5.1.2. Measurement for Tissue Simulate Liquid

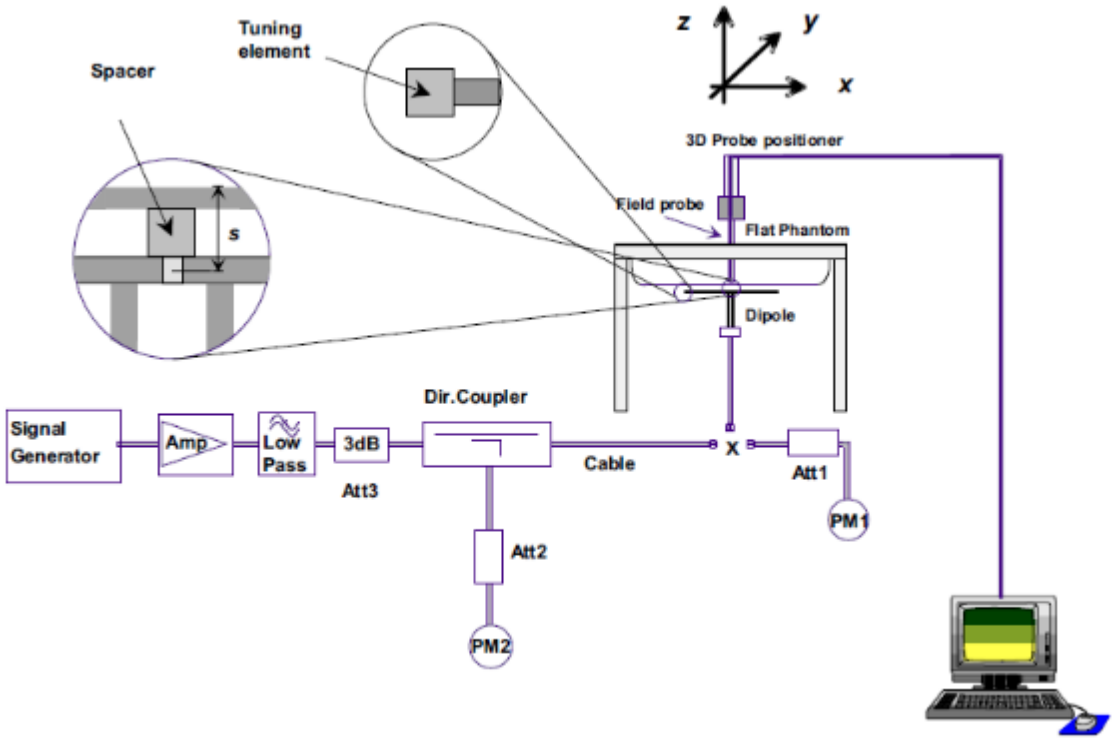
The dielectric properties for this Tissue Simulate Liquids were measured by using the DAKS. The Conductivity (σ) and Permittivity (ρ) are listed in bellow table. For the SAR measurement given in this report. The temperature variation of the Tissue Simulate Liquids was 22±2°C.

Tissue Type	Measured Frequency（MHz）	Target Tissue (±5%)		Measured Tissue		Liquid Temp. (℃)	Measured Date
		ε_r	σ(S/m)	ε_r	σ(S/m)		
750 Head	750	41.9 (39.81~44.00)	0.89 (0.85~0.93)	41.639	0.894	21.8	October 23, 2023
835 Head	835	41.5 (39.43~43.58)	0.9 (0.86~0.95)	40.849	0.888	21.8	October 24, 2023
1750 Head	1750	40.1 (38.10~42.11)	1.37 (1.30~1.44)	40.432	1.312	21.9	October 26, 2023
1900 Head	1900	40 (38.00~42.00)	1.4 (1.33~1.47)	40.009	1.365	22.1	October 27, 2023
2450 Head	2450	39.2 (37.24~41.16)	1.8 (1.71~1.89)	39.871	1.824	22.3	October 31, 2023
2600 Head	2600	39 (37.05~40.95)	1.96 (1.86~2.06)	39.318	2.006	21.5	November 02, 2023
5250Head	5250	35.9 (34.11~37.70)	4.71 (4.47~4.95)	36.488	4.674	21.9	November 06, 2023
5800 Head	5800	35.4 (33.63~37.17)	5.22 (4.96~5.48)	34.943	5.293	21.9	November 06, 2023

Table 3： Measurement result of Tissue electric parameters

5.2. SAR System Check

The microwave circuit arrangement for system Check is sketched in F-1. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the following table (A power level of 250mW (below 3GHz) or 100mW (3-6GHz) was input to the dipole antenna). During the tests, the ambient temperature of the laboratory was in the range 22±2°C, the relative humidity was in the range 60% and the liquid depth above the ear reference points was above 15±0.5 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



F-1. the microwave circuit arrangement used for SAR system check

5.2.1. Justification for Extended SAR Dipole Calibrations

1) Referring to KDB865664 D01 requirements for dipole calibration, instead of the typical annual calibration recommended by measurement standards, longer calibration intervals of up to three years may be considered when it is demonstrated that the SAR target, impedance and return loss of a dipole have remain stable according to the following requirements. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.

a) There is no physical damage on the dipole;
b) System check with specific dipole is within 10% of calibrated value;
c) Return-loss is within 20% of calibrated measurement;
d) Impedance is within 5Ω from the previous measurement.

2) Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.

5.2.2. Summary System Check Result(s)

Validation Kit		Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W) (±10%)	Target SAR (normalized to 1W) (±10%)	Liquid Temp. (℃)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D750V2	Head	2.14	1.40	8.56	5.60	8.57 (7.71~9.43)	5.61 (5.05~6.17)	21.8	October 23, 2023
D835V2	Head	2.47	1.61	9.88	6.44	9.58 (8.62~10.54)	6.27 (5.64~6.90)	21.8	October 24, 2023
D1750V2	Head	9.37	4.97	37.48	19.88	35.9 (32.31~39.49)	18.9 (17.01~20.79)	21.9	October 26, 2023
D1900V2	Head	9.77	5.02	39.08	20.08	40.3 (36.27~44.33)	21.0 (18.9~23.1)	22.1	October 27, 2023
D2450V2	Head	12.80	5.87	51.20	23.48	53.5 (48.15~58.85)	25.0 (22.50~27.50)	22.3	October 31, 2023
D2600V2	Head	13.90	6.24	55.60	24.96	56.80 (51.12~62.48)	25.5 (22.95~28.05)	21.5	November 02, 2023
Validation Kit		**Measured SAR 100mW**	**Measured SAR 100mW**	**Measured SAR (normalized to 1W)**	**Measured SAR (normalized to 1W)**	**Target SAR (normalized to 1W) (±10%)**	**Target SAR (normalized to 1W) (±10%)**	**Liquid Temp. (℃)**	**Measured Date**
		1g (W/kg)	**10g (W/kg)**	**1g (W/kg)**	**10g (W/kg)**	**1-g(W/kg)**	**10-g(W/kg)**		
D5GHzV2	Head (5.25GHz)	7.68	2.25	76.80	22.50	76.9 (69.21~84.59)	21.6 (19.44~23.76)	21.9	November 06, 2023
	Head (5.8GHz)	8.20	2.15	82.00	21.50	76.8 (69.12~84.48)	21.3 (19.17~23.43)	21.9	November 06, 2023

Table 4： Please see the Appendx A

6. SAR measurement procedure

The measurement procedures are as follows:

6.1. Conducted power measurement

a. For WWAN power measurement, use base station simulator connection with RF cable, at maximum power in each supported wireless interface and frequency band.
b. Read the WWAN RF power level from the base station simulator.
c. For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously Transmission, at maximum RF power in each supported wireless interface and frequency band.
d. Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power.

6.2. GSM Test Configuration

SAR tests for GSM 850 and GSM 1900, a communication link is set up with a System Simulator (SS) by air link. Using CMU200 the power level is set to “5” for GSM 850, set to “0” for GSM 1900. Since the GPRS class is 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslots is 4. the EGPRS class is 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslots is 4.

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. GSM voice and GPRS data use GMSK, which is a constant amplitude modulation with minimal peak to average power difference within the time-slot burst. For EDGE, GMSK is used for MCS 1 – MCS 4 and 8-PSK is used for MCS 5 – MCS 9; where 8-PSK has an inherently higher peak-to-average power ratio. The GMSK and 8-PSK EDGE configurations are considered separately for SAR compliance. The GMSK EDGE configurations are grouped with GPRS and considered with respect to time-averaged maximum output power to determine compliance. The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode.

