222	15292		Turn-up dB	MPR (dB)
10	QPSK	1	0	16.01	16.21	16.10			
10	QPSK	1	24	17.81	16.08	16.02		19.2	0
10	QPSK	1	49	17.76	16.03	17.81			
10	QPSK	25	0	17.96	16.07	16.21			
10	QPSK	25	12	17.98	16.08	16.01		19.2	0
10	QPSK	25	25	17.97	16.21	16.10			
10	16QAM	1	0	16.03	16.10	16.03			
10	16QAM	1	25	16.05	16.16	16.16		19.2	0
10	16QAM	1	49	17.87	17.83	17.89			
10	16QAM	25	0	17.98	16.03	16.11			
10	16QAM	25	12	16.30	16.25	16.21		19.2	0
10	16QAM	25	25	16.21	16.09	16.01			
10	16QAM	50	0	16.13	16.23	16.17			
10	64QAM	1	0	17.78	16.09	16.02			
10	64QAM	1	25	17.96	17.97	17.97		19.2	0
10	64QAM	1	49	16.05	17.99	16.12			
10	64QAM	25	0	17.96	16.34	17.85			
10	64QAM	25	12	16.10	16.16	16.16		19.2	0
10	64QAM	25	25	16.19	16.17	17.96			
10	64QAM	50	0	16.28	16.19	16.09			
10	256QAM	1	0	17.91	17.94	17.91			
10	256QAM	1	25	17.94	17.93	17.91		19.2	0
10	256QAM	1	49	17.94	17.85	17.93			
10	256QAM	25	0	17.91	17.46	17.86			
10	256QAM	25	12	17.75	17.52	17.67		19.2	0
10	256QAM	25	25	17.47	17.54	17.62			
10	256QAM	50	0	17.44	17.30	17.44			
Channel				15197	15222	15292		Turn-up dB	MPR (dB)
5	QPSK	1	0	16.17	16.23	17.87			
5	QPSK	1	12	16.02	16.10	17.86		19.2	0
5	QPSK	1	24	17.85	17.86	1			
5	QPSK	12	0	17.84	16.09	16.08			
5	QPSK	12	12	16.11	16.10	17.86		19.2	0
5	QPSK	12	13	16.19	16.10	16.05			
5	QPSK	25	0	16.05	16.08	16.23			
5	QPSK	25	12	16.07	16.09	16.16		19.2	0
5	QPSK	25	13	16.13	16.10	16.05			
5	16QAM	1	0	16.03	16.08	16.23			
5	16QAM	1	12	16.03	16.13	16.10		19.2	0
5	16QAM	1	24	17.88	17.84	17.84			
5	16QAM	1	37	16.10	16.16	16.16		19.2	0
5	16QAM	12	0	16.28	16.08	16.22			
5	16QAM	12	13	16.18	16.16	16.08			
5	16QAM	12	14	16.25	16.16	16.16		19.2	0
5	16QAM	1	0	17.82	16.01	17.96			
5	16QAM	1	12	17.62	17.87	17.88		19.2	0
5	16QAM	1	24	16.10	16.17	16.17			
5	16QAM	12	0	16.22	16.34	16.31			
5	16QAM	12	7	16.10	16.27	16.10		19.2	0
5	16QAM	12	13	16.11	16.20	16.10			
5	16QAM	1	0	17.81	17.94	17.91			
5	16QAM	1	12	17.84	17.82	17.77		19.2	0
5	16QAM	1	24	17.74	17.82	17.77			
5	256QAM	1	0	17.59	17.59	17.66			
5	256QAM	12	0	17.54	17.65	17.46		19.2	0
5	256QAM	12	13	17.69	17.40	17.46			
5	256QAM	26	0	17.52	17.44	17.46			
Channel				15115	15222	15292		Turn-up dB	MPR (dB)
3	QPSK	1	0	16.05	16.11	17.86			
3	QPSK	1	14	17.87	17.88	17.86		19.2	0
3	QPSK	8	0	16.13	16.28	16.21			
3	QPSK	8	7	16.20	16.22	16.10		19.2	0
3	QPSK	8	7	16.16	17.56	16.16			
3	16QAM	1	0	16.00	16.27	16.13			
3	16QAM	1	14	16.05	16.14	16.16		19.2	0
3	16QAM	8	0	16.02	16.11	16.07			
3	16QAM	8	4	16.02	16.14	16.07			
3	16QAM	15	0	16.02	16.16	16.16		19.2	0
3	16QAM	15	15	16.03	16.10	16.10			
3	16QAM	15	0	17.03	16.11	17.03			
3	64QAM	1	0	17.86	17.86	17.86		19.2	0
3	64QAM	1	14	16.07	16.06	16.13			
3	64QAM	8	0	16.08	16.34	16.08			
3	64QAM	8	7	16.11	16.27	16.11		19.2	0
3	64QAM	8	7	16.10	16.25	17.02			
3	64QAM	15	0	16.16	16.20	17.01			
3	64QAM	15	15	16.17	16.24	17.02		19.2	0
3	256QAM	1	0	17.65	17.66	17.65			
3	256QAM	1	14	17.50	17.62	17.72		19.2	0
3	256QAM	8	0	17.59	17.60	17.60			
3	256QAM	8	4	17.59	17.43	17.69			
3	256QAM	8	7	17.87	17.45	17.69		19.2	0
3	256QAM	15	0	17.70	17.63	17.64			
Channel				15197	15222	15292		Turn-up dB	MPR (dB)
1.4	QPSK	1	0	17.07	17.44	1779.3			
1.4	QPSK	1	0	17.09	17.22	17.25			
1.4	QPSK	1	5	17.80	17.68	17.68		19.2	0
1.4	QPSK	3	0	16.14	16.04	16.21			
1.4	QPSK	3	3	16.16	17.68	16.08		19.2	0
1.4	16QAM	1	0	16.12	16.12	16.12			
1.4	16QAM	1	5	17.94	17.85	16.10		19.2	0
1.4	16QAM	3	0	17.94	17.88	17.88			
1.4	16QAM	3	3	16.04	16.04	16.16		19.2	0
1.4	16QAM	3	6	16.00	16.20	16.14			
1.4	16QAM	3	9	16.11	16.13	16.06			
1.4	16QAM	6	0	16.09	16.10	16.10		19.2	0
1.4	16QAM	6	3	16.04	17.94	16.10			
1.4	16QAM	6	6	16.07	17.89	16.07			
1.4	16QAM	3	6	16.15	16.27	17.06		19.2	0
1.4	16QAM	3	9	16.16	16.32	17.01			
1.4	16QAM	6	0	17.94	17.88	17.88		19.2	0
1.4	16QAM	6	3	17.90	16.11	17.98			
1.4	16QAM	6	6	17.90	16.11	17.9			



