

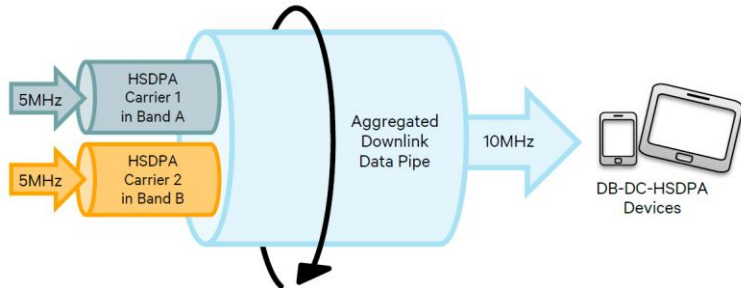


## 3G HSPA Evolution.

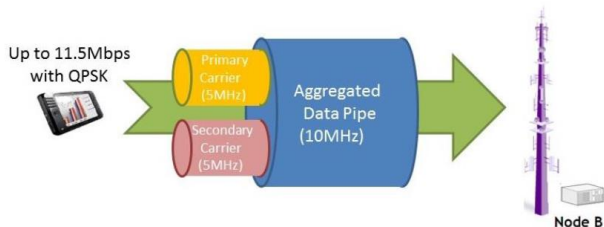
Mihail Mihailov  
Radio Planning and Optimization Engineer

# Introduction

- Dual-Band Dual-Cell HSDPA 3GPP Rel. 9 (42mbps with UMTS2100Mhz + UMTS900Mhz in DL). (5Mhz 900Mhz + 5Mhz 2100Mhz).



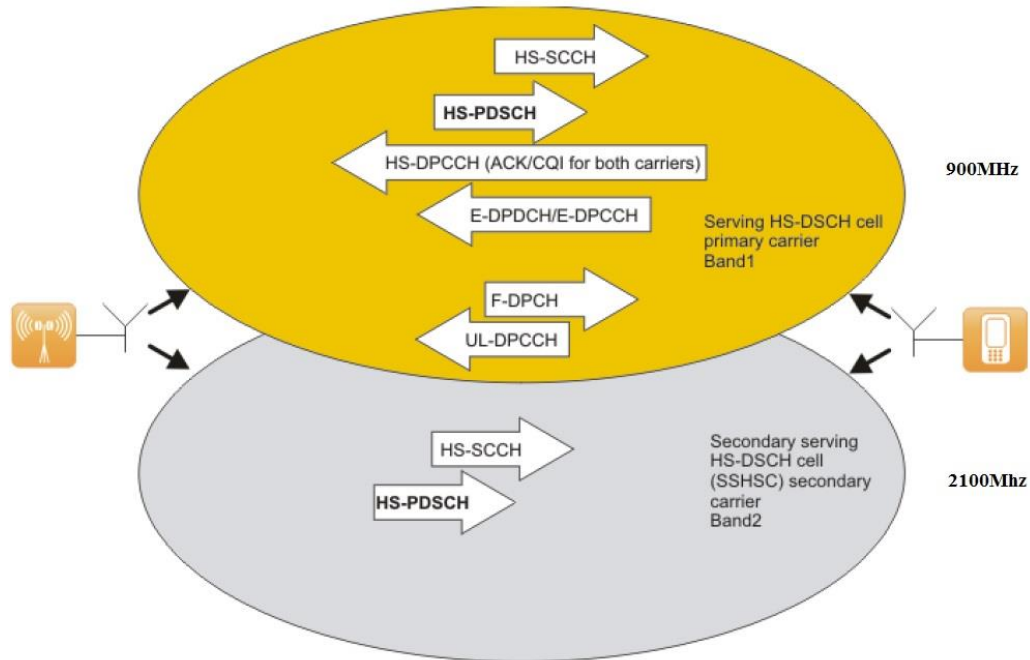
- Dual Carrier HSUPA 3GPP Rel.9 (2x5Mhz Carrier Aggregation peak throughput 11mbps in UL). (Same Band 2100Mhz)



[ CONFIDENTIAL ]