6.3. UMTS Test Configuration

3G SAR Test Reduction Procedure
In the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.3 This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

Output power Verification

Maximum output power is verified on the high, middle and low channels according to procedures described in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all “1’s” for WCDMA/HSDPA or by applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HSDPA, HSPA) are requied in the SAR report. All configurations that are not supported by the handset or cannot be measured due to technical or equipment limitations must be clearly identified.

Head SAR

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode.

Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

1) Body-Worn Accessory SAR

SAR for body-worn accessory configurations is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreaing code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the handset, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC.

2) Handsets with Release 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSDPA using the HSDPA body SAR procedures in the "Release 5 HSDPA Data Devices" section of this document, for the highest reported SAR body-worn accessory exposure configuration in 12.2 kbps RMC. Handsets with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

HSDPA should be configured according to the UE category of a test device.The number of HSDSCH/ HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors(βc, βd), and HS-DPCCH power offset parameters (ΔACK, ΔNACK, ΔCQI) should be set according to values indicated in the Table below. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set

Table 2: Subtests for UMTS Release 5 HSDPA

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (note 1, note 2)	CM(dB) (note 3)	MPR(dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (note 4)	15/15 (note 4)	64	12/15 (note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI}= 8 ⇔ $A_{hs} = \beta_{hs}/\beta_c$=30/15 ⇔ β_{hs}=30/15*β_c
Note2: CM=1 for β_c/β_d =12/15, β_{hs}/β_c=24/15.
Note3: For subtest 2 the $\beta_c\beta_d$ ratio of 12/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC (TFC1,TF1) to β_c=11/15 and β_d=15/15.

HSUPA Test Configuration

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSPA using the HSPA body SAR procedures in the "Release 6 HSPA Data Devices" section of this document, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When VOIP is applicable for next to the ear head exposure in HSPA, the 3G SAR test reduction procedure is applied to HSPA with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body-worn accessory measurements is tested for next to the ear head exposure.

Due to inner loop power control requirements in HSPA, a communication test set is required for output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSPA are configured according to the β values indicated in Table 2 and other applicable procedures described in the 'WCDMA Handset' and 'Release 5 HSDPA Data Devices' sections of this document

Table 3: Sub-Test 5 Setup for Release 6 HSUPA

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}(1)	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM (2) (dB)	MPR (dB)	AG(4) Index	E-TFCI
1	11/15(3)	15/15(3)	64	11/15(3)	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}:47/15 β_{ed2}:47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15(4)	15/15(4)	64	15/15(4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, ΔNACK and Δ_{CQI} = 8 ⇔ A_{hs} = β_{hs}/β_c = 30/15 ⇔ β_{hs}= 30/15 *β_c.
Note 2: CM = 1 for βc/βd =12/15, β_{hs}/β_c =24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the βc/βd ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to βc = 10/15 and βd = 15/15.
Note 4: For subtest 5 the βc/βd ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to βc = 14/15 and βd = 15/15.
Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Figure 5.1g.
Note 6: βed can not be set directly; it is set by Absolute Grant Value.

6.4. LTE Test Configuration

QPSK with 1 RB allocation
Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel.8 When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

QPSK with 50% RB allocation
The procedures required for 1 RB allocation in section 4.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.9

QPSK with 100% RB allocation
For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in sections 4.2.1 and 4.2.2 are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

6.5. WIFI Test Configuration

The SAR measurement and test reduction procedures are structured according to either the DSSS or OFDM transmission mode configurations used in each standalone frequency band and aggregated band. For devices that operate in exposure configurations that require multiple test positions, additional SAR test reduction may be applied. The maximum output power specified for production units, including tune-up tolerance, are used to determine initial SAR test requirements for the 802.11 transmission modes in a frequency band. SAR is measured using the highest measured maximum output power channel for the initial test configuration. SAR measurement and test reduction for the remaining 802.11 modes and test channels are determined according to measured or specified maximum output power and reported SAR of the initial measurements. The general test reduction and SAR measurement approaches are summarized in the following:
1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures.
2. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, an “initial test configuration” is first determined for each standalone and aggregated frequency band according to the maximum output power and tune-up tolerance specified for production units.

a. When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.
b. SAR is measured for OFDM configurations using the initial test configuration procedures. Additional frequency band specific SAR test reduction may be considered for individual frequency bands
c. Depending on the reported SAR of the highest maximum output power channel tested in the initial test configuration, SAR test reduction may apply to subsequent highest output channels in the initial test configuration to reduce the number of SAR measurements.
3. The Initial test configuration does not apply to DSSS. The 2.4 GHz band SAR test requirements and 802.11b DSSS procedures are used to establish the transmission configurations required for SAR measurement.
4. An “initial test position”is applied to further reduce the number of SAR tests for devices operating in next to the ear, UMPC mini-tablet or hotspot mode exposure configurations that require multiple test positions .
a. SAR is measured for 802.11b according to the 2.4 GHz DSSS procedure using the exposure condition established by the initial test position.
b. SAR is measured for 2.4 GHz and 5 GHz OFDM configurations using the initial test configuration. 802.11b/g/n operating modes are tested independently according to the service requirements in each frequency band. 802.11b/g/n modes are tested on the maximum average output channel.
5. The Initial test position does not apply to devices that require a fixed exposure test position. SAR is measured in a fixed exposure test position for these devices in 802.11b according to the 2.4 GHz DSSS procedure or in 2.4 GHz and 5 GHz OFDM configurations using the initial test configuration procedures .
6. The “subsequent test configuration”procedures are applied to determine if additional SAR measurements are required for the remaining OFDM transmission modes that have not been tested in the initial test configuration. SAR test exclusion is determined according to reported SAR in the initial test configuration and maximum output power specified or measured for these other OFDM configurations.

2.4 GHz and 5GHz SAR Procedures
Separate SAR procedures are applied to DSSS and OFDM configurations in the 2.4 GHz band to simplify DSSS test requirements. For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions. When SAR measurement is required for an OFDM configuration, the initial test configuration, subsequent test configuration and initial test position procedures are applied. The SAR test exclusion requirements for 802.11g/n OFDM configurations are described in section 5.2.2.
1. 802.11b DSSS SAR Test Requirements
SAR is measured for 2.4 GHz 802.11b DSSS using either a fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:
a. When the reported SAR of the highest measured maximum output power channel (section 3.1) for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
b. When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.
1. 2.4 GHz 802.11g/n OFDM SAR Test Exclusion Requirements
When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (section 5.3). SAR is not required for the following 2.4 GHz OFDM conditions.
a. When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration
b. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. SAR Test Requirements for OFDM Configurations
When SAR measurement is required for 802.11 a/g/n/ac OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. When the same transmitter and antenna(s) are used for U-NII-1 and U-NII-2A bands, additional SAR test reduction applies. When band gap channels between U-NII-2C band and 5.8 GHz U-NII-3 or §15.247 band are supported, the highest maximum output power transmission mode configuration and maximum output power channel across the bands must be used to determine SAR test reduction, according to the initial test configuration and subsequent test configuration requirements.20 In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.
3. OFDM Transmission Mode SAR Test Configuration and Channel Selection Requirements

The initial test configuration for 2.4 GHz and 5 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures (section 4). When multiple configurations in a frequency band have the same specified maximum output power, the initial test configuration is determined according to the following steps applied sequentially.

a. The largest channel bandwidth configuration is selected among the multiple configurations with the same specified maximum output power.
b. If multiple configurations have the same specified maximum output power and largest channel bandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.
c. If multiple configurations have the same specified maximum output power, largest channel bandwidth and lowest order modulation, the lowest data rate configuration among these configurations is selected.
d. When multiple transmission modes (802.11a/g/n/ac) have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n.