Band 3(only on channel required)											
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Mode Ch / Freq	Power High Mode Ch / Freq	Power Low Mode Ch / Freq	Power High Mode Ch / Freq	Turn-up time (dBm)	MPR (dB)		
Channel											
Frequency (MHz)											
20	QPSK	1	0	25.26	25.26	25.17	25.17	21.7	0		
20	QPSK	1	49	25.11	25.11	25.17	25.17				
20	QPSK	1	99	25.15	25.21	25.18	25.18				
20	QPSK	50	0	25.26	25.26	25.24	25.24				
20	QPSK	50	24	25.24	25.26	25.24	25.24	21.7	0		
20	QPSK	50	25	25.23	25.23	25.24	25.24				
20	QPSK	100	0	25.29	25.27	25.31	25.31				
20	QPSK	100	0	25.25	25.27	25.31	25.31				
20	HQAM	1	49	25.15	25.27	25.21	25.21	21.7	0		
20	HQAM	1	49	25.10	25.25	25.18	25.18				
20	HQAM	1	99	25.19	25.29	25.28	25.28				
20	HQAM	50	0	25.15	25.18	25.18	25.18				
20	HQAM	50	24	25.15	25.14	25.16	25.16	21.7	0		
20	HQAM	50	24	25.14	25.19	25.18	25.18				
20	HQAM	100	0	25.15	25.18	25.18	25.18				
20	HQAM	100	0	25.16	25.19	25.18	25.18				
20	HQAM	1	0	19.96	19.99	19.99	19.99	20.7	1		
20	HQAM	1	49	20.06	20.07	20.04	20.04				
20	HQAM	1	99	20.11	20.15	20.12	20.12				
20	HQAM	50	0	19.80	19.87	19.86	19.86				
20	HQAM	50	24	19.85	19.89	19.89	19.89	20.7	1		
20	HQAM	50	24	19.84	19.81	19.82	19.82				
20	HQAM	100	0	19.86	19.83	19.84	19.84				
20	HQAM	100	0	19.87	19.89	19.86	19.86				
20	HQAM	1	0	17.51	17.59	17.64	17.64	19.3	2.4		
20	HQAM	1	49	17.45	17.44	17.47	17.47				
20	HQAM	1	99	17.46	17.44	17.47	17.47				
20	HQAM	50	0	17.75	17.81	17.84	17.84				
20	HQAM	50	24	17.83	17.80	17.87	17.87	19.3	2.4		
20	HQAM	50	24	17.76	17.82	17.85	17.85				
20	HQAM	100	0	17.75	17.73	17.73	17.73				
20	HQAM	100	0	17.76	17.73	17.73	17.73				
Channel											
Frequency (MHz)											
16	QPSK	1	0	25.36	25.38	25.17	25.17	21.7	0		
16	QPSK	1	37	25.31	25.38	25.11	25.11				
16	QPSK	1	74	25.15	25.21	25.18	25.18				
16	QPSK	36	0	25.26	25.28	25.24	25.24				
16	QPSK	36	20	25.32	25.36	25.32	25.32	21.7	0		
16	QPSK	36	39	25.33	25.33	25.34	25.34				
16	QPSK	75	0	25.33	25.27	25.31	25.31				
16	HQAM	1	0	25.11	25.27	25.25	25.25	21.7	0		
16	HQAM	1	37	25.10	25.25	25.18	25.18				
16	HQAM	1	74	25.19	25.29	25.28	25.28				
16	HQAM	36	0	25.15	25.18	25.18	25.18				
16	HQAM	36	20	25.15	25.14	25.16	25.16	21.7	0		
16	HQAM	36	39	25.18	25.19	25.18	25.18				
16	HQAM	75	0	25.13	25.19	25.18	25.18				
16	HQAM	75	0	25.12	25.17	25.17	25.17				
16	HQAM	1	0	19.96	19.99	19.99	19.99	20.7	1		
16	HQAM	1	37	20.02	20.01	20.04	20.04				
16	HQAM	1	74	20.11	20.15	20.12	20.12				
16	HQAM	36	0	19.82	19.87	19.86	19.86				
16	HQAM	36	20	19.87	19.89	19.86	19.86	20.7	1		
16	HQAM	36	39	19.84	19.81	19.82	19.82				
16	HQAM	75	0	19.86	19.83	19.84	19.84				
16	HQAM	75	0	19.85	19.87	19.85	19.85				
16	HQAM	1	37	17.45	17.44	17.52	17.52	19.3	2.4		
16	HQAM	1	74	17.46	17.44	17.48	17.48				
16	HQAM	36	20	17.83	17.80	17.87	17.87				
16	HQAM	36	39	17.76	17.82	17.85	17.85				
16	HQAM	75	0	17.82	17.80	17.85	17.85	19.3	2.4		
16	HQAM	75	0	17.81	17.82	17.85	17.85				
16	HQAM	1	0	12.86	12.87	12.72	12.72				
16	HQAM	1	0	12.86	12.87	12.72	12.72				
Channel											
Frequency (MHz)											
5	QPSK	1	0	25.33	25.37	25.21	25.21	21.7	0		
5	QPSK	1	12	25.31	25.35	25.11	25.11				
5	QPSK	1	24	25.13	25.35	25.19	25.19				
5	QPSK	12	0	25.31	25.35	25.38	25.38				
5	QPSK	12	7	25.34	25.32	25.32	25.32	21.7	0		
5	QPSK	12	14	25.33	25.35	25.39	25.39				
5	QPSK	25	0	25.25	25.27	25.31	25.31				
5	QPSK	25	0	25.19	25.33	25.24	25.24				
5	QPSK	25	12	25.38	25.36	25.30	25.30	21.7	0		
5	QPSK	25	12	25.37	25.37	25.30	25.30				
5	QPSK	50	0	25.23	25.32	25.30	25.30				
5	QPSK	50	0	25.21	25.36	25.38	25.38				
5	HQAM	1	0	25.07	25.38	25.38	25.38	21.7	0		
5	HQAM	1	12	25.07	25.39	25.39	25.39				
5	HQAM	1	49	25.08	25.38	25.32	25.32				
5	HQAM	25	0	25.07	25.30	25.30	25.30				
5	HQAM	25	12	25.11	25.15	25.30	25.30	21.7	0		
5	HQAM	25	12	25.09	25.30	25.36	25.36				
5	HQAM	50	0	25.26	25.37	25.35	25.35				
5	HQAM	50	0	25.25	25.32	25.38	25.38				
5	HQAM	1	0	19.90	19.92	19.91	19.91	20.7	1		
5	HQAM	1	25	19.96	19.87	19.82	19.82				
5	HQAM	1	49	20.04	20.03	20.03	20.03				
5	HQAM	25	0	19.82	19.87	19.86	19.86				
5	HQAM	25	12	19.83	19.87	19.89	19.89	20.7	1		
5	HQAM	25	12	19.85	19.87	19.89	19.89				
5	HQAM	50	0	19.82	19.84	19.83	19.83				
5	HQAM	50	0	19.82	19.84	19.83	19.83				
5	HQAM	1	0	17.36	17.65	17.61	17.61	19.3	2.4		
5	HQAM	1	25	17.33	17.69	17.61	17.61				
5	HQAM	1	49	17.46	17.67	17.63	17.63				
5	HQAM	25	0	17.75	17.69	17.75	17.75				
5	HQAM	25	12	17.82	17.69	17.75	17.75	19.3	2.4		
5	HQAM	25	12	17.72	17.69	17.75	17.75				
5	HQAM	50	0	17.82	17.73	17.73	17.73				
5	HQAM	50	0	17.82	17.73	17.73	17.73				
Channel											
Frequency (MHz)											
5	QPSK	1	0	25.33	25.37	25.21	25.21	21.7	0		
5	QPSK	1	12	25.31	25.35	25.11	25.11				
5	QPSK	1	24	25.13	25.35	25.19	25.19				
5	QPSK	12	0	25.31	25.35	25.38	25.38				
5	QPSK	12	7	25.34	25.32	25.32	25.32	21.7	0		
5	QPSK	12	14	25.33	25.35	25.39	25.39				
5	QPSK	25	0	25.25	25.27	25.31	25.31				
5	QPSK	25	0	25.19	25.33	25.24	25.24				
5	QPSK	25	12	25.38	25.36	25.30	25.30	21.7	0		
5	QPSK	25	12	25.37	25.37	25.30	25.30				
5	QPSK	50	0	25.23	25.32	25.30	25.30				
5	QPSK	50	0	25.21	25.36	25.38	25.38				
5	HQAM	1	0	25.07	25.38	25.38	25.38	21.7	0		
5	HQAM	1	12	25.07	25.39	25.39	25.39				
5	HQAM	1	49	25.08	25.38	25.32	25.32				
5	HQAM	25	0	25.07	25.30	25.30	25.30				
5	HQAM	25	12	25.11	25.15	25.30	25.30	21.7	0		
5	HQAM	25	12	25.09	25.30	25.36	25.36				
5	HQAM	50	0	25.26	25.37	25.35	25.35				
5	HQAM	50	0	25.25	25.32	25.38	25.38				
5	HQAM	1	0	19.90	19.92	19.91	19.91	20.7	1		
5	HQAM	1	25	19.96	19.87	19.82	19.82				
5	HQAM	1	49	20.04	20.03	20.03	20.03				
5	HQAM	25	0	19.82	19.87	19.86	19.86				
5	HQAM	25	12	19.83	19.87	19.89	19.89	20.7	1		
5	HQAM	25	12	19.85	19.87	19.89	19.89				
5	HQAM	50	0	19.82	19.84	19.83	19.83				
5	HQAM	50	0	19.82	19.84	19.83	19.83				
5	HQAM	1	0	17.36	17.65	17.61	17.61	19.3	2.4		
5	HQAM	1	25	17.33	17.69	17.61	17.61				
5	HQAM	1	49	17.46	17.67	17.63	17.63				
5	HQAM	25	0	17.75	17.69	17.75	17.75				
5	HQAM	25	12	17.82	17.69	17.75	17.75	19.3	2.4		
5	HQAM	25	12	17.72	17.69	17.75	17.75				
5	HQAM	50	0	17.82	17.73	17.73	17.73				
5	HQAM	50	0	17.82	17.73	17.73	17.73				
Channel											
Frequency (MHz)											
5	QPSK	1	0	25.33	25.37	25.21	25.21	21.7	0		
5	QPSK	1	12	25.31	25.35	25.11	25.11				
5	QPSK	1	24	25.13	25.35	25.19	25.19				
5	QPSK	12	0	25.31	25.35	25.38	25.38				
5	QPSK	12	7	25.34	25.32	25.32	25.32	21.7	0		
5	QPSK	12	14	25.33	25.35	25.39	25.39				
5	QPSK	25	0	25.25	25.27	25.31	25.31				
5	QPSK	25	0	25.19	25.33	25.24	25.24				
5	QPSK	25	12	25.38	25.36	25.30	25.30	21.7	0		
5	QPSK	25	12	25.37	25.37	25.30	25.30				
5	QPSK	50	0	25.23	25.32	25.30	25.30				
5	QPSK	50	0	25.21	25.36	25.38	25.38				
5	HQAM	1	0	25.07	25.38	25.38	25.38	21.7	0		
5	HQAM	1	12	25.07	25.39	25.39	25.39				
5	HQAM	1	49	25.08	25.38	25.32	25.32				
5	HQAM	25	0	25.07	25.30	25.30	25.30				
5	HQAM	25	12	25.11	25.15	25.30	25.30	21.7	0		
5	HQAM	25	12	25.09	25.30	25.36	25.36				
5	HQAM	50	0	25.26	25.37	25.35	25.35				
5	HQAM	50	0	25.25	25.32	25.38	25.38				
5	HQAM	1	0	19.90	19.92	19.91	19.91	20.7	1		
5	HQAM	1	25	19.96	19.87	19.82	19.82				
5	HQAM	1	49	20.04	20.03	20.03	20.03				
5	HQAM	25	0	19.82	19.87	19					



Reduced power for Sensor on-LAT

Band		VCDMA-B			Tune-up		VCDMA-IV			Tune-up	
TX Channel	Rx Channel	9882	9900	9938	Link	(dBm)	9932	9950	9988	Link	(dBm)
Frequency (MHz)		1702.4	1700	1707.6			1712.4	1710	1717.6		
JOPP Pwr 90	RAW 12 20bps	19.45	19.72	19.72	20.00		19.81	19.58	19.93		21.00
JOPP Pwr 90	RMC 12 20bps	19.70	19.75	19.67	20.00		19.84	20.00	20.01		21.00
JOPP Pwr 6	HEIPA Subcar-1	19.71	19.81	19.70	19.00		19.65	19.08	19.08		20.00
JOPP Pwr 6	HEIPA Subcar-2	19.45	19.81	19.67	19.00		19.65	19.09	19.98		20.00
JOPP Pwr 6	HEIPA Subcar-3	19.23	19.23	19.17	19.40		19.38	19.37	19.47		19.50
JOPP Pwr 6	HEIPA Subcar-4	19.23	19.23	19.23	19.40		19.38	19.53	19.52		19.50
JOPP Pwr 6	DC-HEIPA Subcar-1	19.58	19.61	19.46	19.00		19.68	19.35	19.82		20.00
JOPP Pwr 6	DC-HEIPA Subcar-2	19.24	19.57	19.50	19.00		19.65	19.81	19.84		20.00
JOPP Pwr 6	DC-HEIPA Subcar-3	19.21	19.52	17.08	19.40		19.17	19.59	19.30		19.50
JOPP Pwr 6	DC-HEIPA Subcar-4	19.02	19.77	19.00	19.40		19.17	19.09	19.30		19.50
JOPP Pwr 6	HEIPA Subcar-1	19.71	19.79	19.72	19.00		19.84	19.01	19.97		20.00
JOPP Pwr 6	HEIPA Subcar-2	17.74	17.60	17.03	19.00		17.89	19.00	17.99		19.00
JOPP Pwr 6	HEIPA Subcar-3	15.34	15.30	15.35	17.00		15.85	15.00	16.97		15.00
JOPP Pwr 6	HEIPA Subcar-4	16.52	16.60	16.50	17.00		17.47	17.60	17.59		18.00
JOPP Pwr 6	HEIPA Subcar-5	19.88	19.76	19.62	19.00		19.63	19.00	19.90		20.00
JOPP Pwr 7	HSFPA (12QAM) Subcar-1	19.95	17.04	16.93	18.40		17.42	17.52	17.41		18.50