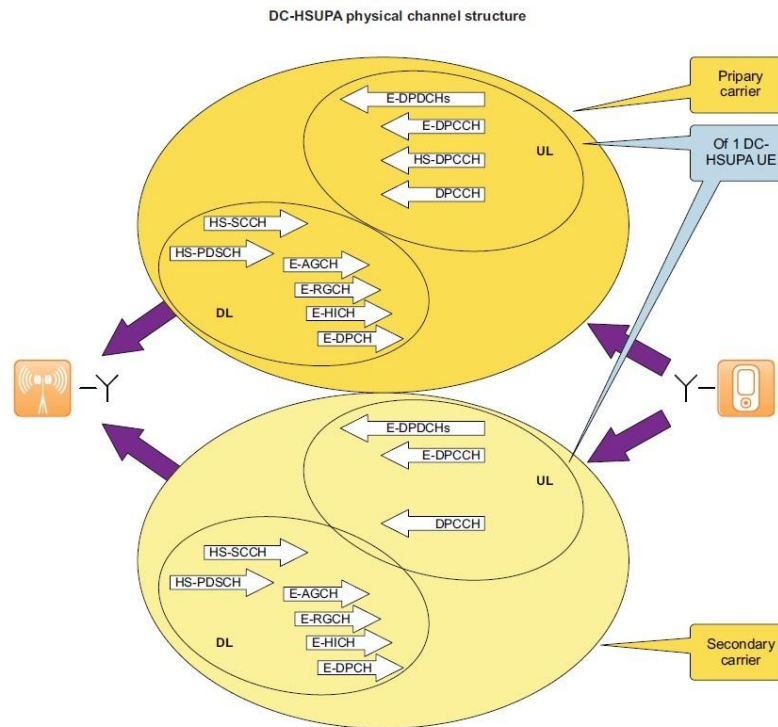
# Dual Band HSDPA Physical Channel Configuration.

Two HSDPA carriers located in two different frequency bands.



[ RESTRICTED ]

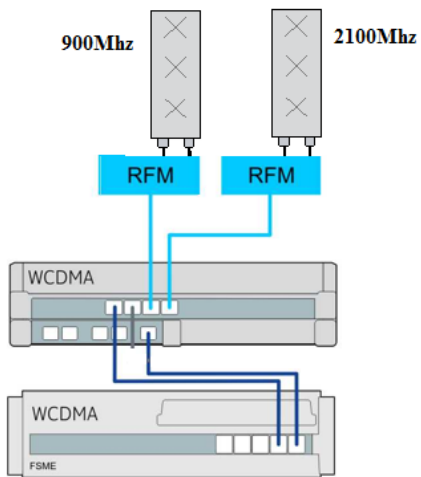
# Dual Carrier HSUPA Physical Channel Configuration.



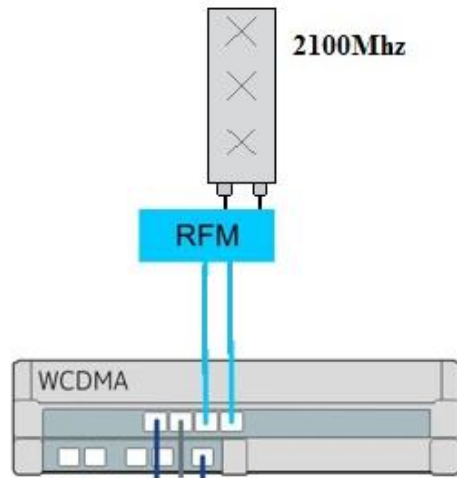
[ CONFIDENTIAL ]

# Hardware Configuration.

**Dual Band Dual Carrier HSDPA Configuration**



**Dual Carrier HSUPA**



[ CONFIDENTIAL ]

# UE Equipment (Device).

3GPP Rel. 9	
WCDMA(DB-DC-HSDPA,DC-HSUPA)	
Manufacturer	Modem/Processor (Architecture)
Snapdragon	X12
	X16
	820
	810

Dual Band HSDPA Configuration	UL Band	DL Band
1	2100MHz or 900MHz (I or VIII)	2100MHz and 900MHz (I and VIII)
2	2100MHz or 850MHz(I or V)	2100MHz and 850MHz(I and V)
3	2100MHz or 1800MHz(I or IV)	2100MHz or 1800MHz(I and IV)