After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the following. These channel selection procedures apply to both the initial test configuration and subsequent test configuration(s), with respect to the default power measurement procedures or additional power measurements required for further SAR test reduction. The same procedures also apply to subsequent highest output power channel(s) selection.

a. Channels with measured maximum output power within ¼ dB of each other are considered to have the same maximum output.
b. When there are multiple test channels with the same measured maximum output power, the channel closest to mid-band frequency is selected for SAR measurement.
c. When there are multiple test channels with the same measured maximum output power and equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

Initial Test Configuration Procedures

An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. For configurations with the same specified or measured maximum output power, additional transmission mode and test channel selection procedures are required (see section 5.3.2). SAR test reduction of subsequent highest output test channels is based on the reported SAR of the initial test configuration. For next to the ear, hotspot mode and UMC mini-tablet exposure configurations where multiple test positions are required, the initial test position procedure is applied to minimize the number of test positions required for SAR measurement using the initial test configuration transmission mode.23 For fixed exposure conditions that do not have multiple SAR test positions, SAR is measured in the transmission mode determined by the initial test configuration. When the reported SAR of the initial test configuration is > 0.8 W/kg, SAR measurement is required for the subsequent next highest measured output power channel(s) in the initial test configuration until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

4. Subsequent Test Configuration Procedures

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units. The initial test position procedure is applied to next to the ear, UMPC mini-tablet and hotspot mode configurations. When the same maximum output power is specified for multiple transmission modes, the procedures in section 5.3.2 are applied to determine the test configuration. Additional power measurements may be required to determine if SAR measurements are required for subsequent highest output power channels in a subsequent test configuration. The subsequent test configuration and SAR measurement procedures are described in the following.

a. When SAR test exclusion provisions of KDB Publication 447498 are applicable and SAR measurement is not required for the initial test configuration, SAR is also not required for the next highest maximum output power transmission mode subsequent test configuration(s) in that frequency band or aggregated band and exposure configuration.
b. When the highest reported SAR for the initial test configuration (when applicable, include subsequent highest output channels), according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration.
c. The number of channels in the initial test configuration and subsequent test configuration can be different due to differences in channel bandwidth. When SAR measurement is required for a subsequent test configuration

and the channel bandwidth is smaller than that in the initial test configuration, all channels in the subsequent test configuration that overlap with the larger bandwidth channel tested in the initial test configuration should be used to determine the highest maximum output power channel. This step requires additional power measurement to identify the highest maximum output power channel in the subsequent test configuration to determine SAR test reduction.

1). SAR should first be measured for the channel with highest measured output power in the subsequent test configuration.

2). SAR for subsequent highest measured maximum output power channels in the subsequent test configuration is required only when the reported SAR of the preceding higher maximum output power channel(s) in the subsequent test configuration is > 1.2 W/kg or until all required channels are tested.

a) For channels with the same measured maximum output power, SAR should be measured using the channel closest to the center frequency of the larger channel bandwidth channel in the initial test configuration.

d. SAR measurements for the remaining highest specified maximum output power OFDM transmission mode configurations that have not been tested in the initial test configuration (highest maximum output) or subsequent test configuration(s) (subsequent next highest maximum output power) is determined by applying the subsequent test configuration procedures in this section to the remaining configurations according to the following:

1) replace “subsequent test configuration” with “next subsequent test configuration” (i.e., subsequent next highest specified maximum output power configuration)

2) replace “initial test configuration” with “all tested higher output power configurations.

6.6. Power Reduction

The product without any power reduction.

6.7. Power Drift

To control the output power stability during the SAR test, SAR system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. This ensures that the power drift during one measurement is within 5%.

7. TEST CONDITIONS AND RESULTS

7.1. Conducted Power Results

According KDB 447498 D01 General RF Exposure Guidance v06 Section 4.1 2) states that “Unless it is specified differently in the published RF exposure KDB procedures, these requirements also apply to test reduction and test exclusion considerations. Time-averaged maximum conducted output power applies to SAR and, as required by § 2.1091(c), time-averaged ERP applies to MPE. When an antenna port is not available on the device to support conducted power measurement, such as FRS and certain Part 15 transmitters with built-in integral antennas, the maximum output power allowed for production units should be used to determine RF exposure test exclusion and compliance.”

<GSM Conducted Power>

General Note:

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. According to October 2013TCB Workshop, for GSM / GPRS / EGPRS, the number of time slots to test for SAR should correspond to the highest frame-average maximum output power configuration, considering the possibility of e.g. 3rd party VoIP operation for head and body-worn SAR testing, the EUT was set in GPRS (4Tx slot) for GSM850/GSM1900 band due to their highest frame-average power.
3. For hotspot mode SAR testing, GPRS should be evaluated, therefore the EUT was set in GPRS (4 Tx slots) for GSM850/GSM1900 band due to its highest frame-average power.

7.1.1. Conducted power measurement results for GSM850

GSM 850										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		128	190	251			128	190	251	
GSM(GMSK)	GSM	32.67	32.67	32.65	33.00	-9.19	23.48	23.48	23.46	23.81
GPRS/EGPRS (GMSK)	1 TX Slot	32.53	32.54	32.50	33.00	-9.19	23.34	23.35	23.31	23.81
	2 TX Slots	30.95	30.98	30.93	31.50	-6.18	24.77	24.80	24.75	25.32
	3 TX Slots	29.45	29.48	29.47	30.00	-4.42	25.03	25.06	25.05	25.58
	4 TX Slots	28.00	28.00	27.97	29.00	-3.17	24.83	24.83	24.80	**25.83**
EGPRS(8PSK)	1 TX Slot	26.01	25.98	25.94	27.00	-9.19	16.82	16.79	16.75	17.81
	2 TX Slots	24.47	24.50	24.48	25.00	-6.18	18.29	18.32	18.30	18.82
	3 TX Slots	22.96	23.02	22.98	24.00	-4.42	18.54	18.60	18.56	19.58
	4 TX Slots	21.46	21.52	21.45	22.00	-3.17	18.29	18.35	18.28	18.83

7.1.2. Conducted power measurement results for PCS1900

GSM 1900										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		512	661	810			512	661	810	
GSM(GMSK)	GSM	29.66	29.70	29.65	30.00	-9.19	20.47	20.51	20.46	20.81
GPRS/EGPRS (GMSK)	1 TX Slot	29.51	29.57	29.51	30.00	-9.19	20.32	20.38	20.32	20.81
	2 TX Slots	27.95	28.02	27.94	29.00	-6.18	21.77	21.84	21.76	22.82
	3 TX Slots	26.44	26.52	26.43	27.00	-4.42	22.02	22.10	22.01	22.58
	4 TX Slots	24.96	24.99	24.96	26.00	-3.17	21.79	21.82	21.79	**22.83**
EGPRS(8PSK)	1 TX Slot	25.45	25.52	25.42	26.00	-9.19	16.26	16.33	16.23	16.81
	2 TX Slots	23.99	24.01	23.94	25.00	-6.18	17.81	17.83	17.76	18.82
	3 TX Slots	22.45	22.53	22.47	23.00	-4.42	18.03	18.11	18.05	18.58
	4 TX Slots	20.95	21.01	20.93	22.00	-3.17	17.78	17.84	17.76	18.83

Note:

1)CMW500 measures GSM peak and average output power for active timeslots. For SAR the time based average power is relevant. The difference in between depends on the duty cycle of the TDMA signal:

No. of timeslots	1	2	3	4
Duty Cycle	1:8.3	1:4.15	1:2.77	1:2.075
Time based avg. power compared to slotted avg. power	-9.19	-6.18	-4.42	-3.17

2)The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below:

3)Frame-averaged power = 10 x log (Burst-averaged power mW x Slot used / 8

When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used

When multiple slots can be used, SAR should be tested to account for the maximum source-based time-averaged output power.

<UMTS Conducted Power>
The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

HSDPA Setup Configuration:

a. The EUT was connected to Base Station CMW500 referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set Gain Factors (β_c and β_d) and parameters were set according to each
   ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
   iii. Set RMC 12.2Kbps + HSDPA mode.
   iv. Set Cell Power = -86 dBm
   v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
   vi. Select HSDPA Uplink Parameters
   vii. Set Delta ACK, Delta NACK and Delta CQI = 8
   viii. Set Ack-Nack Repetition Factor to 3
   ix. Set CQI Feedback Cycle (k) to 4 ms
   x. Set CQI Repetition Factor to 2
   xi. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with β_{hs} = 30/15 * β_c, and Δ_{CQI} = 24/15 with β_{hs} = 24/15 * β_c.

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

Setup Configuration

HSUPA Setup Configuration:

a. The EUT was connected to Base Station R&S CMW500 referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
   ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
   iii. Set Cell Power = -86 dBm
   iv. Set Channel Type = 12.2k + HSPA
   v. Set UE Target Power
   vi. Power Ctrl Mode= Alternating bits
   vii. Set and observe the E-TFCI
   viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 5) (Note 6)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 6)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.

Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.

Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 14/15 and β_d = 15/15.

Note 5: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 6: β_{ed} can not be set directly, it is set by Absolute Grant Value.