Band		CDMA-BIC1			Tune-up	
TX Channel	Rx Channel	25	800	1719	Link	(dBm)
Frequency (MHz)		180.25	1800	1809.25		
BIC1 BOSS		20.45	20.53	20.49	21.00	
RCS BOSS		20.44	20.51	20.45	21.00	
RCS BOSS (F+DCB)		20.42	20.50	20.47	21.00	
RCS BOSS (F+DCB)		20.46	20.48	20.45	21.00	
RETAP 180MHz		20.39	20.45	20.44	21.00	
RETAP 400MHz		20.38	20.45	20.42	21.00	



Band 2 (1900MHz Band) Part 24E									
RF (MHz)	Modulation	RF Size	RF Offset	Power Ch / Freq 1800	Power Ch / Freq 1880	Power Ch / Freq 1900	Turn-up limit (dBm)	MPE (dB)	
Channel									
Frequency (MHz)									
20	QPSK	1	0	18.70	18.83	18.88	19.8	0	
20	QPSK	1	49	18.84	18.85	18.84			
20	QPSK	1	99	18.83	18.87	18.84			
20	QPSK	50	0	18.75	18.74	18.74			
20	QPSK	50	24	18.73	18.77	18.74			
20	QPSK	50	50	18.73	18.75	18.73			
20	16QAM	1	0	18.74	18.76	18.76	19.8	0	
20	16QAM	1	49	18.80	18.83	18.81			
20	16QAM	1	99	18.75	18.79	18.76			
20	16QAM	50	0	18.70	18.76	18.76			
20	16QAM	50	24	18.73	18.77	18.73			
20	16QAM	50	50	18.70	18.71	18.69			
20	16QAM	100	0	18.74	18.76	18.76			
20	256QAM	1	0	17.75	17.87	17.79	19.3	0.5	
20	256QAM	1	99	17.70	17.78	17.77			
20	256QAM	1	49	17.82	17.82	17.73			
20	256QAM	50	0	17.41	17.41	17.37			
20	256QAM	50	24	17.44	17.42	17.48			
20	256QAM	50	50	17.47	17.45	17.48			
20	256QAM	100	0	17.43	17.48	17.42			
Channel									
Frequency (MHz)									
15	QPSK	1	0	18.60	18.65	18.38	19.8	0	
15	QPSK	1	37	18.52	18.59	18.55			
15	QPSK	1	74	18.52	18.59	18.56			
15	QPSK	36	0	18.74	18.55	18.58			
15	QPSK	36	20	18.68	18.57	18.52			
15	QPSK	36	36	18.58	18.57	18.55			
15	QPSK	75	0	18.45	18.64	18.54			
15	16QAM	1	0	18.48	18.72	18.59	19.8	0	
15	16QAM	1	37	18.53	18.68	18.71			
15	16QAM	1	74	18.42	18.50	18.64			
15	16QAM	36	20	18.48	18.71	18.57			
15	16QAM	36	36	18.49	18.63	18.70			
15	16QAM	75	0	18.58	18.62	18.62			
15	16QAM	1	0	18.58	18.62	18.62			
15	16QAM	1	37	18.53	18.41	18.57	19.8	0	
15	16QAM	1	74	18.46	18.56	18.66			
15	16QAM	36	0	18.72	18.55	18.53			
15	16QAM	36	20	18.75	18.73	18.55			
15	16QAM	36	36	18.59	18.58	18.58			
15	16QAM	75	0	18.78	18.71	18.56			
15	256QAM	1	0	17.60	17.85	17.77	19.3	0.5	
15	256QAM	1	37	17.65	17.82	17.81			
15	256QAM	1	74	17.69	17.87	17.59			
15	256QAM	36	0	17.37	17.51	17.34			
15	256QAM	36	20	17.42	17.48	17.43			
15	256QAM	36	36	17.51	17.49	17.49			
15	256QAM	75	0	17.38	17.54	17.37			
Channel									
Frequency (MHz)									
1800	QPSK	1	0	18.60	18.65	18.38	19.8	0	
1800	QPSK	1	37	18.52	18.58	18.55			
1800	QPSK	1	74	18.52	18.59	18.56			
1800	QPSK	36	0	18.74	18.55	18.58			
1800	QPSK	36	20	18.68	18.57	18.52			
1800	QPSK	36	36	18.58	18.57	18.55			
1800	QPSK	75	0	18.45	18.64	18.54			
1800	16QAM	1	0	18.48	18.72	18.59	19.8	0	
1800	16QAM	1	37	18.53	18.68	18.71			
1800	16QAM	1	74	18.42	18.50	18.64			
1800	16QAM	36	20	18.48	18.71	18.57			
1800	16QAM	36	36	18.49	18.63	18.70			
1800	16QAM	75	0	18.58	18.62	18.62			
1800	16QAM	1	0	18.58	18.62	18.62			
1800	16QAM	1	37	18.53	18.41	18.57	19.8	0	
1800	16QAM	1	74	18.46	18.56	18.66			
1800	16QAM	36	0	18.72	18.55	18.53			
1800	16QAM	36	20	18.75	18.73	18.55			
1800	16QAM	36	36	18.59	18.58	18.58			
1800	16QAM	75	0	18.78	18.71	18.56			
1800	256QAM	1	0	17.60	17.85	17.77	19.3	0.5	
1800	256QAM	1	37	17.65	17.82	17.81			
1800	256QAM	1	74	17.69	17.87	17.59			
1800	256QAM	36	0	17.37	17.51	17.34			
1800	256QAM	36	20	17.42	17.48	17.43			
1800	256QAM	36	36	17.51	17.49	17.49			
1800	256QAM	75	0	17.38	17.54	17.37			
Channel									
Frequency (MHz)									
1850	QPSK	1	0	18.60	18.65	18.38	19.8	0	
1850	QPSK	1	37	18.52	18.58	18.55			
1850	QPSK	1	74	18.52	18.59	18.56			
1850	QPSK	36	0	18.74	18.55	18.58			
1850	QPSK	36	20	18.68	18.57	18.52			
1850	QPSK	36	36	18.58	18.57	18.55			
1850	QPSK	75	0	18.45	18.64	18.54			
1850	16QAM	1	0	18.48	18.72	18.59	19.8	0	
1850	16QAM	1	37	18.53	18.68	18.71			
1850	16QAM	1	74	18.42	18.50	18.64			
1850	16QAM	36	20	18.48	18.71	18.57			
1850	16QAM	36	36	18.49	18.63	18.70			
1850	16QAM	75	0	18.58	18.62	18.62			
1850	16QAM	1	0	18.58	18.62	18.62			
1850	16QAM	1	37	18.53	18.41	18.57	19.8	0	
1850	16QAM	1	74	18.46	18.56	18.66			
1850	16QAM	36	0	18.72	18.55	18.53			
1850	16QAM	36	20	18.75	18.73	18.55			
1850	16QAM	36	36	18.59	18.58	18.58			
1850	16QAM	75	0	18.78	18.71	18.56			
1850	256QAM	1	0	17.60	17.85	17.77	19.3	0.5	
1850	256QAM	1	37	17.65	17.82	17.81			
1850	256QAM	1	74	17.69	17.87	17.59			
1850	256QAM	36	0	17.37	17.51	17.34			
1850	256QAM	36	20	17.42	17.48	17.43			
1850	256QAM	36	36	17.51	17.49	17.49			
1850	256QAM	75	0	17.38	17.54	17.37			
Channel									
Frequency (MHz)									
1900	QPSK	1	0	18.60	18.65	18.38	19.8	0	
1900	QPSK	1	37	18.52	18.58	18.55			
1900	QPSK	1	74	18.52	18.59	18.56			
1900	QPSK	36	0	18.74	18.55	18.58			
1900	QPSK	36	20	18.68	18.57	18.52			
1900	QPSK	36	36	18.58	18.57	18.55			
1900	QPSK	75	0	18.45	18.64	18.54			
1900	16QAM	1	0	18.48	18.72	18.59	19.8	0	
1900	16QAM	1	37	18.53	18.68	18.71			
1900	16QAM	1	74	18.42	18.50	18.64			
1900	16QAM	36	20	18.48	18.71	18.57			
1900	16QAM	36	36	18.49	18.63	18.70			
1900	16QAM	75	0	18.58	18.62	18.62			
1900	16QAM	1	0	18.58	18.62	18.62			
1900	16QAM	1	37	18.53	18.41	18.57	19.8	0	
1900	16QAM	1	74	18.46	18.56	18.66			
1900	16QAM	36	0	18.72	18.55	18.53			
1900	16QAM	36	20	18.75	18.73	18.55			
1900	16QAM	36	36	18.59	18.62	18.70			
1900	16QAM	75	0	18.62	18.59	18.56			
1900	16QAM	1	0	18.68	18.66	18.66	19.8	0	
1900	16QAM	1	37	18.70	18.68	18.68			
1900	16QAM	1	74	18.77	18.72	18.74			
1900	16QAM	36	0	17.58	17.45	17.32			
1900	256QAM	1	0	17.66	17.69	17.68			
1900	256QAM	1	37	17.77	17.77	17.77			
1900	256QAM	1	74	17.77	17.77	17.77			
1900	256QAM	36	0	17.48	17.48	17.47			
1900	256QAM	36	20	17.43	17.50	17.38			