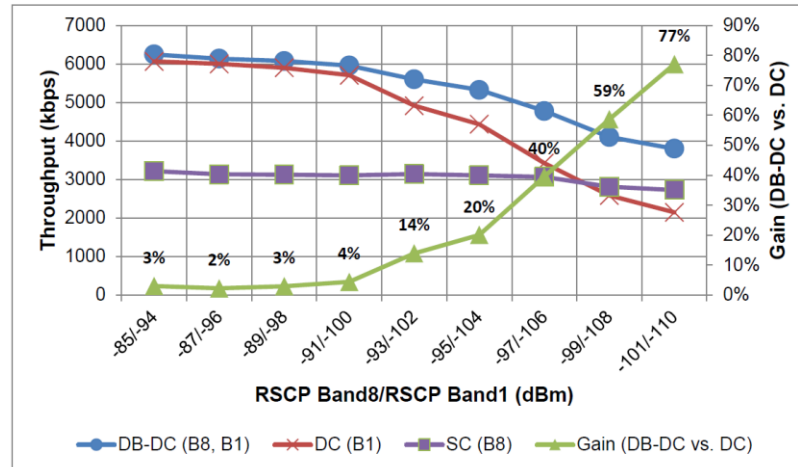
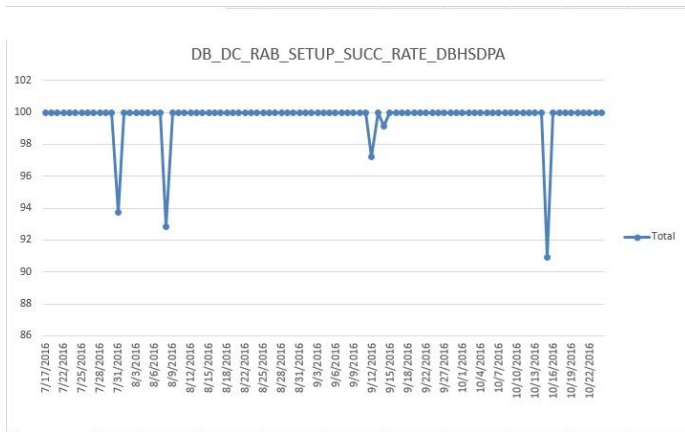
Category	Max. number of codes	Modulation	Max number of bits / HS-DSCH TB	Single Band L1 maximal Throughput	Dual Band L1 maximal Throughput
21	15	16-QAM	23266	11,6	23,3
22			27856	13,9	27,9
23		64-QAM	35168	17,6	35,2
24			42040	21,0	42,0

Device Name
Huawei P8 Lite
Samsung S3
Samsung Galaxy A9
Samsung Galaxy C5
Samsung Galaxy S7
Sony LT26i Xperia S



[ CONFIDENTIAL ]

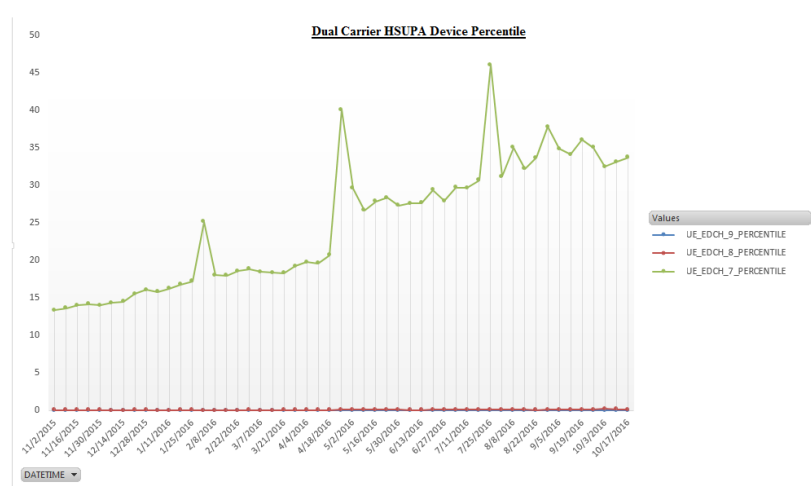
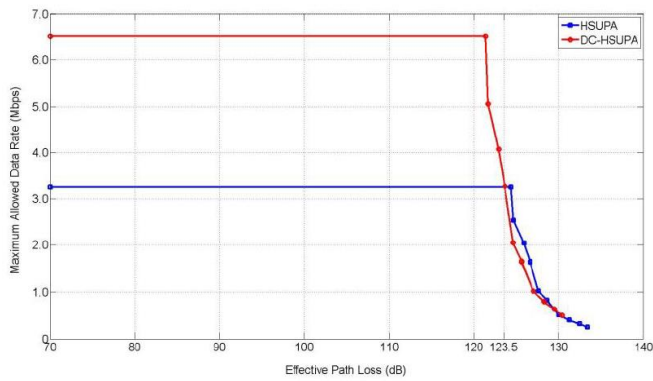
# DB-DC-HSDPA.



[ CONFIDENTIAL ]



# DC-HSUPA.



[ CONFIDENTIAL ]