General Note

1. Per KDB 941225 D01, RMC 12.2kbps setting is used to evaluate SAR. If AMR 12.2kbps power is < 0.25dB higher than RMC 12.2kbps, SAR tests with AMR 12.2kbps can be excluded.
2. By design, AMR and HSDPA/HSUPA RF power will not be larger than RMC 12.2kbps, detailed information is included in Tune-up Procure exhibit.
3. It is expected by the manufacturer that MPR for some HSDPA/HSUPA subtests may differ from the specification of 3GPP, according to the chipset implementation in this model. The implementation and expected deviation are detailed in tune-up procedure exhibit.

7.1.3. Conducted Power Measurement Results(WCDMA Band II)

Item	Band	WCDMA Band II result (dBm)			
		Channel/Frequency(MHz)			
	sub-test	9262/1852.4	9400/1880	9538/1907.6	Tune up
RMC	12.2kbps RMC	23.19	23.35	23.27	24.00
HSDPA	Sub –Test 1	22.63	22.80	22.51	23.00
	Sub –Test 2	22.58	22.69	22.63	23.00
	Sub –Test 3	22.51	22.68	22.53	23.00
	Sub –Test 4	22.57	22.56	22.49	23.00
HSUPA	Sub –Test 1	22.64	22.66	22.47	23.00
	Sub –Test 2	22.34	22.38	22.33	23.00
	Sub –Test 3	22.58	22.44	22.33	23.00
	Sub –Test 4	22.34	22.38	22.48	23.00
	Sub –Test 5	21.56	21.54	21.48	22.00

Note:

1) when the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.

7.1.4. Conducted Power Measurement Results(WCDMA Band IV)

Item	Band	WCDMA Band IV result (dBm)			
		Channel/Frequency(MHz)			
	sub-test	1312/1712.4	1413/1732.6	1513/1752.6	Tune up
RMC	12.2kbps RMC	23.11	23.19	23.16	24.00
HSDPA	Sub –Test 1	22.47	22.53	22.62	23.00
	Sub –Test 2	22.66	22.53	22.65	23.00
	Sub –Test 3	22.62	22.72	22.54	23.00
	Sub –Test 4	22.52	22.65	22.58	23.00
HSUPA	Sub –Test 1	22.37	22.72	22.45	23.00
	Sub –Test 2	22.61	22.85	22.68	23.00
	Sub –Test 3	22.56	22.71	22.66	23.00
	Sub –Test 4	22.49	22.53	22.47	23.00
	Sub –Test 5	21.27	21.53	21.40	22.00

Note:

1) when the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.

7.1.5. Conducted Power Measurement Results(WCDMA Band V)

Item	Band	WCDMA Band V result (dBm)			
		Channel/Frequency(MHz)			
	sub-test	4132/826.4	4182/836.4	4233/846.6	Tune up
RMC	12.2kbps RMC	22.86	22.92	22.62	23.00
HSDPA	Sub –Test 1	22.42	22.73	22.67	23.00
	Sub –Test 2	22.71	22.82	22.54	23.00
	Sub –Test 3	22.54	22.66	22.54	23.00
	Sub –Test 4	22.47	22.71	22.76	23.00
HSUPA	Sub –Test 1	22.61	22.54	22.57	23.00
	Sub –Test 2	22.48	22.77	22.45	23.00
	Sub –Test 3	22.33	22.59	22.52	23.00
	Sub –Test 4	21.50	21.73	21.54	22.00
	Sub –Test 5	21.67	21.04	21.64	22.00

Note:

2) when the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.

7.1.6. Conducted Power Measurement Results(LTE Band 2)

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band2	1.4MHz	QPSK	18607	1RB#0	21.88	PASS
Band2	1.4MHz	16QAM	18607	1RB#0	21.99	PASS
Band2	1.4MHz	QPSK	18607	1RB#2	21.86	PASS
Band2	1.4MHz	16QAM	18607	1RB#2	22.03	PASS
Band2	1.4MHz	QPSK	18607	1RB#5	22.07	PASS
Band2	1.4MHz	16QAM	18607	1RB#5	22.06	PASS
Band2	1.4MHz	QPSK	18607	3RB#0	22.15	PASS
Band2	1.4MHz	16QAM	18607	3RB#0	20.83	PASS
Band2	1.4MHz	QPSK	18607	3RB#1	22.10	PASS
Band2	1.4MHz	16QAM	18607	3RB#1	20.74	PASS
Band2	1.4MHz	QPSK	18607	3RB#3	22.00	PASS
Band2	1.4MHz	16QAM	18607	3RB#3	20.86	PASS
Band2	1.4MHz	QPSK	18607	6RB#0	21.01	PASS
Band2	1.4MHz	16QAM	18607	6RB#0	20.45	PASS
Band2	1.4MHz	QPSK	18900	1RB#0	22.07	PASS
Band2	1.4MHz	16QAM	18900	1RB#0	21.45	PASS
Band2	1.4MHz	QPSK	18900	1RB#2	22.24	PASS
Band2	1.4MHz	16QAM	18900	1RB#2	21.57	PASS
Band2	1.4MHz	QPSK	18900	1RB#5	22.24	PASS
Band2	1.4MHz	16QAM	18900	1RB#5	21.56	PASS
Band2	1.4MHz	QPSK	18900	3RB#0	22.17	PASS
Band2	1.4MHz	16QAM	18900	3RB#0	21.00	PASS
Band2	1.4MHz	QPSK	18900	3RB#1	22.15	PASS
Band2	1.4MHz	16QAM	18900	3RB#1	21.02	PASS
Band2	1.4MHz	QPSK	18900	3RB#3	22.16	PASS
Band2	1.4MHz	16QAM	18900	3RB#3	21.04	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	21.21	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	20.32	PASS
Band2	1.4MHz	QPSK	19193	1RB#0	22.13	PASS
Band2	1.4MHz	16QAM	19193	1RB#0	21.60	PASS
Band2	1.4MHz	QPSK	19193	1RB#2	22.13	PASS
Band2	1.4MHz	16QAM	19193	1RB#2	21.58	PASS
Band2	1.4MHz	QPSK	19193	1RB#5	22.07	PASS
Band2	1.4MHz	16QAM	19193	1RB#5	22.04	PASS
Band2	1.4MHz	QPSK	19193	3RB#0	22.14	PASS
Band2	1.4MHz	16QAM	19193	3RB#0	21.00	PASS
Band2	1.4MHz	QPSK	19193	3RB#1	22.13	PASS
Band2	1.4MHz	16QAM	19193	3RB#1	21.00	PASS
Band2	1.4MHz	QPSK	19193	3RB#3	22.15	PASS
Band2	1.4MHz	16QAM	19193	3RB#3	20.94	PASS
Band2	1.4MHz	QPSK	19193	6RB#0	21.15	PASS
Band2	1.4MHz	16QAM	19193	6RB#0	20.58	PASS
Band2	3MHz	QPSK	18615	1RB#0	22.09	PASS
Band2	3MHz	16QAM	18615	1RB#0	21.11	PASS
Band2	3MHz	QPSK	18615	1RB#8	22.19	PASS
Band2	3MHz	16QAM	18615	1RB#8	21.21	PASS
Band2	3MHz	QPSK	18615	1RB#14	22.11	PASS
Band2	3MHz	16QAM	18615	1RB#14	21.07	PASS
Band2	3MHz	QPSK	18615	8RB#0	21.18	PASS
Band2	3MHz	16QAM	18615	8RB#0	20.56	PASS
Band2	3MHz	QPSK	18615	8RB#4	21.18	PASS
Band2	3MHz	16QAM	18615	8RB#4	20.59	PASS
Band2	3MHz	QPSK	18615	8RB#7	21.10	PASS
Band2	3MHz	16QAM	18615	8RB#7	20.39	PASS
Band2	3MHz	QPSK	18615	15RB#0	21.25	PASS
Band2	3MHz	16QAM	18615	15RB#0	20.42	PASS
Band2	3MHz	QPSK	18900	1RB#0	22.25	PASS
Band2	3MHz	16QAM	18900	1RB#0	20.93	PASS
Band2	3MHz	QPSK	18900	1RB#8	22.27	PASS
Band2	3MHz	16QAM	18900	1RB#8	21.16	PASS
Band2	3MHz	QPSK	18900	1RB#14	22.25	PASS