Band 25 (1900MHz Band)											
Part 24E											
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq 26140	Power Ch / Freq 26340	Power Ch / Freq 26590	Turn-up init (dBm)	MPR (dB)			
Channel											
Frequency (MHz)											
20	QPSK	1	0	18.80	18.80	18.88	19.8	0			
20	QPSK	1	49	18.83	18.78	18.82					
20	QPSK	1	99	18.88	18.73	18.88					
20	QPSK	50	0	18.77	18.78	18.75					
20	QPSK	50	24	18.81	18.82	18.78	19.8	0			
20	QPSK	50	50	18.80	18.72	18.77					
20	QPSK	100	0	18.83	18.81	18.75					
20	16QAM	1	0	18.70	18.70	18.68					
20	16QAM	1	49	18.87	18.72	18.83	19.8	0			
20	16QAM	1	99	18.83	18.87	18.72					
20	16QAM	50	0	18.75	18.75	18.76					
20	16QAM	50	24	18.73	18.71	18.73					
20	16QAM	50	50	18.77	18.73	18.78	19.8	0			
20	16QAM	100	0	18.71	18.70	18.73					
20	16QAM	1	0	18.88	18.88	18.89					
20	16QAM	1	49	18.85	18.84	18.85					
20	16QAM	1	99	18.70	18.69	18.74	19.8	0			
20	16QAM	50	0	18.77	18.75	18.78					
20	16QAM	50	24	18.75	18.70	18.77					
20	16QAM	50	50	18.78	18.76	18.77					
20	256QAM	1	0	17.65	17.62	17.47	19.3	0.5			
20	256QAM	1	49	18.73	18.74	18.71					
20	256QAM	1	99	17.92	17.89	17.37					
20	256QAM	50	0	17.44	17.68	17.44					
20	256QAM	50	24	17.67	17.62	17.43	19.3	0.5			
20	256QAM	50	50	17.95	17.69	17.43					
20	256QAM	100	0	17.68	17.71	17.36					
Channel											
Frequency (MHz)											
15	QPSK	1	0	18.83	18.79	18.86	19.8	0			
15	QPSK	1	37	18.82	18.84	18.86					
15	QPSK	1	74	18.42	18.86	18.45					
15	QPSK	36	0	18.87	18.87	18.86					
15	QPSK	36	20	18.88	18.73	18.81	19.8	0			
15	QPSK	36	50	18.84	18.86	18.80					
15	QPSK	75	0	18.80	18.80	18.89					
15	16QAM	1	0	18.73	18.73	18.74					
15	16QAM	1	37	18.44	18.82	18.54	19.8	0			
15	16QAM	1	74	18.46	18.88	18.64					
15	16QAM	36	0	18.75	18.75	18.81					
15	16QAM	36	20	18.70	18.87	18.70					
15	16QAM	36	50	18.76	18.78	18.77	19.8	0			
15	16QAM	75	0	18.73	18.70	18.66					
15	16QAM	1	0	18.47	18.80	18.85					
15	16QAM	1	37	18.27	18.48	18.45					
15	16QAM	1	74	18.68	18.81	18.74	19.8	0			
15	16QAM	36	0	18.53	18.78	18.78					
15	16QAM	36	20	18.73	18.74	18.77					
15	16QAM	36	50	18.72	18.82	18.45					
15	16QAM	75	0	18.76	18.85	18.85	19.8	0			
15	16QAM	1	0	17.43	17.51	17.37					
15	256QAM	1	0	17.47	17.53	17.48					
15	256QAM	1	74	17.47	17.63	17.48					
15	256QAM	36	0	17.46	17.44	17.48	19.3	0.5			
15	256QAM	36	20	17.48	17.51	17.43					
15	256QAM	36	50	17.35	17.65	17.40					
15	256QAM	75	0	17.38	17.68	17.45					
Channel											
Frequency (MHz)											
10	QPSK	1	0	18.55	18.70	18.40	19.8	0			
10	QPSK	1	26	18.38	18.86	18.82					
10	QPSK	1	49	18.38	18.86	18.45					
10	QPSK	25	0	18.50	18.83	18.82					
10	QPSK	25	13	18.50	18.83	18.82	19.8	0			
10	QPSK	25	26	18.58	18.87	18.73					
10	QPSK	50	0	18.67	18.77	18.45					
10	16QAM	1	0	18.70	18.70	18.64					
10	16QAM	1	26	18.71	18.77	18.59	19.8	0			
10	16QAM	1	49	18.50	18.82	18.74					
10	16QAM	25	0	18.73	18.70	18.66					
10	16QAM	25	13	18.71	18.75	18.70					
10	16QAM	25	26	18.72	18.73	18.73	19.8	0			
10	16QAM	50	0	18.72	18.74	18.64					
10	16QAM	1	0	18.58	18.83	18.58					
10	16QAM	1	26	18.36	18.49	18.53					
10	16QAM	1	49	18.70	18.78	18.74	19.8	0			
10	16QAM	25	0	18.70	18.73	18.64					
10	16QAM	25	13	18.71	18.73	18.64					
10	16QAM	25	26	18.72	18.77	18.54					
10	256QAM	1	0	17.85	17.47	17.30	19.3	0.5			
10	256QAM	1	26	17.85	17.54	17.42					
10	256QAM	1	49	17.42	17.50	17.40					
10	256QAM	1	74	17.47	17.63	17.48					
10	256QAM	25	0	17.41	17.46	17.41	19.3	0.5			
10	256QAM	25	13	17.48	17.51	17.43					
10	256QAM	25	26	17.36	17.68	17.43					
10	256QAM	50	0	17.68	17.72	17.36					
Channel											
Frequency (MHz)											
5	QPSK	1	0	18.77	18.87	18.86	19.8	0			
5	QPSK	1	1	18.44	18.85	18.64					
5	QPSK	1	24	18.82	18.89	18.86					
5	QPSK	12	0	18.82	18.76	18.81					
5	QPSK	12	13	18.72	18.85	18.73	19.8	0			
5	QPSK	12	13	18.76	18.73	18.77					
5	QPSK	25	0	18.85	18.74	18.89					
5	16QAM	1	0	18.68	18.81	18.64					
5	16QAM	1	12	18.44	18.89	18.48	19.8	0			
5	16QAM	1	24	18.48	18.87	18.75					
5	16QAM	12	0	18.75	18.74	18.71					
5	16QAM	12	7	18.79	18.68	18.81					
5	16QAM	12	13	18.68	18.83	18.72	19.8	0			
5	16QAM	25	0	18.79	18.78	18.75					
5	16QAM	25	13	18.71	18.75	18.70	19.8	0			
5	16QAM	25	26	18.72	18.73	18.73					
5	16QAM	50	0	18.72	18.74	18.64					
5	16QAM	1	0	18.58	18.83	18.58					
5	16QAM	1	12	18.33	18.41	18.50	19.8	0			
5	16QAM	1	24	18.36	18.49	18.53					
5	16QAM	12	0	18.67	18.67	18.77					
5	16QAM	12	7	18.70	18.73	18.53					
5	16QAM	12	13	18.62	18.82	18.60	19.8	0			
5	16QAM	25	0	18.66	18.78	18.55					
5	256QAM	1	0	17.80	17.59	17.41					
5	256QAM	1	26	17.87	17.54	17.42					
5	256QAM	1	49	17.47	17.54	17.43	19.3	0.5			
5	256QAM	1	74	17.47	17.63	17.48					
5	256QAM	12	0	17.41	17.46	17.41					
5	256QAM	12	13	17.48	17.51	17.43					
5	256QAM	12	26	17.34	17.68	17.42	19.3	0.5			
5	256QAM	25	0	17.68	17.72	17.36					
5	256QAM	25	13	17.68	17.72	17.36					
Channel											
Frequency (MHz)											
3	QPSK	1	0	18.55	18.81	18.54	19.8	0			
3	QPSK	1	1	18.27	18.72	18.34					
3	QPSK	1	14	18.37	18.84	18.34					
3	QPSK	8	0	18.50	18.74	18.51					
3	QPSK	8	7	18.73	18.69	18.69	19.8	0			
3	QPSK	8	7	18.61	18.61	18.65					
3	QPSK	15	0	18.54	18.57	18.59					
3	QPSK	15	7	18.62	18.62	18.62					
3	QPSK	15	14	18.61	18.61	18.57	19.8	0			
3	QPSK	30	0	18.62	18.52	18.72					
3	QPSK	30	7	18.63	18.63	18.63					
3	QPSK	30	14	18.63	18.63	18.63					
3	QPSK	30	21	18.63	18.63	18.63	19.8	0			
3	QPSK	60	0	18.70	18.70	18.70					
3	QPSK	1	0	18.44	18.45	18.54					
3	QPSK	1	1	18.46	18.46	18.41					
3	QPSK	1	14	18.61	18.38	18.74	19.8	0			
3	QPSK	8	0	18.67	18.61	18.73					
3	QPSK	8	7	18.63	18.76	18.76					
3	QPSK	8	7	18.53	18.57	18.71					
3	QPSK	15	0	18.65	18.67	18.63	19.8	0			
3	QPSK	15	7	18.66	18.66	18.66					
3	QPSK	15	14	18.66	18.66	18.66					
3	QPSK	30	0	18.73	18.69	18.73					
3	QPSK	30	7	18.73	18.68	18.73	19.3	0.5			
3	QPSK	30	14	18.73	18.68	18.73					
3	QPSK	30	21	18.73	18.68	18.73					
3	QPSK	60	0	18.75	18.66	18.81					
3	QPSK	1	0	18.44	18.45	18.54	19.8	0			
3	QPSK	1	1	18.46	18.46	18.41					
3	QPSK	1	14	18.61	18.38	18.74					
3	QPSK	8	0	18.67	18.61	18.73					
3	QPSK	8	7	18.63	18.76	18.76	19.8	0			
3	QPSK	8	7	18.53	18.57	18.71					
3	QPSK	15	0	18.65	18.67	18.63					
3	QPSK	15	7	18.66	18.66	18.66					
3	QPSK	15	14	18.66	18.66	18.66	19.8	0			
3	QPSK	30	0	18.73	18.69	18.73					
3	QPSK	30	7	18.73	18.68	18.73					
3	QPSK	30	14	18.73	18.68	18.73					
3	QPSK	60	0	18.75	18.66	18.81	19.8	0			
3	QPSK	1	0	18.44	18.45	18.54					
3	QPSK	1	1	18.46	18.46	18.41					
3	QPSK	1	14	18.61	18.38	18.74					
3	QPSK	8	0	18.67	18.61	18.73	19.8	0			
3	QPSK	8	7								



Full Power for ANTO

Band 2 (1900MHz Band)											Band 66														
Part 24E											Part 24E														
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq. 1800.0	Power High Ch / Freq. 1920.0	Power Low Ch / Freq. 1800.0	Power High Ch / Freq. 1920.0	Turn-up (dBm)	MPE (dB)		BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq. 1300.7	Power High Ch / Freq. 1332.2	Power Low Ch / Freq. 1332.2	Power High Ch / Freq. 1332.2	Turn-up (dBm)	MPE (dB)					
Channel											Channel														
1800.0 1880.0 1900.0											1300.7 1332.2 1332.2														
20	QPSK	1	0	22.87	22.89	22.88	22.88	23.8	0		20	QPSK	1	0	22.88	22.90	22.90	22.90	23.8	0					
20	QPSK	1	48	22.86	22.90	22.88	22.88				20	QPSK	1	48	22.88	22.88	22.88	22.88							
20	QPSK	1	96	22.82	22.85	22.85	22.85				20	QPSK	1	96	22.82	22.85	22.85	22.85							
20	QPSK	80	0	22.01	22.02	22.01	22.01				20	QPSK	80	0	22.03	22.03	22.03	22.03							
20	QPSK	50	24	21.93	22.01	21.92	21.92	22.8	1		20	QPSK	50	24	22.00	22.00	22.02	22.02	22.8	1					
20	QPSK	50	50	21.96	21.97	21.97	21.97				20	QPSK	50	50	21.94	21.94	22.04	22.04							
20	QPSK	100	0	21.96	22.04	22.03	22.03				20	QPSK	100	0	22.01	22.01	22.11	22.11							
20	QPSK	100	0	22.27	22.27	22.26	22.26				20	QPSK	100	0	22.25	22.25	22.29	22.29							
20	16QAM	1	48	22.22	22.27	22.26	22.26	22.8	1		20	16QAM	1	48	22.21	22.25	22.29	22.29	22.8	1					
20	16QAM	1	96	22.16	22.19	22.21	22.21				20	16QAM	1	96	22.14	22.19	22.17	22.17							
20	16QAM	50	0	21.93	21.98	21.95	21.95				20	16QAM	50	0	21.93	21.98	21.95	21.95							
20	16QAM	50	24	22.05	22.02	22.02	22.02				20	16QAM	50	24	22.03	22.01	22.15	22.15							
20	16QAM	50	50	20.98	21.04	20.97	20.97	21.8	2		20	16QAM	50	50	20.93	21.02	21.03	21.03	21.8	2					
20	16QAM	100	0	20.96	20.98	21.00	21.00				20	16QAM	100	0	21.08	21.08	21.09	21.09							
20	64QAM	1	0	21.17	21.18	21.08	21.08				20	64QAM	1	0	21.15	21.26	21.23	21.23							
20	64QAM	1	48	21.13	21.11	21.13	21.13				20	64QAM	1	48	21.12	21.13	21.15	21.15							
20	64QAM	1	96	21.04	21.01	21.04	21.04	20.8	3		20	64QAM	1	96	21.07	21.05	21.08	21.08	20.8	3					
20	64QAM	50	0	20.95	20.98	20.95	20.95				20	64QAM	50	0	20.97	20.10	21.19	21.19							
20	64QAM	50	24	20.02	20.04	20.09	20.14				20	64QAM	50	24	20.05	20.04	20.19	20.19							
20	64QAM	50	50	19.98	20.02	20.01	20.01				20	64QAM	50	50	19.98	20.02	20.05	20.05							
20	256QAM	1	0	18.00	18.12	18.04	18.04	19.3	4.5		20	256QAM	1	0	18.05	17.98	17.98	17.98	19.3	4.5					
20	256QAM	1	48	17.97	17.97	17.98	17.98				20	256QAM	1	48	17.98	17.98	17.98	17.98							
20	256QAM	1	96	17.95	18.03	18.02	18.02				20	256QAM	1	96	17.92	18.02	17.96	17.96							
20	256QAM	50	0	17.68	17.77	17.72	17.72				20	256QAM	50	0	17.67	17.78	17.81	17.81							
20	256QAM	50	24	17.66	17.77	17.72	17.72	19.3	4.5		20	256QAM	50	24	17.68	17.77	17.78	17.78	19.3	4.5					
20	256QAM	50	50	17.72	17.70	17.71	17.71				20	256QAM	50	50	17.78	17.77	17.82	17.82							
20	256QAM	100	0	17.68	17.71	17.67	17.67				20	256QAM	100	0	17.72	17.72	17.72	17.72							
Channel											Channel														
1887.5 1880.0 1915.0											1330.7 1332.2 1332.2														
15	QPSK	1	0	22.89	22.82	22.85	22.85	23.8	0		15	QPSK	1	0	22.89	22.82	22.85	22.85	23.8	0					
15	QPSK	1	36	22.84	22.98	22.90	22.90				15	QPSK	1	36	22.85	22.95	22.93	22.93							
15	QPSK	1	74	22.89	22.89	22.80	22.80				15	QPSK	1	74	22.85	22.87	22.83	22.83							
15	QPSK	36	0	21.97	22.03	22.05	22.05				15	QPSK	36	0	21.97	22.03	22.05	22.05							
15	QPSK	36	20	22.01	22.01	22.02	22.02	22.8	1		15	QPSK	36	20	21.98	22.05	22.09	22.09	22.8	1					
15	QPSK	36	36	21.92	21.97	21.97	21.97				15	QPSK	36	36	21.94	22.00	22.05	22.05							
15	QPSK	75	0	21.90	21.96	22.04	22.07				15	QPSK	75	0	21.97	22.02	22.07	22.07							
15	16QAM	1	0	22.23	22.25	22.29	22.29				15	16QAM	1	0	22.18	22.27	22.32	22.32							
15	16QAM	1	36	22.17	22.25	22.29	22.29	22.8	1		15	16QAM	1	36	22.20	22.26	22.23	22.23	22.8	1					
15	16QAM	1	74	22.23	22.23	22.23	22.23				15	16QAM	1	74	22.21	22.21	22.21	22.21							
15	16QAM	36	0	20.97	21.03	21.00	21.00				15	16QAM	36	0	21.00	21.00	21.12	21.12							
15	16QAM	36	20	21.04	20.98	21.05	21.05				15	16QAM	36	20	20.96	21.10	21.10	21.10							
15	16QAM	36	36	20.94	21.02	20.92	20.92	21.8	2		15	16QAM	36	36	20.98	21.05	21.02	21.02	21.8	2					
15	16QAM	75	0	20.93	20.97	21.03	21.03				15	16QAM	75	0	21.00	21.05	21.08	21.08							
15	64QAM	1	0	21.12	21.16	21.16	21.16				15	64QAM	1	0	21.10	21.16	21.16	21.16							
15	64QAM	1	36	21.11	21.15	21.15	21.15				15	64QAM	1	36	21.05	21.15	21.18	21.18							
15	64QAM	1	74	21.03	21.04	21.04	21.04	20.8	3		15	64QAM	1	74	20.97	21.04	20.95	20.95	20.8	3					
15	64QAM	36	0	20.01	20.11	20.08	20.08				15	64QAM	36	0	20.01	20.11	20.10	20.10							
15	64QAM	36	20	20.98	20.98	20.98	20.98				15	64QAM	36	20	20.97	20.97	20.10	20.10							
15	64QAM	36	36	19.98	20.02	19.99	19.99				15	64QAM	36	36	19.98	20.00	20.10	20.10							
15	256QAM	1	0	17.68	18.02	17.65	17.65	19.3	4.5		15	256QAM	1	0	18.05	17.85	17.85	17.85	19.3	4.5					
15	256QAM	1	36	17.94	18.11	18.08	18.08				15	256QAM	1	36	17.98	17.88	18.02	18.02							
15	256QAM	1	74	17.68	17.64	17.72	17.72				15	256QAM	1	74	17.76	17.80	17.80	17.80							
15	256QAM	36	0	17.78	17.83	17.74	17.74				15	256QAM	36	0	17.89	17.86	17.85	17.85							
15	256QAM	36	36	17.66	17.77	17.62	17.62	19.3	4.5		15	256QAM	36	36	17.78	17.77	17.78	17.78	19.3	4.5					
15	256QAM	36	74	17.66	17.69	17.71	17.71				15	256QAM	36	74	17.78	17.77	17.82	17.82							
15	256QAM	75	0	17.66	17.69	17.71	17.71				15	256QAM	75	0	17.66	17.77	17.82	17.82							
Channel											Channel														
1880.0 1880.0 1915.0											1330.2 1332.2 1332.2														
10	QPSK	1	0	22.83	22.89	22.83	22.83	23.8	0		10	QPSK	1	0	22.89	22.91	22.91	22.91	23.8	0					
10	QPSK	1	25	22.83	22.87	22.84	22.84				10	QPSK	1	25	22.81	22.84	22.82	22.82							
10	QPSK	1	48	22.83	22.86	22.82	22.82				10	QPSK	1	48	22.83	22.83	22.82	22.82							
10	QPSK	36	0	21.92	22.00	21.98	21.98				10	QPSK	36	0	21.99	22.06	22.03	22.03							
10	QPSK	36	12	21.95	21.98	22.02	22.02	22.8	1		10	QPSK	36	12	21.97	22.07	22.05	22.05	22.8	1					
10	QPSK	36	24	22.00	21.98	22.02	22.02				10	QPSK	36	24	22.00	22.00	22.05	22.05							
10	QPSK	50	0	21.97	21.96	22.01	22.01				10	QPSK	50	0	21.99	22.06	22.01	22.01							
10	16QAM	1	0	22.21	22.32	22.22	22.22				10	16QAM	1	0	22.26	22.35	22.31	22.31							
10	16QAM	1	25	22.25	22.32	22.24	22.24	22.8	1		10	16QAM	1	25	22.28	22.32	22.27	22.27	22.8	1					
10	16QAM	1	48	22.21	22.28	22.23	22.23				10	16QAM	1	48	22.17	22.26	22.20	22.20							
10	16QAM	36	0	20.99	21.03	20.99	20.99				10	16QAM	36	0	20.94	21.08	21.04	21.04							
10	16QAM	25	12	20.99	21.00	21.04	21.04	21.8	2		10	16QAM	25	12	20.98	21.06	21.04	21.04	21.8	2					
10	16QAM	25	25	20.98	20.94	21.01	21.01				10	16QAM	25	25	20.96	21.01	21.04	21.04							
10	16QAM	50	0	20.97	20.98	21.02	21.02				10	16QAM	50	0	20.94	21.02	21.05	21.05							
10	64QAM	1	0	21.10	21.25	21.19	21.19				10	64QAM	1	0	21.12	21.25	21.17	21.17							
10	64QAM	1	25	21.10	21.24	21.15	21.15	21.8	2		10	64QAM	1	25	21.14	21.23	21.18	21.18	21.8	2					
10	64QAM	1	48	21.16	21.14	21.02	21.02				10	64QAM	1	48	21.16	21.16	21.16	21.16							
10	64QAM	25	0	19.96	20.04	20.01	20.01				10	64QAM	25	0	20.00	20.10	20.09	20.09							
10	64QAM	25	12	20.04	20.02	20.05	20.05				10	64QAM	25	12	20.03	20.11	20.10	20.10							
10	64QAM																								