Band2	3MHz	16QAM	18900	1RB#14	21.19	PASS
Band2	3MHz	QPSK	18900	8RB#0	21.28	PASS
Band2	3MHz	16QAM	18900	8RB#0	20.62	PASS
Band2	3MHz	QPSK	18900	8RB#4	21.28	PASS
Band2	3MHz	16QAM	18900	8RB#4	20.57	PASS
Band2	3MHz	QPSK	18900	8RB#7	21.42	PASS
Band2	3MHz	16QAM	18900	8RB#7	20.56	PASS
Band2	3MHz	QPSK	18900	15RB#0	21.28	PASS
Band2	3MHz	16QAM	18900	15RB#0	20.47	PASS
Band2	3MHz	QPSK	19185	1RB#0	22.18	PASS
Band2	3MHz	16QAM	19185	1RB#0	21.13	PASS
Band2	3MHz	QPSK	19185	1RB#8	22.18	PASS
Band2	3MHz	16QAM	19185	1RB#8	21.19	PASS
Band2	3MHz	QPSK	19185	1RB#14	22.19	PASS
Band2	3MHz	16QAM	19185	1RB#14	21.23	PASS
Band2	3MHz	QPSK	19185	8RB#0	21.28	PASS
Band2	3MHz	16QAM	19185	8RB#0	20.54	PASS
Band2	3MHz	QPSK	19185	8RB#4	21.26	PASS
Band2	3MHz	16QAM	19185	8RB#4	20.54	PASS
Band2	3MHz	QPSK	19185	8RB#7	21.27	PASS
Band2	3MHz	16QAM	19185	8RB#7	20.58	PASS
Band2	3MHz	QPSK	19185	15RB#0	21.26	PASS
Band2	3MHz	16QAM	19185	15RB#0	20.43	PASS
Band2	5MHz	QPSK	18625	1RB#0	22.26	PASS
Band2	5MHz	16QAM	18625	1RB#0	20.71	PASS
Band2	5MHz	QPSK	18625	1RB#12	22.19	PASS
Band2	5MHz	16QAM	18625	1RB#12	20.68	PASS
Band2	5MHz	QPSK	18625	1RB#24	22.25	PASS
Band2	5MHz	16QAM	18625	1RB#24	20.63	PASS
Band2	5MHz	QPSK	18625	12RB#0	21.29	PASS
Band2	5MHz	16QAM	18625	12RB#0	20.53	PASS
Band2	5MHz	QPSK	18625	12RB#6	21.29	PASS
Band2	5MHz	16QAM	18625	12RB#6	20.55	PASS
Band2	5MHz	QPSK	18625	12RB#13	21.19	PASS
Band2	5MHz	16QAM	18625	12RB#13	20.41	PASS
Band2	5MHz	QPSK	18625	25RB#0	21.22	PASS
Band2	5MHz	16QAM	18625	25RB#0	20.50	PASS
Band2	5MHz	QPSK	18900	1RB#0	22.30	PASS
Band2	5MHz	16QAM	18900	1RB#0	20.70	PASS
Band2	5MHz	QPSK	18900	1RB#12	22.35	PASS
Band2	5MHz	16QAM	18900	1RB#12	20.80	PASS
Band2	5MHz	QPSK	18900	1RB#24	22.29	PASS
Band2	5MHz	16QAM	18900	1RB#24	20.75	PASS
Band2	5MHz	QPSK	18900	12RB#0	21.31	PASS
Band2	5MHz	16QAM	18900	12RB#0	20.42	PASS
Band2	5MHz	QPSK	18900	12RB#6	21.30	PASS
Band2	5MHz	16QAM	18900	12RB#6	20.42	PASS
Band2	5MHz	QPSK	18900	12RB#13	21.42	PASS
Band2	5MHz	16QAM	18900	12RB#13	20.52	PASS
Band2	5MHz	QPSK	18900	25RB#0	21.42	PASS
Band2	5MHz	16QAM	18900	25RB#0	20.68	PASS
Band2	5MHz	QPSK	19175	1RB#0	22.18	PASS
Band2	5MHz	16QAM	19175	1RB#0	20.74	PASS
Band2	5MHz	QPSK	19175	1RB#12	22.29	PASS
Band2	5MHz	16QAM	19175	1RB#12	20.76	PASS
Band2	5MHz	QPSK	19175	1RB#24	22.32	PASS
Band2	5MHz	16QAM	19175	1RB#24	20.74	PASS
Band2	5MHz	QPSK	19175	12RB#0	21.30	PASS
Band2	5MHz	16QAM	19175	12RB#0	20.36	PASS
Band2	5MHz	QPSK	19175	12RB#6	21.32	PASS
Band2	5MHz	16QAM	19175	12RB#6	20.39	PASS
Band2	5MHz	QPSK	19175	12RB#13	21.33	PASS
Band2	5MHz	16QAM	19175	12RB#13	20.41	PASS
Band2	5MHz	QPSK	19175	25RB#0	21.39	PASS
Band2	5MHz	16QAM	19175	25RB#0	20.62	PASS

Band2	10MHz	QPSK	18650	1RB#0	22.29	PASS
Band2	10MHz	16QAM	18650	1RB#0	21.46	PASS
Band2	10MHz	QPSK	18650	1RB#24	22.24	PASS
Band2	10MHz	16QAM	18650	1RB#24	21.34	PASS
Band2	10MHz	QPSK	18650	1RB#49	22.16	PASS
Band2	10MHz	16QAM	18650	1RB#49	21.35	PASS
Band2	10MHz	QPSK	18650	25RB#0	21.23	PASS
Band2	10MHz	16QAM	18650	25RB#0	20.46	PASS
Band2	10MHz	QPSK	18650	25RB#12	21.23	PASS
Band2	10MHz	16QAM	18650	25RB#12	20.40	PASS
Band2	10MHz	QPSK	18650	25RB#25	21.18	PASS
Band2	10MHz	16QAM	18650	25RB#25	20.38	PASS
Band2	10MHz	QPSK	18650	50RB#0	21.16	PASS
Band2	10MHz	16QAM	18650	50RB#0	20.38	PASS
Band2	10MHz	QPSK	18900	1RB#0	22.33	PASS
Band2	10MHz	16QAM	18900	1RB#0	21.43	PASS
Band2	10MHz	QPSK	18900	1RB#24	22.41	PASS
Band2	10MHz	16QAM	18900	1RB#24	21.41	PASS
Band2	10MHz	QPSK	18900	1RB#49	22.39	PASS
Band2	10MHz	16QAM	18900	1RB#49	21.44	PASS
Band2	10MHz	QPSK	18900	25RB#0	21.33	PASS
Band2	10MHz	16QAM	18900	25RB#0	20.57	PASS
Band2	10MHz	QPSK	18900	25RB#12	21.43	PASS
Band2	10MHz	16QAM	18900	25RB#12	20.57	PASS
Band2	10MHz	QPSK	18900	25RB#25	21.43	PASS
Band2	10MHz	16QAM	18900	25RB#25	20.51	PASS
Band2	10MHz	QPSK	18900	50RB#0	21.43	PASS
Band2	10MHz	16QAM	18900	50RB#0	20.56	PASS
Band2	10MHz	QPSK	19150	1RB#0	22.27	PASS
Band2	10MHz	16QAM	19150	1RB#0	21.38	PASS
Band2	10MHz	QPSK	19150	1RB#24	22.27	PASS
Band2	10MHz	16QAM	19150	1RB#24	21.44	PASS
Band2	10MHz	QPSK	19150	1RB#49	22.33	PASS
Band2	10MHz	16QAM	19150	1RB#49	21.49	PASS
Band2	10MHz	QPSK	19150	25RB#0	21.40	PASS
Band2	10MHz	16QAM	19150	25RB#0	20.50	PASS
Band2	10MHz	QPSK	19150	25RB#12	21.27	PASS
Band2	10MHz	16QAM	19150	25RB#12	20.49	PASS
Band2	10MHz	QPSK	19150	25RB#25	21.42	PASS
Band2	10MHz	16QAM	19150	25RB#25	20.53	PASS
Band2	10MHz	QPSK	19150	50RB#0	21.38	PASS
Band2	10MHz	16QAM	19150	50RB#0	20.48	PASS
Band2	15MHz	QPSK	18675	1RB#0	22.44	PASS
Band2	15MHz	16QAM	18675	1RB#0	21.47	PASS
Band2	15MHz	QPSK	18675	1RB#38	22.32	PASS
Band2	15MHz	16QAM	18675	1RB#38	21.37	PASS
Band2	15MHz	QPSK	18675	1RB#74	22.26	PASS
Band2	15MHz	16QAM	18675	1RB#74	21.31	PASS
Band2	15MHz	QPSK	18675	38RB#0	21.29	PASS
Band2	15MHz	16QAM	18675	38RB#0	21.29	PASS
Band2	15MHz	QPSK	18675	38RB#18	21.29	PASS
Band2	15MHz	16QAM	18675	38RB#18	21.29	PASS
Band2	15MHz	QPSK	18675	38RB#37	21.27	PASS
Band2	15MHz	16QAM	18675	38RB#37	21.30	PASS
Band2	15MHz	QPSK	18675	75RB#0	21.27	PASS
Band2	15MHz	16QAM	18675	75RB#0	20.53	PASS
Band2	15MHz	QPSK	18900	1RB#0	22.28	PASS
Band2	15MHz	16QAM	18900	1RB#0	21.36	PASS
Band2	15MHz	QPSK	18900	1RB#38	22.37	PASS
Band2	15MHz	16QAM	18900	1RB#38	21.35	PASS
Band2	15MHz	QPSK	18900	1RB#74	22.37	PASS
Band2	15MHz	16QAM	18900	1RB#74	21.38	PASS
Band2	15MHz	QPSK	18900	38RB#0	21.35	PASS
Band2	15MHz	16QAM	18900	38RB#0	21.40	PASS
Band2	15MHz	QPSK	18900	38RB#18	21.37	PASS