Reduced power level 12/3/4 for Head - Ant0

Band 2 (1900MHz Band)										
Part 246										
SV (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power High Ch / Freq	Power High Ch / Freq	Tune-up Unit (dB)	MPE (dB)		
Channel										
Frequency (MHz)										
20	QPSK	1	0	18.87	18.93	18.98	19.8	0		
20	QPSK	1	49	18.88	18.90	18.96				
20	QPSK	1	99	18.82	18.85	18.90				
20	QPSK	50	0	18.91	18.91	18.96				
20	QPSK	50	24	18.90	18.91	18.92	19.8	0		
20	QPSK	50	50	18.86	18.87	18.97				
20	QPSK	100	0	18.96	18.96	18.93				
20	16QAM	1	0	18.90	18.91	18.91				
20	16QAM	1	49	18.87	18.92	18.93	19.8	0		
20	16QAM	50	0	18.88	18.91	18.90				
20	16QAM	50	24	18.90	18.87	18.93				
20	16QAM	100	0	18.90	18.93	18.97				
20	64QAM	1	0	18.92	18.93	18.93	19.8	0		
20	64QAM	1	99	18.89	18.88	18.89				
20	64QAM	50	0	18.90	18.93	18.90				
20	64QAM	50	24	18.87	18.89	18.94				
20	64QAM	100	0	18.93	18.95	18.89	19.8	0		
20	256QAM	1	0	17.72	17.84	17.76				
20	256QAM	1	49	17.59	17.79	17.70				
20	256QAM	1	99	17.67	17.75	17.74				
20	256QAM	50	0	17.38	17.38	17.38	19.3	0		
20	256QAM	50	24	17.41	17.40	17.41				
20	256QAM	50	50	17.44	17.42	17.43				
20	256QAM	100	0	17.40	17.43	17.39				
20	256QAM	100	0	17.40	17.43	17.39				
20	256QAM	100	0	17.40	17.43	17.39				
Channel										
Frequency (MHz)										
15	QPSK	1	0	18.86	18.91	18.87	19.8	0		
15	QPSK	1	37	18.81	18.86	18.86				
15	QPSK	1	74	18.88	18.86	18.87				
15	QPSK	36	0	18.94	18.90	18.87				
15	QPSK	36	20	18.88	18.82	18.92	19.8	0		
15	QPSK	36	39	18.89	18.94	18.94				
15	QPSK	75	0	18.97	18.93	18.91				
15	16QAM	1	0	18.92	18.92	18.92				
15	16QAM	1	37	18.94	18.92	18.95	19.8	0		
15	16QAM	36	0	18.90	18.95	18.92				
15	16QAM	36	20	18.91	18.95	18.92				
15	16QAM	75	0	18.90	18.94	18.90				
15	64QAM	1	0	18.89	18.93	18.93	19.8	0		
15	64QAM	1	37	18.88	18.93	18.92				
15	64QAM	1	74	18.90	18.91	18.91				
15	64QAM	36	0	18.88	18.88	18.95				
15	64QAM	36	20	18.93	18.92	18.95	19.8	0		
15	64QAM	36	39	18.95	18.89	18.96				
15	64QAM	75	0	18.90	18.97	18.93				
15	256QAM	1	0	17.72	17.76	17.69				
15	256QAM	1	37	17.65	17.83	17.74	19.3	0.5		
15	256QAM	1	74	17.61	17.71	17.79				
15	256QAM	36	0	17.42	17.38	17.48				
15	256QAM	36	20	17.82	17.87	17.48				
15	256QAM	36	39	17.40	17.35	17.51	19.3	0.5		
15	256QAM	75	0	17.40	17.43	17.45				
15	256QAM	75	0	17.40	17.43	17.45				
15	256QAM	75	0	17.40	17.43	17.45				
15	256QAM	75	0	17.40	17.43	17.45				
15	256QAM	75	0	17.40	17.43	17.45				
Channel										
Frequency (MHz)										
10	QPSK	1	0	18.83	18.91	18.93	19.8	0		
10	QPSK	1	24	18.83	18.87	18.84				
10	QPSK	1	49	18.80	18.90	18.82				
10	QPSK	36	0	18.92	18.92	18.88				
10	QPSK	36	25	18.96	18.98	18.92	19.8	0		
10	QPSK	25	25	19.00	18.98	18.92				
10	QPSK	50	0	18.97	18.96	18.91				
10	16QAM	1	0	18.91	18.92	18.92				
10	16QAM	1	25	18.95	18.92	18.94	19.8	0		
10	16QAM	1	49	18.91	18.98	18.93				
10	16QAM	25	0	18.93	18.92	18.93				
10	16QAM	25	12	18.99	19.00	18.94				
10	16QAM	25	25	18.96	18.94	18.91	19.8	0		
10	16QAM	50	0	18.97	18.96	18.92				
10	64QAM	1	0	18.90	18.95	18.95				
10	64QAM	1	25	18.90	18.94	18.95				
10	64QAM	1	49	18.96	18.94	18.92	19.8	0		
10	64QAM	25	0	18.92	18.92	18.92				
10	64QAM	25	12	18.96	18.94	18.91				
10	64QAM	25	25	18.91	18.91	18.93				
10	256QAM	1	0	17.82	17.85	17.79	19.3	0.5		
10	256QAM	1	25	17.80	17.74	17.74				
10	256QAM	1	49	17.46	17.47	17.46				
10	256QAM	25	0	17.47	17.34	17.34				
10	256QAM	25	12	17.42	17.52	17.49	19.3	0.5		
10	256QAM	25	25	17.49	17.41	17.41				
10	256QAM	50	0	17.54	17.47	17.57				
10	256QAM	50	0	17.54	17.47	17.57				
10	256QAM	50	0	17.54	17.47	17.57				
10	256QAM	50	0	17.54	17.47	17.57				
Channel										
Frequency (MHz)										
5	QPSK	1	0	18.83	18.90	18.93	19.8	0		
5	QPSK	1	12	18.92	18.95	18.88				
5	QPSK	1	24	18.89	18.92	18.89				
5	QPSK	12	0	18.93	19.01	18.97				
5	QPSK	12	7	18.91	18.92	18.99	19.8	0		
5	QPSK	12	13	18.99	18.94	18.98				
5	QPSK	25	0	18.96	18.94	18.99				
5	16QAM	1	0	18.92	18.98	18.93				
5	16QAM	1	12	18.96	18.96	18.97	19.8	0		
5	16QAM	1	24	18.94	19.02	18.94				
5	16QAM	12	0	18.99	18.98	18.96				
5	16QAM	12	7	18.98	18.95	18.99				
5	16QAM	12	13	18.97	18.95	18.97	19.8	0		
5	16QAM	25	0	19.00	18.96	18.98				
5	64QAM	1	0	18.94	18.91	18.95				
5	64QAM	1	12	18.92	18.99	18.91				
5	64QAM	1	24	18.99	18.98	18.98	19.8	0		
5	64QAM	12	0	18.96	18.99	18.92				
5	64QAM	12	7	18.97	18.92	18.93				
5	64QAM	12	13	18.94	18.95	18.96				
5	256QAM	1	0	17.81	17.91	17.90	19.3	0.5		
5	256QAM	1	24	17.66	17.76	17.76				
5	256QAM	12	0	17.38	17.35	17.35				
5	256QAM	12	7	17.53	17.64	17.56				
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.46	19.3</			