Band2	15MHz	16QAM	18900	38RB#18	21.50	PASS
Band2	15MHz	QPSK	18900	38RB#37	21.41	PASS
Band2	15MHz	16QAM	18900	38RB#37	21.43	PASS
Band2	15MHz	QPSK	18900	75RB#0	21.43	PASS
Band2	15MHz	16QAM	18900	75RB#0	20.54	PASS
Band2	15MHz	QPSK	19125	1RB#0	22.32	PASS
Band2	15MHz	16QAM	19125	1RB#0	21.50	PASS
Band2	15MHz	QPSK	19125	1RB#38	22.35	PASS
Band2	15MHz	16QAM	19125	1RB#38	21.36	PASS
Band2	15MHz	QPSK	19125	1RB#74	22.32	PASS
Band2	15MHz	16QAM	19125	1RB#74	21.49	PASS
Band2	15MHz	QPSK	19125	38RB#0	21.39	PASS
Band2	15MHz	16QAM	19125	38RB#0	21.37	PASS
Band2	15MHz	QPSK	19125	38RB#18	21.36	PASS
Band2	15MHz	16QAM	19125	38RB#18	21.36	PASS
Band2	15MHz	QPSK	19125	38RB#37	21.35	PASS
Band2	15MHz	16QAM	19125	38RB#37	21.35	PASS
Band2	15MHz	QPSK	19125	75RB#0	21.34	PASS
Band2	15MHz	16QAM	19125	75RB#0	20.51	PASS
Band2	20MHz	QPSK	18700	1RB#0	22.51	PASS
Band2	20MHz	16QAM	18700	1RB#0	21.61	PASS
Band2	20MHz	QPSK	18700	1RB#49	22.49	PASS
Band2	20MHz	16QAM	18700	1RB#49	21.44	PASS
Band2	20MHz	QPSK	18700	1RB#99	22.50	PASS
Band2	20MHz	16QAM	18700	1RB#99	21.42	PASS
Band2	20MHz	QPSK	18700	50RB#0	21.34	PASS
Band2	20MHz	16QAM	18700	50RB#0	20.60	PASS
Band2	20MHz	QPSK	18700	50RB#25	21.28	PASS
Band2	20MHz	16QAM	18700	50RB#25	20.54	PASS
Band2	20MHz	QPSK	18700	50RB#50	21.31	PASS
Band2	20MHz	16QAM	18700	50RB#50	20.45	PASS
Band2	20MHz	QPSK	18700	100RB#0	21.27	PASS
Band2	20MHz	16QAM	18700	100RB#0	20.47	PASS
Band2	20MHz	QPSK	18900	1RB#0	22.39	PASS
Band2	20MHz	16QAM	18900	1RB#0	21.26	PASS
Band2	20MHz	QPSK	18900	1RB#49	22.46	PASS
Band2	20MHz	16QAM	18900	1RB#49	21.40	PASS
Band2	20MHz	QPSK	18900	1RB#99	22.60	PASS
Band2	20MHz	16QAM	18900	1RB#99	21.52	PASS
Band2	20MHz	QPSK	18900	50RB#0	21.26	PASS
Band2	20MHz	16QAM	18900	50RB#0	20.54	PASS
Band2	20MHz	QPSK	18900	50RB#25	21.37	PASS
Band2	20MHz	16QAM	18900	50RB#25	20.58	PASS
Band2	20MHz	QPSK	18900	50RB#50	21.45	PASS
Band2	20MHz	16QAM	18900	50RB#50	20.62	PASS
Band2	20MHz	QPSK	18900	100RB#0	21.37	PASS
Band2	20MHz	16QAM	18900	100RB#0	20.68	PASS
Band2	20MHz	QPSK	19100	1RB#0	22.48	PASS
Band2	20MHz	16QAM	19100	1RB#0	21.65	PASS
Band2	20MHz	QPSK	19100	1RB#49	22.50	PASS
Band2	20MHz	16QAM	19100	1RB#49	21.51	PASS
Band2	20MHz	QPSK	19100	1RB#99	22.60	PASS
Band2	20MHz	16QAM	19100	1RB#99	21.58	PASS
Band2	20MHz	QPSK	19100	50RB#0	21.37	PASS
Band2	20MHz	16QAM	19100	50RB#0	20.64	PASS
Band2	20MHz	QPSK	19100	50RB#25	21.42	PASS
Band2	20MHz	16QAM	19100	50RB#25	20.63	PASS
Band2	20MHz	QPSK	19100	50RB#50	21.29	PASS
Band2	20MHz	16QAM	19100	50RB#50	20.63	PASS
Band2	20MHz	QPSK	19100	100RB#0	21.42	PASS
Band2	20MHz	16QAM	19100	100RB#0	20.48	PASS

7.1.7. Conducted Power Measurement Results(LTE Band 4)

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band4	1.4MHz	QPSK	19957	1RB#0	20.96	PASS
Band4	1.4MHz	16QAM	19957	1RB#0	21.12	PASS
Band4	1.4MHz	QPSK	19957	1RB#2	20.95	PASS
Band4	1.4MHz	16QAM	19957	1RB#2	21.16	PASS
Band4	1.4MHz	QPSK	19957	1RB#5	20.95	PASS
Band4	1.4MHz	16QAM	19957	1RB#5	21.12	PASS
Band4	1.4MHz	QPSK	19957	3RB#0	21.08	PASS
Band4	1.4MHz	16QAM	19957	3RB#0	19.83	PASS
Band4	1.4MHz	QPSK	19957	3RB#1	21.08	PASS
Band4	1.4MHz	16QAM	19957	3RB#1	19.83	PASS
Band4	1.4MHz	QPSK	19957	3RB#3	21.04	PASS
Band4	1.4MHz	16QAM	19957	3RB#3	19.87	PASS
Band4	1.4MHz	QPSK	19957	6RB#0	20.05	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	19.52	PASS
Band4	1.4MHz	QPSK	20175	1RB#0	21.10	PASS
Band4	1.4MHz	16QAM	20175	1RB#0	19.79	PASS
Band4	1.4MHz	QPSK	20175	1RB#2	21.08	PASS
Band4	1.4MHz	16QAM	20175	1RB#2	19.92	PASS
Band4	1.4MHz	QPSK	20175	1RB#5	21.07	PASS
Band4	1.4MHz	16QAM	20175	1RB#5	20.04	PASS
Band4	1.4MHz	QPSK	20175	3RB#0	21.07	PASS
Band4	1.4MHz	16QAM	20175	3RB#0	19.86	PASS
Band4	1.4MHz	QPSK	20175	3RB#1	21.13	PASS
Band4	1.4MHz	16QAM	20175	3RB#1	20.20	PASS
Band4	1.4MHz	QPSK	20175	3RB#3	21.22	PASS
Band4	1.4MHz	16QAM	20175	3RB#3	20.17	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	20.11	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	19.43	PASS
Band4	1.4MHz	QPSK	20393	1RB#0	21.50	PASS
Band4	1.4MHz	16QAM	20393	1RB#0	20.70	PASS
Band4	1.4MHz	QPSK	20393	1RB#2	21.50	PASS
Band4	1.4MHz	16QAM	20393	1RB#2	20.70	PASS
Band4	1.4MHz	QPSK	20393	1RB#5	21.43	PASS
Band4	1.4MHz	16QAM	20393	1RB#5	20.72	PASS
Band4	1.4MHz	QPSK	20393	3RB#0	21.42	PASS
Band4	1.4MHz	16QAM	20393	3RB#0	20.22	PASS
Band4	1.4MHz	QPSK	20393	3RB#1	21.38	PASS
Band4	1.4MHz	16QAM	20393	3RB#1	20.29	PASS
Band4	1.4MHz	QPSK	20393	3RB#3	21.52	PASS
Band4	1.4MHz	16QAM	20393	3RB#3	20.24	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	20.49	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	19.78	PASS
Band4	3MHz	QPSK	19965	1RB#0	20.96	PASS
Band4	3MHz	16QAM	19965	1RB#0	19.95	PASS
Band4	3MHz	QPSK	19965	1RB#8	20.96	PASS
Band4	3MHz	16QAM	19965	1RB#8	20.00	PASS
Band4	3MHz	QPSK	19965	1RB#14	21.02	PASS
Band4	3MHz	16QAM	19965	1RB#14	19.99	PASS
Band4	3MHz	QPSK	19965	8RB#0	20.00	PASS
Band4	3MHz	16QAM	19965	8RB#0	19.35	PASS
Band4	3MHz	QPSK	19965	8RB#4	20.02	PASS
Band4	3MHz	16QAM	19965	8RB#4	19.29	PASS
Band4	3MHz	QPSK	19965	8RB#7	20.12	PASS
Band4	3MHz	16QAM	19965	8RB#7	19.37	PASS
Band4	3MHz	QPSK	19965	15RB#0	20.04	PASS
Band4	3MHz	16QAM	19965	15RB#0	19.23	PASS
Band4	3MHz	QPSK	20175	1RB#0	21.09	PASS
Band4	3MHz	16QAM	20175	1RB#0	19.73	PASS
Band4	3MHz	QPSK	20175	1RB#8	21.12	PASS
Band4	3MHz	16QAM	20175	1RB#8	19.82	PASS
Band4	3MHz	QPSK	20175	1RB#14	21.05	PASS