Reduced power for Hotspot on - ANT0

Band 2 (1900MHz Band)										
Part 24E										
RF (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. (E-UTRA)	Power Mode (E-UTRA)	Power High Ch. (E-UTRA)	Turn-up Int. (dBm)	MPR (dB)		
Channel										
Frequency (MHz)										
20	QPSK	1	0	19.87	19.87	19.88				
20	QPSK	1	49	19.88	19.90	19.88	20.8	0		
20	QPSK	1	99	19.92	19.88	19.86				
20	QPSK	50	0	19.98	19.98	19.98				
20	QPSK	50	24	19.90	19.88	19.89	20.8	0		
20	QPSK	100	0	19.93	19.93	19.93				
20	QPSK	100	0	19.93	19.93	19.93				
20	16QAM	1	0	19.85	19.86	19.86				
20	16QAM	1	49	19.90	19.87	19.88	20.8	0		
20	16QAM	1	99	19.86	19.89	19.91				
20	16QAM	50	0	20.02	19.85	19.84				
20	16QAM	50	24	19.94	20.03	19.97	20.8	0		
20	16QAM	50	50	19.97	20.03	19.98				
20	16QAM	100	0	19.94	19.97	20.01				
20	64QAM	1	0	19.86	19.87	19.87				
20	64QAM	1	49	19.92	19.90	19.92	20.8	0		
20	64QAM	1	99	19.88	19.89	19.90				
20	64QAM	50	0	19.95	19.98	19.95				
20	64QAM	50	24	19.92	19.84	19.89	20.8	0		
20	64QAM	50	50	19.86	19.92	19.91				
20	64QAM	100	0	19.88	19.90	19.94				
20	256QAM	1	0	17.91	18.03	17.85	19.3	1.5		
20	256QAM	1	49	17.78	17.98	17.89				
20	256QAM	1	99	17.86	17.84	17.83				
20	256QAM	50	0	17.57	17.57	17.53	19.3	1.5		
20	256QAM	50	24	17.60	17.68	17.63				
20	256QAM	50	50	17.63	17.61	17.62				
20	256QAM	100	0	17.59	17.62	17.61				
Channel										
Frequency (MHz)										
15	QPSK	1	0	19.89	19.89	19.93	20.8	0		
15	QPSK	1	37	19.89	19.84	19.90				
15	QPSK	1	74	19.89	19.89	19.90				
15	QPSK	36	0	19.94	19.90	19.92				
15	QPSK	36	25	19.98	19.85	19.82	20.8	0		
15	QPSK	36	39	19.89	19.84	19.84				
15	QPSK	75	0	19.87	19.93	19.91				
15	16QAM	1	0	19.80	19.82	19.85				
15	16QAM	1	37	19.84	19.82	19.85	20.8	0		
15	16QAM	1	74	19.82	19.89	19.85				
15	16QAM	36	0	19.93	19.90	19.98				
15	16QAM	36	20	20.00	19.94	19.81	20.8	0		
15	16QAM	36	39	19.90	19.88	19.85				
15	16QAM	75	0	19.89	19.93	19.99				
15	64QAM	1	0	19.85	19.82	19.82				
15	64QAM	1	37	19.87	19.82	19.81	20.8	0		
15	64QAM	1	74	19.99	20.00	20.00				
15	64QAM	36	0	19.86	19.88	19.85				
15	64QAM	36	20	19.93	19.92	19.95	20.8	0		
15	64QAM	36	39	19.85	19.89	19.86				
15	64QAM	75	0	19.89	19.93	19.99				
15	256QAM	1	0	17.86	17.90	17.83	19.3	1.5		
15	256QAM	1	37	17.82	17.89	17.86				
15	256QAM	1	74	17.79	17.85	17.83				
15	256QAM	36	0	17.56	17.52	17.49	19.3	1.5		
15	256QAM	36	20	17.66	17.71	17.62				
15	256QAM	36	39	17.54	17.49	17.48				
15	256QAM	75	0	17.54	17.57	17.59				
Channel										
Frequency (MHz)										
10	QPSK	1	0	19.77	19.75	19.77	20.8	0		
10	QPSK	1	25	19.77	19.81	19.78				
10	QPSK	1	49	19.74	19.84	19.75				
10	QPSK	25	0	19.83	19.91	19.89				
10	QPSK	25	12	19.86	19.89	19.88	20.8	0		
10	QPSK	25	25	19.91	19.89	19.93				
10	QPSK	50	0	19.88	19.87	19.82				
10	16QAM	1	0	19.82	19.83	19.83				
10	16QAM	1	25	19.76	19.83	19.75	20.8	0		
10	16QAM	1	49	19.82	19.79	19.74				
10	16QAM	25	0	19.83	19.92	19.83				
10	16QAM	25	12	19.89	19.90	19.94	20.8	0		
10	16QAM	25	25	19.96	19.84	19.81				
10	16QAM	50	0	19.87	19.86	19.82				
10	64QAM	1	0	19.80	19.74	19.79	20.8	0		
10	64QAM	1	25	19.80	19.74	19.75				
10	64QAM	1	49	19.76	19.74	19.72				
10	64QAM	25	0	19.77	19.85	19.82	20.8	0		
10	64QAM	25	12	19.83	19.83	19.85				
10	64QAM	25	25	19.82	19.82	19.84				
10	64QAM	50	0	19.85	19.80	19.86				
10	256QAM	1	0	17.59	17.62	17.65	19.3	1.5		
10	256QAM	1	25	17.77	17.91	17.81				
10	256QAM	1	49	17.83	17.91	18.05				
10	256QAM	25	0	17.64	17.81	17.81	19.3	1.5		
10	256QAM	25	12	17.59	17.69	17.69				
10	256QAM	25	25	17.66	17.58	17.66				
10	256QAM	50	0	17.71	17.64	17.64	19.3	1.5		
10	256QAM	50	0	17.71	17.64	17.64				
Channel										
Frequency (MHz)										
5	QPSK	1	0	19.80	19.91	19.82	20.8	0		
5	QPSK	1	12	19.83	19.86	19.85				
5	QPSK	1	24	19.80	19.83	19.80				
5	QPSK	12	0	19.81	19.89	19.85				
5	QPSK	12	7	19.89	19.90	19.87	20.8	0		
5	QPSK	12	19	19.87	19.82	19.88				
5	QPSK	25	0	19.84	19.82	19.84				
5	16QAM	1	0	19.80	19.76	19.81				
5	16QAM	1	12	19.83	19.74	19.77	20.8	0		
5	16QAM	1	24	19.82	19.80	19.82				
5	16QAM	12	0	19.86	19.80	19.83				
5	16QAM	12	7	19.85	19.82	19.89	20.8	0		
5	16QAM	12	13	19.84	19.82	19.84				
5	16QAM	25	0	19.87	19.83	19.86				
5	64QAM	1	0	19.81	19.79	19.82				
5	64QAM	1	12	19.79	19.76	19.76	20.8	0		
5	64QAM	1	24	19.76	19.76	19.75				
5	64QAM	12	0	19.82	19.85	19.81				
5	64QAM	12	7	19.85	19.80	19.81	20.8	0		
5	64QAM	12	19	19.82	19.83	19.84				
5	64QAM	25	0	19.75	19.77	19.76				
5	256QAM	1	0	17.83	17.83	17.82	19.3	1.5		
5	256QAM	1	12	17.75	17.90	17.84				
5	256QAM	1	24	17.88	17.85	17.79				
5	256QAM	12	0	17.58	17.66	17.58	19.3	1.5		
5	256QAM	12	7	17.55	17.67	17.58				
5	256QAM	12	13	17.62	17.42	17.49				
5	256QAM	25	0	17.49	17.50	17.42				
Channel										
Frequency (MHz)										
3	QPSK	1	0	19.77	19.77	19.75	20.8	0		
3	QPSK	1	8	19.84	19.81	19.81				
3	QPSK	1	14	19.80	19.86	19.79				
3	QPSK	1	20	19.81	19.87	19.82				
3	QPSK	8	4	19.84	19.86	19.80	20.8	0		
3	QPSK	8	12	19.89	19.86	19.86				
3	QPSK	15	0	19.85	19.84	19.91				
3	16QAM	1	0	19.77	19.78	19.79				
3	16QAM	1	8	19.82	19.77	19.83	20.8	0		
3	16QAM	1	14	19.79	19.82	19.83				
3	16QAM	8	0	19.83	19.87	19.91				
3	16QAM	8	8	19.82	19.80	19.86	20.8	0		
3	16QAM	8	7	19.81	19.80	19.80				
3	16QAM	15	0	19.84	19.81	19.91				
3	64QAM	1	0	19.82	19.77	19.82				
3	64QAM	1	14	19.76	19.79	19.81	20.8	0		
3	64QAM	8	4	19.84	19.83	19.80				
3	64QAM	8	12	19.89	19.86	19.86	20.8	0		
3	64QAM	15	7	19.78	19.75	19.73				
3	256QAM	1	0	17.91	17.85	17.87	19.3	1.5		
3	256QAM	1	8	17.93	17.93	17.93				
3	256QAM	1	14	17.79	17.77	17.73				
3	256QAM	8	0	17.45	17.42	17.44	19.3	1.5		
3	256QAM	8	7	17.46	17.63	17.43				
3	256QAM	15	0	17.48	17.50	17.43				
Channel										
Frequency (MHz)										
1.4	QPSK	1	0	19.82	19.88	19.77	20.8	0		
1.4	QPSK	1	8	19.87	19.84	19.82				
1.4	QPSK	1	5	19.83	19.76	19.78	20.8	0		
1.4	QPSK	3	0	19.87	19.83	19.87				
1.4	QPSK	3	0	19.87	19.83	19.87				
1.4	QPSK	3	3	19.93	19.94	19.94				
1.4	QPSK	6	0	19.80	19.88	19.85	20.8	0		
1.4	QPSK	6	0	19.80	19.88	19.85				
1.4	QPSK	1	3	19.81	19.85	19.77				
1.4	16QAM	1	5	19.84	19.80	19.82	20.8	0		
1.4	16QAM	1	3	19.84	19.86	19.84				
1.4	16QAM	1	3	19.84	19.91	19.91				
1.4	16QAM	3	3	19.90	19.90	19.87				
1.4	16QAM	3	3	19.78	19.79	19.77	20.8	0		
1.4	16QAM	1	0	19.86	19.83	19.81				
1.4	16QAM	1	3	19.76	19.79	19.79				
1.4	16QAM	1	6	19.93	19.78	19.92	20.8	0		
1.4	16QAM	3	0	19.92	19.95	19.90				
1.4	16QAM	3	0	19.92	19.89	19.90				
1.4	64QAM	1	0	19.87	19.73	19.75	20.8	0		
1.4	64QAM	1	0	19.87	19.73	19.75				



SPORTON LAB.

CA_66C											
Combination 20MHz+20MHz (100RB+100RB)											
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Power Reduction	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset					
132072	132270	QPSK	1	0	0	0	1	0	Full	22.25	22.80
132322	132124	QPSK	1	0	0	0	1	0	Full	22.34	22.80
132572	132374	QPSK	1	0	0	0	1	0	Full	22.24	22.80
132072	132270	QPSK	50	0	0	0	1	0	Full	21.42	21.80
132322	132124	QPSK	50	0	0	0	1	0	Full	21.52	21.80
132572	132374	QPSK	50	0	0	0	1	0	Full	21.35	21.80
132072	132270	QPSK	100	0	0	0	1	0	Full	21.42	21.80
132322	132124	QPSK	100	0	0	0	1	0	Full	21.35	21.80
132572	132374	QPSK	100	0	0	0	1	0	Full	21.36	21.80
132072	132270	QPSK	1	0	0	0	1	0	Reduced	18.14	19.20
132322	132124	QPSK	1	0	0	0	1	0	Reduced	18.23	19.20
132572	132374	QPSK	1	0	0	0	1	0	Reduced	18.17	19.20
132072	132270	QPSK	50	0	0	0	1	0	Reduced	19.72	20.50
132322	132124	QPSK	50	0	0	0	1	0	Reduced	19.76	20.50
132572	132374	QPSK	50	0	0	0	1	0	Reduced	19.71	20.50