Band4	3MHz	16QAM	20175	1RB#14	19.95	PASS
Band4	3MHz	QPSK	20175	8RB#0	19.99	PASS
Band4	3MHz	16QAM	20175	8RB#0	19.37	PASS
Band4	3MHz	QPSK	20175	8RB#4	20.00	PASS
Band4	3MHz	16QAM	20175	8RB#4	19.42	PASS
Band4	3MHz	QPSK	20175	8RB#7	20.04	PASS
Band4	3MHz	16QAM	20175	8RB#7	19.42	PASS
Band4	3MHz	QPSK	20175	15RB#0	20.18	PASS
Band4	3MHz	16QAM	20175	15RB#0	19.17	PASS
Band4	3MHz	QPSK	20385	1RB#0	21.49	PASS
Band4	3MHz	16QAM	20385	1RB#0	20.51	PASS
Band4	3MHz	QPSK	20385	1RB#8	21.47	PASS
Band4	3MHz	16QAM	20385	1RB#8	20.51	PASS
Band4	3MHz	QPSK	20385	1RB#14	21.52	PASS
Band4	3MHz	16QAM	20385	1RB#14	20.56	PASS
Band4	3MHz	QPSK	20385	8RB#0	20.44	PASS
Band4	3MHz	16QAM	20385	8RB#0	19.74	PASS
Band4	3MHz	QPSK	20385	8RB#4	20.45	PASS
Band4	3MHz	16QAM	20385	8RB#4	19.76	PASS
Band4	3MHz	QPSK	20385	8RB#7	20.53	PASS
Band4	3MHz	16QAM	20385	8RB#7	19.75	PASS
Band4	3MHz	QPSK	20385	15RB#0	20.42	PASS
Band4	3MHz	16QAM	20385	15RB#0	19.79	PASS
Band4	5MHz	QPSK	19975	1RB#0	20.94	PASS
Band4	5MHz	16QAM	19975	1RB#0	19.45	PASS
Band4	5MHz	QPSK	19975	1RB#12	21.04	PASS
Band4	5MHz	16QAM	19975	1RB#12	19.51	PASS
Band4	5MHz	QPSK	19975	1RB#24	21.15	PASS
Band4	5MHz	16QAM	19975	1RB#24	19.49	PASS
Band4	5MHz	QPSK	19975	12RB#0	20.06	PASS
Band4	5MHz	16QAM	19975	12RB#0	19.25	PASS
Band4	5MHz	QPSK	19975	12RB#6	20.06	PASS
Band4	5MHz	16QAM	19975	12RB#6	19.28	PASS
Band4	5MHz	QPSK	19975	12RB#13	20.11	PASS
Band4	5MHz	16QAM	19975	12RB#13	19.26	PASS
Band4	5MHz	QPSK	19975	25RB#0	20.12	PASS
Band4	5MHz	16QAM	19975	25RB#0	19.59	PASS
Band4	5MHz	QPSK	20175	1RB#0	21.04	PASS
Band4	5MHz	16QAM	20175	1RB#0	20.33	PASS
Band4	5MHz	QPSK	20175	1RB#12	20.97	PASS
Band4	5MHz	16QAM	20175	1RB#12	20.44	PASS
Band4	5MHz	QPSK	20175	1RB#24	20.99	PASS
Band4	5MHz	16QAM	20175	1RB#24	20.47	PASS
Band4	5MHz	QPSK	20175	12RB#0	20.12	PASS
Band4	5MHz	16QAM	20175	12RB#0	19.40	PASS
Band4	5MHz	QPSK	20175	12RB#6	20.04	PASS
Band4	5MHz	16QAM	20175	12RB#6	19.38	PASS
Band4	5MHz	QPSK	20175	12RB#13	20.15	PASS
Band4	5MHz	16QAM	20175	12RB#13	19.23	PASS
Band4	5MHz	QPSK	20175	25RB#0	20.18	PASS
Band4	5MHz	16QAM	20175	25RB#0	19.16	PASS
Band4	5MHz	QPSK	20375	1RB#0	21.59	PASS
Band4	5MHz	16QAM	20375	1RB#0	19.97	PASS
Band4	5MHz	QPSK	20375	1RB#12	21.58	PASS
Band4	5MHz	16QAM	20375	1RB#12	20.06	PASS
Band4	5MHz	QPSK	20375	1RB#24	21.66	PASS
Band4	5MHz	16QAM	20375	1RB#24	20.03	PASS
Band4	5MHz	QPSK	20375	12RB#0	20.50	PASS
Band4	5MHz	16QAM	20375	12RB#0	19.44	PASS
Band4	5MHz	QPSK	20375	12RB#6	20.56	PASS
Band4	5MHz	16QAM	20375	12RB#6	19.44	PASS
Band4	5MHz	QPSK	20375	12RB#13	20.43	PASS
Band4	5MHz	16QAM	20375	12RB#13	19.50	PASS
Band4	5MHz	QPSK	20375	25RB#0	20.51	PASS
Band4	5MHz	16QAM	20375	25RB#0	19.56	PASS