CA_41C-Class 3											
Combination 20MHz+20MHz (100RB+100RB)											
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Power Reduction	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset					
39790	39988	QPSK	1	49	0	0	1	0	Full	22.55	23.80
39750	39948	QPSK	1	49	0	0	1	0	Full	22.55	23.80
40185	39987	QPSK	1	49	0	0	1	0	Full	22.68	23.80
40620	40422	QPSK	1	49	0	0	1	0	Full	22.64	23.80
41055	40857	QPSK	1	49	0	0	1	0	Full	22.65	23.80
41490	41292	QPSK	1	49	0	0	1	0	Full	22.57	23.80
39790	39988	QPSK	50	50	0	0	1	0	Full	21.62	22.80
39750	39948	QPSK	50	50	0	0	1	0	Full	21.59	22.80
40185	39987	QPSK	50	50	0	0	1	0	Full	21.76	22.80
40620	40422	QPSK	50	50	0	0	1	0	Full	21.71	22.80
41055	40857	QPSK	50	50	0	0	1	0	Full	21.73	22.80
41490	41292	QPSK	50	50	0	0	1	0	Full	21.70	22.80
39790	39988	QPSK	100	0	0	0	1	0	Full	21.58	22.80
39750	39948	QPSK	100	0	0	0	1	0	Full	21.57	22.80
40185	39987	QPSK	100	0	0	0	1	0	Full	21.74	22.80
40620	40422	QPSK	100	0	0	0	1	0	Full	21.70	22.80
41055	40857	QPSK	100	0	0	0	1	0	Full	21.65	22.80
41490	41292	QPSK	100	0	0	0	1	0	Full	21.68	22.80
39790	39988	QPSK	50	50	0	0	1	0	Reduced	20.63	21.70
39750	39948	QPSK	50	50	0	0	1	0	Reduced	20.60	21.70
40185	39987	QPSK	50	50	0	0	1	0	Reduced	20.74	21.70
40620	40422	QPSK	50	50	0	0	1	0	Reduced	20.71	21.70
41055	40857	QPSK	50	50	0	0	1	0	Reduced	20.72	21.70
41490	41292	QPSK	50	50	0	0	1	0	Reduced	20.68	21.70

CA 41C (HPUE)											
Combination 20MHz+20MHz (100RB+100RB)											
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Power Reduction	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset					
39790	39988	QPSK	1	49	0	0	1	0	Full	24.61	25.60
39750	39948	QPSK	1	49	0	0	1	0	Full	24.60	25.60
40185	39987	QPSK	1	49	0	0	1	0	Full	24.72	25.60
40620	40422	QPSK	1	49	0	0	1	0	Full	24.70	25.60
41055	40857	QPSK	1	49	0	0	1	0	Full	24.63	25.60
41490	41292	QPSK	1	49	0	0	1	0	Full	24.62	25.60
39790	39988	QPSK	50	50	0	0	1	0	Full	23.68	24.60
39750	39948	QPSK	50	50	0	0	1	0	Full	23.73	24.60
40185	39987	QPSK	50	50	0	0	1	0	Full	23.83	24.60
40620	40422	QPSK	50	50	0	0	1	0	Full	23.81	24.60
41055	40857	QPSK	50	50	0	0	1	0	Full	23.80	24.60
41490	41292	QPSK	50	50	0	0	1	0	Full	23.77	24.60
39790	39988	QPSK	100	0	0	0	1	0	Full	23.71	24.60
39750	39948	QPSK	100	0	0	0	1	0	Full	23.69	24.60
40185	39987	QPSK	100	0	0	0	1	0	Full	23.90	24.60
40620	40422	QPSK	100	0	0	0	1	0	Full	23.85	24.60
41055	40857	QPSK	100	0	0	0	1	0	Full	23.79	24.60
41490	41292	QPSK	100	0	0	0	1	0	Full	23.73	24.60
39790	39988	QPSK	50	50	0	0	1	0	Reduced	22.20	23.30
39750	39948	QPSK	50	50	0	0	1	0	Reduced	22.23	23.30
40185	39987	QPSK	50	50	0	0	1	0	Reduced	22.38	23.30
40620	40422	QPSK	50	50	0	0	1	0	Reduced	22.35	23.30
41055	40857	QPSK	50	50	0	0	1	0	Reduced	22.34	23.30
41490	41292	QPSK	50	50	0	0	1	0	Reduced	22.27	23.30

CA 48C-FCC													
Combination 20MHz+20MHz (100RB+100RB)													
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	MPR Lev	Power Reduction	Measured Power (dBm)	Tune up Power (dBm)		
			RB Size	RB offset	RB Size	RB offset							
55340	55538	QPSK	1	0	0	0	1	0	Full	5.51	7.5		
55830	55632	QPSK	1	0	0	0	1	0	Full	5.70	7.5		
56150	55952	QPSK	1	0	0	0	1	0	Full	5.64	7.5		
56640	56442	QPSK	1	0	0	0	1	0	Full	5.72	7.5		
55340	55538	QPSK	50	24	0	0	1	0	Full	18.88	20.8		
55830	55632	QPSK	50	24	0	0	1	0	Full	19.13	20.8		
56150	55952	QPSK	50	24	0	0	1	0	Full	19.10	20.8		
56640	56442	QPSK	50	24	0	0	1	0	Full	19.16	20.8		
55340	55538	QPSK	100	0	0	0	1	0	Full	18.85	20.8		
55830	55632	QPSK	100	0	0	0	1	0	Full	19.10	20.8		
56150	55952	QPSK	100	0	0	0	1	0	Full	18.06	20.8		
56640	56442	QPSK	100	0	0	0	1	0	Full	19.13	20.8		
55340	55538	QPSK	1	0	0	0	1	0	Reduced Power level 1	5.51	7.5		
55830	55632	QPSK	1	0	0	0	1	0	Reduced Power level 1	5.70	7.5		
56150	55952	QPSK	1	0	0	0	1	0	Reduced Power level 1	5.64	7.5		
56640	56442	QPSK	1	0	0	0	1	0	Reduced Power level 1	5.72	7.5		
55340	55538	QPSK	50	24	0	0	1	0	Reduced Power level 1	17.03	18.1		
55830	55632	QPSK	50	24	0	0	1	0	Reduced Power level 1	17.20	18.1		
56150	55952	QPSK	50	24	0	0	1	0	Reduced Power level 1	17.18	18.1		
56640	56442	QPSK	50	24	0	0	1	0	Reduced Power level 1	17.27	18.1		
55340	55538	QPSK	100	0	0	0	1	0	Reduced Power level 1	17.00	18.1		
55830	55632	QPSK	100	0	0	0	1	0	Reduced Power level 1	17.17	18.1		
56150	55952	QPSK	100	0	0	0	1	0	Reduced Power level 1	17.15	18.1		
56640	56442	QPSK	100	0	0	0	1	0	Reduced Power level 1	17.22	18.1		
55340	55538	QPSK	1	0	0	0	1	0	Reduced Power level 2	5.51	7.5		
55830	55632	QPSK	1	0	0	0	1	0	Reduced Power level 2	5.70	7.5		
56150	55952	QPSK	1	0	0	0	1	0	Reduced Power level 2	5.64	7.5		
56640	56442	QPSK	1	0	0	0	1	0	Reduced Power level 2	5.72	7.5		
55340	55538	QPSK	50	24	0	0	1	0	Reduced Power level 2	15.95	17.2		
55830	55632	QPSK	50	24	0	0	1	0	Reduced Power level 2	16.08	17.2		
56150	55952	QPSK	50	24	0	0	1	0	Reduced Power level 2	16.03	17.2		
56640	56442	QPSK	50	24	0	0	1	0	Reduced Power level 2	16.10	17.2		
55340	55538	QPSK	100	0	0	0	1	0	Reduced Power level 2	15.93	17.2		
55830	55632	QPSK	100	0	0	0	1	0	Reduced Power level 2	16.11	17.2		
56150	55952	QPSK	100	0	0	0	1	0	Reduced Power level 2	16.00	17.2		
56640	56442	QPSK	100	0	0	0	1	0	Reduced Power level 2	16.07	17.2		
55340	55538	QPSK	1	0	0	0	1	0	Reduced Power level 3/4	5.51	7.5		
55830	55632	QPSK	1	0	0	0	1	0	Reduced Power level 3/4	5.70	7.5		
56150	55952	QPSK	1	0	0	0	1	0	Reduced Power level 3/4	5.64	7.5		
56640	56442	QPSK	1	0	0	0	1	0	Reduced Power level 3/4	5.72	7.5		
55340	55538	QPSK	50	24	0	0	1	0	Reduced Power level 3/4	13.55	14.7		
55830	55632	QPSK	50	24	0	0	1	0	Reduced Power level 3/4	13.73	14.7		
56150	55952	QPSK	50	24	0	0	1	0	Reduced Power level 3/4	13.75	14.7		
56640	56442	QPSK	50	24	0	0	1	0	Reduced Power level 3/4	13.80	14.7		
55340	55538	QPSK	100	0	0	0	1	0	Reduced Power level 3/4	13.52	14.7		
55830	55632	QPSK	100	0	0	0	1	0	Reduced Power level 3/4	13.70	14.7		
56150	55952	QPSK	100	0	0	0	1	0	Reduced Power level 3/4	13.73	14.7		
56640	56442	QPSK	100	0	0	0	1	0	Reduced Power level 3/4	13.77	14.7		
55340	55538	QPSK	1	0	0	0	1	0	Reduced	5.51	7.5		
55830	55632	QPSK	1	0	0	0	1	0	Reduced	5.70	7.5		
56150	55952	QPSK	1	0	0	0	1	0	Reduced	5.64	7.5		
56640	56442	QPSK	1	0	0	0	1	0	Reduced	5.72	7.5		
55340	55538	QPSK	50	24	0	0	1	0	Reduced	15.97	17.1		
55830	55632	QPSK	50	24	0	0	1	0	Reduced	16.15	17.1		
56150	55952	QPSK	50	24	0	0	1	0	Reduced	16.06	17.1		
56640	56442	QPSK	50	24	0	0	1	0	Reduced	16.17	17.1		
55340	55538	QPSK	100	0	0	0	1	0	Reduced	15.95	17.1		
55830	55632	QPSK	100	0	0	0	1	0	Reduced	16.13	17.1		
56150	55952	QPSK	100	0	0	0	1	0	Reduced	16.03	17.1		
56640	56442	QPSK	100	0	0	0	1	0	Reduced	16.15	17.1		