Band4	10MHz	QPSK	20000	1RB#0	21.14	PASS
Band4	10MHz	16QAM	20000	1RB#0	20.15	PASS
Band4	10MHz	QPSK	20000	1RB#24	21.10	PASS
Band4	10MHz	16QAM	20000	1RB#24	20.16	PASS
Band4	10MHz	QPSK	20000	1RB#49	21.14	PASS
Band4	10MHz	16QAM	20000	1RB#49	20.14	PASS
Band4	10MHz	QPSK	20000	25RB#0	20.16	PASS
Band4	10MHz	16QAM	20000	25RB#0	19.22	PASS
Band4	10MHz	QPSK	20000	25RB#12	20.05	PASS
Band4	10MHz	16QAM	20000	25RB#12	19.32	PASS
Band4	10MHz	QPSK	20000	25RB#25	20.15	PASS
Band4	10MHz	16QAM	20000	25RB#25	19.51	PASS
Band4	10MHz	QPSK	20000	50RB#0	20.18	PASS
Band4	10MHz	16QAM	20000	50RB#0	19.25	PASS
Band4	10MHz	QPSK	20175	1RB#0	20.96	PASS
Band4	10MHz	16QAM	20175	1RB#0	20.00	PASS
Band4	10MHz	QPSK	20175	1RB#24	21.01	PASS
Band4	10MHz	16QAM	20175	1RB#24	20.06	PASS
Band4	10MHz	QPSK	20175	1RB#49	20.90	PASS
Band4	10MHz	16QAM	20175	1RB#49	20.10	PASS
Band4	10MHz	QPSK	20175	25RB#0	20.08	PASS
Band4	10MHz	16QAM	20175	25RB#0	19.42	PASS
Band4	10MHz	QPSK	20175	25RB#12	20.18	PASS
Band4	10MHz	16QAM	20175	25RB#12	19.37	PASS
Band4	10MHz	QPSK	20175	25RB#25	20.02	PASS
Band4	10MHz	16QAM	20175	25RB#25	19.43	PASS
Band4	10MHz	QPSK	20175	50RB#0	20.07	PASS
Band4	10MHz	16QAM	20175	50RB#0	19.27	PASS
Band4	10MHz	QPSK	20350	1RB#0	21.34	PASS
Band4	10MHz	16QAM	20350	1RB#0	20.74	PASS
Band4	10MHz	QPSK	20350	1RB#24	21.58	PASS
Band4	10MHz	16QAM	20350	1RB#24	20.95	PASS
Band4	10MHz	QPSK	20350	1RB#49	21.55	PASS
Band4	10MHz	16QAM	20350	1RB#49	20.97	PASS
Band4	10MHz	QPSK	20350	25RB#0	20.40	PASS
Band4	10MHz	16QAM	20350	25RB#0	19.55	PASS
Band4	10MHz	QPSK	20350	25RB#12	20.39	PASS
Band4	10MHz	16QAM	20350	25RB#12	19.55	PASS
Band4	10MHz	QPSK	20350	25RB#25	20.42	PASS
Band4	10MHz	16QAM	20350	25RB#25	19.71	PASS
Band4	10MHz	QPSK	20350	50RB#0	20.45	PASS
Band4	10MHz	16QAM	20350	50RB#0	19.71	PASS
Band4	15MHz	QPSK	20025	1RB#0	21.02	PASS
Band4	15MHz	16QAM	20025	1RB#0	20.11	PASS
Band4	15MHz	QPSK	20025	1RB#38	21.13	PASS
Band4	15MHz	16QAM	20025	1RB#38	20.14	PASS
Band4	15MHz	QPSK	20025	1RB#74	21.11	PASS
Band4	15MHz	16QAM	20025	1RB#74	20.16	PASS
Band4	15MHz	QPSK	20025	38RB#0	20.11	PASS
Band4	15MHz	16QAM	20025	38RB#0	20.12	PASS
Band4	15MHz	QPSK	20025	38RB#18	20.14	PASS
Band4	15MHz	16QAM	20025	38RB#18	20.14	PASS
Band4	15MHz	QPSK	20025	38RB#37	20.14	PASS
Band4	15MHz	16QAM	20025	38RB#37	20.14	PASS
Band4	15MHz	QPSK	20025	75RB#0	20.14	PASS
Band4	15MHz	16QAM	20025	75RB#0	19.29	PASS
Band4	15MHz	QPSK	20175	1RB#0	20.94	PASS
Band4	15MHz	16QAM	20175	1RB#0	20.24	PASS
Band4	15MHz	QPSK	20175	1RB#38	21.00	PASS
Band4	15MHz	16QAM	20175	1RB#38	20.21	PASS
Band4	15MHz	QPSK	20175	1RB#74	21.00	PASS
Band4	15MHz	16QAM	20175	1RB#74	20.26	PASS
Band4	15MHz	QPSK	20175	38RB#0	20.04	PASS
Band4	15MHz	16QAM	20175	38RB#0	20.04	PASS
Band4	15MHz	QPSK	20175	38RB#18	20.13	PASS

Band4	15MHz	16QAM	20175	38RB#18	20.12	PASS
Band4	15MHz	QPSK	20175	38RB#37	20.14	PASS
Band4	15MHz	16QAM	20175	38RB#37	20.05	PASS
Band4	15MHz	QPSK	20175	75RB#0	20.15	PASS
Band4	15MHz	16QAM	20175	75RB#0	19.30	PASS
Band4	15MHz	QPSK	20325	1RB#0	21.20	PASS
Band4	15MHz	16QAM	20325	1RB#0	21.13	PASS
Band4	15MHz	QPSK	20325	1RB#38	21.36	PASS
Band4	15MHz	16QAM	20325	1RB#38	21.27	PASS
Band4	15MHz	QPSK	20325	1RB#74	21.57	PASS
Band4	15MHz	16QAM	20325	1RB#74	21.44	PASS
Band4	15MHz	QPSK	20325	38RB#0	20.37	PASS
Band4	15MHz	16QAM	20325	38RB#0	20.36	PASS
Band4	15MHz	QPSK	20325	38RB#18	20.36	PASS
Band4	15MHz	16QAM	20325	38RB#18	20.35	PASS
Band4	15MHz	QPSK	20325	38RB#37	20.35	PASS
Band4	15MHz	16QAM	20325	38RB#37	20.36	PASS
Band4	15MHz	QPSK	20325	75RB#0	20.35	PASS
Band4	15MHz	16QAM	20325	75RB#0	19.54	PASS
Band4	20MHz	QPSK	20050	1RB#0	21.17	PASS
Band4	20MHz	16QAM	20050	1RB#0	19.97	PASS
Band4	20MHz	QPSK	20050	1RB#49	21.28	PASS
Band4	20MHz	16QAM	20050	1RB#49	19.96	PASS
Band4	20MHz	QPSK	20050	1RB#99	21.25	PASS
Band4	20MHz	16QAM	20050	1RB#99	19.94	PASS
Band4	20MHz	QPSK	20050	50RB#0	20.12	PASS
Band4	20MHz	16QAM	20050	50RB#0	19.36	PASS
Band4	20MHz	QPSK	20050	50RB#25	19.97	PASS
Band4	20MHz	16QAM	20050	50RB#25	19.45	PASS
Band4	20MHz	QPSK	20050	50RB#50	20.17	PASS
Band4	20MHz	16QAM	20050	50RB#50	19.32	PASS
Band4	20MHz	QPSK	20050	100RB#0	20.16	PASS
Band4	20MHz	16QAM	20050	100RB#0	19.19	PASS
Band4	20MHz	QPSK	20175	1RB#0	21.29	PASS
Band4	20MHz	16QAM	20175	1RB#0	20.67	PASS
Band4	20MHz	QPSK	20175	1RB#49	21.25	PASS
Band4	20MHz	16QAM	20175	1RB#49	20.55	PASS
Band4	20MHz	QPSK	20175	1RB#99	21.29	PASS
Band4	20MHz	16QAM	20175	1RB#99	20.58	PASS
Band4	20MHz	QPSK	20175	50RB#0	20.06	PASS
Band4	20MHz	16QAM	20175	50RB#0	19.23	PASS
Band4	20MHz	QPSK	20175	50RB#25	20.11	PASS
Band4	20MHz	16QAM	20175	50RB#25	19.36	PASS
Band4	20MHz	QPSK	20175	50RB#50	20.07	PASS
Band4	20MHz	16QAM	20175	50RB#50	19.36	PASS
Band4	20MHz	QPSK	20175	100RB#0	20.09	PASS
Band4	20MHz	16QAM	20175	100RB#0	19.39	PASS
Band4	20MHz	QPSK	20300	1RB#0	21.15	PASS
Band4	20MHz	16QAM	20300	1RB#0	19.83	PASS
Band4	20MHz	QPSK	20300	1RB#49	21.34	PASS
Band4	20MHz	16QAM	20300	1RB#49	19.94	PASS
Band4	20MHz	QPSK	20300	1RB#99	21.55	PASS
Band4	20MHz	16QAM	20300	1RB#99	20.13	PASS
Band4	20MHz	QPSK	20300	50RB#0	20.15	PASS
Band4	20MHz	16QAM	20300	50RB#0	19.29	PASS
Band4	20MHz	QPSK	20300	50RB#25	20.26	PASS
Band4	20MHz	16QAM	20300	50RB#25	19.29	PASS
Band4	20MHz	QPSK	20300	50RB#50	20.55	PASS
Band4	20MHz	16QAM	20300	50RB#50	19.65	PASS
Band4	20MHz	QPSK	20300	100RB#0	20.30	PASS
Band4	20MHz	16QAM	20300	100RB#0	19.44	PASS